

MODIFICATION INSTRUCTION No. 12

AMENDMENT RECORD

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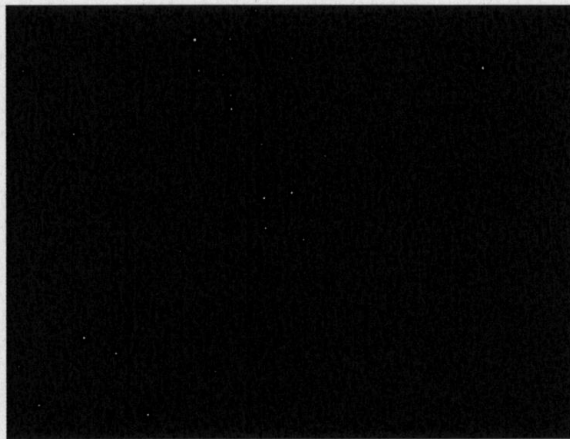
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TRUCK UTILITY MEDIUM (TUM) HS

SNATCH 2

MODIFICATION INSTRUCTION No. 13

Sponsor: SUV IPT
Project No.: LR060
File Ref: B37/03

Publication Authority: SUV IPT, Abbey Wood

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date	Amdt No.	Incorporated By (Signature)	Date
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SUBJECT: Fitting Glow plug timer interface harness

(Approval No LSTP 12-6689)

INTRODUCTION

1 This instruction details the fitting of the glow plug timer interface harness.

1.1 Limitations on use of equipment. Nil

APPLICABILITY

2 Basic Wolf, Winter Water and Snatch 2 vehicles.

2.1 Fitted to equipment held by user units.

REASON FOR MODIFICATION

3 Code 3 – to improve reliability

PRIORITY

4 ARMY: Immediate
RAF: Class 1

NOTE

Vehicles are not to be classed as VOR whilst awaiting modification.

ESTIMATED TIME REQUIRED

5 Embodiment: 0.25 man hrs.

MODIFICATION IMPLEMENTATION PLAN

6

6.1 This modification is to be implemented by:

ARMY - Units authorised to carry out levels 2, 3 and 4 maintenance.

RAF - Units not later than the next routine maintenance and Vehicle Depots before next issue of vehicle.

6.2 Associated modification instructions. Nil

6.3 Modification plate strike action. N/A

Action required by

7

7.1 Units and establishment holding equipment.

7.1.1 Examine vehicle documents to see if modification is applicable.

7.1.2 Examine equipment or modification record plate to see if modification is embodied and where necessary units with level 2 REME support demand the stores required.

7.1.3 ARMY – on receipt of stores, request REME to modify equipment.

7.1.4 ARMY – Record the modification, subject and the AESP number in equipment documents

7.1.5 RAF – Record modification details on AF G1084A and Form 4870. Units operating STAMA are also to record modification details on ADPMTMS job certification sheet and to follow the procedures laid down in AP 100C - 08A.

7.2 Army units authorised to carry out levels 2, 3 and 4 maintenance and RAF units.

7.2.1 ARMY – When requested by users or during overhaul of equipment on charge without REME level 2 support, obtain the items listed in Para. 8 and carry out this modification.

7.2.2 Record completion details of modification against appropriate entry in equipment documents.

7.2.3 Complete AF G1084A when reporting completion of modification to FORWARD (RAF) using the following code.

RAF MODIFICATION CODE: AFN190

NOTE

RAF units operating STAMA are also to complete ADP MTS job certification sheet and to follow the procedures laid down in 100C - 08A.

7.3 All receipts of this instruction. Add particulars to AESP ref. 2320-D128-811 Mod instr. index.

Stores tools and equipment

NOTE

Items not codified, if required, should be demanded using the manufacturer's part numbers through the normal system.

8

8.1 Stores to be demanded.

8.1.1 The following set is to be demanded quoting this instruction authority.

Item No	DMC	NSN/Part No	Designation	Qty per eqpt
		6150-99-799-8866	Glow plug interface harness kit comprising:	1
1			Interface harness	(1)
2		ERR 4085	Glow plug timer	(1)
3			Cable tie	(1)

8.2 Stores or suitable equivalent to be obtained locally.

Item No	DMC	NSN/Part No	Designation	Qty per eqpt
4			Cable tie	A/R

Sequence of operations

NOTE

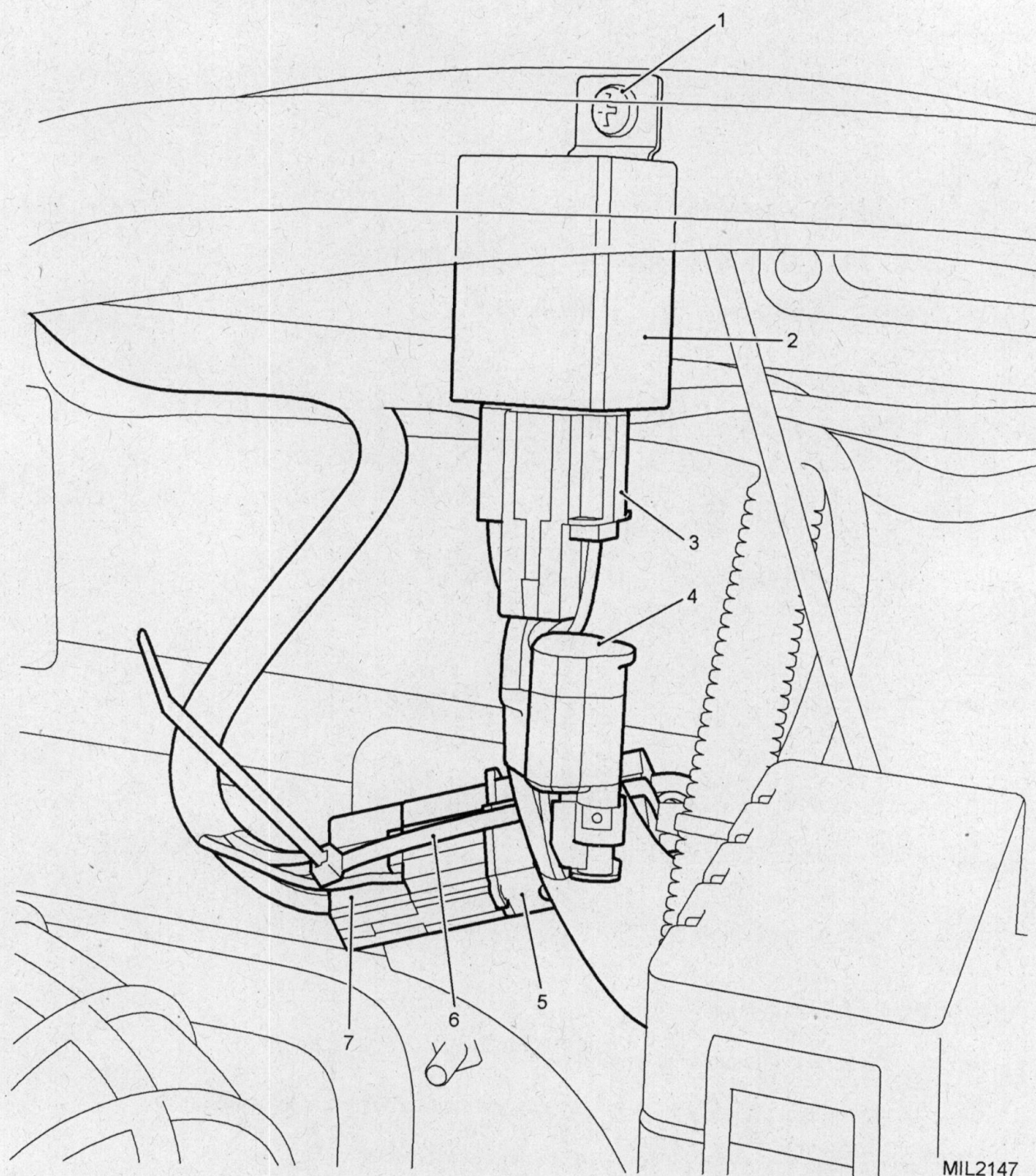
The item numbers in Para 8 are used as references throughout this instruction.

9 Carry out the modification as follows:

9.1 Position the vehicle onto flat, level ground, apply the handbrake and remove the ignition keys.

10 Basic Wolf Vehicles (refer to Fig 1):

- 10.1 Disconnect the negative lead from the battery.
- 10.2 Disconnect the Glow plug timer located on the engine side of the bulkhead.
- 10.3 Remove screw securing the existing glow plug timer from the bulkhead.
- 10.4 Replace with the new glow plug timer and interface harness.
- 10.5 Connect the main harness socket to the interface harness plug.
- 10.6 Using the cable tie (item 3) secure the plug and socket together.
- 10.7 If required, any excess main or interface harness should be looped and cable tied up to the dash wiring use a cable tie (item 4).
- 10.8 Reconnect the negative lead to the battery.



