1stLt (b)(3), (b)(6), (b)(7)(c) Third Statement (15 Aug 2020)

VOLUNTARY STATEMENT

I, (b)(3), (b)(6), (b)(7)(c), make the following free and voluntary statement to Major (b)(3), (b)(6), (b)(7)(c) whom I know to be a member of the command investigation team inquiring into the facts and circumstances surrounding the Amphibious Assault Vehicle Mishap that occurred on 30 July 2020. I make this statement of my own free will and without any threats or promises extended to me.

I took over the platoon on or about 10 January. I took over from 1stLt (b)(3), (b)(6), (b)(7). When I received the Platoon it was made up of some Marines from the previous 13th MEU Platoon. There were also some that came from old Bravo Co. A decent amount of Marines did not have the EAS date cutoff for Native Fury 20 (NF 20) or for the upcoming MEU. For a majority of the Marines this would be their first deployment.

When I arrived to the 15th MEU platoon it had a gear set. That gear set belonged to Lt (b)(3), (b)(6), (b)(7) and was in the process of being transferred to Alpha Company 3rd Platoon. I didn't own the gear set. I did not own any AAVs that belonged to 3d AABn until April 13th. The AAVs I used at NF 20 were MPF offloads. April 13th was the first time I had eyes on the vehicles we would take for the 15th MEU. The week of the 13th is when we had done limited technical inspections and SL3 inspections, with SSgt (b)(3), (b)(6), (b)(7) for the MEU overseeing it. This was the week before we CHOP'd to the MEU. Our CHOP date to Battalion Landing Team 1st Battalion 4th Marines (BLT 1/4) was April 20th.

I wasn't told we would be supporting NATIVE FURY 2020 until sometime in December right before the leave block. When I was told that I didn't have that Platoon yet. I was still with Charlie Company first platoon at that point. When we came back that first week, up until the 10th of January, I was still with Charlie Company. After the leave block while I was still apart of Charlie Company I did attend meetings at 1st Marine Regiment with Lt (b)(3), (b)(6), (b)(7) in regards to NF 20. On or about January 10th is when I went over to H&S Company and did a turnover with Lt (b)(3), (b)(6), (b)(7).

On January 10, The platoon was not T/O Or T/E complete. I went to the CMP range with the personnel I had on hand, but I was missing personnel that were away at formal schools or had not been assigned to the platoon yet.

I was assigned the personnel for NF 20 on January 18. I know that SSgt (b)(3), (b)(6), (b)(7)(c) had not arrived yet and that our plan was to go to NF 20 without him. He was still with the 11th MEU platoon because they had be extended.

ENCLOSURE (87)

On or about February 3rd we CHOP'd to 1st Marine Regiment for NF 20. I don't know when we actually administratively transferred over to 1st Marine Regiment for NF 20. I never actually walked the orders over, which is what I would normally do and have done in the past. The 1st Marine Regiment Adjutant never got back to me on when he wanted me to bring him the orders. Our S-1 worked through that with their S-1, but I don't know exactly when that happened or if it was just done virtually. To my Knowledge we also chop'd to the regiment instead of 1st Battalion 1st Marines as we normally do.

Before I joined the platoon they had training planned for February 12-16 for gunnery. We ended up executing the training February 15-17. We did not own our own vehicles and had to borrow vehicles from General Support Platoon. We were delayed because because we were working on getting the GS vehicles fixed. The S3 and company staff were aware of this, I am unsure if they briefed the BN CO. We took them on maintenance runs and confirmed they needed work before bringing them to the range. Due to these circumstances to the best of my memory we had seven out of thirteen crews qualified at crew level gunnery, table six.

The platoon became T/O complete for the MEU with the RBE during the month of March. We had gotten SSgt (b)(3), (b)(6), (b)(7)(c) and other Marines we were looking for. We were still waiting for the Point of Presence (POP) AAV and would be getting a data Marine to operate that system. We were officially T/O'd right before CHOP.

The Platoon was broken into two deploying sticks to support NF 20. The understanding was that we would be able to do land ops while we were out there, including gunnery training. There was a big push to do the co-use training with the Emiratis out there and that was the main focus of the Field Training Exercises (FTXs) portion of the exercise.

I deployed with the first stick. SSgt (b)(3), (b)(6), (b)(7)(c) went right before me because he was part of the advance party as well as a few Marines we had given up for camp tax. The second sticks flight ended up getting cancelled due to COVID 19. Due to the shortfall of personnel and not being able to support the requirements 1st marine Regiment had for one AAV Platoon we gained personnel from 3rd AA Bn including people from Co A, Co D, and H&S Co that were enablers for the MPF offload. This influx of personnel enabled us to execute land training up to the Platoon level, but these personnel were not organic to the Platoon. As a result only about 20 Marines organic to my platoon participated in this exercise.

We returned from NATIVE FURY on March 29 and went into a restriction of movement status until April 12. From April 13 to 17 we did AAV JLTI's to facilitate the CHOP to BLT 1/4. However, we were really doing two transfers at one time. We were taking equipment from the 11th MEU and GS Platoon while we were also transferring equipment to

the BLT. At least, that is what we were attempting to do. The EATO transfer did not end up going through the system until on or about the month of August.

Approximately 10 of 13 AAV's were deadlined for operations at the CHOP date. The BLT MMO, XO, Co, SUUPO and Bravo Company were all aware of this. I briefed them the day I checked in. SSgt (b)(3), (b)(6), (b)(7)(c) or myself would also attend weekly maintenance briefs with updates. We were short one AAV, we were supposed to have 14, but we didn't get the POP AAV until after Raids and R2P2. We gained that vehicle on or about in early June. The original FOS did not include the POP AAV, I had to talk to Maj (b)(3), (b)(6), (b)(7)(c) (BLT 1/4) OPSO to work the request for a POP from 3rd AABn after I CHOP'd to the MEU.

May 3-8 we did the EOTG Raid package and this was the first training evolution where we could operate with all AAVs and assigned personnel. There were no water operations during this training, we only operated on land. This was our first operation together. We did the training with Co B BLT 1/4.

I attended the R2P2 Course with Capt (b)(3), (b)(6), (b)(7)(c) . May ended up being the first time we were able to get AAVs in the water and we didn't get to do Platoon level operations, it was just to the section level.

We did one day of waterborne recovery operations in the Del Mar Boat Basin and then we did one day of section level water operations at White Beach. We had originally requested Blue Beach, but we got kicked off over environmental regulations. So we did one day at the jetty on the 26 of May, and did a day and night section on the 28th or 29th of May at white beach.

June 1-4 we did the BZO range up in Camp Horno. After that we participated in RUT. We had planned to do crew and section level gunnery but for the first few days out there we didn't have the ranges we needed for our gunnery so we were co-located with the rest of the company. The impact area had caught on fire the first couple of days and we had to go down to the 100 level ranges and that's where we did the CMP and then we had requested to do our other amphib training where we would do section and platoon. We weren't able to achieve any additional qualifications at this time. We executed the CMP shoot with M4s in lieu of AAV gunnery. We also did a dismount 50 shoot with weapons platoon. After that we returned to Co B to support RUT with 9 AAVs and executed a raid on the old Naval Hospital on or about 13 June.

In July we did Mechanized Company attacks at Range 600. We did our crew gunnery the first day at range 408a as a make up for what we couldn't get done at RUT. We had gone through the rest of the crews however they did not receive an actual qualification because of certain admin procedures that could not be attained. The six crews

remaining to be qualified had not completed the prerequisite training within the 30 day window required. At the end of 408a we only had 7 of 13 crews qualified in crew gunnery.

After Range 600, waterborne operations were planned but not executed due to maintenance. We had gone down to the beach and were looking the vehicles over and, knowing PMINT was coming up, we called Capt (b)(3), (b)(6), (b)(7)(3), and told him that we didn't want to get into the water because we had a lot of maintenance to do. He said that he agreed and we pushed back to the 21 area.

On the day of the incident, to the best of my knowledge, the Marines in my Platoon were wearing SAPI plates. I was wearing front and rear plates, but no side SAPIs.

We went to the ship on the 27th of July. We had an issue where Track 12 had to go to water tracks. To what I can recall the lateral blew. Also Track 14 the POP had issues with its buckets, so it had to go to water tracks as well. I got on to the USS SOM on or about the two and a half hour mark. To the best of my knowledge movement was in excess of 4 nautical miles, and was farther and longer than normal. During that evolution there was one safety boat provided by the Navy. That had been pre-coordinated in the pre-sail brief aboard the USS SOM. They had asked if we could provide one safety boat and I said we could.

The day we went out to the ship when we embarked from the jetty, it was a mutual agreement as to when we would splash. The night before at the pre-sail brief we had estimated a 30 min swim, but I asked if we could splash 30 min prior to that we could get in a better position after having come out from the jetty. It would take longer to go the planned two nautical miles because of the no wake zone coming out of the jetty. That day I got the man pack, and then walked out onto the jetty by recon and the LZ and got a comm check with the USS SOM. I said I would lose comm right before we would splash because of the overheard wires but that we were going to splash at the time we agreed.

The comm with the ship was via single channel plain text. This was the same way that we communicated with the ship on the day of the incident. We met the safety boat a further out from the jetty. I am not sure why they could only provide one safety boat.

The rest of the day on the 28th we were doing maintenance and PMCS in the well deck of the ship. The morning of the 29th we received a FRAGO for the raid. I got that from the B. Co XO. We met in the LFOC with the other Platoon Commanders, they printed out the FRAGORD and then we all started reading it and going through the tasks that we had. I was not present for the CAT I or CAT II briefs although I tried to be there. I would try to go in, but Capt (b)(3), (b)(6), (b)(7)(c) would shake

his head indicating that they were in the middle of a meeting. Capt (b)(3), (b)(6), (b)(7)(c) wanted me in the meetings, but then when I went to go in Capt (b)(3), (b)(6), (b)(7)(c) again indicated that they were in the middle of a meeting. There were two times I tried to go into the briefs, but was turned away. I eventually got in for the ADR brief because I wanted to make sure they were doing a SUROB, but they never mentioned it. After that Capt Hepler and I brought it up with the OpsO.

On the 29th, I saw first section with 3rd Platoon conducting egress and evacuation drills. I can't remember if it was just section leaders or GySgt Lacea, but I remember being briefed from a SNCO or higher that this was done across the whole platoon. We told Bravo Company to pre stage their packs on the vehicles that afternoon/night. I also know that the infantry personnel were told to water proof their gear prior to the operation. Some of the packs were staged inside the vehicles and some were staged outside the vehicles as well. There is not a specific SOP on how to stage the packs as long as you are not impacting the primary and secondary egress routes. We tried to balance the packs between the gypsy racks and some inside so it doesn't block the cargo hatch or the egress routes inside the vehicles. We didn't develop any specific SOPs within the Platoon though. We had identified this as a friction point though and that's why we had them stage the packs on the vehicles the night before. There was some concern from the infantry Marines as to whether the packs would get wet and we told them they might depending on where the water line ended up being so we told everyone to waterproof their packs. Lieutenant (b)(3), (b)(6), (b)(7)(c) Bravo XO pushed this down to the platoon commanders as well and agreed with it.

That night I also attended a confirmation brief in the JUMP room after dinner. After that we had MACO drills from 2100 to 2200. Water pre-ops were done sometime before the MACO drills. Section leaders are collect those pre-ops and then the Platoon Sergeant receives them afterwards. At 2200 we did a ROC drill with the Marines and went over the details of the operation more in depth. At 2300 we finished the ROC drill and then secured the Marines. I would estimate that most of the Marines got around 3 hours of sleep that night

Reveille on the day of the incident was at 0300 and we were ungriping the vehicles at 0400. I gave the Marines the hour from 0300 to 0400 to get ready and get chow. MACO procedures went at 0500 and at 0620 the LCACs flew out. At around this time I still didn't know if ADR had conducted a SUROB as requested. I'm not sure what time this was, but I had gone to the LFOC and talked to Capt (b)(3), (b)(6), (b)(7)(c) about getting the METOC analysis. He said that from the METOC analysis the sea state would was a one. I think this came from the METOC on the MKI, but I'm not certain. At around 0630 I observed the sea state from the flight deck with GySgt (b)(3), (b)(6), (b)(7)(c) and I assessed the sea state to be a one. Then

ENCLOSURE (87)

GySgt (b)(3), (b)(6), (b)(7)(c) did splash team checks with LCpl (b)(3), (b)(6), (b)(7)(c) and LCpl (b)(3), (b)(6), (b)(7)(c). I got eyes on GySgt (b)(3), (b)(6), (b)(7)(c) doing the checks with the team.

The morning of the incident I did not witness embark troop briefs and life jacket briefs being conducted as I was moving around the ship. The Navy had said the day before that they would provide a safety boat that day, but they didn't tell us that they couldn't provide any safety boats that day until we were in the well deck about to splash.

We staged in the well deck at about 0700. At about 0730 the ships Combat Cargo Officer told me that there wouldn't be any safety boats provided. She yelled down to me that they couldn't provide any safety boats and asked me if I could provide another one and I said yes.

At 0745 we splashed from the ship, we were approximately 4,000 yards from the beach and the ship was maneuvering south to north. The swim in was uneventful, although I remember thinking that the sea state was higher than a one.

We conducted actions on the objective between 0930 and 1000. After that we picked up 9 packs from the ADR and 15 packs from the OpFor, which put an extra 24 packs on our vehicles. From 1100 to 1200 we consolidated our tracks on the beach, except for Track 12 which stayed in place with SSgt (b)(3), (b)(6), (b)(7)(c), Doc, and the rest of the crew minus GySgt (b)(3), (b)(6), (b)(7)(c).

An LCAC came ashore while we were consolidated on the beach. I decided to stay with GySgt (b)(3), (b)(6), (b)(7)(c) and four vehicles on the beach because I anticipated the point of friction being on the beach with the Marines stuck there and there only being four vehicles. I knew that they could splash with that, but I wanted to stay there to ensure they got off the island safely and correctly and were able to get back on ship. I anticipated the difficult part between getting the parts coordinated for Track 12, getting it back up, and getting us back on ship. I didn't feel any specific pressure from the company, but I did feel pressure to get every Track back on the ship that night. I don't know if that pressure came from the BLT or from the MEU, but that's what I got overhearing them talking on comm. I was talking through Capt (b)(3), (b)(6), (b)(7)(c) and I could hear them saying "Okay just leave Track 12…" and then I heard them saying "No they need to leave another Track to chase it…" and then they said "Okay, then you're just leaving two" and then we responded "No they won't go with less than a section." After that I decided that I wanted to stay on the island with them because I anticipated that being the point of friction. I don't know who the company was talking to at that point.

I did not witness any of the people we picked up on the island got an embark troop brief or a brief on how to use the life jackets. I did not physically see the water pre-ops getting done. I was co-located with the company leadership coordinating the game plan for those

leaving and those staying. I saw the Section leaders go through some of the vehicles for splash team checks, and then I saw GySgt (b)(3), (b)(6), (b)(7)(c) go through some of the vehicles as well. I wasn't present the whole time for that since I was going back and forth between the beach and the LZ.

The plan was to splash 9 vehicles in column back to the ship. SSgt (b)(3), (b)(6), (b)(7)(c) was working on getting comm with the ship via Boat Bravo. At that time I did not see any safety boats in the water to support the movement back to the ship. The sea state seemed calmer from what we could see from the beach. After the Tracks splashed I got back on Track 11 with GySgt (b)(3), (b)(6), (b)(7)(c) to monitor comm between the platoon and the USS SOM.

At some point we heard that Track 3 had gone dead in the water and that SSgt (b)(3), (b)(6), (b)(7)(c) was hooking up Track 1 to Track 3 for tow. I eventually heard him say that he was coming back to the beach instead of the ship, but I cannot recall where in the timeline I heard that. At some point during this timeframe I also heard a command for all vehicles to close their hatches.

I heard SSgt (b)(3), (b)(6), (b)(7)(c) say that Track 5 was taking on water. I tried to talk to him at this point, but the comm kept cutting in and out so we moved our Track to a better location in an attempt to get better comm with Track 5. When we got around hill we could only see two AAVs in the back of the formation, but we couldn't see any of the other Tracks. At this time, GySgt (b)(3), (b)(6), (b)(7)(c) had comm with the C7 and the NOTM and those vehicles could see Track 5 and were maneuvering to support.

My vehicle commander for Track 3 was Cpl (b)(3), (b)(6), (b)(7)(c) We had a standard manifest form for who was on each vehicle. 1stSgt (b)(3), (b)(6), (b)(7)(c) and the platoon sergeants had one beforehand to track the pack count. We had done this on every training operation beforehand and it worked well for the company.

here were very good lines of communication between us and the company. If I ever had a situation where I needed to tell them something or let them know what our limitations were I always felt that they were ready to listen and they had listened in the past. I felt that if I had to identify a safety issue they would have listened to me. When we left track 9 on ship because it was deadlined they didn't question anything and just worked to plan around one less vehicle.

Coming back from the beach I figured that the ship would have had safety boats in the water because they didn't say that they wouldn't. A lot of times you'll have trouble seeing safety boats because they'll stay 2000 yards out or further. Especially if they use the small ones that don't come out of boat valley. They were good about bringing up safety boats when they couldn't provide in the past.

ENCLOSURE (87)

To my knowledge we did not get a sea state call from the ship prior to splashing back to the ship that afternoon. We had made our sea state call from the shore and then requested to know when the ship would be in position and ready. SSgt (b)(3), (b)(6), (b)(7)(c) relayed to me that the ship had said they were good to splash.

Signature_____ Date_____

28 April 2021

MEMORADUM FOR THE RECORD

Subj: VALIDATION OF MARINE CORPS COMBAT READINESS EVALUATION (MCCRE) ICO 3D ASSAULT AMPHIBIAN BATTALION.

Background: As a member of the command investigation investigating the forming and compositing of the 15th Marine Expeditionary Unit in 2020 I, MGySgt (b)(3), (b)(6), (b)(7)(c) , conducted research within the Unit Evaluation Module of the Marine Corps Training Information Management System (MCTIMS) to determine whether the completion of Marine Corps Combat Readiness Evaluations (MCCRE) were being reported. Specifically, I intent was to determine whether the Platoons assigned to support I Marine Expeditionary Force (I MEF) Marine Expeditionary Unit (MEU) deployments from 3d Assault Amphibian Battalion (AABn) were reported as complete in MCTIMS.

Outcome: There is no evidence that can be found in MCTIMS that 3d AABn has conducted a MCCRE for Platoons deploying in support of I MEF MEU's. There are entries in MCTIMS that reflect the completion of a MCCRE for 3d AABn Companies deploying in support of the Unit Deployment Program. It was extremely difficult to validate this information, as there is not a standard naming convention used in MCTIMS to properly identify units.

(b)(3), (b)(6), (b)(7)(c)

28 April 2021

MEMORADUM FOR THE RECORD

Subj: UNDERWATER EGRESS TRAINER (UET) UTILIZATION AND SCHEDULING VERIFICATION FOR FISCAL YEAR 2020.

Background: As a member of the command investigation investigating the forming and compositing of the 15th Marine Expeditionary Unit in 2020 I, MGySgt (b)(3), (b)(6), (b)(7)(c) the Portfolio Manager, Ground Vehicle Simulators to provide underwater egress trainer (UET) usage data in the case of I MEF for fiscal year 2020. Additionally, I asked that usage data for fiscal years 2018 – 2020 for all UET sites be provided as well.

Outcome: Portfolio Manager, Ground Vehicle Simulators provided three documents for review that have been very useful in understanding the UET utilization at Camp Pendleton, CA as well as across the Marine Corps. I was provided the 2020 I MEF Utilization Report, 2020 I MEF UET Schedule, and UET usage data for all training sites for fiscal years 2018 – 2020. (b)(3), (b)(6), (b)(7)(c)

Encl (140) MEF Decision Paper dtd 9 Oct 2019

The above-referenced enclosure is classified SECRET//REL TO USA, FVEY and is available by contacting Judge Advocate Division.

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STANDARD OPERATING PROCEDURE FOR ASSAULT AMPHIBIAN OPERATIONS (COMMON SOP FOR AA OPS)

(b)(3), (b)(6), (b)(7)(c)

CO AAS **CO 2D AA BN** **CO 3D AA BN** **-I 4TH AA B,N**

25 October 2019

DISTRIBUTION STATEMENT C: Distribution authorized to U.S. Government Agencies and their contractors. For use in support of all Assault Amphibian operations. Other Requests for this document shall be forward to the Executive Officer, Assault Amphibian School.

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DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
WASHINGTON, D.C. 20380-1775

BnO P3000.1J
3000
25 Oct 19

BATTALION ORDER P3000.1J

From: Commanding Officer
To: Distribution List

Subj: STANDARD OPERATING PROCEDURE FOR ASSAULT AMPHIBIAN OPERATIONS (SHORT TITLE: COMMON SOP FOR AA OPS)

Ref:
(a) MCTP 3-10C (Employment of Amphibious Assault Vehicles)
(b) NAVMC 3500.2_ (AAV Training & Readiness Manual)
(c) TM 07007/07267/07268-10/1 (Operator Manual Assault Amphibious Vehicle 7A1 Family of Vehicles Volume 1 of 2)
(d) TM 07007/07267/07268-10/1 (Operator Manual Assault Amphibious Vehicle 7A1 Family of Vehicles Volume 2 of 2)
(e) TI 07007C/07267C/07268C-251A (Not-Mission Capable (Deadline) Criteria AAV FOV)
(f) TM 09962B-12/1 Launch, Mine Clearance MK154 MOD 1
(g) NTTP 3-59.3M/MCRP 2-10.3 U.S. Naval Amphibious Surf Manual
(h) COMNAVSURFPAC/COMNAVSURFLANTINST 3340.3E (Wet-Well Operations Manual)
(i) NTTP 3-02.1/MCWP 3-31.5 (Ship-To-Shore Movement)
(j) TM 10203A-OD THULS
(k) MCWP 3-17.1 Combined Arms Gap-Crossing Operations
(l) MCWP 3-12.2 Heavy Brigade Combat Team Gunnery
(m) BMU-HNDBK-5400.1 Beachmaster Handbook

Encl: (1) LOCATOR SHEET

1. Situation. This SOP establishes safety and operational responsibilities for all personnel assigned to Assault Amphibian (AA) units. Leaders will ensure operations are conducted with the spirit and intent of this SOP.

2. Cancellation. BnO P3000.1I

3. Mission. This order identifies and sets standards for best practices for AA unit operations in order to ensure consistent and effective operations throughout the AA community.

4. Execution. Commanding Officers will ensure that all personnel are familiar with and adhere to the contents of this SOP.

a. Commander's Intent.

(1) Purpose: The entire AA community possesses a single document that governs safe and effective AA unit operations.

(2) Method: Publish this order and review it once per year. Review is a standing task for the Operations and Training Conference and Supportability Readiness Review. Recommended changes will be forwarded to the AA Operational Advisory Group via the AAS Executive Officer for approval and incorporation into this order.

(3) End State: An AA specific SOP that is updated annually, providing operational information that will be implemented by all members of AA units.

b. Tasks.

(1) Commanders will ensure this document and the references are available for use. Each Assault Amphibious Vehicle (AAV) will possess one (1) copy of this SOP.

(2) Commanders will establish SOP training programs for new Marines and refresher training when deemed applicable. This training will ensure knowledge of the SOP and communicate recent changes.

(3) Operations Officers/Inspector-Instructors will ensure a Unit Safety Net is established to ensure communications with AA units during operations.

c. Coordinating Instructions.

(1) We charge all personnel to understand, comply with, and enforce the standards of this SOP.

(2) We charge all personnel who in the course of reading this SOP find areas that need to be updated, changed, or deleted to notify the AAS S-3.

(3) I&I may be substituted for battalion S-3 as appropriate.

5. Administration and Logistics. Omitted.

6. Command and Signal.

a. Command. This order is applicable to all Marines assigned to all AA units.

b. Signal. This order is effective date signed.

Distribution: (See next page)

Subj: STANDARD OPERATING PROCEDURE FOR ASSAULT AMPHIBIAN OPERATIONS (SHORT TITLE: COMMON SOP FOR AA OPS)

Distribution:
AAS
2D AA BN
3D AA BN
4TH AA BN
4TH MAR REG
PM AAA
AVTB

Subj: STANDARD OPERATING PROCEDURES FOR ASSAULT AMPHIBIAN OPERATIONS (SHORT TITLE: COMMON SOP FOR AA OPS)

LOCATOR SHEET

Location: (Indicate location(s) of the copy(ies) of this Order.)

RECORD OF CHANGES

Log completed change of action as indicated.

Change Number	Date of Change	Date Entered	Signature of Person Incorporating Change

CONTENTS

APPENDIXES

CHAPTER 1.

GENERAL SAFETY AND RAMP PROCEDURES

PARAGRAPH PAGE

1001. Command Guidance.

The combination of heavy equipment, high mobility, limited observation, and amphibious operations demands command attention is paid to safety. Operational Risk Management (ORM) is the responsibility of **ALL** hands. Designated leaders **will** do a risk assessment prior to conducting a task (Appendix C). Carelessness, recklessness, short cuts, or inattention on the part of anyone operating Assault Amphibious Vehicles (AAVs) can result in death, severe injury, and damage to vehicles. All hands must be instructed, inspected, and supervised at all time in regards to safety. Violators of this SOP may be held accountable in accordance with regulations and the Uniform Code of Military Justice (UCMJ). Detailed and repeated promulgation of these precautions is **mandatory.**

1002. General Safety.

1. Responsibilities. Safety is the responsibility of all Marines. However, the troop leaders embarked on AAVs and AA unit leaders share specific responsibilities to ensure safe operations.

a. Embarked Troop Leaders. While aboard AAVs, the senior troop leader present is responsible for the actions of his/her Marines to include adherence and enforcement of AAV safety regulations and requirements. The senior AA representative present is responsible for briefing embarked personnel on their responsibilities as passengers and has the final decision if the safety of the AAV, crew, or passengers is in question.

b. AA Unit Leaders. When AAVs are employed, the safety of embarked personnel and proper operation of vehicles is the responsibility of the senior AA unit leader present. They will establish effective command and control (C2) procedures and ensure the safety of personnel in and around the vehicles. Additionally, they will serve as the primary advisor to supported infantry regarding safe operations and tactical employment.

c. Crewmembers. The Vehicle Commander (VC) is responsible for the performance of the AAV and the safety of passengers and crew. The third crewman advises the VC of the situation and physical welfare of passengers. In emergency situations, the third crewman is responsible for quelling panic and assisting embarked personnel.

2. Vehicle Safety for Employment. Various Technical Manuals and references contain specific safety guidance and procedures for AAVs. The safety of crew and passengers embarked in AAVs is protected through strict adherence to the following guidelines:

a. Smoking is not allowed on or in AAVs.

b. All personnel must wear helmets and hearing protection during operations, and will not ride topside.

c. Ensure that dismounted troops give a wide berth, due to the limited field of vision from a closed up AAV. A 50-100 meter stand-off is recommended.

d. Open personnel/cargo hatches must be secured with a minimum of two (2) cable/cargo restraints when the AAV is moving. Unsecured hatches can inadvertently close on a person's hands and head. In the event a restraint should break, the vehicle will stop immediately and the restraint shall be replaced.

e. Personnel riding in the AAV will not ride with more than one-third of their body (chest level) extending above the hatch opening.

f. Hatches must be closed and locked while the AAV is traveling through the surf zone.

g. Front and rear ground-guides **must** be used when vehicles are backing up or moving in congested areas such as Assembly Areas, while troops are on the deck, or during periods of reduced visibility.

h. Personnel must stand clear of ramp area when ramp is being raised or lowered. When not in a tactical environment to include training areas, the vehicle's horn will be sounded three (3) times before raising/lowering ramp. In a tactical environment when prudent, the Vehicle Commander shall direct a visual inspection of the ramp.

i. Plenums will be raised and lowered by a minimum of two (2) personnel (three (3) personnel if plenum springs are non-functional). When lowering, ensure fingers and toes are clear, and that no personnel are inside the engine compartment. Once raised, plenums will be secured with a bolt and nut.

j. AAVs will operate at a minimum in pairs (Wingman Concept) in order to ensure mutual security, fire support, and maintenance/ recovery capability.

k. An operator will remain in the driver's seat while engine is running with brake depressed and locked.

l. When not installed, hull plugs will be secured to the steering column/handle.

m. Water jugs will only contain water; Petroleum, Oil, and Lubricants (POLs) will be stored in approved storage devices only.

n. All personnel will stand clear while the water-jet system is being checked, as well as when warming up the transmission in fourth gear. The driver will remain in station during this process, ensuring that the brake remains engaged.

o. The maximum speed of **any** vehicle will be five miles per hour (5 mph) while on the ramp, in the vicinity of fueling stations, wash racks, or any other congested areas.

p. Under no circumstances will AAVs be utilized to drive through brush fires in an attempt to extinguish the fire; this jeopardizes the vehicle's hubs and other suspension components.

q. No fuel of any type will be used for cleaning purposes, starting open fires, or any other use except as recommended in the references.

r. Seatbelts will be used on land and water at the discretion of the AA unit leader based on the tactical situation and Mission, Enemy, Terrain, Troops Available-Time (METT-T).

s. Industrial goggles/safety goggles will be worn when conducting tasks that may produce chipping fragments or chemical splashing such as suspension work and battery Preventive Maintenance Checks and Services (PMCS).

t. Engine covers must be properly installed before AAVs are operated. Personnel could be injured or equipment damaged if left uncovered.

u. Extreme care must be taken when loading or unloading cargo in order to avoid the possibility of being caught between the load and the interior of the vehicle. Crewmembers positioning vehicles (i.e., ITV/ATV, etc.) aboard an AAV will remain clear of the path of the oncoming vehicle.

v. When utilizing the smoke generation system, prolonged inhalation of the fumes should be avoided. In training, smoke generators will not be used in any area where there is a danger of the smoke hampering civilian visibility, and must be cleared through the Range Safety Officer (RSO)/Officer-in-Charge (OIC)/Range Control (i.e., potential confusion with aviation target marking).

w. Below lists specific procedures for preparing a vehicle with an inoperable ramp and/or non-functional hydraulic system:

(1) A vehicle with an inoperable ramp and/or a non-functioning hydraulic system will have the ramp held with a ramp jack/hoist. A ramp that has been raised with a jack/hoist will also be lowered by a ramp jack/hoist prior to operating the ramp hydraulically.

(2) A 12" x 12" sign indicating "RAMP HELD BY JACK/HOIST" will be placed at the rear of the vehicle. **DO NOT MARK THE RAMP WITH CHALK.**

(3) The AAV steering column and ramp release handle will be tagged with signs stating "RAMP HELD BY JACK/HOIST".

(4) A tow cable will be attached by shackle from the port rear mooring cleat, running across and in front of the starboard rear mooring cleat, to a shackle connected to the ramp upper towing eye.

(5) Until hydraulic power is restored to the vehicle, the ramp jack/hoist will be secured to the ramp and the ramp will be locked in the up position at all times, unless specific maintenance is being conducted requiring the ramp to be lowered.

(6) When the ramp is lowered by the jack/hoist, one crewmember will be positioned at the rear of the vehicle, clear of the ramp to warn passersby.

(7) When securing the ramp by the jack/hoist, ensure the ramp is properly secured and inspected.

(8) Ensure the ramp is in the lowered position when conducting any maintenance work related to the hydraulic system.

(9) Ensure the ramp has been rendered operational by qualified maintenance personnel prior to the removal of the manually operated jack/hoist and operation of the ramp.

(10) Ensure that the ramp quick release lock plate is properly installed and secured prior to operation.

(11) Constant inspection/adjustment of the ramp cable and ramp locking dogs are imperative to prevent personnel injury or equipment damage.

1003. Personal Protective Equipment (PPE).

The following is a list of mandatory safety equipment to be used by embarked personnel and crew during AAV field training and combat operations:

1. CVC/Kevlar (COMM) Helmet. The Combat Vehicle Crewman (CVC) helmet provides the AAV crews with head and hearing protection. Only on the ramp area can this item be substituted with a Kevlar/Safety helmet and hearing protection. The chin straps must be fastened.

2. Uniform. AAV crewmembers will wear a CVC (NOMEX/FLIGHT) suit or Flame-Resistant Organizational Gear (FROG) Suit as prescribed by the command. These garments provide the crew fire retardant protection. CVC suits will be zipper up all the way and sleeves will be rolled down while operating AAVs. Additionally, steel toed boots and gloves will be worn. Embarked troops will wear approved USMC uniforms.

3. Goggles (Sun, Wind, and Dust)/Eye Protection. Each crewmember is issued one pair of goggles from his/her Consolidated Issue Facility (CIF). When operating in the field and conditions warrant, the issued eye encapsulating goggles will be used by all crewmembers. Ballistic, Military Specification MIL-PRF-31013 approved eye protection may also be worn.

4. Body Armor. USMC-approved body armor will be worn when the AAV is operating during field training or combat operations. Body armor is not required when moving a vehicle on the ramp.

5. Personal Flotation Device (PFD). The PFD provides the crew and embarked personnel a dependable floatation device. All PFDs shall receive a safety check prior to being worn. The vehicle commander will ensure PFDs are operational and all embarked personnel will conduct a final operations check prior to entering the water. Serviceable PFDs shall be worn by all hands embarked aboard any AAV that enters the water. Serviceable PFDs will include all associated equipment to that particular PFD system to include a survival light or chemical light during night operations. All PFDs will be worn as prescribed.

6. Goggles (Industrial). These goggles are provided and will be worn to afford eye protection while performing any task that may produce chipping fragments or chemical splashing such as suspension work and battery PMCS.

7. Safety Boots. Safety boots will be worn at all times by all crewmembers working on or operating an AAV.

1004. Duties of AAV Crews

1. Composition. The AAV crew consists of a vehicle commander, driver, and third crewmember. AAV crews must have at all times a minimum of two Marines with the 1803, 1833, 2141, or 2149 MOS as crewmembers. Third crewmembers may be MOS 2110, 2149, 0621, 2844, or 1316 if licensed and/or certified through formal schools or a certified Third Crewmen Course. A full three-member crew is required for water operations. A Marine may act as third crewmember during water operations provided the Marine has been qualified through the Battalion certified third crewmember course. For operations on land, a partial crew of two (1833/1803/2141) is authorized. All 1803/1833/2141 Marines must be licensed for AAV operations. The AAVR7A1 requires a crew of three that may be 2141, 2149, and or 2110. ***At all times, a qualified crewmember will be in the weapons station when vehicle is operating without ground-guides to observe the starboard side of the vehicle when in motion.***

2. Vehicle Commander (VC). The VC is responsible for the overall operations of his/her vehicle. The vehicle commander mans the weapons station during all operations.

3. Driver. In addition to driving the vehicle, the driver assists in the operational checks and first echelon maintenance of the vehicle. In the absence of the vehicle commander, the driver will take on all duties and responsibilities. The driver is also required to be qualified to operate the weapons station.

4. Third Crewmember. The third crewmember will assume the duties of the driver in his absence only if licensed. During all operations the third crewmember will be located in the troop compartment.

5. Assistant Section Leader. The assistant section leader may "dual hat" the duties of VC. He/she will assist the section leader in equipment accountability, supervision of training, and first echelon maintenance tracking.

6. Section Leader. The Section Leader is responsible for the accountability, welfare, and actions of their Marines and equipment assigned to their Section. The Section Leader isresponsible and required to ensure that section training is conducted safely and first echelon maintenance actions are completed and recorded.

7. Platoon Sergeant. The Platoon Sergeant is responsible for the accountability, welfare, and actions of all Marines and equipment assigned to his/her platoon. The Platoon Sergeant is responsible and required to ensure that all operations are conducted safely, assist the Platoon Commander in all matters, requests all logistical requirements, and inspects all first echelon maintenance records in accordance with all references to this order. Additionally, the Platoon Sergeant assists in the training and education of the Platoon Commander. Appendices (F, G, L) are provided to assist the Platoon Sergeant in his/her duties and responsibilities.

8. Platoon Commander. The Platoon Commander is responsible for the accountability and actions of all the Marines and equipment assigned to his/her platoon. The Platoon Commander is responsible and required to ensure that all operations are conducted safely and in accordance with all references to this order.

1005. Civilian Passengers.

No civilians, including dependents, will ride in a moving AAV without specific authorization from the Battalion Commander, Battalion Executive Officer, S-3 Officer or I&I Officer, they must also have completed a hold harmless waiver (Appendix S). At no time will a civilian drive, firing, ground guide moving AAVs. Firing will only be authorized for civilians dependent on local range regulations and command approval.

CHAPTER 2.

OPERATIONAL SAFETY REQUIREMENTS

PARAGRAPH PAGE

2001. Operational Safety and Security

1. Safety

a. Training Areas. AA units will operate only in training areas specifically authorized by local range regulations for tracked vehicle use. Local authorities may dictate more restrictive conditions.

b. Maintenance Support. When departing the ramp area, at least one (1) AAV Mechanic (2141/49) per section will accompany the AA unit. Mechanics advise the AA unit leader on AAV recovery and maintenance.

c. Onboard vehicle fires. The AAV crew must be familiar with required actions for onboard fires to include portable fire extinguisher and fire system activation lever locations (Reference C).

d. Weather. Lightning, high winds, and heavy rains pose hazards to personnel. Personnel will stay off the vehicle top and away from antennas during these types of weather events. Hatches will be secured in situations where high winds exist.

e. Lasers. Personnel should be advised of eye hazards associated with the use of lasers and their emitters. Common sources are tanks, LAVs, and aircraft providing close air support.

f. Night vision devices. All AAVs are required to have two (2) functional night vision devices. Although any combination of functional Night Vision Goggles (NVG), Thermal Sight System (TSS) or Drivers Viewer Enhancer (DVE) will fulfill this requirement, it is recommended to utilize at least one set of NVGs.

g. Training area fire prevention. Every effort will be made to prevent fires in training areas. It is the AA Unit Leader's responsibility to know the fire danger rating (FDR). Localized range controls will provide FDR information. Pyrotechnics, smoke grenades, and flares may be limited by range control during times of high FDR. AA unit leaders are responsible for awareness of how these limitations may affect operations. Excessive ammunition breakout should be avoided during these circumstances. If a training area fire occurs it is to be immediately reported to range control.

h. Bridge Crossing. When crossing bridges units must consider the weight capacity of the bridge. Bridges should be crossed with one AAV on the bridge at a time.

2. Security

a. Garrison. AAVs in the maintenance facility/ramp will be secured when the vehicle is unattended.

b. Field. The AAV unit leader is responsible for AAV security in the field.

2002. Reporting Requirements

1. Mission Cards. A mission card will be used to inform the AA Unit Headquarters before any unit departs for any operation (Appendix A). At a minimum, mission cards will be used and transmitted to the appropriate headquarters prior to departing/entering friendly lines.

2. Situation Reports (SITREP). During operations, SITREPs will be used to provide information on units to the Battalion. SITREPs shall be called in to the Battalion S-3/OOD at 0600, 1200, 1800, and 2400 or when changing location (Appendix A).

3. Rapid Request. During field operations, a Rapid Request will be used to request support of units to the Battalion or as directed. Requests will be called in to the Battalion S-4/OOD as required. (See Appendix B.)

4. Surf Observation Report (SUROB). The SUROB evaluates the condition of the surf zone and sea state prior to conducting amphibious operations. The SUROB will be submitted to the Battalion S-3/OOD or as directed by higher headquarters before the first launch of the day and every four (4) hours thereafter or if the AA unit leader determines conditions have changed enough to warrant a new SUROB (Appendix H).

5. Environmental Impact Statement. Environmental Impact Statements will be submitted by the Battalion S-3 on a yearly basis. These statements are not required as long as you will be using a range or training area for its designed purpose. Refer to Base Orders for further clarification. A copy of the submitted statement will be retained by the unit commander. (See Appendix P.)

2003. Communications Requirements

1. Battalion Safety Net

a. Control. The Battalion Safety Net will be monitored continuously while operations are being conducted. It will be controlled/monitored by the Battalion S-3 during working hours and by the Battalion OOD after working hours. It is essential that the OOD makes liaison with the S-3 prior to assuming duties. If an after-hours emergency arises the OOD will inform S-3 personnel.

b. Operator Responsibilities. Every AAV crew will ensure positive internal/external communications prior to departure from the ramp or assembly area. It is the responsibility of the unit conducting operations to monitor and ensure working communications with the Safety Net at all times. If an AAV crew experiences communication failure during operations then it will continue with operations where deemed safe and troubleshoot the issue at the most feasible opportunity. If all communications on the Safety Net become lost or inoperable, operations will cease until communications are reestablished. It is required that units conducting operations keep higher headquarters informed of its situation at all times.

2. Range Control. AA units, when operating in any training area, must monitor range control and give radio checks as required. Additionally, range control must be notified under any situation specified within the local training area Range Regulations.

2004. Briefing Requirements

1. Confirmation Brief. The AA unit leader will submit a detailed operation order and confirmation brief to the Battalion S-3 and/or command prior to execution. The brief will be conducted with S-3/S-4 representation and as directed with the Battalion Commander. The brief will include a timeline for the operation, the scheme of maneuver to be conducted, Operational Risk Management (ORM) assessment, and logistical requirements coordinated to support the operation.

2. After Operations. AA units will notify the S-3/OOD upon return from operations.

3. Debrief. At the conclusion of an operation, the AA unit leader will conduct a debrief with all participating personnel. The debrief will focus on tactics, techniques, and procedures (TTPs), and unit policies. The AA unit leader will capture comments and prepare an After Action Report for submission to the Battalion S-3.

4. After Action Report (AAR). AARs will be submitted by the AA unit leader for an operation within five (5) working days post operation completion. Standardized Topic, Discussion, and Recommendation format will be used. The Battalion S-3 will review comments for submission to the Marine Corps Lessons Learned website. AARs will be maintained by the S-3 as a historical reference tool for planning future operations.

5. Interim Deployment Report. Deployed AA units will submit an interim deployment report at the end of each month (Appendix R).

2005. Medical Support.

1. A corpsman will accompany each AA unit operation, unless prior approval is granted by the Battalion S-3.

2006. Emergency Medical Evacuation (MEDEVAC).

1. All hands will be familiar with Appendix O. Requests for MEDEVAC will be made to Range Control. The appropriate range control frequency will be preset on channel 6 on the SINCGARS Radio of all vehicles/man-packs.

CHAPTER 3.

AMPHIBIOUS OPERATIONS

PARAGRAPH PAGE

3001. Command Guidance

AA units are specifically trained to conduct amphibious operations and subsequent operations ashore. Amphibious operations are one of the most complex military operations requiring the greatest level of skill and coordination. Successful amphibious operations require teamwork, which is enhanced by joint planning and training. Whenever Naval shipping is available, every effort will be made to ensure maximum AA unit participation. Advanced planning will be conducted to ensure that both the ship and AA units understand sequence of events, training objectives, operational procedures, and communication procedures to be used. Whenever possible, operations will include underway launches at progressively higher speeds and shorter launch intervals and should include night operations. Positive cooperation between AA unit leaders and their Navy counterparts throughout the chain of command is essential. Emphasis should also be applied when working alongside supported unit elements to foster positive relationships in the accomplishment of a mission.

3002. Definition and Purpose

1. Amphibious Operations. An amphibious operation is a military operation launched from the sea by an amphibious force to conduct landing force operations within the littorals. Marine Corps amphibious operations normally require extensive AA participation and are characterized by detailed planning and coordination across the MAGTF.

a. Types. Amphibious operations can take place across the range of military operations. The five types of amphibious operations are:

(1) Amphibious Assault

(2) Amphibious Withdrawal

(3) Amphibious Demonstration

(4) Amphibious Raid

(5) Other Amphibious Operations

2. Riverine Operations and Crossings. Riverine operations are conducted to control an area dominated by inland bodies of water. Specifics include communications, traffic, and commerce. Riverine operations deny the enemy from using the river for its own purposes. River crossings project combat power across water obstacles to accomplish a mission. Information for riverine operations and crossings is covered in detail within Reference A and K.

3003. Waterborne Safety

1. AA waterborne operations are dangerous. Putting an AAV in the water is never a routine task. It is imperative that all Marines conducting such operations have a clear understanding of the mission and crew/embarked troop safety procedures. Waterborne operations have three critical areas where embarked personnel should be alert for potential evacuation or egress because quick action will be required to prevent catastrophe:

a. Launch. Entering the water from ship or shore exposes the AAV to the dangers of waterborne operations, including the constant and unpredictable motions caused by wave and ship effects. Any operator or mechanical failure upon entering the water can result in an immediate sinking. The crew

should pay attention to the triggers outlined in section 3004 of this chapter. Additionally, upon egress from an AAV in a surf zone, the Marine will have to survive and overcome the dangers of the surf zone.

b. Landing. Transiting from the seaward side of the surf zone exposes an AAV to rolling on all of its axis. Egress of an AAV in the surf zone presents additional challenges because the vehicle may be unable to right itself due to water depth and wave action.

c. Fording. When fording a variable depth body of water, the vehicle is exposed to potential rollover or submersion that may make the vehicle unable to right itself due to water depth.

2. Preparation. Preparing for waterborne operations is more than just ensuring watertight integrity and vehicle operation. It should emphasize the following:

a. Embarked Troop Brief (ETB). A Vehicle Commander's ETB (Appendix J) is required prior to every operation. The purpose of the ETB is to acquaint embarked personnel with the safety features of the vehicle, proper conduct while on land and afloat, and inform them of safety precautions required for waterborne operations.

b. Load Planning. As the result of the increased weight of the combat loaded Marine, AAV systems and subsystems, as well as number and type of weapon systems in the USMC inventory, detailed load planning should be conducted in order to ensure safe and effective employment of the AAV; especially while waterborne. Placement and weight of personnel and cargo should be analyzed by AA unit leaders to include the vehicle commander, to ensure the combat load of each AAV is within established capabilities and limitations.

(1) Buoyancy: In regards to buoyancy, several factors influence the AAV when waterborne. The vehicle draft is the vertical distance from the waterline to the hull at the deepest point. Freeboard is the vertical distance from waterline to top deck of the hull. The correlation of these two points directly relates to reserve buoyancy or the volume of watertight portion of the AAV above the waterline. Reserve buoyancy under a given operational load can be determined by subtracting the weight of the loaded vehicle from the zero freeboard weight. Figure 3.1 provides a graphic depiction of these definitions.

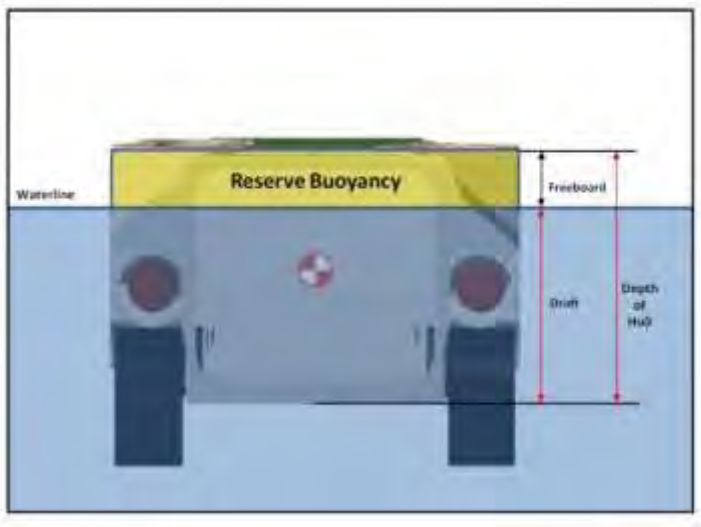

Figure 3.1. Vehicle Buoyancy

(2) Operational load conditions: Table 3.1 articulates AAV operational load conditions by percent reserve buoyancy at various weight conditions. In the water, the maximum weight of the AAV before loss of buoyancy (i.e., sinking), is approximately 79,098 pounds. The maximum safe operational weight (AAV w/MK1 MOD 0 MCS) of an AAV is 62,904 pounds. An increase above the safe operational weight reduces AAV buoyancy and significantly increases risk to safe and effective employment of the AAV. Therefore, any planned personnel and/or cargo weight in excess of 62,904 pounds, requires AA Battalion authorization. During combat operations, the factors in Table 3.2 should be evaluated relative to the assigned mission in order to prevent exceeding the operational capability of the AAV.

Table 3.1. Reserve Buoyancy Data

Reserve Buoyancy at AAV Operational Load Conditions			
Operational Load Conditions	**Weight (lb)**	**Details of Vehicle Weight**	**Percent Reserve Buoyancy**
Unloaded	**48,060**	Without EAAK, Less Crew, Fuel, OEM, and Ammo	39
Combat Equipped (CE)	**52,504**	With EAAK, Crew, Fuel, OEM, and Ammo	34
Troop Loaded (TL)	**58,489**	Combat Equipped with Troops	26
Combat Loaded (CL)	**62,504**	Combat Equipped with Cargo	21
Mine Clearance Kit	**62,904**	Combat equipped with MK1 MOD 0 MCS	20

(3) Mission planning for amphibious operations will include the following considerations:

(a) An AAV's maximum weight will not exceed 62,904 pounds.

(b) An unloaded AAVP7A1 without EAAK is 48,060lbs.

(c) The average combat loaded Marine weighs 315lbs.

(d) Radios, batteries, and other mission essential equipment.

(e) Class I, III, and V including AA and supported unit loads.

(f) Individual sustainment equipment, which does not need to be accessed to accomplish the specific mission. This should be water proofed and secured to the exterior of the AAV utilizing the Slope Rack Kit (Gypsy Rack) to the greatest extent possible in order to prevent blocking evacuation and egress routes.

(g) Uniformity of equipment placement across the AA unit.

(h) Extraneous, equipment, as well as Class VI (personal demand items) supplies, should be limited to mission requirements.

(i) Use of appropriate securing devices.

c. Gear Stowage: All gear stored within the personnel and cargo areas shall be secured to prevent injury, prevent engine failure, and maximize access to egress and evacuation points. AA unit leaders must keep in mind that unsecured gear will become buoyant, block egress routes and points, and

may become a projectile causing injury and/or death, in the event of a vehicle mishap (rollover, submersion, etc.). As a vehicle fills with water these floating objects can also become lodged within critical engine components and cause failure of the engine.

3. Requirements.

a. Seatbelts. Seatbelts will be used at the discretion of the AA unit leader based on the tactical situation and METT-T. The AA unit leader should consider that in the event of rollover or submersion, the individual is subject to the violent motion of the AAV. If the seat belt is not worn, the individual may be unable to orient his/her position relative to the interior of the AAV.

b. Rehearsals. Similar to Immediate Action Drills, evacuation and egress rehearsals enhance crew and embarked troop survivability in the event evacuation or egress is required. Embarked personnel shall rehearse exiting the AAV in various evacuation/egress scenarios. Designated embarked personnel are assigned specific duties and tasks in the event of a rollover or submersion. Tasks to open cargo hatches or the personnel hatch will be assigned to individual Marines in order to abate panic and expedite egress. Rehearsals and training enhance "muscle memory" of embarked personnel. It should be noted that there is a difference in procedures for evacuation and egress with embarked Marines and for crew members without embarked Marines. This should be understood and briefed prior to entering the water.

c. Bow Plane. An empty AAV, without a bow plane in use will nose down as speed increases. Increased speed increases the chance of water entering the driver's station and subsequently leading to swamping/ sinking of the vehicle if the driver fails to respond by decreasing speed or cross steering the AAV. This causes an unsafe condition that requires all hatches to be closed if the bow plane is not in use. Table 3.2 articulates hatch/bow plane configuration requirements.

Table 3.2 Hatch Bow Plane Configuration Requirements

EVENT	BOW PLANE	DRIVERS HATCH	TROOP COMMANDER HATCH	TURRET HATCH
Splash	Retracted	Closed	Closed	Closed
Embarkation	Employed	Open	Open	Open
Debarkation	Retracted	Closed	Closed	Closed
Entering the Surf Zone	Retracted	Closed	Closed	Closed
Waterborne Ops	Employed	Open	Open	Open
Battle Speed	Employed	Closed	Closed	Closed
Waterborne Towing* Recovery vehicle	Employed	Closed	Closed	Open
Towed Vehicle*	Employed/Retracted	Closed	Closed	Open
Note: AAVR7 crews are exempt due to the lack of a bow plane and given the weight displacement of the vehicle configuration. * Driver and turret hatches will apply special restrictions according to paragraph [3004.9] Towing operations.				

d. Pre-operational checklist. Pre-operational checklist (Appendix E) **must** be completed before vehicles enter water deep enough to float the vehicle, or if unsure of water depth. **Pre-operational checks will be conducted on all AAVs prior to leaving the ramp regardless of whether or not water operations are anticipated, unless otherwise authorized.**

e. Personnel Manifest List. AA unit leaders are required to make a manifest list of the personnel participating in waterborne operations (Appendix E). All embarked personnel (to include crew members) will be included on the manifest list. Once completed, the list will be given to the ship's "First Lieutenant" or the Combat Cargo Officer or designated representative if on-board ship or with the safety vehicle if on land, and maintained until the completion of the water transit. If multiple splashes are planned, manifests will be verified and reported to requisite authority as required.

f. Embarked Troop Brief (ETB). The ETB will be conducted for all embarked personnel. This is extremely critical with waterborne operations. It is essential that embarked personnel have a clear understanding of the seaworthiness of the vehicle, the bilge pump system, and the proper functioning/wearing of the personal flotation device. **Time should be allotted for supported unit personnel to familiarize themselves, under crew guidance, of the safety and locking devices associated with the AAV. Appendix J will be read verbatim to passengers.**

g. Permission to Splash. The senior l803/1833 present will give permission to splash. The Battalion S-3 /OOD will be notified prior to splashing at the time of the SUROB submission.

h. Splash team. Splash team inspections must be conducted prior to AAV launch. (Procedures can be found in paragraph 3004.1/3004.2.)

i. Swim qualification requirements. Swim qualifications for 1803, 1833, 1316, 2110, 2141, participating in AA waterborne operations shall be Water Survival-Intermediate (WS-I) qualified. Communications Marines or personnel assigned directly to an AA Platoon should also be WS-I qualified. A minimum swim qualification consideration should be given by supported infantry/unit with enduring missions (i.e., MEUs) with a greater exposure to waterborne operations.

j. Egress training. Submerged Vehicle Egress Trainer (SVET) Training shall be completed by all crewmembers and assigned maintenance personnel every four (4) years. Supported infantry/unit with enduring missions (i.e., MEUs) will conduct SVET training prior to exposure to waterborne operations.

k. Surf survival qualification. Surf survival training and qualification shall be conducted on an annual basis for all crewmembers and assigned maintenance personnel.

(1) Limiting Conditions. Surf survival training should not be conducted under any circumstances where the water temperature is below 55 degrees, wave heights are above four (4) feet, or if the littoral current is above three (3) knots.

(2) Safety Considerations.

(a) A minimum of two (2) vehicles will be designated as the rescue team (RT) and will remain stationed on the beach while training is conducted.

(b) A minimum of two (2) AAVs and/or alternate water craft, designated as waterborne safety vehicles, shall accompany each training sequence. The safety vehicles shall position themselves on the flanks of the training area, beyond the surf zone, keeping participants under observation until all personnel are accounted for on the beach and/or recovered via craft.

(c) SNCOs/Officers of MOS 1803/1833 will serve as training OIC, RSO and PSOs. The RSO will station themselves aboard a waterborne safety vehicle, with PSOs onboard the craft conducting training and in the water with Marines conducting training. Section leaders of the surf survival personnel will accompany the safety vehicles to observe the training.

(d) A Marine Corps Instructors of Water Survival (MCIWS) shall be co-located with the RSO. There shall also be one MCIWS per ten swimmers. Water Survival-Advanced (WS-A) qualified Marines may augment the MCIWS to swimmer ratio. One WS-A qualified Marine may supervise a maximum of 5 Marines, in addition to the 10 Marines being observed by the MCIWS, conducting surf survival training. For example, one (1) MCIWS and two (2) WS-A swimmers can monitor 20 swimmers in the water at one time.

(e) Positive radio communication will be maintained with all vehicles involved.

(f) No more than twenty (20) participants per vehicle shall be loaded and paired into "buddy teams" of ten (10). Manifest lists shall be prepared and delivered to the training OIC. Participants with Water Survival-Basic qualification will be paired with a Water Survival- Intermediate or better.

(g) Personal Flotation Devices (PFD) will be checked and properly worn. Weak/non-qualified swimmers will be identified by a white t-shirt worn over their blouse. Boots are required for training.

(h) All waterborne craft will be positioned in a manner as to prevent them from drifting into swimmers during movement to the beach.

(i) Ensure the drivers of all waterborne AAVs have their **brakes locked, engines idling, and gear selector in neutral** during evacuation procedures, and until all swimmers are well away from vehicles.

(j) Medical support will be present with the RSO or OIC.

(3) Briefing. All hands will be briefed on procedures to include:

(a) Correct use of the particular PFD system being used.

(b) How to evacuate an AAV

(c) How to enter the water (jumping, not diving).

(d) Basic swimming strokes.

(4) Execution. The launch vehicle will load a maximum of (10) pairs of swimmers, splash, and transit through the surf zone. Beyond the last line of breakers, the vehicle will turn parallel to the beach. Marines will be directed topside in pairs, inflate their personal flotation device, and be dispatched overboard by buddy system. Buddies will stick together throughout the entire evolution. When participants have reached the beach, or have been recovered the launch vehicles will be directed to return for another load.

4. Sinking, Evacuation, and Egress defined. When conducting waterborne operations the following definitions must be understood. All personnel conducting waterborne operations in an AAV must understand the difference between evacuation and egress. Each requires very different procedures depending on the specific scenario.

a. Sinking AAV: Watertight integrity is compromised to the extent that water entering the vehicle exceeds the amount of water being bilged. This situation will require evacuation or egress determined by the vehicle commander and the specific situation.

b. Evacuation is the orderly process of embarked personnel and possibly the crew getting off a slowly sinking AAV.

c. Egress is the orderly process of embarked personnel and the crew getting off a rapidly sinking or submerged AAV.

5. Evacuation Procedures

a. Evacuation will begin when directed by the Vehicle Commander.

b. The Third Crewmember will pass the order to all occupants by stating, "Evac, Evac, Evac."

c. On command, each passenger will unbuckle his/her seatbelt and pre-designated personnel will unlock and open the starboard cargo hatch. The starboard cargo hatch is the primary evacuation exit.

Note: Driver, Troop Commander (TC) and Vehicle Commander will evacuate out of their respective hatches.

d. The Third Crewmember will assist the occupants out of the vehicle in pairs using the radio cage/ladder.

e. The Vehicle Commander will be on top of the vehicle assisting pairs of occupants up and ensuring they move in a direct manner to the port side in preparation for troop transfer. When ordered, personnel will inflate their PFD and jump into the water in pairs.

Note: In calm seas crew/passengers enter the water feet first, with legs open and arms extended. In moderate/heavy surf, crew/passengers should roll/slide into the water vice attempting to stand up and jump into the water.

f. Once in the rescue vehicle, or on the surface of the water, the Vehicle Commander will gain control and accountability of crew/passengers, and assist in recovery efforts as required.

6. Egress Procedures

a. Egress will begin when directed by the Vehicle Commander.

b. The Third Crewmember will pass the order to all passengers by stating, "Egress, Egress, Egress." At the same time, the Third Crewmember will unlock the personnel hatch and slide the handle to the open position.

c. On command, each passenger will unbuckle his/her seatbelts, with pre-designated personnel unlocking assigned cargo hatch handles, and then opening the cargo hatches.

d. Crew/passengers swim to the surface.

e. Time permitting, Crew/passengers will shed their gear before swimming to surface; otherwise, they will shed their gear once on the surface.

f. Crew/passengers inflate their PFD.

g. Vehicle Commander will gain control and accountability of crew/passengers, and assists in recovery efforts as required.

Note (1): Driver, Troop Commander and Vehicle Commander will egress out their respective hatches.

Note (2): Primary exit will be the cargo hatches and secondary will be the personnel hatch.

Note (3): If PFD is equipped with the Supplementary Emergency Breathing Device (SEBD) it will be used to assist the Marine as required.

7. Egress Scenarios. There are four rudimentary attitudes crew/passenger may be required to egress from (Figure 3.2).

a. 0°, the AAV sinks/rests in an upright position on its tracks.

b. 90°, the AAV sinks/rests on its starboard (turret)/port (TC) side.

c. 180°, the AAV sinks/rests on its topside.

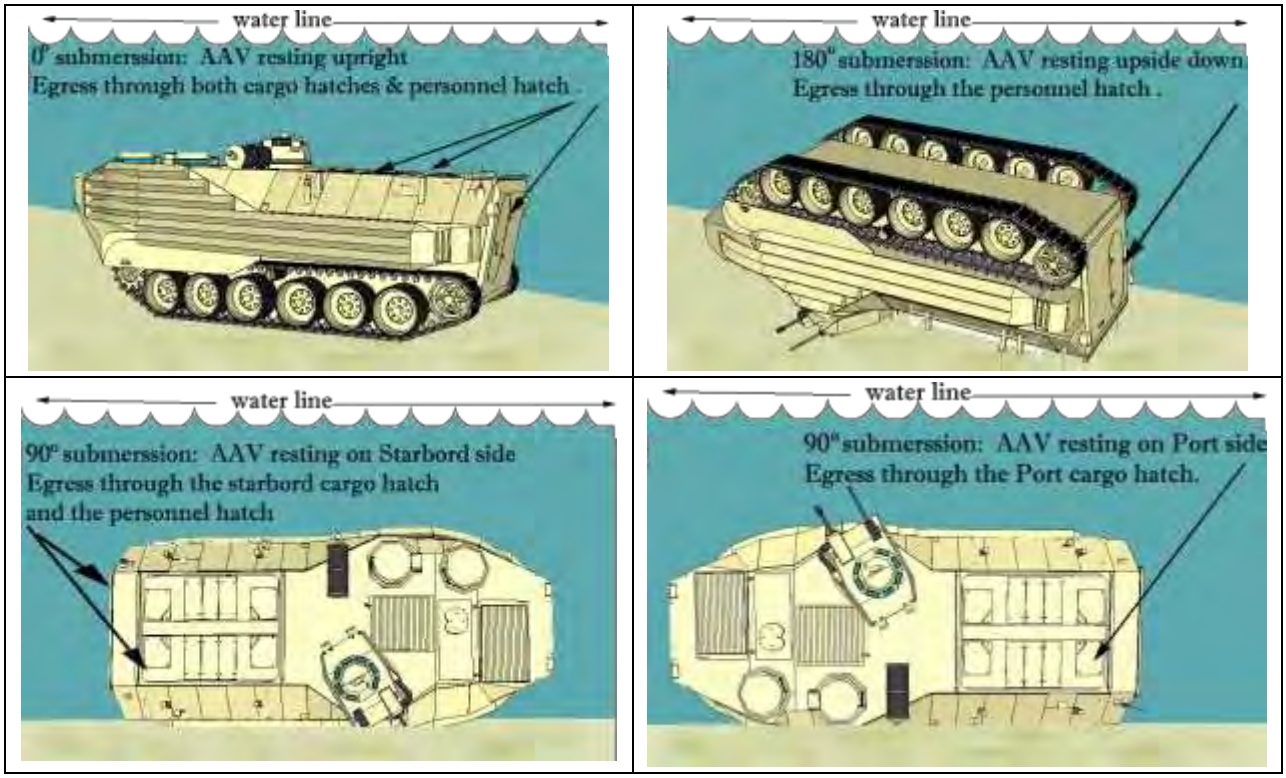

Figure 3.2. Egress Scenarios

8. Minimum Required Safety Equipment (Personnel). The below listed items relate to waterborne operations specifically; other required safety equipment must still be enforced.

a. Personal Flotation Device (PFD). All PFDs shall receive a safety check prior to being worn. The vehicle commander will ensure PFDs are operational and all embarked personnel will conduct a final operations check prior to waterborne operations. Serviceable PFDs shall be worn by all hands embarked aboard any AAV that enters the water. Serviceable PFDs will include all associated equipment to that

particular PFD system to include a survival light or chemical light during night operations. All PFDs will be worn as prescribed.

b. CVC/Kevlar (COMM) Helmet. All crewmembers and the embarked troop commander will wear the CVC helmet. Embarked troops will wear the Kevlar helmet.

c. Body Armor. All personnel aboard the vehicle will wear the prescribed body armor.

d. Uniform. AA Crewmembers will wear a CVC (NOMEX/FLIGHT) suit or FROG Suit as prescribed by the command. Embarked troops will wear approved USMC uniforms.

9. Minimum Required Safety Equipment (Vehicle). When storing equipment on the outside of the AAV it is important to ensure that during waterborne operations gear remains clear of the starboard cargo hatch and ensuring its ability to operate as designed to include opening and securing in the event of a troop transfer. The following equipment is required:

a. One (1) November Flag.

b. One (1) Red (L311) and one (1) White (L312) flare.

c. Two (2) 50 foot tow ropes, with spliced eyelets.

d. Two (2) serviceable boat hooks.

e. First Aid Kit.

f. Two (2) chemical lights will be attached to the inside cargo hatch locking handles before splashing with embarked troops onboard. Glow tape can be used per commander's discretion.

g. Ax mounted on the turret.

h. Battle lantern or searchlight.

i. Each AAV section is to be equipped with a monkey fist attached to a minimum of 20 feet of rope to be used for vehicle recovery during high sea states or anytime deemed appropriate by personnel to affect the recovery of a vehicle in the conduct of water operations.

10. Emergency Signals. Each AAV will depart for operations with a minimum of one (1) red and one (1) white star pyrotechnics (pyro) held in the pyro box. Radio traffic concerning disabled waterborne AAVs will take precedence over all other traffic. After radio contact has been made or attempted, the following visual signals will be used by the disabled vehicle.

a. Inoperable, Daylight. Display "November" flag attached to a boat hook held vertically. The vehicle commander will fire a white signal flare as necessary.

b. Sinking Daylight. Wave "November" flag continuously. The vehicle commander will fire a red signal flare into the air as necessary.

c. Inoperable AAV, night. Turn on searchlight or battle lantern and point it vertically, in the air. If radio communication cannot be established, fire a white signal flare.

d. Sinking AAV, night. Use searchlight or battle lantern as above and turn on vehicle headlights. Additionally, fire a red signal flare into the air.

11. Transfer of Passengers at Sea. Perhaps the greatest hazard to the AAV and passenger safety at sea is the danger of a vehicle sinking. If at any time a vehicle's watertight integrity becomes questionable, the **Vehicle Commander, for safety consideration, always has the option to evacuate the vehicle anytime he/she feels the safety of embarked troops or crew is jeopardized**. The Vehicle Commander should consider sea conditions, situation, water trigger levels and the methods of troop transfer. Vehicles will not be towed with embarked troops on board unless a greater physical hazard would be posed by the sea condition and/or tactical situation in the transfer of personnel to another vehicle.

12. Water Level Trigger Consideration

a. Water at "Deck Plate Level" – Vehicle commander notifies and maintains communication with higher and preps troops for evacuation.

b. Water at "Boot Ankle Level" – Crew executes all emergency distress signals. Crew evacuates all embarked troops. Crew prepares to evacuate while trying to reach nearest safe haven.

c. Water at "Troop Bench Level" – All crew evacuates the vehicle.

13. Troop Transfer Methods

a. Side to Side Transfer. This method will be utilized in calm sea states and can be used with either an AAV or a Navy safety boat. AAVs will marry up portside-to-portside. Fender material will be utilized if available. Both cargo hatches will be opened on each vehicle to facilitate the transfer. Personnel will exit the disabled vehicle by climbing topside up the radio cage and stepping across center bar to the port cargo hatch and then onto the receiving vehicle. Transferring personnel will move to the starboard side and climb down using the radio cage.

b. Bow to Bow Transfer. This is the preferred method of troop transfer when the sea state prevents the above method. Prior to approach, place fender material if available in position to prevent bow damage. Both vehicles will open starboard cargo hatches, which will allow personnel to move from the disabled vehicle to the recovering vehicle. The AAVs will be held in position by crewmen using boat hooks or hand held lines, until troop transfer is complete. This method will require that the bow plane be retracted prior to transfer. Never secure the two AAVs together with the tow ropes because the disabled AAV may sink.

c. Rough Sea Transfer. No direct transfer should be attempted in high swells or within the surf zone. If required, open the starboard side cargo hatch. Personnel will remove all equipment (except PFD) and exit the vehicle via the radio cage. Once topside, move to the port side, inflate PFD, and enter the water in "buddy pairs" and swim to the rescue vehicle using the buddy system. During all transfer operations ensure that the AAVs are in neutral with brakes locked and in water tracks. The rescue vehicle will take station on the windward side of the disabled vehicle, 25 to 50 meters away. When the rescue vehicle is positioned on the windward side of the disabled vehicle, the wind is blowing from the rescue vehicle towards the disabled vehicle. This prevents the disabled AAV injuring personnel as they swim to the rescue vehicle.

> **Note:** The vehicle commander will dispatch personnel in an orderly manner, keeping positive control at all times.

d. Emergency Transfer. In an emergency situation where the disabled vehicle is in danger of sinking, personnel may exit the vehicle using both port and starboard cargo hatches moving topside as quickly as possible. Transfer may then be made to the receiving AAV. If not available, personnel must swim away from the disabled AAV. The Vehicle Commander and crew will work to organize the swimmers into buddy pairs and larger groups once in the water.

14. Marine Overboard. The best way to retrieve a Marine overboard is to use a boat hook or towline. As a last resort, a Marine from a rescue vehicle will enter the water. The Marine will ease into the water keeping their head above water and eyes on the Marine overboard.

15. Embarked Troop Considerations. Under conditions of hot ambient temperatures, crowded troop compartments, and prolonged waterborne operations, the flow of air in the aft end of the compartment can become critical. Diesel fumes in particular can cause troop discomfort and nausea. Vehicle Commanders will ensure that the exterior aspirator valve and ventilation fan are serviceable and in operation during waterborne operations. Whenever possible, crew hatches will be open to increase the input of fresh air into the troop compartment. In any hot weather operation, care should be taken to avoid crowded conditions and excessive time in the water.

16. Turret Orientation. During AAV transits of the surf zone, the VC traverses the weapons station as required. If an evacuation seems likely or is required, the VC will traverse the turret up to 90 degrees toward port to facilitate access to the turret hatch by the embarked personnel.

17. Manual Hand Throttle. Will not be used during amphibious operations due to safety concerns and will not be used as a cruise control while conducting land operations.

18. Operations at Night and Limited Visibility. Vehicles shall be equipped with a serviceable search light or battle lantern and safety pyro for signaling as required. During periods of poor visibility, chemical lights may be mounted on both rear antennas to enhance vehicle identification. All AA units should strive to operate without the use of lighting aids; however, they should be employed when necessary based on unit proficiency and training environment.

3004. Splash Procedures

1. Sequence of Events.

a. AA unit leader supervises conduct of SUROB.

b. SUROB results communicated to higher headquarters.

c. Vehicle Commanders conduct pre-operations checks (Appendix E).

d. Vehicle Commanders submit pre-water operations checklist to Section Leader for verification.

e. Once verified by the Section Leader, the pre-water operations checklists are either maintained by the Section Leader or given to the AA unit leader.

> **Note:** When conducting waterborne operations in route to amphibious shipping or in instances where the Platoon Sergeant will not serve as the Splash Team and/or Rescue Team pre-operations, checklist should be redistributed and collected by the Splash Team Commander.

f. The Senior 1803/1833 will give the safety brief to all hands.

2. Splash Teams Composition/Procedures. Splash teams will be utilized during non-tactical splashes and will consist of a SNCOIC/NCOIC, or designated AA unit leader and two (2) qualified crewmembers. These Marines will ensure that the vehicle is prepared to splash by checking the following items:

a. AAVs will be **shut down** prior to any hull plug inspection/check being made by personnel underneath the vehicle. This does not include checks being conducted during tactical launches where a splash team may not be utilized. In this case the driver will **ensure the brake remains engaged** while a crewmember verifies hull plug installation**.**

> **Warning:** Personnel can be killed or injured if a vehicle moves with someone under it. Ensure the engine is off, the vehicle master switch is off, and the parking brake is set. Before crawling under the vehicle, warn other crewmembers and/or put a warning sign on the vehicle steering wheel.

b. AA Unit Leader or designated subordinate ensures that all personnel manifests are complete and account for all personnel.

c. Driver hatch will remain open at splash point until ordered closed by splash team.

d. Splash Team Leader visually inspects plenum door position indicators (mushrooms) ensuring that they are in the "up" position, that electric bilge pumps are on, and intake grill handles and exhaust grill locking lugs (dogs) are secure. It is imperative that the crews listen for the audible pop of the plenums locking in place.

e. Rear splash team member checks that jet deflectors (buckets) are open, that the ramp and ramp personnel door are properly secured, that there is no debris protruding from the ramp or ramp personnel door, visually inspects that ropes and boat hooks are properly stowed, and physically checks that the hull plugs are securely installed.

> **Note:** Rear crewman must ensure that after splash team checks the ramp personnel door it is to remain closed.

f. Forward splash team member visually inspects area in front of AAV to ensure it is free of obstacles, i.e., other vehicles or personnel. The team member will also ensure that the bow plane is fully retracted, and physically checks that the hull plugs are securely installed.

g. Upon inspection, Splash Team Leader instructs Vehicle Commander to close all hatches

h. The Splash Team Leader will visually account for all members of their splash team.

i. Splash Team Leader gives signal to splash via visual signal, red and green flags, and/or voice radio procedures.

j. Once vehicle is clear of the surf zone, the Splash Team Leader may direct the next vehicle in sequence to splash.

k. Hatches will be closed and locked while the vehicle is transiting through the surf zone

Note: If for any reason watertight integrity is in question or compromised, i.e., breaking for chow, ramp or personnel door opened, etc., a new pre-water operations check will be performed by that Vehicle Commander.

