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BRADLEY INFANTRY FIGHTING VEHICLE PROCEDURES GUIDE: DRIVER

ARI Field Unit at Fort Benning, Georgia Training Research Laboratory

February 1984
U. S. ARMY RESEARCH INSTITUTE
FOR THE BEHAVIORAL AND SOCIAL SCIENCES

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NOTICES

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NOTE: This Research Product is not to be construed as an official Department of the Army document in its present form.
A procedures guide was developed for critical tasks for Bradley Infantry Fighting Vehicle (M2) Drivers. Tasks which are not complicated are presented in line-by-line form, with the names of tasks listed in the correct sequence. More complex tasks are presented in a flowchart format with decision trees at choice points. The steps within a procedure are sequenced, and the use of symbols highlights the subtasks. Warnings and cautions are presented, as well as indications to when vehicle indicator lights are critical. The terminology is identical to that found in the technical manual (TM 9-2350-250-10-1).
Item 20 (cont’d)

A Fighting Vehicle, Infantry, M2, (Hull) and a table of contents is provided. Each operator guide also contains a checklist of the preventive maintenance checks and services for which that operator is responsible. The guide is intended to be used as both a training supplement and as a job performance aid.

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BRADLEY INFANTRY FIGHTING VEHICLE PROCEDURES GUIDE: DRIVER

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February 1984
The U.S. Army has begun introducing the Bradley Infantry Fighting Vehicle (M2) into mechanized infantry units, and has a major investment in training commanders, gunners, and drivers in the procedures of their respective positions. In support of this effort, the Army Research Institute initiated a research program to improve training and to develop procedures to maximize the operational effectiveness of the Bradley in combat.

In recognition of the complexity of the tasks required of BIFV crew members, the U.S. Army Infantry School requested that the Army Research Institute prepare a set of Procedures Guides which summarize the critical tasks for Bradley Commanders, Gunners, and Drivers. Tasks required of these crew members often dictate a specific sequence of actions designed to insure the safety of personnel, accomplish the mission, and safeguard the integrity of the equipment, or are so infrequently performed as to require a job aid for successful completion. Other tasks need to be cross-trained across squad members, or may require rapid familiarization for new crew members as a result of combat losses.

Responding to these task requirements, the Army Research Institute prepared a set of Procedures Guides to follow the same format as Procedures Guides developed by the Army Research Institute for the M1 Tank. The Bradley Guides are of compact size and allow for convenient updating as procedures change or new equipment becomes available. They include critical guidance on emergency procedures, proper use of the vehicle subsystems, and preventive maintenance checks. The intent is to provide each main crew member a position specific guide which, in addition to being technically correct, is more convenient to use than the technical manuals on board each vehicle.

The Driver Guide was prepared according to these guidelines, and is being evaluated in the field by the Infantry School. Operational units and trainers are evaluating the guides both as training supplements and as job aids. Evaluation of this Driver Procedures Guide and its companion Commander and Gunner Procedures Guide (RP 84-04) was undertaken in the institutional environment, and is available as Army Research Institute Research Note Bradley Infantry Fighting Vehicle Procedure Guides: Evaluation (RN 84-61).

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GENERAL INFORMATION

This booklet contains BIFV Driver Procedure Guides. Each guide is for a single activity and is matched to TM 9-2350-252-10-1 (Operator's Manual for Fighting Vehicle, Infantry, M2, Hull).

PURPOSE OF PROCEDURE GUIDES

The guides in this booklet are not intended to take the place of the BIFV TM or training materials. They will help you to remember long or difficult sets of procedures. In short, the guides will help to "jog your memory."

USE OF THIS BOOKLET

The Table of Contents (on the next page) lists the procedure guides in this booklet. Each guide gives you a step-by-step outline for completing an activity. The following will help you to better use each guide:

1. Some steps within a procedure guide are followed by a page number. On that page within the guide you will find a detailed breakdown of the step.

2. Some of the procedure guides include a question(s). Each question is stated inside a diamond shape. Your "yes" or "no" to the question will show you which path to follow.

3. Some steps within a procedure guide are followed by a box. In the box you will find more information on the step or a caution/warning.

