Ministry of Defence

de&s

[redacted]
DE&S Secretariat Land Equipment

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Defence Equipment & Support
Maple 0a #2043
MOD Abbey Wood
Bristol BS34 8JH

[redacted]

Via: [redacted]

24-Nov-17 Our Reference: FOI2017/10573

Dear [redacted]

Thank you for your e-mail dated 26 October 2017, requesting the following information:

> *I would like to make a Freedom of Information request for the document AESP 2320-D-128-811. Also I would request the documents in reference to British Army Stanley Prismatic Marching Compass NSN 6605-99-537-9034*
> 1. *The operation manual*
> 2. *Maintenance manual*
> 3. *Parts manual*
>
> *If it helps I can accept electronic format.*

I am treating your correspondence as a request for information under the Freedom of Information Act 2000 (FOIA). A search for the information has now been completed within the Ministry of Defence and I can confirm that information in scope of your request is held. This can be found attached below.

On 22 November 2017 I wrote to you to explain that we considered that elements of your request fell within the scope of the following qualified exemption: Section 26 (Defence). As such, it was necessary for us to decide whether, in all the circumstances of the case, the public interest in maintaining the exemptions outweighs the public interest in disclosure.

We have completed this work and concluded that some information contained within AESP 2320-D-128-811 falls within scope of the qualified exemption provided for at Section 26 of the FOIA and has been redacted.

Section 26(1)(b) has been applied to some of the information because it contains details which are operationally sensitive due to contributing to C-IED tactics and would prejudice the capability and effectiveness of our armed forces. The balance of public interest was found to be in favour of withholding the information given that, overall, the public interest is best served in not releasing any details, in that it would prejudice the security of UK personnel serving abroad and would provide tactical advantage to our enemies. For these reasons, I have set the level of prejudice against release of the exempted information at the higher level of "would" rather than "would be likely to".

Section 40(2) (Personal Information) has been applied to some of the information in order to protect personal information as governed by the Data Protection Act 1998. Section 40 is an absolute exemption and there is therefore no requirement to consider the public interest in making a decision to withhold the information

Under Section 16 of the Act (Advice and Assistance) you may find it helpful to note that the compass contains radiological sources, namely the lamps that are used to illuminate the inside when the compass is being used in the dark. The AESP flags up numerous repairs that are marked as being "level 4" only. Level 4 indicates that it is necessary for the compass to be returned to the manufacture where the work will be conducted by trained professionals due to a potential health risk. You will note that the AESP makes numerous references to the safety risk involved.

If you have any queries regarding the content of this letter, please contact this office in the first instance.

If you wish to complain about the handling of your request, or the content of this response, you can request an independent internal review by contacting the Information Rights Compliance team, Ground Floor, MOD Main Building, Whitehall, SW1A 2HB (e-mail CIO-FOI-IR@mod.uk). Please note that any request for an internal review should be made within 40 working days of the date of this response.

If you remain dissatisfied following an internal review, you may raise your complaint directly to the Information Commissioner under the provisions of Section 50 of the Freedom of Information Act. Please note that the Information

Commissioner will not normally investigate your case until the MOD internal review process has been completed. The Information Commissioner can be contacted at: Information Commissioner's Office, Wycliffe House, Water Lane, Wilmslow, Cheshire, SK9 5AF. Further details of the role and powers of the Information Commissioner can be found on the Commissioner's website at https://ico.org.uk/.

Yours Sincerely

[redacted]

[redacted]
DE&S Secretariat Land Equipment

Ministry Of Defence

Army Equipment Support Publication

Truck Utility Light (TUL) HS, Truck Utility Medium (TUM) HS and (TUM) Battlefield Ambulance HS, All Variants

Modification Instructions and Index
2320-D-128-811

3rd Edition May 2017
Superseding 2nd Edition Oct 1999

Sponsored for use in the
United Kingdom Ministry of Defence
and Armed Forces by Defence Equipment & Support
Operational Support Vehicles Programme (OSVP)

U05V9

Publication Authority: DES LE OSP-OSVP-CVS

Operational Support Vehicles Programme (OSVP)
Mail Point #1309
Spruce 3c
DE&S, Abbey Wood
Bristol, BS34 8JH
[redacted]

Service users should send their comments through the channel prescribed for the purpose by the publication sponsor.

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
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PREFACE

Sponsor:	OSP-OSVP
Project Number:	-
File Ref:	-
Publication Authority:	DES LE OSP-OSVP-CVS

INTRODUCTION

1 The Publication Sponsor is responsible for the allocation of instruction numbers.

2 All Modification instructions as issued are to be recorded in manuscript by the recipient on the Numerical Instruction Index provided. Amendments to individual instructions are to be recorded on the instruction amendment record. All extant instructions and amendments can be found listed in the main Army Equipment Support Publication (AESP) index.

NOTE

The Publication Sponsor is responsible for the preparation and maintenance of the Instruction Index and will advise the Distribution Authority (DA) on the issue of completed and subsequent blank index pages necessary.

3 The Publication Sponsor is responsible for the preparation and maintenance of the Instruction Index and will advise the DA on the issue of completed and subsequent blank index pages necessary.

4 Army Equipment Support Publications (AESPs) are issued under Defence Information Notices (DIN) authority and where AESPs specify action to be taken, the AESP will of itself be sufficient authority for such action and also for the demanding of the necessary stores.

5 This edition is a new common AESP for the Truck Utility Light (TUL) High Specification (HS), Truck Utility Medium (TUM) HS and TUM Battlefield Ambulance HS, All Variants. It is produced under the prime AESP 2320-D-128-Octad.

6 All subsequent Modification Instructions will be contained in this Octad and will be applicable to the TUL HS, TUM HS and TUM Battlefield Ambulance, All variants unless specified within the instruction.

Publication authority

7 The publication authority for this AESP is as follows:

Operational Support Vehicles Programme (OSVP)
Mail Point #1309
Spruce 3c
DE&S, Abbey Wood
Bristol, BS34 8JH
[redacted]

INSTRUCTION INDEX

Priority (PTY) is shown in column 2 below.

Key: I = Immediate R = Routine CR = Completely Revised

Instr No. (1)	Pty (2)	Amdt No. (3)	Subject (4)	Approval No./ Remarks (5)
1	-	-	Cancelled.	-
2	-	-	Cancelled.	-
3	R	CR	Heli-lift vehicle modifications (hard top only).	12-6660
4	R	1	Fitting emergency lights, siren and harness.	12-6661
5	-	-	Not issued.	12-6662
6	R	1	Fitting spare wheel tyre inflation valve extension.	12-6663
7	-	-	Cancelled.	-
8	-	-	Cancelled.	-
9	-	-	Cancelled.	12-6666
10	R	CR	Winterised/waterproof protective bag.	12-6667
11	-	-	Cancelled.	-
12	R	1	Radiation Hazard curtain.	12-6669
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15	-	-	Cancelled.	-
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17	I	1	Revised vehicle battery retention installation.	12-6674
18	R	-	Front windscreen, side and rear window protection screens.	12-6675
19	R	-	Blackout cover for warning light panel.	12-6676
20	R	-	8 m Mast mounting kit.	12-6679
21	-	-	Not issued.	12-6680
22	R	-	Fitting ambulance signs and disabling Blue flashing beacon.	12-6682
23	-	-	Cancelled.	-
24	R	1	Fitting of a trailer breakaway attachment plate.	12-6684
25	R	-	Fitting of a spare wheel lifting aid harness.	12-6685
26	R	1	Fitting of the stretcher retention strap system.	12-6686
27	-	-	Cancelled.	-
28	-	-	Cancelled.	-
29	I	1	Spare wheel adaptor plates, left and right hand installation.	-
30	I	-	Front seat belt protection sleeves.	-

(continued)

INSTRUCTION INDEX (continued)

Instr No. (1)	Pty (2)	Amdt No. (3)	Subject (4)	Approval No./ Remarks (5)
31	I	CR	Cover for Blue flashing Beacon.	-
32	-	-	Cancelled.	-
33	R	-	Rear door black out blind (FFR variants only).	-
34	R	-	Improved Rear Pannier Latch Assembly.	-
35	I	-	Fitting of an Emergency Hammer.	12-6687
36	-	-	Cancelled.	12-6688
37	I	-	Fitting Glow Plug Timer Interface.	12-6689
38	R	-	Fitting of a new Import/Export box mounting bracket.	-
39	-	-	Cancelled.	-
40	R	-	Fitting additional lashing eyes.	-
41	R	-	Fitting of a Battery Negative Isolator Switch.	-
42	R	-	Fitting a swing away spare wheel carrier, the installation of a spare wheel lifting aid, (including preparation of soft top by converting a drop down tailgate to a side hinged tailgate) and the fitting of a rear step.	-
43	R	-	Removal of battery box and fitting of a rear facing seat and on winter water vehicles the removal or rear compartment radiators and modification to the fitting of the raised air intake.	-
44	R	-	Replacing the six way lighting switch with a seven way lighting switch.	-
[redacted]				
46	R	CR	Fitting of wheel nut indicators to Land Rover.	-

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 1

SUBJECT: Radio racking fixings. (Approval No. LSTP 12-6639)

CANCELLATION

INTRODUCTION

1 Modification Instruction No. 1 dated Oct 99 is hereby cancelled. The radio racking fixings are now no longer required.

ACTION

2 File this Page 1/2 in place of Modification Instruction No. 1 dated Oct 99, all pages of which are to be destroyed.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 2

SUBJECT: Roof mounted communication installation (blanking plate only).

(Approval No. LSTP 12-6659)

CANCELLATION

INTRODUCTION

1 Modification Instruction No. 2 dated Oct 99 is hereby cancelled. Roof mounted communication installation (blanking plate only) is no longer required.

ACTION

2 File this Page 1/2 in place of Modification Instruction No. 2 dated Oct 99, all pages of which are to be destroyed.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 3

CONTENTS

Sponsor: GSV PT
Project number: -
File ref: -
Publication agency: GSV PT Abbey Wood

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
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Amdt No.	Incorporated By (Signature)	Date
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SUBJECT: Heli-lift vehicle modifications (hard top only) (Approval No LSTP 12-6660)

INTRODUCTION

1 This instruction is to manufacture and fit the equipment for the protection required preventing damage to the vehicle when Hard Top (HT) vehicles are being transported by helicopter.

1.1 Limitations on use of equipment. Nil.

APPLICABILITY

2 Land Rover Truck Utility Light (TUL) High Specification (HS) (HT only) and Truck Utility Medium (TUM) HS (HT only).

2.1 Fitted to subject equipment held by user units.

2.2 Unmodified stock, held at all levels of technical storage.

REASON FOR MODIFICATION

3 Code 2 - to improve operational performance.

PRIORITY

4 ARMY: Routine.

5 RAF: Class 3.

ESTIMATED TIME REQUIRED

6 Embodiment: 8.0 man-hours.

MODIFICATION IMPLEMENTATION PLAN

7 This Modification Instruction is to be implemented by:

7.1 ARMY - Units authorised to carry out Level 4 maintenance only.

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

7.3 Associated Modification Instructions: Nil.

7.4 Modification strike plate action: Nil.

Action required by

8 The following action is to be carried out:

8.1 Units and establishments holding equipment:

8.1.1 Examine vehicle documents to see if this Modification Instruction is applicable.

8.1.2 Examine the Modification record plate to see if this Modification Instruction is embodied and where necessary Units with Level 2 Royal Electrical and Mechanical Engineers (REME) Support demand the stores required.

8.1.3 ARMY - On receipt of stores, request REME to modify equipment.

8.1.4 ARMY - Record the modification subject and Army Equipment Support Publication (AESP) number in equipment documents.

8.1.5 RAF - Record modification details on Army Form General (AF G) 1084A and Form 4870. Units operating Station Transport Management Aid (STAMA) are also to record modification details on ADP Mechanical Transport Maintenance Section (MTMS) job Certification Sheet and to follow the procedures laid down in Air Publication (AP) 100C-08A.

8.2 Army units authorized to carry out Levels 2, 3 and 4 maintenance and RAF units:

8.2.1 ARMY - When requested by users or during overhaul of equipment on charge without REME Level 2 Support, obtain the items listed in Para 9 and carry out this modification.

8.2.2 Record completion details of Modification Instruction against appropriate entry in equipment documents.

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

8.2.3.1 RAF: Modification Code: AFN 148.

NOTE

RAF units operating STAMA are also to complete ADP MTMS Job Certification Sheet and to follow the procedures laid down in AP 100C-08A.

8.3 All recipients of this instruction. Add particulars to AESP 2320-D-128-811 Modification Instruction Index.

Stores, tools and equipment

9 The following items are to be demanded quoting this Modification Instruction as the authority:

9.1 Stores to be demanded:

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
		NP	Mod Kit Comprising:	1
1		5530-99-551-4568	Packer 4 mm (refer to Para 9.2)	1
2		5530-99-225-9696	Packer 6 mm (refer to Para 9.2)	1
3		5530-99-924-0087	Packer 9 mm (refer to Para 9.2)	1
4		5530-99-842-6037	Packer 12 mm (refer to Para 9.2)	1
5		5530-99-924-0139	Board protection outer 22 mm (refer to Para 9.1)	1
6		9515-99-964-7902	Steel 3 mm (refer to Para 9.3)	6
7		5305-99-134-9002	Screw, wood No. 10 x ¾, pozi drive	3
8		5306-99-138-1549	Bolt, coach, M6 x 55	3
9		5310-99-135-4101	Washer, M6	3
10		5310-99-122-3401	Nut, M6	(A/R)
11		8030-99-811-8760	Secomastic (Sealant)	(A/R)
12		6810-99-942-9393	Wood preserver (Cuprinol)	(A/R)
13		8010-99-126-0772	Etch primer	(A/R)
14		8010-99-244-8997	Primer – zinc phosphate	(A/R)
15		8010-99-623-9651	Paint top coat (NATO green 1 Litre)	(A/R)

Sequence of operations

NOTE

The item numbers of Para 9 are used as references throughout this Modification Instruction.

10 Carry out this instruction as follows:

Board protection outer.

11 Using the measurements in Fig 1 proceed as follows:

11.1 Fabricate board protection outer (Item 5).

11.2 Apply one coat of wood preserver (Item 12).

11.3 Apply one coat of primer (Item 14) and one coat of paint (Item 15) as required.

11.4 Packer.

11.4.1 Assess the thickness required to fit the space between the roll bar and the roof using offcuts.

11.4.2 Fabricate a packer using one or combinations of different thicknesses of plywood (Items 1, 2, 3 or 4).

11.4.3 Apply one coat of wood preserver (Item 12).

11.4.4 Apply one coat of primer (Item 14) and one coat of paint (Item 15) as required.

11.5 Chain guard.

11.5.1 Fabricate chain guards from 3 mm thick (Item 6) steel to British Standard European Norm (BS EN) 10025 S275 using the measurements detailed in Fig 1.

11.5.2 Apply one coat of primer (Item 13) and one coat of paint (Item 15) as required.

11.6 Assembling.

11.7 Refer to Fig 2 and proceed as follows:

11.7.1 When the chain guards and board protection outer are dry, apply sealant to the top edges only of the board protection outer and fit the guards to the board using wood screws (Item 7).

11.8 Fitting to vehicle.

11.9 Refer to Fig 2 and proceed as follows:

11.9.1 Place the board protection outer assembly above the drain channel at the rear of the vehicle using two packing pieces to achieve 22 mm distance from the bottom of the drain channel to the top of the packing pieces.

11.9.2 Fit the packer to the inside of the vehicle between the roll bar and the body. Push the packer up as far as possible using appropriate clamps to hold the two items in place.

11.9.3 Using the protection board outer as a template drill three holes through the vehicle and packer.

11.9.4 Fit three bolts (Item 8) complete with washers (Item 9) and nuts (Item 10) and secure (refer to Fig 3).

11.9.5 The bolts must not protrude from the nuts by more than 3 mm, if necessary trim the bolts to the correct length (refer to Fig 3).

11.9.6 Remove the clamps and apply sealant (Item 11) between the hood and protection board along the top edge only (refer to Fig 3).

TESTING AFTER EMBODIMENT

12 Nil.

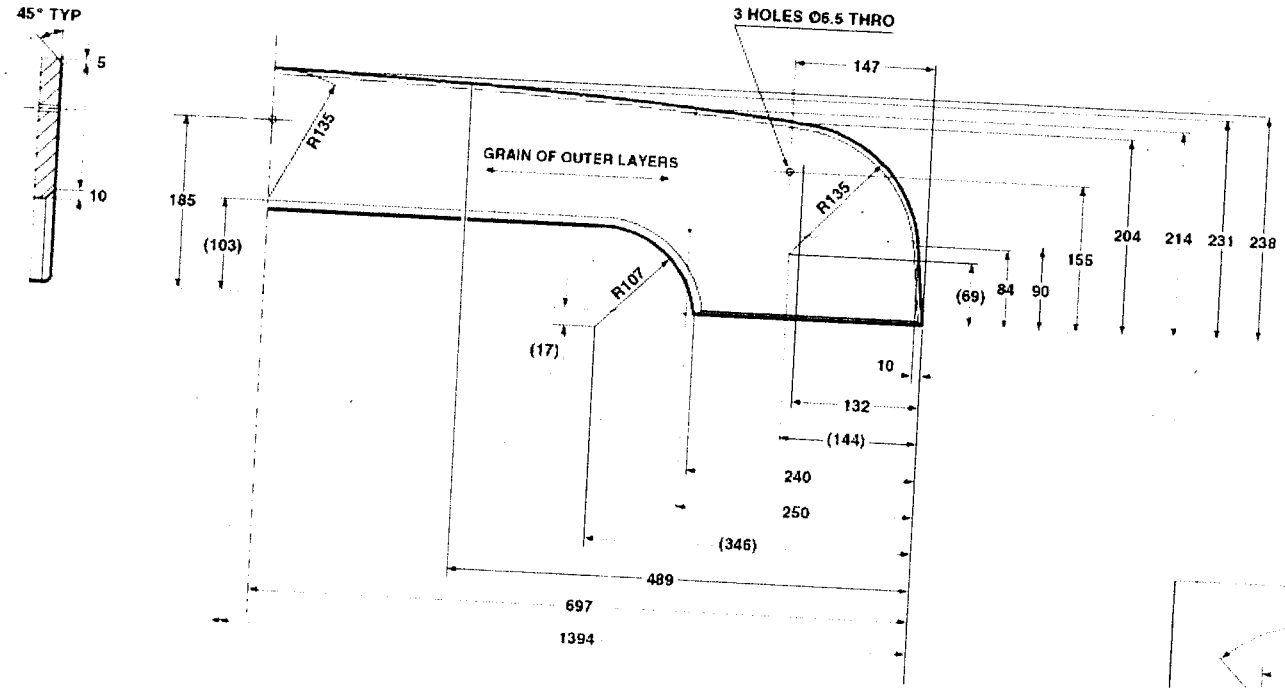
EFFECT ON WEIGHT

13 Negligible.

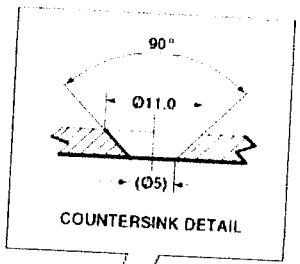
PUBLICATION AMENDMENTS

14 Necessary amendments will be issued separately.

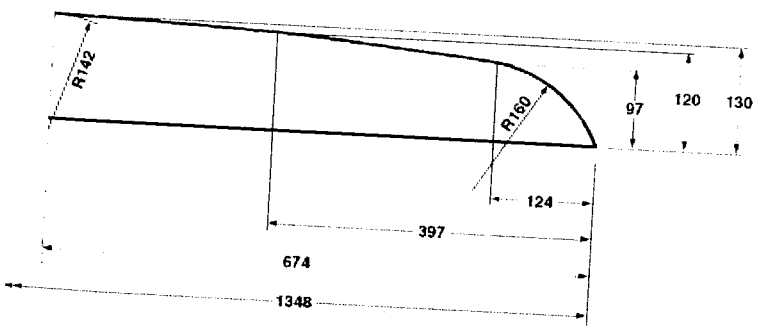
DIMENSIONS IN mm



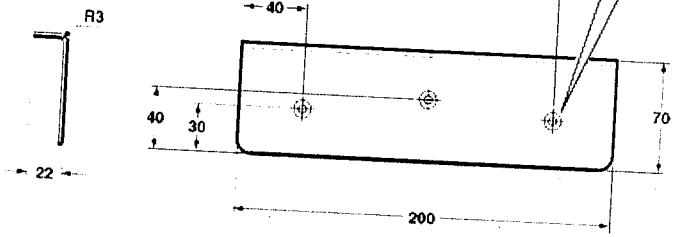
BOARD PROTECTION OUTER



COUNTERSINK DETAIL



PACKER



CHAIN GUARD

Fig 1 Manufacturing details

MIL0594

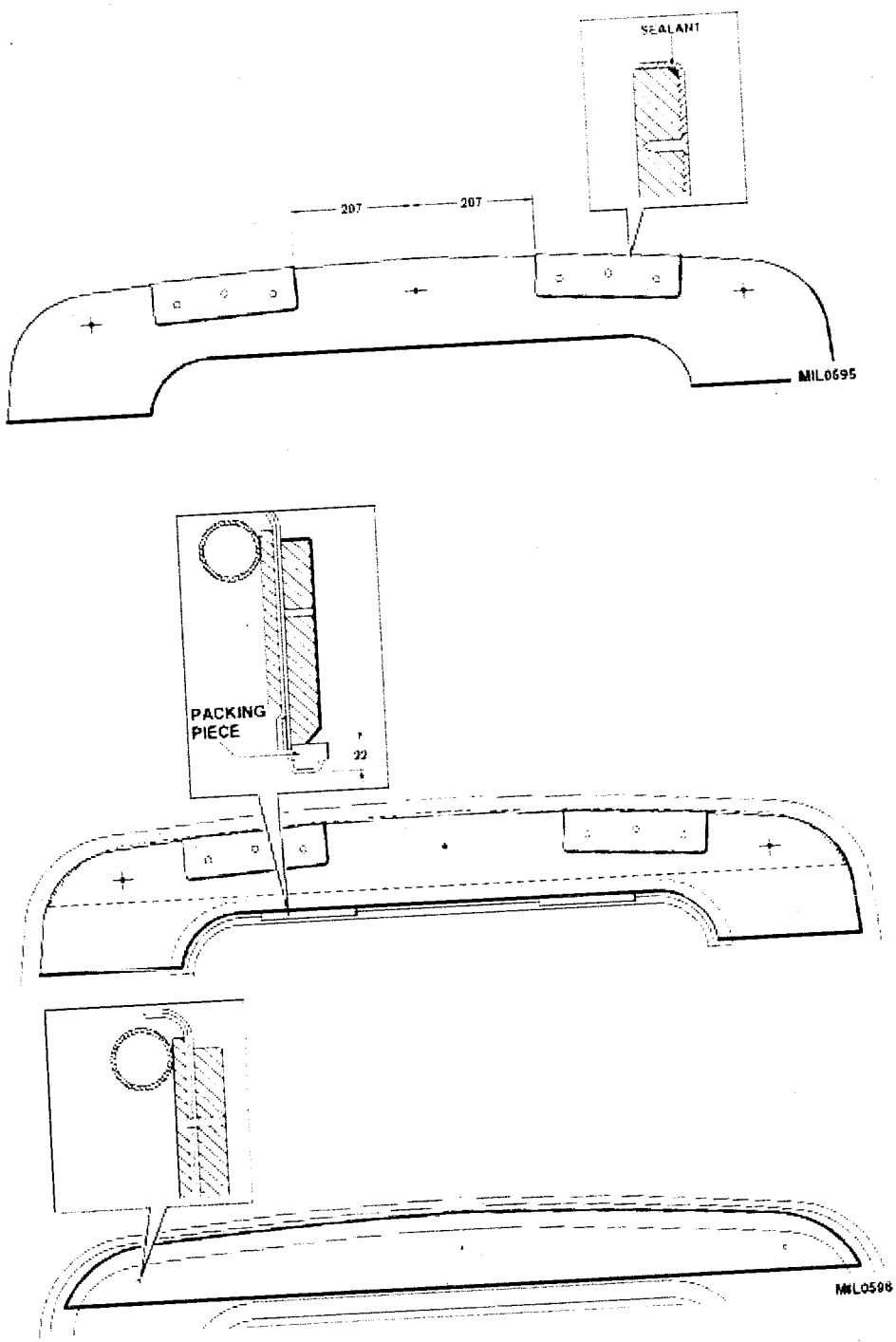


Fig 2 Assembling and fitting to vehicle

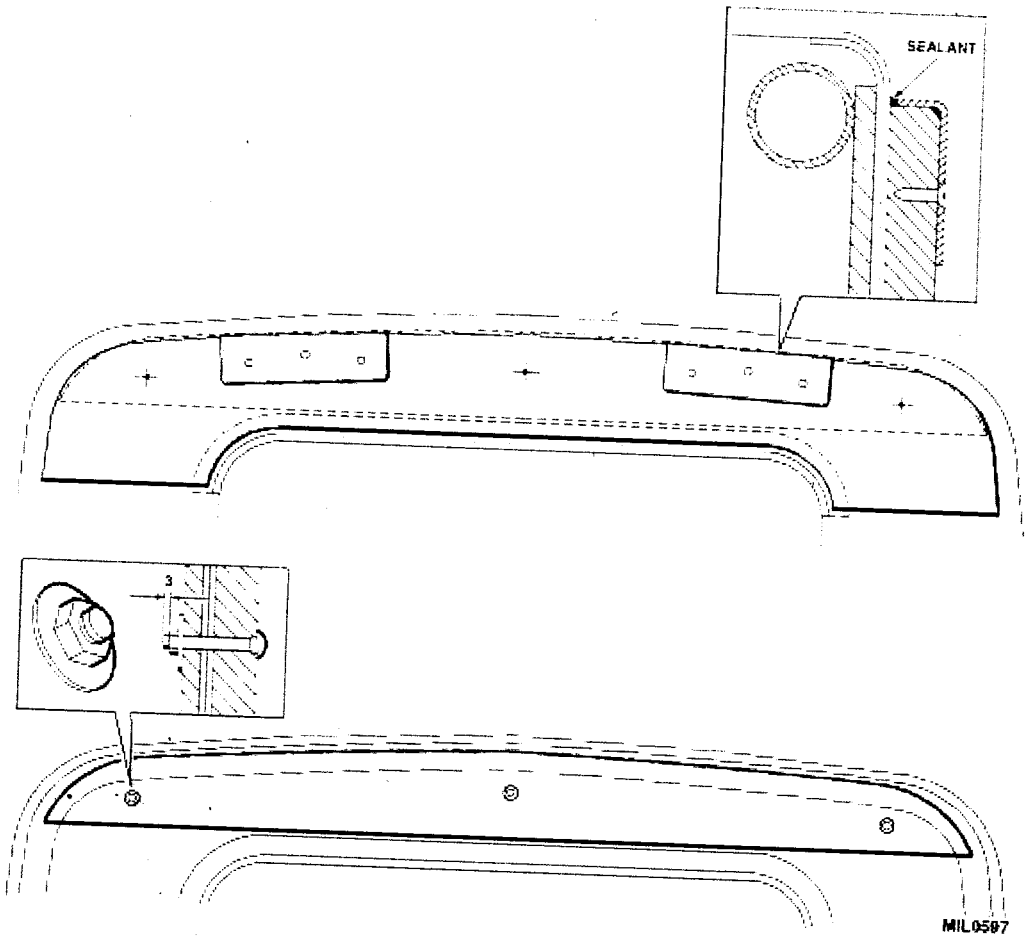


Fig 3 Securing and sealing

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 4

CONTENTS

Sponsor: DGES(A) ES52
Project number: ES52c/4356
File ref: D/DGES(A) 548/3/4
Publication agency: ATSA Chertsey

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
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Amdt No.	Incorporated By (Signature)	Date
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SUBJECT: Fitting Emergency lights, siren and harness. (Approval No. LSTP 12-6661)

INTRODUCTION

1 This Modification Instruction details the fitting of emergency lights, siren, harness and associated fittings.

1.1 Limitations on use of equipment. Nil.

APPLICABILITY

2 Land Rover Truck Utility Light (TUL) High Specification (HS) and Truck Utility Medium (TUM) HS vehicles all variants.

2.1 Fitted to subject equipment held by user units.

2.2 Unmodified stock, held at all levels of technical storage.

REASON FOR MODIFICATION

3 Code 2 - to improve operational performance.

PRIORITY

4 ARMY: Routine.

5 RAF: Class 3.

ESTIMATED TIME REQUIRED

6 Embodiment: 8.0 man-hours.

MODIFICATION IMPLEMENTATION PLAN

7 This instruction is to be implemented by:

7.1 Units authorised to install emergency blue lights and sirens, i.e. Royal Military Police (RMP), Explosive Ordnance Disposal (EOD), Royal Air Force (RAF) Police.

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

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

7.4 Associated Modification Instructions. Nil.

7.5 Modification plate strike action: Nil.

Action required by

8 The following action is to be carried out:

8.1 Units and establishments holding equipment:

8.1.1 Examine vehicle documents to see if this Modification Instruction is applicable.

8.1.2 Examine the Modification record plate to see if the Modification Instruction is embodied and where necessary Units with Level 2 Royal Electrical and Mechanical Engineers (REME) Support demand the stores required.

8.1.3 ARMY - On receipt of stores, request REME to modify equipment.

8.1.4 ARMY - Record the modification, Subject Army Equipment Support Publication (AESP) number and Army Modification Code in equipment documents.

8.1.5 RAF - Record modification details on Army Form General (AF G) 1084A and Form 4870. Units operating Station Transport Management Aid (STAMA) are also to record modification details on ADP Mechanical Transport Maintenance Section (MTMS) job Certification Sheet and to follow the procedures laid down in Air Publication (AP) 100C-08A.

8.2 Army units authorized to carry out Levels 2, 3 and 4 maintenance and RAF units:

8.2.1 ARMY - When requested by users or during overhaul of equipment on charge without REME level 2 Support, obtain the items listed in Para 9 and carry out this modification.

8.2.2 Record completion details of Modification Instruction against appropriate entry in equipment documents.

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

8.2.3.1 RAF: Modification Code: AFN 150.

NOTE

RAF units operating STAMA are also to complete ADP MTMS Job Certification Sheet and to follow the procedures laid down in AP 100C-08A.

8.3 All recipients of this instruction. Add particulars to AESP 2320-D-128-811 Modification Instruction Index.

Stores, tools and equipment

9 The following modification set is to be demanded quoting this instruction authority for demand:

9.1 Stores to be demanded:

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
	7XD	2540-99-830-1219	Mod Kit Comprising:	1
1	7XDW	5340-99-573-6114	Insert cable tie	(5)
2	7XD	5963-99-663-6041	Amplifier c/w fixings	(1)
3	7XD	2510-99-705-6006	6 way switch plate	(1)
4	7XD	5930-99-301-8338	Switch, siren	(1)
5	6MT4	5930-99-125-8823	Switch, beacon	(1)
6	7XD	6150-99-471-4918	Siren/beacon harness	(1)
7	6MT1	5340-99-195-5122	Flat cable tie	(50)
8	7XD	5930-99-815-8072	Switch, isolation	(1)
9	7XD	6350-01-450-5252	Siren	(1)
10	7XD	5340-99-841-4004	Mounting bracket	(1)
11	7XD	5310-99-212-1593	Nut plate	(2)
12	G1	5305-99-122-5367	Screws, M8 x 25	(2)
13	7XD	6220-99-732-0786	Beacon assy	(2)
14	6MT1	5340-99-655-2993	'P' clips	(2)
15	7XD	5340-99-730-8021	Mounting plate	(2)
16	7XD	5330-99-108-5074	Neoprene seal	(12)
17	G1	5305-99-122-5361	Screw, M6 x20	(12)
18	G1	5310-99-139-5313	Nut, M6	(12)
19	G1	5310-99-122-6474	Washer	(4)
20	7XDW	5305-99-864-4835	Screw, M6 x 16	(4)
21	7XD	5310-99-601-8073	Nut, flanged	(2)
22		STC4435	Mounting plate (Soft top only - alternative to Item 15)	(4)
23		STC4436	Clamp c/w washer (Soft top only)	

Sequence of operations

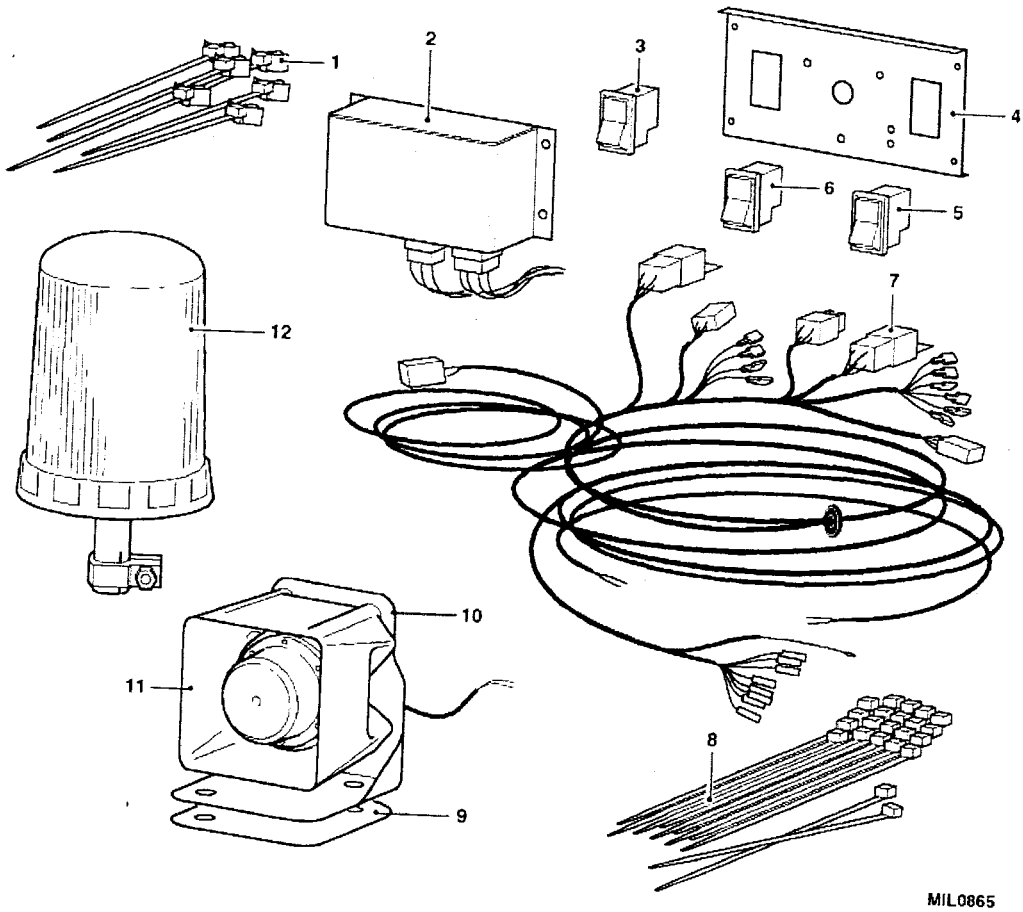
NOTES

(1) The main numbers of Para 9 are used as references throughout this instruction.

(2) The harness fits both Left Hand (LH) and Right Hand (RH) drive vehicles. There will be a need to gather up and hide spare cable at suitable points within the vehicle and inside the engine compartment.

(3) Various plugs, fittings and accessories to complete this task are supplied in a plastic bag attached to the harness.

(4) For an illustration of the principal components (refer to Fig 1).

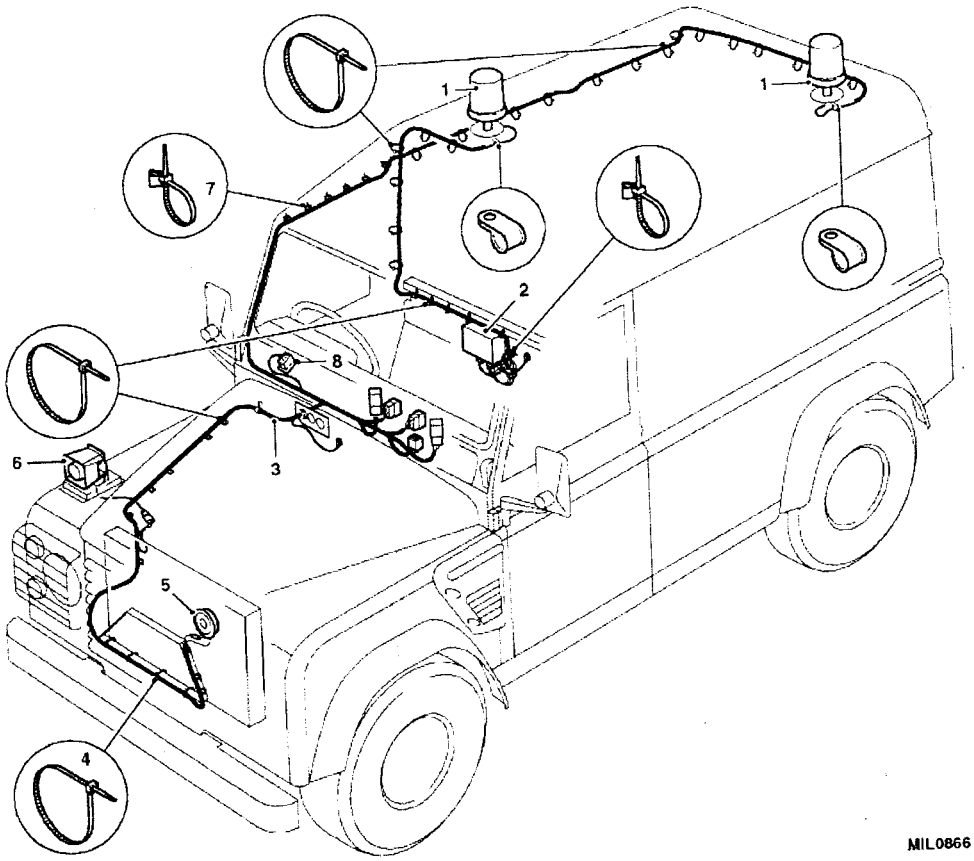


1	Insert cable ties	5	Switch - siren	9	Nut plate
2	Amplifier	6	Switch - beacon	10	Bracket
3	Switch - isolator	7	Harness	11	Siren
4	Switch plate	8	Flat cable ties	12	Beacon

Fig 1 Principal components

10 Carry out this Modification Instruction as follows:

10.1 The beacon/siren harness is integrated with the existing vehicle harness. A layout of the harness run, fixings and equipment is shown in Fig 2.



1	Beacon	5	Harness
2	Amplifier	6	Flat cable ties
3	Switch - isolator	7	Nut plate
4	Switch plate	8	Bracket

Fig 2 Vehicle layout

10.2 Carry out the following preliminary tasks.

10.2.1 Disconnect the vehicle batteries (refer to Cat 522, Chap 13) and on Fitted For Radio (FFR) vehicles the radio batteries (refer to Chap 13-2).

10.2.2 Remove binnacle (refer to Cat 522, Chap 13).

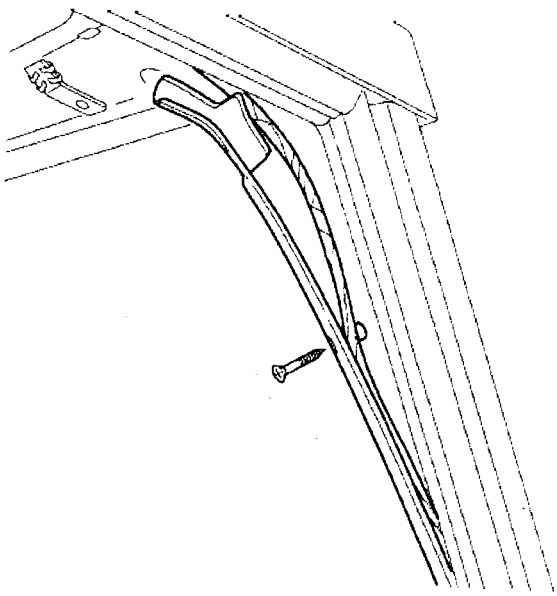
10.2.3 Disconnect speedometer and hang binnacle to the right of the steering column.

10.2.4 Remove 6-way lighting switch and side panels (refer to Cat 522, Chap 13).

10.2.5 Remove all items from 6-way switch panel and discard panel.

10.2.6 Remove front grill (refer to Cat 522, Chap 16).

10.2.7 Undo screws and remove doorpost finisher as shown at Fig 3 (driver's side only).



MIL0867

Fig 3 Removal of door post finisher

10.3 Fitting the harness.

10.3.1 Remove grommet blank as shown at (Fig 4) (drivers side only), pass the vehicle horn, siren and earth wires into the engine bay area from inside vehicle and fit grommet.

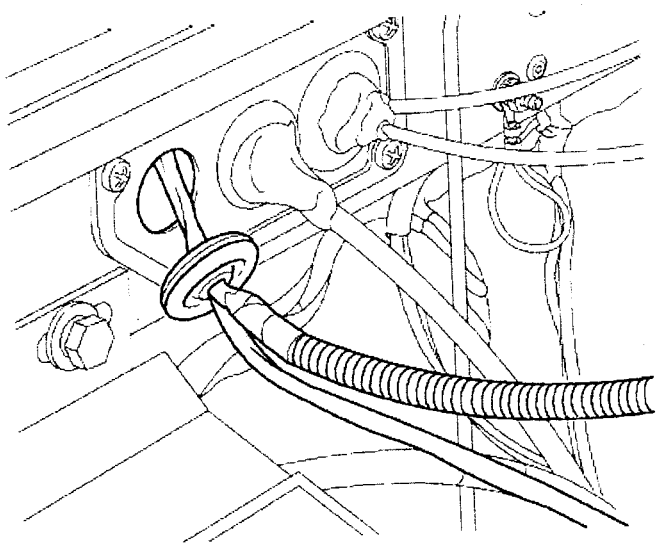


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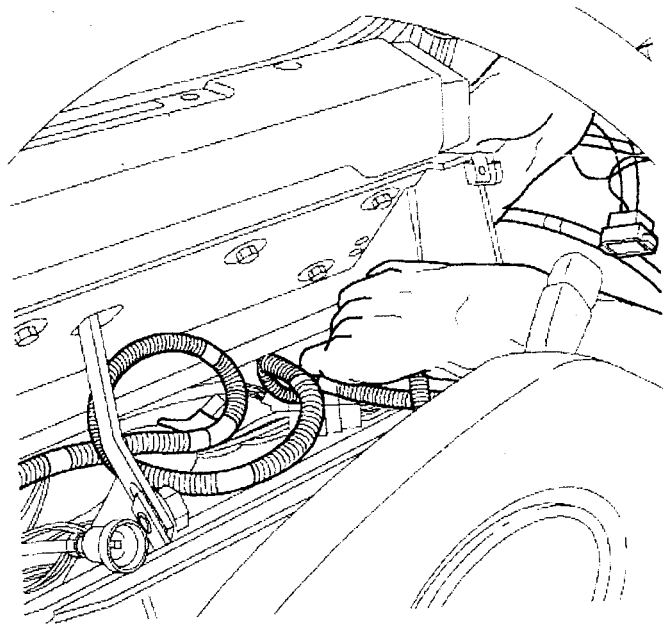
Fig 4 Fitting harness and grommet



MIL0869

Fig 5 Routing of harness

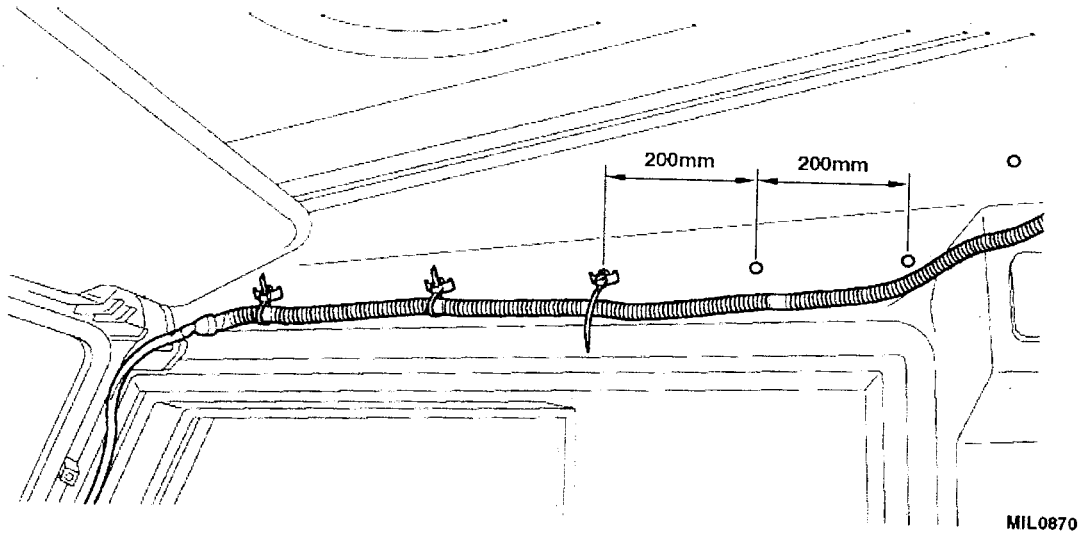


Fig 6 Door top alignment

10.3.2 Place the switch/relay wires in the switch panel area, route rest of harness across to base of binnacle area and up the side of the windscreen as shown at Fig 5.

10.3.3 Secure harness to the top of the door finisher by drilling 5 mm holes as shown at Fig 6, then clip harness to the top of the door finisher using insert cable ties (Item 1).

10.4 Fitting the relays.

10.4.1 Locate relays on beacon/siren harness, position relays in switch side panels as shown at Fig 7 local to appropriate switch. Drill 7 mm holes and fit relays with fixings (Items 20 and 21).

NOTE

Relays must be fitted in vertical position as shown.

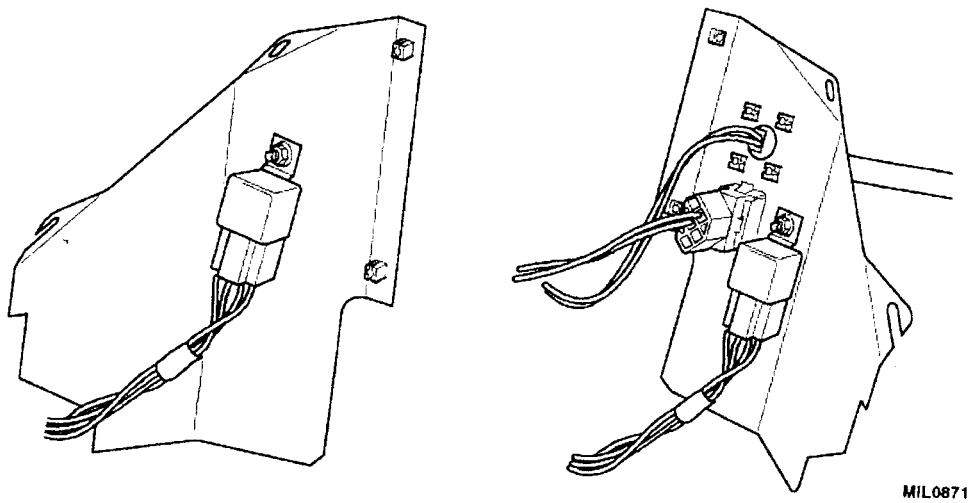


Fig 7 Fitting relays

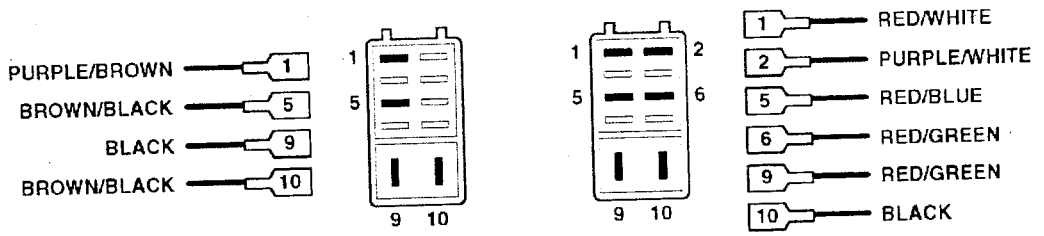


Fig 8 Switch configuration

10.4.2 Fit siren and beacon switches (Items 4 and 5) into new 6-way front switch panel (Item 3).

10.4.3 Connect siren/beacon harness to switches as shown at Fig 8.

10.4.4 Fit white 4-way light switch connector (male) on main harness to white 4-way connector (female) on beacon/siren harness.

10.4.5 Fit black light switch connector (female) on main harness to black connector (male) on beacon/siren harness.

10.4.6 Fit remaining white connector on main harness to white connector on beacon/siren harness.

10.4.7 Assemble and fit 6-way switch and side panels (refer to Cat 522, Chap 13).

10.5 Fitting the isolation switch.

10.5.1 Remove blank from underside of the binnacle area.

10.5.2 Locate isolation connector on harness and connect to isolation switch.

10.5.3 Fit switch in aperture, push to lock in position as shown at Fig 9.

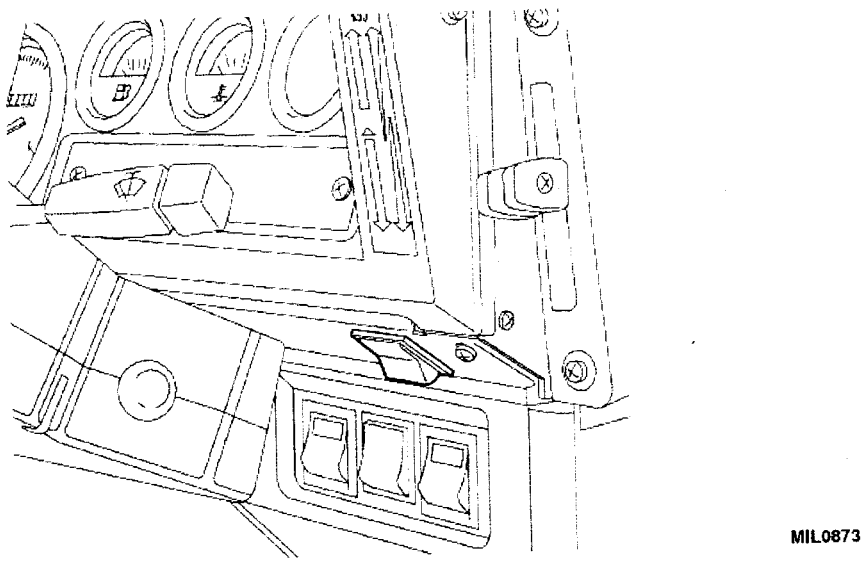


Fig 9 Isolation switch

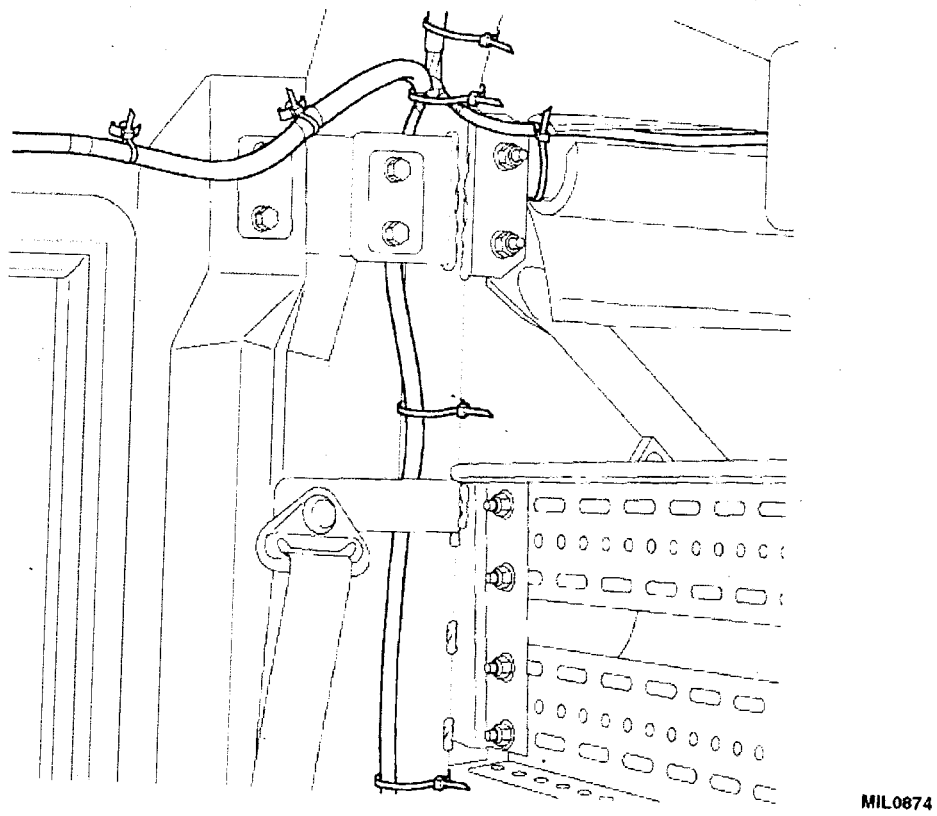


Fig 10 Cable breakout

10.6 Fitting the amplifier.

10.6.1 Fix harness to front rollover bar upright at harness breakout (amplifier, front/rear beacon cable), using cable tie (Item 7) as shown at Fig 10.

10.6.2 Route amplifier cable down the front upright, secure every 200 mm.

10.6.3 Continue amplifier cable across rear bulkhead and secure under the top lip as shown at Fig 11.

10.6.4 Position amplifier unit and spot drill fixing holes.

NOTE

Unit should be positioned as high as possible on rear bulkhead, on the passenger side approx. 300 mm from the centre line of the vehicle.

10.6.5 Drill 6 mm diameter holes to, fasten unit to front face of rear bulkhead using fixings supplied.

10.6.6 Drill 7 mm hole, clean area around hole to ensure sound earth connection and secure amplifier earth wire to bulkhead using fixings (Items 20 and 21).

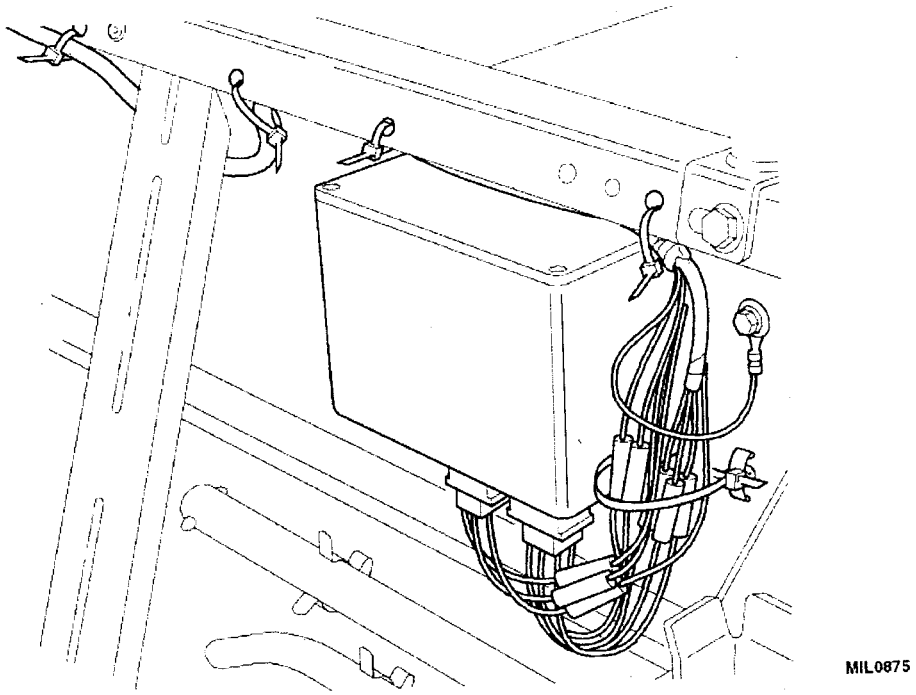


Fig 11 Amplifier

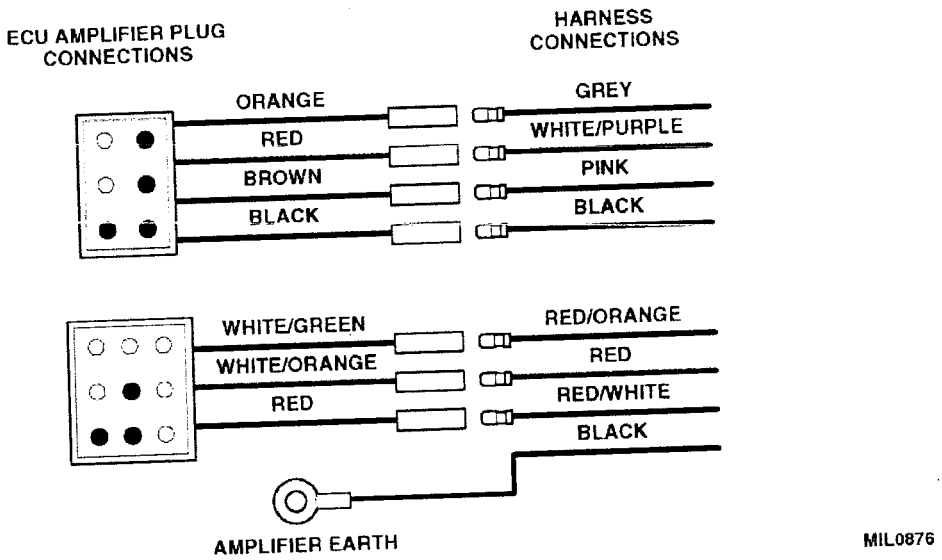


Fig 12 Amplifier connections

10.6.7 Connect harness to amplifier unit as shown at Fig 12.

10.6.8 Tidy amplifier harness using cable ties provided to the lip.

10.7 Fitting the beacons.

10.7.1 Route front beacon harness along rollover bar to approximately line up with where the front beacon hole driver's side will be, cable tie loosely.

10.7.2 Mark the fixing point for the front beacon as shown in Fig 13.

10.7.3 Using the mounting plate (Item 15) as a template, drill six 7 mm diameter holes and one 26 mm diameter hole to suit.

NOTE

When the siren is fitted to a soft top vehicle an alternative to (Item 15) is fitted under the canopy (Item 22) and clamped (Item 23) directly to the roll bar.

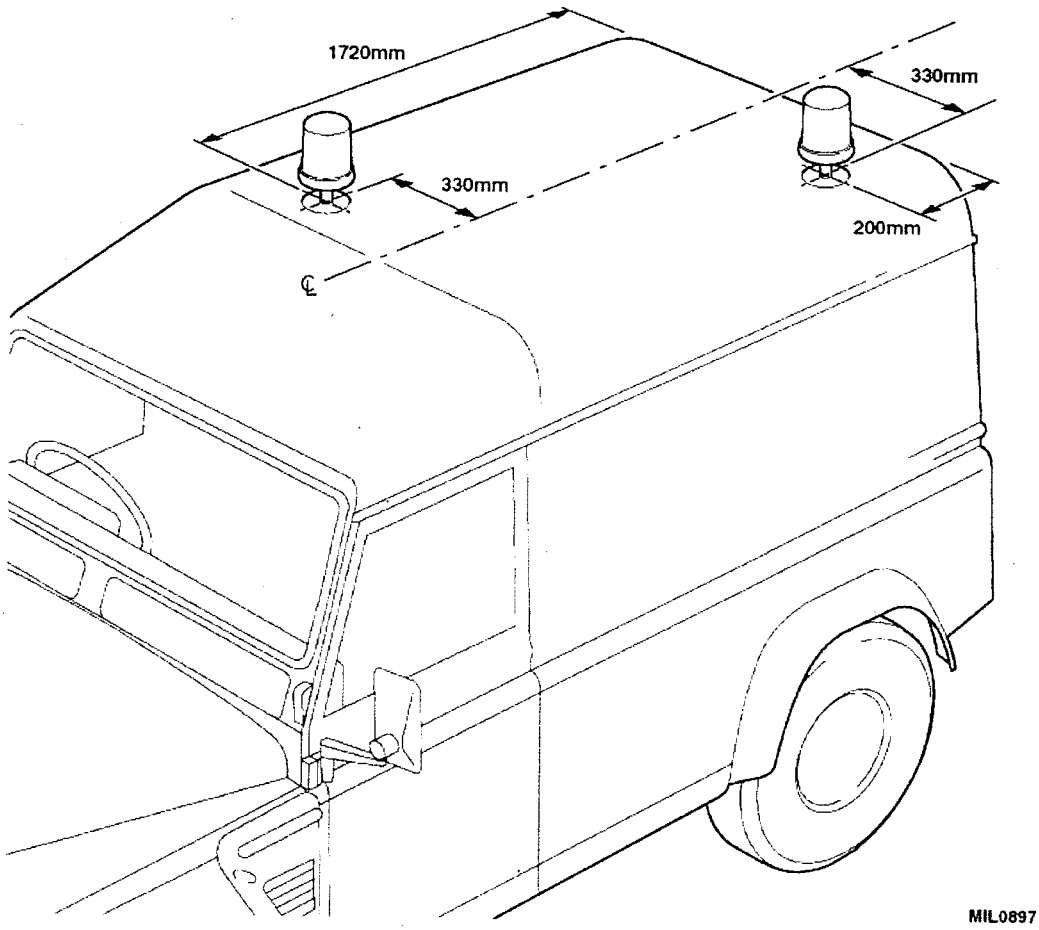
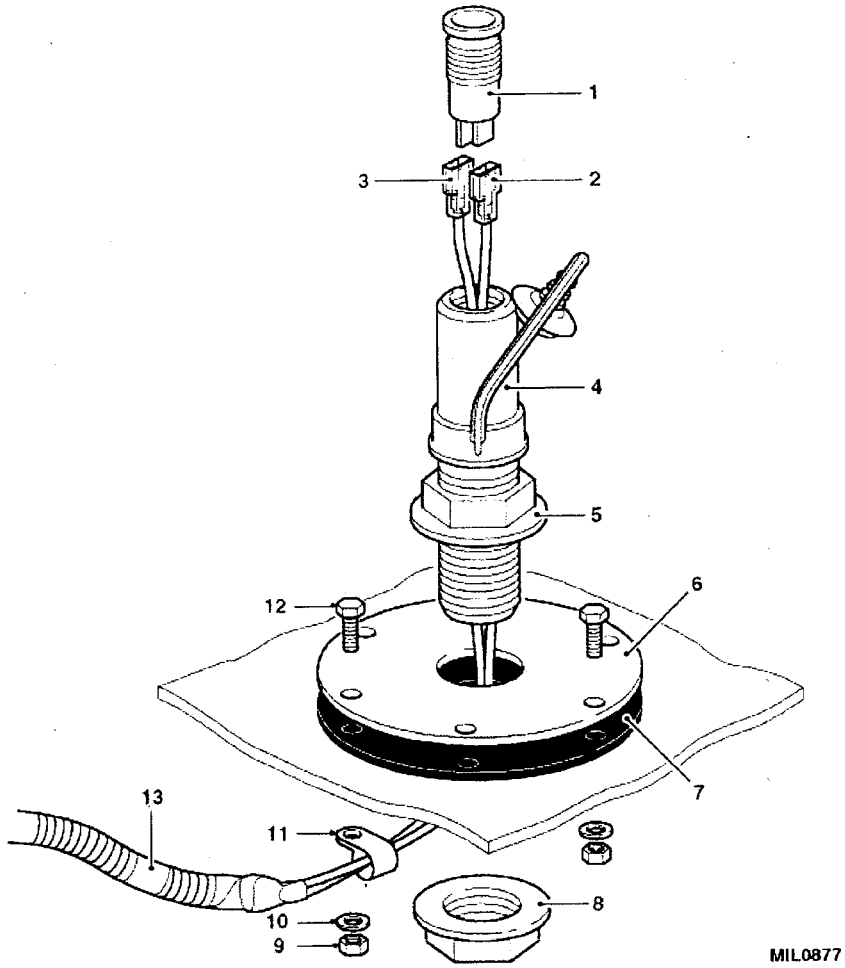


Fig 13 Positioning front and rear beacons



1	Terminal adapter	8	Securing nut
2	Harness wire	9	Nut
3	Harness wire	10	Washer
4	Socket unit	11	'P' clip
5	Upper nut	12	Screw
6	Mounting plate	13	Harness
7	Neoprene seal		

Fig 14 Beacon assembly

10.7.4 Fit the mounting plate (Item 15) with a neoprene seal (Item 16) and secure with the M6 fixings (Items 17, 18 and 19).

10.8 Refer to Fig 14 and proceed as follows:

10.8.1 Displace the beacon socket seal, if fitted, remove the terminal adapter and securing nut.

10.8.2 Pass the two beacon harness wires through the nut, roof and socket.

10.8.3 Connect the black wire to the short terminal blade and the yellow wire to the long terminal blade.

10.8.4 Spin the terminal adapter into the socket unit.

NOTE

Take care not to twist the harness wires when securing the terminal adapter to the socket.

10.8.5 Tighten the lower and upper nuts to secure the unit.

10.8.6 Secure the harness to mounting plate using a 'P' clip.

10.8.7 Fit the beacon in to the terminal adapter and tighten the pinch bolt to secure.

10.8.8 Mark the position of the rear beacon (refer to Fig 13).

10.8.9 Route the harness for rear beacon along the horizontal bars and over top of the rear rollover bar to the rear beacon location on the passenger side, cable tie loosely at 200 mm centres to the horizontal and rollover bars.

10.8.10 Fit the rear beacon and connect the harness as described in Paras 10.7.3 to 10.8.7.

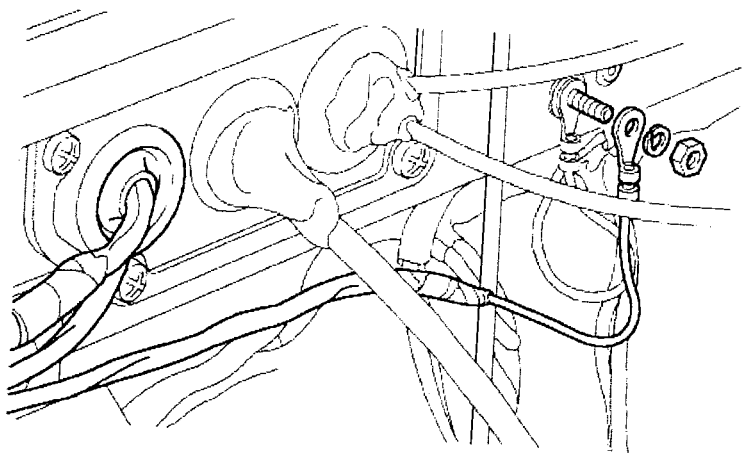


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Fig 15 Engine bay earth stud

10.9 Connecting the siren.

10.9.1 In the engine bay connect the harness earth eyelet to the existing earth stud and secure as shown at Fig 15.

10.9.2 Route the siren harness with the existing wing harness, across the top lip of the wing edge, cable tie loosely as shown at Fig 16.

10.10 Refer to Fig 17 and proceed as follows:

10.10.1 Locate the siren plug housing on the harness adjacent to the siren mount.

10.10.2 Cut the two siren leads to 360 mm length and slide seals over the wires, cut the insulation back to expose 4 mm of bare ends and crimp the two terminals on to the wires.

NOTE

Do not allow the wire to obstruct the locking cavity on the terminal.

10.10.3 Open the antenna mount door and insert the nut plate into the cavity above the antenna cables.

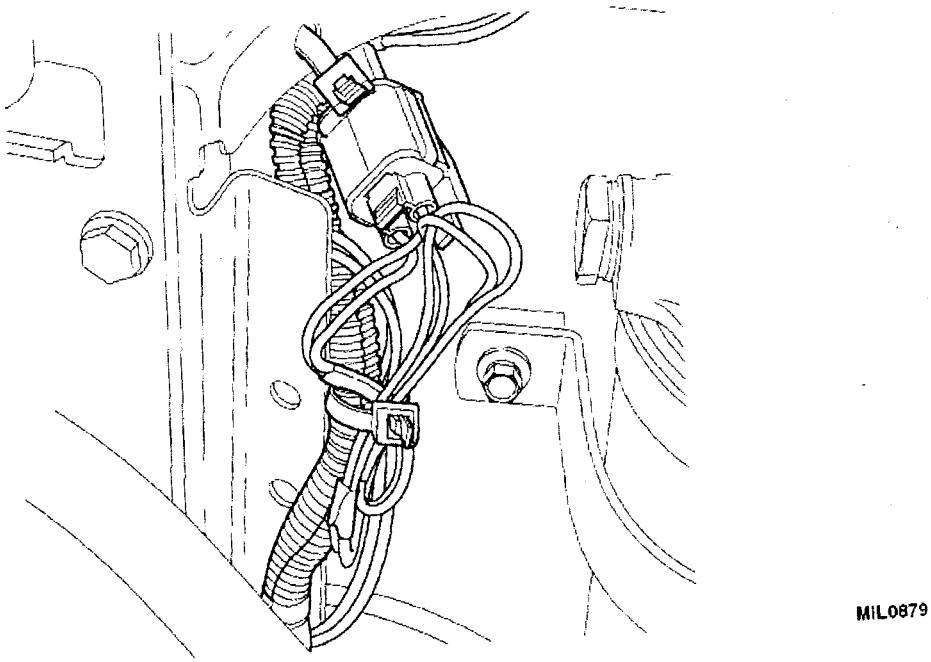
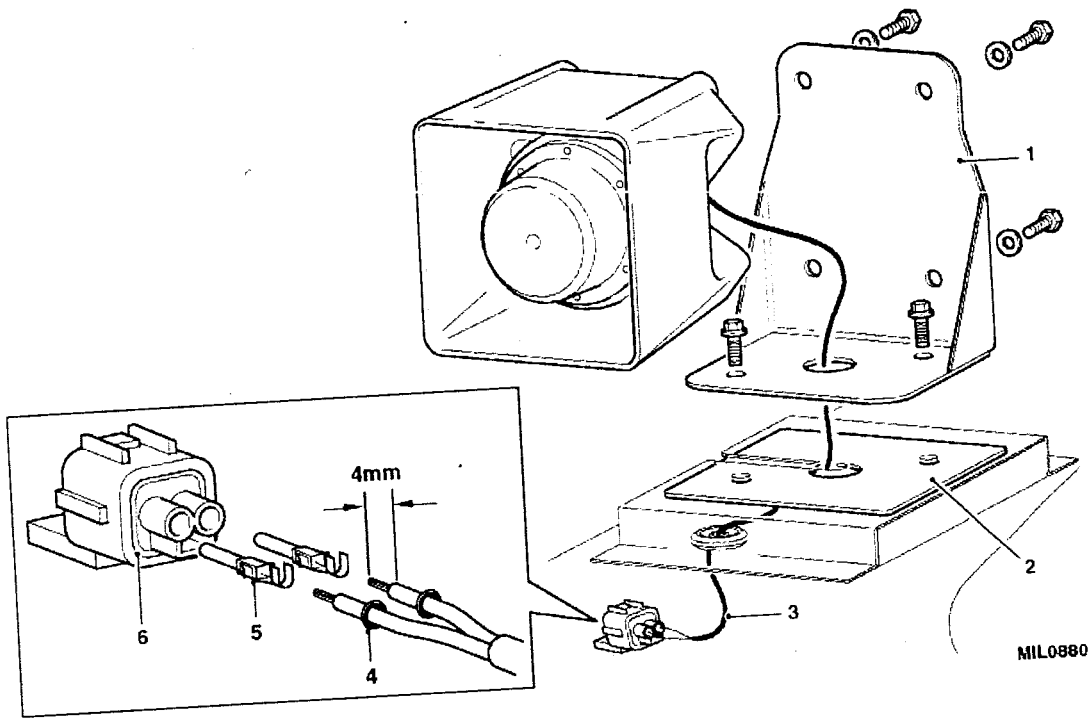


Fig 16 Siren connector



1 Mounting bracket
2 Nut plater
3 Wires
4 Seals
5 Terminals
6 Plug housing

Fig 17 Siren assembly

10.10.4 Pass the trailing leads on the siren through the hole in the mounting bracket, slot in the mount and hole in the nut plate and into the engine compartment via the existing grommet used for the antenna cable access.

10.10.5 Attach the siren mounting bracket to the antenna mounting and secure with M8 fixings (Item 12).

10.10.6 Secure the siren to the mounting bracket using the fixings supplied.

10.10.7 Carefully stow the antenna cables in the cavity and close the door.

10.10.8 Locate the plug housing in the accessories bag, establish the connection profile with the socket on the siren harness.

white wire on siren	→	**slate wire on harness**
black wire on siren	→	**pink wire on harness**

10.10.9 Insert the terminals into the housing ensuring the anti-back up clips

10.10.10 Push the seals firmly into the housing orifices.

10.10.11 Connect siren to harness.

10.11 To connect to the horn proceed as follows:

10.11.1 Route the vehicle horn harness down the side of the radiator, underneath the radiator driver's side along the radiator 'A' frame (front of radiator) and connect to the horn as shown at Fig 18. Clip at convenient points at approximately 200 mm centres.

10.11.2 Reconnect the vehicle batteries (refer to Cat 522, Chap 13) and on Fitted For Radio (FFR) vehicles the radio batteries (refer to Chap 13-2).

10.11.3 Tidy and secure all wiring as necessary.

10.11.4 Refit all panels where necessary.

NOTE

Ensure that when re-fitting the door post finisher that the fixing screws do not pinch the harness cable as shown at Fig 19.

10.11.5 Fit binnacle (refer to Cat 522, Chap 13).

EFFECT ON WEIGHT

11 Negligible.

PUBLICATION AMENDMENTS

NOTE

Necessary amendments will be issued separately.

12 Nil.

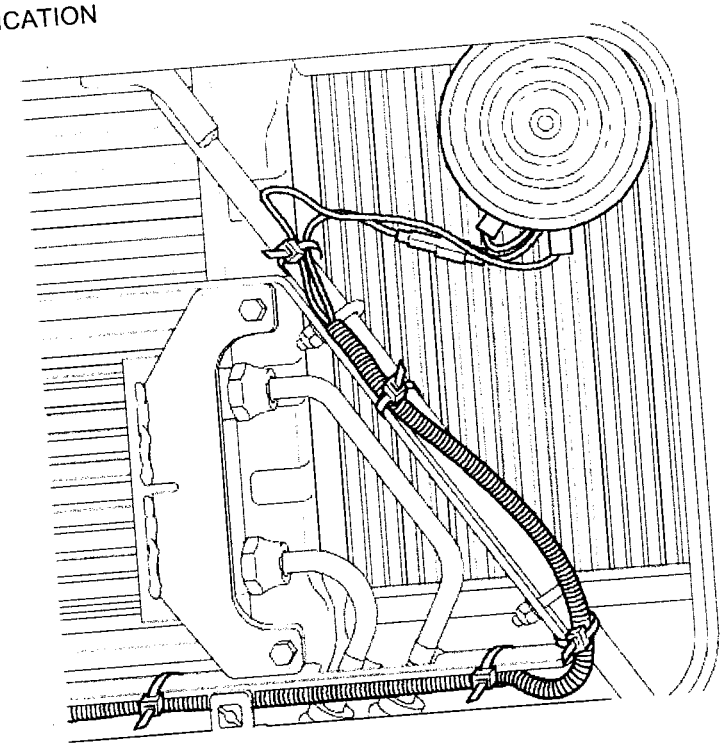


Fig 18 Horn

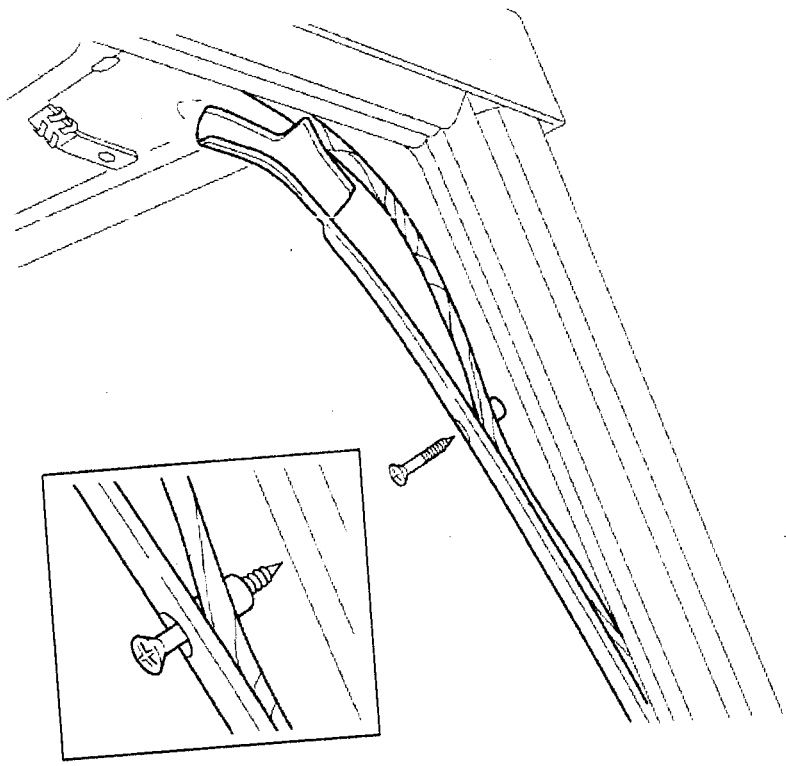


Fig 19 Refitting door post finisher

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 6

CONTENTS

Sponsor:	DGES(A) ES52
Project number:	ES52c/4356
File ref:	DE/CH/4118/LVG
Publication agency:	ATSA Chertsey

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
1		
2		
3		

Amdt No.	Incorporated By (Signature)	Date
4		
5		
6		

SUBJECT: Fitting spare wheel tyre inflation valve extension.
(Approval No LSTP 12-6663))

INTRODUCTION

1 This Modification Instruction details the fitting of a tyre inflation valve to the spare wheel.

1.1 Limitations on use of equipment. Nil.

APPLICABILITY

2 Truck Utility Light (TUL) High Specification (HS) and Truck Utility Medium (TUM) HS all variants.

2.1 Fitted to subject equipment held by user units.

2.2 Unmodified stock, held at all levels of technical storage.

REASON FOR MODIFICATION

3 Code 4 - to improve maintainability.

PRIORITY

4 ARMY: Routine.

5 RAF: Class 3.

ESTIMATED TIME REQUIRED

6 Embodiment: 1.0 man-hours.

Modification implementation plan

7 This instruction is to be implemented by:

7.1 ARMY - Units authorized to carry out Levels 2, 3, and 4 of maintenance.

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

7.3 Associated Modification Instructions: Nil.

7.4 Modification strike plate action: Nil.

Action required by

8 The following action is to be carried out:

8.1 Units and establishments holding equipment:

8.1.1 Examine vehicle documents to see if this Modification Instruction is applicable.

8.1.2 Examine the Modification record plate to see if the Modification Instruction is embodied and where necessary Units with Level 2 Royal Electrical and Mechanical Engineers (REME) Support demand the stores required.

8.1.3 ARMY - On receipt of stores, request REME to modify equipment.

8.1.4 ARMY - Record the modification, Subject Army Equipment Support Publication (AESP) number and Army Modification Code in equipment documents.

8.1.5 RAF - Record modification details on Army Form General (AF G) 1084A and Form 4870. Units operating Station Transport Management Aid (STAMA) are also to record modification details on ADP Mechanical Transport Maintenance Section (MTMS) job Certification Sheet and to follow the procedures laid down in Air Publication (AP) 100C-08A.

8.2 Army units authorized to carry out Levels 2, 3 and 4 maintenance and RAF units:

8.2.1 ARMY - When requested by users or during overhaul of equipments on charge without REME Level 2 Support, obtain the items listed in Para 9 and carry out this Modification Instruction.

8.2.2 RAF – On receipt of stores, embody the modification.

8.2.3 Record completion details of the Modification Instruction against appropriate entry in equipment documents.

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

8.2.4.1 RAF: Modification Code: AFN 152.

NOTE

RAF units operating STAMA are also to complete ADP MTMS Job Certification Sheet and to follow the procedures laid down in 100C-08A.

8.3 All recipients of this instruction. Add particulars to AESP 2320-D-128-811 Modification Instruction Index.

Stores, tools and equipment

9 The following items are to be demanded quoting this Modification Instruction as the authority:

9.1 Stores to be demanded:

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
		NP	Mod Kit Comprising:	1
1	8RVO	2640-99-553-2865	Valve extension	(1)
2	6MT14	2640-99-450-0084	Bracket	(1)

Sequence of operations

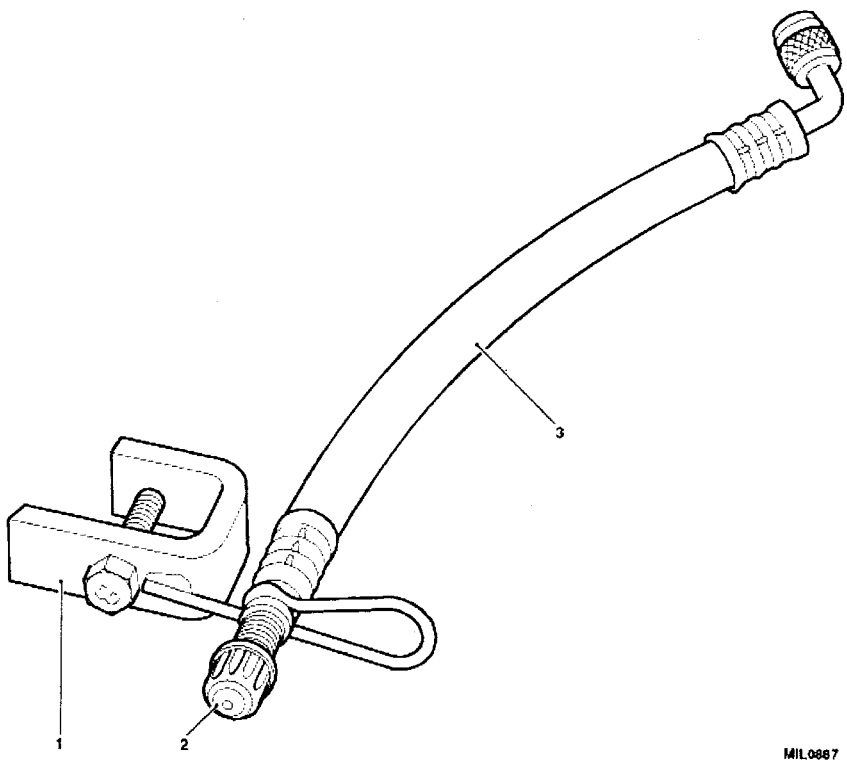
NOTES

(1) The item numbers of Para 9 are used as references throughout this Modification Instruction.

(2) For an illustration of principle components refer to Fig 1.

CAUTION

WHEEL CHANGING. The valve extension and clamp must be removed from the spare wheel before the wheel is fitted to an axle.



1 Clamp 2 Dust cap 3 Valve extension

Fig 1 Principal components

10 Carry out this Modification Instruction as follows:

NOTE

The clip of the clamp should be fitted on the inside of the wheel.

10.1 Remove the spare wheel from the side mount carrier.

10.2 Remove the dust cap from the air valve and retain.

10.3 Fit the clamp (Item 2) as shown at Fig 2.

10.4 Leave the clamp bolt loose at this stage.

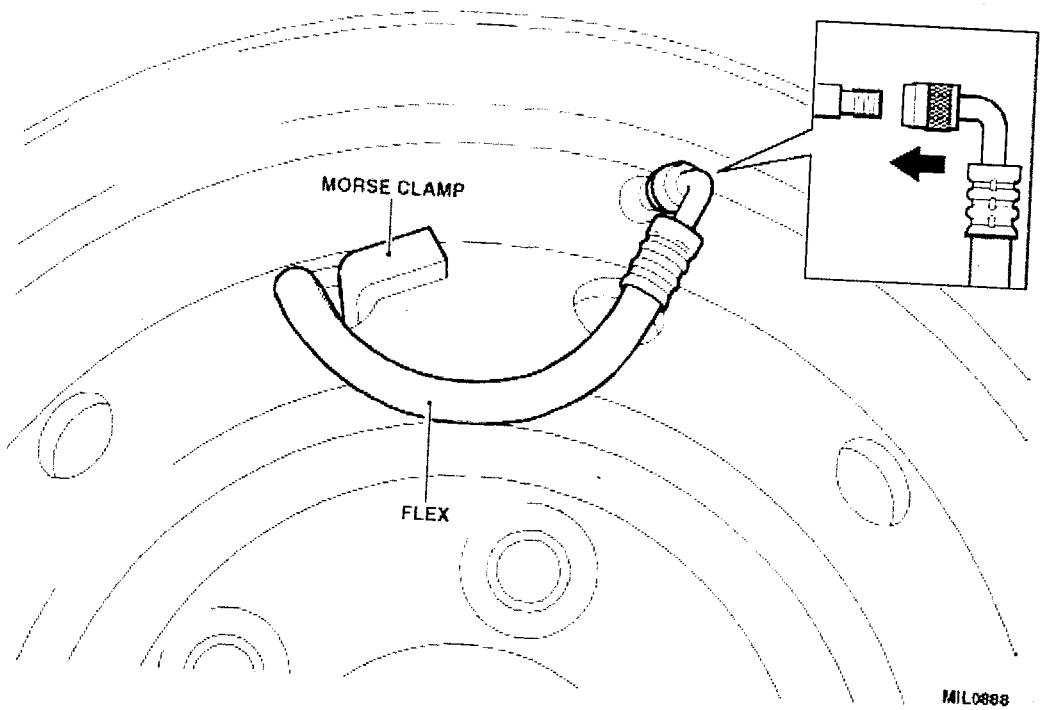
10.5 Attach the valve extension (Item 1) to the air valve and tighten as shown.

10.6 Feed the extension valve through the wheel vent hole and secure in the clamp clip as shown.

10.7 Tighten the clamp into position ensuring the valve extension flex is not snagged against the inside of the wheel vent hole.

10.8 Fit the dust cap to the valve extension.

10.9 Fit the spare wheel to the side mounted carrier.



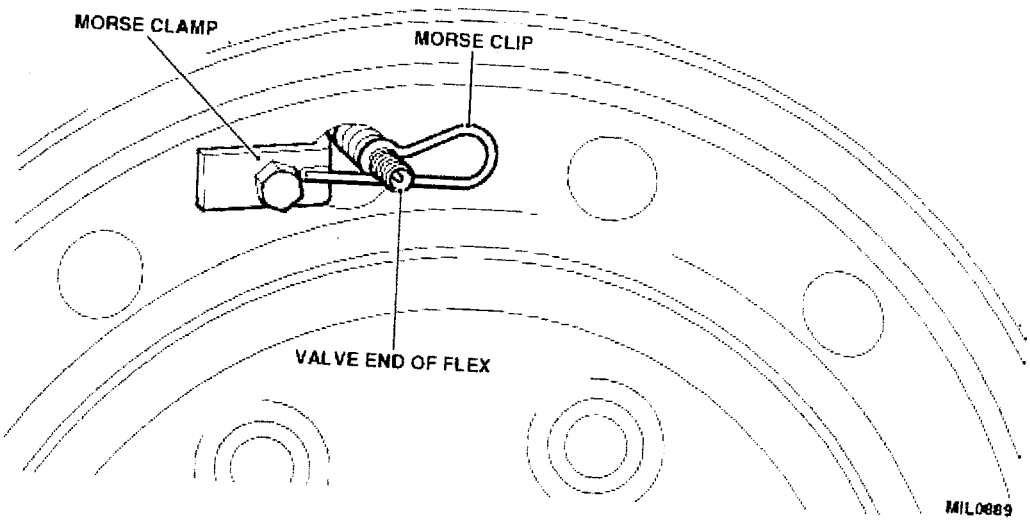


Fig 2 Securing the valve extension to the wheel

TESTING AFTER EMBODIMENT

11 Nil.

EFFECT ON WEIGHT

12 Negligible.

PUBLICATION AMENDMENTS

NOTE

Necessary amendments will be issued separately.

13 Nil.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 7

SUBJECT: TUAAM Earth Bonding Improvements.

(Approval No. LSTP 12-6664)

CANCELLATION

INTRODUCTION

1 Modification Instruction No. 7 dated Dec 00 is hereby cancelled. The TUAAM earth bonding improvements is now no longer required.

ACTION

2 File this Page 1/2 in place of Modification Instruction No. 7 dated Dec 00, all pages of which are to be destroyed.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 8

SUBJECT: Input/output Porthole for communications/power cables installation.

(Approval No. LSTP 12-6665)

CANCELLATION

INTRODUCTION

1 Modification Instruction No. 8 dated Aug 00 is hereby cancelled. The input/output porthole for communications/power cables installation is now no longer required.

ACTION

2 File this Page 1/2 in place of Modification Instruction No. 8 dated Aug 00, all pages of which are to be destroyed.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 9

SUBJECT: Fitting of stretcher retention straps.

(Approval No. LSTP 12-6666)

CANCELLATION

INTRODUCTION

1 Modification Instruction No. 9 dated Dec 99 is hereby cancelled. The fitting of the stretcher retention straps is now no longer required.

ACTION

2 File this Page 1/2 in place of Modification Instruction No. 9 dated Dec 99, all pages of which are to be destroyed.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 10

CONTENTS

Sponsor:	DGES(A) ES52
Project number:	ES52c/4356
File ref:	DE/CH/4118/LVG
Publication agency:	ATSA Chertsey

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
1		
2		
3		

Amdt No.	Incorporated By (Signature)	Date
4		
5		
6		

SUBJECT: Winterised/waterproofed radio bag

(Approval No LSTP 12-6667)

INTRODUCTION

1 This Modification Instruction details the fitting of the winterised/waterproofed protective radio bag.

1.1 Limitations on use of equipment. Nil.

APPLICABILITY

2 Truck Utility Light (TUL) High Specification (HS) and Truck Utility Medium (TUM) HS Fitted For Radio (FFR) Winterised/Waterproofed vehicles with the following asset codes: NB 4226 3100, TB 4226 3100, NB 5021 3100, TB 5021 3100, NB 4226 8100, NB 4229 3100 and NB 5021 8100.

2.1 Unmodified stock, held at all levels of technical storage.

REASON FOR MODIFICATION

3 Code 2 - to improve operational performance.

PRIORITY

4 ARMY: Routine.

5 RAF: Class 3.

ESTIMATED TIME REQUIRED

6 Embodiment: 4.0 man-hours.

MODIFICATION IMPLEMENTATION PLAN

7 This Modification Instruction is to be implemented by:

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

7.2 RAF - When required.

8 Associated Modification Instructions. Nil.

9 Modification plate strike action: Nil.

Action required by

10 The following action is to be carried out:

10.1 Units and establishments holding equipment:

10.1.1 Examine the vehicle documents to see if this Modification Instruction is applicable.

10.1.2 Examine the Modification record plate to see if the Modification Instruction is embodied and where necessary Units with Level 2 Royal Electrical and Mechanical Engineers (REME) Support demand the stores required.

10.1.3 ARMY - On receipt of stores, request REME to modify the equipment.

10.1.4 ARMY - Record the Modification, Subject Army Equipment Support Publication (AESP) number and Army Modification Code in equipment documents.

10.1.5 RAF - Record modification details on Army Form General (AF G) 1084A and Form 4870. Units operating Station Transport Management Aid (STAMA) are also to record modification details on ADP Mechanical Transport Maintenance Section (MTMS) job Certification Sheet and to follow the procedures laid down in Air Publication (AP) 100C-08A.

10.2 Army units authorized to carry out Levels 2, 3 and 4 maintenance and RAF units:

10.2.1 ARMY - When requested by users or during overhaul of equipment on charge without REME Level 2 Support, obtain the items listed in Para 11 and carry out this modification.

10.2.2 Record completion details of the Modification Instruction against appropriate entry in equipment documents.

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

10.2.3.1 RAF: Modification Code: AFN 159.

NOTE

RAF units operating STAMA are also to complete ADP MTMS Job Certification Sheet and to follow the procedures laid down in AP 100C-08A.

10.3 All recipients of this instruction. Add particulars to AESP 2320-D-128-811 Modification Instruction Index.

Stores, tools and equipment

11 The following items are to be demanded quoting this instruction as the authority:

11.1 Stores to be demanded:

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
	7XD	2590-99-245-1086	Mod set: comprising:	1
1		RG2474003A	Left hand frame	(1)
2		RG2474002A	Right hand frame	(1)
3		RG2474004A	Upper front strut	(1)
4		RG2474005A	Upper rear strut	(1)
5		RG2474006A	Lower front strut	(1)
6		RG2474007A	Centre support	(1)
7		RG2474009A	Left hand bracket	(1)
8		RG2474008A	Right hand bracket	(1)
9		RG2474001A	Radio rack	(2)
10	6WPG	2540-99-9217014	Radio bag	1
11		34166-106	Clamp hood stay	2
12		IPU100160	Support bracket	2
13			Screw , hex hd, M6 x 16	2
14			Nutsert, M6	2
15			Washer, spring, M6	2
16			Nut, M6	2

11.2 Stores or suitable equivalent to be obtained locally:

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
17	G1	5305-99-122-5254	Bolt, hex hd, M8 x 40 long	8
18		NH108051	Nut, M8	8
19	7RU	5310-99-250-8186	Washer, flat, M8	16
20	G1	5310-99-137-9231	Washer, spring, M8	8
21	G1	5305-99-122-5360	Bolt, hex hd, M6 x 16 long	20
22	G1	5310-99-122-6474	Washer, flat, M6	14
23	G1	5310-99-208-6458	Washer, spring, M6	20
24	G1	5319-99-948-0345	Washer, flat, M6 (oversize 25 mm OD)	6
25			Screw, hex hd, M5 x 40	2
26			Washer, plain, M5	2
27			Nylock nut, M5	2
28			Screw, cheese hd, M4 x 20	4
29			Washer, plain, M4	4
30			Nylock nut, M4	4

NOTE

Items 11-16 were originally supplied loose when Modification Instruction 16 was incorporated onto the vehicle. If no longer available they should be demanded separately.

Sequence of operations

NOTES

(1) The item numbers of Para 11 are used as references throughout this Modification Instruction.

(2) Assistance will be required to locate and fit some of the items in this kit.

12 Carry out the Modification Instruction as follows:

12.1 Referring to Fig 1, disconnect battery bonding leads - five off.

12.2 Remove battery cover.

12.3 Open trays and remove radio batteries and retain.

12.4 Remove radio battery trays and retain.

12.5 Remove existing radio rack and discard.

12.6 Remove 12 off - M5 screws, nuts, plain and spring washers securing wooden radio table top to frame. Retain top and fixings.

NOTE

The four screws, which hold the table and frame to the battery box brackets, are longer.

12.7 Remove six off - M6 screws, nuts, plain and spring washers securing metal frame to radio table. Retain frame and fixings.

NOTE

The following step is to be completed to allow access during the fitting of the bag to the 6 fastenings which secure the table frame to the battery box.

12.8 Drill 6 new pilot holes in the wooden radio tabletop using existing holes in metal frame as guides. Open the holes up to 18 mm diameter. (refer to Fig 5).

12.9 Locate radio bag (Item 10) on table top.

NOTE

The longitudinal centre line of the reinforced strips on the base of the bag must line up with the fixing holes on the radio table and the holes in the battery box (refer to Fig 6).

