

**TRUCK, AIR DEFENCE, LAND ROVER 6 X 6, FFR, W/WINCH,  
TARGET SENSOR VEHICLE (TSV)**

**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.

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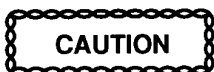
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**INTRODUCTION**

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, Target Sensor Vehicle (TSV) shown in Figure 1. Where applicable, instructions for the adjustment, lubrication and minor servicing of these items are included.

**ASSOCIATED PUBLICATIONS**

2. This EMEI should be read in conjunction with the following EMEIs:
- a. [Vehicle G 400](#) ..... Truck, Air Defence, Land Rover 6 x 6, FFR, W/Winch, Target Sensor Vehicle (TSV), Data Summary
  - b. [Vehicle G 402](#) ..... Truck, Air Defence, Land Rover 6 x 6, FFR, W/Winch, Target Sensor Vehicle (TSV), Technical Description
  - c. [Vehicle G 403](#) ..... Truck, Air Defence, Land Rover 6 x 6, FFR, W/Winch, Target Sensor Vehicle (TSV), Light Grade Repair
  - d. [Vehicle G 409](#) ..... Truck, Air Defence, Land Rover 6 x 6, FFR, W/Winch, Target Sensor Vehicle (TSV), Servicing Instruction
3. Prevent dirt and foreign objects from entering any component by placing clean temporary coverings over all exposed openings, including L-hoses, tubes and lines.

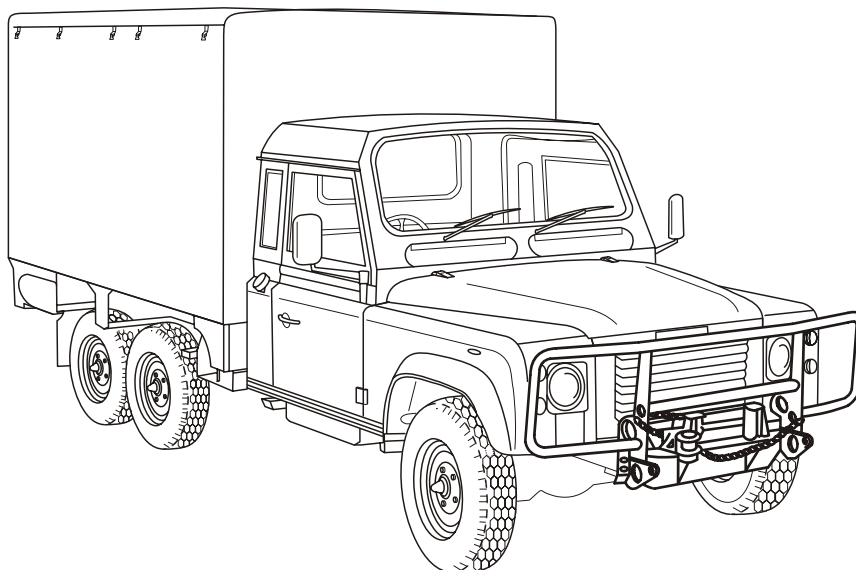


**Do not use adhesive tapes to seal fuel or oil openings. The adhesive tape is soluble in fuel or oil and can cause contamination. Remove temporary covers before assembling.**

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



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



**Figure 1 Truck, Air Defence, Land Rover 6 X 6, FFR, W/Winch, Target Sensor Vehicle (TSV)**

5. 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.

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6. Use only those fuels and lubricants specified in the Servicing Instruction, EMEI Vehicle G 209, and the User Handbook when replenishing fuel or lubricants.
7. 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.
8. The engine cooling system contains Nalcool Maximum corrosion inhibitor at a concentration of 12% total volume.
9. This vehicle is painted in polyurethane paint.

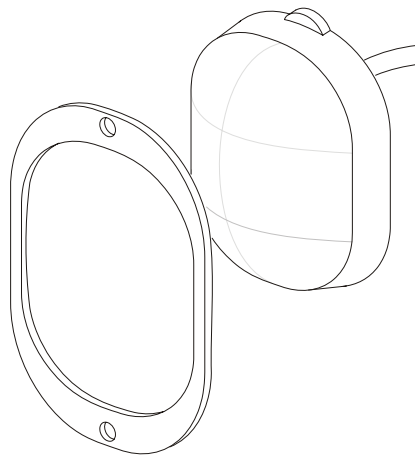
**WARNING**

**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**

10. Remove a LED fitting (See 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 to its full extent.
  - d. At a suitable point, cut the cables to the defective light and remove cable from lighting bracket.