MIL2147

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|---|--------------------------|---|------------------------|
| 1 | Screw | 5 | Interface harness plug |
| 2 | Glow plug timer | 6 | Cable tie |
| 3 | Interface harness socket | 7 | Main harness plug |
| 4 | Spark suppressor | | |

Fig 1 Fitting the Glow plug timer interface cable – Basic Wolf

11 Winter Water Vehicles (refer to Fig 2 and 3):

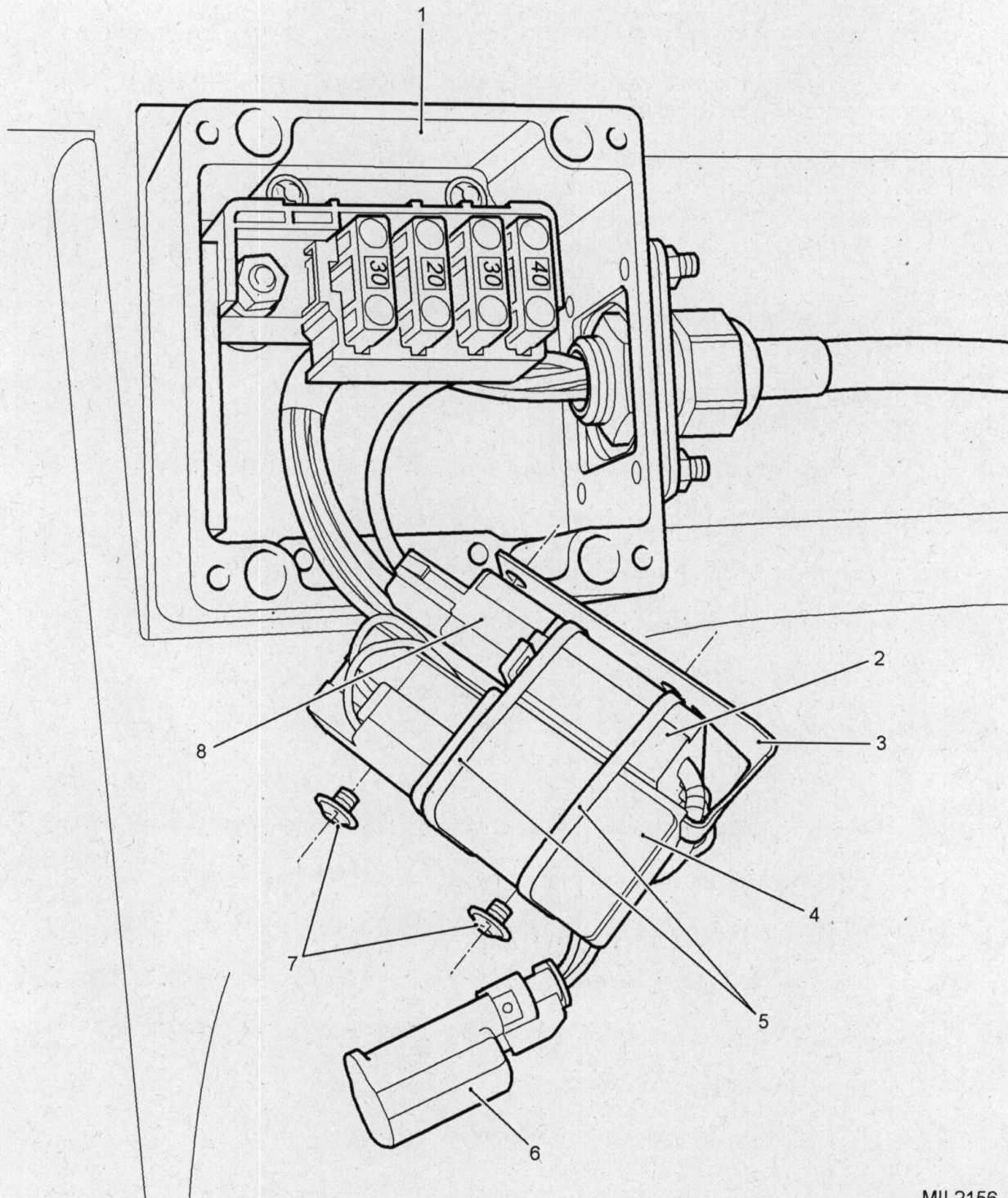
- 11.1 Disconnect the negative lead from the battery.
- 11.2 Undo the four screws and remove the fuse box cover from the Main harness fuse box located on cab side of the lower dash.
- 11.3 Remove the mounting bracket from the new Glow plug timer.
- 11.4 Remove the tape securing the Spark Suppressor to the interface harness.

either

- 11.5 Remove the two screws securing the glow plug timer mounting bracket to the inside of the fuse box.
- 11.6 Attach the Glow plug timer and Interface harness onto the mounting bracket, secure with two cable ties (item 4) (refer to fig 2).
- 11.7 Carefully shape the harness by hand to enable fitment into the fuse box.
- 11.8 Connect the Glow plug timer Interface harness plug to the main harness socket.
- 11.9 Secure the mounting bracket to the fuse box with the existing screws.
- 11.10 Install the Spark suppressor and connecting wires into the fuse box (refer to Fig 3).
- 11.11 Fit the fuse cover and gasket.
- 11.12 Reconnect the negative lead to the battery.

or

- 11.13 Attach the Glow plug timer to the Interface harness, secure with two cable ties (item 4).
- 11.14 Carefully shape the harness by hand to enable fitment into the fuse box.
- 11.15 Connect the Glow plug timer Interface harness plug to the main harness socket.
- 11.16 Install the Glow plug timer Interface harness to the mounting bracket in the fuse box.
- 11.17 Install the Spark suppressor and connecting wires into the fuse box (refer to Fig 3).
- 11.18 Fit the fuse cover and gasket.
- 11.19 Reconnect the negative lead to the battery.



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| 1 | Main harness fuse box | 5 | Cable ties |
| 2 | Interface harness plug | 6 | Spark suppressor |
| 3 | Glow plug timer mounting bracket | 7 | Screws |
| 4 | Glow plug timer | 8 | Main harness socket |