12.10 Replace metal tabletop frame inside bag and position. Do not fix at this stage.

12.11 Assemble radio bag frame inside bag.

12.11.1 Insert LH frame end section (Item 1) and RH frame end section (Item 2) in bag.

12.11.2 Locate lower front strut (Item 5), upper front strut (Item 3) and upper rear strut (Item 4) on end frame stubs and secure with M6 bolts, flat and spring washers (Items 21, 22 and 23).

12.11.3 Locate centre support (Item 6) and secure at the upper and lower fixing points on the front struts using M6 bolts, flat and spring washers (Items 21, 22 and 23).

12.11.4 Locate both radio racks (Item 9) and loosely fasten at the central upright support (Item 6) three positions each rack using M6 bolts, oversize flat washer and spring washers (Items 21, 24 and 23).

NOTE

Adjust bag for optimum fit ensuring all zips fasten, push bag back so bag sits right up against bulkhead/roll cage.

12.12 Line up fixing holes on roll cage brackets with end frame/radio rack; spike through from inside bag, four places on each roll cage bracket. Loosely fasten using M8 bolts, nuts, flat and spring washers (Items 17, 18, 19 and 20).

NOTE

Prior to refitting the radio table top and frame refer to AESP 5800-C-146-421, Chapter 2.54 for details of drilling and fitting the Clansman mounting kit.

12.13 Refit the wooden table top into the table frame and secure with 8 fasteners (refer to Fig 5). Ensure the bolts are fitted from underneath with the nuts on the top to prevent the bolts piercing the bag.

NOTE

The four longer fasteners are used at the cantilever table support brackets fixing point.

12.14 Position the table top assembly over table fixing points and spike through bag in ten places.

NOTE

When spiking use a 6 mm maximum diameter spike to ensure the bag seals around the fixing bolts.

12.15 Using the newly drilled holes in the tabletop, refit the six fasteners (refer to Fig 5) securing the table top frame to radio box through the radio bag.

12.16 Locate the angle brackets (Items 7 and 8), fix to end frame and tabletop frame using M6 bolts, flat and spring washers (Items 21, 22 and 23) and the four longer M5 fasteners through the table top and bag.

12.17 Make final check that the bag zips up correctly.

12.18 Secure all fixings.

12.19 Replace battery drawers, fit batteries, fit cover and reconnect the battery bonding leads

NOTE

Ensure that all earth and battery leads are coat using suitable silicon grease as at Fig 2.

12.20 Relocate relay box assembly.

12.20.1 Remove the screw and washer securing the 'P' clip to the bulkhead next to the relay box.

12.20.2 Remove the relay box cover and remove the four screws, washers and spacers securing the relay box to the bulkhead.

12.20.3 Slacken cable gland on relay box to allow spare cable to be withdrawn from inside the box.

12.20.4 Reposition the relay box on the bulkhead as shown in Fig 3 and drill two 7 mm holes through the bulkhead using the support brackets as a guide, open up to 10 mm.

12.20.5 Deburr and fit nutserts (Item 14) using a suitable tool.

12.20.6 Secure the relay box to the bulkhead using the two support brackets and two screws (Item 13) and spring washers (Item 15).

12.20.7 Drill two 7 mm holes through the bulkhead using the lower fixing holes as a guide.

12.20.8 Remove the two screws and spring washers securing the relay box to the bulkhead.

12.20.9 Open up lower fixing holes on the bulkhead to 10 mm, deburr and fit nutserts (Item 14) using a suitable tool.

12.20.10 Re-secure the relay box to the bulkhead using the two support brackets and two screws (Item 13) and spring washers (Item 15).

12.20.11 Secure the lower fixings to the bulkhead and refit the cover.

12.20.12 Tighten cable gland on relay box.

12.20.13 Drill a hole through the bulkhead between the gun clips as shown in Fig 3 open up to 10 mm and fit nutserts (Item 14) using a suitable tool.

12.20.14 Secure the 'P' clip to the bulkhead with washer and screw. Secure cables through 'P' clip.

12.21 To relocate the battery isolation switch assembly proceed as follows:

12.21.1 Relocate battery isolation switch assembly.

12.21.2 Remove the cover from the isolation switch. Remove the four screws, nylock nuts and washers securing the battery isolation switch to the mounting bracket.

12.21.3 Remove the nuts and washers from the two fixings securing the isolation switch mounting bracket to the roll protect hoop and tie bars. Remove mounting bracket.

NOTE

Note the position and orientation of the spacers securing the radiated hazard curtain to the tie bar bracket.

12.21.4 Refit nuts, washers and spacers securing roll protect hoop to tie bars.

12.21.5 Locate the four predrilled holes in the forward hood stay as shown in Fig 4.

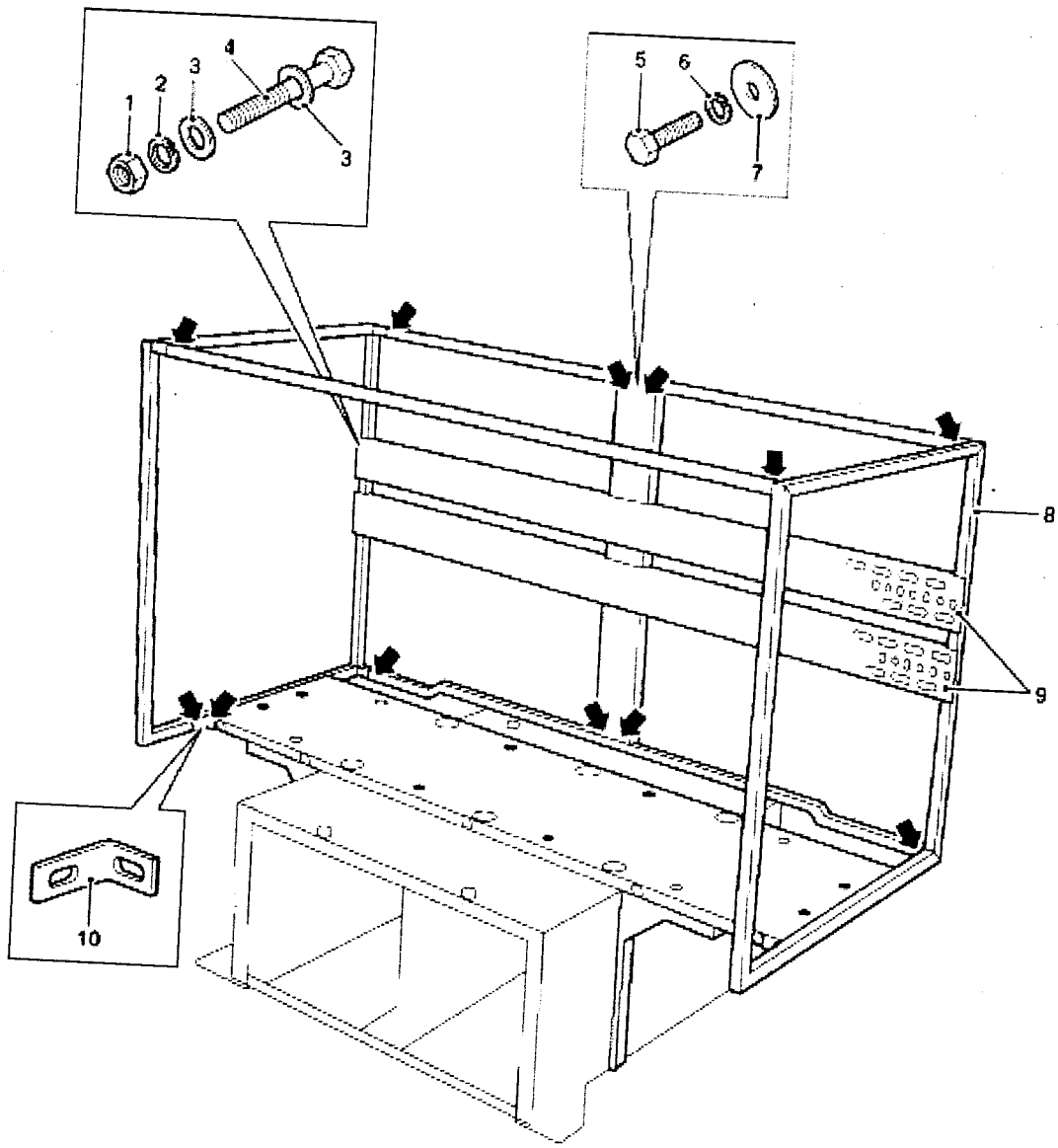
12.21.6 Carefully cut the Radiated Hazard Curtain in four positions 'A' in Fig 4.

12.21.7 Feed the clamps (Item 11) through the Radiated Hazard Curtain and over the top of the forward hood stay and back through the curtain. Using the four screws (Item 28), washers (Item 29) and nylock nuts (Item 30), secure the switch box to the to the forward hood stay.

12.21.8 Using the predrilled holes secure the clamps to the hood stay using the two screws (Item 25), washer (Item 26) and nylock nut (Item 27).

12.21.9 Refit the cover to the isolation switch.

12.21.10 Secure the wiring harness to the forward hood stay with 3 releasable cable ties.



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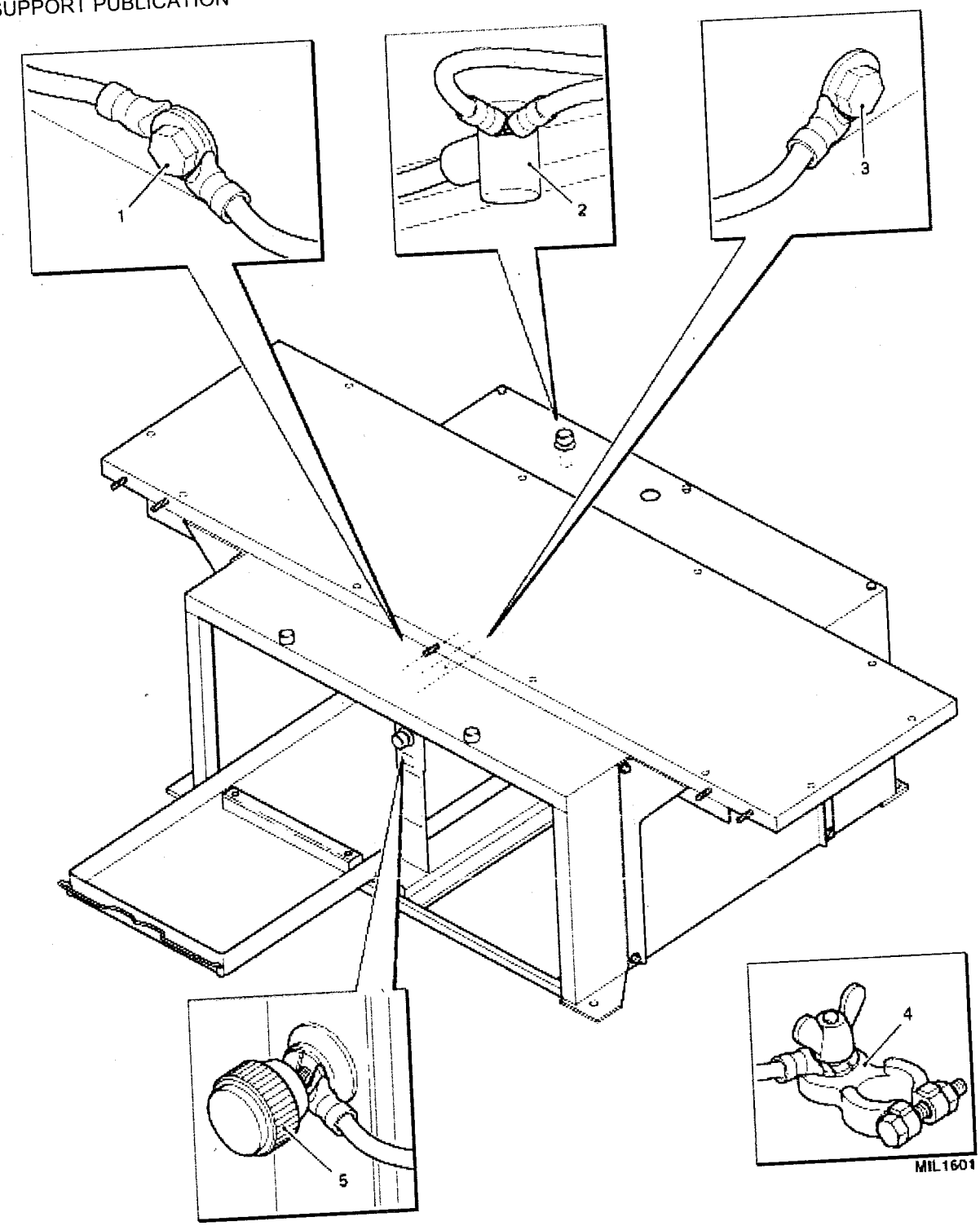
1	Nut	6	Spring washer
2	Spring washer	7	Flat washer
3	Flat washer	8	Radio frame assembly
4	Bolt	9	Radio racking
5	Bolt	10	Bracket

Fig 1 Radio bag frame



1 Earth terminal
2 Earth terminal
3 Earth terminal
4 Battery terminal
5 Earth terminal

Fig 2 Earth connections

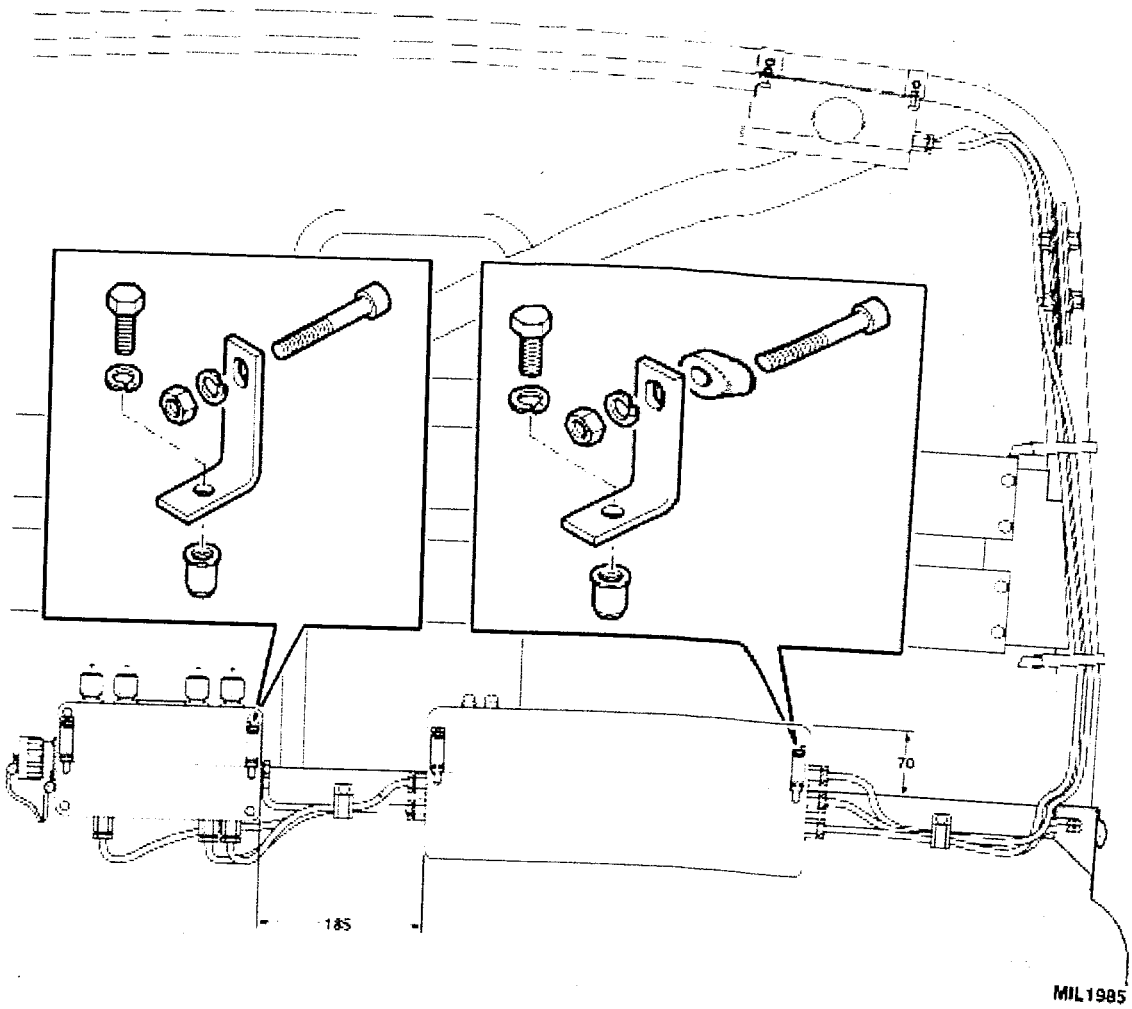
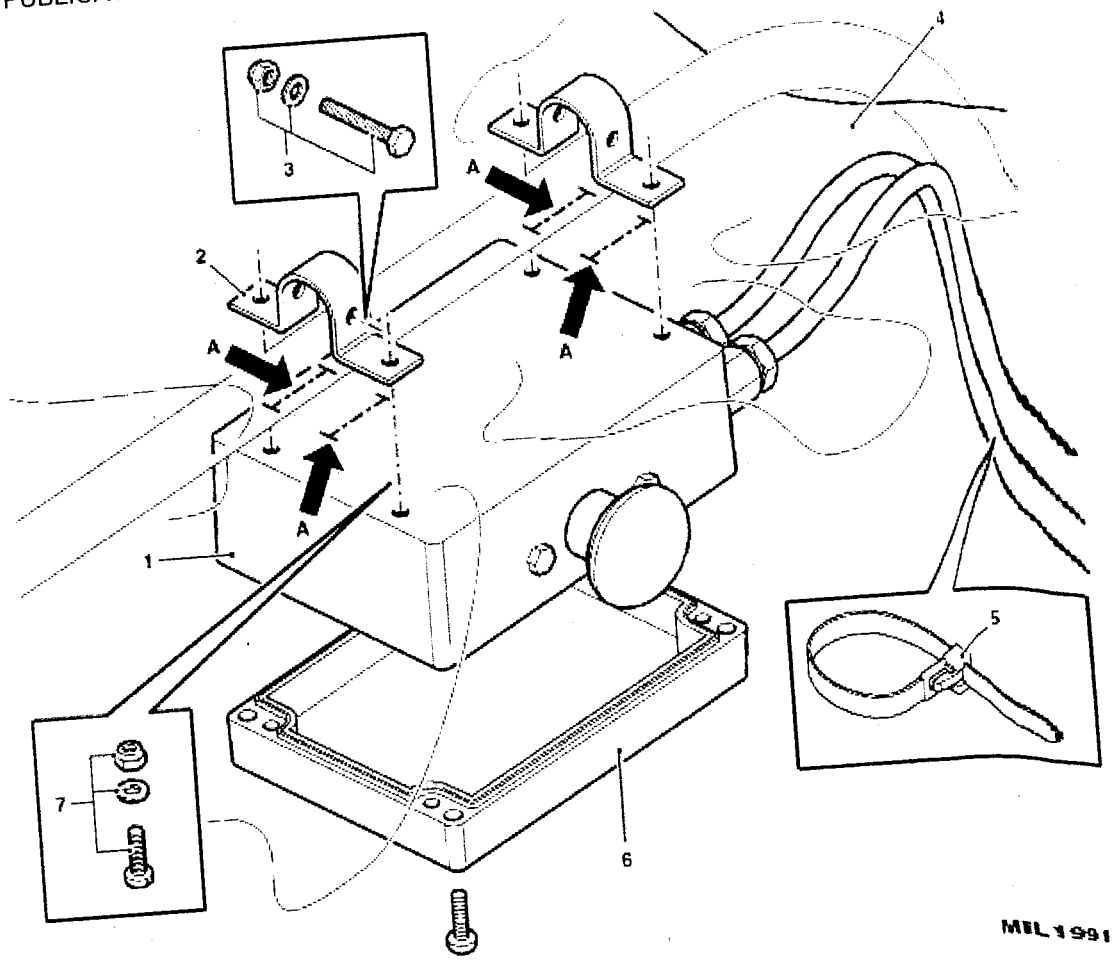


Fig 3 Fitting the relay box and terminal box assemblies



1 Isolation switch
2 Clamp hood stay
3 Hood stay fixings
4 Radiated hazard curtain
5 Releasable cable ties
6 Cover
7 Isolation switch fixings

Fig 4 Fitting the battery box isolation switch assembly

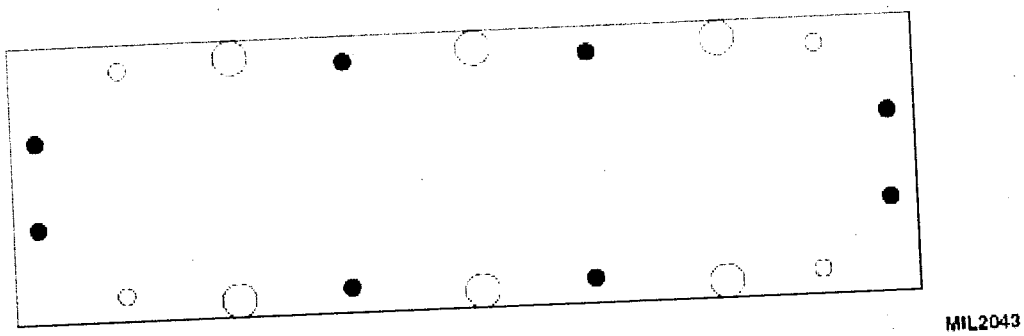


Fig 5 Location of bolts

Key to Fig 5

● M5 bolts fixing Radio Table to Table frame. These bolts do not go through the bag and must be fixed before Radio Table Assembly is placed in bag. The bolts are inserted from underneath with the nuts on top.

○ M5 bolts fixing the Radio Table to the Table Frame and the Battery Box Extension legs

◯ M6 bolts fixing the table to the battery box. These holes in the Radio Table (wood only) need to be opened out to 18 mm to allow access to the fixing holes in the table frame.

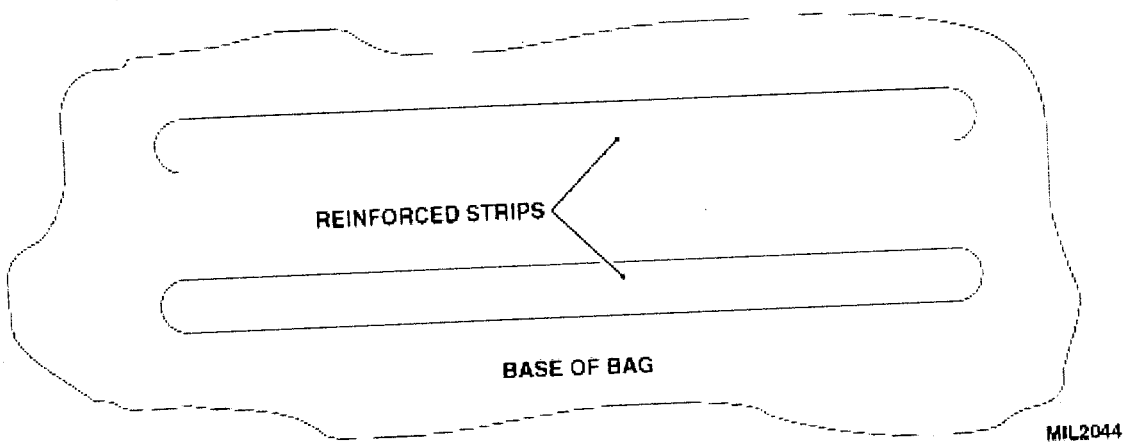


Fig 6 Reinforcement strips

TESTING AFTER EMBODIMENT

13 Nil.

EFFECT ON WEIGHT

14 Nil.

PUBLICATION AMENDMENTS

15 Nil.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 11

SUBJECT: Fitting of Clansman TUAAM mounting and wing reinforcement.

(Approval No. LSTP 12-6668)

CANCELLATION

INTRODUCTION

1 Modification Instruction No. 11 dated Oct 99 is hereby cancelled. The fitting of Clansman TUAAM mounting and wing reinforcement is now no longer required.

ACTION

2 File this Page 1/2 in place of Modification Instruction No. 11 dated Oct 99, all pages of which are to be destroyed.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 12

CONTENTS

Sponsor: CSV(Sp) IPT
Project number: LLVUty-02
File ref:
Publication agency: Defence Logistics Organisation

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
1		
2		
3		

Amdt No.	Incorporated By (Signature)	Date
4		
5		
6		

SUBJECT: Fitting Radio Frequency (RF) Radiated Hazard (RADHAZ) Protection Kit.
(Approval No LSTP 12-6669)

INTRODUCTION

1 This Modification Instruction details the fitting of the RF RADHAZ Protection Kit.

1.1 Limitations on use of equipment. Nil

APPLICABILITY

2 Truck Utility Light (TUL) High Specification (HS) Fitted For Radio (FFR) and Truck Utility Medium (TUM) HS FFR vehicles only.

2.1 Fitted to equipment held by user units.

2.2 Unmodified stock, held at all levels of technical storage.

Reason for modification

3 Code 1 - to improve safety.

PRIORITY

4 ARMY: Routine.

5 RAF: Class 3.

ESTIMATED TIME REQUIRED

6 Embodiment: 2.0 man-hours.

Modification implementation plan

7 This Modification Instruction is to be implemented by:

7.1 ARMY - Units authorized to carry out Levels 2, 3, and 4 of maintenance.

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

7.3 Associated Modification Instructions: Nil.

7.4 Modification strike plate action: Nil.

Action required by

8 The following action is to be carried out:

8.1 Units and establishments holding equipment:

8.1.1 Examine vehicle documents to see if this Modification Instruction is applicable.

8.1.2 Examine the Modification record plate to see if the Modification is embodied and where necessary Units with Level 2 Royal Electrical and Mechanical Engineers (REME) Support demand the stores required.

8.1.3 ARMY - On receipt of stores, request REME to modify equipment.

8.1.4 ARMY - Record the modification, Subject Army Equipment Support Publication (AESP) number and Army Modification Code in equipment documents.

8.1.5 RAF - Record modification details on Army Form General (AF G) 1084A and Form 4870. Units operating Station Transport Management Aid (STAMA) are also to record modification details on ADP Mechanical Transport Maintenance Section (MTMS) job Certification Sheet and to follow the procedures laid down in Air Publication (AP) 100C-08A.

8.2 Army units authorized to carry out Levels 2, 3 and 4 maintenance and RAF units:

8.2.1 ARMY - When requested by users or during overhaul of equipment on charge without REME Level 2 Support, obtain the items listed in Para 9 and carry out this modification.

8.2.2 RAF – On receipt of stores, embody modification.

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

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

8.2.4.1 RAF: Modification Code: AFN 161.

NOTE

RAF units operating STAMA are also to complete ADP MTMS Job Certification Sheet and to follow the procedures laid down in AP 100C-08A.

8.3 All recipients of this instruction. Add particulars to the AESP 2320-D-128-811 Modification Instruction Index.

Stores, tools and equipment

9 The following items are to be demanded quoting this Modification Instruction as the authority:

9.1 Stores to be demanded:

NOTE

The item numbers of Para 9 are used as reference throughout this Modification Instruction.

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
	7XD	2510-99-512-1276	TUL (HS) Radiated Hazard Mod set comprising:	1
1	7XD	2510-99-593-1742	Curtain, front	(1)
2	7XD	2510-99-976-6351	Curtain, rear	(1)
3	7XD	2510-99-132-3065	Eyelet, plastic	(2)
4	7XD	2510-99-212-2005	Spacer	(10)
5		WF115	Nut M10	(8)
6		WF 123	Rivets	(12)
7		F8671	Retaining strap, header	(4)
8		STC4039	Velcro, strip door upper and rear	(2.5 m)
	7XD	2510-99-182-2566	TUM (HS) Radiated Hazard Mod set comprising:	1
9	7XD	2510-99-593-1742	Curtain, front	(1)
10	7XD	2510-99-705-6073	Curtain, intermediate	(1)
11	7XD	2510-99-973-7009	Curtain, rear	(1)
12	7XD	2510-99-132-3065	Eyelet, plastic	(2)
13		2510-99-212-2005	Spacer	(22)
14		WF115	Nut M10	(16)
15		WF123	Rivets	(12)
16		F8671	Retaining strap, header	(4)
17		STC4039	Velcro, strip door upper and rear	(2.5 m)

9.2 Special tools and test equipment required;

Item No	DMC	NSN/Part No	Designation	Qty Per eqpt
18	Z4	6625-99-786-5771	Dytecna DT109	

Sequence of operations

NOTE

The item numbers of Para 9 used as references throughout this Modification Instruction.

10 Carry out this instruction as follows:

NOTES

(1) Para 10.1 to Para 10.24 refers to TUL (HS) FFR vehicles.

(2) Para 10.25 to Para 10.47 refers to TUM (HS) FFR vehicles.

(3) When fitting the kit to the Soft Top (ST) vehicles, it will be necessary to cut away sufficient of the Velcro strips holding the canopy to the roll cage hoops to allow the support straps to be passed through as described in the following instructions.

(4) Ensure that all bonding points are covered with petroleum jelly after assembly.

Fitting the TUL (HS) FFR curtains

10.1 Refer to Fig 1. Remove the two rear radio operator's seats and seat retention rails, (one from each side of the vehicle).

10.2 Rear Curtain. Remove the four nyloc nuts and washers retaining the cantrail tie bar to the roll over bar hoops (two each side) and discard.

10.3 Ensure that the curtain (Item 2) is fitted up with the long straps to the rear; short straps to the front and the four strap guides to the inside.

10.4 Secure with spacers and nuts (Items 4 and 5) and tighten to 40 Nm. This will retain the curtain in place while continuing with the rest of the installation.

10.5 Pass the longer straps over the rear roll cage and the short straps over the front roll bar and secure with Velcro straps (refer to inset A) - see Note 3.

10.6 Pass the longer straps forward through the support strap guides in the curtain and over the front roll bar.

10.7 Wrap the cable support straps around cant rails and back out through the curtain and attach to the short Velcro strap to create a cable support loop for temporary installations (refer to inset C).

10.8 Locate inner panel fixing bolts, which line up with the earth bonding leads (two each side) and remove the bolts, remove paint to create an earth-bonding path (refer to inset B).

10.9 Attach the four earthing straps (two each side) to the vehicle using the existing bolts and tighten to 40 Nm (refer to inset B).

10.10 Attach the lower curtain to the vehicle using spacers (Item 4) and the existing bolts, which align to the metal eyelets and tighten to 40 Nm.

10.11 Refer to Fig 2. Front curtain. Before fitting the front curtain, Velcro strips must be attached above and to the rear of the door.

10.12 Cut two strips of self-adhesive Velcro, 610 mm long and two 360 mm long.

10.13 Attach the longer strips above the door and the shorter strips to the rear (refer to inset C). The self-adhesive Velcro strips are secured in place using three rivets (refer to items 6 and 8), one at each end and one in the middle of each velcro strip, use 3.2 mm dia drill for rivet hole.

10.14 Fit the four header retaining strap assemblies (Item 7) at the front of the vehicle, above the windscreen in line with rear curtain support straps.

10.15 Remove the hood tension straps to facilitate the fitting of the front curtain (ST vehicles only).

10.16 Fit front curtain (Item 1) ensuring that the shorter straps are towards the rear of the vehicle with the four strap guides to the inside.

10.17 Run the longer straps from the rear curtain through the strap guides and attach to the header retaining straps at the front of the vehicle (refer to inset B).

10.18 Wrap the short Velcro straps around the roll bar and attach to the Velcro on the curtain.

10.19 Refit the hood straps and tension (ST vehicles only).

10.20 Fix curtain to vehicle using the existing M8 bolts, washers and spacers (Item 4), tighten to 20 Nm (refer to inset C).

10.21 Ensure that the curtain fits around the seat belt anchor point and it is fastened.

NOTE

When fitting the earth straps to the header rail, ensure that the straps are located on the upper surface of the rail to prevent twisting and chafing of the braid.

10.22 Fit four earth straps (one at each end of the header rail (M6) using existing fixings and suitable washers, tighten to 7 Nm. Fit one on either side of the radio racking (M8) using existing fixings and tighten to 20 Nm (refer to insets A and C).

10.23 Tension straps and feed excess through loops in curtain to prevent loose ends falling.

10.24 Ensure that the two side flaps of the curtain are firmly attached to the Velcro above and to rear of the doors (refer to inset C).

Fitting the TUM (HS) FFR curtains

10.25 Refer to Fig 3. Remove the two rear radio operator's seats and seat retention rails, (one from each side of the vehicle).

10.26 Rear Curtain. Remove the four nyloc nuts and washers retaining the cant rail tie bar to the roll over bar hoops (two each side) and discard.

10.27 Ensure that the curtain (Item 11) is fitted with the long straps to the rear; short straps to the front and the four strap guides to the inside fit the curtain.

10.28 Secure to cant rail bolts with spacers and nuts (Items 13 and 14), tighten to 40 Nm, this will retain the curtain in place while continuing with the rest of the installation.

10.29 Pass the longer straps over the rear roll cage and the short straps over the centre roll bar and secure with Velcro straps (refer to inset D) - see Note 3.

10.30 Pass the longer straps forward through the support strap guides in the curtain and over the centre roll bar.

10.31 Wrap four cable support straps around cant rails and back out through the curtain and attach to mating short Velcro strap to create a cable support loop for temporary installations (refer to inset C).

10.32 Locate inner panel fixing bolts, which line up with the earth bonding leads (two each side) and remove the bolts, remove paint to create an earth-bonding path (refer to inset B).

10.33 Attach the four (two each side) earthing straps to the vehicle using the existing bolts and tighten to 40 Nm.

10.34 Attach the lower curtain to the vehicle using spacers (Item 13) and the existing bolts, which align to the metal eyelets and tighten to 40 Nm.

10.35 Intermediate curtain. Remove the four nyloc nuts retaining the cant rail tie bar to the roll over bar hoops (two each side) and discard.

10.36 Ensuring that the intermediate curtain (refer to Item 13) is the correct way round, with four cable guides to inside and front, fit the curtain (refer to insets C).

10.37 Secure to cant rail bolts with spacers and nuts (refer to Items 13 and 14) and tighten to 40 Nm. This will retain the curtain while continuing with the rest of the installation (refer to inset D).

10.38 Pass the longer straps from the rear curtain through the strap guide loops and then over the front roll bar, pass the short straps over roll bar securing to Velcro straps (refer to inset D).

10.39 Wrap the cable support straps around cant rails and back out through the curtain and attach to the short Velcro strap to create a cable support loop for temporary installations (refer to inset C).

10.40 Locate inner panel fixing bolts, which line up with the earth bonding leads (two each side), remove the bolts, remove paint to create an earth bonding path (refer to inset E).

10.41 Attach the four earthing straps (two each side) to the vehicle using existing bolts and tighten to 40 Nm (refer to inset B).

10.42 Attach the lower curtain to the vehicle using spacers (Item 4) and existing bolts, which align with the metal eyelets (four each side) and tighten to 40 Nm.

10.43 Refer to Fig 2. Before fitting the front curtain, Velcro strips must be attached above and to the rear of the door.

10.44 Cut two strips of self-adhesive Velcro strips, 610 mm long and two more 360 mm long.

10.45 Attach the longer strips above the door and the shorter strips to the rear (refer to inset C). The self-adhesive Velcro strips are secured in place using three rivets (refer to Items 15 and 17), one at each end and one in the middle of each velcro strip, use 3.2 mm dia drill for rivet hole.

10.46 Fit the four header retaining strap assemblies (Item 16) at the front of the vehicle, above the windscreen in line with the rear curtain support strap.

10.47 Fit the front curtain (Item 9) ensuring that the shorter straps are towards the rear of the vehicle with the four strap guides to the inside.

10.48 Run the longer straps from the rear curtain through the strap guides and attach to the header retaining straps at the front of the vehicle (refer to inset B).

10.49 Wrap the short Velcro strap around the roll bar and attach to the Velcro on the curtain.

10.50 Refit the hood straps and tension (ST vehicles only).

10.51 Fix curtain to vehicle using the existing M8 bolts and spacers (Item 4), tighten to 20 Nm (refer to inset C).

10.52 Ensure that the curtain fits around the seat belt anchor point and it is fastened.

NOTE

When fitting the earth straps to the header rail, ensure that the straps are located on the upper surface of the rail to prevent twisting and chafing of the braid.

10.53 Fit four earth straps (one at each end of the header rail (M6) using existing fixings and suitable washers, tighten to 7 Nm also one on either side of the radio racking (M8) using existing fixings (refer to insets A and C) and tighten to 20 Nm.

10.54 Tension the straps and pass excess through loops in curtain to prevent loose ends falling.

10.55 Ensure that the two side flaps of the curtain are firmly attached to the Velcro around the doors (refer to inset C).

Fitting of eyelet

10.56 Refer to Fig 4. When hazard curtains (3) need to be cut, to allow aerial leads to be passed through, eyelets (Items 3 and 12) are provided to ensure there is a neat finish and no degradation to the curtains capability after cutting.

10.57 Determine the position of the eyelet and mark its position.

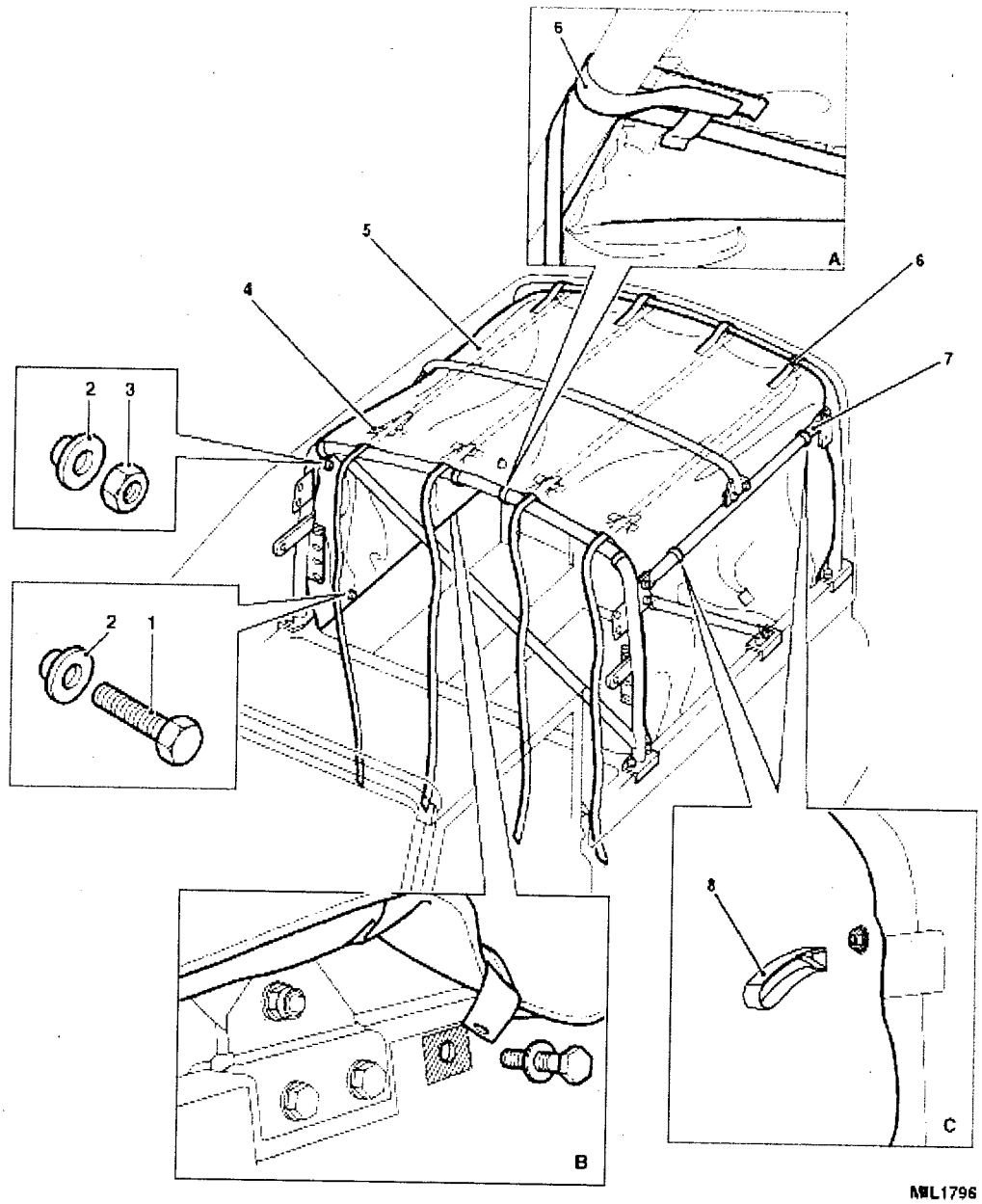
NOTE

When cutting the hole place a board or hard flat surface behind that will help you carrying out the operation.

10.58 Mark out a 47 mm hole and using a sharp knife remove the material.

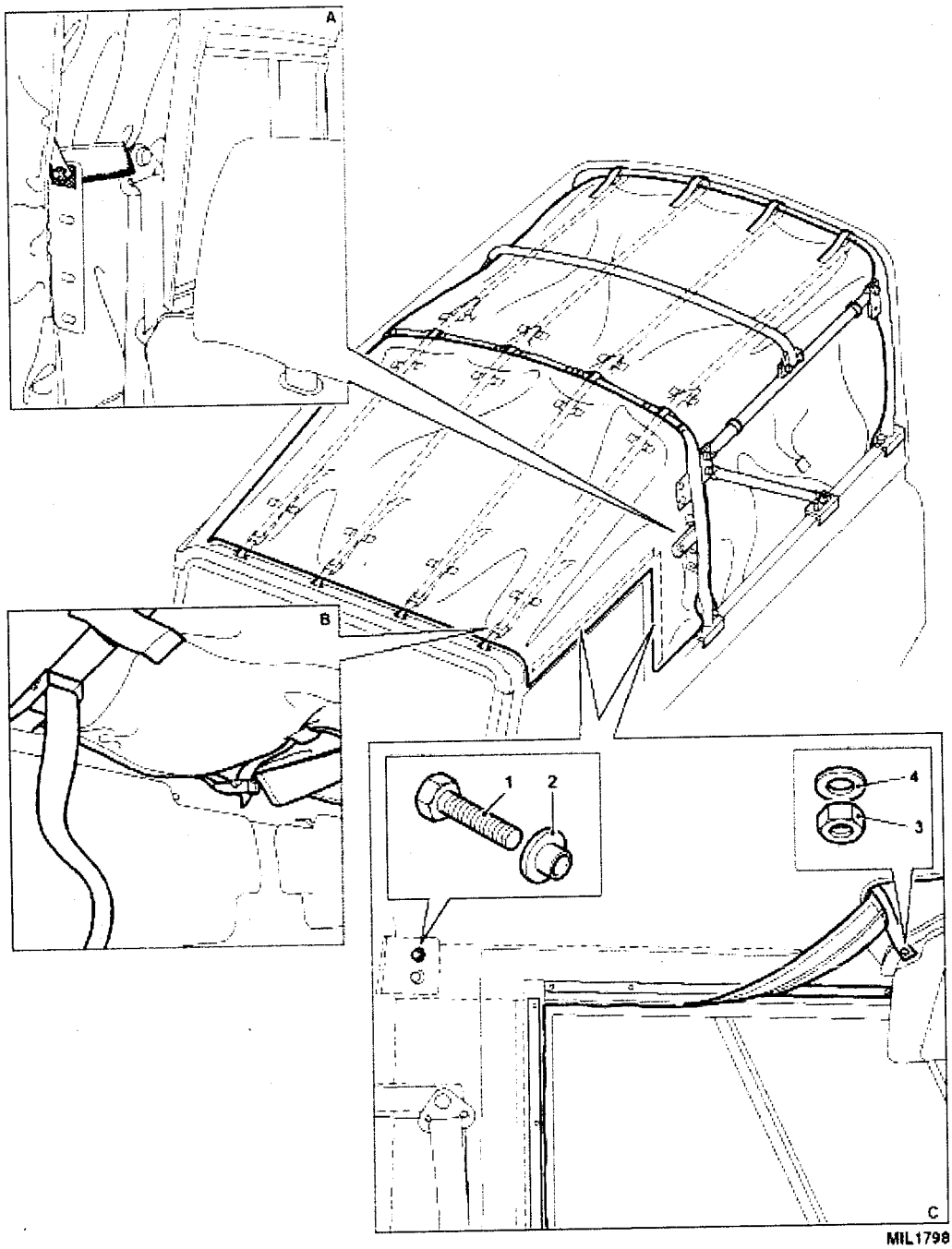
10.59 Place the male part of the eyelet (Fig 4, Item 2) on the inside of the curtain.

10.60 Place the female part (Fig 4, Item 1) on the other side and feed onto one edge of the male part and follow round using thumb and forefinger.



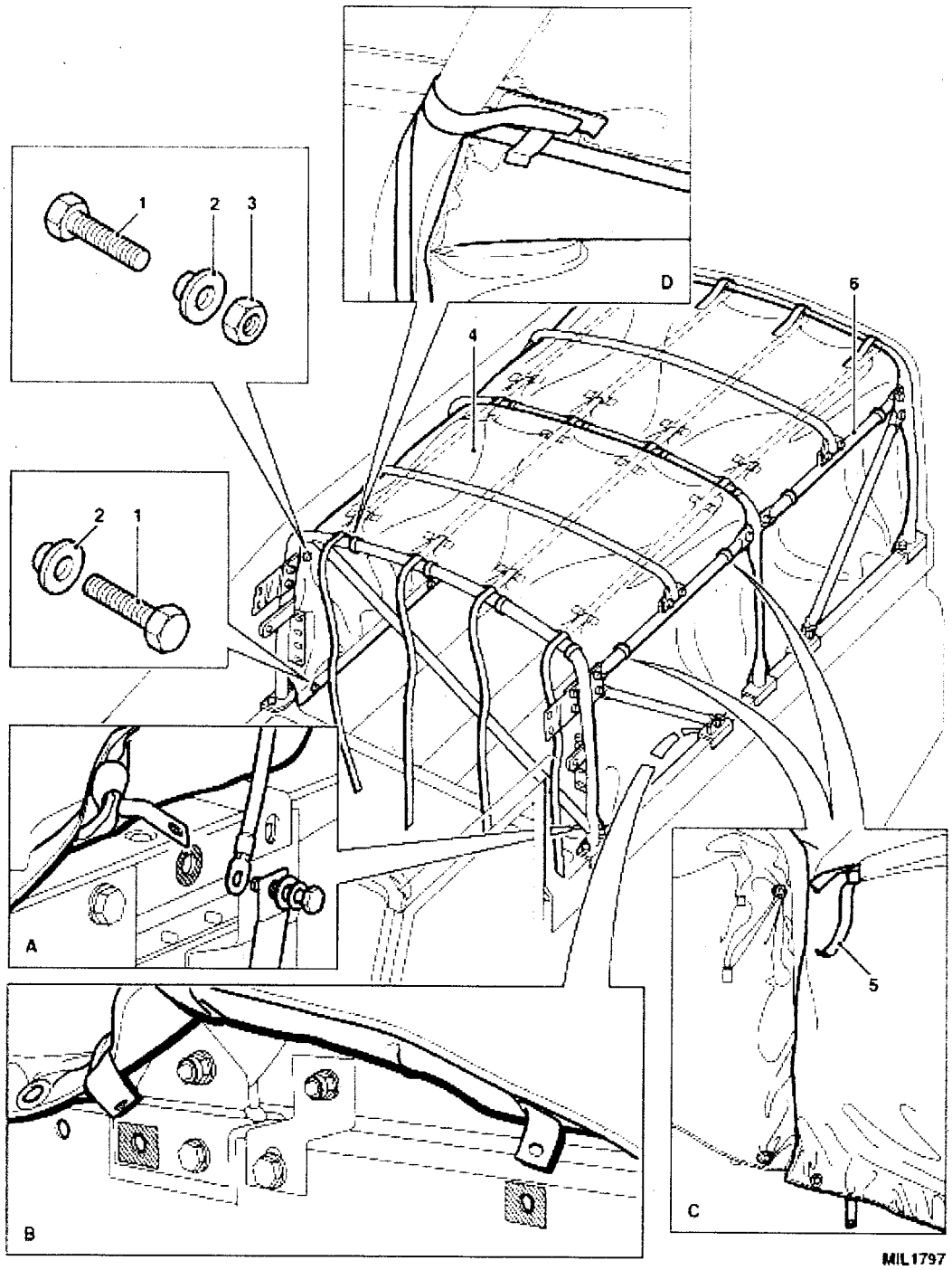
1	Bolt	5	Rear curtain
2	Spacer	6	Support strap
3	Nut	7	Cantrail tie bar
4	Support strap loop	8	Cable support straps

Fig 1 Rear curtain



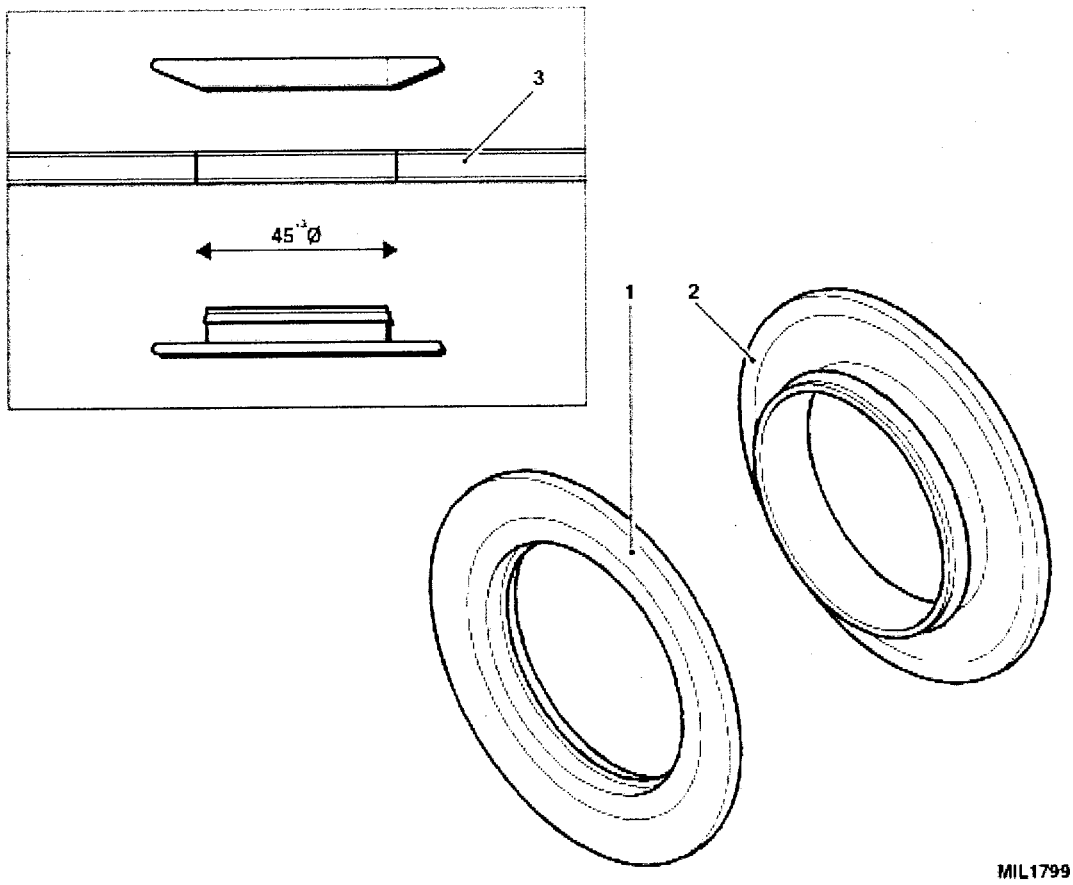
1 Bolt
2 Spacer
3 Nut
4 Washer

Fig 2 Front curtain



1	Bolt	4	Intermediate curtain
2	Spacer	5	Cable support strap
3	Nut	6	Cant rail

Fig 3 Intermediate curtain



1 Female eyelet
2 Male Eyelet
3 Hazard curtain

Fig 4 Eyelet assembly

TESTING AFTER EMBODIMENT

11 Carry out an earth bonding test using Test Set Bond Resistance (Item 18) to ensure the following maximum resistances are not exceeded:

11.1 25 milliohms between any RADHAZ curtain earth strap and vehicle chassis.

11.2 2 milliohms across any individual earth bond connection.

NOTE

Although a maximum overall bonding resistance of 25 milliohms is quoted, in practice, typical values of 5 milliohms can be achieved and every effort should be made to attain this figure.

EFFECT ON WEIGHT

12 Negligible.

PUBLICATION AMENDMENTS

13 Necessary amendments will be issued separately.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 13

SUBJECT: [redacted]

(Approval No. LSTP 12-6670)

CANCELLATION

INTRODUCTION

1 Modification Instruction No. 13 dated Sep 00 is hereby cancelled. [redacted] is now no longer required.

ACTION

2 File this Page 1/2 in place of Modification Instruction No. 13 dated Sep 00, all pages of which are to be destroyed.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 14

CONTENTS

Sponsor: DGES(A) ES52
Project number: ES52c/4356
File ref: DE/CH/4118C/LVG
Publication agency: ATSA Chertsey

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
1		
2		
3		

Amdt No.	Incorporated By (Signature)	Date
4		
5		
6		

SUBJECT: Fitting of the shower proof dash cover. (Approval No LSTP 12-6671)

INTRODUCTION

1 This Modification Instruction details the fitting of the Shower Proof Dash Cover.

1.1 Limitations on use of equipment. Nil.

APPLICABILITY

2 Truck Utility Light (TUL) High Specification (HS) and Truck Utility Medium (TUM) HS vehicles on approval of Equipment Support Manager (ESM) with vehicles in a stripped condition only.

2.1 Fitted to subject equipment held by user units.

2.2 Unmodified stock, held at all levels of technical storage.

REASON FOR MODIFICATION

3 Code 2 - to improve operational performance.

PRIORITY

4 ARMY: Routine.

5 RAF: Class 3.

ESTIMATED TIME REQUIRED

6 Embodiment: 1.5 man-hours.

MODIFICATION IMPLEMENTATION PLAN

7 This Modification Instruction is to be implemented by:

7.1 ARMY - Units authorized to carry out Levels 2, 3, and 4 of maintenance.

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

8 Associated Modification Instructions. Nil.

9 Modification strike plate action: Nil.

ACTION REQUIRED BY

10 The following action is to be carried out:

10.1 Units and establishments holding equipment:

10.1.1 Examine vehicle documents to see if this Modification Instruction is applicable.

10.1.2 Examine the Modification record plate to see if the Modification is embodied and where necessary Units with Level 2 Royal Electrical and Mechanical Engineers (REME) Support demand the stores required.

10.1.3 ARMY - On receipt of stores, request REME to modify equipment.

10.1.4 ARMY - Record the modification subject and Army Equipment Support Publication (AESP) number in equipment documents.

10.1.5 RAF - Record modification details on Army Form General (AF G) 1084A and Form 4870. Units operating Station Transport Management Aid (STAMA) are also to record modification details on ADP Mechanical Transport Maintenance Section (MTMS) job Certification Sheet and to follow the procedures laid down in Air Publication (AP) 100C-08A.

10.2 Army units authorized to carry out Levels 2, 3 and 4 maintenance and RAF units:

10.2.1 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 11 and carry out this Modification.

10.2.2 RAF – On receipt of stores, embody modification.

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

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

10.2.4.1 RAF: Modification Code: AFN 163.

NOTE

RAF units operating STAMA are also to complete ADP MTMS Job Certification Sheet and to follow the procedures laid down in AP 100C-08A.

10.3 All recipients of this instruction. Add particulars to the AESP 2320-D-128-811 Modification Instruction Index.

Stores, tools and equipment

11 The following items are to be demanded quoting this Modification Instruction as the authority:

11.1 Stores to be demanded:

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
			Mod Kit comprising:	1
1		F8617	Cover, dash, shower proof	(1)
2		RRC3966	Staple	(4)
3		78248	Rivets	(8)

Sequence of operations

NOTE

The main numbers of Para 11 used as references throughout this Modification Instruction.

CAUTION

When attaching staples to the scuttle, ensure that there is no item of equipment or electrical cabling attached or near to the area where the staple will penetrate through to the other side.

12 Carry out this instruction as follows:

12.1 Refer to Fig 1. Release the bonnet catch and raise the bonnet (refer to Cat 201 Chap 2-1).

NOTE

When the cover is not fitted to the Weapons Mounted Installation Kit (WMIK) ensure that the sock is firmly closed.

12.2 Place the shower proof dash cover (refer to Item 1) onto the vehicle ensuring that the sock goes over the wire cutter bracket (WMIK only) and the Velcro strap is attached under the steering column.

12.3 Refer to Fig 2. With the bonnet raised, tuck the cover in between the bonnet and front scuttle ensuring that that all apertures line up with the appropriate part.

12.4 Refer to Fig 1. Place staple (refer to Item 2) over the long strap hanging down and locate it onto the scuttle.

12.5 Drill 5 mm dia hole using the staple as a guide and attach to scuttle with pop rivet (refer to Item 3).

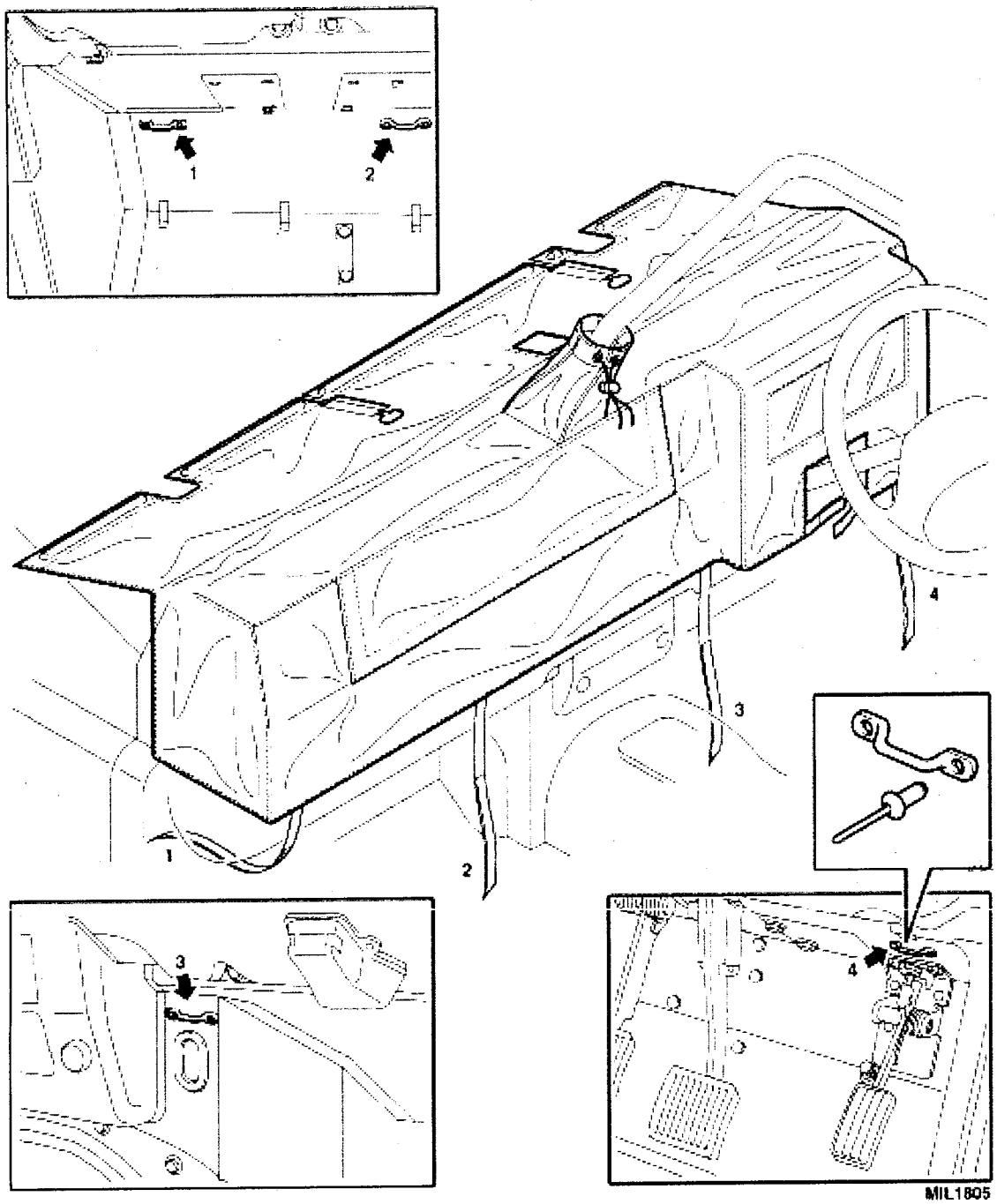


Fig 1 Fitting Shower proof cover

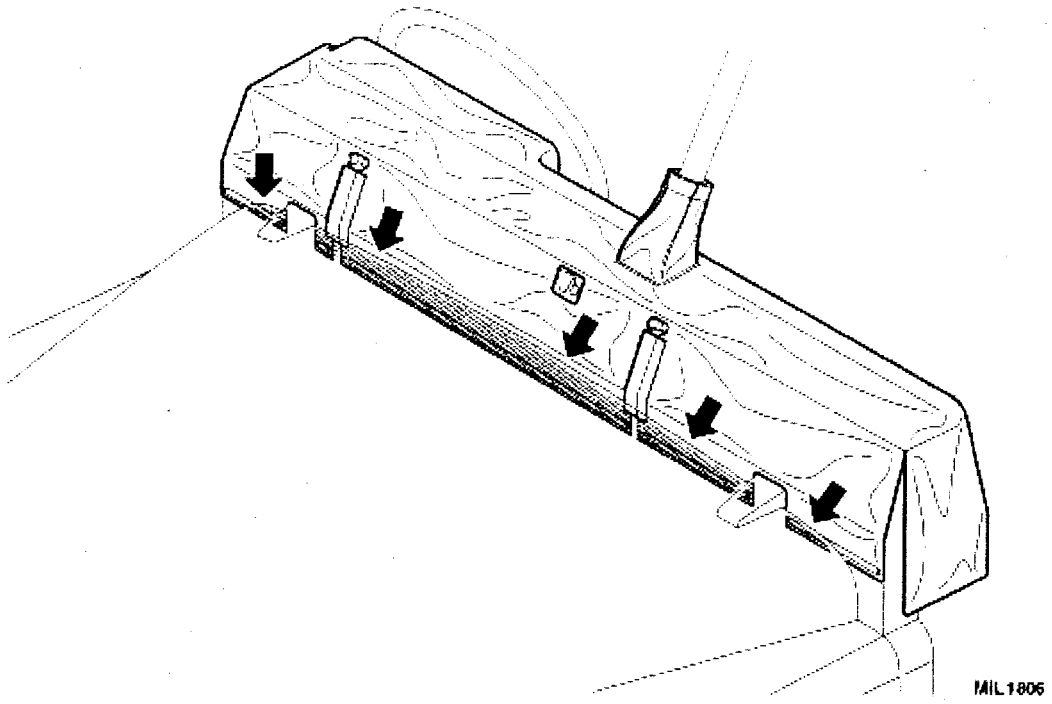


Fig 2 Locating cover under bonnet

TESTING AFTER EMBODIMENT

13 Nil.

EFFECT ON WEIGHT

14 Negligible.

PUBLICATION AMENDMENTS

15 Necessary amendments will be issued separately.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 15

SUBJECT: Fitting of (TUM) Ambulance blower motor suppression kit.

(Approval No LSTP 12-6672)

CANCELLATION

INTRODUCTION

1 Modification Instruction No. 15 dated May 00 is hereby cancelled. The fitting of the blower motor suppression kit to (TUM) Battle Field Ambulance vehicles is now no longer required.

ACTION

2 File this Page 1/2 in place of Modification Instruction No. 15 dated May 00, all pages of which are to be destroyed.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 16

SUBJECT: Radio battery isolation switch and power import/export system. (Approval No. LSTP 12-6673)

CANCELLATION

INTRODUCTION

1 Modification Instruction No. 16 dated Nov 01 is hereby cancelled. The radio battery isolation switch and power import/export system is now no longer required.

ACTION

2 File this Page 1/2 in place of Modification Instruction No. 16 dated Nov 01, all pages of which are to be destroyed.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 17

CONTENTS

Sponsor: SUV IPT
Project number:
File ref: SUV/8/25/1B
Publication agency: CTS TD Andover

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
1		
2		
3		

Amdt No.	Incorporated By (Signature)	Date
4		
5		
6		

SUBJECT: Introduction of battery retention

INTRODUCTION

1 To allow the fitment of vehicle batteries, type Absorptive Glass Matt (AGM) lead/acid battery 12 volt NSN Z9BAT/6140-99-665-3648, when issued in lieu of existing batteries, the battery retention clamp is changed.

1.1 Limitations on use of equipment. Nil.

APPLICABILITY

2 Truck Utility Light (TUL) High Specification (HS) and Truck Utility Medium (TUM) HS and TUM Ambulance HS vehicles all variants.

2.1 Fitted to subject equipment held by user units.

2.2 Unmodified stock, held at all levels of technical storage.

REASON FOR MODIFICATION

3 Code 1 - To improve safety.

PRIORITY

4 ARMY: Immediate.

5 RAF: Class 1.

ESTIMATED TIME REQUIRED

6 Embodiment: 0.75 man-hours.

MODIFICATION IMPLEMENTATION PLAN

7 This Modification Instruction is to be implemented by:

7.1 ARMY - Units authorized to carry out Levels 2, 3, and 4 of maintenance.

7.2 RAF - When required.

7.3 Associated Modification Instructions: Nil.

7.4 Modification strike plate action: Nil.

Action required by

8 The following action is to be carried out:

8.1 Units and establishments holding equipment:

8.1.1 Examine vehicle documents to see if this Modification Instruction is applicable.

8.1.2 Examine the Modification record plate to see if the Modification is embodied and where necessary Units with Level 2 Royal Electrical and Mechanical Engineers (REME) Support demand the stores required.

8.1.3 ARMY - On receipt of stores, request REME to modify equipment.

8.1.4 ARMY - Record the modification subject and Army Equipment Support Publication (AESP) number in equipment documents.

8.1.5 RAF - Record modification details on Army Form General (AF G) 1084A and Form 4870. Units operating Station Transport Management Aid (STAMA) are also to record modification details on ADP Mechanical Transport Maintenance Section (MTMS) Job Certification Sheet and to follow the procedures laid down in Air Publication (AP) 100C-08A.

8.2 Army units authorized to carry out Levels 2, 3 and 4 maintenance and RAF units:

8.2.1 ARMY - When requested by users or during overhaul of equipment on charge without REME Level 2 Support, obtain the items listed in Para 9 and carry out this modification.

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

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

8.2.3.1 RAF: MODIFICATION CODE: AFN 160.

NOTE

RAF units operating STAMA are also to complete ADP MTMS Job Certification Sheet and to follow the procedures laid down in AP 100C-08A.

8.3 All recipients of this instruction. Add particulars to AESP 2320-D-128-811 Modification Instruction Index.

Stores, tools and equipment

9 The following items are to be demanded quoting this Modification Instruction as the authority:

9.1 Stores to be demanded:

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
1	7XD	6160-99-865-1185	Clamp, battery	1
2	7XD	5940-99-481-9629	Cover, terminal	1

Sequence of operations

NOTE

The item numbers of Para 9 are used as reference throughout this Modification Instruction.

CAUTIONS

(1) When installing ensure the batteries are connected in correct polarity.

(2) Care must be taken when disconnecting the batteries. Ensure the ignition system and all electrical components are switched off. Earth lead (negative) to be removed first and reconnected last.

(3) Batteries must be replaced in matched pairs.

10 Refer to Fig 1 and carry out the Modification as follows:

Removal

10.1 From inside the vehicle remove the left hand seat squab.

10.2 Undo the over centre catch and slide the battery box cover from the seat base.

10.3 Disconnect all leads from the batteries.

10.4 Undo the three battery clamp bolts and retain.

10.5 Remove the battery clamp and discard.

10.6 Remove the two batteries and dispose of in accordance with current procedures.

Fitting

10.7 Place the batteries (NSN 6140-99-665-3648) into the battery tray.

10.8 Locate the battery clamp (Item 1) over the batteries.

10.9 Tighten using the existing battery clamp bolts, (do not overtighten).

10.10 Lightly clean the terminals with abrasive paper.

10.11 Remove the bolt on the main positive lead, separate leads, slide additional terminal cover (Item 2) onto leads, replace bolt.

10.12 Reconnect and tighten the leads, fitting the positive lead to the front battery first.

10.13 Reconnect and tighten the negative lead to the rear battery last.

NOTE

When fitted into vehicles or equipment, the battery connections should be coated with petroleum jelly (PX7).

10.14 Refit the battery box cover and seat squab.

TESTING AFTER EMBODIMENT

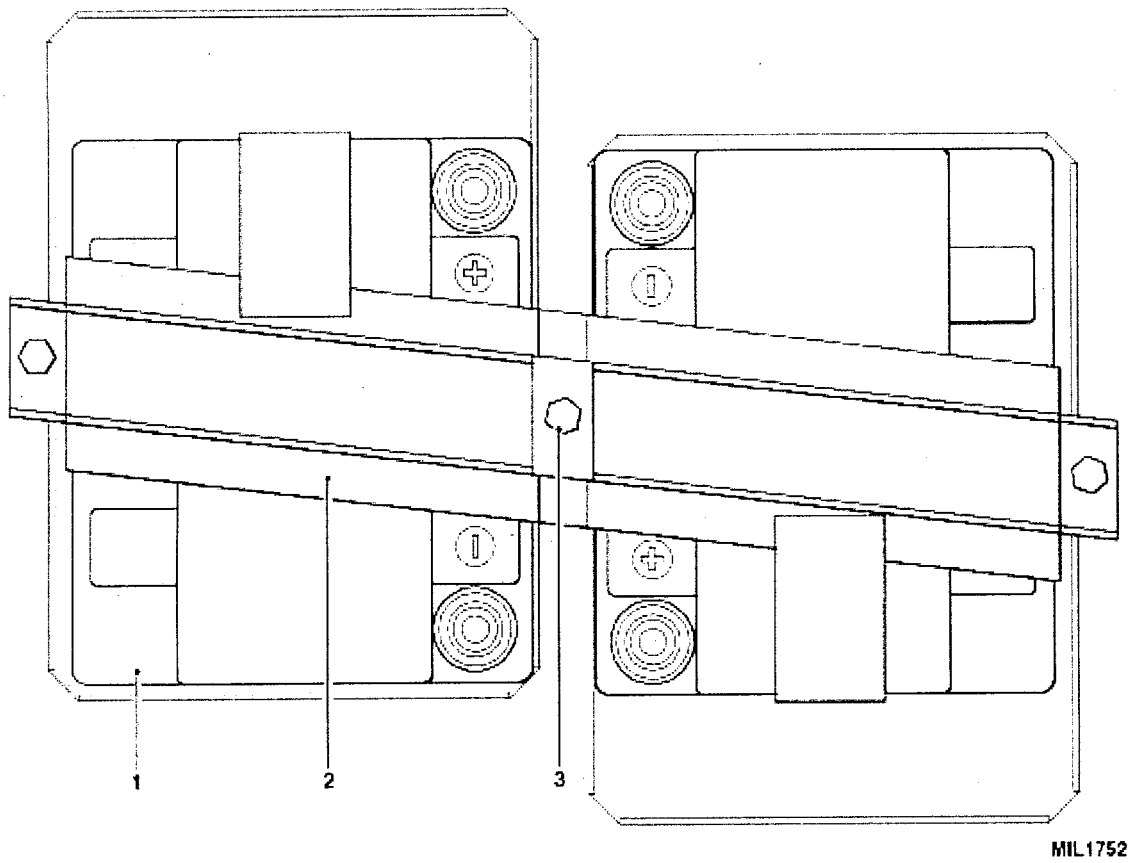
11 Nil.

EFFECT ON WEIGHT

12 Negligible.

PUBLICATION AMENDMENTS

13 Necessary amendments will be issued separately.



1 Battery
2 Clamp
3 Battery clamp bolt

Fig 1 Battery clamp installation

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 18

CONTENTS

Sponsor: CSV(Sp) IPT
Project number: CSV031
File ref:
Publication agency: Defence Logistics Organisation

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
1		
2		
3		

Amdt No.	Incorporated By (Signature)	Date
4		
5		
6		

SUBJECT: Fitting of front windscreen and side and rear window protection screens
(Approval No LSTP 12-6675)

INTRODUCTION

1 This Modification Instruction details the fitting of the front windscreen and side and rear window protection screens (Hard Top) for short term operational requirements.

1.1 Limitations on use of equipment. Nil.

APPLICABILITY

2 All variants of Truck Utility Light (TUL) High Specification (HS) and Truck Utility Medium (TUM) HS vehicles but not including Battle Field Ambulance on the authority of Equipment Manager at Defence Logistics Organisation (DLO).

2.1 Fitted to subject equipment held by user units.

REASON FOR MODIFICATION

3 Code 6 – Short term operational requirements.

PRIORITY

4 ARMY: Routine.

5 RAF: Class 3.

ESTIMATED TIME REQUIRED

6 Embodiment: 3.0 man-hours.

Modification implementation plan

7 This Modification Instruction is to be implemented by:

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

7.2 RAF - Depot units when required.

8 Associated Modification Instructions. Nil.

9 Modification plate strike action. Nil.

Action required by

10 The following action is to be carried out:

10.1 Units and establishments holding equipment:

10.1.1 Examine vehicle documents to see if this Modification Instruction is applicable.

10.1.2 Examine the Modification record plate to see if the Modification is embodied and where necessary Units with Level 2 Royal Electrical and Mechanical Engineers (REME) Support demand the stores required.

10.1.3 ARMY - On receipt of stores, request REME to modify equipment.

10.1.4 ARMY - Record the modification, Subject Army Equipment Support Publication (AESP) number and Army Modification Code in equipment documents.

10.1.5 RAF - Record modification details on Army Form General (AF G) 1084A and Form 4870. Units operating Station Transport Management Aid (STAMA) are also to record modification details on ADP Mechanical Transport Maintenance Section (MTMS) job Certification Sheet and to follow the procedures laid down in Air Publication (AP) 100C-08A.

10.2 Army units authorized to carry out Levels 2, 3 and 4 maintenance and RAF units:

10.2.1 ARMY - When requested by users or during overhaul of equipment on charge without REME Level 2 Support, obtain the items listed in Para 11 and carry out this modification.

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

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

10.2.3.1 RAF: MODIFICATION CODE: AFN 171.

NOTE

RAF units operating STAMA are also to complete ADP MTMS Job Certification Sheet and to follow the procedures laid down in AP 100C-08A.

10.3 All recipients of this instruction. Add particulars to AESP 2320-D-128-811 Modification Instruction Index.

Stores, tools and equipment

11 The following set is to be demanded quoting this Modification Instruction authority:

11.1 Stores to be demanded:

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
	7RU	2510-99-335-2895	Front screen/front door windows protection kit Comprising:	1
1			Front screen frame assy	(1)
2			Front door screen frame assy (RH)	(1)
3			Front door screen frame assy (LH)	(1)
4			Front screen support strut (RH)	(1)
5			Front screen support strut (LH)	(1)
6			M8x80 Hex bolts	(2)
7			M8x40 Hex set screw	(2)
8			M8 Nyloc nut	(4)
9			M8 Flat washer	(8)
10			Shaft locking pin	(2)
11			Rubber buffer	(2)
12			M6x20 set screw	(4)
13			M6 flat washer	(8)
14			M6 spring washer	(4)
15			Special retaining nut	(4)
16			M6 Rivnut	(4)
17			M6x35 Hex set screw	(4)
	7RU	2510-99-212-5216	Rear door window protection kit (Hard Top only) Comprising:	1
18			Screen assy	(1)
19			M8x75 Hex bolt	(4)
20			M8 flat washer	(4)
21			M8 spring washer	(4)
22			M8 rivnut	(4)

Sequence of operations

NOTE

The item numbers in Para 11 are used as references throughout this Modification Instruction.

12 Refer to Fig 1 and Fig 2 to carry out this Modification Instruction as follows:

12.1 Front windscreen protection screen assembly.

NOTE

Vertical support struts are fitted to each side of the windscreen. To ensure correct alignment the struts should be fitted progressively and independent of the screen guard.

12.1.1 Remove the pivot pin of the RH windscreen hinge and discard.

NOTE

The pivot pin is stepped in diameter. Ensure it is driven out from the end of the smallest diameter (refer to Fig 1).

12.1.2 Drill through the hinge pivot hole to enlarge pivot hole to receive the M8 bolt.

12.1.3 Offer the RH support strut (Item 4) to the windscreen and secure at the lower position, using M8 bolt (Item 6) washers (Item 9) and nyloc nut (Item 8) through the windscreen hinge. Loosely tighten the nut and bolt.

NOTE

Locally supplied packing washers may have to be used between the hinge and support strut to ensure the correct alignment of the screen and struts.

12.1.4 Remove the 'A' post trim from inside of windscreen frame.

12.1.5 With RH support strut in position and located firmly against the windscreen surround, drill out two 7 mm dia holes in windscreen surround using upper bracket as guide.

12.1.6 Secure the upper bracket to the windscreen surround using M6 set screws (Item 12) washers (Item 13) spring washers (Item 14) and special retaining nuts (Item 15).

NOTE

The special retaining nuts (Item 15) are shaped to match the inner profile of the windscreen frame and must be inserted correctly.

12.1.7 Repeat steps 12.1.1 to 12.1.6 for the LH side of the windscreen.

12.1.8 Fit Rubber buffers (Items 11) into the tapped holes positioned in the top and bottom rails of the protection screen (innerface).

12.1.9 With assistance, position the front protection screen (Item 1) between the support struts and using M8 set screws (Item 7), washers (Item 9) and nyloc nuts (Item 8) secure to the support struts at the lower pivot points. Tighten the set screws enough to allow the protection screen to be raised and lowered.

12.1.10 Refit trim to inside of the windscreen frame.

12.1.11 Raise and lower the protection screen and ensure the screen does not foul the vertical support struts. Add the packing washers to adjust clearance if required. Tighten all fixings.

12.1.12 Raise the screen and ensure the rubber pad (Fig 2, Item 4) rests against the vertical strut. Mark the vertical strut through the screen guard bracket (9). Lower the screen and drill through the vertical strut using an 8 mm dia drill. Repeat for both LH and RH sides.

12.1.13 Secure the screen in a vertical position using the locking pins (Item 10) through the support struts of the protective screen.

12.2 Front door window protection screens.

12.2.1 Refer to Fig 3 and proceed as follows:

NOTE

The following procedure is typical for guards fitted to both the driver's and passenger door.

12.2.2 Remove the two door top side screen cover staples by drilling out the rivets and retain.

12.2.3 Position the window protection screen assembly (Item 2) over the top of the RH front door, lining it up centrally with the window. Mark the position of the two lower fixing points through the side screen frame onto the door.

12.2.4 Remove the protection screen and drill two 9 mm dia holes in the front door and insert two M6 rivnuts (Item 16).

12.2.5 Re-hang protection screen over door and secure to door using two M6 set screws (Item 17) through the lower fixing points.

12.2.6 Repeat steps 12.2.2 to 12.2.4 for the LH side door.

12.3 Rear door window protection screen (Hard top only).

12.3.1 Position the rear window protection screen assembly (Item 18) squarely and centrally over the window in the rear door and mark the positions of the four holes through the screen onto the door.

12.3.2 Remove the screen and drill four 11 mm dia holes in the rear door and insert four M8 rivnuts (Item 22).

12.3.3 Secure the screen in position using four M8 bolts (Item 19), flat washers (Item 20) and spring washers (Item 21).

NOTES

(1) When the operational requirement for the protective screens no longer exists, the kit should be removed, parts made good, repackaged and returned to stores.

(2) Removal of the kit can be achieved by following the reverse of the above instruction. Refit the two side screen cover staples and fit new windscreen hinges.

(3) If new front windscreen hinges are not available the modified hinge can be secured with a suitable M8 nut and bolt until new parts are available.

TESTING AFTER EMBODIMENT

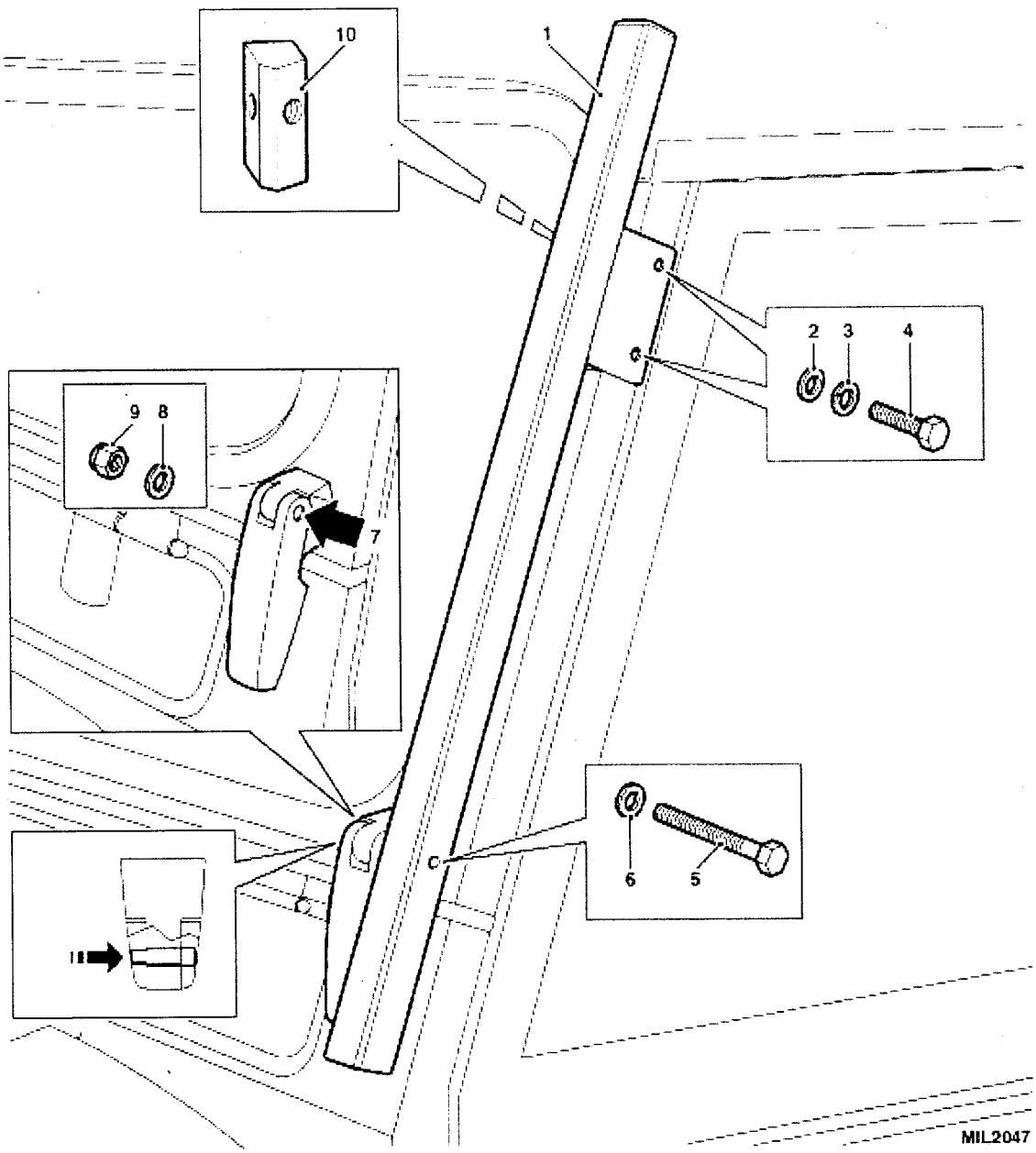
13 Nil.

EFFECT ON WEIGHT

14 No effect after removal (required for short term installation only).

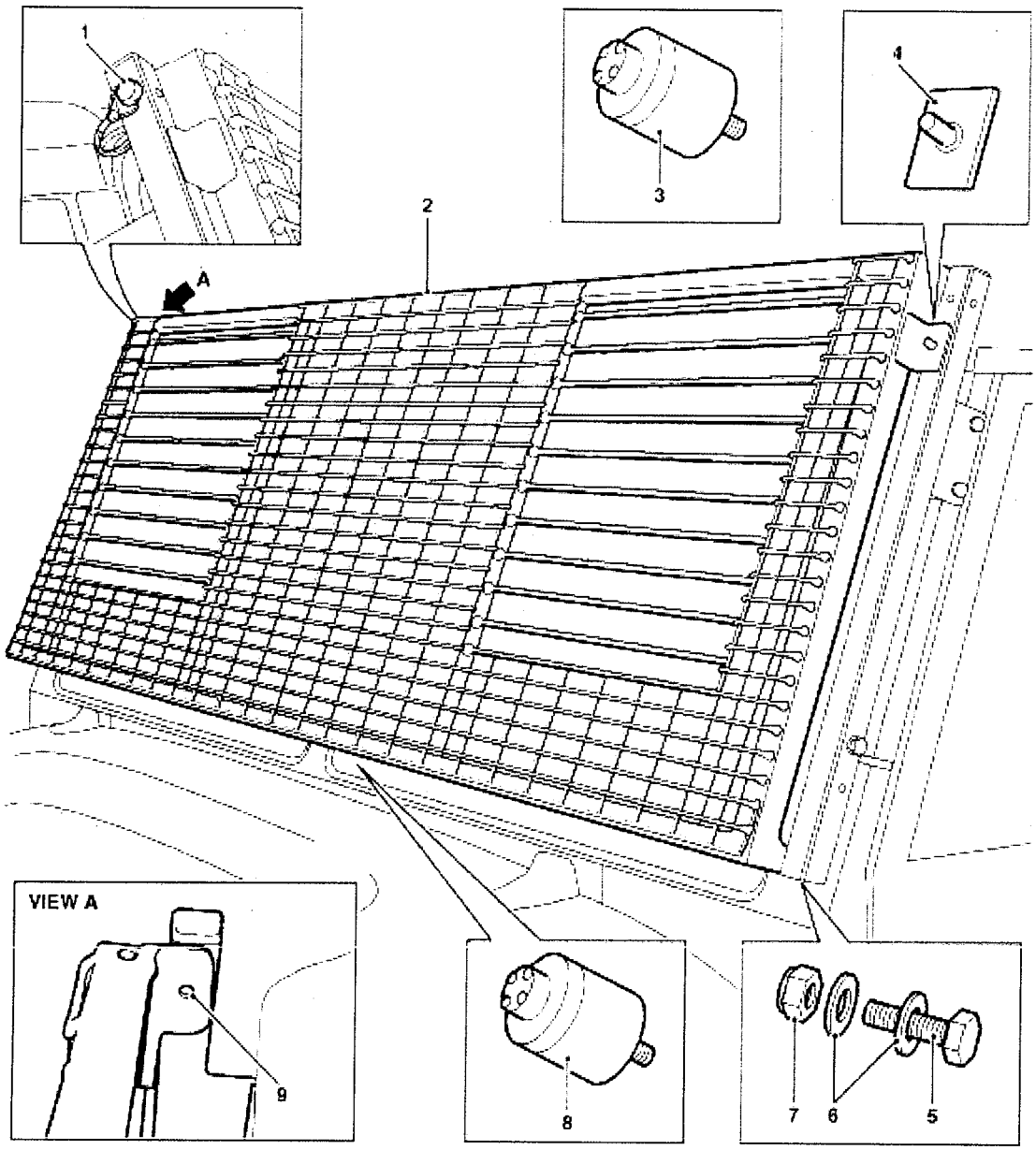
PUBLICATION AMENDMENTS

15 Necessary amendments will be issued separately.



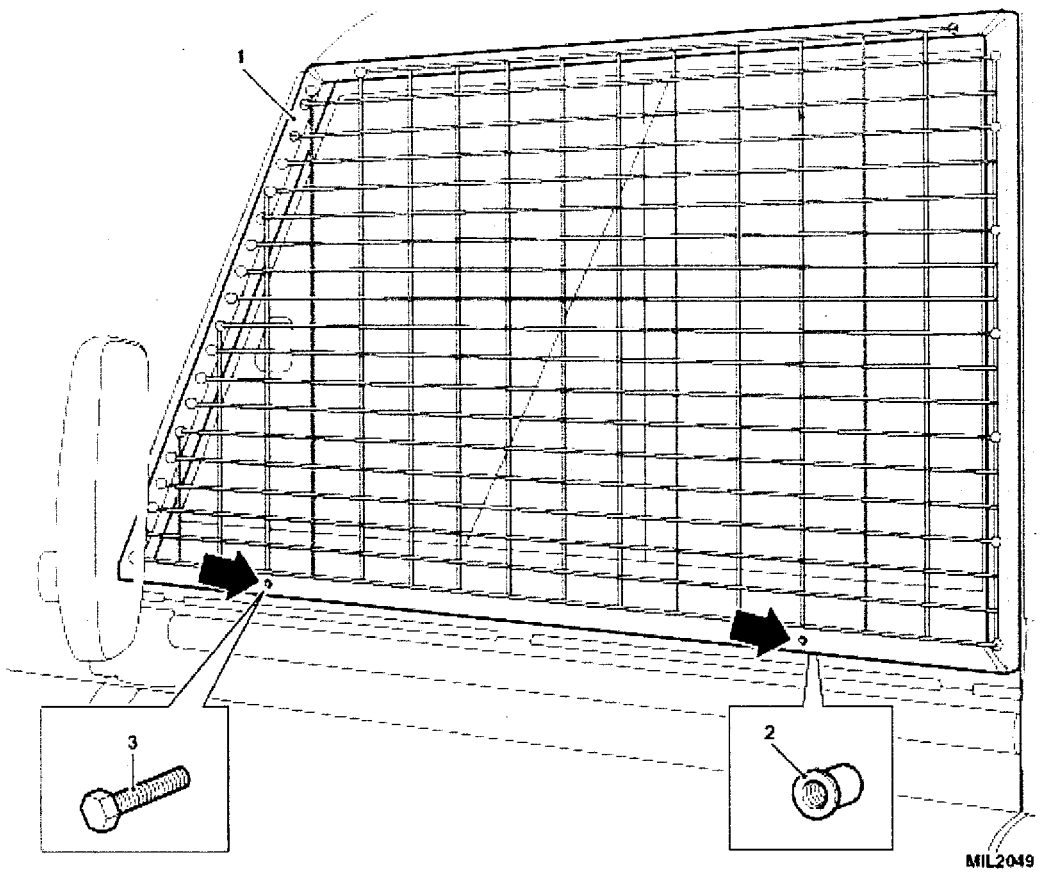
1	Vertical strut	6	Washer
2	Washer	7	Packing washers
3	Spring washer	8	Washer
4	M6 set screw	9	Nylock nut
5	M8 Bolt	10	Retaining nut

Fig 1 Fitting the front protection screen vertical support struts



1 Locking pin
2 Front protection screen
3 Buffer
4 Pad
5 M8 pivot set screw
6 Washers
7 Nylock nut
8 Buffer
9 Screen bracket

Fig 2 Fitting the front protection screen



1 Front door protection screen
2 M6 rivnut
3 M6 set screw

Fig 3 Fitting the front door window protection screens

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 19

CONTENTS

Sponsor: DGES(A) ES52
Project number: ES52c/4356
File ref: DE/CH/4118/LVG
Publication agency: ATSA Chertsey

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
1		
2		
3		

Amdt No.	Incorporated By (Signature)	Date
4		
5		
6		

SUBJECT: Black out cover for warning light panel.
(Approval No LSTP 12-6676)

INTRODUCTION

1 This Modification Instruction details the fitting of a black out cover over the warning light panel.

1.1 Limitations on use of equipment. Nil.

APPLICABILITY

2 Truck Utility Light (TUL) High Specification (HS), Truck Utility Medium (TUM) HS and (TUM) Ambulance HS all variants.

2.1 Fitted to subject vehicles held by user units.

2.2 Unmodified stock, held at all levels of technical storage.

REASON FOR MODIFICATION

3 Code 2 - to improve operational performance.

PRIORITY

4 ARMY: Routine.

5 RAF: Class 3.

ESTIMATED TIME REQUIRED

6 Embodiment: 0.5 man-hours.

Modification implementation plan

7 This Modification Instruction is to be implemented by:

7.1 ARMY - Units authorized to carry out Levels 2, 3, and 4 of maintenance.

7.2 RAF - When required.

7.3 Associated Modification Instructions: Nil.

7.4 Modification strike plate action: Nil.

Action required by

8 The following action is to be carried out:

8.1 Units and establishments holding equipment:

8.1.1 Examine vehicle documents to see if this Modification Instruction is applicable.

8.1.2 Examine the Modification record plate to see if the Modification is embodied and where necessary Units with Level 2 Royal Electrical and Mechanical Engineers (REME) Support demand the stores required.

8.1.3 ARMY - On receipt of stores, request REME to modify equipment.

8.1.4 ARMY - Record the modification subject and Army Equipment Support Publication (AESP) number in equipment documents.

8.1.5 RAF - Record modification details on Army Form General (AF G) 1084A and Form 4870. Units operating Station Transport Management Aid (STAMA) are also to record modification details on ADP Mechanical Transport Maintenance Section (MTMS) job Certification Sheet and to follow the procedures laid down in Air Publication (AP) 100C-08A.

8.2 Army units authorized to carry out Levels 2, 3 and 4 maintenance and RAF units:

8.2.1 ARMY - When requested by users or during overhaul of equipment on charge without REME Level 2 Support, obtain the items listed in Para 9 and carry out this modification.

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

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

8.2.3.1 RAF: MODIFICATION CODE: AFN 158.

NOTE

RAF units operating STAMA are also to complete ADP MTMS Job Certification Sheet and to follow the procedures laid down in AP 100C-08A.

8.3 All recipients of this instruction. Add particulars to AESP 2320-D-128-811 Modification Instruction Index.

Stores, tools and equipment

9 The following Modification set is to be demanded quoting this Modification Instruction authority for demand:

9.1 Stores to be demanded:

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
	7XD	6240-99-920-8247	Mod Kit: Comprising	1
1			Blackout cover assembly, hinged	(1)
2			Label	(1)
3			Screw, raised countersunk recessed M4 x 25 mm	(2)

Sequence of operations

NOTES

(1) The item numbers of Para 9 are used as references throughout this Modification Instruction.

(2) Standard version is shown, winterised/waterproofed similar.

10 Refer to Fig 1. Carry out this Modification Instruction as follows:

10.1 Locate and identify the warning lights panel.

10.2 Remove the two retaining screws and discard.

10.3 Place the hinged blackout cover assembly (Item 1) onto the warning light panel.

10.4 Secure with two screws (Item 3).

NOTE

When fitting the label, ensure that the bottom set of holes are covered.