3. Rescue Teams (RT). An RT will be used during waterborne operations. The following are RT planning considerations:

a. Internal RTs will be utilized and leaders must plan accordingly for the recovery of disabled vehicles operating in the water.

b. The senior AA Unit Leader will designate the RT before the splash; the RT vehicle number and location will be made known to all hands.

c. The RT serves as the PRIMARY rescue vehicle for disabled vehicles; however, every vehicle serves as a potential rescue vehicle and plans should include platoon and section recovery of multiple vehicles and identification of possible safe havens.

d. The designated RT vehicle must be capable of receiving personnel from a disabled AAV.

e. AA unit embarking aboard ship for durations (i.e., MEU deployment) should coordinate for external RT support to ensure mission essential assets are not lost due to the need to recover downed vehicles.

f. For daylight operations, RT vehicles will be marked with a triangular yellow marking flag on the starboard aft antenna. During low light operations, a yellow chemical light will be attached to the RT vehicle's starboard aft antenna.

3005. AAV Shore Launch Procedures.

AAVs only enter the water after a SUROB has been sent to the controlling ship and/or higher headquarters; pre-water operations checks have been performed; the passengers have been briefed and embarked; manifest list is submitted; and permission has been granted to launch. A designated AA unit leader will control the launch by supervising a splash team and controlling AAVs either by visual signal or radio.

3006. Non-Tactical Launch.

Non-tactical launches are used during basic operations involving inexperienced crews and when other safety conditions dictate (e.g., limited visibility, high surf). This method involves lining the vehicles up either side by side or in a column on the beach and launching from that central point. The procedures are largely the same as for a tactical launch, except for the close proximity of vehicles and the use of launch teams. The launch team will dispatch each vehicle, using either radio or hand and arm signal, in designated order once it determines the vehicle is ready to launch. This technique should only be used for training operations to establish basic safety procedures in preparation for more advanced tactical launch. The open, linear formation makes it susceptible to attack from the ground and air and therefore unsuitable for combat conditions.

3007. Tactical Launch.

The tactical (combat) launch is normally used when withdrawing from a hostile or potentially hostile beach or during operations simulating such conditions. Under combat conditions, units typically form a

defensive perimeter position before splashing back to amphibious shipping. Forming a defensive perimeter position can be done at the beach or at a secure site (e.g., assembly area located further inland). AAVs should enter the water on command by section, to ensure as much protection is provided for the conduct of the splash vehicles, soon after the pre-operations checklists have been completed. A pre-operations check ensures the watertight integrity of the vehicle and overall safety of the operation. Typically the defensive perimeter is used with infantry deployed slightly forward of the AAVs to provide local security.

a. Prior to leaving the assembly area, the vehicle commander will complete the standard pre-operation checklist (Appendix E) at **the very least the Vehicle Commander will ensure the watertight integrity of their AAV before entering the water.** The intent of the tactical launch is to enter the water as soon as practical without losing momentum. A technique that is beneficial for the tactical launch is bounding over watch.

b. Figure 3.3 is an example of a "tactical launch", the numbers correspond to order of splash; the AA Unit Leader will have the final say on splash order:

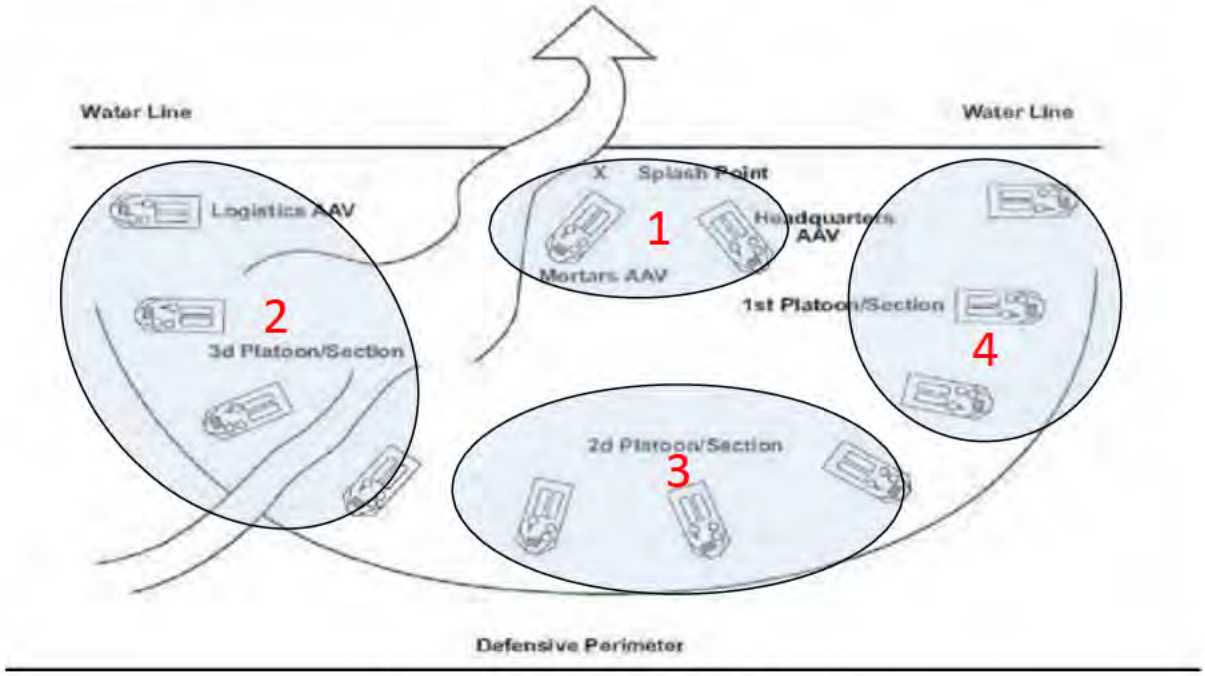

Figure 3.3. Example Tactical Launch

3008. Waterborne Towing and Recovery.

1. Waterborne Towing/Recovery. While conducting or planning to conduct waterborne operations, towing/recovery of an AAV will be considered an **emergency procedure**. The act of waterborne towing/recovery is an emergency procedure **conducted afloat** to avoid loss of equipment and/or to avoid injury and/or loss of life. As a rule, before towing/recovery of a disabled AAV, make all attempts to repair the AAV before hooking up towing lines for tow. If all attempts to repair the AAV are unsuccessful the AAV must be taken under tow to the nearest **safe haven**. The senior AA Unit Leader on the scene should make the determination of whether to tow to shore or to the ship with safety being the overriding factor. Distance to ship or shore, wind speed and direction, sea state, surf conditions must, current ballast level of the ship, ballasting time of the ship, ship speed, and ship direction all be taken into

consideration prior to determining where the nearest safe haven is. An AAV that is deemed "not mission capable" (water deadline) before water operations, shall not be towed into the water from dry land or from the well of a ship. Knowingly towing a disabled AAV into the water is a violation of the pre-water operations check list and should be considered only in the most extreme circumstances. All other resources will be considered and exhausted by the AA Unit Leader before considering towing a disabled AAV into the water. Example #1: AAV is known to be water deadline while embarked on ship; this AAV should be towed onto a LCAC and transported to the beach or remain on ship and to be offloaded pier side. Example #2: AAV is known to be water deadline after conducting a pre-water operations check prior to river crossing; this AAV should remain in place to await a contact team or "low-boy" type transportation.

a. Waterborne Towing Methods. The sea state condition will determine which of the two ways the disabled vehicle will be towed

(1) Stern-to-Bow. This method will be used when the vehicle hydraulic system and plenum locks are **"NOT"** in question.

(2) Stern-to-Stern. This method will be used when the vehicle's hydraulic system and plenum locks are in question. **This method is the preferred method of towing in the water.**

(3) The senior AA Unit Leader has final authority on towing method regardless of vehicle status.

b. Waterborne Towing Procedures. The towing procedures remain the same regardless of the method used with exception of the position of the disabled vehicle.

(1) The rescue vehicle should position itself depending on the method to be used.

(2) One end of each of the two 50-foot towing lines is passed through the eyes of the aft mooring cleats of the towing vehicle and secured to the quick release mechanism. The tow lines are provided by the recovery vehicle.

(3) The tow lines are crossed to afford the greatest control over the disabled vehicle.

(4) Once the tow lines are connected, care must be taken to avoid possible backlash injury. Backlash is when lines under tension give way and snap. The parted lines lash out and are very dangerous.

(5) The crew of the disabled vehicle secures hatches with the exception of the turret hatch. The turret hatch of the disabled vehicle will be locked at 90 degrees, with the back of hatch facing the towing vehicle. The crew of the towing vehicle will position their hatches per Table 3.3. The axe will be placed on the turret for ready use to disconnect the tow lines should the quick release mechanism fail.

Table 3.3. Hatch Configuration While Towing

Vehicle	Drivers Hatch	Troop Commanders Hatch	Turret Hatch
Towing Recovery Vehicle	Closed or Combat Locked	Closed	Locked at 90°, back of hatch facing towed vehicle
Towed Vehicle	Closed	Closed	Locked at 90°, back of hatch facing towing vehicle

(6) The vehicle commander of the towing vehicle will look aft to watch the condition of the disabled vehicle. The third crewmember will be stationed in the rear of the towing vehicle to view the disabled vehicle through the ramp vision block. After all passengers have been transferred, only the crew should remain on the disabled vehicle during towing.

(7) Unless conditions prevent the safe transfer, passengers should be transferred from the disabled vehicle before towing. If the disabled vehicle still has electrical power and watertight integrity is still intact, the crew will remain aboard to continue troubleshooting. If the disabled vehicle is without electrical power and/or watertight integrity is compromised crewmembers will evacuate.

(8) It is possible to tow an AAV through the surf zone to the high water mark on the beach utilizing the above towing procedures; however, the risk of parting lines is high. Therefore, all hatches should be kept closed on both vehicles until there is slack in the lines. The towed vehicle shall re-orient their turret forward in case egress is needed. All personnel on the beach should stand clear of the AAVs until the disabled AAV is safely ashore and there is slack in the lines. When towing through the surf zone, vehicle commanders must ensure vehicles are towed at a 90 degree angle to the surf line and to a point on the beach where:

(a) Neither vehicle has tracks in the water

(b) Collision between the vehicles is impossible

(c) Disabled vehicle will not roll back

(9) In any rescue/recovery operation, the protection of the lives of personnel takes priority over the salvage of disabled vehicles.

(10) During towing/recovery, the senior AA Unit Leader will take charge.

2. Courses of Action. When towing a disabled AAV with another AAV, tow the disabled AAV to the nearest safe haven. This could be the beach or an amphibious ship, wet well ships being the preferred amphibious ship platform.

a. Towing to a wet well ship: The AAV will be towed as far forward in the well deck as possible utilizing the towing ropes. Conditions permitting, the AAV will then be towed onto the dry portion of the deck. (Ship should be ballasted to a minimum of 6 ft above the sill, allowing the towing vehicle to operate freely in the well deck.)

b. Towing to the beach: Disabled AAV will be towed through the surf at a 90-degree angle to the surf zone and to a point on the beach where neither vehicle has tracks in the water. Then and only then can tow lines be replaced with tow cables.

3. Towing of AAV with Naval Craft. This method will not be used except in an emergency and only with nylon/hemp ropes so that in the event of a sinking AAV, they can be cut free by the towing vessel crew. LCU or LCM are the only Naval craft capable of towing of an AAV.

4. Special AAVR7A1 Consideration. An AAVR7Al has unique weight and balance considerations. As such, the waterborne recovery of an AAVR7A1 should be attempted by only the most experienced AAV crews. Particular attention will be paid to hatch position because of the lower freeboard of the AAVR7A1 recovery vehicle.

3009. Waterway Rules and Navigation.

a. AAVs involved in waterborne operations are subject to the same international rules of the road as powered boats. When an AAV and sailboat are approaching in such a direction as to involve risk of collision, the AAV shall avoid the sailboat.

b. When AAVs or powered boats are approaching bow to bow, each shall pass on the port side of the other by steering to the starboard.

c. When two AAVs or powered boats are on crossing courses that involve risk of collision, the AAV or boat that has the other on the starboard side shall give way to avoid the other.

d. When safe and practical, AAVs in narrow channels shall keep to the right of the channel.

e. During night operations, AAVs shall clearly exhibit a searchlight in time to prevent collisions.

2. Navigational Aids. Various channel markers can be found along local waterways. The red-right-returning rule applies in most parts of the world; however, in some parts of the world these rules are reversed. Under the red-right-returning rule, vessels moving up river will keep red channel markers on the right, and green markers on the left. When going out to sea, vessels keep red markers on the left and green markers on the right.

3010. Amphibious Planning.

When planning for amphibious operations with or without amphibious shipping, the current MCTP 3-10C should be reviewed as well.

1. Assault Amphibian Special Staff Officer. During planning for amphibious operations, the AA unit leader is a special staff officer to the Ground Combat Element (GCE) commander under the staff cognizance of the operations officer. The AA unit leader deals with matters pertaining to employment of the supported unit's AAVs in the conduct of amphibious operations and subsequent operations ashore.

2. Pre-sail Brief/Embarkation Planning. Representatives of AA units must attend planning or pre-sail conferences to advise supported unit commanders and Naval representatives (operations officer, embarkation officer, and/or ship's first lieutenant) on shipping requirements and recommended methods of embarking and employing their unit. Embarkation planning considerations include:

a. Review of the ships loading characteristics.

b. Embarkation by number of vehicles and personnel, billeting and food.

c. Points of contact, and radio frequencies to be used during operations.

d. Launch schedule, timelines, and concept of operations, to include ships distance from objective(s) and LOD, launch type(s), ship speed(s), launch interval, stern gate positions, and ballasts for entering/exiting well.

e. Well Deck lighting and signals used if conducting night operations.

f. Coordination of AAV emergency procedures.

g. Logistical concerns for refueling, POLs and/or storage, additional equipment on load, maintenance support available, and off- load capability for inoperable AAVs.

h. Provide a copy of AA SOP and current MCTP 3-10C for supported unit commander and/or ship company review.

Note: The above list is similar and should be covered again at launch planning, addressed further in this section.

3. Intelligence Requirements. Impact of environmental conditions and enemy defenses must be considered when AAVs are employed. Information on hydrography and enemy defenses are required to effectively employ AAVs to negotiate the seaward approaches from the surf zone to inland objectives.

a. Hydrography. The description and study of bodies of water and their touching land areas, used to interpret sea, surf, and beach conditions in relation to AAV employment. Many complex factors influence these conditions, and the success or failure of an amphibious landing using AAVs largely depends on the completeness and accuracy of intelligence data and upon the AAV unit leader's interpretation of that data. (For further hydrography terms refer to Reference A.)

(1) Sea States. AAVs have demonstrated the ability to negotiate sea states 1 through 3; will experience difficulty maintaining speed and maneuverability in sea state 4; and can survive operations in sea state 5, with reduced effectiveness. Troops should not be embarked aboard AAVs in sea state 5 and it is advisable not to conduct operations in sea state 5 or greater. In a training environment, AAVs will not operate in a sea state 4 or greater. Sea state conditions are provided in Table 3.4.

Table 3.4. Sea State Conditions

SEA STATE	CONDITION
1	Wind speeds between 5 to 9 mph (5 to 8 kts). Wave heights considered small wavelets between 0.5 and 1 ft. Small wavelets with glassy-appearing crests and no breaking.
2	Wind speeds between 10 to 11 mph (9 to 10 kts). Wave heights considered large wavelets between 1.5 and 2 ft. Large wavelets, crests begin to break and whitecaps are scattered.
3	Wind speeds between 16 to 17 mph (14 to 15 kts). Wave heights considered small, between 3.5 and 4 ft. Small waves becoming longer and whitecaps are numerous.
4	Wind speeds between 19 to 24 mph (17 to 21 kts). Wave heights considered moderate, between 4 and 7.5 ft. Moderate waves forming numerous whitecaps and some spray.
5	Wind speeds between 24 to 28 mph (21 to 25 kts). Wave heights considered large, between 8 and 12 ft. Large waves form and whitecaps are common, along with more spray.

(2) Sea Waves. Caused by high winds in storm area. Sea waves are usually steep, have a short period, and often crest and break in deep water. Commonly referred to as white caps or combers. Sea waves affect speed and maneuverability of the AAV, as well as reduce driver visibility due to sea spray. High seas must be anticipated in the navigation plan, landing formation, and landing schedule.

(3) Swell. Characterized by its lack of steepness and longer, rolling period. Swells can impede a vehicle's speed and maneuverability, and may also make debarkation from Naval shipping more dangerous. Heavy swells must be anticipated in the navigation plan, landing formation, and landing schedule.

(4) Tides. The stage of tide affects the width of the beach and surf zone, therefore high and low tides and tide range must be known. Tides affect the type of surf, depth of water over sandbars and reefs, and effectiveness of underwater obstacles. High tides will enable AAVs to overcome sandbars and

reefs with greater ease, but will increase the percentage of plunging breakers by shortening the surf zone. Low tides may have the direct opposite effect by increasing spilling breakers.

(5) Surf. Various factors can greatly affect amphibious operations using AAVs in the surf zone. The minimum information on the surf conditions needed to safely conduct AAV operations should include the following:

(a) Significant breaker height

(b) Maximum breaker height

(c) Breaker period or interval in seconds

(d) Breaker types (i.e., spilling, plunging, or surging)

(e) Breaker angle

(f) Littoral or long-shore current in knots

(g) Width of the surf zone

(h) Number of breaker lines

Note: This information is contained in a SUROB report, required before the conduct of amphibious operations.

(6) Surf Zone. The most dangerous portion of an amphibious landing is negotiating the surf zone. This is where the energy of the wave is released and most landing craft casualties occur at this time. Conditions in the surf zone are the result of the following factors:

(a) Breaker type

(b) Maximum breaker height

(c) Breaker period or interval

(d) Vehicle load (Combat Load (CL) 10,000 lb, Troop Load (TL) 5,600 lb., and Combat Equipped (CE) which is an empty vehicle)

(e) References G and L specify the maximum permissible surf conditions for AAV operations. Table 3.5 and Table 3.6, provide the maximum MSI, shortest breaker period, and maximum breaker height under various load conditions.

Table 3.5. Safe MSIs and Periods

Type of AAV Load	Maximum MSI	Minimum Breaker Period (seconds)
100 Percent Plunging Breakers		
CL	6	9
TL	6	9
CE	6	13
50 Percent Plunging/50 Percent Spilling Breakers		
CL	6	8
TL	6	8
CE	6	10
100 Percent Spilling Breakers		
CL	6	5
TL	6	5
CE	6	7

Table 3.6. Safe Breaker Heights

Type of AAV Load	Maximum Breaker Height (Ft)
Non-Combat Operations	
CL	6
TL	6
CE	6
Combat Operations	
CL	10
TL	10
CE	8

(7) Reefs, Sandbars, and Other Natural Obstructions. An AAV's tracked suspension enables them to negotiate most reefs, sandbars, and other natural obstructions that may impede boats. The surf beat, vertical climb, and breaker must be considered before AAVs are navigated through those obstructions.

(a) Surf Beat. The surf beat is the distinct rise and fall of the mean water level within the surf zone. Normally, surf beat is equal to 10 percent of the breaker height. This quick rising and dropping of almost a foot at time can throw an AAV against a reef hard enough to severely damage the suspension. This can be overcome if the tide provides sufficient water depth over the obstacle or if the composition of the sandbar or reef is of soft material.

(b) Vertical Climb. On land, AAVs can climb a 3-foot wall, but in water, the vertical distance is much less. The depth of the water over a steep gradient obstruction (e.g., reef, sea wall) should be at least 3 feet to allow tracks to be able to engage and climb it. This is not a concern where the gradient is less steep. Reefs are irregular and often contain many pockets or holes; care should be taken to avoid getting an AAV stuck in one without sufficient water depth to climb out.

(c) Breakers. Care should be taken whenever approaching sandbars and reefs as swells may break violently upon them. Generally, if the depth is less than one and a half times the breaker height, waves will break upon the sandbar or reef, i.e., a 6-foot swell will break upon a sandbar or reef unless the water depth over that obstruction is at least 9 feet.

Note: Information needed for AAV operations over reefs or bars should include the following:

- Nature or type of obstruction
- Distance offshore or location of the obstruction
- Slope (seaward)
- Depth of water at various tidal stages or height of the obstruction above water
- Gaps or passages in the sandbar, reef, or obstruction
- Breaker height

(8) Currents. In conducting amphibious landings, planners are most often concerned with the effects of longshore or littoral currents; however, offshore seasonal currents can have a greater effect on AAV operations.

(a) Offshore Currents. Found outside the surf zone. Currents in excess of 3 knots will adversely affect an AAVs maneuverability.

(b) Long Shore/Littoral Currents. Set up within the surf zone by the breaking waves. They flow parallel to the shoreline inside the breaker line, and increase with larger breaker angles, beach gradients, and breaker heights. These currents present little problem for AAVs since the vehicles have usually gained positive traction before reaching the point where they occur.

(9) Gradient. The gradient tends to have little effect upon AAV operations unless it is nearly vertical. The gradient, however, does affect other characteristics of hydrography that do affect AAV operations with breakers present and type. Typically, steep gradients of 7 percent or more create a high percentage of plunging breakers; gradients between 7 and 3 percent produce a mixture of spilling and plunging breakers, and produce bars that extend the number of breakers in the surf zone; gradients of less than 3 percent produce a high percentage of spilling breakers and sandbars that extend the surf zone.

(10) Beach Composition. The beach may be composed of silt, mud, sand, gravel, boulders, rock, coral, or any combination of these. The foreshore, backshore, and hinterland may affect traffic ability.

(a) Foreshore. This is the most important area of traffic ability due to the increased gradient and looseness of material. Courser materials (i.e., gravel, rocks, cobblestones) from the surf zone provide poor traction for AAVs beginning to ground themselves and moving out of the water. The heavier the AAV and steeper the gradient, the less traction the AAV will get. As gradient increases to its peak, AAVs will tend to become stuck or mired in the loose bottom material.

(b) Backshore. Usually of soft, loose, and dry composition. The backshore normally will not present a problem for AAVs since it generally has a mild gradient.

(c) Hinterland. This area is just past the backshore, behind the first line of permanent vegetation. This area may pose problems if confronted with dunes or cliffs.

(11) Beach Exits. Natural or manmade obstacles may channel or prevent AAVs from exiting the beach to move inland.

b. Enemy Defenses. Operational considerations for using AAVs must include the enemy capabilities as waterborne movement in an AAV results in decreased maneuverability, and increased exposure time to enemy direct fire and indirect fires.

3011. Fundamentals of the Amphibious Assault.

1. The landing force and Amphibious Task Force (ATF) objectives are the primary focus of effort of the AAV unit. The concept of operation chosen by the Commander of the Landing Forces (CLF) is the basic factor in determining the nature of the assault. Flexibility of plans and speed in their execution are essential factors in its conduct. The factors of Mission, Enemy, Terrain, Weather, Troops, and Support – Time Available and Civil Considerations (METT-TC) will determine whether the amphibious operation will be conducted from near shore or from over the horizon. The near shore assault is conducted from approximately 4,000 to 15,000 meters off the target landing beaches. Although the near shore assault allows for the launch of AAVs outside the range of direct fire antitank weapons as well as allowing a short transit time in the ship-to-shore movement, it requires ships to operate within range of enemy artillery and reduces the ship's time to counter any anti-ship missiles. The over the horizon assault provides for the launching of landing craft outside of the range of enemy indirect fire weapons, reduces the ability of line of sight radar to detect the ship, and increases the ship's time to counter any anti-ship missiles. The maximum cruising range for an AAV in the water is 7 hours under normal operating conditions. The distance from amphibious ships that the AAV can launch is determined by the AAV Unit Leader, supported unit commander, and the ship's captain using METT-TC with consideration for troop and crew fatigue.

3012. Communications.

1. Prior to conducting amphibious operations, the AA unit will coordinate with Naval personnel to attain the proper radio frequencies to be used for waterborne operations.

a. Capabilities. The AAVP7A1 SINCGARS Suite of radios operate in the VHF band; HF and UHF bands are available on the AAVC7A1.

b. Control. When conducting operations with Naval shipping, AA units must coordinate the following nets, to include AAV Safety/Common:

(1) Boat "A". Typically used for tactical communications within the boat lane, from the line of departure (LOD) to shore.

(2) Boat "B". Typically used for administrative and logistics type communications. Utilized during initial link-up with ship, embarkation (back loads), and launches and movement from ship to the LOD. AA units conducting operations with amphibious ships will monitor this net one (1) hour prior to scheduled AAV launch.

(3) Unsecured Communications. It should be noted that the Navy typically operates on single channel plain text (unsecured) and as a result, force protection efforts to mitigate this shall be used. It is the responsibility of the AA Unit leader to adequately advise the landing force and amphibious task force to utilize a secured AAV communications network when beneficial to the mission. The Boat "A" and Boat "B" networks are typically unsecured as those networks are designed for use by all displacement landing craft which may operate in a different security posture than AAVs. In contrast, ships regularly support LCAC communications, which are typically secured channels.

3013. Amphibious Embarkation.

1. AAVs are normally embarked and transported on amphibious ships. Amphibious ships including Landing Ship Dock (LSD), Landing Platform Dock (LPD), Landing Helicopter Dock (LHD), and the Landing Helicopter Assault (LHA) ship. These ships provide for rapid embarkation/ debarkation of AAVs, ease of maintenance, and underway launch capabilities for AAVs.

2. Amphibious Shipping Characteristics. Each ship publishes a Ship's Loading Characteristics Pamphlet with AAV capacity and other limitations of that ship; this pamphlet should be reviewed during pre- sail briefs. Additionally, each amphibious ship will have a Marine Combat Cargo Officer (CCO) assigned to the crew to assist with load planning. Ship configuration may decrease maximum loads. Table 3.7 provides approximate AAV capacities for each class of amphibious ship:

Table 3.7. AAV Load Capacities

Ship Type and Class	AAV Capacity
LSD-41 Whidbey Island Class	64
LSD-49 Harpers Ferry Class	27
LPD-17 San Antonio Class	38
LHA-6 America Class	TBD
LHD-1 Wasp Class	52
LST-1179 Newport News Class	23

3. The most common type of AAV embarkation aboard amphibious shipping is by entering the water and transiting out to an offshore ship. Table 3.8 provides well deck embark/debark safett criteria. Upon notification that the ship is ready for embarkation (green well), the AAVs will proceed to ship for loading. AA Unit Leaders must ensure that AAVs are embarked in the proper launching sequence for the subsequent landing. Means for AAVs to load amphibious shipping are:

a. Ship at anchor

(1) Ship lying to or with bare steerageway (screws and rudders used only to maintain ships head into the swells)

(2) By ramp when ship is moored at pier

(3) When married to a pontoon causeway

Table 3.8. Embark/Debark Safety Criteria of Ship's Well Deck

	Stern Gate Position	Vent Fans	Ballast	Water Depth at Sill	Maximum Ship Speed
Debark	0 plus or minus 3 Degrees[1]	On[2]	N/A	6" - 1'	21.5 knots
Embark	Lowered and Locked	On[2]	Steep Wedge	3' - 6'[3]	3 knots[4]

[1]LSD, LHD, LPD, and LHA stern gates should be lowered to an angle level with the well. If depressed greater than -10 degrees, it can interfere with the AAV's ability to break free from the ships wake when launched.

[2]LSD-41 Class ships do not have vent fans.

[3]The optimal depth for AAV recovery is 4 ft of water at the sill. For recovery of a towed vehicle the ship ballast should be 6-8 ft at the sill with 6 ft being optimal. The number of vehicles already embarked should be taken into consideration when towing a vehicle as it affects the ship's ballast.

[4]Maximum speed will depend on the speed the AAVs are able to make in the water.

4. Embarkation Procedures. An AA Unit Leader should be embarked on the first craft brought onboard amphibious shipping in order to make liaison with ship's personnel to ensure smooth backload, assist in ground-guiding/spotting of vehicles, and assist in emergency recovery of AAVs if necessary.

a. Ensure that positive communications has been established with controlling station, and that permission to splash has been granted.

b. AAVs should maintain an interval of 50 to 75 meters and travel in column to facilitate ease of loading. When traveling from shore to ship, AAVs should navigate by utilizing the ship's anchor point as a reference in order to alleviate "chasing the ship's stern."

c. Position approximately 100 meters from the ship's stern and await the signal to load.

d. Upon receiving signal, AAVs will approach in water-jets mode at 1,500 to 1,800 RPM.

e. When approaching the sill, at approximately 30 meters before entering, the driver will place the vehicle in first gear to engage tracks. The driver will then slow down and proceed until tracks touch down within the well deck.

f. AAV crews will adhere to navy directions in spotting of AAVs, under the supervision of AA leadership. It is important to note that ship's personnel that execute ground-guiding commands while in the well are typically the most junior crew members. As such, AA unit leaders and crews will ensure commands are supervised and the vehicle commanders and their drivers do not blindly follow the ground guide commands. Additionally, AAV crews and leadership should ensure professional communication between AAV crews and ship's personnel is adhered to at all times.

g. To prevent confusion and/or mishaps, embarked personnel will remain aboard AAVs until all vehicles are embarked and stopped, and authorization to move about the well deck has been given.

h. AAVs will then be lashed down in accordance with navy regulations, and under the supervision of unit leaders, and under direction of the ship's first lieutenant. (AAV securing procedures is discussed further in Chapter 8 of this SOP.)

3014. Launch Planning.

1. Launch planning is essential to the effective support of the established landing plan. It provides for the formation of waves and link up with designed safety boats. The AAV launch must be planned to facilitate the rapid formation of waves and subsequent buildup of combat power ashore in order to execute the landing plan. The AA Unit Leader must coordinate well in advance of the proposed launch with the ship operations officer, boat officers, and ship's first lieutenant. Below are some basic considerations:

- Relation of the AAV launch to the LOD.
- Speed of ship (if launched underway).
- Well deck lighting (if night launched).
- Staggering of AAVs for launch.
- Communication and signals.
- Launch interval between vehicles.
- Locations and dispositions of other amphibious ships in the AAV launch area, LOD, or boating.
- Coordination of safety procedures for AAV emergencies.
- Emergency Recovery

Note: Appendix K provides a sample ship-to-shore timeline.

2. Marshaling Area Coordination Officer (MACO). When embarking a supported unit the senior AA Unit Leader or assigned representative will act as the MACO and ensure that all embarked personnel receive an embark brief, are manifested, and embarked aboard their vehicle in an orderly fashion and in accordance with prescribed load planning (Section 3003). The following diagram (Figure 3.4) is a sample MACO for shipboard embarkation:

Embarkation Procedures of Infantry while aboard amphibious shipping.

a. Vehicle Commanders muster infantry squads to complete and verify personnel manifest and load plan. Vehicle Commander provides Embarked Troop Brief (ETB) in Appendix J.

b. Vehicle Commander provides copy of personnel manifest for their AAV to the AA Unit Leader.

c. Vehicle Commander guides infantry unit to their vehicle, maintaining accountability.

d. Vehicle Commander embarks infantry unit aboard the AAV. Vehicle Commander re-verifies personnel manifest and load plan and reiterates key points of safety brief. Vehicle Commander secures AAV hatches with infantry embarked in preparation for launch.

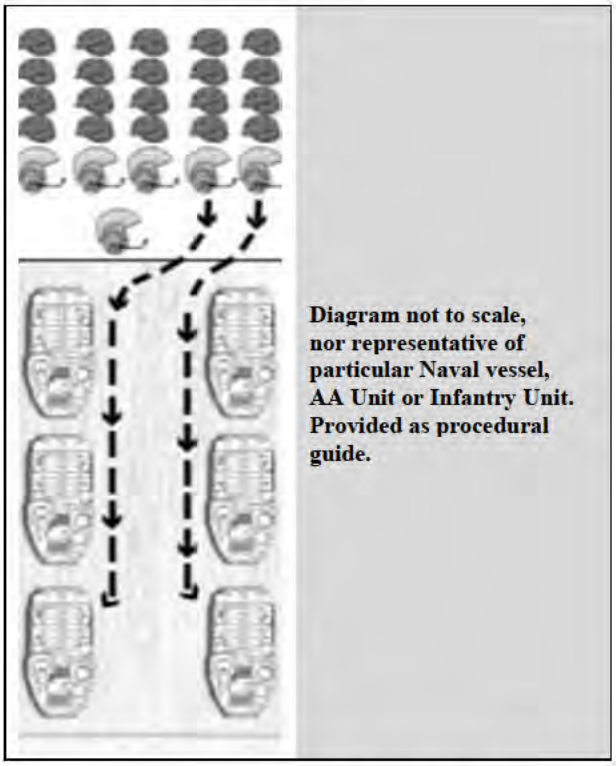

Figure 3.4. Sample MACO for Shipboard Embarkation

3015. Actions in the Amphibious Objective Area.

1. AAV Launch Areas. AAV Launch areas are a pre-determined distance seaward of the LOD. Upon entering the water, the AAVs will be directed to the LOD or to an assigned maneuvering area to await dispatch to the LOD. AA Unit Leaders should coordinate launches to minimize loitering.

2. Organization of the Amphibious Objective Area (AOA). The AOA is organized into operating areas to meet tactical requirements and to facilitate control of the ship-to-shore movement.

a. Control Ship Stations. AA Unit Leaders must know the control ship stations in order to receive visual control signals for the ship- to-shore movement in the event of a landing under emission control (EMCON) conditions.

b. Approach Lane. Is an extension of the boat lane from the LOD toward the inner approach area. It indicates the route AAVs use to approach the LOD and is used when AAVs must launch further than 1,500 yards from the LOD.

c. AAV Launch Area. Is located as close to the seaward side of the LOD as possible. This is the area where AAVs await dispatch to the LOD.

d. Line of Departure (LOD). The LOD is a designated line off shore, parallel to the beach. A separate phase line may be provided to AAVs only, to accommodate AAV-specific waterborne maneuver considerations.

e. Boat Lane. Boat Lanes extend seaward from the landing beaches to the LOD. The width of the landing beach or the area deemed clear of water hazards/mines determines the width of the boat lanes.

The flanks of the boat lane may be marked at the LOD by a control ship, marker boat, or buoys. AAV movement from the AAV launch area to the beach is controlled by the Primary Control Ship (PCS) or Secondary Control Ship (SCS) when designated.

f. Landing Beach. The landing beach is the area assigned for landing of troops and equipment by AAVs and landing craft. Beaches are colored and numbered to facilitate identification and control of the force beachhead, and are typically 500 to 1,000 yards in width.

Note: AA units will avoid air cushion landing zones to preclude possible mishaps or interference with LCACs.

g. Return Boat Lane. Designated to the left or right of the boat lane to facilitate the return of landing craft and/or disabled AAVs seaward without interference with the landing.

3. Wave Commander (WC). The AA Unit Leader is responsible for maneuver from ship to the high water mark on shore, where the infantry unit leader assumes control of operations. Therefore, the senior AA Unit Leader in each wave is the designated wave commander. The WC will position themselves in the wave where they can best control the wave's movement. The WC's responsibilities include:

a. Forming up the AAVs and guiding them to the LOD.

b. Report to PCS, giving any details concerning wave readiness.

c. Ensure that the wave is maintaining proper position in the boat lane.

d. Fire control of AAVs from the water.

4. Safety Boats. While safety boats may be provided, AA units do not require them for amphibious operations. AA units will designate a bump/recovery plan to render aid and pick up personnel from disabled or sinking AAVs. In the event a safety boat is not assigned for use, an AAV in each wave should be designated as a safety boat.

5. Debarkation from Ship. Refer to Table 3.8 of this chapter for well deck launch conditions. Table 3.9 provides the time delay between vehicle launches needed to produce a desired interval between launching AAVs. The faster the launch the easier it is to control the vehicles. Intervals as short as five (5) seconds between AAVs are safe at ship speeds greater than ten (10) knots; if ship speeds are less than ten (10) knots then launch intervals should be increased to at least ten (10) seconds. Care should be taken by launch control to ensure that each vehicle clears the ship's wake before launching another AAV.

Table 3.9. AAV Launch Intervals

AAV Launch Intervals			
Speed of Ship (knots)	50-meter Interval	60-meter Interval	70-meter Interval
	(seconds)		
0	12	14	16
2	11.2	13.1	15
4	10.2	12.2	14
6	9.5	11.3	13
8	8.9	10.5	12.2
10	7.5	9.5	11
12	6.3	8.7	10.1
14	5.5	7.5	8.8
16	5	6.7	7.8
18	5	6	7
20	5	5.3	6.2

a. Underway Launch. Combines the elements of speed and surprise and is used whenever minimum exposure time is desired for the protection of the ship. The underway launch does not require congestion of ship anchored in proximity to the LOD or AAV launch area.

Note: (Squat Draft or Bottom Squat Effect). A ship transiting from deep water to relatively shallow areas causes the ship to squat. The resulting increase in depth of water over the sill or in the well is undesirable and extremely dangerous, causing AAVs to lose steering control, collide with bulkheads, and get caught in the ship's wake. Additionally, this effect may cause an AAV to struggle to break free of the ship's wake and increase time required before the next AAV launches. The AA Unit Leader should be aware that squat draft will occur in depths less than sixty feet (60 ft.) and that higher speeds will increase this effect.

b. Static Launch. Static launches may be required by the hydrographic, size or depth limitations of the AAV launch area. Static launches require a greater launch interval between vehicles. AAVs should enter the water at a speed sufficient to clear the end of the stern gate without striking the tow pintle.

c. Rate of Advance. Speed afloat will depend on the wave's scheduled progress down the boat lane. During planning, AA Unit Leaders will use a planning factor of 5 knots for boat lane transits. Speed should be controlled via uniform engine revolutions (RPM) typically set prior to launch. The WGO will determine an appropriate distance to establish "battle speed" given the enemy threat level and enemy weapons range. A distance of 1,000 yards from shore will be used as a benchmark to adjust from as necessary. Upon calling "battle speed" all AAV personnel will close hatches, keep bow planes employed, and advance to max speed. Bow planes must be retracted when operating within surf conditions at 6 feet or greater.

d. Table 3.10 lists calm water speed for each designated RPM.

Table 3.10. RPM/Speed Conversions

RPM / Speed Conversions		
RPM	MPH	Knots
1,500	5.7	5
1,700	6.4	5.6
1,900	7.3	6.4
2,000	7.6	6.7
2,300	7.7	6.8
2,500	8.1	7.2

2,800	8.2	7.2

3016. Grid Reference System

1. The grid reference system will be used to control AAV waves moving across the line of departure, and down the boat lane until they land on their assigned beach. A standard voice procedure is used to reduce voice transmission to a minimum, while transmitting accurate positions to the waves.

a. Prior to Debarkation. The Wave Guide Officer and all WCs are issued a grid diagram of the boat lane to be used. The diagram is an approximate picture of the boat lanes from the launch area or in case of an underway launch, from the lane into three sections: L (left), C (center), and R (right). Left and right sections are each 40% of the total width; the center section is 20% of the total width. Lane positions are described by a letter: (L, C, or R) followed by a number of one or two digits. Positions outside the lane are indicated by a double letter, such as RR or LL. The control party has the grid boat lane plotted to scale in the ship's Combat Information Center (CIC), one lane for each wave to be tracked and controlled in order to minimize confusion and obtain a clean and concise picture of movement of each wave.

b. The PCS tracks the waves and fixes the position of each wave on the grid. The control party then transmits to the WGO their position on the grid. The WC, on receipt of a grid position that indicates their wave is not in the center of the proper lane and/or not progressing along the lane according the schedule, corrects the position and movement of the wave. The Primary Control Officer will supplement grid positions with vectors and "early" or "late" (relative to planned landing times) information as necessary. Grid positions normally are transmitted every minute from the LOD to 200 yards from the beach, unless corrective action is required, in which case they are transmitted more frequently. Grid positions will be provided once each minute in periods of low visibility, from the LOD to the beach. The last 1,000 yards to the beach is run at full (battle) speed. To obtain full benefit from the grid, WCs must plot their position each time the controlling station transmits it, in order to obtain a track of the wave's progress. The effects of wind, sea and/or taking incorrect headings, can thus be determined and corrected. Once firm radio communications are established, grid positions are transmitted without requiring wave commanders to receipt. If the WC fails to receipt for orders by radio, the primary control ship will continue to transmit "blind" and request visual acknowledgment.

3017. High Surf Employment Considerations

1. High Surf Conditions. High surf is defined as breakers ranging from 6–10 feet. Table 3.11 outlines employment considerations.

Table 3.11. High Surf Employment Considerations

Breaker Height (ft)	Risk	Employment Considerations
0.0 – 5.9	Low / moderate	All AAV Common SOP considerations
6.0 – 7.9	High	All previous considerations including: – Vehicles will tend to "nose-dive" – Breakers push vehicles sideways in excess of 45 degrees – Driver's vision blocks frequently submerged, vehicle commander must call out course corrections – Potential injuries to personnel and damage to loose equipment – Employ seat belts, always for drivers
8.0 – 9.9	Extremely Hazardous	All previous considerations including: – Bow likely to strike seafloor during shoreward transits, likely damaging the bow plane – Potential strong littoral currents between the sandbar and waterline – Employing driving techniques does little to reduce the "nose dive" effect
10+	Prohibitive	Vehicle may be flipped even when oriented perpendicular to breakers

a. Timing Inbound Surf Transits. Drivers should time surf zone entry so the vehicle is at speed and just behind the crest of the outermost wave as in begins to spill. Attempting to time the transits of breakers greater than 8 feet is negligible to reduce the "nose dive" effect.

b. Engine RPMs. The driver must reduce the engine throttle to an idle while the ventilator-aspirator is submerged. This will minimize the reduction in oxygen levels, accumulation of carbon monoxide, accumulation of carbon dioxide, and reduction in atmospheric pressure. These factors may effect troop performance but are non-fatal.

CHAPTER 4.

LAND SAFETY AND OPERATIONS

PARAGRAPH PAGE

4001. Safety Considerations.

All Marines must understand the definition of a "disabled AAV" (AAV that cannot maneuver under its own power).

1. Ground Guides. Only qualified ground guides holding the MOS of 1803/1833/2141 or Third Crewmember Course graduates are authorized to perform ground guide responsibilities.

a. Limited Visibility. During periods of limited visibility, tactical situation depending, ground guides will be equipped with, and utilize, an illuminating device sufficient to ensure safety of movement.

b. Towing. A third ground guide is required when towing and is positioned where he/she will observe the tow bar.

c. Driver Responsibilities. The driver mimics the commands of the forward ground guide. If the driver is unclear of the position of a ground guide, a signal, or has any safety concern, the driver will stop the vehicle.

2. Speed and Interval. AAVs will operate at safe speeds and intervals consistent with driver's ability, terrain, and visibility. Maximum speed will not exceed posted speed limits per Base Range Regulations or 25 mph during training.

3. Entering Troop Areas. When approaching an area occupied by ground troops, the unit leader in charge will halt the AAV unit outside the bivouac area. The unit leader will then proceed on foot to the bivouac command post and request permission from the unit commander to enter the area. Upon receiving permission, the unit leader will then direct the AAVs to proceed, utilizing two ground guides per vehicle.

4. Riding Topside. No personnel will ride on top of a moving AAV during training. Crewmembers will ride with no more than one-third (1/3) of their bodies out of their respective hatches.

5. Hatches. Ensure that crew hatches are firmly latched/strapped into position before moving the vehicle to avoid serious injury. This is the most common cause of injury experienced with the vehicle. Cargo hatches shall be secured in the following manner with a minimum of two (2) cable/cargo straps per hatch. In the event that a cable/strap should break, the vehicle will be halted immediately and cable/strap replaced. During combat operations, if cable or cargo straps are not feasible, the unit leader should conduct a thorough operational risk assessment to mitigate injury. Under special circumstances, the AA unit leader may authorize AAVs to operate with the rear personnel hatch opened. This hatch must be secured with the latch and a cargo strap. Common scenarios include Mine Countermeasure team employment and security in jungle environments.

6. Towing on Land. Towing will be conducted in accordance with procedures outlined in Reference C. Additionally, embarked troops on a disabled AAV will be transferred to another AAV, if at all possible, prior to towing. The tow bar is the preferred equipment for towing during land operations.

7. Blind spots. When the vehicle is moving, not under control of ground guides, a Marine will be positioned in the turret to ensure visibility on both sides of the AAV.

8. Operating. No AAV will operate alone without a designated chase vehicle capable of recovering and/or radioing for recovery assistance.

4002. Road Crossings.

1. Restrictions. Crossing of paved roads by AAVs will be accomplished only at concrete pads intended for that purpose, sites that possess the proper dunnage, or those sites specifically designated by local base regulations. AAVs are prohibited from using asphalt/macadam roads, or from operating on the shoulders or roads, unless prior approval is obtained from appropriate local authorities. Permission to use paved roads under emergency conditions may be requested from the Base Range Control via the Battalion S-3, and will be approved by the Battalion Commander.

2. Conduct. Road crossings will be conducted in a tactical manner (i.e., conducting a herringbone) utilizing road guards, a traffic controller, the means to clear dirt/debris, and the use of lights during low light periods. The traffic controller must have positive communication with the road guards at all times in order to post and relieve as well as to be forewarned of vehicles that either bypass or do not see the road guard. Non-tactical road crossings (i.e., Administrative) may be conducted when deemed necessary, but will still retain all safety measures as stated above. Operating or turning on the shoulder of roads is prohibited in that it is highly probable that damage to the road may occur.

a. Traffic Controller. The traffic controller supervises the placement of road guards, compliance with safety measures, and direct AAV movement across road crossings. The traffic controller will also ensure and inspect the clearing of dirt/debris from road crossing sites. AAV units crossing roads will restrict the flow of traffic on paved roads for the minimum time required to make the crossing. Traffic controllers should ensure the distance between the road guard posting and the point at which the road guard becomes visible to a driver is equal to or greater than the required stopping distance for a vehicle traveling at the posted speed limit (i.e., do not post road guards on a curve and expect a vehicle to come to a complete stop in time.)

b. Road Guards. Road guards will remain posted until all AAVs have passed and all dirt/debris has been cleared and inspected.

(1) Day. Wearing a reflective vest will proceed along the road shoulder to the appropriate distance designated by speed limit (below). The road guard will post, as directed by the traffic controller, directly in the center of the lane of traffic to which halting.

(2) Night. Road guards will wear a reflective vest, and be equipped with a highly visible light-source. The road guard will post, as directed by the traffic controller, directly in the center of the lane of traffic to which halting. Road guards should be prepared to exit the lane in the event that traffic refuses to halt.

c. Sweeper. A sweeper with broom and/or shovel will be readily available to clear dirt/debris immediately following the completion of vehicle movement.

3. Intervals for Road Guards

a. 35 mph. Road Guards will post at no less than 50 meters, and to a point where positive control can be maintained.

b. 45 mph and Above. Road Guards will post at no less than 100 meters, and to a point where positive control can be maintained.

4003. Refueling Operations.

Specifics on AAV fuels types and establishment of fueling points can be located in Chapter 8 of this SOP. This paragraph is to provide safety considerations during the conduct of refueling operations.

1. AAVs waiting to refuel will keep a minimum of thirty (30) feet from the refueling point.

2. Before refueling, the engine and master switch will be turned off and nozzle of the dispenser will touch metal in the filler neck when fuel is running, attach static line if provided. One (1) crewmember will be standing upwind from the AAV fuel filler with fire extinguisher.

3. All personnel heaters will be turned off and cooled before refueling.

4. Care must be taken when opening and closing fuel cap to prevent damage to the seal. Damaged seals can cause excessive sea water/debris to enter the fuel system, there by damaging the engine. The seal should be inspected periodically.

4004. AAV Land Capabilities.

The AAV is capable of worldwide operation in nearly any terrain, and has a land operating range of 200 miles at a cruising speed of 25 mph on flat hard surface. Other considerations include:

a. Forward Slope. 60 percent

b. Side Slope. 40 percent

c. Trench Span. 8 feet

d. Vertical Obstacle. 3 feet

CHAPTER 5.

MECHANIZED INFANTRY OPERATIONS

PARAGRAPH PAGE

5001. General.

Within the Marine Corps, mechanized forces are task organized within the structure of a MAGTF. The mechanized and tank company team is a common ground maneuver element that is employed as part of a larger mechanized force such as a battalion or regimental-sized task force.

5002. Safety.

Safety briefs will be given to all embarked passengers explaining the AAV capabilities, safety, and egress/evacuation procedures prior to conducting any operations.

1. While aboard AAVs, the Vehicle Commander is responsible for briefing embarked personnel on their responsibilities as embarked troops. The Vehicle Commander has the final decision if the safety of the AAV, crew, or embarked troops is in question.

2. When AAVs are employed, the safety of embarked personnel and proper operation of vehicles falls on the senior AA Unit Leader. The senior AA Unit Leader will establish effective command and control (C2) procedures and ensure the safety of personnel on and around the vehicles. Additionally, the senior AA Unit Leader will serve as the primary advisor to supported infantry on safety aspects of AAV operations and mechanical operability.

3. Overhead fires will not be conducted during training exercises. Overhead fires will only be conducted in combat situations after achieving a close working relationship with embarked infantry. Overhead fires in a combat situation require the vehicle to be stationary.

5003. Command Relationships.

In order to maximize the capabilities of the AA unit, it is recommended that the supported infantry commander integrate the AA unit and establish cohesive working command relationships. Keeping the lines of communications open will facilitate C2 and foster the one-team, one-fight ethos. The command relationship options available to the supported unit commander include operational control (OPCON) and administrative control (ADCON). Support is a command authority and the following support relationships can be directed: general, direct mutual, and close. Attached is a common term used to define a command relationship. It is actually the act, in a written or verbal order, of assigning one unit to another and defining the command relationship.

In some situations, the supported infantry unit is responsible for logistical support for the attached AAV unit. In most cases, an AAV platoon is attached to a battalion landing team (BLT) and is in direct support of one of the infantry company. The AA Unit Leader will be familiar with command relationship options available to the supported unit commander and be prepared to make a recommendation on the best command relationship to support the mission. The AA Unit Leader should know and understand the following terms: Attached/Detached, in Direct Support, in General Support, Operational Control and Administrative Control.

Generally, AA units will be attached to infantry or tank units for employment. The supported unit commander will then determine how to employ the AA units. It is recommended that because of the logistical requirements of an AA unit, they are not assigned a command relationship below the battalion level and their support relationship be general or direct support depending on the mission of the supported commander. Generally, units below the battalion level do not possess the organic capability to provide logistics support to AA units of any size. See Reference A for a more detailed discussion on command and support relationships.

Note: Operational and Administrative Control are command responsibilities and used to define command relationships. An example of when these relationships are most likely to be used by an AA unit would be when the AA battalion is tasked with providing mechanized lift to an infantry regiment or in other circumstances when the division commander requires the AA battalion to meet a specific task organization in support of the division's mission.

5004. Mutual Support.

To best exploit the mechanized force's offensive capabilities, infantry, tanks, and AAVs must work together in pursuit of a common goal. Each element of the mechanized force provides a degree of mutual support to the other element of the MAGTF.

1. The Assault Amphibian and tank units support the infantry by:

- Providing mobile protected firepower.
- Neutralizing or destroying hostile weapons by fire and movement.
- Clearing paths for dismounted infantry through obstacles.
- Neutralizing fortified positions with direct fire.
- Supporting dismounted infantry by direct fire.
- Providing protection against long-range, anti-armor fires.
- Leading the attack whenever possible.
- Assisting in the consolidation of the objective.

2. The Infantry assists Assault Amphibian and tank units by:

- Breaching or removing anti-armor obstacles.
- Assisting in the neutralization or destruction of enemy anti-armor weapons.
- Designating targets for tanks and AAVs.
- Protecting tanks and AAVs from enemy infantry and anti-armor weapons.
- Leading the attack, dismounted when necessary.
- Clearing bridges and fording areas.
- Clearing restrictive terrain such as urban, swamp, or woodland areas.
- Conducting dismounted security patrols.

3. Based on METT-TC, the mechanized force's combination of tanks, AAVs, and infantry provides the commander with the options of:

- Mounted maneuver with tanks.
- Mounted maneuver with AAVs.
- Mounted maneuver with tanks and AAVs.
- Dismounted maneuver alone.
- Dismounted maneuver combined with mounted maneuver options.

CHAPTER 6.

AA GUNNERY

PARAGRAPH PAGE

6001. Command Guidance.

Live Fire exercises will be conducted in accordance with appropriate publications, orders, regulations, and other safety considerations listed within this SOP. Safety is the overriding factor for all gunnery training.

6002. Range Safety

1. Conduct. AA Unit Leaders must plan well in advance, utilizing the troop leading steps, in order to ensure a safe, coordinated, and effective gunnery evolution.

a. Planning Stage. Ammunition should be accurately forecasted and requested well in advance of the gunnery event (90 days).

b. Gunnery Training. Gunnery training programs should be developed to follow a logical progression of training, conducted in three phases–individual, crew, and collective gunnery.

(1) **Individual.** The individual gunnery phase trains individual crewmembers on individual level skills, using classroom and home- station training as well as turret training devices such as the AAV TT in conjunction with the Gunnery Skills Test (GST).

(2) **Crew.** The crew gunnery phase develops crew skills on associated task from the Reference B task and culminates in crew qualification.

(3) **Collective.** The collective gunnery phase develops section and platoon coordination, fire control, and distribution on associated tasks culminating in section and platoon qualifications. The success or lack of success of any training program will be the direct result of the amount of time, effort, and emphasis placed into the development of the program.

c. Before Firing. All Marines involved in training receive a safety brief; OIC/RSO responsibilities are reviewed, and all personnel (medical support, road guards, etc.) are in place.

d. During Firing. Maintain positive communications with Range Control, Battalion Headquarters, and road guards. Maintain positive accountability of ammunition and personnel.

e. After Firing. Ensure redundancy in clearing weapons systems and personnel. Accurately annotate ammunition fired and remaining, personnel trained, and tasks completed. Provide an After-action review upon completion of training.

2. Control/Restrictions. AA Unit Leaders must ensure adherence to local range regulations, however, topics listed below provide common guidelines for specific live-fire training events:

a. Blank Ammunition. Blank ammunition will NEVER be transported or stored with live ammunition. Redundant clearing procedures of weapons, magazines, gear, and personnel are paramount. A minimum of 24 hours shall pass before a unit can transition from live to blank ammo training.

b. Special Effects Small Arms Marking System (SESAMS). Ensure compliance with local PPE requirements and buffer zones. Do not train with SESAMs in temperatures below 38 degrees Fahrenheit.

c. UGWS Flag Signals. Range flags will be used when AAVs are conducting live-fire training in order to identify weapons conditions and/or malfunctions.

(1) Green Flag. All weapons are clear of ammunition (Condition 4)

(12) Red Flag. Ammunition has been loaded into a weapon system of the UGWS or cupola mounted system.

(13) Yellow Flag. Malfunction has occurred on a weapons system. This may be flown in conjunction with red flag.

3. Water Gunnery. Though this is not a task associated with Reference B, it is associated with our primary mission of Conducting Amphibious Operations and should be attempted to train to gain familiarity of UGWS limitations.

6003. UGWS Fire Control.

To employ the AAVs weapons station safely and effectively, the AA personnel must have a sound understanding of fire control responsibilities, weapons effectiveness, water gunnery, classes of fire, principles of fire distribution, UGWS capabilities, techniques of employment, and fire control. Failure to exercise correct fire control results in danger to friendly troops, loss of surprise, premature disclosure of vehicle positions, misapplication of fire on important targets, loss of time in securing target adjustments, and waste of ammunition. The responsibilities for AA fire control follow the chain of command for the AA unit. The AA platoon commander, section leader, and vehicle commander execute fire control.

1. Platoon Commander. The AA platoon commander is responsible to the supported unit commander for the effective employment of platform firepower in support of combat operations. Normally, the AA platoon commander:

- Assigns fire missions and firing positions to the section leaders.
- Selects weapon to fire (either .50 caliber or 40 millimeter).
- Designates sectors of fire.
- Makes target assignments.
- Identifies locations of friendly troops that may be endangered by section fire.

2. Section Leader. The AA section leader is responsible for the tactical and technical employment of the section's firepower. When the AA platoon is operating under decentralized control, the AA section leader will receive requests for fire and direction from the supported infantry platoon commander. The AA section leader is responsible for passing information to the vehicle commander regarding:

- Firing positions.
- Targets to be engaged and estimated range.
- Sector of fire.
- Fire adjustment of the section.

3. Vehicle Commander. Responsible for the fire control and tactical employment of the vehicle, the Vehicle Commander carries out the orders of the AA section leader and platoon commander. The Vehicle Commander/gunner also directs the vehicle driver to:

- Position the vehicle for maximum effectiveness of its fire.
- Move to assigned firing positions.
- Assists vehicle commander with target acquisition and provides observation of fires and their relation to the target.

6004. Master Gunner Program.

Master Gunners achieve this qualification by being trained through any approved Master Gunner School (i.e., Bradley Master Gunner School, LAR Master Gunner School or MTT provided by U.S. Army Training and Doctrine Command (TRADOC)).

a. The mission of the Master Gunner is to train the unit for gunnery and act as subject matter expert for all weapon system platforms in the battalion. The Master Gunner advises commanders at all echelons and assists with the planning, development, execution, and evaluation of all gunnery-related training (individual, crew, and collective). Keeping this in mind, the following are proposed billet descriptions for the Master Gunner Program within the Assault Amphibian community.

b. The unit Master Gunner shall advise the commander on all aspects of gunnery. He will assess, plan, develop, implement, instruct, evaluate, and reassess all phases of gunnery training. The commander's ongoing assessment is crucial to gunnery program development and where the team effort should be demonstrated most.

c. The goal of the Master Gunner program is to have one in each platoon, responsible for ensuring that gunnery standards are meet and training is consistent across AA units.

d. Master Gunner responsibilities:

(14) **<u>Battalion</u>: Master Gunner**

- Be the BN Commanders advisor on gunnery and on the tactical capabilities of all weapons and weapon systems within the BN.
- Assist the BN in developing and implementing gunnery training packages.
- Develop and brief the BN Commander and Staff on the BN's Gunnery Training Plan.
- Supervise the Company Master Gunners.
- Oversee crew/section/platoon training on the Turret Trainers.
- Advise the Operations Officer of any weapon or munitions abilities that the Battalion may own.
- Track and allot ammunition to Companies for training purposes.
- Review the Reference B and suggest changes as needed.
- Set up LFAMs and Brief Range Control on Concept of Operations/Scheme of Maneuver
- Train Master Gunners within the Battalion.
- Track each Company's crew/section/platoon qualifications.
- Develop or conduct training and certification of crew evaluators.
- Ensure that there are enough TT Instructor Operators, Senior Instructor Operators, and Master Instructor Operators in the companies and battalion.
- Must be a Master Instructor Operator

(15) **Company: Company Master Gunner**

- Be the Company Commanders advisor on gunnery and on the tactical capabilities of all weapons and weapon systems within the Company.
- Assist the Company in developing gunnery training packages.
- Qualify crew, section and platoon gunnery in accordance with the Reference L.
- Set up LFAMs and brief the Company Commander and staff on Concept of Operations/Scheme of Maneuver
- Track and allot ammunition to Platoons for training/qualification purposes.
- Conduct live-fire ranges and ensure all standards are followed.
- Confirm boresight and zero techniques.
- Coordinate target arrays, exposure times for all targets, and maneuver box verification.
- Set up all ranges to make sure the ranges meet the standards set forth in the Reference L.
- Proof the range from all firing points and maneuver boxes before firing any range.
- Conduct crew, section and platoon Qualifications in accordance with Reference L.
- Track each crew/section/platoon progress and qualifications, gunnery records, GST records.
- Set up and conduct Gunnery Skills Test training, and evaluate the results.
- Must be a Senior Instructor Operator
- Guide and develop the training for the AAV TT

(16) **Platoon: Platoon Master Gunner.**

- Ensure platoon weapon systems and turrets are maintained.
- Update the company's Master Gunner on the platoon's crew training.
- Help the company's Master Gunner with unit gunnery training.
- Must be an Instructor Operator

CHAPTER 7.

MINE COUNTERMEASURE (MCM) OPERATIONS

PARAGRAPH PAGE

7001. Primary Mission.

The primary mission of the Mine Counter Measure (MCM) platoon is to provide support in the clearing of lanes through minefields and other obstacles during amphibious operations and in subsequent operations ashore. The MCM platoon is considered a division asset and will establish a working relationship with the Division Combat Engineer Battalion. MCM utilizes Launcher, Mine Clearance, MK154 MOD 1, commonly referred to as the MK154 Launcher Mine Clearing System (LMC) to execute hasty and deliberate breaching operations. The MK154 can breach from the high water mark forward. The MK154 acts as an additional asset during amphibious breaching operations to supplement the Joint Direct Attack Munition Assault Breaching System and will travel through the Point of Breach. Once ordnance is loaded onto the MK154 LMC, the platform becomes a MK 1 Mod 0 system.

1. System. The system is comprised of three rockets and three line charges each consisting of 1750 pounds of C-4, which is capable of clearing a path by sympathetically detonating or exposing single impulse pressure activated antitank mines and mechanically activated antipersonnel mines. The system has a very limited effect on mines that have magnetic, blast-hardened, or other non-pressure- sensitive fuses, but the blast can expose such devices. The LMC can create a lane 270 meters in length, 16 meters wide and 16 inches deep, where the detonation will be considered 95 percent affective against mines that were surface-laid or buried up to 1 inch.

7002. Common Employment Techniques

Reference Figure 7.1

- AAVP7A1 with MK154 approaches the minefield/obstacle belt.
- AAVP7A1 with MK154 stops approximately 70 meters before the minefield boundary.
- MK154 launcher is deployed.
- MK154 is aimed by pointing the entire vehicle in the direction of intended rocket flight.
- MK154 is launched. When fired, the rocket pulls the line charge from the troop compartment of the AAVP7A1
- Rocket reaches the end of the 166-meter line (62.5 meters of safety line and 103.5 meters of explosive), rocket pulls the line charge taut, and line falls to the ground. The 62.5-meter safety line provides the maximum distance between the launch vehicle and the explosion.
- AAV crew detonates the line charge from within the AAV. The explosion creates the lane.
- AAV moves to execute additional firings to accomplish the mission if additional lanes required or if the minefield is of such a depth to require multiple charges.

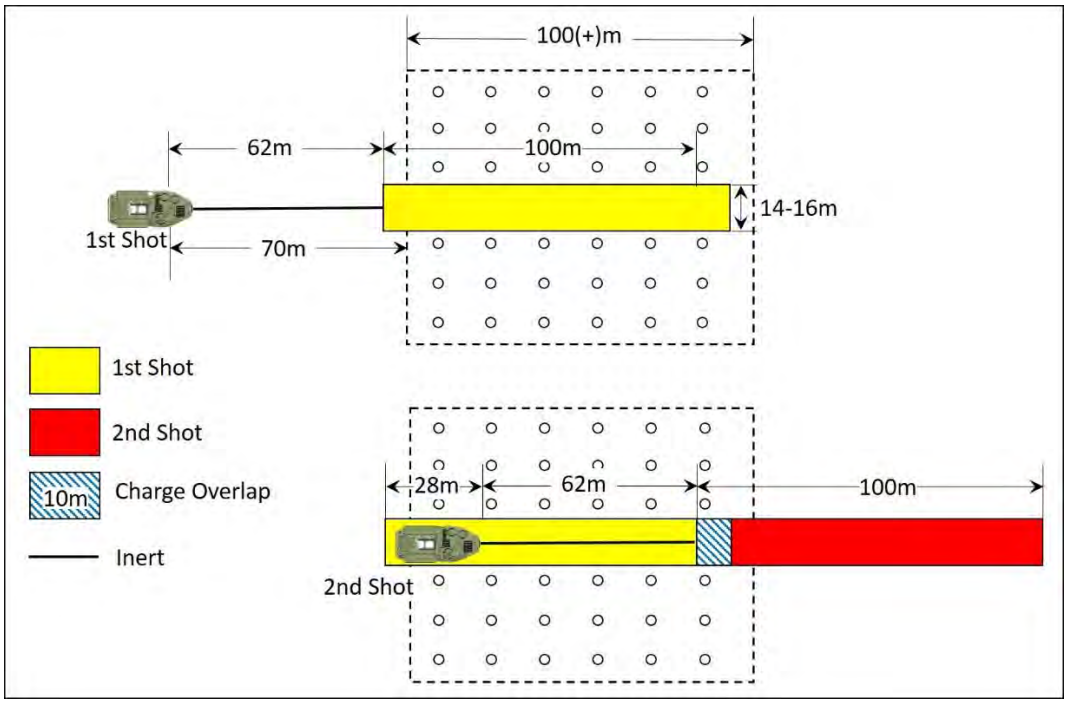

Figure 7.1. AAVP7A1 with MK154

7003. Employment Considerations.

The following precepts should be taken into consideration when planning for MCM platoon employment. Each type of breach demands same performance of crew, team, and section in execution, differences lie only in time and environment obstacle is to be reduced or breached.

1. MK154 equipped vehicles never operate alone and require the security of the supported unit.

2. The system is a Bravo TAM 1315. Ordnance DODIC includes: MK22 Mod 4 Rocket-DODIC (J143), HE Line Charge M59-DODIC (ML59/59A1), Inert Line Charge M69-DODIC (ML26).

3. The smallest MCM unit to be employed will be a Breach Team consisting of 2 MK154 equipped vehicles and two AAVP7A1 security vehicles. This is done to maintain 100% redundancy, which is essential at the breach site. Breaching doctrine anticipates 50% losses during obstacle reduction operations.

4. MK154 equipped vehicles are not amphibious tanks or mine plows and are susceptible to anti-armor weapons and mines and cannot be used as proofing vehicles. Reference Figure 7.2 for operations with M1A1 equipped with mine plow for proofing.

5. Safety and orientation classes are required prior to operations especially when operating with engineers and infantry.

6. High-speed underway launches with AAVs equipped with the MK154 MOD 1 system are comparable to other AAVP7A1s.

7. Embarked troops will wear helmets and flak jackets, and will not ride topside or stand in cargo compartment of moving vehicles.

8. CVC helmets will be provided to Combat Engineer unit leaders by the Breach Element.

9. The MK154 equipped AAV is a sophisticated ordnance item that cannot be used to transport troops or equipment.

10. A chase AAV is often utilized to follow the LMC and can be utilized to mark the lane through a mine field. This chase vehicle may operate with the rear personnel hatch secured in the open position. This will allow personnel inside the AAV to hand lane markers to the lane marker following the AAV on foot. When conducting this, the AAV should not exceed 5 kph, the rear crewman must maintain visual contact of the lane marker on foot, and the lane marker should remain at least one arms distance from the rear of the AAV.

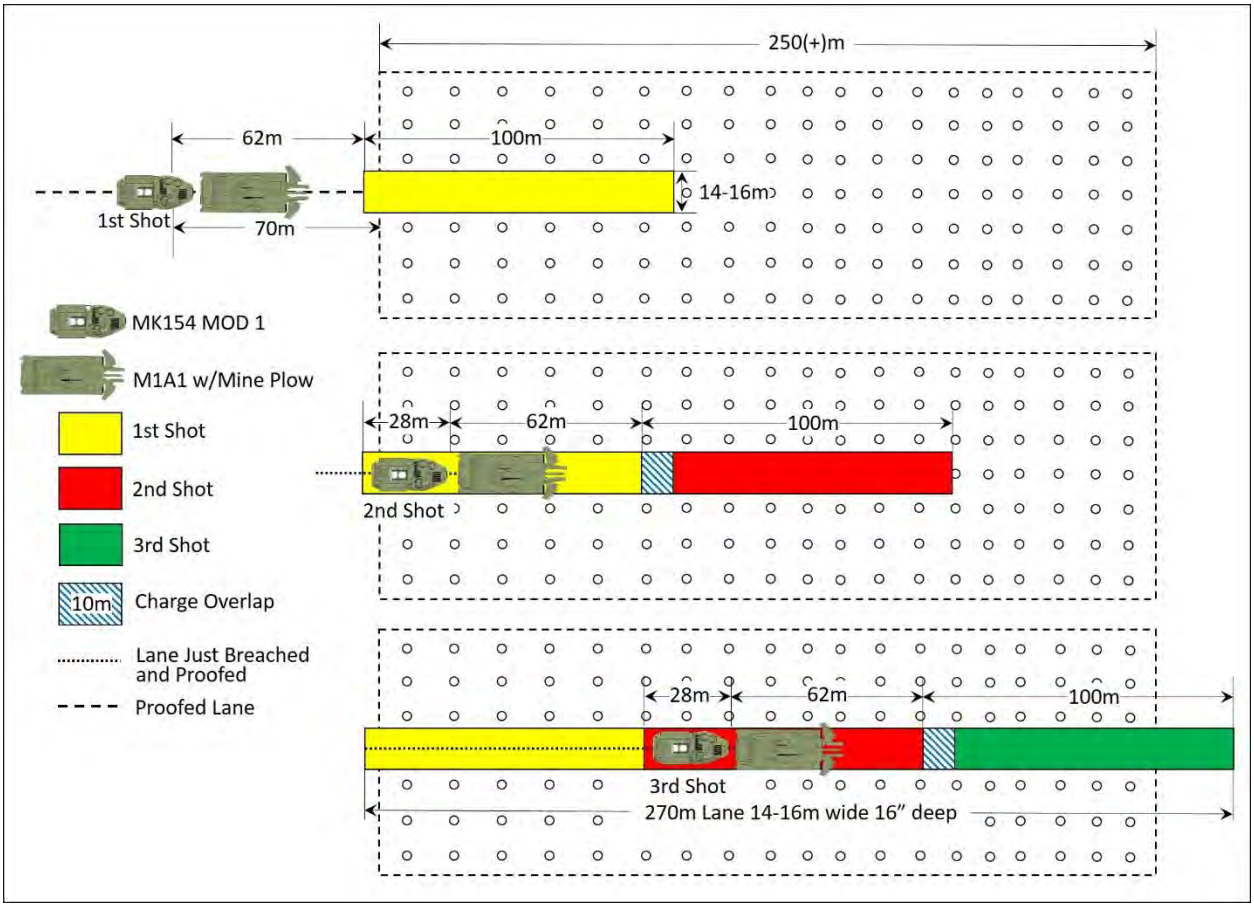

Figure 7.2. M1A1 with Mine Plow

7004. Operator Qualification.

Operations with the MK154 Mod 1 System will be conducted by the crew, comprised of four 1833s/2141s. Three of the four crewmembers will be licensed operators and only they will operate the MK 154 Mod 1 System. The CO, AAS holds the responsibility for licensing operators. Licensing is conducted by a routinely scheduled Mobile Training Team (MTT). Additional MTT training can be requested as needed. Licenses remain in effect for four years from the date of issue, until their expiration of Active Service, or whichever occurs first.

7005. Safety Considerations

1. The Senior Breaching Team member present is responsible for the safe employment of their MK154 equipped vehicle. It is his/her responsibility to ensure all conditions are safe to launch and detonate line charges. The Senior Breaching Team member will have control of their vehicle at all times and especially at breach sites. Charges will not be launched without prior confirmation from the Breach Force Commander. The AAV Vehicle Commander is responsible for the safe operation of the vehicle and crew.

2. Vehicles will never carry more personnel than the crew limits of 1833s and engineers as set forth in the concept of operations on land or afloat except during waterborne emergencies.

3. A licensed fire control box operator (1833/2141) must conduct a firing circuit test prior to loading and electrically connecting ordnance to prevent accidental firing of one or more rocket motors or inadvertent detonation of the line charge inside the AAV.

4. Vehicles with ordnance aboard must have a fully functional hand held fire extinguisher at the ready. Ensure the fire extinguisher is serviceable and all personnel are aware of its location and understand its functionality.

5. Crews cannot fire the UGWS towards the rear while the launcher is raised on land or afloat.

6. Crews of MK154 equipped vehicles will not store or transport any type of illumination grenades, fragmentation grenades, claymores, or rocket- type weapons.

7. During peacetime, MK154 systems will not operate during electrical storms. All systems will be shut down, rockets unpinned, and charges defused.

8. MK154s cannot conduct launch operations without all three containers aboard. Serious damage may occur to the vehicle/system and serious injury to personnel may occur if the system is employed without three containers aboard. If only one shot is required, two empty containers can be loaded to secure the load.

9. If deploying the system from the water, ensure the sea state condition is no greater than Sea State One based on the most current Surf Observation Report.

CHAPTER 8.

AA LOGISTICS

PARAGRAPH PAGE

8001. Overview.

AA employment at the company and platoon level focuses on the ability to displace and travel quickly. The AA element will only carry minimum levels of consumable POLs and supplies. The Logistics Combat Element (LCE) must plan to resupply the AA unit. The AA Unit Leader in conjunction with the GCE logistics officer must coordinate with the LCE, to identify supply, maintenance, and transportation requirements.

