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## CARRIER, PERSONNEL, FULL TRACKED, FV432 MK 2 AND 2/1

### GENERAL INSTRUCTIONS AND INDEX

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BY COMMAND OF THE DEFENCE COUNCIL

Ministry of Defence  
Issued by  
DEFENCE LOGISTICS ORGANISATION

AMENDMENT RECORD

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**PREFACE**

Sponsor:  
DGES(L)  
File ref.

Publication Agency:  
DLO Chertsey  
Project No: 97/41c/217(338)  
File ref: Admin 281

**INTRODUCTION**

- 1 The Publication Agency is responsible for the allocation of instruction numbers.
- 2 All general instructions as issued are to be recorded in manuscript by the recipient on the Numerical General 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 Publication Agency is responsible for the preparation and maintenance of the Instruction Index and will advise the Distribution Authority on the issue of completed and subsequent blank index pages 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 after the preliminary pages of this publication; it should be photocopied and used for forwarding comments on this AESP to DLO DTS.
- 4 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.

**GENERAL INSTRUCTION INDEX**

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**COMMENT(S) ON AESP\***

To: DLO DTS 3.2  
Ha-Ha Road  
Woolwich  
LONDON SE18 4QF

From: .....  
.....  
.....  
.....

<b>Sender's Reference</b>	<b>BIN Number</b>	<b>Date</b>
<b>AESP Title:</b>		
<b>Chapter(s)/Instruction</b>	<b>Page(s)/Paragraph(s)</b>	
If you require more space, please use the reverse of this form or a separate piece of paper. <b>Comment(s):</b>		

Signed: ..... Telephone No:.....

Name (Capitals): ..... Rank/Grade:..... Date: .....

✕ .....

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Woolwich  
LONDON SE18 4QF

Thank you for commenting on AESP .....

Your reference ..... Dated: .....

<b>Action is being taken to:</b>	<b>Tick</b>	<b>Tick</b>
Issue a revised/amended AESP		Under investigation
Incorporate comment(s) in future amendments		No action required
<b>Remarks</b>		

Signed: ..... Telephone No:.....

Name (Capitals): ..... Rank/Grade:..... Date: .....

\* AESP or EMER

AESP Form 10 (Issue 4.2 dated Apr 00)

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**CARRIER, PERSONNEL, FULL TRACKED, FV432 MK 2 AND 2/1**

**GENERAL INSTRUCTION NO. 1**

Sponsor:

Publication Agency:

DLO Chertsey

Project No: 97/41c/217(338)

File ref: Admin 281

**AMENDMENT RECORD**

Amdt No.	Incorporated By (Signature)	Date
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**SUBJECT: EMER TV E109/2 Miscellaneous Instruction No. 1 to 54**

**INTRODUCTION**

1

1.1 The EMER decade (TV E100/2 to E109/2) that supports the FV432 is to be cancelled and replaced by AESP 2350-T-251-octad.

1.2 This AESP General Instruction No. 1 is a complete issue of Miscellaneous Instructions EMER TV E109/2 No. 1 to 54 that have been issued under the EMER system.

1.3 Subsequent Miscellaneous Instructions will be issued in AESP format as General Instructions, starting with Gen Instr No. 2.

1.4 Where the EMER TV E109/2 Miscellaneous Instructions refer to an associated EMER TV E100 series publication, this information will be incorporated within the appropriate Miscellaneous Instruction.

1.5 Remove and retain EMER TV 109/2 Miscellaneous Instructions No. 1 to No. 54 from the EMER folder.

1.6 Place this instruction in front of Miscellaneous Instructions removed at Sub-Para 1.5.

1.7 Open a new folder numbered 2350-T-251-821 and titled CARRIER, PERSONNEL, FULL TRACKED, FV432 MK 2 AND 2/1.

1.8 Limitations on use of equipment: As detailed within each Miscellaneous Instruction.

**APPLICABILITY**

2 FV432.

**REASON FOR MODIFICATION**

3 Publications change from EMER to AESP format.

**PRIORITY**

4 Information only.

## GENERAL INSTRUCTION INDEX

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**GENERAL INSTRUCTION INDEX (continued)**

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50	1	1	Deletion of K1 - gas equipment	
51	1	1-2	Fuel filter	31083
52	1	1-2	Air conditioning and ventilation system water trap	43/0/0001/1
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54	1	1-4	Limber role (105 mm light gun)	96/ES42c/1/154

**PUBLICATION AMENDMENTS**

**NOTE**

Necessary amendments will be issued separately.