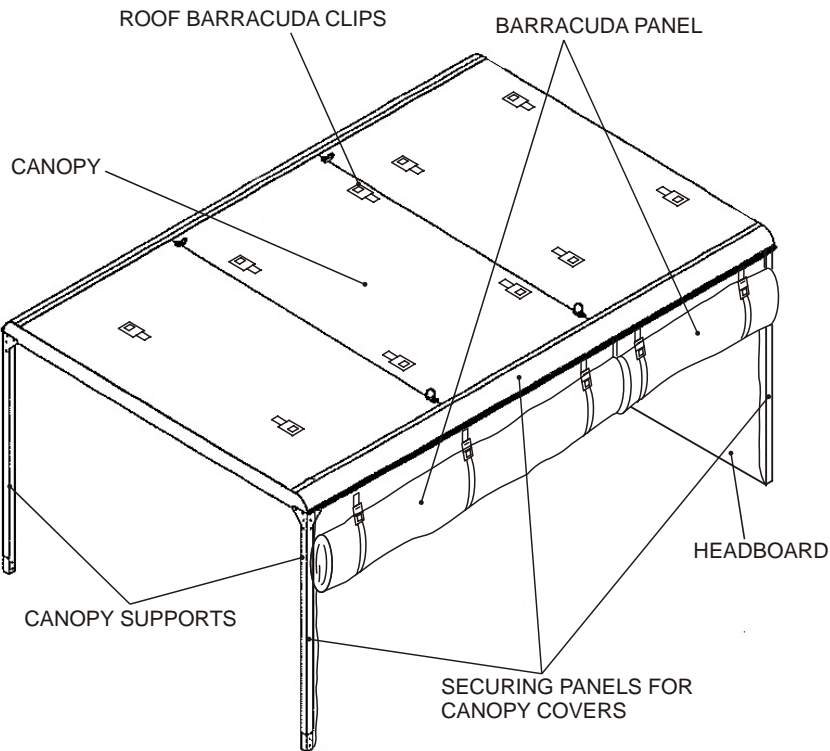
**Figure 2 Cargo Area LED Fitting**

11. 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 cables and check light for operation.

**Cargo Area Light Switch**

12. Remove a light switch (See Figure 3):
  - a. Isolate the battery supply by removing leads from battery.
  - b. Remove the switch plate, from the bracket above the cable reel, by removing the two screws and withdrawing.





**Figure 4 Canopy Cover**

15. Refit new side or rear cover:
- a. Position cover on canopy of vehicle.
  - b. Position cover and top securing panel, tension cover horizontally. Align the prepierced holes over the threaded inserts and position the securing panel using the loctite coated screws.
  - c. Fold down the cover. Close all zippers.
  - d. Position the vertical ends of the cover over the canopy sides.
  - e. Position the end securing panels over the canopy sides. Tension the cover and mark the position of the screw holes on the cover.
  - f. Remove the end securing panels and pierce holes in the sides corresponding to the marked holes.
  - g. Undo each zipper.
  - h. Position each securing panel over the cover and secure in position using the previously removed loctite coated screws.
  - i. Cut off excess from each side.
  - j. Close all zippers and attach the securing straps to the brackets at the bottom of the cover.

#### **Under Tray Drawer**

16. Remove under tray drawer (see Figure 5):
- a. Position anti-luce lock to the open position.
  - b. Pull shot bolt out and rotate 90 degrees to lock in the open position and pull tray out to the full open position.
  - c. 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.
  - d. Repeat the procedure for the chassis roller on the other side of the chassis rail.
  - e. Remove the nuts from the bumper stop plates on each side of the tray chassis rail.

- f. Pull the tray from the vehicle.
17. Refit under tray drawer:
- a. Position tray into chassis rail and slide in until bumper stop is past the bumper stop position.
  - b. Position bumper stop plate and secure with bolt and new nyloc nut.
  - c. 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.
  - d. Carry out procedure for roller on the other side of the chassis rail.
  - e. Close the tray, rotate the shock bolt 90 degrees to allow the locking of the tray.
  - f. Position the anti-luce lock to the closed position.

