

## TRUCK, AIR DEFENCE, LAND ROVER 6 X 6, FFR, W/WINCH, FIRE UNIT VEHICLE (FUV)

### MEDIUM GRADE REPAIR

This instruction is authorised for use by command of the Chief of Army. It provides direction, mandatory controls and procedures for the operation, maintenance and support of equipment. Personnel are to carry out any action required by this instruction in accordance with EMEI General A 001.

#### INTRODUCTION

1. This EMEI contains procedures for removing, dismantling, repairing, assembling and installing various components of the Truck, Air Defence, Land Rover 6 x 6, FFR, W/Winch, Fire Unit Vehicle (FUV), shown in Figure 1. Where applicable, instructions for the adjustment, lubrication and minor servicing of these items are included. This EMEI should be read in conjunction with EMEI Vehicle G 204, Vehicle G 223, Vehicle G 204-1 and Vehicle G 244-1.

#### CAUTION

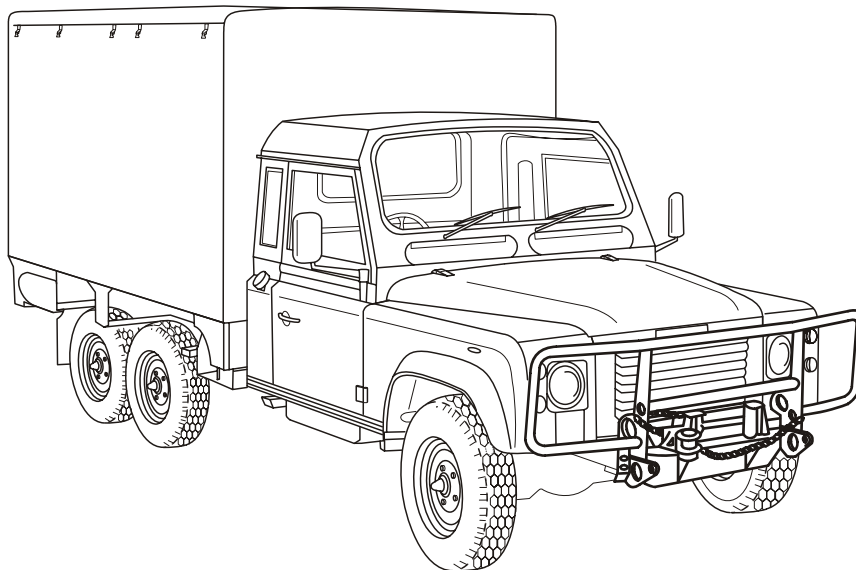
**Do not use adhesive tapes to seal fuel or oil openings. The adhesive tape is soluble in fuel or oil and can cause contamination. Remove temporary covers before assembling.**

2. Prevent dirt and foreign objects from entering any component by placing clean temporary coverings over all exposed openings, including L-hoses, tubes and lines.

#### CAUTION

**Before removing any electrical system components, disconnect the battery leads.**

3. When disconnecting electrical connectors, hoses and fittings, remove clamps as required to gain slack and avoid damage to connectors and fittings.



**Figure 1 Truck, Air Defence, Land Rover 6 x 6, FFR, W/Winch, Fire Unit Vehicle (FUV)**

4. Discard all used gaskets, seals, cotter pins, tab washers, lock pins, key washers and lock-washers. Discard all contaminated fuel and lubricants drained from the vehicle.

5. Use only those fuels and lubricants specified in the Servicing Instruction, EMEI Vehicle G 289, and the User Handbook when replenishing fuel or lubricants.
6. Any fastenings or fittings being tightened to prescribed torques are to have dry, clean threads unless otherwise specified. When specified, thread sealants are to be applied to dry, clean, oil-free threads.
7. The engine cooling system contains Nalcool Maximum corrosion inhibitor at a concentration of 12% total volume.
8. This vehicle is painted in polyurethane paint.

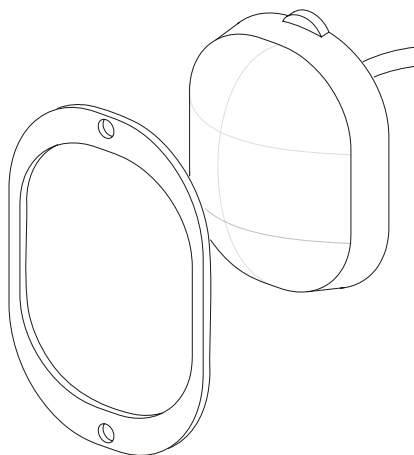
**WARNING**

**Precautions should be taken prior to carrying out repairs which include painting, sanding, scraping or welding. For safety precautions refer to Introduction into Service Instruction, Materiel Management Policy Statement, Painting Policy for Vehicles and Equipment or relevant EMEI.**

**ELECTRICAL – GROUP 15**

**Cargo Area Lights**

9. Remove a LED Fitting (Figure 2):
  - a. Isolate the battery supply by removing leads from battery.
  - b. Remove the two bezel screws from the lighting bracket.
  - c. Pull the fitting from the lighting bracket and pull cable through the fitting hole.
  - d. At a suitable point, cut the cables to the defective light and remove cable from lighting bracket.
10. Refit a LED Fitting:
  - a. Position the cable for the light through the hole in the lighting bracket.
  - b. Join the new fitting to the existing cables by using the suitable size cable connectors.
  - c. Position the new fitting into the lighting bracket and insert and tighten the two Loctite coated screws on the bezel.
  - d. Reconnect battery leads and check light for operation.