Fig 2 Fitting the Glow plug timer interface cable – Winter Water

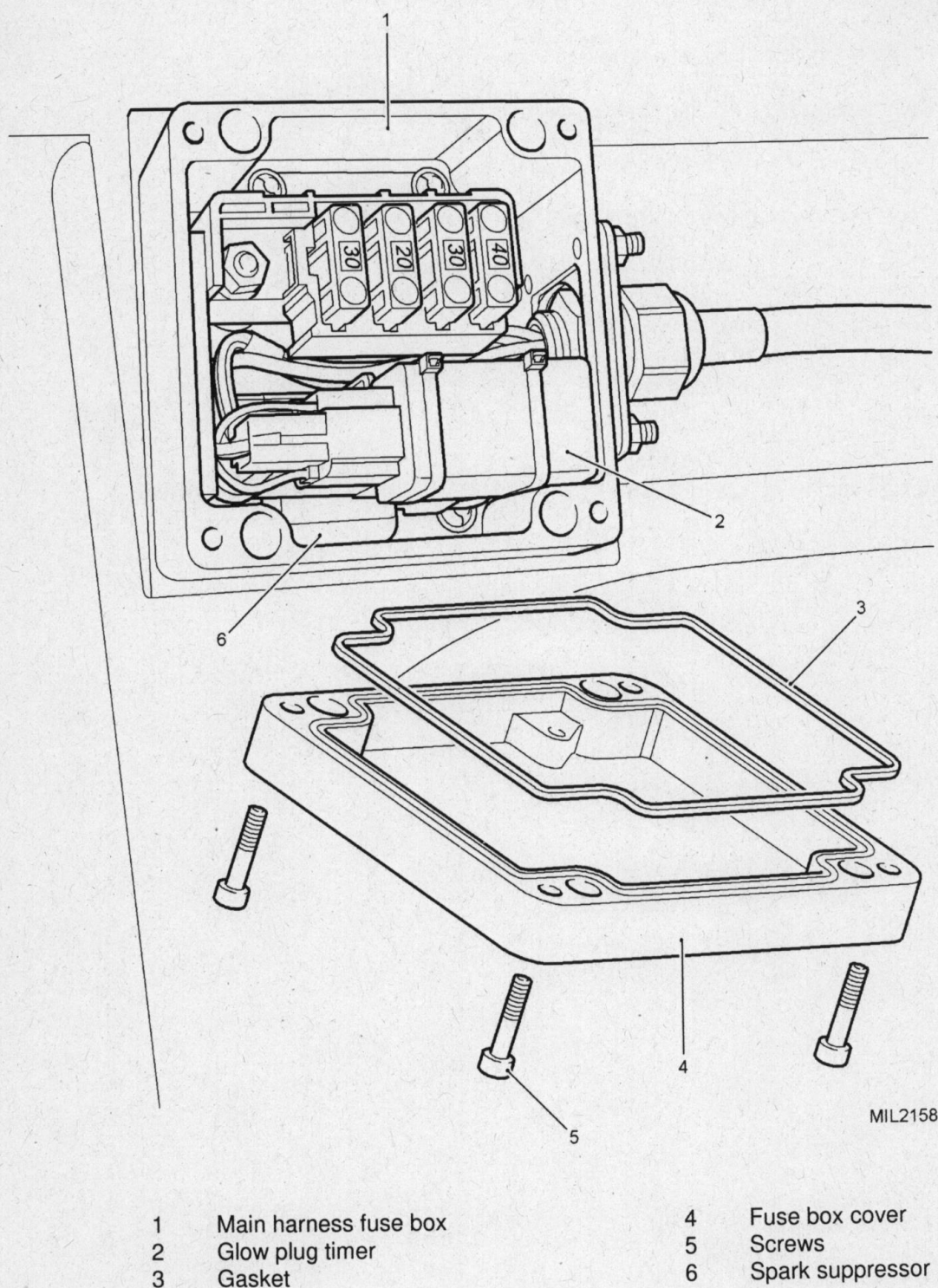
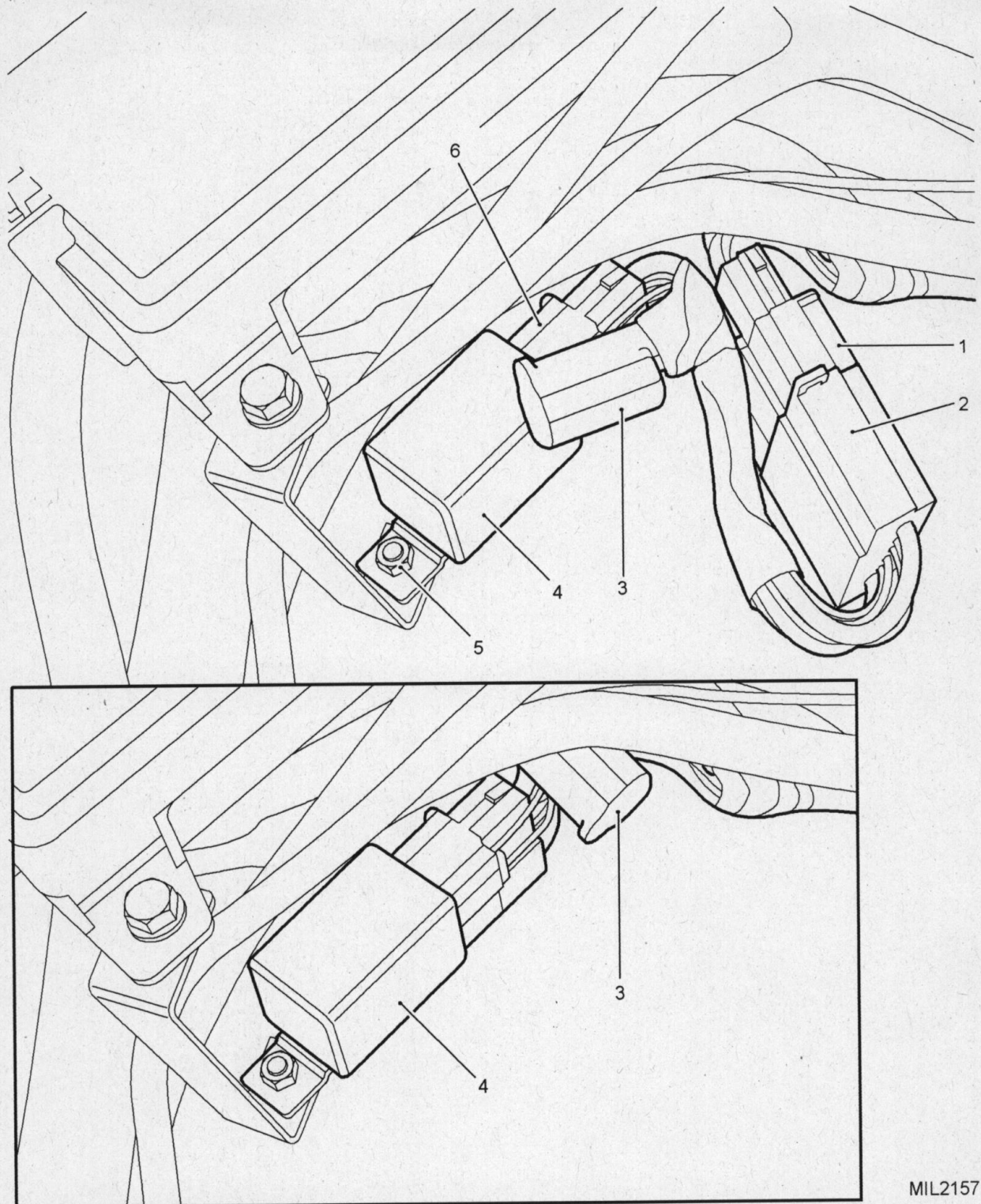


Fig 3 Fitting the Glow plug timer interface cable – Winter Water

12 Snatch 2 and Military Core Vehicles (refer to Fig 4):

- 12.1 Disconnect the vehicle batteries (refer to Cat 522, Chap 13).
- 12.2 Remove the vehicle battery closest to the under seat fuse box.
- 12.3 Remove plug from existing Glow plug timer.
- 12.4 Remove nut securing existing Glow plug timer.
- 12.5 Remove Glow plug timer and bracket.
- 12.6 Install new Glow plug timer, bracket and interface harness.
- 12.7 Connect interface harness plug to the main harness socket.
- 12.8 Position Glow plug timer interface harness underneath the existing harness.
- 12.9 Refit vehicle battery.
- 12.10 Reconnect the vehicle batteries.



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| 1 | Main harness socket | 4 | Glow plug timer |
| 2 | Interface harness plug | 5 | Nut |
| 3 | Spark suppressor | 6 | Glow plug timer socket |

Fig 4 Fitting the Glow plug timer interface cable – Snatch 2 and Military Core Vehicles

TESTING AFTER EMBODIMENT

13 Nil.

EFFECT ON WEIGHT

14 Nil.

PUBLICATION AMENDMENTS

15 Nil.

TRUCK UTILITY MEDIUM (HS) HT W/ VPK2 24 V (WITH ACU) REFURBISHED 2005 [REDACTED]
[REDACTED]

MODIFICATION INSTRUCTION NO. 14

Sponsor: Protected Mobility Team (PMT)
Project No.: PDS, NPA 036
File Ref: -

Publication Authority: PMT AW

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
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SUBJECT: Fire extinguisher

INTRODUCTION

1 To support the role of the TRUCK UTILITY MEDIUM (HS) HT W/ VPK 24 V (WITH ACU) REFURBISHED 2005 [REDACTED], it has been assessed that a fire extinguisher should be fitted within the front compartment of the vehicle platform.

1.1 This Modification Instruction details the removal and fitting procedure to be adopted together with instructions for the disposal of any components and sub-assemblies removed from the equipment.

1.2 Limitations on use of equipment. Nil.

APPLICABILITY

2 This Modification Instruction is to be carried out on all TRUCK UTILITY MEDIUM (HS) HT W/ VPK 24V (WITH ACU) REFURBISHED 2005 [REDACTED] held by user units.

REASON FOR MODIFICATION

3 Code 1 – to improve safety.

PRIORITY

4 Army: Immediate

ESTIMATED TIME REQUIRED

- 5 Dismantling: 1.5 man-hours.
 Embodiment: 1.5 man-hours.
 Assembly: 0.5 man-hours.
 Testing: 0.25 man-hours.

MODIFICATION IMPLEMENTATION PLAN

- 6 This instruction is to be implemented by:
- 6.1 Units authorised to carry out Levels 2, 3 and 4 repairs.
 - 6.2 Associated modification instructions. Nil.
 - 6.3 Modification plate strike action. Nil.