4. Certain steps within a procedure guide require that a knob or switch be turned to a certain position. If that position is written like the symbol to the left, a light should also come on.
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Prepare To Start

1. DRIVER'S HATCH .................................. UNLOCK, OPEN
2. DRIVER'S SEAT .................................. UNSTOW, ADJUST
3. POWER UNIT ACCESS PANELS ......................... CHECK EDGES FLAT AND BOLTS TIGHT
4. BRAKE PEDAL ................................ ADJUST
5. SEAT BELT ................................ FASTEN
6. CVC HELMET .................................. PUT ON, PLUG IN
7. FIRE SUPPRESSION SWITCH .......................... CHECK IN AUTO
8. MASTER POWER SWITCH ............................. ON
9. ENGINE ACCESSORY SWITCH ....................... ON
10. DRIVER'S INSTRUMENT PANEL ..................... CHECK
    10a. Fuel Gage .................. Green
         b. Volts Gage ............... Yellow
         c. Warning Lights ......... Flashing
         d. Warning Tone .......... Sounding
11. FUEL CONTROL .................................. ON

Start Engine

To Start Engine Above +40°F (+4°C) do steps 12 thru 15;
to Start Engine Below +40°F (+4°C) do steps 16 thru 26.

12. HORN ............................................ SOUND - IF TACTICAL SITUATION PERMITS
13. GEAR SELECTOR ................................. MOVE TO START AND HOLD UNTIL ENGINE STARTS,
    THEN MOVE TO NEUTRAL

14. DOES ENGINE START WITHIN 15 SECONDS?
    NO  WAIT 1 MINUTE THEN REPEAT STEP 13
    YES

IF ENGINE DOES NOT START AFTER 3 TRIES,
NOTIFY ORGANIZATIONAL MAINTENANCE

GO TO STEP 15
15. DRIVER'S INSTRUMENT PANEL • • CHECK
   15a. Volts gage ............ Green
         b. Warning lights ....... Off
         c. Warning tone .......... Stopped

IF LIGHTS AND TONE DO NOT STOP AFTER 30 SECONDS,
   NOTIFY ORGANIZATIONAL MAINTENANCE

   GO TO STEP 27 →

16. COLD START SWITCH ........... ON

17. DOES LIGHT COME ON?
    △
    
    NO
    NOTIFY ORGANIZATIONAL MAINTENANCE
    △

   YES
   WAIT 1 MINUTE
   GO TO STEP 18

18. HORN ...................... SOUND - IF TACTICAL SITUATION PERMITS

19. STARTER CUTOUT OVERRIDE .... ON
    SWITCH

20. ACCELERATOR PEDAL ............ PRESS DOWN 1/4"

21. GEAR SELECTOR .............. MOVE TO START AND HOLD UNTIL ENGINE STARTS
                                 THEN MOVE TO NEUTRAL

22. DOES ENGINE START WITHIN 30 SECONDS?
    △
    
    NO
    WAIT 1 MINUTE THEN REPEAT
    STEPS 16 THRU 21
    △

   YES
   IF ENGINE DOES NOT START AFTER 3 TRIES,
   NOTIFY ORGANIZATIONAL MAINTENANCE

   GO TO STEP 23

23. STARTER CUTOUT OVERRIDE .... OFF
    SWITCH
24. COLD START SWITCH . . . . . . OFF - WAIT UNTIL ENGINE RUNNING SMOOTHLY

25. DRIVER'S INSTRUMENT PANEL . . . CHECK

25a. Volts gage .......... Green
b. Warning lights ........ Off
c. Warning tone .......... Stopped

IF LIGHTS AND TONE DO NOT STOP AFTER
30 SECONDS, NOTIFY ORGANIZATIONAL
MAINTENANCE.

26. ENGINE . . . . . . . . . . . FAST IDLE - ENGAGE HAND BRAKE; GEAR
SELECTOR IN NEUTRAL

26a. Accelerator .......... Press down 1"
b. Throttle Push to
Release Button ..... Press
c. Throttle Control
Handle ................ Pull Out
d. Engine ............... Let run
2 to 5 min.
e. Throttle Push To
Release Button ..... Press
f. Throttle Control
Handle ................ Push in

Drive Vehicle

27. HORN . . . . . . . . . . . SOUND - IF TACTICAL SITUATION PERMITS

28. RAMP . . . . . . . . . . . RAISE

29. HAND BRAKE . . . . . . . RELEASE

30. GEAR SELECTOR . . . . . . SET TO DESIRED GEAR

31. HORN . . . . . . . . . . . SOUND - IF TACTICAL SITUATION PERMITS

32. VEHICLE . . . . . . . . . MOVE AS DIRECTED

33. SPECIAL EQUIPMENT . . . . . OPERATE LIGHTS, SMOKE SCREEN, ETC. AS NEEDED

34. BRAKE PEDAL . . . . . . PRESS DOWN SMOOTHLY TO STOP

35. GEAR SELECTOR . . . . . . MOVE TO NEUTRAL

36. HAND BRAKE . . . . . . . SET

3 stop vehicle & Shut Down

34. BRAKE PEDAL . . . . . . PRESS DOWN SMOOTHLY TO STOP

35. GEAR SELECTOR . . . . . . MOVE TO NEUTRAL

36. HAND BRAKE . . . . . . . SET
37. FUEL CONTROL .................. OFF
38. ENGINE ACCESSORY SWITCH ........ OFF
39. FIRE SUPPRESSION SWITCH ............. CHECK IN AUTO