**Figure 2 Cargo Area LED Fitting**

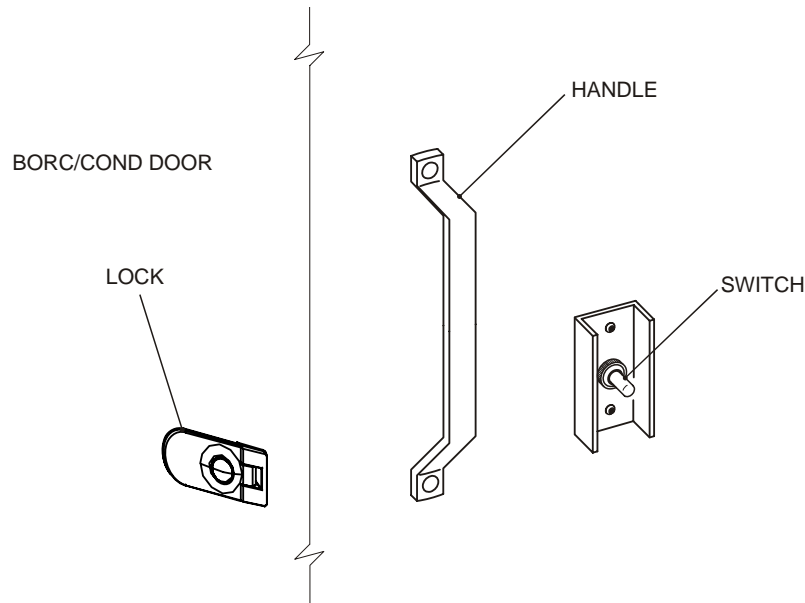
**Cargo Area Light Switch**

11. Remove a Light Switch (Figure 3):
  - a. Isolate the battery supply by removing leads from battery.
  - b. Remove the switch plate from the cabinet side by removing the two screws and withdrawing.

- c. Tag and disconnect the wiring harness from the light switch.
- d. Remove the hexagonal nut securing the switch to the switch plate, and then remove the switch.

**12. Refit a Light Switch:**

- a. Insert the replacement switch in the switch plate and secure with the nut.
- b. Connect the wiring harness to the light switch, observing the identification tags.
- c. Position the switch plate over the recess in the cabinet side, insert and tighten the two Loctite coated screws.
- d. Reconnect the battery leads, turn on the switch and check that the lights operate.



**Figure 3 Cargo Area Light Switch**

**Crash Action Override Switch**

**13. Remove the Crash Action Override Switch (Figure 4):**

- a. Isolate the battery supply by removing leads from battery.
- b. Remove the switch plate from the cabinet side by removing the two screws and withdrawing.
- c. Tag and disconnect the wiring harness from the light switch.
- d. Remove the hexagonal nut securing the switch to the switch plate, and then remove the switch.

**14. Refit the Crash Action Override Switch:**

- a. Insert the replacement switch in the switch plate and secure with the nut.
- b. Connect the wiring harness to the light switch, observing the identification tags.
- c. Position the switch plate over the recess in the cabinet side, insert and tighten the two screws.
- d. Reconnect the battery leads, turn on the switch and check that the lights operate.

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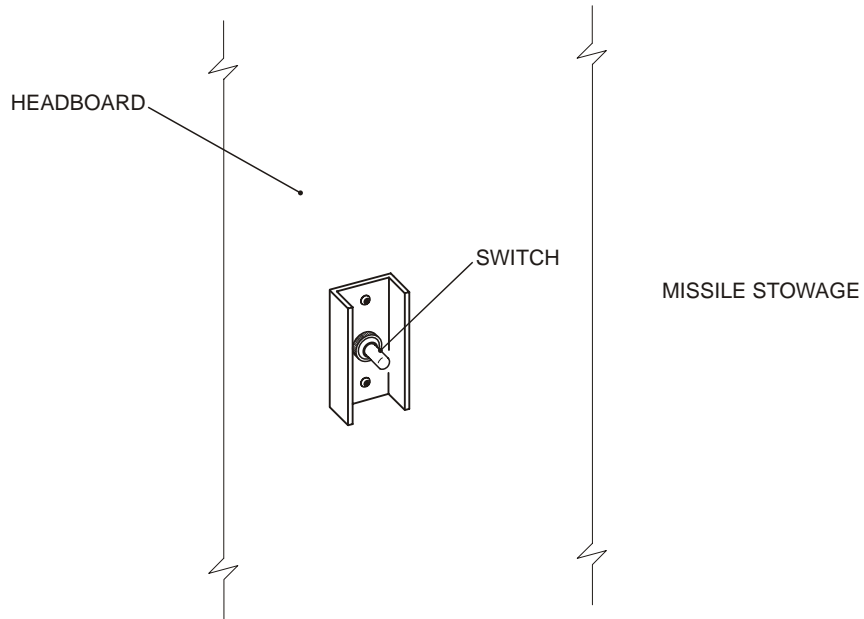