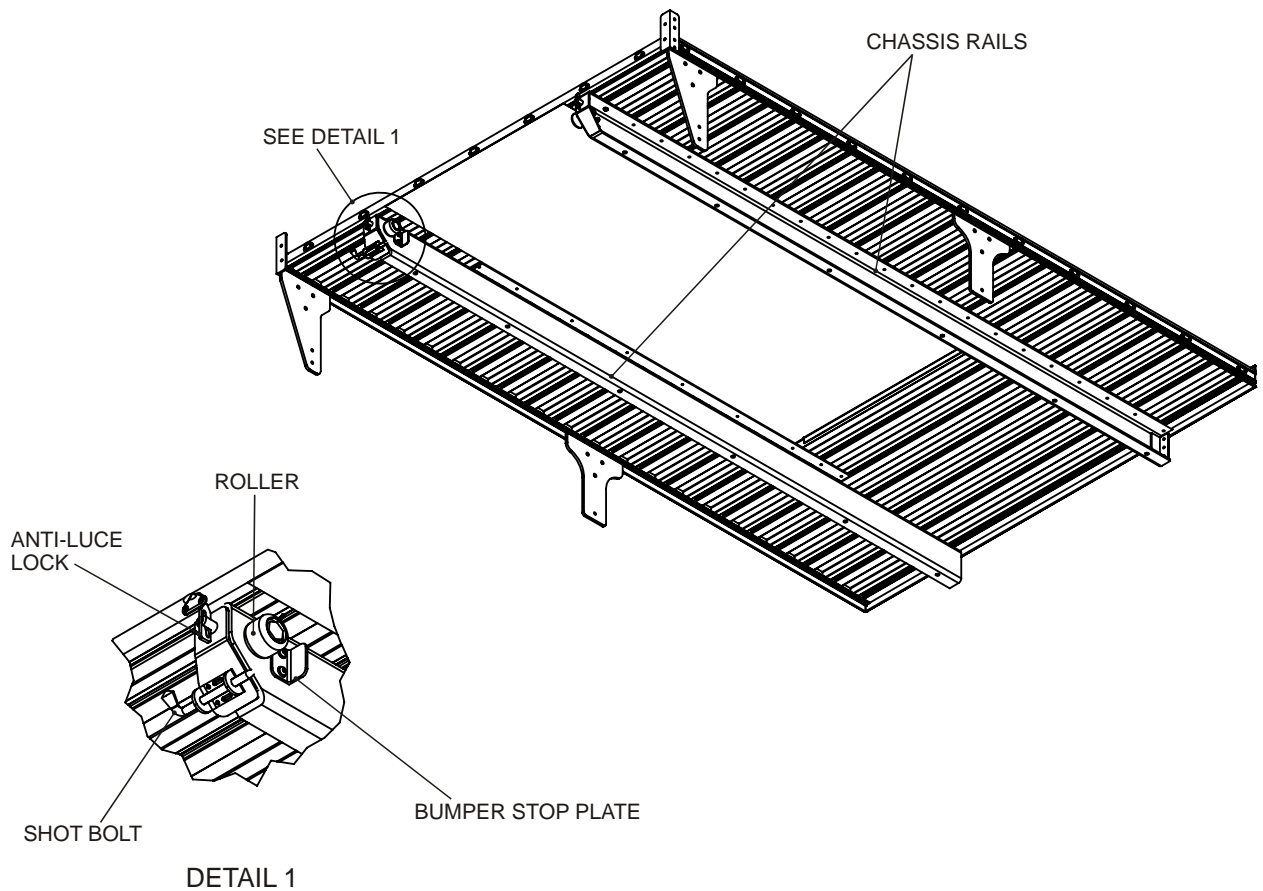


Figure 5 Under Tray Drawer Chassis Rails and Locking Devices

### Under Tray Rollers

18. Remove under tray rollers (see Figure 5):
- a. Remove tray from vehicle as described above.
  - b. Remove bolt from the tray using a socket and spanner.
  - c. Remove roller from roller assembly.
19. Refit under tray rollers:
- a. Position roller onto bolt and apply a coating of loctite to bolt thread.
  - b. Insert bolt into roller assembly.
  - c. Attach washers and new nyloc nut and tighten using a socket and spanner.
  - d. Refit tray onto vehicle as described above.

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### Cable Reel Rollers

20. Remove upper cable reel rollers (see Figure 6):
- Remove both adjusting knobs from the roller.
  - Remove the two screws securing the roller mounts.
  - Remove the roller from the vehicle.