(H)40. CARGO HATCH COVER ............. CLOSE

(H)41. FIRING PORTS .................. SECURE

(G)42. TURRET ......................... SECURE

43. HORN ................................ SOUND —- IF TACTICAL SITUATION PERMITS

44. RAMP ................................ LOWER SO CREW CAN EXIT

45. HORN ................................ SOUND —- IF TACTICAL SITUATION PERMITS

46. RAMP ................................ RAISE

47. MASTER POWER SWITCH ............... OFF

48. DRIVER'S HATCH COVER ............. CLOSE/LOCK

49. ENGINE ACCESS DOOR ............... LOCK
Runaway Engine – Immediate Action

1. FUEL CONTROL ......................... OFF
2. GEAR SELECTOR ....................... NEUTRAL

3. IS VEHICLE MOVING?
   YES → STOP VEHICLE → GO TO STEP 4
   NO → GO TO STEP 4

4. HAND BRAKE ......................... SET
5. TRIM VANE ......................... LOWER
6. POWER UNIT ACCESS DOOR ........ OPEN
7. FUEL INLET HOSE .......... PULL UP ON QUICK DISCONNECT
8. ORGANIZATIONAL MAINTENANCE ....... NOTIFY

GUNNER MAY ALSO STOP RUNAWAY ENGINE BY MANUALLY TURNING OFF MAIN FUEL SHUT OFF VALVE.
Rough Terrain - Vehicle Operations

WEAR SEAT BELTS AT ALL TIMES

VEHICLE MUST MOVE STEADILY AND STRAIGHT ON

1. TRENCHES .................................. NOT GREATER THAN 8 FT. (2.5 m)
2. VERTICAL WALLS OR OBSTACLES ..... NOT GREATER THAN 36 IN. (91 cm)
3. HILLS ......................................... NOT GREATER THAN 60%; ACCELERATE TO KEEP FROM STALLING
4. SIDE SLOPES .................................. NOT GREATER THAN 40%; USE LOW GEAR
5. SNOW, ICE, MUD .............................. MOVE SMOOTHLY AND SLOWLY
6. PARK ............................................ SHELTERED, FIRM SURFACE
Extreme Cold - Operations

Prepare
1. ALL HATCH COVERS ......................................................... CLOSE
2. HORN .......................................................... SOUNDF - IF TACTICAL
SITUATION PERMITS
3. RAMP .......................................................... RAISE
4. RAMP ACCESS DOOR ....................................................... CLOSE
5. TURRET SHIELD DOOR ..................................................... OPEN
6. GRILLE COVER .......................................................... INSTALL
(G) 7. 25mm GUN .......................................................... MANUALLY DEPRESS
8. TARPAULIN .......................................................... COVER VEHICLE

Operate
9. TARPAULIN .......................................................... FOLD BACK TO UNCOVER GRILLES
10. WINTERIZATION KIT .................................................. INSTALL
  10a. Exhaust Grille Cover ........ Unfold to Uncover Exhaust Grille
     b. Master Power ................. ON
     c. Winterization Heater ....... Start
     10.1 Hi Lo Switch .............. Hi
         .2 Run/Off/Start ........... Start
            Switch
         .3 Winterization
            Heater Light .......... ON
         .4 Run/Off/Start
            Switch ............... Run

   DOES HEATER START?
   NO Press Reset Button and Then
   Repeat Steps 10.1 thru 10.4
   YES IF HEATER DOES NOT
   START AFTER 3 TRIES,
   NOTIFY ORGANIZATIONAL
   MAINTENANCE.