10.5 Fit the label (Item 2) onto the cover ensuring that the holes in the label align with the holes on the cover.

TESTING AFTER EMBODIMENT

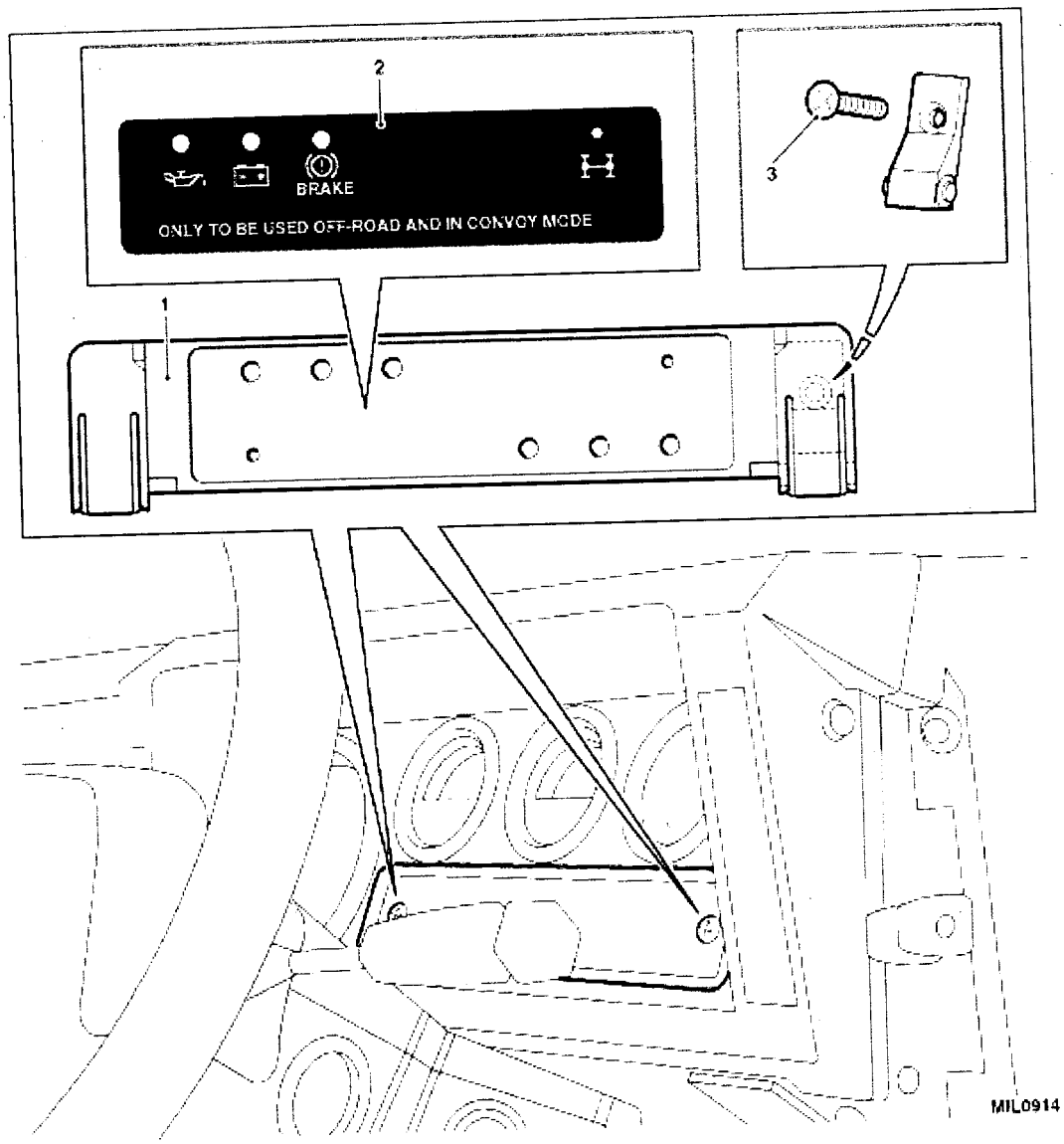
11 Nil.

EFFECT ON WEIGHT

12 Negligible.

PUBLICATION AMENDMENTS

13 Necessary amendments will be issued separately.



1 Blackout cover 3 Screw
2 Label

Fig 1 Blackout cover standard version

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 20

CONTENTS

Sponsor: CSV(Sp) IPT
Project number: LLVUty-22
File ref:
Publication agency: Defence Logistics Organisation

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
1		
2		
3		

Amdt No.	Incorporated By (Signature)	Date
4		
5		
6		

SUBJECT: 8 m mast mount installation kit.

(Approval No LSTP 12-6679)

INTRODUCTION

1 This Modification Instruction details the fitting of the 8 m mast mount installation kit to both Truck Utility Light (TUL) High Specification (HS) and Truck Utility Medium (TUM) HS vehicles.

1.1 Limitations on use of equipment. Nil.

APPLICABILITY

2 Truck Utility Light (TUL) HS Fitted For Radio (FFR) and Truck Utility Medium (TUM) HS FFR vehicles to be fitted with a 8 m Communication Mast as authorised by AMLC.

2.1 Fitted to equipment held by user units.

REASON FOR MODIFICATION

3 Code 2 – To improve operational performance.

PRIORITY

4 ARMY: Routine.

5 RAF: Class 3.

ESTIMATED TIME REQUIRED

6 Embodiment: 3.0 man-hours.

MODIFICATION IMPLEMENTATION PLAN

7 This Modification Instruction is to be implemented by:

7.1 ARMY - Units authorized to carry out Levels 2, 3, and 4 of maintenance.

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

7.3 Associated Modification Instructions: Nil.

7.4 Modification strike plate action: Nil.

Action required by

8 The following action is to be carried out:

8.1 Units and establishments holding equipment:

8.1.1 Examine vehicle documents to see if this Modification Instruction is applicable.

8.1.2 Examine the Modification record plate to see if the Modification is embodied and where necessary Units with Level 2 Royal Electrical and Mechanical Engineers (REME) Support demand the stores required.

8.1.3 ARMY - On receipt of stores, request REME to modify equipment.

8.1.4 Record the modification, subject and the Army Equipment Support Publication (AESP) number in equipment documents.

8.1.5 RAF - Record modification details on Army Form General (AF G) 1084A and Form 4870. Units operating Station Transport Management Aid (STAMA) are also to record modification details on ADP Mechanical Transport Maintenance Section (MTMS) job Certification Sheet and to follow the procedures laid down in Air Publication (AP) 100C-08A.

8.2 Army units authorized to carry out Levels 2, 3 and 4 maintenance and RAF units:

8.2.1 ARMY - When requested by users or during overhaul of equipment on charge without REME Level 2 Support, obtain the items listed in Para 9 and carry out this modification.

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

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

8.2.3.1 RAF: MODIFICATION CODE: AFN 164.

NOTE

RAF units operating STAMA are also to complete ADP MTMS Job Certification Sheet and to follow the procedures laid down in AP 100C-08A.

8.3 All recipients of this instruction. Add particulars to AESP 2320-D-128-811 Modification Instruction Index.

Stores, tools and equipment

NOTES

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

(2) In Fig 1 all annotations cross-refer directly to the Item No. in the table.

9 The following items are to be demanded quoting this Modification Instruction as the authority:

9.1 Stores to be demanded:

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
	7XD	5820-99-463-1202	8 m mast mount mod set comprising:	1
1		ND	M10 Hex hd nylock nut (s/s)	(2)
2		ND	M10 spring washer (s/s)	(2)
3		VM10017-14	Large spacer	(2)
4		VM10017-15	Small spacer	(2)
5		VM10017-13	Rubber gasket	(1)
6		VM10017-12	Top bracket	(1)
7		ND	M10 x 70 Socket hd capscrew (s/s)	(1)
8		ND	M10 x 60 Socket hd capscrew (s/s)	(1)
9		VM10017-19	Retaining cord and pin	(1)
10		ND	M3 x 16 Pan hd screw (s/s)	(1)
11		ND	M3 spring washer (s/s)	(1)
12		ND	M3 Hex hd nylock nut (s/s)	(1)
13		ND	M8 spring washer (s/s)	(6)
14		ND	M8 Hex hd nylock nut (s/s)	(2)
15		VM10017-18	Top clamp assembly	(1)
16		VM10017-4	Label 1	(1)
17		VM10017-5	Label 2	(1)
18		ND	M8 x 45 Socket hd capscrew (s/s)	(2)
19		ND	M8 x 25 Socket hd capscrew (s/s)	(4)
20		VM10017-3	Bottom bracket	(1)
21		ND	M8 thin wall nutsert	(4)
22		VM10017-16	Shim	(1)

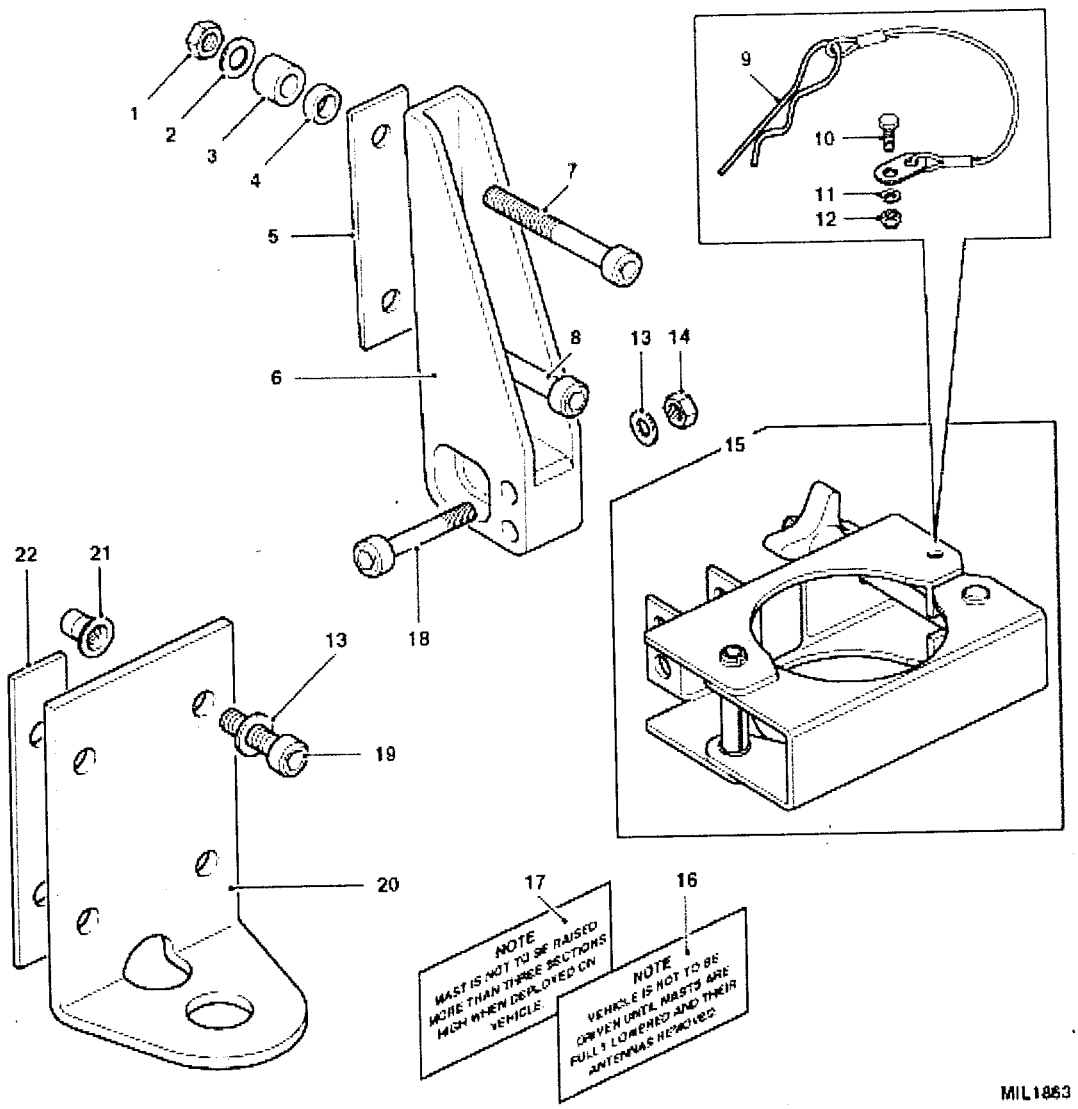


Fig 1 8 m mast top clamp and bottom bracket assemblies

Sequence of operations

NOTE

The item numbers in Para 9 are used as references throughout this Modification Instruction.

10 Carry out the Modification as follows:

10.1 Park the vehicle on a level surface and apply the hand brake.

10.2 Switch off the engine and remove the ignition key.

10.3 Determine which side of the vehicle is to be fitted with the 8 m mast and apply the following procedure. If two masts are to be fitted, the following procedure is to be applied to both sides.

NOTES

(1) Drilling jigs and bushes are available to assist in the drilling of holes in the body and canopy. These jigs and bushes may be obtained from the units listed below.

(2) If jigs and bushes are not available, the following instructions provide sufficient detail to install the mounting kit.

10.4 The following Units stock the drilling jigs and bushes:

1st Bn REME; 2nd Bn REME; 3rd Bn REME; 4th Bn REME; 5th Bn REME; 6th Bn REME; 7th Bn REME; 3rd Cdo Log Sp Bn; 1st Div Sig Regt; 3 Div Sig Regt

10.5 Top bracket (Canvas roof without ski rack)

10.6 Refer to Fig 2 and proceed as follows:

WARNING

HEALTH AND SAFETY. DURING THE FOLLOWING OPERATION USE SUITABLE GLOVES WHEN DRILLING.

10.6.1 From inside the vehicle remove the nuts and bolts securing the cant rail (longitudinal) tie bar and rear corner brace to the rear roll bar bracket.

10.6.2 Drill a 3 mm pilot hole through the canvas from the inside using the centre of the holes in the roll bar bracket as a guide.

NOTE

Use a thick block of wood to trap the canvas against the roll bar bracket on the outside whilst drilling the pilot holes from the inside.

10.6.3 Using a Stanley knife or suitable hand held cutter, open up the pilot holes from the outside to 10.5 mm dia.

10.6.4 Ensure the side retaining cords at bottom of the canvas roof are released from the cargo rail so that access can be gained to the roll bar bracket underneath the canopy.

10.6.5 On the outside of the vehicle align the rubber gasket (Item 5) and the top bracket (refer to Item 6) with the holes in canvas and locate with the upper capscrew (Item 7).

10.6.6 Push the upper capscrew through the canvas and assemble the spacers (refer to Items 3 and 4) onto the upper capscrew ensuring they are located between the canvas and roll bar bracket. Ensure the larger spacer is fitted against the canvas.

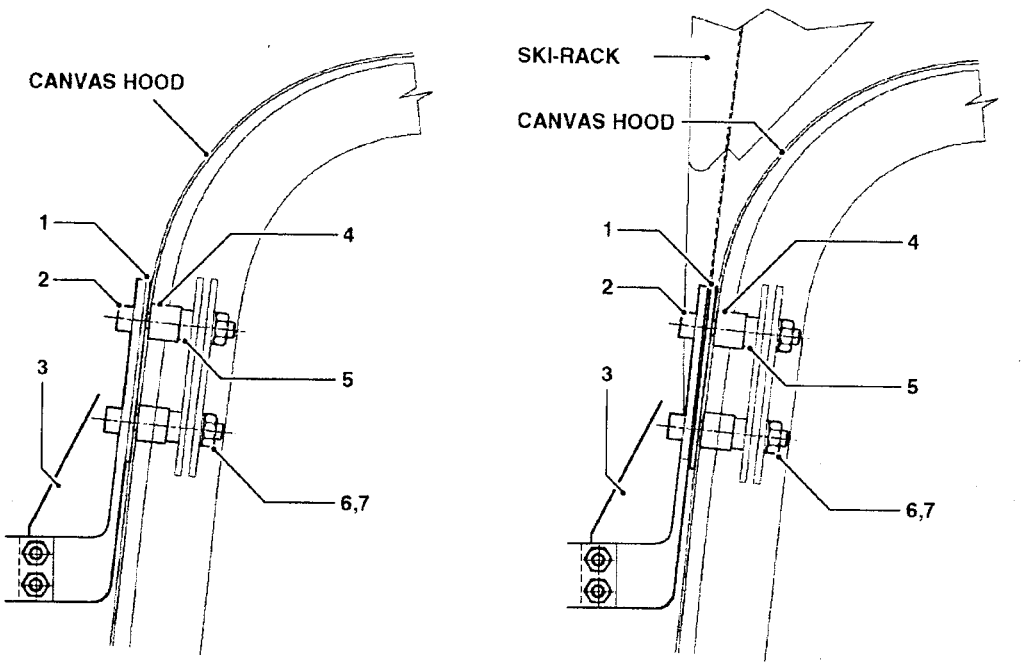
10.6.7 Locate the upper capscrew into the roll bar bracket, secure with the spring washer (Item 2) and the nylock nut (refer to Item 1) and loosely tighten.

10.6.8 Repeat the operation for the lower shorter capscrew (Item 8).

10.6.9 Tighten the top bracket capscrews to 40 Nm (30 lbf ft).

10.6.10 Fit the clamp assembly (Item 15) to the top bracket (Item 6) using two M8 capscrews (Item 18), spring washers (refer to Item 13) and nyloc nuts (Item 14) and tighten to 30 Nm (22 lbf ft).

10.6.11 Secure retaining cord and pin (Item 9) to the clamp assembly using the screw (Item 10), washer (Item 11) and nut (Item 12).



CANVAS ROOF WITHOUT SKI-RACK

CANVAS ROOF WITH SKI-RACK

MIL1862

1 Rubber gasket
2 Capscrew
3 Top bracket
4 Large spacer
5 Small spacer
6 Spring washer
7 Nyloc nut

Fig 2 Top bracket arrangements (Canvas roof).

10.7 Top bracket (Canvas roof with ski rack)

10.8 Refer to Fig 2 and proceed as follows:

NOTE

This procedure assumes that a ski rack is already fitted to the vehicle and that the required holes are already cut into the canvas roof.

10.8.1 From inside the vehicle remove the nuts and bolts securing the cant rail (longitudinal) tie bar and rear corner brace to the rear roll bar bracket and collect the ski rack spacers from in between the canvas roof and the roll bar bracket.

10.8.2 Remove the ski rack support bracket.

NOTE

The ski rack support bracket needs only be removed from the side of the vehicle that the mast mount is to be fitted. The support bracket can be removed from the cross bar.

10.8.3 Ensure the side retaining cords at bottom of the canvas roof are released from the cargo rail so that access can be gained to the roll bar bracket underneath the canopy.

10.8.4 On the outside of the vehicle align the rubber gasket (Item 5), the ski rack support bracket (ensure correct orientation) and the top bracket (Item 6) with holes in the canvas and locate with the upper capscrew (Item 7).

10.8.5 Push the upper capscrew through the canvas and assemble the spacers (Items 3 and 4) onto the upper capscrew ensuring they are located between the canvas and the roll bar bracket. Ensure the larger spacer is fitted against the canvas.

10.8.6 Locate the upper capscrew into the roll bar bracket, secure with the spring washer (Item 2) and the nyloc nut (Item 1) and loosely tighten.

10.8.7 Repeat the operation for the lower shorter capscrew (Item 8).

10.8.8 Secure the ski rack cross bar to the support bracket.

10.8.9 Tighten the mast top bracket capscrews to 40 Nm (30 lbf ft).

10.8.10 Fit the clamp assembly (refer to Item 15) to the top bracket (Item 6) using two M8 capscrews (refer to Item 18), spring washers (Item 13) and nyloc nuts (refer to Item 14) and tighten to 30 Nm (22 lbf ft).

10.8.11 Secure the retaining cord and pin (refer to Item 9) to the clamp assembly using the screw (refer to Item 10), washer (Item 11) and nut (Item 12).

10.9 Top bracket (Hardtop without ski rack)

10.10 Refer to Fig 3 and proceed as follows:

WARNING

HEALTH AND SAFETY. DURING THE FOLLOWING OPERATION WEAR THE APPROPRIATE MASK AND SAFETY GOGGLES.

10.10.1 From inside the vehicle remove the nuts from the bolts securing the cant rail (longitudinal) tie bar and rear corner brace to the rear roll bar bracket.

10.10.2 Using a suitable cutting tool, cut off the protruding parts of the bolts and remove from the roll bar bracket.

10.10.3 Drill a 3 mm pilot hole through the hardtop from the inside using the centre of the holes in the roll bar bracket as a guide.

10.10.4 Using a tank cutter or drill open up the pilot holes from the outside to 20 mm dia. Check for alignment by using the top bracket as a template.

10.10.5 Deburr holes and remove all swarf.

10.10.6 Align the rubber gasket (Item 5) and the top bracket (Item 6) with the holes in the hardtop and locate with the upper capscrew (Item 7) through the upper hole.

10.10.7 With the aid of an assistant inside the vehicle, assemble the spacers (Items 3 and 4) onto the upper capscrew ensuring they are located between the hardtop and the roll bar bracket. Ensure the smaller spacer is fitted against the hardtop.

10.10.8 Secure the capscrew with the spring washer (Item 2) and nyloc nut (Item 1) and loosely tighten.

10.10.9 Repeat the operation for the lower shorter capscrew (Item 8).

10.10.10 Tighten the top bracket capscrews to 40 Nm (30 lbf ft).

10.10.11 Fit the clamp assembly (Item 15) to the top bracket (Item 6) using two M8 capscrews (Item 18), spring washers (Item 13) and nyloc nuts (Item 14) and tighten to 30 Nm (22 lbf ft).

10.10.12 Secure the retaining cord and pin (Item 9) to the clamp assembly using the screw (Item 10), washer (Item 11) and nut (Item 12).

10.11 Top bracket (Hardtop with ski rack)

10.12 Refer to Fig 3 and proceed as follows:

NOTE

This procedure assumes that a ski rack is already fitted to the vehicle and that the required holes are already drilled into the hardtop.

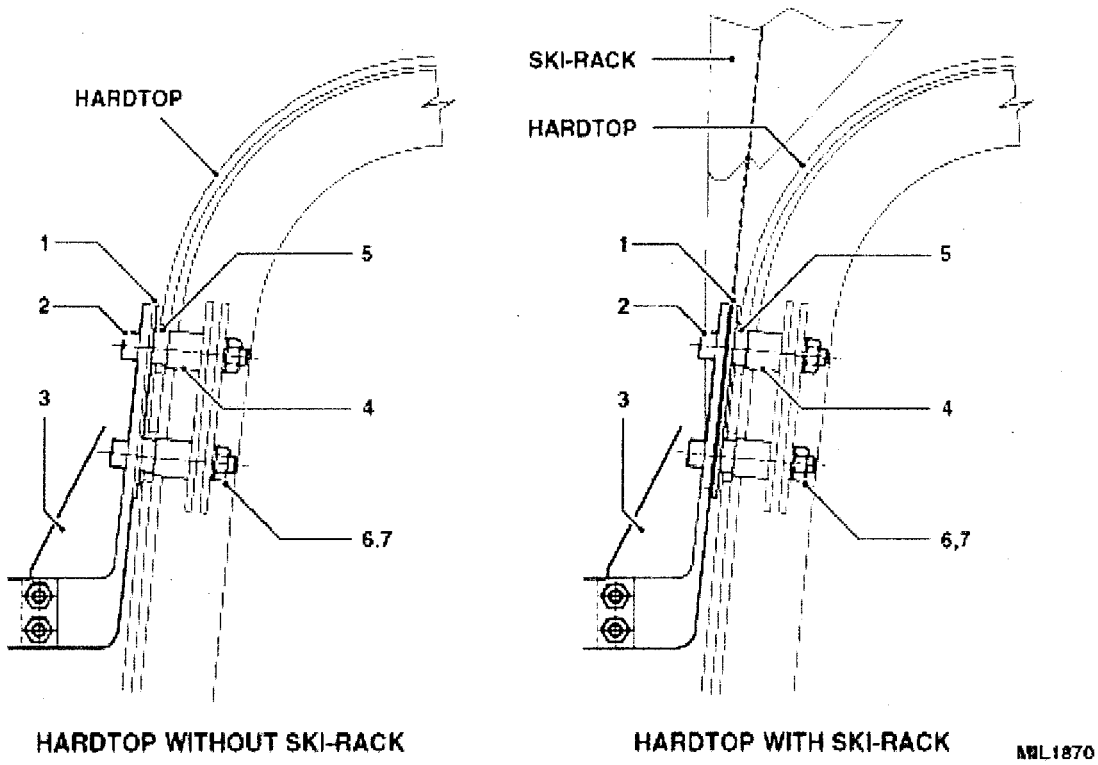
10.12.1 From inside the vehicle remove the nuts from the bolts securing the cant rail (longitudinal) tie bar and the rear corner brace to the rear roll bar bracket and collect the ski rack spacers from in between the hardtop and the roll bar bracket.

10.12.2 From outside the vehicle withdraw the bolts and remove the ski rack support bracket.

NOTE

The ski rack support bracket needs only be removed from the side of the vehicle that the mast mount is to be fitted. The support bracket can be removed from the cross bar.

10.12.3 On the outside of the vehicle align the rubber gasket (Item 5), the ski rack support bracket (ensure correct orientation) and the top bracket (refer to Item 6) with the holes in the hardtop and locate with the upper capscrew (Item 7) through the upper hole.



1	Rubber gasket	5	Small spacer
2	Capscrew	6	Spring washer
3	Top bracket	7	Nyloc nut
4	Large spacer		

Fig 3 Top bracket arrangements (Hardtop).

10.12.4 Push the upper capscrew through the hardtop and assemble the spacers (Items 3 and 4) onto the upper capscrew ensuring they are located between the hardtop and the roll bar bracket. Ensure the smaller spacer is fitted against the hardtop.

10.12.5 Secure the capscrew with the spring washer (Item 2) and nyloc nut (Item 1) and loosely tighten.

10.12.6 Repeat the operation for the lower shorter capscrew (Item 8).

10.12.7 Secure the ski rack cross bar to the support bracket.

10.12.8 Tighten the top bracket capscrews to 40 Nm (30 lbf ft).

10.12.9 Fit the clamp assembly (Item 15) to the top bracket (Item 6) using two M8 capscrews (Item 18), spring washers (Item 13) and nyloc nuts (Item 14) and tighten to 30 Nm (22lbf ft).

10.12.10 Secure the retaining cord and pin (Item 9) to the clamp assembly using the screw (Item 10), washer (Item 11) and nut (Item 12).

10.13 Bottom bracket

10.14 Refer to Fig 4 and proceed as follows:

10.14.1 Carefully remove the two rivets marked 'A' from the vehicle bodywork.

10.14.2 Using a suitable tool open holes to 10.5 - 10.6 mm.

10.14.3 Fit two M8 nutserts (Item 21) into the holes.

10.14.4 Fit the bottom bracket (Item 20) and secure using the two M8 screws (Item 19) ensuring the bracket is square with the bodywork.

10.14.5 Drill two remaining holes using the bracket as template.

10.14.6 Remove the bracket and fit the remaining M8 nutserts (Item 21). Enlarge holes if required.

10.14.7 Refit the bottom bracket and secure using all four M8 screws (Item 19) ensuring shim (Item 22) is fitted to the forward side of the bracket.

10.14.8 Repeat procedure for other side of the vehicle if required.

Labels

10.15 Referring to Fig 5, position the labels (Items 16 and 17) as shown.

TESTING AFTER EMBODIMENT

11 Nil.

EFFECT ON WEIGHT

12 Negligible.

PUBLICATION AMENDMENTS

13 Necessary amendments will be issued separately.

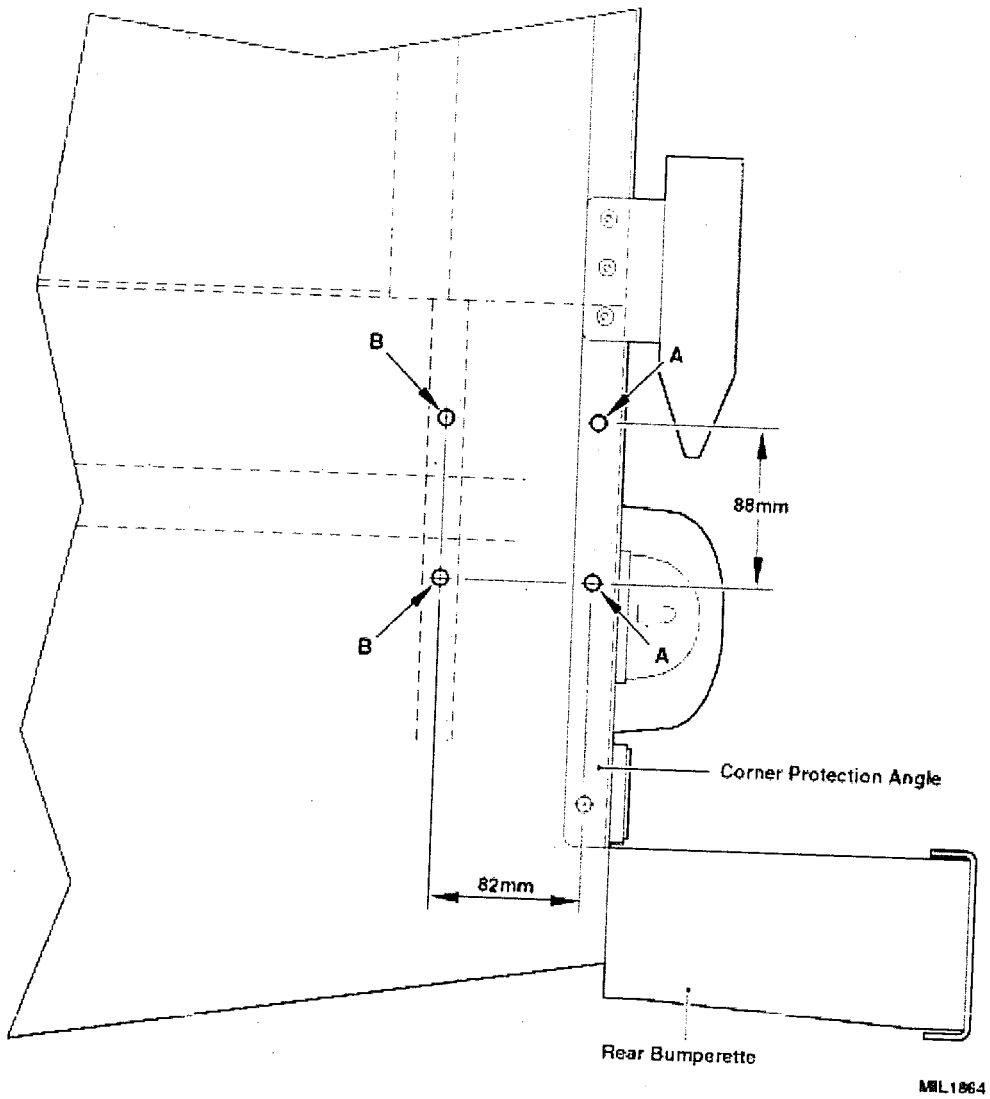


Fig 4 Bottom bracket location.

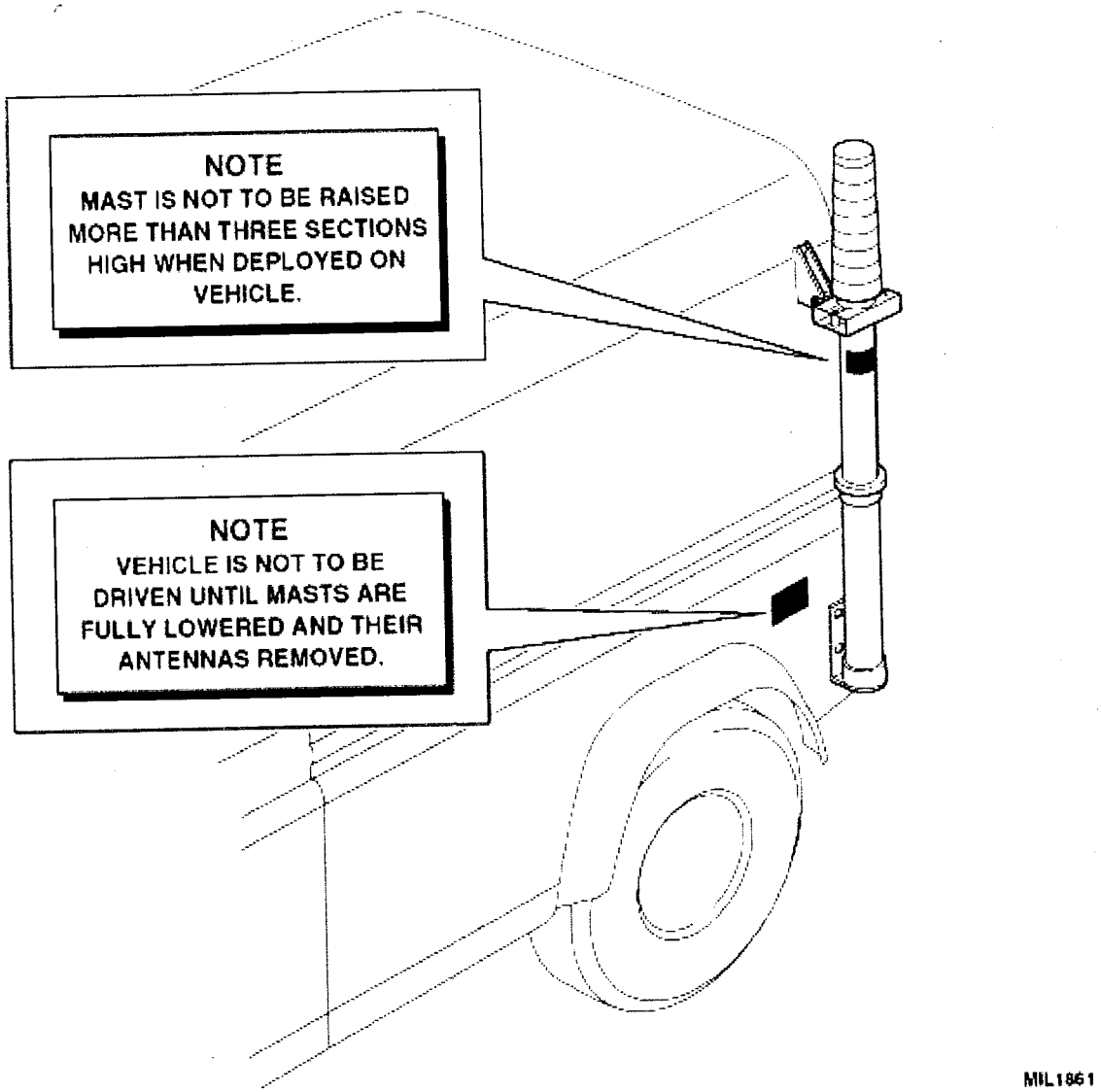


Fig 5 Positioning labels

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 22

CONTENTS

Sponsor: CSV(Sp) IPT
Project number: CSVSp019
File ref:
Publication agency: Defence Logistics Organisation

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
1		
2		
3		

Amdt No.	Incorporated By (Signature)	Date
4		
5		
6		

SUBJECT: Fitting of vinyl Ambulance Signs and the disabling of the Blue Flashing Beacon and Siren. (Approval No LSTP 12-6682)

INTRODUCTION

1.1 This Modification Instruction details the fitting of vinyl ambulance signs to the sides of the Battlefield Ambulance and the disabling of the Blue Flashing Beacon and Siren.

1.2 Limitations on use of equipment. Nil.

APPLICABILITY

2 Truck Utility Medium (TUM) High Specification (HS) Ambulance vehicles.

2.1 Fitted to equipment held by user units.

REASON FOR MODIFICATION

3 Code 2 - To improve operational performance.

PRIORITY

4 ARMY: Routine.

5 RAF: Class 3.

ESTIMATED TIME REQUIRED

6 Embodiment: 1.0 man-hours.

MODIFICATION IMPLEMENTATION PLAN

7 This Modification Instruction is to be implemented by:

7.1 ARMY - Units authorized to carry out Levels 2, 3, and 4 of maintenance.

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

7.3 Associated Modification Instructions: Nil.

7.4 Modification strike plate action: Nil.

Action required by

8 The following action is to be carried out:

8.1 Units and establishments holding equipment:

8.1.1 Examine vehicle documents to see if this Modification Instruction is applicable.

8.1.2 Examine the Modification record plate to see if the Modification is embodied and where necessary Units with Level 2 Royal Electrical and Mechanical Engineers (REME) Support demand the stores required.

8.1.3 ARMY - On receipt of stores, request REME to modify equipment.

8.1.4 ARMY - Record the modification, Subject Army Equipment Support Publication (AESP) number and Army Modification Code in equipment documents.

8.1.5 RAF - Record modification details on Army Form General (AF G) 1084A and Form 4870. Units operating Station Transport Management Aid (STAMA) are also to record modification details on ADP Mechanical Transport Maintenance Section (MTMS) job Certification Sheet and to follow the procedures laid down in Air Publication (AP) 100C-08A.

8.2 Army units authorized to carry out Levels 2, 3 and 4 maintenance and RAF units:

8.2.1 ARMY - When requested by users or during overhaul of equipment on charge without REME Level 2 Support, obtain the items listed in Para 9 and carry out this Modification Instruction.

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

8.2.3 Complete AF G1084A when reporting completion of the Modification Instruction to FORWARD (RAF) using the following code:

8.2.3.1 RAF: MODIFICATION CODE: AFN 167.

NOTE

RAF units operating STAMA are also to complete ADP MTMS Job Certification Sheet and to follow the procedures laid down in AP 100C-08A.

8.3 All recipients of this instruction. Add particulars to AESP 2320-D-128-811 Modification Instruction Index.

Stores, tools and equipment

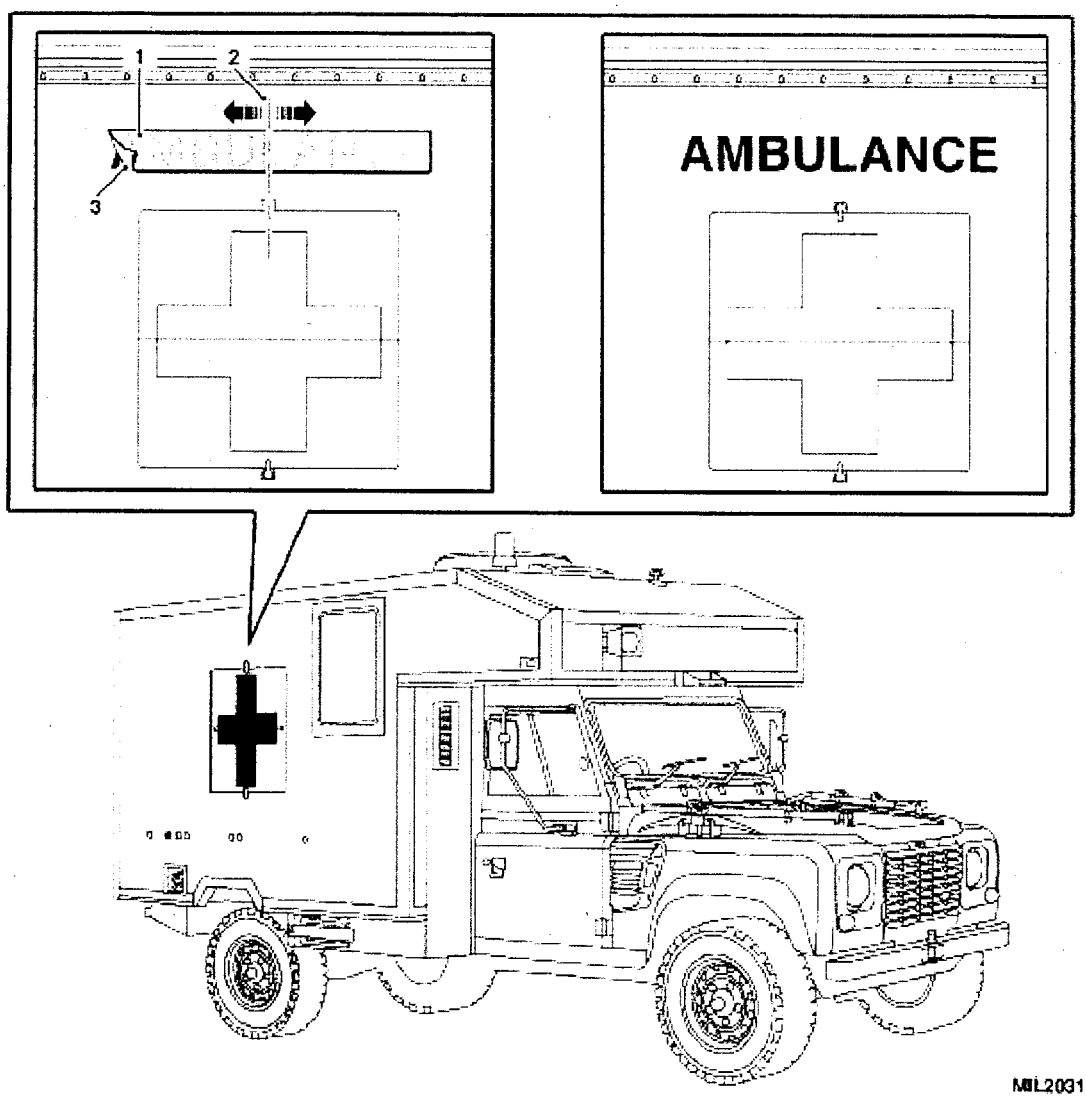
NOTE

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

9 The following items are to be demanded quoting this Modification Instruction as the authority:

9.1 Stores to be demanded:

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
1	7XD	7530-99-435-8119	Vinyl Ambulance signs	2



1 Vinyl sign with carrier paper
2 Expel air by working from centre
3 Remove carrier paper

Fig 1 Positioning the Vinyl Ambulance signs

Sequence of operations

Fitting of Vinyl Ambulance Signs

NOTE

The item numbers in Para 9 are used as references throughout this Modification Instruction.

10 Carry out the Modification as follows:

NOTES

(1) This procedure is to be repeated for both sides of the vehicle.

(2) It is recommended that this procedure is carried out inside a warm workshop.

10.1 Park the vehicle on a flat level surface, apply the hand brake and switch off the engine.

10.2 Thoroughly clean the area onto which the sign will be affixed free from grease and dirt using a soap and water solution (washing up liquid is ideal).

10.3 Remove the protective backing from the rear of the vinyl sign (Item 1).

10.4 With the surface still wet (use the washing up liquid solution) position the vinyl sign centrally above the Red Cross (refer to Fig 1) with carrier paper upper most.

10.5 Press firmly into place through the carrier paper ensuring all air is expelled from under the sign.

NOTE

Use a plastic applicator or stiff card to assist in pushing the air from under the sign by working from the centre outwards.

10.6 Once the sign is firmly in position, soak the carrier paper and carefully peel off the paper taking care not to lift the sign from the side of the vehicle.

10.7 Dry off with a clean cloth.

10.8 Leave to dry in a warm area.

Disabling the Emergency Blue Flashing Beacon and Siren

10.9 To disable the Emergency Blue Flashing Beacon:

10.9.1 Park the vehicle on a flat level surface, apply the hand brake and switch off the engine.

10.9.2 Release clamps on the Emergency Blue flashing Beacons and remove from the roof mountings.

10.9.3 Stow safely inside the vehicle in the stowage compartment under the right hand front seat.

NOTE

To prevent damage to the beacon units whilst inside the stowage compartment, wrap the beacon units in cardboard or similar material and secure together with a strong elastic band.

10.10 To isolate the Emergency Siren:

10.10.1 Remove the centre switch panel and locate the 10 Amp in-line fuse (Fig 2, Item 1) for the siren (refer to Cat 522, Chapter 13).

10.10.2 Remove the 10 Amp fuse from the in-line fuse holder.

NOTE

To prevent the fuse from being lost, tape it to the inside of the switch panel or to the fuse holder wire.

10.10.3 Refit the centre switch panel (refer to Cat 522, Chap 13).

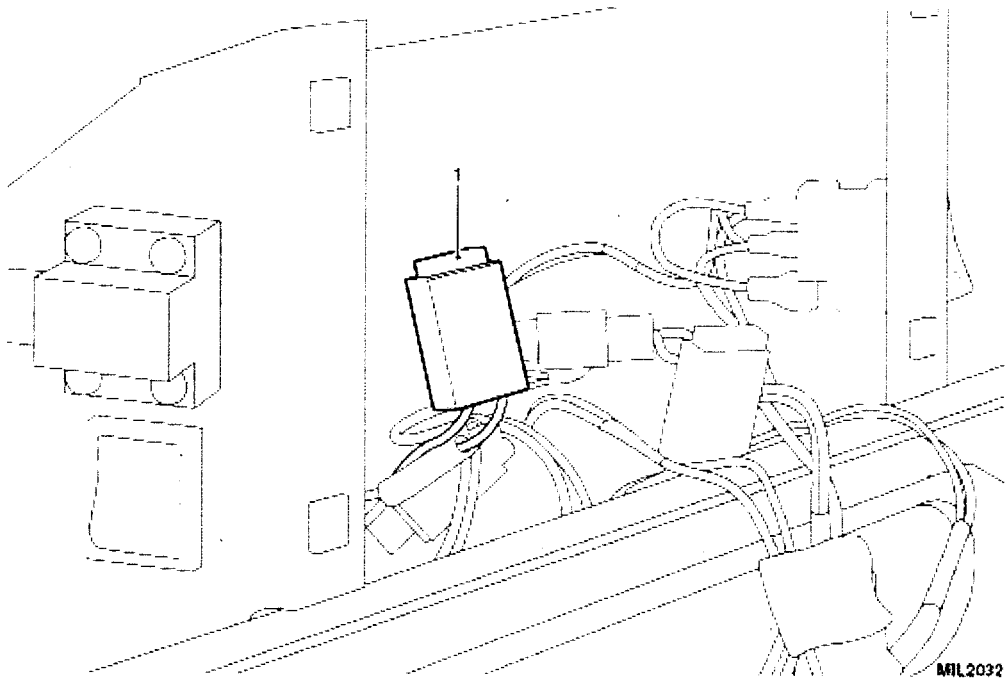


Fig 2 Removing the 10 Amp Siren fuse

TESTING AFTER EMBODIMENT

11 Nil.

EFFECT ON WEIGHT

12 Nil.

PUBLICATION AMENDMENTS

13 Necessary amendments will be issued separately.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS

AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 23

SUBJECT: Fitting of a warning label.

(Approval No. LSTP 12-6683)

CANCELLATION

INTRODUCTION

1 Modification Instruction No. 23 dated May 02 is hereby cancelled. The fitting of a warning label is now no longer required.

ACTION

2 File this Page 1/2 in place of Modification Instruction No. 23 dated May 02, all pages of which are to be destroyed.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 24

CONTENTS

Sponsor: CSV(Sp) IPT
Project number: CSVSp025
File ref:
Publication agency: Defence Logistics Organisation

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
1		
2		
3		

Amdt No.	Incorporated By (Signature)	Date
4		
5		
6		

SUBJECT: Fitting of a Trailer Breakaway Attachment Plate.

(Approval No LSTP 12-6684)

INTRODUCTION

1 This Modification Instruction details the fitting of a trailer breakaway attachment plate.

1.1 Limitations on use of equipment. Nil.

APPLICABILITY

2 All variants of Truck Utility Light (TUL) High Specification (HS) and Truck Utility Medium (TUM) HS vehicles.

2.1 Fitted to equipment held by user units.

2.2 Unmodified stock, held at all levels of technical storage.

REASON FOR MODIFICATION

3 Code 2 - to improve operational performance.

PRIORITY

4 ARMY: Routine.

5 RAF: Class 3.

ESTIMATED TIME REQUIRED

6 Embodiment: 0.5 man-hours.

MODIFICATION IMPLEMENTATION PLAN

7 This Modification Instruction is to be implemented by:

7.1 ARMY - Units authorized to carry out Levels 2, 3, and 4 of maintenance.

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

7.3 Associated Modification Instructions. Nil.

7.4 Modification strike plate action: Nil.

Action required by

8 The following action is to be carried out:

8.1 Units and establishments holding equipment:

8.1.1 Examine vehicle documents to see if this Modification Instruction is applicable.

8.1.2 Examine the Modification record plate to see if the Modification Instruction is embodied and where necessary Units with Level 2 Royal Electrical and Mechanical Engineers (REME) Support demand the stores required.

8.1.3 ARMY - On receipt of stores, request REME to modify equipment.

8.1.4 ARMY - Record the modification, subject and the Army Equipment Support Publication (AESP) number in equipment documents.

8.1.5 RAF - Record modification details on Army Form General (AF G) 1084A and Form 4870. Units operating Station Transport Management Aid (STAMA) are also to record modification details on ADP Mechanical Transport Maintenance Section (MTMS) job Certification Sheet and to follow the procedures laid down in Air Publication (AP) 100C-08A.

8.2 Army units authorized to carry out Levels 2, 3 and 4 maintenance and RAF units:

8.2.1 ARMY - When requested by users or during overhaul of equipment on charge without REME Level 2 Support, obtain the items listed in Para 9 and carry out this modification.

8.2.2 Record completion details of the Modification Instruction against appropriate entry in equipment documents.

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

8.2.3.1 RAF: MODIFICATION CODE: AFN 169.

NOTE

RAF units operating STAMA are also to complete ADP MTMS Job Certification Sheet and to follow the procedures laid down in AP 100C-08A.

8.3 All recipients of this instruction. Add particulars to AESP 2320-D-128-811 Modification Instruction Index.

Stores, tools and equipment

9 The following items are to be demanded quoting this Modification Instruction as the authority:

9.1 Stores to be demanded:

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
1	7XD	2590-99-453-0975	Breakaway attachment plate	1
2	7FW	5310-99-125-9042	Nut, self locking, extended flange	4

Sequence of operations

NOTE

The item numbers in Para 9 are used as references throughout this Modification Instruction.

10 Carry out the Modification as follows (refer to Fig 1):

WARNING

HEAVY EQUIPMENT. THE ROTATING TOWING HOOK IS A HEAVY ITEM OF EQUIPMENT AND IT IS ADVISABLE TO HAVE THE HELP OF AN ASSISTANT DURING THE FOLLOWING PROCEDURE.

10.1 From under the rear of the vehicle, remove the flanged nuts from the four bolts securing the rotating towing hook to the rear cross member. Discard nuts.

10.2 With assistance to support the weight of the rotating towing hook, withdraw the two lower bolts securing the towing hook to the rear cross member.

10.3 Withdraw the rotating towing hook from the rear cross member complete with the upper bolts and lower to the floor.

10.4 Locate the breakaway attachment plate (Item 1) behind the towing hook and hold in position using two bolts in the upper holes.

NOTE

The breakaway attachment plate should be located between the towing hook and the rear cross member when assembled.

10.5 With assistance, lift the assembly and offer it to the upper locating holes in the rear cross member, push the two upper bolts through the rear cross member to locate the assembly.

10.6 Loosely secure the two upper bolts under the rear of the vehicle using new flanged nuts (Item 2).

10.7 Locate the two lower bolts through the towing hook, breakaway attachment plate and rear cross member and loosely secure using remaining new flanged nuts (Item 2).

10.8 Ensure the assembly is correctly aligned on the rear cross member and tighten the flanged nuts to 75 Nm.

TESTING AFTER EMBODIMENT

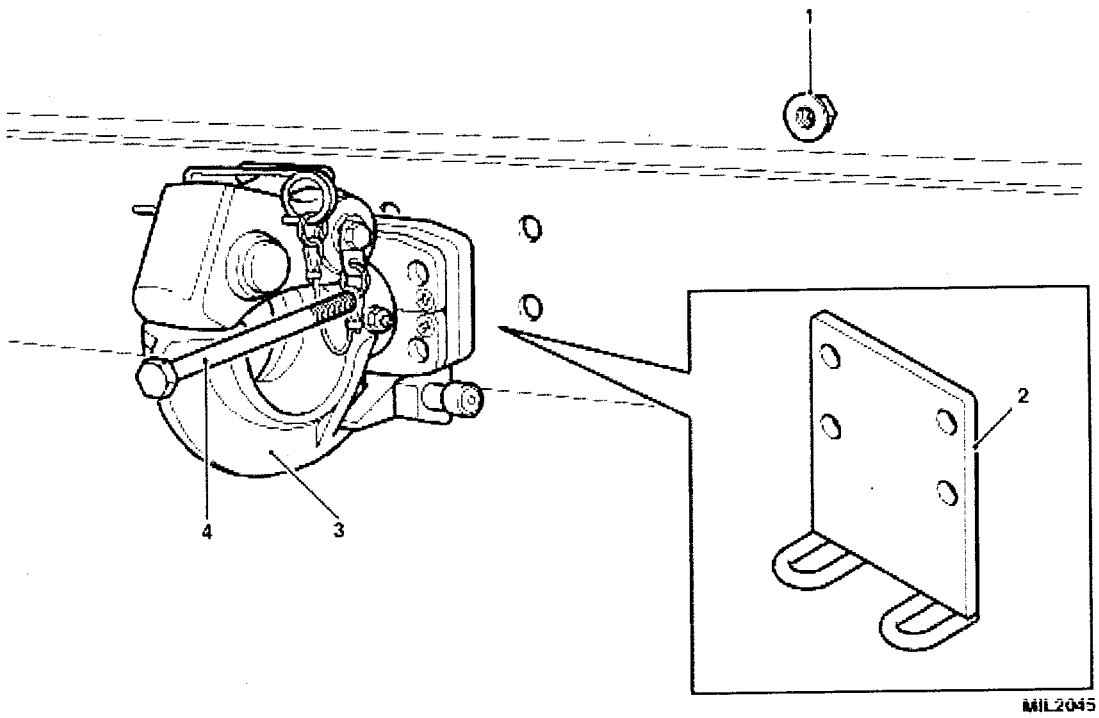
11 Nil.

EFFECT ON WEIGHT

12 Nil.

PUBLICATION AMENDMENTS

13 Nil.



1	Flanged Nut	3	Rotating towing hook
2	Breakaway attachment plate	4	Bolt

Fig 1 Fitting the Breakaway Attachment plate

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 25

CONTENTS

Sponsor: CSV(Sp) IPT
Project number: CSVSp026
File ref:
Publication agency: Defence Logistics Organisation

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
1		
2		
3		

Amdt No.	Incorporated By (Signature)	Date
4		
5		
6		

SUBJECT: Fitting of a spare wheel lifting aid harness.

(Approval No LSTP 12-6685)

INTRODUCTION

1 This Modification Instruction details the fitting of a spare wheel lifting aid harness to allow single man operation.

1.1 Limitations on use of equipment. Nil.

APPLICABILITY

2 All variants of Truck Utility Light (TUL) High Specification (HS) and Truck Utility Medium (TUM) HS vehicles but not including Battle Field Ambulance.

2.1 Fitted to subject equipment held by user units.

2.2 Unmodified stock, held at all levels of technical storage.

REASON FOR MODIFICATION

3 Code 1 – To improve safety.

PRIORITY

4 ARMY: Routine.

5 RAF: Class 3.

ESTIMATED TIME REQUIRED

6 Embodiment: 0.5 man-hours.

MODIFICATION IMPLEMENTATION PLAN

7 This Modification Instruction is to be implemented by:

7.1 ARMY - Units authorized to carry out Levels 2, 3, and 4 of maintenance.

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

7.3 Associated Modification Instructions. Nil.

7.4 Modification strike plate action: Nil.

Action required by

8 The following action is to be carried out:

8.1 Units and establishments holding equipment:

8.1.1 Examine vehicle documents to see if this Modification Instruction is applicable.

8.1.2 Examine the Modification record plate to see if this Modification Instruction is embodied and where necessary Units with Level 2 Royal Electrical and Mechanical Engineers (REME) Support demand the stores required.

8.1.3 ARMY - On receipt of stores, request REME to modify equipment.

8.1.4 ARMY – Record the modification, subject and the Army Equipment Support Publication (AESP) number in equipment documents.

8.1.5 RAF - Record modification details on Army Form General (AF G) 1084A and Form 4870. Units operating Station Transport Management Aid (STAMA) are also to record modification details on ADP Mechanical Transport Maintenance Section (MTMS) job Certification Sheet and to follow the procedures laid down in Air Publication (AP) 100C-08A.

8.2 Army units authorized to carry out Levels 2, 3 and 4 maintenance and RAF units:

8.2.1 ARMY - When requested by users or during overhaul of equipment on charge without REME Level 2 Support, obtain the items listed in Para 9 and carry out this modification.

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

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

8.2.3.1 RAF: MODIFICATION CODE: AFN 170.

NOTE

RAF units operating STAMA are also to complete ADP MTMS Job Certification Sheet and to follow the procedures laid down in AP 100C-08A.

8.3 All recipients of this instruction. Add particulars to AESP 2320-D-128-811 Modification Instruction Index.

Stores, tools and equipment

9 The following items are to be demanded quoting this Modification Instruction as the authority:

9.1 Stores to be demanded:

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
1	7RU	2540-99-762-5238	Spare wheel lifting aid harness kit	1

Sequence of operations

NOTE

The item numbers in Para 9 are used as references throughout this Modification Instruction.

10 Carry out the Modification as follows (refer to Fig 1):

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

10.2 With assistance, remove the spare wheel from the carrier on the left hand side of the vehicle.

10.3 Retrieve the 'U' bolt from the spare wheel lifting kit (Item 1) and fit a nut on each thread, screwed on approximately two thirds down each thread.

10.4 Place the 'U' bolt over the spare wheel carrier just behind and next to the flange.

10.5 Secure the bracket assembly to the 'U' bolt with two more nuts (ensuring the plain and spring washers are fitted under the bracket) and adjust the four nuts so that the assembly grips the circumference of the wheel carrier and is square to the side of the vehicle.

NOTE

Ensure the bracket is secured at right angles to the side of the vehicle otherwise the harness straps will not lift the wheel equally.

10.6 Tighten the nuts enough to secure the bracket assembly to the wheel carrier without it turning on the carrier.

CAUTION

TORQUEING THE NUTS. Take care not to over-tighten the nuts and deform the bracket assembly.

10.7 With the harness hanging down from the wheel carrier, release the adjustment cleats and free off the adjustment straps enough to enable the ends of the harness with the black plastic stops fitted to reach the uppermost stud holes in the spare wheel when rolled alongside the harness.

10.8 Ensure the centre of the wheel is facing outwards (as if it were ready to fit to an axle) and push the plastic stops and straps through the wheel stud holes from the back of the wheel.

NOTE

The plastic stops should be one wheel stud hole apart.

10.9 With the plastic stops secured through the two wheel stud holes, lift the spare wheel off the ground by pulling the harness adjusting straps through the two cleats to meet the metal buckles at the top of the adjusting straps (refer to Fig 2).

10.10 Stow the excess straps in the bag in the centre of the harness assembly.

10.11 With the straps fully adjusted against the metal buckles, take hold of the spare wheel with both hands and lift the lower edge of the spare wheel through 180 degrees so that the centre of the inverted wheel locates up against the wheel carrier on the side of the vehicle (refer to Fig 2).

10.12 If the straps have been adjusted correctly the centre of the wheel should fall slightly short of the top of the wheel carrier. With both hands towards the top of the inverted wheel, push upwards to locate the spare wheel onto the wheel carrier.

WARNING

FALLING OBJECTS. THE SPARE WHEEL MUST ALWAYS BE SUPPORTED IN POSITION ON THE WHEEL CARRIER UNTIL THE CLAMP AND BOLTS ARE FITTED.

10.13 Support the spare wheel in the stowed position whilst the spare wheel clamp and bolts are fitted (refer to Fig 3).

10.14 Tighten the spare wheel clamp bolts.

10.15 To remove the wheel lift harness assembly, reverse this procedure.

TESTING AFTER EMBODIMENT

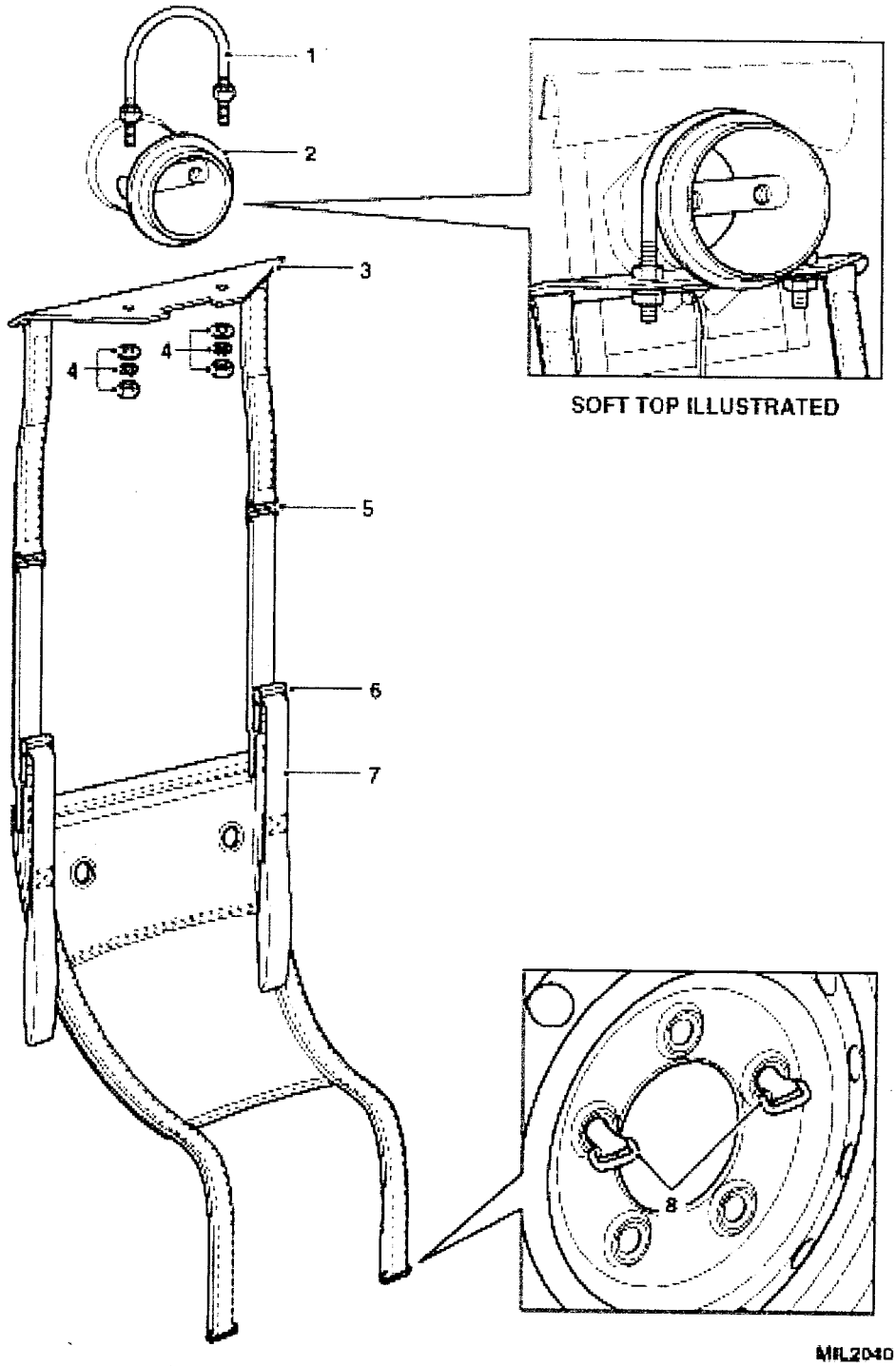
11 Nil.

EFFECT ON WEIGHT

12 Nil.

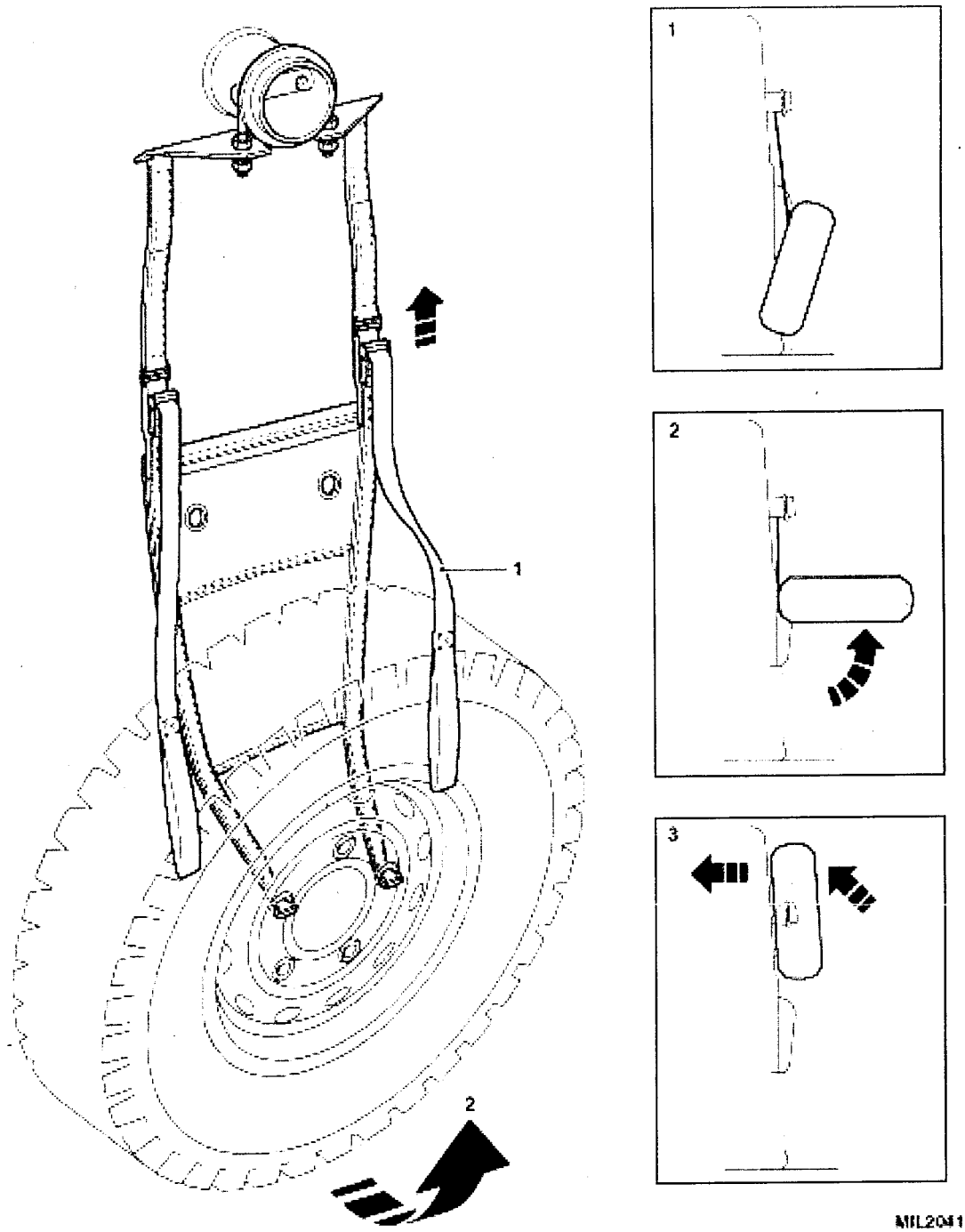
PUBLICATION AMENDMENTS

13 Nil.



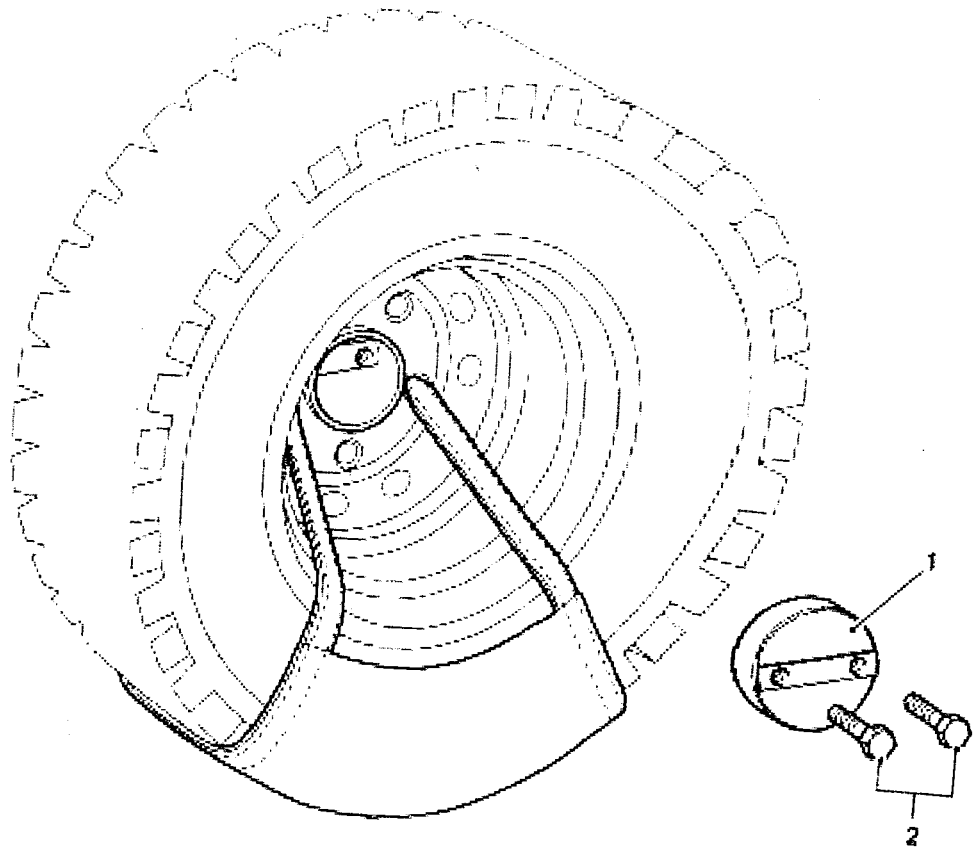
1	'U' Bolt	5	Harness
2	Spare wheel carrier	6	Adjustment cleats
3	Bracket	7	Adjustment straps
4	Nuts and washers	8	Harness stops

Fig 1 Fitting the Spare wheel lifting aid harness.



1 Use adjustment straps to lift wheel off ground
2 Rotate wheel through 180 degrees
3 Locate wheel on carrier

Fig 2 Lifting the spare wheel



1 Clamp 2 Bolts

Fig 3 Securing the spare wheel

ARMY EQUIPMENT
SUPPORT PUBLICATION

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 26

CONTENTS

Sponsor: SUV IPT
Project number: CSVS 034
File ref: SUV /8/25/1B
Publication agency: TES TI Andover

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
1		
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Amdt No.	Incorporated By (Signature)	Date
4		
5		
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SUBJECT: Fitting of the stretcher retention strap system to the TUM Battlefield Ambulance.
(Approval No. LSTP 12-6686)

INTRODUCTION

1 This Modification Instruction details the fitting of the Stretcher Retention Strap System to the Battlefield Ambulance (Mid Life Upgrade). This supersedes and replaces Cat 811 Modification Instruction No. 9.

1.1 Limitations on use of equipment. Nil.

APPLICABILITY

2 Battle Field Ambulance on the authority of Equipment Manager at Defence Logistics Organisation (DLO).

2.1 Fitted to equipment held by user units.

2.2 Unmodified stock, held at all levels of technical storage.

REASON FOR MODIFICATION

3 Code 1 - To improve Safety.

PRIORITY

4 ARMY: Routine.

5 RAF: Class 3.

ESTIMATED TIME REQUIRED

6 Embodiment: 3.0 man-hours.

MODIFICATION IMPLEMENTATION PLAN

7 This Modification Instruction is to be implemented by:

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

7.2 RAF - Depot units when required.

7.3 Associated Modification Instructions. Nil.

7.4 Modification plate strike action. Nil.

Action required by

8 The following action is to be carried out:

8.1 Units and establishments holding equipment:

8.1.1 Examine vehicle documents to see if this Modification Instruction is applicable.

8.1.2 Examine the Modification record plate to see if the Modification Instruction is embodied and where necessary units with Level 2 Royal Electrical and Mechanical Engineers (REME) support demand the stores required.

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

8.1.4 ARMY – Record the modification, subject and the Army Equipment Support Publication (AESP) number in equipment documents.

8.1.5 RAF – Record modification details on Army Form General (AF G) 1084A and Form 4870. Units operating Station Transport Management Aid (STAMA) are also to record modification details on ADP Mechanical Transport Maintenance Section (MTMS) job certification sheet and to follow the procedures laid down in Air Publication (AP) 100C - 08A.

8.2 Army units authorized to carry out Levels 2, 3 and 4 maintenance and RAF units:

8.2.1 ARMY - When requested by users or during overhaul of equipment on charge without REME Level 2 Support, obtain the items listed in Para 9 and carry out this modification.

8.2.2 Record completion details of Modification Instruction against appropriate entry in equipment documents.

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

8.2.3.1 RAF: MODIFICATION CODE: AFN 173.

NOTE

RAF units operating STAMA are also to complete ADP MTMS Job Certification Sheet and to follow the procedures laid down in AP 100C-08A.

8.3 All recipients of this instruction. Add particulars to AESP 2320-D-128-811 Modification Instruction Index.

Stores, tools and equipment

9 The following items are to be demanded quoting this Modification Instruction as the authority:

9.1 Stores to be demanded:

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
	7XD	6530-99-613-6296	Stretcher Retention Strap System Comprising:	1
1	7XD	5340-99-891-7387	Stretcher Retention Strap	(8)
2	7XD	5340-99-147-6494	Velcro Stowage Strap	(12)
3	7XD	2540-99-498-8867	Stowage channel	(6)
4	7XD	2540-99-297-6921	Extension - front right	(2)
5	7XD	2540-99-584-6427	Extension - front left	(2)
6	7XD	2540-99-549-5852	Extension frame - rear	(4)
7			Hex hd screw M8 x 25	(8)
8			Hex hd screw M8 x 20	(12)
9			Hex hd screw M8 x 16	(4)
10			Hex hd screw M6 x 12	(12)
11			Spring washer M6	(12)
12			Spring washer M8	(32)
13			Plain washer M8	(24)
14			Plain washer M6	(12)
15			Rivet – Aluminium 5 x 13	(16)
16			Socket hd cap screw M8 x 35	(8)
17	7XD	7690-99-665-9430	Label - left	(2)
18	7XD	9905-99-666-5621	Label - right	(2)

Sequence of operations

NOTE

The item numbers in Para 9 are used as references throughout this Modification Instruction.

10 Refer to Fig 1. Carry out the Modification as follows:

10.1 Moving the upper stretcher racks rear bump-stop brackets.

10.1.1 Lower the left upper stretcher rack to gain access to the left rear bump-stop bracket.

10.1.2 Mark out and centre punch the positions of the new rivet holes.

10.1.3 Drill the new rivet holes (5 mm dia).

CAUTION

DRILLING. Drill through the inner skin of the vehicle body only.

10.1.4 Drill out the existing rivets and remove the bump-stop bracket.

10.1.5 De-burr all holes.

10.1.6 Attach the bump-stop bracket in the new forward position using four rivets (Item 15).

10.1.7 Blank off original holes using further four rivets (Item 15).

10.1.8 Raise and secure the left upper stretcher rack.

10.1.9 Repeat Paras 10.1.1 to 10.1.8 on the right hand side of the vehicle.

10.1.10 Remove all swarf from the vehicle.

10.2 Fitting of the Rear Frame Extensions.

10.3 Refer to Fig 2 and proceed as follows:

NOTE

The Rear Frame Extensions are to be fitted to the lower stretcher racks only.

10.3.1 Mark out and centre punch the positions of the four pairs of holes.

10.3.2 Drill the holes (8.5 mm dia).

10.3.3 Deburr all holes.

10.3.4 Fit the four off Extension Frame Rear (Item 6), using eight off Hex hd screw M8 x 25 long (Item 7), eight off Plain Washer M8 (Item 13) and eight off Spring Washer M8 (Item 12).

10.3.5 Tighten the Hex hd screws to 10 Nm.

10.3.6 Remove all swarf from the vehicle.

10.4 Fitting of the Front Frame Extensions

10.5 Refer to Fig 3 and proceed as follows:

NOTE

The Front Frame Extensions are to be fitted to the lower stretcher racks only.

10.5.1 Remove and discard the nuts and bolts that retain the spring loaded channel end bracket.

CAUTION

The End Bracket limits the upward travel of the spring loaded channel against significant force. Take care not to dislodge the End Bracket as difficulty may be experienced in relocating the End Bracket back into its mounting.

10.5.2 Fit two off Extension Front Right (Item 4) and two off Extension Front Left (Item 5) using eight off Socket hd cap screw M8 x 35 long (Item 16) and eight off spring washer M8 (Item 12).

10.5.3 Tighten the socket head cap screws to 10 Nm.

10.6 Fitting of the Stowage Channels and Stretcher Retention Straps

10.7 Refer to Fig 4 and proceed as follows:

NOTE

A total of six off Stowage Channels are to be fitted to the Front Frame Extensions (both sides) and the upper stretcher racks (front and rear both sides). Holes are provided in the Front Frame Extensions but new holes must be drilled in the upper stretcher racks.

10.7.1 Lower the upper stretcher racks.

10.7.2 Mark out and centre punch the positions of the four pairs of holes.

10.7.3 Drill the holes (8.5 mm dia).

10.7.4 De-burr all the holes.

10.7.5 Fit six off Stowage Channels (Item 3), six off Stretcher Retention Straps (Item 1) using twelve off Hex hd screws M8 x 20 long (Item 8), twelve off plain washers M8 (Item 13) and twelve off spring washers M8 (Item 12).

NOTE

For orientation of the Stretcher Retention Straps, refer to Para 10.6.

10.7.6 Tighten the hex head screws to 10 Nm.

10.7.7 Raise and secure the upper stretcher racks.

10.7.8 Remove all swarf from the vehicle.

10.8 Fitting of the Stretcher Retention Straps to the Rear Frame Extensions

10.9 Refer to Fig 5 and proceed as follows:

NOTES

Proper functioning of the Stretcher Retention Strap System relies on correct orientation of the straps. Ensure that:

(1) The looped end of the strap (A) is positioned toward the vehicle centreline.

(2) The buckle release lever (B) is on top of the strap.

(3) Tensioning is achieved by pulling the free end (C) toward the vehicle centreline.

(4) The strap (D) is not twisted.

(5) The strap end anchor plates (E) are fitted level (not twisted around the screw).

10.9.1 Fit two off Stretcher retention Straps (Item 1) using four off Hex hd screw M8 x 16 long (Item 9) four off plain washer M8 (Item 13) and four off spring washer M8 (Item 12).

10.9.2 Tighten the hex head screws to 10 Nm.

10.10 Fitting of the Velcro Stowage Straps to the Stowage Channels

10.11 Refer to Fig 6 and proceed as follows:

NOTE

When carrying out the installation of the Stretcher Retention Strap System on a large number of vehicles, it is advisable to fit the Velcro Stowage Straps to the Stowage Channels prior to fitting the Stowage Channels (Para 10.6).

10.11.1 Lower the upper stretcher racks.

10.11.2 Fit twelve off Velcro Stowage Straps (Item 2) to the Stowage Channels (Item 3) using twelve off Hex hd screws M6 x 12 long (Item 10), twelve off plain washers M6 (Item 14) and twelve off spring washers M6 (Item 11).

10.11.3 Tighten the hex head screws to 5 Nm.

10.11.4 Lay the Stretcher Retention Straps (Item 1) in the Stowage Channels (Item 3) and secure with the Velcro Stowage Straps (Item 2).

10.11.5 Raise and secure the upper stretcher racks.

10.12 Fitting of the labels to the stretcher racks

10.13 Refer to Fig 7 and proceed as follows:

NOTES

The Labels are handed left and right. Ensure that:

(1) The Labels are orientated to be read from the rear of the vehicle.

(2) The labels depict the loose end of the strap being pulled toward the vehicle centreline (Para 10.8).

10.13.1 Ensure the areas where the labels will be fitted are thoroughly free of grease, oil and any other contamination.

10.13.2 Fit two off Label – left (Item 17) and two off Label -right (Item 18): one Label at the rear of each of the four stretcher racks.

TESTING AFTER EMBODIMENT

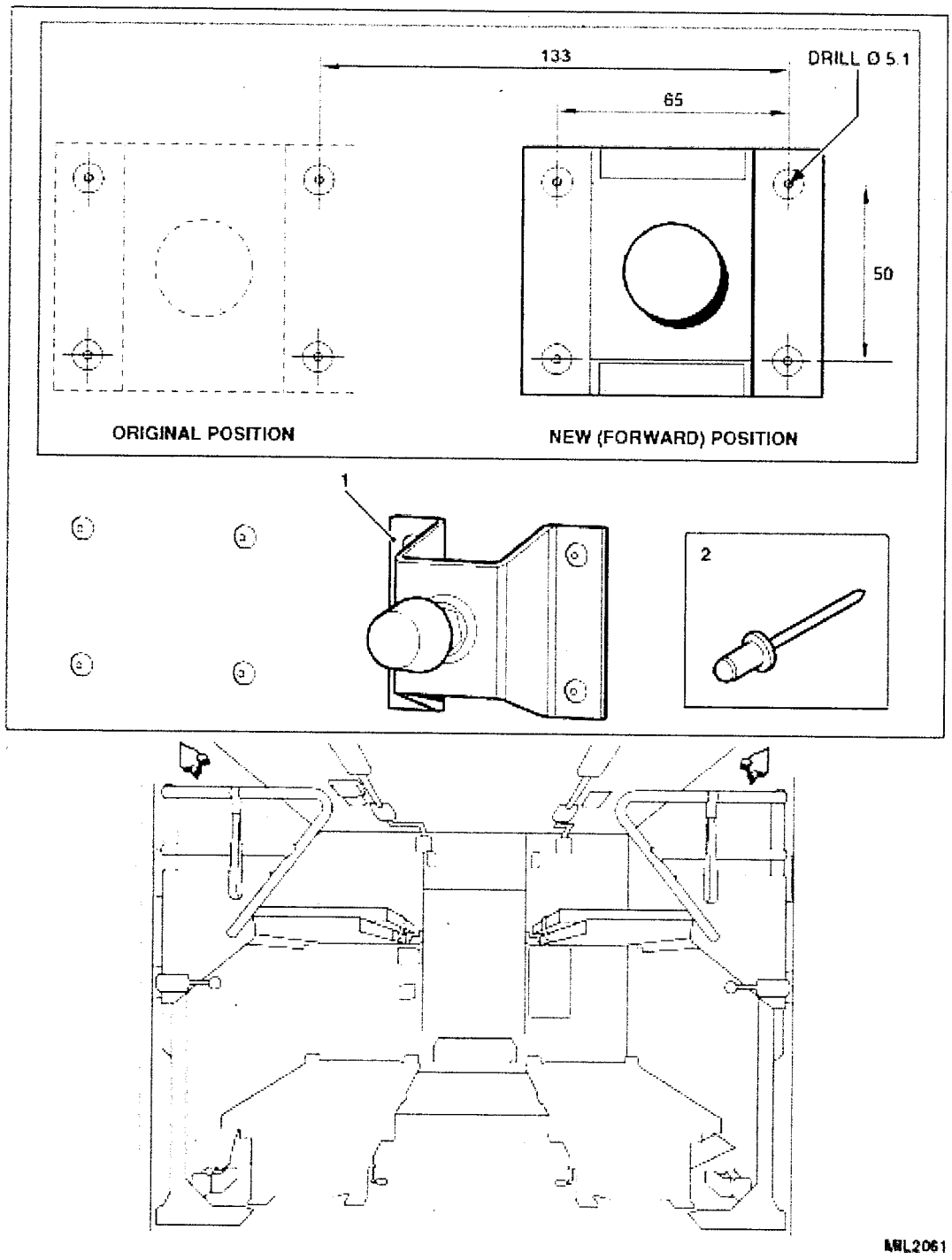
11 Nil.

EFFECT ON WEIGHT

12 Negligible.

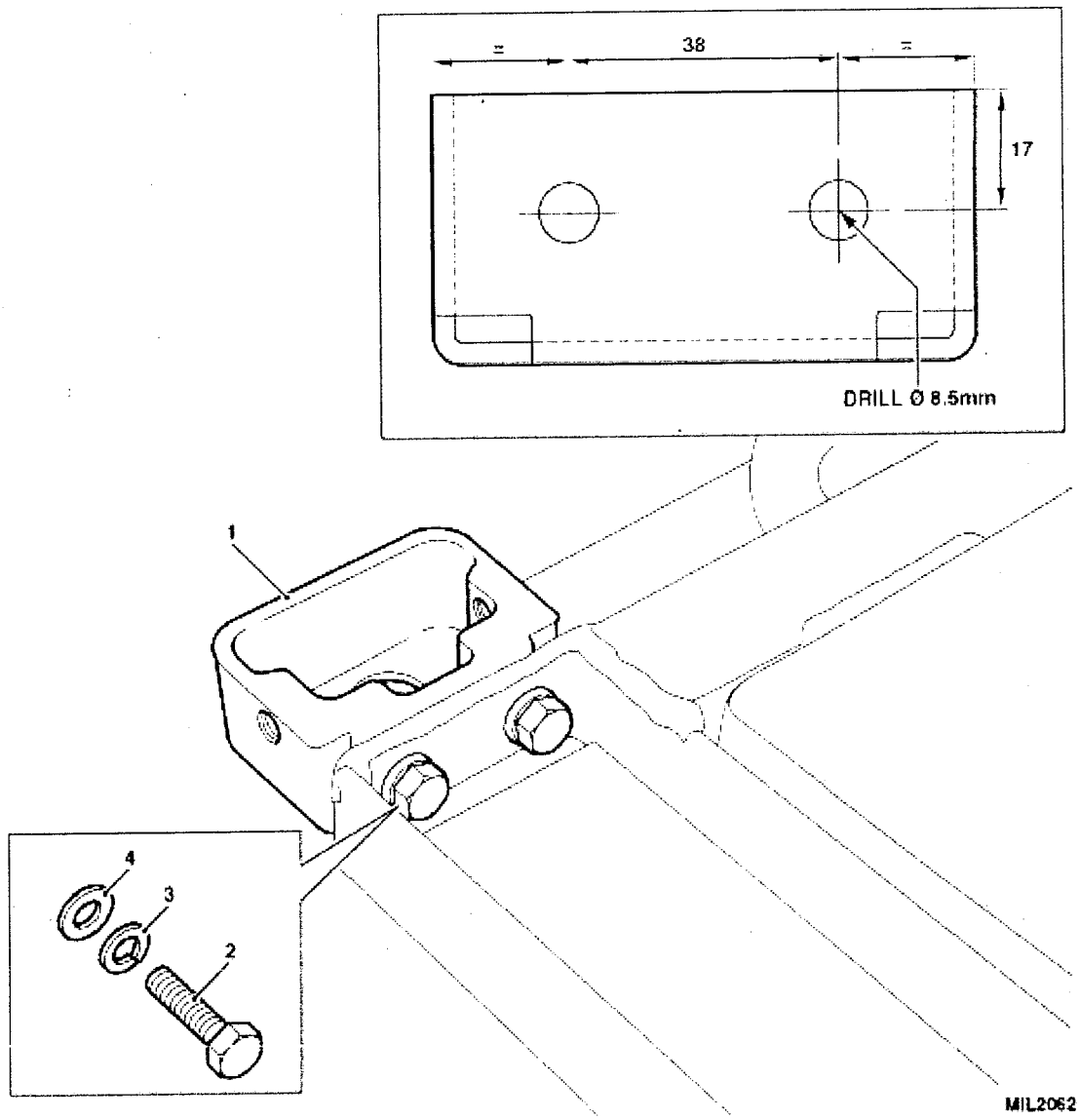
PUBLICATION AMENDMENTS

13 Necessary amendments will be issued separately.



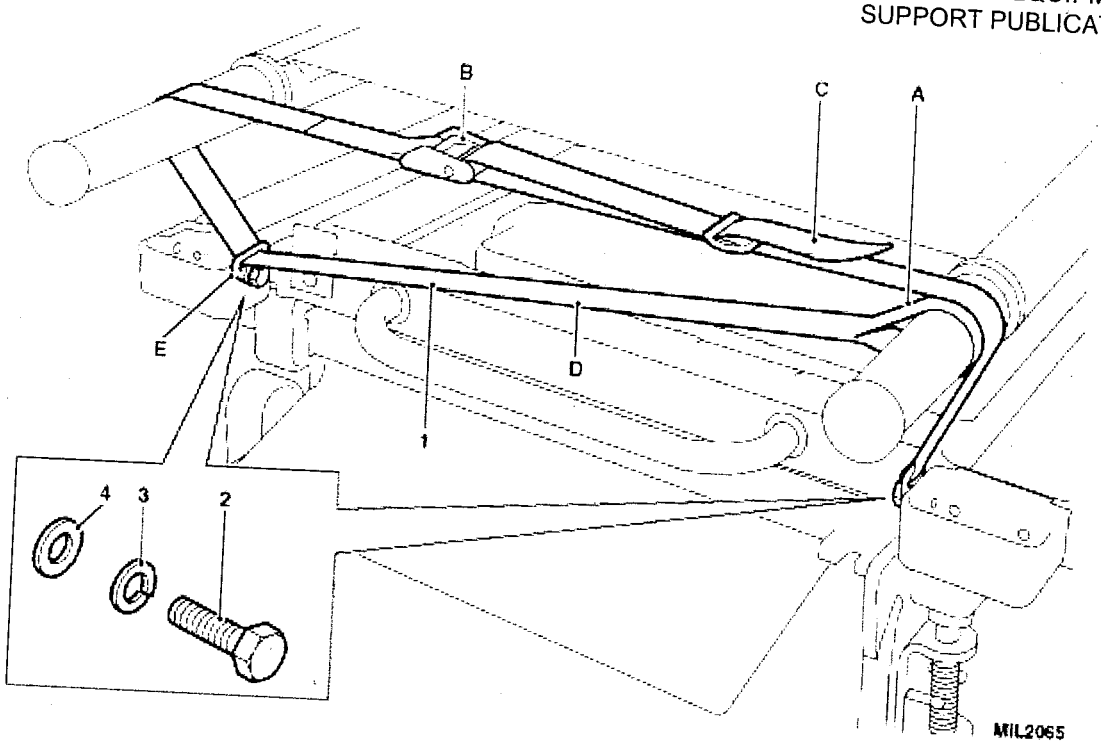
1 Bump stop 2 Rivet

Fig 1 Moving the upper stretcher rack rear bump-stop brackets



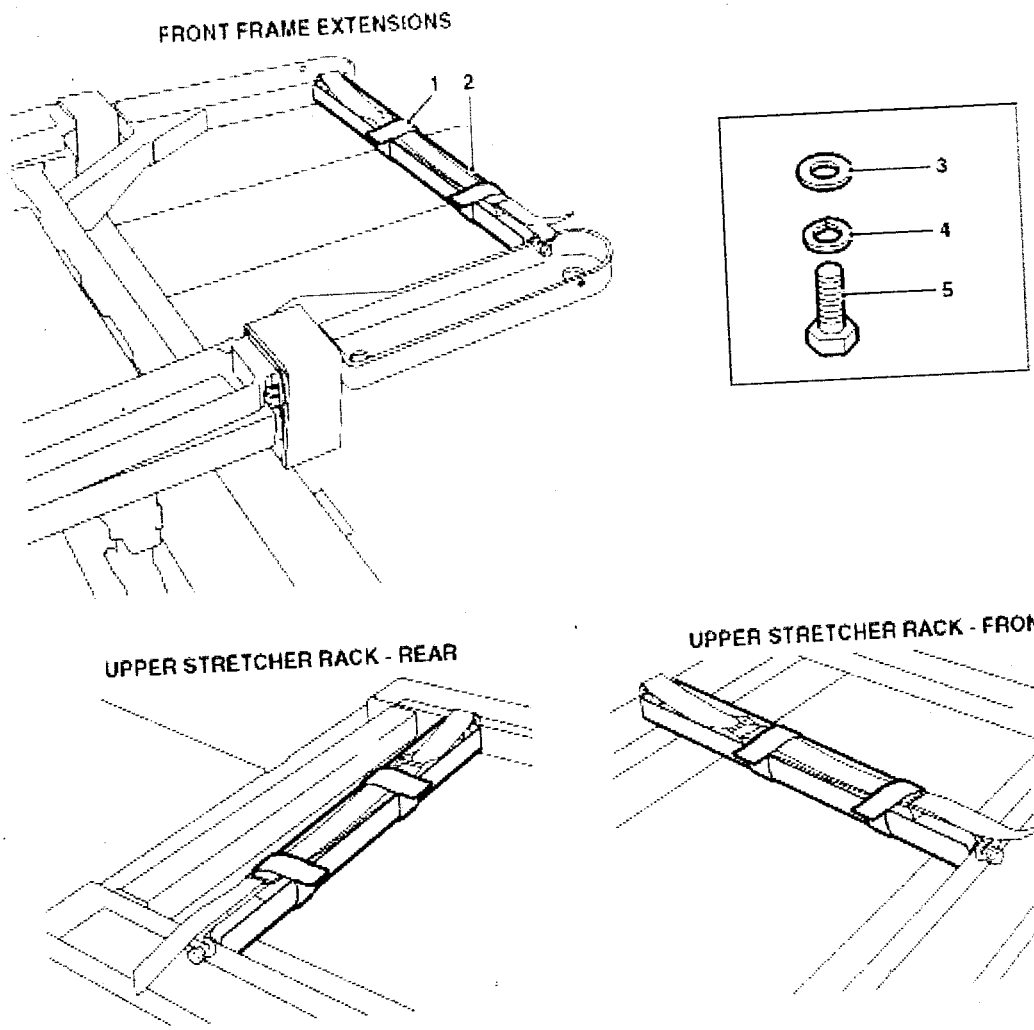
1	Rear Frame Extension	3	Spring Washer
2	Screw	4	Plain Washer

Fig 2 Fitting the Rear Frame Extensions (Lower Stretcher Rack)



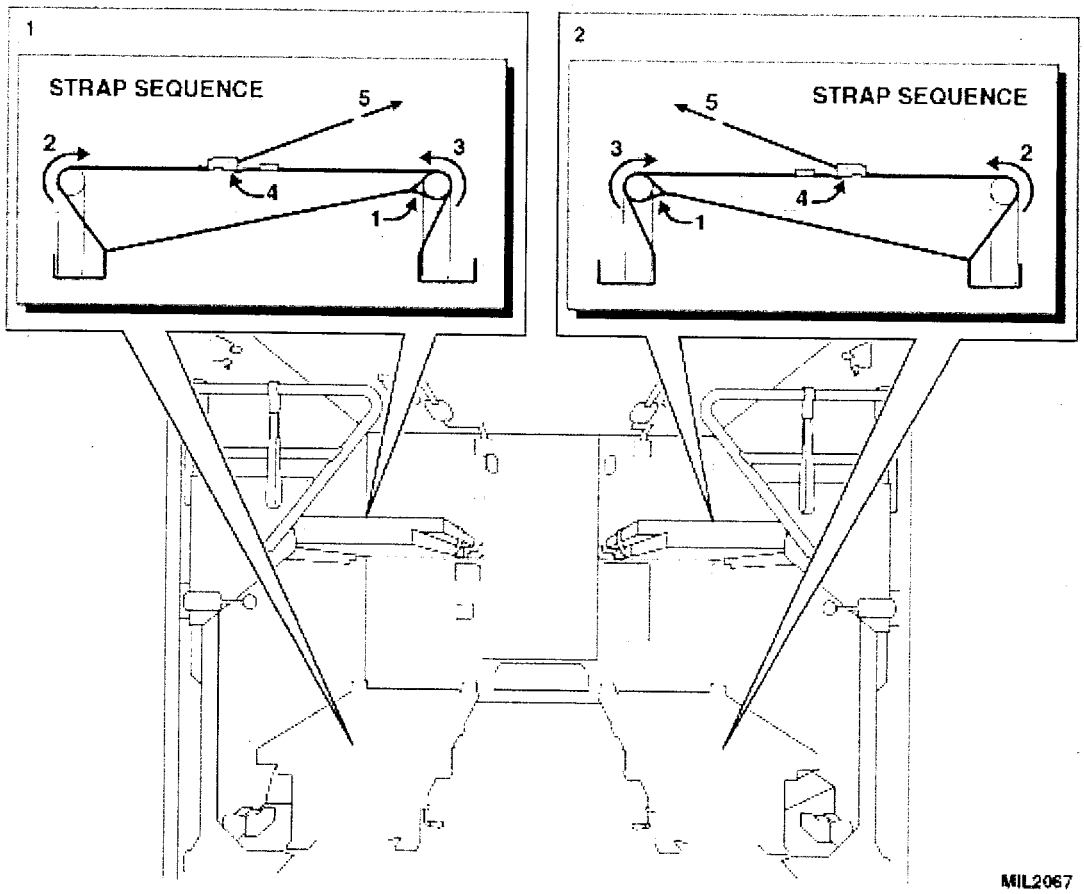
1 Stretcher Retention Strap
2 Screw
3 Spring Washer
4 Plain Washer

Fig 5 Fitting of the Stretcher Retention Straps to the Rear Frame Extensions (Lower Stretcher Strap)



1 Velcro Stowage Strap
2 Stowage Channel
3 Plain Washer
4 Spring Washer
5 Screw

Fig 6 Fitting of the Velcro Stowage Straps to the Stowage Channels



1 Label - LH 2 Label - RH

Fig 7 Fitting of the Labels to the stretcher racks

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 27

SUBJECT: Input/output Porthole for communication cables, cover modification.