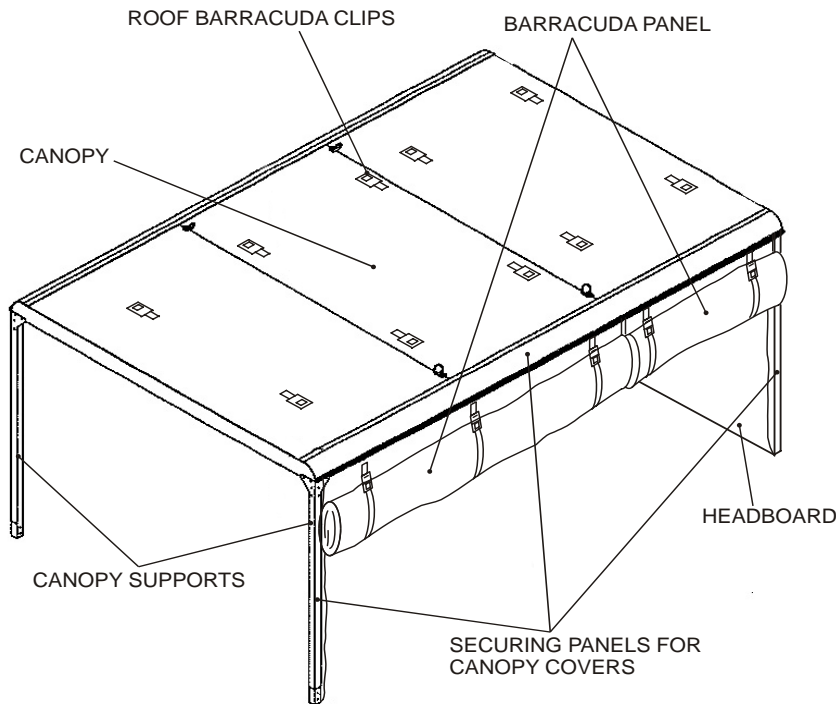
Figure 4 Crash Action Override Switch

**BODY – GROUP 17**

**Canopy Covers**

15. Remove a Side or Rear Cover (Figure 5):
- a. Remove the securing straps from the brackets at the bottom of the cover.
  - b. Remove the screws from the securing panels on the canopy sides and remove the panels.
  - c. Flip the cover over the top of vehicle canopy to enable access to top securing panel.
  - d. Remove screws and lift down top securing panel.
  - e. Remove cover from vehicle.

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**Figure 5 Canopy Cover Securing Panels**

- 16.** Refit New Side or Rear Cover:
- Position cover on canopy of vehicle.
  - Position cover and top securing panel, tension cover horizontally. Align the pre-pierced holes over the threaded inserts and position the securing plate using the Loctite coated screws.
  - Fold down the cover. Close all zippers.
  - Position the vertical ends of the cover over the canopy sides.
  - Position the end securing panels over the canopy sides. Tension the cover and mark the position of the screw holes on the cover.
  - Remove the end securing panels and pierce holes in the sides corresponding to the marked holes.
  - Undo each zipper.
  - Position each securing panel over the cover and secure in position using the previously removed Loctite coated screws.
  - Cut off excess from each side.
  - Close all zippers and attach the securing straps to the brackets at the bottom of the cover.

**Under Tray Drawer**

- 17.** Remove Under Tray Drawer (Figure 6):
- Position anti-luce lock to the open position.
  - Pull shot bolt out and rotate 90 degrees to lock in the open position and pull tray out to the full open position.
  - Position a spanner on the nut for the chassis roller and place the correct socket through the hole in the tray side to unscrew the bolt for the roller. Remove the roller.
  - Repeat the procedure for the chassis roller on the other side of the chassis rail.
  - Remove the nuts from the bumper stop plates on each side of the tray chassis rail.
  - Pull the tray from the vehicle.

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18. Refit Under Tray Drawer:
- Position tray into chassis rail and slide in until bumper stop is past the bumper stop position.
  - Position bumper stop plate and secure with bolt and new Nyloc nut.
  - Position the roller into the chassis rail and insert the bolt through the hole in the side of the tray, through the roller and into the chassis rail. Attach a new Nyloc nut and tighten.
  - Carry out procedure for roller on the other side of the chassis rail.
  - Close the tray, rotate the shock bolt 90 degrees to allow the locking of the tray.
  - Position the anti-luce lock to the closed position.