   GO TO STEP 11

11. WINTERIZATION HEATER ................ LET RUN AT LEAST 30 MINUTES — BEFORE STEP 12
12. PERSONNEL HEATER ................ OPERATE (see P. 22) — WITH WINTERIZATION HEATER
    FOR 1 MORE HOUR BEFORE
    STEP 13.
13. WINTERIZATION AND
    PERSONNEL HEATERS ...... OFF — DO NOT TURN OFF MASTER POWER UNTIL HEATER
    STOPS RUNNING AND LIGHT GOES OUT.
14. ENGINE ................. COLD START (see p. 2) — RUN 15 MINUTES
15. HAND BRAKE .............. RELEASE
16. BRAKE PEDAL .............. PRESS AND HOLD THRU NEXT STEP
17. GEAR SELECTOR ............ MOVE TO PIVOT STEER AND HOLD 5 MIN.
   (RAISE IDLE GRADUALLY)
18. 25mm GUN ................. MANUALLY ELEVATE
19. GEAR SELECTOR ............ MOVE TO NEUTRAL — LOWER IDLE TO SLOW
20. HAND BRAKE .............. SET
21. INTAKE GRILLE ............ PARTIALLY UNCOVER
22. TARPAULIN ................. REMOVE
23. STEPS 15 THRU 17 ........ REPEAT
24. VEHICLE ................. DRIVE — SLOWLY UNTIL ENGINE WARMS
(G) 25. VEHICLE ................. MANUALLY ELEVATE
   IF COOLANT TEMP GOES TO RED OR YELLOW,
   REPEAT 19 THRU 21, AND THEN 15 THRU 17.

After Operation

25. ENGINE ................. STOP
26. TRIM VANE ................. LOWER
27. POWER UNIT ACCESS DOOR .... OPEN
28. FUEL FILTER ................. DRAIN OUT WATER — IF EXCESSIVE WATER
   AND/OR SEDIMENT IS FOUND NOTIFY ORGANIZATIONAL MAINTENANCE
29. POWER UNIT ACCESS DOOR .... CLOSE
30. TRIM VANE ................. STOW
31. GRILLE COVER .............. INSTALL
32. 25mm GUN ................. DEPRESS TO 0 MILS
33. TARPAULIN ................. COVER VEHICLE
34. HATCH COVER .............. CLOSED
35. RAMP ................. RAISED
36. RAMP ACCESS DOOR ........ CLOSED
Install, Operate, and Remove Driver's Night Viewer

1. DRIVER'S PERISCOPE REMOVE FROM DRIVER'S HATCH COVER
2. DRIVER'S NIGHT VIEWER UNSTOW
   IF USING VEHICLE POWER, CHECK TO SEE THAT BATTERY HAS BEEN REMOVED. IF USING BATTERY POWER, INSTALL BATTERY.
3. 2 LATCH HANDLES SET IN OPEN POSITION
4. ENTRANCE WINDOW REMOVE AND STOW COVER & EYEPiece PROTECTIVE CAP
5. DRIVER'S NIGHT VIEWER INSTALL AND LOCK
6. OFF/BRIGHT ROTARY SWITCH OFF
7. DRIVER'S PERISCOPE STOW
   IF USING VEHICLE POWER, DO STEPS 8 THRU 13.
   IF USING BATTERY POWER, DO STEPS 10 THRU 13.
8. VEHICLE POWER CABLE INSTALL ON NIGHT VIEWER
9. MASTER POWER OFF
10. OFF/BRIGHT ROTARY SWITCH MAXIMUM BRIGHT
11. BRIGHTNESS ADJUST
12. NIGHT VIEWER POSITION AS NEEDED
13. OFF/BRIGHT ROTARY SWITCH OFF
   IF USING VEHICLE POWER, GO TO STEP 14. IF USING BATTERY POWER, GO TO STEP 16.
14. MASTER POWER OFF
15. VEHICLE POWER CABLE REMOVE FROM VIEWER
16. NIGHT VIEWER UNLOCK AND REMOVE FROM DRIVER'S HATCH COVER
    IF BATTERY IF PRESENT.
17. EYEPiece PROTECTIVE CAP INSTALL
   AND ENTRANCE WINDOW COVER
18. DRIVER'S PERISCOPE UNSTOW
19. DRIVER'S PERISCOPE INSTALL
20. DRIVER'S NIGHT VIEWER STOW
Slave Start - Start Engine With Outside Power Source

Outside power can be an operational vehicle or a 24V power source.

Steps 1 thru 8 apply to both operational and disabled vehicles.

1. Master power switch.............................. Off
2. Engine accessory switch.............................. Off
3. Turret power switch.............................. Off
5. Starter cutout override switch...................... Off
6. FWD and rear bilge pump switches.................... Off
7. Smoke screen generator switch...................... Off
8. Cold start switch.............................. Off

Slave cable must be obtained from organizational maintenance.