CANCELLATION

INTRODUCTION

1 Modification Instruction No. 27 dated Jan 05 is hereby cancelled. The input/output porthole for communication cables, cover modification is now no longer required.

ACTION

2 File this Page 1/2 in place of Modification Instruction No. 27 dated Jan 05, all pages of which are to be destroyed.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 28

SUBJECT: Fitting of Rear Anti-Roll Bar (RARB).

CANCELLATION

INTRODUCTION

1 Modification Instruction No. 28 dated Oct 05 is hereby cancelled. The fitting of Rear Anti-Roll Bar (RARB) is now no longer required.

ACTION

2 File this Page 1/2 in place of Modification Instruction No. 28 dated Oct 05, all pages of which are to be destroyed.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 29

CONTENTS

Sponsor:	SUV IPT
Project number:	
File ref:	SUV/8/25/1B
Publication agency:	TES TI Andover

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
1		
2		
3		

Amdt No.	Incorporated By (Signature)	Date
4		
5		
6		

SUBJECT: Spare wheel adaptor plates; left and right hand installation.

INTRODUCTION

1 The introduction of the BOWMAN system has highlighted difficulties in the ability to move the spare wheel to either side of the vehicle. This Modification Instruction details the fitting of the spare wheel adaptor plates to both sides of the vehicle, which become a permanent fit. The kit also includes a wheel retaining cylinder that can be easily fitted to either adaptor plate enabling the spare wheel to be moved to either side of the vehicle. This will enable the vehicle to retain the original capability.

1.1 Limitations on use of equipment. Nil.

APPLICABILITY

2 Land Rover Truck Utility Medium (TUM) High Specification (HS), Fitted For Radio (FFR), Hard Top (HT) and Soft Top (ST) (NB 5020s, NB 5021s and NB 5031s).

2.1 Unmodified stock, held at all levels of technical storage.

REASON FOR MODIFICATION

3 Code 2 - To retain operational performance.

PRIORITY

4 ARMY: Immediate.

5 RAF: Class 1.

ESTIMATED TIME REQUIRED

6 Estimated time required:

6.1 Dismantling: If previously fitted with BOWMAN 1.5 man-hours.

6.2 Embodiment: If previously fitted with BOWMAN 1.5 man-hours.

6.3 Dismantling: 0.5 man-hours.

6.4 Embodiment: 0.75 man-hours.

MODIFICATION IMPLEMENTATION PLAN

7 This Modification Instruction is to be implemented by:

7.1 ARMY - Units authorized to carry out Levels 2, 3 or 4 maintenance.

7.2 RAF - Units not later than the next scheduled maintenance.

Action required by

8 The following action is to be carried out:

8.1 Units and establishments holding equipment:

8.1.1 Examine equipment documents to see if the Modification Instruction is applicable.

8.1.2 Examine the Modification record plate to see if the Modification Instruction is embodied and where necessary Units with 1st Line Royal Electrical and Mechanical Engineers (REME) Support demand the stores required.

8.1.3 ARMY - On receipt of stores, request REME to modify equipment.

8.1.4 ARMY - Record the Army Equipment Support Publication (AESP) and instruction number in equipment documents.

8.1.5 RAF - Record modification details on Army Form General (AF G) 1084A and Form 4870. Units operating Station Transport Maintenance Aid (STAMA) are also to record modification details on ADP Mechanical Transport Maintenance Section (MTMS) Job Certification Sheet and to follow the procedures laid down in Air Publication (AP) 100C-08A.

8.2 Army units authorized to carry out Levels 2, 3 and 4 maintenance and RAF units:

8.2.1 ARMY - When requested by units or during overhaul of equipment on charge without REME 1st Line Support, obtain the items listed in Para 9 and carry out this modification.

8.2.2 Record completion details of the Modification Instruction against appropriate entry in vehicle documents.

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

8.2.3.1 RAF: Modification Code: ANN 028.

NOTE

RAF units operating STAMA are also to complete ADP MTMS Job Certification Sheet and to follow the procedures laid down in AP 100C-08A.

8.3 All recipients of this instruction. Add particulars to AESP 2320-D-128-811 Modification Instruction Index.

Stores, tools and equipment

9 The following item(s)/set are/is to be demanded quoting this Modification Instruction as the authority:

9.1 Stores to be demanded:

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
	7XD	**2540-99-982-0182**	**Mod set comprising:**	**1**
				(1)
1	7XD	LR 2420003A	Mounting Bracket, Left Hand	(1)
2		LR 2420004A	Mounting Bracket, Right Hand	(1)
3		LR 2420005A	Spare Wheel Mount	(3)
4		LR 2420007A	Spare Wheel Mount Securing Bolts (M12 x 40 Allen Head)	(3)
5		LR 2420008A	Lock Washer (M12)	(4)
6	7XD	5305-99-454-3492	Mounting Bracket Flanged Bolts (M8)	(1)
7	7XD	5120-99-599-6378	Installation Key (10 mm Allen Key)	
8	**7XD**	**2540-99-149-9435**	**Hard Top Blanking Plate Kit comprising:**	
9			Hard Top Blanking Plate (with gasket)	(1)
10			'U' Spring Clips	(2)
11			No. 10 Self Tapping Screw	(1)

9.2 Stores to be removed and reduced to scrap:

12	7XD	2590-99-317-5892	Spare Wheel Mounting Bracket	1
13	7XD	2590-99-147-2989	Hard Top Blanking Plate	1

Sequence of operations

NOTE

Where the vehicle has already been through the Bowmanisation programme, the Automatic Antenna Coupler (AAC) will have to be removed and the AAC mounting plate detached from the framework. This will enable the Radiation Hazard (RADHAZ) curtain to be partly detached and rolled up to gain access to the original spare wheel mounting plate. (Some variants may have an AAC fitted to both sides). For ST variants the ST can be rolled up from outside to gain access to the mounting plates.

10 Sequence of operations are as follows:

10.1 Remove spare wheel from vehicle as per AESP 2320-D-128-201, Chap 4-1, Pages 41 - 45, retain the spare wheel clamping plate and bolts for re-use. Remove and discard the hard top blanking plate and fixings (Item 13) from the opposite side of the vehicle.

10.2 If vehicle has not been fitted with BOWMAN, or is a ST (see above) proceed to Serial 10.

10.3 Disconnect the top earthing braid from the AAC. Supporting the ACC, remove the four bolts (arrowed) in Fig 1 retaining the AAC, including the lower earth braid and carefully lift the AAC from its mounting plate.

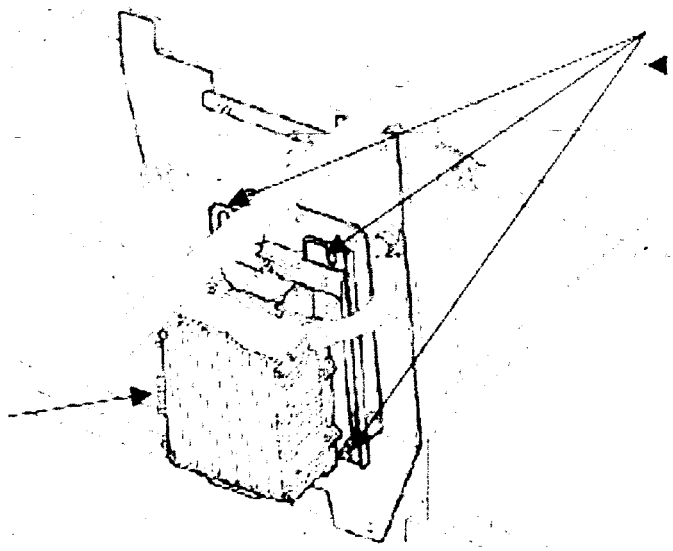


Fig 1 AAC AKEE mounting plate 1

10.4 Remove the AAC AKEE mounting plate by undoing the four bolts (arrowed) in Fig 2.

NOTE

Do not disconnect the wiring attached to the AAC AKEE mounting plate, move the plate round and place on adjacent racking during the operation.

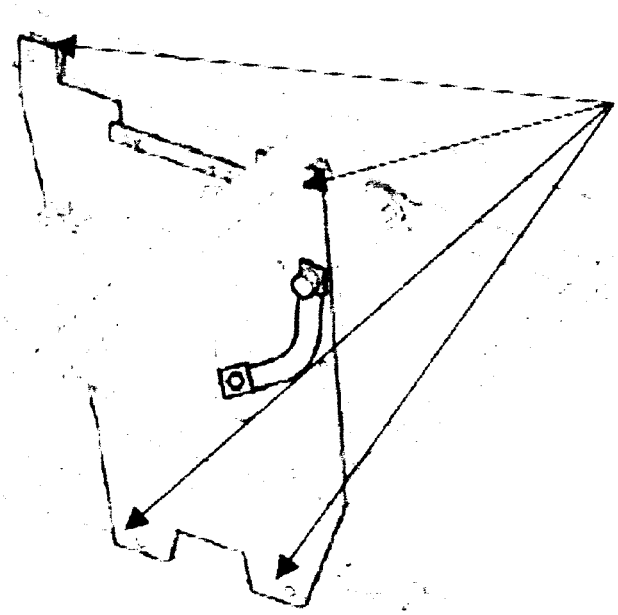


Fig 2 AAC AKEE mounting plate 2

10.5 AESP 2320-D-128-811, Mod Inst No. 12 refers to the installation of the RADHAZ curtain. Take extreme care not to damage the RAZHAD curtain during this operation. Working from the inside of the vehicle, remove the two lower and the front upper securing screws together with the earthing braid from the front section of the RADHAZ curtain, being careful to retain the metal spacers for reassembly.

10.6 Carefully roll the RADHAZ curtain up between the roll cage and the hard top to gain access to spare wheel mounting plate, and remove the four M8 flanged bolts (retain for re-use) securing the spare wheel plate to the roll cage.

10.7 Working from the outside of the vehicle, carefully remove the rubber gasket and foam packing. Then from the inside, rotate the spare wheel plate so that it will fit between the roll cage and can be moved outwards so it is flush against the hard top. Wedge the spare wheel plate against the hard top, by using a suitable piece of packing (wood or hard foam) between the plate and the roll cage. The packing dimension will vary due to variations in build standards from the factory.

WARNING

HEALTH AND SAFETY. ENSURE PROTECTIVE CLOTHING AND GOGGLES ARE WORN WHEN CARRYING OUT THE NEXT OPERATION.

10.8 Using a protective shield around the mounting cylinder on the outside of the vehicle, (the rubber gasket can be used provided it is not damaged in the process) to protect the hard top from damage; with the aid of helper supporting the spare wheel mounting cylinder, angle grind the wheel mounting cylinder off the retaining plate. Once the cylinder has been cut from the plate; (being careful of sharp edges and the BOWMAN equipment in the vehicle), working from inside the vehicle manoeuvre the plate into a suitable position, and remove from the vehicle.

Fitting spare wheel adaptor plates

11 To fit spare wheel adaptor plates, proceed as follows:

11.1 Working from inside the vehicle remove the four bolts securing the original spare wheel mounting bracket, retain the gasket, seal and fixings for re-use. Discard the old spare wheel mounting bracket (Item 12).

NOTE

The new mounting plates are handed, and identified on the outer face with a letter stamp. L = left hand part (Item 1), R = right hand part (Item 2). Vehicle left and right is based on operator sitting in driving position, facing forward. Remove and discard the eight green protective patches before fitting. Once fitted, the hole orientation for the spare wheel mounting bracket should appear as shown in Fig 3 on both sides.

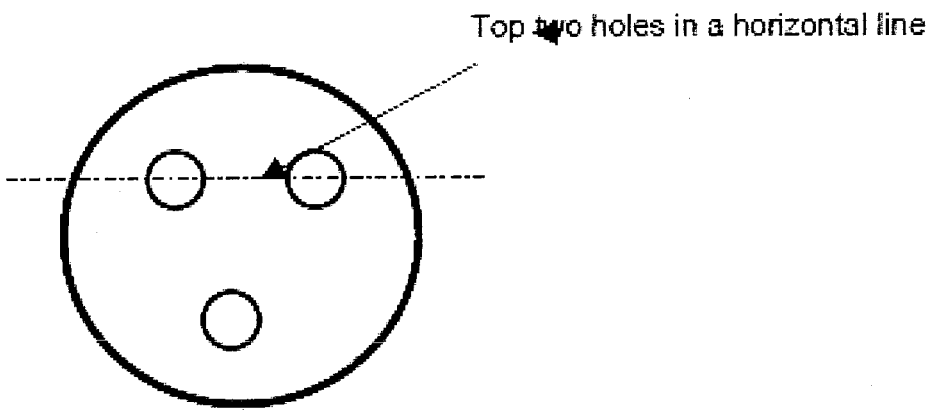


Fig 3

11.2 Fit the two base mounting plates (Items 1 and 2) to the existing mounting positions. Use the existing bolts for one side and the four new M8 flanged bolts (Item 6) for the other side.

11.3 Tighten the mounting bracket securing screws (M8 x 25), four per bracket, to 25 Nm.

11.4 Working from outside the vehicle, feed the body gaskets through the hole in the hard top, ensure the foam seal is against the spare wheel bracket and the larger diameter rubber seal is against the inside of the hard top and both are in-line with the mounting boss. Ensure the fitting is to the correct side for vehicle use.

11.5 Fit the spare wheel mounting bracket (Item 3) through the gaskets, over the mounting spigot and align the mounting holes. Supporting the spare wheel mounting bracket, install the three hex headed fixings (Item 4) and washers (Item 5), tightening by hand to ensure the gasket is not trapped.

NOTE

Once fitted, the spare wheel mounting bracket (Item 3) should appear as Fig 4.

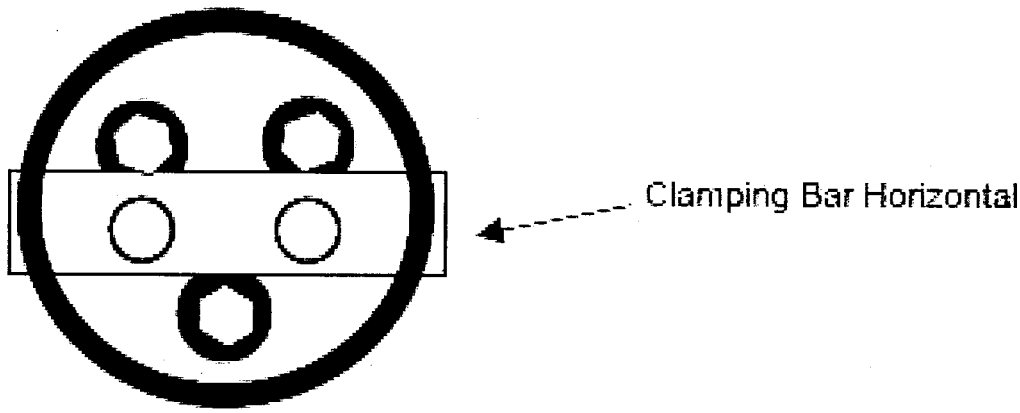


Fig 4

11.6 Using the Installation Key supplied (Item 7) tighten the three hex head fixing screws to 110 Nm.

NOTE

Re-check torque tightness of all fixings after 100 km.

Fitting hard top blanking plate

12 To fit the hard top blanking plate, proceed as follows:

12.1 Working from outside the vehicle, measure and mark a point 7 mm from the edge of the hole at the "12 o'clock" position. Refer to Fig 5.

WARNING

HEALTH AND SAFETY. ENSURE PROTECTIVE CLOTHING AND GOGGLES AREWORN WHEN CARRYING OUT THE NEXT OPERATION.

12.2 Using a suitable drill and bit, drill a single 6 mm dia hole. Be careful not to damage or drill through the rubber gasket or foam seal.

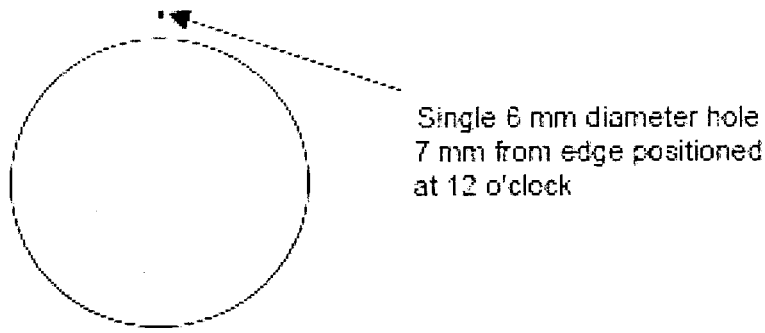


Fig 5

12.3 Using a suitable tool, carefully clean the edge of the newly drilled hole to ensure no burrs or sharp edges are present.

12.4 Fit one of the 'U' shaped screw clips (Item 10) to the roof, ensuring that the threaded section is on the inside of the roof and lines up with the drilled hole.

12.5 Carry out operation 12.1 to 12.4 on both sides of the vehicle.

Fitting the cover

13 To fit the cover, proceed as follows:

13.1 Using a suitable tool, pierce the cover gasket to allow the screw to be fitted.

13.2 Carefully turn the screw (Item 11) provided through the disc from the painted side until it is fully home.

13.3 Holding the plate at an angle of approx 30 degrees, with the clip at the bottom and closest to the vehicle, hook the clip inside the roof and slide the cover down while bringing it flush to the side of the roof making sure the screw aligns with the fixing hole. Take care when installing the cover so as not to damage the foam seal.

13.4 Using the correct screwdriver, fully tighten the screw.

13.5 Refit the spare wheel as described in AESP 2320-D-128-201, Chap 4-1.

13.6 Refit the RADHAZ Curtain, AAC and mounting plates in reverse order, ensuring all earthing braids are connected correctly.

NOTE

Re-check torque tightness of all fixings after 100 km.

EFFECT ON WEIGHT

14 3 kg.

PUBLICATION AMENDMENTS

15 Publications will be amended to reflect changes.

16 Installation key (Item 7) to become part of vehicle Complete Equipment Schedule (CES) on completion.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 30

CONTENTS

Sponsor: SUV IPT
Project number:
File ref: SUV/8/25/1B
Publication agency: TES TIG Andover

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
1		
2		
3		

Amdt No.	Incorporated By (Signature)	Date
4		
5		
6		

SUBJECT: Front Seat Belt Protection Sleeves.

INTRODUCTION

1 When the occupant/s exit from the vehicle, it is possible for the seat belt to become caught in the door lock mechanism. This can damage the integrity of the seat belt requiring its eventual replacement. Fitting the seat belt protector will prevent the seat belt(s) from becoming damaged. Even though Weapon Mounted Installation Kit (WMIK) variants do not have doors fitted, the protection sleeves are to be fitted.

1.1 Limitations on use of equipment. Nil.

APPLICABILITY

2 Truck Utility Light (TUL) High Specification (HS), Truck Utility Medium (TUM) (HS) including WMIK, and Battlefield Ambulance - all variants.

2.1 Unmodified stock, held at all levels of technical storage.

REASON FOR MODIFICATION

3 Code 1 - To improve safety.

PRIORITY

4 ARMY: Immediate.

5 RAF: Class 1.

ESTIMATED TIME REQUIRED

6 Embodiment: 0·30 man-hours per Qty 2 seat belt protectors.

MODIFICATION IMPLEMENTATION PLAN

7 This Modification Instruction is to be implemented by:

7.1 ARMY - Units authorized to carry out Levels 2, 3 or 4 maintenance.

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

Action required by

8 The following action is to be carried out:

8.1 Units and establishments holding equipment:

8.1.1 ARMY - On receipt of stores, request Royal Electrical and Mechanical Engineers (REME) to modify equipment.

8.1.2 ARMY - Record the Army Equipment Support Publication (AESP) and instruction number in equipment documents.

8.1.3 RAF - Record modification details on Army Form General (AF G) 1084A and Form 4870. Units operating Station Transport Management Aid (STAMA) are also to record modification details on ADP Mechanical Transport Maintenance Section (MTMS) Job Certification Sheet and to follow the procedures laid down in Air Publication (AP) 100C-08A.

8.2 Army units authorized to carry out Levels 2, 3 and 4 maintenance and RAF units:

8.2.1 ARMY - When requested by units or during overhaul of equipment on charge without REME 1st Line Support, obtain the items listed in Para 9 and carry out this modification.

8.2.2 Record completion details of modification against appropriate entry in vehicle documents.

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

8.2.3.1 RAF: MODIFICATION CODE: AFN 175.

NOTE

RAF units operating STAMA are also to complete ADP MTMS Job Certification Sheet and to follow the procedures laid down in AP 100C-08A.

8.3 All recipients of this instruction. Add particulars to AESP 2320-D-128-811 Modification Instruction Index.

Stores, tools and equipment

9 The following item(s) are to be demanded quoting this Modification Instruction as the authority:

9.1 Stores to be demanded:

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
	7XD	2540-99-244-0638	Mod set comprising:	2
1			Seat Belt Protector	(1)
2	46MT4	5340-99-119-6086	Cable tie	(1)

Sequence of operations

NOTE

The item numbers of Para 9 are used as reference throughout this Modification Instruction.

10 Carry out this Modification Instruction as follows:

10.1 Before fitting the seat belt protectors, ensure there is no damage to the seat belts which will be hidden when the protectors are in place. Any damaged belts are to be replaced as per the AESP before fitting the protection sleeves.

10.2 Carefully slide the two halves of the protector (Item 1) apart.

10.3 Place the two sections of the seat belt protector on either side of the seat belt webbing, ensuring the holes in the protector sleeve are at the bottom and face towards the rear of the vehicle. Snap the two halves together and slide to the bottom of the seat belt as shown in Fig 1.

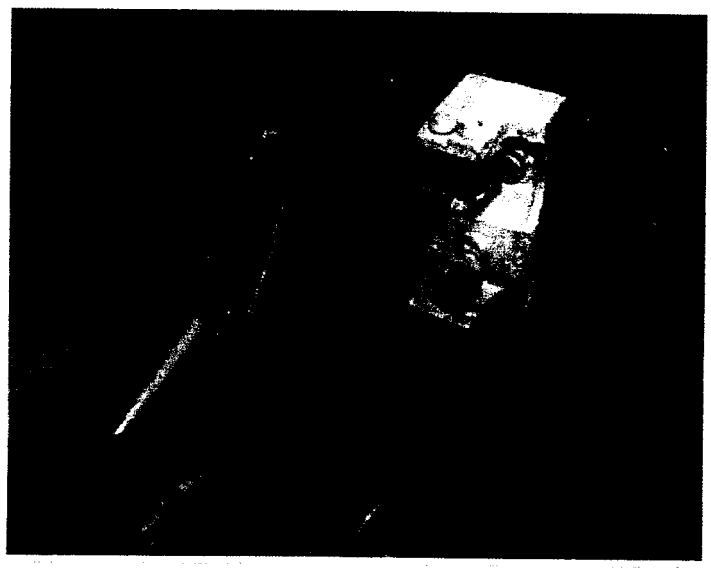


Fig 1

10.4 Secure the seat belt protector to the lower anchorage point using the small cable tie (Item 2), ensuring the cable tie is fitted as shown in Fig 2. Trim excess tail from the cable tie.

Fig 2

TESTING AFTER EMBODIMENT

11 Check that the seat belt returns to the correct position after releasing the buckle.

EFFECT ON WEIGHT

12 Nil.

PUBLICATION AMENDMENTS

13 Necessary amendments will be issued separately.

14 Cat 711 will be amended to include the NSN for the seat belt protector.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 31

(Completely revised)

CONTENTS

Sponsor: SUV IPT
Project number:
File ref: SUV/8/30/3
Publication agency: TES TIG Andover

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
1		
2		
3		

Amdt No.	Incorporated By (Signature)	Date
4		
5		
6		

SUBJECT: Cover for Blue Flashing Beacon (Battlefield Ambulance and RMP TUL/TUM variants).

INTRODUCTION

1 Army Equipment Support Publication (AESP) 2320-D-128-811, Mod Inst No. 22, Para 10.9 directs users to disable the Blue Flashing Beacons by removing them from the roof mounting, and storing them in the stowage compartment under the right hand front seat. Mod Inst No. 31 supersedes this instruction with the provision of detachable beacon covers. The requirement to disable the siren remains extant.

1.1 This Modification Instruction also applies to the Truck Utility Light (TUL) and Truck Utility Medium (TUM) variants, used by the Royal Military Police (RMP) which are fitted with Blue Flashing Beacons, which may also require covering.

1.2 The covers will enable the beacons to remain fitted to the vehicle. The covers can then be removed when operation of the beacons is required.

1.3 Limitations on use of equipment. Nil.

APPLICABILITY

2 TUL High Specification (HS), TUM (HS), RMP equipped vehicles and Battlefield Ambulance.

2.1 Unmodified stock, held at all levels of technical storage.

REASON FOR MODIFICATION

3 Code 2 - to improve operational performance.

PRIORITY

4 ARMY: Immediate.

5 RAF: Class 1.

ESTIMATED TIME REQUIRED

6 Embodiment: 0.30 man hours (to include the fitting of the lamps).

MODIFICATION IMPLEMENTATION PLAN

7 This Modification Instruction is to be implemented by:

7.1 ARMY - Units authorized to carry out Levels 2, 3 or 4 maintenance.

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

Action required by

8 The following action is to be carried out:

8.1 Units and establishments holding equipment:

8.1.1 ARMY - On receipt of stores, request Royal Electrical and Mechanical Engineers (REME) to modify equipment.

8.1.2 ARMY - Record the AESP and instruction number in equipment documents.

8.1.3 RAF - Record modification details on Army Form General (AF G) 1084A and Form 4870. Units operating Station Transport Management Aid (STAMA) are also to record modification details on ADP Mechanical Transport Maintenance Section (MTMS) Job Certification Sheet and to follow the procedures laid down in Air Publication (AP) 100C-08A.

8.2 Army units authorized to carry out Levels 2, 3 and 4 maintenance and RAF units:

8.2.1 ARMY - When requested by units or during overhaul of equipment on charge without REME 1st Line Support, obtain the items listed in Para 9 and carry out this Modification Instruction.

8.2.2 Record completion details of Modification Instruction against appropriate entry in vehicle documents.

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

8.2.3.1 RAF: MODIFICATION CODE: AFN 176.

NOTE

RAF units operating STAMA are also to complete ADP MTMS Job Certification Sheet and to follow the procedures laid down in AP 100C-08A.

8.3 All recipients of this instruction. Add particulars to AESP 2320-D-128-811 Modification Instruction Index.

Stores, tools and equipment

9 The following items are to be demanded quoting this Modification Instruction as the authority:

9.1 Stores to be demanded:

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
1	7XD	6240-99-968-4815	Cover Blue Beacon	2

Sequence of operations

WARNING

PERSONAL INJURY. CARE SHOULD BE TAKEN WHEN WORKING ON THE ROOF OF THESE VEHICLES.

NOTE

The item numbers of Para 9 are used as reference throughout this Modification Instruction.

10 Carry out this Modification Instruction as follows:

10.1 Fit and secure the Blue Flashing Beacons to the vehicle, ensuring correct operation.

10.2 Slide the beacon cover (Item 1) over the Blue Flashing Beacon and secure with the slip cord at the base of the beacon.

10.3 Repeat procedure on the second beacon.

10.4 When the beacons are required, remove the covers and store in the stowage compartment under the driver's seat. Replace the covers after use.

TESTING AFTER EMBODIMENT

11 Nil.

EFFECT ON WEIGHT

12 Nil.

PUBLICATION AMENDMENTS

13 Necessary amendments will be issued separately.

14 AESP 2320-D-128-711 will be amended to include the NSN for the Beacon Cover.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 32

SUBJECT: Project SHOEHORN Revised weight data plate.

CANCELLATION

INTRODUCTION

1 Modification Instruction No. 32 dated Mar 07 is hereby cancelled. The project SHOEHORN revised weight data plate is now no longer required.

ACTION

2 File this Page 1/2 in place of Modification Instruction No. 32 dated Mar 07, all pages of which are to be destroyed.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 33

CONTENTS

Sponsor: SUV IPT
Project number:
File ref: SUV/8/25/1B
Publication agency: TES TIG Andover

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
1		
2		
3		

Amdt No.	Incorporated By (Signature)	Date
4		
5		
6		

SUBJECT: Rear door black out blind (FFR variants only).

INTRODUCTION

1 The introduction of the BOWMAN Communication System has raised the requirement for the rear compartment of the vehicle to be a Class 1 Container (JSP 440, Issue 3.5, Part 7, Sect 2, Chap 1, Para 14).

1.1 Limitations on use of equipment. Nil.

APPLICABILITY

2 Truck Utility Light (TUL) High Specification (HS), Truck Utility Medium (TUM) (HS), Hard Top, BOWMAN, Fitted For Radio (FFR) variants only.

2.1 Unmodified stock, held at all levels of technical storage.

REASON FOR MODIFICATION

3 Code 2 - To improve operational performance and security.

PRIORITY

4 ARMY: Routine.

5 RAF: Class 1.

ESTIMATED TIME REQUIRED

6 Embodiment: 1.0 man-hour (both variants).

MODIFICATION IMPLEMENTATION PLAN

7 This Modification Instruction is to be implemented by:

7.1 ARMY - Units authorized to carry out Levels 2, 3 or 4 maintenance.

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

Action required by

8 The following action is to be carried out:

8.1 Units and establishments holding equipment:

8.1.1 ARMY - On receipt of stores, request Royal Electrical and Maintenance Engineers (REME) to modify equipment.

8.1.2 ARMY - Record the Army Equipment Support Publication (AESP) and instruction number in equipment documents.

8.1.3 RAF - Record modification details on Army Form General (AF G) 1084A and Form 4870. Units operating Station Transport Management Aid (STAMA) are also to record modification details on ADP Mechanical Transport Maintenance Section (MTMS) Job Certification Sheet and to follow the procedures laid down in Air Publication (AP) 100C-08A.

8.2 Army units authorized to carry out Levels 2, 3 and 4 maintenance and RAF units:

8.2.1 ARMY - When requested by units or during overhaul of equipment on charge without REME 1st Line Support, obtain the items listed in Para 9 and carry out this Modification Instruction.

8.2.2 Record completion details of Modification Instruction against appropriate entry in vehicle documents.

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

8.2.3.1 RAF: MODIFICATION CODE: AFN 181.

NOTE

RAF units operating STAMA are also to complete ADP MTMS Job Certification Sheet and to follow the procedures laid down in AP 100C-08A.

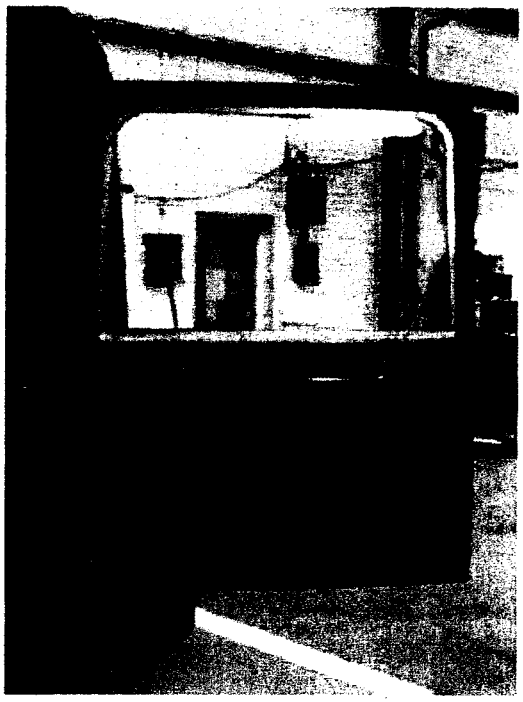
8.3 All recipients of this instruction. Add particulars to AESP 2320-D-128-811 Modification Instruction Index.

Stores, tools and equipment

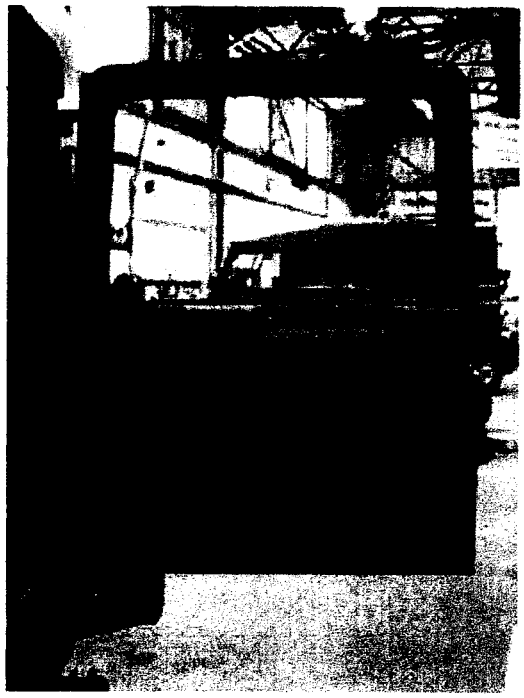
9 The following item(s) are to be demanded quoting this Modification Instruction as the authority:

9.1 Stores to be demanded:

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
			Mod set: comprising	
	7XD	2540-99-424-0861	Door Blind for Old Style Door see Fig 1	1
	7XD	2540-99-408-9226	Door Blind for New Style Door see Fig 1	1
1			Black out blind	(1)
2			Studs	(4)
3			Self-tapping screws	(4)
4			Velcro – cut to suit	A/R
5			Pop rivets	(4)
6			Washers	(4)



Old Style Door



New Style Door

Fig 1

Sequence of operations

NOTE

The item numbers of Para 9 are used as reference throughout this Modification Instruction.

10 Carry out this Modification Instruction as follows:

10.1 Remove the rear door pull handle. On old style doors, remove the screws retaining the rear door panel and remove the door panel. On new style doors with the moulded panel, remove the snap-in panel under the interior door latch and carefully ease the panel off the door by inserting a flat blade under the panel adjacent to the plastic retaining studs around the panel. Care must be exercised when removing the moulded panel not to split the panel around the retaining studs.

10.2 Offer the door blind to the rear door and carefully mark the position in the centre of the top rail, for the four studs that retain the blind in the raised position.

10.3 Drill four (3 mm) holes in the centre of the top rail in the marked positions, and using a self-tapping screw (Item 3), screw in place the four retaining studs (Item 2). Refer to Fig 2.

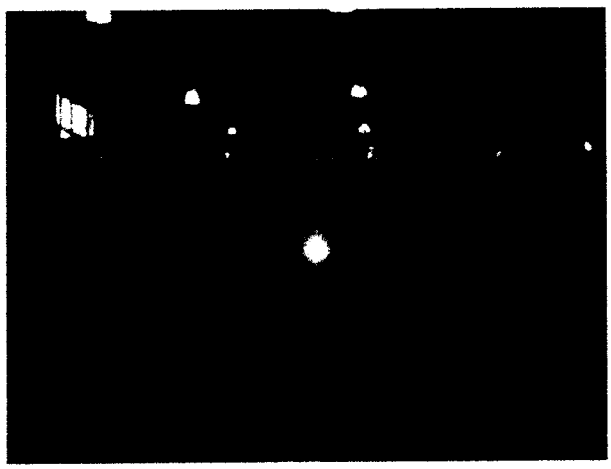


Fig 2

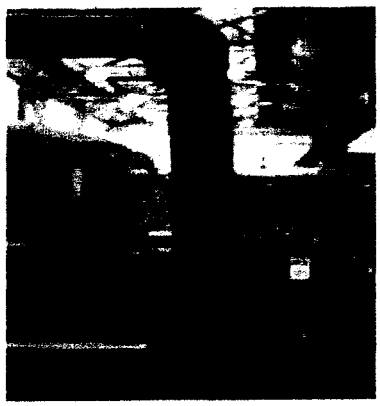
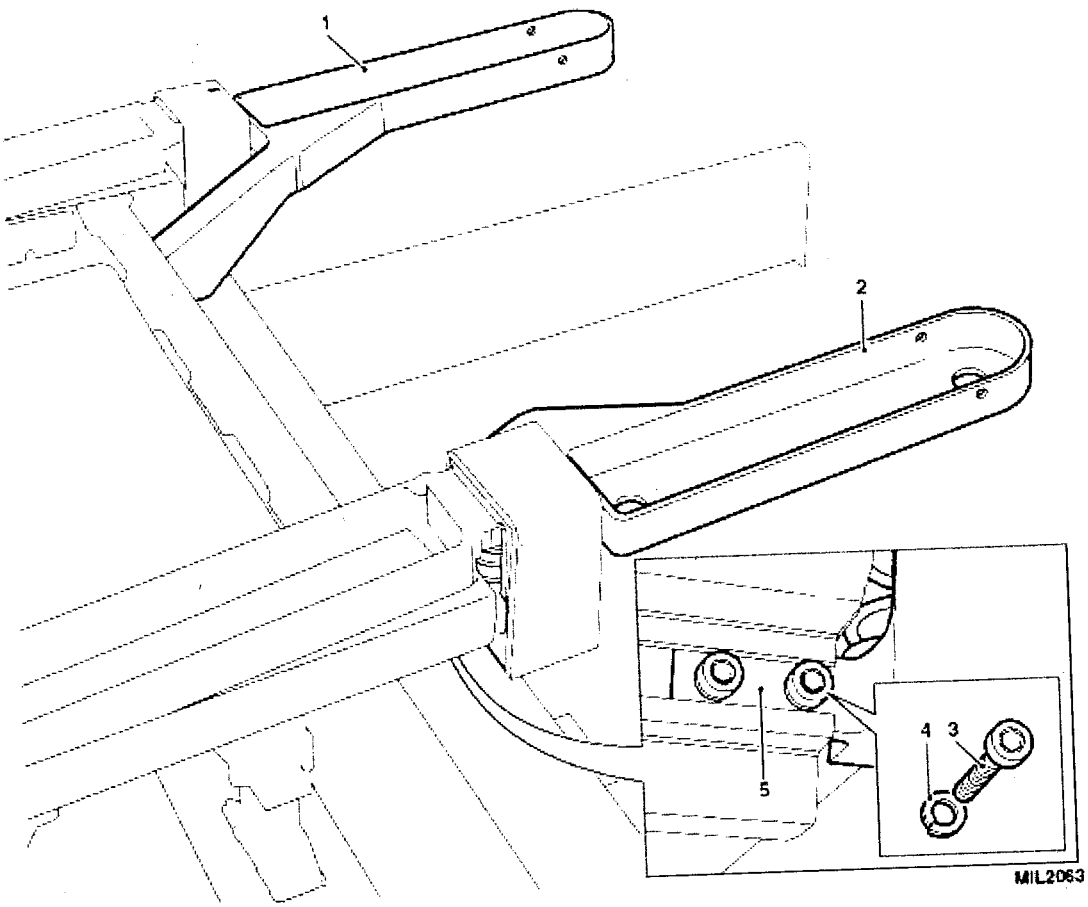
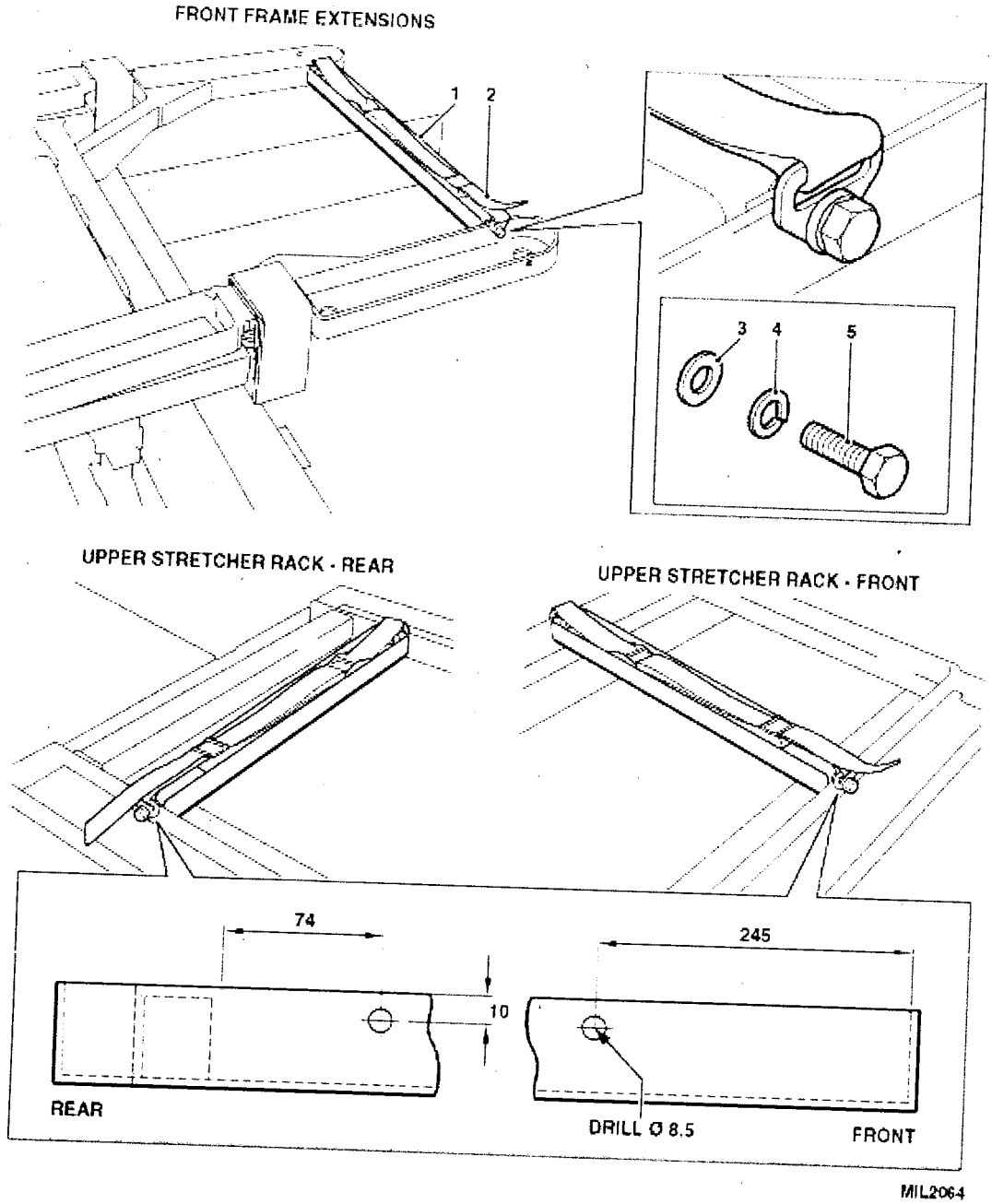


Fig 3



1 Front Frame Extension - LH
2 Front Frame Extension - RH
3 Cap screw
4 Spring Washer
5 Channel End Bracket

Fig 3 Fitting of the Front Frame Extensions (Lower Stretcher Rack)



1 Stowage Channel
2 Stretcher Retention Strap
3 Plain Washer
4 Spring Washer
5 Screw

Fig 4 Fitting of the Stowage Channels and Stretcher Retention Straps

10.4 Fasten the blind in position using the top four studs and smooth into position. Mark the Velcroed area of the blind on the sides of the frame. Apply the self-adhesive Velcro strip to the centre of both sides of the door frame, adjusting as required to suit the length of the blind and ensure complete coverage.

NOTE

On the later type door, do not bring the Velcro below the top edge of the panel, as this will prevent the panel studs from being re-fitted correctly. Drill a hole (3 mm) one cm each end of the Velcro strip and install the pop rivet (Item 5) and washer (Item 6) to prevent the strip lifting. Refer to Fig 3.

10.5 With the blind in the raised position, ensure the correct location of the blind on the top studs and Velcro side panels. Carefully replace the door panel ensuring that the blind fits smoothly underneath and that the roll down retaining strips are not trapped beneath. On the new style door, ensure that the pre-cut holes in the blind are correctly aligned. Refer to Fig 4.

10.6 Re-fit the panel with either the screws (on old style doors, the blind material will have to be carefully pierced) or studs that were previously removed (on new style doors, the pre-cut holes). Re-fit the door handle. Check that the blind rolls down and can be secured using the retaining strips. Refer to Fig 5, (new door featured).

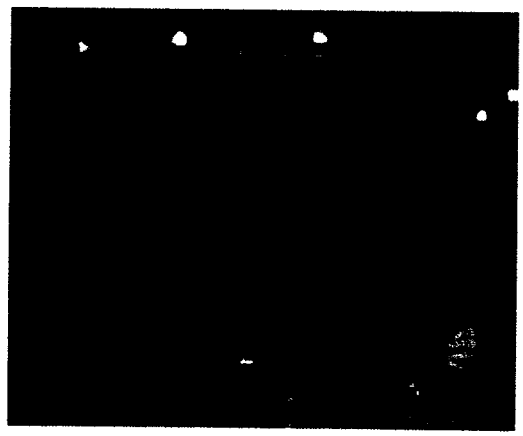


Fig 4

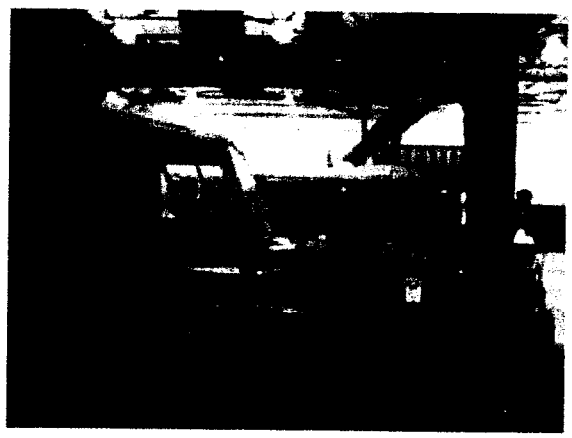


Fig 5

TESTING AFTER EMBODIMENT

11 Nil.

EFFECT ON WEIGHT

12 Negligible.

PUBLICATION AMENDMENTS

13 Necessary amendments will be issued separately.

14 Cat 711 will be amended to include the NSN for the door blinds.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 34

CONTENTS

Sponsor:	SUV IPT
Project number:	LR060
File ref:	SUV/8/25/2
Publication agency:	SUV IPT, Abbey Wood

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
1		
2		
3		

Amdt No.	Incorporated By (Signature)	Date
4		
5		
6		

SUBJECT: Improved Rear Pannier Latch Assembly.

(Approval No LSTP 12-6690)

INTRODUCTION

1 The current 'Anti-Luce' catches fitted to the rear pannier on 'E' Weapons Mounted Installation Kit (WMIK) vehicles have proven difficult to operate and access from inside the vehicle. To assist personnel with exiting the vehicle more easily, an improved latch assembly has been designed to overcome the original difficulties of operating the latches from inside the vehicle.

APPLICABILITY

2 TUM (HS), 'E' WMIK only (Asset code: NB 5032-3180).

2.1 Fitted to equipment held by user units.

REASON FOR MODIFICATION

3 Code 2 - To improve operational performance.

PRIORITY

4 ARMY: Routine.

5 RAF: Class 3.

ESTIMATED TIME REQUIRED

6 Embodiment: 1.0 man-hours.

MODIFICATION IMPLEMENTATION PLAN

7 This Modification Instruction is to be implemented by:

7.1 ARMY - Units authorized to carry out Levels 2, 3 or 4 maintenance.

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

7.3 Associated Modification Instructions. Nil.

7.4 Modification plate strike action. Nil.

Action required by

8 The following action is to be carried out:

8.1 Units and establishments holding equipment:

8.1.1 ARMY - On receipt of stores, request Royal Electrical and Mechanical Engineers (REME) to modify equipment.

8.1.2 ARMY - Record the Army Equipment Support Publication (AESP) and instruction number in equipment documents.

8.1.3 RAF - Record modification details on Army Form General (AF G) 1084A and Form 4870. Units operating Station Transport Management Aid (STAMA) are also to record modification details on ADP Mechanical Transport Maintenance Section (MTMS) Job Certification Sheet and to follow the procedures laid down in Air Publication (AP) 100C-08A.

8.2 Army units authorized to carry out Levels 2, 3 and 4 maintenance and RAF units:

8.2.1 7.2.1 ARMY - When requested by units or during overhaul of equipment on charge without REME 1st Line Support, obtain the items listed in Para 9 and carry out this Modification Instruction.

8.2.2 Record completion details of Modification Instruction against appropriate entry in vehicle documents.

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

8.2.3.1 RAF: MODIFICATION CODE: AFN 186.

NOTE

RAF units operating STAMA are also to complete ADP MTMS Job Certification Sheet and to follow the procedures laid down in AP 100C-08A.

8.3 All recipients of this instruction. Add particulars to AESP 2320-D-128-811 Modification Instruction Index.

Stores, tools and equipment

9 The following items are to be demanded quoting this Modification Instruction as the authority:

9.1 Stores to be demanded:

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
	7XD	2540-99-573-1481	Kit rear pannier latch, comprising:	1
1	7XD	5340-99-253-4359	Latch mounting	(1)
2	7XD	5340-99-562-6675	Hasp plate	(1)
3	7XD	5340-99-958-2435	Handle, manual control	(1)
4	7XD	5365-99-701-1114	Packer	(1)
5	7XD	5340-99-898-6029	Clevis	(1)
6	7XD	5307-99-617-4286	Rod	(1)
7	7XD	3120-99-253-6668	Bush	(1)
8	7XD	5340-99-356-7342	Latch Modified	(1)
9	7XD	5340-99-159-5233	Clevis	(1)
10	7XD	5340-99-551-5572	Spring Clip	(1)
11	7XD	5340-99-849-1120	Spring Clip	(1)
12	7XD	5340-99-613-3372	Striker Bolt	(1)
13			Soc Cap Hd Screw M10x25 Lg Zp	(2)
14			Washer, Plain, M10 Zp	(5)
15			Nut, Nyloc, M10 Zp	(2)
16			Washer, Plain, M6 Zp	(4)
17			Soc But Hd Screw M6x35 Lg Zp	(2)
18			Nu,t Nyloc, M6 Zp	(3)
19			Full Nut, M4 Zp	(2)
20			Hex Hd Bolt, M6x70 Lg Zp	(1)
21			Thin Nut, Nyloc, 3/8" UNC Zp	(1)
22			Zinc Primer	A/R
23	H1	8010-99-131-2563	NATO Green Paint. 50 ml patch repair	A/R

Sequence of operations

NOTE

The item numbers of Para 9 are used as reference throughout this Modification Instruction.

10 Carry out the Modification Instruction as follows:

10.1 Remove pannier post and 'Anti-Luce' fasteners.

10.2 Drill Ø 6·5 mm hole in the pannier post (refer to Fig 1) and treat with the zinc primer (Item 22), apply the NATO Green top coat (Item 23). Alternatively, treat bare metal with anti-corrosive paint.

10.3 Fit the latch mounting (Item 1) to the pannier post.

10.4 Re-fit the pannier post.

10.5 Remove the existing hasp plate from the pannier.

10.6 Drill Ø 30 mm hole in the pannier (refer to Fig 2), and treat with the zinc primer (Item 22), apply the NATO Green top coat (Item 23). Alternatively, treat bare metal with anti-corrosive paint.

10.7 Using existing fasteners, fit the new hasp (Item 2) loosely, adjust the hasp plate to fit between the stop blocks on the pannier and tighten.

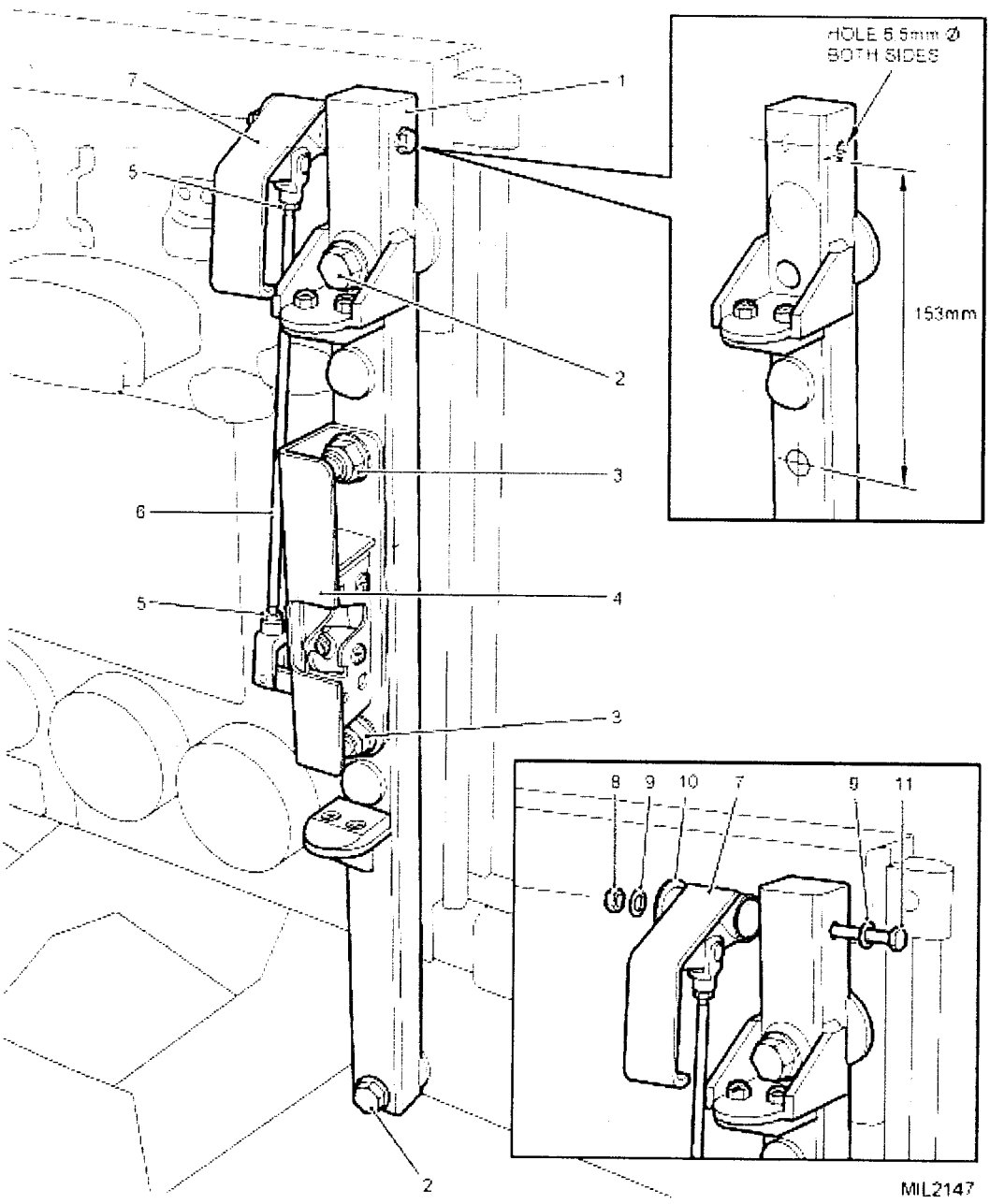
10.8 Fit the striker (Item 12) in the forward-most position and tighten.

10.9 Fit the modified latch (Item 8) and the packer (Item 4) loosely using screws (Item 17), washers (Item 16) and nuts (Item 18). Close the pannier and adjust the latch position and tighten.

10.10 Adjust the position of the striker (Item 12) to ensure the bump stops are compressed slightly and the pannier is secure.

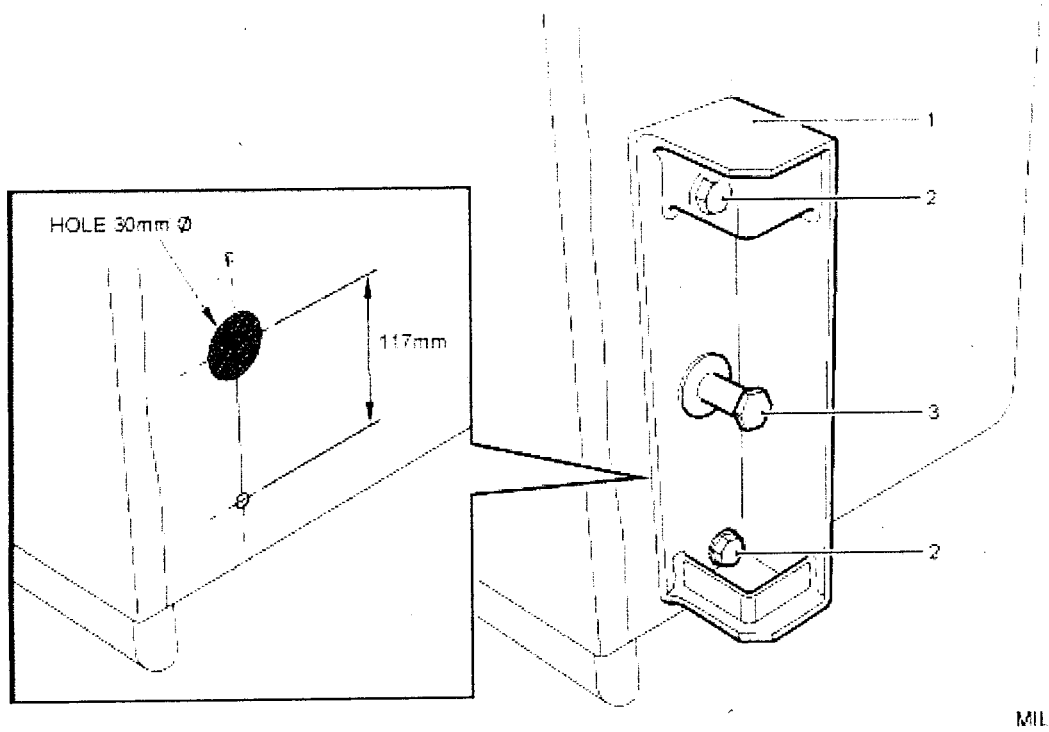
10.11 Fit the release handle assembly (Item 3) and the bush (Item 7) using the bolt (Item 20), washers (Item 16) and nut (Item 16).

10.12 Fit the rod (Item 6) and adjust the length so that the release handle lies against the pannier post when the latch lever is in the free position. Secure locknuts (Item 19).



1	Pannier post	7	Release handle
2	Pannier post fixings	8	Nut
3	Latch fixings	9	Washer
4	Latch	10	Bush
5	Locknuts	11	Bolt
6	Rod		

Fig 1 Pannier post



1 Hasp
2 Existing hasp fixings
3 Striker bolt

Fig 2 Striker bolt

TESTING AFTER EMBODIMENT

11 Check for correct and smooth operation.

EFFECT ON WEIGHT

12 Nil

PUBLICATION AMENDMENTS

13 Nil.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 35

CONTENTS

Sponsor: SUV IPT
Project number: LR049
File ref: SUV/8/25/1B
Publication agency: SUV IPT, Abbey Wood

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
1		
2		
3		

Amdt No.	Incorporated By (Signature)	Date
4		
5		
6		

SUBJECT: Fitting of an emergency hammer.

(Approval No. LSTP 12-6687)

INTRODUCTION

1 This Modification Instruction details the fitting of an Emergency Hammer.

1.1 Limitations on use of equipment. Nil.

APPLICABILITY

2 Hard Top variants of Truck Utility Light (TUL) High Specification (HS) and Truck Utility Medium (TUM) HS vehicles but not including Battlefield Ambulance.

2.1 Fitted to subject equipment held by user units.

REASON FOR MODIFICATION

3 Code 1 - To improve safety.

PRIORITY

4 ARMY: Routine.

5 RAF: Class 1.

ESTIMATED TIME REQUIRED

6 Embodiment: 0.25 man-hours.

MODIFICATION IMPLEMENTATION PLAN

7 This Modification Instruction is to be implemented by:

7.1 ARMY - Units authorized to carry out Levels 2, 3, and 4 of maintenance.

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

7.3 Associated Modification Instructions: Nil.

7.4 Modification strike plate action: Nil.

Action required by

8 The following action is to be carried out:

8.1 Units and establishments holding equipment:

8.1.1 Examine vehicle documents to see if this Modification Instruction is applicable.

8.1.2 Examine the Modification record plate to see if the Modification Instruction is embodied and where necessary Units with Level 2 Royal Electrical and Mechanical Engineers (REME) Support demand the stores required.

8.1.3 ARMY - On receipt of stores, request REME to modify equipment.

8.1.4 ARMY - Record the modification, Subject Army Equipment Support Publication (AESP) number and Army Modification Code in equipment documents.

8.1.5 RAF - Record modification details on Army Form General (AF G) 1084A and Form 4870. Units operating Station Transport Management Aid (STAMA) are also to record modification details on ADP Mechanical Transport Maintenance Section (MTMS) job Certification Sheet and to follow the procedures laid down in Air Publication (AP) 100C-08A.

8.2 Army units authorized to carry out Levels 2, 3 and 4 maintenance and RAF units:

8.2.1 ARMY - When requested by users or during overhaul of equipment on charge without REME Level 2 Support, obtain the items listed in Para 9 and carry out this modification.

8.2.2 Record completion details of this Modification Instruction against appropriate entry in equipment documents.

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

8.2.3.1 RAF: MODIFICATION CODE: ANF 187.

NOTE

RAF units operating STAMA are also to complete ADP MTMS Job Certification Sheet and to follow the procedures laid down in AP 100C-08A.

8.3 All recipients of this instruction. Add particulars to AESP 2320-D-128-811 Modification Instruction Index.

Stores, tools and equipment

NOTE

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

9 The following items are to be demanded quoting this Modification Instruction as the authority:

9.1 Stores to be demanded:

NOTE

The item numbers of Para 9 are used as reference throughout this Modification Instruction.

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
	7XD	4240 99 725 3396	Emergency Hammer assembly comprising:	1
1			Hammer	1
2			Hammer holder	1
3			Velcro strap	1

9.2 Stores or suitable equivalent to be obtained locally:

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
4*	G1	5305 99 135 0600	Bolts, 4 mm x 25 mm	2
5*	G1	5310 99 122 3408	Flat washers, 4 mm	4
6*	G1	5310 99 122 5643	Locking nut, 4 mm	2

NOTE

Should the vehicle be fitted with Heli-Lift Protection (Modification No. 3), the fixings shown above should be replaced with a suitable woodscrew to secure the hammer holder in place.

Sequence of operations

10 Refer to Fig 1. Carry out the Modification Instruction as follows:

WARNINGS

(1) HEALTH AND SAFETY. ENSURE APPROPRIATE CLOTHING AND GOGGLES ARE WORN WHEN DRILLING.

(2) HEALTH AND SAFETY. WHEN CUTTING HOLES IN THE HOOD, GOOGLES AND MASK MUST BE WORN TO PREVENT INHALATION OF HARMFUL DUST AND TO PROTECT EYES.

CAUTION

When drilling ensure there is nothing that will be damaged by the drill passing through the panel.

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

10.2 Enlarge the mounting holes on the emergency hammer holder (Item 2) using a 4 mm drill bit and drill.

10.3 Position the hammer holder centrally above the rear door on the inside vertical face of the hard top.

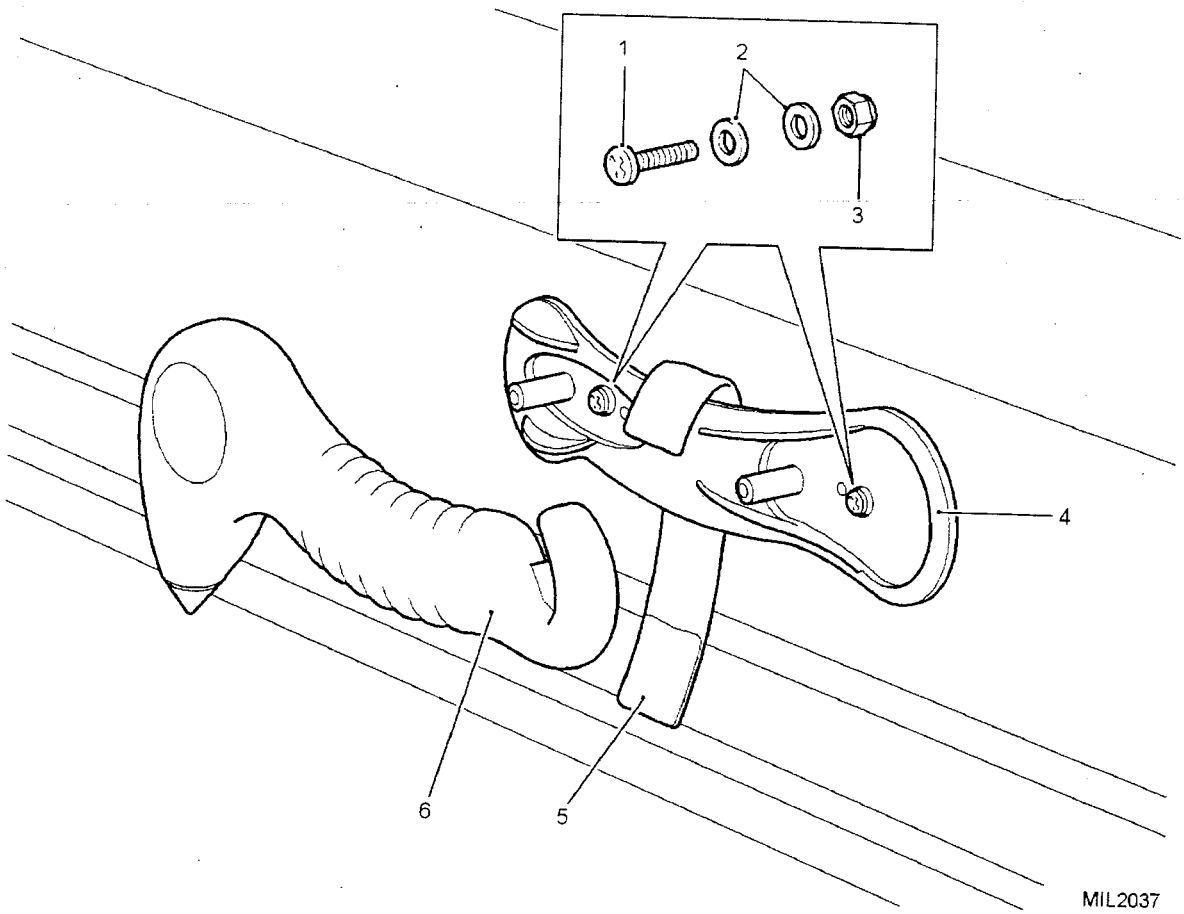
10.4 Mark the position of the mounting holes.

10.5 Drill the holes using a 4 mm drill bit and drill.

10.6 Secure the hammer holder (Item 2) to the hard top using M4 bolts (Item 4) and washers (Item 5) fitted from inside the vehicle and with washers (Item 5) and locking nuts (Item 6) on the outside.

10.7 Cut the protruding ends off the bolts using a hacksaw, taking care not to damage the hard top.

10.8 Locate the emergency hammer (Item 1), fit onto the hammer holder (Item 2) and secure with the Velcro strap (Item 3).



1	Screw	4	Hammer holder
2	Washers	5	Velcro strap
3	Nut	6	Emergency hammer

Fig 1 Fitting the Emergency Hammer

TESTING AFTER EMBODIMENT

11 Nil.

EFFECT ON WEIGHT

12 Negligible.

PUBLICATION AMENDMENTS

13 Nil.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 36

SUBJECT: [redacted].

(Approval No. LSTP 12-6688)

CANCELLATION

INTRODUCTION

1 Modification Instruction No. 36 dated Jan 09 is hereby cancelled. [redacted] is now no longer required.

ACTION

2 File this Page 1/2 in place of Modification Instruction No. 36 dated Jan 09, all pages of which are to be destroyed.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 37

CONTENTS

Sponsor:	SUV IPT
Project number:	LR060
File ref:	B37/03
Publication agency:	SUV IPT, Abbey Wood

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
1		
2		
3		

Amdt No.	Incorporated By (Signature)	Date
4		
5		
6		

SUBJECT: Fitting Glow Plug Timer Interface Harness. (Approval No. LSTP 12-6689)

INTRODUCTION

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

1.1 Limitations on use of equipment. Nil.

APPLICABILITY

2 Basic Wolf, Winterised/Waterproofed 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: Routine.

5 RAF: Class 1.

ESTIMATED TIME REQUIRED

6 Embodiment: 0.25 man-hours.

MODIFICATION IMPLEMENTATION PLAN

7 This Modification Instruction is to be implemented by:

7.1 ARMY - Units authorized to carry out Levels 2, 3, and 4 of maintenance.

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

7.3 Associated Modification Instructions: Nil.

7.4 Modification strike plate action: Nil.

Action required by

8 The following action is to be carried out:

8.1 Units and establishments holding equipment:

8.1.1 Examine vehicle documents to see if this Modification Instruction is applicable.

8.1.2 Examine the Modification record plate to see if the Modification Instruction is embodied and where necessary Units with Level 2 Royal Electrical and Mechanical Engineers (REME) Support demand the stores required.

8.1.3 ARMY - On receipt of stores, request REME to modify equipment.

8.1.4 ARMY - Record the modification, Subject Army Equipment Support Publication (AESP) number and Army Modification Code in equipment documents.

8.1.5 RAF - Record modification details on Army Form General (AF G) 1084A and Form 4870. Units operating Station Transport Management Aid (STAMA) are also to record modification details on ADP Mechanical Transport Maintenance Section (MTMS) job Certification Sheet and to follow the procedures laid down in Air Publication (AP) 100C-08A.

8.2 Army units authorized to carry out Levels 2, 3 and 4 maintenance and RAF units:

8.2.1 ARMY - When requested by users or during overhaul of equipment on charge without REME Level 2 Support, obtain the items listed in Para 9 and carry out this modification.

8.2.2 Record completion details of Modification Instruction against appropriate entry in equipment documents.

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

8.2.3.1 RAF: MODIFICATION CODE: AFN 190.

NOTE

RAF units operating STAMA are also to complete ADP MTMS Job Certification Sheet and to follow the procedures laid down in AP 100C-08A.

8.3 All recipients of this instruction. Add particulars to AESP 2320-D-128-811 Modification Instruction Index.

Stores, tools and equipment

9 The following items are to be demanded quoting this Modification Instruction as the authority:

9.1 Stores to be demanded:

NOTE

The item numbers of Para 9 are used as reference throughout this Modification Instruction.

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)

9.2 Stores or suitable equivalent to be obtained locally:

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

Sequence of operations

10 Carry out this Modification Instruction as follows:

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

11 Basic wolf vehicles (refer to Fig 1):

11.1 Disconnect the negative lead from the battery.

11.2 Disconnect the glow plug timer located on the engine side of the bulkhead.

11.3 Remove the screw securing the existing glow plug timer from the bulkhead.

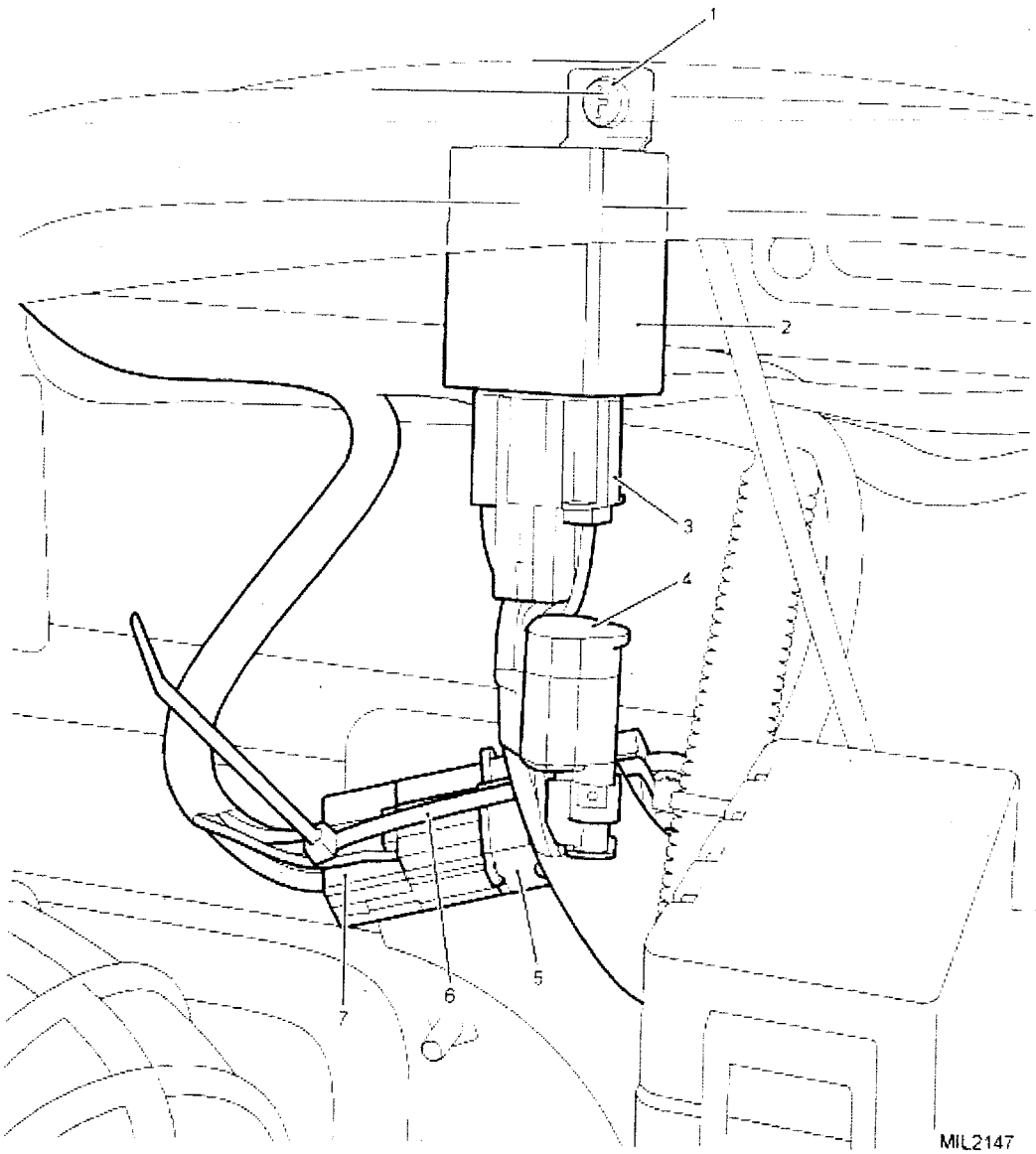
11.4 Replace with the new glow plug timer and the interface harness.

11.5 Connect the main harness socket to the interface harness plug.

11.6 Using the cable tie (Item 3) secure the plug and the socket together.

11.7 If required, any excess main or interface harness should be looped and the cable tied up to the dash wiring using a cable tie (Item 4).

11.8 Reconnect the negative lead to the battery.



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

Fig 1 Fitting the glow plug timer interface cable – basic wolf

12 Winterised/waterproofed vehicles (refer to Fig 2 and Fig 3):

12.1 Disconnect the negative lead from the battery.

12.2 Undo the four screws and remove the fuse box cover from the main harness fuse box located on the cab side of the lower dash.

12.3 Remove the mounting bracket from the new glow plug timer.

12.4 Remove the tape securing the spark suppressor to the interface harness.

Either:

12.5 Remove the two screws securing the glow plug timer mounting bracket to the inside of the fuse box.

12.6 Attach the glow plug timer and the interface harness onto the mounting bracket. Secure with two cable ties (Item 4) (refer to Fig 2).

12.7 Carefully shape the harness by hand to enable fitment into the fuse box.

12.8 Connect the glow plug timer interface harness plug to the main harness socket.

12.9 Secure the mounting bracket to the fuse box with the existing screws.

12.10 Install the spark suppressor and connecting wires into the fuse box (refer to Fig 3).

12.11 Fit the fuse cover and the gasket.

12.12 Reconnect the negative lead to the battery.

Or:

12.13 Attach the glow plug timer to the interface harness. Secure with two cable ties (Item 4).

12.14 Carefully shape the harness by hand to enable fitment into the fuse box.

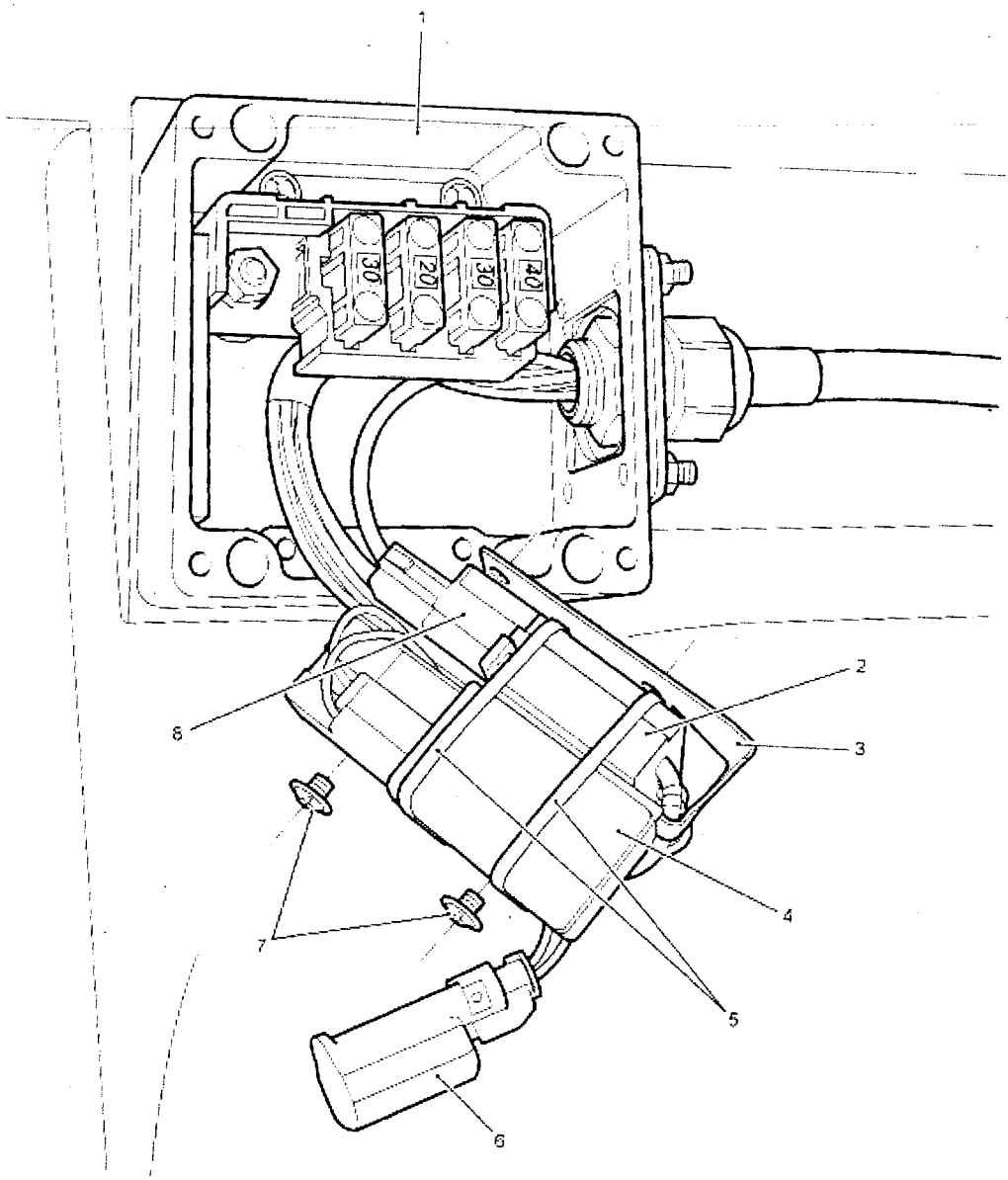
12.15 Connect the glow plug timer interface harness plug to the main harness socket.

12.16 Install the glow plug timer interface harness to the mounting bracket in the fuse box.

12.17 Install the spark suppressor and connecting wires into the fuse box (refer to Fig 3).

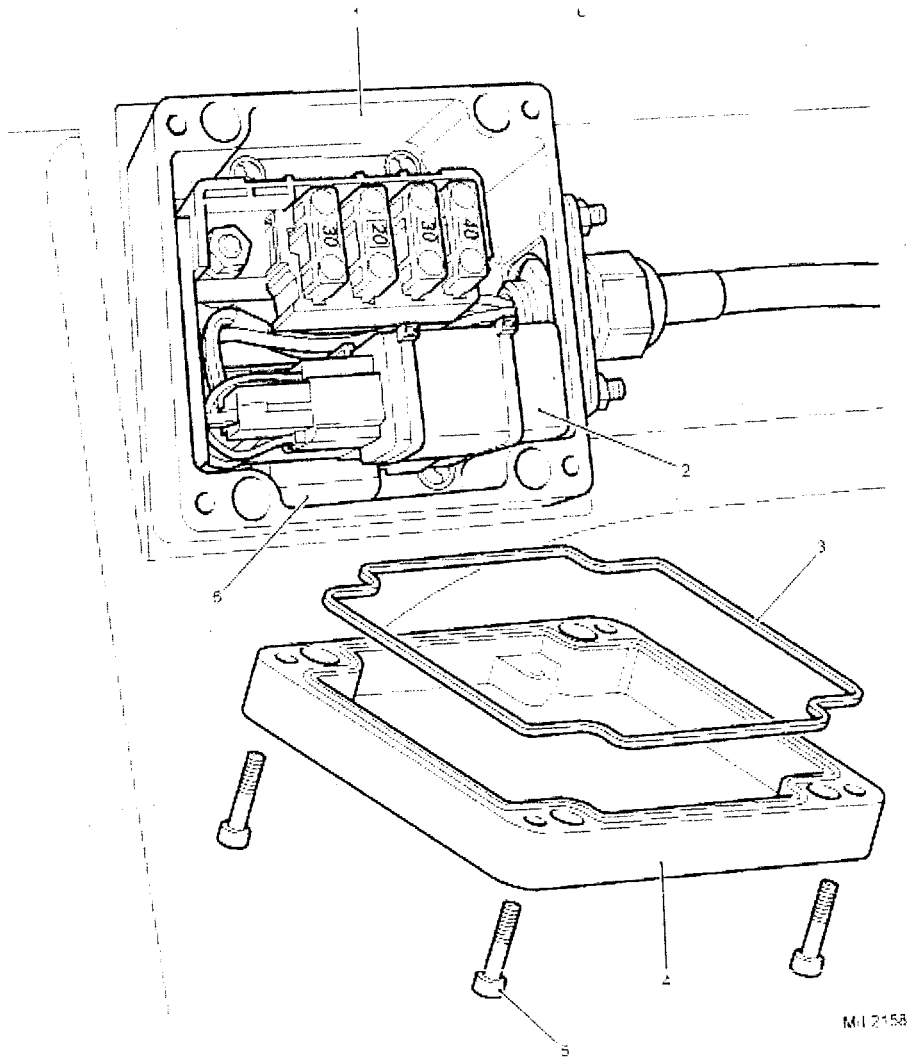
12.18 Fit the fuse cover and the gasket.

12.19 Reconnect the negative lead to the battery.



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 – winterised/waterproofed



1 Main harness fuse box
2 Glow plug timer
3 Gasket
4 Fuse box cover
5 Screws
6 Spark suppressor

Fig 3 Fitting the glow plug timer interface cable – winterised/waterproofed

13 Snatch 2 and military core vehicles (refer to Fig 4):

13.1 Disconnect the vehicle batteries (refer to Cat 522, Chap 13).

13.2 Remove the vehicle battery closest to the underseat fuse box.

13.3 Remove the plug from the existing glow plug timer.

13.4 Remove the nut securing the existing glow plug timer.

13.5 Remove the glow plug timer and the bracket.

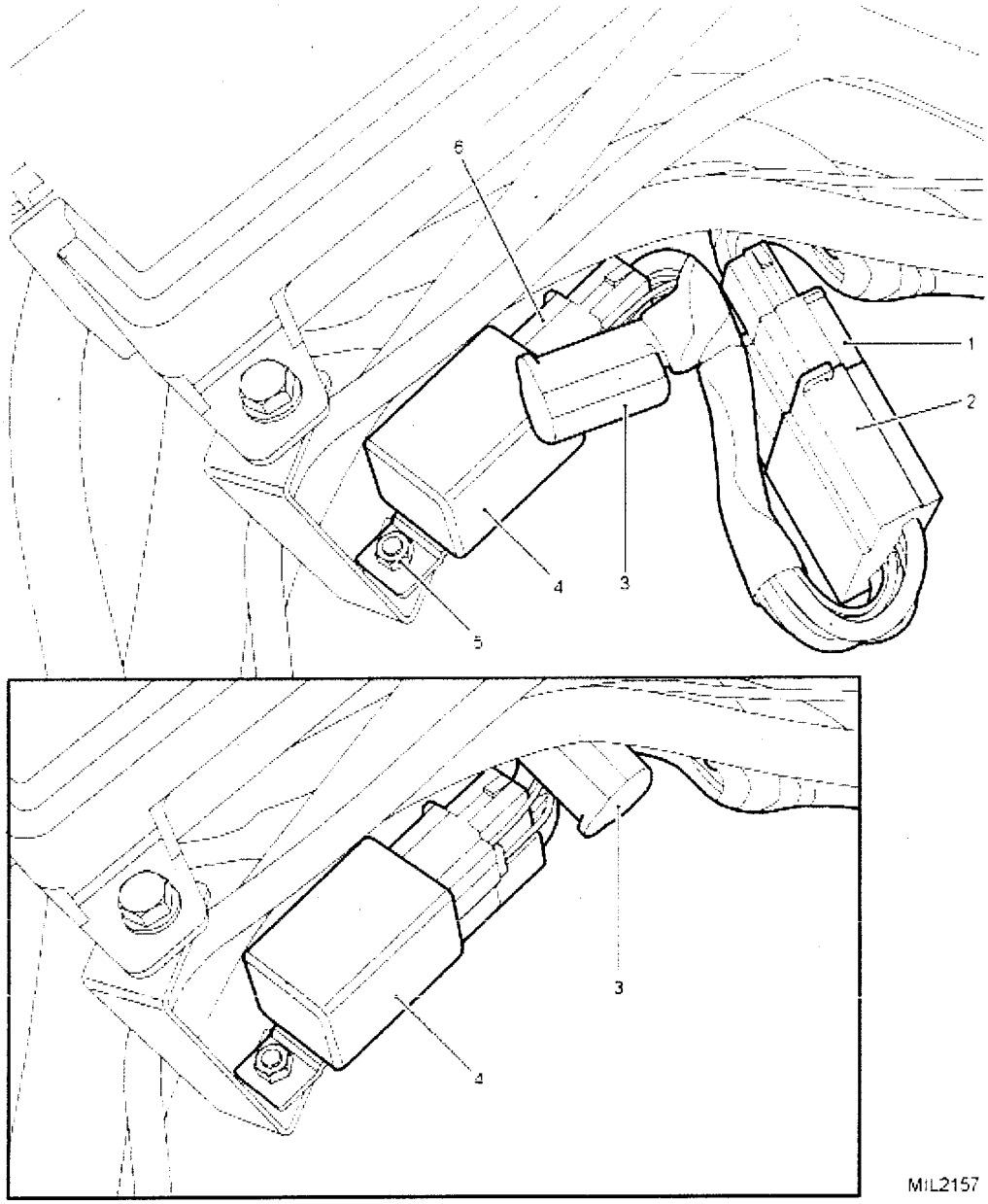
13.6 Install the new glow plug timer, bracket and interface harness.

13.7 Connect the interface harness plug to the main harness socket.

13.8 Position the glow plug timer interface harness underneath the existing harness.

13.9 Re-fit the vehicle battery.

13.10 Reconnect the vehicle batteries.



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

14 Nil.

EFFECT ON WEIGHT

15 Nil.

PUBLICATION AMENDMENTS

16 Nil.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 38

CONTENTS

Sponsor: GSV PT
Project number:
File ref:
Publication agency: GSV PT, Abbey Wood

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
1		
2		
3		

Amdt No.	Incorporated By (Signature)	Date
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6		

SUBJECT: Fitting of a new Import/Export Box Mounting Bracket.

(Approval No.)

INTRODUCTION

1 This Modification Instruction details the fitting of a new import/export bracket. On vehicles fitted with the Bowman side-mounted equipment rack, access to the import/export box cover is not possible unless the box is removed with its bracket. Access to the existing bracket mounting bolts is difficult. The new bracket allows easy access to the mounting bolts, enabling removal of the import/export box cover. The fitting of the new bracket is easier prior to installation of the side rack, therefore if possible, fit prior to the side rack.

1.1 Limitations on use of equipment. Nil.

APPLICABILITY

2 Truck Utility Medium (TUM) High Specification (HS) Vehicles only.

2.1 Fitted to equipment held by user units.

REASON FOR MODIFICATION

3 Code 4 – to improve maintainability.

PRIORITY

4 ARMY: Routine.

5 RAF: Class 3.

ESTIMATED TIME REQUIRED

6 Embodiment: 1.5 man-hours.

MODIFICATION IMPLEMENTATION PLAN

7 This Modification Instruction is to be implemented by:

7.1 ARMY - Units authorized to carry out Levels 2, 3, and 4 of maintenance.

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

7.3 Associated Modification Instructions: Nil.

7.4 Modification strike plate action: Nil.

Action required by

8 The following action is to be carried out:

8.1 Units and establishments holding equipment:

8.1.1 Examine vehicle documents to see if this Modification Instruction is applicable.

8.1.2 Examine the Modification record plate to see if the Modification Instruction is embodied and where necessary Units with Level 2 Royal Electrical and Mechanical Engineers (REME) Support demand the stores required.

8.1.3 ARMY - On receipt of stores, request REME to modify equipment.

8.1.4 ARMY - Record the modification, Subject Army Equipment Support Publication (AESP) number and Army Modification Code in equipment documents.

8.1.5 RAF - Record modification details on Army Form General (AF G) 1084A and Form 4870. Units operating Station Transport Management Aid (STAMA) are also to record modification details on ADP Mechanical Transport Maintenance Section (MTMS) job Certification Sheet and to follow the procedures laid down in Air Publication (AP) 100C-08A.

8.2 Army units authorized to carry out Levels 2, 3 and 4 maintenance and RAF units:

8.2.1 ARMY - When requested by users or during overhaul of equipment on charge without REME Level 2 Support, obtain the items listed in Para 9 and carry out this modification.

8.2.2 Record completion details of Modification Instruction against appropriate entry in equipment documents.

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

8.2.3.1 RAF: MODIFICATION CODE: AFN 191.

NOTE

RAF units operating STAMA are also to complete ADP MTMS Job Certification Sheet and to follow the procedures laid down in AP 100C-08A.

8.3 All recipients of this instruction. Add particulars to AESP 2320-D-128-811 Modification Instruction Index.

Stores, tools and equipment

NOTE

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

9 The following set is to be demanded quoting this Modification Instruction as the authority:

9.1 Stores to be demanded:

NOTE

The item numbers of Para 9 are used as reference throughout this Modification Instruction.

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
1		2590-99-479-6353	Mounting bracket	1

Sequence of operations

NOTE

It is easier to fit the new mounting bracket prior to the side rack being fitted. Where this is not possible, follow the following instructions.

10 Carry out the Modification as follows (refer to Fig 1 and Fig 2):

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

10.2 Disconnect the vehicle batteries.

10.3 Remove the import/export box mounting bracket-fixing bolts securing the bracket to the vehicles wheel box, using an open-ended spanner on the bolt heads. Access to these bolts between the import/export box and the bracket, whilst difficult, is possible.

10.4 Remove the four screws securing the cover to the import/export box.

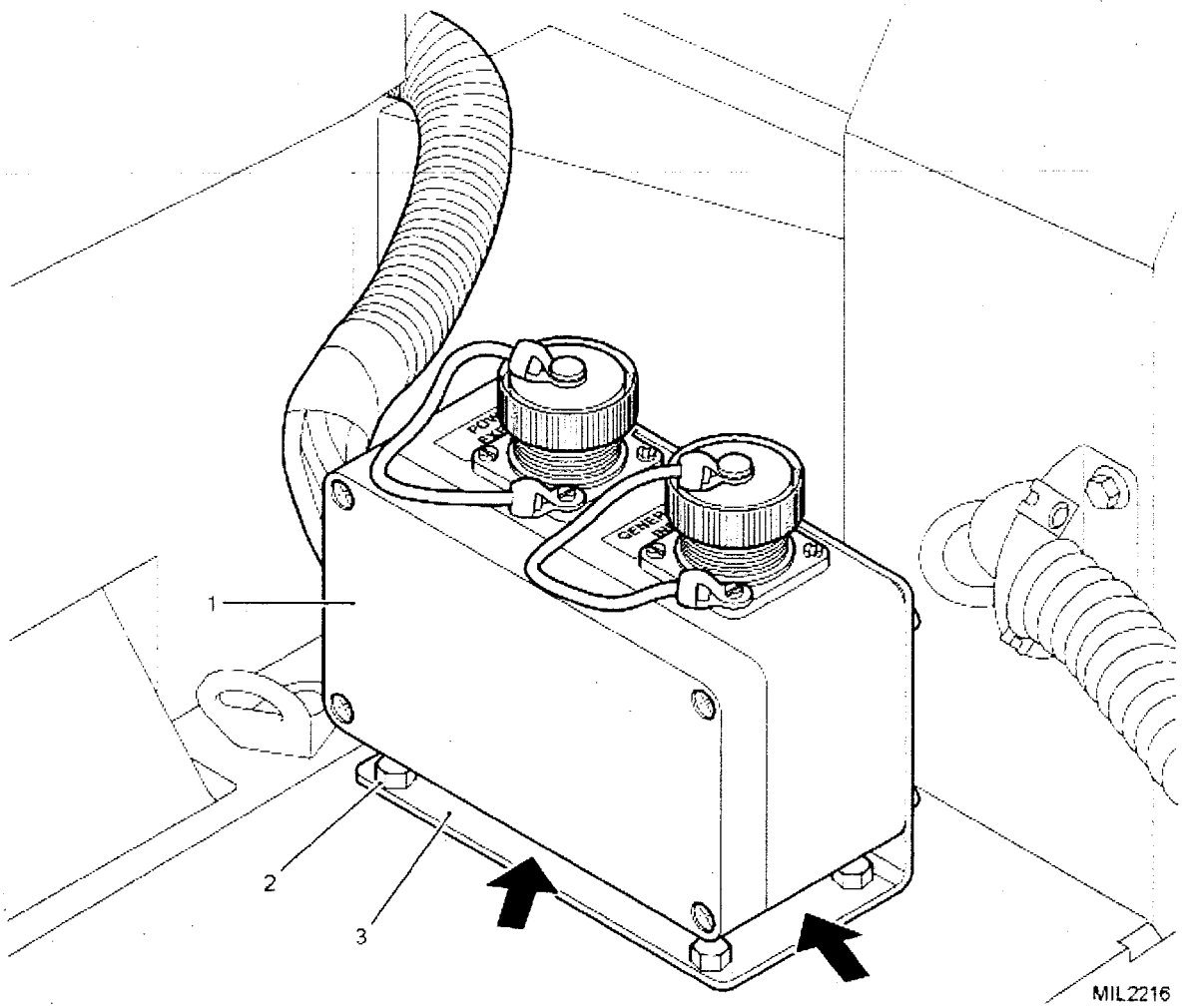
10.5 Remove the cover.