5 Nil.

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CARRIER, PERSONNEL, FULL TRACKED, MKs 1, 1/1, 2 AND 2/1 (FV432)

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION INDEX

- Notes:
1. This Issue 4, Pages 1-6 supersedes Issue 3, Pages 1-4 dated Jan 81.
  2. This index is to be kept up to date by the User entering miscellaneous instructions issued under the above designation as and when they are published.
  3. \* Denotes stocks exhausted. These items are not automatically reprinted. Units should not demand these items without detailed justification.

INSTR NO	ISSUE NO	PAGES	SUBJECT	APPROVAL NO	REMARKS
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INSTR NO	ISSUE NO	PAGES	SUBJECT	APPROVAL NO	REMARKS
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20*	1	1-2	Ventilation equipment gauge	26389	
21*	1	1	Distribution panel N°5 MK1 OR ACCESSORIES ARE N°1 MK2 IS REPLACED BY N°6 MK1	21493	
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25*	1	1	Command role kit, tables reduced in width	29342	
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27*	1 2 3 4	0 1-8 9-12 13-16	Exhaust system and roof door catch assembly <b>CANCELLED</b>	29557	
28*	1	1	Ventilation system, drivers compartment nozzle hoses	29554	

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36*	1	1-2	Trailer harness	
37*	1	1	Commanders hatch equilibrator mounting	
38	1 1	0 1-2	Mounting, Machine gun	30910
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INSTR NO	ISSUE NO	PAGES	SUBJECT	APPROVAL NO REMARKS
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52	1	1-2	AIR CONDITIONING AND VENTILATION SYSTEM WATER TRAP	43/d/0001/1
53	1	1-4	TRACTOR 105mm LIGHT GUN	(96/ES42c(1)/154)
54	1	1-4	LIMBER ROLF (105mm LIGHT GUN)	(96/ES42c(1)/154)
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Mr Attwell 2/9/64 JB

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Please Approve, Initial & Date .....

ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS  
(By Command of the Defence Council)

TRACKED VEHICLES  
E 109/2 Misc Instr No 1  
- 2 SEP 1964

CARRIER, PERSONNEL, FULL TRACKED, MK 1 FV 432

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUMMARY

1. To prevent uncontrollable movement of the driver whilst travelling cross-country, provision will be made for a harness LV9/ACR/FV 559809 to be fitted.
2. Items affected:-  
FV 500186 Driver's seat assembly  
FV 485367 Roof plate, front, centre.
3. Action required by units authorized to carry out unit repairs:-  
To note and observe instruction.
4. Stores to be obtained locally:-

<u>VAOS, Section</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty per veh</u>
G1	5305-99-941-0279	Bolt, precision, UNF-2A, 'R' steel, hex hd, zinc coated, 1/4 in. x 7/8 in.	2
G1	5310-99-941-3520	Nut, self locking, hex, UNF-2B, steel all metal, zinc plated, 1/4 in.	2
G1	5305-99-120-6585	Screw, machine, UNF-2A, 'R' steel, flat csk hd, zinc plated, 1/4 in. x 5/8 in.	2
G2	GB 16051	Steel, mild, round, cold drawn, 5/16 in. dia.	7 in.

DETAIL

5. (a) Remove the driver's seat and runner assembly.
- (b) See Fig 1. Remove seat back frame bolts (A), retaining the nuts and washers. Mark off and drill a 9/32 in. dia. hole in each side member of the back rest to the dimensions shown.
- (c) When driver's harness is available, secure harness plates to the seat frame, using 1/4 in. x 7/8 in. bolts, original nuts and washers for frame holes (A), and 1/4 in. x 5/8 in. countersunk screws with self locking nuts for the new mounting holes.