9. Slave cable.............................. Install - both vehicles

10. Operational vehicle master power switch........ On

11. Slave receptacle power lights.......................... Check

12. Is either light red?

   Yes \rightarrow [Stop] Notify organizational maintenance

   No \rightarrow Go to Step 13

13. Energize slave receptacle button........................ Press on operational vehicle
14. ARE BOTH ENGINE LIGHTS GREEN?
   NO → STOP → NOTIFY ORGANIZATIONAL MAINTENANCE
   YES → GO TO STEP 15

SLAVE RECEPTACLE POWER LIGHT MUST BE GREEN
IN BOTH VEHICLES. IF ONE OR BOTH ARE RED,
DO NOT CONTINUE.

15. OPERATIONAL VEHICLE ENGINE START
16. DISABLED VEHICLE ENGINE ACCESSORY SWITCH ON
17. DISABLED VEHICLE FUEL CONTROL ON
18. DISABLED VEHICLE GEAR SELECTOR MOVE TO START AND HOLD UNTIL IT STARTS

19. DOES ENGINE START WITHIN 15 SECONDS?
   NO → WAIT 1 MINUTE THEN REPEAT STEP 18
   YES → GO TO STEP 20

IF ENGINE DOES NOT START AFTER 3 TRIES,
NOTIFY ORGANIZATIONAL MAINTENANCE.

20. OPERATIONAL VEHICLE MASTER POWER OFF, THEN ON TO DE-ENERGIZE SLAVE RECEPTACLE

21. SLAVE CABLE REMOVE FROM BOTH VEHICLES

22. DISABLED VEHICLE MASTER POWER ON

23. DISABLED VEHICLE DRIVER'S INSTRUMENT PANEL CHECK
   23a. Volts gage Green
        b. Warning lights Off
        c. Warning tone Stopped

IF LIGHT AND TONE DO NOT STOP AFTER 30 SECONDS,
NOTIFY ORGANIZATIONAL MAINTENANCE.
Tow Disabled Vehicle

**DO NOT TOW VEHICLE WITH DAMAGED TRANSMISSION.**
**NOTIFY ORGANIZATIONAL MAINTENANCE.**

1. **REAR OF TOWING VEHICLE AND . . . . ALIGN FRONT OF DISABLED VEHICLE**

   **IF TOWING WITH TOW BAR, DO STEPS 2 THRU 4; IF TOWING WITH CABLE, GO TO STEP 5**

2. **TWO PINS AND SHACKLES . . . . REMOVE FROM 2 TOWING EYES ON DISABLED VEHICLE**

3. **TOW BAR . . . . . . . . . INSTALL ON FRONT OF DISABLED VEHICLE**

   **GO TO STEP 9**

4. **TOW BAR . . . . . . . . . INSTALL ON PINTLE OF TOWING VEHICLE**

5. **TOW CABLE . . . . . . . . REMOVE FROM DISABLED VEHICLE**

6. **TOW CABLE . . . . . . . . REMOVE FROM TOWING VEHICLE**

7. **FOUR PINS AND SHACKLES . . . . REMOVE FROM REAR OF TOWING VEHICLE (2) AND FRONT OF DISABLED VEHICLE (2)**

8. **TOWING CABLES . . . . . . . . INSTALL -- LEFT REAR OF TOWING VEHICLE TO RIGHT FRONT OF DISABLED VEHICLE. RIGHT REAR OF TOWING VEHICLE TO LEFT FRONT OF DISABLED VEHICLE.**

9. **DRIVER'S HATCH COVER . . . . CLOSE**

10. **DISABLED VEHICLE GEAR SELECTOR . . MOVE TO TOW AND LOCK**

11. **HAND BRAKE IN DISABLED VEHICLE . . RELEASE**

12. **TURRET IN DISABLED VEHICLE . . . TRAVERSE TO 3200 mils**

13. **ENGINE IN TOWING VEHICLE . . . START**

**ALL PERSONNEL MUST STAY CLEAR OF TAUT CABLES**
DO NOT TOW AT SPEEDS GREATER THAN 15 MPH WITH TOW BAR OR 5 MPH WITH CABLE OR OVER ROUGH TERRAIN.