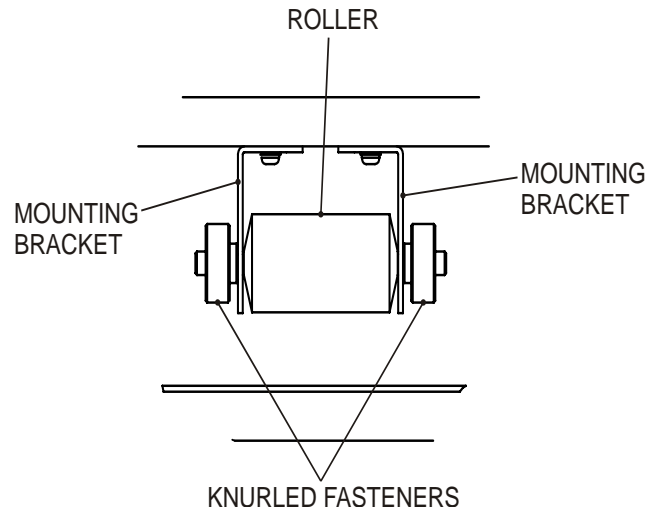
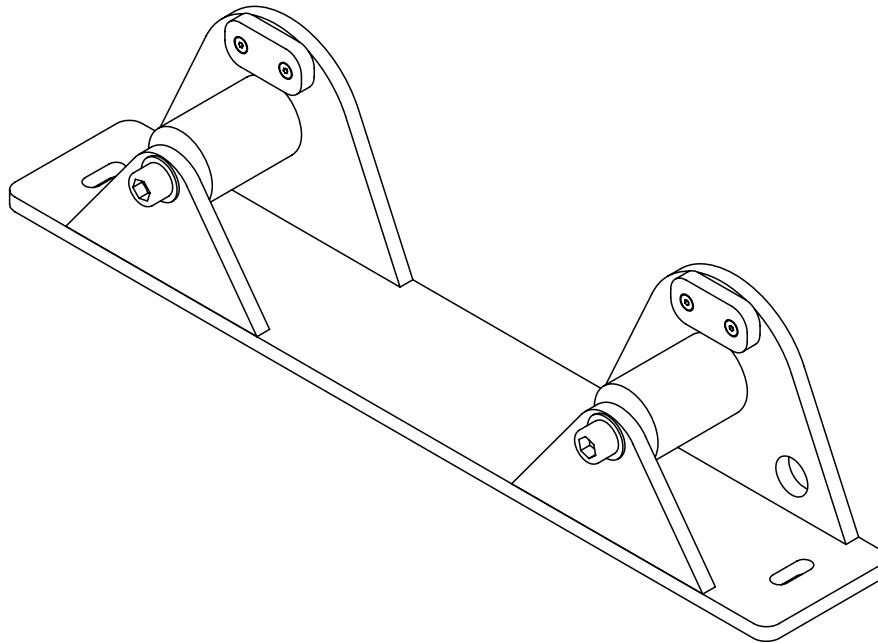


Figure 6 Upper Cable Reel Roller

21. Refit upper cable reel rollers:
- Insert one end of the roller shaft into the roller mount still attached to the vehicle.
  - Insert the the other end into the other roller mount.
  - Attach the roller mount to the vehicle using the two securing screws.
  - Refit the two adjusting knobs to the roller shaft and tighten in the required position.
22. Remove lower cable reel rollers (see Figure 7):
- Remove bolt from rolller.
  - Remove the roller from the vehicle.
23. Refit lower cable reel rollers:
- Insert the roller and washers between roller mounts.
  - Push the bolt through the roller mount, roller and washers.
  - Coat the bolt thread with loctite.
  - Place a new nylock nut onto the bolt and tighten until the bolt cannot move in the mount.





**Figure 7 Lower Cable Reel Roller**

#### **Tie Down Fitting 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.

- 24.** The removal of Tie-down Fittings are as follows (Figure 8):

##### **Captive Nut**

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

##### **Nyloc Nut**

- c.** Unscrew bolt holding tie-down fitting from the Nyloc nut.
- d.** Remove bolt, washer, spring washer, Nyloc nut and tie-down fitting from vehicle.