10.6 Remove the four screws and washers securing the import/export box to the mounting bracket. Discard the bracket.

10.7 Using the existing screws and washers, secure the new mounting bracket (Item 1) to the import/export box.

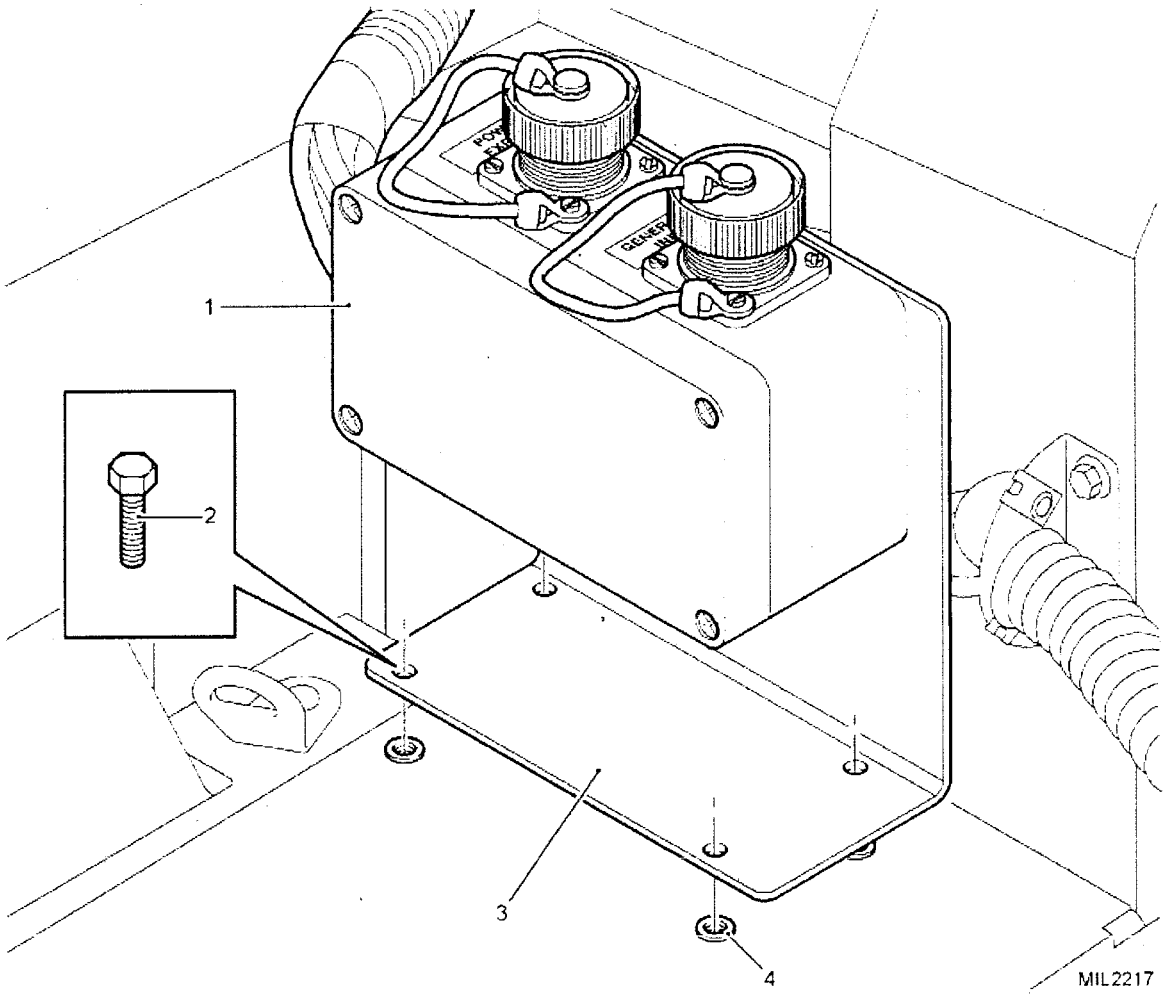
10.8 Re-fit the cover using the four screws.

10.9 Install the import/export box and the mounting bracket to the vehicle using the existing bolts and rivnuts.



1 Import/export box
2 Bolt
3 Bracket

Fig 1 Removal of the import/export box mounting bracket



1	Import/export box	3	Bracket
2	Bolt	4	Rivnut

Fig 2 Fitting the import/export box mounting bracket

TESTING AFTER EMBODIMENT

11 Nil.

EFFECT ON WEIGHT

12 Negligible.

PUBLICATION AMENDMENTS

13 Nil.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 39

SUBJECT: TUM (HS) & TUL (HS) REMUS 1 - Safety and Legislative Compliance Programme.

(Approval No. LSTP 12-6690)

CANCELLATION

INTRODUCTION

1 Modification Instruction No. 39 dated Feb 13 (Amdt 1)/May 11 is hereby cancelled. The TUM (HS) & TUL (HS) REMUS 1 - safety and legislative compliance programme is now no longer required.

ACTION

2 File this Page 1/2 in place of Modification Instruction No. 39 dated Feb 13 (Amdt 1)/May 11, all pages of which are to be destroyed.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS, AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 40

(Completely revised)

CONTENTS

Sponsor: SLV PT
Project number:
File ref:
Publication agency: SLV PT, Abbey Wood

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
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SUBJECT: Fitting of additional lashing eyes.

(Approval No. LSTP 12-6993)

INTRODUCTION

1 This Modification Instruction details the fitting of additional lashing eyes to the front bumper and to the rear chassis rail. This Modification Instruction is only applicable to units considering the transport of the equipment as internal load by air.

1.1 Limitations on use of equipment. Nil.

APPLICABILITY

2 TUM High Specification (HS) Vehicles only with the following Asset codes: RB5006 3100; RB5007 3100; NB5008 3100; NB5008 3160; NB5009 3100; NB5009 3160; NB5009 3170; NB5010 3100; NB5010 3101; NB5010 3160; NB5010 3161; NB5010 3170; NB5010 3171; NB5010 3199; NB5010 8100; NB5010 8160; NB5010 8170; NB5017 3100; NB5017 3160; NB5017 3190; NB5017 8100; NB5020 3100; NB5020 3101; NB5020 3102; NB5020 3103; NB5020 3104; NB5020 3105; NB5020 3106; NB5020 3107; NB5020 3160; NB5020 3161; NB5020 3170; NB5020 3180; NB5020 3190; NB5020 8100; NB5020 8101; NB5020 8102; NB5020 8103; NB5020 8104; NB5020 8160; NB5020 8170; NB5020 8180; NB5020 8190; NB5021 3100; NB5021 3160; NB5021 3170; NB5021 3180; NB5021 3190; NB5031 3100; B5031 3160NB5031 3170; NB5031 3180; NB5031 8100; NB5031 8160; NB5035 3100; RB5042 3100.

REASON FOR MODIFICATION

3 Code 2 - To improve operational performance.

PRIORITY

4 ARMY: Routine.

5 RAF: Class 3.

ESTIMATED TIME REQUIRED

6 Embodiment: 6.0 man-hours.

MODIFICATION IMPLEMENTATION PLAN

7 This Modification Instruction is to be implemented by:

7.1 ARMY - Units authorized to carry out Levels 2, 3, and 4 of maintenance.

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

7.3 Associated Modification Instructions: Nil.

7.4 Modification strike plate action: Nil.

Action required by

8 The following action is to be carried out:

8.1 Units and establishments holding equipment:

8.1.1 Examine vehicle documents to see if this Modification Instruction is applicable.

8.1.2 Examine the Modification record plate to see if the Modification Instruction is embodied and where necessary Units with Level 2 Royal Electrical and Mechanical Engineers (REME) Support demand the stores required.

8.1.3 ARMY - On receipt of stores, request REME to modify equipment.

8.1.4 ARMY - Record the modification, subject and the Army Equipment Support Publication (AESP) number in equipment documents.

8.1.5 RAF - Record modification details on Army Form General (AF G) 1084A and Form 4870. Units operating Station Transport Management Aid (STAMA) are also to record modification details on ADP Mechanical Transport Maintenance Section (MTMS) job Certification Sheet and to follow the procedures laid down in Air Publication (AP) 100C-08A.

8.2 Army units authorized to carry out Levels 2, 3 and 4 maintenance and RAF units:

8.2.1 ARMY - When requested by users or during overhaul of equipment on charge without REME Level 2 Support, obtain the items listed in Para 9 and carry out this modification.

8.2.2 Record completion details of Modification Instruction against appropriate entry in equipment documents.

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

8.2.3.1 RAF: MODIFICATION CODE: AFN 194.

NOTE

RAF units operating STAMA are also to complete ADP MTMS Job Certification Sheet and to follow the procedures laid down in AP 100C-08A.

8.3 All recipients of this instruction. Add particulars to AESP 2320-D-128-811 Modification Instruction Index.

Stores, tools and equipment

NOTE

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

9 The following set is to be demanded quoting this Modification Instruction as the authority:

9.1 Stores to be demanded:

NOTE

The item numbers of Para 9 are used as reference throughout this Modification Instruction.

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
1	7XD	5340-99-968-6381	Lashing Eye (Bumper front)	2
2	G1	5310-99-122-6476	Washer, plain	4
3	G1	5310-99-470-6553	Washer, plain	4
4	G1	5310-99-122-5497	Nut, Nyloc	4
5	G1	5306-99-122-2772	Bolt, M10 x 35	4
6	7RU	4030-99-780-8675	JATE Shackles	2
	7XD	2510-99-990-0538	Kit, Chassis Upgrade Comprising:	1
7		NP	Plate, Shackle	(4)
8		NP	Tube, Shackle	(2)

Sequence of operations

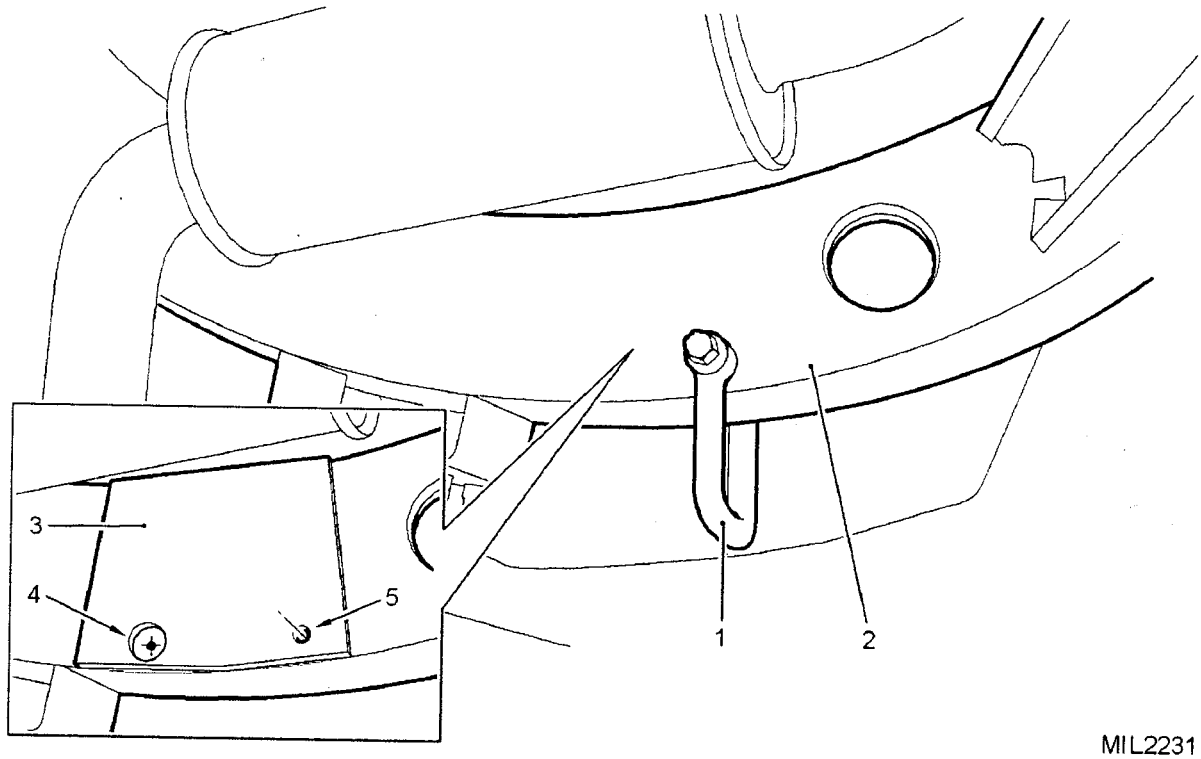
10 Carry out this Modification Instruction as follows:

10.1 Refer to Fig 1. To remove the existing rear shackles proceed as follows:

10.1.1 Position the vehicle on level ground, apply the handbrake and remove the ignition keys.

10.1.2 Disconnect the vehicle batteries.

10.1.3 Remove the bolts securing the existing shackles to the chassis rails.



1 Shackle
2 Chassis Rail
3 Reinforcement Plate
4 Hole for additional shackle
5 Hole for existing shackle

Fig 1 Rear shackle and reinforcement plate

10.2 Refer to Fig 1. To drill the rear chassis rails proceed as follows:

10.2.1 Align the smaller hole in the reinforcement plate (Item 7) with the existing shackle hole in the chassis rail.

10.2.2 Mark the position of the large hole in the reinforcement plate (Item 7) on the chassis rail.

10.2.3 Drill 20 mm dia holes in the chassis rail.

10.2.4 Repeat Para 10.2.1 to 10.2.3 for the other chassis rail.

NOTE

Ensure the holes, welds and reinforcement plates are suitably cleaned, primed and painted to protect against corrosion.

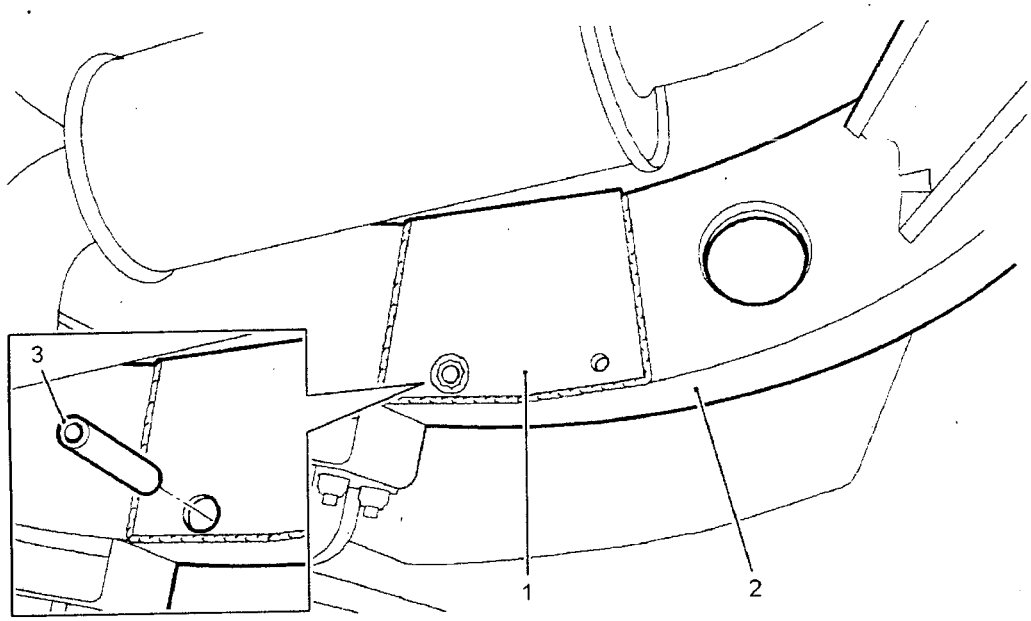
10.3 Refer to Fig 2. To weld the reinforcement plates and tubes proceed as follows:

10.3.1 Clamp the reinforcement plates (Item 7) in position on either side of the chassis rail.

WARNING

THE CHASSIS HARNESS IS LOCATED IN THE RIGHT HAND CHASSIS SIDE RAIL. TO AVOID DAMAGE TO THE HARNESS ALWAYS MAKE SURE IT IS MOVED SAFELY AWAY FROM THE AREA OF DRILLING, WELDING/HOT METAL.

10.3.2 Weld the plates into position.



MIL2232

1 Reinforcement plate
2 Chassis rail
3 Tube

Fig 2 Welding reinforcement plates and tubes

10.3.3 Insert the tube (Item 8) through the reinforcement plates (Item 7) into the chassis rail.

10.3.4 Weld the tube (Item 8) into position.

10.3.5 Repeat steps 10.3.1 to 10.3.4 for the other reinforcement plate.

NOTE

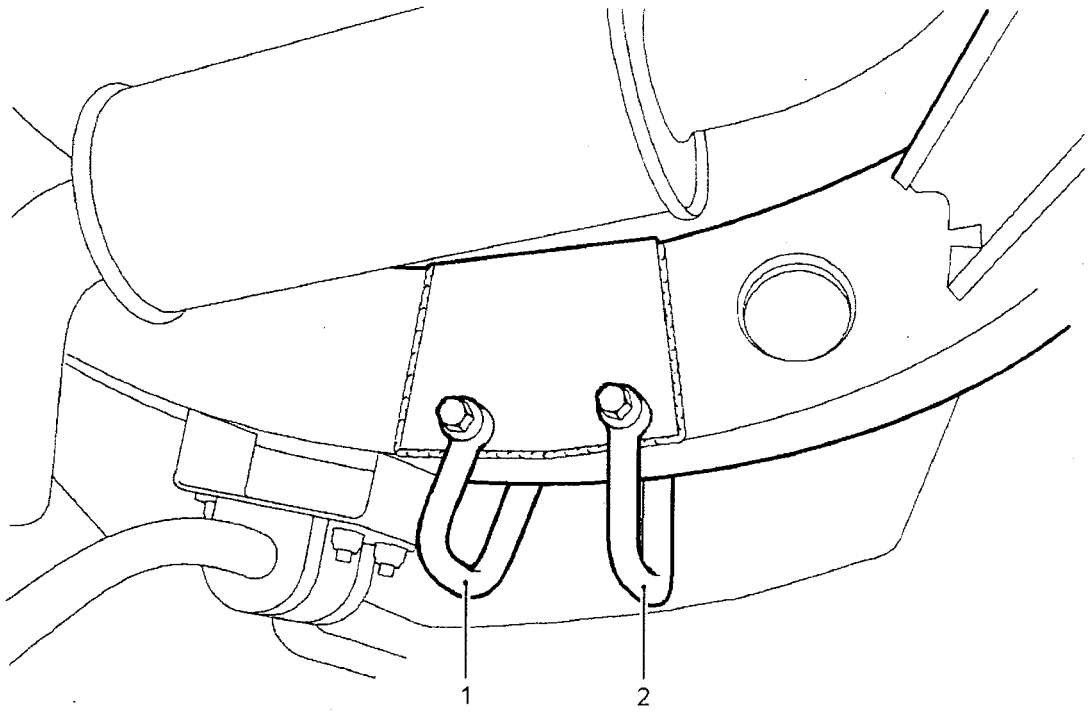
Ensure any holes drilled are suitably primed and painted to protect against corrosion. When paint is dry, the area of chassis affected should be treated internally and externally with the relevant Dinitrol Wax, a rust-proofing compound.

10.4 Refer to Fig 3. To Install the shackles proceed as follows:

10.4.1 Insert the shackle bolt through the shackle, reinforcement plates, tube and chassis.

10.4.2 Tighten the shackle bolt until the shackle can just be moved by hand.

10.4.3 Repeat for the other three shackles.

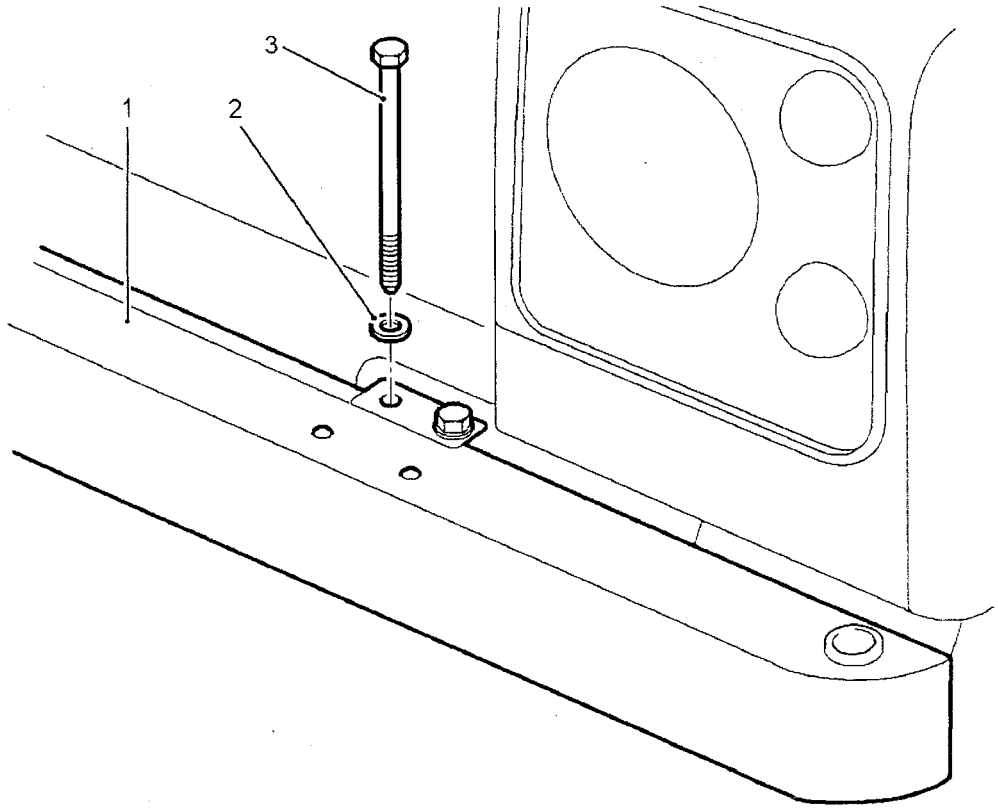


1 New shackle 2 Existing shackle

Fig 3 Rear shackle assembly

10.5 Refer to Fig 4 and Fig 5. To install the front lashing eyes proceed as follows:

10.5.1 Remove the two long bolts and washers that secure the bumper to the chassis.



MIL2229

1 Front bumper
2 Washer
3 Bolt

Fig 4 Front bumper bolt removal

10.5.2 Install the front lashing eye (Item 1) using the existing holes in the front bumper.

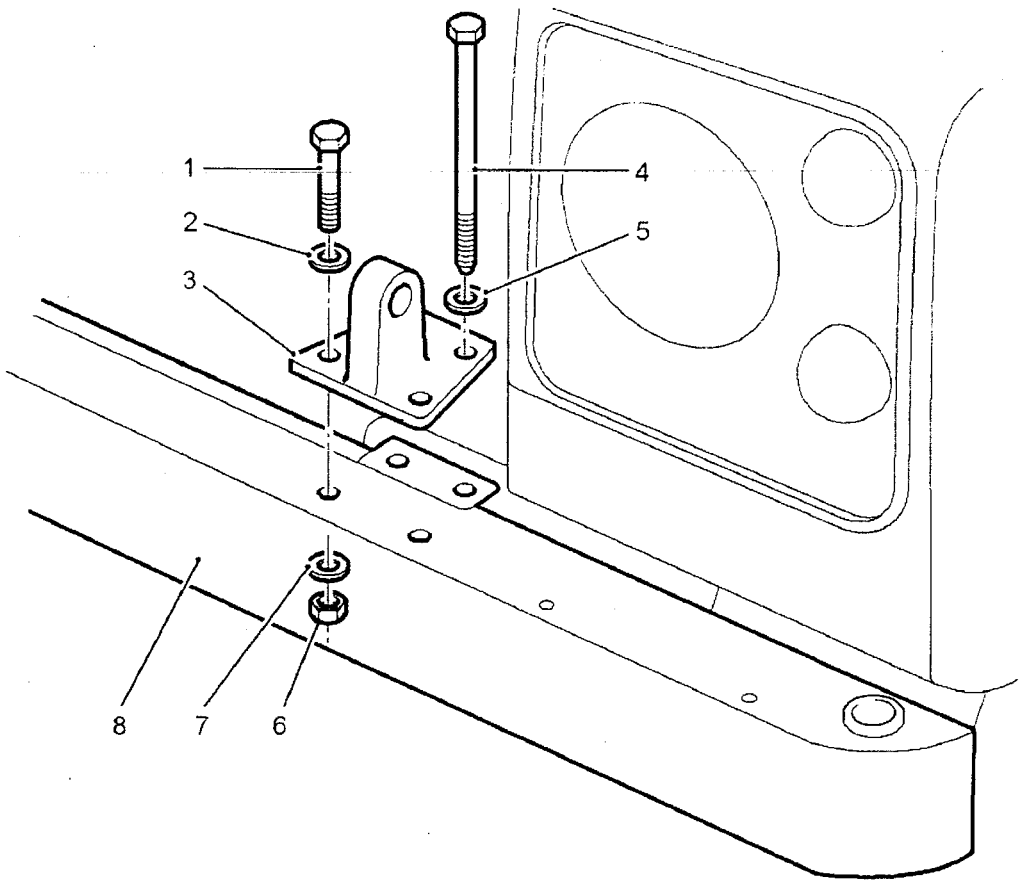
10.5.3 Re-fit the two long bolts and washers to secure the lashing eye and front bumper to the chassis.

10.5.4 Install the two bolts (Item 5), plain washer (Item 3), plain washer (Item 2) and nyloc nuts (Item 4) to secure the lashing eye to the front bumper.

10.5.5 Repeat steps 10.5.1 to 10.5.4 for the other front lashing eye.

10.5.6 Torque the bolts to 45 Nm.

10.5.7 Reconnect the vehicle batteries.



MIL2230

1	Bolt	5	Washer
2	Washer	6	Nyloc nut
3	Front lashing eye	7	Washer
4	Long bolt	8	Bumper

Fig 5 Installing the front lashing eyes

TESTING AFTER EMBODIMENT

11 Nil.

EFFECT ON WEIGHT

12 4 Kg.

PUBLICATION AMENDMENTS

13 Nil.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS, AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 41

CONTENTS

Sponsor: OSVP
Project number:
File ref:

AMENDMENT RECORD

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SUBJECT: Fitting of Battery Negative Isolator Switch. (Approval No. LSTP12-6694)

INTRODUCTION

1 This Modification Instruction details the fitting of a Battery Negative Isolator Switch.

1.1 Limitations on use of equipment. Nil.

APPLICABILITY

2 Truck Utility Medium (TUM) High Specification (HS), Truck Utility Light (TUL) (HS) Fitted For Radio (FFR) and Winterised/Waterproofed (W/W) and Battlefield Ambulance Vehicles with the following applicable Asset Codes:

NB 1047 3100; NB 1047 3101; NB 1047 3102; NB 1047 3160; NB 1047 3161; NB 1047 3199; NB 1047 8100; NB 1047 8160; NB 1048 3100; NB 1048 3160; NB 1049 3100; NB1049 3101; NB 1049 3102; NB 1049 3103; NB 1049 3104; NB 1049 3160; NB 1049 3161; NB 1049 3162; RB 4224 3100: NB 4225 3100; NB 4225 8100; NB 4226 3100; NB 4228 3100; NB 4229 3100; NB 4232 3100; RB 5006 3100; NB 5007 3100; NB 5008 3100; NB 5008 3160; NB 5009 3100; NB 5009 3160; NB 5009 3170; NB 5010 3100; NB 5010 3101; NB 5010 3160; NB 5010 3161; NB 5010 3170; NB 5010 3171; NB 5010 3199; NB 5010 8100; NB 5010 8160; NB 5010 8170; NB 5017 3100; NB 5017 3160; NB 5017 3190; NB 5017 8100; NB 5020 3100; NB 5020 3101; NB 5020 3102; NB 5020 3103; NB 5050 3104; NB 5020 3105; NB 5020 3106; NB 5020 3160; NB 5020 3161; NB 5020 3170; NB 5020 3180; NB 5020 3190; NB 5020 8100; NB 5020 8101; NB 5020 8102; NB 5020 8103; NB 5020 8104; NB 5020 8160; NB 5020 8170; NB 5020 8180; NB 5020 8190; NB 5021 3100; NB 5021 3160; NB 5021 3170; NB 5021 3180; NB 5021 3190; NB 5022 3100; NB 5031 3100; NB 5031 3160; NB 5031 3170; NB 5031 3180; NB 5031 8100; NB 5031 8160; NB 5035 3100; NB 5040 3100; NB 5041 3100; NB 5041 3101; RB 5042 3100.

NOTE

Check that Modification Instruction No. 17 Battery Retention Strap and Absorptive Glass Matt (AGM) batteries have been fitted to the vehicle.

DO NOT EMBODY MODIFICATION UNTIL ALL PARTS AVAILABLE & APPROVAL IS GIVEN BY SPONSOR.

REASON FOR MODIFICATION

3 Code 1 – Improved Safety (Vehicles Not VOR).

PRIORITY

4 ARMY: Routine.

5 RAF: Class 3.

ESTIMATED TIME REQUIRED

6 Embodiment: 2.5 man-hours.

MODIFICATION IMPLEMENTATION PLAN

7 This Modification Instruction is to be implemented by:

7.1 ARMY - Units authorized to carry out Levels 2, 3, and 4 of maintenance.

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

7.3 Associated Modification Instructions: Nil.

7.4 Modification strike plate action: Nil.

Action required by

8 The following action is to be carried out:

8.1 Units and establishments holding equipment:

8.1.1 Examine Joint Asset Management Equipment Solution (JAMES)/Vehicle documents to see if this Modification Instruction is applicable.

8.1.2 Examine the Modification record plate to see if the Modification Instruction is embodied and where necessary units with Level 2 Royal Electrical and Mechanical Engineers (REME) Support demand the stores required.

8.1.3 Upon the embodiment of equipment, units are to record the Modification subject and Army Equipment Support Publication (AESP) number in JAMES/Equipment documents.

8.1.4 RAF – Record modification details on Army Form General (AF G) 1084A and Form 4870. Units operating Station Transport Management Aid (STAMA) are also to record modification details on ADP Mechanical Transport Maintenance Section (MTMS) job Certification Sheet and to follow the procedures laid down in Air Publication (AP) 100C - 08A.

8.2 Army units authorized to carry out Levels 2, 3 and 4 maintenance and RAF units:

8.2.1 ARMY - When requested by users or during overhaul of equipment on charge without REME Level 2 Support, obtain the items listed in Para 9 and carry out this Modification Instruction.

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

8.2.3 Complete AF G1084A when reporting completion of the Modification Instruction to FORWARD (RAF) using the following code:

8.2.3.1 RAF: MODIFICATION CODE: AFN 195.

NOTE

RAF units operating STAMA are also to complete ADP MTS Job Certification Sheet and to follow the procedures laid down in AP 100C-08A.

8.3 All recipients of this instruction. Add particulars to AESP 2320-D-128-811 Modification Instruction Index.

Stores, tools and equipment

9 The following set is to be demanded quoting this Modification Instruction as the authority:

9.1 Stores to be demanded:

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
	7XD	5999-99-905-0844	Battery Isolator Switch Kit Comprising:	1
1	7XD	LR019311	Isolator switch	(1)
2	7XD	XH12-14301-BA	Cable, battery - negative	(1)
3	7XD	AH12-24B659-AAA	Cable, switch to transfer box earth	(1)
4	7XD	5305-99-260-8976	Screw, M5	(4)
5	7XD	5310-99-977-1102	Washer, spring	(4)
6	7XD	5310-99-122-5294	Nut, plain - M5 (Not used)	(4)
7		NSS	Spacer tubes	(4)
8		NSS	Nut, nylon - M5	(4)
		2590-99-929-8071	Auxiliary Earth Terminal Kit Comprising:	1
9		NSS	Auxiliary earth lead, terminal to isolation switch	(1)
10		NSS	Bolt, M8 x 25	(1)
11		NSS	Star washer, M8	(1)
12		NSS	Nut, plain - M8 stainless steel	(2)
13		NSS	Warning Label	(1)

9.2 Special tools and test equipment required:

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
14	F1A	3460-99-137-4928	Arbour, hex shank 11 mm AF - 6.5 mm pilot drill	(1)
15	HTC12	3455-99-137-4940	Blade - hole saw 54 mm	(1)

Sequence of operations

NOTE

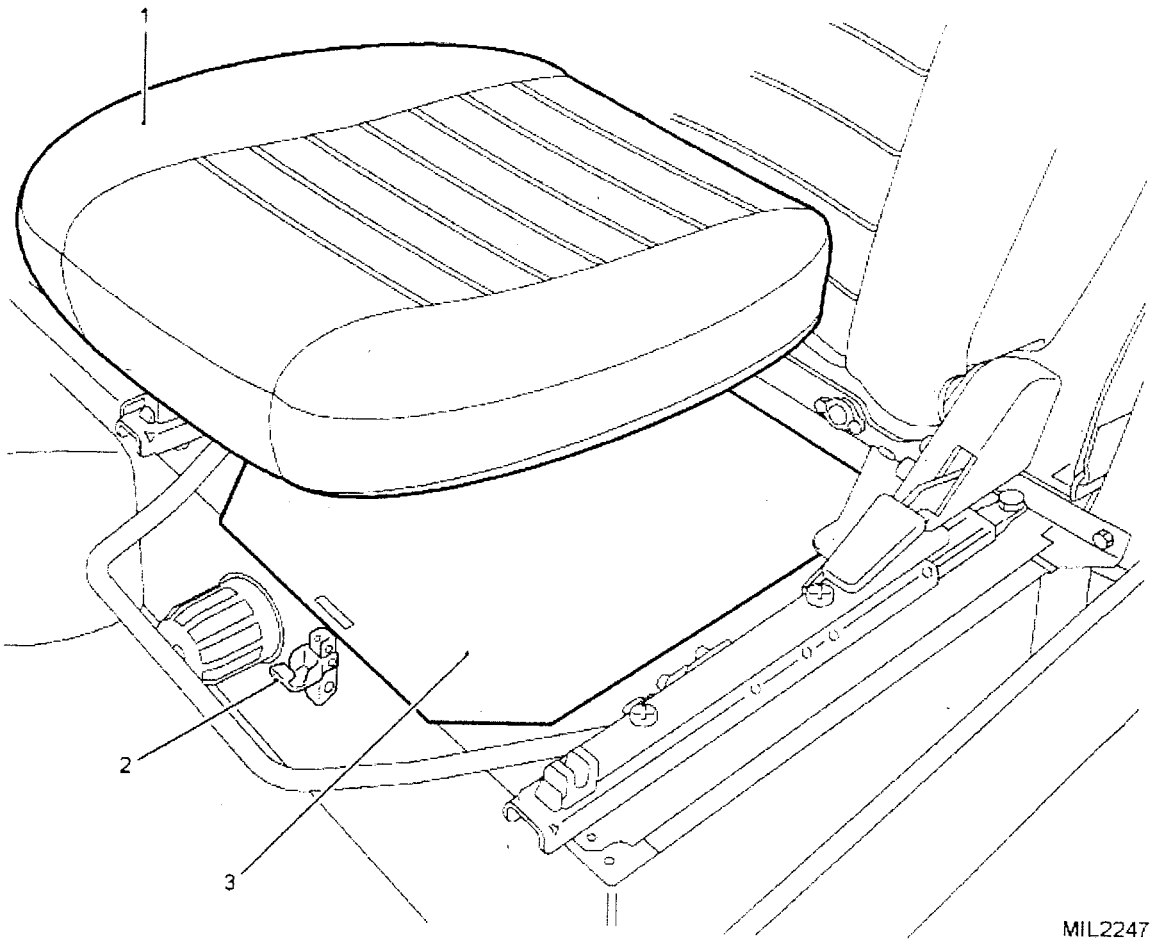
The item numbers in Para 9 are used as references throughout this Modification Instruction.

10 Carry out the Modification as follows:

10.1 Disconnecting the battery cables and earth cables.

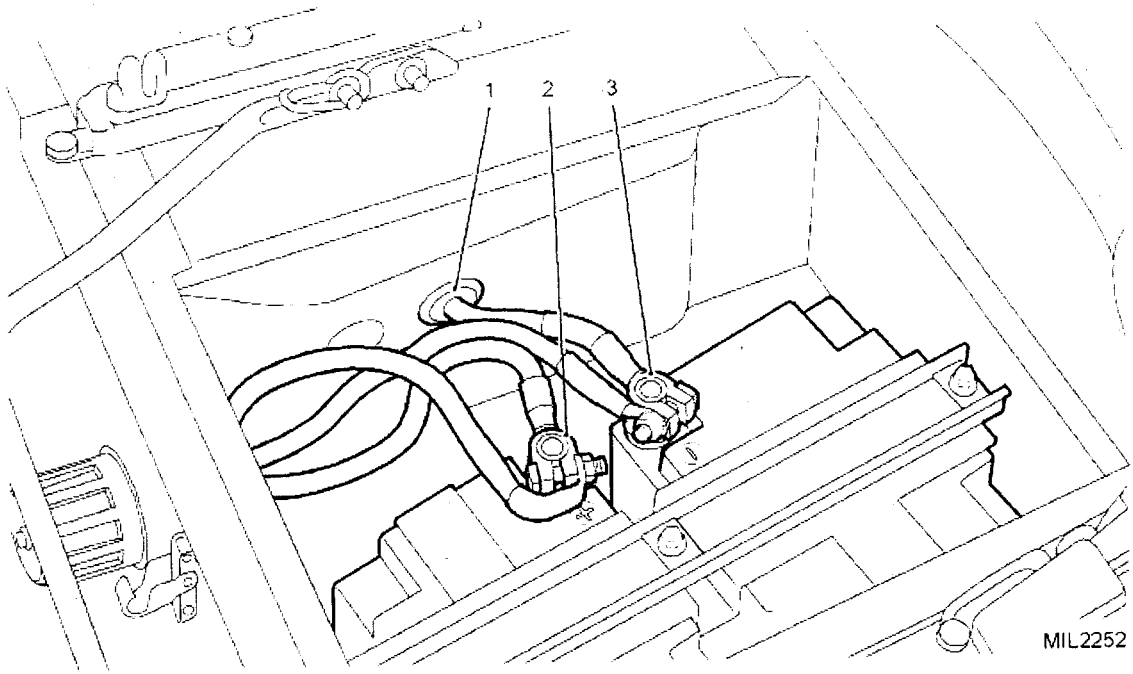
10.1.1 Lift off the left hand seat cushion (Refer to Fig 1).

10.1.2 Release the over-centre catch and remove the battery box cover.



1 Seat cushion
2 Over-centre catch
3 Battery box cover

Fig 1 Seat cushion and battery box cover



1 Grommet
2 Battery positive lead
3 Battery negative lead

Fig 2 Battery disconnection

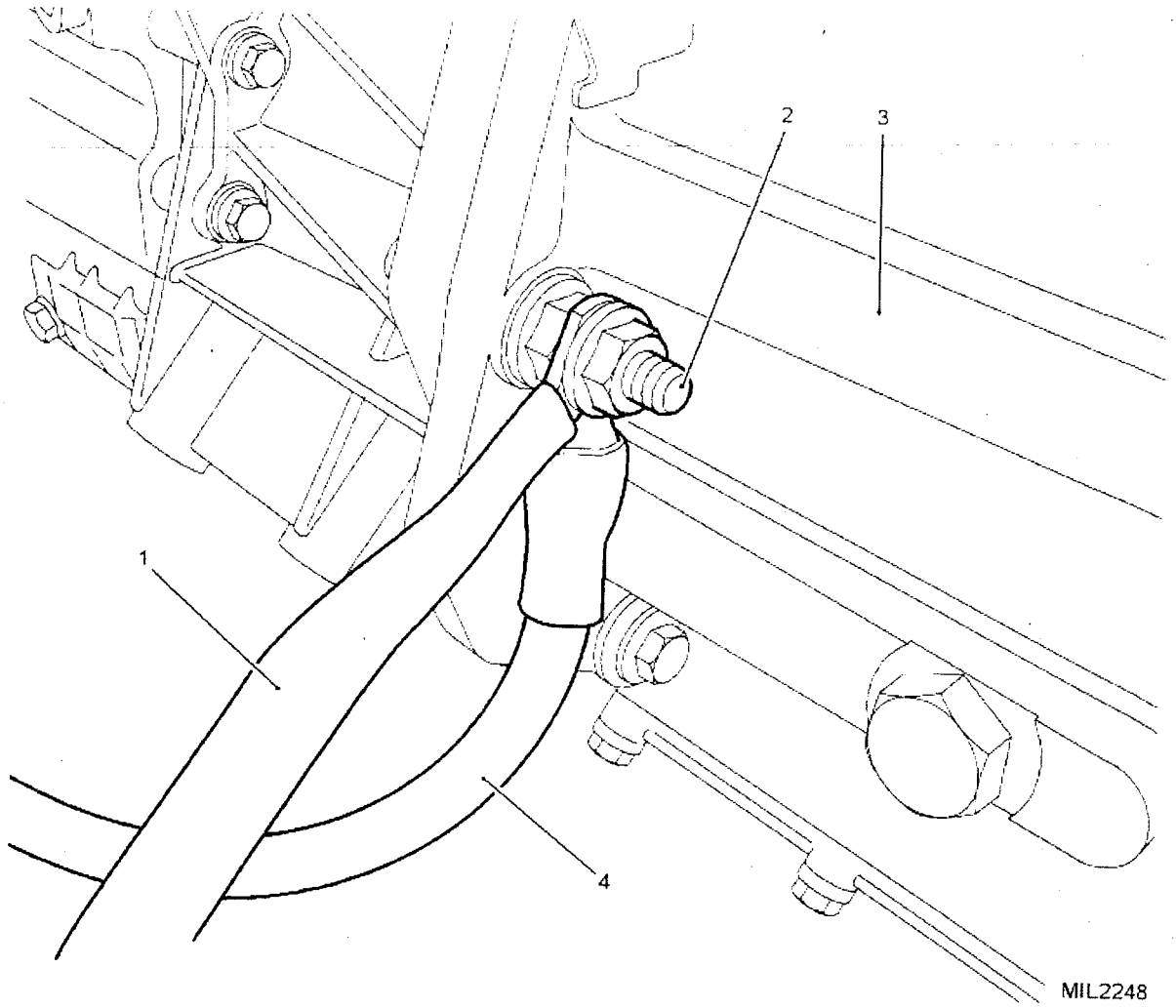
10.1.3 Disconnect the battery cable negative from the battery negative terminal.

10.1.4 Disconnect the battery cable positive from the battery positive terminal.

10.1.5 Undo the battery clamp bolts and remove the battery clamp.

10.1.6 Remove the vehicle batteries from the battery box.

10.1.7 Release the grommet on the battery negative cable from the hole in the battery box.

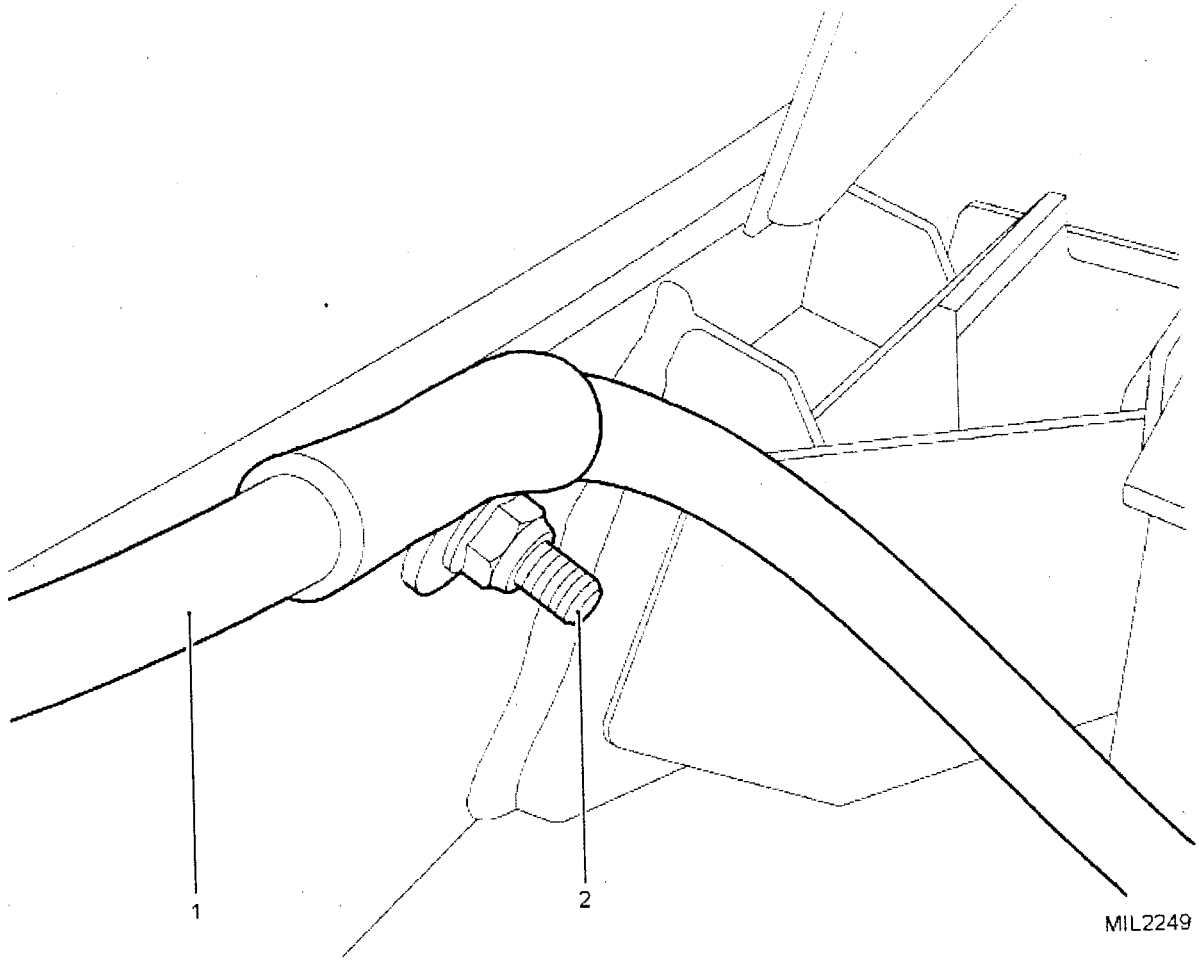


1 AH12-13N850-AAA cable
2 Transfer box earth point
3 Transfer box
4 Battery cable to earth

Fig 3 Disconnecting transfer box earth cable

10.1.8 Disconnect the existing battery to the earth cable from the transfer box. (Refer to Fig 3).

10.1.9 Disconnect the existing battery cable to the earth from the chassis earth point. (Refer to Fig 4).



1 Battery negative/transfer box earth cable 2 Chassis earth point

Fig 4 Disconnecting battery negative earth cable

10.2 Installing the auxiliary earth terminal.

10.2.1 Mark the position of the hole for the earth terminal on the inside right hand face of the seat base. (Refer to Fig 5).

WARNINGS

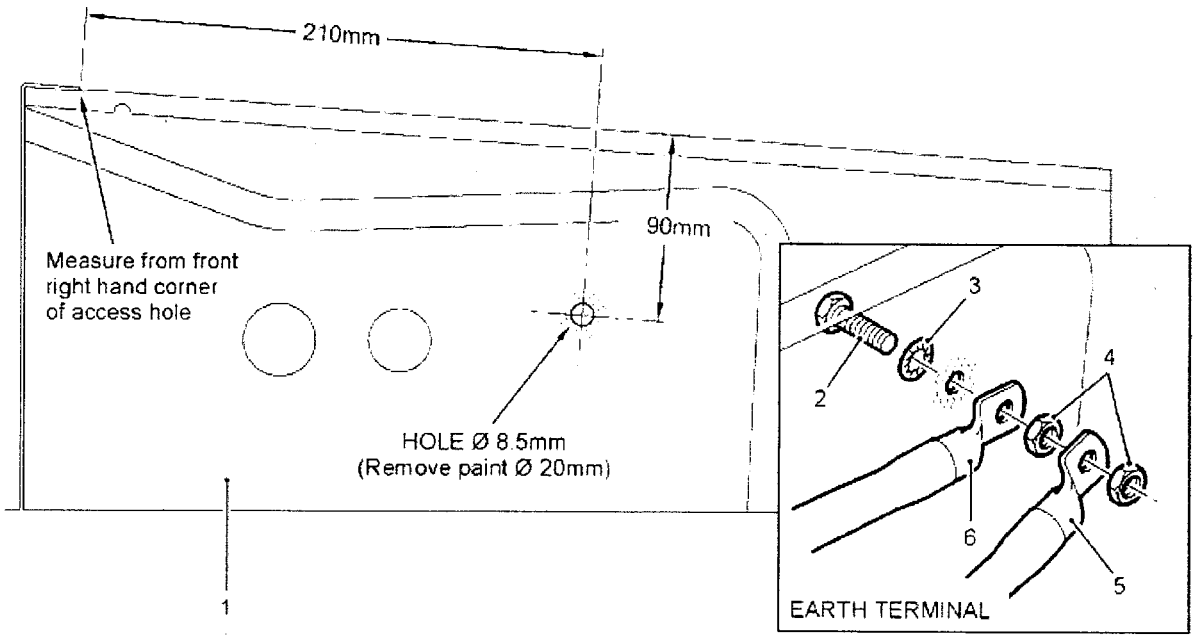
(1) HEALTH AND SAFETY. ENSURE APPROPRIATE CLOTHING AND GOGGLES ARE WORN WHEN DRILLING.

(2) ENSURE THERE IS NOTHING THAT WILL BE DAMAGED BY THE DRILL PASSING THROUGH THE SEAT BASE.

10.2.2 Drill an 8.5 mm dia hole and deburr.

10.2.3 Remove the paint for a dia of 20 mm around the hole on the inside of the seat base to ensure good earth contact.

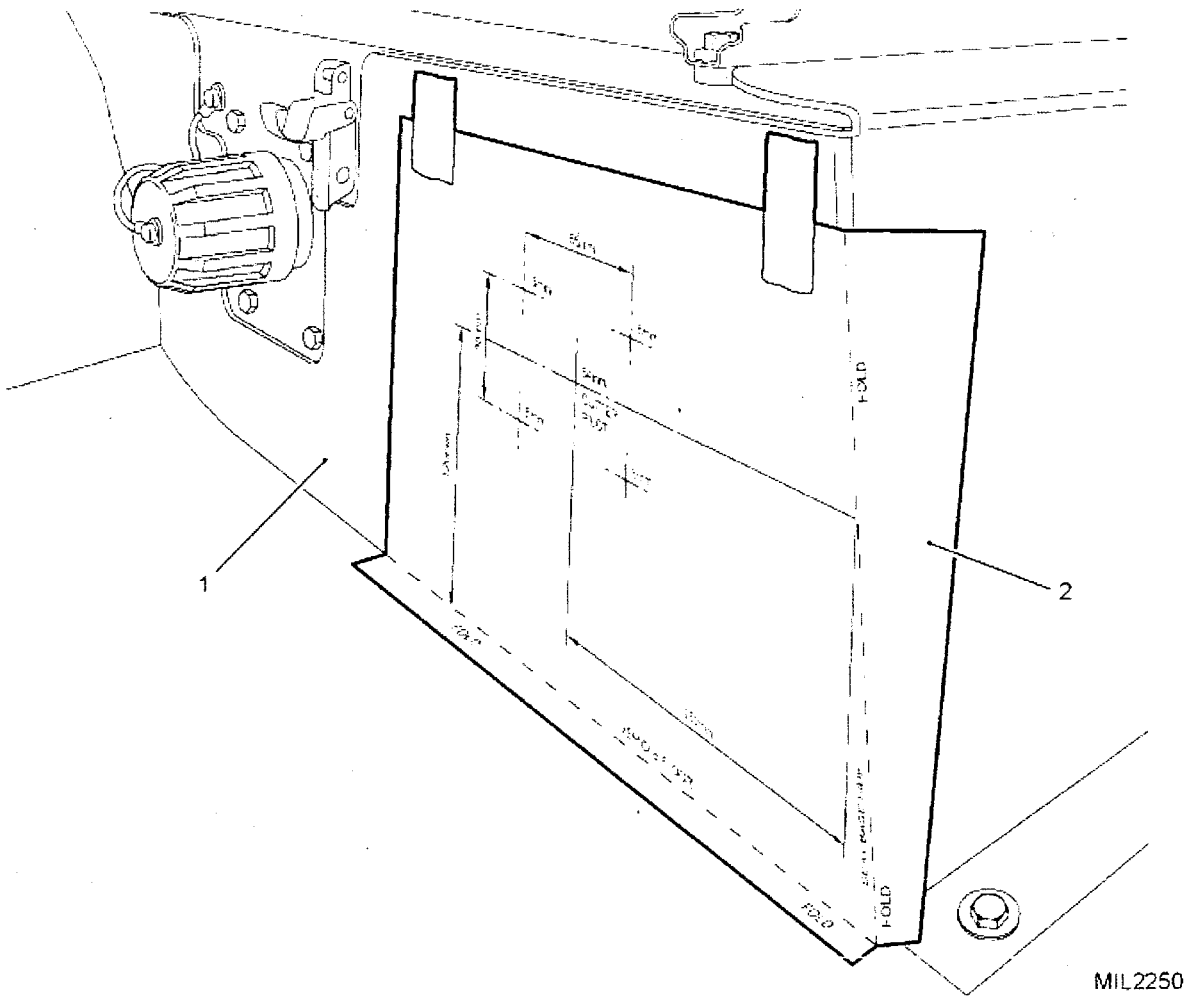
10.2.4 Install the bolt (Item 10) with the star washer (Item 11) into the hole from under the vehicle. From inside the vehicle, fit the auxiliary earth lead (Item 9) to the bolt and secure with a nut (Item 12). Tighten the nut to a torque of 25 Nm (18.5 lbf ft). If fitted, attach the inter-vehicle start socket earth cable on top of the nut on the auxiliary earth terminal and secure with a second nut (Item 12) (Refer to Fig 5). Tighten the nut to a torque of 25 Nm (18.5 lbf ft). If an inter-vehicle start socket earth cable is not fitted, lock the second nut against the first nut.



1 Inside seat base, right hand face
2 Bolt, M8 x 25
3 Star washer
4 Nuts
5 Inter vehicle start socket earth cable
6 Auxiliary earth lead

Fig 5 Installing auxiliary earth terminal

10.3 Drilling the seat base (Refer to Fig 6).



1 Seat base 2 Template

Fig 6 Drilling the seat base

10.3.1 Align the actual size template (supplied as an appendix at the end of this Modification Instruction - make sure the template is NOT scaled when printed) with the seat base.

NOTE

It may be necessary to drill through the seat base trim on W/W or REMUS vehicles and then enlarge the hole in the trim to 14 mm to facilitate the head of the fixing screws.

WARNINGS

(3) HEALTH AND SAFETY. ENSURE APPROPRIATE CLOTHING AND GOGGLES ARE WORN WHEN DRILLING.

(4) ENSURE THERE IS NOTHING THAT WILL BE DAMAGED BY THE DRILL PASSING THROUGH THE SEAT BASE.

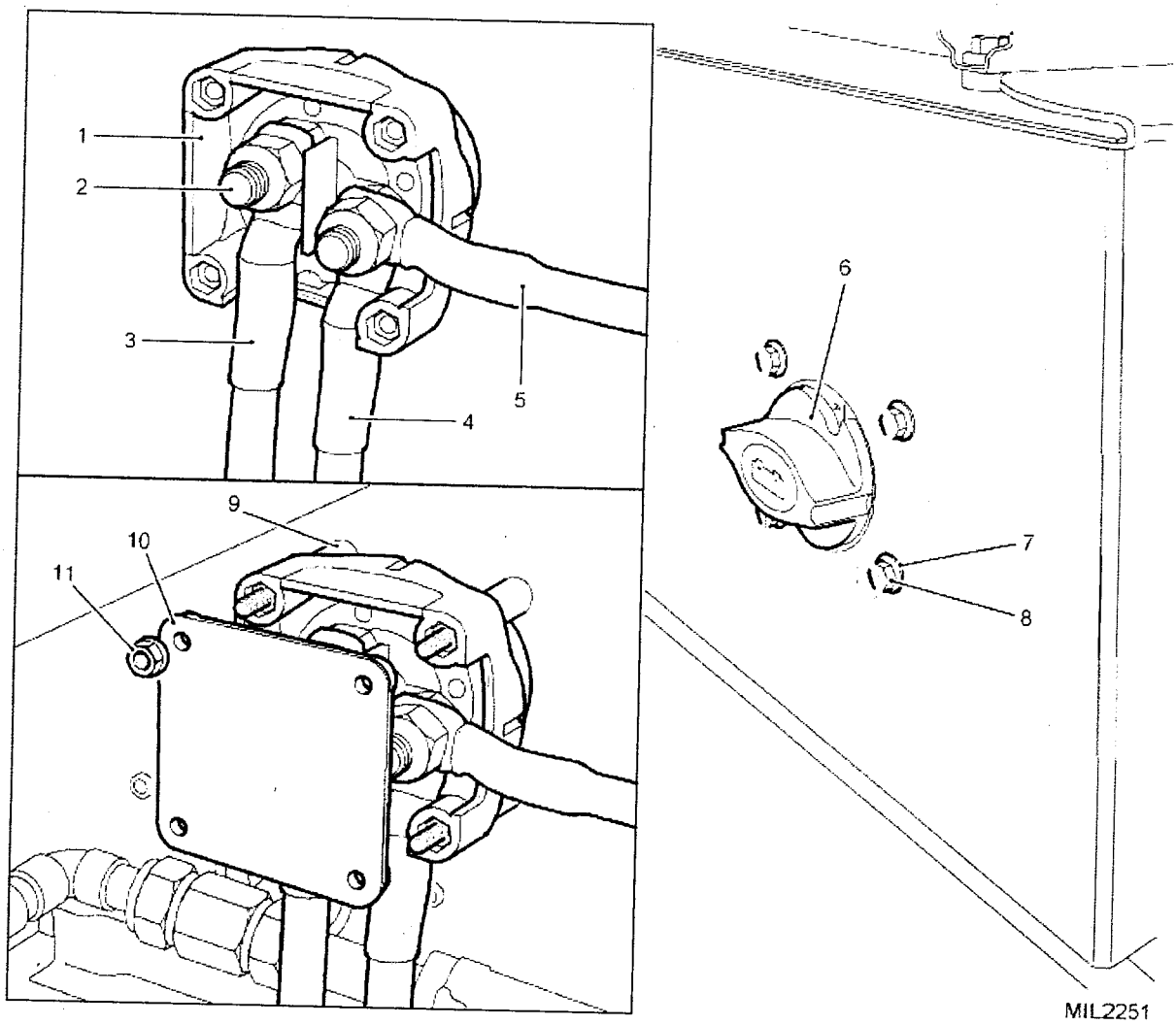
10.3.2 Drill five 2.5 mm dia pilot holes through the template and then remove the template.

10.3.3 Drill the 54 mm dia centre hole using the hole cutter (Item 14 and Item 15).

10.3.4 Drill the four 6 mm dia holes for the isolator switch fixings.

10.3.5 Deburr the 54 mm hole and the four 6 mm holes.

10.4 Installing the isolator switch (Refer to Fig 7).



1 Battery isolator switch
2 Terminal fixings
3 Isolator switch to battery negative cable
4 Isolator switch to transfer box earth cable
5 Isolator switch to auxiliary earth cable
6 Isolator switch knob
7 Washer
8 Screw
9 Spacer tube
10 Cover
11 Flange nut

Fig 7 Fitting the isolator switch

10.4.1 Remove the right hand panel from the side of the isolator switch. (Refer to Fig 7).

10.4.2 Assemble the auxiliary earth lead (Item 9) and the isolator switch to the transfer box earth cable (Item 3) onto the isolator switch (Item 1). The cables are positioned to the right when viewing the isolator switch terminal studs. (Refer to Fig 7).

10.4.3 Assemble the isolator switch to the battery negative cable (Item 2) onto the isolator switch (Item 1). The cable is positioned to the left when viewing the isolator switch terminal studs.

NOTE

On W/W vehicles, remove a square of foil insulation from the mating area between the isolator switch and seat base.

10.4.4 Install the isolator switch knob through the hole in the seat base and align the fixing holes.

10.4.5 Install the screws (Item 4) with spring washers (Item 5) through the seat base and then through the spacer tubes (Item 7) and the isolator switch.

10.4.6 Fit the rear cover to the rear of the isolator switch. Secure with the nuts (Item 8).

10.4.7 Feed the isolator switch to the transfer box earth cable (Item 3) through the hole in inner face of the battery box.

10.4.8 Attach the isolator switch to the transfer box earth cable (Item 3) to the transfer box earth point (Refer to Fig 3) and then the chassis earth point (Refer to Fig 4). Tighten the nut to a torque of 45 Nm (33 lbf ft).

10.4.9 Re-attach the AH12-13N850-AAA cable (Refer to Fig 3). Tighten the nut to a torque of 45 Nm (33 lbf ft).

10.4.10 Grease the chassis and the transfer box earth points thoroughly.

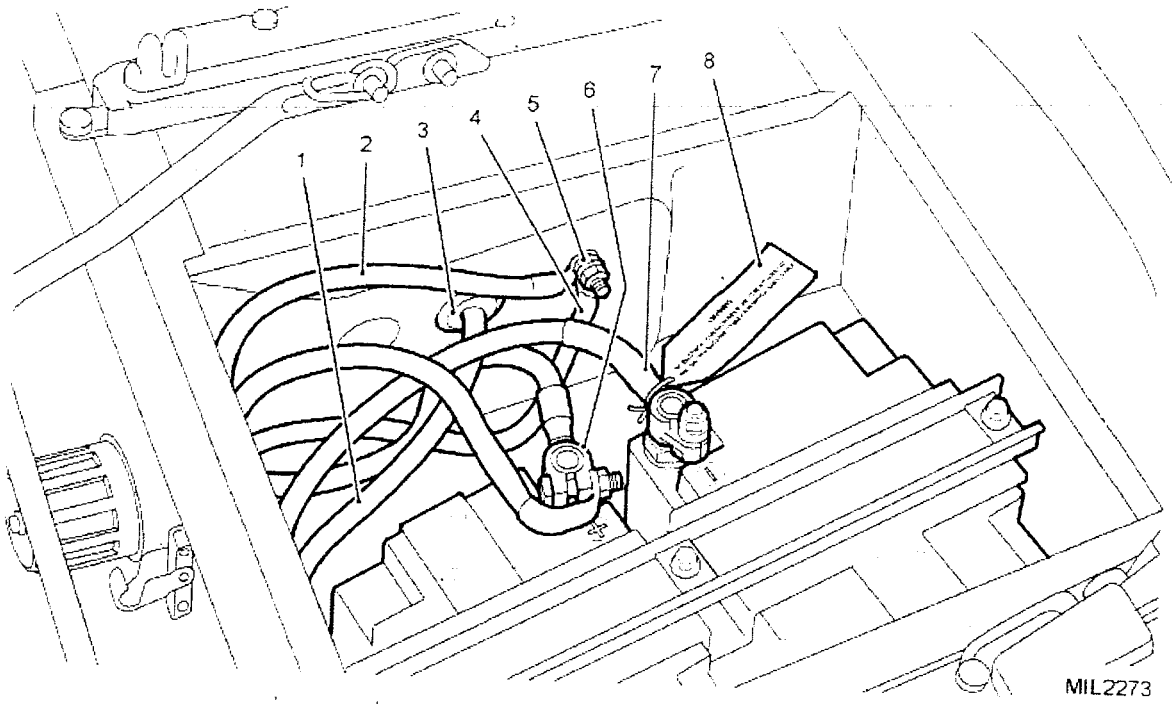
10.4.11 Install the cable grommet (Refer to Fig 9) into the hole in the battery box.

10.4.12 Secure the Warning label (Refer to Fig 8) with the attached string tie onto the Battery Negative to the Isolation Switch Earth Cable, as close as you can get it to the end of the plastic coating on the earth lead.

WARNING

NO ELECTRICAL CABLES OR WIRES ARE TO BE ATTACHED TO THE "BATTERY NEGATIVE TO ISOLATION SWITCH" EARTH CABLE

Fig 8 Warning Label



1 Isolator switch to transfer box cable
2 Auxiliary earth cable
3 Grommet
4 Inter vehicle start socket earth cable
5 Earth terminal
6 Battery positive cable
7 Battery negative cable
8 Warning label

Fig 9 Battery connection

10.4.13 Re-fit the vehicle batteries and secure with the battery clamp.

10.4.14 Attach the positive cable to the battery positive terminal.

10.4.15 Attach the battery negative cable (Item 2) to the battery negative terminal.

10.4.16 Ensure the isolator switch is turned to the "On" position.

10.4.17 Turn ignition key to Position 1. Ensure the warning lights illuminate.

10.4.18 To check the system, turn the isolation switch to the "Off" position to ensure the warning lights are not illuminated and the batteries are isolated. Turn off the ignition.

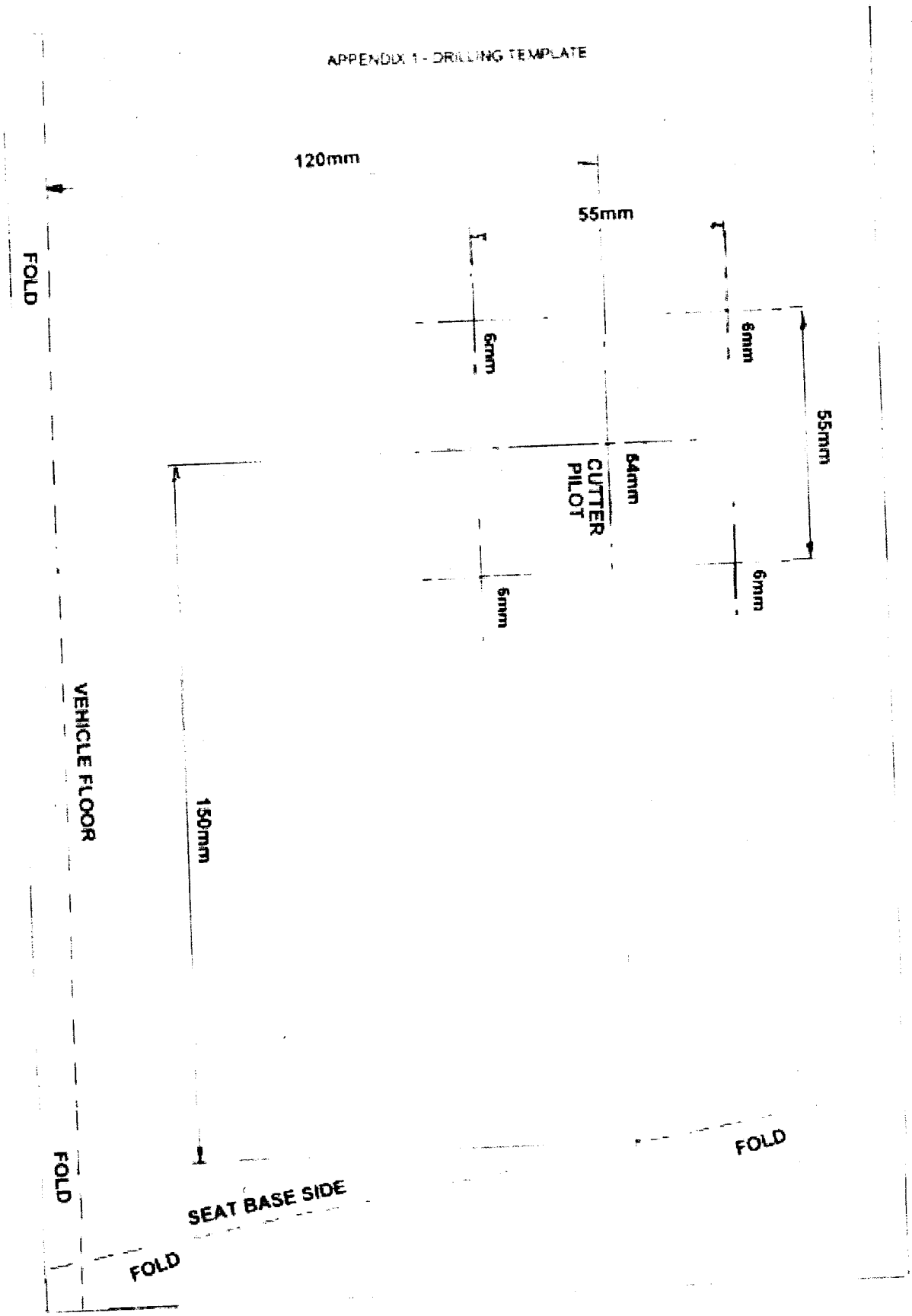
TESTING AFTER EMBODIMENT

11 Nil.

EFFECT ON WEIGHT

12 Negligible.

APPENDIX 1 - DRILLING TEMPLATE



TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS, AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 42

CONTENTS

Sponsor: OSVP
Project number:
File ref:
Publication agency: OSVP

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
1		
2		
3		

Amdt No.	Incorporated By (Signature)	Date
4		
5		
6		

SUBJECT: Fitting a swing away spare wheel carrier, the installation of a spare wheel lifting aid, (including preparation of soft top by converting a drop down tailgate to a side hinged tailgate) and the fitting of a rear step. (Approval No. LSTP12-6695)

INTRODUCTION

1 This Modification Instruction details the conversion of a drop down tailgate to a side hinged tailgate and includes fitting a Swing Away Spare Wheel Carrier, the installation of a Spare Wheel Lifting Aid and the fitting of a Rear Step.

1.1 Limitations on use of equipment. Nil.

APPLICABILITY

REASON FOR MODIFICATION

2 Truck Utility Medium (TUM) High Specification (HS) Vehicles only with the following Asset Codes:

RB5006 3100; RB5007 3100; NB5008 3100; NB5008 3160; NB5009 3100; NB5009 3160; NB5009 3170; NB5010 3100; NB5010 3101; NB5010 3160; NB5010 3161; NB5010 3170; NB5010 3171; NB5010 3199; NB5010 8100; NB5010 8160; NB5010 8170; NB5017 3100; NB5017 3160; NB5017 3190; NB50178100; NB5020 3100; NB5020 3101; NB5020 3102; NB5020 3103; NB5020 3104; NB5020 3105; NB5020 3106; NB5020 3107; NB5020 3160; NB5020 3161; NB5020 3170; NB5020 3180; NB5020 3190; NB5020 8100; NB5020 8101; NB5020 8102; NB5020 8103; NB5020 8104; NB5020 8160; NB5020 8170; NB5020 8180; NB5020 8190; NB5021 3100; NB5021 3160; NB5021 3170; NB5021 3180; NB5021 3190; NB5031 3100; NB5031 3160; NB5031 3170; NB5031 3180; NB5031 8100; NB5031 8160; NB5033 3100; NB5035 3100; NB5037 3100; RB5042 3100.

3 Truck Utility Light (TUL) (HS) Vehicles only, with the following Asset Codes:

NB4219 3100; NB4220 3100; NB4220 8100; RB4224 3100; NB4225 3100; NB 4225 8100; NB 4226 3100; NB4228 3100; NB4229 3100; NB4232 3100.

REASON FOR MODIFICATION

4 Code 1 – To improve safety.

PRIORITY

5 ARMY: Routine.

6 RAF: Class 3.

ESTIMATED TIME REQUIRED

7 Embodiment: 2.5 man-hours.

MODIFICATION IMPLEMENTATION PLAN

8 This Modification Instruction is to be implemented by:

8.1 ARMY - Units authorized to carry out Levels 2, 3, and 4 of maintenance.

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

8.3 Associated Modification Instructions: Nil.

8.4 Modification strike plate action: Nil.

Action required by

9 The following action is to be carried out:

9.1 Units and establishments holding equipment:

9.1.1 Examine vehicle documents to see if this Modification Instruction is applicable.

9.1.2 Examine the Modification record plate to see if this Modification Instruction is embodied and where necessary Units with Level 2 Royal Electrical and Mechanical Engineers (REME) Support demand the stores required.

9.1.3 Upon the embodiment of equipment, units are to record the modification subject and Army Equipment Support Publication (AESP) number in Joint Asset Management Equipment Solution (JAMES)/Equipment documents.

9.1.4 RAF – Record modification details on Army Form (AF G) 1084A and Form 4870. Units operating Station Transport Management Aid (STAMA) are also to record the Modification details on ADP Mechanical Transport Maintenance Section (MTMS) job certification sheet and to follow the procedures laid down in Air Publication (AP) 100C - 08A.

9.2 Army units authorized to carry out Levels 2, 3 and 4 maintenance and RAF units:

9.2.1 ARMY - When requested by users or during overhaul of equipment on charge without REME Level 2 Support, obtain the items listed in Para 10 and carry out this Modification Instruction.

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

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

9.2.3.1 RAF MODIFICATION CODE: AFN198.

NOTE

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

9.3 All receipts of this instruction. Add particulars to AESP 2320-D128-811 Modification Instruction index.

Stores tools and equipment

NOTE

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

10 The following set is to be demanded quoting this Maintenance Instruction as authority:

10.1 Stores to be demanded:

Item No	DMC	NSN/Part No	Designation	Qty per eqpt
		2540-99-575-1130	Soft Top Kit (Auxiliary Parts) Comprising:	1
1		2510-99-794-2040	Hinge, Tailgate	(2)
2		W500024-S442	Screw, flange headed M8 x 25	(4)
3		W500115-S442	Screw, flange headed M8 x 60	(4)
4		2510-99-829-7487	Washer, Nylon	(4)
5		6H12-1660-BA	Washer, M8	(4)
6		W520202-S440	Nut, flange headed, nyloc M8	(8)
7		5340-99-805-4577	Bumper, Rubber	(2)
8		5305-99-135-0423	Screw, Machine, M4 x 12	(2)
9		5310-99-759-2084	Washer, Flat	(2)
10		5310-99-119-3324	Nut, self-locking, hexagonal	(2)
11		2540-99-795-3170	Mirror Arm, short reach	(1)
12			Rear step	(1)
13		5306-99-124-3617	Bolt, M10 x 110	(2)
14			Washer, M10, Form G	(2)
15			Nut, flanged, M10	(2)
16			Bolt, M8 x 110	(2)
17			Washer, M8, 31.75mm OD	(2)
18			Nut, flanged, M10	(2)
19		6220-99-5737259	Brake/tail lamp	(2)
20		6240-99-9953288	24v bulb	(2)
21		TBA	Harness extension, rear lights	(2)

Item No	DMC	NSN/Part No	Designation	Qty per eqpt
		F9822	Spare Wheel Lifting Aid Fitting Kit Comprising:	
22			Stepped Washer	(2)
23			Screw, M8 x 25	(2)
24			Nut, M8	(2)
		2540-99-297-9005	Soft Top Swing Away spare wheel carrier Kit	1
			Comprising:	
25			Frame Assy, complete	(1)
26			Stiffening Plate	(1)
27			Nut, M12 lock nut	(1)
28			Nut, M12	(1)
29			Washer, M12	(1)
30			Washer, M12 rubber	(1)
31		W500034-S442	Screw, flanged head M10 x 30	(2)
32		W520203-S440	Nut Flanged head, nyloc M10	(2)
33		W711820-S442	Bolt, flanged head M8 x 110	(3)
34		W5200024-S442	Screw, Flanged Headed M8 x 25	(4)
35		WS20202-S440	Nut, Flanged Headed, nyloc M8	(7)
36		RRD500010	Nut, wheel	(3)
37		TBA	Grommet	(2)
		2540-99-153-8593	Hard Top Kit (Auxiliary Parts) Comprising:	1
38		2590-99-147-2989	Blanking Plate	(1)
39		5310-99-138-8423	Nut, self-locking	(3)
40		2540-99-795-3170	Mirror Arm, short reach	(1)
41			Rear step	(1)
42		5306-99-124-3617	Bolt, M10 x 110	(2)
43			Washer, M10, Form G	(2)
44			Nut, flanged, M10	(2)
45			Bolt, M8 x 110	(2)
46			Washer, M8, 31.75 mm OD	(2)
47			Nut, flanged, M8	(2)
48		6220-99-5737259	Brake/tail lamp	(2)
49		6240-99-9953288	24 V bulb	(2)
50		TBA	Harness extension, rear lights	(2)

Item No	DMC	NSN/Part No	Designation	Qty per eqpt
		F9822	Spare Wheel Lifting Aid Fitting Kit Comprising:	1
51			Stepped Washer	((2))
52			Screw, M8 x 25	((2))
53			Nut, M8	((2))
		2540-99-152-9601	Hard Top Swing Away spare wheel carrier Kit Comprising:	1
54			Frame Assy, complete	(1)
55			Stiffening Plate	(1)
56			Nut, M12 lock nut	(1)
57			Nut, M12	(1)
58			Washer, M12	(1)
59			Washer, M12 rubber	(1)
60		W500034-S442	Stiffening Plate	(2)
61		W520203-S440	Nut, M12 lock nut	(2)
62		W711820-S442	Nut, M12	(3)
63		WS20202-S440	Washer, M12	(3)
64			Washer, M12 rubber	(6)
65			Screw, flange headed M10 x 30	(6)
66			Nut flange headed, nyloc M10	(6)
67		RRD500010	Bolt, flange headed M8 x 110	(3)
68		TBA	Nut, flange headed, nyloc M8	(2)
69			Bolt, flange headed M8 x 50	(6)
70			Bolt, flange headed M8 x 25	(1)
71			Nut, flange headed M8	(2)
72			Nut, wheel	(4)
73			Grommet	(2)

10.2 Special tools and test equipment required:

Item No	DMC	NSN/Part No	Designation	Qty per eqpt
70	HTC12	3460-99-137-4927	Arbour, Hex shank 9mm AF – 6 mm pilot drill	(1)
71	HTC12	3455-99-137-4931	Blade - Hole saw, 25 mm	(1)

Sequence of operations

NOTE

The item numbers in Para 10 are used as references throughout this Modification Instruction.

WARNINGS

HEALTH AND SAFETY. ENSURE APPROPRIATE CLOTHING AND GOGGLES ARE WORN WHEN DRILLING.

ENSURE THERE IS NOTHING THAT WILL BE DAMAGED BY THE DRILL PASSING THROUGH THE BODYWORK.

11 Carry out the Modification Instruction as follows:

NOTE

Dispose of any parts removed and not required to be refitted during the modification procedure.

11.1 Disconnect the vehicle batteries (refer to 2320-D-128-522, Chap 13, Para 2) If fitted, isolate the radio batteries.

Conversion to Side Hinged Tailgate and installation of Side Hinged Spare Wheel Carrier Kit - Soft

Top vehicles

11.2 It is necessary to ensure the correct tailgate (NSN 2510-99-417-6255) is fitted. Confirm the dimension from the top of tailgate to the lip of the outer edge is 37 mm (refer to Fig 1), if not replace with the correct tailgate. Ensure the existing drop down tailgate is free from damage and sits correctly, (Level and square with the bodyside cappings, central in the aperture and with equal spacing to both sides). If not level loosen the lower tailgate hinge bolts to achieve the correct alignment, retighten after alignment to hold tailgate securely in place during conversion. Replace the upper tailgate bumper rubbers (Item 7) using the M4 fixings (Items 8, 9 and 10) supplied. Examine the tailgate side seals for signs of wear and replace as required (RH side seal NSN 2510-99-757-5308 and LH side seal NSN 2510-99-757-5309. Close the tailgate.

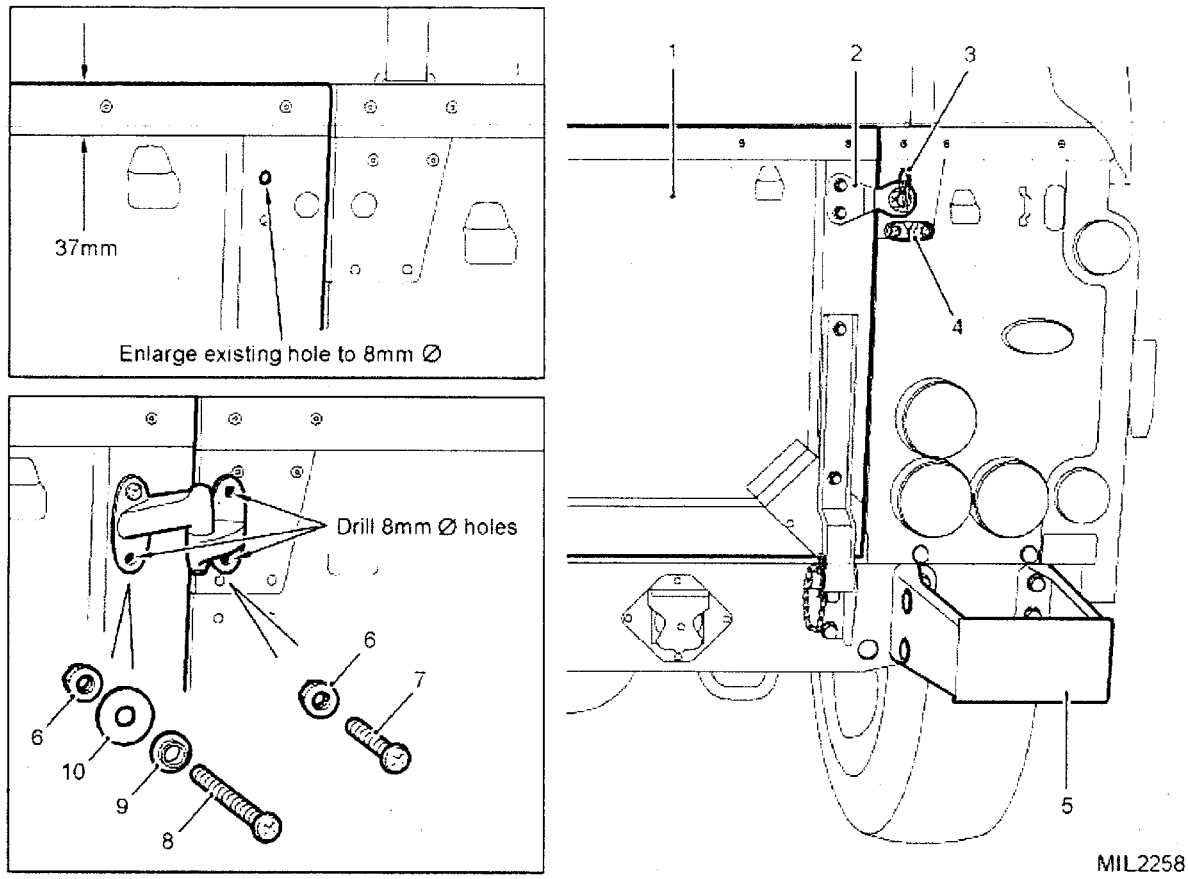
11.3 Remove the RH side bumperette, the RH rope cleat, the RH antiluce cotter and closure plate. Removing the closure plate will also result in the inner cable/chain bracket being removed). Retain these parts for the present. (Refer to Fig 1).

11.4 Enlarge the closure plate upper fixing hole in the tailgate from 6 mm (clearance) to 8 mm dia, deburr the hole. Fit new hinge (Item 1) using the upper hole of the hinge and M8 fixings (Items 3, 4, 5 and 6) ensuring the tailgate hinge pin is parallel to the tailboard edge and the nylon washer (Item 4) is fitted between the hinge and the tailgate. (Refer to Fig 1).

11.5 Using the hinge as a template, drill out the remaining three holes to 8 mm dia, de-burr the holes. Fix the hinge with the M8 fittings supplied (Items 2, 3, 4, 5 and 6) ensuring that a nylon washer (Item 4) is fitted between the tailgate and hinge.

11.6 Locate the RH under body lamp access panel and remove to facilitate access.

11.7 Remove the RH bottom tailgate hinge, collect the nut plate from behind the rear cross member and dispose of these parts.



1	Tailgate	6	Flanged nyloc nut, M8
2	Antiluce closure plate	7	Screw, M8 x 25
3	Antiluce cotter	8	Screw M8 x 60
4	Rope cleat	9	Nylon washer
5	RH bumperette	10	Washer, M8

Fig 1 Installing the top hinge

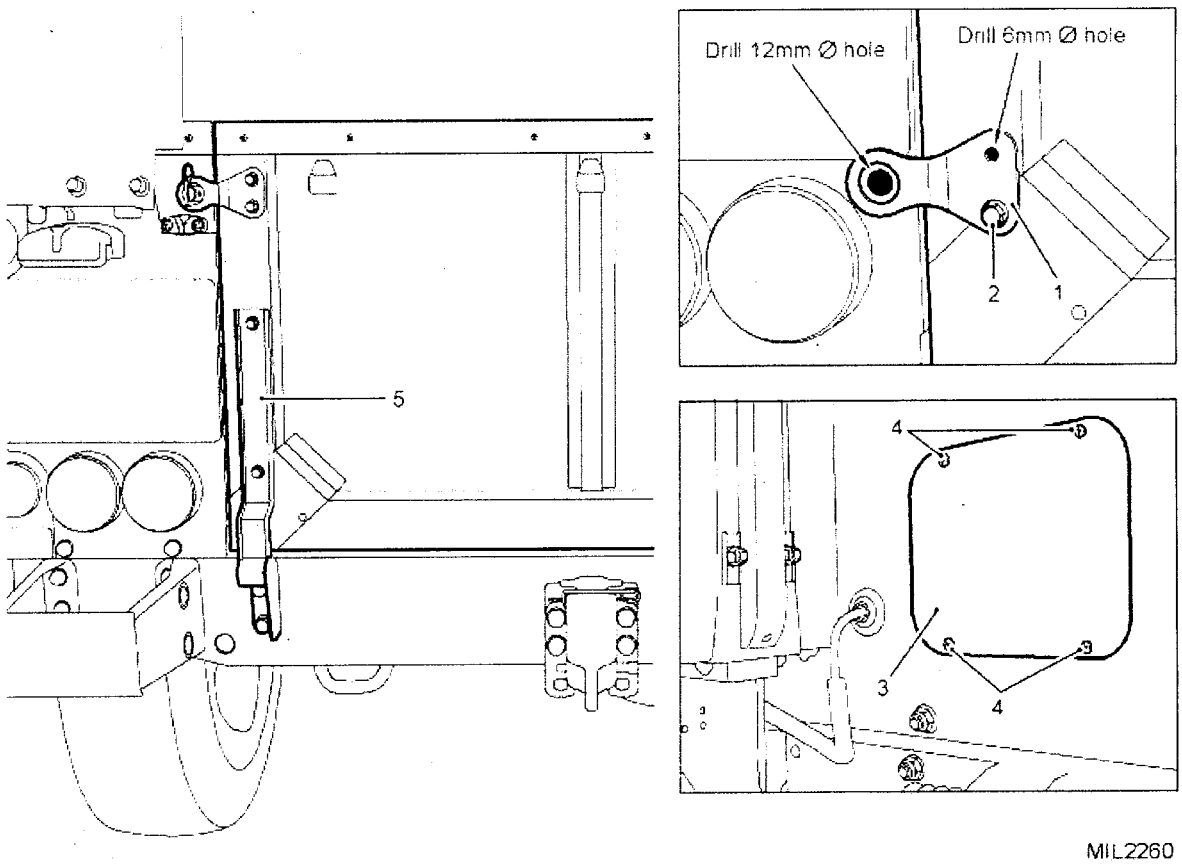
11.8 Drill out the lower tailgate hole in the tailgate to 8 mm dia, deburr the hole. Fit the second hinge (Item 1) using the lower hole of the hinge and M8 fixings (Items 3, 4, 5 and 6) ensuring the nylon washer (Item 4) is fitted between the hinge and the tailgate. Ensure that the hinge and hinge pin is parallel to the edge of the tailgate and both hinge pins are in alignment. (Refer to Fig 1).

WARNING

ENSURE THERE IS NOTHING THAT WILL BE DAMAGED BY THE DRILL PASSING THROUGH THE BODYWORK.

11.9 Using the hinge as a template, drill out the remaining three holes to 8 mm dia, de-burr the holes. Fix the hinge with the M8 fittings supplied, (Items 3, 4, 5 and 6), ensuring that a nylon washer (Item 4) is fitted between the tailgate and hinge.

11.10 Remove the LH bottom tailgate hinge, collect the nut plate from behind the rear cross member and dispose of the parts.



1 Closure plate
2 Fixings
3 LH under body lamp access panel
4 Screws
5 LH bottom tailgate hinge

Fig 2 Fitting the antiluce cotter and closure plate

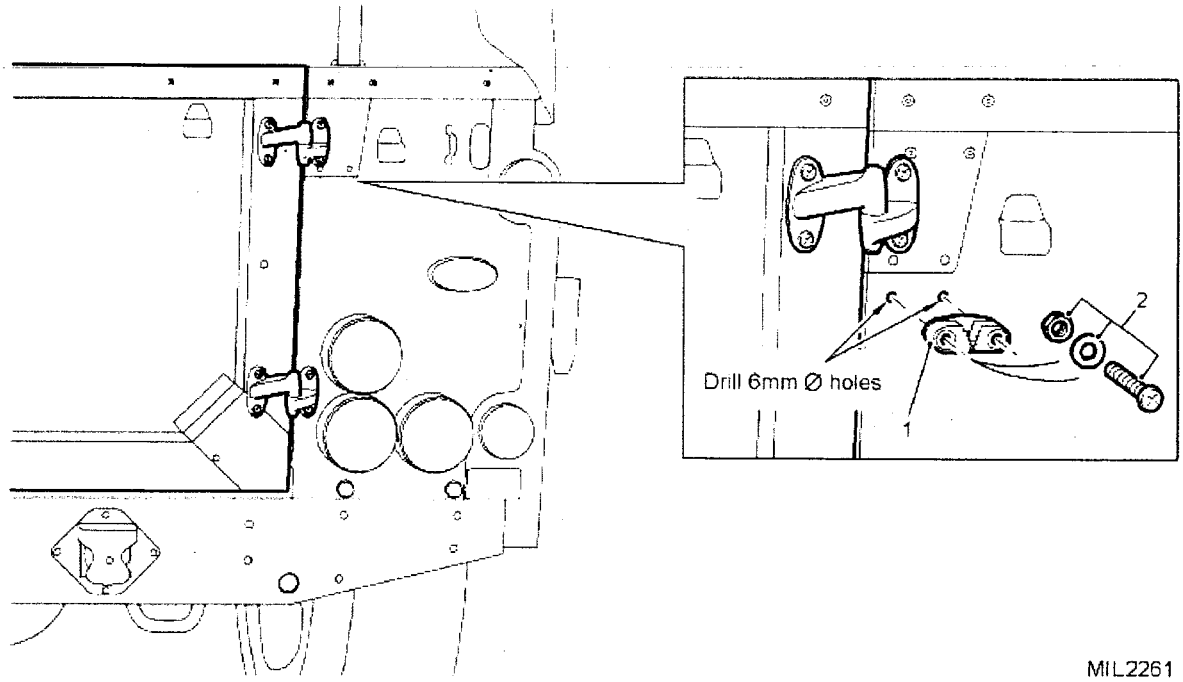
11.11 Fit the antiluce cotter closure plate to the lower hole of both the original hinge and the antiluce cotter closure plate. Ensure the plate is correctly aligned and use as a template to drill the second fixing 6 mm hole, secure with fixings. (Refer to Fig 2).

11.12 Locate the LH under body lamp access panel and remove to facilitate access.

11.13 Using the closure plate as the template, drill a 12 mm dia hole in the LH side panel and fit the antiluce cotter in place.

11.14 Ensure tailgate opens and closes correctly and the antiluce cotter locks in place before it reaches the lowest position, (i.e. with slight pressure to the top LH corner of the tailgate, the antiluce cotter should not drop to its lowest position).

11.15 Position the rope cleat below the top hinge as shown, mark and drill out the two holes to 6 mm dia. Re-fit the rope cleat using original fixings. (Refer to Fig 3).



1 Rope cleat 2 Fixings

Fig 3 Installing the rope cleat

11.16 Refit the RH and LH inner lamp access panels.

11.17 Touch up paint work as necessary.

11.18 Removal of existing spare wheel carrier. (Refer to Cat 201 Chapter 3-1).

11.18.1 Remove the spare wheel lifting aid (refer to Modification Instruction No. 25) and retain for future use. Also remove the existing side mounted spare wheel carrier and discard.

11.18.2 Remove the long mirror arm on the side of the spare wheel mount and replace with short mirror arm (Item 11). (Refer to Cat 201, Chapter 3-1).

11.19 Fitting the spare wheel carrier.

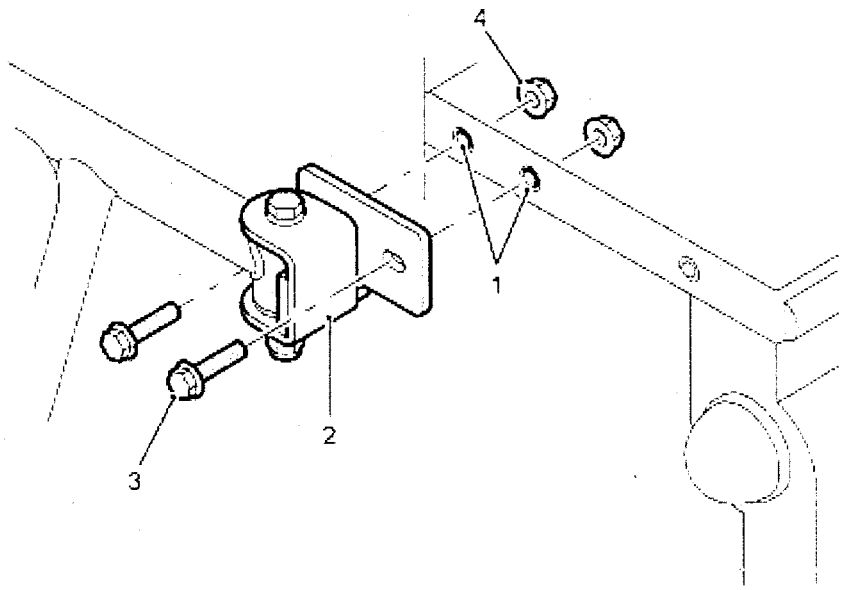
NOTE

Ensure the holes are in line with the rivets in the capping before drilling as detailed below.

11.19.1 Using a 3 mm – 5 mm drill, drill out the two pop rivets from the RH body capping (refer to Fig 4) for location of rivets.