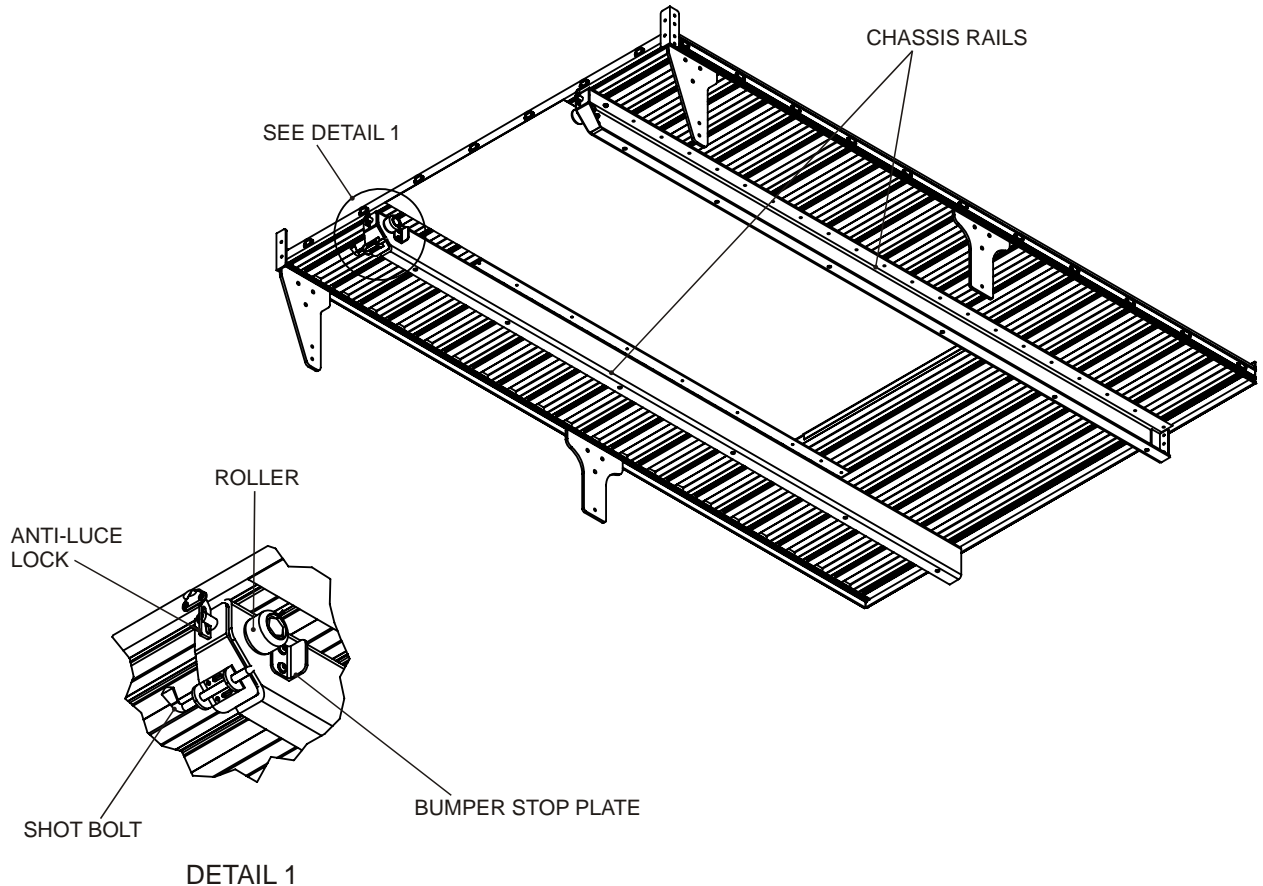


Figure 6 Under Tray Drawer Chassis Rails and Locking Devices

### Under Tray Rollers

19. Remove Under Tray Rollers (Figure 6):
- Remove tray from vehicle as described above.
  - Remove bolt from the tray using a socket and spanner.
  - Remove roller from roller assembly.
20. Refit Under Tray Rollers:
- Position roller onto bolt and apply a coating of Loctite to bolt thread.
  - Insert bolt into roller assembly.
  - Attach washers and new Nyloc nut and tighten using a socket and spanner.
  - Refit tray onto vehicle as described above.

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### Door Seals

21. Remove Damaged Seal on Stand, Sight or BORC/COND Doors (Figure 7):
  - a. Remove the defective door seal from the door.
  - b. Clean any remaining adhesive from the door.
22. Fit New Seal on Stand, Sight and BORC/COND Doors:
  - a. Cut the door seal to the required length.
  - b. Separate approximately 5 cm of the adhesive covering from the door seal.
  - c. Position one end of the door seal in the appropriate position and pull the adhesive covering from the seal and press the seal firmly into position.

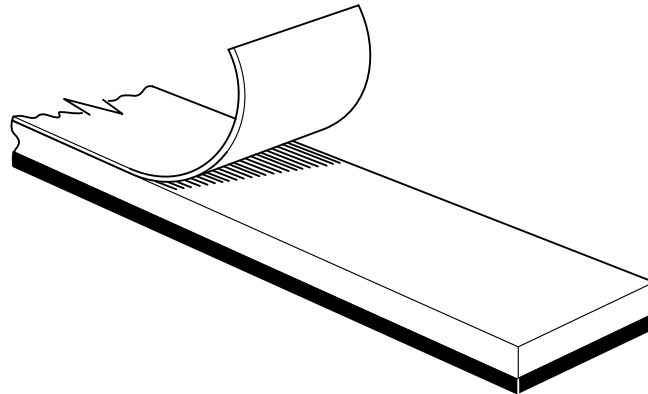


Figure 7 Door Seals

23. Remove Damaged Seal on Missile Stowage Doors (Figure 8):
  - a. Remove the defective door seal from the door by pulling seal from metal profile.
  - b. Clean any rubber from profile.
24. Fit New Seal on Missile Stowage Doors:
  - a. Cut the door seal to the required length.
  - b. Starting at the middle on one side, press the seal onto the profile.
  - c. Continue feeding seal onto the profile until marrying up with the other end.
  - d. If necessary, cut off any excess.

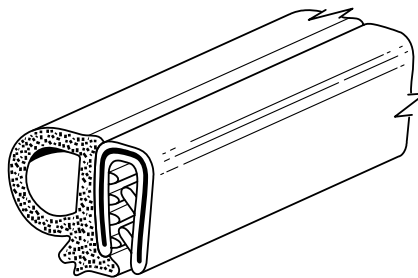
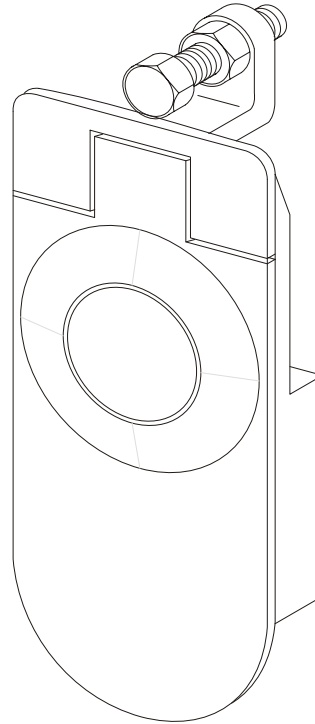


Figure 8 Missile Stowage Door Seal

### Door Locks

25. Remove Door Lock (Figure 9):
  - a. Open the door.
  - b. While holding the lock in position remove the bolt from the rear of the lock.
  - c. Remove the bolt and mounting bracket.
  - d. Remove the lock from the door.