13. TOWING VEHICLE GEAR SELECTOR . . . . SET TO DRIVE, LOW OR REVERSE —
    DO NOT USE REVERSE WITH CABLES
14. HEADLIGHTS . . . . . . . . . . . . OPERATE — IF TACTICAL SITUATION PERMITS
15. HORN . . . . . . . . . . . . . . . . SOUNC — IF TACTICAL SITUATION PERMITS
16. VEHICLES . . . . . . . . . . . . MOVE, AT CONTROLLED SPEED
17. VEHICLES . . . . . . . . . . . . STOP WITHOUT BRAKING — COAST TO A STOP
18. HAND BRAKE . . . . . . . . . . . . SET
19. TOWING VEHICLE ENGINE . . . . . STOP

DO STEP 21 OR 22

21. TOW BAR . . . . . . . . . . . . DISCONNECT FROM PINTLE OF TOWING VEHICLE AND TOWING EYES OF DISABLED VEHICLE
22. TOWING CABLES . . . . . . . . . . REMOVE FROM TOWING EYES AFTER DRIVING BACKWARD UNTIL CABLES SLACK
Tow Start

1. TWO VEHICLES CONNECT WITH TOWING DEVICE
2. BEFORE OPERATIONS PMCS DO
3. DISABLED VEHICLE MASTER ON POWER SWITCH
4. DISABLED VEHICLE ENGINE ON ACCESSORY SWITCH
5. DISABLED VEHICLE FUEL ON CONTROL HANDLE
6. DISABLED VEHICLE HAND RELEASE BRAKE
7. DISABLED VEHICLE GEAR MOVE TO TOW AND LOCK SELECTOR
8. TOWING VEHICLE ENGINE START
9. TOWING VEHICLE TOW DISABLED VEHICLE AT SPEED OF 10-15 MPH (15-25 KMPH)
10. DISABLED VEHICLE GEAR MOVE TO TOW START SELECTOR
11. IF ENGINE DOES NOT START WITHIN 30 SECONDS OF TOWING AT 10-15 MPH, STOP AND NOTIFY ORGANIZATIONAL MAINTENANCE
   a. NO
   b. YES
      GO TO STEP 12
12. DISABLED VEHICLE GEAR MOVE TO DRIVE SELECTOR
13. BOTH VEHICLES STOP
14. GEAR SELECTOR BOTH VEHICLES NEUTRAL
15. HAND BRAKES SET
16. DISABLED VEHICLE CHECK FOR NORMAL GAGE INSTRUMENT PANEL AND LIGHT INDICATIONS
17. TOWING DEVICE REMOVE
WATER OPERATIONS

Ford Water Greater Than 1-1/2 Feet, Less Than 3-1/2 Feet Deep

1. FRONT/REAR HULL DRAIN PLUGS . . . . . . CLOSE
2. TWO FINAL DRIVE HULL DRAIN PLUGS . . . . . . SECURE
3. FOUR UPPER HULL DRAIN PLUGS . . . . . . SECURE
4. BILGE PUMPS . . . . . . . . . . . . . . . CHECK OPERATION
5. RAMP . . . . . . . . . . . . . . . RAISE —SOUND HORN IF TACTICAL SITUATION PERMITS
6. ENGINE . . . . . . . . . . . . . START
7. FWD AND REAR BILGE PUMP SWITCHES . . . . . . . . . . . . MOVE TO ON
8. WATER . . . . . . . . . . . . . . . FORD
9. FWD AND REAR BILGE PUMP SWITCHES . . . . . . . . . . . . MOVE TO OFF —AFTER BILGES ARE EMPTY.

Prepare to Enter Water — Swim

1. 4 HATCH COVERS . . . . . . . . . . OPEN
(G) 2. 25mm GUN . . . . . . . . . ELEVATE TO 550 mils
3. RAMP . . . . . . . . . . . . . LOWER
4. FINAL DRIVE HULL DRAIN PLUGS . . . . . . . . . . . . CHECK
5. FRONT/REAR HULL DRAIN PLUGS . . . . . . . . . . . . CLOSE
(H) 6. FIRING PORT WEAPONS . . . . . . . . . . . . REMOVE
(H) 7. FIRING PORT VENTS . . . . . . . . . . . . . . . . . . CLOSE
8. TWO FRONT UPPER HULL DRAIN PLUGS . . . . . . . . . . . . REMOVE
9. TWO REAR UPPER HULL ..... REMOVE
   DRAIN PLUGS