8002. AAV Logistics Support Requirements.

AA units rely heavily on class III and class V supplies to complete their missions, Combat Loads are prescribed by the AA Unit Leader in concert with the supported unit's SOP and METT-TSL. Generally, each AAV will carry the following:

- 200 ready rounds for the M2 (1,000 rounds stowed in 10 ammunition boxes).
- 96 ready rounds for the MK-19 (768 rounds stowed in 24 ammunition boxes).
- 8 smoke grenades loaded in two M257 launchers.
- 1 five-gallon can of lubrication oil.
- 2 five-gallon cans of potable water.
- 1 five-gallon can of coolant.
- 4 one-quart cans of hydraulic fluid.

8003. AAV Fueling.

1. Primary Fuel. JP-8 is the recommended fuel for AAVs operating at external temperatures of 25 degrees Fahrenheit or above. DF-1 is required for operation at external temperatures between 25 and -25 degrees Fahrenheit. DF-A is utilized at temperatures below -25 degrees Fahrenheit. JP-5 and DF-2 are acceptable alternative fuels. Oil is not to be mixed with JP-5, as this will result in fouled fuel injectors and clogged fuel filters. Reference E articulates further information regarding fuels for use on Marine Corps equipment.

2. Fuel Fouling. AAV Unit Leaders must take precautions to avoid fouling of the fuel injectors through poor refueling practices. Correct fueling procedures will be utilized and care taken to top off vehicles immediately after operations to avoid excessive condensation buildup in the fuel tank cell. Fuel tanks cell should be drained of condensation via the internal drain cock as required after prolonged storage.

3. Refueling Request

a. All requests for refueling in the field must be submitted ten days (10) in advance through the Battalion S-4, or supported unit and local regulations.

b. All rapid requests for fuel will be submitted using Appendix (B) Rapid Request Format.

8004. AAV Transportation and Securing Procedures

1. Transport. AAVs are primarily transported over land via tractor trailer (TT), commonly referred to heavy equipment trailer (HET), or by rail. In planning for transport by either method, it is important to provide embarkation specialists with accurate weight and dimensions:

a. AAVP7A1 RAM/RS (with EAAK)

(1) Weight. 52,120 lbs. / 26 tons

(2) Length. 321.32 inches / 27 feet

(3) Width. 130.61 inches / 11 feet

(4) Height. 130.56 inches / 11 feet

b. AAVC7A1 RAM/RS (with EAAK)

(1) Weight. 53,019 lbs. / 27 tons

(2) Length. 321.32 inches / 27 feet

(3) Width. 130.61 inches / 11 feet

(4) Height. 114.20 inches / 10 feet

c. AAVR7A1 RAM/RS

(1) Weight. 52,123 lbs. / 26 tons

(2) Length. 320.4 inches / 27 feet

(3) Width. 128.66 / 11 feet

(4) Height. 126 inches / 11 feet

2. Ship Board Securing Procedures. Once embarked troops have dismounted and left the area, the vehicles must be secured to the deck. This procedure is called "lashing." Although it is the responsibility of Naval personnel to ensure that the vehicles are secured to the deck, crewmembers should lash down their own vehicles. Griping of vehicles is accomplished by using lashing cables; dependent upon mode of transportation, length of transit, and sea state (aboard ship) various methods may be used. Below lists shipboard lashing procedures using 70,000 lb. tested lashing assemblies:

a. Single-Lashing. During short-term operations in calm seas, lashing is best accomplished with four cables attached to the vehicle towing eyes, crossed, and anchored to the ship's deck. Refer to Figure 8.1.

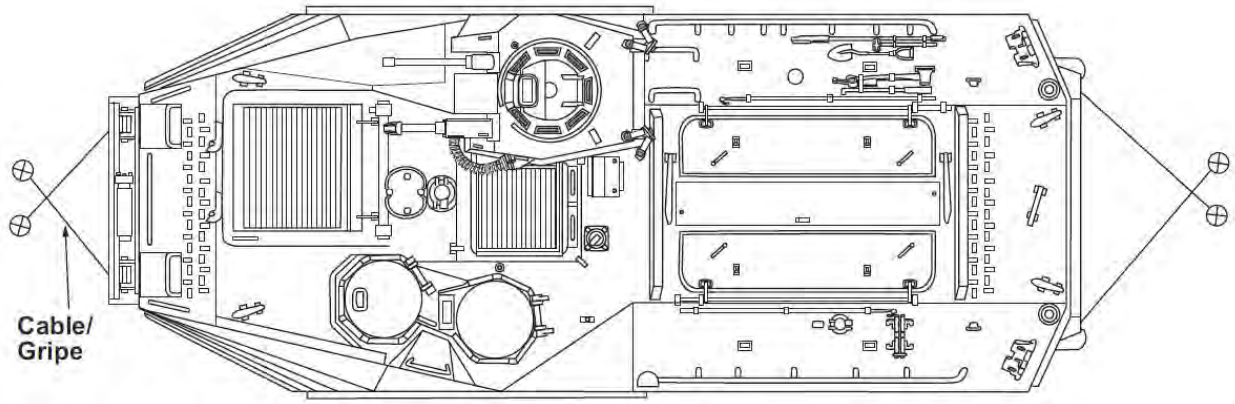

Figure 8.1. Single Lashing

b. Double-Lashing. Double-lashing is used during deployments and heavy seas because it minimizes forward and/or lateral movement. Double-lashing involves the use of eight lashing cables, two cables attached to each of the vehicle's towing eyes, crossing one pair fore and aft and running the other cables off from the vehicles at approximately 45 degrees as shown/illustrated in Figures 8.2.

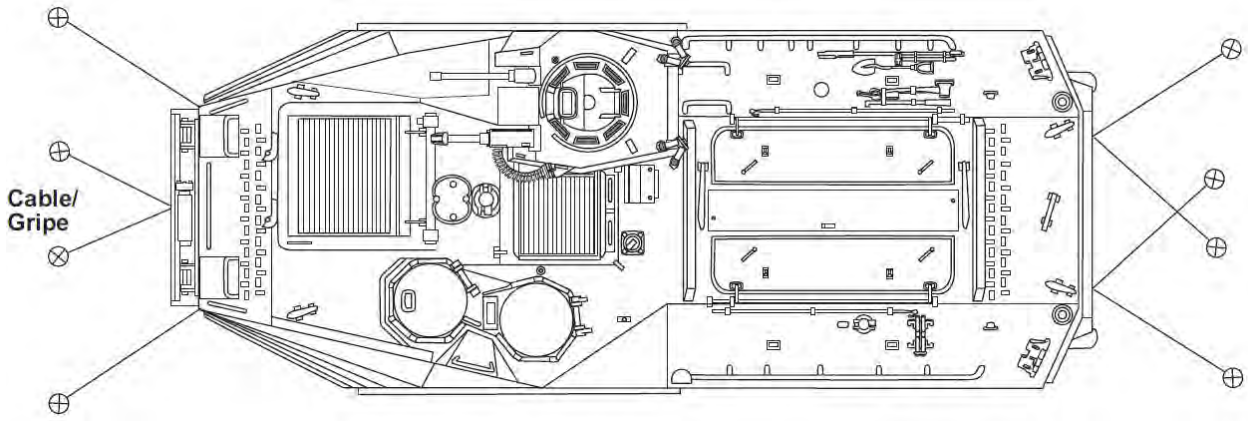

Figure 8.2. Double Lashing

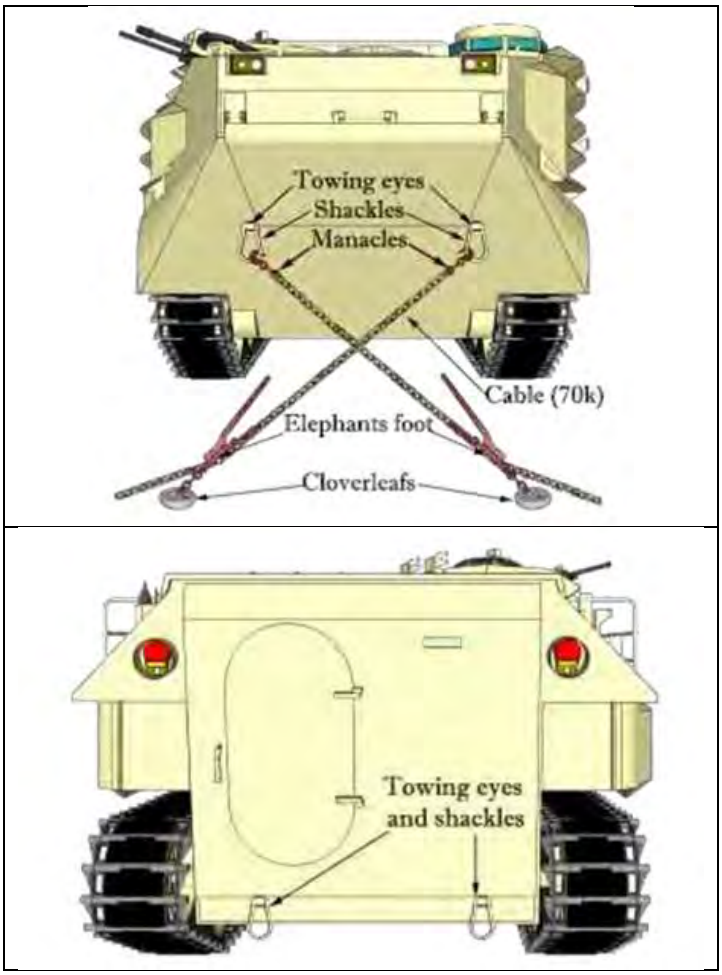

Figure 8.3.

The stern of the vehicle is lashed, using the same technique as the bow.

> **Note:** Lashing assemblies will never be attached to or wrapped around the track, sprockets, or idler assemblies of the AAVs.

8005. Resupply.

It is imperative that AA Units understand how to conduct resupply of mechanized forces. This is especially imperative when assigned special staff duties where our commander's primary duties include simultaneously directing the maintenance and logistics support organic to the AA company and advising the supported commander on the employment of vehicles. To this end, the following diagrams illustrate minimum standards of resupply for planning purposes. The emphasis on such operations should be, at a minimum arming, feeding (chow and water), fueling, and maintaining the force for follow on missions:

1. Replenishment Methods**.** The service station and tailgate issue methods are the two most common methods used to replenish unit trains.

a. Service Station Method. When using the service station method (see diagram below) of replenishment:

- Tactical vehicles enter the resupply point following a one-way traffic flow.
- Only those vehicles requiring immediate unit or higher maintenance will stop in the maintenance holding area before conducting resupply.
- Personnel rotate individually to eat, pick up mail and supplies, and refill or exchange water cans.
- Vehicles that complete resupply move to the holding area where pre-combat inspections are completed.
- Vehicles pull out of their positions in rotation, resupply, and return.

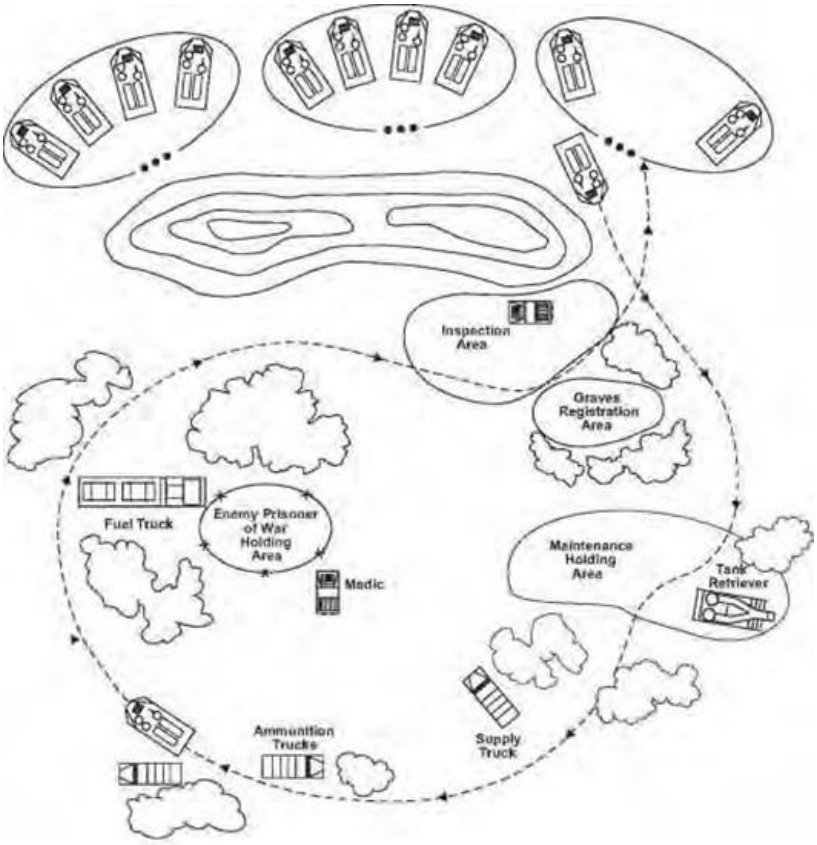

Figure 8.4. Service Station Method

b. Tailgate Method. The tailgate issue method is normally conducted only in an assembly area. If it is employed in forward positions, the terrain must mask resupply. This procedure takes much longer than the service station method and places the resupply vehicles at greater risk when using the tailgate method of replenishment:

- Combat Vehicles remain in place while POL and ammunition trucks go to each vehicle position in turn.

- Personnel rotate through the feeding area and pick up supplies, water, and mail individually.
- Personnel deliver troops killed in action and personal effects to the holding area.
- Enemy prisoners of war are centralized and guarded.
- Vehicles requiring maintenance are brought to the maintenance area.
- Pre-combat inspections are completed at each vehicle position.

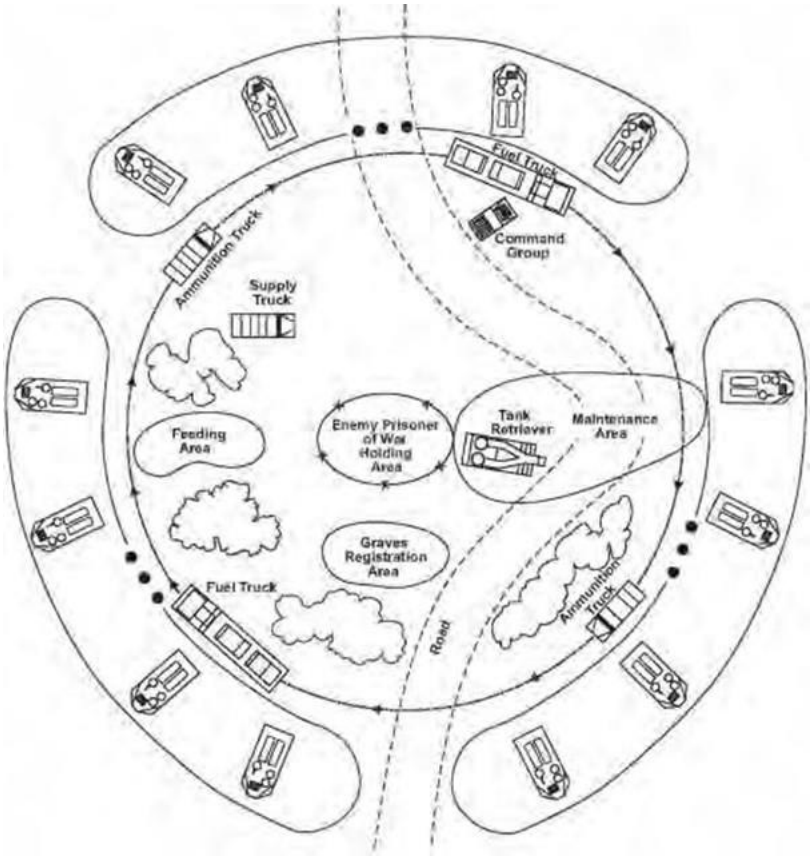

Figure 8.5. Tailgate Method

CHAPTER 9.

AA MAINTENANCE AND ENVIRONMENTAL CONCERNS

PARAGRAPH PAGE

9001. General.

Details concerning the maintenance of AAVs are contained in Reference C and D. Material in this chapter is included as it relates directly to field operation of vehicles.

9002. Safety.

The safety warnings in Reference C and D will be strictly adhered to while performing maintenance. Chapter 1 provides guidance on PPE/procedures required for specific maintenance tasks.

9003. Maintenance Responsibilities.

Preventive maintenance / corrective maintenance will be performed as required. When operating, time must be allotted for the various operational checks and services. It is crucial to schedule maintenance stand downs throughout the year.

1. The service recognizes two levels of maintenance, Field and Depot.

a. Field level. Field maintenance is any maintenance that does not require depot maintenance capability and is performed by crew/operators and maintainers within organizations and activities, and/or by approved commercial/contract sources. Maintenance tasks performed within the field line of maintenance are categorized as organizational and intermediate.

(1) Organizational maintenance. Organizational maintenance tasks are the responsibility of and performed by a using organization on its assigned, equipment. It normally consists of inspecting, servicing, lubricating, and adjusting, as well as the replacing of parts, minor assemblies, and subassemblies. It is not only accomplished by maintenance personnel, but also by equipment operators.

(2) Intermediate maintenance. Intermediate maintenance tasks may require a higher level of technical training, specialized tools, and/or facilities. It consists of a range of capabilities including modification, replacement, fabrication, component/subcomponent/ assembly/sub-assembly repair, calibration and repair of Test, Measurement and Diagnostic Equipment, software maintenance, precision machining, welding, evacuation, disposal, salvage, and demilitarization of equipment or materiel.

b. Depot level. Maintenance actions taken on material or software involving the inspection, repair, overhaul, or the modification or reclamation (as necessary) of weapons systems, equipment end items, parts, components, assemblies, and sub-assemblies that are beyond field maintenance capabilities, and/or are authorized and directed by DC I&L. Depot maintenance is not defined by location. The Marine Corps' organic depots, other service depots, commercial industrial facilities, OEM, or a combination thereof may perform depot maintenance related activities throughout the logistics chain framework; however, in all cases depot maintenance will be specifically authorized and directed by DC I&L, following coordination with MARCORSYSCOM/PEO, and MARCORLOGCOM. Depot maintenance is an essential part of supporting and/or extending equipment life cycle in TALCUM, but may also be leveraged to contribute to field maintenance efforts by providing overflow, on-site maintenance services, and technical assistance as appropriate to maintain materiel availability.

c. The authority to conduct field level maintenance on equipment is established within the respective unit's Table of Organization and Equipment via the mission statement and logistics capabilities statement. Generally, units will be resourced and authorized to perform field level organizational maintenance on all organic equipment. Field level intermediate maintenance capability is normally listed by specific asset or equipment type. A unit may perform any field maintenance tasks for which it is

manned, trained, and equipped. Units are not authorized to conduct maintenance tasks outside of their assigned capabilities.

9004. Exercise Maintenance.

Units should always attempt to do maintenance as far forward as possible. When operating, at least one mechanic per section and one platoon maintenance chief should accompany the AAV platoon. Their purpose is to provide on-site maintenance as well as to advise the AA Unit Leadership on the best methods to recover or repair a disabled vehicle. Maintenance planning is a critical pre-cursor to effective field maintenance while operating. When time is available, consult with logistics personnel and maintenance leadership to ensure appropriate POLs, tools, test equipment, and repair parts are readily available to support maintenance operations at all levels. A dedicated area for maintenance operations should be established within the respective staging area for company size operations and larger.

9005. Hazardous Materials.

This SOP does not contain all-inclusive information regarding environmental restrictions or regulations. Further guidance is provided by commands, installations, and covered by local/regulations. This chapter establishes general guidelines.

2. All bulk Petroleum, Oil, and Lubricants (POLs) must be contained in leak proof containers. These containers must be placed in a berm catchment area capable of holding 110% of the POLs. An impervious liner must be placed inside the catchment area underneath the POLs.

3. Improper disposal or indiscriminant bilging of POLs or hazardous material is strictly prohibited.

4. It is mandatory that all units have absorbent material in the field for any fuel or oil spill. All spills must be reported to the appropriate authority. Used absorbent material is considered hazardous waste.

9006. Maintenance Stand Downs.

Maintenance stand-downs should be conducted in two phases spread over several weeks to allow parts to arrive. Maintenance stand downs should be separate and distinct from an administrative stand down.

1. Phase 1. Vehicle LTIs, troubleshooting, diagnostics, PMCS, and part ordering should be conducted. This phase will be used to diagnose equipment and ensure all parts required are on order, equipment is maintained appropriately, and SL-3 is procured. There should be two to three weeks between Phase 1 and Phase 2 to allow parts to arrive.

2. Phase 2. Vehicle Maintenance and Service Request close out. Once a majority of the parts have arrived, Phase 2 allows the mechanic to install the parts, have them checked for quality control, and have the service request updated. It should also be used for TMDE reviews, Modifications, and all other maintenance requirements to be completed.

CHAPTER 10.

EMERGENCY PROCEDURES

10001. Emergency Procedures.

The procedures contained in this section are considered best for handling various emergencies that may occur.

Mechanical failures requiring emergency procedures seldom occur however, the possibility of such a failure should never be overlooked. Every emergency that can reasonably be expected is described in this section. Only single failures are considered; however, each failure presents a different problem. A thorough knowledge of these procedures will better equip crews to handle emergencies. Even though the procedures are considered to be the best possible, sound judgment must be used when confronted with multiple emergencies, adverse weather, etc.

THE BEST TIME TO KNOW PROCEDURES AND THE WORST TIME TO STUDY THEM IS IN AN EMERGENCY.

Leaders throughout AA units must ensure Marines rehearse these emergency procedure drills to ensure they are effective. They should serve as a basis for handling all emergency procedures, not just those outlined in this chapter.

Procedural steps marked in bold shall be committed to memory.

Water Over the Bow (reaching driver's hatch)

Driver:
- ▶**Turn hard port (left)**
- ▶**Decelerate (heal down on bottom of accelerator pedal)**
- ▷Fuel lever to OFF position

Vehicle Commander:
- ▷Verbal command to turn to port

Loss of Power in Water (engine)

Driver:
- ▷Master switch to ON position
- ▷Fuel lever to ON position
- ▷Check fuel shutoff valve (on deck behind driver)
- ▷Press START switch
  - ▹ If vehicle starts continue mission
  - ▹ If vehicle fails to start refer to distressed vehicle procedures Vehicle Commander:
- ▷Report status to higher

Distressed Vehicle not taking-on water

Driver:
- ▷Move topside
- ▷Spotlight ON (night)
- ▷Prepare vehicle for water tow
- ▷Debark on order

Vehicle Commander:
- ▷Report status to higher
- ▷Display NOVEMBER flag
- ▷Open starboard cargo hatch
- ▷Assist embarked personnel topside
- ▷Assist transfer of troops

Rear Crewman:
- ▷Direct embarked personnel to open starboard cargo hatch
- ▷Direct embarked personnel topside by radio cage
- ▷Exit cargo compartment last
- ▷Debark on order

Distressed Vehicle taking-on water (slow)

Driver:
- ▷Move topside
- ▷Spotlight ON (night)
- ▷Prepare vehicle for water tow
- ▷Debark on order

Vehicle Commander:
- ▷Report status to higher
- ▷Display NOVEMBER flag (day)
- ▷FIRE WHITE star cluster
- ▷Open starboard cargo hatch
- ▷Assist embarked personnel topside
- ▸ Assist transfer of troops
- ▸ Assist troops overboard

Rear Crewman:
- ▷Direct embarked personnel to open starboard cargo hatch
- ▷Direct embarked personnel topside by radio cage
- ▷Exit cargo compartment last
- ▷Debark on order

Distressed Vehicle taking-on water (rapid)

Driver:
- ▷Move topside
- ▷Spotlight ON and waving (night)
- ▷Prepare vehicle for water tow
- ▷Debark on order

Vehicle Commander:
- ▷Report status to higher
- ▷Wave NOVEMBER flag (day)
- ▷FIRE RED star cluster
- ▷Open starboard cargo hatch
- ▷Assist embarked personnel topside
  - ▹ Assist transfer of troops
  - ▹ Assist troops overboard

Rear Crewman:
- ▷Direct embarked personnel to open starboard cargo hatch
- ▷Direct embarked personnel topside by radio cage
- ▷Exit cargo compartment last
- ▷Debark on order

Vehicle taking-on water (breech of watertight integrity)

Driver:
- ▶Exit through driver's hatch
  - ▷Rally with crew and personnel Vehicle Commander:
- ▶Exit through UGWS hatch
  - ▷Account for crew and personnel Rear Crewman:
- ▶Unlock ramp personnel hatch
- ▶Direct embarked personnel to unlock and open cargo hatches
- ▶Exit cargo compartment
  - ▷Rally with crew and personnel

Fire in Engine Compartment

Driver:
- ▶**Stop vehicle**
- ▶**Shut down engine**
  - ▹ Activate forward manual fire extinguisher if fire is in fwd area
  - ▹ (Land)Lower ramp if embarked troops present
- ▷Exit vehicle
- ▷Rally with crew and embarked personnel

Vehicle Commander:
- ▷Report status to higher
- ▷Exit vehicle
- ▷Account for crew and embarked personnel

Rear Crewman
- ▶**Grab portable fire extinguisher**
  - ▹ Remove engine aft engine panel
  - ▹ Extinguish fire
- ▶**Activate aft engine compartment manual fire extinguisher**
- ▷Exit vehicle
- ▷Rally with crew and embarked personnel

Discharge of Halon

Driver:
- ▶**Stop vehicle**
- ▶**Shut down engine**
- ▷Lower ramp if embarked troops present
- ▷Exit vehicle
- ▷Rally with crew and embarked personnel

Vehicle Commander:
- ▷Report status to higher
- ▷Exit vehicle
- ▷Account for crew and embarked personnel

Rear Crewman
- ▷Exit vehicle
- ▷Rally with crew and embarked personnel

Loss of Steering

Driver:
- ▶**Push evenly and steadily on brake pedal, while maintaining RPMs**
- ▶**Set gear selector to NEUTRAL**
- ▷Set parking brake

Vehicle Commander:
- ▷Report status to higher

Loss of Brakes

Driver:
- ▶**Downshift**
- ▶**Decelerate**
- ▶**Set gear selector to NEUTRAL**
- ▶**Steer AAV and allow it to coast to a stop**
- ▷Set parking brake
- ▷Block front and rear of tracks/road wheels

Vehicle Commander:
- ▷Report status to higher

Loss of Power (engine)

Driver:
- ▶**Steer AAV to clear, level area**
- ▶**Push evenly and steadily on brake pedal**
- ▷Set gear selector to NEUTRAL
- ▷Set parking brake

Vehicle Commander:
- ▷Report status to higher

Loss of Power (electrical)

Driver:
- ▶**Steer AAV to clear, level area**
- ▶**Push evenly and steadily on brake pedal, maintain RPMs**
- ▷Set gear selector to NEUTRAL
- ▷Set parking brake

Vehicle Commander:
- ▷Report status to higher

Vehicle Rollover

Driver:
- ▶**Drop into hatch**
- ▶**Release accelerator**
- ▶**Shut off fuel**
- ▶**Grasp steering wheel with arms extended but not locked**
- ▶**Tuck chin into chest**
- ▷Evacuate when violent motion has ceased
- ▷Rally with crew and embarked personnel

Vehicle Commander:
- ▶**Drop into turret**
- ▶**Brace against back of seat**
- ▶**Grasp top of M36 with arms extended but not locked**
- ▶**Tuck chin into chest**
- ▷Evacuate when violent motion has ceased
- ▷Account for crew and embarked personnel

Rear Crewman:
- ▶**Grasp seat with arms extended but not locked**
- ▶**Plant feet firmly on floor**
- ▶**Tuck chin into chest**
- ▷Evacuate when violent motion has ceased
- ▷Rally with crew and embarked personnel

Appendix A

MISSION CARD TEMPLATE

UNIT:		PL:		APL:		CALLSIGN:	
TOD:		PRIMARY ROUTE:				ALTERNATE ROUTE	
TOR:							
PATROL TYPE:							
TASKS:							
1)							
2)							
3)							

PYRO	QTY	DATE	CHALLENGE	PASSWORD	MANIFEST		REMAIN BEHIND ELEMENT (RBE)
RED					MO		
WHITE					ME		
GREEN					NO		
OTHER:					NE		
SMOKE	QTY				ATTACHMENTS		
RED					TERPS		
GREEN					TOTAL		
YELLOW					MISC		
OTHER:							
OTHER:							
OTHER:							

SIGNAL PLAN	COMM CHK	COMM CHK Y/N	NO COMM PLAN: (EXPLAIN)	COMM ASSETS				
PLT:	FREQ:	YES NO		PRC-119D		PRR (S)		MISC:
COMPANY:	FREQ:	YES NO		PRC-119F		PRR (D)		
BN:	FREQ:	YES NO		PRC-148		ISR		
REGIMENT:	FREQ:	YES NO		PRC-113		OE 254		
QRF:	FREQ:	YES NO		PRC-117		DAGR/GPS		
CONTACT TEAM:	FREQ:	YES NO		PRC-150		CYZ-10		
CASEVAC	FREQ:	YES NO		PRC-153				

WEAPONSQTY		AMMO QTY		SL3 QTY		OPTICS QTY		OTHER QTY	
M16A4		M16		M122 TRIPOD		7B			
M4		M203		M3 TRIPOD		14D			
M203		M9		HEADSPACE/TIME		17B/C			
M9		M240G		BORESIGHT KIT		PAS-13			
M249		M249		TRANSFER PUMP		PEQ TYPE:			
M24G		AT-4				PEQ TYPE:			
BAYONET		GRENADE				RCO			
K-BAR		PYRO RED				BINO			
SHOTGUN		PTRO WHITE				COMPASS			
M2		PEN FLARE							
MK-19									

TIME LINE		REMINDERS	VEHICLES BY TYPE		LOGISTICS			
OP ORDER			AAVP7		WATER			
STAGE			AAVC7		AMMO			
PCC/PCI			AAVR7		CHOW			
REHERSALS			OTHER:		MEDICAL			
LINK UP			OTHER:		MAINT			
CASEVAC REHERSALS			OTHER:		DETAINEE KIT			
			OTHER:		SSE KIT			
			OTHER:		CASEVAC KIT			
			OTHER:		QRT PARTY KIT			
			OTHER:					
			OTHER:					
			OTHER:					

REMARKS:

WATCH OFFICER/S-3/OOD: ____RANKNAMEDATESIGN

APPENDIX A

MISSON CARD TEMPLATE

#	VEHICLE	ZAP/KILL #	LAST NAME	INTS	BLOOD TYPE	WEAPON SERIAL #	RCO	NVG	OTHER:	OTHER:	OTHER:
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
MISC INFO											

Appendix B

AAV STANDARDIZED REPORTS

ENTRY/DEPARTING FRIENDLY LINES

Line 1	Unit Call Sign
Line 2	Depart/Entering friendly lines
Line 3	Number and type of vehicles
Line 4	MO/ME/NO/NE/Attachments/Total
Line 5	OIC/SNCOIC/NCOIC rank and last name

SITUATION

Line 1	DTG
Line 2	Friendly Position
Line 3	Activities Conducted
Line 4	Actions Planned
Line 5	Logistical Requirements (Food, Ammo, Water, Parts …)
Line 6	Personnel Casualties
Line 7	AAV operational status by type (P7/C7/R7) and any additional Remarks.

This report will be submitted in to the Bn S-3/OOD/I&I three times a day while in the field at the following times 0600, 1200, 1800 and 2400, and to report any change in status or location.

POSITION REPORT

Line 1	Unit call sign:
Line 2	Location (6 Digit)
Line 3	Direction of movement
Line 4	Remarks

PERSONNEL STATUS REPORT

Line 1	Unit call sign:
Line 2	MO:
Line 3	ME:
Line 4	NO:
Line 5	NE:
Line 6	OTHER:
Line 7	Remarks:

It is a requirement that the units conducting operations keep the Battalion advised of its situation at all times during operations. It is the unit conducting operations responsibility to maintain communications with Higher Headquarters/Battalion. All operations will cease until communication is reestablished with Higher Headquarters/Battalion.

APPENDIX B

AAV STANDARDIZED REPORTS

REQUEST #:	
DTG RECEIVED:	
DTG CLOSED:	

DATE SUBMITED:_____

	LINE	ITEM					
Required Information	A	REQUESTING UNIT					
	B	PRIORITY OF REQUEST	IMMEDIATE	PRIORITY	ROUTINE		
	C	SUPPORT REQUESTED (CIRCLE ALL THAT APPLY)	RESUPPLY MAIN CONTACT	TRANSPO MEDICAL	HST ENGINEER		
	D	CONTACT INSTRUCTIONS	1) FREQ/CELL#/EMAIL:		2) CALL SIGN		
			3) LOCATION		4) POC		
	E	CLARIFYING INSTRUCTIONS					
Supply	F	TYPE AND AMOUNT OF CLASS I (CHOW)					
	G	TYPE AND AMOUNT OF CLASS II (CONSUMABLES)					
	H	TYPE AND AMOUNT OF CLASS III (POLs)					
	I	TYPE AND AMOUNT OF CLASS IV (CONSTRUCTION					
	J	TYPE AND AMOUNT OF CLASS V (AMMO)					
	K	TYPE AND AMOUNT OF CLASS VIII (MEDICAL)					
	L	TYPE AND AMOUNT OF CLASS: OTHER					
Coordinating Instructions	M	EQUIPMENT TO BE REPAIRED/EVACUATED					
		Item	NSN	SL4	Page	Figure	
	1						
	2						
	3						
	4						
	5						
	N	GENERAL DESCR PTION OF PROBLEM					
	O	ENGINEER SUPPORT REQUIRED					
	P	MATERIAL HANDLING SUPPORT REQUESTED					
	Q	TYPE OF CARGO TO BE MOVED					
	R	POUNDS OF CARGO TO BE MOVED					
	S	CUBIC FEET OF CARGO TO BE TRANSPORTED					
	T	NUMBER OF PAX TO BETRANSPORTED					
	U	DATE/TIME OF PICK UP AND LOCATION					
	V	DESTINATION OF CARGO/PAX/EQUIPMENT					
	W	AI RCRAFT TYPE					
	X	CARGO TO BE TRANSPORTED					

Classes of Supply Related to Mechanized Operations. The following are the nine classifications of logistical support related

1. Class I Subsistence (Food)
2. Class II Clothing, individual equipment, tools, administrative supplies.
3. Class III Petroleum, oils, and lubricants (POL).
4. Class IV Construction/barrier materials.
5. Class V Ammunition and explosives
6. Class VI Personal demand items (i.e. cigars, razor blades, PX items)
7. Class VII Major end items
8. Class VIII Medical supplies
9. Class IX Repair part

Appendix C

OPERATIONAL RISK MANAGEMENT (ORM) WORKSHEET

OPERATIONAL RISK MANAGEMENT WORKSHEET							
TRAINING EVOLUTION:		ORGANIZATION:	OIC:	RSO:		WPNS SYSTEM:	DATE:
PHASE	HAZARD	CAUSES	INIT RAC	DEVELOP CONTROLS	RES RAC	HOW TO IMPLEMENT	HOW TO SUPERVISE

HAZARD SEVERITY

I	CATASTROPHIC	Death, permanent disability, major property damage
II	CRITICAL	Permanent partial disability, major system or minor property damage
III	MARGINAL	Minor injury, minor system or property damage
IV	NEGLIGABLE	1st Aid, minor system repair

MISHAP PROBABILITY

A-FREQUENT B-LIKELY C-OCCAISIONAL D-UNLIKELY

RAC ASSESSMENT MATRIX

HAZARD SEVERITY \ MISHAP PROBABILITY	A	B	C	D
I	1	1	2	3
II	1	2	3	4
III	2	3	4	5
IV	3	4	5	5

COMMAND REVIEW/APPROVAL

OIC:_____
RSO:_____
XO/CO:_____
S-3:_____
RCO:_____
(AS REQUIRED)

5 STEPS OF PERFORMING ORM

1. Identify Hazards
2. Assess Hazards
3. Make Risk Decisions
4. Implement Controls
5. Supervise

Appendix D

PERSONAL FLOTATION DEVICE PRE-OPERATION CHECKLIST

Below are just two of the current PFD systems in use by AA units today. All AA unit leaders are required to be familiar with the PFD system they are currently using. If the PFD system you are currently using is not listed, see your AA Battalion chain of command for proper wear and operation checks.

LPP-1/1A:

Inspect entire preserver assembly for corrosion, wear, cuts, tears, abrasions, security of stitching, and any other noticeable damage. Remove and inspect CO2 cartridge for serviceability.

Ensure the LPP-1/1A includes the following serviceable items: Whistle, buddy line and a chemlite for night operation.

This PFD requires personnel to blow 3 puffs of air into it prior to entering the AAV. Personnel working topside on AAV will blow an additional 2 puffs of air into this PFD.

LPU-41/SRU-43 (SEBD):

****CAUTION****: DO NOT open any sealed or closed portions of preserver for pre-op inspection.

Inspect entire preserver assembly for corrosion, wear, cuts, tears, abrasions, security of stitching, and any other noticeable damage. Inspect casing tacking for presence and integrity.

Inspect safety ties on beaded inflation handles.

Inspect for presence of survival items and security of attachment.

****CAUTION****: DO NOT press the purge button when the SEBD Bottle is turned on.

Visually inspect the entire SEBD Bottle assembly for signs of corrosion and damage.

Prior to use, turn the SEBD Bottle "ON" by rotating the ON/OFF knob to the left. Ensure the gauge reads in the Green Zone.

Ensure the SEBD Bottle is secured in the holster on the HESP waist belt. Check for presence and integrity of zip ties securing the bottle and mouthpiece cover to the holster.

> **Note**: At the end of operations, the SEBD Bottle shall be turned off and the purge button pressed to release air inside hose and second stage regulator.

****CAUTION****

If any discrepancy is found or noted with HESP ensemble assemblies, the entire kit shall be removed from service and reported to maintenance personnel.

Appendix E

AAV PRE-OPERATION CHECKLIST

UNITED STATES MARINE CORPS
Program Executive Officer
Land Systems Marine Corps
2200 Lester Street
Quantico, VA 22134-6050

31 October 2019

1. This Technical Manual (TM), authenticated for Marine Corps use and effective upon receipt, provides Operator Instructions for Assault Amphibious Vehicle, 7A1 Family of Vehicles; AAV7A1, as determined by TM 07007/07267/07268-10/1, Volume 1 of 2 of the: AAVP7A1, NSN: 2350-01-458-7410, ID No 07007C; AAVR7A1, NSN: 2350-01-458-7550 ID No 07267C; and AAVC7A1, NSN: 2350-01-458-7318 ID No 07268C.

2. This publication supersedes TM-09674A-10/3D, dated 28 September 2012 and TM-10004A-10/1E, dated 31 October 2012.

3. Per MCO 5100.34A, Commanders, Commanding Officers, and Officers-In-Charge shall identify and report situations that negatively affect safety of operation via the Automated Message Handling System to: COMMARCORSYSCOM OOT QUANTICO VA; PEO LS QUANTICO VA SAFETY; CMC SD WASHINGTON DC; CMC WASHINGTON DC PPO; CMC WASHINGTON DC I&L; and COMNAVSAFECEN NORFOLK VA. Individuals may report potential hazards to MARCORSYSCOM Safety at MCSC_Safety@usmc.mil and/or to Commandant of the Marine Corps Safety Division (CMC SD) at hqmc_safety_division@usmc.mil.

All significant safety hazards that have the potential to affect other commands and require widespread dissemination shall be reported via a Hazard Report per MCO P5102.1B.

4. Discrepancies or suggested changes for this publication may be reported by submitting a NAVMC 10772. For instructions on how to submit a NAVMC 10772 go to http://www.marcorsyscom.marines.mil/Professional-Staff/SEAL/ALPS/ and click on "NAVMC 10772 Submittal." Questions or concerns regarding the NAVMC 10772 program should be reported via email to SMB.LOG.Tech.Pubs.fct@usmc.mil. A response will be provided to you.

OFFICIAL

MULLINS.KIRK.DUDLEY.1082755299 Digitally signed by MULLINS.KIRK.DUDLEY.1082755299 Date: 2019.10.07 10:05:41 -04'00'

COL. KIRK D. MULLINS
Program Manager, Advanced Amphibious Assault
Program Executive Officer, Land Systems
Marine Corps Systems Command

DISTRIBUTION: EDO

UNITED STATES MARINE CORPS
Program Executive Officer
Land Systems Marine Corps
2200 Lester Street
Quantico, VA 22134-6050

31 October 2019

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OFFICIAL

MULLINS.KIRK.DUDLEY.1082755299 Digitally signed by MULLINS.KIRK.DUDLEY.1082755299 Date: 2019.10.07 10:05:12 -04'00'

COL. KIRK D. MULLINS
Program Manager, Advanced Amphibious Assault
Program Executive Officer, Land Systems
Marine Corps Systems Command

DISTRIBUTION: EDO

ASSAULT AMPHIBIOUS VEHICLE (AAV7A1) Pre-Operation Checklist	
MODEL (CIRCLE ONE)	REFERENCES
AAVP7A1 RAM/RS AAVC7A1 RAM/RS (Also perform tasks listed in TM 07268C-10/1) AAVR7A1 RAM/RS (Also perform tasks listed in TM 07267C-10/1)	
UNIT:	MILES: (SPEEDOMETER) (LOGBOOK)
CREW CHIEF (PRINT: RANK, NAME)	
DRIVER (PRINT: RANK, NAME)	CREWMAN (PRINT: RANK, NAME)
OTHERS (PRINT: RANK, NAME, BILLET)	OTHERS (PRINT: RANK, NAME, BILLET)
OTHERS (PRINT: RANK, NAME, BILLET)	OTHERS (PRINT: RANK, NAME, BILLET)

NOTE

The following inspection sheet is divided into ten columns. The inspector will place a check in the column which best describes the condition of the item inspected. For those items that cannot be inspected for any reason, the inspector will make an appropriate annotation in the Remarks column.

Pre-Operation Checklist

Item	Reference Paragraph	Task	Serviceable	Unserviceable	Missing	On Service Request	Remarks	Not Mission Capable if:	Exception to Non-Use
1		**GENERAL NOTES.**							
	2-A	(a) As you check each area, check for fuel, oil, hydraulic and coolant leaks.						Any fuel or coolant leak at all. Any Class III hydraulic or oil leak (resulting in a drop that falls).	None
		(b) Properly stow all loose equipment.							

Pre-Operation Checklist									
Item	**Reference Paragraph**	**Task**	**Serviceable**	**Unserviceable**	**Missing**	**On Service Request**	**Remarks**	**Not Mission Capable if:**	**Exception to Non-Use**
2		**Exterior Checks: Bow.**							
	2-B	(a) Check bow portion of hull for damage.						Any damage that exceeds the criteria in para. 2-4.	None
	2-4a	(b) Check that the forward hull plugs are installed and that there is no evidence of leakage.						Hull plugs cannot be installed or evidence of leakage past installed hull plugs.	None
	2-4c	(c) If installed, check that headlights are securely mounted.							
3		**Starboard Side.**							
	2-4g	(a) Check for loose bolts on the sprockets, universals, etc.						Any hardware that cannot be tightened (e.g. stripped) or any damage that exceeds the criteria in para. 2–4.	None
	2-4f	(b) Check final drive for oil leaks and loose fasteners.						Any Class III leak.	None
	2-4a	(c) Check for hull, suspension, shocks and final drive damage.						Any damage that exceeds the criteria in para. 2-4.	None
	2-4m(1)	(d) Visually inspect the road arms for leaking/protruding seals or road arms out of alignment relative to the hull and with other road arms. Look for failed or failing bearing indicators, which can be identified by canted road arms.						Any damage that exceeds the criteria in para. 2–4.	None

Pre-Operation Checklist									
Item	**Reference Paragraph**	**Task**	**Serviceable**	**Unserviceable**	**Missing**	**On Service Request**	**Remarks**	**Not Mission Capable if:**	**Exception to Non-Use**
	2-4h	(e) Check the oil level and condition in the road wheels, idler wheels and the support rollers.						Any Class III oil leak.	None
	3-7d	(f) Check for proper track tension 1/4 in. to 1/2 in. above rear support roller.						Proper track tension cannot be achieved or maintained.	None
4		**Aft.**							
	2-4z	(a) Check that the aft hull plugs are installed and that there is no evidence of leakage.						Hull plugs cannot be installed or evidence of leakage past installed hull plugs.	None
	2-4s	(b) If tow cable is installed on ramp, check condition and check that clevis pins are secure.							
	2-4t	(c) Grease tow pintle and check for proper operation.						Any loose hardware or inoperative tow pintle.	None
	2-4w	(d) Grease ramp hinges before operation.						Any missing mounting hardware.	None
5		**Port Side.**							
	3-7d	(a) Check for proper track tension 1/4 in. to 1/2 in. above rear support roller.						Proper track tension cannot be achieved or maintained.	None
	2-4h	(b) Check the oil level and condition in the road wheels, idler wheels and the support rollers.						Any Class III oil leak.	None

Pre-Operation Checklist									
Item	**Reference Paragraph**	**Task**	**Serviceable**	**Unserviceable**	**Missing**	**On Service Request**	**Remarks**	**Not Mission Capable if:**	**Exception to Non-Use**
	2-4m(1)	(d) Visually inspect the road arms for leaking/protruding seals or road arms out of alignment relative to the hull and with other road arms. Look for failed or failing bearing indicators, which can be identified by canted road arms.						Any damage that exceeds the criteria in para. 2-4.	None
	2-4	(c) Check for hull, suspension, shocks and final drive damage.						Any damage that exceeds the criteria in para. 2-4.	None
	2-4f	(d) Check final drive for oil leaks and loose fasteners.						Any Class III leak.	None
	2-4g	(e) Check for loose bolts on the sprockets, universals, etc.						Any hardware that cannot be tightened (e.g. stripped) or any damage that exceeds the criteria in para. 2-4.	None
	2-20b	(f) Check the external fire extinguisher manual pull handle wire seals.						Fire extinguisher wire seal missing or unserviceable.	None
6		**Topside Checks.**							
	2-4ai	(a) Check coolant level and condition.						Contaminated coolant.	None
	2-11a(13)	(b) Check fuel level.						If locking device is missing or will not secure.	None
	2-5k	(c) Check that front plenum seal is serviceable.						Plenum seal missing, torn, cracked, or broken. Seal not seating correctly.	Land/Gun-nery Only

Pre-Operation Checklist									
Item	**Reference Paragraph**	**Task**	**Serviceable**	**Unserviceable**	**Missing**	**On Service Request**	**Remarks**	**Not Mission Capable if:**	**Exception to Non-Use**
	2-5f	(d) Check oil level and condition of starboard right angle drive. Check for serviceability, visible damage, lock wire.						Contaminated oil. Missing hardware. Broken or missing lock wire.	Land/Gun-nery Only
		(e) Check lateral and longitudinal drive shaft U-joints for visible signs of cracks, damage, lock wire.						U-joint caps/flange cracked or broken. Broken or missing lock wire.	Land/Gun-nery Only
	2-5a	(f) Check oil level and condition of starboard final drive. Check for serviceability, visible damage, lock wire.						Contaminated oil. Missing hardware. Broken or missing lock wire.	None
	2-5c	(g) Check the coolant fan belt for condition and proper tension.						Belt is broken or clearly worn. Proper tension cannot be maintained.	None
	2-5g	(h) Drain fuel water separator.							
	2-4aa 2-4ab	(i) Check that exhaust grill cover is secured and that the front grill cover can be secured in the closed position.						Either grill cover cannot be secured in the closed position.	None
	2-27a	(j) Ensure cargo hatch(s) lock in the open position.							
7		**Interior Checks.**							
	2-7b	(a) Turn on the manual fuel shutoff valve at the driver's station.						Valve frozen in the closed position. Any evidence of fuel leaks.	None
		(b) Turn on the manual fuel shutoff valve at the fuel cell.						Valve frozen in the closed position. Any evidence of fuel leaks.	None
	3-9a	(c) Drain fuel tank sediment.							

Pre-Operation Checklist									
Item	**Reference Paragraph**	**Task**	**Serviceable**	**Unserviceable**	**Missing**	**On Service Request**	**Remarks**	**Not Mission Capable if:**	**Exception to Non-Use**
	2-6g	(d) Check hydraulic reservoir fluid level and ensure that the hydraulic filter lock wire is in place.						Contaminated fluid. Broken or missing lock wire.	None
	2-11a(10)	(e) Check the lamp/test warning cancel switch, turn it to LAMP TEST first. All lights should flash. Next, turn it to CANCEL and all lights should stop flashing.							
	2-5f	(f) Check oil level and condition of port right angle drive. Check for serviceability, visible damage, lock wire.						Contaminated oil. Missing hardware. Broken or missing lock wire.	Land/Gun-nery Only
	3-1	(g) Check lateral and longitudinal drive shaft U-joints for visible signs of cracks, damage, lock wire.						U-joint caps/flange cracked or broken. Broken or missing lock wire.	Land/Gun-nery Only
	2-5a	(h) Check oil level and condition of port final drive. Check for serviceability, visible damage, lock wire.						Contaminated oil. Missing hardware. Broken or missing lock wire.	None
	2-6k	(i) Check level and conditions of engine oil.						Contaminated oil.	None
	2-6i	(j) Check level and condition of transmission oil.						Contaminated oil.	None
	2-4al 2-4aj(5)	(k) Check the M27E periscope and vision block for signs of damage.						More than 50% loss of visibility through the M-27 periscope. More than 50% loss of visibility through vision blocks, which inhibits safe operation of the vehicle.	None

Pre-Operation Checklist									
Item	**Reference Paragraph**	**Task**	**Serviceable**	**Unserviceable**	**Missing**	**On Service Request**	**Remarks**	**Not Mission Capable if:**	**Exception to Non-Use**
	2-7e 2-7f 2-7g 2-7i	(l) Check all six of the fixed fire extinguishers. Compare ambient temperature to temperature/ pressure scale on bottle. Check pressure gauge for correct reading. Check that all wire seals are intact.						Any one gauge has incorrect reading. Any one wire seal not intact or missing.	None
	2-20	(m) Check AFSSS fire extinguishers and sensors. Ensure all electrical cables are connected to the bottle valves, CEP and the nozzles and shipping caps have been removed or installed as required for an operational						Electrical harnesses not able to connect to the sensor or fire extinguisher valve.	None
	2-20a	(n) Check MFSS fire extinguisher. Ensure manual discharge components are intact and hooked up.						Any one MFSS fire extinguishers incapable of being manually discharged.	None
	2-7d	(o) Check the portable fire extinguisher.							
	2-7t 2-7u	(p) Check the generator and coolant pump drive belts for condition and proper tension.						Any belt is broken or clearly worn. Proper tension cannot be maintained.	None
	2-7w	(q) Check battery terminal for tightness and corrosion.							
	2-6 2-7x	(r) Check all seats for proper operation.						Driver’s seat will lock into desired position.	None
	2-6b	(s) Ensure parking brake is set as follows:							None

Pre-Operation Checklist									
Item	**Reference Paragraph**	**Task**	**Serviceable**	**Unserviceable**	**Missing**	**On Service Request**	**Remarks**	**Not Mission Capable if:**	**Exception to Non-Use**
		(1) Press hard on brake pedal.							
		(2) Pull handle aft and turn to the left until it locks into							
		(3) Release handle and let up on brake							
		(4) Tap the brake pedal. The handle should not move when brakes are fully locked.						Parking brake does not remain engaged.	None
		(t) Start the engine using normal procedures. Allow it to warm up at least three minutes at 1000 to 1200 RPM.						Fails to maintain proper idle.	None
	2-4u 2-4c	(u) Check operation of taillights and headlights (if installed).							
8		**Emergency Egress Lighting System (EELS).**							
	3-22a	(a) Conduct a visual inspection of the lights, wires and sensors ensuring all parts are properly secured and free of damage and debris.							
	3-21a	(b) At the Control Panel, gently pull on the ENABLE/DISABLE Switch, and move it up to the ENABLE position.							

Pre-Operation Checklist									
Item	**Reference Paragraph**	**Task**	**Serviceable**	**Unserviceable**	**Missing**	**On Service Request**	**Remarks**	**Not Mission Capable if:**	**Exception to Non-Use**
	3-22c	(c) From Forward Controller, actuate and hold switch to TEST/RESET position to initiate system self-test. After approximately 5-10 seconds, verify lights illuminate. (NOTE: lights may not all illuminate at the same time. If all lights illuminate, system passes self-test. If lights do not illuminate or lights flash three times, indicating low battery charge, report to Maintenance.) Release switch. Verify all lights extinguish. Report to Maintenance.							
	3-22d	(d) From Forward Controller, toggle the switch to the ON position. Verify all lights illuminate. (NOTE: If lights do not illuminate or lights flash three times, indicating low battery charge, report to Maintenance.) Report to Maintenance.							
	3-22e	(e) From Forward Controller, toggle switch to TEST/RESET position. Verify all lights extinguish.							

Pre-Operation Checklist									
Item	**Reference Paragraph**	**Task**	**Serviceable**	**Unserviceable**	**Missing**	**On Service Request**	**Remarks**	**Not Mission Capable if:**	**Exception to Non-Use**
	3-22f	(f) From Aft Controller, actuate and hold switch to TEST/RESET position to initiate system self-test. After approximately 5-10 seconds, verify lights illuminate. (NOTE: lights may not all illuminate at the same time. If all lights illuminate, system passes the self-test.) Release switch. Verify all lights extinguish.							
	3-22g	(g) From the Aft Controller, toggle the switch to the ON position. Verify all lights illuminate.							
	3-22h	(h) From the Aft Controller, toggle the switch to the TEST/RESET position. Verify all lights extinguish.							
9		**After Starting Engine.**							
	2-1b 2-1c	(a) Check the oil pressure. If there is no oil pressure after 15 seconds, stop the engine immediately.						Fails to maintain engine oil pressure: 625-675 RPM: 10 PSI 2800 RPM: 55-75 PSI	None
	2-1b 2-1c	(b) Check the driver's display module and auxiliary pressure gauges for correct readings:						Any one or more indicators on the DDM or auxiliary pressure gauges are inoperative.	None
	2-1b 2-1c	(1) Transmission oil pressure 170 to 230 PSIG.						Fails to maintain a min of 150 PSIG at an idle.	None

Pre-Operation Checklist									
Item	**Reference Paragraph**	**Task**	**Serviceable**	**Unserviceable**	**Missing**	**On Service Request**	**Remarks**	**Not Mission Capable if:**	**Exception to Non-Use**
	2-1b 2-1c	(2) Engine oil pressure at 2800 RPM 55 to 75 PSIG.						Fails to maintain at least 10 PSIG at an idle.	None
	2-1b 2-1c	(3) Air restriction indicator 0 to 25 in. of Hg.						Air restriction exceeds 25 in. hg.	None
	2-1c	(4) Battery volts indicator 25 to 29 VDC.						Less than 18 or more than 31 VDC indicated on gauge.	None
		(c) Check the transmission oil level with the engine idling and the gear selector in Neutral. Oil should be on the FULL mark.						Fails to maintain proper oil level.	None
		(d) Perform intercom check between driver and vehicle commander.						No intercom between the driver and vehicle commander.	None
		(e) Perform intercom check between driver, vehicle commander, and rear crewman.						No intercom between the driver, vehicle commander, and rear	Land/Gun-nery Only
		(f) Perform radio check between vehicles.						Less than two radios fully operational.	None
	2-30a (3), (4)	(g) Inability to raise and lower the ramp under vehicle power.						Unable to raise and lower the ramp under vehicle power.	None
	2-30a	(h) Check that ramp is properly secured.						Ramp locking hooks (dogs) will not engage.	None
Supervised by:		***(Rank, Last, First, MI)***							**Date Verified:**
Print:									
Signature:									

ASSAULT AMPHIBIOUS VEHICLE (AAV7A1) Pre-Water Operation Checklist	
MODEL (CIRCLE ONE)	REFERENCES
AAVP7A1 RAM/RS AAVC7A1 RAM/RS (Also perform tasks listed in TM 07268C-10/1) AAVR7A1 RAM/RS (Also perform tasks listed in TM 07267C-10/1)	
UNIT:	MILES: (SPEEDOMETER) (LOGBOOK)
TAC NO. USMC NO.	HOURS: (TACHOMETER)
CREW CHIEF (PRINT: RANK, NAME)	DATE:
DRIVER (PRINT: RANK, NAME)	CREWMAN (PRINT: RANK, NAME)
OTHERS (PRINT: RANK, NAME, BILLET)	OTHERS (PRINT: RANK, NAME, BILLET)
OTHERS (PRINT: RANK, NAME, BILLET)	OTHERS (PRINT: RANK, NAME, BILLET)

NOTE

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Item	Reference Paragraph	Task	Serviceable	Unserviceable	Missing	On Service Request	Remarks	Not Mission Capable if:	Exception to Non-Use
1	Appx K	Perform general Pre-operational Checks.						Any missing or loose hardware, or visual damage identified during the pre-op that will impact water-tight integrity.	Land / Gunnery Only

Item	Reference Paragraph	Task	Serviceable	Unserviceable	Missing	On Service Request	Remarks	Not Mission Capable if:	Exception to Non-Use
2	2-4a 2-4z	Check that the forward and aft hull plugs are installed and that there is no evidence of leakage.						Hull plugs cannot be installed, or evidence of leakage past installed hull plugs.	None
3	Appx K	Check that contact cooler plugs are installed and that there is no evidence of leakage.						Contact cooler plugs not installed or leaking.	Land / Gunnery Only if the contact cooler bypass is connected.
4	Appx K	Check ramp plugs and pontoon lugs to ensure they are tightly installed, and that there is no visible signs of damage to the pontoon.						Any missing or loose hardware or visual damage that will impact watertight integrity.	Land / Gunnery Only
5	2-4r(1)	Check that track channel, propulsion unit and deflectors are free of debris, and have no visible signs of damage.						Reverse flow duct missing. Any visible damage that will affect water operations.	Land / Gunnery Only
6	2-4aa	Ensure intake grille handles and exhaust grille lugs are in place and secure.						Any grill that cannot be secured in the closed position.	None
7	2-4aj 2-4am	Check that all topside hatch seals are serviceable and that each hatch can be secured in the closed position.						Any topside hatch that cannot be secured in the closed position.	Land / Gunnery Only
8	2-8e	Check that ramp and personnel hatch seals are serviceable.						Seal missing or any visual defect that may result in a water leak.	Land / Gunnery Only

Item	Reference Paragraph	Task	Serviceable	Unserviceable	Missing	On Service Request	Remarks	Not Mission Capable if:	Exception to Non-Use
9	2-4ak 2-4al	Check that the driver's vision adapter plug and the M27 periscope is serviceable and properly installed.						Driver vision adapter plug and/or M27 periscope missing.	Land / Gunnery Only
10	2-6f	Check ventilator aspirator valve for proper operation.						Ventilator aspirator seized, or sticky operation.	Land / Gunnery Only
11	Appx K	Close heater exhaust outlet(s).						Heater exhaust cannot be fully closed.	Land / Gunnery Only
12	2-8d	Ensure ventilation outlet valve control is OPEN and works freely and close vent air bypass door. Ensure ventilation fan switch is on LOW.						Outlet valve cannot be opened and/or vent fan is inoperative.	No Embarked Troops
13		Check ventilation fan for proper operation.						Ventilation fails to operate in either HI or LOW positions.	No Embarked Troops
14	2-7q	Ensure cooling system is connected to contact cooler.						Contact cooler not connected.	Land / Gunnery Only
15	Appx K	Check hydraulic bilge pumps for the following:						More than one of four bilge pumps inoperative.	Land / Gunnery Only
		(a) Fluid leaks.						Any hydraulic fluid dripping to the hull.	None
		(b) Tightness of mounting screws.							
		(c) Tightness of hose clamps.							
		(d) Bilge pump screens are free of debris.							

Item	Reference Paragraph	Task	Serviceable	Unserviceable	Missing	On Service Request	Remarks	Not Mission Capable if:	Exception to Non-Use
	2-8c	(e) (Start Engine) Place mode selector switch in WATER/TRACKS. Increase engine RPM to 2000 RPM to ensure hydraulic bilge pump indicator lights are ON.						Fails to indicate operation of electric bilge pumps.	Land / Gunnery Only
	2-8c	(f) Lift outlet covers on hydraulic bilge pump outlet ports and check for airflow.						More than one of four bilge pumps inoperative.	Land / Gunnery Only
16	2-8c	Check electric bilge pumps for the following:						More than one of four bilge pumps inoperative.	Land / Gunnery Only
		(a) Tightness of mounting.							
		(b) Tightness of hose clamps.							
		(c) Bilge pump screens free of debris.							
		(d) Tightness and/or corrosion on electrical connections.							
	2-8c	(e) Place bilge pump switches to ON and ensure indicator lights are ON.						Fails to indicate operation of electric bilge pumps.	Land / Gunnery Only
	2-8c	(f) Lift outlet covers on electric bilge pump outlet ports and check for airflow.						More than one of four bilge pumps inoperative.	Land / Gunnery Only

Item	Reference Paragraph	Task	Serviceable	Unserviceable	Missing	On Service Request	Remarks	Not Mission Capable if:	Exception to Non-Use
17	2-8b	Place mode selector switch to WATER/JETS and check operation of water/jet deflectors (buckets). Accelerate to between 800 rpm and 1000 rpm; water jets should not turn. Accelerate to over 1000 rpm; water jets should turn. Steer left and right to ensure full range of steering operation opening/closing, then check reverse steer of 5/8" to 3/4" of movement.						Water jet inoperative. Bucket inoperative. Reverse steer inoperative. Water jets do not stop below 1000 RPM.	Land / Gunnery Only
18	2-8g	Check bow plane operation and ensure that there are no visible hydraulic leaks.						Bow plane leaking. Bow plane inoperative.	Land / Gunnery Only
19	2-8b	Check to see that plenum doors are closed and locked, and that indicators (mushrooms) are in the UP position.						Either plenum door not closed and locked.	Land / Gunnery Only
20	2-15e	Stop engine.							
21	Appx K	Ensure ramp and personnel hatch are closed and locked.							
22	2-7ab	Check ramp vision block. Ensure it is clean and allows a clear view to the outside.						The view through the vision block is not clear.	Land / Gunnery Only
23	Appx K	Ensure cargo hatches are closed.							
24	Appx K	Inventory and position the following safety equipment:							
		(a) Tow ropes							
		(b) Boat hooks							

Item	Reference Paragraph	Task	Serviceable	Unserviceable	Missing	On Service Request	Remarks	Not Mission Capable if:	Exception to Non-Use
		(c) November flag							
		(d) Pyrotechnics							
		(e) Axe							
		(f) Searchlight (Check operation at both driver station and turret.)							
25	2-4ap	When tow ropes are positioned, check sea tow quick-release for proper operation.						Sea tow quick-release fails to operate properly.	Land / Gunnery Only
26	Appx K	Ensure all crew members and embarked personnel are issued serviceable life preservers.							
27	Appx K	Give pre-water operations safety brief (para. 4-13).							
28	Appx K	Brief the Troop Commander of hatch operations, and of duties for opening and securing of troop commander's and driver's hatch.							
29	Appx M	Complete and submit personnel manifest.							
30	4-14	Time permitting, practice vehicle waterborne evacuation.							
Supervised by:		***(Rank, Last, First, MI)***							**Date Verified:**
Print:									
Signature:									

Personnel Manifest

DATE:_____ VEHICLE SER #:_____

Name	Rank	EDIPI or ZAPP

ASSAULT AMPHIBIOUS VEHICLE (AAV7A1) During Water Operation Checklist	
MODEL (CIRCLE ONE)	REFERENCES
AAVP7A1 RAM/RS AAVC7A1 RAM/RS (Also perform tasks listed in TM 07268C-10/1) AAVR7A1 RAM/RS (Also perform tasks listed in TM 07267C-10/1)	
UNIT:	MILES: (SPEEDOMETER) (LOGBOOK)
TAC NO. USMC NO.	HOURS: (TACHOMETER)
CREW CHIEF (PRINT: RANK, NAME)	DATE:
DRIVER (PRINT: RANK, NAME)	CREWMAN (PRINT: RANK, NAME)
OTHERS (PRINT: RANK, NAME, BILLET)	OTHERS (PRINT: RANK, NAME, BILLET)
OTHERS (PRINT: RANK, NAME, BILLET)	OTHERS (PRINT: RANK, NAME, BILLET)

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Item	Reference Paragraph	Task	Serviceable	Unserviceable	Missing	On Service Request	Remarks	Not Mission Capable if:	Exception to Non-Use
1		During water operations, check the following area for water ingress:							
		(a) Ramp Seal						Any water leak below the waterline.	Land / Gunnery Only
		(b) Ramp Personnel Hatch Seal						Any water leak below the waterline.	Land / Gunnery Only

Item	Reference Paragraph	Task	Serviceable	Unserviceable	Missing	On Service Request	Remarks	Not Mission Capable if:	Exception to Non-Use
		(c) Midship Bearing Seals (check for excessive water on sponson below midship bearing seal locations.)						Any water leak below the waterline.	Land / Gunnery Only
Supervised by:		***(Rank, Last, First, MI)***							**Date Verified:**
Print:									
Signature:									

ASSAULT AMPHIBIOUS VEHICLE (AAV7A1) At-Halt Operation Checklist	
MODEL (CIRCLE ONE)	REFERENCES
AAVP7A1 RAM/RS AAVC7A1 RAM/RS (Also perform tasks listed in TM 07268C-10/1) AAVR7A1 RAM/RS (Also perform tasks listed in TM 07267C-10/1)	
UNIT:	MILES: (SPEEDOMETER) (LOGBOOK)
TAC NO. USMC NO.	HOURS: (TACHOMETER)
CREW CHIEF (PRINT: RANK, NAME)	DATE:
DRIVER (PRINT: RANK, NAME)	CREWMAN (PRINT: RANK, NAME)
OTHERS (PRINT: RANK, NAME, BILLET)	OTHERS (PRINT: RANK, NAME, BILLET)
OTHERS (PRINT: RANK, NAME, BILLET)	OTHERS (PRINT: RANK, NAME, BILLET)

NOTE

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Item	Reference Paragraph	Task	Serviceable	Unserviceable	Missing	On Service Request	Remarks	Not Mission Capable if:	Exception to Non-Use
1		Check all the following fluid levels and conditions:							
		(a) Engine oil						Contaminated.	None
	2-6i	(b) Transmission oil						Contaminated.	None
	2-5a	(c) Final drive oil						Contaminated.	None
	2-5f	(d) Right angle drive oil						Contaminated.	Land / Gunnery Only
	2-6g	(e) Hydraulic reservoir fluid						Contaminated.	None

Item	Reference Paragraph	Task	Serviceable	Unserviceable	Missing	On Service Request	Remarks	Not Mission Capable if:	Exception to Non-Use
	2-4h	(f) Road wheel, idler wheel, and support roller sight						Class III leak.	None
2		Check for leaks of fuel, oil, coolant or hydraulic fluid.						Any fuel or coolant leak. Any oil or hydraulic fluid leak that results in drops falling from the component. (Class III).	None
3	2-5c 2-7t 2-7u	Check the drive belts of the coolant fan, coolant pump and generator for frays, excessive wear, and correct tightness.						Any belt is broken or clearly worn. Proper tension cannot be maintained.	None
4		Check the suspension for debris and damage.						Any damage that exceeds the criteria in para. 3-7.	None
5	2-4z	Check that the forward hull plugs are installed and there is no evidence of leakage.						Hull plugs cannot be installed or evidence of leakage past installed hull plugs.	None
6	2-4i	Check the final drives, wheel bearing hubs, single and dual roller assemblies immediately after stopping.						Any hardware that cannot be tightened (e.g. stripped) or any damage that exceeds the criteria in para. 3-7.	None
7	2-4l	Check the shock absorbers immediately after stopping.						Excessive heat, notify maintenance.	None

Item	Reference Paragraph	Task	Serviceable	Unserviceable	Missing	On Service Request	Remarks	Not Mission Capable if:	Exception to Non-Use
8	3-7d	Check for proper track tension 1/4 in. to 1/2 in. above rear support roller.						Proper track tension cannot be achieved or maintained.	None
Supervised by:		***(Rank, Last, First, MI)***							**Date Verified:**
Print:									
Signature:									

ASSAULT AMPHIBIOUS VEHICLE (AAV7A1) After Operation Checklist	
MODEL (CIRCLE ONE)	REFERENCES
AAVP7A1 RAM/RS AAVC7A1 RAM/RS (Also perform tasks listed in TM 07268C-10/1) AAVR7A1 RAM/RS (Also perform tasks listed in TM 07267C-10/1)	
UNIT:	MILES: (SPEEDOMETER) (LOGBOOK)
TAC NO. USMC NO.	HOURS: (TACHOMETER)
CREW CHIEF (PRINT: RANK, NAME)	DATE:
DRIVER (PRINT: RANK, NAME)	CREWMAN (PRINT: RANK, NAME)
OTHERS (PRINT: RANK, NAME, BILLET)	OTHERS (PRINT: RANK, NAME, BILLET)
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Item	Reference Paragraph	Task	Serviceable	Unserviceable	Missing	On Service Request	Remarks	Not Mission Capable if:	Exception to Non-Use
		General Notes.							
1		**NOTE** During the after-operation check, as you walk around the vehicle, check for obvious damage to the hull and hull-bolted items, mounting hardware and excessive damage to the paint.						Any damage that exceeds the criteria in para. 3-7.	None

Item	Reference Paragraph	Task	Serviceable	Unserviceable	Missing	On Service Request	Remarks	Not Mission Capable if:	Exception to Non-Use
2	Appx O	Run the engine three to five minutes at 1000 to 1200 rpm to allow the engine to cool down before stopping it. Check for evidence of exhaust leaks in the engine compartment before shutting down.						Exhaust leak in engine compartment.	None
3	Appx O	Check all instrument and gauge readings before stopping the engine.						Any one or more indicators on the DDM or auxiliary pressure gauges are inoperative.	None
		Exterior Checks (starting on the port side aft).							
4	3-7d	Check for proper track tension 1/4 in. to 1/2 in. above rear support roller.						Proper track tension cannot be achieved or maintained.	None
5	Appx O	Check the road wheel, idler wheel hubs, final driver housing, single rollers and dual rollers for proper temperature.						Any evidence (e.g.: abnormal heat) that the bearing is failing.	None
6	Appx O	Check the suspension for damage and debris.						Any damage that exceeds the criteria in para. 3-7.	None
7	Appx O	Check the shock absorbers for the proper temperature and worn bearings.							

Item	Reference Paragraph	Task	Serviceable	Unserviceable	Missing	On Service Request	Remarks	Not Mission Capable if:	Exception to Non-Use
8	2-4m(1)	Visually inspect the road arms for leaking/protruding seals, or road arms out of alignment relative to the hull and with other road arms. Look for failed or failing bearing indicators which can be identified by canted road arms.						Any damage that exceeds the criteria in para. 2-4.	None
	2-4m(2)	(a) Use tanker bar and pry road wheel up from the track. Watch and feel for movement in the road arm that indicates free play in the road arm bearing assembly.						Any free play movement in road arm bearing assembly.	None
	2-4m(3)	(b) Check for failed or free play in the road wheel bearings. Put the tanker bar between the double road wheels and try to move the road wheels on the spindle. Movement should not be seen.						Any movement of road wheels on spindle.	None
9	2-4n(1)	Try to lift each road wheel by placing the tank bar under the front edge of the wheel and lifting up. If the road wheel comes up easily, a torsion bar may be broken.						Any one torsion bar broken.	None
10	2-4o 2-4p	Check the general condition of the track, including uneven wear, broken or worn center guides, and missing or worn pads.						Any damage that exceeds the criteria in para. 3-7.	None
11	Appx O	Road wheels, idler wheels, and support rollers sight glass oil.						Any Class III leak.	None

Item	Reference Paragraph	Task	Serviceable	Unserviceable	Missing	On Service Request	Remarks	Not Mission Capable if:	Exception to Non-Use
12	2-4f(1)	Inspect final drives, sprocket carriers and sprockets for obvious signs of damage, loose hardware and wear.						Any hardware that cannot be tightened (e.g. stripped) or any damage that exceeds the criteria in para. 3-7.	None
		Starboard side.							
13	2-4f(1)	Inspect final drives, sprocket carriers and sprockets for obvious signs of damage, loose hardware and wear.						Any hardware that cannot be tightened (e.g. stripped) or any damage that exceeds the criteria in para. 3-7.	None
14	Appx O	Road wheels, idler wheels, and support rollers sight glass oil.						Any Class III leak.	None
15	2-4o 2-4p	Check the general condition of the track, including uneven wear, broken or worn center guides, and missing or worn pads.						Any damage that exceeds the criteria in para. 3-7.	None
16	2-4n(1)	Try to lift each road wheel by placing the tank bar under the front edge of the wheel and lifting up. If the road wheel comes up easily, a torsion bar may be broken.						Any one torsion bar broken.	None
17	2-4m(1)	Visually inspect the road arms for leaking/protruding seals, or road arms out of alignment relative to the hull and with other road arms.						Any damage that exceeds the criteria in para. 2-4.	None

Item	Reference Paragraph	Task	Serviceable	Unserviceable	Missing	On Service Request	Remarks	Not Mission Capable if:	Exception to Non-Use
	2-4m(2)	(a) Use tanker bar and pry road wheel up from the track. Watch & feel for movement in the road arm that indicates free play in the road arm bearing assembly.						Any free play movement in road arm bearing assembly.	None
	2-4m(3)	(b) Check for failed or free play in the road wheel bearings. Put the tanker bar between the double road wheels and try to move the road wheels on the spindle. Movement should not be seen.						Any movement of road wheels on spindle.	None
18	Appx O	Check the shock absorbers for the proper temperature and worn bearings.							None
19	Appx O	Check the suspension for damage and debris.						Any damage that exceeds the criteria in para. 3-7.	None
20	Appx O	Check the road wheel, idler wheel hubs, final driver housing, single rollers and dual rollers for the proper temperature.						Any evidence (e.g.: abnormal heat) that the bearing is failing.	None
21	3-7d	Check for proper track tension 1/4 in. to 1/2 in. above rear support roller.						Proper track tension cannot be achieved or maintained.	None
		Interior.							
22	Appx O	Check the air cleaner restriction indicator.							
23	Appx O	Check the following fluid levels and check each component for serviceability, visible damage and lock wire where applicable.						Class III leak. Any visible damage, broken or missing lock wire.	None

Item	Reference Paragraph	Task	Serviceable	Unserviceable	Missing	On Service Request	Remarks	Not Mission Capable if:	Exception to Non-Use
		(a) Port Right angle drive oil						Contaminated	Land/Gunnery Only
		(b) Port Final drive oil						Contaminated	None
		(c) Hydraulic reservoir						Contaminated	None
		(d) Transmission oil						Contaminated	None
		(e) Engine oil						Contaminated	None
24	Appx O	Check the coolant pump and generator drive belts.						Any belt is broken or clearly worn. Proper tension cannot be maintained.	None
25	Appx O	Check for oil, fuel, coolant, oil, hydraulic fluid and exhaust leaks.							None
		Emergency Egress Lighting System (EELS).							
26	3-22i	At the Control Panel, gently pull on the ENABLE/DISABLE Switch and move it down to the DISABLE position. **NOTE** For automatic activation to occur during a mission, the EELS must be set to ENABLE.						Unable to move ENABLE/DISABLE switch to either position. Report to Maintenance.	
		Topside.							
27	Appx O	Check all hatches for proper operation, and all seals for serviceability and obvious signs of damage.						Any hatch that cannot be secured in the closed position.	Land/Gunnery Only
28	2-4ag	Check exhaust outlet for damage.							
		Engine compartment.							