Action required by

- 7 The following action is to be carried out:
- 7.1 Units and establishments holding equipment.
 - 7.1.1 Examine the equipment documents, or check the equipment/ sub-unit serial numbers, to determine whether or not the modification is applicable.
 - 7.1.2 Examine equipment or modification record plate to see if modification is embodied and where necessary Units with 1st line REME support demand the stores required.
 - 7.1.3 Army – on receipt of stores; request the REME to modify equipment.
 - 7.1.4 Army – record the modification subject and AESP number in the equipment documents.
 - 7.2 Units authorised to carry out Unit, Field or Base repairs (levels 2, 3 or 4).
 - 7.2.1 Army – implement the modification when requested by the holding unit (or demand the stores required for equipments on charge to units without the REME 1st line support) and carry out the modification during repair or overhaul where this is a stated restriction on implementation.
 - 7.2.2 Strike off the appropriate figure on the modification record plate as applicable.
 - 7.2.3 Record completion of the modification in the equipment document as applicable.
 - 7.3 All recipients of the AESP. Add particulars to AESP 2320-D-132-811 Modification Instruction Index contained in the Preliminary pages, where applicable.

Stores, tools and equipment

8 The following stores, tools and equipment will be required to carry out the Modification Instruction:

8.1 Stores to be demanded.

8.1.1 The following items/ modification sets are/ is to be demanded quoting this instruction as authority for demand.

Item No.	DMC	NSN/Part No.	Designation	Qty Per Veh.
1	7NP	4210-99-348-2262	Extinguisher assembly Comprising:	1
2		32244-150	Extinguisher bracket (mounting)	(1)
3	10AC	5305-99-770-1299	Screw, M6 x 20, hex hd	(4)
4	7MF	5305-12-164-0266	Screw, M8 x 20, hex hd	(6)
5	7MF	5310-99-979-2493	Nut, M6, nyloc	(4)
6	7MF	5310-99-870-1910	Nut, M8, nyloc	(6)
7	7MF	5310-99-823-1644	Washer, M6, plain	(8)
8	G1	5310-99-741-5459	Washer, M8, plain	(6)
9		SSWPG08A2	Washer, M8, plain	(6)
10-15		Spare		

8.2 Stores or suitable equivalent to be obtained locally.

Item No.	DMC	NSN/Part No.	Designation	Qty Per Veh.
16		9150-99-910-0488	Light grease	A/ R

8.3 Special tools and test equipment required.

Item No.	DMC	NSN/Part No.	Designation	Qty Per Veh.
17		NIV	Electric drill	(1)
18		NIV	Drill bit, 6.5 mm	(1)
19		NIV	Drill bit, 8.5 mm	(1)

SEQUENCE OF OPERATIONS**Introduction****WARNINGS**

(1) **PERSONNEL INJURY.** WHEN WORKING ON THE EQUIPMENT; ENSURE ALL LOCAL STANDARD WORKSHOP AND HEALTH AND SAFETY PRACTICES ARE ADHERED TO. IF ANY OF THE INSTRUCTIONS IN THIS DOCUMENTATION CONTRAVENE THE LOCAL ORDERS SEEK CLARIFICATION BEFORE CONTINUING.

(2) **PERSONNEL INJURY.** ALWAYS CHOCK THE WHEELS BEFORE WORKING UNDER THE VEHICLE. THE VEHICLE MAY MOVE AND CAUSE SERIOUS INJURY TO PERSONNEL.

(3) **PERSONAL INJURY.** WHEN GRINDING OR DRILLING SUITABLE EYE AND EAR PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN.

CAUTIONS

(1) **EQUIPMENT DAMAGE.** Do not let the engine run with the batteries disconnected.

(2) **EQUIPMENT DAMAGE.** Do not use a high speed battery charger as a starting aid. When using a charger to charge the batteries, they must be disconnected from the vehicles electrical system.

(3) **EQUIPMENT DAMAGE.** When installing ensure the batteries are connected in correct polarity.

(4) **EQUIPMENT DAMAGE.** Care must be taken when disconnecting the batteries. Ensure the ignition system and all electrical components are switched off.

(5) **EQUIPMENT DAMAGE.** If a new battery is to be installed in the vehicle it should be of the same type and size as the original battery. When fitting ensure that terminals and leads are well clear of the battery clamp assembly.

9 Prior to starting any of the following procedures on the vehicle, park the vehicle on firm level ground, fully apply the parking brake, switch the engine off, ensure the ignition switch is off and display a DO NOT START notice in a prominent position within the driver's compartment. Chock at least two wheels, on opposite sides of the vehicle, using chock blocks not less than four inches square.

NOTES

(1) The figure key numbers are shown to support the text and the Item numbers of Para 8 are also provided as reference where indicated.

(2) Check all previously removed securing components before reassembly, if not fully serviceable replace accordingly.

(3) Left hand and right hand (LH and RH) denotes the left and right hand side of the vehicle with respect to viewing the vehicle from the rear looking towards the front.

Disconnect the vehicle batteries

10 Prior to commencing this instruction and adhering to all **WARNINGS** and **CAUTIONS** the batteries located under the LH seat must be disconnected and removed.

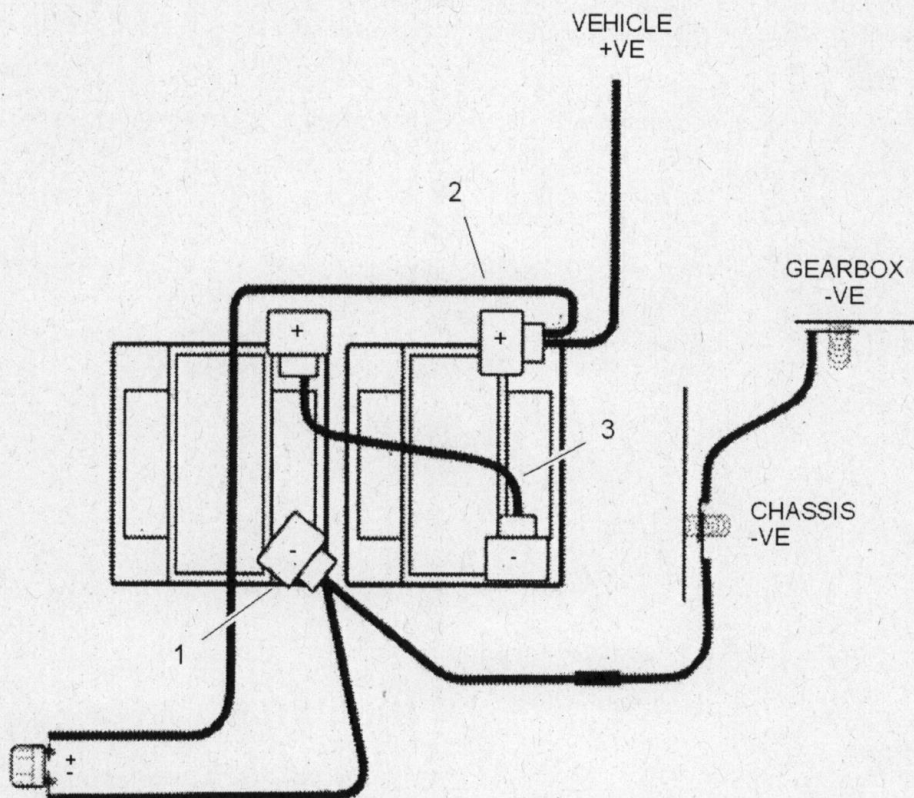
Disconnection

11 The procedure to disconnect the batteries is as follows:

11.1 From inside the vehicle remove the LH seat squab.

11.2 Undo the over-centre catch and slide the seat base cover from the LH seat base assembly.

- 11.3 Disconnect the main negative lead (Fig 1(1)).
- 11.4 Disconnect the main positive lead (2).
- 11.5 Disconnect the link lead assembly (3).
- 11.6 Remove the two M6 wing nuts securing the battery clamp bar and remove the battery clamp bar away from the securing hook bars.
- 11.7 Remove both vehicle batteries from the LH seat base assembly.



+NPA75-099

- 1 Main negative lead 2 Main positive lead 3 Link lead assembly

Fig 1 Battery wiring diagram

Removal of existing fire extinguisher and bracket

12 The fire extinguisher and bracket under the forward RH rear seat (Fig 2(1)) must be disconnected and removed. In order to facilitate the removal of the fire extinguisher bracket (5), the seat (6) must also be removed as follows:

12.1 Pull the forward RH rear seat back, away from its Velcro retaining strip to gain access to the seat belt and seat securing bolts.