11.19.2 Drill out the holes in the capping to 11 mm dia and deburr all holes.

11.19.3 Position the hinge of spare wheel carrier frame assembly (Item 25) as shown in Fig 4 and fit and secure with two M10 screws (Item 31) and nuts (Item 32). (Refer to Fig 4 and Fig 6).



1 Pop rivets
2 Top hinge
3 Screw M10
4 Nyloc nut, M10

Fig 4 Top hinge of swing away carrier frame complete assembly

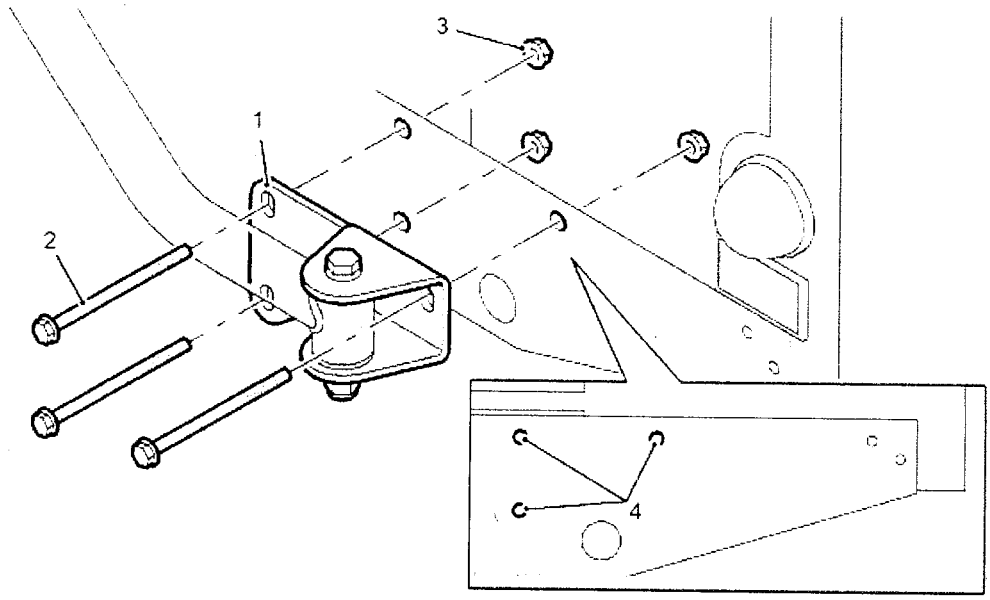
NOTE

To ensure that the wheel carrier fits squarely, the upper and lower carrier frame hinges should be in parallel with the door hinges and edge of the lower body.

11.19.4 Position the carrier frame assembly's (Item 25) bottom hinge on the rear cross member and secure with three M8 bolts (Item 33) and nuts (Item 35). (Refer to Fig 5 and Fig 6).

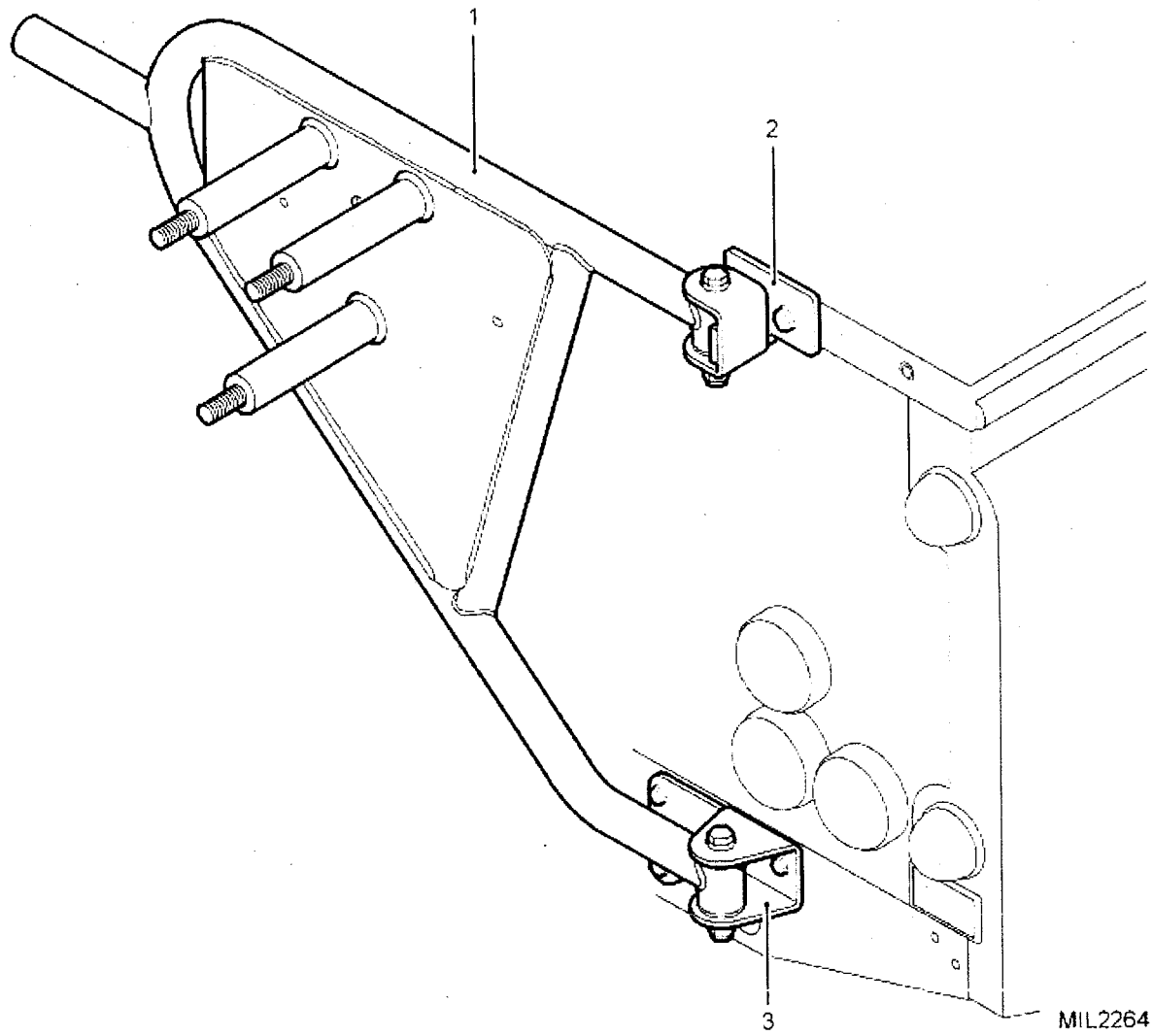
NOTE

To ensure that the wheel carrier fits squarely, the upper and lower hinges should be parallel to the edge of the body.



1 Bottom hinge
2 Bolt, M8
3 Nyloc nut, M8
4 Fixing holes

Fig 5 Bottom hinge of swing away carrier frame complete assembly



1 Swing away carrier frame assembly
2 Top hinge
3 Bottom hinge

Fig 6 Wheel carrier fitting

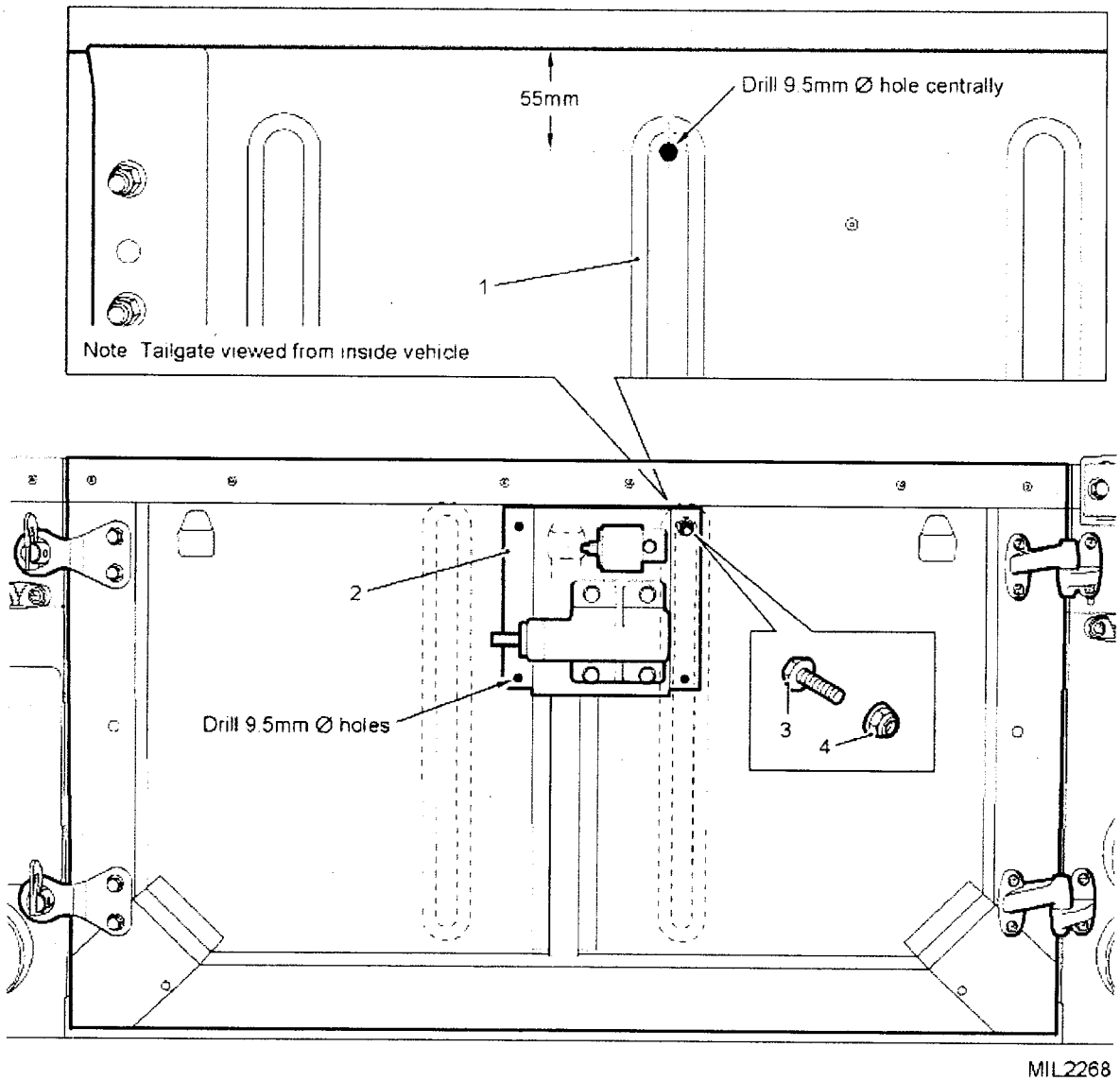
11.20 Fitting the Tailgate Stiffening Plate.

11.20.1 From inside the vehicle measure 55 mm down from the top of the tailgate to a point central to the strengthening rib (Refer to Fig 7). From inside the vehicle drill a 9.5 mm dia hole centrally at this point.

11.20.2 Fit the tailgate stiffening plate (Item 26) to the tailgate using a M8 screw (Item 34) and nut (item 35).

11.20.3 Using the Tailgate Stiffening Plate as a template drill the other three fixing holes. (Refer to Fig 7).

11.20.4 Fit the Tailgate Stiffening Plate to the tailgate, secure with screws (Item 34) and nuts (Item 35).



1 Strengthening Rib
2 Door Plate
3 Screw, M8
4 Nut, M8

Fig 7 Door plate fitting

11.21 Fitting the Piston Carrier Assembly.

11.21.1 Install the rubber washer (Item 30) onto the shaft of the piston carrier assembly. (Refer to Fig 8).

11.21.2 Open the side opening tailgate and wheel carrier together and draw the piston into the slot in the wheel carrier frame.

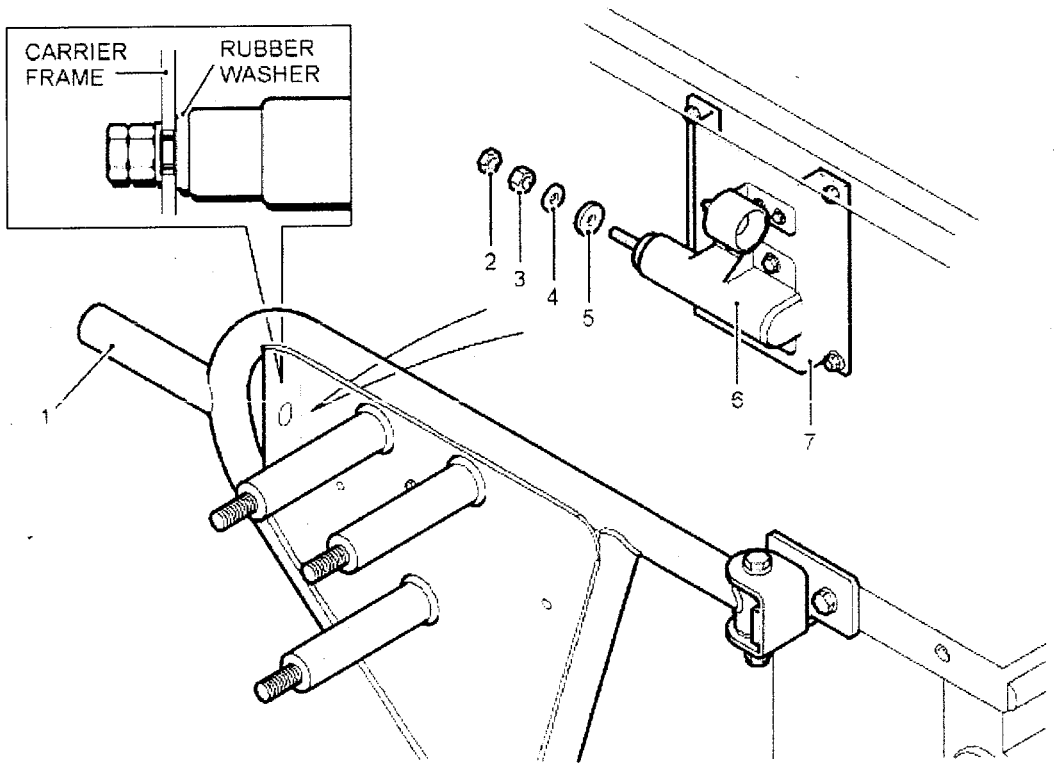
11.21.3 Close the tailgate and carrier, centralise the piston bolt.

11.21.4 Fully open the tailgate and check that the piston shaft is still in a central position. If the piston shaft is not central realign the piston carrier assembly on its slotted holes.

11.21.5 When the alignment is correct fit washer (Item 29) and nut (Item 28), tighten the nut until the rubber washer (Item 30) is lightly pinched, but capable of upward/downward movement in the slotted hole as the door/tailgate is opened/closed.

NOTE

Do not over tighten the nut (Item 28).



1 Wheel carrier
2 Lock nut, M12
3 Nut, M12
4 Washer, M12
5 Rubber washer, M12
6 Piston carrier assembly
7 Door plate

Fig 8 Piston carrier assembly fitting

11.21.6 Check that the tailgate opens and closes correctly, fit the locking nut (Item 27) and tighten onto nut (item 28).

11.21.7 Fully tighten all of the "nipped" fixings holding the carrier to the vehicle. Do not retighten the preset fixings of the Spare Wheel Carrier frame and Stiffener plate.

11.21.8 Check that the Door Holder male rubber mounted on the Swing Away Carrier frame and female rubber mounted on the door plate align and that Door Holder operates correctly. (Refer to Fig 9).

NOTES

(1) The safety catch is factory fitted and set up prior to despatch and no further adjustment should be necessary.

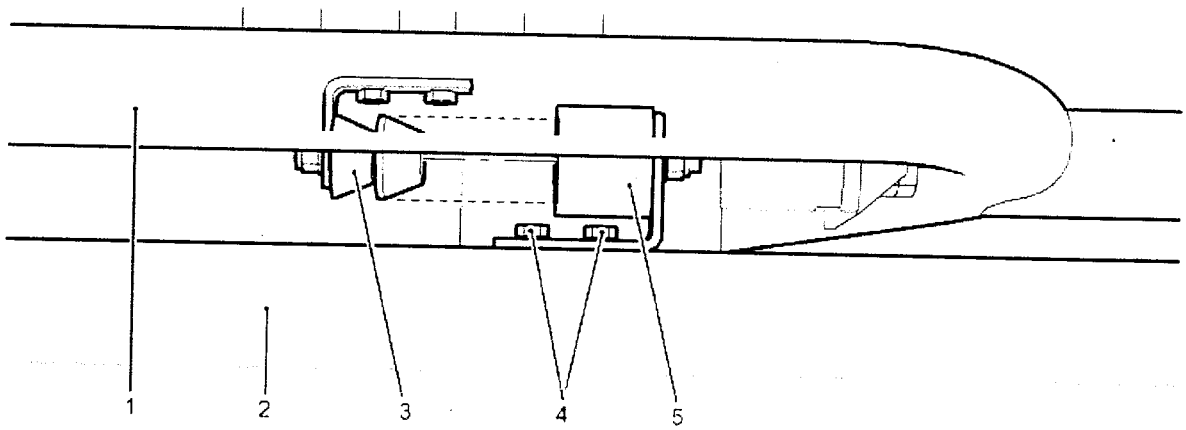
(2) If adjustment is required to reduce door opening angle refer to procedures 11.21.9 and 11.21.10 below.

11.21.9 After the final installation is complete, check that the rear door opening angle does not exceed 85°. Indicated when the spare wheel and tyre assemble mounted on the swing away carrier obscures the vehicles R/H tail lights when the rear door is fully open. If adjustment is required, disconnect the swing away carrier from the door plate assembly at the piston, swing the carrier out independently of the rear door to gain access to the bracket adjustment bolts. (Refer to Fig 9).

11.21.10 To adjust the bracket loosen the two M6 bolts and adjust the bracket as required. Re-tighten bolts. (Refer to Fig 9).

NOTE

Moving the bracket towards the right hand side of the vehicle (when viewed from behind the vehicle) will reduce the opening angle of the door. Reconnect the swing away frame to the door at the piston assembly and check the opening angle. Adjust either way as required to obtain the maximum opening angle of 85°.



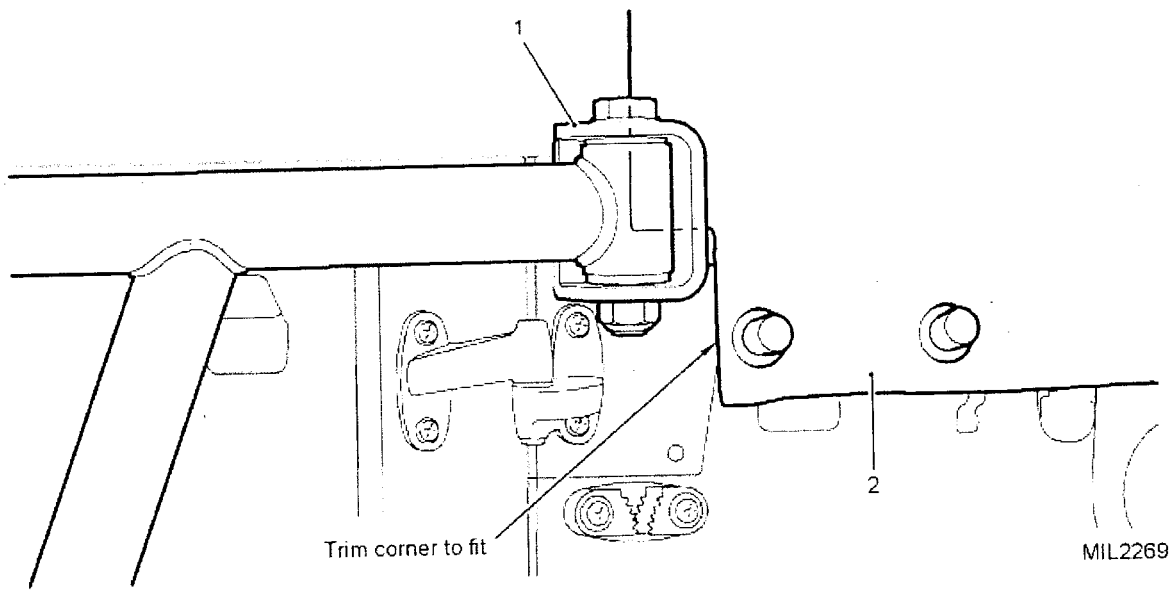
Note Swing Away Carrier viewed from above

MIL2283

1 Swing away carrier frame
2 Tailgate
3 Door holder male rubber
4 M6 Bolts – mounting bracket
5 Door holder female rubber

Fig 9 Door holder rubber alignment

11.21.11 If necessary trim the canopy to clear the top hinge on the wheel carrier. (Refer to Fig 10).



1 Top hinge 2 Canopy

Fig 10 Trimming canopy

11.22 Fitting the Spare Wheel Lifting Aid.

NOTE

Before refitting inspect the Spare Wheel Lifting Aid for excess wear or damage. If necessary, demand and fit a new Spare Wheel Lifting Aid.

11.22.1 If necessary drill two 8.5 mm dia holes in the spare wheel carrier as shown in Fig 11 and deburr.

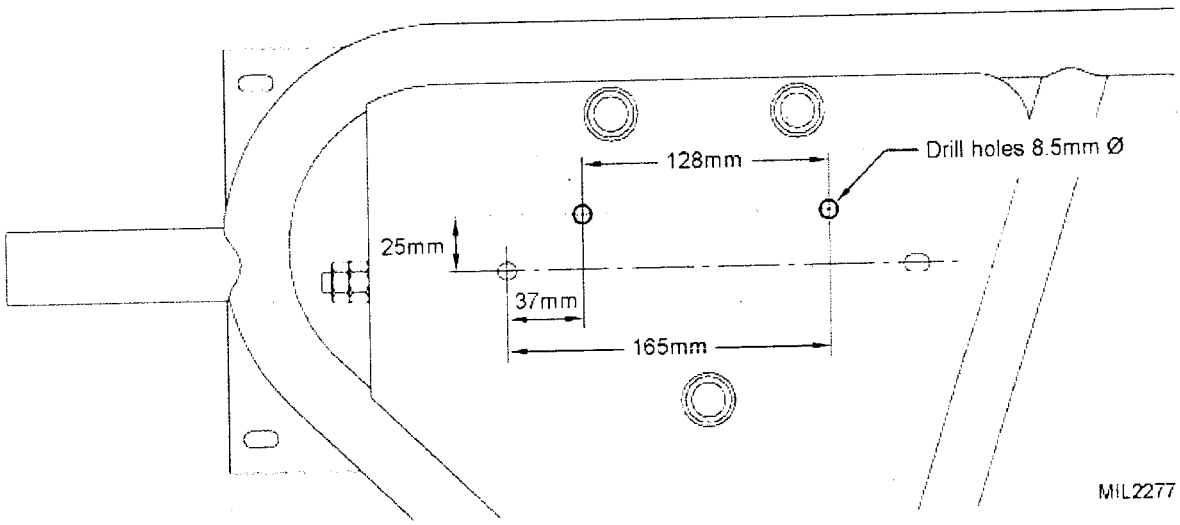
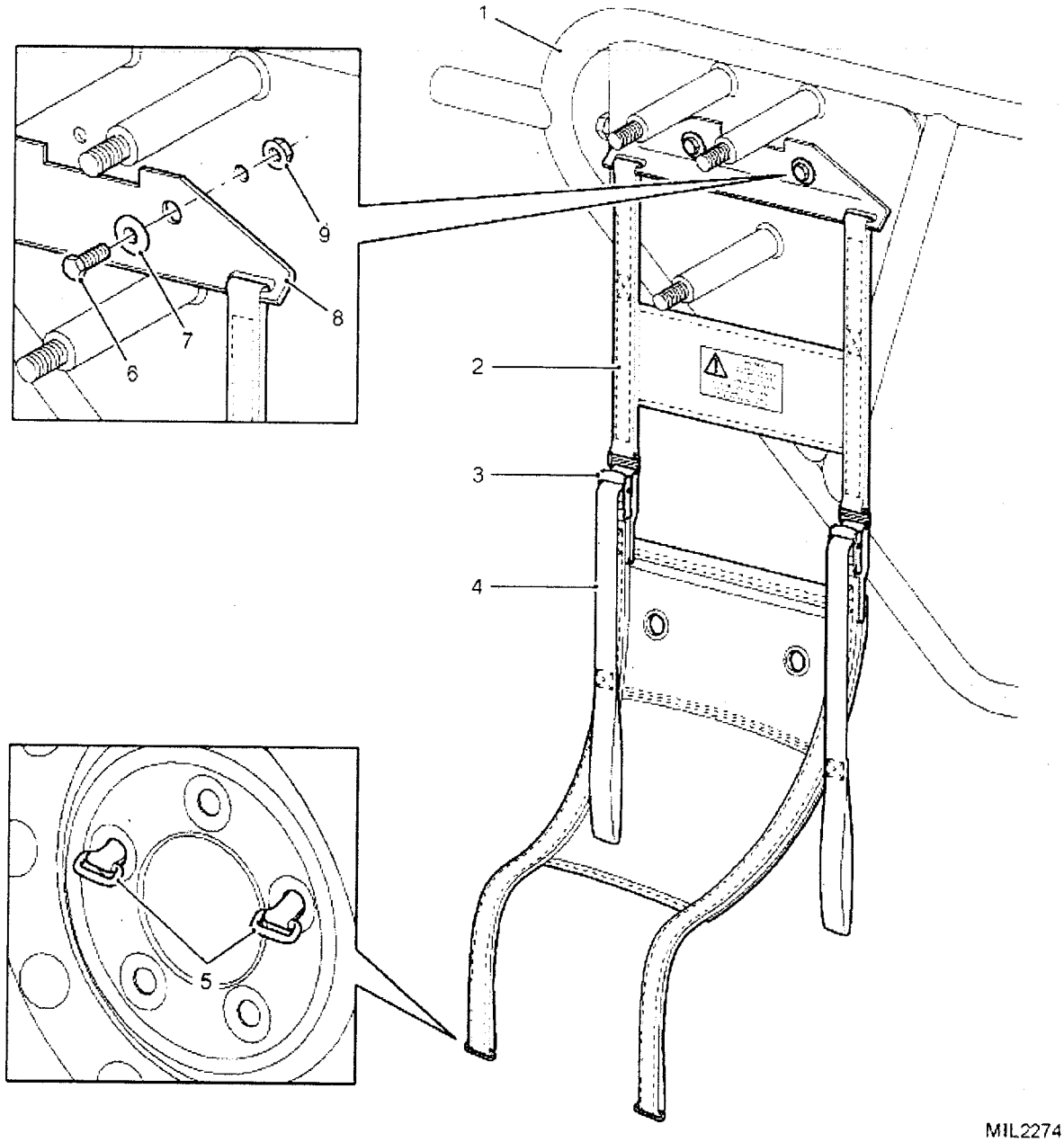


Fig 11 Drilling spare wheel carrier

11.22.2 Secure the spare wheel lifting aid to the spare wheel carrier with two screws (Item 23) and if necessary stepped washers (Item 22) installed from the front of the bracket and secured with nuts (Item 24) from the behind the spare wheel carrier. (Refer to Fig 12).



1	Spare wheel carriers	6	Screws
2	Harness	7	Stepped washer
3	Adjustment cleats	8	Bracket
4	Adjustment straps	9	Nut
5	Harness stops		

Fig 12 Spare wheel lifting aid

11.23 Fitting the Wheel on to the carrier.

11.23.1 Remove the tyre inflation valve extension from the wheel. (Refer to Modification Instruction No. 6).

11.23.2 With the harness hanging down from the wheel carrier push the plastic stops and straps through the wheel stud holes from the front of the wheel. (Refer to Fig 13).

NOTE

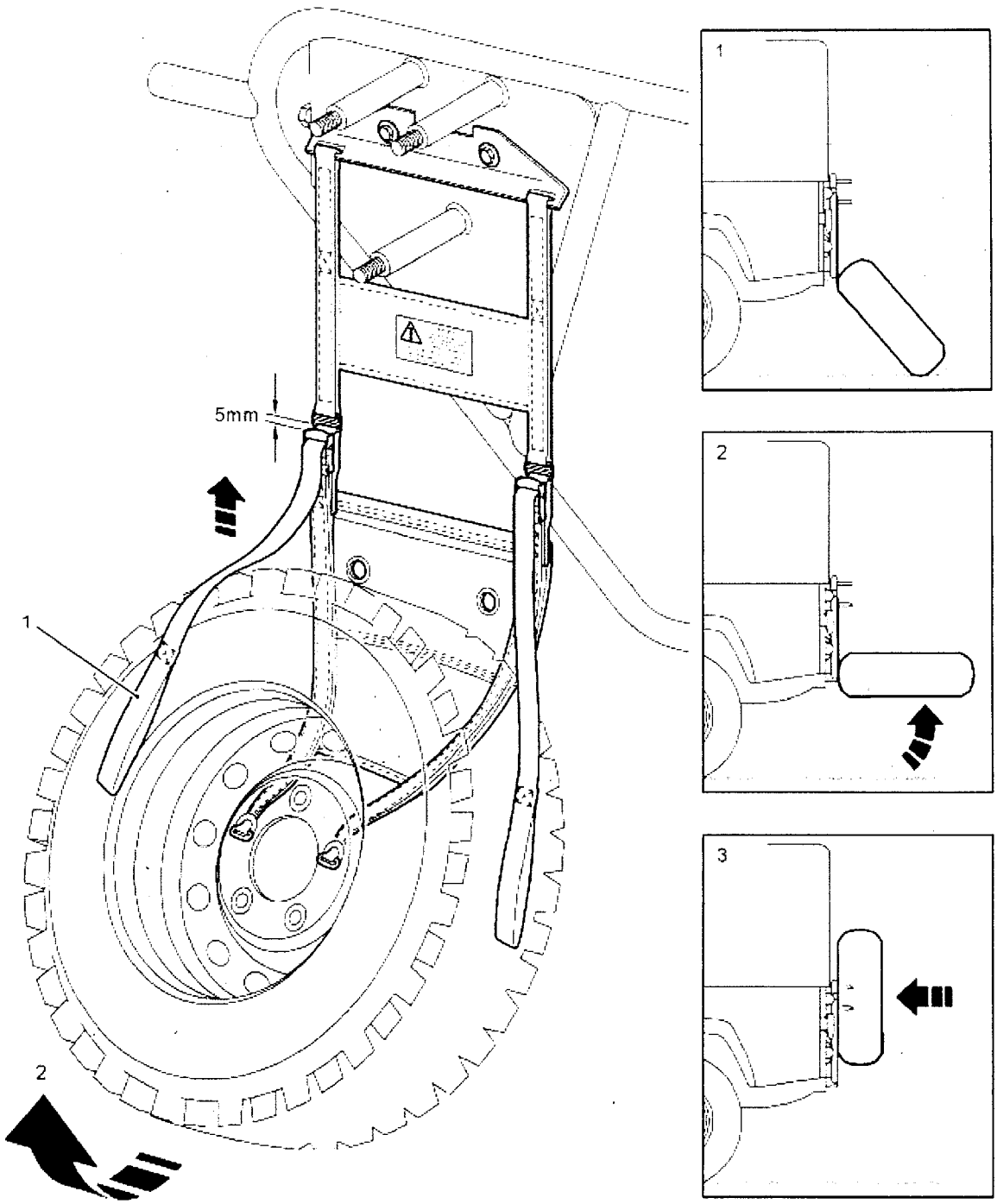
The plastic stops should be one wheel stud hole apart.

11.23.3 Adjust the straps fully against the metal buckles and then back them off by approximately 5 mm. (Refer to Fig 13).

11.23.4 Stow the excess straps in the bag in the centre of the harness assembly.

11.23.5 Take hold of the spare wheel with both hands and lift the lower edge of the spare wheel and rotate wheel so that the centre of the wheel locates up against the wheel carrier on the side of the vehicle. (Refer to Fig 13).

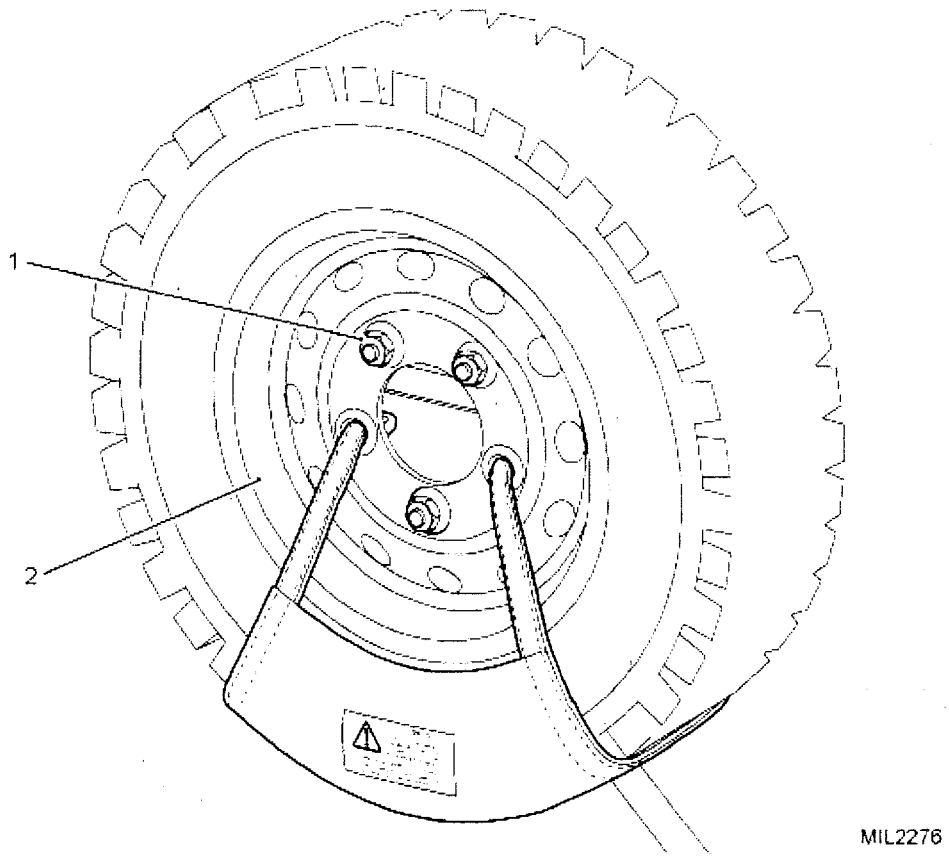
11.23.6 If the straps have been adjusted correctly the centre of the wheel should locate up against the wheel carrier. With both hands push the wheel upwards to locate the spare wheel onto the wheel studs on the carrier.



1 Adjust straps to correct length
2 Rotate wheel up against wheel carrier
3 Locate wheel on carrier

Fig 13 Lifting the spare wheel

11.23.7 Support the spare wheel in the stowed position while securing the wheel with wheel nuts (item 36). Tighten wheel nuts to 100 Nm. (Refer to Fig 14).



1 Wheel nuts x3 2 Spare wheel

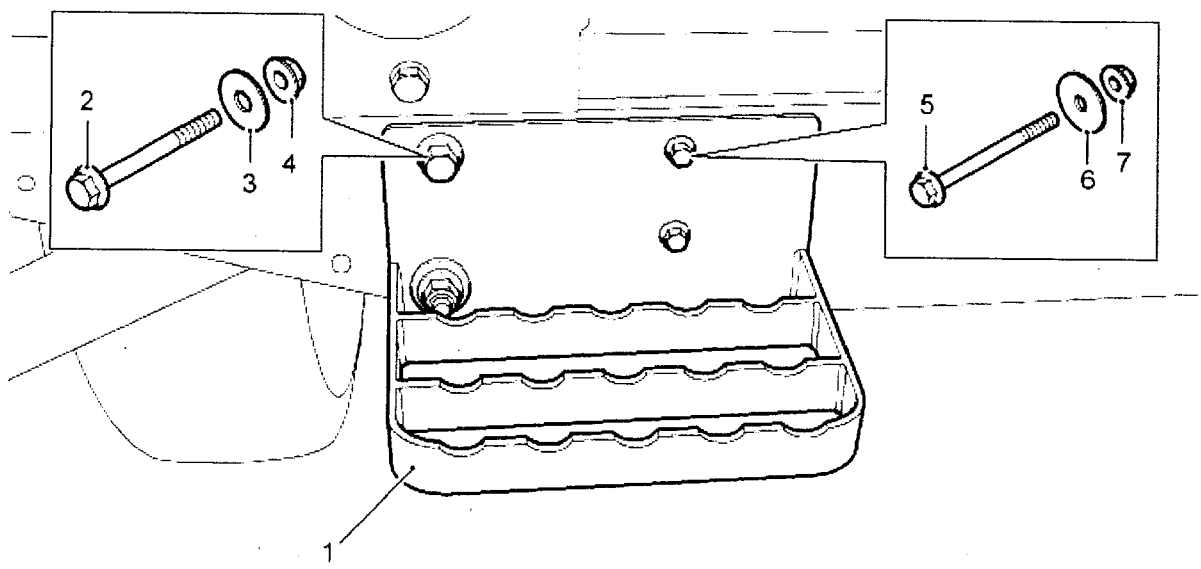
Fig 14 Securing the spare wheel

11.24 Installation of the Rear Step.

11.24.1 Remove the four bolts, washers, spring washers and nuts securing the LH Bumperette to the rear of the vehicle.

11.24.2 Secure the rear step (Item 12) to the rear crossmember using two M10 bolts (Item 13) with large diameter washers (Item 14) under the flange nuts (Item 15) to the left hand side of the step (Refer to Fig 15).

11.24.3 Install two M8 bolts (Item 16) with large diameter washers (Item 17) under the flange nuts (Item 18) to secure the right hand side of the step (Refer to Fig 15).



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1	Rear step	5	Bolt M8 x 110
2	Bolt M10 x 110	6	Washer M18
3	Washer M10	7	Flange Nut M8
4	Flange Nut M10		

Fig 15 Fitting the rear step

Installation of side hinged spare wheel carrier kit – hard top vehicles.

12 Carry out the Modification as follows:

WARNINGS

(1) HEALTH AND SAFETY. ENSURE APPROPRIATE CLOTHING AND GOGGLES ARE WORN WHEN DRILLING.

(2) ENSURE THERE IS NOTHING THAT WILL BE DAMAGED BY THE DRILL PASSING THROUGH THE BODYWORK.

NOTE

During assembly only 'pinch tighten' bolts, on completion when a satisfactory fit has been achieved all fasteners must be fully tightened.

12.1 Removal of existing spare wheel carrier. (Refer to Cat 201 Chapter 3-1).

12.1.1 Remove spare wheel lifting aid (refer to Modification Instruction No. 25) and retain for future use. Also remove the existing side mounted spare wheel carrier and discard. Fit the Blanking plate (Item 38) over the redundant aperture and fix in place with fixings (Item 39). (Refer to Cat 201, Chap 3-1, Para 88).

12.1.2 Remove the long mirror arm on the side of the spare wheel mount and replace with short mirror arm (Item 40). (Refer to Cat 201, Chap 3-1, Para 89).

12.2 Fitting the spare wheel carrier – Door and Side Hinged Tailgate.

12.2.1 Remove the RH side bumperette.

NOTE

Ensure the holes are in line with the rivets in the capping before drilling as detailed below. It is also necessary to remove the internal nut and bolt holding the roof to the capping to ease the assembly of the upper hinge (Nuts and Bolts) to the capping.

12.2.2 Using a 3 mm – 5 mm drill, drill out the two pop rivets from the RH body capping (Refer to Fig 16 and Fig 17) for location of rivets.

12.2.3 Increase the size of the hole "in the roof panel only" using pilot drill and hole cutter (Items 70 and 71) to facilitate the socket required for the M10 flanged head bolts.

12.2.4 Drill out the holes in the capping to 11 mm dia and deburr all holes.

12.2.5 Position the hinge of spare wheel carrier frame assembly (Item 54) and fit and secure with two screws (Item 60) and nuts (Item 61). (Refer to Fig 17 and Fig 19).

NOTES:

(1) To ensure that the wheel carrier fits squarely the upper and lower carrier frame hinges should be in parallel with the door hinges and edge of the lower body.

(2) Feed the top hinge up between the lower edge of the roof and the rear body (against the possible resistance of a foam seal) until the holes line up. If the position of the hinge fouls the door lip adjacent to the door, trim the lip locally to obtain a good fit.

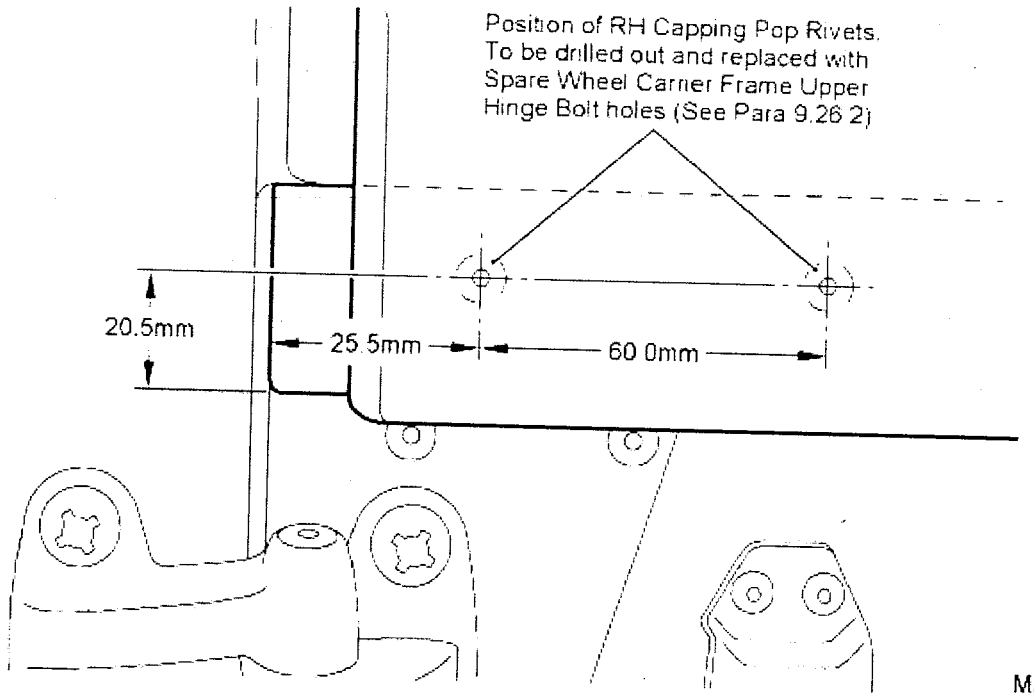
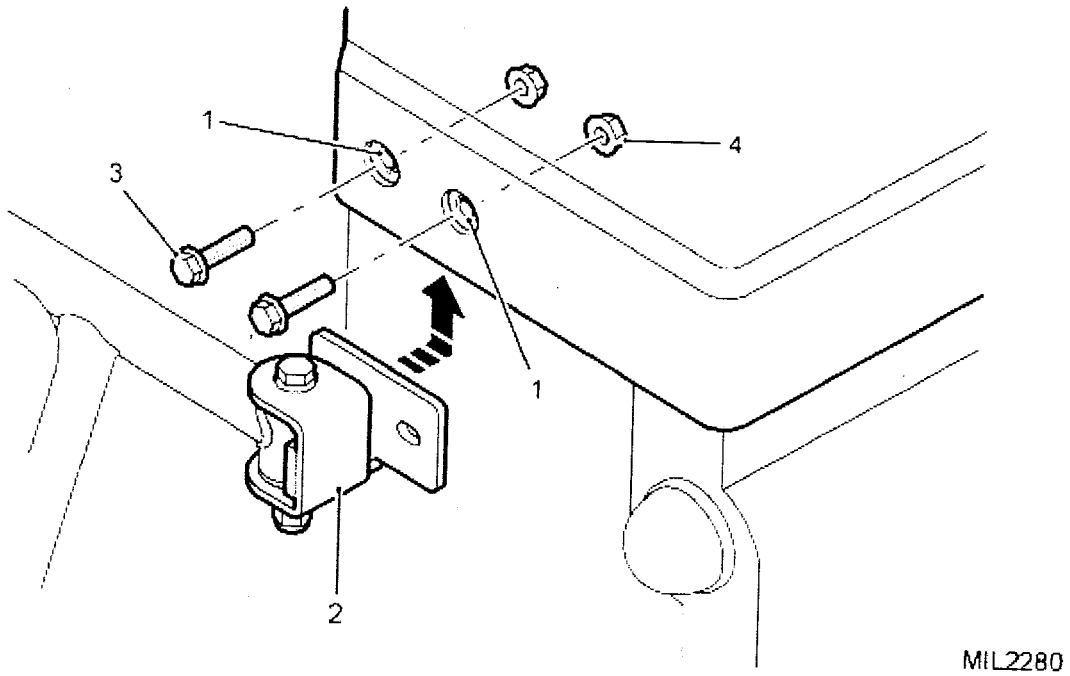


Fig 16 Location of Top Hinge Holes (in line with Capping Rivets)



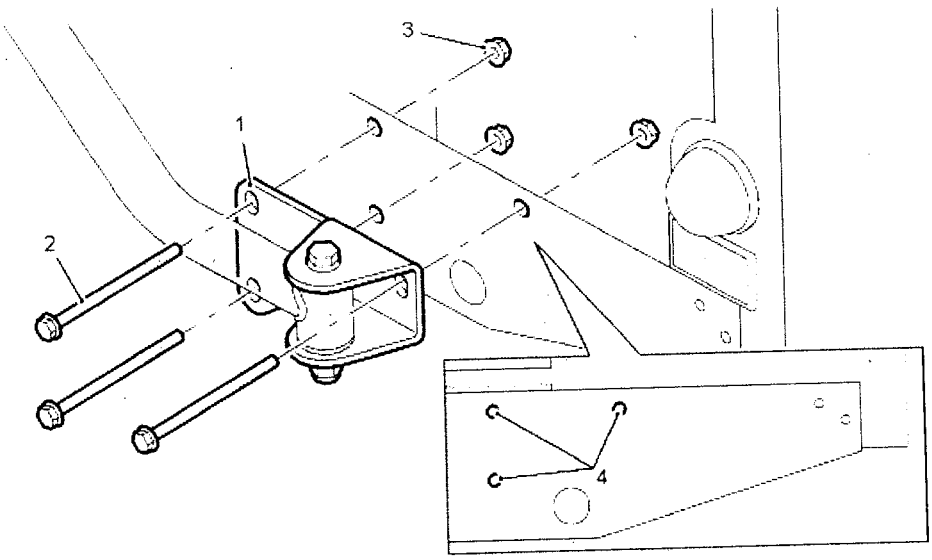
1	Pop rivets	3	Screw, M10
2	Top hinge	4	Nyloc nut, M10

Fig 17 Top hinge of swing away carrier frame complete assembly

12.2.6 Position the Carrier Frame Assembly's (Item 54) bottom hinge on the rear cross member and secure with three bolts (Item 62) and nuts (Item 63). (Refer to Fig 18 and Fig 19).

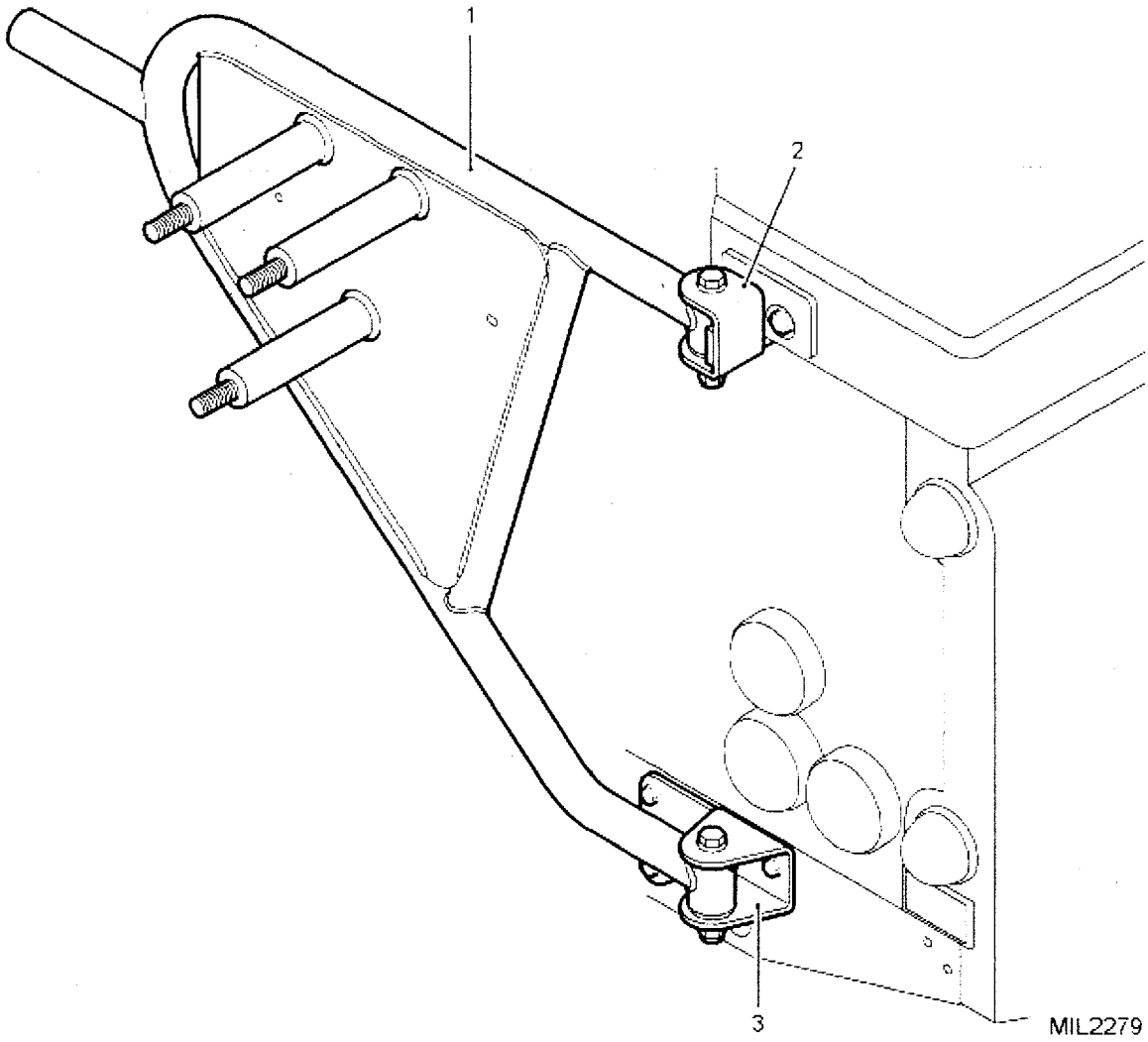
NOTE

To ensure that the wheel carrier fits squarely the upper and lower hinges should be parallel to the edge of the body.



1 Bottom hinge
2 Bolt, M8
3 Nyloc nut, M8
4 Fixing holes

Fig 18 Bottom hinge



1 Swing away carrier frame assembly
2 Top hinge
3 Bottom hinge

Fig 19 Wheel carrier fitting

12.3 Fitting the door stiffening plate.

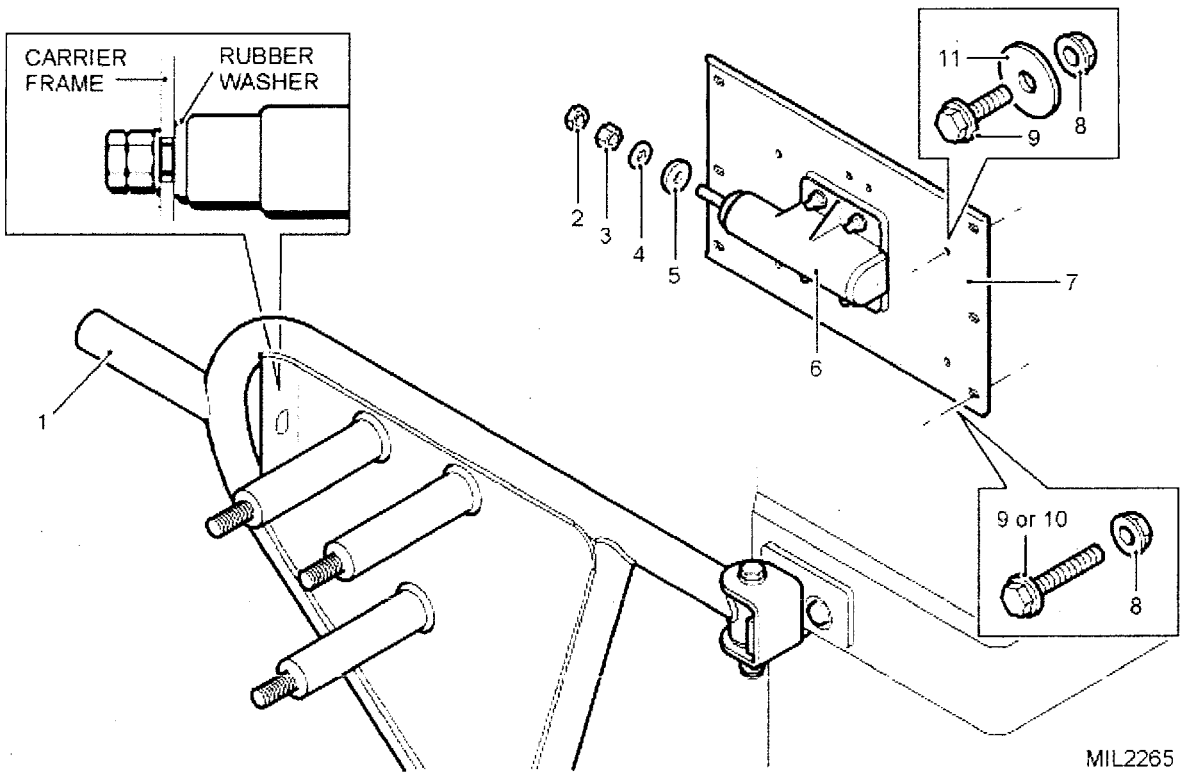
12.3.1 Remove the fixings securing the door interior handle.

12.3.2 Remove all self-tapping screws from the rear interior trim panel and then, using a suitable tool, prise out the clips holding the panel to the door frame.

12.3.3 Remove the trim panel.

12.3.4 If the door already has six pre-drilled holes (Hermes doors) that match up to the slotted holes in the Door Stiffening plate (Item 55), and the door has internal reinforcing tubes, secure the stiffening plate to the door using six flange headed bolts (Item 64) and flange headed nuts (Item 66). If reinforcing tubes are not present in the door, secure stiffening plate to the door using six flange headed bolts (Item 65) and flange headed nuts (Item 66) (Refer to Fig 20).

12.3.5 If holes are not present in the door, position the door stiffening plate as shown in Appendix A, and use as a template to drill the four off 8 mm clearance holes, two either side of the central box. Fix the stiffening plate in position using four flange headed bolts (Item 65), washers (Item 69) and nuts (Item 66) if required (Refer to Fig 20).



1	Wheel carrier	7	Door stiffening plate
2	Lock nut, M12	8	Flanged headed nut M8
3	Nut, M12	9	Flanged headed bolt, M8 x 25
4	Washer, M12	10	Flanged headed bolt, M8 x 50
5	Rubber washer, M12	11	Washer, M8, 31.75 mm OD x 3 mm
6	Piston carrier assembly		

Fig 20 Door plate and piston carrier assembly fitting

12.3.6 Using the door stiffening plate as a guide drill two off 6.5 mm holes in the rear door and deburr (Refer to Fig 21). Fix the female door holder rubber mounting bracket (Item 70) to the door stiffening plate and door with bolts (Item 71), washers (Item 72) and nuts (Item 73). (Refer to Fig 21).

12.4 Fitting the Piston Carrier Assembly.

12.4.1 Install the rubber washer (Item 59) onto the shaft of the piston carrier assembly.

12.4.2 Open the rear door and wheel carrier together and draw the piston into the slot in the wheel carrier frame.

12.4.3 Close the door and carrier, centralise the piston bolt.

12.4.4 Fully open the door and check that the piston shaft is still in a central position. If the piston shaft is not central realign the piston carrier assembly on its slotted holes.

12.4.5 When the alignment is correct fit washer (Item 58) and nut (Item 57), tighten the nut until the rubber washer (Item 59) is lightly pinched, but capable of upward / downward movement in the slotted hole as the door / tailgate is opened / closed.

NOTE

Do not over tighten the nut (Item 57).

12.4.6 Check that the rear door opens and closes correctly, fit locking nut (Item 56) and tighten onto nut (Item 57).

12.4.7 Fully tighten all of the "nipped" fixings holding the carrier to the vehicle. Do not retighten the preset fixings of the Spare Wheel Carrier frame and Stiffener plate.

12.4.8 Check that the Door Holder male rubber mounted on the Swing Away Carrier frame and female rubber mounted on the door plate align and that Door Holder operates correctly. (Refer to Fig 21).

NOTE

The Door Holder male rubber is factory fitted and set up prior to despatch and no further adjustment should be necessary. The Door Holder female rubber fitted in procedure 9.27.6 could require adjustment.

If adjustment is required to reduce door opening angle refer to procedures 12.4.9 and 12.4.10 below.

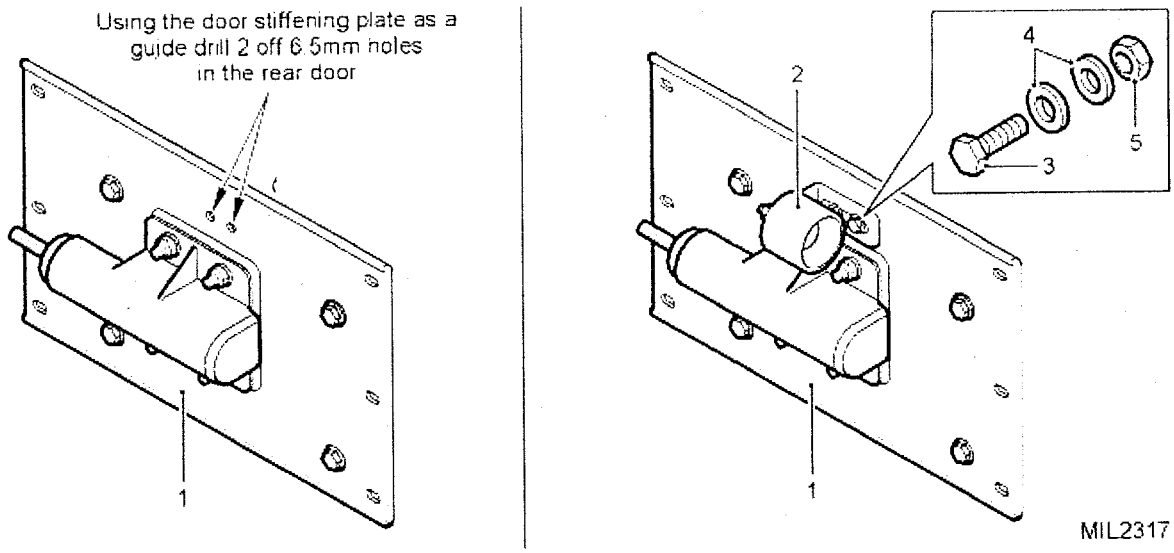
12.4.9 After the final installation is complete, check that the rear door opening angle does not exceed 85°. Indicated when the spare wheel and tyre assemble mounted on the swing away carrier obscures the vehicles R/H tail lights when the rear door is fully open. If adjustment is required, disconnect the swing away carrier from the door plate assembly at the piston, swing the carrier out independently of the rear door to gain access to the bracket adjustment bolts. (Refer to Fig 21).

12.4.10 To adjust the bracket loosen the two M6 nuts on the inside of the rear door and adjust the bracket as required. Re-tighten fixings. (Refer to Fig 22).

NOTE

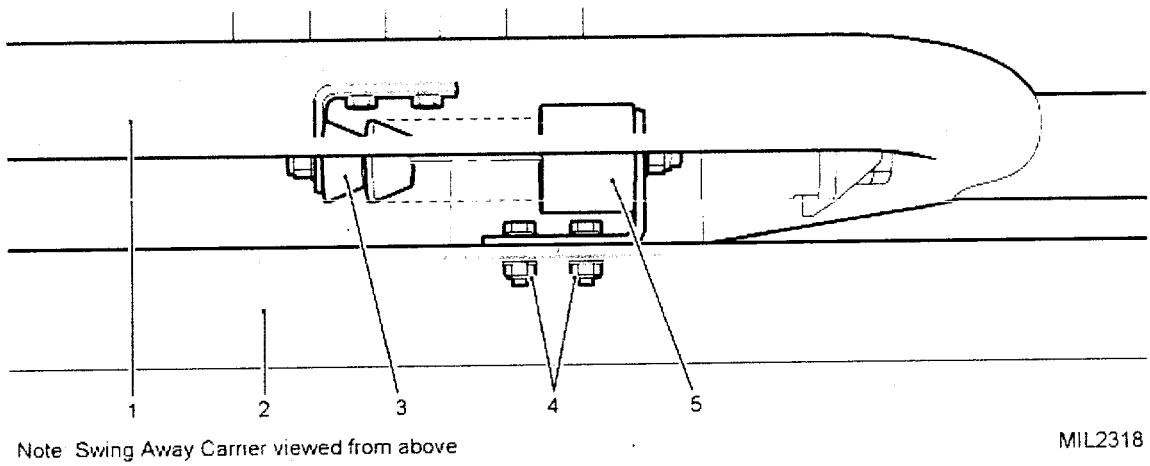
Moving the bracket towards the right hand side of the vehicle (when viewed from behind the vehicle) will reduce the opening angle of the door. Reconnect the swing away frame to the door at the piston assembly and check the opening angle. Adjust either way as required to obtain the maximum opening angle of 85°.

12.4.11 Refit the interior trim panel, lock cover and interior handle to the door and the bolt, washers and nut which secures the RH roof panel to the lower body.



1 Door stiffening plate
2 Door holder female rubber
3 Bolt, M6 x 20
4 Washers, M6
5 Nyloc nut, M6

Fig 21 Door holder female rubber installation



Note Swing Away Carrier viewed from above

1 Swing away carrier frame
2 Rear door
3 Door holder male rubber
4 M6 nuts – mounting bracket
5 Door holder female rubber

Fig 22 Door holder rubber alignment

12.5 Fitting the Spare Wheel Lifting Aid.

NOTE

Before refitting inspect the Spare Wheel Lifting Aid for excess wear or damage. If necessary, demand and fit a new Spare Wheel Lifting Aid.

12.5.1 If necessary drill two 8.5 mm dia holes in the spare wheel carrier as shown in Fig 23 and deburr.

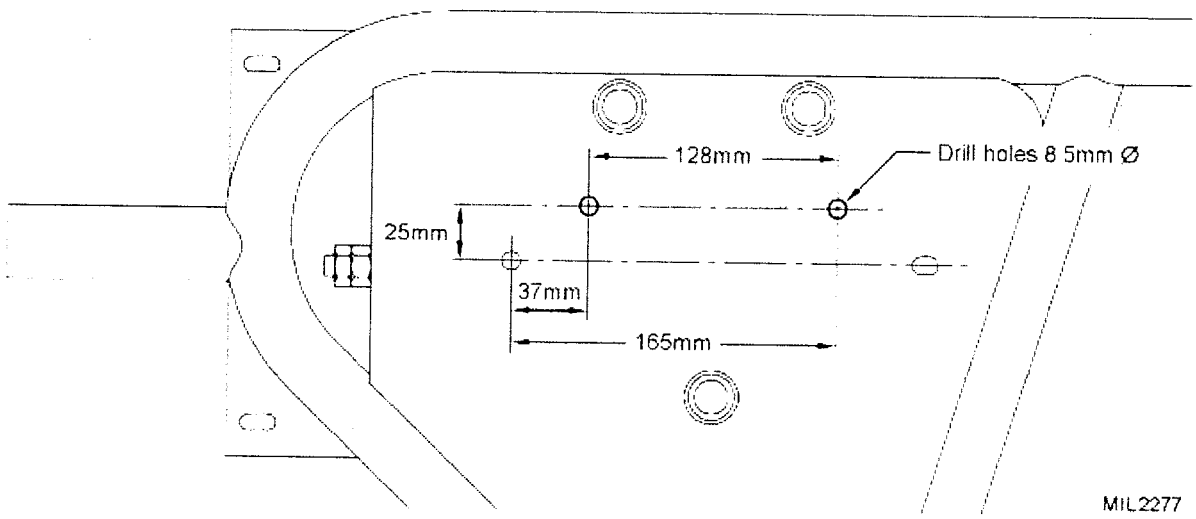
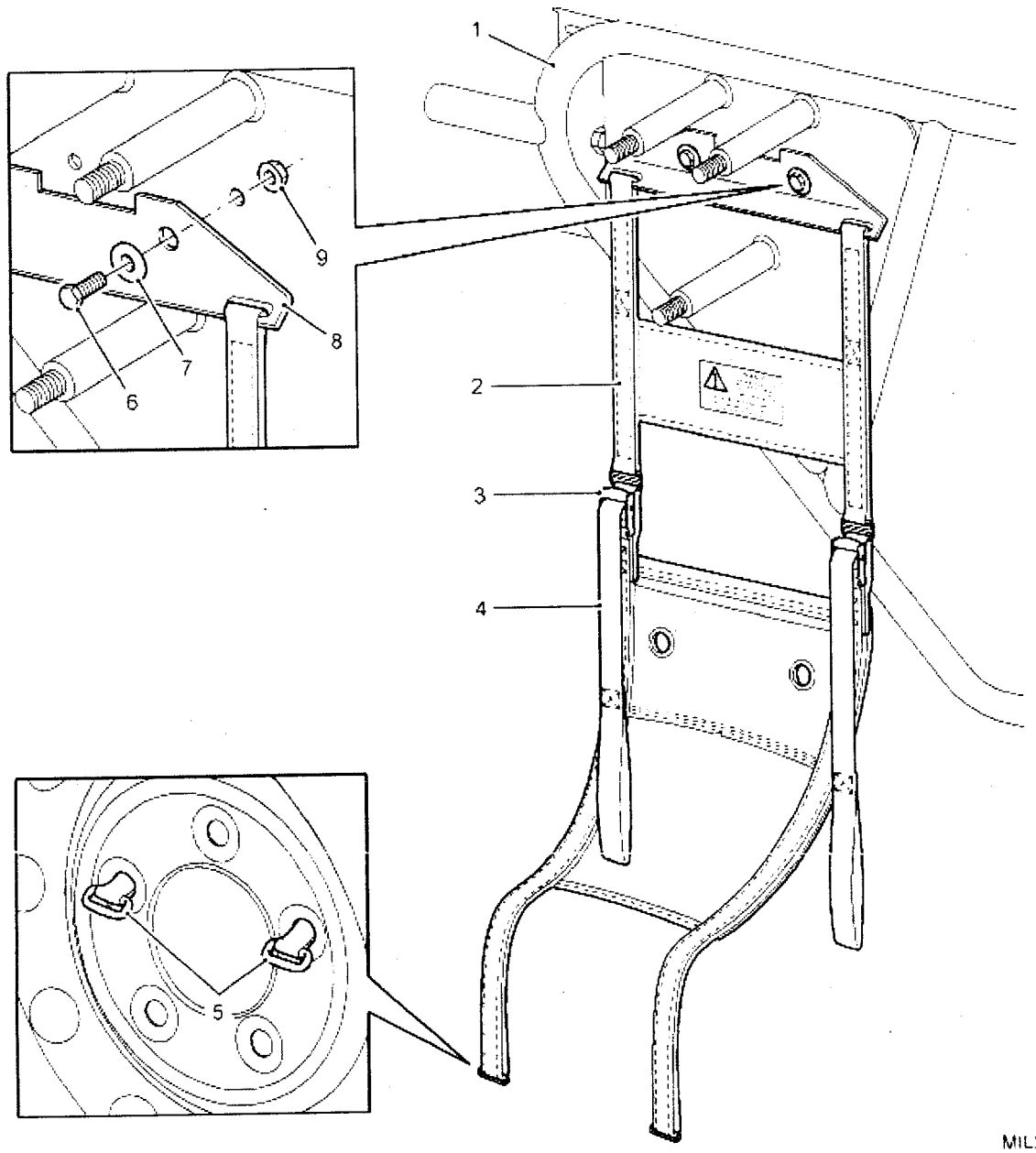


Fig 23 Drilling spare wheel carrier

12.5.2 Secure the Spare Wheel Lifting Aid to the spare wheel carrier with two screws (Item 52) and if necessary stepped washers (Item 51) installed from the front of the bracket and secured with nuts (item 53) from the behind the spare wheel carrier. (Refer to Fig 24).



1	Spare wheel carrier	6	Screw
2	Harness	7	Stepped washer
3	Adjustment cleats	8	Bracket
4	Adjustment straps	9	Nut
5	Harness stops		

Fig 24 Spare wheel lifting aid

12.6 Fitting the Wheel on to the carrier.

12.6.1 Remove the tyre inflation valve extension from the wheel. (Refer to Modification Instruction No. 6).

12.6.2 With the harness hanging down from the wheel carrier push the plastic stops and straps through the wheel stud holes from the front of the wheel. (Refer to Fig 24).

NOTE

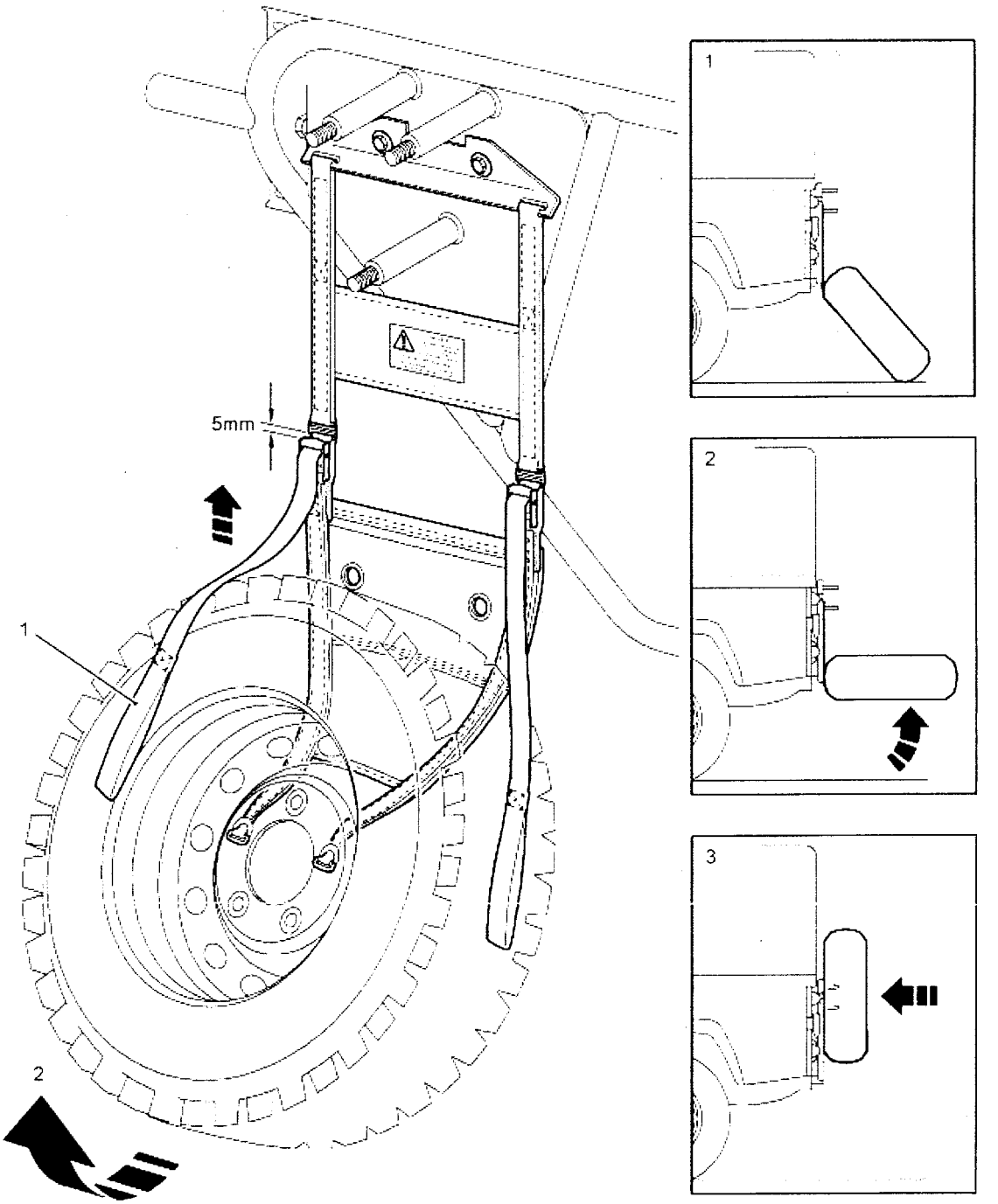
The plastic stops should be one wheel stud hole apart.

12.6.3 Adjust the straps fully against the metal buckles and then back them off by approximately 5 mm. (Refer to Fig 25).

12.6.4 Stow the excess straps in the bag in the centre of the harness assembly.

12.6.5 Take hold of the spare wheel with both hands and lift the lower edge of the spare wheel and rotate wheel so that the centre of the wheel locates up against the wheel carrier on the side of the vehicle. (Refer to Fig 25).

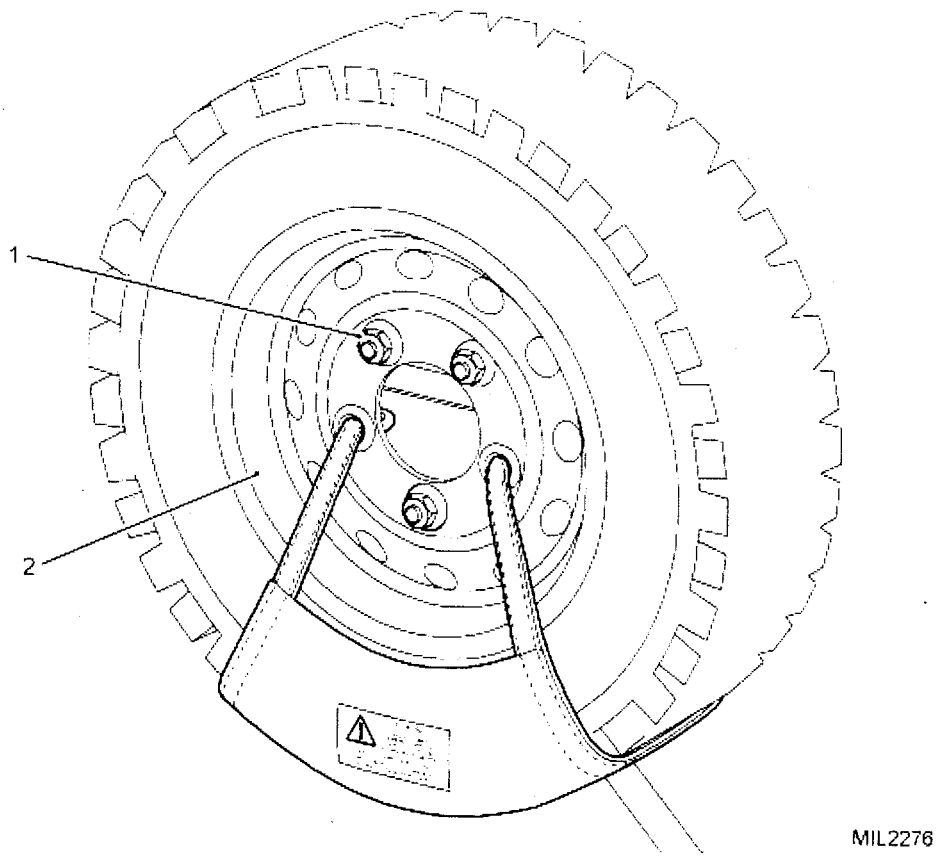
12.6.6 If the straps have been adjusted correctly the centre of the wheel should locate up against the wheel carrier. With both hands push the wheel upwards to locate the spare wheel onto the wheel studs on the carrier.



1 Adjust straps to correct length
2 Rotate wheel up against wheel carrier
3 Locate wheel on carrier

Fig 25 Lifting the spare wheel

12.6.7 Support the spare wheel in the stowed position while securing the wheel with wheel nuts (Item 67). Tighten wheel nuts to 100 Nm. (Refer to Fig 26).



1 Wheel nuts x 3 2 Spare wheel

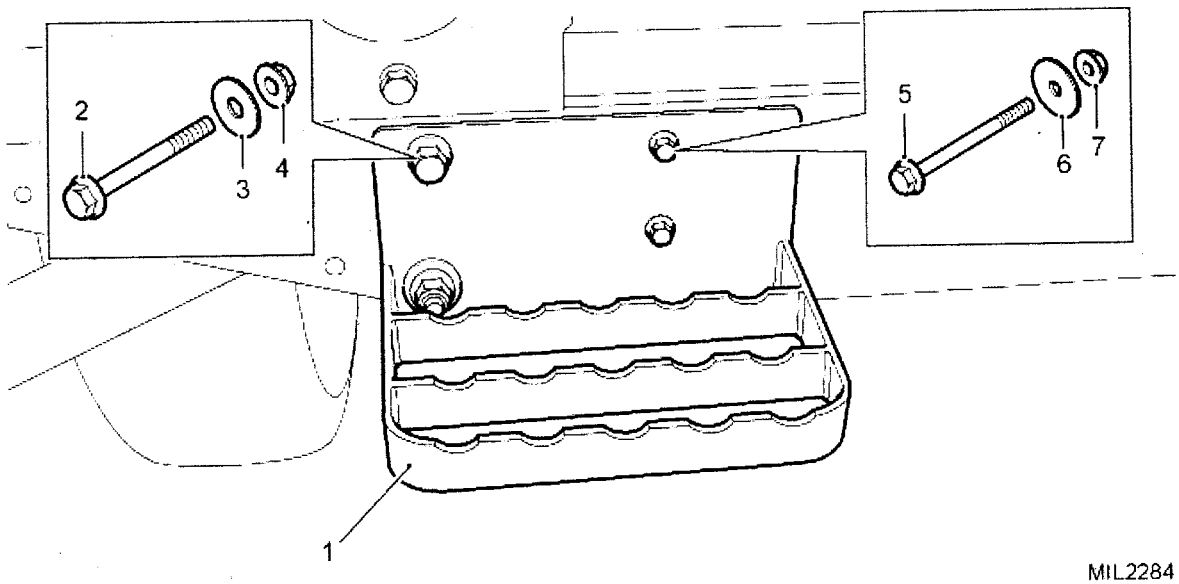
Fig 26 Securing the spare wheel

12.7 Installation of the Rear Step.

12.7.1 Remove the four bolts, washers, spring washers and nuts securing the LH Bumperette to the rear of the vehicle.

12.7.2 Secure the rear step (Item 41) to the rear cross-member using two M10 bolts (Item 42) with large diameter washers (Item 43) under the flange nuts (Item 44) to the left hand side of the step (Refer to Fig 27).

12.7.3 Install two M8 bolts (Item 45) with large diameter washers (Item 46) under the flange nuts (Item 47) to secure the right hand side of the step (Refer to Fig 27).



1	Rear step	5	Bolt M8 x 110
2	Bolt M10 x 110	6	Washer M18
3	Washer M10	7	Flange Nut M8
4	Flange Nut M10		

Fig 27 Fitting the rear step

Modification of rear lamp locations

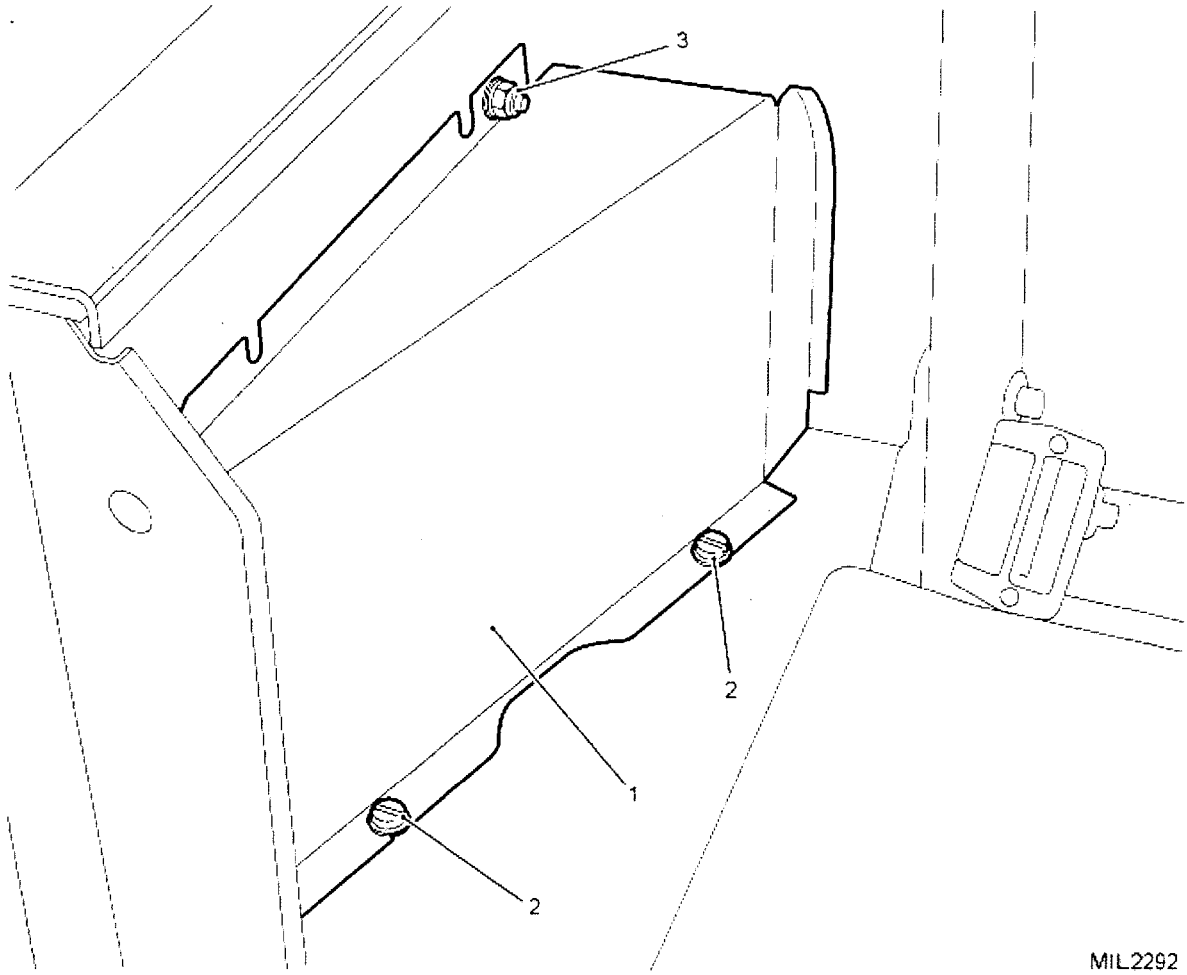
12.8 Carry out the modification as follows:

WARNINGS

(1) HEALTH AND SAFETY. ENSURE APPROPRIATE CLOTHING AND GOGGLES ARE WORN WHEN DRILLING.

(2) ENSURE THERE IS NOTHING THAT WILL BE DAMAGED BY THE DRILL PASSING THROUGH THE BODYWORK.

12.8.1 Remove the self-tapping screws and the nuts, spring washers and plain washers securing the lamp cover panels inside the rear of the vehicle. (Refer to Fig 28).



1 Lamp cover panel
2 Self-tapping screw and washer
3 Nut, spring washer and washer

Fig 28 Lamp cover panel removal

12.8.2 Remove screws securing the tail lamp and stop lamp assemblies to the rear of the vehicle. (Refer to Fig 29)

12.8.3 Disconnect the multi-plugs from the bulb holders.

12.8.4 Position combined side/brake lamp assembly (Item 19 or 48) to the rear of the vehicle and secure with two screws. (Refer to Fig 33)

12.8.5 Connect the original stop lamp multi-plug to the corresponding socket on the harness assembly (Item 21 or 50). (Refer to Fig 30)

12.8.6 Feed the red and black wires and the socket of the harness assembly through the grommet and connect to the original side lamp multi-plug.

12.8.7 Insert the three pin multi-plug fitted to the cable assembly in to the combined side/brake lamp (Item 19 or 48).

Indicator Removal

12.8.8 Remove the two screws securing the rear indicator lamp unit to the mounted plinth.

12.8.9 Disconnect the multi-plug from the indicator lamp bulb holder. Retain the indicator lamp unit for re-fitting.

12.8.10 Remove the two screws securing the mounted plinth to the vehicle and remove plinth. Retain the plinth for re-fitting.

Indicator lamp plinth modification

12.8.11 Turn the mounting plinth over to the rear and remove the small locating spigot from the plinth.

12.8.12 Using one of the lamps removed (tail or brake lamp) as a template cut two to three strips of Gaffer tape 20 mm wide x 132 mm long and wrap the individual strips around the base of the removed tail lamp until it can still be inserted into the hole at the rear of the plinth but without excess side to side movement. (Refer to Fig 31).

12.8.13 Place the assembly of the plinth/side lamp onto a firm surface and line up the holes in the side lamp with the small lamp retaining holes in the plinth.(Refer to Fig 31).

12.8.14 Using a 3 mm drill gently insert the drill through the holes in the front of the side lamp and drill vertically down through the rear face of the indicator plinth.

Or alternatively

12.8.15 Turn the mounting plinth over to the rear and remove the small locating spigot from the plinth.

12.8.16 Turn the indicator plinth onto its face and scribe a line on the rear face that is in line with the indicator fixing holes, (in the front face). Scribe a second line at 90 degrees to first, 3 mm inboard of the large hole. (Refer to Fig 32).

12.8.17 Carefully drill two 3 mm holes through the mounting plinth.

Indicator fitting

12.8.18 Position the indicator mounting plinth to its new position on the rear of the vehicle and secure with the two screws that secured the removed taillight. (Refer to Fig 33)

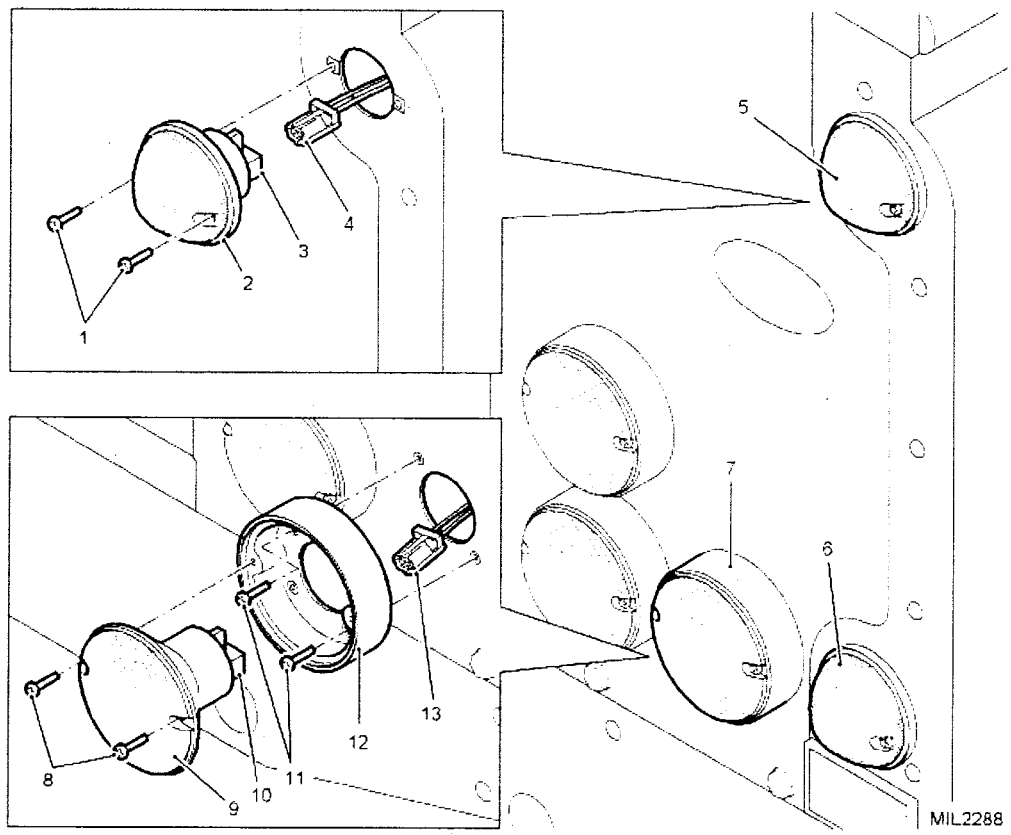
12.8.19 Remove bulb holder from rear of indicator lamp and insert bulb (Item 20 or 49), re-fit bulb holder.

12.8.20 Insert harness plug in to indicator lamp.

12.8.21 Install Indicator lamp unit to plinth secure with two screws previously removed.

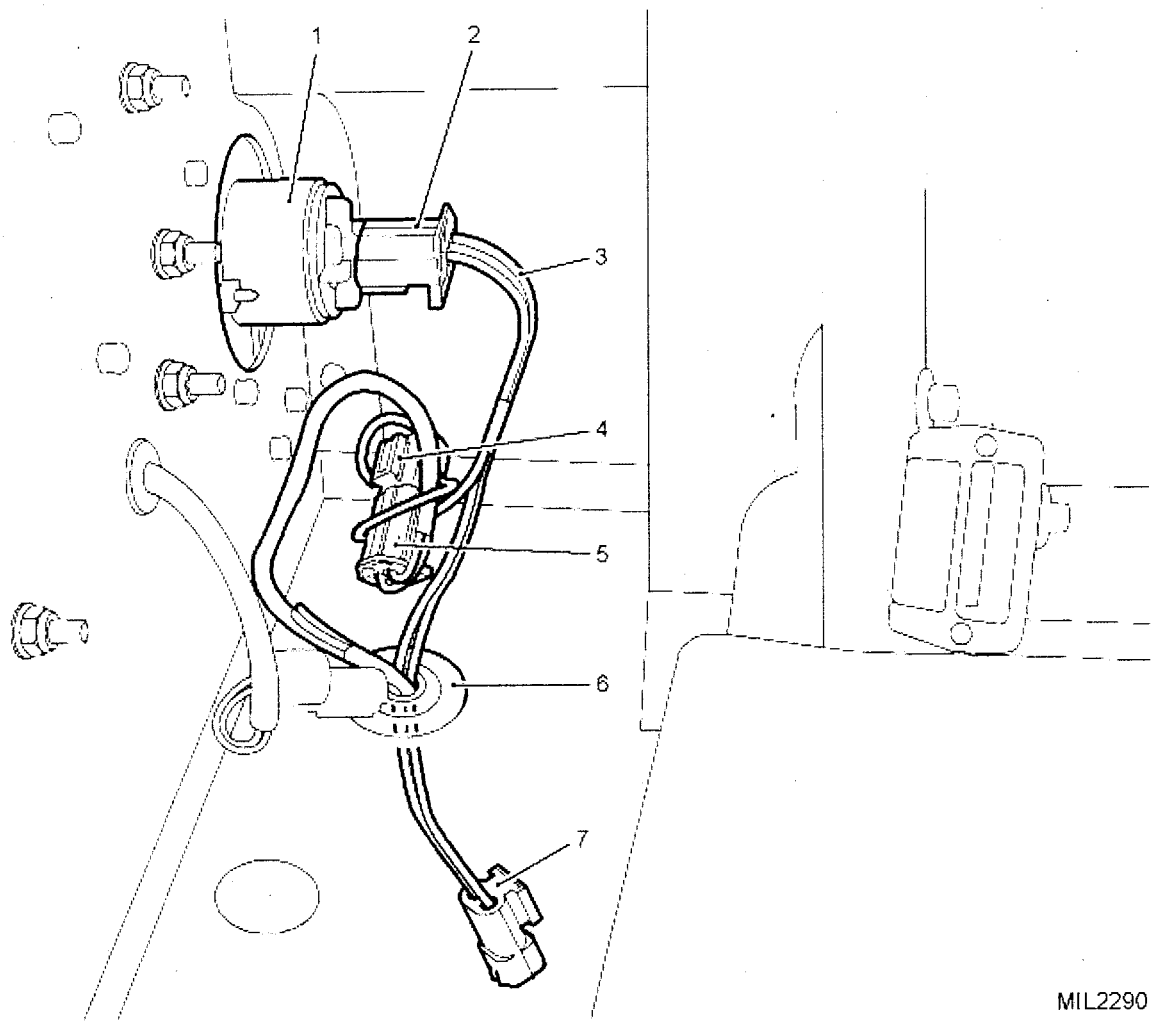
12.8.22 Refit the lamp cover panels; secure the panels with self-tapping screws along the bottom lip and nuts, spring washers and plain washers at the top. (Refer to Fig 28).

12.8.23 Insert grommets (Item 37 or 68) into the original indicator positions and install screws to blank the original fixing holes.