Item	Reference Paragraph	Task	Serviceable	Unserviceable	Missing	On Service Request	Remarks	Not Mission Capable if:	Exception to Non-Use
29		Check transmission mounts for signs of damage, loose hardware, or cracks.						Any visible signs of cracks or damage that prevents the mount from retaining the transmission in its proper position.	None
30	2-5a	In the engine compartment, check both final drives for signs of damage, loose hardware, broken lock wire and leaks.						Any visible signs of damage, loose hardware or broken or missing lock wire. Class III leaks.	None
31	2-5b	Check the pre-cleaner for cleanliness and signs of damage.							
32	2-5d	Check that the coolant fan drive shaft is serviceable and does not have visible damage.						Any visible signs of damage, loose hardware, broken or missing lock wire. Class III leaks.	None
33	2-5c	Check the coolant fan drive belts.						Belt is broken or clearly worn. Proper tension cannot be maintained.	None
34		Check the following fluid levels and check each component for serviceability, visible damage and lock wire, where applicable:						Class III leak. Any visible damage, broken or missing lock wire.	None
	2-5f	(a) Starboard right angle drive oil						Contaminated	Land/Gun-nery Only
	2-5a	(b) Starboard final drive oil						Contaminated	None

Item	Reference Paragraph	Task	Serviceable	Unserviceable	Missing	On Service Request	Remarks	Not Mission Capable if:	Exception to Non-Use
		Clean and store.							
35		Clean the track and suspension system using a high-pressure hose, if available.							
36		Clean the outside of the vehicle thoroughly with fresh water. Remove salt deposits, dirt and grime.							
37	3-13d	Clean the intake and exhaust plenums with fresh water.							
38	3-13	Carefully clean the engine and troop compartments with low-pressure fresh water (water pressure under 50 psi). Be careful not to let water into the air cleaner element, right angle drives, communications equipment or the indicator panel.							
39		Inspect and clean all communications equipment.							
40		Stow all gear properly.							
41		If the vehicle is being secured for the day, turn off the manual fuel shutoff valve at the driver's station.							
Supervised by:		***(Rank, Last, First, MI)***							**Date Verified:**
Print:									
Signature:									

ASSAULT AMPHIBIOUS VEHICLE (AAV7A1) UGWS Pre-Operation Checklist	
MODEL	REFERENCES
AAVP7A1 RAM/RS	
UNIT:	MILES: (SPEEDOMETER) (LOGBOOK)
TAC NO. USMC NO.	HOURS: (TACHOMETER)
CREW CHIEF (PRINT: RANK, NAME)	DATE:
DRIVER (PRINT: RANK, NAME)	CREWMAN (PRINT: RANK, NAME)
OTHERS (PRINT: RANK, NAME, BILLET)	OTHERS (PRINT: RANK, NAME, BILLET)
OTHERS (PRINT: RANK, NAME, BILLET)	OTHERS (PRINT: RANK, NAME, BILLET)

NOTE

The following inspection sheet is divided into ten columns. The inspector will place a check in the column which best describes the condition of the item inspected. For those items that cannot be inspected for any reason, the inspector will make an appropriate annotation in the Remarks column.

Item	Reference Paragraph	Task	Serviceable	Unserviceable	Missing	On Service Request	Remarks	Not Mission Capable if:	Exception to Non-Use
1	7-5a	Ensure weapons station exterior is free from debris and obstructions.							
2	7-5b	Ensure protective covers are in place (or removed if weapons are to be fired).							
3	7-5d	Ensure vision blocks are clean and serviceable.						More than 50% vision obscured.	None
4	7-5e	Ensure gunner's hatch will open and lock in all positions, and can be secured in the closed position.						Hatch will not lock at the 0˚, 90˚ or 180˚ positions.	None

Item	Reference Paragraph	Task	Serviceable	Unserviceable	Missing	On Service Request	Remarks	Not Mission Capable if:	Exception to Non-Use
5		Ensure mantlets are free of obstructions and are operational.						Weapons mantlets exceeds -8˚ depressed.	Land/Water Operations Only
6	7-5h	Ensure smoke grenade launchers are clean and covers are in place.							
7	7-6e(4)	Ensure smoked grenade inhibit switch is operational (only when going to fire on range).						Smoke grenade inhibit switch is not operational.	Land, Water and Gunnery without smoke grenades
8	7-6a 7-6b	Ensure weapons station basket and slip ring area are free from obstructions, cables are tight on the slip ring, and inhibit fork is not loose or damaged.						Any obstructions preventing 360˚ traverse left or right.	None
9	7-6c	Ensure .50 cal spent round box and ejection chute are in place, and all hardware is tight and serviceable.						.50 Cal spent round box missing or unserviceable.	Land/Water Operations Only
10	7-6d	Ensure gunner's seat operates properly and seat belt will not interfere with UGWS basket when traversing.						Gunner's seat does not operate properly.	Land/Water Operations Only
11	7-6e	Check control panels for power, serviceable bulbs, and proper operation.						Firing relay switch illuminates when the arming switch is in Neutral position.	Land/Water Operations Only
12	7-6f	Ensure elevation control assembly is operational.						Weapon will not elevate to +45˚ or depress to -8˚.	Land/Water Operations Only

Item	Reference Paragraph	Task	Serviceable	Unserviceable	Missing	On Service Request	Remarks	Not Mission Capable if:	Exception to Non-Use
13	7-6u	Ensure weapon will not electrically fire when it reaches an inhibit zone while traversing (only when going to fire on the range).						Weapon can electrically fire when in an inhibit zone.	Land/Water Operations Only
14	7-6g	Check that oil in power-assist traverse mechanism reads center of sight glass.						No oil indication in the power-assist traverse mechanism sight glass.	Land/Water Operations Only
15	7-6g	Ensure power-assist traverse mechanism operates in both power assist and manual modes.						Turret will not manually traverse 360˚ left or right, or turret free spins.	None
16	7-3	Check that azimuth indicator is serviceable (only when going to fire on the range).						Azimuth indicator unserviceable.	Land/Water Operations Only
17	7-6h	Inspect ring gear for damage and obstruction.						Turret will not manually traverse 360˚ left or right or turret free spins.	None
18	7-6i	Operate 40mm charger handle to ensure proper operation.						40mm charger handle inoperable.	Land/Water Operations Only
19	7-6j	Check 40mm ammo box for cleanliness, damage and serviceability. Ensure last round stop switch is operational.						Fails to feed 40mm ammunition correctly. Last round switch inoperative.	Land/Water Operations Only
20	7-6k 7-9	Check weapons cradle(s) for serviceability.						Weapon cradle(s) unserviceable.	Land/Water Operations Only
21	7-6l	Inspect all weapons mounting pin(s) for serviceability.						Mounting pin(s) unserviceable.	Land/Water Operations Only

Item	Reference Paragraph	Task	Serviceable	Unserviceable	Missing	On Service Request	Remarks	Not Mission Capable if:	Exception to Non-Use
22	7-6m	Check .50 caliber ammo feed system for serviceability and operation.						Feed system unserviceable.	Land/Water Operations Only
23	7-6k	Check .50 caliber cradle charger to ensure proper operation.						.50 Cal cradle charger unserviceable.	Land/Water Operations Only
24	7-6n	Check range indicator and pointer for cleanliness and serviceability.						Range indicator or pointer unserviceable.	Land/Water Operations Only
25	7-6o	Check sight for cleanliness and serviceability. Ensure power is supplied to the reticle.						Sight inoperable.	Land Only
26	7-6q	Check exhaust blower outlet door for proper operation and serviceability.						Outlet door inoperative.	Land/Water Operations Only
27	7-12c(4)	Check exhaust blower for proper operation and serviceability.						Exhaust blower is inoperative.	Land/Water Operations Only
28	7-6r	Check communications box for cleanliness and proper operation.						No intercom between the driver and vehicle.	None
29	Chapter 9 Section I	If weapons are installed, check for proper installation and ensure they are bore-sighted.						Weapon sights are inoperable. Weapons cannot maintain proper bore sight.	Land/Water Operations Only
30	7-6s	Check dome light for proper operation and serviceability.							
31	7-6t	Check utility light for proper operation.							
32	7-12g	If night operation is anticipated, install spotlight and ensure proper operation.							

Item	Reference Paragraph	Task	Serviceable	Unserviceable	Missing	On Service Request	Remarks	Not Mission Capable if:	Exception to Non-Use
33	7-6v	If installed, check DAGR for cleanliness and serviceability. Ensure DAGR is receiving power and perform self-test.							
34		Ensure Limited Technical Inspection (LTI) and Pre-Fire Inspection (PFI) of weapons are completed.						Weapon(s) are unserviceable.	Land and Water Operations
Supervised by:		***(Rank, Last, First, MI)***							**Date Verified:**
Print:									
Signature:									

ASSAULT AMPHIBIOUS VEHICLE (AAV7A1) UGWS After Operation Checklist	
MODEL	REFERENCES
AAVP7A1 RAM/RS	
UNIT:	MILES: (SPEEDOMETER) (LOGBOOK)
TAC NO. USMC NO.	HOURS: (TACHOMETER)
CREW CHIEF (PRINT: RANK, NAME)	DATE:
DRIVER (PRINT: RANK, NAME)	CREWMAN (PRINT: RANK, NAME)
OTHERS (PRINT: RANK, NAME, BILLET)	OTHERS (PRINT: RANK, NAME, BILLET)
OTHERS (PRINT: RANK, NAME, BILLET)	OTHERS (PRINT: RANK, NAME, BILLET)

NOTE

The following inspection sheet is divided into ten columns. The inspector will place a check in the column which best describes the condition of the item inspected. For those items that cannot be inspected for any reason, the inspector will make an appropriate annotation in the Remarks column.

Item	Reference Paragraph	Task	Serviceable	Unserviceable	Missing	On Service Request	Remarks	Not Mission Capable if:	Exception to Non-Use
1	7-5a	Ensure weapons station exterior is free from debris and obstructions.							
2	7-5b	Ensure protective covers are in place (or removed if the weapons are to be fired).							
3	7-5d	Ensure vision blocks are clean and serviceable.						More than 50% vision obscured.	None
4		Ensure mantlets are free of obstructions and are operational.							

Item	Reference Paragraph	Task	Serviceable	Unserviceable	Missing	On Service Request	Remarks	Not Mission Capable if:	Exception to Non-Use
5	7-5h	Ensure smoke grenade launchers are clean and covers are in place.							
6	8-2	Lubricate smoke grenade launchers per lubrication chart in Chapter 8.							
7	Appx U	Ensure weapons station basket and slip ring area are free from obstructions, and cables are tight on the slip ring.							
8	7-6d	Ensure gunner's seat operates properly and seat belt will not interfere with UGWS when traversing.						Gunner's seat does not operate properly.	Land/Water Operations Only
9	7-6g	Check that oil in power-assist traverse mechanism sight glass is half full.							
10	7-6h	Inspect ring gear for damage and obstruction.						Turret will not manually traverse 360º.	Land/Water Operations Only
11	7-6o	Check sight for cleanliness and serviceability. Ensure power is supplied to reticle.						Sight inoperable.	Land/Water Operations Only
12	7-6r	Check communications box for cleanliness and proper operation.						No intercom between driver and vehicle commander.	None
13	7-5c	Wash weapons station exterior with fresh water. Using low pressure, spray ring gear with fresh water while manually traversing two rotations in both directions.							

Item	Reference Paragraph	Task	Serviceable	Unserviceable	Missing	On Service Request	Remarks	Not Mission Capable if:	Exception to Non-Use
14	8-2	(If applicable) Lubricate azimuth bearing per lubrication chart in Chapter 8.							
Supervised by:		***(Rank, Last, First, MI)***							**Date Verified:**
Print:									
Signature:									

Appendix F

EXERCISE CHECKLIST

OPERATION/EXERCISE:							
OP/EX DATE (S):				EST. DEPARTURE			
UNIT SUPPORTING:							
TRAINING AREAS TO BE USED							
OIC:			RSO:				
PERSONNEL							
MO		ME		NO		ATTACHMENTS	
EQUIPMENT							
P7		C7		R7		MK-154	
HMMWV		MK-23		WB		M804	
M805							
PERSONNEL TOTAL:				EQUIPMENT TOTAL:			
MISSION							
COMMANDERS INTENT							
METHOD:							
PURPOSE:							
ENDSTATE:							
CONCEPT OF OPERATIONS							
PHASE I:							
PHASE II:							
PHASE III:							
PHASE IV:							
PHASE V:							
SPECIAL INSTRUCTIONS							

AMMUNITION AND WEAPONS			
WPN SYSTEM	DODIC	DESCRIPTION	AMOUNT

COLLECTIVE TASKS TO BE ACCOMPLISHED			
CODE	DESCRIPTION	E-CODED	SUPPORTED MET (S)

APPENDIX F

EXERCISE CHECKLIST

OPERATION/MISSION:					
START DATE:		END DATE:			
REQUEST		SUBMITTED	CONFIRMED		PICK-UP
AMMUNITION:					
ARMORY:					
BILL OF MATERIALS (BoM):					
COMMUNICATION EQUIPMENT:					
CORPSMAN:					
HYGIENE (PORT-A-JOHNS):					
MOTORTRANSPORT:					
PYROTECHNICS:					
REFUEL:					
SUBSISTANCE (CHOW):					
SUPPORT PERSONNEL:					
TRAINING AREAS:					
ADMINISTRATIO					
ACTIVITY		INITATED/SCHEDULED	BRIEFED/PUBLISHED		
OPERATIONORDER					
CONFIRMATION BRIEF					
ORM WORKSHEET					
MISSION CARD					
GEARLIST					
ROSTERS					
EDL					
INTEL /WEATHER UPDATE					
LOGISTICS					
ITEM	QTY NEEDED	COMPLETE	ITEM	QTY NEEDED	COMPLETE
WATER			CHEMLIGHTS		
15/40WOIL			AA BATT		
HYDRO			HUB/3V BATT		
COOLANT			COMM HELMET		
GREASE			TRASH BAGS		
TOW BAR			R/C GEAR		
R/C GEAR					
PCC/PCI					
EVEN		DAT	GO / NO-GO		
MAINT RUN			GO / NO-GO		
LAND/WATERPRE-OP			GO / NO-GO		
WEAPONSLTI/PFI			GO / NO-GO		
COMM CHECKS			GO / NO-GO		
FUELTOPPED-OFF			GO / NO-GO		
REQUIRED NIGHTVISION DEVICES OPERATIONAL (NGV/DVE/TSS)			GO / NO-GO		
SUPPLIESON-HAND			GO / NO-GO		
CORPSMAN					
SAFETY DRIVER					
ARMOROR					
MECHS					
RADIOOPERATOR			COMM TECH		

Appendix G

PLATOON SERGEANT CHECKLIST

1. **Pre-Mission -**

   Read and Confirm order for the following elements-

   - ❑ Mission & Objectives.
   - ❑ Mission Duration.
   - ❑ Insertion/Extraction Timeline & Requirements. (Center Beach)
   - ❑ Logistical Requirements-
     - o Batteries (Comm./ NODS/ GPS/ PAQ-4, PEQ-4, Hand Lights)
     - o Ammo/break down and quantity
     - o Pyro
     - o Chemlites (Amphib)
     - o Chow
     - o Pre-op checklist
     - o POLs (15W/40, Hydro, Coolant, Grease, Transfer Pump)
     - o COMM (Radio Checks, 119'S, C-7 Gear, Remotes, Cables, CVC Helmet Parts)
     - o Night Vision Devises OP Checks/Requirements: (NVG/DVE/TSS)
     - o NBC Requirements: (suits, shots, filters)
   - ❑ Admin Requirements-
     - o All AAV licenses current
     - o Verify all 3rd crewman certs
     - o SVET training current
     - o Swim qualifications current
     - o Surf qualifications current
     - o Night optic training current
   - ❑ Ammo/break down and quantity
   - ❑ ROEs for Plt
   - ❑ Time Hack
   - ❑ Issue Section leaders Copy of EDL

2. **Planning/ Preparation -**

   - ❑ Assist in COA conception.
   - ❑ Make initial liaison for insertion and extraction.
   - ❑ Ensure teams have appropriate EAP/ E&R information.
   - ❑ Generate Timeline from plt drawing weapons and Logistics.
   - ❑ Coordinate Issue Point and Time.
   - ❑ Coordinate Rehearsal Area and Test Fire Area.
   - ❑ Insure Plt. comm makes liaison for CEOI, Battery Issue and Comm. Checks with higher and supported units, also check organic plt gear.
   - ❑ Ensure Platoon Sergeant's Vehicle is ready for use:
     - o Appropriate Situation Map
     - o Map Pens
     - o Tow Bar with pins
     - o Message Books
     - o Trash Bags
     - o CEOI

Appendix H

SURF OBSERVATION REPORT (SUROB) AND INSTRUCTIONS

1. Line Alpha. Line Alpha is the significant breaker height, or the average height of the highest one-third of all the waves observed during the report. Only the thirty-three (33) highest waves will be used to determine the significant breaker height. The significant wave height is recordedto the nearest one-half foot.

2. Line Bravo. The maximum breaker height, or highestrecorded breaker, recorded to the nearest one-halffoot.

3. Line Charlie. The breaker period, or average time intervalin seconds between breakers observed in Line Alpha. Done by recording time began, to the last breaker counted, and dividing by one-hundred (100), or number of breakers recorded.

4. Line Delta. The percentage of various breaker types. Recorded using the worksheet circling "S" for spilling, "P" for plunging, or "X" for surging, the divided by one-hundred (100) to determine percentage for each.

a. Spilling Breakers. Characterized by the top portion of the breaker becoming unstable at various points and forming foam, which then spills and expands down the front of the breaker in a mild action.

b. Plunging Breakers. Characterized by the top portion ofthe breaker becoming unstable along the entire frontage very quickly, crashing over itself with a violent release ofenergy.

c. Surging Breakers. Characterized by appearing as acombination of spilling and plunging breakers. Initially the breaker takes on the characteristics of a plunging breaker, and suddenly changes to appear as a spilling breaker. These occur mostly on steepgradients.

5. Line Echo. The breaker angle or the orientation of the breaker frontage in relation to shore. Done by calculating the acute angle formedbetween the breaker lines and the shoreline, and expressed in five (5) degree increments towards either right (R) or left (L) flank as the observer faces towards land from the seaward.

6. Line Foxtrot. The littoral current, or speed in knots ofthe water flowing parallel to the shore just inside the main line of breakers. Calculated by throwing an object into the surf zone as far as possible and observing the distance (in feet) to which the object travels for one (1) minute. The number of feet travelled is then divided one-hundred (100) to determine speed in knots. Recorded to the nearest tenth of aknot and towards which flank (R or L) the object travelled.

7. Line Golf. Concerns two pieces of information; the Depth of the Surf Zone, and Lines of Breakerspresent therein. The lines of breakers are determined by counting the number of well-defined breaker lines. Depth (distance) is conducted by estimating the distance from the outermost breaker line to the furthest limit of the up-rush of water on shore.

8. Line Hotel. Covers several miscellaneous items of information,to be passed in plain text:

SURF OBSERVATION REPORT (SUROB) FORMAT

NAME & RANK OF OBSERVER: _____ **DATE:** _____ **TIME:** _____ **BEACH:** _____ **UNIT:** _____

NOTE: BEFORE YOU START RECORDING WAVES YOU MUST REFER TO THE SUROB WORKSHEET PROVIDED. BEGIN BY STARTING YOUR STOPWATCH. WHILE OBSERVING EACH OF THE 100 WAVES, MAKE NOTE OF THE TYPE (P=PLUNGING, S=SPILLING OR X=SURGING) OF WAVES AND RECORD IT AS APPROPRIATE. ONCE THE 100TH WAVE IS OBSERVED, STOP THE STOPWATCH

LINE	INFORMATION	SUROB DATA	MSI	NOTES:
A	**SIGNIFICANT BREAKER HEIGHT IN FEET.**	_____FEET=	_____	OBSERVE 100 WAVES ONLY THE HIGHEST 33 WAVES WILL BE ADDED TOGETHER AND THEN DIVIDED BY 33 FOR THE SIGNIFICANT BREAKER HEIGHT THE MSI FACTOR WILL ALWAYS BE THE SAME AS THE BREAKER HEIGHT WITH A DECIMAL POINT ADDED EXAMPLE: 3 FEET = 3 0 MSI
B	**MAXIMUM BREAKER HEIGHT IN FEET.**	FEET	**N/A**	THIS IS THE SINGLE HIGHEST WAVE OBSERVED DURING THE 100 WAVE COUNT MSI IS NOT COMPUTED IN THIS LINE
C	**BREAKER PERIOD IN SECONDS.**	_____SEC	_____	THIS IS COMPUTED BY TAKING THE TOTAL TIME IN SECONDS THAT WAS RECORDED BY YOUR STOPWATCH AND DIVIDING IT BY 100 WAVES EXAMPLE: 22 MIN = 1320 SECONDS AND 1320 SECONDS DIVIDED BY 100 WAVES = 13 2 SECONDS USE THE CHART BELOW TO FIND THE MSI FACTOR

BREAKER PERIOD MODIFICATION TABLE

BREAKER PERIOD IN SECONDS	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
17	0.0	-0.1	-0.2	-0.3	-0.4	-0.5	-0.6	-0.8	-1.0
16	0.0	-0.1	-0.1	-0.2	-0.2	-0.3	-0.4	-0.5	-0.8
15	0.0	0.0	-0.1	-0.1	-0.1	-0.2	-0.2	-0.3	-0.3
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.3
12	0.0	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.7
11	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.8	1.0
10	0.1	0.1	0.2	0.3	0.5	0.7	0.9	1.1	1.3
9	0.1	0.1	0.3	0.3	0.6	0.8	1.1	1.3	1.7
8	0.1	0.2	0.3	0.3	0.7	1.0	1.3	1.6	2.0
SIGNIFICANT BREAKER HEIGHT IN FEET									

LINE	INFORMATION	SUROB DATA	MSI	NOTES:
D	**BREAKER TYPES:** PLUNGING, SPILLING OR SURGING	_____%PLUNGING _____% SPILLING _____% SURGING	_____	AS EACH WAVE IS OBSERVED IT IS RECORDED ON THE SUROB WORKSHEET P=PLUNGING S=SPILLING X=SURGING DIVIDE THE NUMBER OF EACH BREAKER TYPE BY 100 THIS WILL GIVE YOU PERCENTAGE OF EACH BREAKER TYPE REFER TO THE CHART BELOW TO GET THE MSI VALUE THERE IS NO MSI TABLE FOR PLUNGING WAVES **YOU WILL ONLY RECORD THE LOWEST MSI VALUE FROM EITHER SPILLING OR SURGING.**

SPILLING BREAKER MODIFICATION TABLE

PERCENT SPILLING BREAKERS	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
100	-0.1	-0.2	-0.5	-0.8	-1.3	-1.8	-2.5	-3.2	-4.1	-5.0
90	0.0	-0.2	-0.4	-0.7	-1.1	-1.6	-2.2	-2.9	-3.6	-4.5
80	0.0	-0.2	-0.4	-0.6	-1.0	-1.4	-2.0	-2.6	-3.2	-4.0
70	0.0	-0.1	-0.3	-0.6	-0.9	-1.3	-1.7	-2.2	-2.8	-3.5
60	0.0	-0.1	-0.2	-0.5	-0.8	-1.1	-1.5	-1.9	-2.4	-3.0
50	0.0	-0.1	-0.2	-0.4	-0.6	-0.9	-1.2	-1.6	-2.0	-2.5
40	0.0	-0.1	-0.2	-0.3	-0.5	-0.7	-1.0	-1.3	-1.6	-2.0
30	0.0	-0.1	-0.1	-0.2	-0.4	-0.5	-0.7	-1.0	-1.2	-1.5
20	0.0	0.0	-0.1	-0.2	-0.3	-0.4	-0.5	-0.6	-0.8	-1.0
10	0.0	0.0	0.0	-0.1	-0.1	-0.2	-0.2	-0.3	-0.4	-0.5
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SIGNIFICANT BREAKER HEIGHT IN FEET										

SURGING BREAKER MODIFICATION TABLE

PERCENT SURGING BREAKERS	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
100	0.1	0.2	0.5	0.8	1.3	1.8	2.5	3.2	4.1	5.0
90	0.0	0.2	0.4	0.8	1.2	1.7	2.3	3.0	3.8	4.7
80	0.0	0.2	0.4	0.7	1.1	1.6	2.2	2.9	3.6	4.5
70	0.0	0.2	0.4	0.6	1.0	1.5	2.0	2.7	3.4	4.2
60	0.0	0.2	0.3	0.6	1.0	1.4	1.9	2.5	3.1	3.9
50	0.0	0.1	0.3	0.6	0.9	1.3	1.7	2.3	2.9	3.5
40	0.0	0.1	0.3	0.5	0.8	1.1	1.5	2.0	2.6	3.2
30	0.0	0.1	0.2	0.4	0.7	1.0	1.3	1.8	2.2	2.7
20	0.0	0.1	0.2	0.4	0.6	0.8	1.1	1.4	1.8	2.2
10	0.0	0.1	0.1	0.3	0.4	0.6	0.7	1.0	1.3	1.6
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SIGNIFICANT BREAKER HEIGHT IN FEET										

Enclosure (2)

LINE	INFORMATION	SUROB DATA	MSI	NOTES:
E	**BREAKER ANGLE**: IN DEGREES TOWARD THE RIGHT OR LEFT FLANK.	____° RIGHT/LEFT FLANK	____.	THIS IS THE ANGLE WAVES BREAK ON THE SHORE AND IT IS MEASURED IN DEGREES IN MOST CASES IT WILL NOT EXCEED 5 DEGREES USE THE MODIFICATION TABLE BELOW FOR THE MSI FACTOR RIGHT OF LEFT FLANK IS DETERMINED AS IF YOU WERE LANDING ON THE BEACH

WAVE ANGLE MODIFICATION TABLE

WAVE ANGLE IN DEGREES										
40	0 1	0.3	0.7	1.3	2.0	2.9	3.9	5.1	6.5	8.0
35	0 1	0.3	0.6	1.1	1.8	2.5	3.4	4.5	5.7	7.0
30	0 1	0.2	0.5	1.0	1.5	2.2	2.9	3.8	4.9	6.0
25	0 1	0.2	0.5	0.8	1.3	1.8	2.5	3.2	4.1	5.0
20	0.0	0.2	0.4	0.6	1.0	1.4	2.0	2.6	3.2	4.0
15	0.0	0.1	0.3	0.5	0.8	1.1	1.5	1.9	2.4	3.0
10	0.0	0.1	0.2	0.3	0.5	0.7	1.0	1.3	1.6	2.0
5	0.0	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.8	1.0
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0 5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
	SIGNIFICANT BREAKER HEIGHT IN FEET									

LITTORAL CURRENT MODIFICATION TABLE

KNOTS	MSI MOD	KNOTS	MSI MOD	KNOTS	MSI MOD
0.0=	0.0	1.0=	3.0	2.0=	6.0
0.1=	0.3	1.1=	3.3	2.1=	6.3
0.2=	0.6	1.2=	3.6	2.2=	6.6
0.3=	0.9	1.3=	3.9	2.3=	6.9
0.4=	1.2	1.4=	4.2	2.4=	7.2
0.5=	1.5	1.5=	4.5	2.5=	7.5
0.6=	1.8	1.6=	4.8	2.6=	7.8
0.7=	2.1	1.7=	5.1	2.7=	8.1
0.8=	2.4	1.8=	5.4	2.8=	8.4
0.9=	2.7	1.9=	5.7	2.9=	8.7

F	**LITTORAL CURRENT**: IN KNOTS TOWARD THE RIGHT OR LEFT FLANK	____KNOTS RIGHT/LEFT FLANK	____	THROW A BUOYANT OBJECT INTO THE WATER AND BEGIN TIMING ONE MINUTE PACE OFF THE DISTANCE THE OBJECT TRAVELED IN FEET OVER THE PERIOD OF ONE MINUTE NOW DIVIDE THE DISTANCE THE OBJECT TRAVELED BY 100 EXAMPLE: 80 FEET TRAVELED = 0 8 KNOTS USE TABLE ABOVE FOR MSI FACTOR
G	**SURF ZONE**: LINES OF BREAKERS & DEPTH OF SURF ZONE IN FEET	____LINES FEET	N/A	COUNT THE NUMBER OF SWELLS & BREAKERS WITHIN YOUR SPLASH AREA, THIS IS THE NUMBER FOR "LINES OF BREAKERS" DEPTH IS MEASURED FROM THE CLOSEST BREAKING WAVE TO THE FURTHEST APPROACHING SWELL & IS DONE SO IN FEET NO MSI FACTOR IS USED
H	**ADDITIONAL REMARKS**: WIND SPEED/DIRECTION: IN KNOTS/DEGREES TOWARDS THE RIGHT/LEFT FLANK WIND: ONSHORE OR OFFSHORE(CIRCLE ONE)	____KNOTS ____ RIGHT/LEFT FLANK	____	WIND SPEED IS MEASURED IN KNOTS USING THE RANGE FLAG METHOD WIND DIRECTION IS MEASURED IN DEGREES TOWARD THE RIGHT OR LEFT FLANK TO THE BEACH IF THE WIND IS BLOWING ONTO THE BEACH IT IS "ONSHORE" WIND IF THE WIND IS BLOWING ONTO THE OCEAN IT IS "OFFSHORE" WIND

WIND MODIFICATION TABLE

WIND SPEED IN KNOTS	ONSHORE WIND			OFFSHORE WIND		
36-40	2.0	3.0	4.0	1.5	2.0	4.0
31-35	1.5	2.0	3.0	1.0	1.5	3.0
26-30	1.0	1.5	2.0	0.5	1.0	2.0
21-25	0.5	1.0	1.5	0.0	0.5	1.5
16-20	0.0	0.5	1.0	0.0	0.0	1.0
11-15	0.0	0.0	0.5	0.0	0.0	1.0
6-10	0.0	0.0	0.5	0.0	0.0	0.5
0-5	0.0	0.0	0.0	0.0	0.0	0.0
	0-30	30-60	60-90	0-30	30-60	60-90
WIND ANGLE RELATIVE TO THE BEACH						

H (CONT)	SECONDARY WAVE HEIGHT: IN FEET	____FEET	____.	SECONDARY WAVE HEIGHT REFERS TO AN ADDITIONAL SURF ZONE BEYOND THE INITIAL SURF ZONE OR ONE APPROACHING A DIFFERENT ANGLE THIS WILL USUALLY OCCUR ONLY ON BEACHES WITH A REEF EXTENDING BEYOND THE INITIAL SURF ZONE AND IS RARELY ENCOUNTERED THE MSI IS CALCULATED THE SAME AS LINE "A"
	DEBRIS IN SURF ZONE: GENERAL DESCRIPTION OF OBJECTS.		N/A	GENERAL DESCRIPTION OF ANY OBJECTS IN THE SURF ZONE. EXAMPLE: LOGS, FISHING NETS
	SEE STATE: CALM / MODERATE /ROUGH (CIRCLE ONE)		N/A	

TIME BEGAN: MIN.SEC.										
	1	2	3	4	5	6	7	8	9	10
1	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X
2	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X
3	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X
4	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X
5	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X
6	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X
7	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X
8	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X
9	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X
10	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X	____ P S X
TIME ENDED: _____ MIN _____ SEC.										

TOTAL NUMBER OF PLUNGING=__ ÷ 100= %

TOTAL NUMBER OF SPILLING=___ ÷ 100= %

TOTAL NUMBER OF SURGING=___ ÷ 100= %

TOTAL TIME IN SECONDS TO OBSERVE 100 WAVES=_ ÷ 100 WAVES= BREAKER PERIOD

SIGNIFICANT BREAKER HEIGHT COMPUTATION (HIGHEST 33 WAVES OBSERVED)			
WAVE HEIGHT	X	OCCURRENCE	=PRODUCT
	X		
	X		
	X		
	X		
	X		
	X		
TOTAL PRODUCT ÷ 33 = SIGNIFICANT WAVE HEIGHT			

SUROB LINE	MSI FACTOR	INSTRUCTIONS
A		ADD SUROB LINES A, C, & D TOGETHER. NOW YOU WILL DETERMINE WHICH OF THE TWO LINES E OR F HAS **THE LARGER** MSI VALUE AND ADD IT. NOW FINALLY ADD LINES F AND H AND YOU WILL HAVE YOUR TOTAL MSI FACTOR. A+C+D+**E OR F**+H= MSI TOTAL
B	N/A	
C		
D		
E O R		
G	N/A	
H		
TOTAL		

SEA STATE	CONDITIONS
1	WIND SPEEDS BETWEEN 5 TO 9 MILES PER HOUR (5 TO 8 KNOTS). WAVE HEIGHTS CONSIDERED SMALL WAVELETS BETWEEN 0.5 AND 1 FEET (0.6093 TO 0.304 METERS. SMALL WAVELETS WITH GLASSY-APPEARING CRESTS AND NO BREAKING.
2	WIND SPEEDS BETWEEN 10 TO 11 MILES PER HOURS (9 TO 10 KNOTS). WAVE HEIGHTS CONSIDERED LARGE WAVELETS, BETWEEN 1.5 AND 2 FEET (0.456 TO 0.609 METERS). LARGE WAVELETS, CRESTS BEGIN TO BREAK AND WHITECAPS ARE SCATTERED
3	WIND SPEEDS BETWEEN 16 TO 17 MILES PER HOUR (14 TO 15 KNOTS). WAVE HEIGHTS CONSIDERED SMALL, BETWEEN 3.5 AND 4 FEET (1.06 TO 1.21 METERS). SMALL WAVES BECOMING LONGER AND WHITECAPS ARE NUMEROUS
4	WIND SPEEDS BETWEEN 19 TO 24 MILES PER HOUR (17 TO 21 KNOTS). WAVE HEIGHTS CONSIDERED MODERATE, BETWEEN 4 AND 7.5 FEET (1.24-2.5 METERS). MODERATE WAVES FORMING NUMEROUS WHITE CAPS AND SOME SPRAY
5	WIND SPEEDS BETWEEN 24 TO 28 MILES PER HOUR (21 TO 25 KNOTS). WAVE HEIGHTS CONSIDERED LARGE, BETWEEN 8 AND 12 FEET (2.43 TO 3.65 METERS). LARGE WAVES FORM AND WHITECAPS ARE COMMON, ALONG WITH MORE SPRAY.

Appendix I

MODIFIED SURF INDEX (MSI) INSTRUCTIONS

1. Modified Surf Index (MSI). The MSI is a single dimensionless number that provides a relative measure of the conditions likely to be encountered in the surf zone. It provides a guide for judging the feasibility of conducting landing operations for each type of landing craft. It is a guide, not definite go or no go criteria. When applied to a known or forecasted surf condition, the MSI calculation provides the commander with an objective method of arriving at a safe and reasonable decision with respect to committing landing craft and amphibious vehicles.

a. Line Alpha (Significant Breaker Height). Refers to Line A of the SUROB and determines the significant breaker height factor. This number is transferred directly over from the SUROB, and is not modified by any table. (A significant breaker height of 3.0 feet converts to a MSI factor of 3.0)

b. Line Charlie (Breaker Period). Refers to Line C of the SUROB. Determined by using the "Breaker Period Modification Table."

c. Line Delta (Breaker Types). Refers to Line D of the SUROB. Record the percentages of the types of breakers that occur rounded to the nearest tenth. There is no modification table for plunging breakers. Record the lower of the two numbers under the MSI factor column.

d. Line Echo (Breaker Angle). Refers to Line E of the SUROB, and determines the breaker angle or the angle of breaker makes with the shoreline. To calculate, transfer data from the SUROB, rounding to the nearest fifth, using the "Wave Angle Modification Table" to determine the MSI factor.

e. Line Foxtrot (Littoral Current). Refers to Line F of the SUROB. Littoral current is one of the most crucial factors in conducting the MSI, because it can severely elevate the overall MSI factor if inaccurate data is submitted. Determine MSI factor by converting data from "Littoral Current Modification Table."

f. Line Hotel (General Data). Refers to Line H of SUROB.

(1) Relative Wind. Transfer respective data from SUROB and use "Wind Modification Table" to determine MSI factor.

(2) Secondary Wave Height. If another series of breakers exists further out past the main series of breakers, then the maximum height for that system is recorded. The SUROB data is transferred directly to the MSI factor.

g. Total MSI. To get the total MSI factor add lines A through D, the highest of Line E or F, and Line H. The maximum safe MSI as per Reference G and M is 6.0.

2. Problems with MSI. Relatively minimal surf conditions can combine to make landing conditions unfeasible. It is important to remember that the MSI is a guide for judging the feasibility of landing operations. MSI tables often do not go high or low enough to calculate some wave conditions, additionally; tables were designed with conventional landing craft in mind. AAVs do not have the exact characteristics as conventional landing craft and often have traction well out in the surf zone. As such, AAVs are not as affected by littoral current and can often negotiate such conditions. Vehicle mechanical factors should be seriously considered, however, the final judgment should come from the AA Unit Commander with eyes on the actual surf conditions. In the absence of direct observation, all factors should be considered when planning a landing with a high MSI.

Appendix J

EMBARKED TROOP BRIEF

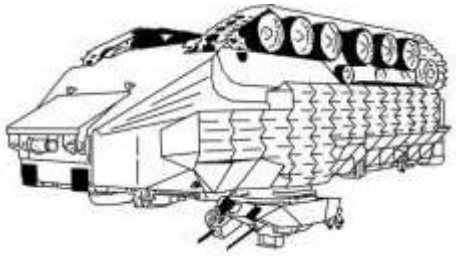
My name is (rank/name) and I am the vehicle commander of (AAV tac Number). I am in command of this vehicle at all times while it is afloat. The vehicle crew and I are here to assist you in the accomplishment of your mission. Soon, you will be welcomed aboard my Assault Amphibian Vehicle otherwise known as the AAV. You will find that it is very different from any other tactical vehicle you've been on.

Before we depart, however, I want to provide you with some critical information to help you understand what this experience involves. I also want to make sure we both understand the rules and the conditions under which I am agreeing to take you with me. For that reason, I am giving you this Embarked Troop Brief (ETB) Package to review and understand.

This ETB package talks about what you can expect when aboard my AAV, items I want to tell you for our safety, and the rules I expect you to follow when you are in the AAV with me. It also mentions some of the risks you may face. It also includes a "Fact Sheet" presenting information about the AAVs capabilities.

I ask you to read the ETB package carefully so that you are informed about the experience of riding on an AAV. I hope this material demonstrates my commitment to safety and fairness. Ultimately, it is your responsibility to read and understand the ETB package as it will explain everything to you. As I cover each item in the ETB, if for any reason you do not understand, feel free to ask me any questions.

> **Note 1**: Vehicle Commander will now cover the ETB package (line-by-line) with all embarked troops. Once complete and time permitting, embarked troops will conduct evacuation, egress and troop transfer drills.
>
> **Note 2:** All AA unit leaders must be familiar with the particular Personal Flotation Devices (PFD) that are being used and be prepared to instruct embarked troops on its proper wear.
>
> **Note 3:** Although it is required that all embarked troops are able to review the ETB, it is not required to hand one out for every embarked troop. Thus, one ETB on each AAV that is available to the embarked troops for review will satisfy this requirement.
>
> **Note 4:** The ETB package is meant to be printed, two-sided, folded in half twice and issued as a reading product to the embarked personnel.



EMBARKED TROOP BRIEFING (ETB)

EMBARKED TROOP BRIEFING (ETB)

Pre-Embark Briefing

To ensure your safety please carefully review this Briefing. **Ask the vehicle commander to explain anything that is unclear. He will review this document with you before you embark, as well as any unique risks of the intended mission.**

Safety is your vehicle commander s primary concern! Nevertheless, you should be aware that accidents can occur and result in personal injury (mental or physical), property damage or death

Before you embark the AAV

Load planning- **Be prepared, to have all your gear and equipment loaded 30 min prior to embarkation onto the AAV. This will allow the vehicle commander the time necessary to load/stow all gear properly. In order to ensure safe and effective employment of the AAV, especially while waterborne, this 30 min window is crucial. Placement and weight of personnel and cargo will be analyzed by the vehicle commander, to ensure the combat load of each AAV is within established capabilities and limitations. Additionally, all gear stored within the personnel and cargo areas shall be secured to prevent injury and maximize access to egress and evacuation points. Keep in mind that unsecured gear will become buoyant, block egress routes and points, and may become a projectile causing injury and/or death, in the event of a vehicle mishap (rollover, submersion, etc...).**

You and your equipment- **Your gear is your responsibility. Prepare yourself and all your gear to get wet. Gear should be waterproofed! It should be tightly and neatly strapped together so as not to hinder the potential for an emergency egress or evacuation. While embarked on the vehicle, all PPE will be worn as designed. Your helmet is on with the chin strap buckled. Body armor and deuce gear worn and designed. Ear protection in. Gloves and eye protection worn. Polyester clothing should be avoided for fire safety. Notify the vehicle commander of any medical issues that you may have that could prevent you from your duties or responsibilities while aboard the AAV.**

Weapons safety- **When you enter the vehicle, your weapon will be in condition four with the muzzle pointing down. Your weapon will remain in that condition until the command to load is given. Do not go to condition one until the vehicle has beached, stopped, and the ramp is going down. Machine gunners will be at condition one on the command load.**

Debarkation- **When the vehicle touches down, do not attempt to exit until it comes to a complete halt and the ramp is completely down. When you exit, go straight off the ramp. Do not try to exit off the sides. On the port side is the personnel hatch latch. On the starboard side is the ramp cable. Either or both will trip you. Also, there are no traction cleats on the sides of the ramp**

Personal Flotation Devises (PFD)- You will be issued a PFD and given a separate brief on the particulars of that devise. In general you must know the following; You must appropriately wear the PFD at all times while the AAV is afloat. Although each PFD has been checked for serviceability by the AAV crew, it is your ultimate responsibility to perform the final operational check of your PFD. If you have identified your PFD as unserviceable, immediately notify the vehicle commander and receive a replacement.

Embark Briefing (given when troops are aboard the AAV)

After you embark the AAV

Load planning- **Your gear will be loaded and strapped down as indicated in fig 1.1. Observe all gear stored within your surrounding area to ensure it is securely fastened to the AAV in order to prevent injury and maximize access to egress and evacuation points. Unsecured gear will become buoyant, block egress routes and points, and may become a projectile causing injury and/or death. Seatbelts will be used on land and water at the discretion of the AA unit leader based on the tactical situation and METT-T.**

You and your equipment- **Ensure all required PPE is worn appropriately. Your helmet is on with the chin strap buckled. Body armor and deuce gear worn and designed. Ear protection in. Gloves and eye protection worn. Ensure you are not wearing any polyester clothing (fire safety).**

1.1

General rules while on board- Do not smoke at any time while on the vehicle. Do not touch any latches, handles, or radio controls unless told to do so by the AAV crew. Remain alert at all times and be prepared to evacuate, egress or deploy. At this time you will be assigned particular duties in the event of evacuation or egress. Alert the rear AAV crewman in the event of anything unusual or any safety concerns you have.

Debarkation- When the vehicle touches down, do not attempt to exit until it comes to a complete halt and the ramp is completely down. When you exit, go straight off the ramp. Do not try to exit off the sides. On the port side is the personnel hatch latch. On the starboard side is the ramp cable. Either or both will trip you. Also, there are no traction cleats on the sides of the ramp.

Personal Flotation Devises (PFD)- At this time you will perform the final operational check of your PFD. If you have identified your PFD as unserviceable, **immediately notify the vehicle commander** and receive a replacement.

Evacuation & Egress procedures-

Evacuation Evacuation is the **orderly process** of embarked personnel and possibly the crew getting off a **slow sinking AAV.**

1) Evacuation will begin when directed by the Vehicle Commander.
2) The Third Crewman will pass the order to all occupants by stating, "Evac, Evac, Evac."
3) On command, each passenger will unbuckle his/her seatbelt (if equipped) and pre-designated personnel will unlock and open the starboard cargo hatch handle. The starboard cargo hatch is the primary evacuation exit.
4) The Third Crewmen will assist the occupants out of the vehicle in pairs using the radio cage/ladder.
5) The Vehicle Commander will be on top of the vehicle assisting pairs of occupants up and ensuring they move in a direct manner to the port side in preparation for troop transfer. When ordered, personnel will inflate their life preserver and jump into the water in pairs.
6) Once in the rescue vehicle, or on the surface of the water, the Vehicle Commander will gain control and accountability of crew/passengers, and assist in recovery efforts as required.

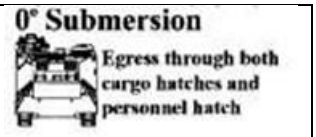
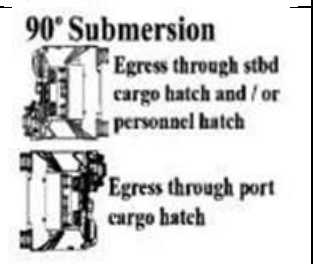
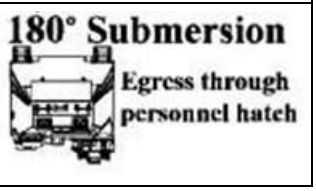
Notes
1. Driver, Troop Commander and Vehicle Commander will evacuate out their respective hatches.
2. In calm seas crew/passengers enter the water feet first, with legs open and arms extended. In moderate/heavy surf, crew/passengers should roll/slide into the water vice attempting to stand up and jump into the water.
3. Anytime a Passenger must enter the water, all gear with the exception of the PFD will remain behind.

Egress Egress is the **orderly process** of embarked personnel and the crew getting off a **rapidly sinking** or submerged AAV.

1) Egress will begin when directed by the Vehicle Commander.
2) The Third Crewman will pass the order to all passengers by stating, "Egress, Egress, Egress." At the same time he will unlock the personnel hatch and slide the handle to the open position.
3) On command, each passenger will unbuckle his/er seatbelts (if equipped), with pre-designated personnel unlocking assigned cargo hatch handles, and then opening the cargo hatches.
4) Crew/passengers swim to the surface.
5) Crew/passengers inflate their life preserver.
6) Vehicle Commander will gain control and accountability of crew/passengers, and assists in recovery efforts as required.

Notes
1. Driver, Troop Commander and Vehicle Commander will egress out their respective hatches.
2. Primary exit will be the cargo hatches and secondary will be the personnel hatch
3. Time permitting, troops will shed their gear.
4. If equipped with a Supplementary Emergency Breathing Device (SEBD) It will be used to assist you and will be donned as necessary.

Egress scenarios- There are four rudimentary attitudes crew/passenger may be required to egress from.

0°, the AAV sinks/rests in an upright position on its tracks. Egress through both cargo hatches and the personnel hatch	
90°, the AAV sinks/rests on its starboard (turret) or its port (TC) side. AAV rests on starboard side Egress through the starboard cargo hatch and the personnel hatch. AAV rests on Port side Egress through the Port cargo hatch.	
180°, the AAV sinks/rests on its topside. Egress through the personnel hatch.	

AAV fact sheet:

Land: On land the AAV is capable of negotiating an 8 foot trench and can climb a 3 foot vertical wall. The AAV can also negotiate a forward grade of 60% and a side slope of 40%. The AAV has a maximum forward speed of 45 mph and its range is 200 miles at a cruising speed of 25 mph. This vehicle is equipped with an Automatic Fire Sensing & Suppression System (AFSSS) as well as several portable and manual fire extinguishers.

Water: This vehicle is capable of negotiating ten- foot plunging surf. It is equipped with two hydraulic bilge pumps capable of pumping 240 gallons of water per minute and two electric bilge pumps capable of pumping 200 gallons per minute. The electric bilge pumps are capable of operating independently of the engine. The vehicle is designed so that it is capable of righting itself.

Weapons: AAVP7A1 vehicles are equipped with the up-gunned weapons station (UGWS) that mounts an M2, .50-caliber, heavy-barreled (HB) machine gun and a MK-19, 40-millimeter machine gun. With the elevated position and integrated thermal sighting system, the UGWS provides effective direct fire to supported units.

Appendix K

SAMPLE AAV TIMELINE FOR SHIP-TO-SHORE MOVEMENT

TIME	EVENT
H-90	Ship sets condition 1-A. Station ballast and sea and anchor details.
H-85	Time check.
H-85	AAV crews man vehicles, un-gripe the AAVs, and conduct communications checks.
H-80	Start ship exhaust system or tank deck blowers.
H-75	Start and warm AAVs, preoperational checks. Spot AAVs. Boats to the rails.
H-75	Launch boats. Conduct radio checks with boats.
H-70	Boats take station.
H-45	Ship underway.
H-43	Troops load AAVs.
H-18	5-minute standby to launch wave one. Wave one starts engines.
H-17	Number one flag at the dip.
H-16	5-minute standby to launch wave two. Wave two starts engines.
H-15	AAV close topside hatches, switch vehicles to water mode
H-14	Number one flag close up.
H-13	Launch wave one. 2-minute standby to launch wave two.
H-12	Wave one crosses LD. Number one flag hauled down.
H-11	Launch wave two.
H-9	Number two flag close up.
H-7	Wave two crosses LD. Number two flag hauled down.
H-HOUR	Wave one touchdown on shore.
H+5	Wave two touchdown on shore.

Appendix L

RANGE CHECKLIST

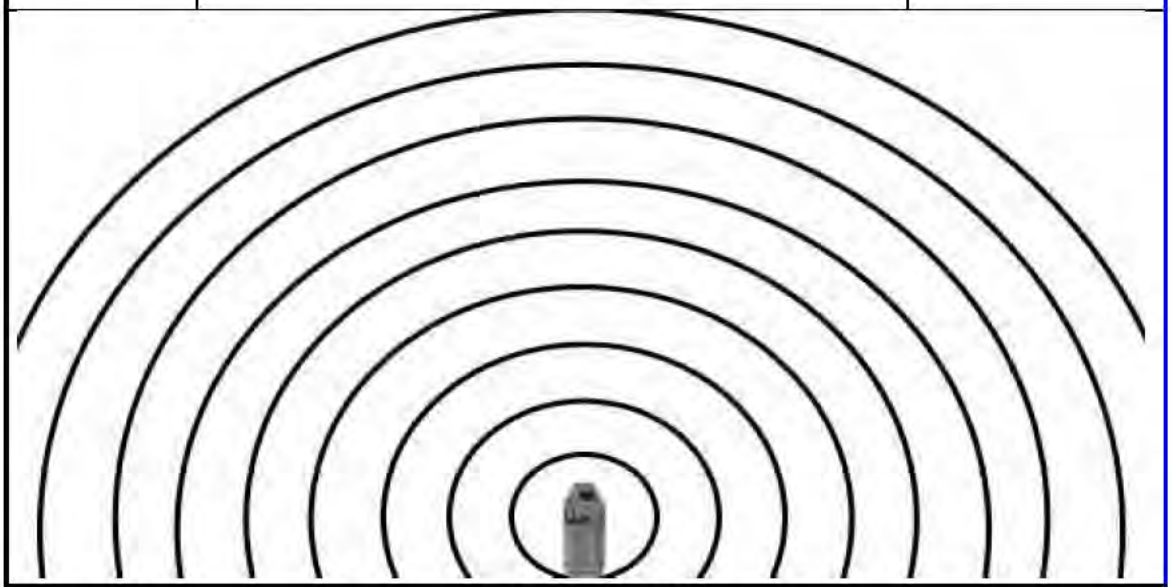
COMPLETE	PLANNING STAGE
	Number of personnel to conduct training identified
	Ammo forecasted/ordered IAW training per T&R
	Range/training area approved
	Training standards/conditions, evaluation criteria reviewed IAW T&R
	OIC/RSO Assigned
	*Coordination with supported/supporting units conducted
	Range Regulations reviewed/range checked-out through Range Control
	Weapons PFI conducted
	UGWS LTI/Pre-Op conducted
	Sight Quarterly maintenance conducted
	Corpsman requested/confirmed
	Safety vehicle requested/confirmed
	Communication assets requested/confirmed
	Road guard positions known/personnel assigned
	Road guard equipment on-hand
	Range materials ordered/on-hand
	Materials for Field ASP (FASP) ordered/on-hand
	Lubricants ordered/on-hand
	Weapons Bore sighted
	Relative classes complete
COMPLETE	**BEFORE FIRING**
	Complete during operations checks
	Check bore sighting
	Brief all stages of fire and ensure understanding of training
	Ensure ammo is staged with accurate ammo type/count requested
	Safety brief given/misfire procedures briefed
	Safety vehicle staged
	Corpsman staged
	Road guards staged
	Request to "go hot"
COMPLETE	**DURING FIRING**
	Ensure round count is kept for each weapon/range
	PPE is enforced
	Evaluation conducted
	Repair tags/weapons discrepancies are annotated as needed
	Radio checks conducted
COMPLETE	**AFTER FIRING**
	Separate links and brass
	Clear all weapons systems
	Conduct brass checks/line out procedures for personnel & vehicles
	Account for rounds fired by DODIC/Marines trained
	Request to "go cold"
	Complete After Action Report (AAR)

Appendix M

RANGE CARD

STANDARD RANGE CARD
For use of this form see FM 7-8. The proponent agency is TRADOC

AAV _____ **SEC _____** **PLT _____**	May be used for all types of direct fire weapons.	**MAGNETIC NORTH**



DATA SECTION

POSITION IDENTIFICATION:	**DATE:**
WEAPON SYSTEM: UGWS M2 50. CAL & MK-19	**EACH CIRCLE EQUALS METERS _____**

TGT NUMBER	DIRECTION/ DEFLECTION	ELEVATION	RANGE	AMMO	DESCRIPTION

REMARKS:

Appendix N

WEAPONS MALFUNCTION PROCEDURES

1. MK-19 Mod 3, 40mm Machine Gun

   a. Immediate Action. In the event of a stoppage while firing the MK-19:

   - Announce "Stoppage"
   - Move the safety switch to the S (safe) position
   - Wait 10 seconds
   - Crank the charging handle clockwise until the bolt comes all the way to the rear, assistant catches the live round as it ejects
   - Hold charging handle keeping the bolt to the rear and have the assistant check for obstruction (if obstruction clear weapon) in MK 19 barrel keeping head and hands clear of muzzle
   - Move charging handle to forward position
   - Move the safety switch to the F (fire) position
     - Press the trigger to fire (the bolt should spring forward)
     - If weapon failed to fire:
     - Move the safety switch to the s (safe) position
     - Wait 10 seconds and clear the weapon
     - Conduct remedial action

WARNING

If there is an obstruction in the barrel of the MK19 40mm MG, allow the barrel to cool for at least 15 minutes.

   b. Bore Obstruction

   - Clear the weapon
   - Place selector lever on F(Fire)
   - Ease the bolt forward
   - Remove the backplate pin
   - Remove bolt and backplate assembly, vertical cam assembly, and primary drive lever from the gun
   - Check for type of obstruction and follow the appropriate procedure

c. Remedial Action. When immediate action fails to reduce a stoppage, remedial action must be applied. This involves investigating the cause of the stoppage and may require disassembly of the weapon and replacement of parts to correct the problem.

d. Runaway Gun. A runaway gun is a gun that continues to fire after the trigger has been released. It may be caused by worn parts or short recoil of the bolt assembly. To correct the problem, hold the fire on the target until feeding is stopped or the ammunition is expended. The best method of stopping the gun depends on several factors such as the amount of ammunition remaining on the belt and how the gun is mounted. If ammunition is not a factor and the gun is employed in the free gun mode, the gunner keeps the rounds on target until the rounds on the belt have been fired. If the gun is mounted on either the M3 or vehicle mount with the traversing and elevating (T&E) mechanism attached, the gunner holds the grip with one hand. With the other hand, he presses the charger handle and locks and lowers one charger handle. This interrupts the cycle of function and the weapon ceases to fire. Lowering the charger handle to interrupt the cycle of operation can damage the gun.

Note: Do not twist or attempt to break the ammunition belt.

2. M2 Caliber .50 Machine Gun. Immediate action should be applied to a hot weapon within 10 seconds (cook-off). If round is not removed within 10 seconds, wait 15 minutes. Keep the weapon trained on the target. **Never open the cover on a hot weapon.** An open cover cook-off could occur and result in serious injury or death. A Hot Gun is classified as 100 rounds of more fired in one minute.

a. Cold Gun Immediate Action Procedures. If your machine gun stops firing, take the following actions within 10 seconds:

- Announce "Stoppage"
- Charge the machine gun and observe for feeding and ejection
- Attempt to fire
- If the gun did not fire, announce "Stoppage" and clear the weapon
- Conduct remedial action

b. Hot Gun Immediate Action Procedures. If your machine gun stops firing, take the following actions within 10 seconds:

- Announce "Stoppage"
- Charge the machine gun and observe for feeding and ejection
- Attempt to fire
- If the gun did not fire, announce "Stoppage" and keep the weapon pointed down range
- Move the safety switch to the S (safe) position (if equipped)
- Wait 15 minutes and clear the weapon
- Conduct remedial action

c. Remedial Action Procedures. While performing the procedures below, ensure weapons is pointed downrange:

- Open cover and remove ammunition belt.

- Pull retracting slide handle to the rear.
- If round is not ejected, lock bolt to the rear, and if applicable, return retracting slide handle forward.
- Visually inspect for cartridge in chamber.
- If round is present in the chamber, with a second man standing to the side of the weapon, insert a cleaning rod into the muzzle end of the machine gun and gently tap the round/case from the chamber.
- The weapon is now clear.
- Return bolt to forward position.
- Check the weapon to determine the cause of the stoppage using Troubleshooting Procedures or turn in to unit maintenance for repair.

d. Runaway Gun

- Keep the gun laid on target and let the gun fire out all remaining ammunition.
- In an emergency, twist the ammunition belt. This causes the gun to jam, and may damage the feeding mechanism.
- Replace broken, worn, or burred parts. Check the side plate trigger and trigger control mechanism, when applicable.
- Inform organizational maintenance.

3. M240B/G

a. Immediate action. Wait 5 seconds after the misfire to guard against a hang fire. Within the next 5 seconds (to guard against a cook off), pull the charging handle to the rear, observe the ejection port, and, if brass was seen ejecting, attempt to fire again. If brass did not eject, place the weapon on S, determine if the barrel is hot (100 rounds or more fired in the last 1 minutes) or cold, and take the appropriate steps.

(1) Cold Gun

- Announce “Stoppage” or “Misfire”
- Charge the weapon
- Attempt to fire
- If the weapon did not fire, clear the weapon and conduct remedial action

(2) Hot Gun

- Announce “Stoppage” or “Misfire”
- Charge the weapon
- Attempt to fire
- Wait 15 minutes, clear the weapon and conduct remedial action

b. Remedial Action. When immediate action fails to reduce the stoppage, remedial action must be taken. This involves investigating the cause of the stoppage and may involve some disassembly of the

weapon and replacement of parts to correct the problem. Two common causes of a stoppage that may require remedial action are failure to extract due to a stuck or ruptured cartridge.

c. Stuck Cartridge. Some swelling of the cartridge occurs when it fires. If the swelling is excessive, the cartridge will be fixed tightly in the chamber. If the extractor spring has weakened and does not tightly grip the base of the cartridge, it may fail to extract the round when the bolt moves to the rear. Once the bolt is locked to the rear, the weapon is placed on S, and the barrel has been allowed to cool, a length of cleaning rod should be inserted into the muzzle to push the round out through the chamber.

d. Ruptured Cartridge. Sometimes a cartridge is in a weakened condition after firing. In addition, it may swell as described above. In this case, a properly functioning extractor may sometimes tear the base of the cartridge off as the bolt moves to the rear, leaving the rest of the cartridge wedged inside the chamber. The ruptured cartridge extractor must be used in this instance to remove it. The barrel must be removed and the extractor inserted into the chamber where it can grip and remove the remains of the cartridge.

Appendix O

MEDEVAC PROCEDURES

TRAINING

1. While conducting training aboard home stations, local base MEDEVAC/CASEVAC regulations will be adhered to. The following is general guidance to follow in the event of an Emergency situation and community standardization:

2. Channel 6 of the radio system will be preset to the appropriate range control frequency.

3. Call range control and state that you need a MEDEVAC.

4. State Classification of MEDEVAC:

   a. Emergency (Air MEDEVAC)

   b. Priority (Vehicle, Air if requested)

   c. Routine (Vehicle)

5. RSO, OIC or senior man present is responsible for the MEDEVAC.

6. When any type of MEDEVAC occurs notify range control and Battalion immediately.

7. Give location of injured personnel.

8. Number of injured personnel.

9. Type of MEDEVAC requested, air or ground.

10. Medical Doctor requested if using air.

11. Air or ground MEDEVAC will be determined by the RSO, OIC or senior man in charge on the scene.

12. The following information will be delivered by the person that requested the MEDEVAC:

   a. Name, grade and SSN of casualty

   b. Unit and phone number.

   c. How accident happened.

   d. Vehicle involved (if any/what type).

   e. Civilian involvement (if any).

   f. Monitor the safety net until the MEDEVAC is secured.

COMBAT/WHEN DIRECTED

MEDEVAC 9-LINE
LINE 1: Pick up site: Grid:
LINE 2: Pick up site: Freq
LINE 3: # of patients by prec:
A – Urgent (1 Hour) B – Urgent Surgery (1 Hour) C – Priority (4-6 Hours) D – Routine E - Convenience
LINE 4: **Special Equipment:**
A – None B – Hoist C – Extractor Equipment D - Ventilator
LINE 5: # of patients by type
# of L – Litter # of A - Ambulatory
LINE 6: Security at site
N – No enemy) P – Possible enemy troops E – Enemy troops (Caution) X – Enemy troops (Armed Escort)
LINE 7: Marking at site: Day/Night
A – Panels (Color) B – Pyrotechnics (Color) C – Smoke (Color) D – None E - Other
LINE 8: Pt Nationality and Status
A – US Military B – US Civilian C – Non US Military D – Non US Citizen E - EPW
LINE 9: NBC Contamination:
N – Nuclear B – Bio C – Chemical D – None
LINE 10: Patient Information:
❑ ZAP NUMBER or ❑ First Initial, Middle Initial, Last Name. ❑ Last 4 SSN ❑ Blood type ❑ Unit

Appendix P

PRELIMINARY ENVIRONMENTAL ASSESSMENT (PEA)

UNIT_____

TYPE OR PRINT LEGIBLY.

If Extra Space is Needed, Note Beside Appropriate item(s) and Attach Extra Page.

1. DESCRIPTION OF PROPOSED ACTION:

2. OBJECTIVE OF PROPOSED TRAINING:

3. TRAINING WILL BEGIN: _____ END: _____

4. LOCATION (AREA NAME): _____GRID COORDINATED: _____
(S DIGIT)

5. NUMBER OF PERSONNEL TO PARTICIPATE:

6. SUPPORTING UNITS:

7. DESCRIBE UNIT BIVOUAC (ATTACH SKETCH MAP):

8. TYPES OF EQUIPMENT, INCLUDING VEHICLES (LIST):

9. PETROLEUM, OIL AND LUBRICANTS TO BE TAKEN TO FIELD (LIST TYPE AND CONTAINERS): DESCRIBE SPILL PREVENTION, CONTROL COUNTERMEASURE PLAN.

10. WATER PURIFICATION UNIT (YES/NO): _____
TYPE (DIATOMACEOUS EARTH/OTHER): _____

11. AIR QUALITY: SMOKE_CS_OTHER _

12. DESCRIBE EXTENT OF FOLLOWING ACTIONS. IF THEY WILL NOT OCCUR, WRITE N/A (SKETCH MAP REQUIRED TO SHOW APPROX. LOCATION).

a. FIELD MESSING
b. SHOWERS:
c. LAUNDRY:
d. CONSTRUCTION
e. GRADING:
f. DIGGING (I.E., BUNKERS, FIGHTING HOLES, ETC...):
g. OFF-ROAD VEHICLES USE:

13. DESCRIPTION OF AREA OF OPERATION, CHECK ALL THAT APPLY:

GRASSLAND_____ BRUSH_____ TREES _____

STREAM_____ (WET_____ DRY_____)

ADDITIONAL FACTORS:

14. SUMMARY OF ACTION REQUIRED TO PREVENT NEGATIVE ENVIRONMENTAL DAMAGE:

WRITTEN BY:_____

EXTENSION:_____

SIGNATURE _____

Appendix Q

COMMON BILL OF MATERIALS (BOM) ITEMS

NSN	NOMENCLATURE	MILSPEC	U/I	SIZE
9150 01 421 1432	LUBRICATING OIL, ENGINE	MIL-L-2104 / M2104 15 W/40	DR	55 GAL
9150 01 345 6150	LUBRICATING OIL, ENGINE	MIL-L-2104 / M2104 15 W/40	BX	1 QT X 24
6850 01 464 9152	ANTIFREEZE	MIL-A-46153 / A-A-46153	DR	55 GAL
6850 01 464 9125	ANTIFREEZE	MIL-A-46153 / A-A-46153	GL	1 GAL
6850 01 441 3221	ANTIFREEZE	MIL-A-46153 / A-A-46153	CO	5 GAL
9150 00 082 7524	HYDRAULIC FLUID, PETROLEUM BASE	MIL-H-5606 (RED)	DR	10 GAL
9150 00 252 6383	HYDRAULIC FLUID, PETROLEUM BASE	MIL-H-5606 (RED)	QT	1 QT
9150 00 223 4134	HYDRAULIC FLUID, PETROLEUM BASE	MIL-H-5606 (RED)	GL	1 GAL
9150 00 265 9408	HYDRAULIC FLUID, PETROLEUM BASE	MIL-H-5606 (RED)	DR	55 GAL
9150 00 145 0268	GREASE, AIRCRAFT	MIL-G-81322 / 2 GRADE	CN	6.5 LBS
9150 00 181 7724	GREASE, AIRCRAFT	MIL-G-81322 / 2 GRADE	TU	8 OZ
9150 00 944 8953	GREASE, AIRCRAFT	MIL-G-81322 / 2 GRADE	CN	1.75 LBS
9150 01 262 3358	GREASE, AIRCRAFT	MIL-G-81322 / 2 GRADE	CA	14 OZ
6135 00 985 7845	BATTERY, NONRECHARGEABLE (AA)	12 PER PG	PG	BA-3058
9150 01 053 6688	CLEANER, LUBRICANT, AND PRESERVATIVE	CLP	GL	1 GL
9150 01 054 6453	CLEANER, LUBRICANT, AND PRESERVATIVE	CLP W/ SPRAY NOZZLE	PT	1 PT
9150 01 102 1473	CLEANER, LUBRICANT, AND PRESERVATIVE	CLP (INDIVIDUAL)	BT	0.5 OZ
9150 00 687 4241	LUBRICATING OIL, SEMIFLUID	LSA	QT	1 QT
9150 00 889 3522	LUBRICATING OIL, SEMIFLUID	LSA	BT	4 OZ
9150 00 753 4686	LUBRICATING OIL, SEMIFLUID	LSA	GL	1 GAL
9150 00 949 0323	LUBRICATING OIL, SEMIFLUID	LSAT (MK-19)	TU	8 0Z
9150 01 109 7793	LUBRICATING OIL, SEMIFLUID	LSAT (MK-19)	LB	1 LB
9150 00 935 4018	GREASE, MOLYBDENUM DIULFIDE	GMD (MK-19)	CA	14 OZ
9150 00 223 4004	GREASE, MOLYBDENUM DIULFIDE	GMD (MK-19)	CN	6.5 LBS
9150 00 754 2595	GREASE, MOLYBDENUM DIULFIDE	GMD (MK-19)	CN	1.75 LBS
6135 00 835 7210	BATTERY, NONRECHARGEABLE (D)	12 PER PG	PG	BA30
6135 01 351 1131	BATTERY, NONRECHARGEABLE (3V)	12 PER PG	PG	BA-5123/U
6135 00 985 7486	BATTERY, NONRECHARGEABLE ("C")	12 PER PG	PG	BA3042
7930 01 363 8631	ABSORBENT MATERIAL, OIL AND WATER	100 PER BAG	BG	
7930 01 448 8636	ABSORBENT MATERIAL, OIL AND WATER	50 BER BOX	BX	
8030 00 938 1947	CORROSIVE PREVENTIVE COMPOUND	MIL-C-81309	CN	16 OZ
8030 01 418 9008	CORROSIVE PREVENTIVE COMPOUND	WD-40	CN	16 OZ
8030 01 439 0681	CORROSIVE PREVENTIVE COMPOUND	WD-40	BX	12 X 18 OZ

Appendix R

INTERIM DEPLOYMENT REPORT

From: _____

To: Commanding Officer, ___ Assault Amphibian Battalion

Via: Commanding Officer, Company _____, _____ Assault Amphibian Battalion

Subj: INTERIM DEPLOYMENT REPORT FOR THE PERIOD OF

_____

Ref: (a) BnO P3000.1F

Encl: (1) Operation / LogisticReport
(2) Any other appropriate enclosures:miles & hours, rounds fired from M2 50 cal 40 MM Grenade Launcher, training schedules, etc.

1. In accordance with the reference the following report is submitted:

2. Personnel

   a. Medical. (Significant medical problems)

   b. Morale. (If low state reason why)

   c. Transfers.

   d. Promotions.

NAME	RANK	DOR

   e. Disciplinary Action.

RANK	NAME	UCMJ ARTICLE	NATURE OF OFFENSE	PUNISHMENT

   f. Liberty Problems.

3. Operations and Training

   a. Liaison.

   b. Operations. (Operations you were involved in during the reporting period)

   c. Training. (Training that was accomplished during the reporting period)

4. Logistics

   a. Embarkation. (What ship you are embarked on?)

   b. Maintenance.

      (1) What maintenance problems were encountered?

      (2) What effects these problems had on your supportability?

      (3) What maintenance were you able to accomplish during the reporting period?

   c. Support/Supply

      (1) What kind of support have you received administratively?

      (2) What type of support have you received logistically?

Appendix S

HOLD HARMLESS WAIVER

Observing Marine Corps Training and participating in Marine Corps activities is a valuable social and educational opportunity. Observing training and participating in Marine Corps activities involve potential risks. These risks include scenarios that are set into place because of faulty equipment and/or the negligent or grossly negligent acts of agents or agencies of the United States. Examples of these risks include, but are not limited to; slipping, falling, cuts and abrasions, damage or injury caused by military ordnance and projectiles, discomfort caused by loud noises, collateral damage/injury caused by aviation or ground mishaps, and injuries/mishaps that may occur while riding in a government van, 5-Ton truck, Assault Amphibious Vehicle, and Light Armored Vehicle. I understand these risks create the possibility of injury, to include permanent painful, disfiguring, disabling injury, or death.

In consideration for observing Marine Corps training and participating in Marine Corps activities, I agree to release and hold harmless the United States, the U.S. Marine Corps, and any of their partners, agents, employees, service members, and agencies from any liability arising from observing this activity.

I consent to relieve the United States, the U.S. Marine Corps, and any of their partners, agents, and agencies from any duty of care they may owe me. I assume the risks, to include injury or death, that are inherent in observing and participating in Marine Corps activities. I agree that neither the United States, nor the U.S. Marine Corps, nor any of their partners, agents, employees, service members, and agencies will protect me against any of the risks inherent in observing and participating in Marine Corps activities. I am aware of these risks and I am voluntarily encountering those risks. I will never pursue/prosecute or assist in pursuing/prosecuting any civil action against the United States, the U.S. Marine Corps, or any of their partners, agents, employees, or agencies for any liability arising from any claim arising from observing or participating in Marine Corps activities.