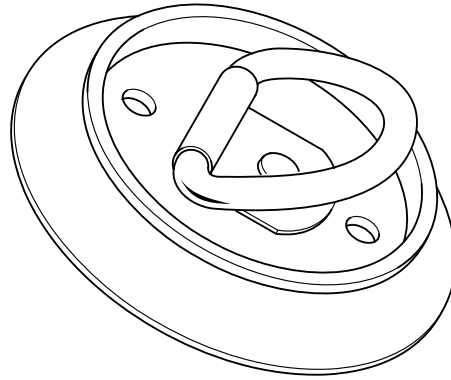
- 25.** The refitting of New Tie-down Fittings are as follows:

##### **Captive Nut**

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

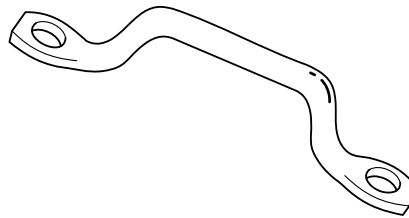
##### **Nyloc Nut**

- d.** Fit tie-down fitting in position.
- e.** Insert Loctite coated bolt with washer and spring washer and tie-down fitting attached through the mounting hole.
- f.** Attach new Nyloc nut and tighten.



**Figure 8 Tie Down Fitting**

- 26.** Remove footmans loop (see Figure 9):
- 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.
- 27.** 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 9 Footmans Loop**

### Fold Down Door Slam Latches

- 28.** Remove slam latch (see Figure 10):
- Remove wire from latch.
  - Using the appropriate size drill, drill out the 3/16 in. securing rivets.
  - Remove the latch from the door.
- 29.** Refit slam latch:
- Clean any debris from drilled out rivet from holes.
  - Position latch over mounting holes and secure using two 3/16 in. rivets.
  - Reattach wire to latch.

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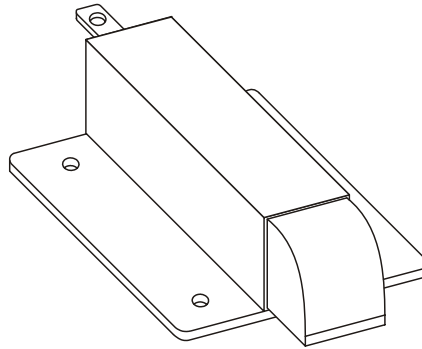


Figure 10 Slam Latch

### Rollout Tray (Genset and Rx/TX)

30. Remove tray (see Figure 11):
- Pull out shot bolt and slide the tray partially out.
  - Release the shot bolt and pull the tray to the fully extended position.
  - Remove equipment from tray.
  - Pull out shot bolt again and slide the tray out of the track and off the vehicle.
31. Refit tray:
- Position the tray into the track.
  - Pull out the shot bolt and push the tray into the track. Release the shot bolt and push the tray in until the tray is locked in the extended position.
  - Place the equipment onto the tray and secure.
  - Pull out the shot bolt and start to push the tray in. Release the shot bolt.
  - Continue to push the tray in until the shot bolt engages and locks the tray in the stowed position.

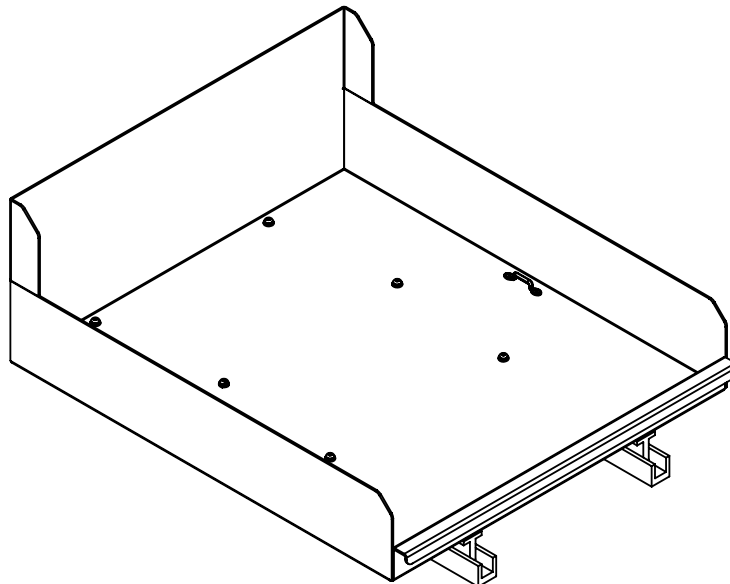


Figure 11 Rollout Tray

### Rear Access Step

32. Remove access step (see Figure 12):
- Remove the two lower bolts from the step.
  - Remove the two upper bolts from step.