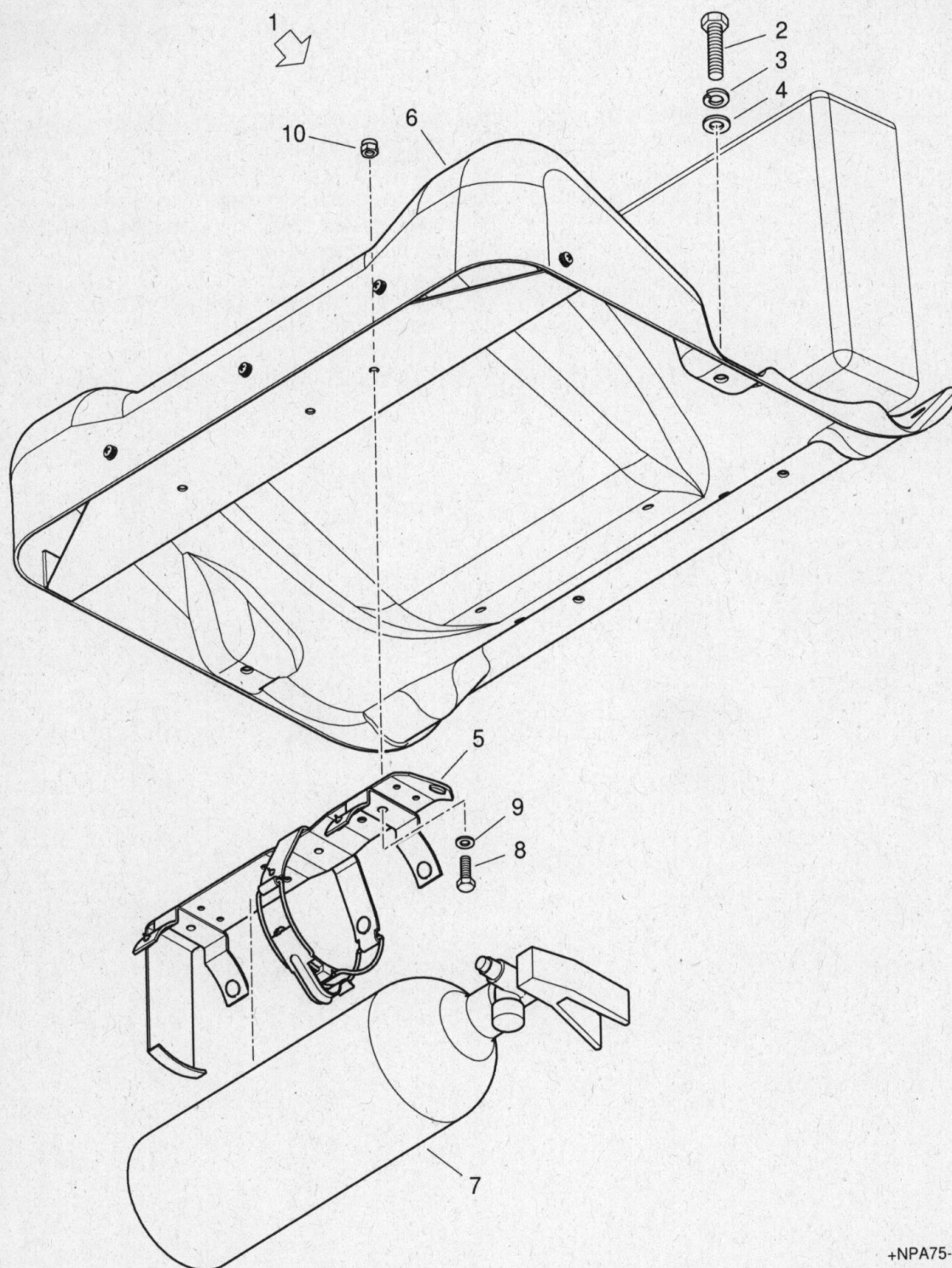
12.2 Remove the seat belt retaining bolts and the seatbelt. Retain the seat belt and fixings for refitting. Remove the rear most seat securing bolts and retain.

12.3 Remove the securing bolts (2) spring washers (3) and plain washers (4) and remove the seat. Retain the seat and fixings for refitting.

12.4 Remove the fire extinguisher (7) from the fire extinguisher bracket (5) and retain.

12.5 Remove and discard the screws (8) washers (9) and nyloc nuts (10) securing the fire extinguisher bracket to the seat. Retain the fire extinguisher bracket for refitting in the front compartment.

13 The seat and seat belt should now be replaced. This procedure is a reversal of the removal.



+NPA75-105

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| 1 Forward RH rear seat | 5 Fire extinguisher bracket | 8 Screw, M6 x 20, hex hd |
| 2 Bolt, M8 x 20, hex hd | 6 Seat | 9 Washer, M6, plain |
| 3 Washer, M8, spring | 7 Fire extinguisher | 10 Nut, M6, nyloc |
| 4 Washer, M8, plain | | |

Fig 2 Removal of existing fire extinguisher and bracket

Fire extinguisher bracket

14 To fix the retained fire extinguisher bracket (Fig 3(2)) and supplied fixings to the extinguisher bracket (mounting)(1) proceed as follows:

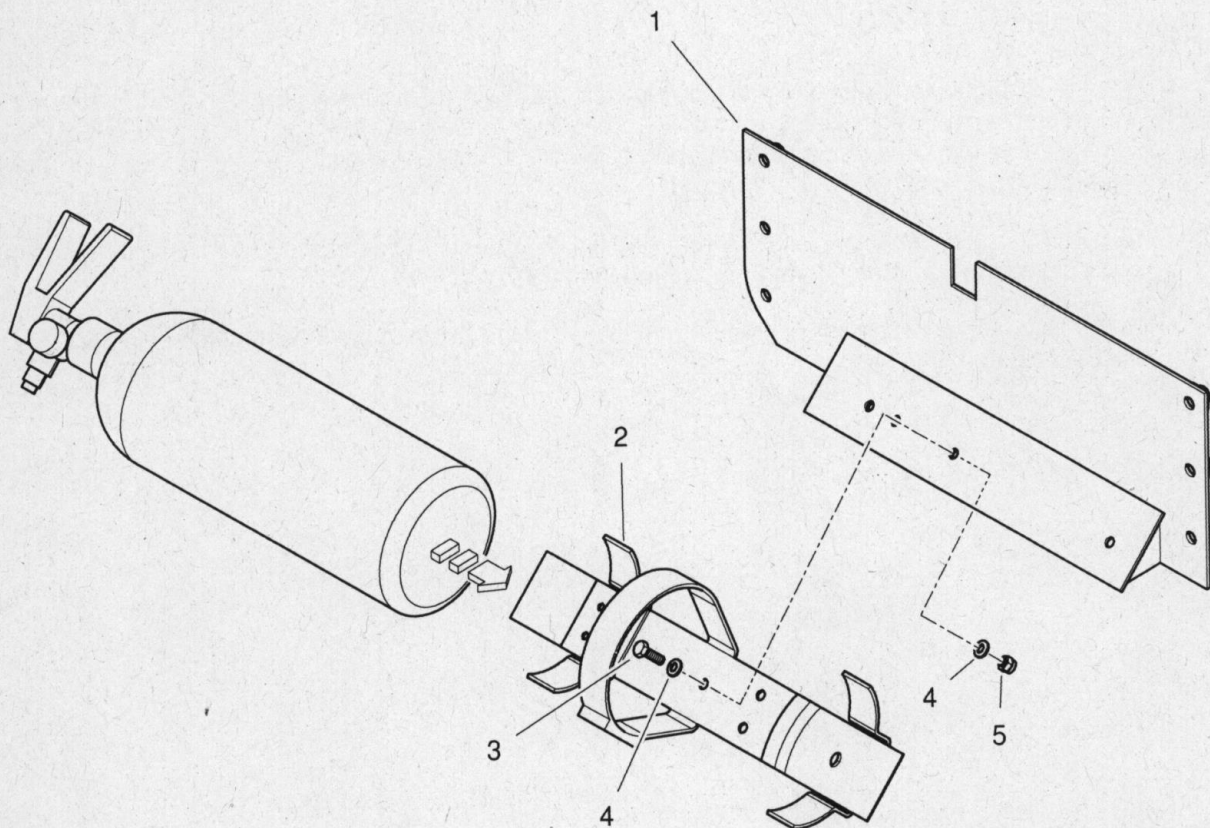
WARNING

**PERSONAL INJURY. WHEN GRINDING OR DRILLING SUITABLE EYE AND EAR
PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN.**

14.1 Using the extinguisher bracket (mounting) as a template, ensure correct alignment of the four holes required before drilling the fire extinguisher bracket holes to the required diameter. The fire extinguisher bracket may be pre-drilled; therefore this stage is not necessary.