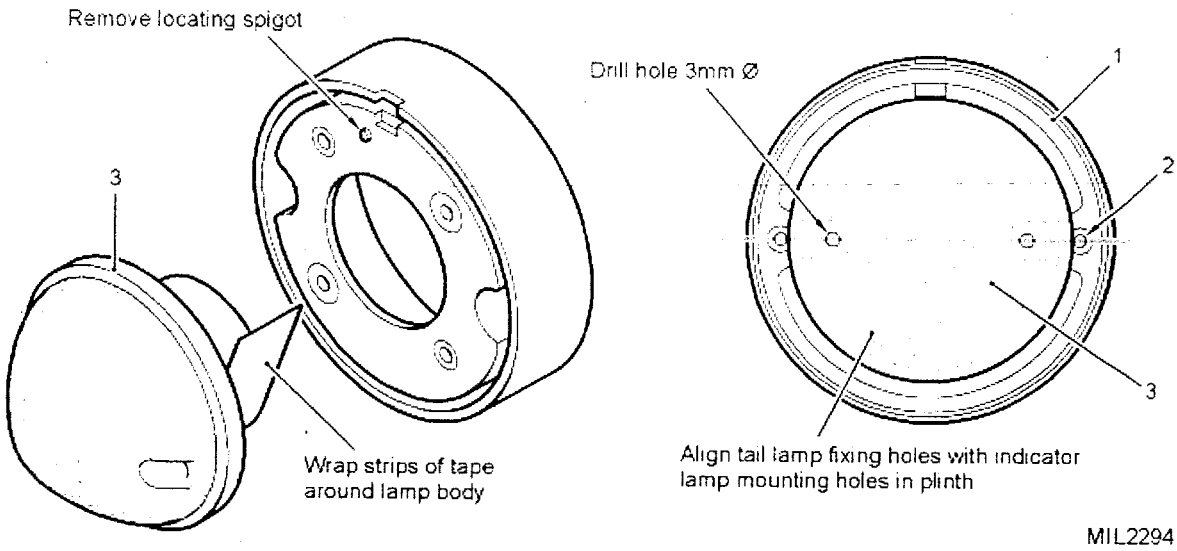
1	Screws	8	Screws
2	Lens	9	Lens
3	Bulb holder	10	Bulb holder
4	Multi-plug	11	Screws
5	Tail lamp	12	Mounting plinth
6	Brake lamp	13	Multi-plug
7	Indicator lamp		

Fig 29 Lamp removal



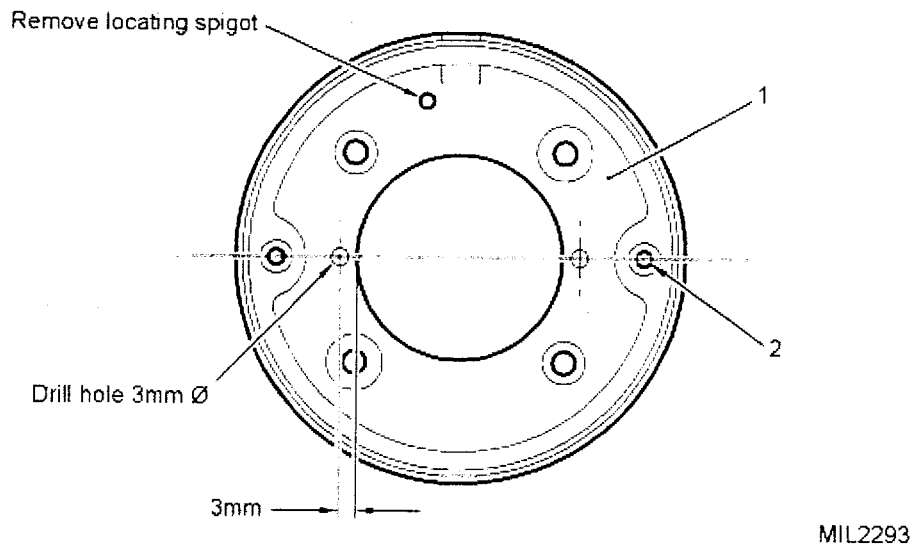
1 Combined tail and brake lamp
2 3 pin multi-plug
3 Harness assembly
4 Brake lamp socket
5 Original
6 Grommet
7 Tail lamp socket

Fig 30 Harness installation



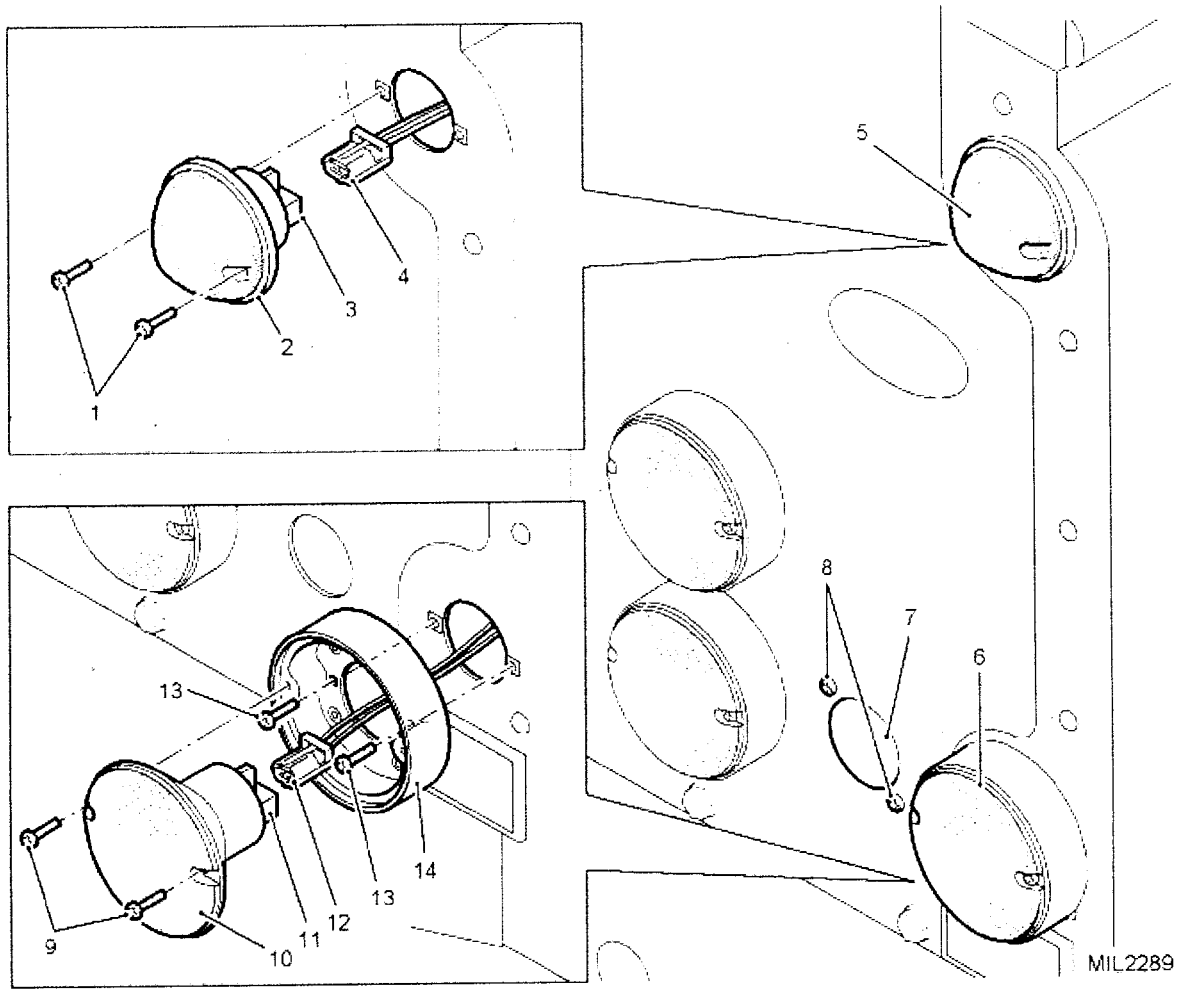
1 Indicator mounting plinth
2 Indicator lamp fixing hole
3 Tail or brake lamp

Fig 31 Indicator plinth drilling – viewed from the rear



1 Indicator plinth
2 Indicator lens mounting hole

Fig 32 Indicator plinth drilling – viewed from the rear



1	Screws	8	Screw
2	Lens	9	Screw
3	Bulb holder	10	Lens
4	Multi-plug – 3 pin	11	Bulb holder
5	Combined tail and brake lamp	12	Multi-plug
6	Indicator lamp	13	Screw
7	Grommet	14	Plinth

Fig 33 Lamp installation

TESTING AFTER EMBODIMENT

13 Test for correct operation of all the exterior vehicle lamps.

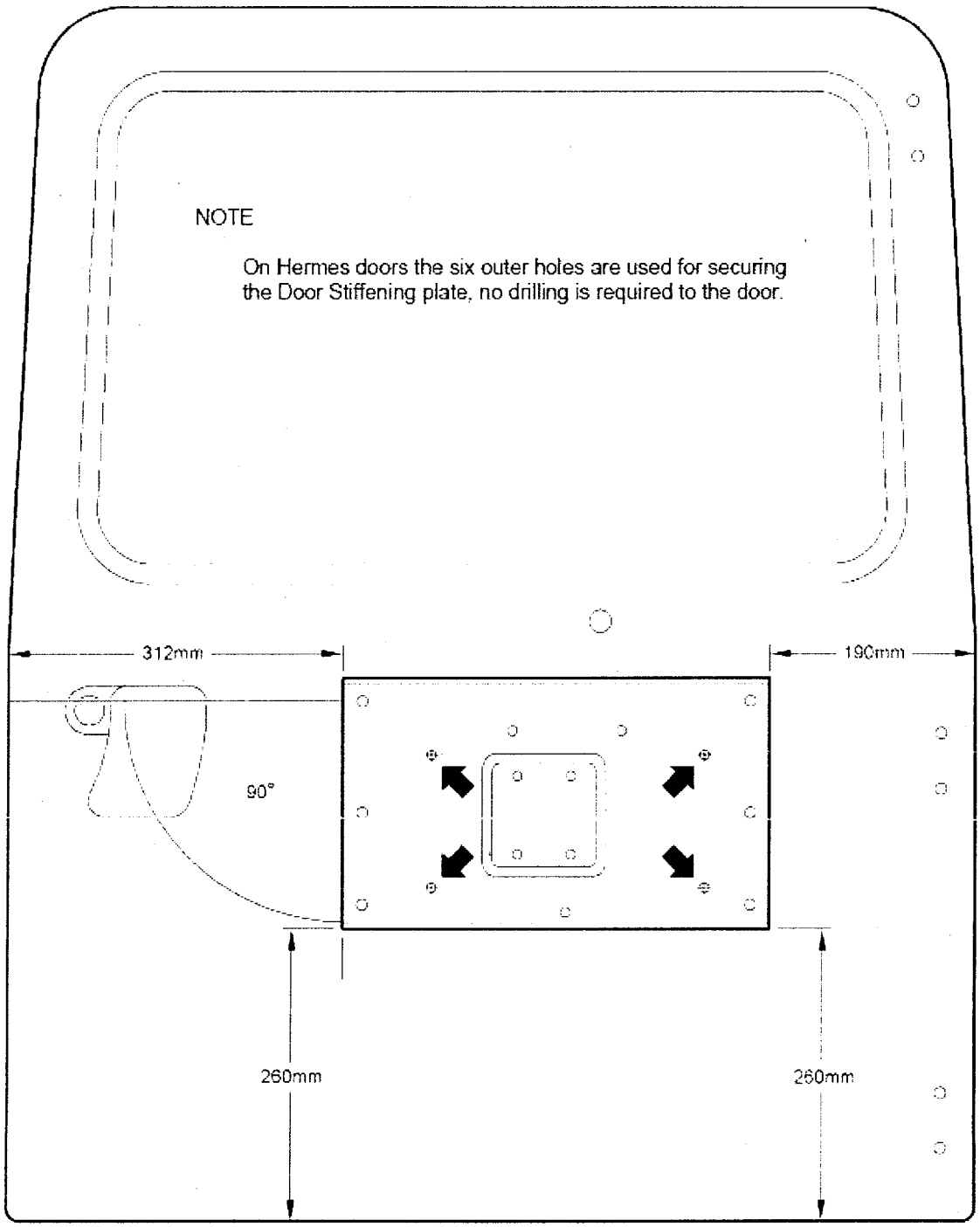
EFFECT ON WEIGHT

14 Negligible.

PUBLICATION AMENDMENTS

15 Nil.

APPENDIX A TO 2320-D-128-811 MODIFICATION INSTRUCTION NO. 42



MIL2272

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS, AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 43

CONTENTS

Sponsor: OSVP PT
Project number:
File ref:
Publication agency: OSVP PT, Abbey Wood

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
1		
2		
3		

Amdt No.	Incorporated By (Signature)	Date
4		
5		
6		

SUBJECT: Removal of battery box and fitting of a rear facing seat and on winter water vehicles, removal of rear compartment radiators and modification to the fitting of the raised air intake.

INTRODUCTION

1 This Modification Instruction details the removal of radio, battery box and fitting rear seat in preparation for conversion to the Scout vehicle specification.

1.1 Limitations on use of equipment. The following limitations are to be adhered to when operating the vehicle in the Scout configuration:

1.1.1 Truck Utility Medium (High Specification) (TUM (HS)), in the Scout role have three seats, no more than three people, including the driver, shall be transported in the vehicle at any one time.

1.1.2 All vehicular occupants are to be seated and wearing the seat belts provided, whilst the vehicle is in motion.

1.1.3 No weapons or equipment is to be fixed to the vehicles.

1.1.4 No simulation of the Weapons Mounted Installation Kit (WMIK) rear gunner role is to be practised, whereby the rear occupant stands up at any time.

1.1.5 A vehicle equipment stowage plan is to be formulated by LWC; it is then to be endorsed by HQLF and GSV PT.

1.1.6 The Scout variant must not tow.

APPLICABILITY

2 Only vehicles as authorised by Army Headquarters (HQ) are to be used for this conversion.

REASON FOR MODIFICATION

3 Code 2 - to improve operational performance.

PRIORITY

4 Army: Routine.

5 RAF: Class 3.

ESTIMATED TIME REQUIRED

6 Embodiment: 2.25 man hours.

MODIFICATION IMPLEMENTATION PLAN

7 This Modification Instruction is to be implemented by:

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

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

8 Associated Modification Instructions:

8.1 MOD Instruction 14 – Fitting of the Shower Proof Dash Cover.

8.2 MOD Instruction 39 – Fitting of the REMUS Front Roll Over Protection System (FROPS).

9 Modification plate strike action. Nil.

Additional maintenance

10 In addition to embodiment of Modification Instructions No. 14, 39 and 43, the following maintenance activities are to be carried out to convert the vehicle to the Scout configuration:

10.1 Vehicle canopy/hardtop removed.

10.2 Door tops removed.

10.3 Windscreen and frame removed.

Action required by

11 Units and establishment holding equipment.

11.1 Examine Joint Asset Management Equipment Solution (JAMES)/Vehicle documents to see if the Modification Instruction is applicable.

11.2 Examine the Modification record plate to see if Modification Instruction is embodied and where necessary units with Level 2 Royal Electrical and Maintenance Engineers (REME) support demand the stores required.

11.3 Upon the embodiment of equipment, units are to record the modification subject and Army Equipment Support Publication (AESP) number in JAMES/Equipment documents.

11.4 RAF – Record modification details on AF G1084A and Form 4870. Units operating Station Transport Management Aid (STAMA) are also to record modification details on ADP Mechanical Transport Maintenance Section (MTMS) job Certification Sheet and to follow the procedures laid down in AP 100C - 08A.

12 Army units authorised to carry out Levels 2, 3 and 4 maintenance and RAF units.

12.1 ARMY – When requested by users or during overhaul of equipment on charge without REME Level 2 support, obtain the items listed in Para 14 and carry out this Modification.

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

13 All receipts of this instruction. Add particulars to AESP ref 2320-D128-811 Modification Instruction index.

Stores tools and equipment

NOTE

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

14 The following set is to be demanded quoting this Maintenance Instruction as authority:

14.1 Stores to be demanded:

Item No	DMC	NSN/Part No	Designation	Qty per eqpt
			Rear Seat Kit (Auxiliary Parts) Comprising:	1
1			Base Frame	(1)
2		2540-99-510-5858	Seat	(1)
3			Spreader plate	(1)
4			Bracket, left hand	(1)
5			Bracket, right hand	(1)
6		2540-99-399-8279	Safety harness, c/w fittings	(1)
7			Screw, M8	(8)
8			Screw, M8	(4)
9			Washer, M8	(12)
10			Spacer	(4)
11			Nut, nyloc M8	(4)
12			Nut plate	(2)
13			Rivet, nut plate	(2)
			Raised air intake (Auxiliary Parts) Comprising:	1
14			Top bracket	(1)
15			Bottom bracket	(1)
16			Clamp	(2)
17			Screw, M8	(6)
18			Nut, nyloc M8	(4)

Sequence of operations

NOTE

The item numbers in Para 14 are used as references throughout this Modification Instruction.

WARNINGS

(1) HEALTH AND SAFETY. ENSURE APPROPRIATE CLOTHING AND GOGGLES ARE WORN WHEN DRILLING.

(2) ENSURE THERE IS NOTHING THAT WILL BE DAMAGED BY THE DRILL PASSING THROUGH THE BODYWORK.

15 Carry out the Modification as follows:

Removal of radio table and battery box

15.1 Remove the radio batteries (refer to 2320-D-128-522, Chap 13-2, Para 3).

15.2 Disconnect the earth straps from the table.

15.3 Remove the screws, spring washers and plain washers securing the battery box and table assembly to the nut plates mounted to the vehicle floor.

15.4 Remove the battery box and table assembly from the vehicle.

15.5 Remove the screws securing the nut plates to the vehicle floor.

Installing the base frame and seat

15.6 Position the base frame (Item 1) on the vehicle floor, 90 mm behind the rear bulkhead and 65 mm inboard of the bodyside.

15.7 Mark the position of the three base frame rails on the matting, if fitted.

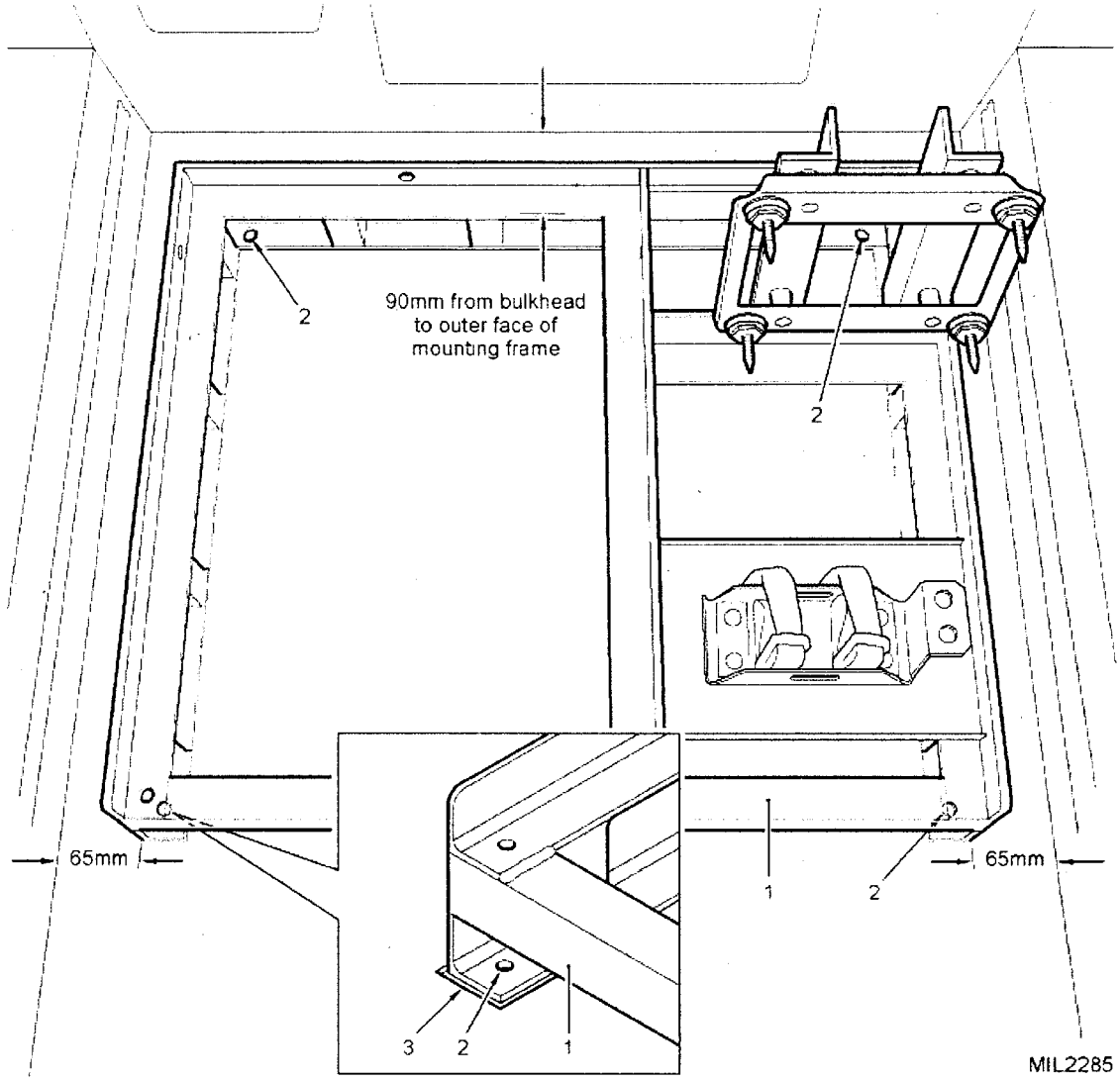
15.8 Cut the matting to accept the base frame rails.

15.9 Mark the position of the four holes on the floor using the base frame as a template. (Refer to Fig 1).

WARNING

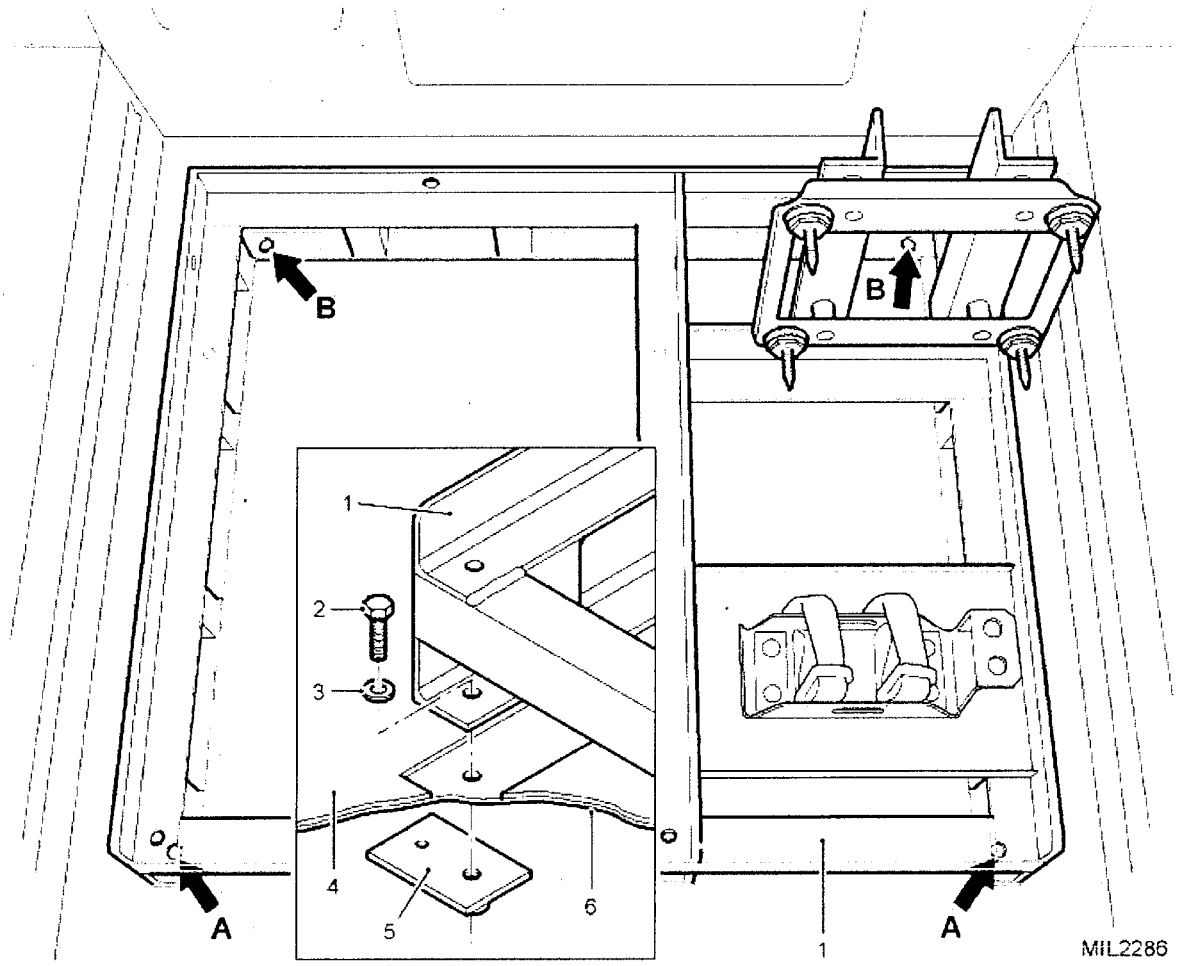
ENSURE THERE IS NOTHING THAT WILL BE DAMAGED BY THE DRILL PASSING THROUGH THE BODYWORK.

15.10 Drill four holes 8.5 mm dia and deburr.



1 Base frame
2 Fixing holes
3 Hole cut in matting

Fig 1 Floor drilling and preparation



1	Base frame	4	Matting (section through, if fitted)
2	Screw, M8 x ??	5	Nut plate
3	Washer, M8	6	Floor (section through)

Fig 2 Installing the base frame

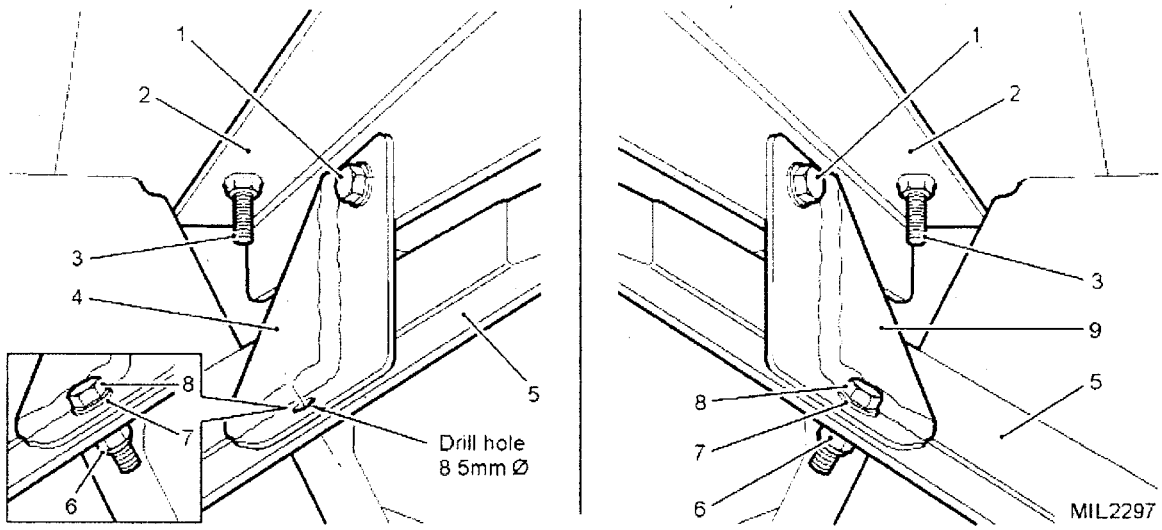
15.11 Position base frame (Item 1) on vehicle floor and secure with two screws (Item 7), washers (Item 9) and nut plates (Item 12) at positions arrowed 'A' in Fig 2. Tighten fixings to xx Nm.

15.12 From under the vehicle align the spreader plate (Item 3) with the holes arrowed 'B' in Figure 2 secure with screws (Item 7) and washers (Item 9). (Refer to Fig 3). Tighten screws to xx Nm.

15.13 Attach the left and right hand brackets (Items 4 and 5) to the spreader plate with screws (Item 7), washers (Item 9) and nuts (Item 11).

15.14 Using the holes in the brackets as a guide drill 8.5 mm holes in the existing left and right braces. (Refer to Fig 3).

15.15 Attach the brackets to the braces with screws (Item 7), washers (Item 9) and nuts (Item 11). Tighten fixings to xx Nm.



1	Screw, washer and nut	6	Nut
2	Spreader plate	7	Washer
3	Base frame securing screw	8	Screw
4	Bracket – left hand	9	Bracket – right hand
5	Existing brace		

Fig 3 Spreader plate installation

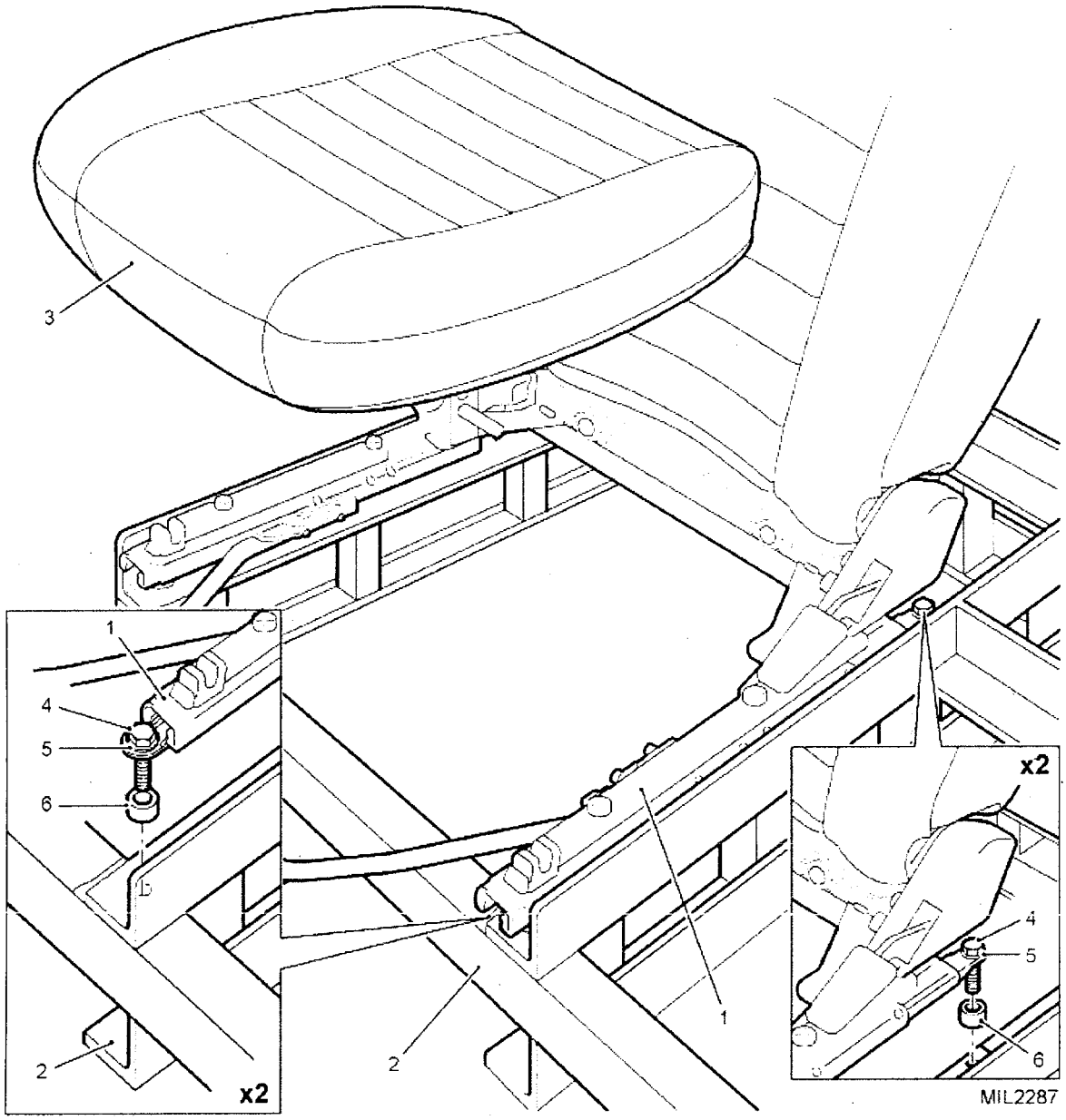
15.16 Locate seat (Item 2) onto base frame and align fixing holes in seat rails with base frame.

NOTE

If necessary, slide the seat on the seat rails to access the seat mounting holes.

15.17 Install four screws (Item 8) with washers (Item 9) through the seat rails and spacers (Item 10), into the tapped holes in the base frame (Refer to Fig 4). Tighten fixings to xx Nm.

15.18 Fit the seat cushion to the seat base.



1	Seat rail	4	Screw, M8 x ??
2	Base frame	5	Washer, M8
3	Seat cushion	6	Spacer

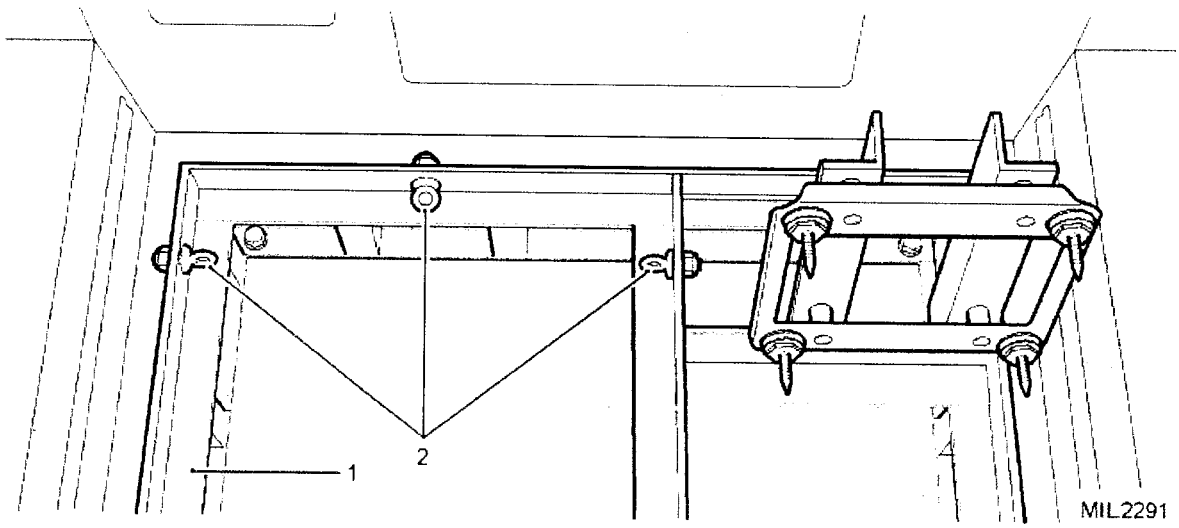
Fig 4 Installing the seat

Installing the Safety Harness

WARNING

ENSURE THAT THE SAFETY HARNESS WEBBING IS NOT TWISTED WHEN SECURING THE HARNESS TO THE EYE BOLTS ON THE BASE FRAME.

16 Clip the anchoring clips of the safety harness (Item 6) to the eye bolts mounted to the base frame on either side and to the rear of the seat. (Refer to Fig 5).



Note: Seat not shown for clarity

1 Base frame

2 Safety harness eyebolts

Fig 5 Safety harness anchoring

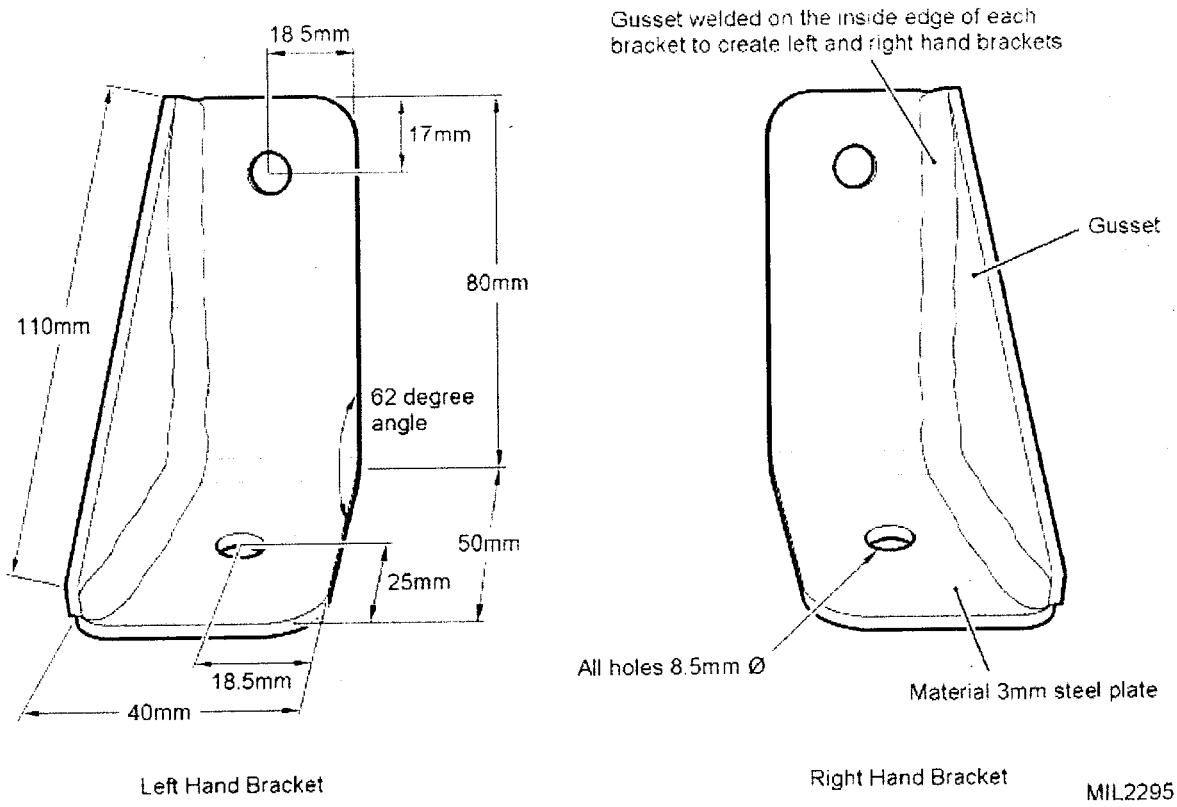


Fig 6 Bracket construction

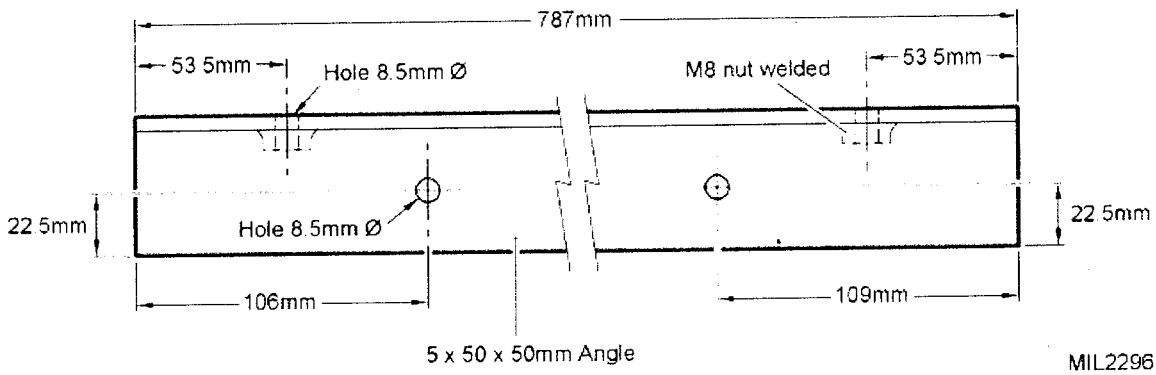


Fig 7 Spreader plate construction

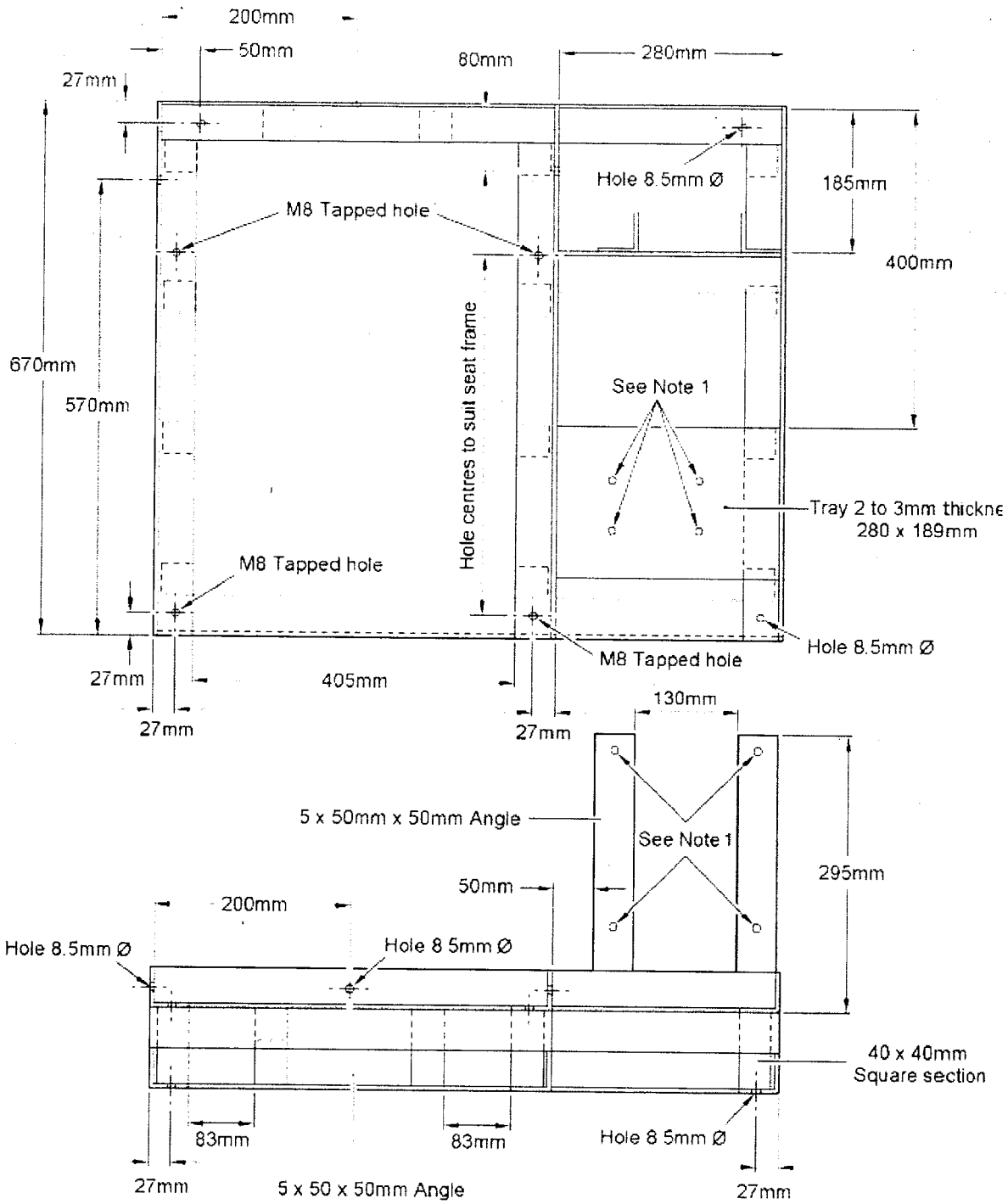


Fig 8 Base frame construction

WINTER WATER VEHICLES ONLY

Rear compartment radiator removal

WARNING

PRESSURISED COOLING SYSTEM. DO NOT REMOVE THE RADIATOR OR EXPANSION TANK FILLER CAP WHEN THE ENGINE IS HOT. THE COOLING SYSTEM IS PRESSURISED AND PERSONAL SCALDING COULD RESULT.

NOTE

Refer to 2320-D-128-522 Chap 18-3 for the procedure for removing the rear compartment radiators.

Pipework modification

CAUTION

After the removal of the rear compartment radiators and modification of the pipework has been completed it will be necessary to bleed the cooling system.

16.1 Slacken the lower hose clip securing the hose. (Refer to Fig 9).

16.2 Rotate the hose through 90 degrees and tighten lower hose clip.

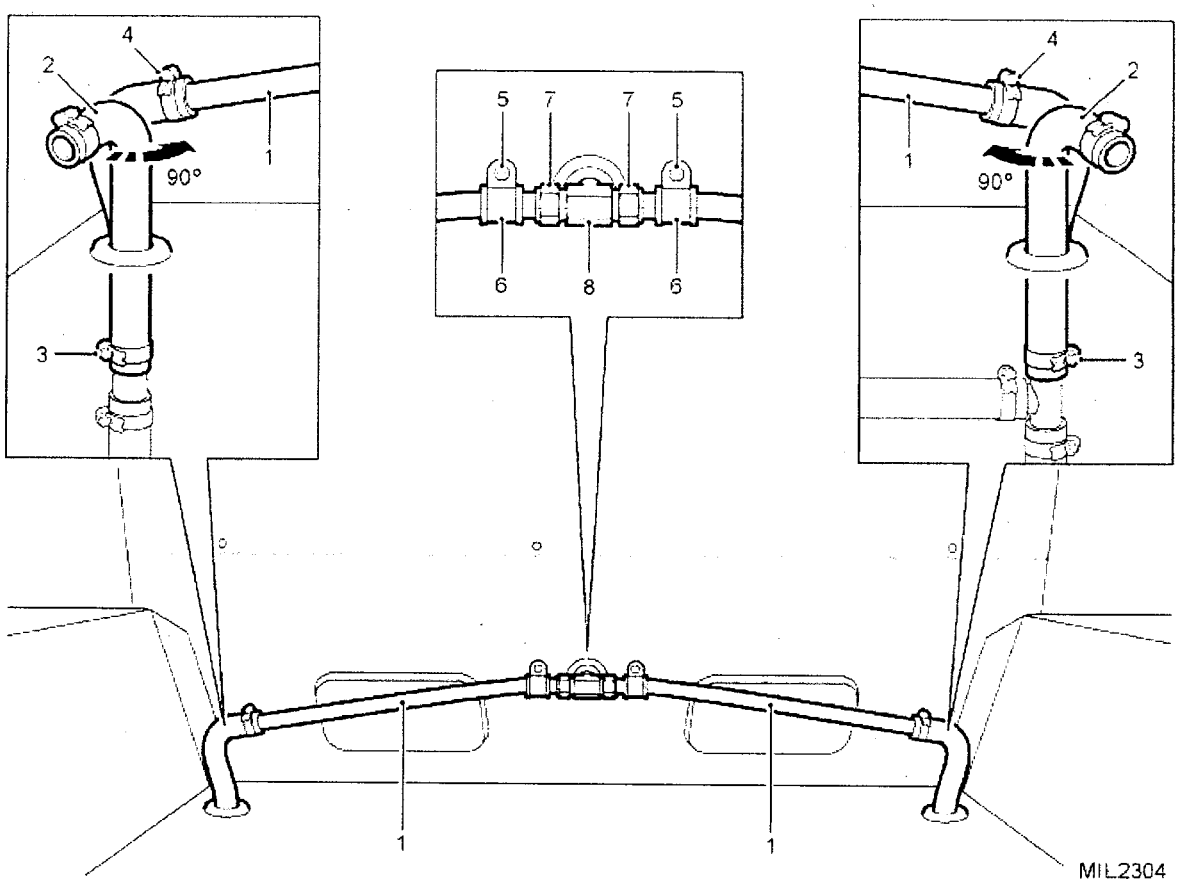
16.3 Repeat Paras 15.1 and 15.2 to the other hose.

16.4 Bend the pipes to suit installation.

16.5 Connect the hoses to the pipes from the stop tap using hose clips.

16.6 Check the tightness of the compression nuts on the stop tap.

16.7 Check the tightness of the screws holding 'P' clips.



1	Pipe	5	Screw
2	Hose	6	'P' clip
3	Lower hose clip	7	Compression nut
4	Hose clip	8	Stop tap

Fig 9 Pipework modification

Bleeding the water heating system

WARNINGS

(1) PRESSURISED SYSTEM. WHEN THE ENGINE IS HOT THE COOLING SYSTEM IS PRESSURISED AND THE RAPID RELEASE OF HOT COOLANT COULD RESULT IN PERSONAL INJURY. DO NOT REMOVE THE RADIATOR OR EXPANSION TANK FILLER CAPS OR THERMOSTAT HOUSING BLEED SCREW UNTIL THE ENGINE HAS COOLED SUFFICIENTLY.

(2) OVERHEATING. INADEQUATE BLEEDING COULD RESULT IN THE WATER HEATER OVERHEAT SWITCH ACTUATING DURING OPERATION.

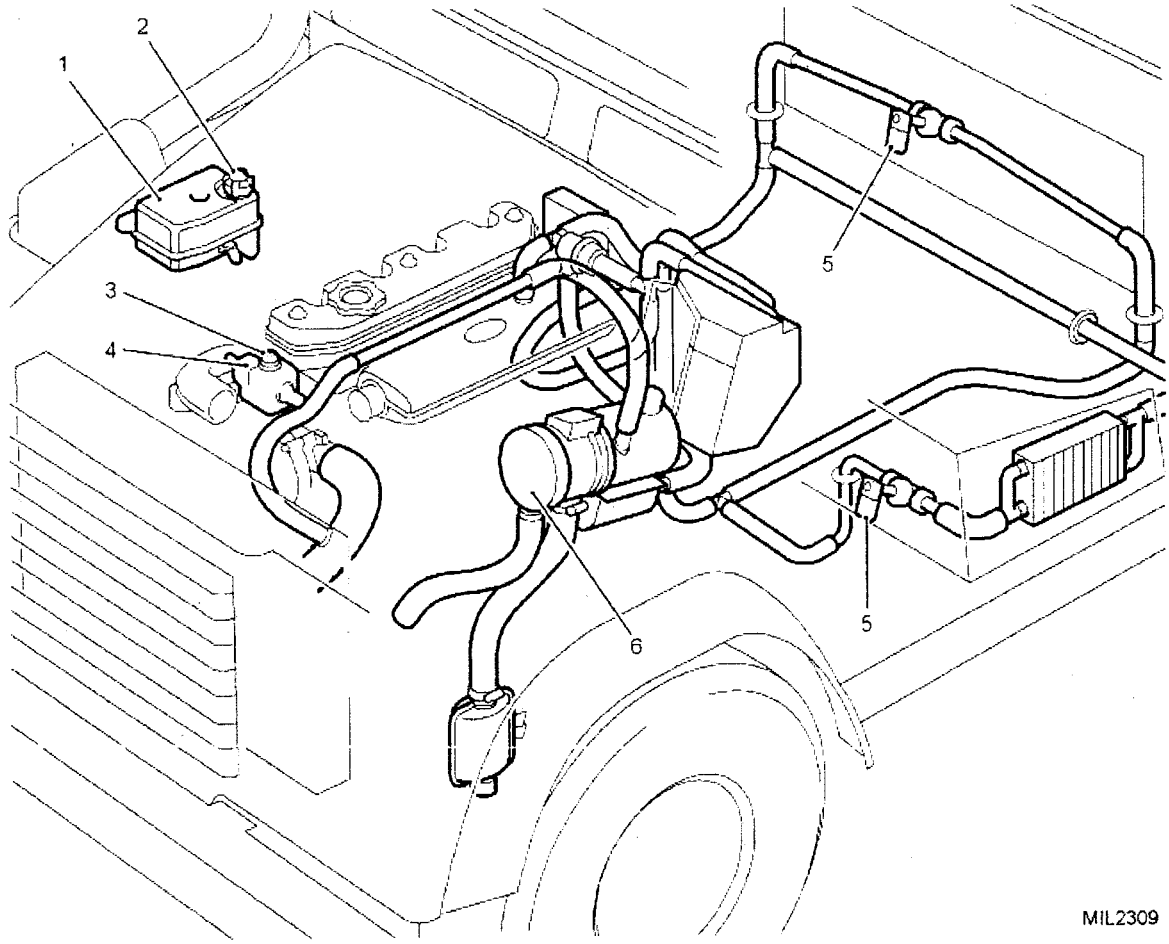
17 After removal of the rear radiators and modification of the pipework has been completed it will be necessary to bleed the cooling system.

NOTE

Refer to 2320-D-128-522 Chap 12-2 for procedure for bleeding water heating system.

CAUTION

When bleeding the system ensure the stop tap on the bulkhead is open. (Refer to Fig 10).



1	Expansion tank	4	Thermostat housing
2	Expansion tank filler cap	5	Stop tap
3	Thermostat house bleed screw	6	Heater

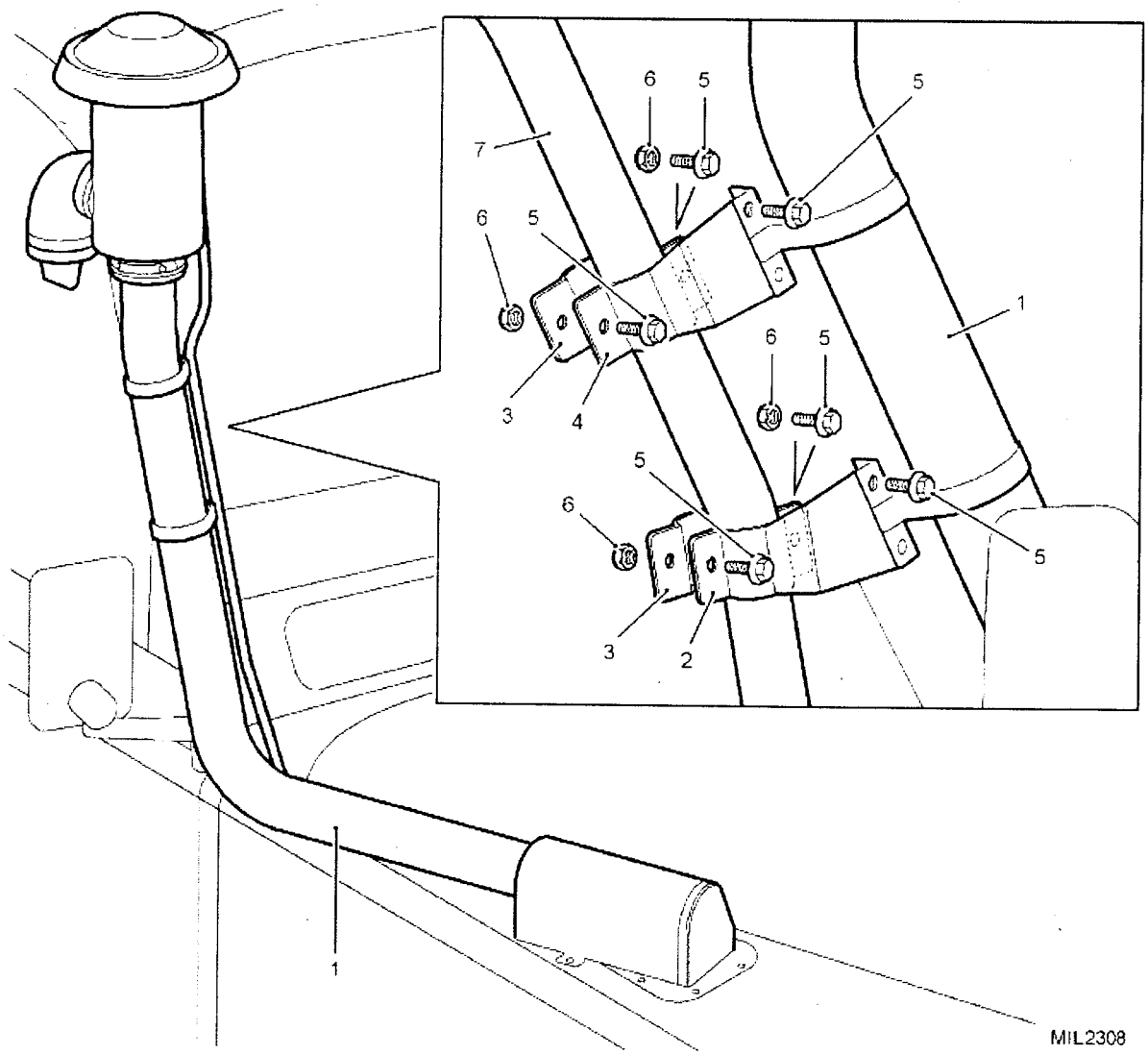
Fig 10 Bleeding the heater system

Raised air intake installation

17.1 Attach the top and bottom brackets (Items 14 and 15) to the raised air intake with screws (Item 17). Do not fully tighten the screws at this stage.

17.2 Fit the raised air intake complete with brackets to the roll cage and secure using the clamps (Item 16), screws (Item 17) and nuts (Item 18). Do not fully tighten the screws at this stage.

17.3 Check the alignment of the air intake and then fully tighten the screws on the top and bottom brackets.



1	Raised intake assembly	5	Screw
2	Bottom bracket	6	Nut
3	Bracket	7	Roll bar
4	Top bracket		

Fig 11 Raised intake installation

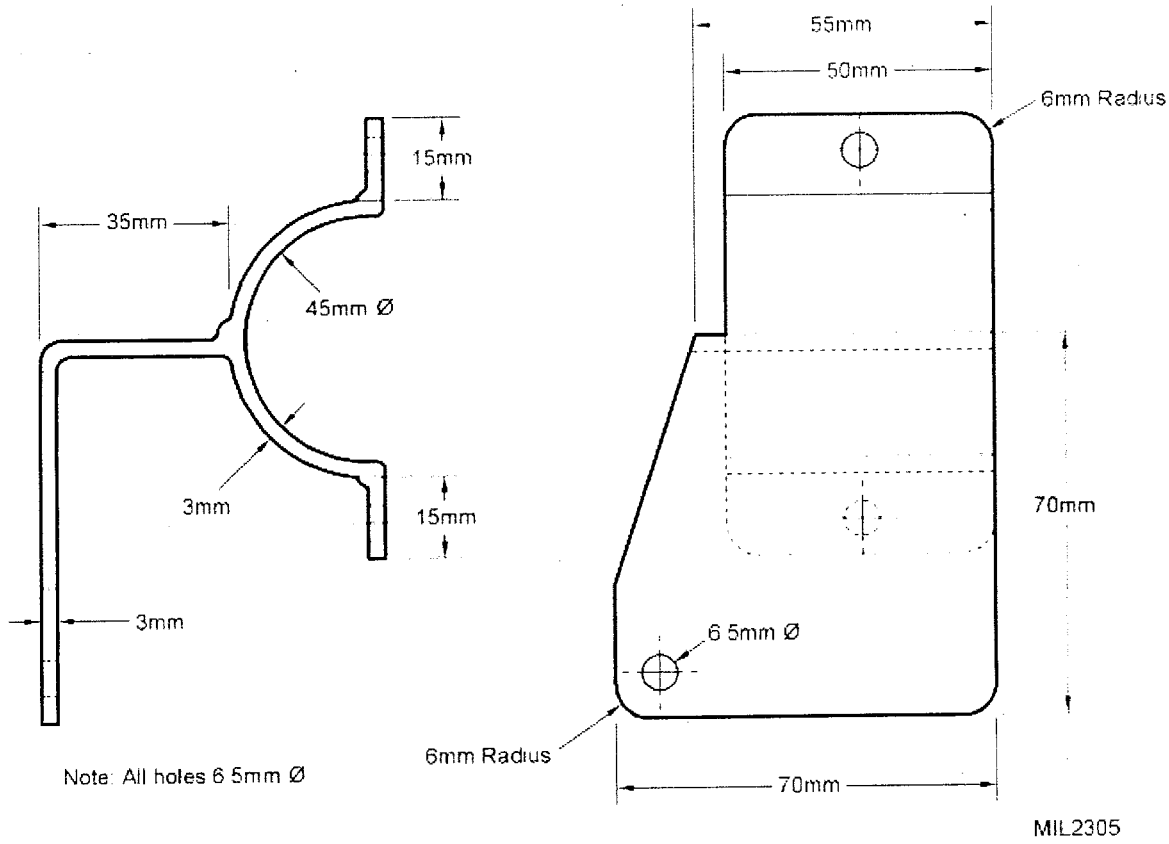


Fig 12 Top bracket construction

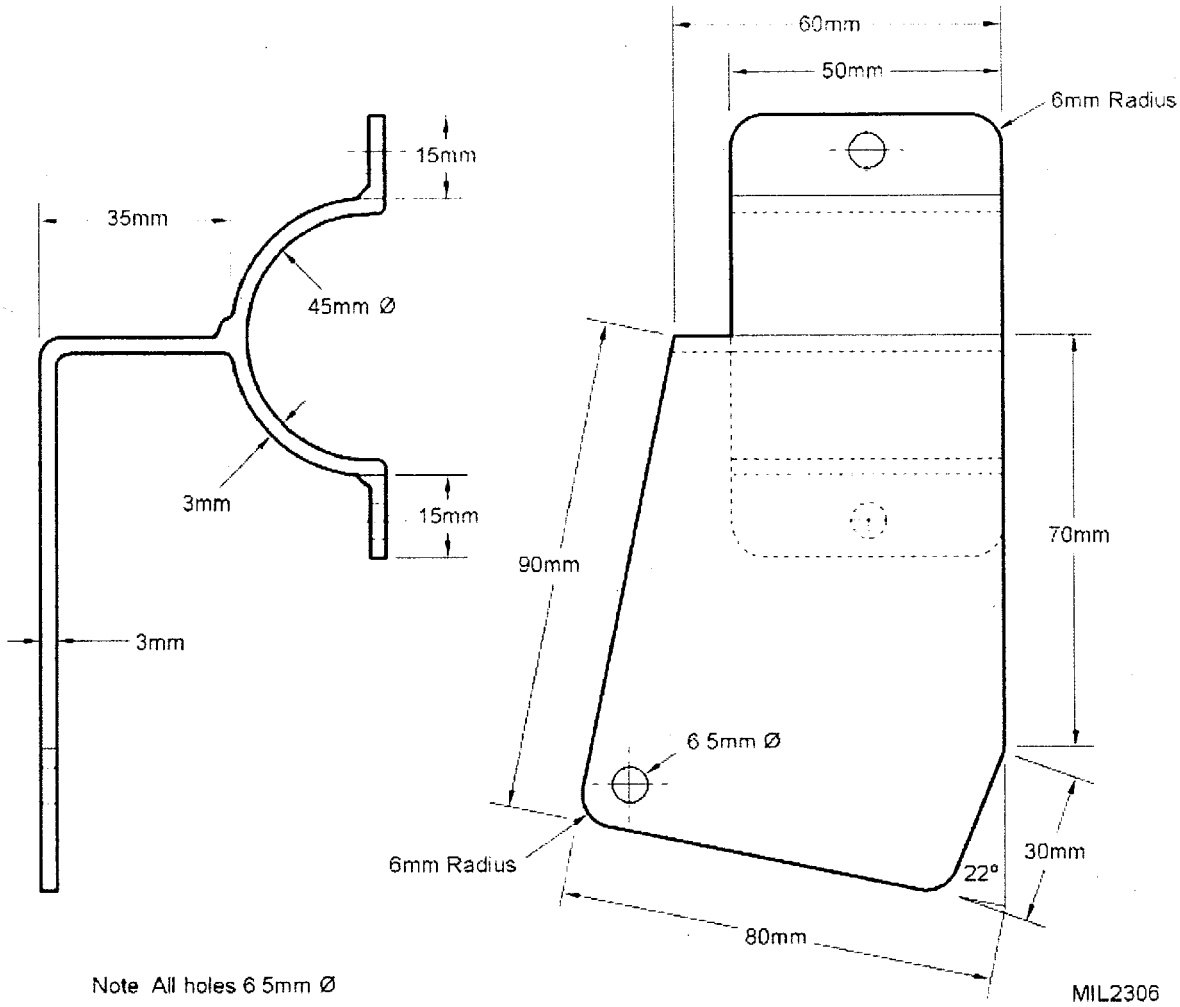


Fig 13 Bottom bracket construction

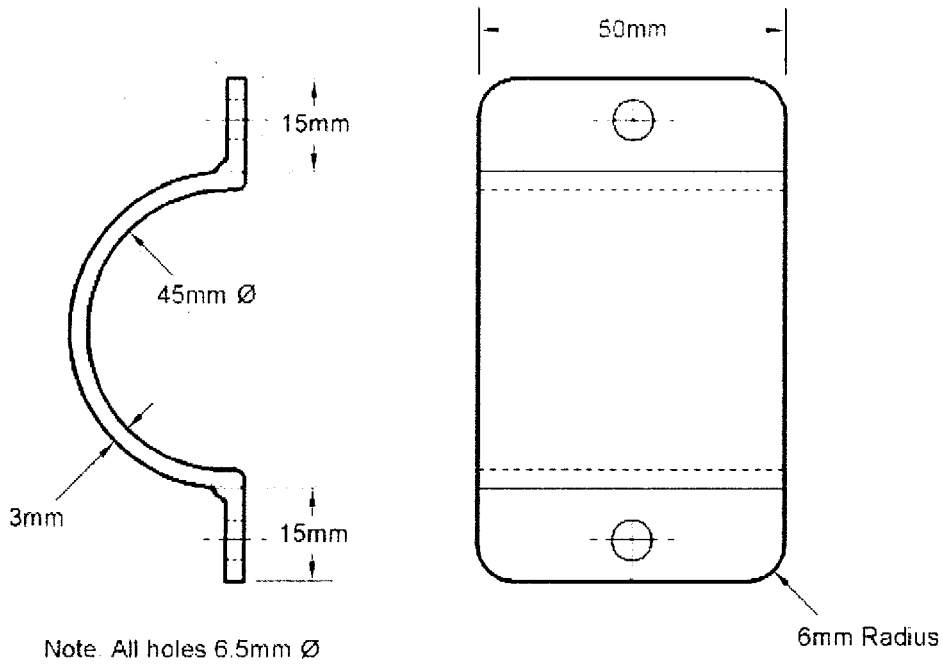


Fig 14 Clamp construction

TESTING AFTER EMBODIMENT

18 Nil.

EFFECT ON WEIGHT

19 Nil.

PUBLICATION AMENDMENTS

20 Nil.

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS, AND TUM BATTLEFIELD AMBULANCE HS

MODIFICATION INSTRUCTION NO. 44

CONTENTS

Sponsor: OSVP PT
Project number:
File ref:
Publication agency: OSVP PT, Abbey Wood

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
1		
2		
3		

Amdt No.	Incorporated By (Signature)	Date
4		
5		
6		

SUBJECT: Replacing the Six Way Lighting Switch with a Seven Way Lighting Switch.

INTRODUCTION

1 This Modification Instruction details the removal of the existing six way lighting switch and the fitting of a seven way lighting switch to all variants including winterised/waterproofed vehicles.

1.1 Limitations on use of equipment. Nil.

APPLICABILITY

2 On failure of the Six Way Lighting Switch in service, the unit should demand a replacement Seven Way Lighting Switch as detailed in Para 11.1 as a service replacement.

REASON FOR MODIFICATION

3 Code 2 - To improve operational performance.

PRIORITY

4 Army: Routine.

5 RAF: Class 3.

ESTIMATED TIME REQUIRED

6 Embodiment: 0.5 man hours.

MODIFICATION IMPLEMENTATION PLAN

7 This Modification Instruction is to be implemented by:

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

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

7.3 Associated Modification Instructions. Nil.

7.4 Modification plate strike action. Nil.

Action required by

8 Units and establishment holding equipment.

8.1 Examine Joint Asset Management Equipment Solution (JAMES)/Vehicle documents to see if this Modification Instruction is applicable.

8.2 Examine the Modification record plate to see if the Modification is embodied and where necessary units with Level 2 Royal Electrical and Maintenance Engineers (REME) support demand the stores required.

8.3 Upon the embodiment of equipment, units are to record the modification subject and Army Equipment Support (AESP) number in JAMES/Equipment documents.

8.4 RAF – Record modification details on Army Form General (AF G) 1084A and Form 4870. Units operating Station Transport Management Aid (STAMA) are also to record modification details on ADP Mechanical Transport Maintenance Section (MTMS) job Certification Sheet and to follow the procedures laid down in Air Publication (AP) 100C - 08A.

9 Army units authorised to carry out Levels 2, 3 and 4 maintenance and RAF units.

9.1 ARMY – When requested by users or during overhaul of equipment on charge without REME Level 2 support, obtain the items listed in Para 11 and carry out this Modification Instruction.

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

10 All receipts of this instruction. Add particulars to AESP ref 2320-D-128-811 Modification Instruction index.

Stores tools and equipment

NOTE

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

11 The following set is to be demanded quoting this Maintenance Instruction as authority:

11.1 Stores to be demanded:

Item No	DMC	NSN/Part No	Designation	Qty per eqpt
	7XD	5930-99-881-7621	Seven way lighting switch Comprising:	1
1	7XD	5930-99-832-9696	Switch	(1)
2	7XD	5975-99-829-3417	Boot	(1)
3		HIL0034	Wiring loom	(1)
4		HIL0039	Self-adhesive label	(1)
5		HIL0026	Switch panel	1

Sequence of operations

NOTE

The item numbers in Para 11 are used as references throughout this Modification Instruction.

12 Carry out the Modification as follows:

ALL VARIANTS – EXCLUDING WINTERISED/WATERPROOFED VEHICLES

Removal of six way lighting switch

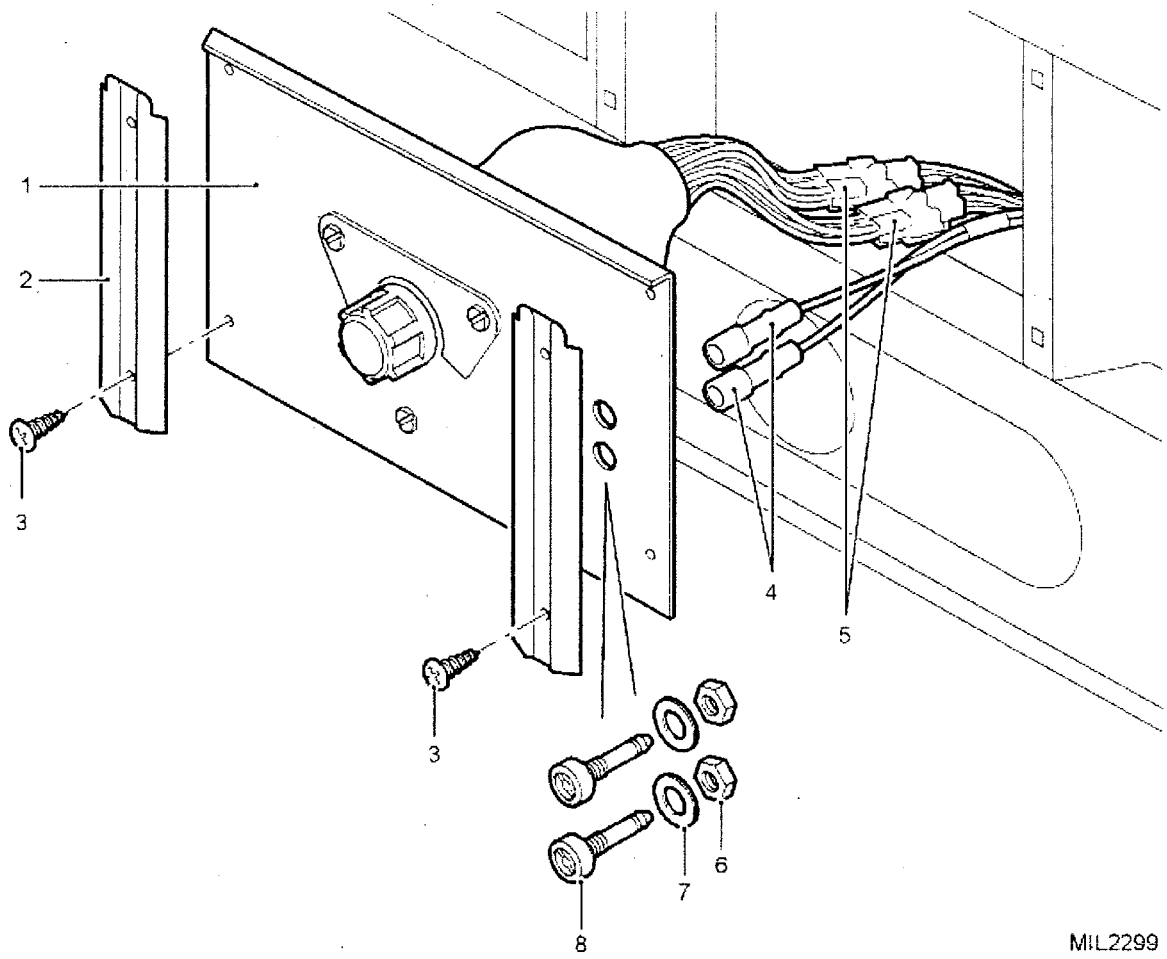
12.1 Disconnect the vehicle batteries (refer to AESP 2320-D-128-522, Chap 13-1, Para 2). If fitted, isolate the radio batteries.

12.2 Remove the four screws that secure the two trims, retain for re-fitting. (Refer to Fig 1).

12.3 Move the switch panel forwards and disconnect the two insulated terminal connectors from the rear of the inspection lamp sockets.

12.4 Disconnect the black and the white lighting switch multi-plugs from the main harness.

12.5 Undo the plastic nuts and remove the fibre washers from the positive and negative inspection lamp sockets. Remove the posts from the switch panel, retain posts and fixings for re-fitting.



1	Switch panel	5	Multi plugs
2	Trim	6	Plastic nut
3	Screw	7	Fibre washer
4	Insulated terminal connections	8	Inspection lamp sockets

Fig 1 Six way lighting switch removal

Fitting the Seven way lighting switch

12.6 Fit the positive and negative inspection lamp sockets removed earlier to the new switch panel (Item 5), ensure that the plastic insulators and the fibre washers are located correctly. Secure with plastic nuts. (Refer to Fig 2).

12.7 Install the switch body (Item 1) into the new panel (Item 5).

NOTE

Ensure the lock tabs are positioned in the recesses in the switch panel.

12.8 Position the self-adhesive switch label (Item 4) on the panel, align the cut outs and secure to the mounting panel.

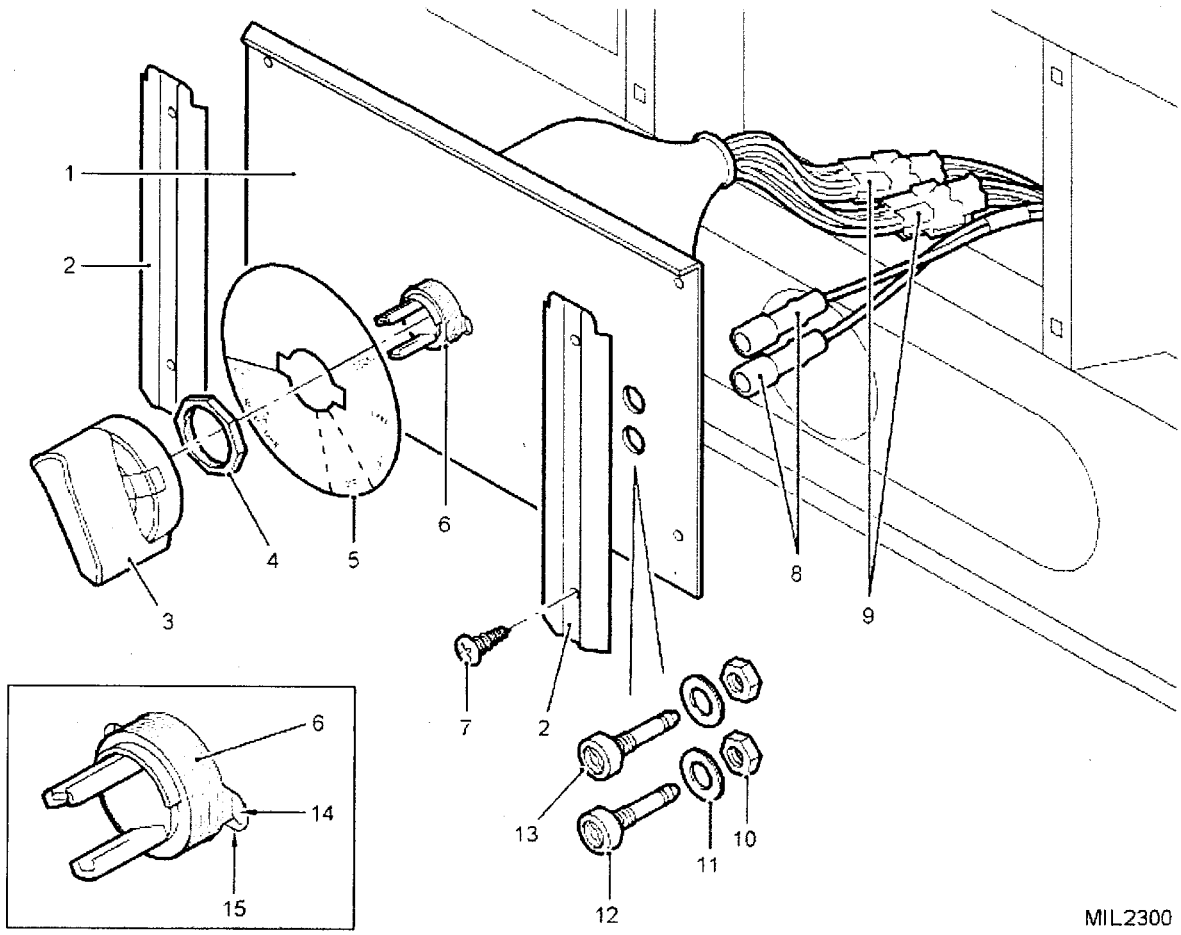
12.9 Secure the switch body to the mounting panel with the nut.

12.10 Align the switch control knob with the shaft and install.

12.11 Connect the black and white light switch multi-plugs to the main harness.

12.12 Fit the insulated terminal connector with the brown wire to the rear of the positive (red) inspection lamp socket. Fit the insulated terminal connector with the black wire to the negative (black) inspection lamp socket.

12.13 Install the new switch panel and secure with trims and screws removed earlier.



1	Switch panel	9	Multi-plugs
2	Trim	10	Plastic nut
3	Control knob	11	Fibre washer
4	Nut	12	Inspection lamp socket - black
5	Self-adhesive label	13	Inspection lamp socket - red
6	Switch body	14	Lock tabs
7	Screw	15	Recess
8	Insulated terminal connections		

Fig 2 Seven way lighting switch installation

WINTERISED/WATERPROOFED VEHICLES

Removal of Six way lighting switch

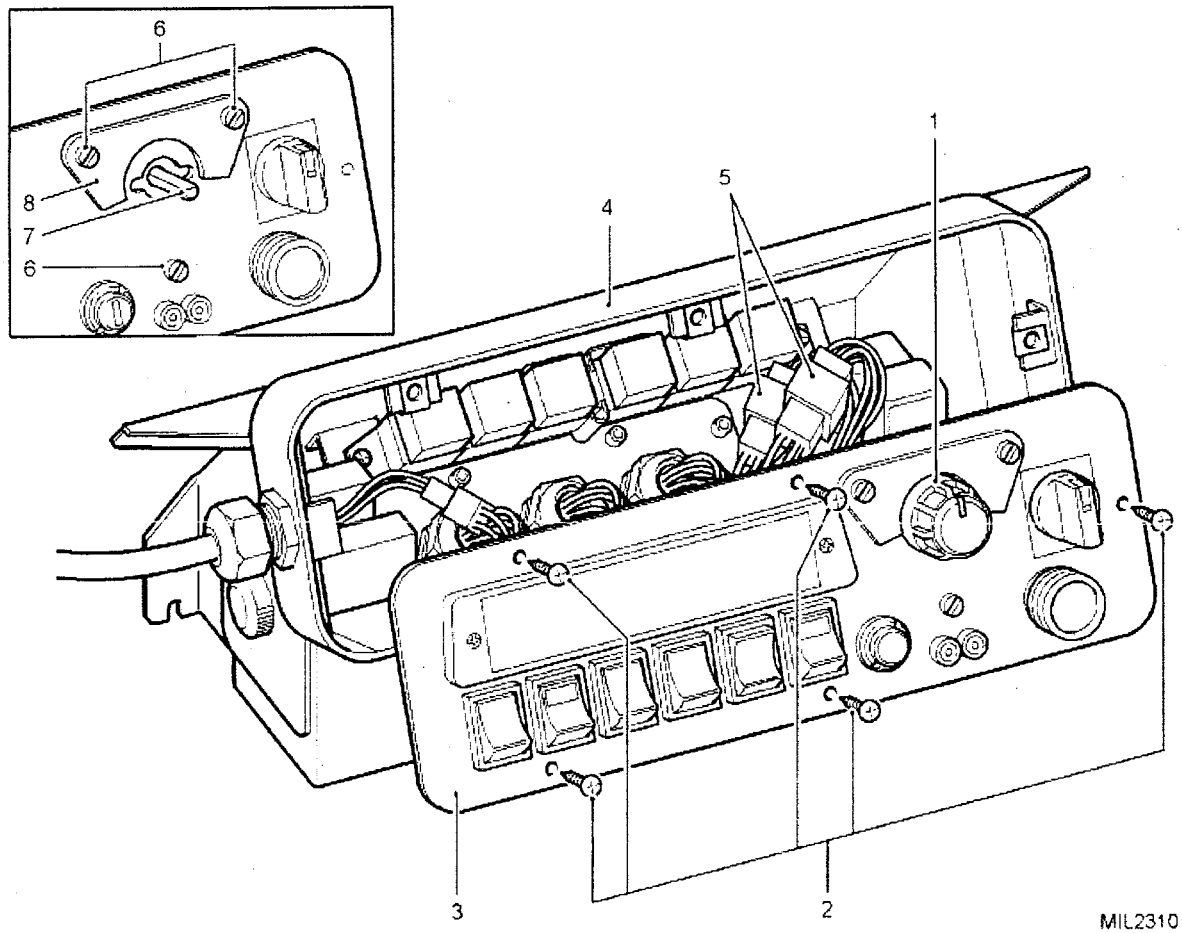
12.14 Disconnect the vehicle batteries (refer to AESP 2320-D-128-522, Chap 13-1) and on Fitted For Radio (FFR) vehicles, the radio batteries (refer to Chapter 13-2).

12.15 Undo the retaining screw and remove the control knob from the main lighting switch. Refer to Fig 3.

12.16 Remove the five screws and ease forward the mounting panel from the centre console (Item 4).

12.17 Disconnect the multi-plug connectors.

12.18 Remove the three screws securing switch and indicator plate to mounting panel and withdraw switch and plate.



1	Control knob	5	Multi-plug connectors
2	Screw	6	Screw
3	Mounting panel	7	Switch
4	Centre console	8	Indicator plate

Fig 3 Six way lighting switch removal

Fitting the Seven way lighting switch

12.19 Install the switch body (Item 1) into the mounting panel. (Refer to Fig 4).

NOTE

Ensure the lock tabs are positioned in the recesses in the mounting panel.

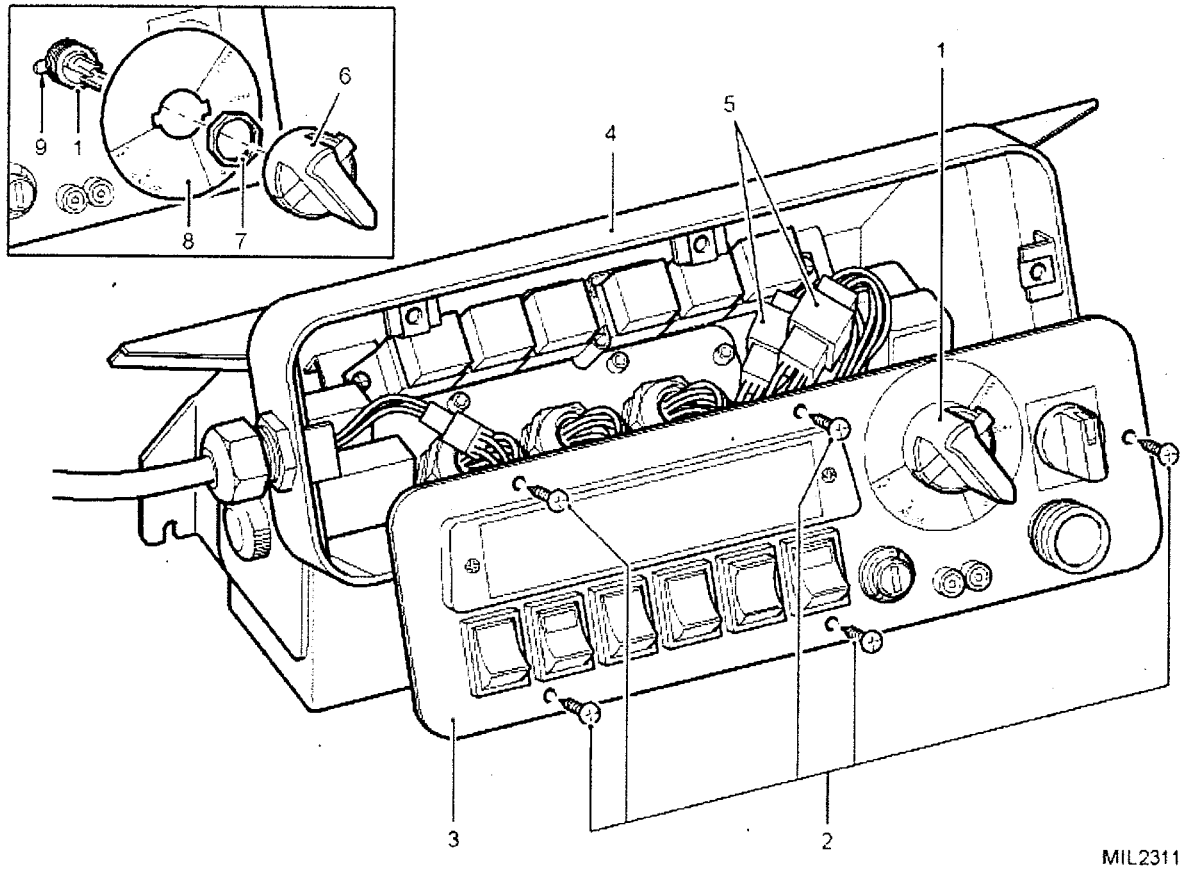
12.20 Position the self-adhesive switch label (Item 4) on the panel, align the cut outs and secure to the mounting panel.

12.21 Secure the switch body to the mounting panel with the nut.

12.22 Align the switch control knob with the shaft and install.

12.23 Connect the black and white light switch multi-plugs to the main harness.

12.24 Refit the mounting panel onto the centre console and secure with five screws.



1	Switch	6	Control knob
2	Screws	7	Nut
3	Mounting panel	8	Self-adhesive label
4	Centre console	9	Lock tabs
5	Multi-plug connectors		

Fig 4 Seven way lighting switch installation

TESTING AFTER EMBODIMENT

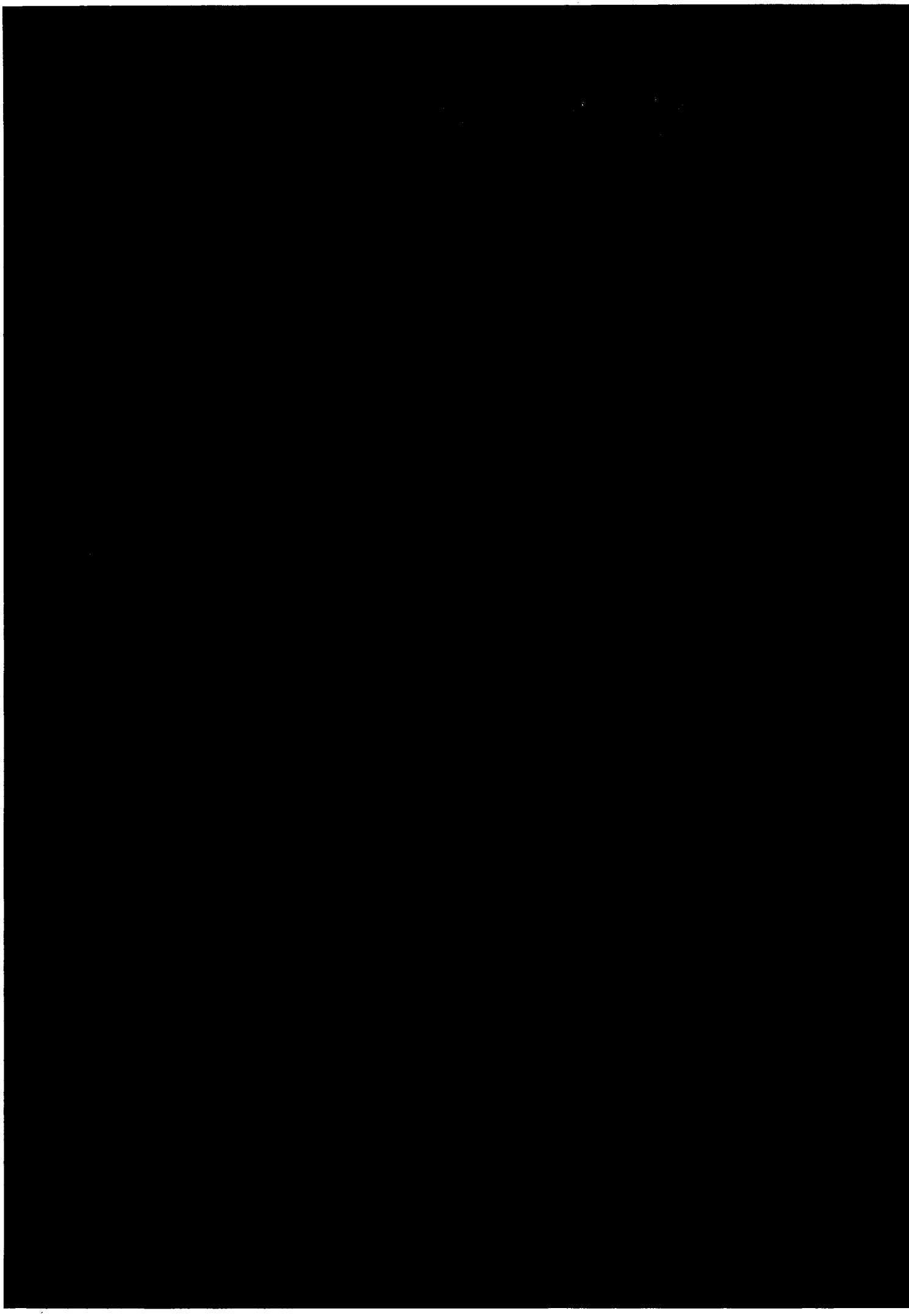
13 Test for correct operation of the main lighting switch. Refer to AESP 2320-D-128-201, Chap 2-1 and for Winterised/Waterproofed vehicles, AESP 2320-D-128-201, Chap 2-4.

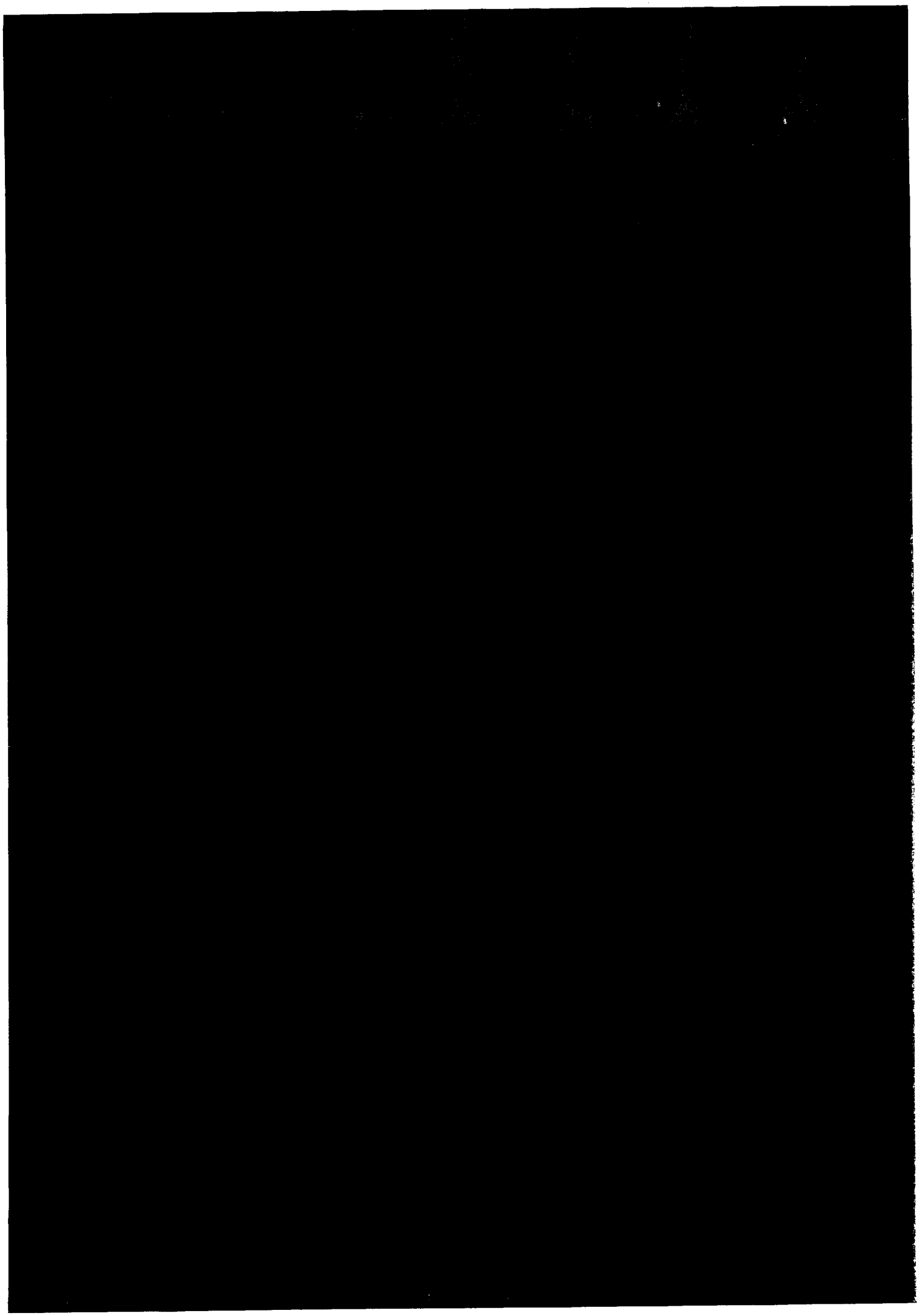
EFFECT ON WEIGHT

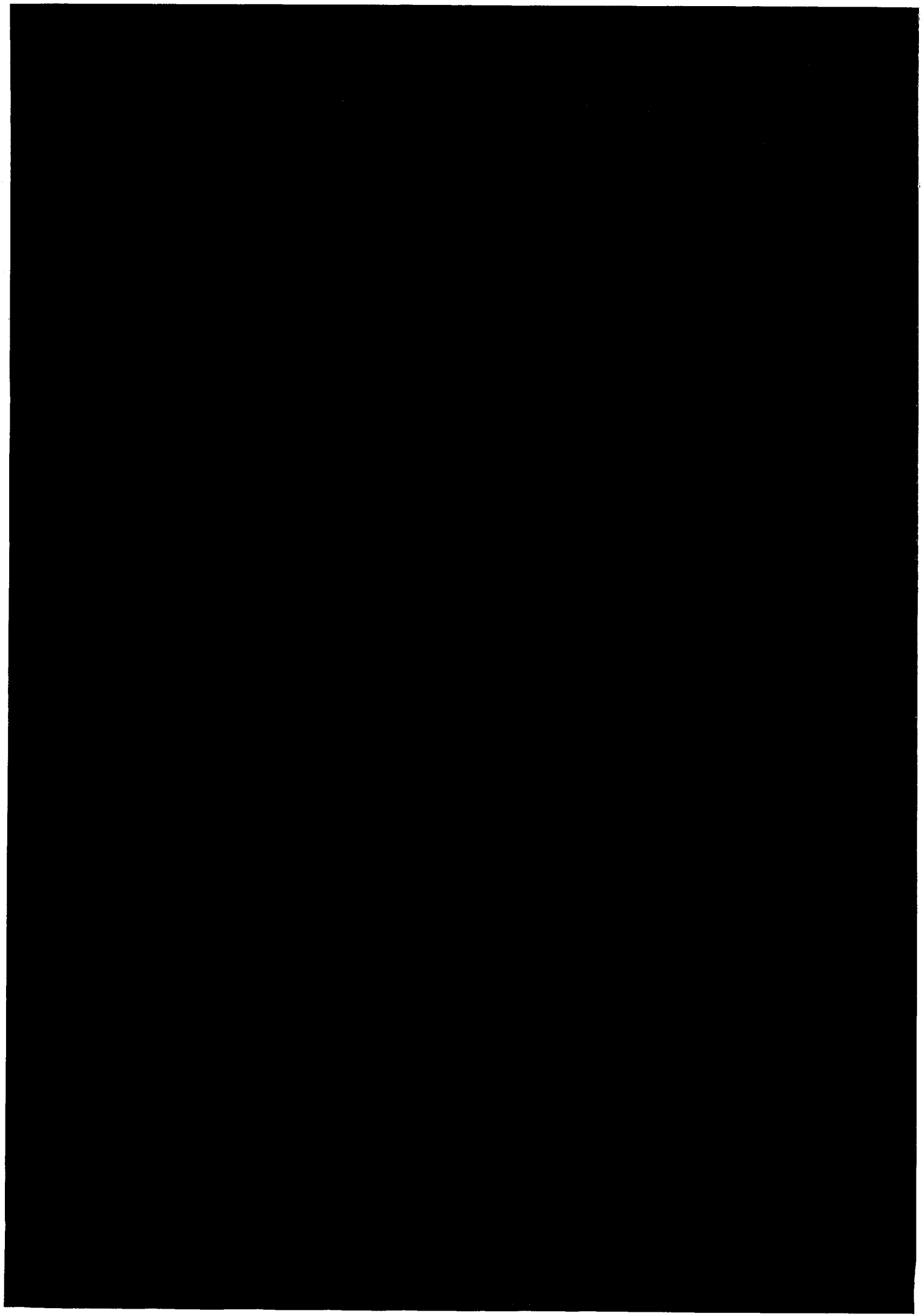
14 Negligible.