**Figure 9 Door Lock**

- 26.** Fit New Door Lock:
- a.** Ensure the area around the cut-out is clean.
  - b.** Position the lock through the cut-out.
  - c.** Position the mounting bracket over the lock and insert the bolt.
  - d.** Tighten until lock is held in position.
  - e.** Use the lock adjusting screw to obtain the correct grip.

#### **Door Stop Webbing**

- 27.** Remove Door Stop Webbing (Figure 10):
- a.** Open the door.
  - b.** While holding the door plate secured to the door, remove the three screws.
  - c.** Separate the webbing end from the door plate.
  - d.** Push the webbing towards the rear of the cabinet to allow access to the screws attaching the inside plate to the side of the stowage.
  - e.** Remove the three screws holding the inside plate to side of the stowage.
  - f.** Remove the webbing from the side plate.
- 28.** Fit New Door Stop Webbing:
- a.** Position webbing over the inside plate and place Loctite coated screws through the holes in the plate.
  - b.** Position the inside plate over the threaded inserts on the side of the stowage and turn the screws into the threaded inserts. Tighten each screw.
  - c.** Position the other end of the webbing over the door plate.
  - d.** Position the door plate over the holes in the door and insert the three Loctite coated screws through the door and into the door plate. Tighten the screws.
  - e.** Close the door on completion.



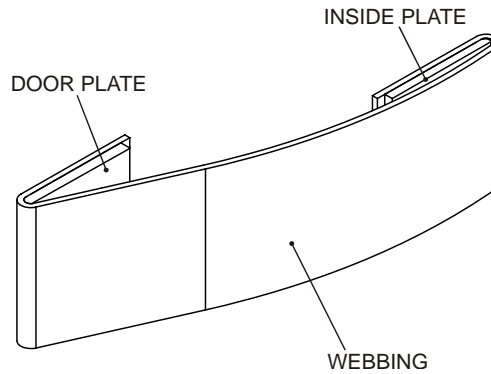


Figure 10 Door Stop Webbing

### Tie-down Fittings and Footmans Loop

#### NOTE

The four tie-down fittings fitted on the top of the canopy have a plastic insert to protect the tie-down fitting from being snagged on any overhang.

29. The removal of Tie-down Fittings are as follows (Figure 11):

#### Captive Nut

- a. Unscrew bolt holding tie-down fitting.
- b. Remove bolt, washer, spring washer and tie-down fitting from vehicle.

#### Nyloc Nut

- a. Unscrew bolt holding tie-down fitting from the Nyloc nut.
- b. Remove bolt, washer, spring washer, Nyloc nut and tie-down fitting from vehicle.

30. The refitting of New Tie-down Fittings are as follows:

#### Captive Nut

- a. Fit tie-down fitting in position.
- b. Insert Loctite coated bolt, washer and spring washer into threaded insert.
- c. Tighten bolt.

#### Nyloc Nut

- a. Fit tie-down fitting in position.
- b. Insert Loctite coated bolt with washer and spring washer and tie-down fitting attached through the mounting hole.
- c. Attach new Nyloc nut and tighten.

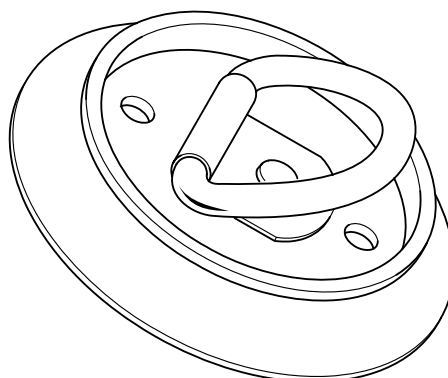


Figure 11 Tie-down Fitting

31. Remove Footmans Loop in Missile Stowage (Figure 12):
- Release lower hook from lower footmans loop to release tension from missile strap.
  - Remove screws holding footmans loop to the top of the missile stowage and remove footmans loop and missile strap.
32. Refit Footmans Loop into Missile Stowage:
- Position missile strap over footmans loop.
  - Position footmans loop over the inserts in the top of the missile stowage.
  - Insert the two Loctite coated screws through footmans loop and into the insert.
  - Tighten screws.
  - Attach strap lower hook onto lower footmans loop.
33. Remove Footmans Loop throughout Module:
- Remove the webbing strap (if fitted) by feeding the strap back through the loop on the end of the strap and pull strap from footmans loop.
  - Using the appropriate size drill, drill out the 3/16 in. securing rivets.
  - Remove the footmans loop from vehicle.
34. Refit Footmans Loop throughout Module
- Clean any debris from drilled out rivet from hole in vehicle.
  - Position footmans loop over the holes and secure using two 3/16 in. rivets.
  - Refit webbing strap by pushing the loop on the end of the strap through the footmans loop.
  - Feed the end of the strap through the loop on the end of the strap and pull until the strap is tight on the footmans loop.

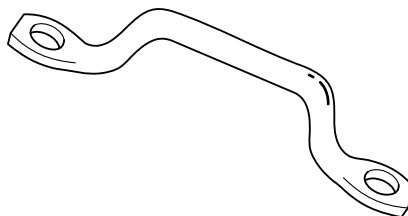


Figure 12 Footmans Loop

### Missile Straps

35. The procedure for removing missile straps is included in the procedure for removing the footmans loop in missile stowage.