14.2 Using a suitable drill and 6.5 mm drill bit, drill the four holes in the fire extinguisher bracket. Once drilled, remove any burrs from around the holes.

14.3 Fit the fire extinguisher bracket to the extinguisher bracket (mounting) using screws (3), washers (4) and nuts (5).



+NPA75-100

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|-----------------------------------|--------------------------|------------------|
| 1 Extinguisher bracket (mounting) | 3 Screw, M6 x 20, hex hd | 5 Nut, M6, nyloc |
| 2 Fire extinguisher bracket | 4 Washer, M6, plain | |

Fig 3 Fire extinguisher bracket to extinguisher bracket (mounting)

Extinguisher bracket (mounting)

15 To fix the extinguisher bracket (mounting)(Fig 4(1)) to the LH seat base assembly (2) proceed as follows:

WARNING

**PERSONAL INJURY. WHEN GRINDING OR DRILLING SUITABLE EYE AND EAR
PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN.**

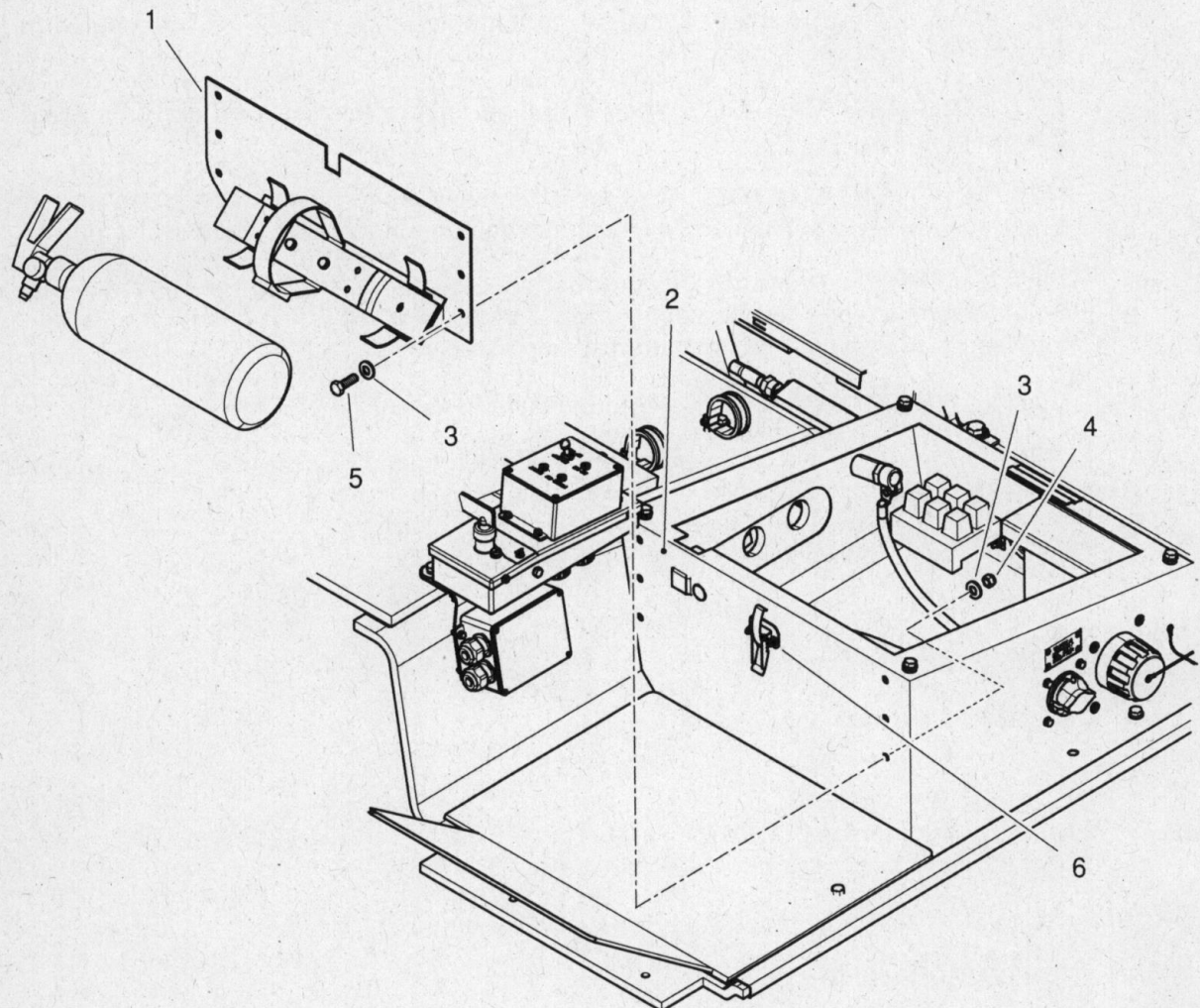
15.1 Using the extinguisher bracket (mounting) as a template mark out the six holes on the LH seat base assembly.

NOTE

The extinguisher bracket (mounting) is designed with a cut away to clear the LH seat base assembly over-centre catch (6). If when aligning, the cut away will not clear the LH seat base assembly over-centre catch it may be necessary to cut out a section of the rubber floor mat to aid fitting.

15.2 Using a suitable drill and 8.5 mm drill bit, drill the six holes in the LH seat base assembly. Once drilled, removed any burrs from around the holes.

15.3 Secure the extinguisher bracket (mounting) to the LH seat base assembly using screws (5), washers (3) and nuts (4).



+NPA75-101

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|-----------------------------------|---------------------|--------------------------|
| 1 Extinguisher bracket (mounting) | 3 Washer, M8, plain | 5 Screw, M8 x 20, hex hd |
| 2 LH seat base assembly | 4 Nut, M8, nyloc | 6 Over-centre catch |

Fig 4 Extinguisher bracket (mounting) to LH seat base assembly

Reconnect the vehicle batteries

16 The procedure to reconnect the vehicle batteries is as follows:

CAUTIONS

- (1) **EQUIPMENT DAMAGE.** Do not let the engine run with the batteries disconnected.
- (2) **EQUIPMENT DAMAGE.** Do not use a high speed battery charger as a starting aid. When using a charger to charge the batteries, they must be disconnected from the vehicle electrical system.
- (3) **EQUIPMENT DAMAGE.** When installing ensure the batteries are connected in correct polarity.
- (4) **EQUIPMENT DAMAGE.** Care must be taken when disconnecting the batteries. Ensure the ignition system and all electrical components are switched off.
- (5) **EQUIPMENT DAMAGE.** If a new battery is to be installed in the vehicle it should be of the same type and size as the original battery. When fitting ensure that terminals and leads are well clear of the battery clamp assembly.

- 16.1 Replace both vehicle batteries into the LH seat base assembly.
- 16.2 Refit the battery clamp bar over the securing hook bars. Replace the two M6 wing nuts securing the battery clamp bar and tighten accordingly.
- 16.3 Clean the terminals with glass paper.
- 16.4 Reconnect the link lead assembly.
- 16.5 Reconnect the main positive lead.
- 16.6 Reconnect the main negative lead.

NOTE

When fitted into vehicles or equipment the battery clamps should be bolted tightly onto the battery terminals and then coated with light grease (Item 16).

- 16.7 Refit the LH seat base cover and LH seat squab.

TESTING AFTER EMBODIMENT

- 17 Check the fire extinguisher can be removed, replaced and inspected correctly.

EFFECT ON WEIGHT

- 18 Negligible.

PUBLICATION AMENDMENTS

- 19 Necessary AESP Publication amendments will be issued separately.