10. RAMP ..... CHALK AND RAISE; CHECK SEAL

11. RAMP ACCESS DOOR ..... CHALK AND CLOSE; CHECK SEAL

12. EXHAUST SHROUD ..... RAISE

13. WATER BARRIER ..... ERECT —See P. 17

Drive in Water

<table>
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|   AT SAFE SPEED
| (C) 4. INTERCOM ........................ DIRECT STEERING |
| 5. VEHICLE .......................... DRIVE, TURN, REVERSE |
| TO CHANGE DIRECTION, TAKE FOOT |
| OFF ACCELERATOR PEDAL AND LET |
| SPEEDOMETER GO TO ZERO. THEN |
| MOVE GEAR SELECTOR. |
| DO NOT APPLY BRAKES WHILE DRIVING IN WATER, |
| ENGINE CAN STALL. LET SPEEDOMETER GO TO ZERO. |
| 6. VEHICLE .......................... EXIT TO PERFORM POST-SWIMMING |
| OPERATIONS |

Post-Swimming Operations

| 1. UPPER TRIM VANE ........................ RELEASE |
| 2. VEHICLE .......................... DRIVE TO FIRM, LEVEL GROUND |
| 3. HAND BRAKE ........................ SET |
| 4. ENGINE .......................... IDLE FOR AT LEAST 2 MINUTES TO |
|   COOL ENGINE |
5. FUEL CONTROL . . . . . . . . . . . . . . OFF

6. ENGINE ACCESSORY SWITCH . . . . . . . . OFF

7. FWD AND REAR BILGE PUMPS SWITCHES . . . . MOVE TO OFF — AFT ER WATER IS OUT OF VEHICLE

8. MASTER POWER . . . . . . . . . . . . . . OFF

9. WATER BARRIER . . . . . . . . . . . STOW — SEE p. 18-19

10. FRONT AND REAR BILGE . . . . . . . . DRAIN WATER

11. UPPER HULL DRAIN PLUGS . . . . . . . . INSTALL

12. HUBCAP AND FINAL DRIVE OILS . . . . . . . . CHECK FOR WATER BUBBLES OR WHITE COLOR —

IF FOUND NOTIFY ORGANIZATIONAL MAINTENANCE.

Erect Water Barrier

1. LEFT SIDE TRIPOD . . . . . . . . . . . . ERECT

2. RIGHT SIDE TRIPOD . . . . . . . . . . . UNSTOW AND ERECT

3. WATER BARRIER . . . . . . . . . . . . UNSTOW
   3a. Flaps ................ Lift
   b. Barrier Sides ...... Pull Out/Unroll and Front
   c. Metal Cover ....... Open
   d. Barrier Rear ....... Pull Out
   e. Barrier ............ Pull Up Onto Sides of Hull
   f. Struts and Bilge ... Place On Inside Pump Exhaust PIPES
   g. Water Barrier ...... Pull On Top of Trim Vane
   h. Water Barrier ...... Fasten To Trim Vane

4. REAR WATER BARRIER . . . . . . . . . . ERECT
   4a. Rear ................. Pull Up
   b. Rear and Side ...... In Tripod Slots Cable Ends
   c. Center Strut ....... In Hull Cup
   d. Barrier Corners .... Pull Up Over Tripods

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5. SIDES OF WATER BARRIER . . . . . . ERECT

6a. Two Cable Eyelets . . Attach To Trim Vane
   (H)b. Water Barrier . . . . Pull Over Top of Trim Vane
c. Upper Trim Vane . . . . Raise and Lock
d. Trim Vane . . . . . . . . . . Lock in Place
e. Water Barrier . . . . Forward and Latched
   Release Lever
f. 2 Blocks . . . . . . . . . . Remove From Left and
   Right Brackets; Install In Slides
g. Elastic Cords . . . . . . . Attach Inside and Outside
h. Release Lanyard . . . . Snap to Footman Loop
i. Bilge Pumps . . . . . . Install To Bilge Outlets
   Exhaust Pipes
j. Struts . . . . . . . . . . . . Into Cups
k. Master Power . . . . Move to ON
l. Bilge Pump . . . . . Move to ON Switches
m. Bilge Pump . . . . . Check — DON'T DRIVE IF BILGE
   Operation PUMPS DON'T WORK
n. Bilge Pump . . . . . Move to OFF
   Switches
o. Metal Cover . . . . . Raise
p. Water Barrier . . . . Check For Tears - Patch If Necessary
q. Ramp . . . . . . . . . . Raise
r. Master Power . . . . Off