### Thermohydrograph Securing Straps

36. Remove Bunji Securing Strap (Loop) (Figure 13):
- Open door to missile stowage.
  - Lift the loop off the bunji post to release tension.
  - Flip open the cover over the securing screw.
  - Remove screw holding the bunji loop and remove from vehicle.
  - Remove screw from the bunji post if it is to be removed.
37. Refit Securing Strap:
- Position hole in securing point for loop over the hole in the bracket.
  - Insert the Loctite coated screw through the hole into the bracket and tighten.
  - Close the flap over the securing point.
  - If the bunji post is to be refitted, place the post over the hole in the bracket.

- e. Insert the Loctite coated screw through the post and into the bracket and tighten.
- f. Place the loop over the post to tension.

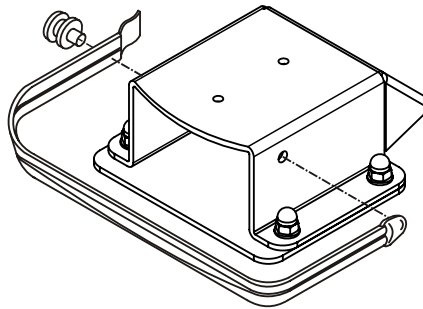


Figure 13 Thermohydrograph Securing Strap

### Missile Stowage Padlock Bar

- 38. Remove Padlock Bar (Figure 14):
  - a. Remove securing bolt from Frame.
  - b. Remove padlock bar.
- 39. Refit New Padlock Bar:
  - a. Position padlock bar in the stowed position.
  - b. Insert the Loctite coated bolt into tube and secure using the Nyloc nut, allowing enough slack so the bar slide can move over the bolt.

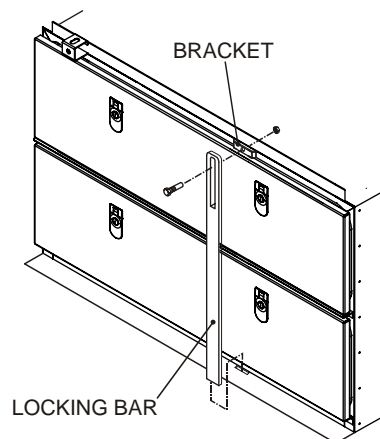


Figure 14 Missile Stowage Padlock Bar

### Base Plate for RBS Stand

- 40. Remove Base Plate for RBS Stand (Figure 15):
  - a. Open stand door and remove stand.
  - b. Remove the four screws holding the rubber base and nylon cut-out to the stowage base.
  - c. Lift the rubber base and nylon cut-out from the stowage (take note of the direction of the cut-out).
- 41. Fit a New Base Plate for RBS Stand:
  - a. Position the rubber base and the nylon cut-out plate together.
  - b. Push the four countersunk screws through the nylon cut-out and position the four washers between the nylon cut-out plate and the rubber base.
  - c. Coat the screws with Loctite.
  - d. Position the base over the threaded inserts in the stowage base with the cut-out in the same position when removed.

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- e. Tighten all the screws.
- f. Replace the stand in the stowage and close door.

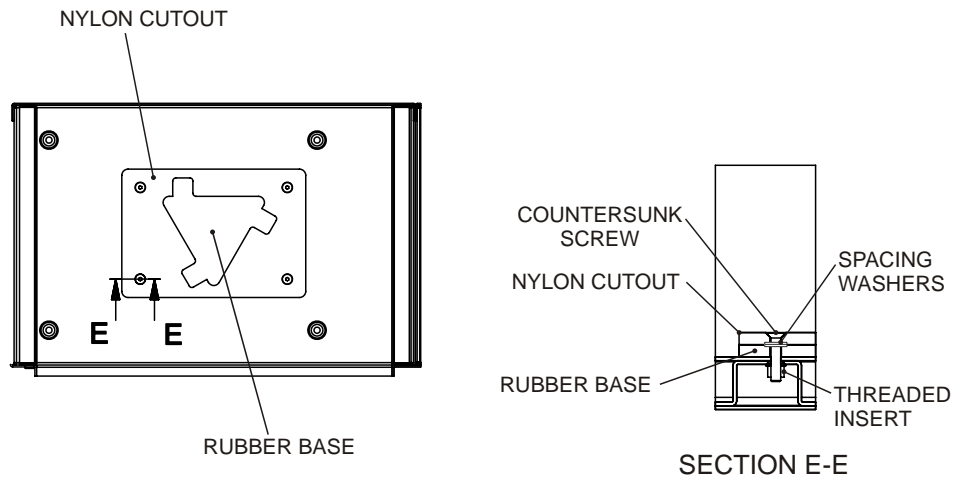


Figure 15 Base Plate for RBS Stand

#### Rear Access Step

- 42. Remove Access Step (Figure 16):
  - a. Remove the two lower bolts from the step.
  - b. Remove the two upper bolts from step.
  - c. Remove the backing plate.
  - d. Lift the step up and over the chassis beam to remove.
- 43. Refit Access Step:
  - a. Position the step over the chassis beam and press down until the top plate rests on the top of the chassis beam.
  - b. Position the backing plate up behind the chassis beam and insert the top two bolts through the step and backing plate.
  - c. Attach the new Nyloc nuts, but do not tighten completely.
  - d. Insert the bottom two bolts through the step and backing plate.
  - e. Attach the new Nyloc nuts and tighten. Tighten the top bolts.