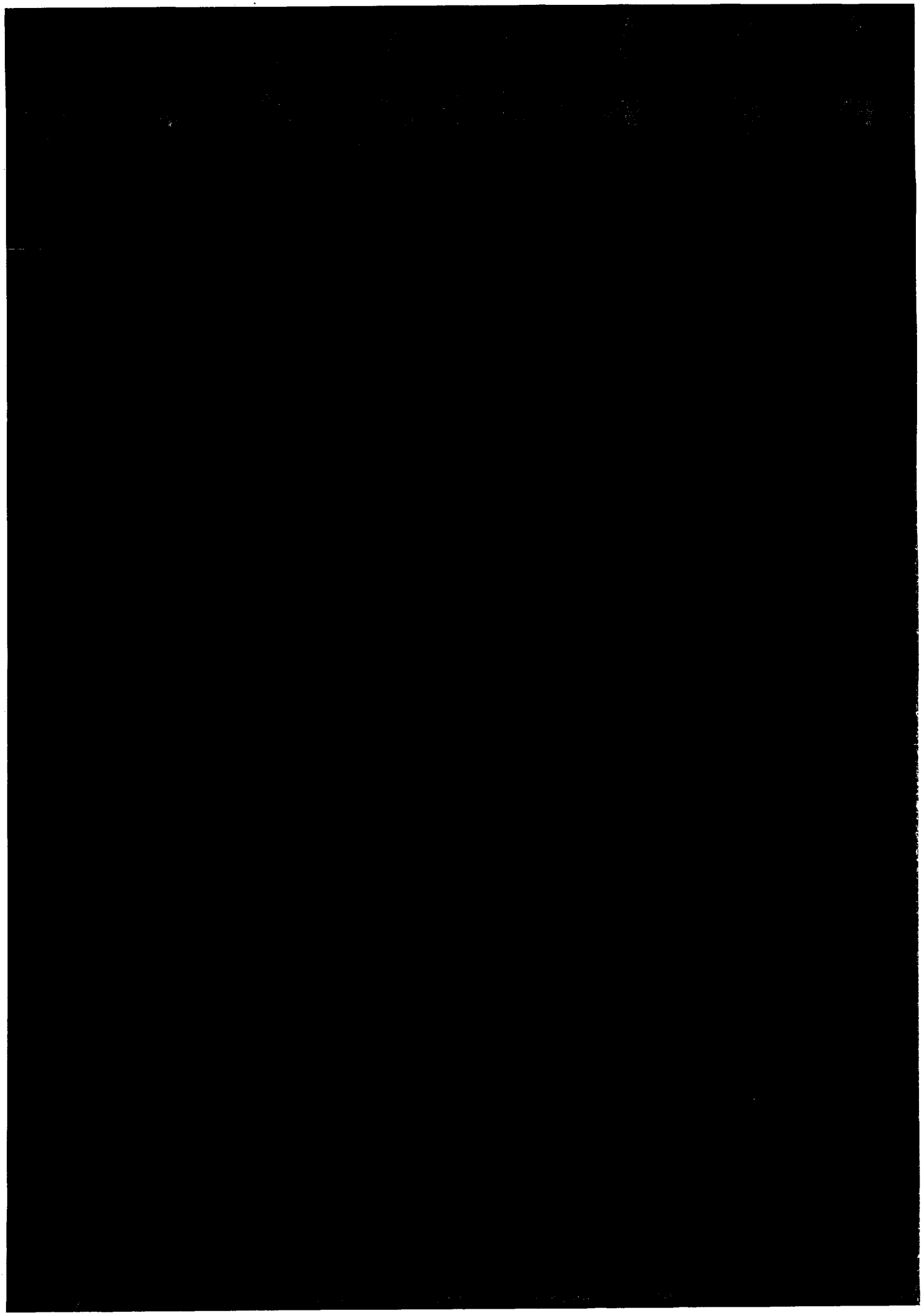
PUBLICATION AMENDMENTS

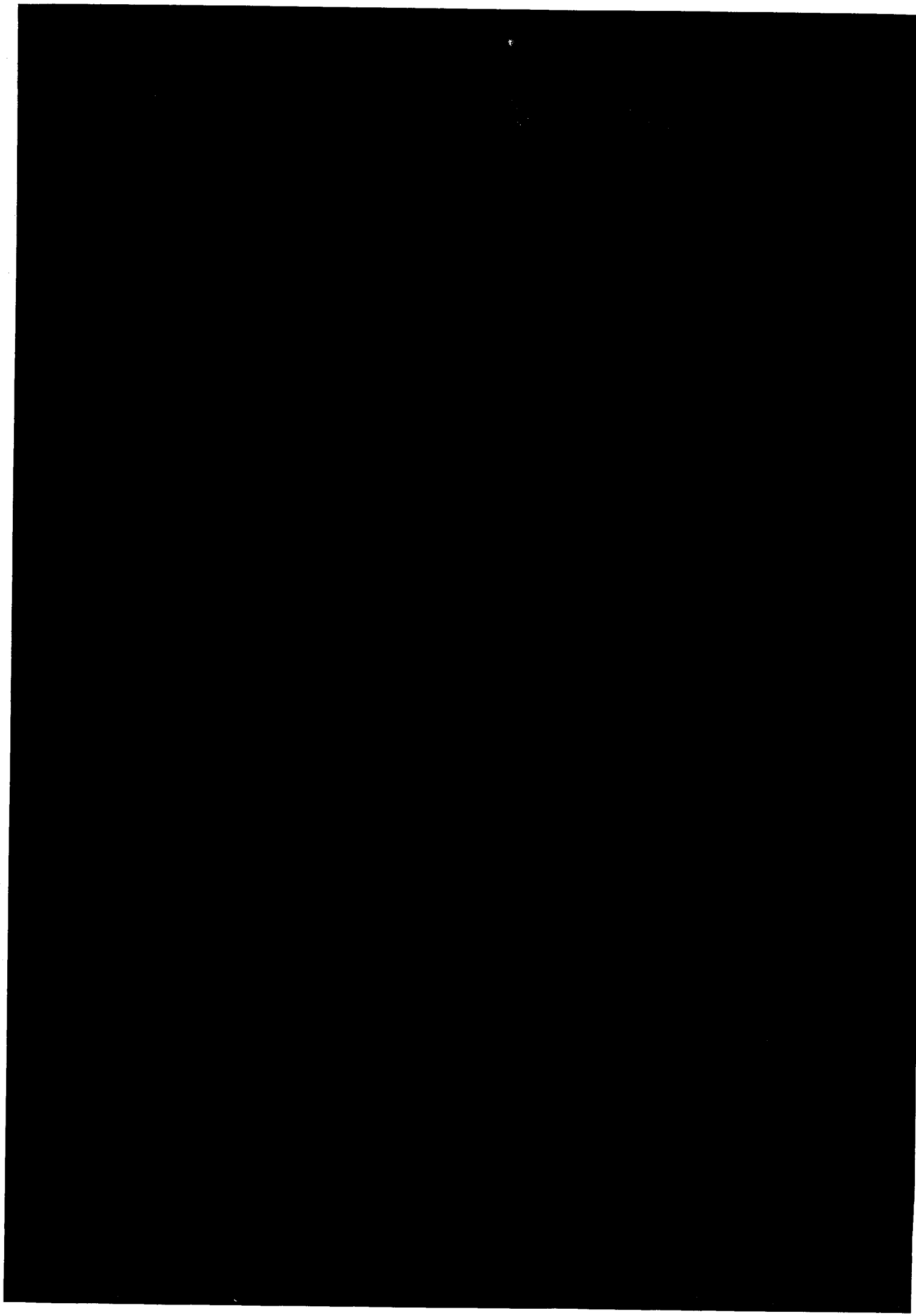
15 Nil.

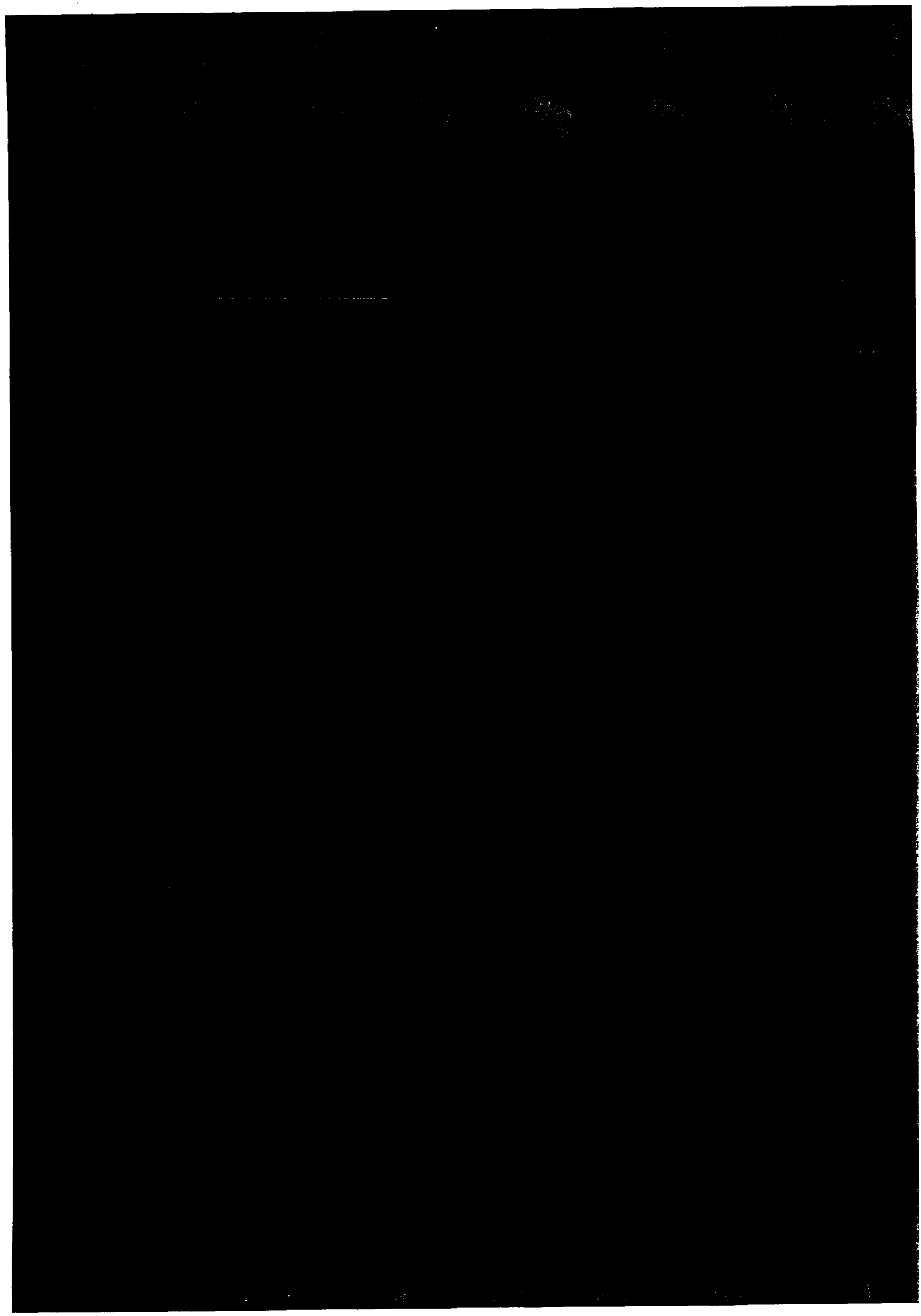


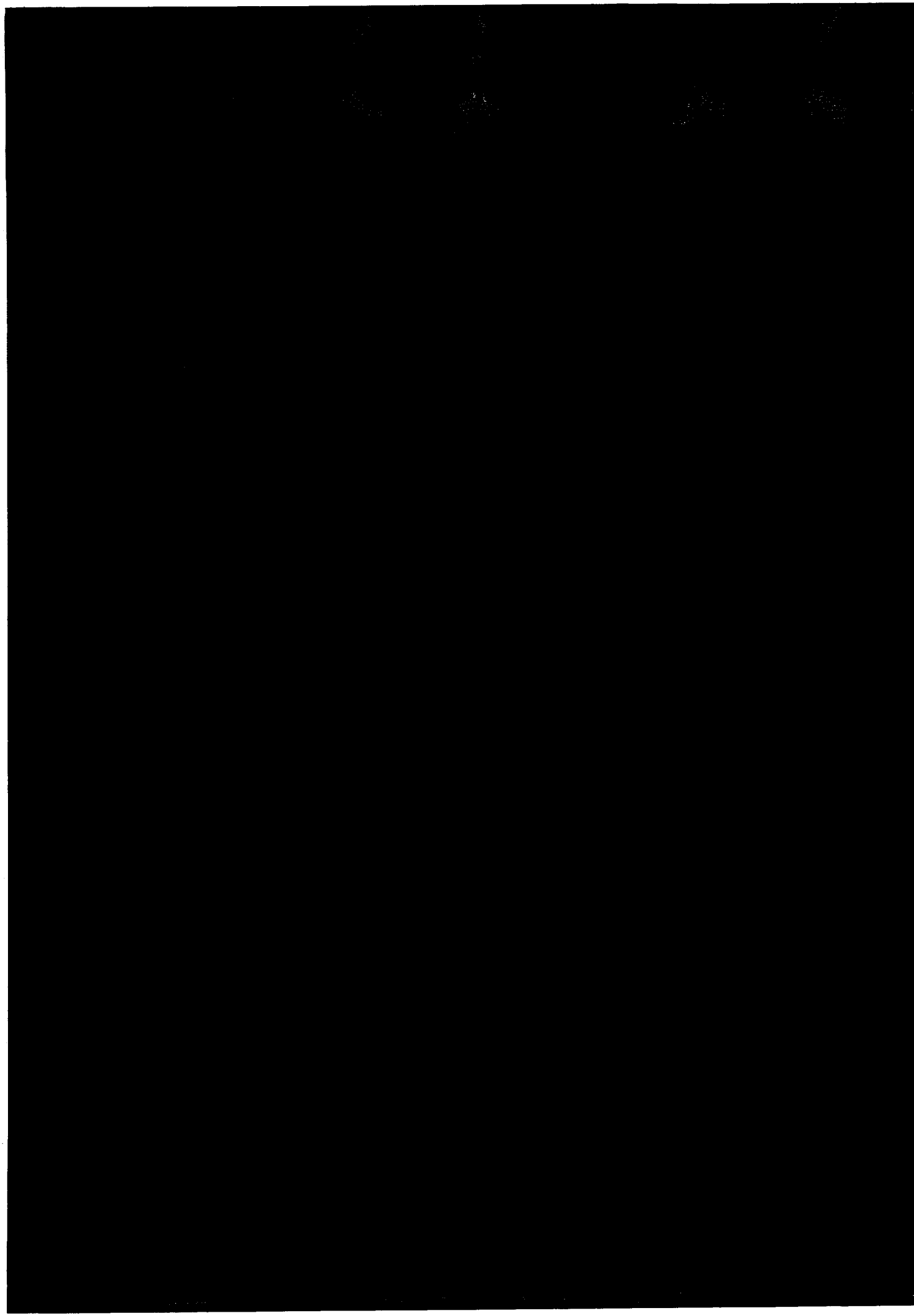


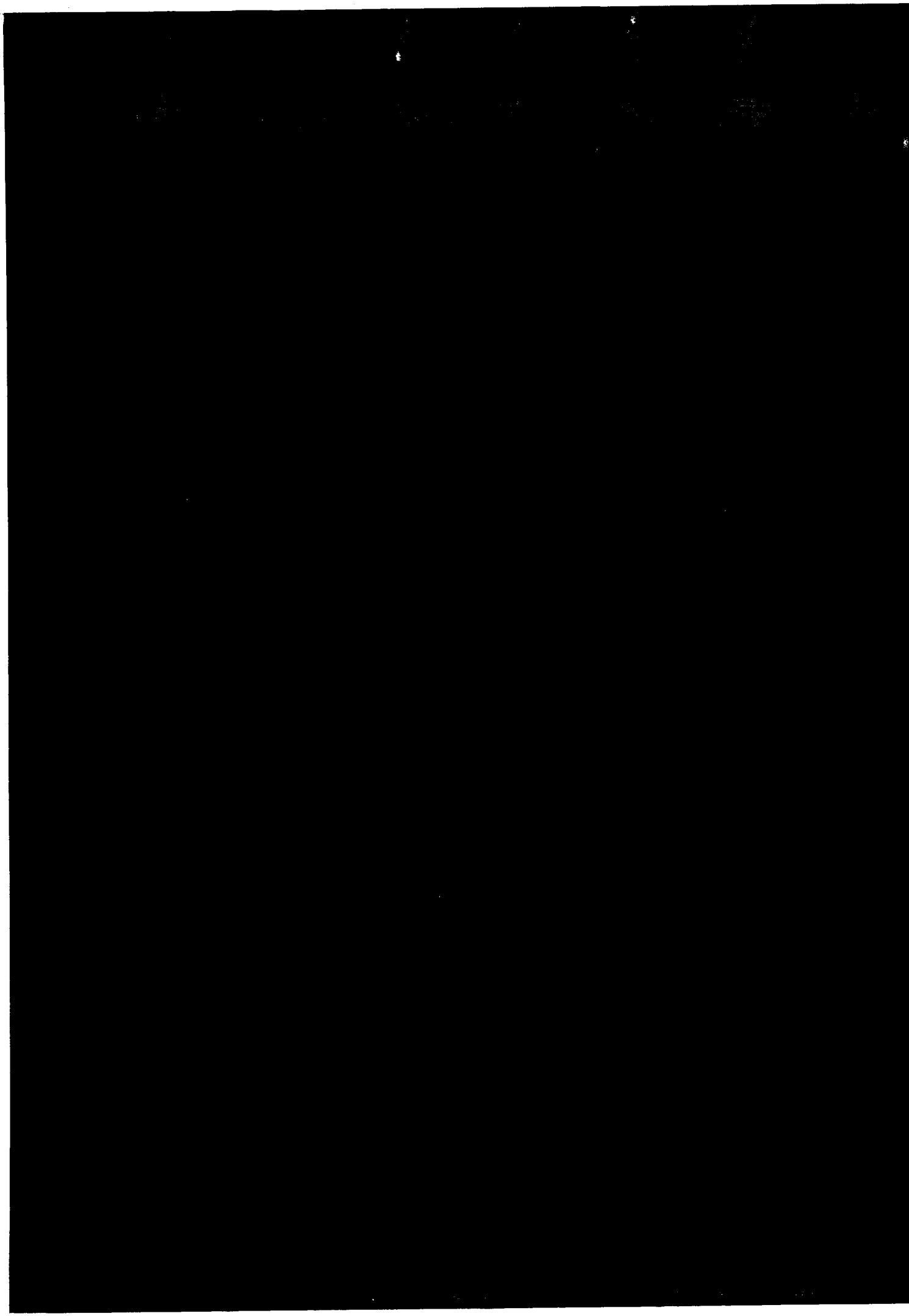


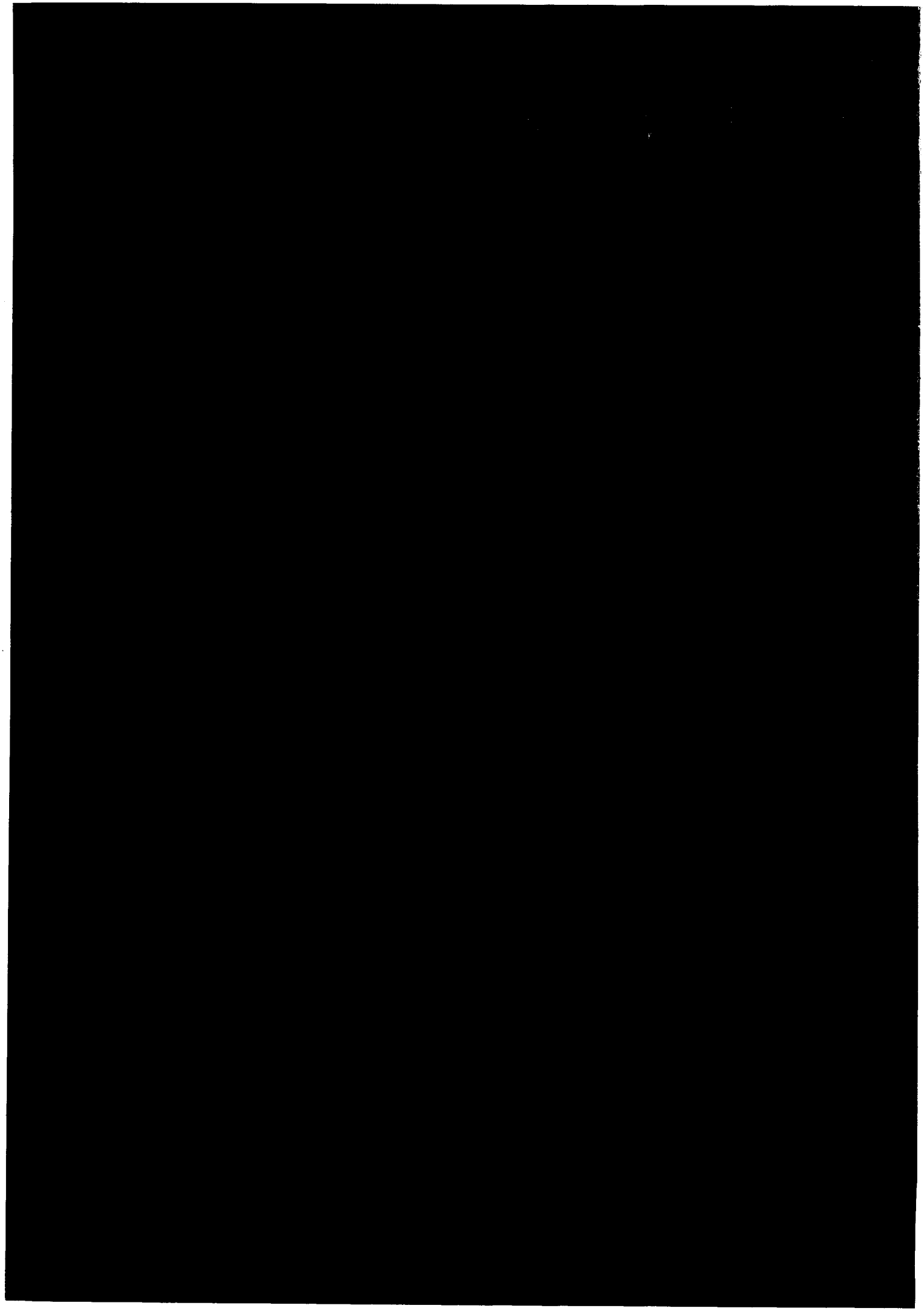


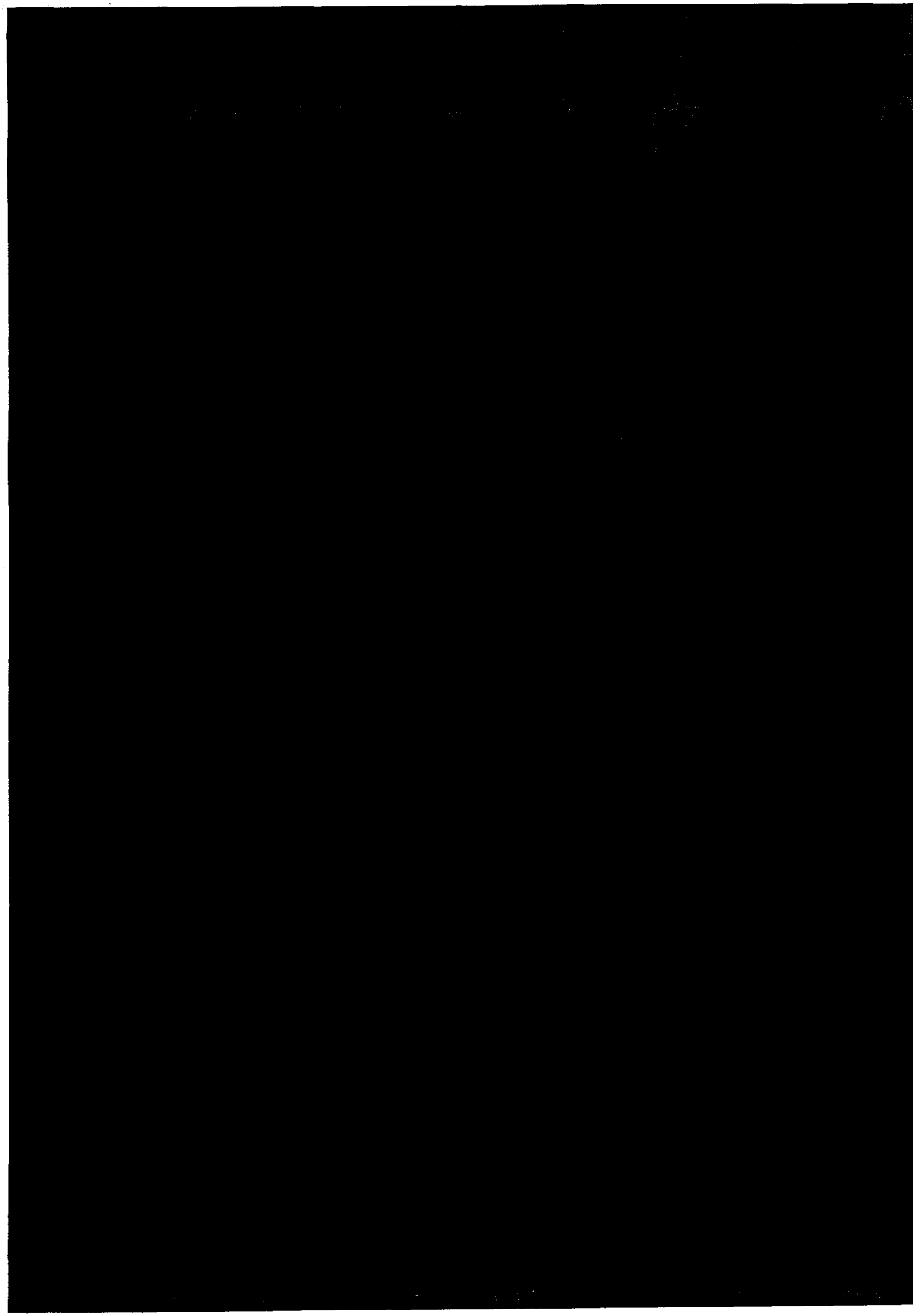












TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND TUM AMBULANCE HS

MODIFICATION INSTRUCTION NO. 46

CONTENTS

Sponsor: DE&S LE VS OSVP
Project number: -
File ref: -
Publication agency: DES LE VS-OSVP

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
1		
2		
3		

Amdt No.	Incorporated By (Signature)	Date
4		
5		
6		

SUBJECT: Fitting of wheel nut indicators to Land Rover

INTRODUCTION

1 Following incidents of wheel loss due to wheel nuts loosening, wheel nut indicators are to be fitted. This instruction provides the necessary details.

1.1 Limitations on use of the equipment. Not to be fitted to vehicles used on airfields as it may present a Foreign Object Damage (FOD) hazard. However Royal Air Force (RAF) vehicles not being used on airfields should have wheel nut indicators fitted.

APPLICABILITY

2 This instruction applies to all wheeled Service vehicles listed in the Table 1:

TABLE 1 SERVICE VEHICLE APPLICABILITY

Serial (1)	Liability Code (2)	Design of Vehicles > 3.5 Tonne (3)	Remarks (4)
1	1722 4100/4101/4102/4103	Land Rover Wolf Platforms	

2.1 Fitted to subject equipment held by user units.

2.2 Unmodified stock, held at all levels of technical storage.

REASON FOR MODIFICATION

3 Code 1 - To improve safety.

PRIORITY

4 ARMY: Routine at next scheduled vehicle servicing.

5 RAF: Routine at next scheduled vehicle servicing.

6 NAVY: Routine at next scheduled vehicle servicing.

ESTIMATED TIME REQUIRED

7 Embodiment: 0.5 man-hours.

MODIFICATION IMPLEMENTATION PLAN

8 This modification instruction is to be implemented by:

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

8.2 RAF - Units authorised to carry out levels 2, 3, and 4 of maintenance.

8.3 NAVY - Units authorised to carry out levels 2, 3, and 4 of maintenance.

9 Associated instructions: Nil.

10 Modification strike plate action: N/A.

Action required by

11 Units and establishments holding subject equipment:

11.1 Examine JAMES/equipment documents to see if modification is applicable.

11.2 Examine equipment to see if modification is embodied and where necessary demand to stores required.

11.3 ARMY – Upon the embodiment of equipment, units are to record the modification subject and AESP

11.4 NAVY – Upon the embodiment of equipment, units are to record the modification subject and AESP Number in JAMES/ Equipment documents.

11.5 RAF – Record modification details on AF G1084A. Units operating STAMA are also to record modification details on ADP MTMS Job Certification Sheet and to follow the procedures laid down in AP 100C-08A.

11.6 All recipients of this instruction. Add particulars to AESP 2320-D-128-811 Mod Instr Index.

Stores, tools and equipment

12 Stores to be demanded:

12.1 The following items are to be demanded quoting this instruction as the authority.

12.2 Registration number of vehicle for equipment held by user units.

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
1	7XD	2530-99-870-2471	Wheel Nut Indicator, drab olive grey LARGE (CPDOG27)	1 per wheel nut
2	7XD	2530-99-212-6421	Wheel Nut Indicator, Red	4 per CES

Sequence of operations

13 Carry out this instruction as follows:

13.1 The road wheel is to be placed on the hub and fully tightened as detailed in AESP 2320-D-128-522, Chapter 9.

13.2 To eliminate the risk of false torque readings and ensuring a good clamping force mating surfaces (wheel to hub, wheel nuts to wheel) should be clean and free from grease/ lubricant. Wheel nut and studs must be free from damage and wheel nuts must be fitted with the tapered end mating with the wheel surface.

13.3 Wheel Nut Indicators must only be fitted post the 2nd confirmation correct torqueing (170 Newton Meter) of the wheel after waiting 30 minutes as detailed in the AESP 2320-D-128-522.

13.4 Land Rovers have an odd number of wheel nuts installed and will use the trailing pattern (i.e. the Wheel Nut Indicators uniformly trailing towards the rear of the vehicle regardless of the vehicle side with the Wheel Nut Indicator at 12 o`clock being the originator) as illustrated in Fig. 3.

13.5 Due to the design of the device there is a permissible 3 degree alignment tolerance on each Wheel Nut Indicator, but any movement of the wheel nuts will be evident by visual misalignment from the recognised pattern.

13.6 The moulded dot (or arrow) below the vertical numbers 2 and 3, illustrates that the Wheel Nut Indicator is 32 mm and will fit a 32 mm wheel nut:

2223333	or	2223333
7890123 ●	or	7890123 ↑

13.7 It is important that the correct size of Wheel Nut Indicator is fitted to the wheel nut. It should be a tight slide fit down to the washer or hub face and seated as illustrated in Fig. 2.

13.8 4 x RED Wheel Nut Indicators to be retained in CES (one for each wheel).

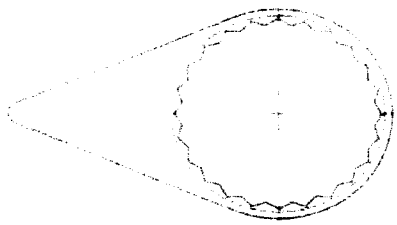


Fig 1 Wheel nut indicator

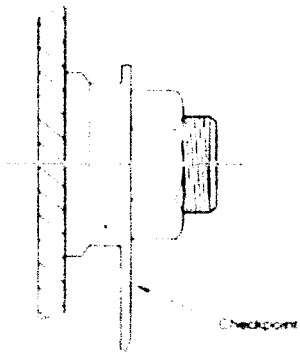
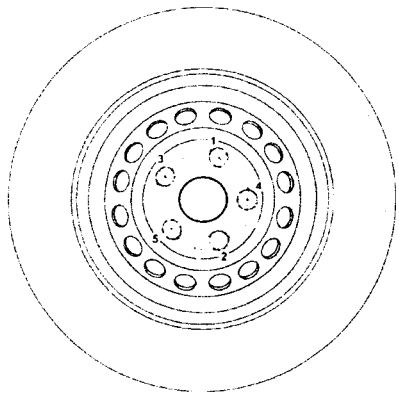


Fig 2 Wheel nut indicator fitted to wheel nut



Wheel Nut Indicator at 12 o'clock being the originator, pointing towards the rear of the vehicle

Fig 3 Wheel Nut Indicator wheel nut indicators in trailing configuration

TESTING AFTER EMBODIMENT

14 Nil.

EFFECT ON WEIGHT

15 Negligible.

PUBLICATION AMENDMENTS

NOTE

Necessary amendments will be issued separately.

16 Nil.

ARMY EQUIPMENT AND SUPPORT PUBLICATION (AESP) AND ELECTRICAL AND MECHANICAL ENGINEERING REGULATIONS (EMER) - FORM 10

*AESP/EMER NUMBER:		*IS THIS SAFETY RELATED?	Yes ☐	No ☐

Send Form 10 via the Email or Post address. However email is preferred.	Tel [redacted]
Email: [redacted] (Save a copy of the form and email to the above address. If the link fails, copy address and paste into email client)	Post to Form 10 Cell Land Equipment Elm 3b #4330 MOD Abbey Wood Bristol BS34 8JH

ORIGINATORS DETAILS			
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		Rank / Grade	
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		*Date Raised	
* E-Mail		Eqpt Asset Code (if applicable)	

AESP/EMER DETAILS							
*Full Title of AESP/EMER (Not the AESP/EMER Number)							
*Edition	*Amendment	*Chapter	*Page	*Paragraph	Figure	Instruction	Other
*Comments: If additional information is to be supplied, please e-mail with the Form 10 as separate attachments.							

FORM 10 CELL USE			
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*Date Sent to PT / SME		Problem Report	

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*Email		*Date Received	

*The following action is to be carried out:	Mark:		Mark:
Issue a revised/amended AESP/EMER:		Under investigation:	
Incorporate comment(s) in future amendments:		No action required:	

Remarks:			
SPONSOR/PT FINAL CLOSURE STEPS	Mark:	Form 10 Cell notified of Date action taken	Date:
Form 10 Originator notified of the action taken:			

* Mandatory Fields for Originator

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ARMY EQUIPMENT AND SUPPORT PUBLICATION (AESP) AND ELECTRICAL AND MECHANICAL ENGINEERING REGULATIONS (EMER) - FORM 10

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  - Senders Reference – that must be unique.
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  - Enter details in all other mandatory fields marked *.
  - Additional information relating to the Comments (AESP copies, additional text details or photographs) should be attached to the Email at the same time.
- Originator makes up the Form 10 & Sends to Form 10 cell via
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- Enter Date Received
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- Acknowledge receipt of Form 10, within 5 working days, by email to Form 10 Cell.
- Assess the contents of comments and details received.
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- Enter date when the Form 10 is returned to Form 10 Cell.
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* Mandatory Fields for Sponsor.

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COMPASS, MAGNETIC, UNMOUNTED, PRISMATIC, MILS

REPAIR INSTRUCTIONS

REPRINTED INCORPORATING AMDT 1

This publication contains information covering the requirements of Sub-category 5.2 at information levels 2, 3 and 4.

BY COMMAND OF THE DEFENCE COUNCIL

Ministry of Defence
Issued by
ARMY TECHNICAL SUPPORT AGENCY
DIRECTORATE OF TECHNICAL SERVICES

CONTENTS

PRELIMINARY MATERIAL Page

Para

(continued)

CONTENTS (continued)

PREFACE

Sponsor:
DGES(A) ES32e(2)
File ref: D/DGES(A)/380/34/3 ES32e(2)

Publication Agency:
DGES (L)
DLO Andover CSE IPT Publications
Project No: 01/CSE/FE/17
File ref:

INTRODUCTION

1 Service users should forward any comments on this publication through the channels prescribed in AESP 0100-P-011-013. An AESP Form 10 is provided at the end of this publication; it should be photocopied and used for forwarding comments on this AESP.

2 AESPs are issued under Defence Council authority and where AESPs specify action to be taken, the AESP will of itself be sufficient authority for such action and also for the demanding of the necessary stores, subject to the provisions of Para 3 below.

3 The subject matter of this publication may be affected by Defence Council Instructions (DCIs), Standing Operating Procedures (SOPs) or by local regulations. When any such instruction, order or regulation contradicts any portion of this publication it is to be taken as the overriding authority.

RELATED PUBLICATION

Related publications

4 The Octad for the subject equipment consists of the publications shown opposite. All references are prefixed with the first eight digits of this publication. The availability of the publications can be checked by reference to the relevant Group Index (see AESP 0100-A-001-013).

Category/Sub-category			Information Level			
			1 User/ Operator	2 Unit Maintenance	3 Field Maintenance	4 Base Maintenance
1	0	Purpose and Planning Information	101	101	101	101
	1	Equipment Support Policy Directives	*	*	*	*
2	0	Operating Information	*	*	*	*
	1	Aide-Memoire	*	*	*	*
	2	Training Aids	*	*	*	*
3		Technical Description	*	*	*	*
4	1	Installation Instructions	*	*	*	*
	2	Preparation for Special Environments	*	*	*	*
5	1	Failure Diagnosis	*	*	*	*
	2	Repair Instructions	*	522	522	522
	3	Inspection Standards	*	*	*	*
	4	Calibration Procedures	*	*	*	*
6		Maintenance Schedules	*	*	*	*
7	1	Illustrated Parts Catalogues	*	*	*	*
	2	Commercial Parts Lists	*	*	*	*
	3	Complete Equipment Schedule, Production	*	*	*	*
	4	Complete Equipment Schedule, Service Edition (Simple Equipment)	*	*	*	*
	5	Complete Equipment Schedule, Service Edition (Complex Equipment)	*	*	*	*
8	1	Modification Instructions	*	*	811	811
	2	General Instructions, Special Technical Instructions and Servicing Instructions	*	*	*	*
	3	Service Engineered Modification Instructions (RAF only)	*	*	*	*

*Category/Sub-category not published

Associated publications

4.

Reference	Title
JSP 392 Chap 32	Instructions for Radiological Protection.
EMER Insts A017	Nuclear Lamps.
Army Code No. 62105	Illustrated Parts Catalogue.

REPAIR INSTRUCTIONS

INTRODUCTION

1 This publication details the repair procedures for the Compass, Magnetic, Unmounted, Prismatic, at levels 3 and 4. Level 2 repairs are limited to the replacement of the following:

1.1 Friction ring. W10/6605-99-966-6570.

1.2 Trefoil. W10/6605-99-966-6578.

1.3 Index ring. W10/6605-99-966-6414.

WARNING

TOXIC FUMES HAZARD. THE COMPASS CONTAINS SEVERAL GASEOUS TRITIUM LIGHT SOURCES (GTLS). BEFORE COMMENCING WORK, READ EMER INSTRUMENTS A 017 WHICH COVERS SAFETY INSTRUCTIONS FOR THE HANDLING AND DISPOSAL OF GTLS.

GENERAL

2 This publication covers tools and test equipment, tests and adjustments, removal and replacement of parts.

TOOLS AND TEST EQUIPMENT

3 In addition to normal hand tools the following special tools and test equipment will be required.

TABLE 1 SPECIAL TOOLS AND TEST EQUIPMENT

Ser (1)	Designation (2)	NSN/Part Number (3)
1	Pedestal portable.	V7/1290-99-962-1442
2	Tripod testing scales.	V7/1290-99-962-1438
3	Instrument testing scales.	V7/4931-99-960-8121
4	Adaptor STT No. 2.	V7/4931-99-450-8465
5	Adaptor STT No. 5.	V7/4931-99-450-8649
6	Adaptor STT No. 8.	V7/4931-99-450-8460
7	Quadrant, fire control M1 mils.	V5/1290-00-674-0631
8	Compass, sub standard.	V7/3030-99-450-8767
9	Vacuum pump, de-aerating.	NIV (Level 4 only)
10	Screwdriver, dial clamping nut.	NIV

LUBRICATION

4 Lubrication of the following parts of the compass will be carried out using Oil OM-13 (9150-99-943-1324):

4.1 Prism slide.

4.2 Index glass ring.

4.3 Outer box and prism hinge.

FINISH

5 The complete outer box, prism box assembly and finger loop are to be finished using:

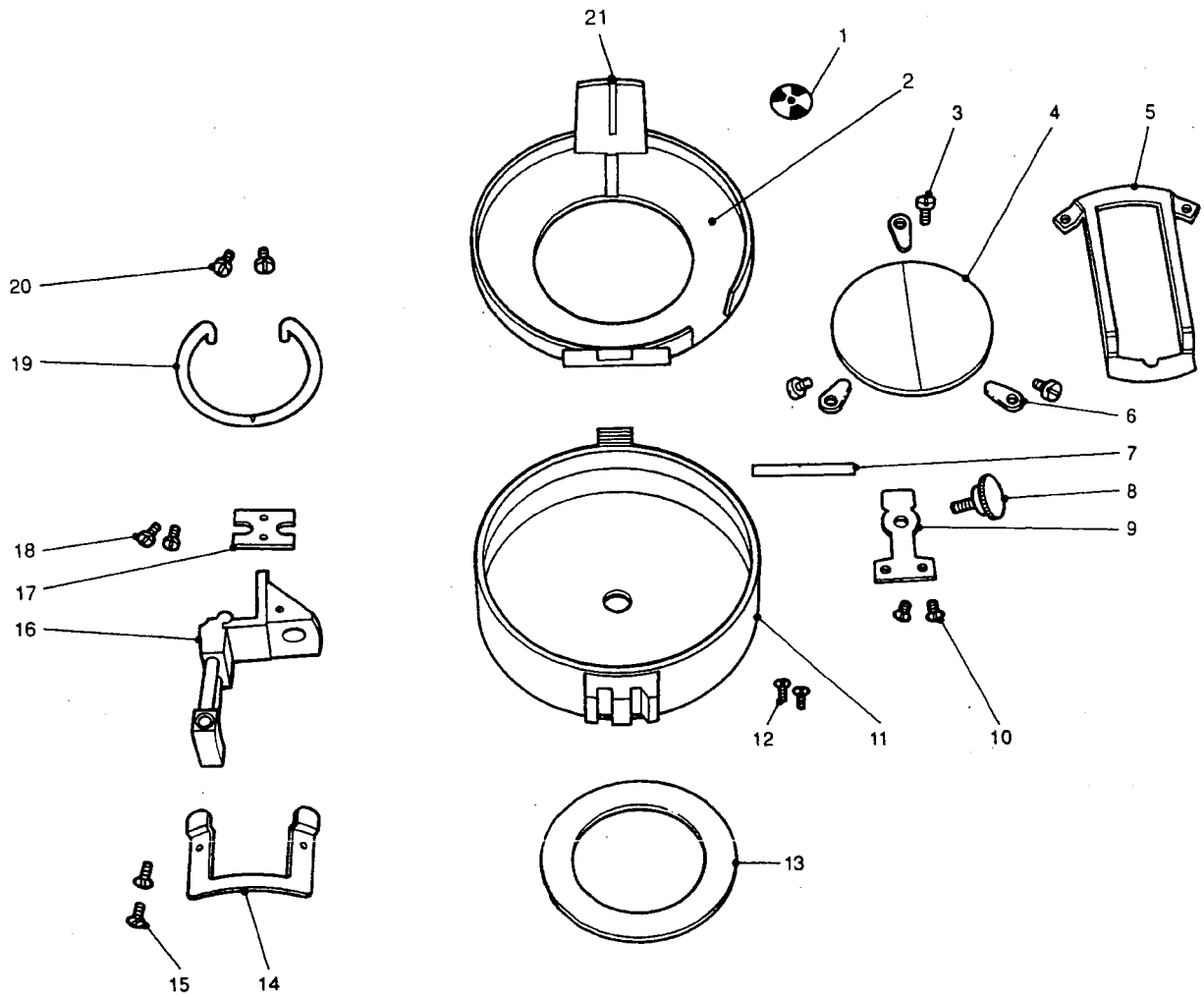
5.1	Primer.	Paint, spraying (H1/8010-99-224-8909) or Paint, brushing (H1/8010-99-224-8910).
5.2	Undercoat.	Paint, undercoat, spraying, NATO Green Matt (H1/8010-99-224-8911) or Paint, undercoat, brushing, NATO Green Matt (H1/8010-99-224-8912).
5.3	Finish.	Paint, finishing, spraying, NATO Green Matt (H1/8010-99-224-8906) or Paint, finishing, brushing, NATO Green Matt (H1/8010-99-224-8907).

6 The V notch on the finger loop is to be finished using:

6.1		Paint, finishing, brushing, white (H1/8010-99-910-7037).

7 The following items are to be bonded to the compass assemblies using the appropriate adhesive:

7.1	Friction ring.	Evo-stick 528 (H1/8040-99-943-6957).
7.2	Nuclear lamps.	Silastic 732 (H1/8030-99-224-6527).



1	Tre-foil	12	Screw retaining inner body
2	Lid outer box	13	Ring friction
3	Screw window guard	14	Spring leaf lid
4	Window compass	15	Screw spring leaf lid
5	Guard window	16	Prism assembly
6	Spring leaf lid	17	Spring prism slide
7	Pin taper	18	Screw spring prism slide
8	Thumbscrew, c/w pin	19	Loop finger
9	Clamp index ring	20	Screw finger loop
10	Screw clamp index ring	21	Nuclear lamp
11	Body outer box		

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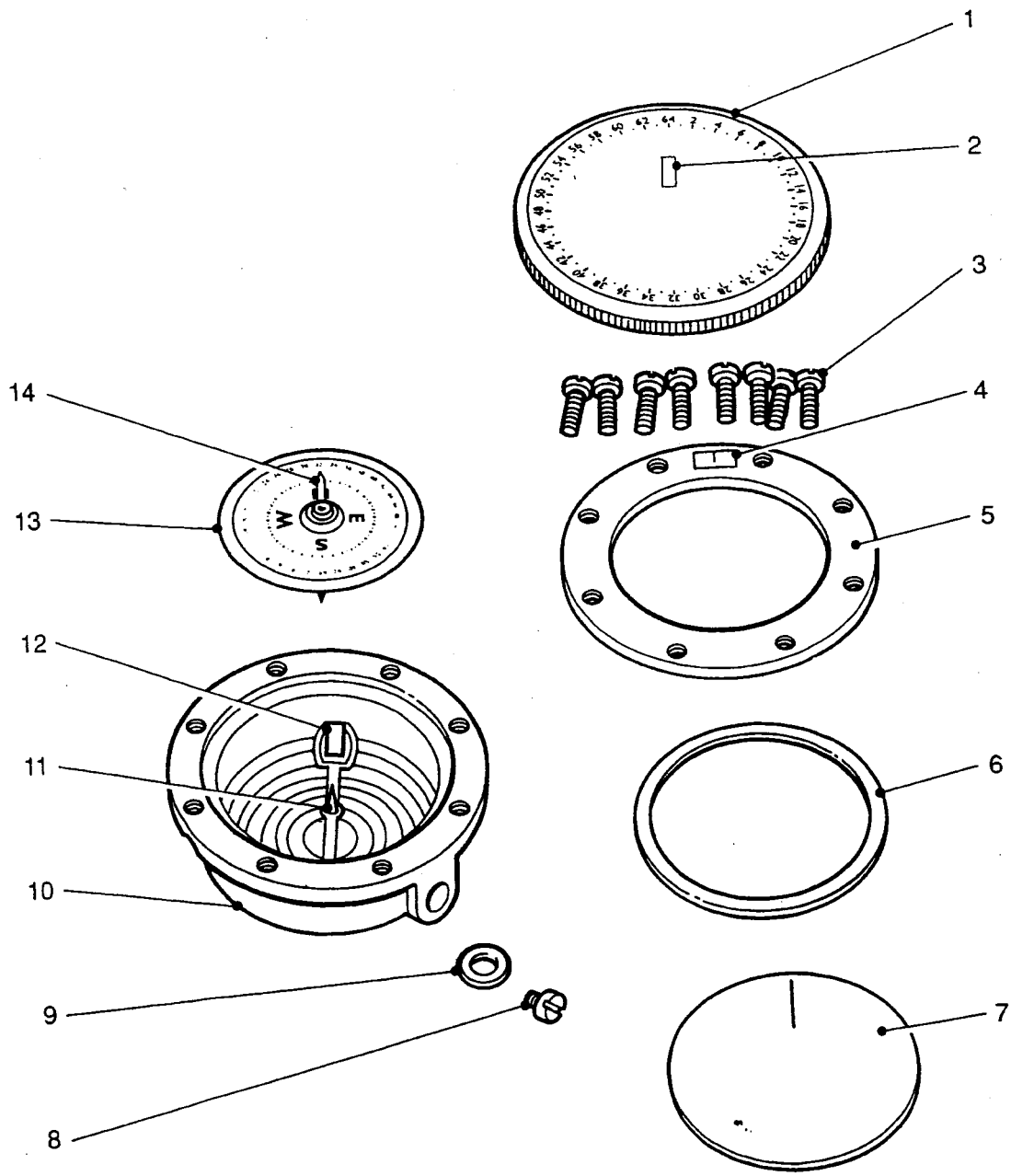
Fig 1 Body outer box and lid assembly



1	Index ring c/w index glass	10	Body, inner box c/w lubber pin/ bubble trap, diaphragm and spider
2	Nuclear lamp	11	Pivot c/w nut
3	Screw clamping ring	12	Nuclear lamp
4	Nuclear lamp	13	Dial assembly c/w nut clamping, jewel mounted, dial, needle magnetic and screw retaining needle
5	Clamping ring	14	Nuclear lamp
6	Glass sealing washer		
7	Glass sealing		
8	Filler screw		
9	Washer fibre		

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Fig 2 Body inner box

TEST SITES AND REFERENCES

8 Test sites and reference marks should be set up in accordance with EMER Inst A 192.

9 To ensure that the calibration of compasses is maintained to a high standard of accuracy, it is important that the magnetic reference of any test site is constantly monitored. This will prevent errors being introduced by the daily variation of the earth's magnetic field. The frequency of checks on the reference mark will depend on the individual test sites and the following procedure is recommended until the stability of the local conditions are determined.

10 For compasses being calibrated on a one off basis, a check on the reference mark should be made before and after adjustment of the compass under test. For calibration of compasses in batches, the reference mark should be checked at hourly intervals.

11 Personnel employed on compass work must take particular care when setting up test sites or testing and adjusting compasses, that tools and personal items of ferrous metals do not affect the compass.

TESTS AND ACTIONS

Compass filling and liquid (Level 4 only)

12 The compass inner body is to be filled with purified isopropyl (H7/6810-99-220-0823). The method of filling and de-aerating is as follows:

12.1 De-aerate the fibre washer and impregnate with varnish (H1/8010-99-224-5781).

12.2 Carefully bed the washer in its seating using the filler plug screw. Remove the screw leaving the washer in position.

12.3 Place the screw and inner body, with the filling hole uppermost, in a glass container filled with sufficient clean isopropyl, to completely immerse the inner body without exposing the filling hole.

12.4 Place the container in a vacuum chamber and reduce the pressure to 1 in. of mercury and maintain at this pressure for 2 hours.

12.5 Restore the chamber to atmospheric pressure and remove the container.

12.6 With the screw and inner body still fully immersed in the isopropyl, insert the screw in the filling holes and secure.

12.7 Remove the inner body from the container, tighten the screw and seal with a coat of varnish.

12.8 The compass is to be tested for bubbles in the isopropyl. Store the compass for 14 days from the date of filling and check for bubbles.

Sighting axis

13 With the compass level, the following features of the outer body should lie in the same vertical plane:

13.1 The V notch of the finger loop.

13.2 The sighting line on the lid window.

13.3 The lubber line on the sealing glass.

13.4 The centre line of the prism guard.

13.5 The black line on the GTLS housed on the clamping ring.

13.6 The centre of the field of view through the prism.

13.7 The viewing aperture of the prism housing.

Test

14 The test is carried out in two stages. Stage 1 for items in Sub-Para 12.1 to 13.5 Stage 2 for items 13.2, 13.6 and 13.7.

Stage 1

15

15.1 Place the compass with the lid and finger loop fully extended on a level surface.

15.2 Set the prism assembly in the reading position.

15.3 Superimpose the edge of a rule on top of the compass so that it cuts the centre of the prism guard notch and the viewing aperture slot of the prism housing.

15.4 Without moving the head check that the features detailed in Sub-Para 13.1 to 13.5 are coincident with the rule edge.

Adjustment

16

16.1 Finger loop V notch: Adjust or replace as necessary.

16.2 Sighting line on the lid window: Slacken the three cheese head screws securing the lid window. Adjust the window as necessary and re-tighten.

16.3 Centre line on the prism guard: Check the guard plate and lid for distortion. Replace if necessary.

Stage 2

17

17.1 Assemble adaptors STT, Nos. 2, 5 and 8 on a levelled Tripod Testing Scale (TTS).

17.2 Set up a plumb line at a distance of not less than 183 cm from the centre of the TTS.

17.3 Mount the compass in the adaptor No. 8 with the lid vertical and the prism in the reading position.

17.4 Sighting through the viewing aperture of the prism box superimpose the window sighting line onto the plumb line.

17.5 The window sighting line should be central with the viewing aperture and both the sighting line and aperture should be parallel to the plumb line. The centre of the field of view through the prism should be coincident with the window sighting line.

Adjustment

18 Sighting line on the lid window:

18.1 Inspect the lid hinge lugs for distortion and adjust if necessary.

18.2 Adjust the window, if necessary, as detailed in Sub-Para 16.2.

19 Verticality of the prism box viewing aperture:

19.1 Inspect the prism box and hinge for damage and distortion. Adjust or replace as necessary.

19.2 Inspect the prism slide pins for damage and if necessary replace the prism assembly.

19.3 Inspect the slide block for damage and wear in the slide grooves. If the slide grooves are worn the compass should be sentenced BER.

20 Centring errors of the prism field of views:

20.1 Ensure that the prism assembly slide spring engages the slide pins firmly in the prism slide block slots. Adjust or replace as necessary.

20.2 Inspect the prism box, prism and the prism retaining spring for damage and/or correct assembly. Adjust or replace as necessary.

FOCUS OF PRISM

21 The dial graduations and the night lubber pin should be in simultaneous focus when viewed through the prism by a person with normal eyesight.

Test

22

22.1 Assemble adaptors STT No. 2, 5, and 8 to a levelled TTS.

22.2 Mount the compass in the adaptor No. 8 with the lid vertical and the prism set in the reading position.

22.3 Sight through the prism and adjust the prism assembly until the dial graduations and figures appear clear and well defined.

22.4 Check that the dial graduations appear to be vertical, and that the night lubber pin is in focus, when viewed through the prism. Tolerance $\pm$ 1 mm of the prism slide, mid-point of travel.

Adjustment

23 Dial graduations and night lubber pin in simultaneous focus but prism slide exceeds permitted tolerance:

23.1 Check the prism for correct seating, and if necessary replace.

24 Error in simultaneous focus should be rectified during level 4 repair only.

24.1 Pivot for correct height, Para 46 to 49 refers.

24.2 The dial for correct balance, Para 41 to 43 refer.

24.3 Check the lubber pin for distortion.

Tilt

25 The suspension assembly should swing freely when the compass is tilted at 124 mils from the horizontal, in any bearing.

Test

26

26.1 Accurately cross level a TTS.

26.2 Using a Clinometer adjust the TTS until its surface is set at an angle of 124 mils.

26.3 Assemble adaptors, STT No. 2, 5 and 8 onto the TTS and set the No. 2 adaptor to 0 deg.

26.4 Mount the compass in the No. 8 adaptor so the dial indicates a bearing of 6400 mils when viewed through the prism.

26.5 Carry out the procedure as detailed in Para 29.10 to 29.12 inclusive, checking that the dial swings freely and does not exceed the specified tolerance ± 14 mils.

26.6 Repeat Sub-Para 26.5 with the No. 2 adaptor set at 90 deg, 180 deg and 270 deg.

Adjustment (Level 4 only)

27

27.1 If the suspension assembly does not swing freely at all bearings in the inclined position, repeat the test with the compass in the horizontal position. If the sensitivity is satisfactory the pivot should be checked for correct clearance between the pivot tip and the underside surface of the sealing glass and as detailed in Para 44 to 47 inclusive.

27.2 If the sensitivity of the suspension assembly is faulty in one or two of the inclined positions, the suspension assembly should be checked for the balance of the dial detailed in Para 39 to 41 inclusive.

BEARING ACCURACY AND SENSITIVITY

28 Magnetic bearings, as read through the prism by reference to the window sighting line and the dial, should agree to the true magnetic bearing. Bearing and sensitivity errors combined ± 14 mils.

Test

29

29.1 Assemble the adaptor No. 8 to a levelled Instrument Testing Scale (ITS).

29.2 Set the ITS main scale and one of the micrometer microscopes to 6400 mils (0 deg).

29.3 Mount and level a compass sub-standard on the adaptor No. 8 and adjust to the local magnetic meridian without disturbing the ITS setting.

29.4 Set up and adjust a compass collimator or reference mark to indicate the local magnetic meridian as determined by the compass sub-standard.

29.5 Remove the compass sub-standard and adaptor No. 8 from the ITS.

29.6 Assemble the adaptors No. 5 and 8 to the ITS.

29.7 Mount the compass in the adaptor No. 8 with the lid vertical and the prism in the reading position.

29.8 Sight through the prism and rotate the compass in the adaptor No. 8 until the window sighting line is superimposed on the local magnetic meridian reference mark and centralised on the prism box viewing aperture.

29.9 The compass dial should indicate a bearing of 6400 mils by reference to the window sighting line. Tolerance ± 14 mils.

29.10 Deflect the magnetic needle so that the dial moves more than 180 mils and retain it in this position for a few seconds. Remove the deflecting agent and allow the magnetic needle to come to rest.

29.11 The dial should indicate 6400 mils by reference to the window sighting line. Tolerance ± 14 mils.

29.12 Carry out the procedure as detailed in this Para, Sub-Para 29.10 and 29.11 deflecting the needle in the opposite direction. Tolerance ± 14 mils.

29.13 Repeat Sub-Para 29.9, 29.10, 29.11 and 29.12 at bearings of 1600 mils, 3200 mils and 4800 mils as set on the ITS using the micrometer microscope. The compass dial should indicate by reference to the window sighting line the same bearing at 3200 mils and the supplementary angles at 1600 mils and 48 mils of the ITS. Tolerance ± 14 mils.

Alternative tests

30 As an alternative to the test described in Para 29 the following method may be used if an ITS is not available.

Test

31

31.1 Assemble the Adaptors No. 2 and 8 on a levelled TTS.

31.2 Mount the sub-standard compass on the No. 8 Adaptor and check the bubble is central. If necessary adjust by means of the TTS levelling screws.

31.3 Align the sub-standard compass to the local meridian.

31.4 Adjust a compass collimator or reference mark to the local magnetic meridian as determined by the sub-standard compass, and set the sub-standard azimuth scale to read 0 deg.

31.5 Traverse the sub-standard compass to bearings of 90 deg, 180 deg, and 270 deg. As indicated by the azimuth and at each selected bearing set up a reference mark.

31.6 Remove the sub-standard compass and the No. 8 adaptor from the No. 2 adaptor.

31.7 Assemble the No. 5 and 8 adaptors to the No. 2 adaptor.

31.8 Mount the compass in the No. 8 adaptor with the lid vertical and the prism in the reading position.

31.9 Sight through the prism and rotate the compass until the window sighting line is superimposed on the local magnetic meridian reference mark and central in the prism box viewing aperture.

31.10 The compass dial should indicate a bearing of 6400 mils by reference to the window sighting line. Tolerance ± 14 mils.

31.11 Test the compass as described in Sub-Para 29.10 to 29.12 inclusively.

31.12 Test the compass as described in Para 31.9 to 31.11 inclusively by sighting on to each reference mark at 90 deg, 180 deg, and 270 deg. The compass dial should indicate bearings of 1600 mils, 3200 mils and 4800 mils respectively. Tolerance ± 14 mils.

Adjustment (Level 4 only)

32 Constant errors:

32.1 Test the suspension assembly for alignment of the card to the magnetic needle axis as detailed in Para 42.

32.2 Test the pivot to ensure that the tip is in alignment with the sighting axis as detailed in Para 47.

33 Constant plus and minus errors:

33.1 Test the suspension assembly for concentricity of the dial to the jewel as detailed in Para 42.

34 Inconsistent errors:

34.1 Inspect the pivot tip for damage and replace as necessary.

34.2 Inspect the jewel for damage and cleanliness and replace as necessary.

NIGHT LUBBER PIN

35 Magnetic bearings indicated by the night lubber pin and the window sighting line should both agree when viewed through the prism. Tolerance ± 14 mils.

Test

36

36.1 Set up the test equipment and the compass as detailed in Sub-Para 29.1 to 29.8 or Sub-Para 31.1 to 31.4 and 31.6 to 31.10.

36.2 Check that the night lubber pin indicates the bearing indicated by the window sighting line. Tolerance ± 40 mils.

Adjustment (Level 4 only)

37 The night lubber pin can only be adjusted during the course of repair or assembly of the inner bowl. Errors are unlikely, but if apparent proceed as follows:

37.1 Mount the inner bowl, complete with the pivot (adjusted as in Para 44) in the compass outer case which has been set up as described in Sub-Para 29.1 to 29.8 or Sub-Para 31.1 to 31.4 and 31.6 to 31.10.

37.2 Fill the inner bowl with purified isopropyl and carefully mount the suspension assembly on the pivot.

37.3 Check the bearing indicated by the night lubber pin as described in Para 36.

37.4 Remove any error by the repositioning of the night lubber pin in the inner body. If error cannot be removed replace complete assembly.

37.5 Repeat the check and adjustment until it is correct within the specified tolerance.

SEALING GLASS LUBBER LINE

38 Magnetic bearings read directly against the lubber line on the sealing glass should be supplementary to those indicated by the window sight line when viewed prismatically.

Test

39

39.1 Set up the test equipment and the compass as detailed in Sub-Para 29.1 to 29.8 or Sub-Para 31.1 to 31.4 and 31.6 to 31.10.

39.2 Sight though the prism and note the bearing indicated by the window sighting line to the graduations on the dial. The lubber line on the sealing glass should indicate the supplementary bearing. Tolerance ± 40 mils.

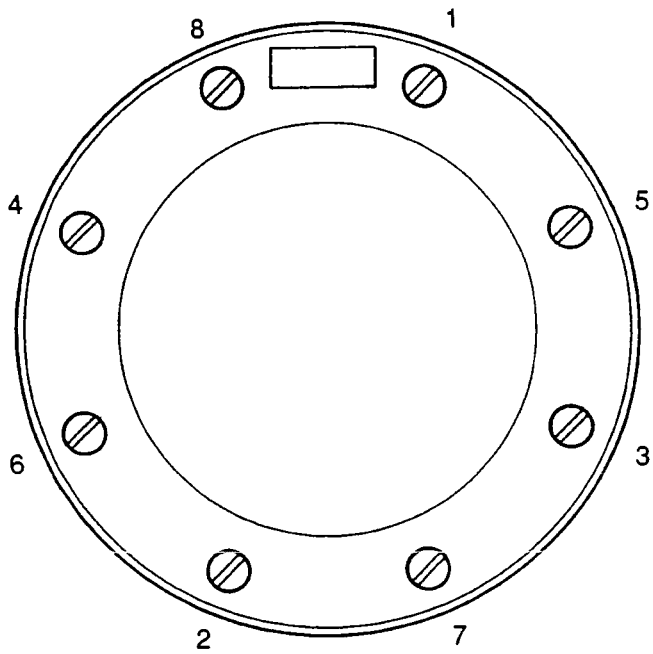

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Fig 3 Clamping ring - screw tightening sequence

Adjustment (Level 4 only)

40

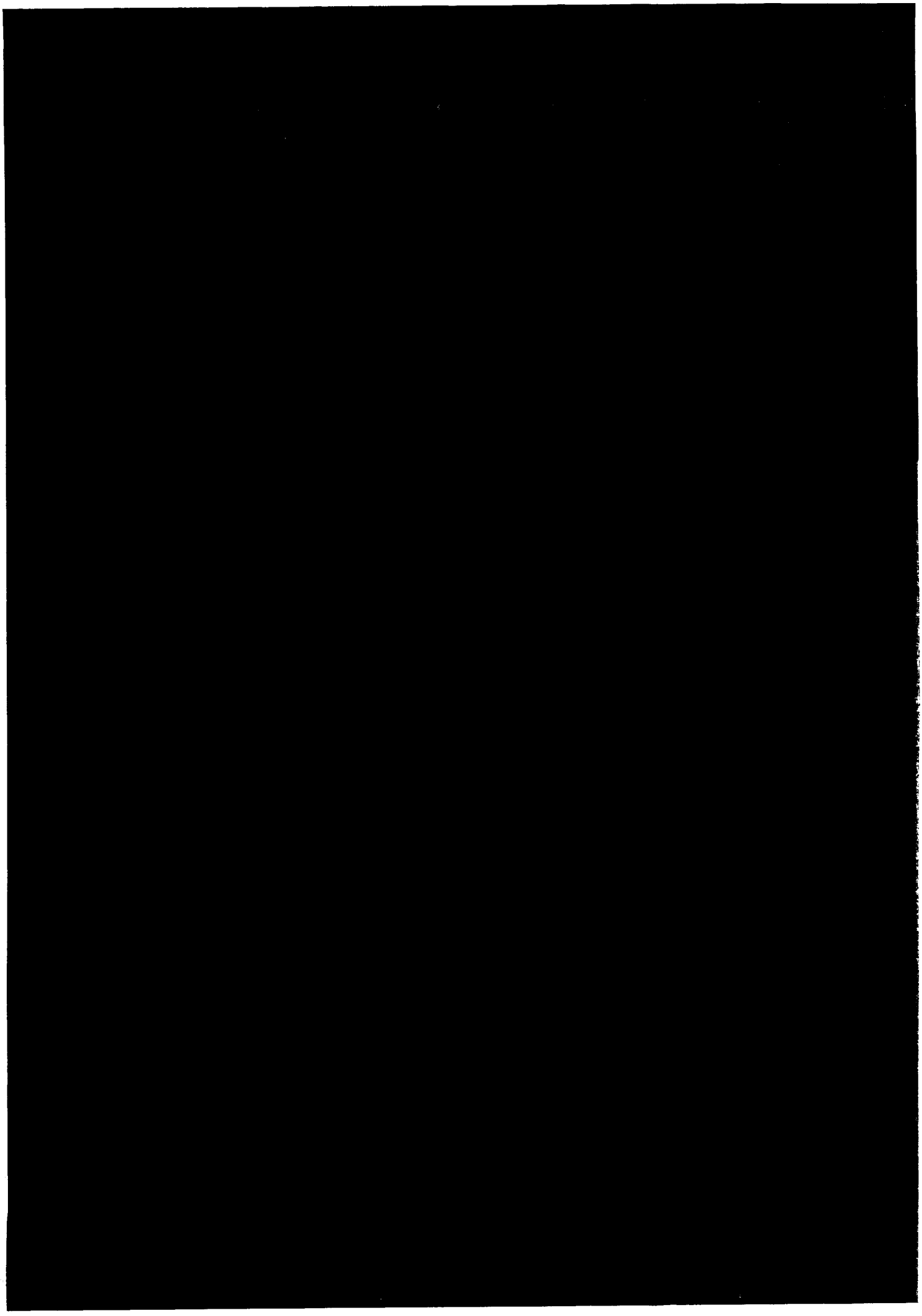
40.1 Mount and secure the inner bowl complete with pivot, adjusted as detailed in Para 46, in the compass outer case and carry out the procedure as detailed in Sub-Para 29.1 to 29.8 or Sub-Para 31.1 to 31.4 and 31.6 to 31.10.

40.2 Mount a correctly adjusted suspension assembly on the pivot.

40.3 Assemble a sealing ring, sealing glass and clamping ring to the compass under test.

40.4 Place the clamping ring securing screws in their respective holes. Do not secure.

40.5 Sight through the prism and note the bearing indicated by the window sighting line to the dial.



40.6 Adjust the sealing glass so that the lubber line indicates the supplementary bearing. Tolerance ± 40 mils.

40.7 Tighten the clamping ring securing screws carefully and evenly in the sequence shown in Fig 4 and recheck the lubber line setting.

BALANCE OF DIAL (Level 4 only)

41 The dial complete, when mounted on the pivot, should be horizontal. Tolerance -18 mils at the north seeking end of the magnetic needle.

Test

42

42.1 Assemble to the adopters No. 2, 5, and 8 to a levelled TTS.

42.2 Mount and secure the inner bowl complete with pivot, adjusted as detailed in Para 46, in the compass outer case.

42.3 Place the compass under test in the No. 8 adaptor.

42.4 Carefully mount a correctly adjusted suspension unit on the pivot and allow the dial to come to rest with the 6400 mils graduation adjacent to the lubber pin.

42.5 With the aid of a watchmaker eyeglass note the position of the dial edge with the relation to the lubber pin in the vertical plane.

42.6 Carry out Sub-Para 42.5 at the other three cardinal points carefully noting the position of the dial.

Adjustment

43 If the dial is not horizontal across the line of the local magnetic meridian or the dip exceeds 18 mils adjust by filing the suspension assembly balance pin.

ORIENTATION OF THE DIAL TO THE LOCAL MAGNETIC MERIDIAN (Level 4 only)

44 Constant bearing errors noted on carrying out the bearing and accuracy test, Para 29 or 31 indicate that the dial is not aligned to the local magnetic meridian.

Adjustment

45

45.1 Using the special screwdriver, Fig 4, slacken the dial clamping nut so that the dial is friction tight.

45.2 Correct all errors, by rotating the dial in relation to the suspension assembly, and re-secure the clamping nut.

45.3 Repeat the test and adjustment until the dial is aligned to the local magnetic meridian with the tolerance given in Para 28.

NOTE

Testing is carried out with the pivot mounted in the inner bowl which is secured in the compass case. The inner bowl should be filled with isopropyl and extreme care must be taken to ensure that when mounting the suspension unit the pivot and jewel are not damaged.

PIVOT ALIGNMENT (Level 4 only)

46 Compasses which have failed the tilt test, Para 25 to 27, or are being base overhauled should be tested for correct height and alignment of the pivot during assembly of the inner bowl. The pivot tip clearance to the underside surface of the sealing glass is .84 mm to .94 mm. This clearance is designed so that the suspension assembly will swing freely when the compass is tilted at 124 mils from the horizontal, in any bearing, and the compass is tilted at 142 mils the suspension assembly fouls the sealing glass.

Test

47 This test checks the height of the pivot and operation of the dial when the compass is tilted:

47.1 Carry out the procedure detailed in Sub-Para 26.1 to 26.3 inclusive.

47.2 Secure the inner bowl, complete with the pivot adjusted to the approximate height, in the outer case.

47.3 Place the compass in the No. 8 adaptor.

47.4 Carefully mount the suspension assembly on the pivot and place the sealing glass in the inner bowl recess.

47.5 Check that the suspension assembly oscillates and that the dial does not foul the sealing glass.

47.6 Slowly rotate the adaptors, complete with the compass, through 6400 mils checking that the suspension assembly oscillates and that the dial does not foul the sealing glass.

47.7 Repeat the test with the TTS set at an angle of 142 mils.

47.8 The dial should foul the sealing glass at all bearings.

Adjustment

48 The pivot is adjusted for height by screwing it in or out of the pivot spider and is finally secured in position by the locknut provided. Care should be taken to ensure that the pivot screw thread and does not foul the diaphragm after any adjustment.

Test

49 Test the alignment of the pivot tip to the sighting axis as follows:

49.1 Set up the inner bowl fitted with the lubber pin/bubble trap and the pivot which has been adjusted for height in the compass outer case mounted as described in Sub-Para 29.1 to 29.7 or 31.1 to 31.8.

49.2 Carefully mount the suspension assembly on the pivot, test the compass as described in Para 29.8 to 29.13 or 31.9 to 31.12 and note the errors at the cardinal points.

Adjustment

50 Pivot alignment errors may be indicated by either all plus or all minus errors in bearing at the cardinal points. Adjustments to correct the position of the pivot tip is by setting the pivot spider so that the pivot tip is moved in the required direction. When viewing the compass from the prism box the direction of movement of the pivot tip to correct errors is:

50.1 Plus errors - The pivot tip should be moved to the left.

50.2 Minus errors - The pivot tip should be moved to the right.

51 The dial should also have approximately the same clearance from the night lubber pin when viewed through the prism at the 6400 mils and 3200 mils (0 deg and 180 deg) positions. After any adjustment of the pivot tip for alignment to the sighting axis, the compass should be tested as in Para 45 before final assembly of the bowl.

NUCLEAR LAMPS

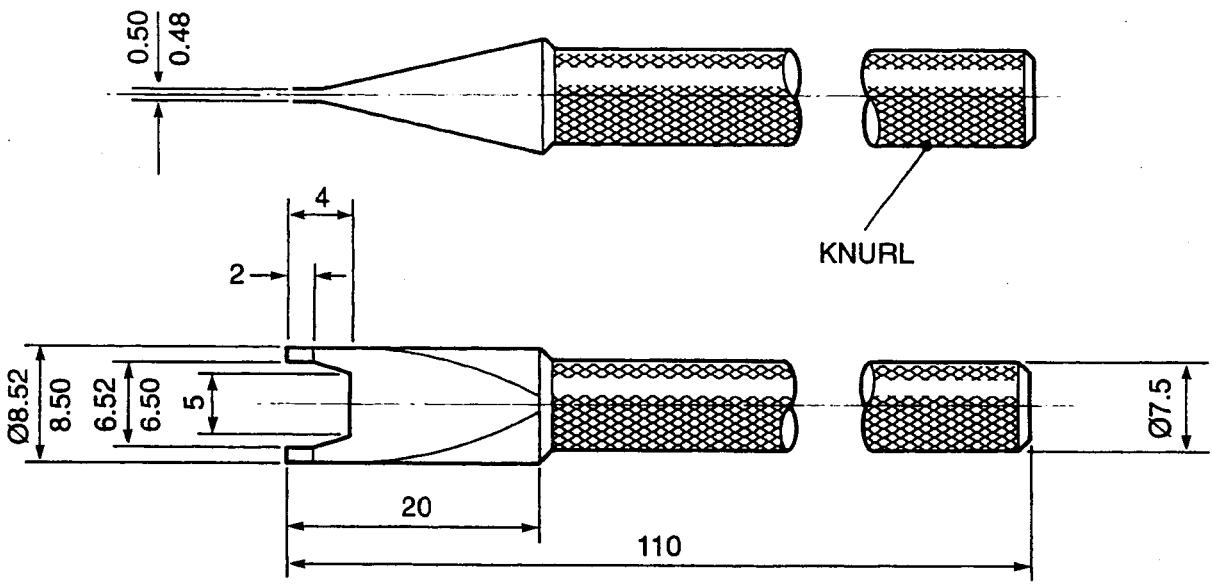
52 The compass reference points are illuminated by nuclear lamps. The reference points are to be well defined and viewed with certainty under low light level conditions.

Test

53 Place the compass under test in a location having low light level conditions, the reference points should be sufficiently illuminated to allow effective use of the compass.

Adjustment (Level 4 only)

54 Remove and replace any defective nuclear lamps. See warning page 1 for regulations regarding the disposal of any expired broken lamps.



MATERIAL - TOOL STEEL
DIMENSIONS IN mm

V13179/1

Fig 4 Screwdriver, dial clamping nut

ARMY EQUIPMENT
SUPPORT PUBLICATION

6605-C-101-522

COMMENT(S) ON AESP*

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BFPO 794

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AESP Title:		
Chapter(s)/Instruction	**Page(s)/Paragraph(s)**	
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Incorporate comment(s) in future amendments		No action required	
Remarks			

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AESP Form 10 (Issue 5.0 dated Dec 01)

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COMPASS, MAGNETIC, UNMOUNTED, PRISMATIC, MILS

MODIFICATION INSTRUCTIONS AND INDEX

BY COMMAND OF THE DEFENCE COUNCIL

Ministry of Defence
Issued by

DEFENCE LOGISTICS ORGANISATION

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
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PREFACE

Sponsor:
DGES (L)
File ref:

Publication Agency:
DLO CSE IPT
Project No: PO 06350
File ref: DGES(L)

INTRODUCTION

1 The Publications Agency is responsible for the allocation of instruction numbers.

2 All modification instructions as issued are to be recorded in manuscript by the recipient on the Numerical Modification Instruction Index provided. Amendments to individual instructions are to be recorded on the instruction Amendment Record. All extant instructions and amendments can be found listed in the main AESP index.

NOTE

The Publications Agency is responsible for the preparation and maintenance of the Modification Instruction Index and will advise the Distribution Authority on the issue of completed and subsequent blank index pages as necessary.

3 Service users should forward any comments on this publication through the channels prescribed in AESP 0100-P-011-013. An AESP Form 10 is provided at the end of this publication; it should be photocopied and used for forwarding comments on this AESP.

MODIFICATION INSTRUCTIONS INDEX

Priority (Pty) is shown as: Immediate: I Routine: R

Instr No. (1)	Pty (2)	Page Nos. (3)	Amend - Ment (4)	Subject (5)	Approval No./ Remarks (6)
1	R			Finger loop retaining screw	
2					
3					
4					
5					
6					
7					
8					

COMPASS THUMBLOOP RIVET MODIFICATION

MODIFICATION INSTRUCTION No 1

Sponsor:
DGES(L)

Publication Agency:
DLO ANDOVER CSE IPT
Project No: PO 06350
File ref. DGES(L)

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
1		
2		
3		

Amdt No.	Incorporated By (Signature)	Date
4		
5		
6		

SUBJECT: Finger Loop Retaining Screw

INTRODUCTION

1 The Finger Loop Retaining Screw (Fig 1[20]) is prone to shearing when over – tightened. Removal is often time consuming and difficult, with frequent damage to the prism slide assembly (Fig 1[16]). This modification instruction provides a simple and effective solution to repair broken assemblies.

APPLICABILITY

2 NSN W10 6605-99-966-6411 Prism Mechanism Assembly

REASON FOR MODIFICATION

3 To improve reliability.

PRIORITY

4 Routine

ESTIMATED TIME REQUIRED

5

5.1 Embodiment: 30min.

MODIFICATION IMPLEMENTATION PLAN

6

6.1 This instruction is to be implemented by units authorised to carry out level 3 and 4 repair.

6.2 The equipment may be issued without this modification.

6.3 Restrictions. Nil

6.4 Associated instructions. Nil

6.5 Strike Off action. Nil

Action required by

7

7.1 Holding Units:

7.1.1 Examine current stock and identify any compasses with broken or loose finger – loop screws.

7.2 Repair Units:

7.2.1 On receipt of the faulty equipment, demand the stores required.

7.3 All recipients of this AESP:

7.3.1 Enter this modification on local modification records.

Stores, tools and equipment

8

8.1 Stores to be demanded:

8.1.1 The following item(s)/set are/is to be demanded quoting this instruction as the authority.

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
1	G1	5320-99-001-7658	Rivet, Round Head, Solid, Copper 3/32in Dia x 5/16in long	2

8.2 Stores to be obtained locally:

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
2			Drill 2.00mm	As reqd
3			Drill 2.25mm	As reqd
4			Drill 2.50mm	As reqd

8.3 Stores to be removed and discarded:

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
5	W10	6605-99-966-6435	Screw Finger Loop	2

8.4 Stores to be modified:

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
6	W10	6605-99-966-6411	Prism Slide Assembly	1

SPECIAL TOOLS AND TEST EQUIPMENT

9 None (if original prism slide assembly is refitted to host equipment). A check of the compass magnetic north reading using a fixed known reference point should be carried out after the modification has been completed.

Sequence of operations

WARNING

TOXIC FUMES HAZARD. THE COMPASS CONTAINS SEVERAL GASEOUS TRITIUM LIGHT SOURCES (GTLS). BEFORE COMMENCING WORK, READ EMER INSTRUMENTS A 017 WHICH COVERS SAFETY INSTRUCTIONS FOR THE HANDLING AND DISPOSAL OF GTLS.

CAUTION

Care must be taken to ensure that no ferrous rivets are used in error due to their effect on the accuracy of the compass.

10 Carry out the modification as follows: Refer Fig 1

10.1 Remove the prism slide assembly (Fig 1[16]) from the compass body (Fig 1[11]) by undoing the two leaf spring screws (Fig 1[18])

10.2 Remove any remaining finger loop screws (Fig 1[20]) from prism slide assembly and discard.

10.3 Retain finger loop (Fig 1[19]) and prism assembly (Fig 1[16]).

10.4 Clamp finger loop in a vice and pass 2.5mm drill through the existing holes to provide clearance for modification rivets.

10.5 Mount the prism slide assembly beneath a pillar drill and using a 2.0mm drill bit. Drill into the finger loop retaining screw holes to a depth of 8mm (i.e. the length of the rivet) this will remove the old threads and provide a hole for the rivet.

10.6 Repeat para 10.5 using a 2.25mm drill bit, taking care not to drill the hole oversize.

10.7 Remove the prism slide assembly from the vice and taking one of the 3/32in diameter x 5/16in long copper rivet pass it through the hole in the finger loop and position the finger loop against the prism assembly.

NOTE

Ensure that the finger loop is orientated correctly, so as to fold under the compass when the prism assembly is refitted.

10.8 Resting the prism assembly and finger loop on a suitable surface, gently hammer the rivet into the prism assembly via the finger loop. Ensure the rivet is a snug fit and the finger loop moves freely.

10.9 Reverse the assembly and repeat para 11.8 for the second rivet.

10.10 The rivets should be hammered in as far as possible whilst allowing the finger loop to move freely. Take care not to distort the rivet during fitting.

10.11 Resecure the prism assembly to the compass body.

TESTING AFTER EMBODIMENT

11 Ensure full, free movement and correct orientation of the finger loop enabling it to fold underneath the compass when stowed.

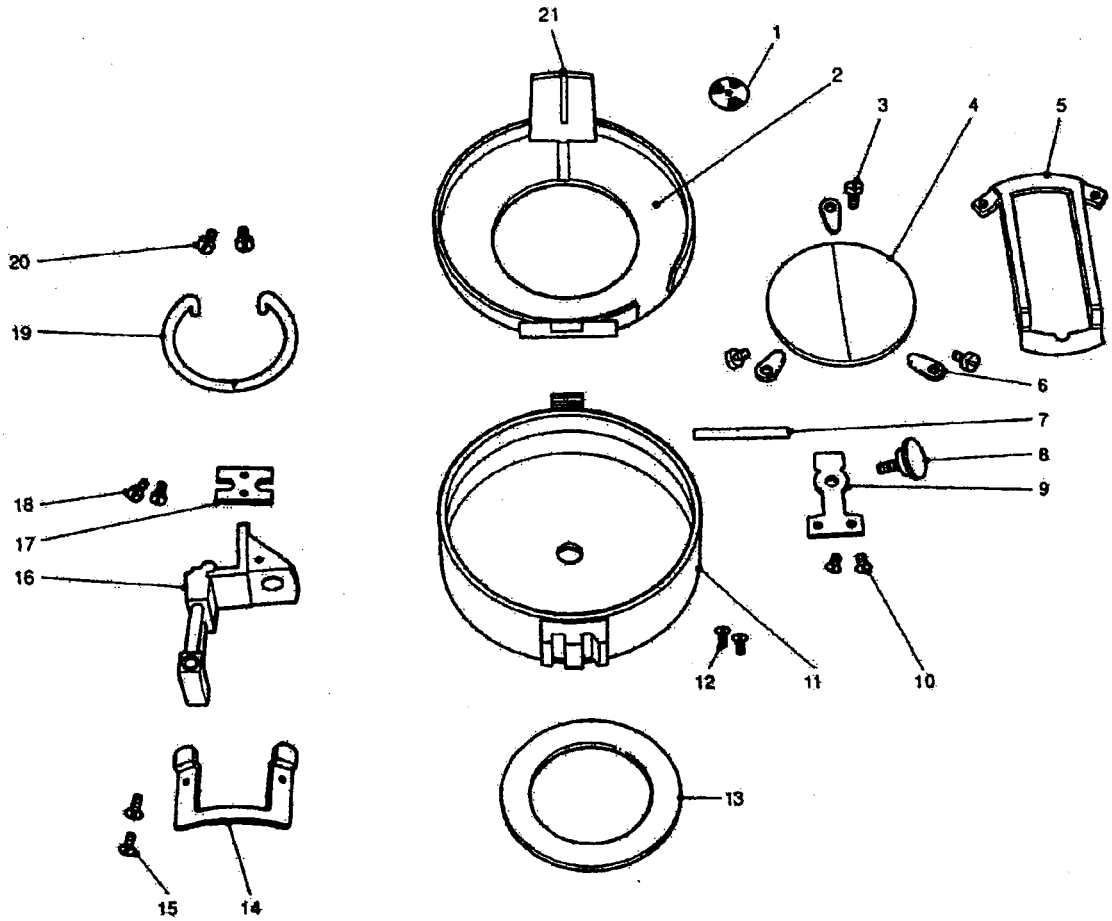
12 Recheck the accuracy of the compass against a known datum.

EFFECT ON WEIGHT

13 Negligible.

PUBLICATION AMENDMENTS

14 Not applicable



1	Tre-foil	12	Screw retaining inner body
2	Lid outer box	13	Ring friction
3	Screw window guard	14	Spring leaf lid
4	Window compass	15	Screw spring leaf lid
5	Guard window	16	Prism assembly
6	Spring leaf lid	17	Spring prism slide
7	Pin taper	18	Screw spring prism slide
8	Thumbscrew, c/w pin	19	Loop finger
9	Clamp index ring	20	Screw finger loop
10	Screw clamp index ring	21	Nuclear lamp
11	Body outer box		

Fig. 1 Body outer box and lid assembly

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AESP Form 10 (Issue 5.0 dated Dec 01)

ARMY EQUIPMENT
SUPPORT PUBLICATION

6605-C-101-101
October 1996

COMPASS, MAGNETIC, UNMOUNTED, PRISMATIC, MILS

REPRINTED INCORPORATING AMDT 1

PURPOSE AND PLANNING INFORMATION

BY COMMAND OF THE DEFENCE COUNCIL

Ministry of Defence
Issued by
ARMY TECHNICAL SUPPORT AGENCY
DIRECTORATE OF TECHNICAL SERVICES

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
1	[redacted]	2/12/02
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CONTENTS

PRELIMINARY MATERIAL

PURPOSE AND PLANNING INFORMATION

Para

Fig

PREFACE

Sponsor:
DGES(A) ES32e(2)
File ref: D/DGES(A)/380/34/3 ES32e(2)

Publication Agency:
DGES (L)
DLO Andover CSE IPT Publications
Project No: 01/CSE/FE/17
File ref:

INTRODUCTION

1 Service users should forward any comments on this publication through the channels prescribed in AESP 0100-P-011-013. An AESP Form 10 is provided at the end of this publication; it should be photocopied and used for forwarding comments on this AESP.

2 AESPs are issued under Defence Council authority and where AESPs specify action to be taken, the AESP will of itself be sufficient authority for such action and also for the demanding of the necessary stores, subject to the provisions of Para 3 below.

3 The subject matter of this publication may be affected by Defence Council Instructions (DCIs), Standing Operating Procedures (SOPs) or by local regulations. When any such instruction, order or regulation contradicts any portion of this publication it is to be taken as the overriding authority.

RELATED PUBLICATION

Related publications

4 The Octad for the subject equipment consists of the publications shown opposite. All references are prefixed with the first eight digits of this publication. The availability of the publications can be checked by reference to the relevant Group Index (see AESP 0100-A-001-013).

Category/Sub-category			Information Level			
			1 User/ Operator	2 Unit Maintenance	3 Field Maintenance	4 Base Maintenance
1	0	Purpose and Planning Information	101	101	101	101
	1	Equipment Support Policy Directives	*	*	*	*
2	0	Operating Information	*	*	*	*
	1	Aide-Memoire	*	*	*	*
	2	Training Aids	*	*	*	*
3		Technical Description	*	*	*	*
4	1	Installation Instructions	*	*	*	*
	2	Preparation for Special Environments	*	*	*	*
5	1	Failure Diagnosis	*	*	*	*
	2	Repair Instructions	*	522	522	522
	3	Inspection Standards	*	*	*	*
	4	Calibration Procedures	*	*	*	*
6		Maintenance Schedules	*	*	*	*
7	1	Illustrated Parts Catalogues	*	*	*	*
	2	Commercial Parts Lists	*	*	*	*
	3	Complete Equipment Schedule, Production	*	*	*	*
	4	Complete Equipment Schedule, Service Edition (Simple Equipment)	*	*	*	*
	5	Complete Equipment Schedule, Service Edition (Complex Equipment)	*	*	*	*
8	1	Modification Instructions	*	*	811	811
	2	General Instructions, Special Technical Instructions and Servicing Instructions	*	*	*	*
	3	Service Engineered Modification Instructions (RAF only)	*	*	*	*

*Category/Sub-category not published

Associated publications

4.

Reference	Title
JSP 392 Chap 32	Instructions for Radiological Protection.
EMER Insts A017	Nuclear Lamps.

PURPOSE AND PLANNING INFORMATION

EQUIPMENT IDENTITY

1

1.1 Designation: Compass, Magnetic, Unmounted, Prismatic, Mils.

1.2 NSN: W10 6605-99-537-9034.

ROLE

2 To enable the user to orientate maps and take magnetic bearings in relations to the magnetic meridian, by day or night.

BRIEF DESCRIPTION

3 The compass (Fig 1), consists of an outer case comprising, a hinged lid complete with a sighting window, an adjustable prismatic reader system and an index glass. An inner box containing a pivoted magnet assembly is enclosed in the outer case. The magnet assembly carries a mother of pearl dial which is calibrated in Mils and indicates the four cardinal points. The inner box is filled with isopropyl alcohol for damping the dial movement. Nuclear lamps are incorporated to enable the use of the compass in low light levels.

PHYSICAL DATA

4

4.1 Length: 8.9 cm.

4.2 Width: 6.0 cm.

4.3 Height: 4.0 cm.

4.4 Weight: 0.285 kg.

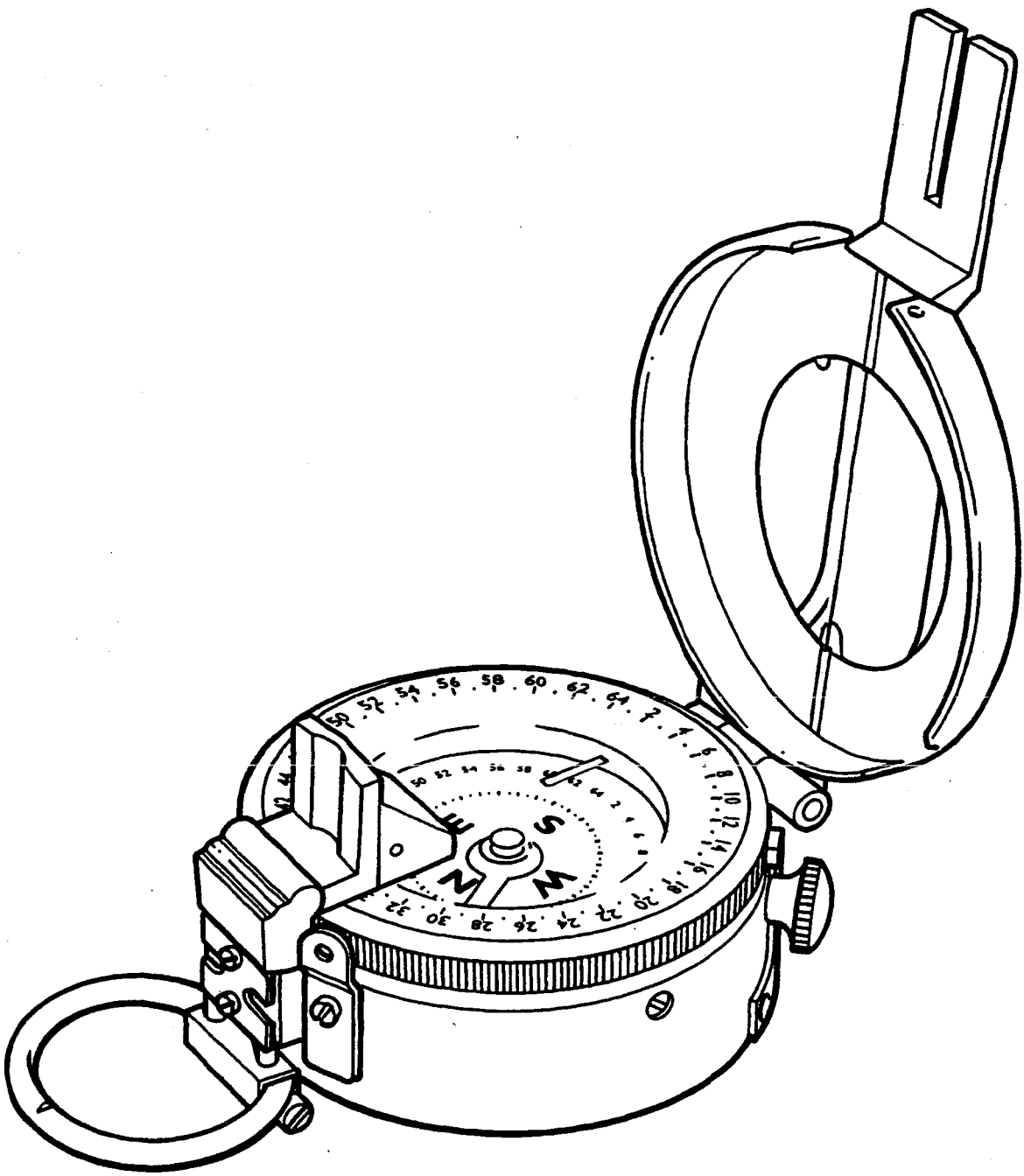
ACCURACY

5

5.1 Bearing accuracy: ± 14 mils.

5.2 Night lubber pin: ± 18 mils.

5.3 Lubber line: ± 36 mils.



V 13179/5

Fig 1 Compass, Magnetic, Unmounted, Prismatic

ARMY EQUIPMENT
SUPPORT PUBLICATION

6605-C-101-101

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