Stow Water Barrier

1. TRIM VANE . . . . . . . . . . . . . . . . . . STOW

1a. Ramp . . . . . . . . . . . . . . . Lower
   b. Elastic Cords . . . . . Remove
c. Bilge Pump . . . . . Remove From Bilge Pump Outlet
   Exhaust Pipes
d. Struts . . . . . . . . . . . . Remove From Cups
e. Lanyard . . . . . . . . . Unsnap From Footman Loop; Roll Up
f. Two Blocks . . . . . . . Remove From Slides; Install In Brackets
   (H)g. Water Barrier . . . . Squeeze and Pull Release Lever To
   Locking Lever Raise Trim Vane To Vertical Position
   h. Water Barrier . . . . Push Off Upper Trim Vane
   i. Cable Eyelets . . . . Remove
   j. Upper Trim Vane . . . Fold To Locked Position
   (H)k. Snaps . . . . . . . . Unfasten
   (H)l. Trim Vane . . . . Fold Against Hull
2. **TRIPODS** ................................. STOW
   
   2a. Cable Ends and ..... Remove From Tripods and Cup
       Strut
   b. Water Barrier ...... Remove
       Corners
   c. Tripods .............. Remove Right Side and Stow;
       Stow Left Side

3. **FRONT OF WATER BARRIER** ............ STOW
   
   3a. Barrier ............... Pull Off Hull
   b. Cords .................. Tuck In
   c. Barrier ................ Fold/Roll Into Trough
   d. Barrier ............... Secure With Flaps

4. **REAR OF WATER BARRIER** ............ STOW
   
   4a. Metal Cover .......... Open
   b. Barrier Corners/ ... Fold/Roll Into Trough
       Rear
   c. Barrier ............... Secure with flaps
   d. Metal Cover .......... Close and latch

5. **SIDES OF WATER BARRIER** ............ STOW
   
   (H) 5a. Barrier .............. Fold/Roll Into Trough
   b. Bilge Pump ............ Place In Troughs
       Exhaust Pipes
       Cords and Struts
   c. Barrier ............... Secure With Flaps

6. **CARGO HATCH COVER** .................. CLOSE

7. **HORN** .............................. SOUND — IF TACTICAL SITUATION:

8. **RAMP** ............................... RAISE
## PMCS - BEFORE OPERATIONS - DRIVER

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## PMCS - DURING OPERATIONS - DRIVER

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*See p. 22*
PMCS - Check Operation of Personnel Heater

1. MASTER POWER ........................................... ON

2. PRESS-TO-TEST SWITCH ................................ PRESS TO CHECK PERSONNEL HEATER LIGHT

3. RUN-OFF-START SWITCH ................................ MOVE TO START AND HOLD UNTIL LIGHT COMES ON — NO LONGER THAN 3 MINUTES

4. RUN-OFF-START SWITCH ................................ MOVE TO RUN —

   DO NOT STOP AT OFF

5. IS PERSONNEL HEATER LIGHT ON?
   YES
   GO TO STEP 6
   NO
   REPEAT STEPS 2 THRU 4

   NO MORE THAN 3 TIMES BEFORE NOTIFYING ORGANIZATIONAL MAINTENANCE.

6. HI-LO SWITCH ........................................... SELECT HEAT AS NEEDED

7. RUN-OFF-START SWITCH ................................ MOVE TO OFF WHEN FINISHED

   DRIVER MUST REMAIN IN VEHICLE WITH MASTER POWER ON UNTIL HEATER COOLS AND PERSONNEL HEATER LIGHT GOES OFF

8. MASTER POWER ........................................... OFF — ONLY AFTER HEATER LIGHT GOES OFF.
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PMCS - WEEKLY - DRIVER

1. ROAD WHEELS ............. CHECK FOR BROKEN TORSION BARS
2. BATTERIES ............... CHECK PRESENCE, STATUS
3. RAMP HYDRAULIC POWER UNIT ........ CHECK CONNECTIONS, FLUID
4. TRIM VANE ............... CHECK FOR DAMAGED PARTS, BROKEN MESH
5. TRIM VANE LATCH .......... CHECK OPERATION

PMCS - MONTHLY - DRIVER AND CREW

1. SUSPENSION SYSTEM .......... CHECK
   1a. Road Wheels, Support Rollers ........ Separation, Pitting, Chunking
   1b. Wheel Arms ...................... Broken or Bent
   1c. Track Shoe Pads .................. Worn or Missing
   1d. Drive Sprocket Teeth .............. Worn, Broken, Cracked
   1e. Track Shoes ...................... Broken or Cracked
   1f. Truck Pin Nuts .................... Centered
2. RIGHT ANGLE FAN DRIVE ........ CHECK OIL LEVEL
3. EXTERIOR VEHICLE LIGHTS ........ CHECK OPERATION
4. BILGE PUMPS ............... CHECK OPERATION
5. COOLANT PUMP BELT ........... CHECK STATUS AND OPERATION