TRUCK UTILITY MEDIUM (HS) HT W/ VPK 24 V (WITH ACU) REFURBISHED 2005 [REDACTED]
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MODIFICATION INSTRUCTION NO. 15

Sponsor: Protected Mobility Team (PMT)
Project No.: PDS, NPA 037
File Ref: -

Publication Authority: PMT AW

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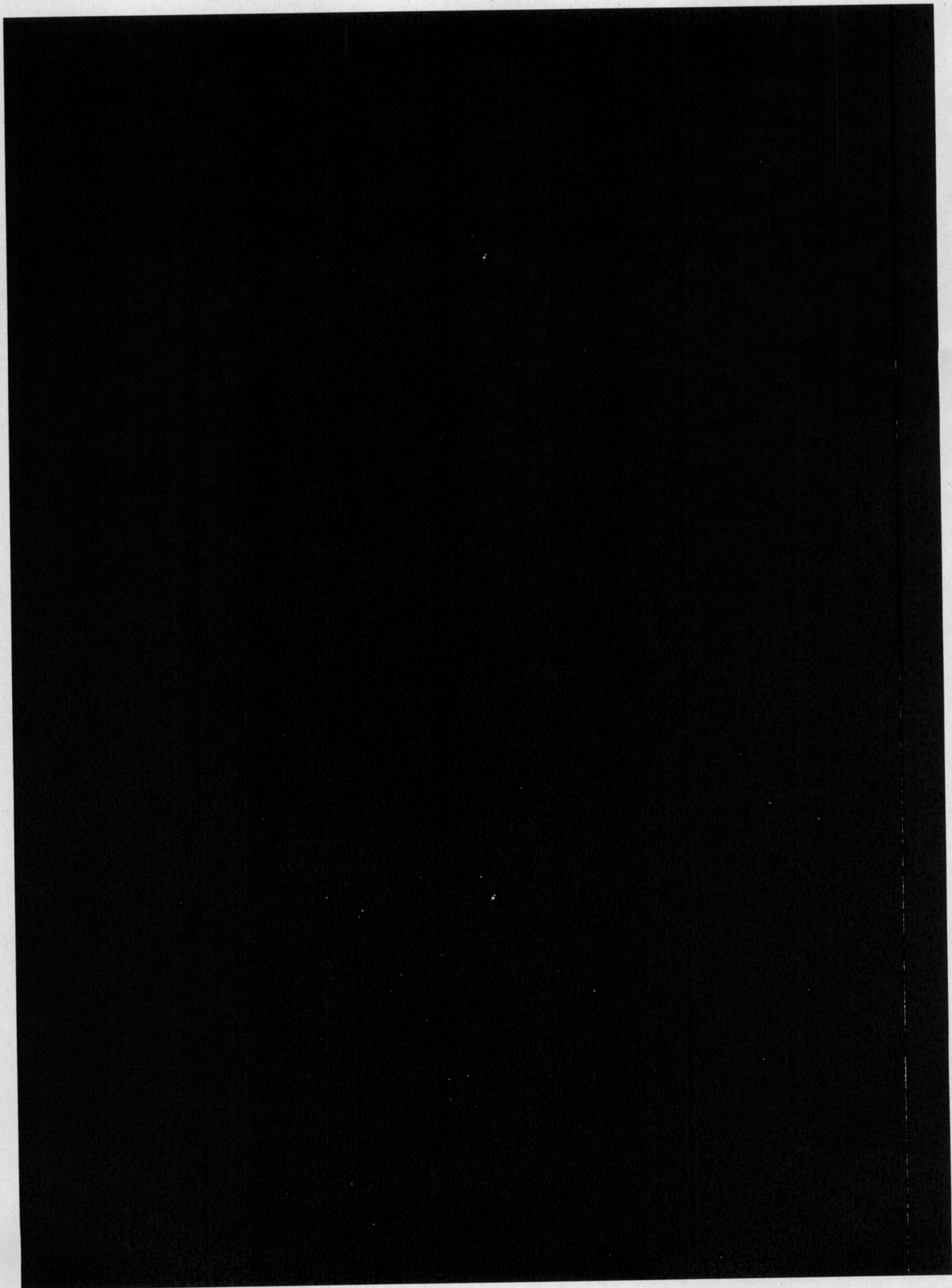
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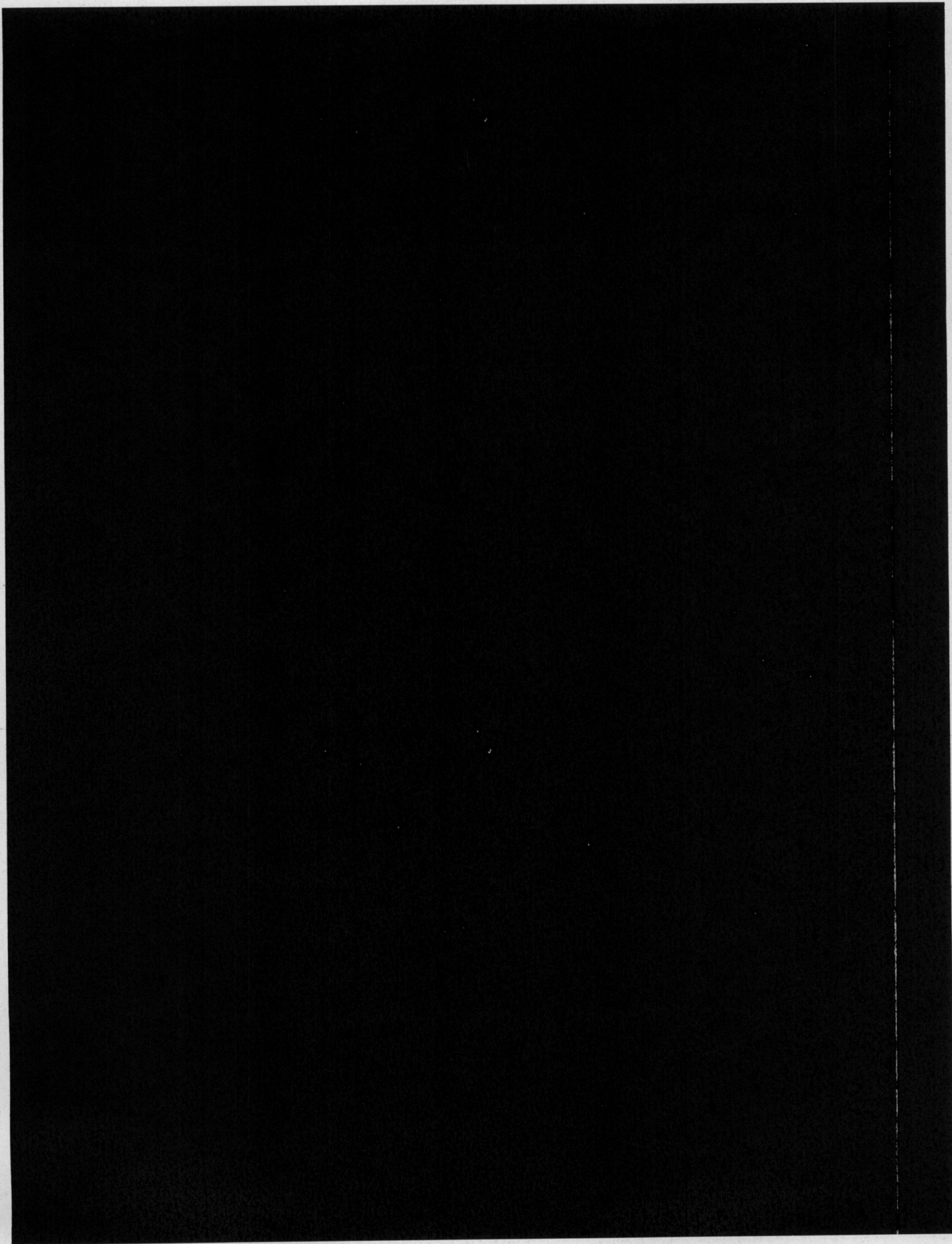
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TRUCK UTILITY MEDIUM (HS) HT W/ VPK 24V (WITH ACU) REFURBISHED 2005

MODIFICATION INSTRUCTION NO. 16

Sponsor: Protected Mobility Team (PMT)
Project No.:
File Ref:

Publication Authority: PMT AW

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SUBJECT: Engine coolant radiator mounting

INTRODUCTION

1 To improve the reliability of the TRUCK UTILITY MEDIUM (HS) HT W/ VPK 24V (WITH ACU) REFURBISHED 2005, it has been assessed that TUM (HS) designed radiator mounting brackets should be fitted. This Modification Instruction may also be carried out on SNATCH 2A and 2B vehicles as necessary.

1.1 This Modification Instruction details the fitting procedure to be adopted together with instructions for the disposal of any components and sub-assemblies removed from the equipment.

1.2 Limitations on use of equipment. Nil.

APPLICABILITY

2 This Modification Instruction is to be carried out on all TRUCK UTILITY MEDIUM (HS) HT W/ VPK 24V (WITH ACU) REFURBISHED 2005 asset code NB5004-3101, held by user units. This Modification Instruction may also be fitted, if required, to equipment with asset codes NB5005-3101 (SNATCH 2A) and NB5005-3100 (SNATCH 2B).

REASON FOR MODIFICATION

3 Code 3 – To improve reliability.

PRIORITY

4 Army: Routine

ESTIMATED TIME REQUIRED

- 5 Dismantling: 1.0 man-hours
 Embodiment: 1.5 man-hours

MODIFICATION IMPLEMENTATION PLAN

- 6 This instruction is to be implemented by:
- 6.1 Units authorised to carry out Levels 2, 3 and 4 repairs.
 - 6.2 Associated modification instructions. Nil.
 - 6.3 Modification plate strike action. Nil.