I know that consulting an attorney before reaching this agreement is prudent. I have had a full and fair opportunity to consult an attorney about this agreement, and I waive the further advice of counsel.

This agreement is binding on all persons and entities claiming by, through, for, or on account of their relation to me, including but not limited to my heirs, successors, and assigns.

I sign this agreement voluntarily of my own free will. No one has forced or coerced me in any way to sign this agreement.

_____	_____
Witness Signature	Participant Signature
_____	_____
Printed Name	Printed Name
Date_____	Date: _____

APPENDIX S

WAIVER OF LIABILITY AND ASSUMPTION OF RISK MANAGEMENT

UNITED STATES MARINE CORPS

CAMP LEJEUNE, NORTH CAROLINA

In consideration of the privilege of participating in an educational tour to include riding on/in an Amphibious Assault Vehicle at Camp Lejeune, North Carolina, and further recognizing the voluntary nature of my participating in the event, I, the undersigned person, intending to be legally bound, hereby promise to waive myself, my guardians, heirs, executor, administrators, legal representatives and any other persons on my behalf, any and all rights and claims for damages, demands and any other actions whatsoever, including those attributable to simple negligence, which I may have against of the following persons or entities: the United States Marine Corps; Marine Corps Base, Camp Lejeune, North Carolina; any and all individuals assigned to or employed by the United States, including but not limited to the Secretary of Defense; the Secretary of the Navy; the Commandant of the Marine Corps; in both their official and personal capacities; any medical support personnel assigned thereto; and these persons' or entities' representatives, successors, and assigns which said injuries arise out of my participation in the activities comprising the aforesaid event; as well as any use by me of any Marine Corps Base, Camp Lejeune, North Carolina, or government equipment or facilities in conjunction with the furtherance of such participation by me. I FURTHER VERIFY THAT I HAVE FULL KNOWLEDGE OF THE RISKS ASSOCIATED WITH PARTICIPATING IN THIS EVENT, AND UNDERSTAND THAT I WILL BE RIDING IN A TACTICAL VEHICLE DESIGNED FOR DANGEROUS COMBAT OPERATIONS. I EXPRESSINGLY, KNOWINGLY, AND VOLUNTARILY ASSUME THE RISKS INVOLVED IN THE PLANNED ACTIVITIES INCLUDING TRANSPORTATION TO AND FROM THE EVENT, AND AGREE TO HOLD THE UNITED STATES HARMLESS FOR ANY RESULTING INJURY. I understand that this assumption of risk management shall remain in effect until notice of cancellation is received by the Commanding General, Marine Corps Base, Camp Lejeune, North Carolina. I understand that, should I decline to execute this agreement, I will not be permitted to ride on/in any tactical vehicle including the Amphibian Assault Vehicle while it is moving.

_____ _____

(Signature of Witness) (Signature) (Date)

_____

(Printed Name)

_____

(Signature of Parent/Guardian on behalf)

_____

(Name of Minor) (Date)

Appendix T

CAMP LEJEUNE SPECIFICS

1. Communications

a. The Battalion Safety Net is 36.55 single channel, plain text. The Battalion S-3 will monitor this net during working hours, and the OOD will monitor after hours. The Call Sign for Battalion is "Gator." Each operating unit will guard this net at all times.

(1) Ramp and Situation Reports will be transmitted via this net.

(2) Units will notify the Bn S-3, or OOD, prior to entering any body of water and upon the return of all vehicles to solid ground.

b. The Range Control Safety Net is 34.70 single channel, plain text, squelch off. The Call Sign for Range Control is "Blackburn." Each operating will guard this net at all times.

(1) Range Control will be contacted when occupying training areas and during live fire exercises in accordance with the Range Control SOP.

(2) Priority and Urgent MEDEVACs will be conducted via Range Control per the Range Control SOP using the following format:

(a) Type of request – air or ground.

(b) Number of patients

(c) Type of injury, status of patient, if corpsman is present

(d) Location of patient – grid coordinates, prominent terrain features or site name

(e) Hazards to aircraft at pick up point

(f) Method to marking site

(g) Source of injury

(h) Patient age, sex, and blood type

(i) Patient name, grade and SSN.

***This information must be provided via telephone and will not be transmitted on an unsecured radio. This will help ensure that next of kin are notified via the chain of command**.

(3) The retransmission frequency for Range Control in the Greater Sandy Run Area is 40.10 single channel, plain text, squelch off.

2. Local/Environmental Restrictions

a. Archaeological and Historical Sites

(1) Protected Longleaf Pine (HB) area and the Wallace Creek (FA area) Nature area are to be used for non-vehicular training except for existing trails in order to preserve unique natural resources.

(2) Jarretts Point Training Area located in the JC training area (GC 8129 and 8130) has portioned that are designated as archaeological sites. There will be no movement south of GC 810296.

b. Environmental and Endangered Species

(1) Turtles. The Atlantic Loggerhead and Green Sea Turtles are threatened species that periodically come ashore Camp Lejeune particularly during nest season from May to October. The only authorized beach training area is along the Atlantic Ocean from the sand dunes seaward between Risley Pier (GC 903262) and the tank trail south of South Tower (GC 878245). **Vehicles are not authorized to run over sand dunes and must pass through designated exit points into the interior of the island.** During nesting season, the Environmental Management Division will move any nest in this area to the non-vehicle use beach further south and identify with fencing. If any unidentified nests are found, mark, and report to Range Control. During the hatching period, bright lights are not authorized on the beach. **Disturbance of the turtle nests or the eggs is strictly prohibited.**

(2) Red Cockaded Woodpecker. The Red Cockaded Woodpecker found at Camp Lejeune is an endangered species that forages, roosts, and nests in older cavity trees of the pine forests. In order to protect the tree root system, the birds, and the immediate habitat, buffer zones have been created. These buffer zones are marked with two white bands of paint on the trees. The contiguous habitat is marked by one band of white paint on the trees and is identified with "Restricted Area Endangered Species Site" signs. **Vehicle movement through these areas is limited to existing designated trails only**. Vehicle movement through the areas, cutting of trees, digging, bivouacking, establishment of COCs, burying of cables, destruction, or removal of signs, injuring a woodpecker, damaging a nest or destroying eggs is strictly prohibited and actively enforced by weekly inspections of Environmental Management personnel.

(3) Leased Bottom Lands. Units are not permitted to operate AAVs in areas marked as Leased Bottom Lands in the New River. The areas are leased privately from the state for oyster and clam fishing with markings by signs. Such areas are located in the vicinity of Pollocks Point, Jarretts Point, and Mile Hammock Bay.

(4) Bridges. Care will be taken when passing under bridges to prevent collision with civilian craft. All AAVs will display a white light when passing under a bridge at night.

(5) Gill Nets. Fishing or gill nets may be found along any point of New River. They are generally found along the coastline in about three or four feet of water. They are usually marked with white floats and not illuminated at night. These should be avoided however if one is damaged, note its location, and the time of incident for report to the Bn S-3 or OOD.

(6) Waterways. The Intercoastal waterway and the New River are public waterways and AAVs units can expect to share usage with local fishermen and civilian boat owners. An AAV is considered a ship afloat and as such are expected to follow the International Rules of the Road when in navigable waters, as per Common SOP.

3. Reports

a. After Action Report. Units will submit after action reports via the respective company to the Battalion S-3 in the following format:

(1) Operations/Training

(a) Unit supported or internal training evolution

(b) Schedule of major events

(2) Logistics

(a) Miles / Hours

(b) Significant logistical issues or trends

(3) Recommendations. Use Topic / Discussion / Recommendation format

b. Interim Deployment Report. Deployed units will submit an Interim Deployment Report at the end of each month in accordance with Common SOP.

4. Splash Points. AAVs will enter and exit the New River and InterCoastal Waterway only at spots in the enclosed list. Prior approval from Range Control is required for different locations. Below list Splash points aboard Camp Lejeune:

GRID COORDINATE	DESCRIPTION	GRID COORDINATE	DESCRIPTION
856353	FRENCH CREEK	825299	BOAT BASIN, CHB
853351	WEIL POINT	829299	COURTHOUSE BAY
856357	WEIL POINT	850283	TLZ CANARY
849346	TANK TRAIL	855278	TRAPS BAY
843339	TANK TRAIL	856277	TRAPS BAY
836330	TANK TRAIL	866259	MILE HAMMOCK BAY
828319	TANK TRAIL	867259	MILE HAMMOCK BAY
858338	DUCK CREEK	876255	TLZ BLUEBIRD
824315	TANK TRAIL	896265	TLZ ALBATROSS
823314	TANK TRAIL	901268	TLZ ALBATROSS
807315	GILLETTE POINT	905269	LANDING
805314	GILLETTE POINT	912275	RECON LANDING
773337	FOYS LANDING	916279	TLZ FALCON
759323	STONE CREEK	921284	TLZ FALCON
773292	TLZ OWL	922285	TLZ FALCON
786279	EVERT CREEK	937302	FREEMAN BEACON
811299	ELLIS COVE	958323	BROWNS TOWER
820297	COURTHOUSE BAY	977344	BEAR TOWER
822297	COURTHOUSE BAY		

5. Tank Pads. AAVs will only cross paved roads at the spots approved in the enclosed list. Prior approval from Range Control is required for different locations.

74153940	88102830	94053255
76753880	89552840	94363280
78153685	90112916	94603291
74203535	90112940	95393440
75853516	90563005	95563692
82403028	85553120	93203756
83512977	83813063	92343740
84562945	87813321	89453875
85612911	91462820	89403420
86842625	91632793	87003876
87302823	90003232	86693886
87312855	91913134	94053255

6. Corpsman. A corpsman will accompany all AAV operations with a backboard and resuscitator. A corpsman is not required for operations within the maintenance facility, tank trail leading to Horn Rd or in the Court House Bay Jetty as long as an emergency means of evacuation is available.

Appendix U

CAMP PENDLETON SPECIFICS

1. General Requirements

a. Range Safety Officer (RSO) and Officer-in-Charge (OIC). Field units must have a RSO and OIC present when conducting training at Camp Pendleton. To be certified as an RSO, personnel must complete an RSO class held by range control. For class details see your unit's operations section.

b. Range Regulations. Unit leaders, RSOs, and OICs will be familiar with Base Order P3500.1_, *Range and Training Regulations*.

2. Communication and Reporting Requirements

a. Frequency and Call Signs. Units operating at Camp Pendleton will use the following VHF nets:

Unit / Agency	Frequency	Call Sign
Range control	Pri – 40.35 Alt – 30.35 (760)725-4604	Long Rifle
AVTB	Rotating- Verify with Ops at (760)763-4428	AVTB Operations
AAS	Rotating- Verify with Ops at (760)763-6090	Eagle
3d AA Bn	Net ID-666 Ops Office (760)725- 2881/2440	Gator Main

b. Battalion Net. Field units must monitor the battalion operations net. The operation net is controlled by S-3 or by the OOD after normal working hours. Once the OOD is posted, he and the S-3 shall exchange information concerning which units are in the field.

c. Company Net. All units will maintain communications to coordinate logistical and administrative requests when it has a unit in the field.

d. Range Control Net. Field units must have radio communications and conduct radio checks as directed by range control. Range control must be notified in the following situations: crossing in front of the LCAC tower on White Beach, before using CS gas or pyrotechnics, when requesting a medevac, crossing paved roads, moving through Jardine Canyon, departing or moving to another training area, arriving and departing a range, traveling on Roblar Road, when going hot or cold on a range, and when conducting waterborne operations.

3. Training Area Considerations and Restrictions

a. Guidance. Units will operate only in training areas specifically authorized for tracked vehicles as outlined by the range and training regulations (Base Order P3500.1_). Every unit leader, RSO and OIC will be familiar with the regulations.

b. Speed. AA units will follow all posted speed limits. If no speed limit is posted, the speed limit is 25 mph in the training areas and 5 mph in congested areas like the ramp, ranges, MOUT facility, and near fuel pumps.

c. Paved Roads. AAVs are prohibited from driving on asphalt/macadam roads and operating on the shoulders unless authorized by range control (e.g. emergency condition). AAVs may use old highway 101 (U.S. 1, GC 570850 to 490923), observing the speed limit.

d. Road Crossings. AAVs may cross-paved roads where concrete pads or dunnage exist. Units will not restrict traffic flow any longer than necessary (maximum of ten minutes). Crossing areas will be immediately cleared of debris after crossing.

e. Road Guards. Road guards shall be posted a safe distance on either side of crossings to stop traffic while tactical vehicles cross and clean up is being done. Because Stuart Mesa road has several blind curves near tracked vehicle crossing points, road guards should be positioned ahead of curves when stopping traffic. Road guards will wear a reflective vest for day and night crossings. They will use wand flashlights to conduct night crossings, and use radios to better facilitate communications when visibility is reduced.

f. Railroad Tracks and Trestles. Both are off limits for training. Furthermore, personnel and vehicles are prohibited from crossing railroad tracks or driving parallel to them.

g. Tunnels, Bridges and Underpasses. AAVs are authorized to transit the following tunnels: Hole in the Wall (GC 552862), Red Beach tunnel (GC 575836), White Beach (GC 592812). The tunnels at GCs 595813 and 592812 are authorized for AAVs, however AAVs with EAAK are prohibited. AAV crews should keep their weapons station forward and depressed when driving through these structures because of limited clearance. Gunners may have to keep their heads inside while driving through underpasses to avoid injury or death. Only one AAV in tunnel while transiting thru.

h. Horno, Alisio, and Piedre de Lumbre Canyons. Units must reduce speed when transiting through these canyons because of limited visibility from sharp curves in the roads. Be aware, civilian vehicles often travel to and from the MOUT facility using Alisio Canyon. Drivers and crew chiefs should be especially watchful for and use minimal speed when approaching the s-turn in Horno Canyon (GC 546886/893).

i. Roblar Road. Extreme caution and reduced speed must be exercised when traveling on Roblar Road because of the road's steepness, numerous sharp turns and cliffs. Vehicles will obey the posted speed limit for the road, and use low gear and transfer when traveling the road. The unit leader will conduct a brief immediately before traveling the road and cover speed limits, intervals and emergency actions.

j. Jardine and Aliso Canyon and Edson Range Impact Area. If you're transiting through these areas, contact range control and the ranges to coordinate hot and cold times. Submit a route overlay to range control during the planning phase if your unit plans to travel through these areas.

k. Beaches and Waterways. AAV operations are permitted on the following beaches: Blue, Red, White, Gold and Green. Training is prohibited on state beaches and near (Gold beach)the nuclear power plant. To use Green Beach, Marine Corps Community Services must be notified 24 hours in advance to move lifeguard stands and equipment. Transit from Blue to White Beach will be done in column and with one side of AAV track in the high water mark to avoid disturbing protected wildlife located near

these areas. Wheeled vehicles are prohibited from crossing the Margarita River, regardless of season or condition.

l. LCAC Beach Ramp. Units shall call the Longrifle before passing the LCAC ramp. Longrifle will then contact the LCAC tower for approval.

m. Civilian Roadways. Avoid driving and using smoke near Interstate 5 and private-motor-vehicle roadways when possible. Mechanized training and the use of smoke can be distracting and may interfere with private motor vehicle traffic.

n. River Bottoms and Creek Drainage Areas. The entire length of the Santa Margarita riverbed from the ocean to GC 762958, and that portion of the DeLuz Creek bed south of the 945-northing grid line is designated a restricted area. This area may be used for training only with special authorization from range control. Tracked and wheeled vehicle movement in these areas is restricted to established road crossings.

4. Gunnery Operations

a. Firing over the heads of personnel from moving vehicles is prohibited.

b. Each vehicle will display a red range flag while firing. While on the firing line, each will display a green range flag when all weapons have been cleared.

c. No live rounds will be chambered until the vehicle has reached the specified point of the range designated as a firing area.

5. Maritime Operations

a. Camp Pendleton Amphibious Vehicle Training Area. The CPAVA is the area used for amphibious operations (See Camp Pendleton Special Map). Live or inert ordnance may not be expended in this area. CPAVA is not a military exclusive area. Watch for civilian boats and recreational divers.

b. LCAC Operations. Because LCACs travel at high speeds and have restricted maneuverability, a 4,000-yard transit lane extends seaward from the LCAC ramp. AAVs shall avoid this area when LCACs are operating.

6. Medical Evacuation (MEDEVAC)

a. Procedures. AA units will conduct medical evacuation procedures as outlined in Base Order P3500.1_.

7. Fire Danger

a. Guidance. Because of our dry climate and use of ordnance, the threat of fire is always present. Fire danger awareness is essential while training aboard Camp Pendleton. See Base Order P3500.1_ for fire prevention measures.

b. Scheduling. Schedule range and training area use through battalion S-3 and range control via RFMSS. Units will include the training event and ordnance to be used with the request.

c. Fire Danger Rating (FDR). It is the RSO and OICs responsibility to know the fire danger rating (FDR) and to brief it to all hands in the training area, to include any and all restrictions associated

with the FDR. The FDR system below outlines the precautions to be taken and the type of ordnance that is permitted under certain conditions.

8. Environmental Considerations and Restrictions

a. Guidance. The following information will help a unit leader to operate in a manner consistent with Camp Pendleton's environmental protection policies.

b. Planning. When planning training events, refer to Base Order P3500.1_, the Camp Joseph H. Pendleton special map and the most current environmental and natural resources geographic information systems (GIS) data map to determine the location of sensitive areas. In addition, use the guidelines found in the base range regulations to determine applicable restrictions in those areas.

c. Environmental Description of Proposed Action (DPA). For training events and operational requirements that conflict with the range regulations, exercise commanders must get approval from the assistant chief of staff, environmental security (AC/S ES) through the battalion S-3. Provided battalion and smaller-sized units use the training areas and ranges for the purposes specifically outlined in the base range regulations and strictly adhere to the environmental restrictions associated with each range, submission of the environmental documentation to the AC/S ES is not required. An environmental description of proposed action (DPA) will be given to the battalion S-3 during the confirmation brief for operations or exercises. The unit commander will submit the Environmental DPA before conducting an operation or exercise and shall retain a copy while in the field.

d. General Considerations and Restrictions. The following are general considerations and restrictions when using the base training areas and ranges.

(1) All vehicles, wheeled or tracked, should stay on established roads or trails whenever possible.

(2) Vehicles are not permitted in wetland areas, including dry streambeds, rivers and estuaries. The Santa Margarita Estuary, Las Flores Marsh, Least Tern nesting area (GC 623771-center grid), and the Western Snowy Plover (all beaches) are restricted from training. Observe all signs posted for wetlands. (High water-mark-inland areas from Blue to White Beach).

(3) Vehicles can only be washed at designated wash racks.

(4) Note specific areas and warnings on the Camp Pendleton Special Map.

(5) Cutting and destruction of trees is prohibited. Do not drive nails into trees to string communications or barbed wire. Recover all field wire used during training.

(6) Transit from Blue to White Beach will be done in column and with one side of AAV track in the high water mark to avoid disturbing protected wildlife located near these areas.

9. Hazardous Materials and Waste

a. All POL must be contained in leak proof containers. These containers must be placed in a berm catchments area capable of holding 110% of the POL. An impervious liner must be placed inside the berm area.

b. Dumping of hazardous material and waste is prohibited.

c. Units will have absorbent material on hand while in the field for minor hazardous material and waste spills. Units can check out a field-spill kit from battalion HAZMAT. Report all spills to battalion HAZMAT. After normal working hours, contact the OOD by radio or phone. The HAZMAT office will notify the environmental resource management office (ENRMO).

d. Kitchen waste must be disposed of through area mess halls.

e. Contact the battalion HAZMAT office concerning proper use, storage and disposal of hazardous material and waste.

f. Personnel will wear personal protective equipment (PPE) when handling hazardous material and waste.

g. The battalion and each company will have a HAZMAT NCO to help comply with environmental protection laws.

APPENDIX U CHECKPOINTS

CAMP PENDLETON

Check Point	Square ID/Zone/Grid	Description
CHECK POINT 1	11S MS 621762	End of runway
CHECK POINT 2	11S MS 592802	In front of LCAC tower on beach
CHECK POINT 3	11S MS 594823	Stuart Mesa RC North of Edson Range
CHECK POINT 4	11S MS 577821	Splash point white beach
CHECK POINT 5	11S MS 574837	I-5 under pass to Stuart Mesa RC to Oscar 2
CHECK POINT 6	11S MS 593863	West entrance to Las Pulgas canyon
CHECK POINT 7	11S MS 624898	RC East entrance to Las Pulgas Canyon
CHECK POINT 8	11S MS 576850	RC Las Pulgas Rd Tango to Oscar 2
CHECK POINT 9	11S MS 581866	West entrance to PDL Canyon
CHECK POINT 10	11S MS 559868	RP Tango Tee
CHECK POINT 11	11S MS 592898	RP East entrance to PDL Canyon
CHECK POINT 12	11S MS 602912	Entrance to ASP
CHECK POINT 13	11S MS 552865	Hole in the wall
CHECK POINT 14	11S MS 594913	North side of DZ PAPA 3
CHECK POINT 15	11S MS 597927	RC at Basilone Rd PAPA 3 to Range 222
CHECK POINT 16	11S MS 571920	East entrance to Horno Canyon
CHECK POINT 17	11S MS 556910	Combat town at Tee intersection on Horno Canyon Rd
CHECK POINT 18	11S MS 543886	West entrance Horno Canyon
CHECK POINT 19	11S MS 526936	Intersection in Alpha 1
CHECK POINT 20	11S MS 528948	RC Area 52 and Basilone Rd
CHECK POINT 21	11S MS 518949	Y intersection Alpha 1
CHECK POINT 22	11S MS 488936	Tee intersection in Alpha 2
CHECK POINT 23	11S MS 485975	Intersection Bravo 3
CHECK POINT 24	11S MS 507992	Turn south of the HOLF
CHECK POINT 25	11S MT 501016	Y intersection Bravo 1
CHECK POINT 26	11S MT 523005	Tee intersection Bravo 1 **"Special Request needed"**
CHECK POINT 27	11S MT 516026	Tee intersection Bravo 1
CHECK POINT 28	11S MS 554993	North Entrance between Q and W **"Special Request needed"**
CHECK POINT 29	11S MT 549027	Yankee intersection
CHECK POINT 30	11S MT 545042	Tee intersection in Yankee
CHECK POINT 31	11S MT 556033	Y intersection in Yankee
CHECK POINT 32	11S MT 580017	Y intersection Delta
CHECK POINT 33	11S MT 605014	Tee west of AFA 45
CHECK POINT 34	11S MT 618003	Y intersection DZ Case Springs
CHECK POINT 35	11S MS 654975	Tee in Fox **"Special Request needed"**
CHECK POINT 36	11S MS 687956	Intersection in Golf
CHECK POINT 37	11S MS 718958	Tee in DZ Deluz in Hotel
CHECK POINT 38	11S MS 698928	Tee Camp Deluz
CHECK POINT 39	11S MS 665919	Roblar Road intersection
CHECK POINT 40	11S MS 686909	Tee East of AFA 28
CHECK POINT 41	11S MS 623902	Roblar Road and Basilone Rd
CHECK POINT 42	11S MS 677896	North entrance to 25 Area Combat Town

Road Point	Square ID/Zone/Grid	Description
ROAD POINT 1	11S MS 647754	Wire Mountain Rd and Vandegrift Rd
ROAD POINT 2	11S MS 637771	Stuart Mesa Rd and Vandegrift Rd
ROAD POINT 3	11S MS 723823	Vandegrift Back gate
ROAD POINT 4	11S MS 607800	Edson Range Stoplight
ROAD POINT 5	11S MS 655834	Start 22 Area
ROAD POINT 6	11S MS 683854	Vandegrift Rd and Basilone Rd
ROAD POINT 7	11S MS 697870	Vandegrift Rd Santa Margarita Rd turn to Naval Hospital
ROAD POINT 8	11S MS 723878	Naval Weapons Station Gate
ROAD POINT 9	11S MS 589834	Stuart Mesa Rd and Nelson Rd 41 Area
ROAD POINT 10	11S MS 897647	Basilone Rd and Road to the 400 Ranges
ROAD POINT 11	11S MS 574848	Stuart Mesa Rd and Las Pulgas Rd
ROAD POINT 12	11S MS 624900	Las Pulgas and Basilone Rd
ROAD POINT 13	11S MS 604918	Basilone Rd and ASP Rd
ROAD POINT 14	11S MS 559932	Basilone Rd at Southeast 53 Area
ROAD POINT 15	11S MS 507954	San Mateo Rd and Basilone Rd
ROAD POINT 16	11S MS 457944	San Onofre Gate
ROAD POINT 17	11S MS 473987	63 Area
ROAD POINT 18	11S MT 473015	64 Area

Routes	Description
BEACHES	CP 1 to CP 22
STEELERS	C P 5 to CP 7
COWBOYS	CP 9 to CP 12
49ERS	CP 18 to CP 15
PATRIOTS	CP 22 to CP 32
REDSKINS	CP 25 to CP 31
RAIDERS	CP 31 to CP 35
PACKERS	CP 35 to CP 41
GIANTS	CP 11 to CP 16

Main Supply Routes	Description
MSR Vandegrift	RP 1 to RP 3
MSR Stuart Mesa	RP 4 to RP 11
MSR Basilone	RP 6 to RP 16
MSR Las Pulgas	RP 11 to RP 12
MSR San Mateo	RP 15 to RP 18

Area of Operations	Description
AO Alpha	West Ocean, North Las Pulgas Rd, East Basilone Rd and Vandegrift Rd, and South Southern Fence line of Base
AO Bravo	West Ocean, North and East Basilone Rd and San Mateo Rd, and South Las Pulgas Rd
AO Charlie	West Northern Fence line, North Northern Fence line, East 64 Easting, and South Basilone Rd
AO Delta	West 64 Easting, North Northern Fence line, East Naval Weapons Station, and South Vandegrift Rd and Basilone Rd

Appendix V

I&I 4TH AA BN SPECIFICS

1. Battalion Headquarters and H&S Company

   a. Unit Address

      5121 W. Gandy Blvd
      Tampa Fl. 33611

   b. Site Phone Numbers

      Battalion I-..... (813) 805-7020 X7000
      Company I-I ..... (813) 805-7020 X7301
      Battalion S-3 Operations Chief ..... (813) 805-7020 X7300
      Battalion Training Chief ..... (813) 805-7020 X7301
      Company Training Chief ..... (813) 805-7020 X7311
      Battalion Maintenance Chief ..... (813) 805-7020 X7430
      Battalion S-4 Officer ..... (813) 805-7020 X7400
      Battalion Supply Chief ..... (813) 805-7020 x7408

   c. Bases Used. Camp Blanding

2. A Company

   a. Unit Address

      One Navy Drive
      Sgt Bradley J. Harper Hall
      Virginia Beach, Va. 23459-3298

   b. Site Phone Numbers

      I&I ..... (757) 318-4500 X4200
      1st Sgt ..... (757)318-4500 X4201
      Training Chief ..... (757) 462-3678
      Supply ..... (757) 318-4500 X4206
      Maintenance Chief ..... (757) 462-3677

c. Bases Used

Fort A. P. Hill

Fort Pickett

Fort Story

3. B Company

a. Unit Address

8820 Somers Rd.
South Jacksonville FL 32226

b. Site Phone Numbers.

I&I ..... (904) 714-7430

1st Sgt ..... (904) 714-7449

Admin ..... (904) 714-7421

Operations Chief ..... (904) 714-7426

Supply ..... (904) 714-7433

Maintenance Chief ..... (904) 714-7434

c. Bases Used

Camp Blanding, FL

Naval Station Mayport, FL

NAS Jacksonville, FL

4. C Company

a. Unit Address

Two Fort Point 6B
Galveston TX, 77550

b. Site Phone Numbers

Unit phone number ..... (409) 766-3723

Inspector-Instructor ..... Ext 3001

I-I 1st Sgt ..... Ext 304

Operations Chief..... Ext 301

Maintenance Chief ..... Ext 3008

Communications Chief..... Ext 3000

Unit duty phone number..... (409) 682-4368

Unit FAX number ..... (409) 766-3725

c. Bases Used. Camp Bullis

5. D Company

6. Training Installations

a. Ft A.P. Hill, Bowling Green, VA 22427-5000

(1) Training Information

(a) Army National Guard units have priority on all ranges, then Active Duty

(b) Gunnery Range (40 mm & .50 cal)

1. Range 33 is best for gun tables

2. Range 25 is a large area range used for fire and maneuver

(c) Several small arm ranges. Range 34-pop up targets; range 24 is a computerized range.

(d) Mechanized operations are limited due to thick woods and restrictive terrain. TA 5a-5c are sufficient to work section level maneuvers. There is nowhere to run platoon level tactical driving (unless it is column).

(2) Logistics

Worldwide Web at http://www.belvoir.army.mil/fortaphill (Request form can be downloaded here, this one request covers all)

(a) Request areas 120 days in advance

(b) Winter months are best if you expect to get approved for ranges (Dec-Apr), but wash racks will be closed during this time for wash downs.

(c) Plans and Training (**ALL requests go here**). (804) 633- 8758/8748; Fax (804) 633-8765

- Ranges
- Training Areas
- Barracks (old WWII Barracks)
- Chow Hall
- Command Operations Center Buildings

(d) Ammo Supply Point. (804) 633-8190

- Signature card 1687 required
- 581s required
- Letter of Assumption of Command (I&I) required
- VERY strict on residue turn in

(e) Range Control. (804) 633-8224

- Call to set up RSO Classes (you must set this up). RSOs are E7 and above
- Turn in RSO roster at the start of class
- All area regulations are covered on RSO brief and Range Regulation folder

(f) POLs and Hazmat. (804) 633-8360; EPA/Hazmat/ Environmental issues.

(g) Railroad contact information. (540) 373-9135

- Trainmaster POC (804) 564-8554.
- Richmond Office (804) 226-7611.
- For proper tie-down on railhead see MTMCTEA PAM 55-19: Tie-down Handbook for Rail Movements.

(3) I&I Training Chief Input. Send a letter requesting to stage vehicles in a self-made storage lot, we laid out wire and it served us well. There is no other fenced lot to secure your equipment. Ask us about using our vehicles; we usually have AAVs up there from December through March. This base is very strict with administrative procedures. You must have your paperwork in order before arriving.

(4) MWR Information. N/A

b. Ft Pickett, Blackstone, VA 23824-9000

(1) Training Information

(a) Army National Guard units have priority on all ranges, over Active Duty

(b) Gas Chamber is old, but it works. Also there is a wooded area around the site, we used this as decontamination sites for classes and NBCD testing.

(c) Grenade Range (17), it is a four-pit range, there is a lack of EOD support for duds, and misfires.

(d) Land Driving area-TA 11-14. Good Place to work with your grunts

(e) There are some small arms ranges and a leaders reaction course

(f) Range 11 only for 40mm T.P only, as well as .50 Cal.

(g) You can shoot M203 on Range 17, and a wide assortment of Pyrotechnics

(h) There are two (long/short) Land Navigation courses on Ft Pickett

(2) Logistics. https://www.fort-pickett.net/

(a) Requests 120 days out, winter months are the best to get all the training areas and ranges because few Army National guard units train in the winter months. Summer months are usually very difficult to get any training areas or ranges.

(b) Directorate of Logistics. (building 311)

1. Director. P.O.C. (434) 292-2505

2. Barracks. ($35.00 a night) You are required to have pillowcases and mattress covers.

3. Fuel. (request this earliest date that you can plan for it)

4. Maintenance Compound-storage

5. Port-a-Johns. You are required to have these in your training areas. Unit funded ($45.00 weekly).

6. A Signature card is required to be here.

(3) Point of Contact

(a) Training. MSgt (b)(3), (b)(6), (b)(7)(c)

- ALL requests start here
- Always call to confirm one week prior to training

(b) Fiscal. (804) 292-8408; MIPRs are required for all your payments. The base soldiers and civilians are very easy to work with here.

(c) Range Operation. (804) 292-2227; RSO Classes-call first.

(d) Ammo Issue-Supply Point. (804) 292-2436

- 581s (They require originals)
- Signature cards are required
- Letter of Assumption of Command is required

(4) I&I Training Chief Input. Ask about our Vehicles, we usually have them up there from December - April. It is a user-friendly base. Hot chow during field ops is up to you to provide. There is a chow hall available, but not to draw meals from while training. You can check them out and prepare your own chow.

(5) MWR information

- Movie Theatre
- Bowling Alley (real small)
- Small P.X.

c. Ft Story, Virginia Beach, Va.

(1) Training Information

(a) Water Operations only. This is the base that if you have a ship op, you **must** reserve the beach.

(b) You can only operate on the beach-NO INLAND DRIVING.

(c) It is a two-hour swim from A Co (-), I-I, to Ft. Story beach.

(2) Logistics

(a) Fort Story Post Operations and Range Control Office: (757) 422-7101 ext. 232

(b) All requests go here; Fax#: (757) 422-7737

(c) Risk Assessment must be done with the request

(d) You must be very thorough in your route, and plan of attack

(e) CP or radio watch on the beach while operating

(f) Request to use beaches Utah 1 & 2

(3) I&I Training Chief Input. Good for water operations/amphibious assaults only. There are a lot of small crafts fishing in the area. Good, open big beach. Plan to refuel on ship; there is only limited support to refuel.

(4) MWR Information. N/A

d. Damn Neck, Virginia Beach, Va.

(1) Training Information. Rifle Range

(2) Logistics. Ammo is mil-stripped in the database; plan 90 days in advance. The range will have your ammo ready on the firing line for you. The RSO for the range is a SNCO. Messing is available.

POC: (757) 492-7188

Barracks: (757) 491-5140

Ammunition: (757) 492-7188.

(3) I&I Training Chief Input**.** We only use this base for the rifle range. The barracks are about 15 minutes away by bus, you must provide your own transportation. Rifle Ranges in the summer months are very slow due to the range impact area being the Atlantic Ocean. When fishing or pleasure boats approach the impact area, you are put into a check-fire. Weekend firing is very slow.

(4) MWR Information. N/A

e. Fort Hood, TX; United States Army; Killeen, TX

(1) Training Information. Requests must be turned in at least 90 days prior to your training event. The Point of Contact (254) 287-3616. Questions regarding range request procedures can be answered by calling Range Control at (254) 287 3321. Range safety questions can be answered at (254) 287 3321.

Active duty Army units get priority and primarily use the live fire ranges and maneuver areas during the week. Availability is better on weekends. Sharing ranges with other units is allowed as long as the unit with the range allows you to. No contact with Range Control is required unless conducting live fire training. Caution should be taken when operating on Fort hood. Access roads and fields in the Training Areas are not controlled by Fort Hood PMO. Civilians can and do drive in open fields and along all roads onto the firing line.

(a) The following ranges are recommended for use by AAV units:

1. Cold Springs Direct fire. UGWS firing using both the .50 cal and MK19. M240G. No maneuvering. Stationary targets (hulks). Must shoot from the firing line.

2. Brook Haven Range. .50 cal and MK19. Stationary targets (hulks). Stationary targets. Must shoot from the firing line.

3. Browns Creek Multi Use Range. .50 cal from the AAV only. Maneuver range. Maneuver 2-4 AAVs. Stationary targets. Small arms firing also authorized. (M240, M16 etc.).

4. Riggs Anti-Armor Range. M203, AT-4

5. Pilot Knob Range. Grenades

6. Black Gap Pistol Qual Range. Pistol. Pop up targets available.

7. Clear Creek Zero Delta Range. M16

8. Echo Range. M16

9. Black Gap Zero Range. M16.

10. Pilot Knob Rifle Alpha. M16

11. CNBC Range. Individual and vehicle NBC gas chamber.

12. Mechanized Operations and Maneuver Areas. Training areas:TA 71-73, TA 51-54, TA 1-5.

(b) See Fort Hood regulations manual 350-40 for additional information.

(c) See Fort Hood training manual 350-18 for additional information.

(2) Logistics Information

(a) G-3, III Armor Corps Reserve Support Unit at (254) 287 4445 or (254)-286-5041. Questions regarding billeting, chow and port-a-johns can also be answered here.

(b) G-3, III Ammunition questions can be answered at (254) 286 6243. Ammunition must be requested at least 90 days in advance. You must also have a 1687 form on file in order to order/request ammunition.

(c) The Ammunition Supply Point can be reached at (254) 288-9849

(d) Ammunition surveillance can be reached at (254) 288-9934

(e) The Ammunition Holding Area (AHA) can be reached at (254) 287-4476

(f) The Residue Yard can be reached at (254) 287 9115

(3) I&I Training Chief Input. The important thing to remember about working on an Army base with soldiers is to be patient and cooperative. Remember it is their base and their rules. If you request support properly, using the proper forms and do it on time you will not have any problems. The best place to billet your Marines and to base out of is the North Fort Hood training area. This area is complete with ample room for storing the AAVs and other equipment. Two types of barracks are available. These include both the old squad bay metal type hut and the newer all brick type barracks. The MATES facility at North Fort Hood can assist in providing you fuel, POLs and a high-speed wash rack facility at a very reasonable cost. The POC at the North Fort Hood MATES facility is SFC (b)(3), (b)(6), (b)(7)(c) and he can be reached at (b)(3), (b)(6), (b)(7)(c) or you can speak to CWO3 (b)(3), (b)(6), (b)(7)(c) at (b)(3), (b)(6), (b)(7)(c).

(4) MWR Information. Fort Hood is a large base complete with a Main PX and numerous MWR type activities and support systems.

f. Camp Blanding Training Site; Army National Guard, Starke, FL 32091

(1) Training Information. Army National Guard units have **Priority** on all ranges; Request areas 120 days in advance. Range Control, Camp Blanding: (904) 682-3121

(a) Gunnery Range (Pinner Range)

(b) Rifle Range (KD A & C)

(c) Pistol Range (Pistol Range 1 North)

(d) Gas Chamber (Sierra 3)

(e) Land Navigation (Sierra 3 and Tango 1)

(f) Combine Arms Exercise (Sandy Areas)

(g) Tactical Training Areas (Sierra 11, Sierra 12, Sierra 13, Castellanos Training Areas)

(h) AOT (Camp Pendleton) Training Areas (Tree Areas) (Tango 7, Tango 8, Tango 9, Tango 10)

(i) Range Safety Class held on day of Drill commencement (0800)

(j) OIC/RSO appointment letter turned-in at briefing.

(2) Logistics

(a) Camp Blanding Ammo Supply Point: (904) 682-3529

(b) Camp Blanding PCS Warehouse: (904) 682-3523

(c) Requesting the following: Ranges, Training Areas, Barracks

(d) EPA/ Hazmat/ Environmental issues: Dispose of hazardous oils by using/storing containers (55-gal drum & gear) on AAVs to be self- sufficient.

(e) All training area regulations are covered on RSO brief and Range Regulation Folder.

(3) I&I Operations Chief Input. Send a letter requesting to stage vehicles in the Expedient Ramp through Military Police Annex, Camp Blanding, Starke, FL 32091.

(a) Military Police POC Phone#(904) 682-3566 / Fax# (904) 682-3276

(b) Contact PCS Warehouse a week prior to drill weekend to check on all requested Training Areas, Ranges and barracks.

(c) Contact Mates Lot to use wash racks to clean AAVs. (904) 682-3502

(d) Contact PCS Warehouse to use the following:Hoses, Tents.

(e) Contact PCS Warehouse on 4th AA Bn MIPPER to refuel all AAVs.

(f) AAV Chief Box set with all necessities to be self-sufficient in the field.

(g) Company Gunny Box set up for all the necessities for cleaning the barracks.

(4) MWR Information. N/A

g. Mayport Naval Station, FL.

(1) Training Information. Used to conduct amphibious/water operations. Request to use the beach must be turned in 30 days in advance.

(2) Logistics

(a) Contact Mayport Security: (904) 270-6689/5583; Fax#: (904) 270-5711. Information needed: Letter of Environmental Assessment and Operation Plan and how many vehicles, when arriving, How many personnel, what type of operations, and designated AAV Vehicle parking area.

(b) Contact Mayport Environmental: (904) 270-6730 Ext: 211; Fax#: (904) 270-7398Send a Letter of Environmental Assessment and Operation Plan containing what type of vehicles, oils used, type of hazmat emergency response for spills, emergency plan for confrontation with wildlife, how many personnel, how many vehicles, type of operation and when operation starts and ends.

(c) Contact Mayport Group Operation: (904) 247-7318; Fax#: (904) 247-7371. Send a Letter of Environmental Assessment and Operation Plan in order for the LTJG to brief Base Commander.

(d) Harbor Operations: (904) 270- 5266; Fax#: (904) 270-6994. Contact only if going into Basin Only.

(e) Coast Guard Marine Safety: (904) 232-2648. No contact needed

(f) Fleet Area Control and Surveillance: (904) 542-2004

(3) I&I Operations Chief Input. Phone Con with the designated sections 30 days in advance will enhance preparation procedures for the base if any extra assistance is needed.

(a) Fleet Training Center Bldg. 351 or Bldg 1388: (904) 270-5210

Designated area to offload AAVs, head facilities in building and outside port-a-johns at camp ground site.

(b) Wildlife Police Officer: (904) 509-8691; Responsible for inspecting thebeach area for wildlife prior to all operations.

(c) Must attend Marine Species Awareness Training prior to operations aboard NS Mayport

(d) AAV Cmdr will contact fleet area control and surveillance facility prior to splashing to assess the position of any North Atlantic Right Whales.

(e) Refueling of AAVs will be conducted once vehicles return to Ramp facility.

(f) AAV Chief Box set with all necessities to be self-sufficient in the field.

(g) POL will be replenished once vehicles return to Ramp facility.

(4) MWR Information. N/A

h. Camp Shelby, MS; Army National Guard Base (Near Hattiesburg, MS)

(1) Training Information

(a) Range Availability. Weekend Training: Ranges are available for weekend training from 1 Sept through 30 April. Annual Training: All ranges are reserved for units performing Annual Training during the period of 1 May through 31 August.

(b) Request for use of Facilities, Ranges, and Training Areas.

1. All request for facilities, including Ranges, Training Areas, Devices and Buildings should be submitted to the Camp Shelby's Director of Plans, Training and Mobilization (DPTM) no later than (NLT) 90 days prior to the desired training period

2. Camp Shelby has several ranges available for small arms and 50 Cal vehicle mounted but is limited from doing AAV gunnery do to no range will support a vehicle mounted 40mm.

(c) Camp Shelby publishes a new Range and Training Area Regulation manual annually (around January), any unit desiring to train on Camp Shelby should request one approximately 4-6 months prior to training.

(2) Logistics. Camp Shelby points of contact (See directory in Camp Shelby SOP); DSN: 921; Comm: (601) 558. www.ngms.state.ms.us/campshelby/download/index.html

ORGANIZATION	PHONE#	FAX#
BASE INFO	2000	
MATES	2962/2711	2866
BILLETING	2501	2339
ASP	2680	2676

RANGE CONTROL	2709/2710	2708
TARGETS	2759	
DIR OF TRAINING	2476	2930
BILLETING & SCHEDULING	2476	2930
SECURITY	2232	
PORTA JOHN	2665	
PUBLIC WORKS	2688	
FUEL BRANCH	2060	2773

Pager# 1-800-999-6710 Pin# 979-9180

(3) I&I Training Chief Input. Camp Shelby is a training site set up for mostly Army National Guard Tank Units. They also accommodate several Marine Reserve Units. 3rd Plt, Co A, 4th AABN has a good working relationship with all the points of contacts listed above. One of the simplest rules to have everything run smooth is to follow their rules and regulations. Units training aboard Camp Shelby must provide a Military Interdepartmental Purchase Request (MIPR) # and draw a company office and maintain it while units are in the field.

Appendix W

III MEF SPECIFICS

TRAINING SOP

MANEUVER UNIT TRAINING

9000. GENERAL. The purpose of unit training is to ensure that the command is combat ready by preparing units to meet actual contingencies as directed and to carry out the operations and exercises outlined in Chapter 3.

1. Companies arriving from the continental United States (CONUS) as part of the UDP should have achieved a high state of readiness. Training should be designed to increase or sustain readiness and to prepare for likely contingencies. Training should stress proficiency as a part of the MAGTF ground combat element (GCE), whether amphibious or air contingency oriented.

2. Unit training is progressive. Fire teams, armored vehicle crews, engineer squads, sections, and all platoons must be trained in tactics, crew gunnery and demolitions as they apply before the company can attain a high state of readiness. Because of the high operational tempo, however, small unit training must be conducted concurrently with larger exercises. Source documents for the training and evaluation are identified in Appendix A and should be used by leaders at all levels to plan and conduct training.

3. Contingency and operational requirements and directed exercises have priority over all other types of training.

9001. COMMAND POST EXERCISES (CPXs). The S-3 will plan for and conduct Command post exercises (CPXs) to exercise staff planning and functioning in a tactical environment. CPXs are usually preceded by command and staff actions to develop proficiency. COMMEXs often precede CPXs to ensure connectivity. CPXs are designed to exercise and synchronize the command element's actions and planning in a variety of scenarios. CPXs may be held in the field or in garrison. Several CPXs are scheduled prior to major exercises. Our goal is a minimum of one CPX per quarter.

9002. COMBINED-ARMS TRAINING. This training is conducted with other units of the division in order to build proficiency and teamwork. Combined arms training for this command will normally be accomplished during regional training deployments. However, the S-3 is the point of contact for all combined arms training and scheduling.

9003. AMPHIBIOUS TRAINING. This is another form of combined arms training. The S-3 will request to use as many ship days per year as possible for AAV and LAV amphibious operations through Div/MEF U.S. Navy liaison officer and Div G-3. These exercises develop and sustain the proficiency of crews in amphibious operations. Whenever possible, training will be scheduled for the platoons prior to their assuming contingency missions afloat. Infantry units may cross train with our units in this manner to conduct amphibious assaults, raids, demonstrations, etc.

1. Infantry units may schedule AAV safety and surf survival training at least once during their UDP rotation.

2. Units should take advantage of opportunities for both day and night landing operations with AAVs in realistic scenarios.

9004. FIRE SUPPORT COORDINATION (FSC) TRAINING. The FSC skills required of a MAGTF during combat operations demand continuous, special training. Units must regularly conduct FSC training with as many other agencies and supporting arms as possible. This may be done in CPXs, FTXs, CASTEXs, etc.

9005. AIR-GROUND TRAINING. Air-Ground coordination is vital to being able to operate as a MAGTF. Fully integrated air-ground training (GAIT) will be done to include the following exercises.

1. Close Air Support Exercise (CASEX).

2. Close Air Support/Familiarization Exercise (CASEX/FAMEX).

3. Tactical Air Control Party (TACP) School/Exercise.

9006. MECHANIZED/ANTI-MECHANIZED TRAINING. Infantry, armored (when available) and light armored units, along with the Combat Engineer Company, must work together often to conduct mechanized/anti-mechanized training and breaching operations. In the interest of safety, infantry and combat engineer commanders must familiarize their Marines with the hazards of operating with or near tracked/armored vehicles before conducting these types of operations. CAB usually incorporates mechanized training packages in Fuji training deployments as often as possible. Mechanized training packages may be given on Okinawa at the company level, but require close coordination of all units due to limited training areas.

9007. RECONNAISSANCE/SECURITY TRAINING. The Division and Regiments must train with the light armored reconnaissance (LAR) companies and reconnaissance companies to develop and maintain their capabilities in obtaining and processing local intelligence information and conducting security operations.

9008. ACM TRAINING. Units assigned to the ACM will conduct such airlift- specific training, to include alerts, as required to maintain the capability to task organize and deploy rapidly via AMC or USMC airlift. These exercises will include emphasis on proper load planning and preparation, and to rapidly responding to alert drills when directed.

9009. NIGHT TRAINING. At least one third of all training will be conducted during the hours of darkness and will include offensive and defensive combat, night movement, navigation, recognition procedures, and fire control.

Armored and light armored vehicle movement at night is usually restricted for safety reasons, but can be done safely; this requires close coordination by all hands. Armored and light-armored units may also train for night combat with classes on tactics and techniques, night driving courses, and night maneuver tactical exercises without troops (TEWT) using fewer vehicles or substitute vehicles. Most amphibious assaults will occur during the hours of darkness; therefore, night AAV and LAR water exercises should be planned for each amphibious exercise.

9010. COMMUNICATION EXERCISES (COMMEXs). COMMEXs are done routinely in order to maintain proficiency, to test connectivity and new procedures, and to train communication personnel and incidental operators as needed. These are usually scheduled by the S-6, or designed to support Division COMMEXs.

9011. OKINAWA RANGES AND TRAINING AREAS

1. Okinawa has a reputation as having restrictive range and training area regulations, while there are restrictions and rules, as there are everywhere, Okinawa offers many excellent training opportunities. If units do not receive good training while in Okinawa, it may be due to the ignorance of the unit's commander and staff. In every unit, every member who is even remotely involved in planning for training must become thoroughly familiar with the ranges and training areas abroad the island.

2. Chapter 3 of BO P3500.1 W/Changes (Ranges and Training Area Regulations) contains the information and regulations concerning the safety and use of maneuver areas, ranges, and training facilities on island. Because of the international political-military ramifications, range and training area violations, commanders must exercise special care to ensure compliance with the range and training area regulations. Commanders are encouraged to develop and maintain reference material, maps, training packages, and so forth to assist units in developing training plans that best use the available areas.

a. Central Training Area (CTA) this is an approximately 20,000 acre area located in the center of Okinawa. It has five maneuver areas (no live firing) identified as CTA #1, #2, #3, #4, and #5. These areas provide space for unit maneuver and tactical employment training. No small arms live firing is permitted except on specified ranges and mortars from CTA #4, and #5. These areas are further divided into 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, 2f, 2g, 3a, 3b, 3c, 3d, 3e, 3f, 3g, 4a, 4b, 4c, 4d, 4e, 5a, 5b, 5c, 5d, 5e, and 5f. CTA #2 contains the Ginoza Drop Zone, which is used for parachute training. CTA #3 and CTA #5 contain artillery gun positions. Area 4d contains a Japanese experimental forestry station. CS chambers are located in Areas 4A and 5F Area 4A also contains a rappelling tower. Combat Town, a non-live firing training facility, is located in Area 2G.

b. Hansen Impact Area this is a 3,696 acre area located northwest of Camp Hansen. This area contains various live-fire combat ranges, the hand grenade and demolition range, mortar positions and observation posts, the Hansen rifle and pistol ranges. Artillery fire is allowed to impact this area. Range 18 is an excellent live fire range for small arms.

c. Schwab Impact Area. This is a 1,766 acre area located northwest and across Highway 329 from Camp Schwab. This area contains EOD site 3; Ranges 10 through 14; and Schwab rifle/pistol ranges impact in this area. Range 10 is a good live fire range close to the unit.

d. Jungle Warfare Training Center (JWTC). This is a 21,480 acre area located on the northeastern end of Okinawa under the operational control of the 3d Marine Division. The area is separated into several training areas including JWTC 1a, 1b, 2a, 2b, 2c, 3a, 3b, 3c, 3d, and 3e, with the main campsite located in JWTC 2A. The fire support base is located in JWTC 3b. The entire area is used for counter-guerilla training, infantry maneuvers, helicopter exercises, escapes and evasion, survival training, and artillery drills. The area is rugged and heavily forested, with dense undergrowth that severely restricts movement. No live firing is authorized in the JWTC. JWTC has superb infantry training.

e. Kin Blue Beach is an 800- yard long landing beach for ship-to-shore movement training. The area has good access from Camp Hansen. It may be used for staging amphibious mount-out from Camp Hansen. It has a command post exercise (CPX) site, a logistical support area, and is suitable for swimming/raid school training. Grids for the center of the beach are 946244.

f. Gimbaru is a 121.37-acre area used for field exercises, CPXs, and communications exercises (COMMEX). The center grid coordinates are 950264. This area historically has had problems with mosquito born disease, yet is good for helicopter lifting operations.

g. Ukibaru Island, located GC 9908, has very limited maneuvering area. However, it is suitable for small unit field exercises. There is a large coral reef that makes entrance very difficult except at the northern end of the island, which is suitable for approach by AAVs, only at high tide.

h. Tsuken Jima Beach, location GC 9404, is an island, which has suitable landing sites for AAV operations.

i. Kushi, location GC 010317, has an area of 21.92 acres. It is an area used for amphibious landings. There is limited tactical maneuvering area on the beach at low tide. There is only one entrance site to the southern CTAs for AAVs currently.

j. Camp Schwab Water Surface Area (Splash Beach) serves as a joint training area. It consists of a 400-meter wide landing beach of limited maneuvering area at the base of the LST ramp (as described in the 1972 reversion treaty). It is located beside Ourawan recreation beach. No live firing of weapons is allowed. This is an excellent beach for AAV, LAR, and LCAC operations.

k. Camp Schwab LST Ramp serves as an access lane for transportation of AAVs between ships and the beach. This area is 400 meters wide and may be used for limited training and vehicle operations testing.

l. Water Surface Areas. Fire Warning Orders are issued weekly (Wednesdays) from Base G-3 (Ops). WSA scheduling information can also be obtained off of the RFMSS (Range Facilities Management Support System) program available via modem hookup to Range Control. A minimum of 10 days advance notice is required to Base G-3 (Ops is required to schedule or cancel WSAs for training) prior to splashing AAVs a surf report (appendix I) must be transmitted to the S-3 shop.

(1) Camp Schwab Water Surface Area I. Is an amphibious training area used for amphibious training. It extends along the beach of Camp Schwab from Splash Beach to the southern camp border and to approximately 50m into the ocean. Extreme caution must be exercised to avoid fishing nets and irregular coral formations. No live firing of weapons is authorized. There are an unlimited number of training days per calendar year allowed in this area.

(2) Camp Schwab Water Surface Area II. Surrounds Camp Schwab and Camp Schwab Water Surface Area I on the north, east, and south and extends 500m into the ocean. It is used for amphibious training, to include ship operations. Extreme caution must be exercised to avoid fishing nets and irregular coral formations. No live firing of weapons is authorized. There are an unlimited number of training days per calendar year allowed in this area.

(3) Camp Schwab Water Surface Area III. Extends from the northern edge of Ourawan Bay to south of Kushi. It is a prime avenue of approach for AAV movement to the central training areas. Extreme caution must be exercised to avoid fishing nets and irregular coral formations. No live firing of weapons is authorized. Training in this area is limited collectively to 120 days per calendar year for ALL U.S. military units on the island.

(4) Kin Blue Beach Water Surface Area I. Extends south from Kin Blue Beach and is used for amphibious landing. It is a prime training area for amphibious assault training. Extreme caution must be exercised to avoid fishing nets and irregular coral formations. No live firing of weapons is authorized. There are an unlimited number of training days per calendar year allowed in this area.

(5) Kin Blue Beach Water Surface Area II. Extends around the Kin Blue Beach area peninsula. Extreme caution must be exercised to avoid fishing nets and irregular coral formations. No live firing of weapons is authorized. There are an unlimited number of training days per calendar year allowed in this area.

(6) Kin Blue Beach Water Surface Area III. Extends south by southwest from WSA I. It is used for amphibious training at Kin Blue Beach. Extreme caution must be exercised to avoid fishing nets and irregular coral formations. No live firing of weapons is authorized. Kin Blue is a good landing beach.

Training in this area is limited collectively to 120 days per calendar year for ALL U.S. military units on the island.

9012. REMOTE TRAINING RANGES/AREAS. The following remote ranges and training areas are available and are governed by the directives indicated:

1. Camp Fuji. CFO P3500.1A (* Camp Fuji Range and Maneuver Area Regulations) covers many details and range regulations for use when planning and conducting training at Fuji.

2. Republic of Korea. COMNAVFORKOREAINST 5000.4 (SOP for USN/USMC Units Deploying to the Republic of Korea) and ForO4000.10 (SOP for Logistics) cover training area regulations and administration details for use when planning and conducting training in Korea.

9013. RANGE AND TRAINING AREA ORIENTATIONS AND BRIEFING

1. Unit Deployment Program (UDP) Briefings. Each UDP unit which reports aboard will receive three separate range and training area briefings, as follows:

a. Platoon/Company Commander Range Orientation. Battalion S-3 and the Bn Gunner will conduct range orientation with all company leaders and will emphasize training opportunities.

b. RSO Briefings. The Range Control Officer of MCB, Camp Butler will conduct RSO briefings for all officers and SNCOs of each incoming unit. This briefing will emphasize the safety rules peculiar to the Okinawa ranges and training areas.

c. Range and Training Orientation Tours. Company Commanders, Executive Officers, Platoon Commanders, and SNCOs of every UDP unit will receive a range and training area orientation tour of key ranges/areas. This tour will be scheduled by S-3. The tour must be scheduled through Range Control and either the Range Control Officer or a key subordinate should accompany all. If available, a helicopter orientation tour will be scheduled, especially of the water surface areas. Appendix S is a map of the coral reef around Camp Schwab.

9014. SCHEDULING RANGES AND TRAINING AREAS.

1. Requests for ranges and training areas will be submitted to Range Control Officer via the S-3 at least 21 days in advance in the format shown in Appendix V (Training Area and Range Request Form). Appendix J (Ramp Report) is a report required when going to the field.

2. Hike requests will be submitted to the S-3 (with planned route) at least 21 days before the hike is to occur. No conditioning hikes are authorized on civilian roads. Hike routes must remain in the confines of recognized training areas.

3. Requests for the following areas will arrive at the S-3 office at least 28 days before the beginning of the training week.

a. Schwab or Kin Water Surface Areas #1 - #3

b. Aha Training Area.

4. Requests for the use of JWTC will be made to the OIC, JWTC Detachment via the S-3 (same format as Appendix V). Units or personnel entering JWTC will notify the OIC, JWTC upon entry and departure.

5. Once requested, ranges and training areas must either be used or as requested be canceled as expeditiously as possible so that other units may use them. If it becomes necessary to cancel training, which has been scheduled on one of the ranges or training areas, commanders must notify the S-3 as soon as possible. The Range Control Officer will notify the Commanding General of all failures to use Base facilities without submitting a cancellation notice.

9015. TRAINING ASSISTANCE

1. Coordination Within the Division. Units desiring support from other units within the Division will submit requests to the unit from which the assistance is requested, via the Commanding Officer (Attn: S-3).

2. Coordination Outside the Division. A unit desiring support from other commands will submit requests to S-3. Once a formal request has been approved, direct liaison will normally be authorized for simplicity in planning and execution.

Appendix X

MARINE CORPS AIR GROUND COMBAT CENTER

1. General Requirements

a. Range Regulations: Combat Center Order (CCO) 3500.4K. This Order can be viewed at https://www.29palms.usmc.mil/dirs/ont/range/. Personnel operating within MCAGCC RTAAs will operate in a safe manner, preserving life, equipment, and natural resources.

(1) Purpose. The purpose of CCO 3500.4K is to provide a detailed source document governing commands using the range, training areas and airspace (RTAA) aboard the Marine Air Ground Task Force Training Command, Marine Corps Air Ground Combat Center. It specifies responsibilities, gives descriptions of available training ranges, provides instructions and defines safety regulations for all live- fire, maneuver, and air operations aboard MAGTFTC, MCAGCC

(2) Applicability. All personnel engaged in firing or maneuvering in the RTAA shall be familiar with and will comply with the provisions set forth in CCO 3500.4K.

b. Range Control Division. The Director, Range Control Division (RCD) is responsible to the AC/S G-3, for the control, scheduling, safety, and maintenance of the RTAA.

c. Range Operations Section.

(1) Range Control (call sign "BEARMAT"). Provides RTAA control, controls medical evacuations (MEDEVACs), and a means of passing and receiving essential information to all commands engaged in training aboard the combat center.

(2) Range Scheduling. Provides a single scheduling authority for all training aboard the combat center's RTAA.

(3) Range Safety. Range Safety Inspectors serve as direct representatives of the AC/S G-3. They are responsible for the enforcement of this SOP and safety standards throughout the RTAA, to include range briefs, light amplification stimulated emission radiation (LASER) briefs, Range Safety Officer (RSO), and Officer In Charge (OIC) certification.

d. Range and Training Area Maintenance (RTAMS). Maintains all MAGTFTC, MCAGCC RTAAs, as well as target construction, and emplacement in support of unit training.

2. Unit Commander responsibilities

a. General. Ensures compliance with current Marine Corps orders, Training and Education Command (TECOM) Safety of Use Memorandums (SOUMs), applicable technical orders (TMs), field manuals (FMs), Fleet Marine Force Manuals (FMFMs), war fighting publications, installation range guidance, and applicable SOPs for safe training and firing for each weapon system within his/her command or under his/her charge.

b. Briefing. Ensures all personnel within the unit's command are briefed on and comply with installation range procedures and safety requirements, including the use of required personal protective equipment (PPE).

c. OIC and RSO Designation. Designates an OIC and a RSO for all training events, including live-fire, and non-live-fire events.

d. OIC and RSO Requirements. Ensures OICs and RSOs meet the requirements listed in the directives in Reference A of CCO 3500.4K and highlighted as follows:

(1) Must be competent and properly instructed in the performance of their duties. They must also have satisfactorily completed the MAGTFTC, MCAGCC Range Safety Certification Program and the TECOM online Range Safety Course (basic).

(2) Must be qualified and knowledgeable in the weapon systems for which they are held responsible, as well as safe ammunition handling and use procedures.

3. Safety. Safety is the responsibility of every individual at all times, and is a key factor in successful training. Concerns for safety should never be limited to the training event itself and should always include associated activities as well; including convoy movement to and from training, maintenance activities, bivouac operations, etc.

a. Safety Briefs. The following briefs are required to be given by personnel designated by the AC/S G-3 prior to entering the range and training areas at MAGTFTC, MCAGCC:

(1) Desert Survival.

(2) EOD Unexploded Ordnance.

(3) Hazardous Materials, Natural and Cultural Resources.

(4) RSO/OIC Certification Course for SNCOs/officers.

(5) RSO Certification Course for NCOs, Non-Live-fire events.

Contact the Range Safety Office to schedule these briefs.

b. Physical Training. Physical training is not allowed on ranges or in RTAs.

c. Heat Conditions. All units must know and understand the current heat stress conditions at all times. The heat conditions will be passed over the RTA safety net every time there is a change in the condition.

d. Destructive Weather and Wind Warnings. All units must know and understand the current destructive weather and wind warnings. Range Control will pass thunderstorm and wind warnings to all units training aboard MAGTFTC, MCAGCC. Units are CAUTIONED that all washes, canyons, and dry lakebeds are prone to severe flooding without warning. Maps of all flood prone areas are available at https://tp.geofiwest.usmc.mil/projects/rmcd/default.aspx

4. Training Accidents and Incident Reporting

a. General. MAGTFTC, MCAGCC requires that it be kept informed of any accident or incident that constitutes a serious or significant event which may require notification to higher headquarters (HHQ).

b. MAGTFTC, MCAGCC Reporting. Any unit involved in an accident or incident while operating in the RTAA will immediately report the incident to Range Control. If additional information or reports

are required, the unit will be notified. In the event of serious injury or death, units will preserve the scene of the accident until released by the investigating officer or commanding officer. In the event of an accident resulting in a death, a representative from the deceased's organization will be assigned to accompany the remains to the Naval Hospital Twentynine Palms and San Bernardino County Coroner's Office, if necessary.

c. Parent Command Reporting. Reports submitted under this paragraph are not substitutes for reports required by appropriate directives nor do they constitute notification of a unit's chain of command. Reports submitted per directives, to include notification within the unit's chain of command, shall include the CG, MAGTFTC, MCAGCC as an information addressee.

d. Reportable Incidents. Examples of accidents or incidents requiring a report to the RCO are:

(1) Motorized vehicle accidents.

(2) Actual MEDEVACs.

(3) Ordnance released or dropped in the wrong area.

(4) Accidental/negligent discharges.

(5) Missing, lost, or stolen munitions.

(6) Serious injury or death.

(7) Anything that is liable to create interest or inquiries from the local civilian community.

5. Medical Evacuation Procedures

a. The responsibility for determining the necessity for a MEDEVAC rests with the senior person present at the scene, based upon advice of medical personnel if present. The senior person present shall determine the initial method of evacuation (ground or air). Evacuation of all casualties will be accomplished as expeditiously as possible, consistent with safety and the medical status of the casualty.

b. Range Control shall be notified immediately of all MEDEVACs. Range Control assumes control of all actual MEDEVACs (both ground and air) aboard MAGTFTC, MCAGCC regardless of what agency currently has control of the RTAA.

c. MAGTFTC, MCAGCC has contracted dedicated civilian air ambulance services to support training. The civilian air ambulance company will be stationed aboard MAGTFTC, MCAGCC during all operations. The civilian air ambulance company provides advanced life support for Marines and other service members training aboard the installation. The civilian air ambulance company will maintain communications with Range Control at all times; and the civilian air ambulance will normally be positioned at LZ-10 when not airborne. The MEDEVAC crew will operate under a 30-minute alert, defined as the aircraft being airborne within 30 minutes from first notification of a medical emergency by Range Control.

6. Environmental Procedures

a. General. The MAGTFTC, MCAGCC ranges, and RTAs are heavily used. The RTA is also home to protected species, sensitive habitat, and historically significant sites. To successfully achieve training

objective while complying with environmental laws and regulations, it is essential to consider environmental concerns when planning training operations and exercises. It is essential that training units adhere to the provisions contained in CCO 3500.4K.

b. Environmental Constraints Applicable to all Training Activities: Training areas and land use restrictions must be considered in operational staff planning, while hazardous material and waste management must be considered as a basic logistical requirement. As a rule, material taken into a RTA must be removed from the RTA. The CCO 5090 series of directives provides specific guidance in adherence to these regulations.

7. AAV & Armored HMMWVs

a. Firing over the heads of personnel while stationary and/or from moving vehicles is prohibited.

b. Individual vehicles shall display a red range flag while firing. While on the firing line, each vehicle shall display a green range flag when all weapons have been cleared. A yellow flag shall be displayed when there is a weapon malfunction. (Not applicable to ITX)

c. Prior to firing, the safety limits for each firing point will be physically marked on the ground only when moving into those positions to fire; ground marks are not required for static fire. (Not applicable to ITX)

d. Live rounds shall not be chambered until the firing vehicle has reached the specified point on the range designated as a firing area. (Not applicable to ITX)

e. No weapons system shall be elevated above the line of sight to target, unless that weapons system has been determined to be clear of ammunition, or is required to be elevated above that line in order to be safely cleared.

f. The clearing of any weapon shall be accomplished per the operator's manual.

g. Vehicle crews shall use range flags. It is the responsibility of the OIC and RSO to ensure compliance of proper range flag use. (Not applicable to ITX)

h. Prior to movement of any vehicle from designated firing areas, the RSO shall ensure all weapons systems are clear. (Not applicable to ITX)

i. The OIC and RSO shall ensure all personnel are thoroughly briefed in the correct procedures, for immediate action in case a round exits the authorized impact area.

8. Police of AAV Vehicle Crossings

a. General. COs, OICs, or NCOICs of vehicles using authorized road crossings, or making an emergency crossing of hard- surfaced roads shall ensure crossings are properly policed immediately after use. Proper police includes removing soil, rocks, debris, and dunnage from the paved surface of the road, leveling the shoulders of the road, and cleaning drainage ditches paralleling shoulders of the road. When it is necessary for tracked vehicles to cross-wheeled vehicle access roads in training areas, crossings shall be made at right angles to the road, at low speed, without turns. If it is necessary for tracked vehicles to operate on these roads, the approach shall be made at the minimum angle possible to avoid sharp turns on the road surface. Speeds shall not exceed five miles per hour. Do not delay traffic for more than ten minutes.

b. Road Guards. Road guards shall be posted a safe distance on either side of crossings to stop traffic while vehicles are crossing, and when police is conducted. Road guards shall wear high- visibility safety vests for all crossings, day and night. For all crossings made during periods of darkness or limited visibility, road guards shall carry flashlights with plastic signal wands.

c. Cement Road Crossings. Locations of cement track vehicle crossings are listed below.

Location Description	Grid
10th St/Tank Park	85689 89186
11th St/AAV Park	85523 89516
Tank Trail/Del Valle & Berkeley Rd	85433 89661
13th St/Gas Station	85322 90112
Range 101/101A	83126 93645
Range 104 Crossing	81901 94706

d. Training Area Roads. The speed limit on all training roads throughout MAGTFTC, MCAGCC is 30 mph unless otherwise posted, or conditions dictate a lower speed to ensure safe transit. Units should conduct route recons during the planning phase of training to ensure conditions of the roads will safely accommodate the movement of unit vehicles to and from scheduled training sites, and to establish appropriate controlling/safety measures as needed. BEARMAT provides a roads condition report outlining transiting conditions of major roads during times of inclement weather.

9. Points of Contact. The following telephone numbers are provided for reference. All phone numbers are DSN 230-XXXX or Commercial (760) 830-XXXX.

AC/S MTD 6492

Deputy AC/S MTD 7926

Operations Officer, G-3 4230

Director, Range Management/Control Division 7113

Range Scheduling 6313/FAX-6929

Range Scheduling Chief 6313

Range Control Officer 7113

Range Control (BEARMAT) 6623/6535/1981*

Explosive Ordnance Disposal Unit 6885

Range Maintenance (RTAMS0 ..... 6172/6953

Range Safety 7112/6576

Environmental Affairs (NREA) 7396

Exercise Support Division (ESD) 3974/3975

PMO 6800

*Range Control (BEARMAT) phone lines are recorded.

MAGTFTC GROUND CHECK POINTS

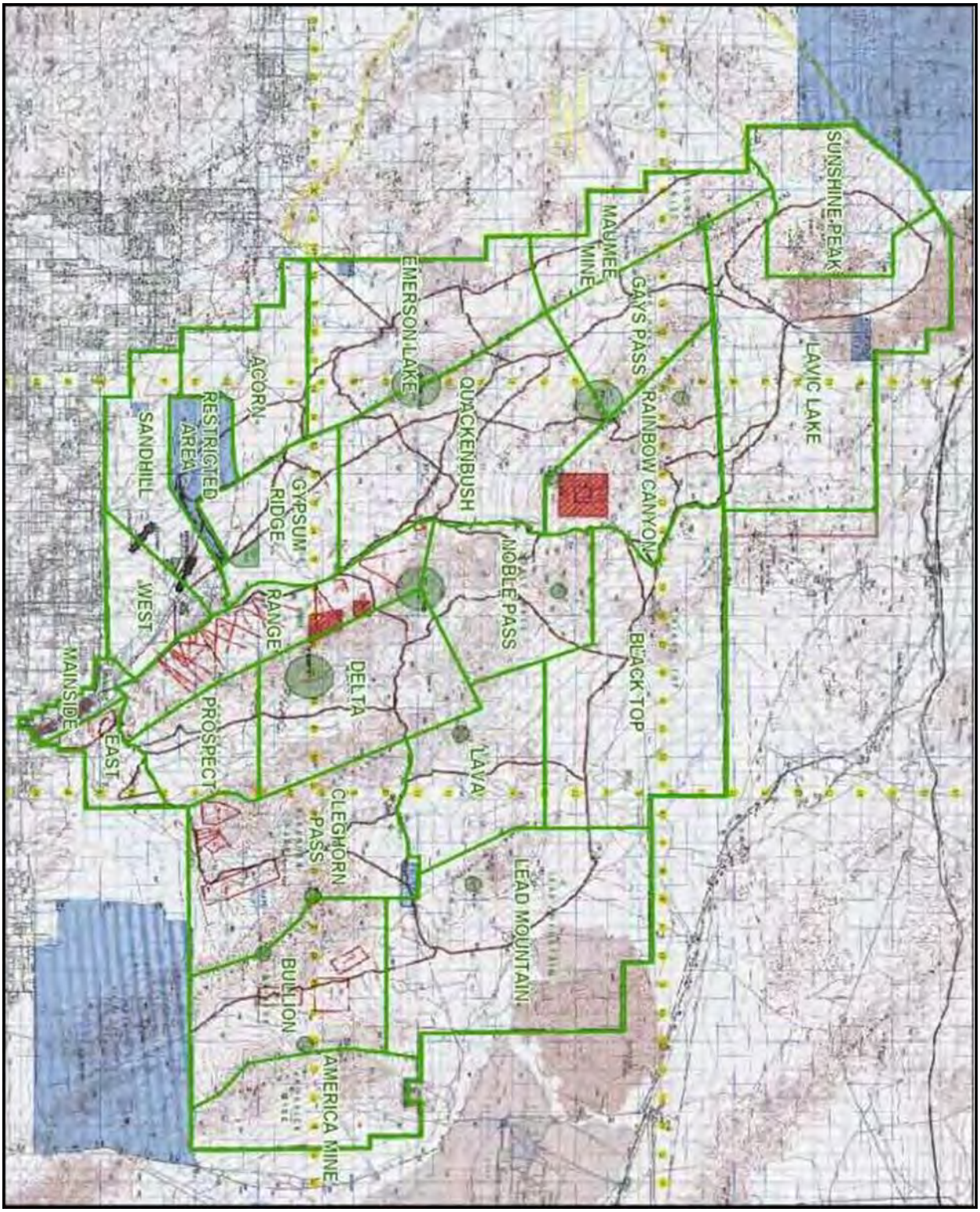
CP #	Grid	RTA	Support[1,2]	CP #	Grid	RTA	Support[1,2]
1	NT 819947	Range MSR	FD/MA	**29**	NU 585324	LL	MA
2	NU 771050	Miners Pass	FD/MA	**30**	NU 594334	LL	MA
3	NU 735092	QL	FD/MA	**31**	NU 664332	LL	MA
4	NU 733113	QL/RC (BM)	FD/MA	**32**	NU 716292	LL/RC/BT	
5	NU 710124	QL	FD/MA	**33**	NU 724263	BT	
6	NU 698114	QL	FD/MA	**34**	NU 767250	BT	
7	NU 663145	QL	FD/MA	**35**	NT 892923	PROSPECT	FD/MA
8	NU 652132	QL	FD/MA	**36**	NT 896926	EAST	FD/MA
9	NU 621160	QL	FD/MA	**37**	NT 881969	PROSPECT	FD/MA
10	NU 617184	QL	MA	**38**	NU 866085	DELTA T	FD
11	NU 573243	GP	MA	**39**	NU 820095	DELTA	FD
12	NT 758983	GR (FASP)	FD/MA	**40**	NU 788166	NP	
13	NU 703040	GR	FD/MA	**41**	NU 764159	NP	
14	NU 669089	ACORN	FD/MA	**42**	NU 743177	QL/NP	
15	NU 691016	GR	FD/MA	**43**	NT 979963	CP	FD/MA
16	NT 705986	ACORN/GR	MA	**44**	NU 965040	CP	FD/MA
17	NU 684014	EL/QL	FD/MA	**45**	NU 990094	CP	FD/MA
18	NU 675028	ACORN	FD/MA	**46**	NU 939088	VP/LAVA	FD/MA
19	NU 660064	EL	FD/MA	**47**	NU 917093	CP/LAVA	FD/MA
20	NU 649028	MM	MA	**48**	NU 916206	BT	MA
21	NU 612055	EL	MA	**49**	NU 831233	BT	MA
22	NU 597084	EL	MA	**50**	PU 035112	LM	FD/MA
23	NU 570127	EL	MA	**51**	PU 106128	OFF BASE	
24	NU 536216	MM	MA	**52**	PU 033158	LM (BM 20)	FD/MA
25	NU 518325	DP/MM		**53**	PU 025190	LM (BM 188)	FD/MA
26	NU 537424	LL (NORTH)	MA	**54**	NU 995202	LM	FD/MA
27	NU 569281	GR		**55**	PU 026266	OFF BASE (BM 38)	MA
28	NU 559296	LL					

Notes:

[1]FD = Fire Dept can support with MEDEVAC at designated control point.
[2]MA = Mercy Air can support with MEDEVAC at designated control point.