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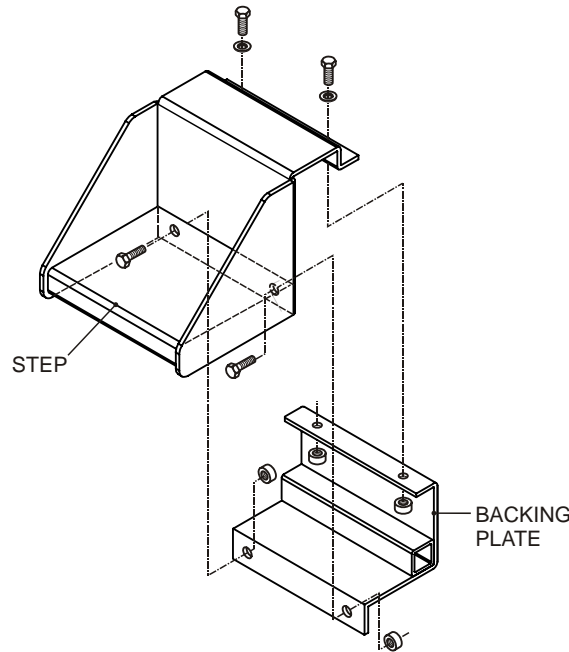
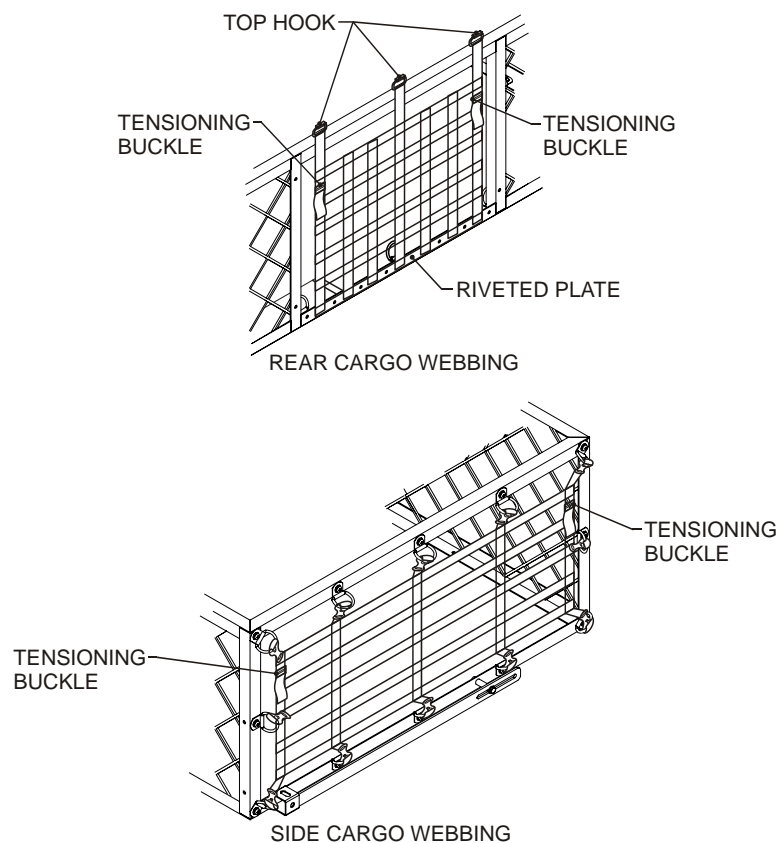


Figure 16 Rear Access Step

#### Cargo Nets

44. Remove Side Cargo Net (Figure 17):
- Release tension from the two tightening buckles.
  - Press lock pin and remove net hook from tie-down ring. Continue until all hooks have been removed from tie-down hooks.
  - Remove the net from the vehicle.
45. Refit Side Cargo Net:
- Push in the lock pin and attach the top end hooks to the tie-down rings.
  - Continue to attach the remainder of the net hooks to the tie-down rings until net is secure. Tighten net by pulling on the tightening buckles on either side of the net.
46. Remove Rear Cargo Net (Figure 17):
- Ensure the net is in the closed position.
  - Using the appropriate size drill, drill out the securing rivets from the plate holding the bottom of the net.
  - Remove the plate.
  - Unhook the net from the tie-down rings and remove from the vehicle.
47. Refit Side Cargo Nets:
- Clean any rivet residue from the holes in the plate or the cargo stowage base.
  - Position the net in position by placing the upper and side hooks into the tie-down rings.
  - Slide the plate through the loops on the bottom of the net.
  - Position the plate over the holes in the cargo stowage base and rivet into place.