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- c. Remove the backing plate.
- d. Lift the step up and over the chassis beam to remove.

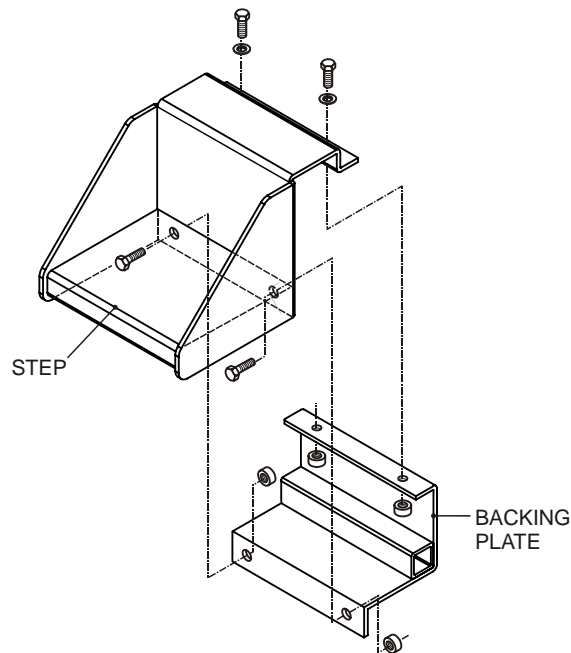


Figure 12 Rear Access Step

- 33. Refit access step:
  - a. Position the step over the 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 tighted completely.
  - d. Insert the bottom two bolts through the step and backing plate.
  - e. Attch the new nyloc nuts and tighten. Tighten the top bolts.

### Weapon Stand Bracket

- 34. Remove weapon stand bracket (see Figure 13):
  - a. Release the webbing strap and remove weapon from bracket.
  - b. Remove webbing from footman loop.
  - c. Remove screws from bracket.
  - d. Remove bracket from vehicle.
- 35. Refit weapon stand bracket:
  - a. Position bracket in position in the cabin.
  - b. Attatch bracket using appropriate loctite coated screws.
  - c. Tighten screws.
  - d. Attach webbing to footman loop.
  - e. Replace weapon and secure in place using the webbing strap.
- 36. Remove barrel grommet (see Figure 13):
  - a. Release the webbing strap and remove weapon from bracket.
  - b. Remove the two screws holding the grommet.



- 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.