(Support is available provided road, weather and visibility conditions are adequate).

MCAGCC RANGE TRAINING AREAS (RTAs)



Appendix Y

MARINE CORPS BASE QUANTICO SPECIFICS

1. General Base Information

a. Overview. MCB Quantico serves many functions for the Marine Corps. Most of the Manpower Management branch, Training and Education Command (TECom) headquarters, and Marine Corps Recruiting Command are located here on the east side of Interstate 95. Officer Candidates School (OCS), The Basic School (TBS), the Infantry Officer's Course (IOC), and Weapons Training Battalion (WTBn) are all units that conduct training aboard the base. Additionally, Company D, 4th LAR BNis located at the Reserve Center at Camp Upshur. Reserve Support Unit (RSU) facilitates some administrative requirements for units coming to train at Quantico.

b. Billeting and Logistical Support. Range Management Branch (RMB) will provide liaison with MCBQ Staff sections to make billeting and logistical support more efficient. The POC for RMB is Training Support Center Quantico (TSCQ) at (703)432-7026/7974. Billeting will have to be arranged through RSU, and will most likely be aboard Camp Upshur. The transient barracks are located on mainside, where there is no tactical vehicle staging area or any training areas. Camp Upshur is in the northwest corner of the base. Billeting consists of Quonset Huts with bunks, head and shower facilities, as well as a small Marine Corps Exchange. There are also tactical vehicle staging areas at Camp Upshur, and it is very accessible to most live fire ranges. The number to the RSU is (703)784-5567/Operations Chief or (703)784-2516/Deputy Director).

c. Ammunition Supply Point. The ammunition supply point (ASP) is located on MCB-1, just west of Interstate 95. All unit commanders, officers in charge, and authorized units/individuals are responsible for the proper requisition, receipt, transportation, and storage of arms, ammunition, and explosives (AA&E). Upon issue, the unit assumes the responsibility for maintaining accountability, providing appropriate security, enforcing all standing explosive safety and handling procedures, and reporting of all ordnance malfunctions/deficiencies in accordance with the current directives. The number to the ASP is (703)784-5744 (OIC) or (703)784-5711 (SNCOIC).

2. General Range Requirements

a. Range Safety Officer (RSO) and Range Officer in Charge (ROIC). All units conducting training aboard Marine Corps Base Quantico (MCBQ) must have an RSO and OIC present when conducting training, to include movement to the training areas. For live-fire training the RSO and ROIC may not be the same individual.

(1) To be certified as an RSO, personnel must complete Marine Net safety course and Range Management Branch Quantico RSO test.

(a) The Marine Net course can be found by logging on to www.marinenet.usmc.mil and searching by course number RTAMRSOCAA.

(b) Information regarding the Quantico Range Safety Officer Test can be found at https://www.quantico.marines.mil/Offices-Staff/G-3-Operations/Range-Management-Branhc/OIC-RSO-Qaulification/

(2) Recertification is required every three years. Additionally, RSOs and OICs of training events must be assigned in writing by their parent command, and certified as an OIC for the weapons systems, munitions, and training devices for which they are accountable.

b. Range and Training Area Scheduling. Range Scheduling hours of operation are from 0700-1600, Monday-Friday, except on Federal Holidays. Range Facility Management Support System (RFMSS) is the primary method for scheduling requests at MCB Quantico. Ranges must be checked out at Range Management Branch no later than 1200 on the day prior to training. Ranges scheduled for Mondays must be checked out by 1200 on the previous Friday. All tracked vehicle routes must be scheduled through Range Management Branch. Quiet hours are in effect from 2200-0600 Monday to Saturday and 0001-1200 on Sundays. During quiet hours, the only live fire authorized is 7.62mm and below. Deviations to this must be submitted to the Commander of MCB Quantico through Range Management Branch. Requests must be on organizational letterhead and signed by the operations officer or higher. The number to Range Scheduling is (703)784-5502/5507.

c. Map Sheets. The map sheet for MCB Quantico is V734S Quantico Military Installation Map Land Navigation Special (1:50,000). The NSN is 7643-01-471-5749, and the maps are also available for purchase at the Marine Corps Exchange aboard Camp Barrett for a nominal fee.

d. Range regulations. Unit leaders, RSOs, OICs will be familiar with MCBO 3570.1A regulations for ranges, training areas, and air space. The most current copy of the MCB Quantico Range Safety Order can be found at:

https://www.quantico.marines.mil/Offices-Staff/G-3-Operations/Range-Management-Branch-References-Resources/

3. Communication and reporting requirements

a. Two means of communication are required between the RSO/OIC and the range operations control center (RCF). Enterprise Land Mobile Radio (ELMR) radios are the primary means of communications, and can be drawn from Range Management Branch when signing out the range or training area. When no ELMR radio is available, tactical radios may be used as the primary means of communication. Cellular phones are acceptable as a secondary means of communication with Range Management Branch. Your call sign will be the range or training area occupied (i.e. “Range 7” or “TA-16F”). The Range Control Facility (RCF) is the net control for all safety nets, call sign “RANGE CONTROL” on 38.70 SC/PT (VHF) or 323.700 PT (UHF). The RCF fire desk can be reached at (703)784-5321 or (703)784-5322.

b. Radio checks with Range Management Branch are required every half hour on the hour and half hour during live fire training, and every three hours on the hour for non-live fire training events. Loss of communication with Range Management Branch requires a cease fire or cease training until positive communications has been established. Range Management Branch requires immediate notification for any personnel being evacuated from the range for any injury, as well as all fires regardless of size and intensity.

4. Tracked Vehicle Special Instructions. Caution will be used to minimize the negative effects Tracked Vehicle use has in the RTA. Additional guidance is available at RMB. The following restrictions apply:

a. Tracked Vehicles will only travel on improved roads and established unimproved roads that have been requested and approved by RMB. Operation on firebreaks is strictly prohibited.

b. Wheeled escort vehicles are required in the front and rear of any Tracked Vehicle unit while traveling on improved roads.

c. Dismounted road guards with florescent vests are required while crossing any paved surfaces. Between the hours of sunset and sunrise, the road guards will also be equipped with flashlights. Once a paved surface has been crossed, the roadway will be swept clear of all debris.

d. Neutral Steers are prohibited in the RTA.

e. Tracked vehicle operators will make every effort to preserve the unimproved surface roadways. Hard steers that are likely to result in significant damage will be avoided. Units may be held responsible for the repair of roads that are damaged by excessive tracked vehicle use.

5. Range Specifics

a. There are several ranges available for use by AAVs aboard MCB Quantico. However, there is only one range that is suitable for Up Gunned Weapons Station (UGWS) qualification per the NAVMC 3500.2 (AAV T&R). Range 7 is a heavy machinegun and mortar range, cleared for all types of .50 caliber (A576) and 40mm (BA21, B542, B546). Range 7 can support all engagements for Tables III-IX. The closest target is 650m away, and units should conduct Table II accordingly. Infrared smoke grenades (G826) are cleared for use on the range.

b. Range 15 is capable of supporting .50 caliber (A576) and 40mm (BA21, B542, B546), however due to range limitations, the impact areas and Surface Danger Zones (SDZs) do not overlap and have separate targets. Range 15 would be suitable for a unit only training with MK-19s.

c. WTBN Ranges 2, 3, and 4 are used for annual rifle qualification (Tables I and II) and are scheduled through Range Management Branch. Range 305 is suitable for the Combat Marksmanship Tables (Tables III and IV) and is located at Weapons Training Battalion. Requal Pistol and Competition Pistol are located at Weapons Training Battalion and is ideal for annual pistol qualification. These ranges must be scheduled through Range Management Branch.

d. The CBRN Confidence Chamber is located near TBS on Application Trail and is suitable for conducting annual CS gas training.

e. There are several ranges used for live hand grenade training, however the most applicable for our community is Range 3B. Range 3B consists of practice pits as well as live grenade pits.

f. Land Navigation courses exist throughout MCB Quantico. The most utilized (ranged from easiest to hardest) are in TA-5, TA-8, TA-6, and TA-16. A complete list of boxes, with associated grids can be obtained by contacting TBS.

g. There are multiple other ranges, both stationary and live fire and maneuver, available for use aboard the base (generally up to dismounted platoon size). For a complete listing of live fire ranges, complete with pictures and imagery available, go to:

https://www.quantico.marines.mil/Offices-Staff/G-3-Operations/Range-Management-Branch/Explore-the/Ranges/

6. Weather and Environmental.

a. Fire Danger Rating. Fire Danger Classifications range from Class I (Normal) to Class V (Hazardous). The RCF will notify all training units when the rating reaches Class III (Caution) or higher. Units using tracers, smoke grenades, pyrotechnics, or demolitions must check out firefighting equipment from Range Management Branch. When the rating reaches Class IV (High), firing of tracers and smoke grenades is prohibited, and when the rating reaches Class V (Hazardous), no live fire will be conducted without approval from Range Management Branch.

b. Thunder and Lightning Storm/Tornado Conditions. MCB Quantico regularly gets thunderstorms with lightning, mostly in the spring and early summer months. RCF will notify units in the training areas of any change to the thunderstorm conditions. Ensure a state of readiness can be assumed on short notice. Decisions to vacate the training area are made by the OIC/RSO.

(1) Thunderstorm Condition II means that destructive winds and accompanying thunderstorms are reported within 50NM of MCBQ.

(2) Thunderstorm Condition I means that storms are imminent and have formed within 25NM of MCBQ.

(3) Thunderstorm Condition IA means that storms are within 10NM of MCBQ.

c. Hurricane Conditions. Hurricanes and their effects are possible in the Quantico area, mostly in the late summer and early fall months. Decisions to vacate the training area are made by the OIC/RSO.

(1) Hurricane Condition IV indicates that the path of the storm is due to impact MCBQ with winds in excess of 64 knots within 72 hours.

(2) Hurricane Condition III means that the storm or effects will impact the base with winds in excess of 64 knots within 48 hours.

(3) Hurricane Condition II means that winds in excess of 64 knots are anticipated within 24 hours.

(4) Hurricane Condition I means that winds in excess of 64 knots are expected within 12 hours.

d. Winter Storm/Blizzard Conditions. Routine snowfall of about two inches can be expected in Quantico between December and February. Non-routine snowfall of 2-6 inches, as well as blizzards, are occasionally experienced. RCF will notify all units training of changes to Winter Storm Conditions. Decisions to vacate the training area are made by the OIC/RSO.

(1) Winter Storm Condition IV is issued when solid or freezing precipitation is possible within 72 hours.

(2) Winter Storm Condition III is issued when solid precipitation of more than two inches is expected within 48 hours.

(3) Winter Storm Condition II is when non-routine or blizzard conditions are forecasted within 24 hours.

(4) Winter Storm Condition I is in effect when non-routine or blizzard conditions are forecasted within 12 hours.

e. Wet Bulb Globe Temperature. Range Management Branch is the official WBGT Station for the west side of Interstate 95 and the Ranges and Training Areas. RCF will monitor the WBGT from 1 May to 30 September and notify all units in the training areas when the temperature is over 85 degrees and requires a change in flag conditions. Nothing prevents a training unit from bringing their own WBGT to more accurately monitor the conditions as they pertain to their training area.

(1) Green Flag conditions exist from 80-84.9 degrees. Heavy Exercise for non-acclimatized personnel should be conducted with caution and under constant supervision.

(2) Yellow Flag conditions exist from 85-87.9 degrees. Strenuous exercise should be suspended for personnel in their first 2-3 weeks on station. Outdoor classes in the sun are to be avoided.

(3) Red Flag conditions exist from 88-89.9 degrees. All physical training should be halted for those personnel not thoroughly acclimatized by at least 12 weeks of living/working in the area.

(4) Black Flag conditions exist when the WBGT Index exceeds 90 degrees. All strenuous activity should be halted for all personnel.

(5) Administrative Black Flag is a condition created when the Ray Hall Medical Facility cannot handle any more patients or all emergency vehicles are off station. All outdoor training is suspended and will not resume until authorized by Range Management Branch.

f. Protected Sites. There are more than 25 protected archeological sites and historic cemeteries within the training areas aboard MCB Quantico. When checking out a range or training area from Range Management Branch, be sure to inquire about any protected sites located within your training area.

g. Protected Plants. There are several protected species of plants within the training areas. Units should research the Small Whorled Pogonia, the Dwarf Wedgemussel, and the Harperella are all protected species and prevalent throughout some of the training areas, although mostly in the woods, away from tracked vehicle routes. Units should read Chapter 7 of the Quantico Integrated Natural Resources Management Plan prior to conducting training. There are maps of known protected species locations can be found at:

https://www.quantico.marines.mil/Portals/147/Natural%20Resources/Integrated%20Natural%20Resources%20Management%20Plan%202015-2019.pdf?ver=2018-03-26-133436-377

h. Protected Wildlife. The American Bald Eagle has an active population aboard MCB Quantico. Most of the areas known to be a habitat for Bald Eagles are around Lunga Reservoir, Breckenridge Reservoir, and Smith Lake. Units should read Chapter 7 of the Quantico Integrated Natural Resources Management Plan prior to conducting training. There are maps of known protected species locations in the Plan.

i. Threatening Wildlife. Threatening wildlife aboard MCB Quantico mostly consists of small mammals, snakes, ticks, and chiggers. Foxes, skunks, raccoons, possums, and bats are all likely to be encountered while training. Although bites are rare, rabies has been documented aboard MCB Quantico. The only known venomous snake is the copperhead. Ticks and chiggers are prevalent, and a recent study has indicated that 5-10% of ticks in this area carry lime disease. Corpsmen and Marines should be

educated and trained on preventative measures and proper first aid should an encounter with threatening wildlife occur.

7. Emergency Medical Procedures.

a. All units conducting live fire training are required to have a safety vehicle and corpsman or Emergency Medical Technician (EMT). For an EMT to be approved to provide medical support on a range, a copy of their certification from an accredited state board must be provided to Range Management Branch prior to the start of training. A Corpsman and Safety Vehicle are required for all training with the exception of terrain walks, non-live fire training, and land navigation exercises with less than 25 personnel.

b. In the event that an injury occurs during training that requires a Marine leave the training area for treatment, the ROIC/RSO must notify RCF immediately, even if the injury is routine in nature and being transported in the safety vehicle.

c. In the event of a priority or urgent casualty, the ROIC/RSO will immediately notify the RCF, who will assist in routing medical care. The RCF will coordinate with the appropriate agency. The OIC/RSO will not bypass the RCF when calling for additional medical support.

d. 911 Dispatch will have primary authority in identifying which mode of transportation (EMS, ALS, or helicopter) will be used for priority/urgent casualties and will relay this through the RCF. Ground transportation by Emergency Medical Support (EMS) and Advanced Life Support (ALS) ambulance is the primary means of MEDEVAC for priority and urgent casualties. After being notified of the casualty by the training unit, the RCF will designate an ambulance exchange point, and will direct medical support to that site. The following is a list of the closest ambulance exchange points to common training areas:

Training Area	Exchange Point	MGRS Grid
TA-16B/C/G	Independent Hill	18STH878778
TA-15C, 16A, 17A/B	DZ Redwing	18STH800763
R-14	R-14	18STH880728
R-15, UTC	David Crossroads	18STH789709
R-8	R-8	18STH778687
R-7	R-7	18STH794663
R-6	R-6	18STH798653
R-5	R-5	18STH816650
TBS	Ray Hall	18STH874638
Combat Town	Bel Air Crossroads	18STH885729
R-11, MOUT Town	LZ Cardinal	18STH796729

e. Emergency MEDEVAC by helicopter will be requested via the RCF to the 911 dispatcher when deemed appropriate by the medical personnel and ROIC/RSO on scene. The ROIC/RSO must notify the RCF of this request immediately. Helicopter MEDEVAC should be limited to remote areas not accessible by wheeled vehicles or in cases requiring immediate hospital treatment. Due to the heavy traffic volume in the National Capital Region, ground MEDEVAC is often upgraded to air MEDEVAC by 911 Dispatch.

f. MCBQ does not have an emergency treatment facility. Any MEDEVAC requiring transport to an emergency treatment center will be sent to a treatment facility off the installation, usually to the closer civilian facilities. Neither the training unit nor MCBQ determine the facility the casualty is sent to. Location for treatment is determined by 911 Dispatch based on the injury, ongoing situations at the

various treatment facilities, traffic, and several other variables. Range Management Branch will inform the unit where the casualty is transported.

g. The closest medical facility to most of the training areas is the Ray Hall Medical/Dental Clinic at TBS. Ray Hall can see most routine casualties, but is not a hospital. Ray Hall is open from 0630-1600 Monday through Friday, and operates a sick call from 0630-0830. Ray Hall also operates a heat deck in the summer months until 1800. Coordination with the Ray Hall should be made to ensure the heat deck is operational during training. The number for Ray Hall is (703)784-5541/5542.

h. The closest medical facility with the next higher echelon of care is Stafford Medical Center at 101 Hospital Center Blvd, Stafford, VA, 22554. The number is (540)741-1100/9000.

i. The next closest military treatment facility with hospital capabilities is Fort Belvoir Hospital at 9300 DeWitt Loop, Fort Belvoir, VA 22060. The number is (571)231-3224.

8. Fueling, Hazardous Materials and Hazardous Waste.

a. Fuel farms are located at both TBS and Camp Upshur. Prior coordination with the Operations Officer of TBS or with the Reserve Support Unit at Camp Upshur must be made to coordinate refueling operations and obtain keys to the respective fuel farms.

b. All Petroleum, Oils, and Lubricants (POLs) must be contained in leak proof containers, and labeled as to their contents.

c. Changing or flushing of oil and antifreeze from vehicles will only occur in areas designated for vehicle maintenance. These facilities are properly equipped to manage used oils and antifreeze and have appropriate response materials in the event of an accidental spill. Contact the Operations Officer of TBS or the Reserve Support Unit to coordinate usage of maintenance facilities at either Camp Barrett or Camp Upshur.

d. Storage containers for used POLs and used antifreeze must be labeled as “Used Oil” or “Used Antifreeze.” All collection and transfer containers must also be labeled appropriately. All used POL containers with a storage capacity of 55 gallons or greater must be located within secondary containment according to MCB Quantico’s Integrated Spill Management Plan (ISMP) and Federal Regulations.

e. Training units should have absorbent materials and spill kits with them while conducting training with AAVs. Should a unit need assistance with obtaining spill kits, contact the Natural Resources and Environmental Affairs (NREA) Branch of MCB Quantico at (703)784- 4030. All hazardous materials spills of one gallon or more must be reported to Range Management Branch and the NREA. Any discharge of halon requires notification to Range Management Branch, and the Marine(s) affected should seek medical attention.

V14 MCCRE Confirmation Brief

AFX 2-20

- Overall Classification: **UNCLASSIFIED//FOUO**

Agenda

- Mission
- Concept of Operations
- Task Organization
- Scenario
- Battalion Evaluations
  - Intel
  - Maneuver
  - Fires
  - Logistics
  - Force Protection
  - Communications / Command & Control
- Coordinating Instructions
- Comments

Mission

From 10 February-25 March 2020, 1st Marine Regiment conducts Marine Corps Combat Readiness Evaluation for 1/4 IOT evaluate core Mission Essential Task proficiency and battalion readiness prior to 15th MEU deployment.

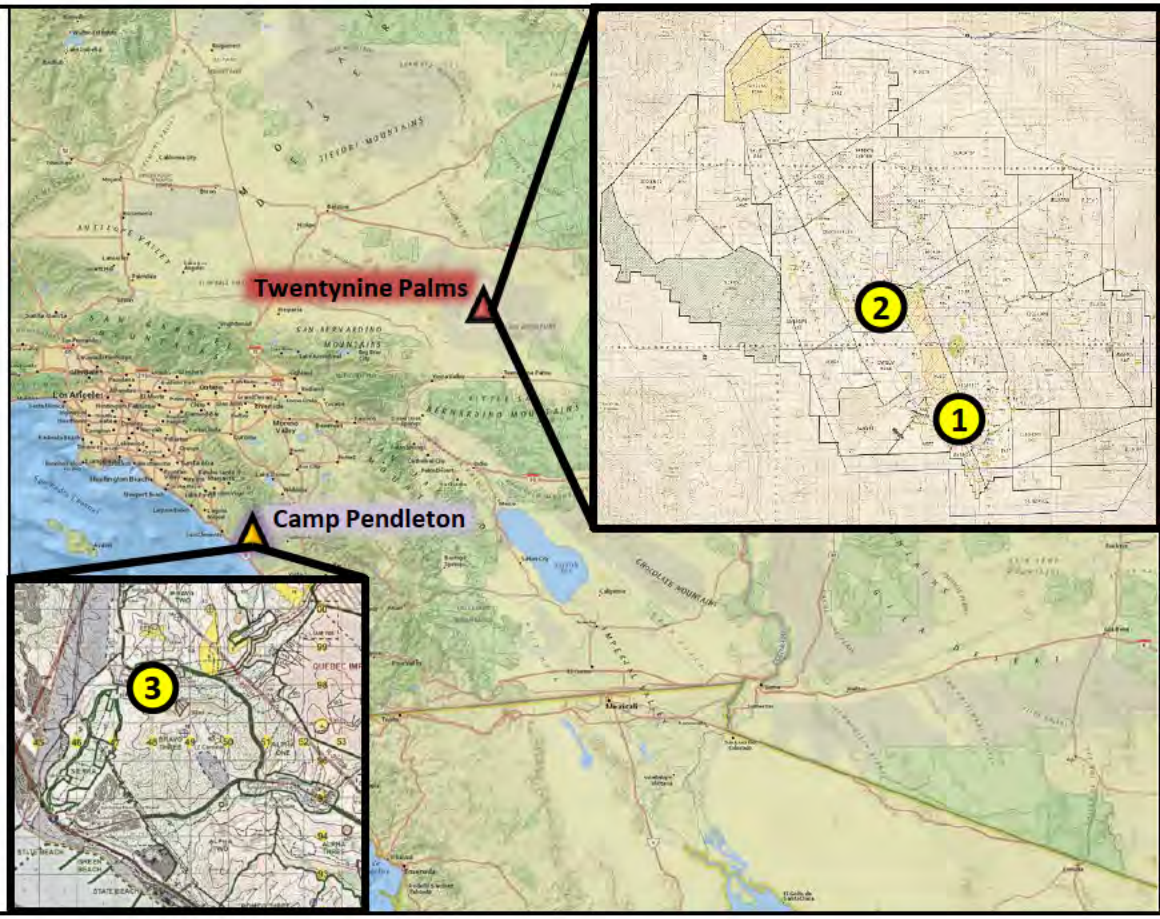
Concept of Operations

Narrative: 1st Marines conducts an evaluation of 1/4 in conjunction with their participation in Adversary Force (AdFor) Exercise (AFX) 2-20. The main effort of this evaluation will be observation of 1/4 serving as an AdFor battalion for MAGTF Warfighting Exercise (MWX) 2-20, and concluding with a 32km hike aboard Camp Pendleton. This evaluation will incorporate assessments from MAGTF-TC personnel participating in AFX/MWX 2-20 as well as first-hand observations by primary staff members of 1st Marine Regiment.

Key Events:

- 23 Jan – 7 Mar: AFX 2-20 (MCAGCC 29 Palms)

1. 10-12 Feb: MWX 2-20 Planning (MCAGCC 29 Palms)
2. 17-22 Feb: MWX 2-20 Execution (MCAGCC 29 Palms)
   - 25 Feb: MWX 2-20 FAAR (MCAGCC 29 Palms)
3. TBD March/April: 32km hike (Camp Pendleton)



MWX 2-20 Force on Force ver 10 Jan 20

EXFOR

CE

- 2nd Plt, CO B, 1st RECON
- Det, 1st RADBN
- 1st LE Bn

LCE

- CLB-5
- Plt, 8th ESB

ACE

- Sect, 3rd LAAD

GCE

- 5th Marines
- 2nd Bn, 5th Mar
- 1st Bn, 3rd Mar
- 3rd Bn, 6th Mar
- 1st Bn, 10th Mar
  - C Battery
  - I Battery
- Co A, 1st Tanks
- Co C(-), 3rd AABN
- Plt, 3rd CAC
- CO C, 3rd LAR
- HQ Plt, Co B, 1st CEB
- 2nd Plt, Co B, 1st CEB
- 1st CEB (ABVs)
- Truck Plt, 1st MARDIV
- Truck Plt, 3rd MARDIV

MWX Specific Unit
ITX/SLTE Unit
AFX Unit
MTX Unit

Trusted Agent Pool

- MAG-39
- VMM-166
- HMH-361
- HMLA-267
- VMA-214
- VMGR-352
- VMU-1
- MWSS-371
- Det, MACS-1
- Det, MASS-3
- Det, MWCS-38

SPMAGTF CERTEX

- 13th MEU CE
- Co, 2nd Bn, 5th Mar
- Det, VMM-166
- 1 x Plt Presidential Guard (UAE)
- EOTG (Z-2 / Z-4)

ADFOR

CE

- Plt, 2nd RECON

GCE

- 1st Bn, 4th Mar
- Inf Co, 3rd Bn, 8th Mar
- Btry C, 1st Bn, 11th Mar
- TBD Plt, Co D, 1st Tanks
- 2nd Plt, Co C, 3rd AABN
- 4th Plt, Co A, 1st CEB
- Co B, 1st LAR

LCE

- Det, CLB-1

ACE

- 1 x HIND / HIP

Joint / Coalition

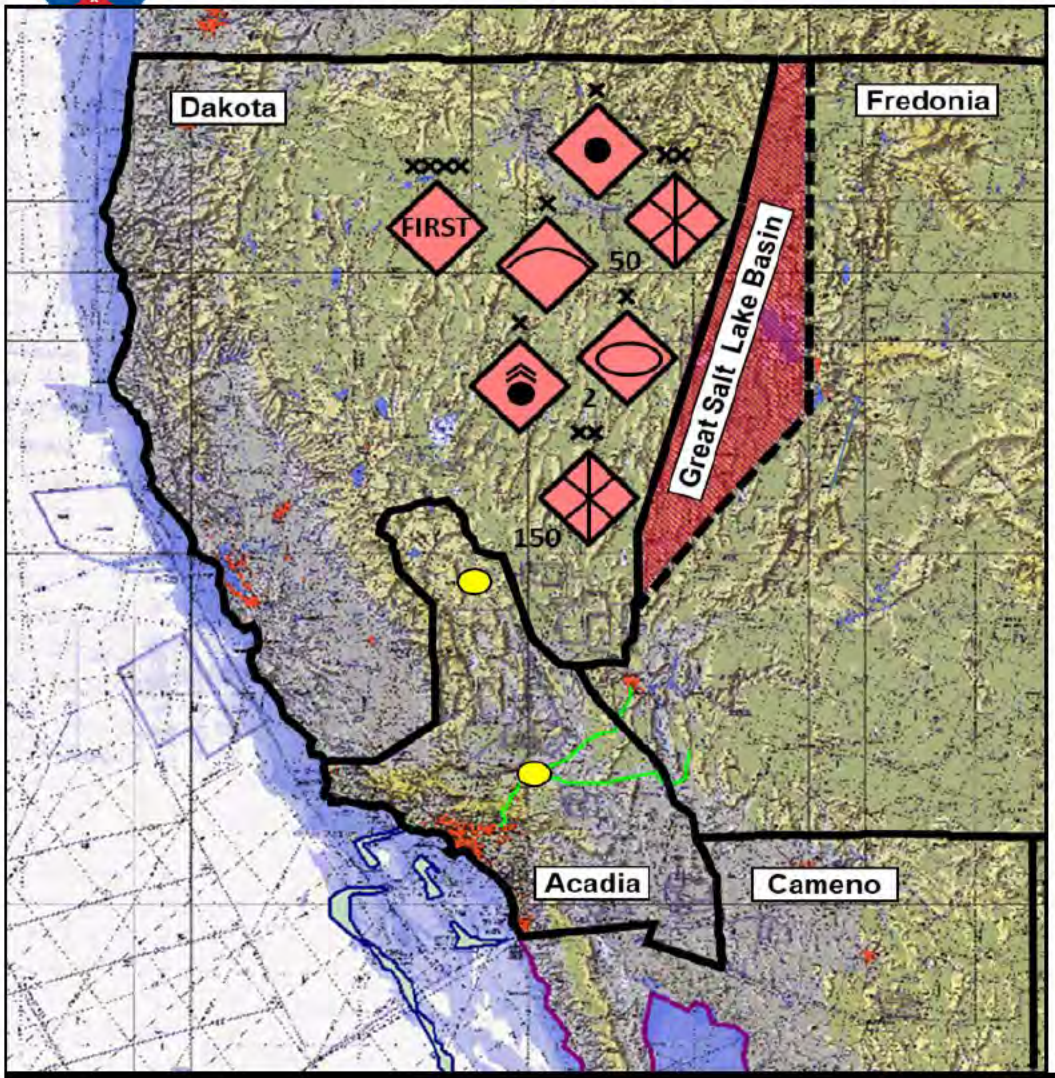
- 2 x Plt Presidential Guard (UAE)
- ODA

List of Forces

1st Bn 4th Marines (MWX ADFOR)

- Btry C, 1st Bn 11th Marines
- Plt, Co A, 1st Tanks
- Co B , 1st LAR (15th MEU)
- Btry, 3d LAAD
- 2nd Plt, Co C, 3d AABn
- 4th Plt, Co A , 1st CEB (15th MEU)
- Truck Plt, CLB -1
- Co (-), UAE Presidential Guard, Al Forsan Ranger Brigade
- SFOD-A 3321, B. CO. 3/3 SFG (A)

Regional Overview



The Great Salt Lake Basin: An area rich in natural resources with a large ethnic-Dakotian minority population. The area was ceded to Fredonia in 1995 when the communist regime in Dakota dissolved.

Dakota-Fredonia Relations: From 1950 to 1995, Fredonia was a satellite state of Dakota. Following the collapse of the Dakotian regime, Fredonia sought assistance from the West to modernize its military, economy, and government.

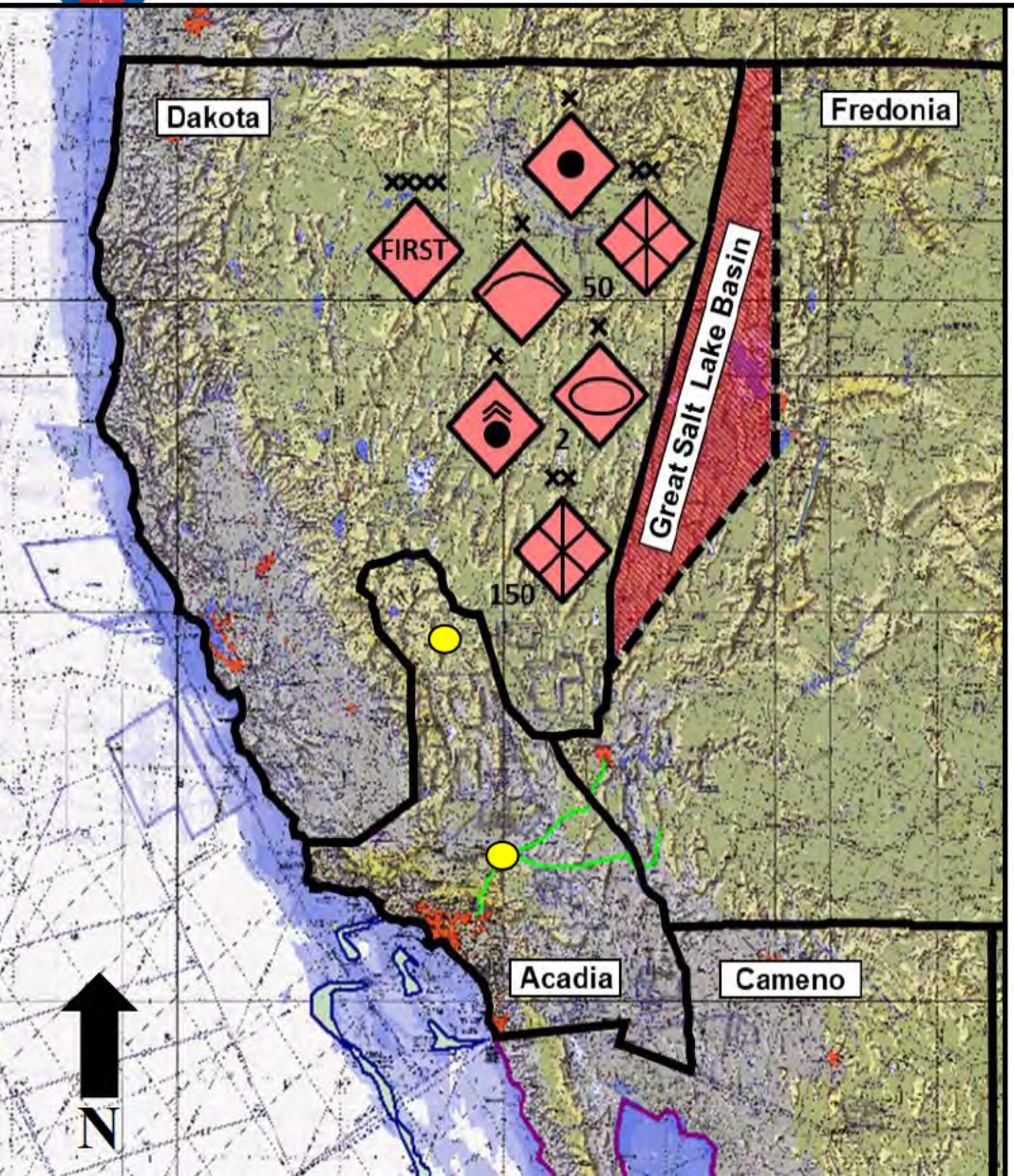
Dakota-Acadia Relations: Porous borders and the intermingling of ethnic groups have resulted in decades of tension which often spills over into conflict. Dakota is the stronger military power and is the focus of Acadia's national defense strategy.

Fredonia-Acadia Relations: Following Fredonia's alignment with the West, Acadia and Fredonia signed a non-aggression pact. The pact does not include a mutual defense clause.

US-Acadia Relations: A long time US ally, Acadia agreed to the establishment of Prepositioning Program-Acadia (PP-A) in 1970.

US-Fredonia Relations: In 2000, the US signed an economic and military treaty with Fredonia to counter Dakotian influence. The treaty included a mutual defense obligation.

MWX 2-20 Start State



Dakotian Actions:

On 23 January, the First Army completed what appears to be one of its bi-annual mobilization and has been conducting large scale, combined arms exercises in close proximity to the Dakota-Fredonia Border.

Dakotian military actions along the Dakota-Fredonia border have not exceeded traditional norms.

USWESTCOM Actions:

USWESTCOM continues to monitor Dakotian activities, but has seen no reason to cancel the ongoing TSC exercise in Acadia.

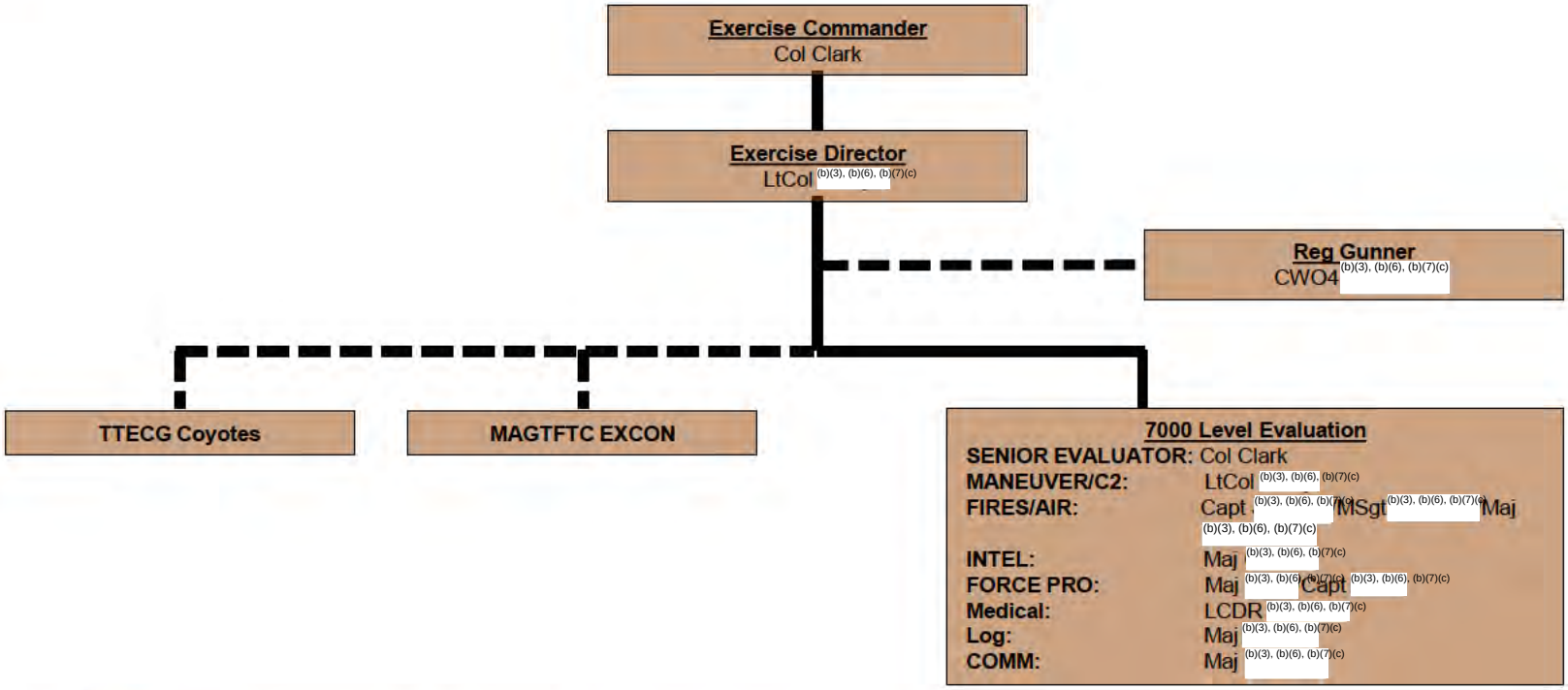
SPMAGTF-CR-WEST was CHOP'd to NAVWEST to conduct a trilateral TSC event with UAE ground forces and Acadian naval forces IVO San Diego

5th Marines' TSC is this year's iteration of an annual exercise conducted with the Acadian 23d Division to fulfill US obligations under the ACSA signed in 2000

This year's TSC exercise includes two events

- The bulk of 5th Marines conducts combined arms, live fire training with the Acadian 1st Brigade, 23d Division at the Acadian National Training Center located 40 miles north of the Brigade's garrison in Barstow.
- A battalion from 5th Marines conducts mountain and cold weather training with the 23d Division's reconnaissance battalion at the Acadian Mountain Training Center in Bridgeport.

Evaluators



Evaluations will be based on a combination of staff assessments, observer/recorder observations and the FAAR following the exercise.

UNCLASSIFIED // FOUO

Evaluation

Evaluated Core METs

1. MCT 1.6.1 Conduct Offensive Operations
2. MCT 1.6.4 Conduct Defensive Operations
3. ~~MCT 1.12.1 Conduct Amphibious Operations~~
4. ~~MCT 1.14 Conduct Stability Operations~~

C2 Evaluated Tasks

INF-C2-7003: Establish a Command Post (CP)

INF-C2-7004: Conduct Combat Operations Center (COC) Operations

INF-C2-7005: Conduct Planning

INF-C2-7006: Conduct Assessment

INF-C2-7010: Execute a Command and Control (C2) Process

COMM-CCON-7001: Perform Communication Control (COMMCON)

COMM-OPS-7001: Distribute Communication Services Across the MAGTF/MSE

COMM-OPS-7002: Provide Access to DISN Services

LOG-C2-7001: Execute Logistics Operations Command and Control

LOG-C2-7002: Plan Logistics Operations

LOG-OPS-7001: Conduct Logistics Operations

Maneuver Evaluated Tasks

INF-COND-7001: Conduct a Forced March

INF-MAN-7001: Conduct a Ground Attack

INF-MAN-7101: Conduct an Area Defense

Fires Evaluated Tasks

INF-FSPT-7001: Conduct Fire Support Planning

INF-FSPT-7002: Conduct Fire Support Coordination

Intelligence Evaluated Tasks

INF-INT-7001: Conduct Intelligence Operations

INF-INT-7002: Direct Reconnaissance & Surveillance (R&S) Operations

INTL-GEN-7001: Plan Intelligence Operations

INTL-GEN-7002: Provide Indications and Warning (I&W)

INTL-GEN-7003: Provide Support to Commander's Estimate

INTL-GEN-7004: Provide Intelligence Support to Force Protection

INTL-GEN-7005: Provide Support to Targeting

INTL-GEN-7006: Provide Intelligence Support to Combat Assessment

INTL-GEN-7007: Provide Intelligence Support to Situational Development

INTL-GEN-7008: Provide Intelligence Support to Planning

Logistics Evaluated Tasks

INF-CSS-7002: Conduct Combat Service Support (CSS)

INF-CSS-7003: Process Casualties

LOG-OPS-7001: Conduct Logistics Operations

Force Protection Evaluated Tasks

INF-FP-7001: Conduct Force Protection

INF-FP-7004: Conduct Chemical, Biological, Radiological, Nuclear (CBRN) operations

Coordinating Instructions

Coordinating Instructions

1. **Staff Locations:** A rep from each staff section will be present during the first three days of planning as well as during the execution of the MWX (18-22 Feb). Staff reps will be consolidated in the EXCON facility aboard Camp Wilson.

2. **Exercise Design:** There will be no injects into the scenario from evaluators. The scenario will be driven by MAGTFTC from the EXCON facility. Evaluators will be able to see and hear everything that goes on via the observer/reporters and realtime tracking via the instrumentation on the range.

3. **Evaluations:** All evaluators will receive a handbook for notetaking. Final written evaluations will be due by COB on 2 Mar and will include personal observations, relevant observer/reporter points as well as those from the FAAR.

4. **Billeting:** DTS authorizations will be required, MTF on whether both trips can be consolidated on one voucher.

Around The Horn

Commander's Comments/ Due Outs

30 Apr 21

MEMORANDUM FOR THE RECORD

Subj: SUMMARY OF EMAIL EXCHANGE WITH DEPUTY PROGRAM MANAGER ADVANCED AMPHIBIOUS ASSAULT PROGRAM MANAGEMENT OFFICE

Name: Mr. (b)(3), (b)(6), (b)(7)(c)
Position/Title: Deputy Program Manager, Advanced Amphibious Assault, PEO LS

Date: 29 April 2021
Time: 1829 EST
Location: Email Exchange
Investigation Team Member(s):
-Col (b)(3), (b)(6), (b)(7)(c)

Background: Mr. (b)(3), (b)(6), (b)(7)(c) is the Deputy Program Manager for the Advanced Amphibious Assault Program Management Office which falls under Program Executive Officer Land Systems (PEO LS). The investigation team submitted a Request for Information (RFI) to the aforementioned individual via email on 29 April 2021. Specifically, the investigation team requested information pertaining to current and future planned modifications to the Assault Amphibious Vehicle (AAV) platform as well as information regarding Return to Condition Code Alpha (RCCA) AAVs.

Initial Response Mr. (b)(3), (b)(6), (b)(7)(c) responded by providing a Power Point (PPT) slide that contained amplifying information about the planned AAV modifications in the future as well as providing background information about the RCCA AAVs.

(b)(3), (b)(6), (b)(7)(c)

UNITED STATES MARINE CORPS
3D ASSAULT AMPHIBIAN BATTALION
1ST MARINE DIVISION (REIN)
MCB BOX 555574
CAMP PENDLETON, CA 92055-5574

IN REPLY REFER TO:
4790
CO
23 Jul 19

MAINTENANCE MANAGEMENT POLICY LETTER 8-19

From: Commanding Officer
To: Distribution List

Subj: ADMINISTRATIVE DEADLINE (ADL) PROGRAM

Ref: (a) MCO 4790.2
(b) DivO 4790.2
(c) TI 4733-OD/1

Encl: (1) ADL Request Template
(2) Calibration Not Required Request Template

1. Purpose. To establish policy and procedures for implementing and maintaining an effective Administrative Deadline (ADL) Program within 3d Assault Amphibian Battalion (3d AA Bn).

2. Background. The ADL program will be used in order to defer maintenance that allows the MSE Commander to preserve resources when operational conditions allow.

3. Action. The primary reason for placing equipment in ADL is due to a lack of trained operators or maintenance personnel to properly maintain the equipment.

4. Administrative Deadline Program (ADL)

a. In addition to the ADL requirements identified in the references, the following requirements will be met:

(1) Equipment must be mission capable, minimum of Condition Code B.

(2) Have all deficient SL-3 placed on order. All SL-3 physically on hand will be accounted for and securely stored on the vehicle.

(3) Equipment is current on all scheduled PMCS prior to induction.

(4) Visually inspected quarterly and exercised at least semi-annually.

(5) Any Test Measurement Diagnostic Equipment (TMDE) will be properly configured as a child and placed in a "Calibration Not Required" (CNR) status through the supporting Calibrations facility utilizing enclosure (2).

(6) S-6 remove any CCI items and properly store them prior to induction.

(7) Equipment will be transferred to CMR YADL for accountability under the Battalion Maintenance Officer or Maintenance Management Officer.

(8) Headquarters and Service Company will provide a team of maintainers and technicians along with operators to support ADL efforts.

(8) Headquarters and Service Company will provide a team of maintainers and technicians along with operators to support ADL efforts.

(9) During the ADL period the Resource Group M21820_ADL will be utilized for all GCSS-MC transactions.

(10) Before removal from ADL, the equipment will receive joint PMCS services between Battalion Maintenance and the receiving Company. If corrective maintenance becomes required during the joint PMCS, Battalion Maintenance will place all parts on order. Upon verification of the parts being on order, the receiving company will take ownership of the equipment and complete the maintenance process to include PMCS.

(11) Military Equipment assigned to ADL will not be required to have Vehicle Commanders assigned.

(12) Monthly entries for Ordnance Vehicle Logbooks are deferred to a quarterly requirement.

(13) The requirement for monthly counter readings is deferred to Semi-Annually when the vehicle is exercised.

(14) SL-3 inventories will be conducted and recorded upon induction and removal of the equipment.

5. Ensure that the Commanding Officer's letter authorizing equipment to be placed into the ADL is scanned and added to the Installed Base for each item instance approved.

6. This policy letter will be maintained by each company and commodity in the section publications library.

7. The point of contact for this matter is the Maintenance Management Office at (760) 763-9780.

(b)(3), (b)(6), (b)(7)(c)

Distribution:
S-1 Files
S-4 Files
S-6 Files
Company Commanders
Responsible Officers
Maintenance Officers
Maintenance Chiefs

48 Month Historical Measures TAMCN E0846							
Date	S Rating	R Rating	MR Rating	AAO	On Hand	Deadlined	Operational
04/01/2017	105%	60%	63%	936	1,034	442	543
05/01/2017	102%	63%	65%	936	1,012	407	550
06/01/2017	104%	61%	64%	936	1,038	441	535
07/01/2017	103%	61%	63%	936	1,032	446	522
08/01/2017	112%	63%	71%	874	1,047	427	553
09/01/2017	117%	63%	73%	844	1,050	433	552
10/01/2017	128%	61%	79%	769	1,044	437	551
11/01/2017	123%	64%	79%	769	1,005	397	552
12/01/2017	122%	64%	79%	769	999	393	549
01/01/2018	123%	64%	79%	769	1,008	403	546
02/01/2018	123%	67%	82%	769	1,013	379	565
03/01/2018	125%	64%	79%	769	1,038	427	534
04/01/2018	125%	62%	77%	769	1,058	464	497
05/01/2018	127%	65%	82%	769	1,092	460	513
06/01/2018	124%	66%	81%	769	1,057	431	521
07/01/2018	112%	72%	80%	769	963	344	516
08/01/2018	114%	72%	82%	750	961	345	510
09/01/2018	101%	72%	73%	861	982	342	540
10/01/2018	104%	75%	78%	831	995	324	562
11/01/2018	99%	79%	78%	822	873	226	595
12/01/2018	95%	80%	76%	819	775	154	621
01/01/2019	100%	74%	74%	819	877	262	569
02/01/2019	106%	70%	74%	819	973	345	542
03/01/2019	106%	69%	73%	824	976	355	540
04/01/2019	103%	72%	74%	855	977	320	583
05/01/2019	103%	74%	77%	855	975	297	609
06/01/2019	103%	70%	72%	855	975	341	560
07/01/2019	102%	69%	71%	855	977	348	549
08/01/2019	102%	71%	72%	855	980	339	559
09/01/2019	103%	71%	73%	855	982	342	556
10/01/2019	108%	72%	78%	791	938	315	551
11/01/2019	106%	71%	75%	843	971	327	570
12/01/2019	105%	69%	72%	843	966	351	540
01/01/2020	104%	69%	72%	843	963	351	536
02/01/2020	103%	70%	72%	843	945	336	534
03/01/2020	104%	71%	74%	843	949	325	548
04/01/2020	98%	73%	72%	843	905	301	528
05/01/2020	102%	75%	77%	843	940	293	565
06/01/2020	102%	75%	76%	843	947	305	556
07/01/2020	102%	73%	75%	843	941	310	553
08/01/2020	102%	68%	70%	843	921	335	524
09/01/2020	100%	61%	60%	843	902	392	451
10/01/2020	109%	58%	63%	794	928	430	433
11/01/2020	126%	53%	66%	688	933	476	390
12/01/2020	127%	53%	67%	688	943	480	395
01/01/2021	127%	57%	72%	688	941	448	425
02/01/2021	126%	60%	75%	702	956	427	456
03/01/2021	123%	55%	68%	704	936	456	410

14 May 2021

MEMORADUM FOR THE RECORD

Subj: SUMMARY OF COMMUNICATION BETWEEEN COLONEL (b)(3), (b)(6), (b)(7)(c) AND COLONEL (b)(3), (b)(6), (b)(7)(c) REGARDING INSTITUTIONAL MEU AND AMPHIBIOUS KNOWLEDGE

Background: As a member of the investigative team that was formed to inquire into the facts and circumstances surrounding the forming of the 15th MEU and actions and decisions associated with the material condition, training, and personnel readiness as these matters relate to the AAV mishap that occurred off of SCI on 30 July 2020, I, Colonel (b)(3), (b)(6), (b)(7)(c) conducted a phone interview with Colonel (b)(3), (b)(6), (b)(7)(c) on 13 May 2021, and I also exchanged emails with him. The purpose of these interactions was to gain his perspective on MEU and amphibious operations. I specifically asked him to comment on whether he believed an institutional gap in MEU and amphibious operations existed in the Marine Corps. The bullets below summarize our conversation:

- Col (b)(3), (b)(6), (b)(7)(c) served as the commander of 26th MEU from December 2018 to August 2020. Additionally, he served as a MEU operations officer as a lieutenant colonel and as an executive officer of a battalion landing team as a major.

- Col (b)(3), (b)(6), stated that he strongly believes that that the Navy and Marine Corps both have seen a significant reduction in amphibious experience over the past 20 years, but neither service has adjusted the training continuum to compensate for it.

- Col (b)(3), (b)(6), specifically stated that the commander, amphibious task force (CATF) / commander, landing force (CLF) relationship is not well understood throughout the naval services. He cited specific examples of how this can negatively affect the proper command and control of high risk events, such as launching and recovering AAVs from an amphibious ship.

- Col (b)(3), (b)(6), believes that Marine Corps focus on land operations in support of Operations Iraqi Freedom and Enduring Freedom over the past 20 years, in addition to the reduced number of amphibious ships, are contributing factors for degrading the naval service's ability to effectively conduct waterborne mechanized operations. Furthermore, he stated that focus on land operations likely contributed to a culture of complacency for quality control of critical AAV maintenance practices required for waterborne operations.

(b)(3), (b)(6), (b)(7)(c)

Logistics Readiness Evaluation Out-brief

3D Assault Amphibian Battalion – M21820

Briefer: LtCol Keith C. Brenize

15 May 2020

Overall Classification: UNCLASS//FOUO
Date/version: 20200611, v1
Author: Maj (b)(3), (b)(6), (b)(7)(c) 3d AABn XO
# of slides: 13

Logistics Readiness Evaluation

Unit Summary

Commodity	FY2018	FY2020
Ammunition	87%	97%
Embarkation	89%	91%
Container Management	100%	48%
Supply	82%	64%
Maintenance Management	86%	73%
Unit User Account Management	76%	60%
Motor Transport	90%	93%
Ordnance Armory	84%	80%
Ordnance Rear Area Maintenance Park	88%	88%
Communications	83%	80%
Field Mess	93%	91%
Engineers	95%	88%

-FY2019 FSMAO: Medium Risk for Property Accountability, Procurement and Maintenance Production. Low Risk in all other Lines of Effort

Logistics Readiness Evaluation

Container Management - 48%

Functional Area	Percentage	Remarks
Container Manangement	48%	

Container Management

- Factors that led to this commodity shortfall:
  - Container Movement on RAMP (containers and all assets):
    - 5/18/20-5/22/20
  - CGIP: 5/26/20-5/29/20
  - LRE: 6/1/20-6/5/20
  - Time to inspect all containers in Battalion is normally 30+ days

Logistics Readiness Evaluation

Supply - 64%

Functional Area	Percentage	Remarks
Property Management	55%	
Control of Serialized Small Arms	64%	
Internal Control Procedures	82%	Fuel Key
Warehousing	57%	
Personal Effects	72%	
Requisition Management	53%	
Commercial Procurement	85%	Servmart reconciliation
Fiscal	96%	
Training	52%	

Supply

- Factors that led to this commodity shortfall:

Area of Concern (Property Management):

- Items in a temp loan status (67) were not updated after expiration of temp loan agreement.
- Allowance management was not accurate as APSR tracked items were not reflecting accurate accountability.
- DD200 processing timeframes for adjustments were outside the two day timeframe.
- Equipment accuracy in APSR did accurately reflect on-hand.

Area of Concern (Control of Serialized Small Arms):

- Custodian Asset Report did not reflect with serialized assets in the APSR GCSS-MC.
- Historical weapons were not accurately accounted for in the DPAS account or APSR GCSS-MC with an updated DPAS CMR
- Non-standard weapons were not tracked in APSR for accountability.

Area of Concern (Warehousing):

- Virtual to physical inaccuracies with the stock locator counts being accounted for in the system.
- Equipment serviceability for items being disposed not accurately reflected as in disposition status on location.

Logistics Readiness Evaluation

Maintenance Management - 73%

Functional Area	Percentage	Remarks
Maintenance Administration	80%	Internal inspections
Maintenance Related Programs	94%	
Preventive/Corrective Maintenance	82%	Commodity level issues
Training	35%	
Records and Reporting	70%	
Publication Control	68%	
Equipment Availability	99%	
Supply Support	66%	

Maintenance Management

- Factors that led to this commodity shortfall:
  - Clerk/supervisor training not properly conducted/documented
  - T&R mastery not being documented for 0411 personnel
  - Ineffective reconciliation/lack of follow up actions
  - Section library not properly established
  - Demand Supported Items not handled properly
  - Parts in commodity stages outside authorized timeframes

Logistics Readiness Evaluation

Unit User Account Manager - 60%

Functional Area	Percentage	Remarks
Unit User Account Manager	60%	

UUAM

- Factors that led to this commodity shortfall:
  - UUAMs all authorized as primary
  - Discrepancies in user documentation
  - Virtual data did not match user documentation
  - Semi-annual reviews

Continuing Actions

- Focus on Maintenance and Supply Admin processes across the Battalion
- Ensure all training is planned, conducted, and captured in MCTIMS
- Quarterly internal inspections by the Bn XO and Bn Inspection Team.
  - Request Div TAVs quarterly as well

Commander's Comments

Logistics Readiness Evaluation

Closing Remarks

To: (b)(3), (b)(6), (b)(7)(c) Col (b)(3), (b)(6), (b)(7)(c)
Cc: (b)(3), (b)(6), (b)(7)(c) Col (b)(3), (b)(6), (b)(7)(c) (b)(3), (b)(6), (b)(7)(c) Col (b)(3), (b)(6), (b)(7)(c)
Subject: RE: AAV Investigation RFI

From: (b)(3), (b)(6), (b)(7)(c) Col (b)(3), (b)(6), (b)(7)(c)
Sent: Friday, May 14, 2021 6:00 PM
To: (b)(3), (b)(6), (b)(7)(c) Col (b)(3), (b)(6), (b)(7)(c)
Subject: RE: AAV Investigation RFI

(b)(3), (b)

I have 4 MEU deployments, not including this one.

11th MEU: Oct 2017-June 2020, deployed April 2019-Nov 2019.

BLT CO with 3/1: Feb 2010-Jun 2012, deployed with the 11th MEU in 2011-2012 for 7.5 months, I forget the dates.

I have 2 previous MEU deployments in 1997 and 1999.

V/R
(b)(3), (b)(6),

From: (b)(3), (b)(6), (b)(7)(c) Col (b)(3), (b)(6), (b)(7)(c)
Sent: Friday, May 14, 2021 1:50 PM
To: (b)(3), (b)(6), (b)(7)(c) Col (b)(3), (b)(6), (b)(7)(c)
Cc: (b)(3), (b)(6), (b)(7)(c) Col (b)(3), (b)(6), (b)(7)(c) Col (b)(3), (b)(6), (b)(7)(c)
Subject: RE: AAV Investigation RFI

(b)(3), (b)(6), (b)(7)( )

Thanks for the quick turn on this.

This is very helpful.

Could you also provide the dates of your tour with 11th MEU? Also, what MEUs did you serve on previous to that?

Thanks again & Semper Fi, (b)(3), (b)(6),

Colonel (b)(3), (b)(6), (b)(7)(c)
Director, Policy and Standards Division
Training and Education Command
(b)(3), (b)(6), (b)(7)(c)

From: (b)(3), (b)(6), (b)(7)(c) Col (b)(3), (b)(6), (b)(7)(c)
Sent: Friday, May 14, 2021 4:07 PM
To: (b)(3), (b)(6), (b)(7)(c) Col (b)(3), (b)(6), (b)(7)(c)
Subject: RE: AAV Investigation RFI

(b)(3), (b)

Thanks for the e-mail, I will try to be brief in my answers.

Is there an institutional gap in MEU and amphibious knowledge?

Yes, there is a significant gap in MEU and amphib knowledge. The changes we have made with equipment, aircraft and other technologies have been astronomical. But the training a MEU receives is based on 1980s METs. The Navy has changed their Warfare Command responsibilities and the MEU Commander now is the Strike Warfare Commander. Then as a former Monitor I can say this, but there is pressure to rotate personnel in and out of MEU to get them MEU experience and key billet creditability, but not enough time to develop any true expertise.

Pre 9-11, the MEUs were on an 18 month cycle: 6 months of pre-deployment training, 6 months of deployment and 6 months of rest/re-fit and reorganization. This cycle allowed MEUs to have multiple people do 2, even 3 deployments and really develop expertise. This doesn't happen anymore; an example is the 11th MEU returned in Nov 2019, the 15th MEU did not deploy until Nov of 2020. There was no opportunity for the 15th MEU to observe any training that the 11th MEU did for their work-ups.

MEU/amphibious experience level of your MSE commanders and MEU staff.

ACE Commander: Zero MEU deployments, but did work at EOTG and set up training for MEUs. Many OIF and SPMAGTF deployments.
BLT Commander: 2 MEU deployment, one as a Plt Cmdr and one as a BLT OpsO.
CLB Commander: Zero MEU experience
MEU XO: 2 MEU deployments
MEU S-3: 2 MEU deployments
MEU S-4: Zero MEU deployments
MEU S-6: Zero MEU deployments

My previous deployment:
ACE Commander: 3 MEU deployments, last one was as ACE OpsO.
BLT Commander: Zero MEU deployments, several OIF/OEF deployments.
CLB Commander: 1 MEU deployment as a Lt.
MEU XO: 2 MEU deployments
MEU S-3: Zero MEU deployments
MEU S-4: Zero MEU deployments
MEU S-6: Zero MEU deployments

I hope this helps.

V/R
(b)(3), (b)(6), (b)(7)

From: (b)(3), (b)(6), (b)(7) Col (b)(3), (b)(6), (b)(7)(c)
Sent: Thursday, May 13, 2021 3:27 PM

To: (b) Col (b)(3), (b)(6), (b)(7)(c) Col (b)(3), (b)(6), (b)(7)(c)

Subject: AAV Investigation RFI

(b)(3), (b)(6), (b)(7)

(b)(3), (b)(6), (b)(7)(c) here.

We are in the final stages of the investigation, and I would appreciate getting your opinion on institutional MEU knowledge. Specifically, based on your experience as a MEU commander as well as your previous MEU deployments, do you think there is an institutional gap in MEU and amphibious knowledge? If possible, please compare your recent experiences with your first experience on a MEU. Also, an assessment of the MEU/amphibious experience level of your MSE commanders and MEU staff would be beneficial.

Please let me know if you have any questions. If possible, please send me your response by 1500 EST, 14 May.

Semper Fi, (b)(3), (b)(6), (b)(7)

Colonel (b)(3), (b)(6), (b)(7)(c)
Director, Policy and Standards Division
Training and Education Command
(b)(3), (b)(6), (b)(7)(c)

13 May 2021

MEMORADUM FOR THE RECORD

Subj: REQUEST FOR INFORMATON ICO II MARINE EXPEDITIONARY FORCE AND 2D MARINE DIVISION MCCRE AND UET ORDERS.

Background: As a member of the command investigation investigating the forming and compositing of the 15th Marine Expeditionary Unit in 2020 I, MGySgt (b)(3), (b)(6), (b)(7)(c) emailed the Operations Chief's of II MEF and 2d Mar Div requesting whether there commands had an order or policy governing the Marine Corps Combat Readiness Evaluation (MCCRE) and Underwater Egress Training (UET). The purpose of this data query was to analyze whether there are differences between I MEF and II MEF orders and policies.

Outcome: The response from the II MEF Operations chief was that they currently do not have an order on the MCCRE and only use the Marine Corps order. As for the UET, II MEF currently does not have an order on the requirement. II MEF has just conducted an OPT on the subject of the UET and provided TECOM with that information. They are planning on publishing some type guidance in the future.

(b)(3), (b)(6), (b)(7)(c)

Young Col Devin C

From: (b)(3), (b)(6), (b)(7)(c) Col (b)(3), (b)(6), (b)(7)(c)
Sent: Monday, May 17, 2021 9:51 AM
To: (b)(3), (b)(6), (b)(7)(c) Col (b)(3), (b)(6), (b)(7)(c)
Subject: Investigation RFI
Signed By: (b)(3), (b)(6), (b)(7)(c)

From: (b)(3), (b)(6), Col (b)(3), (b)(6), (b)(7)(c)
Sent: Friday, May 14, 2021 1:15 PM
To: (b)(3), (b)(6), (b)(7)(c) Col (b)(3), (b)(6), (b)(7)(c)
Subject: RE: Investigation RFI

(b)(3), (b)(6),

Acknowledged. Im traveling and do not have access to the information I need to answer your specific question today - specifically the dates of WTI. However, 1st MLG was never tasked through the force synch or MEF to support WTI with a CLB and the MEF repeatedly defended our position that we did not have an available CLB. In the staff churn, an option was to use CLB-15, but all stakeholders agreed that we should not do that. It never gained any serious traction at the AO or O6 level. I advised Col Bronzi that it was being discussed, but that we (MLG and MEF) didn't want CLB 15 or the MEU in that position.

Respectfully,
(b)(3), (b)(6),

From: (b)(3), (b)(6), (b)(7) Col (b)(3), (b)(6), (b)(7)(c)
Date: Friday, May 14, 2021, 5:22 AM
To: (b)(3), (b)(6), Col (b)(3), (b)(6), (b)(7)(c)
Cc: (b)(3), (b)(6), (b)(7) Col (b)(3), (b)(6), (b)(7)(c)
Subject: Investigation RFI

Good morning (b)(3), (b)(6),

We are refining the finding of fact of the AAV investigation, and I need to confirm details of the following statement that was garnered from our earlier interview at Pendleton:

The Assistant Chief of Staff, G-3, 1st MLG stated that 1st MLG was tasked by I MEF to source a CLB to participate in WTI 2-19. The only available CLB at that time was CLB-15. 1st MLG asked for and was granted relief from this requirement in order to enable CLB-15 to properly prepare for deployment with the 15th MEU.

Also, please provide the dates of WTI 2-19.

Please provide your answer by COB 14 May.

Thanks for your help.

Semper Fi, (b)(3), (b)(6),

Colonel (b)(3), (b)(6), (b)(7)(c)
Director, Policy and Standards Division
Training and Education Command
(b)(3), (b)(6), (b)(7)(c)

FSMAO Analysis
Out-brief

3d Assault Amphibian Battalion – M21820
Briefer: LtCol Brenize
9-27 September 2019

Overall Classification: UNCLASS//FOUO
Date/version: 20191016, v2
Author: CWO2 (b)(3), (b)(6), (b)(7)(c)
1 of slides: 16

FSMAO Inspection

- Date of Analysis: 9-27 September 2019

- Major operations and exercises:

Name	From	To	Event	Location
Open Water	7/1/2019	7/3/2019	Amphib	Camp Pendleton
Staff Delegation Visit	7/2/2019	7/2/2019	Staff Del Visit	Camp Pendleton
5th Marines EOTG Raid Crs	7/7/2012	7/12/2019	EOTG Raid Crs	Camp Pendleton
USS San Diego Pre-AMW	7/8/2019	7/12/2019	Pre-AMW	Camp Pendleton
EOTG Evaluator Augment V15	7/7/2019	7/12/2019	EOTG Evaluator	Camp Pendleton
R222	7/9/2019	7/12/2019	Table VI	Camp Pendleton
Family Day	7/12/2019	7/12/2019	Family Day	Camp Pendleton
IED Training	7/15/2019	7/18/2019	IED Training	Camp Pendleton
Swim Qualification	7/16/2019	7/16/2019	Swim Qual	Camp Pendleton
Ampib Ops	7/18/2019	7/19/2019	Amphib Ops	Camp Pendleton
6 Mile Hike	7/19/2019	7/19/2019	6 Mile Hike	Camp Pendleton
MASS-3 AAV SNCO PME	7/25/2019	7/25/2019	SNCO PME	Camp Pendleton
PROTRAMID	6/14/2019	8/14/2019	PROTRAMID	Camp Pendleton
Summer Fury 19	7/27/2019	7/30/2019	Summer Fury	29 Palms
Company FEX	7/31/2019	8/2/2019	Co FEX	Camp Pendleton
Jetty Ops	8/5/2019	8/9/2019	Amphib	Boat Basin/TA White Beach
R109	8/6/2019	8/9/2019	Gunnery Tables	29 Palms
CSA	8/6/2019	8/8/2019	CSA	Camp Pendleton
ITX 5-19 ADFOR	8/12/2019	8/26/2019	ITX ADFOR	29 Palms
Drink Water Lake	8/13/2019	8/26/2019	NTC	NTC
R500	8/18/2019	8/24/2019	R500	29 Palms
USS Comstock AMW	8/19/2019	8/23/2019	AMW	Camp Pendleton
USS Pearl Harbor Pre-AMW	8/19/2019	8/22/2019	Pre-AMW	Boat Basin/TA Red Beach
USS Pearl Harbor AMW	8/26/2019	8/29/2019	AMW	TA Red Beach
ACVC/UIPE CBRN Eval	8/26/2019	8/28/2019	ACVC/UIPE CBRN Eval	Camp Pendleton
Beach Bash	8/30/2019	8/30/2019	Beach Bash	Camp Pendleton
Jetty Ops	9/6/2019	9/8/2019	Boat Basin	Camp Pendleton

FSMAO Inspection

- Noteworthy Name(s):
  - Cpl [(b)(3), (b)(6), (b)(7)(c)] – (DSI/LAY) D Co
  - Cpl [(b)(3), (b)(6), (b)(7)(c)] – (MODs) CEM
  - Sgt [(b)(3), (b)(6), (b)(7)(c)] – (Toolroom) Bn Maint
  - Cpl [(b)(3), (b)(6), (b)(7)(c)] – (PE) Sup
  - Cpl [(b)(3), (b)(6), (b)(7)(c)] – (PE) Sup
  - Sgt [(b)(3), (b)(6), (b)(7)(c)] – (DSI) Ord
  - PFC [(b)(3), (b)(6), (b)(7)(c)] – (Records) COMM

FSMAO Results

HIGH/MEDIUM RISK CONDITIONS BY LINE OF EFFORT AND COMMODITY										
LOE / CHECKLIST		Risk	Supply	Maint Mgmt	Comm Elect	Engineer	Motor-T	Ordnance	UUAM	Container Mgmt
1	Property Accountability	M	5							
2	Procurement	M	3							
3	Maint Prgm & Resource Mgmt	L								
4	Maint Info & Reporting	L								
5	Maintenance Production	M		1	1	1	2			
6	Misc Accounting	L								

Line Of Efforts (Risk):	High-0	Med-3	*Low-3
Conditions (Questions):	High-0	Med-13	*Low-86

* Not depicted on graph

Supply

FINDINGS

Property Accountability (LOE 1)

- Equipment Transfers (Key Supporting Documentation (KSD))

CAUSES

Property Accountability

The lack of supervisory oversight by the Supply Officer, Supply Chief and ineffective supply records management resulted in:

- Missing KSDs supporting proof of shipment/authorization external equipment
- No access to Electronic Document Management System
- Missing KSDs to support changes to CMRs
- Missing KSDs for serialized small arms transfers and failed to notify Crane within 48 hours

CORRECTIVE ACTIONS

1. New quarterly filing system separated by fiscal year.
2. Stakeholders within the section will gain access to Electronic Document Management System (eDocs). A primary and secondary Marine will run the overall management of processing the disposal of equipment with oversight from the Supply Officer/Supply Chief.
3. A single, six part folder will be used for each CMR per fiscal quarter, allowing supporting documentation to be compartmentalized and further improve audit readiness.
4. Assistant Supply Officer and Supply Chief will gain "Supply Officer" roles within the NSWC Crane, web portal. Weekly audits of Sales Order Issues will be completed by the Supply Officer and continued visibility on notifications from Crane, Indiana via electronic mail.

STATUS

1. Complete/On-going
2. Nov 25
3. Dec 19
4. In Progress

Supply

FINDINGS

Procurement (LOE 2)

- Fiscal (Unliquidated Obligations/Undelivered Orders)

CAUSES

Procurement (Fiscal)

The Supply leadership's lack of supervision in managing the unit's financial records led to the failure to correct Unliquidated Obligations (ULO)/ Undeliverable Orders (UDO) discrepancies within the prescribed timeframe. The UDO and ULO were not managed by the unit; Comptroller initiated corrective actions.

- UDOs in excess of $90K for FY19. Completed SERVMART referrals were not provided to the Comptroller to expense.
- ULOs in excess of $8K for FY19. Commitments, obligations, and expenses did not match the liquidation that resulted from price changes, unit pack changes, and cancellations.