**Figure 17 Cargo Nets**

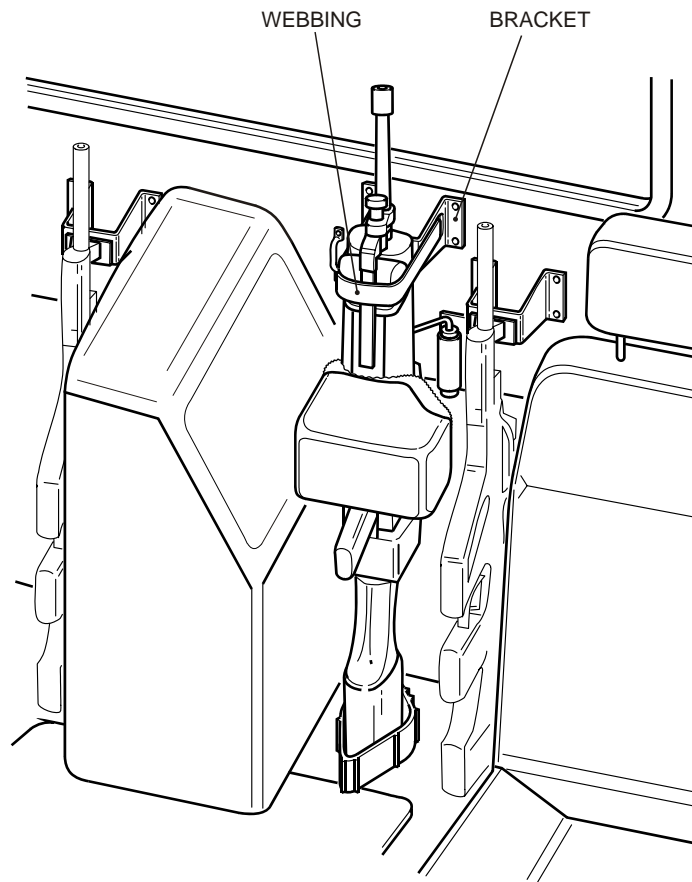
### Webbing Straps

48. The procedure for removing webbing straps is included in the procedure for removing the Footmans Loops throughout the module.

### Weapon Stand Bracket

49. Remove Weapon Stand Bracket (Figure 18):
- Release the webbing strap and remove weapon from bracket.
  - Remove webbing strap from footmans loop.
  - Remove screws from bracket.
  - Remove bracket from vehicle.
50. Refit Weapon Stand Bracket:
- Position bracket in position in the cabin.
  - Attach bracket using appropriate Loctite coated screws.
  - Tighten screws.
  - Attach webbing strap to footmans loop.
  - Replace weapon and secure in place using the webbing strap.
51. Remove Barrel Grommet (Figure 18):
- Release the webbing strap and remove weapon from bracket.
  - Remove the two screws holding the grommet.
  - Remove grommet from the bracket.
52. Refit Barrel Grommet:

- a. Position the grommet on the bracket.
- b. Insert the two Loctite coated screws through the grommet and tighten.
- c. Replace weapon and secure in place using the webbing strap.



**Figure 18 Weapon Stand Bracket and Barrel Grommet**

### Non-slip Floor Panel

53. Remove Non-slip Floor Panel (Figure 19):
  - a. Remove minimi machine gun from its mount.
  - b. Remove the screws from the minimi butt box.
  - c. Remove the four screws holding the non-slip plate.
  - d. Remove plate from vehicle.
54. Refit Non-slip Floor Panel:
  - a. Position plate over the mounting holes.
  - b. Insert the four Loctite coated screws through plate into threaded inserts.
  - c. Tighten screws.
  - d. Position minimi butt box over mounting holes.
  - e. Insert the four Loctite coated screws through butt box into threaded inserts.
  - f. Tighten screws.
  - g. Replace minimi machine gun and secure in place using the webbing strap.

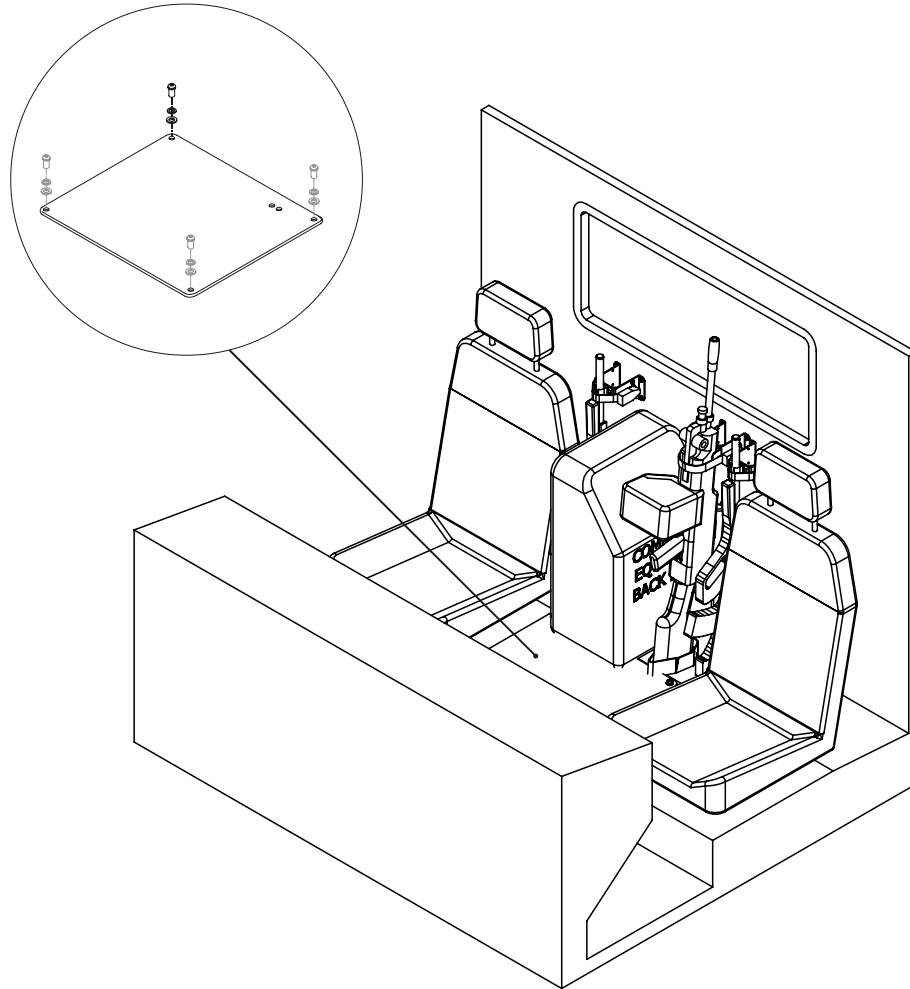


Figure 19 Non-slip Floor Panel

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