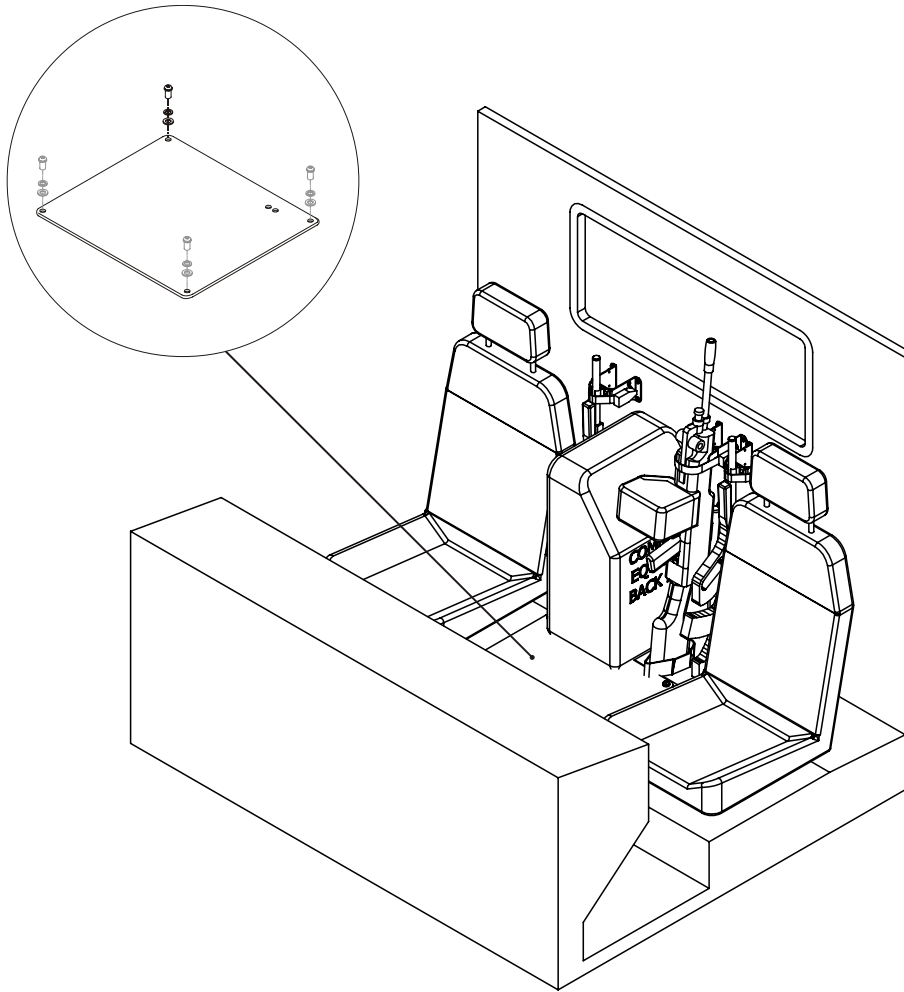


Figure 14 Non-slip Floor Panel

#### Nylon Slide in Pedestal and Side Lobe Cancellor Antenna Stowage

- 41. Remove nylon slide:
  - a. Remove Pedestal and Side Lobe Cancellor Antenna from stowage.
  - b. Remove the seven (7) screws from nylon slide to be replaced (see Fig 15).
  - c. Remove nylon slide and backing plate.
- 42. Refit new nylon slide:
  - a. Position backing plate and new nylon slide in position.
  - b. Secure in position using the seven (7) loctite coated screws.
  - c. Replace the Pedestal and Side Lobe Cancellor Antenna into its stowage.

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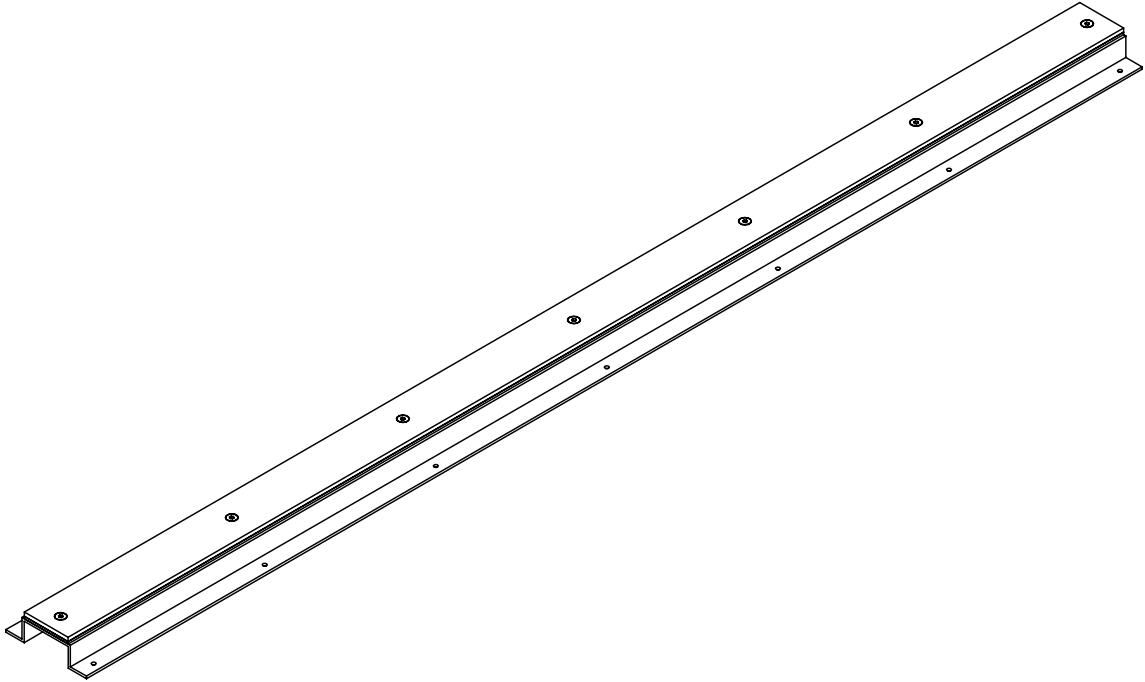


Figure 15 Nylon Slide in Pedestal and Side Lobe Canceller Antenna Stowage

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**END**

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