CORRECTIVE ACTIONS

1. Fiscal Clerk and DASF Clerk will gain access to SABRS/SMARTS portal.
2. The expense of UDOs/ULOs will be completed at the end of every business week.
3. Weekly reconciliations between the Fiscal Chief and DASF will be scheduled and supervised by the Supply Officer.
4. Fuel records and receipts will be maintained and organized and further audited, and reconciled against the DLA-EEBP Energy Report and active fuel keys on a monthly basis.
5. Fuel keys will be serialized and will be available per Company.
6. The current pending file has been adjusted to ensure full visibility on all transactions that have yet to be committed.

STATUS

1. Nov 8
2. Complete/On-going
3. Dec 19
4. Complete/On-going
5. Nov 25
6. Complete

Supply

FINDINGS

Procurement (LOE 2)

- Commercial Procurement

CAUSES

Procurement (Commercial Procurement)

The Supply Officer and Supply Chief failed to provide adequate supervision for processing off-line requisitions for Fuel and Government Commercial Purchase Card requisitions resulting in:

- Missing and incomplete KSD(s) for all fuel requests and Government Commercial Purchase Card requisitions.
- Unaccountability of Fuel keys and associated charges.
- Energy Sales Slip (DD-1898E) did not contain accurate financial information.
- Fuel Logbook did not contain requirements preventing the ability to track charges.
- Supply Officer/Financial Approvers failed to reconcile fuel purchases.
- Requests for supplies or services were not initiated by the RO or his delegate. No segregation of duties amongst RO/Delegated individual and Supply personnel when placing open purchases.
- Missing receipts to validate supplies and services.

CORRECTIVE ACTIONS

1. Fuel records and receipts will be maintained, organized and further audited, and reconciled against the DLA-EEBP Energy Report and active fuel keys on a monthly basis.
2. Fuel keys will be serialized and will be available per Company.
3. Update fuel logbook with the appropriate and additional information.
4. DOAs from each commodity will be organized by fiscal quarters and reconciled against the updated SERVMART referral forms. By using this new policy it will eliminate any errors for future purchasing.
5. Ship to address has been added to SERVMART Card and referral form to have all items shipped to the warehouse.
6. Monthly audits of all SERVMART transactions including transaction on the Daily Transaction Report and other miscellaneous transactions.

STATUS

1. Complete/On-going
2. Nov 25
3. Complete
4. Complete
5. Complete
6. Complete/On-going

Supply

FINDINGS

Procurement (LOE 2)

- Requisition Management

CAUSES

Procurement (Requisition Management)

The Supply Officer and Supply Chief did not supervise and train the Requisition Management section due to their unfamiliarity of DASF Management that resulted in the following discrepancies

- Failed to establish reconciliation procedures.
- Failed to submit corrective actions for aged shipments.
- Failed to reconcile financial records for lost shipments and seek credit.

CORRECTIVE ACTIONS	STATUS
1. DASF will continue to complete weekly reconciliations with maintenance commodities, a logbook will be the mechanism to document attendance for the Supply Officer.	1. Complete/On-going
2. Additional training on document management will be added to the Annual Training Plan, training will focus on holistic procedures and navigating the Product Data Reporting and Evaluation Program.	2. Complete
3. The Supply Officer will continue to complete weekly audits of shipments.	3. Complete/On-going
4. The Supply Officer will explicitly dictate when aged requisitions need to be processed.	4. Complete
5. The Supply Officer and DASF Clerks will process requisitions that received a cancellation status and de-obligate funds within SABRS.	5. Complete

Maintenance Production

FINDINGS

Maintenance Production (LOE 5)

- Preventive Maintenance Checks and Services

CAUSES

Inadequate supervision and training by Responsible Officers, Commodity Managers and Maintenance Managers resulted in numerous discrepancies within the PMCS program.

- Lack of detailed Internal Inspections. (MMO)
- Failed to ensure PM parts were ordered and debriefed. (Eng, MT)
- Lack of training by Maintenance Managers and senior Motor Transport personnel.
- PM frequency types inaccurately scheduled. (MT, COMM)

CORRECTIVE ACTIONS

1. Accountable Officer emphasize the importance of PMCS program to Responsible Officers.
2. The Battalion internal inspection program will incorporate a Staff Non-Commissioned Officer MOS 2141, 2149, or 3529 to evaluate the condition of PMCS. Internal inspection report will include all details identified during the inspection process to include sample size, time frame of history reviewed, and Service Request/Task #s at a minimum.
3. The unit will conduct a robust maintenance stand-down with emphasis on proper conduct of PMCS within the next quarter.
4. MMO/MMC/Section Chiefs will conduct class on proper PMCS procedures.

STATUS

1. Complete
2. In Progress (Continuing Actions)
3. In Progress (TBD)
4. Complete

Low Risk Trends

- Personal Effects (Coordination with Supply, Legal, and S-1)
- Inventory Control (MT, ORD)

Continuing Actions

- Policies
  - Re-Invigorate the Bn Maintenance Internal Inspection Team
  - RO/RI training twice a month
- Procedures
  - Unit developing "Play Book" to standardize maintenance procedures.
  - Unit tracking monthly Miles/Hours at Bi-weekly Material Readiness Brief.
- Supervision
  - Emphasis placed on RO involvement.
  - Maintenance leadership required to attend weekly D/L meeting with MMO.
- Training
  - Unit PMCS class 31 Oct/1 Nov.
- Fiscal
  - Ensure personnel have a back-up to access fiscal systems
  - Weekly reconciliation and budget review

Commander's Comments

Closing Remarks

BACKUP SLIDES

FSMAO Results

LINES OF EFFORT	OVERALL RISK	CONDITIONS		
		HIGH RISK	MEDIUM RISK	LOW RISK
Property Accountability	MEDIUM		5	15
Procurement	MEDIUM		3	11
Maintenance Program & Resource Management	LOW			23
Maintenance Information & Reporting	LOW			16
Maintenance Production	MEDIUM		5	16
Miscellaneous Accounting	LOW			5

Risks Explained

- **HIGH-RISK:** The condition(s), if not corrected, will result in one or more of the following: loss of property, loss of accountability/auditability, inaccurate reporting, reduced operational availability of equipment, unnecessary expenditure of funds, waste of unit resources, increased safety concerns, a systemic issue across the command or a significant deviation from policy criteria.

- **MEDIUM-RISK:** The condition (s) is/are less severe than a high-risk finding, yet important enough to merit attention by the commander and key staff. If not corrected, it will result in one or more of the results listed above.

- **LOW-RISK:** Is a condition or set of conditions assessed across the command within a single category. The condition(s) is/are less severe than a medium-risk finding, but may still have minor exceptions or discrepancies requiring routine correction.

CG's 3d AA Battalion FSMAO Summary

LRE: 7 May - 25 May 2018		Trending
Commodity	%	
Container Management	100%	
Supply	82%	
Maintenance Management	86%	
Unit User Account Manager	76%	
Motor Transport	90%	
Ordnance Armory	84%	
Rear Area Maint Park	88%	
Communications	83%	
Engineers	95%	

FSMAO: 9 September - 27 September 2019	
Lines of Effort	Risk
Property Accountability	Medium
Procurement	Medium
Maint Program & Resource Management	Low
Maint Information & Reporting	Low
Maintenance Production	Medium
Miscellaneous Accounting	Low

LRE OIC: Key supporting documentation in multiple facets of property accountability led to a medium risk assessment by FSMAO. This was only a minor discrepancy during the LRE, so a lack of supervisory oversight is apparent. The medium risk is procurement is due to many of the same findings the LRE had in 2018. The leadership needs to define roles within the supply section, implement controls and conduct spot inspections to ensure they move in the right direction. This trend continues into maintenance production where lack of oversight via internal inspections and/or direct supervisory oversight led to deficiencies in the unit's preventive maintenance program. These deficiencies were also annotated in the previous LRE.

MRO:

- Upon reviewing each of the FSMAO Commodity Area checklists, it is apparent that there are failures in both Supply procedures at the battalion level AND Responsible Officer responsibilities across the board.
- 3d AABn has a large Table of Equipment which can be managed through proper use of personnel. Personnel is not the issue here. The issue is the proper delineation of roles and responsibilities.
- The MRO desires that emphasis be placed on the following roles and responsibilities:
  - Supply Officer — Complete RO Training Module within Marine Net
  - Responsible Officers (ROs) — Complete RO Training Module within Marine Net
  - Responsible Individuals (RIs) — Complete RO Training Module within Marine Net
- If/when the Responsible Officers are not meeting CMR reconciliation requirements, the Accountable Officer should weigh-in to ensure that timelines and actions are being met.
- Recommend Supply Officer maintains a hard-copy of NAVMC 4000.5B *SUPPLY OFFICERS INTERNAL CONTROLS HANDBOOK*
- Recommend the Battalion Commander and Executive Officer maintain a copy of the *COMMANDERS MATERIAL READINESS HANDBOOK* by EGEM

G4: Very similar to other units where there is a lack of "brilliance in the basics" in some areas that should be remedied with recurring training and persistent/consistent oversight, especially within the Supply section and for the various Responsible Officers throughout the Battalion. For PMCS, the commodities of MT, Engineering, and Communications should follow the lead of the AAV Marines when it comes to pride of ownership and executing preventative maintenance correctly and in a timely manner. These findings and discrepancies will give the Division Supply Officer and his team topics to reinforce at the next Supply workshop on 21 Nov 2019.

CG's 3d AA Battalion FSMAO Summary

LRE: 7 May - 25 May 2018		Trending
Commodity	%	
Container Management	100%	
Supply	82%	
Maintenance Management	86%	
Unit User Account Manager	76%	
Motor Transport	90%	
Ordnance Armory	84%	
Rear Area Maint Park	88%	
Communications	83%	
Engineers	95%	

FSMAO: 9 September - 27 September 2019	
Lines of Effort	Risk
Property Accountability	Medium
Procurement	Medium
Maint Program & Resource Management	Low
Maint Information & Reporting	Low
Maintenance Production	Medium
Miscellaneous Accounting	Low

LRE OIC: Key supporting documentation in multiple facets of property accountability led to a medium risk assessment by FSMAO. This was only a minor discrepancy during the LRE, so a lack of supervisory oversight is apparent. The medium risk is procurement is due to many of the same findings the LRE had in 2018. The leadership needs to define roles within the supply section, implement controls and conduct spot inspections to ensure they move in the right direction. This trend continues into maintenance production where lack of oversight via internal inspections and/or direct supervisory oversight led to deficiencies in the unit's preventive maintenance program. These deficiencies were also annotated in the previous LRE.

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CG's 3D Assault Amphibian Battalion LRE Summary

Commodity	FY2018	FY2020
Ammunition	87%	97%
Embarkation	89%	91%
Container Management	100%	48%
Supply	82%	64%
Maintenance Management	86%	73%
Unit User Account Management	76%	60%
Motor Transport	90%	93%
Ordnance Armory	84%	80%
Ordnance RAMP	88%	88%
Communications	83%	80%
Field Mess	93%	91%
Engineers	95%	88%

Dates of previous Inspections: 11 – 15 June 2018 LRE, FSMAO 9 – 27 Sept 2019 Medium Risk for Property Accountability, Procurement and Maintenance Production. Low Risk in all other Lines of Effort

Dates of current Inspection: 1 – 5 June 2020 LRE

Logistics Readiness Evaluation OIC:

- 3D AABN has an involved staff and are capable of returning to compliance within a few months.
- The unit had numerous areas of discrepancies identified in the Supply and Maintenance commodities during their FY19 FSMAO which were again identified as areas of concern during this LRE. These areas are easily correctable and the unit received hands on training and mentorship during the LRE visit in order to facilitate this process.
- Bottom line, there are minimal administrative corrections which should be made in order to bring 3D AABN back into compliance. These corrections will ensure a fully compliant program in the future. The unit is slated to receive a LRE assist later this summer, August 17 – 27 2020. The LRE team will follow up with them before/during and after this period to ensure they are supported in these efforts.

    - Container Management: The Container Management program has Marines with the proper certifications in place to execute Container Management however, it was identified during the inspection process the containers within the unit showed signs of rust, damage (such as fork lift puncture marks) and drill holes without the proper documentation uploaded into the system of record. This ultimately led to the physical vs. virtual disparity of the unit's container management program in Joint Container Management System (JCAMS) and ultimately led to them falling beneath 80% in the area of Container Management.
    - Supply: The unit's Supply section leadership was involved however, some of the current processes and procedures were inaccurate and inefficient. There were minimal areas of improvement in the functional areas identified previously by FSMAO specifically, allowance management in Property Management, historical and non-standard weapons on the Monthly Serialized Inventory Report, Requisition Management (aged statuses on the DASF without follow/ups) and personal effects. They did show a major improvement in the functional area of Fiscal and had one of the best scores in Division in this specific area.
    - Maintenance Management/UUAM: Maintenance Management Officer/Chief were both relatively new to the billets assigned. Unit results and data showed a big push prior to FSMAO and then a sudden stop in some cases soon after. Several discrepancies noted are relatively easy fixes if specifically attacked with attention to detail. Once these programs are established/repaired properly, regular attention will need to be paid to them to incorporate them into battle rhythms and establish historical data.
    - Ordnance: Ordnance Officer and Maintenance Chief were involved in every aspect of daily operations. All the discrepancies identified and noted by the LRE inspector are in the process of being corrected. All discrepancies noted in maintenance production, preventative maintenance, publication control and inventory control could have been mitigated through involved supervision, transfer of knowledge, thorough training and personal ownership of

equipment within the commodity. Critiques during the inspection were well received within the commodity and, if applied, will lead to success in the future.

- Communication: Though the commodity continues to work diligently through an increased operational tempo several discrepancies noted during FSMAO still remain. The absence of a 2891, Ground Electronics Maintenance Chief, created a severe lack of oversight leading to non-compliance that would have otherwise been corrected. Line companies observed during the inspection did not have the staff involvement necessary to ensure the success of the Marines or the commodity as a whole.

- **G4 MRO:**
  - I have been briefed on (2) LRE outcomes and (1) FSMAO outcome for 3rd AA Bn since taking the seat as the MRO in August 2018.
    - **May 2018 LRE**: Out of (12) areas inspected (4) 100-90%, (4) 89-85%, (3) 84-80%, (1) 79% or below
    - **FSMAO 2019**: Out of the (3) Mediums mentioned in the CAP, none were addressed or corrected
    - **May 2020 LRE**: Out of (12) areas inspected (4) 100-90%, (2) 89-85%, (2) 84-80%, (4) 79% or below
  - The LRE Team has conducted more than 100 LRE and LRE Assists throughout 1st Marine Division during my time here and with shining results from two well versed Supply Officers, Capt (b)(3), (b)(6), (b)(7)(c) presently at the School House as an Instructor; and Capt (b)(3), (b)(6), (b)(7)(c) the present LRE OIC and also a Major select from the below zone.
  - The LRE checklists utilized are the same as those used for FSMAO.
  - That being said, I turn my attention to how staff actions are being completed and directed by the 3d AA Bn Executive and Special Staff:
    - The 2019 FSMAO CAP was not carried out completely.
    - The 2020 LRE presented several repeating and uncorrected offenses from the previous 2018 LRE and 2019 FSMAO.
    - In November 2019, following the 2019 FSMAO results, the MRO discussed with the Executive Officer that the Supply Chief, GySgt (b)(3), (b)(6), relinquish his additional duty as the Equal Opportunity Rep in order to focus on making corrections to the supply account.
    - The MRO discussed with the DIV CGIP SNCOIC the results of the CGIP EO inspection for 3D AA Bn and learned that the DIV CGIP SNCOIC made the same recommendation.
    - GySgt (b)(3), (b)(6), (b)(7) remained dual-hatted as both the Supply Chief and EO Rep and subsequently failed in both inspections.
  - The Executive Officer and MMO are the driving force behind getting full cooperation from the staff.
  - The DIV MRB has provided as much direction and support as the unit requested.
  - In the future, coordination between the DIV MRB and 3d AA Bn should be made early and often-in order to best develop a corrective action plan in a timely manner.

- **AC/S G4:** Since the 2018 LRE and 2019 FSMAO, some problem areas continue to exist with little to no improvement. We cannot determine if this stems from manpower management decisions, operational tempo demands, or lack of supervision in critical billets. Some of the areas that improved since the 2019 FSMAO were fixed just shortly prior to the 2020 LRE, which leads me to believe there is not a systematic program in place to maintain consistency and readiness in those areas. It's great to see they've improved in a few difficult areas (the Battalion Ammo Chief is probably the best in 1st MARDIV), but the unit continues to struggle in the commodities that are dominated by their Supply and Maintenance Management sections. The Division MRB/LRE team will continue to assist when/where they can, but the LRE team has a full schedule of inspections between now and mid-August when 3rd AA Bn will undergo their next LRE Assist Visit.

UNITED STATES MARINE CORPS
1ST MARINE DIVISION, (REIN), FMF
BOX 555380
CAMP PENDLETON, CALIFORNIA 92055-5380

DivO 4790.2
G-4 MMO
10 June 2016

1ST MARINE DIVISION ORDER 4790.2

From: Commanding General
To: Distribution List

Subj: MAINTENANCE MANAGEMENT STANDARD OPERATING PROCEDURES (MMSOP)

Ref: (a) MCO 4790.2 FIELD LEVEL MAINTENANCE MANAGEMENT POLICY (FLMMP)
(b) MCO 4790.25 GROUND EQUIPMENT MAINTENANCE PROGRAM (GEMP)
(c) MCO 1553.3_ UNIT TRAINING MANAGEMENT
(d) MCRP 3-0A UNIT TRAINING MANAGEMENT GUIDE
(e) MCRP 3-0B HOW TO CONDUCT TRAINING
(f) MCO P5215.17_ THE MARINE CORPS TECHNICAL PUBLICATIONS SYSTEM
(g) MCO 5600.31_ MARINE CORPS PRINTING AND PUBLISHING REGULATIONS
(h) MCO 3000.11_ GROUND EQUIPMENT CONDITION AND SUPPLY MATERIEL READINESS REPORTING (MRR) POLICY
(i) MCO 3000.13 MARINE CORPS READINESS REPORTING STANDARD OPERATING PROCEDURES (SOP)
(j) MCBUL 3000 MARINE CORPS READINESS REPORTABLE GROUND EQUIPMENT
(k) MCO 4400.16_ UNIFORM MATERIEL MOVEMENT AND ISSUE PRIORITY SYSTEM (UMMIPS)
(l) MCO 4400.150 CONSUMER LEVEL SUPPLY POLICY
(m) MCO P4400.82_ MARINE CORPS UNIFIED MANAGEMENT SYSTEM (MUMMS) CONTROLLED ITEM MANAGEMENT MANUAL
(n) TI 4733-OD/1 CALIBRATION REQUIREMENTS MARINE CORPS TEST, MEASUREMENT AND DIAGNOSTIC EQUIPMENT CALIBRATION AND MAINTENANCE PROGRAM
(o) MCO 4105.2 MARINE CORPS WARRANTY PROGRAM
(p) MCO 4855.10_ PRODUCT QUALITY DEFICIENCY REPORT (PQDR)
(q) MCO 4790.18_ CORROSION PREVENTION AND CONTROL (CPAC) PROGRAM
(r) MCO 4790.24 ENTERPRISE LIFECYCLE MAINTENANCE PROGRAM (ELMP)
(s) MCO 4400.194 MARINE CORPS CLASS VII STOCK ROTATION POLICY
(t) MCO 4200.33 CONTRACTOR LOGISTICS SUPPORT (CLS) FOR GROUND EQUIPMENT, GROUND WEAPON SYSTEMS, MUNITIONS, AND INFORMATION SYSTEMS
(u) MCO 5311.1_ TOTAL FORCE STRUCTURE PROCESS (TFSP)
(v) MCO P3500.72_ MARINE CORPS TRAINING AND READINESS (T&R) PROGRAM
(w) NAVMC 3500.27_ LOGISTICS TRAINING AND READINESS MANUAL
(x) UM 4000-125 RETAIL SUPPLY AND MAINTENANCE EXECUTION PROCEDURES
(y) MCO 5040.6_ MARINE CORPS READINESS INSPECTIONS AND ASSESSMENTS
(z) DoDI 1348.30 SECRETARY OF DEFENSE MAINTENANCE AWARDS

1. Situation. MCO 4790.2 outlines the Commandant of the Marine Corps' (CMC) policy for implementing and managing field level maintenance. It defines and establishes Marine Corps maintenance and maintenance management policies and procedures in order to improve staff planning, organization, direction, coordination, and unit readiness.

2. Cancellation. DivO 4790.1

3. Mission. To publish specific instructions, policies, procedures and technical information on the maintenance management functional areas for ground equipment within 1st Marine Division. It is designed to integrate requirements, policy, programs, and procedures to synchronize maintenance and sustainment activities.

4. Execution

a. Commander's Intent and Concept of Operations

(1) Commander's Intent. Purpose: To enable commanders to prioritize and manage maintenance resources, increase equipment availability through a comprehensive maintenance effort, accomplish the MSE's maintenance mission, improve overall readiness, and extend the useful life of Marine Corps equipment. Method: Define and establish uniform management policies and procedures for ground equipment maintenance management. End state: Achievement of a ground maintenance management system that supports and extends operations by identifying requirements, optimizing maintenance actions, minimizing resource consumption, and properly managing information.

(2) Concept of Operations. Accountability and equipment stewardship is accomplished by the execution of the programs directed in applicable references and applies to all levels of leadership. Organizations will perform Field Level maintenance actions as prescribed in their respective mission statement and MCO 4790.25.

b. Coordinating Instructions

(1) Develop, review, update, and implement internal policies and procedures to facilitate the intent and execution of this order.

(2) Ensure accurate reporting of requirements, readiness status and other data into appropriate supporting maintenance and sustainment systems.

5. Administration and Logistics. This publication can be obtained by requesting a copy from the Division Adjutant. Recommendations concerning the contents of this Order are invited and should be submitted via the appropriate chain of command to the 1st Marine Division Maintenance Management Office (MMO).

6. Command and Signal

a. Command. This order is applicable to all MSEs assigned or attached to 1st Marine Division.

b. Signal. This order is effective upon date signed.

D. J. O'DONOHUE

DISTRIBUTION

Copy to: CG, I MEF
CG, 1ST MLG
CG, 3RD MAW

1st Marine Division

Maintenance Management Standard Operating Procedures (MMSOP)

RECORD OF CHANGES

Log completed change action as indicated.

Change Number	Date of Change	Date Entered	Signature of Person Incorporated Change

TABLE OF CONTENTS

(3) Internal Inspection Program

(4) Maintenance Management Training

(5) Publications Management and Control

(6) Validation and Reconciliation Procedures

d. MMPLs published by the MSC will be released as needed in order to provide further guidance and/or clarification to procedures or changes in policy when necessary.

e. All MMPLs will be maintained with the MMSOP within each commodity/section publication library. Applicable MMPLs may also be filed in Desktops for which they apply.

f. Information promulgated in MMPLs will be reviewed annually (every 365 days) and are effective until canceled or superseded. A new "Checklist of Effective Maintenance Management Policy Letters" will be published upon completion of the review. The MMO will ensure distribution of the MMSOP and MMPLs to commodity managers and maintenance management personnel for familiarization and to enforce compliance.

4. Inspections. One of the principal means available to the MSE commander to ascertain whether planning and organization are sound, their staffs are functioning effectively, and directives are clear, well understood, and being effected by subordinates is through inspections. Inspections further enable MSE commanders to properly measure effectiveness in the use of maintenance resources. Without inspections, costly delays in the accomplishment of required equipment maintenance, identification of equipment defects, and faulty maintenance procedures are likely to occur. Two types of inspections will be utilized when assessing supply and maintenance effectiveness, formal and informal.

a. Formal inspections are usually announced in advance and a standard procedure for the conduct of the inspection promulgated. A checklist will usually be prescribed, used by the inspection team, and may be used by the inspected MSE to prepare for the inspection. Such an inspection routine assures the commander of the correction of many small faults or omissions that could otherwise fail to get accomplished during normal operations. Formal inspections become the primary activity of the inspected MSE during the inspection, with personnel and equipment being made available to the fullest extent.

(1) Field Supply and Maintenance Analysis Office (FSMAO) conducts comprehensive analyses of logistics functional areas in order to assess compliance with orders and directives and improve overall Marine Corps equipment accountability and readiness. FSMAO provides direct field representation for the Commandant of the Marine Corps (CMC) and Deputy Commandant for Installation and Logistics (DC I&L).

(a) A FSMAO analysis will include a 100% physical inventory of all readiness reportable ground equipment and Naval Surface Warfare Center (NSWC) Crane reportable assets; a random sample physical inventory of other equipment and items; a review of supply, maintenance, maintenance management, and Arms, Ammunition, and Explosives (AA&E) procedures to gauge overall equipment accountability and readiness. FSMAO analyses encompass those

commands, MSEs, activities, or sites that perform retail, intermediate, wholesale, depot logistics functions, and or distribution functions, to gauge overall performance and responsiveness.

(b) FSMAO scheduling is published, via naval message, prior to the start of the Fiscal Year (FY) inspections. Dates are solidified through MSC G-4 upon review of each MSE's training exercise employment plan (TEEP) and recommendations made by MSE commanders. Requests for changes to the approved FSMAO analysis schedule will be submitted to DC I&L via the chain of command by naval message.

(c) FSMAO will utilize the standard approved FY checklist and distinct performance indicator categories formula contained within.

(d) The FSMAO report will provide a comprehensive assessment. A Plan of Corrective Action (POCA) is required from the MSE inspected in which non-compliant functional areas and findings are identified. Inspection reports will be retained on file with the inspected MSE MMO for two years.

(2) The Commanding Generals Inspection Program (CGIP) is conducted biennially within the MSC to promote economy, efficiency, effectiveness, and readiness. In addition, the CGIP will inspect fraud waste and abuse, discrimination, sexual harassment, environmental noncompliance, and related improprieties. This authority may be delegated in cases where geographic distances make it unfeasible to conduct recurring, in-depth inspections.

(a) CGIP inspections will be short/no notice inspections in order to minimize unproductive preparation time and to give commanders an accurate assessment of day-to-day readiness. Therefore, inspection schedules will not be published.

(b) CGIP inspectors will utilize the Functional Area (FA) inspection checklist with supplemental checklists if applicable. Because some FA checklists lack current policy and modernized logistics practices for supply and maintenance, CGIP inspectors may utilize the most current FSMAO checklist as an option.

(c) The CGIP report will provide a comprehensive assessment. However, it should be noted that the report is not a summarization of the checklists and under no circumstances will the report contain findings not contained in the completed checklists and discussed during the MSE debrief. Inspection reporting and follow-up will be limited to the significant items affecting MSE performance and readiness. In particular, a written response is required from the MSE inspected in which non-mission capable functional areas and findings are issued. Inspection reports will be retained on file with the inspected MSE for two years.

(3) The purpose of the Logistics Readiness Evaluation (LRE) is to assess the MSE's policy compliance posture regarding logistical support to the MSE's operations (accountability, readiness reporting, maintainability and sustainability) and to provide training, guidance, and assistance to the MSE's logistics commodities. This will be accomplished through the following:

(a) LREs are conducted biennially and in conjunction with the CGIP whenever possible.

(b) LRE inspectors will utilize the LRE checklist that is supplemented by the CGIP FA and FSMAO checklists.

(c) The results will be provided to the MSE in order to guide them with corrective action. These results will be provided via the MSC for accountability purposes and to identify trends that require the attention of the MSC. The Commanding General will be briefed on all directed assist visits. All requested LRE reports will be forwarded to the MSE via the MSC only. Inspection reports will be retained on file with the inspected MSE for two years.

(4) The CGIP and LRE are two distinct programs and methodologies. While both are MSC level inspection programs operating on a similar rotation schedule, competing program interests prevent 100% schedule synchronization. However, due to the administrative burden that inspections may cause, it is more efficient from the MSE point of view to have both visits occur simultaneously. Additionally, joint visits provide manpower efficiencies at the MSC level and are thus encouraged.

b. Informal inspections are used to obtain firsthand information about a MSE and its operating procedures. The feature which distinguishes a visit from an inspection is the absence of a senior officer designated as an inspector.

(1) Staff assist visits (SAV) are specific in scope and will consist of a duty expert from the regiment or MSC staff. All SAVs will be requested from their respective regiment first. MSEs should request an SAV well in advance, since multiple MSEs may be requesting the same support from their regiment or MSC counterpart.

(2) An MSC SAV requested by the MSE commander or commodity officer, will be requested through the regiment or MSC and coordinated with the MSC LRE and CGIP offices.

(3) The results will be used solely for training MSE personnel, and will not be used to compare or provide the basis of evaluation of past performance. The regiment or MSC will maintain a copy of all SAV and courtesy inspection results as historical record of staff action and trends. Copies of results will be provided to the MSE for their records.

c. Internal Inspection Program

(1) Inspections are one of the principal means available to a MSE commander to ascertain whether planning and organization are sound, their staffs are functioning effectively, and directives are clear, understood, and being effected by subordinates. Inspections enable MSE commanders to properly measure MSE effectiveness in the utilization of maintenance resources. Without inspections, costly delays in the identification of equipment defects, accomplishment of required equipment maintenance, and faulty maintenance procedures are likely to occur.

(2) The MMO is responsible for developing and executing maintenance management internal inspections. To be of any value, the following four events will occur: scheduling, conducting, documenting, and

follow-ups on discrepancies noted. The results will be forwarded to the Commanding Officer.

(a) At a minimum, internal inspections will be scheduled and conducted for each maintenance management functional area annually (every 365 days) for all MSEs and applicable commodities. The MSE Commanding Officer may direct that internal inspections be conducted more often for their command. Inspection reports will be retained on file with the inspected MSE MMO for two years.

(b) The current MSC LRE checklists will be prescribed as the standard while conducting internal inspections. These inspection checklists may be obtained from the MSC.

(c) In preparation for internal inspections, MSEs can coordinate with the MSC LRE inspectors to accompany and participate in the ride along program. The ride along program will "train-the-trainer", allowing command designated inspectors to witness how the LRE team conducts inspections.

(3) Company commanders and/or commodity managers will receive an inspection report to analyze and evaluate inspection results for indications of trends that could adversely affect mission accomplishment. If discrepancies are discovered during the inspection, company commanders and/or commodity managers will provide the MSE commander a written follow-up, which addresses their Plan of Corrective Action (POCA) to correct discrepant areas. The POCA will be submitted within 14 working days of the date of the inspection report. Follow-up inspections will be scheduled and conducted 30-45 days after the POCA is provided.

d. Evaluations or inspections performed on the MSE by external agencies are not a substitute for what the MSE is responsible for and required to do internally. External reviews/assessments will however provide a foundation and identify trends and/or training deficiencies that can be addressed accordingly.

e. MSEs that receive formal inspections will take immediate action to correct discrepancies. Retention of reports is vital during re-inspections and for situational awareness. Periodically, these reports should be reviewed and used as a training tool prior to follow on inspections.

f. The MMPL for internal inspections will address scheduling, conducting, documenting, and follow-ups on discrepancies noted for each specific maintenance management functional area.

5. Desktop Procedures and Turnover Folders. The frequent changeover of personnel results in a lack of long-term expertise and continuity in many day-to-day operations. The use of desktop procedures and turnover folders ensures the efficiency of a command’s maintenance program.

a. Desktop procedures are intended to be a simple listing of significant items pertaining to everyday operations. The information in desktop procedures will include:

(1) Current title of billet

(2) References

Chapter 7

Preventive Maintenance Checks & Services and Corrective Maintenance (PMCS & CM)

1. Preventive Maintenance (PM)

a. General. PMCS includes the checking and servicing performed by personnel for maintaining equipment in satisfactory operating condition. A systematic PMCS program consisting of inspecting, cleaning, servicing, lubricating, and adjusting is the key to equipment readiness. Effectively administered PMCS will help prevent early breakdown or failure of equipment, and prevent costly, complex, and time-consuming repairs and allow the optimum use of maintenance resources.

b. Responsible Officers are responsible for ensuring all equipment within their section is properly scheduled for PMCS and recorded. Organizational PMCS (beyond operator/crew) will be evenly distributed so that all items of one type of equipment are not scheduled for PMCS at the same time. Responsible Officers will ensure that the intervals established allow the equipment to be on-hand and available for the performance of the required PMCS.

(1) Operator/crew PMCS time periods must be established via the S-3. The RO will submit an Operator/crew PMCS schedule to the S-3 for inclusion in the MSE training schedule. Operator/crew PMCS does not need to be scheduled in GCSS-MC.

(2) All on-hand equipment that requires PMCS beyond Operator/crew will be properly scheduled in GCSS-MC via the PM/CAL Scheduling Form module. Only qualified maintenance personnel will conduct these PMCS tasks.

c. PMCS intervals will be as follows:

(1) As set forth in the equipment’s technical publication.

(2) When a requirement is needed but does not exist in the technical publication to schedule PMCS, an interval of annual (every 365 days) will be established.

(3) Appropriate equipment forms and records will be used to schedule PMCS for equipment that does not possess a PMCS schedule in the equipment’s technical publications.

(4) Most PMCS intervals are pre-populated in GCSS-MC for each item of equipment. These are done through the GCSS-MC Program Office. When a schedule set in GCSS-MC conflicts with the schedule set in the equipment’s technical publication, the schedule in the technical publication will be used.

d. During PMCS, if an item is identified that CM is required, record the discrepancy in the Maintenance-PM SR (Notes section) and induct the item into maintenance immediately (create a Maintenance–CM SR). Once repairs are complete, close the Maintenance-CM SR and resume PMCS on the Maintenance-PM SR.

e. Modifications will be verified during scheduled PMCS and recorded on the equipment's item instance via the Oracle Installed Base User role in GCSS-MC.

f. All equipment that requires PMCS will have a Maintenance-PM SR listed in the "Last PM SR" tab of the PM/CAL Scheduling Form in GCSS-MC to reflect the last PMCS done in the equipment.

(1) The month of the SR must match the month the item was scheduled for PMCS.

(2) If the months do not match, ensure annotations are made in the "PM or Calibrations Remarks" field of the PM/CAL Scheduling Form for any PMCS completed during a month other than originally scheduled.

g. Appropriate maintenance services will be performed during all field exercises. PM services will be conducted as scheduled. CM services will be conducted as necessary. Care must be taken to ensure compliance with applicable environmental policies.

h. Management Procedures

(1) The RO will validate the PMCS report on a monthly basis to ensure all items requiring PMs have been scheduled as well as items that do not require "organizational" PMCS are removed.

(2) The MMO will review the PMCS report once a month, and inspect the MSE's program during the maintenance management internal inspection.

2. Corrective Maintenance (CM)

a. CM is a maintenance function performed to restore an item of equipment to a specific condition because it failed or malfunctioned.

b. During CM, maintenance personnel using appropriate support and test equipment and step-by-step procedures described in applicable technical publications will isolate the problem, obtain repair parts, and correct equipment faults.

c. All CM will be recorded on a Maintenance-CM SR.

d. Once the maintenance section receives the equipment, open the SR and change its status to "Equip Accepted". This will start the Date Received in Shop (DRIS) measurement. Change the status to "INS PRGS" or an appropriate status depending on when the initial inspection will occur.

(1) Upon receipt of an item into maintenance, the item will be inspected to determine repair and/or modifications required. This initial inspection must be conducted with the intent/desire to identify any equipment defect, above and beyond the defect(s) which cause the equipment to be introduced into the maintenance cycle. Required modifications will be noted on the SR and action initiated to accomplish the modification, or to evacuate equipment either at the MSE level if authorized or evacuated to the next higher supporting activity.

(2) The item will then be sent to the appropriate section where it will be inspected to determine the degree and nature of the repairs and

the parts required. Where fault isolation is required, the inspector will conduct the isolation/troubleshooting process, using applicable TMs, and will update the SR with appropriate maintenance tasks. Any additional repairs or parts requirements will be added to the SR and the maintenance chief will be notified.

e. It is the goal of maintenance to return all inducted items to as close to a like-new condition as possible. As stated previously, this includes repairing the cause of the original faulty defects as well as replacing SL-4 as required, minimizing superficial blemishes/corrosion where time and tools permit, and installing modifications and upgrades.

3. Quality Control

a. The objective of each QC and assurance program is to maximize equipment readiness through increased equipment efficiency and reliability by ensuring that proper and effective maintenance is performed on all equipment undergoing repair or servicing. This program further seeks to detect improper procedures to determine whether they are isolated in personal performance, training support equipment, or in equipment design. MMOs and commodity managers are responsible for ensuring compliance with all specifications as established in applicable TMs during the accomplishment of all maintenance activities.

b. Any commodity that performs CM will assign a primary and an alternate QC inspector. Such assignment will be formalized by an appointment letter and will be signed by the maintenance officer. These individuals are required to maintain desktop procedures with sample inspection checklists from TMs, or locally generated checklists if the TM does not contain one to utilize as a guide in the performance of their duties.

c. Maintenance chiefs are responsible for implementing control procedures required to ensure all equipment is repaired according to direct specifications and that personnel are properly supervised in the accomplishment of all equipment maintenance activities associated with equipment repair and servicing. These procedures are an integral part of maintenance production/shop operation procedures.

(1) Work in progress will be inspected at appropriate stages to ensure completeness, accuracy of assembly, and condition of each component. Items considered borderline or degraded despite their impact on the operational status of the overall end item should be replaced while the equipment is being repaired or disassembled. Parts that meet this criteria and those described for Demand Supported Items (DSI) should be considered for addition to the maintenance shops DSI inventory.

(2) Appropriate support and test equipment will be used to the fullest extent during all maintenance phases. After final assembly, equipment will be tested to determine proper functioning. This should include performance testing whenever possible.

d. When the repair section has determined that the equipment repair is completed, the item will be processed through a final inspection phase. The inspector will perform a detailed inspection to include visual and operational checks to the degree necessary to assure that no additional repairs are required.

(1) Inspections conducted by a competent NCO does not relieve the particular maintenance section supervisor of the responsibility for supervision and inspection to ensure quality work performance at the shop level.

(2) Effort should be made in each maintenance section to create tailored QC checklists for each equipment type. When a checklist is used, once completed, it is highly recommended that a copy be attached to the SR.

e. If the work performance is unsatisfactory or marginal, the shop chief will be notified and appropriate action taken to determine the nature and cause of the deficiency. Prompt and thorough action to fix the cause and/or responsibility for the discrepancy will be taken and appropriate corrective measures initiated to prevent the recurrence of the discrepancy.

f. The final phase of the QC inspection will be a review of associated equipment records to ensure that they are correct. The review of equipment records should include a visual verification of commodity modification control records and any additional certifications such as hook throat spread, Annual Condition Inspection (ACI) and load test certification as they apply to that particular end item or component.

4. Performance of Maintenance Services

a. Coordination of MSE Maintenance Requirements. Commanders will designate alternate sources of maintenance support, as necessary, to balance workloads. They will determine overflow levels at which work can be evacuated to the next source of maintenance support. Maintenance production processes will be per MCO 4790.2.

b. Conducting Maintenance Pre/Post Exercise or Operation

(1) A maximum effort must be made to get all equipment to an optimum state of readiness with emphasis on PM. A Joint Limited Technical Inspection (JLTI) and inventory of SL-3 components will be conducted and documented in GCSS-MC. GCSS-MC will have scheduled PMCS identified so that equipment in the custody of the new/temporary holder does not request PMCS prior to operations.

(2) One of the more critical periods for proper supervision of PM and CM is upon completion of an exercise or operation. There is a tendency for complacency and any required maintenance may not be detected until the next time the equipment is used. This will result in degraded equipment, wasted time and the consumption of additional restoration resources. The S-4/MMO, in coordination with the S-3, will schedule a maintenance stand-down with the adequate amount of time following each training exercise, tactical operation or deployment to perform PM, CM, and to conduct SL-3 inventories.

(3) Equal emphasis should be allocated for both maintenance and conducting tactical training. Developing a close working relationship with the S-3 and having familiarity with the TEEP will help ensure maintenance is scheduled and considered a priority along with MSE tactical training.

c. A GCSS-MC SR will be used in all instances of maintenance that require Modification, Calibration, CM, PMCS, Collateral Equipment (SL-3) replenishment, and LTI on ground equipment managed within GCSS-MC. A task will be created for each defect identified during the acceptance LTI and

during the conduct of maintenance.

(1) The SR will be used for transmitting work to supporting maintenance organizations with the appropriate capability.

(2) GCSS-MC functionality requires a SR to be opened in any instance where parts are applied. A SR is not required in instances where labor is less than .3 hours and no parts are applied.

(3) Separate maintenance type service requests are required for Calibration, CM (to include Limited Technical Inspections and SL-3 replenishment), PMCS, and Modifications.

(4) A SR may have different priority tasks. If a task is created or upgraded to a higher priority than the SR, GCSS-MC will provide a warning that the SR will also be upgraded and may require a work re-approval.

(5) Copying a SR is required for inter-shop repairs and evacuation requirements. The preparing activity is responsible for creating the copied SR and for linking the copied SR to the original SR by use of the "RELATED OBJECTS" tab.

(6) Inter-shop repairs for the child of ME will be accomplished by opening a parent and a child SR. Parent and child SR must be linked. The child SR owning group will be changed to reflect the group performing repairs and the status will reflect "INTER-SHOP RPR". The group performing the repair on the child will change the status of the SR to "Equip Accepted". If it becomes necessary for the child to be evacuated to a supporting maintenance activity, the child SR will be copied.

(7) Once the child is repaired, ensure that the copied SR is closed. The closed SR will still be visible under the related objects tab and will still be available for viewing.

(8) Once it has been determined that equipment must be inducted into maintenance, the preparing activity (equipment owner, equipment user, or equipment custodian) will create a SR with the Job Status "Open". Authorized Job Statuses are listed in Appendix E. At a minimum the following data elements will be captured on the SR:

(a) Contact Information. Input the individual to be contacted upon completion of repairs.

(b) Serial/Item Instance Number. Input the serial or item instance number, which requires repair, and "tab" from that field. This action will auto-populate the customer, TAMCN/ID/MODEL, NIIN/NSN, and description fields.

(c) Service Request Type. Select the appropriate maintenance request type from the drop down menu. Ensure only one SR of each maintenance request type is open on a specific item of equipment at each maintenance activity.

(d) Priority (Severity). Select the appropriate priority per MCO 4400.16_. Urgency of need designator (UND) work approval rules still apply to priority selection. Priority designators 01 through 03 will be processed on a 7-day workweek, 24-hour workday basis. Priority designators

04 through 15 will be processed, at a minimum, during the normal work week. This will be based on production work load, appropriate criteria established by the Maintenance Officer/Chief, and local SOPs.

1. Priority (Severity) will also be determined by the quantity of a specific TAMCN that are DL. For example, if 5 of 10 D1158s are DL; UND A will be used due to the "R" rating readiness for that TAMCN will be 50%.

2. All MSEs will utilize the figure below when assigning Priority (Severity) to all SRs, Tasks, and Part Requirements.

Operational Status	UND A (Critical)	UND B (Urgent)	UND C (Routine)
Deadline	02 / 03	05 / 06	-
Degraded	-	05 / 06	-
Minor	-	-	12 / 13

(e) EOM. Select the appropriate EOM conducting repairs.

(f) Group. Input the Resource Group conducting repairs.

(g) Problem Summary. This is a free text field. Keep the problem summary clear and concise.

(h) Problem Codes. These are synonymous with legacy defect codes and appear on the Maintenance Production Report.

(i) Operational Status. Assign the appropriate operational status. Note that "deadline" status will auto-populate the deadline control date (DCD) field in the header of the SR upon this assignment.

(j) Notes. Use the notes to add any relevant/additional information.

d. If the item is not IB tracked (or listed by quantity), the SR preparer will enter the NIIN/NSN first. This will auto populate the Table of Authorized Material Control number (TAMCN), Identification Number (ID), model and description. Then the user can manually enter the S/N and customer "Account". This will auto populate customer name.

(1) The customer "Account" field on the SR is not solely the DODAAC and is used for reference only. Non-infantry units will enter "UIC-MXXXXX" while infantry units will enter "AAC-MXXXXX" due to their constant rotation of accounts. The customer "Name" on the SR is synonymous with "Responsible Party" which identifies where the equipment virtually resides within the Installed Base (IB).

(2) SRs must be opened under the correct customer "Name" in order to be seen and managed properly on the units Maintenance Management Report. Not doing so will result in mismanagement and improper accountability of open SRs.

e. Once assigned to maintenance, contact information, SR type, and in some cases, EOM cannot be changed. If this information is not accurate, maintenance should reassign the SR back to the preparing activity so that a new request can be properly prepared and accepted by the QC.

f. Once the serial number, TAMCN and NIIN/NSN has been verified on the equipment and SR, the QC will begin the induction process.

(1) If the equipment owner desires to open the SR as a priority 03, it will immediately be assigned to the individual designated in writing by the commanding officer with a workbench note requesting that the SR be priority 03.

(2) All readiness reportable ground equipment that cannot perform its designed primary function is not mission capable, will be reported deadlined and assigned a minimum priority of 06.

(3) When the priority of an SR is upgraded, a workbench note will be required if the original authorizing individual does not have the authority to assign a higher priority as specified in MCO 4400.16_. This note must be created and saved by the authorized individual to allow for verification in the "log and notes" section of the SR.

g. Prior to acceptance, the QC will ensure that any prior created maintenance tasks listed on the SR have its status changed to completed, and then closed. The maintenance section will then create all acceptance and maintenance tasks.

5. Maintenance Production. The maintenance production process is divided into the following four phases:

a. Acceptance Phase. Field Level Maintenance includes Preventive Maintenance Checks and Services (PMCS), CM, Modification, and calibration of TMDE such as SKOT.

(1) Step 1. The preparing activity will accomplish all maintenance tasks within their assigned capability/responsibility if all resources are available. The preparing activity will ensure that the SR is initiated and assigned to the appropriate resource group of the supporting maintenance activity. If the automated system incorporates the integration of equipment records, then physical paper based records do not have to accompany the equipment for induction.

(2) Step 2. During acceptance, the supporting maintenance activity will ensure all maintenance within the preparing activity's assigned capability/responsibility is completed and the SR contains all required information. Maintenance not completed due to unfulfilled requirements, such as open requisitions, may be deferred until maintenance tasks can be completed at the supporting maintenance activity.

(a) In the event that incomplete maintenance at preparing activity's assigned capability/responsibility prohibits the maintenance activity from performing maintenance and/or the preparing activity's SR is incomplete; return equipment and reassign SR to the preparing activity. Once accepted by the supporting maintenance activity, the maintenance production process should not be interrupted.

(b) The preparing activity will reassign the SR and return the equipment to the supporting maintenance activity once all identified deficiencies have been corrected.

(3) Step 3. When all prerequisites have been met, the supporting maintenance activity will accept the equipment. The supporting maintenance activity will record information validated during induction within the MAIS. This step does not apply when the equipment owner and supporting maintenance activity are the same entity. Examples of information to be validated will include, but are not limited to:

(a) Each SL-3 component accepted will be listed. If all SL-3 items are accepted, a statement of "accepted SL-3 complete" will be entered as a task note.

(b) If there are no visual defects, other than normal wear or tear, a statement of "no visual defects" will be entered as a task note. If a visual defect is identified that requires further investigation (e.g., SF-91 Motor Vehicle Accident Report) the acceptance inspection stops until the equipment has been released from investigation.

(4) Step 4. In the event where equipment is evacuated outside the preparing activity's assigned capability/responsibility the supporting maintenance activity will print and sign a custody receipt for the equipment owner. Custody receipts are not required for inter-shop transfers or when the equipment owner and supporting maintenance activity are the same organization.

(5) Step 5. The maintenance activity will record maintenance actions via the designated MAIS. Maintenance activity/section will accomplish the following:

(a) Manage work flow.

(b) Ensure the current job and operational status of maintenance is reflected throughout the maintenance production process.

(6) Step 6. The maintenance section will determine the type of maintenance actions required and will record each major task accomplished.

(a) Determining required maintenance actions include, but is not limited to, validating the original discrepancy as identified by the preparing activity. Additional discrepancies will be identified and annotated for corrective action.

(b) Determine and indicate any modification requirements.

(c) Determine and indicate any modification requirements for SecReps. This process will be coordinated with the RIP.

b. Induction Phase

(1) Step 1. The maintenance section will determine the maintenance resources required. Maintenance activities will accomplish the following:

(a) When maintenance resources become available initiate the DRIS by changing the status of the SR to "EQUIP ACCEPTED."

(b) Prepare and submit a parts requirement on a "Maintenance" task type when identified parts and materiel are required.

(c) If equipment is requested for recall by the preparing activity, determine if the equipment is suitable for Unit Recall utilizing the following guidelines.

1. The following general guidelines include, but are not limited to, in determining equipment's suitability for Unit Recall.

a. Parts required do not deadline or cause further deterioration of equipment's capability.

b. MSE can continue to operate equipment safely.

c. Geographical location of preparing activity will not impede the supporting maintenance activity's ability to complete required maintenance.

2. When equipment is suitable for unit recall, the maintenance section will accomplish the following:

a. Upon approval notify the preparing activity.

b. Change the SR job status to "UNIT RCL."

c. Once the preparing activity has recovered the equipment the supporting maintenance activity will recover the custody receipt.

d. Continuously monitor Maintenance Production Reports and layettes for parts availability.

e. Notify the preparing activity when receipt of all required parts, the availability of the Mechanic/Technician, and a suitable maintenance area support the induction of equipment back into the maintenance cycle.

f. Upon receipt of equipment, update status of the SR to reflect current maintenance posture and provide a custody receipt to the preparing activity.

3. When equipment is not suitable for unit recall the maintenance activity will retain the equipment.

(2) Step 2. When resources and maintenance area become available; induct the equipment into the active maintenance phase.

c. Active Maintenance Phase

(1) Inspection of Equipment. Maintenance commodity personnel will perform a LTI once the equipment has been accepted into maintenance. This inspection is the basis for the performance of the maintenance to be conducted.

(2) The maintenance commodity will accomplish all repairs within its authorized maintenance capability and record that information in the SR for each task completed.

(a) Labor Debrief. The maintenance commodity will record actual time expended in the performance of maintenance for the assigned task on the "Labor" tab of the Task Debrief.

(b) Material Debrief. The maintenance commodity will record all material, including Demand Support Item (DSI)/Pre-Expended Bin (PEB), scrounge, Broken Unit of Issue (BUI), and parts ordered, for the assigned task on the "Material" tab of the Task Debrief.

(3) The maintenance commodity will ensure job status codes are applied to the SR and properly reflect the actual status of the equipment throughout the maintenance cycle.

(4) The maintenance commodity will remove equipment from a deadlined status when equipment has been repaired to the extent that it is no longer deadlined.

(5) If additional repairs are outstanding but the item is no longer deadlined, the operational status of the SR will update automatically based on the assigned operational status of remaining task(s).

d. Closeout Phase

(1) Step 1. When all required maintenance is completed, the maintenance activity/section will ensure the following:

(a) Materiel (parts) requirements are received or closed within the MAIS.

(b) Materiel, labor (tasks) are properly documented within the MAIS.

(c) Quality assurance measures will be conducted to ensure equipment and MAIS reflect maintenance actions performed and documented.

(d) Ensure operational status reflects the current status of equipment.

(e) Notify preparing activity of equipment availability (if applicable).

(f) Ensure all equipment counters are updated.

(2) Step 2. Upon notification that equipment is ready for pick-up, the equipment owner is required to complete the following:

(a) Inspect equipment to ensure that required maintenance was properly completed.

(b) Validate all maintenance requirements were properly documented within the MAIS.

(3) Step 3. If the equipment owner has determined that all maintenance requirements were not/improperly completed or the SR did contain all required information, the following actions will be taken:

(a) Notify the maintenance section that all required maintenance is incomplete or unsatisfactory.

(b) Notify the maintenance section that all required elements have not been annotated on the SR.

(4) Step 4. When the preparing activity has determined that all maintenance requirements have been properly completed and the SR contains all required information, the following actions will be taken:

(a) Return the custody receipt for the equipment to the maintenance section (No requirement for retention).

(b) When required, update the equipment records within the MAIS with information provided in the SR (e.g., Item Instance Note, Mods, PMCS, Cal, etc.).

(c) Set SR status to "CLOSED."

6. Equipment That Exceeds Maintenance Capabilities

a. All equipment exceeding the MSE's maintenance capabilities will be evacuated to the support activity authorized to perform such maintenance.

b. Evacuation Procedures

(1) Open a Service Request (SR).

(2) Complete all organic maintenance to the maximum extent possible.

(3) Remove collateral equipment and clean item prior to evacuation.

(4) Prepare a courtesy SR by copying and assigning the copied SR to the supporting activity.

c. Pickup of Equipment from Supporting Maintenance Activities

(1) For Urgency of Need Designator (UND) A, SRs pickup will be made immediately upon notification. MSEs will establish procedures to ensure that notifications are acted upon. This will require detailed planning on the part of the MSE S-4, MMO, and maintenance sections. Once established, these procedures will be included in applicable desktop and turnover folders and should be reviewed on a quarterly basis.

(2) MSE instructions will include alternate procedures to be followed when partial or full deployments for training occur. Such procedures will provide guidance to rear parties and should refer to previous arrangements made with HHQ and supporting facilities.

(3) When circumstances force a pickup delay of more than 48 hours, the IMA will be notified and a revised pickup date will be determined.

(4) Equipment which has been evacuated to the IMA for repair will not be recovered by the MSE until repairs have been completed. Equipment

awaiting non-critical repair parts on valid requisitions may be recovered once the initial induction phase is complete.

d. Overflow Maintenance. Overflow maintenance is an exceptional procedure used when a MSE cannot accomplish its maintenance due to a shortage of technicians/mechanics, shop space, facilities, support/test equipment or, in unusual circumstances, supply support. Evacuation for the latter may be considered when it can be determined that improper or inadequate supply reconciliation procedures are not the cause of the problem.

(1) In cases other than MMCT, MSE commanders will notify the MSC when their maintenance mission cannot be accomplished. Overflow maintenance requests will be routed through MSC commodity managers for review and concurrence prior to submission to the support maintenance activity.

(2) Requests for overflow maintenance will be approved when circumstances warrant. Workload surge, requirements to meet pre-deployment schedules, post-deployment requirements or urgent modification of high density equipment are the most frequent causes of overflow maintenance outside of excessive deadline days.

(3) Overflow maintenance is not a substitute for accomplishing the inherent maintenance responsibilities within a command. This should not deter MSEs from using overflow maintenance as an option.

e. Maintenance Contact Team (MCT). All MSEs have organizational maintenance responsibilities. Proper employment of maintenance capabilities is essential to sustain combat operations. Commanders must place as much emphasis on organizing and positioning their maintenance assets as they do their combat assets. A key element of a MSE's organizational maintenance capabilities is the MCTs. MCTs may be task organized to inspect, diagnose, classify, and repair equipment in any environment. Inspection, testing, and certification of tactical ground load lifting equipment will be conducted in accordance with applicable regulations.

(1) MCTs are positioned by the MSE commander to provide the most responsive maintenance support possible.

(2) MCTs are the key to a successful recovery, evacuation and repair program.

f. Maintenance Support Team (MST). An MST is normally mobile and task-organized to perform specific tasks/functions for a short period of time. MLG can provide an MST as a function of its general or direct support intermediate maintenance responsibility.

(1) The MST is to intermediate maintenance what the MCT is to organizational maintenance. MSTs may be formed to inspect, diagnose, classify and repair equipment in any environment.

(2) MSTs can be configured to augment organic maintenance capabilities. Such a request normally constitutes overflow maintenance and is subject to approval as outlined above.

(3) All requests for MSTs will be submitted for the following support:

(a) Onsite IMA repair. These requests will be submitted via CLC2S to 1st Maintenance Battalion and do not require MSC approval. Each request will contain: TAMCN, nomenclature, type of maintenance required (specific defect), owning unit service request number, quantity, location, points of contact, and telephone numbers. 1st Maintenance Battalion has the authority to reject these requests based on available resources requiring the MSE to physically evacuate the equipment to the supporting IMA company.

(b) Overflow Maintenance. MSEs that require an overflow MST will submit a CLC2S request via the MSC to the MLG. The MSC will validate the request and attempt to support internally, prior to forwarding to the MLG. MSEs must submit requests 30 days prior to the requested dates.

(c) Requests for organizational category maintenance tasks support for which the MSE is not manned or equipped by T/O&E will identify the lack of the appropriate Military Occupational Skill (MOS) or equipment to perform the maintenance through CLC2S. MSEs must also prepare a TOECR. When the T/O&E mission statement identifies the supporting maintenance activity, these procedures are not required.

(d) Limited Technical Inspection (LTI). The MSE/MSC will formally submit requests via Automated Message Handling System (AMHS) to the MLG for validation and feasibility of support. The requesting MSE/MSC must specify the need for a disinterested third party to conduct a LTI and/or JLTI. The MLG will review, validate, and task the appropriate supporting activity. MSEs must submit requests 30 days prior to the requested dates.

Chapter 9

Maintenance Programs

1. General. Maintenance related programs includes activities required to meet DoD and Marine Corps readiness, logistics, and sustainability objectives that enable the Marine Corps to maintain operational capabilities. Maintenance personnel and Maintenance related programs are an integral part of any maintenance program and must be given appropriate emphasis in day-to-day maintenance operations. Generally, maintenance related programs are equally applicable in all commodity areas.

2. Maintenance Stand-Down

a. The purpose of a maintenance stand-down is to set aside a time period on the MSE's training schedule when maintenance personnel can concentrate on performing essential maintenance tasks. An effective maintenance stand-down requires consideration of all maintenance resources and establishment of clear objectives in order to maximize results. MSEs will schedule and conduct maintenance stand-downs following every exercise and training event. The following must be considered during maintenance stand-downs:

(1) Maintenance objectives and goals.

(2) Keep operational and training commitments to a minimum.

(3) Maximum availability of operators, repairmen, technicians, and mechanics.

(4) Command support must be included in the execution.

(5) Any maintenance related training conducted will be appropriately documented.

b. Commanders must continuously monitor and evaluate maintenance stand-down activities to verify the accomplishment of established objectives and goals. A letter of instruction can be published containing events and deliverables and an after action report can highlight the results yielded during the maintenance stand-down.

3. Administrative Deadline (ADL) Program

a. The ADL program is a method of deferring maintenance that allows MSE Commanders to preserve resources when operational conditions allow. Commanding Officers may authorize, establish, and operate an ADL program. When authorized, equipment inducted into the ADL program will meet the following criteria:

(1) Stored less than 18 months.

(2) Maintained and reported in a mission capable status.

(3) Equipment is current on all required scheduled PMCS prior to induction into the program.

(4) Visually inspected quarterly.

(5) Exercised semi-annually.

(6) Scheduled PMCS validated/conducted prior to removal.

(7) Current CPAC assessment and servicing.

(8) Corrosion Category Code Condition (CCC) 3 or better.

b. The Commanding Officer's letter authorizing equipment to be placed into the ADL program will be scanned and added to the IB for each item instance that it may pertain to.

4. Administrative Storage Program (ASP)

a. ASP is a method of deferring maintenance that allows commanders to preserve resources when operational conditions allow. Major Commands (MajCom) or Major Subordinate Command (MSC) Commanders are authorized to authorize, establish or operate an ASP. I MEF G-4 is responsible for providing oversight management of the ASP. MSE Commanders will ensure equipment inducted into the ASP meets the following criteria:

(1) Stored no less than 18 months and no more than 36 months.

(2) Maintained and reported in a mission capable status.

(3) Equipment is current on all scheduled PMCS prior to induction into the program.

(4) Visually inspected quarterly.

(5) Exercised semi-annually.

(6) Scheduled PMCS conducted/validated upon removal.

(7) Current CPAC assessment and servicing.

(8) Corrosion Category Code Condition (CCC) 3 or better.

b. It is important to understand that the ASP is just a staging facility and the upkeep and maintenance of the equipment lies with the MSE. It is imperative during the scheduling of operator PMCS (motor stables), maintenance stand-downs, and any other maintenance requirements that schedules include a trip to the ASP in order to service the equipment. Often these measures are forgotten. In these cases, the gear needs immediate and sometimes extensive servicing just to be able to operate as expected.

c. I MEF G-4/MMO will release a comprehensive list of all equipment currently staged in ASP. It is imperative that the owning MSE take action immediately on discrepancies to ensure that the equipment being staged is kept in a high state of readiness and to avoid disapproval of future nominations. Further information can be found in the most current edition of the I MEF Administrative Storage Program Standing Operating Procedures (ASPSOP).

(b)(3), (b)(6), (b)(7)(c) (b)(3), (b)(6), (b)(7)(c)
Col

From: (b)(3), (b)(6), (b)(7)(c) Col (b)(3), (b)(6), (b)(7)(c)
Sent: Saturday, May 15, 2021 12:45 PM
To: (b)(3), (b)(6), (b)(7)(c) Col (b)(3), (b)(6), (b)(7)(c)
Subject: FW: IMMEDIATE ACTION - RFIs from LtGen Mundy's Investigating Team - Suspense COB Thursday 13 May
Signed By: (b)(3), (b)(6), (b)(7)(c)

From: (b)(3), (b)(6), (b)(7) LtCol (b)(3), (b)(6), (b)(7)(c)
Sent: Friday, May 14, 2021 5:32 PM
To: (b)(3), (b)(6), (b)(7) Col (b)(3), (b)(6), (b)(7)(c) Col (b)(3), (b)(6), (b)(7)(c)

Sir,

Revised answer to RFI# 3 below.

Please let me know if you have any questions.

v/r,
(b)(3), (b)(6), (b)(7)( )

LtCol (b)(3), (b)(6), (b)(7)(c)
I MEF Deputy AC/S G1
Comm: (760) 725-4958
DSN: (312) 365-4958

As discussed, the following response is provided to the expanded RFI #3:

3. [Assigned to 1st MarDiv] Provide the number of 1st Marine Division personnel involved in the TEEP'd events such as NATIVE FURY, ITX, MWX, and support to the Southwest Border during ***1 October 2019 – 30 June 2020****.*

ITX (MTX) 1-20: 900 Paxs
11th MEU: 1300
31st MEU 20.1: 1300
15 MEU Chop: 1300
SPMAGTF 19.2: 1019 Paxs
SK 20: 7064 Paxs
South West Border Mission: 3 units supporting from October 19 – June 20: each unit provided 385 paxs/rotation for roughly 75 days each rotation.
ITX 2-20: 900 Paxs
SPMAGTF-CR-CC 20.1: 1019 Paxs
ITX 3-20: 900 Paxs
Native Fury 20: 1003 Paxs

MSGID/GENADMIN
SUBJ/LETTER OF INSTRUCTION FOR THE TASK ORGANIZATION OF THE 15TH MEU
REF/A/DOC/CG I MEFO 3120.9//
REF/B/DOC/MCO 5530.14A//
REF/C/DOC/UM 4000-125////
REF/D/DOC/MCO 8300.1D//
REF/E/DOC/ATTACHED/MS EXCEL/15TH MEU PRE DEPLOYMENT JLTI DISCREPANCIES//
REF/F/DOC/ATTACHED/MS EXCEL/WESTPAC 21-1 PRE-DEPLOYMENT JLTI SCHEDULE//
REF/G/DOC/MCO 4400.201//
REF/H/I MEF G-4 MSG 082253Z SEP 15//
NARR/REF A IS CG I MEF MEU AND MEU(SOC) SOP. REF B IS MARINE CORPS PHYSICAL SECURITY MANUAL. REF C IS GCSS-MC USER'S MANUAL. REF D IS THE MARINE CORPS SERIALIZED ARMS AND LIGHT WEAPONS ACCOUNTABILITY PROGRAM. REF E IS ATTACHMENT USED TO RECORD DEFICIENCY ITEMS AND COST OF REPAIR. REF E (ATTACHED) IS UNIT LTI SCHEDULE. REF G IS THE MANAGEMENT OF PROPERTY IN THE POSSESSION OF THE MARINE CORPS. REF H IS A I MEF POLICY FOR USE OF GCSS-MC ENTERPRISE AUTOMATED TASK ORGANIZATION.//
(b)(3), (b)(6), (b)(7)(c)

GENTEXT/REMARKS/1. SITUATION. THE 15TH MEU WILL TASK ORGANIZE UTILIZING ENTERPRISE AUTOMATED TASK ORGANIZATION (EATO) IN GCSS-MC. BEFORE ANY SYSTEM ACTIONS OCCUR JOINT LIMITED TECHNICAL INSPECTIONS (JLTIS) WILL BE CONDUCTED IOT ENSURE EQUIPMENT SOURCED TO THE 15TH MEU IS SERVICEABLE. JLTI'S WILL ESTABLISH A BASELINE FROM WHICH THE 15TH MEU CAN ASSUME ACCOUNTABILITY, MAINTENANCE, AND FISCAL RESPONSIBILITY UPON ACCEPTANCE/TRANSFER AT OR AROUND E-180.
2. MISSION. UPON RECEIPT, MAJOR SUBORDINATE COMMANDS (MSC) WILL BEGIN PLANNING AND CONDUCTING DATA QUALITY CONTROL MEASURES FOR TRANSFERRING EQUIPMENT TO MAJOR SUBORDINATE ELEMENTS (MSES) OF THE 15TH MEU. FROM 23 MARCH 2020 THROUGH 17 APRIL 2020, I MEF INSPECTION TEAM WILL REVIEW/CONDUCT JLTIS AND SL-3 INVENTORIES WITH 15TH MEU AND SOURCING COMMANDS IOT VALIDATE THE CONDITION OF MISSION ESSENTIAL EQUIPMENT AND MILITARY EQUIPMENT (MEE AND ME) BEING TRANSFERRED. UPON COMPLETION OF JLTIS, TRAINING WILL BE CONDUCTED ON EATO FOR UNITS TO IMMEDIATELY TRANSFER EQUIPMENT TO THE 15TH MEU.
3. EXECUTION
3.A. COMMANDER'S INTENT
3.A.1. PURPOSE. TO STREAMLINE THE COMPOSITION OF THE 15TH MEU WHILE MAINTAINING EQUIPMENT ACCOUNTABILITY AND SERVICEABILITY.
3.A.2. METHOD. THE I MEF INSPECTION TEAM, 15TH MEU SUPPLY AND MAINTENANCE REPRESENTATIVES, AND SOURCING COMMAND'S SUPPLY AND MAINTENANCE REPRESENTATIVES CONDUCT THE JLTI PROCESS AND SL-3 INVENTORIES IN A MANNER WHICH ENSURES AN EFFECTIVE, EFFICIENT, AND ORDERLY ASSESSMENT OF THE EQUIPMENT'S CONDITION. EATO WILL BE UTILIZED TO TRANSFER ALL EQUIPMENT TO GAINING UNITS AFTER JLTIS ARE CONDUCTED.
3.A.3. END STATE. NO LATER THAN 20 APRIL 2020 ALL EQUIPMENT WILL RESIDE ON THE 15TH MEU COMMAND ELEMENT, COMBAT LOGISTICS BATTALION OR BATTALION LANDING TEAM GCSS-MC PROPERTY RECORDS ALONG WITH ALL REQUIRED CHANGE OF CUSTODY DOCUMENTATION. ALL CORRECTIVE MAINTENANCE REQUIREMENTS ARE IDENTIFIED AND SL-3 DEFICIENCIES ARE ANNOTATED WITH FUNDS TRANSFERRED TO THE 15TH MEU FOR DISCREPANCIES IDENTIFIED BY THE I MEF JLTI TEAM.
3.B. CONCEPT OF OPERATIONS.
3.B.1. MSCS WILL IDENTIFY SUPPLY AND MAINTENANCE PERSONNEL PERFORMING SYSTEM TRANSACTIONS AND COORDINATE WITH MRTC FOR TRAINING.
3.B.2. SOURCING UNITS WILL IDENTIFY EQUIPMENT TRANSFERRING TO THE 15TH MEU FOR JLTI/SL-3 INVENTORY.

3.B.3. SOURCING UNITS WILL VALIDATE GCSS-MC DATA AND MSCS WILL HAVE A QUALITY CONTROL MEASURE TO ENSURE CORRECT AO/RO/SUC ASSIGNMENT AND CONFIGURATIONS. THIS INCLUDES CORRECT NIIN/SERIAL NUMBERS FOR PARENT/CHILD RELATIONSHIPS PRIOR TO JLTIS BEING CONDUCTED.
3.B.4. JLTI'S WILL BE CONDUCTED AT THE SOURCING UNIT'S LOCATION, IDENTIFIED IN REF F, BY THE SOURCING UNIT TECHNICIANS/MECHANICS AND BY I MEF JLTI INSPECTION TEAM. 15TH MEU AND ITS MSES WILL FACILITATE EFFICIENT CONDUCT OF JLTIS BY IDENTIFYING ALL EQUIPMENT AND ASSOCIATED SL-3 ITEMS PRIOR TO 23 MARCH 2020 AND BE READY TO CONDUCT JLTIS WITH THE 15TH MEU AND I MEF INSPECTION TEAM PER THE JLTI SCHEDULE (ATTACHED, REF F). JLTIS WILL BE CONDUCTED FROM 23 MARCH 2020 THROUGH 17 APRIL 2020.
3.B.5. WHILE THE I MEF JLTI INSPECTION TEAM WILL HAVE THE LEAD, THE TRANSFER OF EQUIPMENT REMAINS THE RESPONSIBILITIES OF BOTH THE 15TH MEU AND THE SOURCING UNIT. IT IS EACH UNIT'S RESPONSIBILITY TO ENSURE THEY ARE PROPERLY REPRESENTED AT EACH JLTI PER REFERENCE F. THE INSPECTION PROCESS WILL NOT BE DELAYED OR RESCHEDULED DUE TO AN INABILITY OF ONE ELEMENT TO PROPERLY COORDINATE PERSONNEL PARTICIPATION.
3.B.6. ALL PERSONNEL IDENTIFIED TO TRANSFER EQUIPMENT AND SUPPLIES VIA EATO WILL MEET FOR TRAINING (TIME/DATE/LOCATION WILL BE SENT VIA SEPCOR TO APPLICABLE PARTICIPANTS). UPON COMPLETION OF JLTI'S ALL SOURCING UNITS WILL EXECUTE THE TRANSFER OF EQUIPMENT TO THE 15TH MEU CE AND MSES WITHIN 48 HOURS.
3.C. TASKS
3.C.1. I MEF G-4/MMO/SUPPLY/LSCO/MRTC
3.C.1.A. PROVIDE OVERSIGHT AND OVERALL STAFF COGNIZANCE OF TASK ORGANIZATION EVENT.
3.C.1.B. VALIDATE AND COORDINATE THE JLTI SCHEDULE BY UNIT, LOCATION, AND DATE ON WHICH THE JLTIS WILL TAKE PLACE.
3.C.1.C. SUPERVISE THE JLTI PROCESS IOT FACILITATE EQUIPMENT TRANSFER. COORDINATE, SCHEDULE, ADJUDICATE DISCREPANCIES AND DE-CONFLICT INSPECTION DATES AS NECESSARY BETWEEN THE 15TH MEU AND THE SOURCING UNITS.
3.C.1.D. OVERSEE AND COORDINATE ALL ADMINISTRATIVE AND LOGISTICS SUPPORT FOR THE I MEF JLTI TEAM.
3.C.1.E. PROVIDE A CLASSROOM FOR EATO TRAINING.
3.C.1.F. CONDUCT EATO TRAINING.
3.C.1.G. MANAGE UNIT PLANNER ROLE ASSIGNMENT IN GCSS-MC.
3.C.1.H. PROVIDE GCSS-MC TECHNICAL ASSISTANCE TO DESIGNATED MSCS AND USING UNITS.
3.C.3. MAJOR SUBORDINATE COMMANDS (1ST MARDIV, 1ST MLG, 3D MAW, MIG)
3.C.3.A. OVERSEE PROCESS FOR UNITS WITHIN RESPECTIVE MSC.
3.C.3.B. IDENTIFY SUPPLY, MAINTENANCE, AND MAINTENANCE MANAGEMENT PERSONNEL PERFORMING ACTIONS WITHIN GCSS-MC.
3.C.3.C. PROVIDE TECHNICIANS/MECHANICS AS TASKED VIA I MEF PUBLISHED MANNING DOCUMENT AND REPORT DAILY TO JLTI LEAD THROUGHOUT THE JLTI PROCESS.
3.C.3.D. PROVIDE EQUIPMENT DENSITY LISTS (EDL) BY UNIT AND LOCATION OF SOURCING EQUIPMENT: (READ IN FOUR COLUMNS)
TAMCN/NOMEN/SER#/LOCATION TO MEF MMO NLT 13 MARCH 2020.
3.C.3.E. PROVIDE DATA QUALITY CONTROL MEASURES AS DIRECTED TO ENSURE UNITS CAN EXECUTE TRANSFERS VIA EATO.
3.C.3.F. ENSURE SUBORDINATE UNIT PERSONNEL ARE IN ATTENDANCE FOR EATO TRAINING/TRANSFER.
3.C.3.G. ENSURE SOURCING UNITS PERFORM THE FOLLOWING TASKS.
3.C.3.G.1. IDENTIFY PERSONNEL PERFORMING GCSS-MC ACTIONS.
3.C.3.G.2. ENSURE IDENTIFIED PERSONNEL HAVE APPROPRIATE GCSS-MC ACCESSES (01A, STAGE, RESOURCE GROUP ASSIGNMENTS, ETC.).
3.C.3.G.3. IDENTIFY EQUIPMENT AND SUPPLIES BEING TRANSFERRED.