Action required by

- 7 The following action is to be carried out:
- 7.1 Units and establishments holding equipment.
 - 7.1.1 Examine the equipment documents, or check the equipment/ sub-unit serial numbers, to determine whether or not the modification is applicable.
 - 7.1.2 Examine equipment or modification record plate to see if modification is embodied and where necessary Units with 1st line REME support demand the stores required.
 - 7.1.3 Army – on receipt of stores; request the REME to modify equipment.
 - 7.1.4 Army – record the modification subject and AESP number in the equipment documents.
 - 7.2 Units authorised to carry out Unit, Field or Base repairs (levels 2, 3 or 4).
 - 7.2.1 Army – implement the modification when requested by the holding unit (or demand the stores required for equipment on charge to units without the REME 1st line support) and carry out the modification during repair or overhaul where this is a stated restriction on implementation.
 - 7.2.2 Record completion of the modification in the equipment document as applicable.
 - 7.3 All recipients of the AESP. Add particulars to AESP 2320-D-132-811 Modification Instruction Index contained in the Preliminary pages, where applicable.

Stores, tools and equipment

8 The following stores, tools and equipment will be required to carry out the modification:

8.1 Stores to be demanded.

8.1.1 The following items/ modification sets are/ is to be demanded quoting this instruction as authority for demand.

Item No.	DMC	NSN/ Part No.	Designation	Qty Per Veh.
1	7XD	2930-99-477-1414	Frame radiator (RH)	(1)
2	7XD	2930-99-308-1035	Frame radiator (LH)	(1)
3	7XD	5340-99-836-2646	Bracket Mounting (RH)	(1)
4	7XD	5340-99-821-2018	Bracket Mounting (LH)	(1)
5	7XD	5365-99-722-6282	Bushing, non metallic	(2)
6	7XD	5305-99-483-1908	Screw, M6 x 20, hex hd	(8)
7	X3	5310-99-139-0070	Washer, M6, plain	(10)
8	7XD	5310-99-605-8049	Nut, M6, locking	(2)
9	7RU	2930-99-825-6069	Grommet radiator frame	(A/ R)

8.2 Special tools and test equipment required.

Item No.	DMC	NSN/ Part No.	Designation	Qty Per Veh.
10	-	NIV	Tap thread, 6 mm	1

8.3 Stores to be removed and reduced to scrap.

Item No.	DMC	NSN/ Part No.	Designation	Qty Per Veh.
11	-	-	Frame radiator (RH)	1
12	-	-	Frame radiator (LH)	1
13	-	-	Bracket radiator top mounting (RH)	1
14	-	-	Bracket radiator top mounting (LH)	1

SEQUENCE OF OPERATIONS**Introduction****WARNINGS**

(1) **PERSONNEL INJURY. WHEN WORKING ON THE EQUIPMENT; ENSURE ALL LOCAL STANDARD WORKSHOP AND HEALTH AND SAFETY PRACTICES ARE ADHERED TO. IF ANY OF THE INSTRUCTIONS IN THIS DOCUMENTATION CONTRAVENE THE LOCAL ORDERS SEEK CLARIFICATION BEFORE CONTINUING.**

(2) **PERSONAL INJURY. WHEN GRINDING OR DRILLING SUITABLE EYE AND EAR PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN.**

PERSONAL INJURY. OPERATING SURFACES MAY BE HOT. ALLOW SUFFICIENT TIME FOR COMPONENTS TO COOL PRIOR TO CARRYING OUT ANY REMOVAL OR REPLACEMENT OF COMPONENTS.

CAUTIONS

(1) **EQUIPMENT DAMAGE. Do not let the engine run with the batteries disconnected.**

(2) **EQUIPMENT DAMAGE. Do not use a high speed battery charger as a starting aid. When using a charger to charge the batteries, they must be disconnected from the vehicles electrical system.**

(3) **EQUIPMENT DAMAGE. When installing ensure the batteries are connected in correct polarity.**

(4) **EQUIPMENT DAMAGE. Care must be taken when disconnecting the batteries. Ensure the ignition system and all electrical components are switched off.**

(5) **EQUIPMENT DAMAGE. If a new battery is to be installed in the vehicle it should be of the same type and size as the original battery. When fitting ensure that terminals and leads are well clear of the battery clamp assembly.**

9 Prior to starting any of the following procedures on the vehicle, park the vehicle on firm level ground, fully apply the parking brake and switch the engine off.

NOTE

The Item numbers of Para 8 are provided as reference where indicated.

Dismantling

10 To prepare the vehicle for installation of the new radiator mounting brackets proceed as follows:

10.1 Disconnect and isolate the vehicle and mission batteries.

10.2 Raise the bonnet and secure in order to permit removal of the front slam panel.

10.3 Remove the six screws retaining the front grill panel and remove the front grill panel.

10.4 Mark bonnet lock position on front slam panel to aid reassembly.

10.5 Remove qty two 6mm bolts and nuts securing right-hand radiator mounting bracket, discard bracket and fixings (Item 13).

10.6 Working inside front panel area identify, tag and disconnect wiring to horn and remove quantity two 6mm bolts securing left-hand radiator bracket and horn, discard radiator bracket and fixings (Item 14).

10.7 Working inside front panel area, remove quantity six 8mm bolts, (3 each side) securing front body panel to front wings.

- 10.8 Disconnect bonnet release cable.
- 10.9 Remove quantity two bolts and nuts securing bonnet lock to slam panel and support frame, reassemble bolts and nuts to retain lock and slam panel together, remove front panel assembly from vehicle.
- 10.10 Remove front bumper towing pin.
- 10.11 Remove quantity two 10mm bolts and nuts securing bottom of support frame and transmission oil cooler assembly to chassis and retain, carefully lay the assembly across front bumper ensuring the oil cooler fins are protected from damage.
- 10.12 Remove quantity four 8mm bolts securing right-hand radiator frame to top and bottom frames, retain fixings for assembly and discard frame (Item 11).
- 10.13 Remove qty four 8mm bolts securing left-hand radiator frame to top and bottom frames, retain fixings for assembly and discard frame (Item 12).
- 10.14 Inspect radiator and intercooler for leaks and or damage paying particular attention to radiator welded seams; repair or replace if faulty. Examine top and bottom radiator and intercooler to frame mounting grommets and radiator frame to chassis mounting grommets replace if necessary (Item 9).

Installation

- 11 To install the new radiator mounting brackets proceed as follows:
 - 11.1 Locate new 6mm fixing points predrilled with captive nuts for new radiator brackets on both inner wings (two each wing) and clean out threads (Item 10).
 - 11.2 Assemble new left-hand side frame, new mounting bracket and new bushing (Items 2, 4 & 5) and ease into position, if necessary loosen bottom inner wing to chassis fixing to aid fitment. Loosely install all fixings securing mounting bracket to left-hand inner wing to ensure correct alignment, (Items 6 & 7) and two of the 8mm bolts securing the front panel to the inner wing. Loosely install the quantity four 8mm top and bottom frame securing bolts.
 - 11.3 Repeat step 9.15 for right-hand side frame, bracket and bushing (items 1, 3, 5, 6 & 7).
 - 11.4 Fully tighten the quantity eight top and bottom radiator frame securing bolts. Check radiator fan to cowling clearance is correct and fully tighten the 6mm wing bracket fixings; remove the 8mm bolts for reuse. Retighten bottom wing to chassis fixing bolts if previously loosened.
 - 11.5 Install transmission oil cooler and support frame, retain with original 10mm fixing bolts and nuts and fully tighten.
 - 11.6 Refit front panel assembly to vehicle and loosely assemble bonnet lock and slam panel 6mm fixings to support frame. Fully tighten quantity six 8mm inner wing fixings.
 - 11.7 Realign bonnet lock to marks made previously and fully tighten 6mm fixings. Refit bonnet release cable, set adjustment and check correct operation of bonnet release mechanism.
 - 11.8 Refit horn to original location using new fixings and fully tighten (items 6, 7 & 8). Identify and refit wiring connections to horn.
 - 11.9 Refit front grill panel with original fixings and fully tighten.
 - 11.10 Refit front towing pin to bumper.
 - 11.11 Reconnect vehicle and mission batteries, run and test including operation of horn. Close vehicle bonnet.

TESTING AFTER EMBODIMENT

12 Nil.

EFFECT ON WEIGHT

13 Negligible.

PUBLICATION AMENDMENTS

14 Nil.