3.C.3.G.4. ENSURE GCSS-MC DATA QUALITY ASSURANCE TO INCLUDE AO/RO/SUC ASSIGNMENT, CONFIGURATION MANAGEMENT, ACCURATE NIIN/SERIAL NUMBER COMBINATIONS, AND SERVICE REQUEST VALIDATION/RECONCILIATION.
3.C.3.G.5. ASSIGN ALL TRANSFERRING EQUIPMENT TO DESIGNATED CONSOLIDATED MEMORANDUM RECEIPT (CMR).
3.C.3.G.6. EQUIPMENT SCHEDULED FOR JLTI SHOULD NOT BE OPERATIONALLY COMMITTED DURING THE JLTI PROCESS.
3.C.3.G.7. ENSURE COMPLETION OF ALL CORRECTIVE MAINTENANCE AND COMPLETENESS OF SL-3 COMPONENTS PRIOR TO THE UNIT'S SCHEDULED LTI EVENT.
3.C.3.G.8. ENSURE OPERATOR LEVEL PREVENTIVE MAINTENANCE (PM) HAS BEEN COMPLETED PRIOR TO THE JLTI.
3.C.3.G.9. ARMORIES WILL BE OPEN AND CUSTODIANS ON HAND TO ASSIST WITH THE ISSUE, INSPECTION, AND RECOVERY OF WEAPONS.
3.C.3.G.10. PREPARE AND DISPLAY EQUIPMENT BEING SOURCED IN PREPARATION OF JLTI.
3.C.3.G.11. PREPARE LTI SHEETS IN ADVANCE OF THE ACTUAL SCHEDULED LTI.
3.C.3.G.12. PROVIDE EQUIPMENT RECORD JACKETS SO THEY ARE AVAILABLE FOR REVIEW AT THE EQUIPMENT LAYOUT DISPLAY.
3.C.3.G.13. PROVIDE SUITABLE OPERATORS, TOOLS, AND MAINTENANCE SUPERVISORY PERSONNEL DURING THE JLTI PROCESS.
3.C.3.G.14. ENSURE APPROPRIATE SUPPLY AND COMSEC PERSONNEL ARE PRESENT TO CONDUCT PROPERTY ACCOUNTABILITY TRANSFERS.
3.C.3.G.15. BE PREPARED TO REPLACE UNSERVICEABLE SOURCED EQUIPMENT IF SUBSTANTIATED BY LTI AND SL-3 INVENTORY RESULTS.
3.C.3.G.16. ENSURE THAT APPROPRIATE QUANTITY OF DEMAND-SUPPORTED ITEMS (DSI), IN SUPPORT OF MILITARY EQUIPMENT, IS TRANSFERRED IAW REF (G).
3.C.3.G.17. CONDUCT JLTI WITH GAINING UNIT.
3.C.3.G.18. IDENTIFY/CORRECT ANY DISCREPANCIES OF ACCEPTED EQUIPMENT.
3.C.3.G.19. PERFORM ALL GCSS-MC ACTIONS.
3.C.3.G.20. EATO REQUIRES A UNIQUE NAME FOR EACH EATO PLAN. THE NAMING CONVENTION IS AS FOLLOWS "M11XX TO M11XX DDMMYYYY"
3.C.3.H. ENSURE GAINING UNITS PERFORM THE FOLLOWING TASKS.
3.C.3.H.1. ENSURE SUPPLY, MAINTENANCE, AND MAINTENANCE MANAGEMENT PERSONNEL TRANSACTING IN EATO HAVE APPROPRIATE GCSS-MC ACCESSES (E.G. SUB INVENTORIES AND RESOURCE GROUP ASSIGNMENTS).
3.C.3.H.2. PROVIDE EQUIPMENT LTI SCHEDULE AND SEQUENCE RECOMMENDATIONS TO MEF G-4 IN ORDER TO BUILD MANNING DOCUMENT TASKING ORDER AND FINAL LTI SCHEDULE.
3.C.3.H.3. PROVIDE ADEQUATE SUPPLY AND MAINTENANCE PERSONNEL THROUGHOUT THE JLTI PROCESS.
3.C.3.H.4. CONDUCT JLTI WITH SOURCING UNIT.
3.C.3.H.5. ACCEPT OR REJECT SOURCED EQUIPMENT SUBSTANTIATED BY LTI AND SL-3 INVENTORY RESULTS.
3.C.3.H.6. PERFORM ALL GCSS-MC ACTIONS RELATED TO GAINING EQUIPMENT. THIS INCLUSED IMPORTING SERVICE REQUESTS THAT WERE TRANSFERRED DURING THE EATO PROCESS.
3.C.3.H.7. EQUIPMENT UNABLE TO BE SOURCED DURING THIS JLTI PERIOD WILL BE ANNOTATED AND BRIEFED TO THE MEF G4. JLTIS FOR THESE ITEMS WILL BE CONDUCTED UPON AVAILABILITY.
3.D. AMPLIFYING GUIDANCE.
3.D.1. ALL EQUIPMENT TRANSFERRED FROM THE SOURCING UNIT TO THE 15TH MEU WILL BE JLTI'D IAW THE APPLICABLE TMS. THE JLTIS WILL BE UTILIZED TO FURTHER IDENTIFY CORRECTIVE ACTIONS, TO ASSOCIATE A COST TO REPAIR, AND TO REPLACE ANY IDENTIFIED DISCREPANCIES. NLT 23 APRIL 2020, A LIST OF CORRECTIVE ITEMS AND COST TO REPAIR WILL BE PROVIDED TO THE I MEF G-4 MMO BY THE GAINING UNIT UTILIZING THE ATTACHED SPREADSHEET.
3.D.2. JLTI/SL-3 DISCREPANCY SPREADSHEETS WILL BE USED TO COMPARE DEFICIENCIES IDENTIFIED POST MEU DEPLOYMENT IOT ASSESS LOSSES AND ASCERTAIN

IF FUNDING PROVIDED TO PURCHASE DEFICIENCIES IDENTIFIED DURING THIS EFFORT WERE ACTUALLY EXECUTED.
3.D.3. ALL SOURCED EQUIPMENT WILL BE ASSESSED/SERVICED BY THE CORROSION SERVICE TEAM TO DETERMINE THE CORROSION CONDITION WITH FOLLOW ON INDUCTION IN TO THE CORROSION REPAIR FACILITY. THIS WILL BE SCHEDULED VIA SEPCOR.
3.D.4. EQUIPMENT THAT IS BEING TRANSFERRED FROM THE SOURCING UNIT TO THE 15TH MEU WILL HAVE JLTIS AND INVENTORIES CONDUCTED DURING THE SCHEDULED TIME IDENTIFIED IN REF F.
3.D.5. SOURCING UNIT CMRS CREATED FOR EATO TRANSFERS ARE AUTHORIZED FOR A PERIOD NO LONGER THAN 30 DAYS. CMRS MUST BE DISSOLVED NO LATER THAN 1 MAY 2020.
3.E. WEAPONS TRANSFER.
3.E.1. SMALL ARMS STORED IN THE SOURCING COMMAND'S ARMORY CAGES WILL BE PHYSICALLY MOVED TO THE 15TH MEU CE, CLB-15 OR BLT 1/4 ARMORIES (PROVIDED SPACE IS AVAILABLE) FOLLOWING NORMAL SMALL ARMS TRANSFER PROCEDURES PER REFS (B) AND (D). IF SPACE IS NOT AVAILABLE, SMALL ARMS MAY REMAIN IN SOURCING COMMAND ARMORIES UNTIL PRIOR TO DEPLOYMENT.
3.E.2. 15TH MEU AND SOURCING COMMAND SUPPLY OFFICERS WILL COORDINATE THE TRANSFER OF EQUIPMENT PRIOR TO RECEIPT OF EQUIPMENT. SOURCING COMMANDS WILL PROVIDE A LIST OF SERIAL NUMBERS FOR SMALL ARMS AND OPTICS TO BE TRANSFERRED TO THE 15TH MEU IMMEDIATELY FOLLOWING I MEF TASKING VIA NAVAL MESSAGE IN ACCORDANCE WITH REF D.
3.E.3. AS PER REF (B), BOTH THE SOURCING/GAINING UNIT HAS 48 HOURS TO IDENTIFY AND REPORT TRANSFER DISCREPANCIES ONCE SMALL ARMS AND OPTICS ARE PHYSICALLY TRANSFERRED TO THE GAINING COMMAND'S ARMORY. AT THAT TIME, CRANE WILL BE NOTIFIED OF THE TRANSFER VIA THE CRANE WEB-PORTAL.
3.E.3.A. SOURCING UNIT WILL PREPARE DD FORM 1348 SHIPPING DOCUMENTS FOR ALL EQUIPMENT, SMALL ARMS, AND OPTICS. GAINING UNIT WILL HAVE A SUPPLY REPRESENTATIVE PRESENT TO ACCOUNT FOR AND RECEIVE ALL WEAPONS AND OPTICS.
3.E.3.B. BOTH THE SOURCING AND GAINING UNIT SUPPLY REPRESENTATIVES WILL ENSURE SHIPPING DOCUMENTS ARE SIGNED AND SERIAL NUMBERS VERIFIED.
3.E.3.D. UPON PHYSICAL RECEIPT AND VERIFICATION OF SERIAL NUMBERS, GAINING UNIT SUPPLY WILL RECEIPT FOR SMALL ARMS AND OPTICS UTILIZING CRANE WEB-PORTAL.
3.E.4. BOTH SOURCING AND GAINING UNITS WILL MONITOR CRANE WEB-PORTAL AT A MINIMUM OF ONCE PER WEEK AFTER ADJUSTMENT TRANSACTIONS HAVE BEEN SUBMITTED TO CRANE, IOT ENSURE RECORDS ARE ADJUSTED PROPERLY. COMMUNICATION WITH CRANE, INDIANA AND THE TWO UNITS IS MANDATORY IOT FACILITATE TIMELY RECORD ADJUSTMENTS.
3.F. COMSEC EQUIPMENT TRANSFER.
3.F.1. ALL COMSEC GEAR WILL PHYSICALLY STAY WITH THE SOURCING UNIT'S ATTACHING TO THE 15TH MEU. THE MSC/E EKMS MANAGER WILL TRANSFER ALL COMSEC GEAR BEING UTILIZED BY THE COMMAND ELEMENT TO THE 15TH MEU EKMS MANAGER VIA SF-153 OVER X.400, AND BY DD FORM 1348 WITH END ITEM INFORMATION (TAMCN, NSN, ETC.) TO AFFECT THE GCSS-MC TRANSFER.
3.F.1.A. BEFORE TRANSFERRING COMSEC GEAR TO THE 15TH MEU, THE MSC/E EKMS MANAGER MUST ENSURE ALL GEAR BEING TRANSFERRED IS FULLY FUNCTIONAL AND ALL ASSOCIATED ITEMS ARE INCLUDED (PINS, PASSWORDS, TAMPER CIK, CIK, ETC.) PRIOR TO TRANSFERRING IT TO THE 15TH MEU. SOURCING UNIT'S MUST LAY OUT ALL GEAR FOR ACCOUNTABILITY PURPOSES IOT ALLOW 15TH MEU EKMS MANAGER TIME TO VERIFY ALL SERIAL NUMBERS AND CONDUCT LTI'S.
3.F.1.B. 15TH MEU EKMS MANAGER WILL NOT ACCEPT ANY COMSEC GEAR UNTIL THE VERIFICATION OF SERIAL NUMBERS AND LTI'S ARE COMPLETED.
3.G. COORDINATING INSTRUCTIONS.
3.G.1. A COORDINATION MEETING WILL BE HELD AT THE MEF G-4 CONFERENCE ROOM, BLDG 210721, AT 1330 ON 18 MARCH 2020. PARTICIPATION WILL INCLUDE REPRESENTATIVES FROM I MEF G-4, 15TH MEU, MSC G-4 SUPPLY AND MAINTENANCE

MANAGEMENT PERSONNEL, DESIGNATED MSE S-4/SUPPLY/MAINTENANCE MANAGEMENT MARINES, AND USING UNIT SUPPLY AND MAINTENANCE MANAGEMENT MARINES. THE INTENT OF THIS MEETING IS TO FINALIZE THE PLAN OF ACTION AND MILESTONES FOR TASK ORGANIZATION EVENT TIMELINE. TENTATIVE SCHEDULE IS LISTED IN REF F.
3.G.1.A. JLTI'S WILL BEGIN DAILY AT 0800, UNLESS AGREED UPON BY ALL PARTIES, AND WILL CONTINUE AS LATE IN THE DAY AS NECESSARY IN ORDER FOR THE JLTI TEAM TO MAINTAIN ITS SCHEDULE. SOURCING UNITS MUST ENSURE THE EQUIPMENT TO BE INSPECTED IS READY PRIOR TO THE START TIME.
3.G.1.B. TO EXPEDITE THE JLTI'S, LIKE EQUIPMENT WILL BE PREPARED IN A SINGLE LOCATION, WITHIN THAT SPECIFIC UNIT'S AREA, ALONG WITH THE ITEM'S ASSOCIATED SL-3, RECORD JACKETS, AND TECHNICAL PUBLICATIONS.
4. ADMINISTRATION AND LOGISTICS.
4.A.1. 15TH MEU AND ATTACHMENTS WILL ASSUME OVERALL MAINTENANCE RESPONSIBILITY UPON ACCEPTANCE OF EQUIPMENT AND FUNDING FOR DISCREPANCIES ANNOTATED DURING THE LTI PROCESS WILL BE TRANSFERRED FROM EACH RESPECTIVE MSC TO THE 15TH MEU VIA I MEF G-8.
4.A.2. AFTER TAKING CUSTODY OF EQUIPMENT IN A CONDITION CODE "A", SL-3 COMPLETE STATE, 15TH MEU AND ATTACHMENTS WILL ASSUME ALL COSTS ASSOCIATED WITH MAINTENANCE AND OVERALL RESPONSIBILITY OF EQUIPMENT.
4.A.3. COPIES OF THE COMPLETED LTI SHEETS AND SL-3 INVENTORIES WILL BE MAINTAINED BY THE 15TH MEU CE, SOURCING UNITS, AND THE I MEF G-4. EACH LTI SHEET WILL BE LEGIBLY SIGNED BY TWO PARTIES: THE SOURCING UNIT AND THE MEF LTI TEAM INSPECTORS. A FINAL SUMMARY LTI REPORT WILL BE PREPARED BY THE MEF LTI TEAM LEADER FOR RETENTION BY THE I MEF G-4/MMO, 15TH MEU CE, AND MSC'S.
4.A.4. USING UNITS ENSURE FINANCIAL IMPROVEMENT AND AUDIT READINESS COMPLIANCE AND KEY SUPPORTING DOCUMENTATION RETENTION IAW REF (G).
5. COMMAND AND SIGNAL. REFER TO I MEF G-4 POINTS OF CONTACT IDENTIFIED IN THIS MESSAGE.//

-----Original Message-----
From: (b)(3), (b)(6), (b)(7)(c) GySgt (b)(3), (b)(6), (b)(7)(c)
Sent: Tuesday, April 21, 2020 8:46 AM
To: (b)(3), (b)(6), (b)(7)(c) MGySgt (b)(3), (b)(6), (b)(7)(c)
Cc: (b)(3), (b)(6) Maj (b)(3), (b)(6), (b)(7)(c) Capt (b)(3), (b)(6), (b)(7)(c)

Subject: Deadlined AAVs JLTI

Good Morning MGySgt,

Per our phone conversation, below are the serial numbers for the AAVs that were JLTI'd that are currently deadlined and S/Ns that are missing excessive SL-3 equipment;

Deadlined
E07967K - S/N 522288 - missing 70 pieces of SL/3 = $4083.01
E08467K - S/N 523359 - missing 61 pieces of SL/3 = $2381.80
E08467K - S/N 523612
E08467K - S/N 523445E08467K
- S/N 523100 - missing 35 pieces of SL/3 = $1589.33
E08467K - S/N 522677 - missing 82 pieces of SL/3 = $2925.81

Missing excessive SL-3
E08467K - S/N 522999 - missing 48 pieces of SL/3 = $1945.72
E08467K - S/N 523311 - missing 66 pieces of SL/3 = $1718.95
E08467K - S/N 524999 - missing 44 pieces of SL/3 = $1408.67

Looking at 3rd AABs ESR this morning, they have 12 E07967Ks on hand, with 2 deadlined, and 179 E08467Ks on hand with 35 deadlined. Should not be an issue to swap this gear out with Code A gear for the 15th MEU.

R/S

GySgt (b)(3), (b)(6), (b)(7)(c)
Maintenance Management Chief
15th Marine Expeditionary Unit
(b)(3), (b)(6), (b)(7)(c)

IRON FIST 20
Confirmation Brief

This briefing is approved for release to the governments of FVEY and Japan. *It contains references to U.S. Government military capabilities that may not be authorized for release to foreign governments. Mention of these capabilities in no way implies that the U.S. Government will release or consider release of them, or of any additional associated classified or unclassified information pertaining to them. This brief may also contain references to U.S. Government future plans and projected system capabilities. Mention of these plans or capabilities in no way guarantees that the U.S. Government will follow these plans or that any of the associated system capabilities will be available or releasable to foreign governments.*

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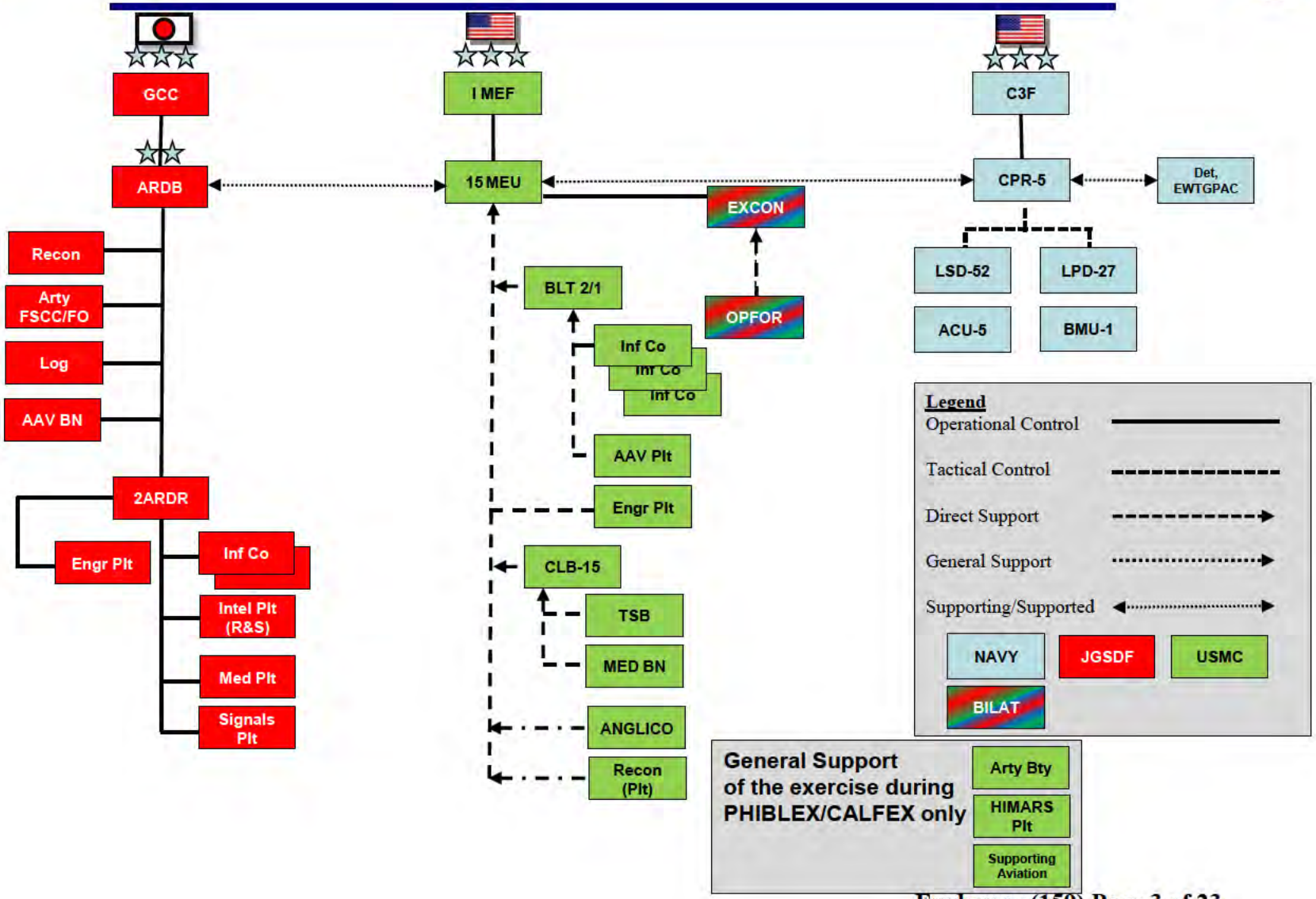
10 December 2019

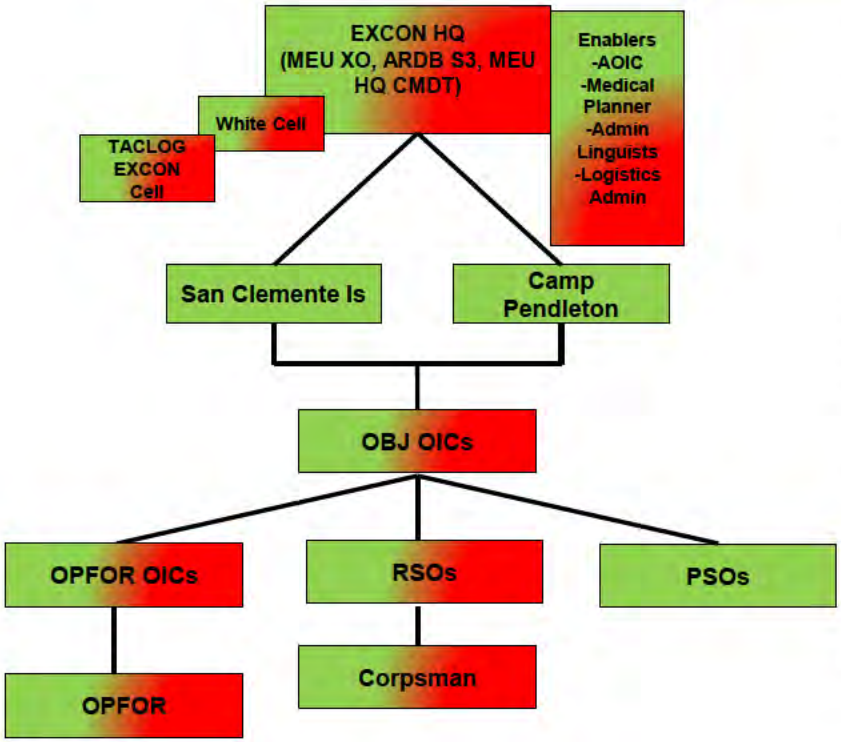
Agenda

- Task Organization / Command Relationships
- EXCON Task Organization
- Concept of Operations
- Schedule Overview
- Phase II: Preparation
  - Phase II, Stage A: RSO&I
  - Phase II, Stage B: STAFFEX
  - Phase II, Stage C: Opening Ceremony
- Phase III: Execution
  - Phase III, Stage A: Functional Training
  - Phase III, Stage B: PHIBLEX
  - Phase III, Stage C: CALFEX
- Phase IV: Redeployment
- COMMSTRAT
- Issues Pending
- Back Up Slides

Actual Command Relationships



EXCON Task Organization



- **EXCON** – Led by MEU XO augmented by CE enablers & V2/1
- **White Cell** – Led by MEU S-2 Fusion Officer, MSEL Injects
- **Trusted Agents** – One per MSE & JGSDF unit to help facilitate training objectives and MSEL injects.
- **Objective OICs** (O1-O4*) – One per Location
- **RSOs** (E4-E7*) – Range Safety Officers
- **PSOs** (>E3) – Position Safety Officers – 1 PSO per 12 training personnel
- **OPFOR OIC and OPFOR Platoon –** G Co, 2 Bn, 1st Mar
- **General Logistics Support –** Provided by CLB 15

*IAW DA PAM 385-63

US ONLY

BILATERAL

Concept of Operations

- **Phase I: Planning (15 Apr 19 – 13 Dec 19)**

This phase contains (4) stages. The purpose of this phase is to create an executable plan, synchronize the staff, and confirm the plan with the DCG of I Marine Expeditionary Force.

Phase begins with CDC

- Stage A: CDC, IPC, & MPC
- Stage B: Planning Handoff 13 15 MEU
- Stage C: FPC (21-25 Oct 19)
- Stage D: Confirmation / Transition

Phase ends with the conclusion of the Rehearsal of Concept Walk on 13 December 2019.

Phase II : Preparation (14 Dec 19 – 17 Jan 20)

This phase contains (3) stages. The purpose of this phase is to set the conditions that will allow for the successful execution of IF 2020.

Phase begins at the conclusion of the Rehearsal of Concept Walk on 13 December 2019.

- Stage A: RSO&I
- Stage B: STAFFEX
- Stage C: Opening Ceremony

Phase ends with the conclusion of the Opening Ceremony on 17 January 20.

Phase III – Execution (17 Jan 20 – 20 Feb 20)

This phase contains (3) stages. The purpose of this phase is to execute the bi-lateral training of Iron Fist 2020.

Phase begins with the conclusion of Opening Ceremony on 17 January 20.

- Stage A: Functional Training "Crawl"
- Stage B: PHIBLEX
  - Part 1: SCI Rehearsal "Walk"
  - Part 2: CPI "Run"
- Stage C: CALFEX "Run"

Phase ends with the conclusion of CALFEX on 20 Feb 20.

Phase IV– Retrograde (21 Feb 20 – 30 Mar 20)

This phase contains (5) stages. The purpose of this phase is to return all personnel and equipment to their original location safely and capture lessons learned.

Phase begins with the conclusion of CALFEX on 20 Feb 20.

- Stage A: Staging Areas
- Stage B: Closing Ceremonies
- Stage C: Gift Presentation
- Stage D: JGSDF Re-Deployment
- Stage E: AAR

Phase ends with submission of exercise AAR to I MEF on 30 Mar 20

Logistics and Transition Functional Training Admin and Academics PHIBLEX		Live Fire PHIBRON Ops Holiday		IF 20 Weekly Synch (MEU Staff Only) JGDSF Ammo Arrival	15 Nov	16 Nov
17 Nov	18 Nov	19 Nov	20 Nov	21 Nov IF 20 Weekly Synch	22 Nov MEU OPSO IF 20 Conf Brief	23 Nov
24 Nov	25 Nov	26 Nov MEU CO IF 20 Conf Brief	27 Nov	28 Nov Thanksgiving 96	29 Nov	30 Nov
1 Dec Thanksgiving 96	2 Dec JGDSF Ammo Arrival CE Augment Check In	3 Dec	4 Dec I MEF G3 IF 20 Conf Brief	5 Dec	6 Dec	7 Dec
8 Dec	9 Dec	10 Dec I MEF DCG IF 20 Conf Brief	11 Dec IF 20 PH II / PH III Stage A ROC Walk Set Up	12 Dec IF 20 PH II / PH III Stage A ROC Walk Rehearsal	13 Dec IF 20 PH II / PH III Stage A ROC Walk	14 Dec
15 Dec	16 Dec IF 20 STRAPEX CE Augment Check In	17 Dec	18 Dec	19 Dec	20 Dec	21 Dec Holiday Leave Period

Phase II, Stage A: RSO&I

Concept of Operations:
MEU CE S-4 establishes UMCC at key APOD/SPOD to facilitate receipt of JGSDF cargo and personnel. Intent: position USMC mobility/embarkation specialists at each key node outside and inside CPEN to facilitate JGSDF throughput. UMCC will be managed at the 21 Area MEU CP.
Arrival into LAX: 5 Jan ADVON
11 Jan MB1
15 Jan MB2

Concept of support: Prior coordination with LAX Operations has been made to identify consolidated point located at the terminal; SWRFT assets will arrive 30 min prior to arrival of flight. Central drop off point at 21 Area parade deck. Secondary SWRFT request to transport pax and cargo to final billeting area aboard Camp Pendleton.

Billeting: 13 Area Billeting Trailers 130157-130160/130168-130170/130180/130188-130190 mobile armory
21 Area Barracks 715, & Del Mar armory bldg. 21674
41 Area Barracks 41371, Armory provided by 1st Recon

Ammo: 06 Nov into Travis AFB, 13 Nov into Long Beach Port,18 Nov into Travis AFB and 03 Dec into Travis AFB. JGSDF Nippon contract to transport ammo from SPOD to CPEN ASP, and contract through Land Star Ranger shipping company from Travis AFB to CPEN ASP. Pending confirmation of final on ammo shipments flying into Travis AFB. Prior coordination with the CPEN ASP has been arranged for arrival of all ammo shipments. Joint inspection will be conducted with shipping company, ASP and 15th MEU personnel. **(4 of 5 ammo shipments received)**

Cargo Shipment: JGSDF bulk cargo shipment (via Mercer Int) scheduled to arrive to San Diego SPOD 2-3 Jan. **JGSDF contracted support will transport cargo from the SPOD to Camp Pendleton 12-14 Jan** with a centralized drop off spot 13 Area UMA Lot. MEU CE S4 & JGSDF S4 will coordinate equipment distribution to TAs 13-17 Jan.

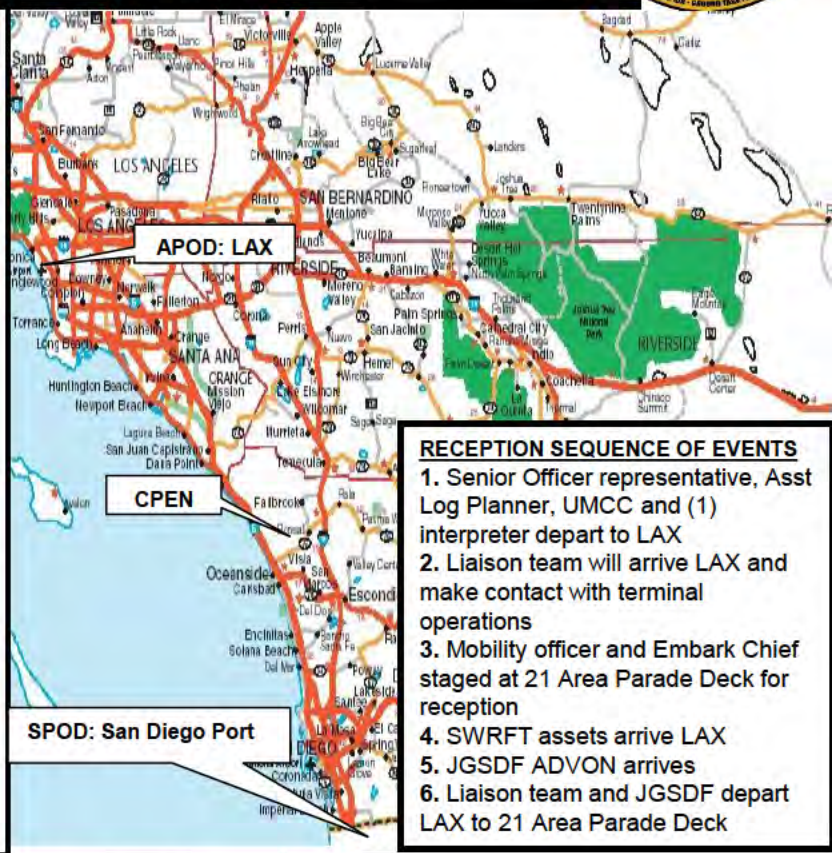
Commissary/MCCS Access: Commissary approved. Awaiting final approval for gym & PX access.

Wi-Fi: Morale-only. Processing contract through Cox Communication.

Base Access: I MEF Foreign Disclosure Officer coordinating base access stickers to apply to all JGSDF Identification cards.

Begins With: Arrival of first ammo shipment on 14 Nov.

Ends With: Opening ceremony at 21 area on 17 Jan.



RECEPTION SEQUENCE OF EVENTS

1. Senior Officer representative, Asst Log Planner, UMCC and (1) interpreter depart to LAX
2. Liaison team will arrive LAX and make contact with terminal operations
3. Mobility officer and Embark Chief staged at 21 Area Parade Deck for reception
4. SWRFT assets arrive LAX
5. JGSDF ADVON arrives
6. Liaison team and JGSDF depart LAX to 21 Area Parade Deck

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
29 Dec	30 Dec	31 Dec	1 Jan	2 Jan	3 Jan	4 Jan
5 Jan	Staff Meet and Greet	7 Jan	8 Jan	9 Jan	10 Jan	11 Jan
MAIN BODY ARRIVAL PREPARATION						MAIN BODY #1
12 Jan	13 Jan	14 Jan	15 Jan	16 Jan	17 Jan	18 Jan
TRANSPORT OF JGSDF FROM SPOD					OPENING CEREMONY	FUNCTIONAL TRAINING
MAIN BODY ARRIVAL PREPARATION			MAIN BODY#2			

Phase II, Stage B: STAFFEX

Concept of Operations:
STAFFEX will consist of two weeks of training led by EWTGPAC. A week of Amphibious Warfare and Marine Corps Planning Process Classes and week of PHIBLEX Planning for the JGSDF and MEU Staff, to demonstrate competency in amphibious planning and C2, over all warfighting functions, in a joint, combined environment at the ARDB and MEU Command Element level

Begins With: Arrival of ARBD and MEU CE Staff

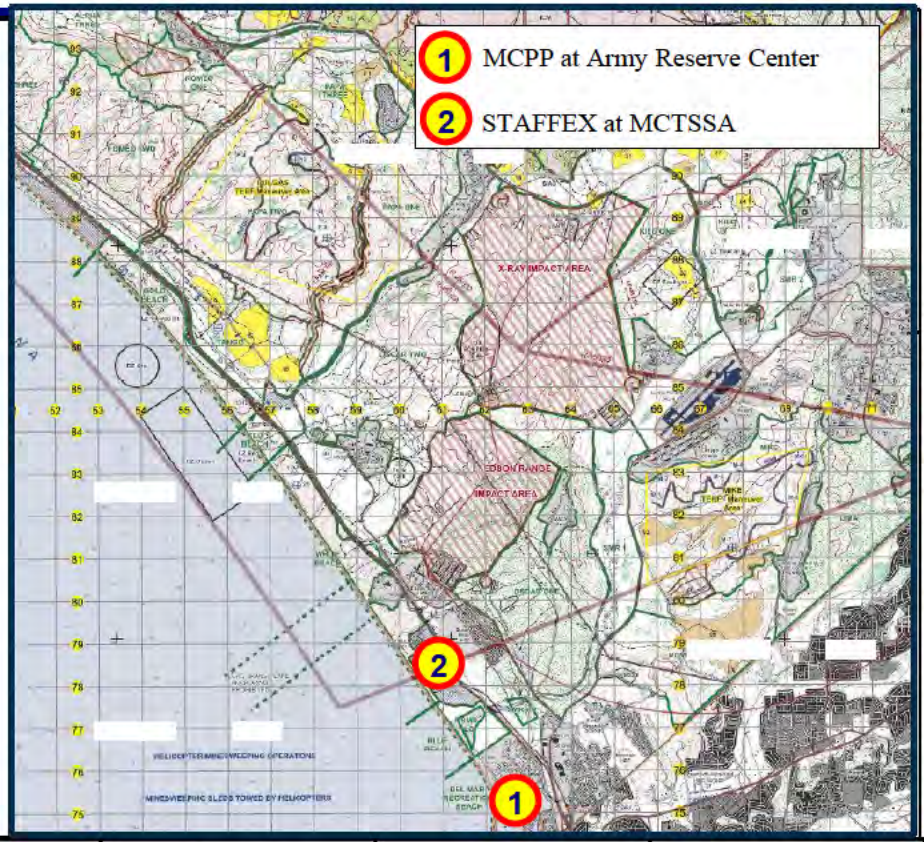
Critical Events:

Amphibious Warfare and Marine Corps Planning Process Classes
- Amphibious Warfare Classes
- Marine Corps Planning Process Class
- Fire Support Coordination Classes
- PHIBLEX IPB
- 2 X Linguists

Planning and Order Development
- Problem Framing – Orders Development
- 6 X Linguists

CPX – (During Functional Training)
1. JGSDF and MEU CE CPX
   - Continue PHIBLEX Planning
2. Confirmation Brief
3. Rehearsal of Concept (ROC) walk with USMC and JGSDF prior to embarkation for PHIBLEX

Ends With: JGSDF and MEU Staff conducting PHIBLEX / CALFEX 29 January 20 Confirmation Brief and PHIBLEX ROC walk during Functional Training.



Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
29 Dec	30 Dec	31 Dec	1 Jan	2 Jan	3 Jan	4 Jan
5 Jan	6 Jan	7 Jan	8 Jan	9 Jan	10 Jan	11 Jan
12 Jan	13 Jan	14 Jan	15 Jan	16 Jan	17 Jan	18 Jan

ADVON Arrival
Staff Meet and Greet
EWTGPAC teaching AWI/MCPP
STAFFEX (PHIBLEX Planning) EWTGPAC evaluate staff planning
OPENING CEREMONY
FUNCTIONAL TRAINING

Phase III Stage A: Functional Training

12 Jan	13 Jan	14 Jan	15 Jan	16 Jan	17 Jan	*Helo Co R409A (V2/1)
		TCCC/In-Flight Cons. (CLB-15)		Advanced Trauma Care (CLB-15)	Onload / Offload Drills (CLB-15)	AAV (3d AABN)
						DVTE (1st ANGLICO)
						*JGSDF CRRC (EWTGPAC)

19 Jan	20 Jan	21 Jan	22 Jan	23 Jan	24 Jan	25 Jan
AAV Crew, Section, and Plt level Amphib Ops (3d AABN)					STP Setup (CLB-15)	En-route Care MV-22 (CLB-15)
*JGSDF CRRC (EWTGPAC)		Fast Roping (V21)		AAV Training (V21)		
	DVTE (1st ANGLICO)		SAVT (1st ANGLICO)	WET/DRY CAS–OP A / RG 440Z (1st ANGLICO)		
*Helo Co R409A (V21)						
		*Weapons Co R409A (V21)				

26 Jan	27 Jan	28 Jan	29 Jan	30 Jan	31 Jan	1 Feb
R408A (3d AABN)						
	CAST (1st ANGLICO)					
	Urban Breaching R110 (CLB-15)					
*JGSDF R409A (V 2/1)						
*2/1 Infantry Co LFAM 219(V 2/1)						

Logistics and Transition
Functional Training
Admin and Academics
PHIBLEX
Live Fire
PHIBRON Ops
Holiday

*Unilateral Training

Functional Training: Reconnaissance

Participating Units: 1st Recon Bn / Recon Co (10), Intel Plt (9)

Training Concept:
Subject matter expert exchange of techniques, tactics, and procedures in regards to amphibious reconnaissance, close quarters tactics, and steep earth operations.

Objectives / Endstate:
Enhanced interoperability and bi-lateral reconnaissance capability.

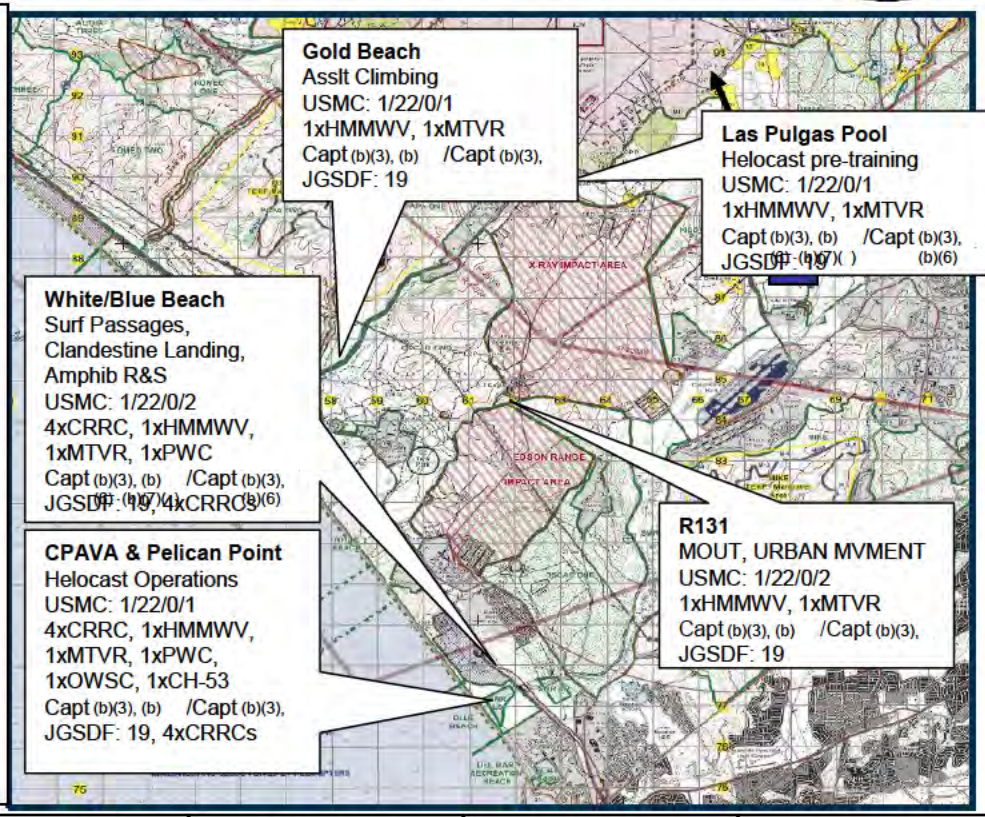
Logistics:
- 1xHMMWV w/Trailer, 2xMTVR w/ 1xTrailer, 4xCRRCs, 1x Truck with 2-tier boat trailer
- Food, water, bivouac tents, port-a-johns
- Open Water Safety Craft and Personal Water Craft support for water operations
- Water Bull for R131

External Support:
- Air Support
  - 22 Jan 1400-1900, 1x CH-53, Helocast operations
  - 23 Jan 1400-1900, 1x CH-53, Helocast operations (18th weather day)
- Linguist x1
- EOTG Assault Climber Instructor support (27-28 Jan)

Command & Control:
- Capt Paperella / Platoon Commander, Force Recon Co, 1st Recon Bn (760-763-3303)
- GySgt Bruegman / Platoon Sergeant, Force Recon Co, 1st Recon Bn (760-978-8257)

Safety & Risk Controls
- Pool pre-training and robust safety structure tied to sea state and surf conditions
- Subject Matter Expert Range Safety Officers, Cast Masters and Position Safety Officers
- Position Safety Officer ratios are 1:4 (day), 1:2 (night)

Concerns / Notes
- Blue barrel support and simunition in support of CQB force on force
- Operational Risk Management Matrix bottom-lined by 1st Recon Bn



17 Jan (Fri)	18 Jan (Sat)	19 Jan (Sun)	20 Jan (Mon)	21 Jan (Tue)	22 Jan (Wed)	23 Jan (Thu)
Pool Training Build CRRCs Las Pulgas	Weekend		Surf Passages Day/Night White Beach	Coastal Piloting and Clandestine Landing White Beach	Helocasting CPAVA and Pelican Point	Helocasting (Weather Day) CPAVA and Pelican Point
24 Jan (Fri)	**25 Jan (Sat)**	**26 Jan (Sun)**	**27 Jan (Mon)**	**28 Jan (Tue)**	**29 Jan (Wed)**	**30 Jan (Thu)**
Urban Infiltration & Observation R131	Weekend		Assault Climbing Classes and Prac App Gold Beach	Assault Climbing Day and Night Infil Gold Beach	Flex Day	Flex Day

Risk Management

Functional Training (MSE O-5 CO)

For training that involves static live fire (e.g. BZO, CMP style table, Demolitions), non-live fire (e.g. HST, combat lifesaving), maneuver (e.g. surf passages, AAV training), and company level or below live fire and maneuver (e.g. Range 409A, Range 219, Range 223) confirmation briefs will be presented to the respective MSE's O-5 Commander. Any MSEs which do not fall under an O-5 commander will provide a confirmation brief to the 15th Marine Expeditionary Unit Operations Officer

PHIBLEX and CALFEX (MEU CO)

For all training events that include combined arms live fire and maneuver (e.g. CALFEX), the confirmation brief will be presented to the 15th Marine Expeditionary Unit Commander. Confirmation briefs for STAFFEX, CALFEX and PHIBLEX will go to 15th Marine Expeditionary Unit Commander and 2d Amphibious Rapid Deployment Brigade Commander on respective scheduled days.

JGSDF Unilateral Training

Japanese Ground Self Defense Force unilateral training events confirmation briefs will be presented to the 2 Amphibious Rapid Deployment Regiment Commander . Confirmation briefs will be attended by the JGSDF Commander's USMC counterpart (e.g V21 Commander). Both commanders retain the right of refusal for a training event to ensure safety across the exercise.

Phase III, Stage B: PHIBLEX

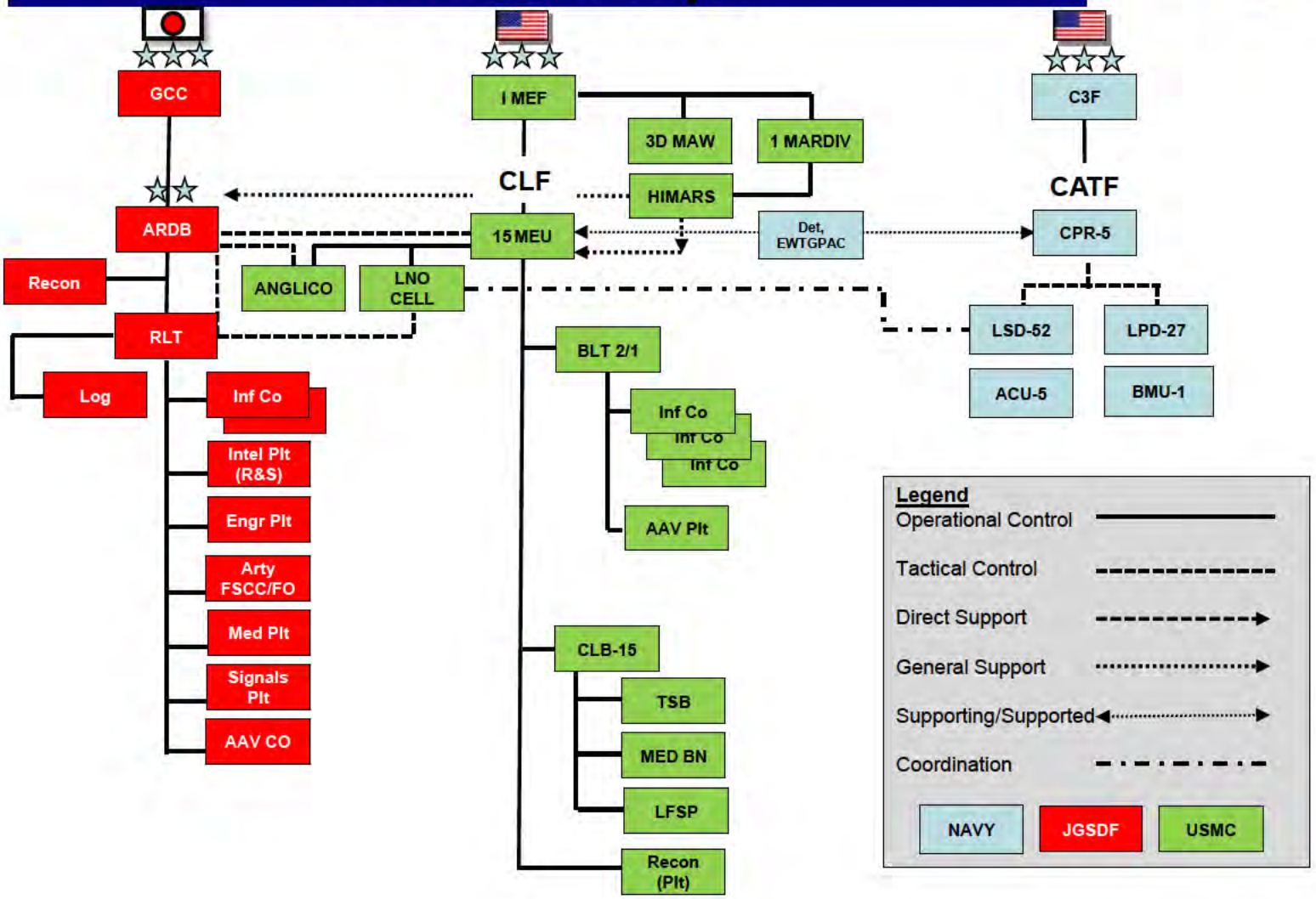
Phase III, Stage B is the embarkation of the force on L-Class ships, a rehearsal aboard SCI, and concludes with an amphibious assault aboard CPI.

Phase III, Stage B begins with the conclusion of the PHIBLEX ROC walk on 29 January.
Phase III, Stage B will be conducted in 2 parts.
Phase III, Stage B, Part 1 . SCI Rehearsal
CE1: USMC rehearses shaping fires ISO ground scheme of maneuver
CE2: USMC & JGSDF rehearse ground R&S insertion
CE3: USMC & JGSDF rehearses surface connector mechanized assault through splash and recovery of AAVs & CRRCs (JGSDF only)
CE4: USMC & JGSDF rehearse vertical assault on SCI
CE5: USMC conduct HIRAIN and rehearse establishment of LFSP

Phase III, Stage B, Part 2. CPI Amphibious Assault
CE1: USMC & JGSDF ground R&S insertion via CRRC & helocast
CE2: USMC seizes LF objective 1 & JGSDF seize LF objective 2 via vertical assault
CE3: USMC seize LF objective 3 & JGSDF seize LF objective 4 via mechanized assault

Phase III Stage B ends with the complete off load of L-Class ships on 13 February

Phase III Stage B Command Relationships



Phase III, Stage B, Part 1: SCI Rehearsal

Concept of Operations:
SCI will be used as a rehearsal for CPI. LF embarks on LSD/LPD and conducts in stream onload of AAVs/LCAC. DLQ in route in SCI. ANGLICO inserts separately ISO FIREX, JGSDF will accompany. Recon conducts insert to OPs via CRRC. V21 and JGSDF conduct a AAV Splash and Recovery. JGSDF conducts CRRC splash and recovery. V21 & JGSDF conduct air assault rehearsal to SCI to rehearse actions on CPI. HIMARS conducts HIRAIN. CLB sets up LFSP on SCI.

Begins with: Embarkation of LSD/LPD.

Critical Events:
- Embarkation of Landing Force
- In-Stream Onload of AAVs
- DLQs for MV-22s
- FIREX
- R&S Insert via CRRC
- AAV/CRRC Splash and Recovery
- DDG NSFS
- SCI Raid
- HIMARS Rapid Infiltration (HIRAIN) & CLB LFSP

Ends with: ANGLICO and JGSDF recovered aboard shipping. HIMARS and Mortars retrograded to respective units.

2 Feb	3 Feb	4 Feb	5 Feb	6 Feb (D-2)	7 Feb (D-1)	8 Feb (D-Day)
Embark ARG shipping PHIBLEX	IN-STREAM ONLOAD	DLQs	DLQs	AAV/CRRC S&R		Assault Rehearsal
		FIREX (SCI)			R&S INSERT	R&S EXTRACT
						HIMARS
9 Feb (D+1)	10 Feb (D+2)	11 Feb	12 Feb	13 Feb	14 Feb	15 Feb
Assault Rehearsal						
HIMARS						

DV/Media Day

Concept of Operations:
JGSDF, USMC, & Navy GFOs conduct visit and host a bilateral press conference aboard USS Pearl Harbor with members of Japanese and US media, **10 Feb 2020**.

Begins with: DV/GO meet and greet at MCAS CPEN Legacy Room .

Critical Events/Key Dates:

Phase I:
- 1000: DV, GO, & guest breakfast and gift exchange
- 1030: Press escorted from main gate to MCAS CPEN terminal
- 1115: Press briefing at air terminal
- 1140: DVs, USMC/USN GOs, media & escorts meet at air terminal lounge
- Transit to USS Pearl Harbor from CPEN

Phase II:
- 1230: Press set up & orientation
- 1300: Press conference begins
- 1330: Q&A from the press
- 1400: Press conference ends
- 1415: USS Pearl Harbor tour/ Office calls
- 1500: Meet at VTA

Phase III :
- 1530: DVs, USMC/USN GOs, media, & escorts transit from USS Pearl Harbor to CPEN.

Ends With: Media escorted off base.

Coordination
Air frag (3 for 2 MV-22 or CH-53)
Authorization to fly aboard USMC aircraft
LCU b/u
I MEF & Navy protocol

USMC Representation (Tentative)
LtGen Osterman, CG, I MEF
BGen Savage, DCG, I MEF
Col (b)(3), (b)(6) (b)(7) , CO, 15th MEU

USN Representation (Tentative)
VADM Conn, C3F
RDML Gumbleton, CDR, ESG 3
CAPT (b)(3), (b)(6) (b)(7) , Commodore CPR-5

JGSDF Representation
Maj Gen Aoki, ARDB CG

Japanese Media Outlets
Tohokushinsha Film Corporation
Tokyo Broadcasting Station
Kyodo-Tsushin Newspaper
Yomiuri Newspaper
Arms Magazine
Hobby Japan Magazine

US Media Outlets (TBD)

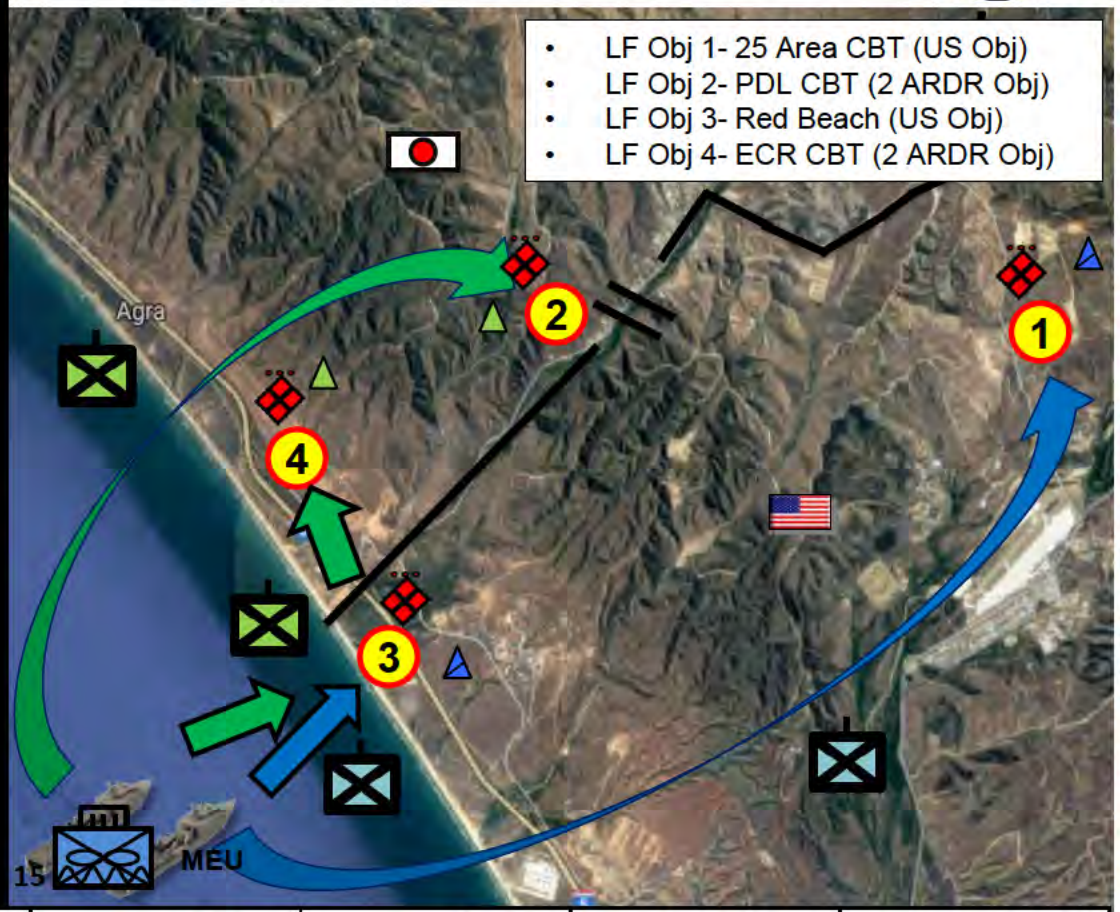
Phase III, Stage B, Part 2: PHIBLEX (CPI)

Concept of Operations:
JGSDF and USMC seize LF Objs 1, 2, 3, and 4 aboard CPI. Seizure of LF Objs will sequentially set conditions for next LF Obj. Seizure of LF Obj 1 will set conditions for surface offload.

Begins with: PHIBRON strait transit complete.

Critical Events:
- CE 1: Insert/Occupation of OPFOR
- CE 2: Ground R&S insertion to confirm/deny enemy composition disposition location
- CE 3: Vertical Assault via MV-22/CH-53 to LF Obj 1, 2
- CE 4: US Amphibious Assault via AAVs to Seize of LF Obj 3
- CE 4: JGSDF AAVs conduct FPOL with US at Obj 3 to move towards Obj 4
- CE 5: Landing Force Complete Offload (Ongoing)

Ends with: Landing Force offloaded at CPI



	10 Feb	11 Feb	12 Feb	13 Feb	14 Feb	15 Feb
Aslt Rehearsal Back up	RAS	CPEN LANDING				
	Straights trsnt- PHIBRON			PHIBRON Retrograde		
R&S INSERT	10 Feb	V21 Seizes LF Obj 1	V21 Seizes LF Obj 3	Wx Day/ Complete Offload	Rest / Refit / Range Prep	
		2ARDR Seizes LF Obj 2	2ARDR Seizes LF Obj 4			

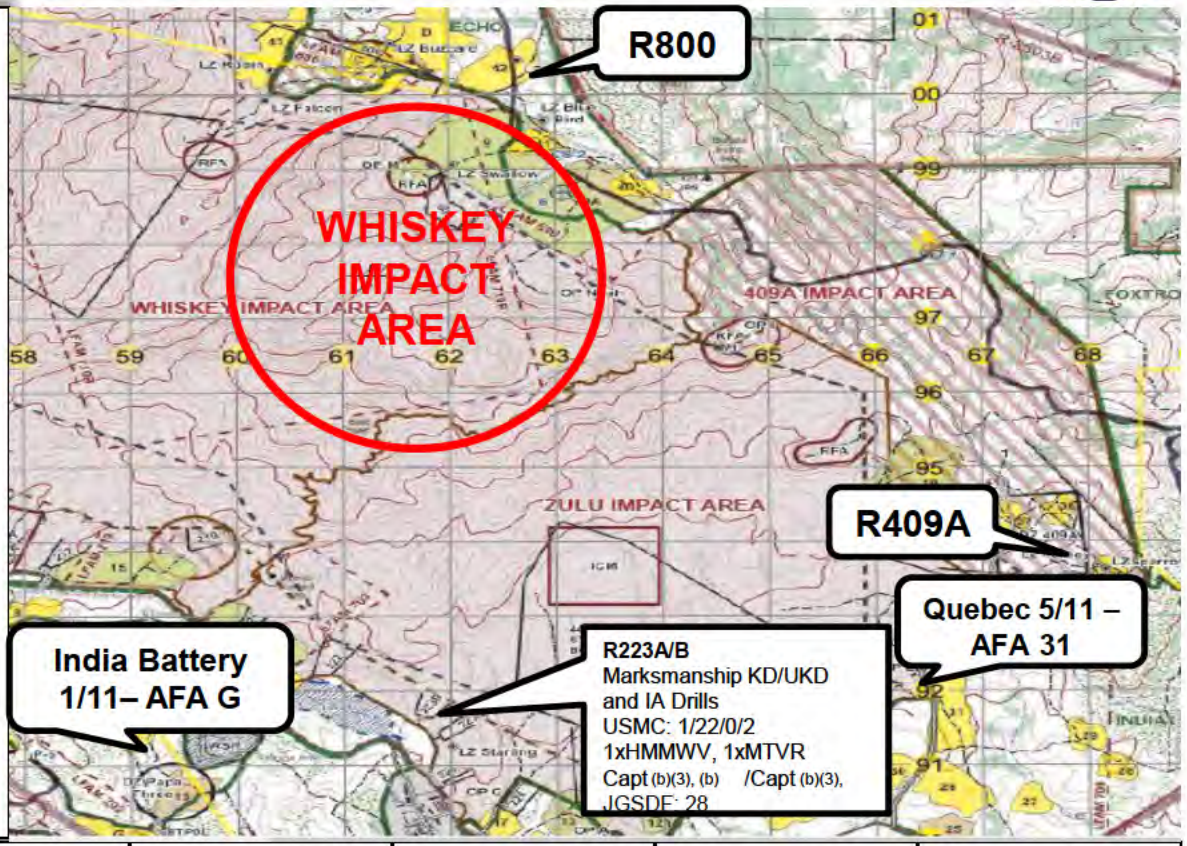
Phase III Stage C: CALFEX

Overview:
From 16-17 Feb, JGSDF will conduct company (+) combined arms live fire training. From 18-19 Feb USMC forces will conduct platoon and combined arms live fire training at R800 IOT enhance unit proficiency and validate standard operating procedures. Golf Co, V21, India Battery 1/11 , x1 HIMARS 5/11, ANGLICO & Rotary Wing aircraft will participate in this final training event. JGSDF 2ARDR, and AAV Co will participate in this final training event. V2/1 will provide overall safety structure for this evolution..

From 17 – 20 Feb 2020, JGSDF/USMC Recon forces conduct Live Fire Exercise (Square Bay, IA Drills, Squad Attacks) on R223A, R223BIOT sustain shooting proficiency, refine SOPS, and train with foreign forces.

V21 Training Objectives:
INF-MAN-6001 Conduct a ground attack
INF-MAN-6211 Support by fire/overwatch
INF-FSP-6006 Conduct fire support team operations
INF-FSP-6001 Conduct fire support planning
INF-C2-6009 Prepare for operations

Safety & Risk Mitigation:
- USMC provides PSOs as safety backstop to include safety vehicles and Corpsman support.
- Range/TA will have an OIC/RSO.
- Medical plan: 1x Corpsman/Safety vic will be at each training event location.



15 Feb	16 Feb	17 Feb	18 Feb	19 Feb	20 Feb	21 Feb
Range 800Occupation and Set-up (USMC) JGSDF Arrive/ Rehearsals	JGSDF Rehearsals JGSDF Execution JGSDF Static Night Shoot	JGSDF Rehearsals JGSDF Execution USMC Arrive JGSDF Static Night Shoot	JGSDF Retrograde USMC Rehearsals	USMC Execution	Range Clean-up and retrograde	
15 Feb	16 Feb	17 Feb	18 Feb	19 Feb	20 Feb	21 Feb
		Range Setup, Dry Drills KD/UKD Square Bay R223A	Range Setup, Dry Runs, Live Fire IA Drills R223B	Range Setup, Rehearsals, Break Contact/IA Drills Live Fire Day and Night. R223B	Range Cleanup, Check off Range R223B	

Phase IV, Redeployment

Concept of Operations:
MEU CE S-4 establishes UMCC at key APOE/SPOE to facilitate redeployment of JGSDF cargo and personnel. Intent: position USMC mobility/embarkation specialists at each key node outside and inside CPEN. UMCC will be managed at the 21 Area MEU CP.
Departure LAX: 23 Feb ADVON
26 Feb MB1
27 Feb MB2

Concept of support: Prior coordination with LAX Operations has been made to identify consolidated point located at the terminal; SWRFT will pick-up personnel from billeting areas and drop off at Central location point at 21 Area parade deck. Secondary SWRFT request to transport pax and baggage to LAX

Billeting: Joint billeting walk-thru conducted by 15th MEU CE, JGSDF, and Area Commanders NLT 25 Feb.

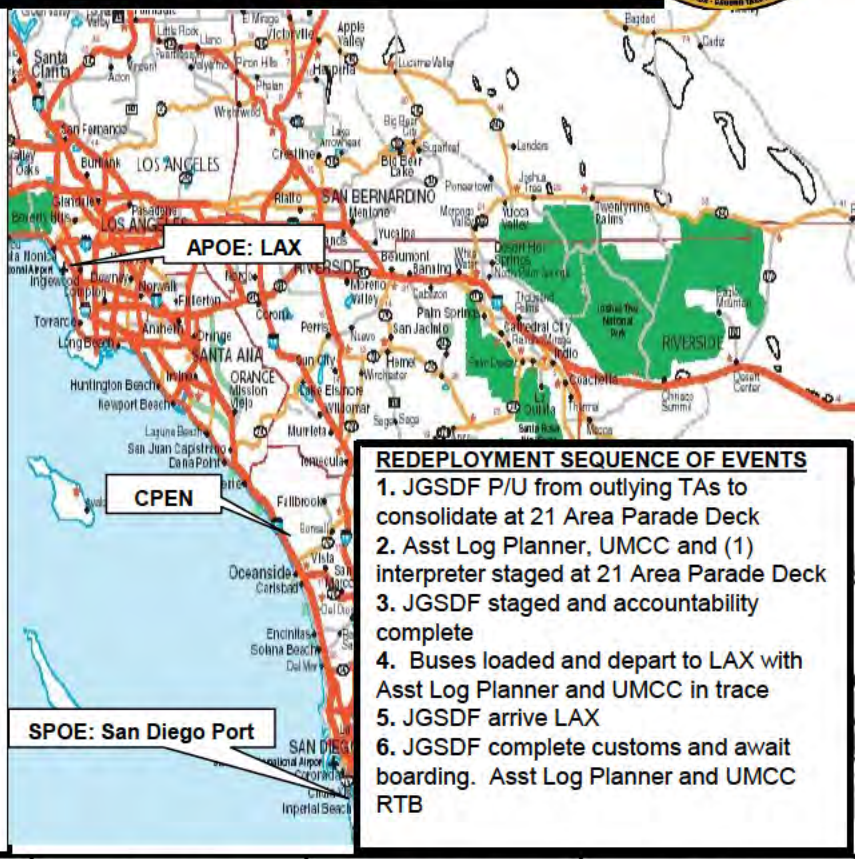
Ammo: The desired COA is for all JGSDF CL V to be expended. Contingency COA1 will be to hold any unexpended CL V at the CPEN ASP until the JGSDF can coordinate return shipment. Contingency COA2 will be to submit a disposition request IOT demo any remaining CL V.

Cargo Shipment: JGSDF bulk cargo shipment (via Mercer Int) scheduled to move to **SPOE San Diego Port 23-25 Feb**. SWRFT will transport JGSDF cargo from Camp Pendleton TAs to centralized drop off spot at 13 Area UMA Lot. MEU CE S4 & JGSDF S4 will coordinate equipment consolidation 20-22 Feb. Cargo ship will depart underway 01 Mar.

Wi-Fi: Contract through Cox Communication will terminate NLT 27 Feb

Begins With: Consolidation of JGSDF cargo at the 13 Area UMA Lot on 20 Feb.

Ends With: Close out of CL I, III, and V with expenditure reports post exercise per I MEF Initiating Directive.



REDEPLOYMENT SEQUENCE OF EVENTS
1. JGSDF P/U from outlying TAs to consolidate at 21 Area Parade Deck
2. Asst Log Planner, UMCC and (1) interpreter staged at 21 Area Parade Deck
3. JGSDF staged and accountability complete
4. Buses loaded and depart to LAX with Asst Log Planner and UMCC in trace
5. JGSDF arrive LAX
6. JGSDF complete customs and await boarding. Asst Log Planner and UMCC RTB

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9 Feb	10 Feb	11 Feb	12 Feb	13 Feb	14 Feb	15 Feb
16 Feb	17 Feb	18 Feb	19 Feb	20 Feb	21 Feb CLOSING CEREMONY	22 Feb
				CONSOLIDATION OF JGSDF CARGO		
ADVON 23 Feb	24 Feb	25 Feb	26 Feb	27 Feb	28 Feb	29 Feb
TRANSPORTATION OF JGSDF CARGO TO SPOE			MAIN BODY #1	MAIN BODY #2		
FLIGHT WINDOW						

COMMSTRAT

OIE Objective: Inform, educate and raise awareness of Marine Corps and JGSDF interoperability among key audiences IOT shape positive attitudes about the U.S. and Japanese alliance, force readiness, and amphibious capabilities.

Execution:

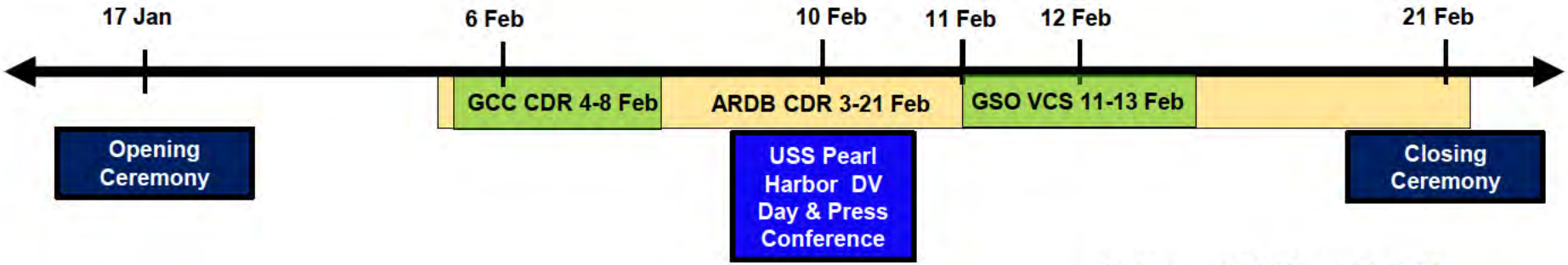
- Internal imagery/video acquisition & product creation
- External media coordination- escort and embed
  - ❑ Media interest outreach
  - ❑ Billeting coordination
- DV coordination and support
- 10 Feb, DV Day & Press Conference
- Opening & closing ceremony coordination and content

External Key Audiences	Internal Key Audiences
• Japanese civilian and military leadership • Regional and international populations and forces • External State Actors (ESA)	• U.S. Leadership • Active duty and reserve service members and veterans

Distinguished Visitors

- COMMSTRAT is coordinating with MEF Protocol to plan DV agenda
- JGSDF DVs will include three general officers.
  - LtGen Takemoto, Vice Chief of Staff, GSO
  - LtGen Takata, Commander, GCC
  - Maj Gen Aoki, ARDB CG

COMMSTRAT Events



5 Jan ADVON Arrival	6 Jan Leadership Meet and Greet	7 Jan	8 Jan Office Call: Col Bronzi, Col (b)(3), (b)(6), (b)(7)	9 Jan	10 Jan	11 Jan Main Body #1 Col (b)(3), (b)(6), (b)(7) Arrives Col (b)(3) Arrives
12 Jan	13 Jan	14 Jan 2ARDR S4 visits 13 Area Camp Commandant	15 Jan Main Body #2	16 Jan	17 Jan Opening Ceremony	18 Jan MLK Day 72 JGSDF Cultural Exposure Days
19 Jan MLK Day 72	20 Jan	21 Jan	22 Jan	23 Jan	24 Jan	25 Jan
JGSDF Cultural Exposure Days						
26 Jan	27 Jan	28 Jan	29 Jan	30 Jan Office Call: CDR (b)(3), (b)(6), Col (b)(3), (b)(6)	31 Jan	1 Feb
2 Feb Superbowl	3 Feb MajGen Aoki On Deck	4 Feb	5 Feb Office Call: MajGen liams, LtGen Takata	FIREX: LtGenTakata, Maj Gen Aoki, MajGen Castellvi LtGen Takata On Deck	7 Feb Office Call: LtGen Takata, MajGen Castellvi ACV Tour	8 Feb
9 Feb	10 Feb DV Day and Bilateral Press Conference	11 Feb	12 Feb JGSDF Hosted Dinner (Tentative)	13 Feb	14 Feb	15 Feb Presidents Day
LtGen Takemoto on Deck						
MajGen Aoki on Deck						
16 Feb Presidents Day	17 Feb	18 Feb JGSDF Cultural Days	19 Feb	20 Feb	21 Feb Closing Ceremony	22 Feb
MajGen Aoki on Deck						

Issues Pending

- Japanese will attempt to provide 2-4 personnel for OIC/RSO class to cover down on JGSDF unilateral training events (JGSDF CRRC, R409A, JGSDF CALFEX run) for risk assumption
- USMC will provide maps of SCI and CPEN to JGSDF
- JGSDF will provide USMC with DV priorities for visits
- EWTPAC FOS to provide safety infrastructure for JGSDF CRRC training

Issues Pending

- ❑ JGSDF authorization to fly roster (JGSDF LNO)
- ❑ USMC authorization to ride in JGSDF AAVs (3d AABN)
- ❑ JGSDF ability to use cash card on USS Portland & USS Pearl Harbor (HQ CMDT)
- ❑ JGSDF roster of laptops to bring on ship (JGSDF LNO)
- ❑ Confirm CPR-5 training objectives for strait transit and RAS (S-3)
- ❑ JGSDF submit Foreign Visitor Request to MCTSSA / Ships / CPEN (S-3/I MEF FDO)
- ❑ Identify appropriate time window for US cultural exposure (COMMSTRAT)
- ❑ Determine appropriate command element presence on USS Portland (S-3)
- ❑ Airlift for HIRAIN (S-3)

Questions?