- (d) See Fig 2. Manufacture and weld two cleats to the front centre roof plate in the positions shown.
- (e) Refit driver's seat assembly.

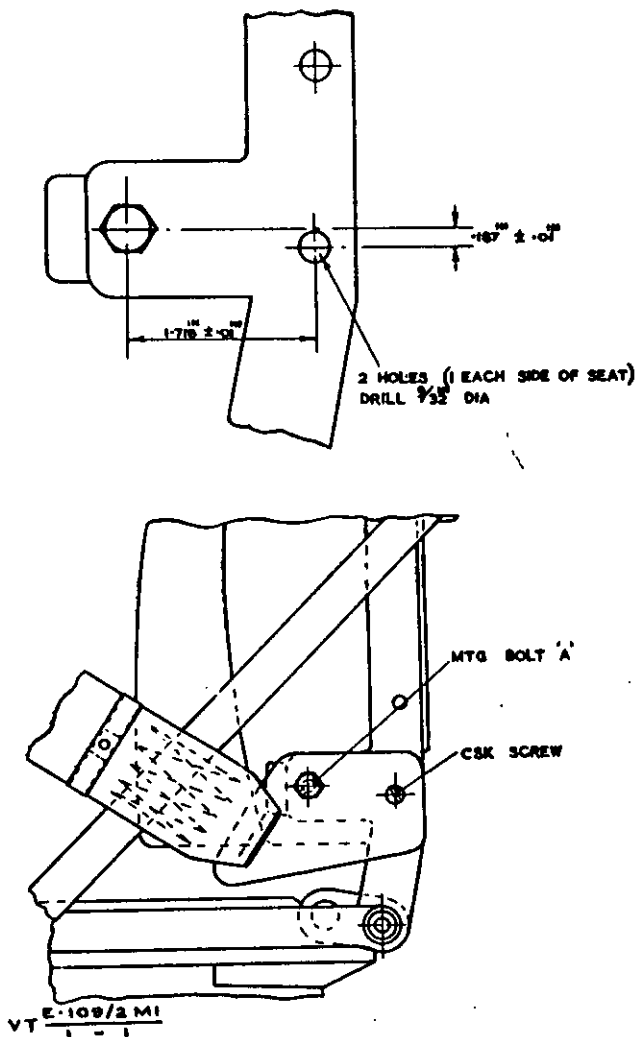


Fig 1 - Driver's harness mounting detail

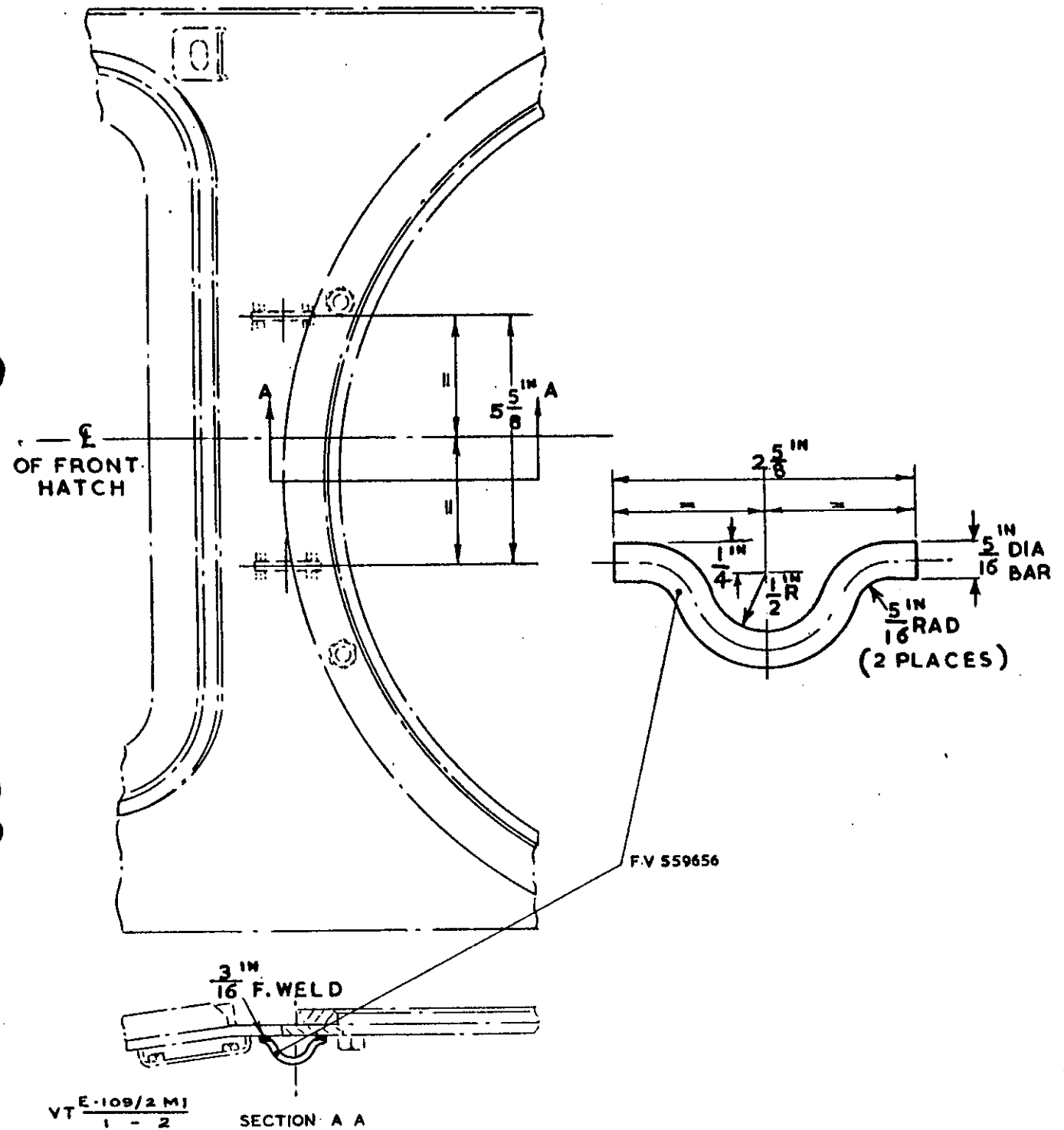


Fig 2 - Welding cleats to roof plate

70610  
FVRDE Approval 21390

END

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ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS  
(By Command of the Defence Council)

TRACKED VEHICLES  
E 109/2 Misc Instr No 2

CARRIER, PERSONNEL, FULL TRACKED, MK 1 AND 2 (FV 432)

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Penthouse equipment

SUMMARY

1. To facilitate assembly of the penthouse equipment two gussets at the rear of vehicle will be removed.
2. Items affected: Platform flotation equipment.
3. Action required by units authorized to carry out unit repairs:-  
To note and observe this instruction.

DETAIL

4. (a) Remove the l.h. jettison tank.
- (b) See Fig 1. Remove the two gussets using a hammer and chisel and grind flush.
- (c) Repaint the exposed surfaces.
- (d) Replace the l.h. jettison tank.

Note: Heat must not be used to remove the gussets.

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TRACKED VEHICLES  
E 109/2 Misc Instr No 2

ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS

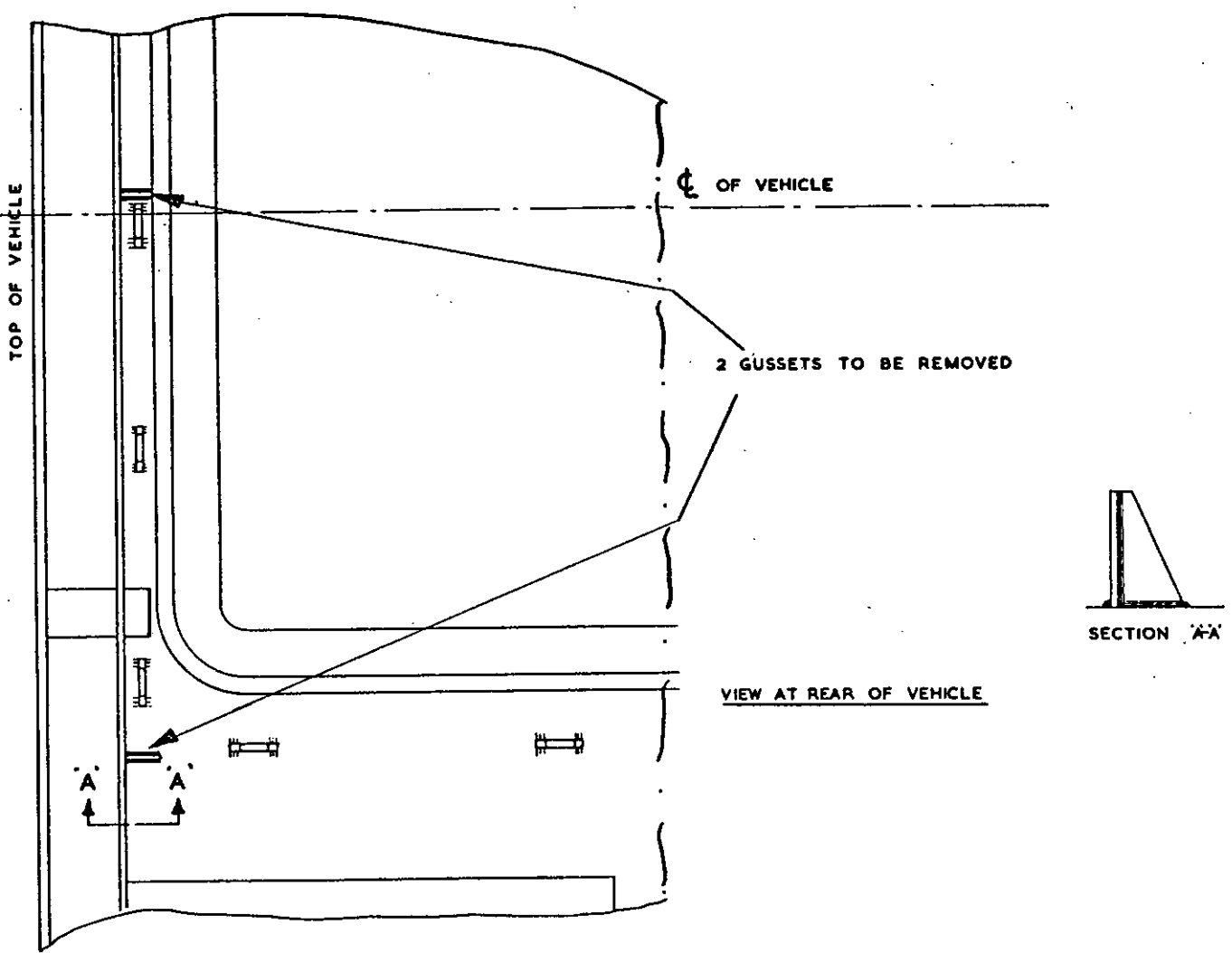


Fig 1 - Modification details

70614  
FVRDE Approval 21404

END

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ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS  
(By Command of the Defence Council)

TRACKED VEHICLES  
E 109/2 Misc Instr No 3

CARRIER, PERSONNEL, FULL TRACKED, FV 432, MK 1

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

DEFECTS AND  
MODIFICATIONS BRANCH

25 MAR 1965

TECHNICAL GROUP  
R. E. M. E.

SUB-TITLE: Oil filler caps

SUMMARY

1. To aid maintenance, the engine, gearbox and steering unit filler caps are to be identified.

2. Items affected:-

LV6/MT1/EN/M715DB Cap, filler, 2 in. x 18 TPI (engine) (FV 586254)  
LV6/MT1/EN/M715D Cap, filler, 1 in. x 18 TPI (steering unit) (FV 586253)  
LV6/MT1/EN/M1539 Cap, filler, (gearbox unit) (FV 586252)

3. Action required by units authorized to carry out unit repairs:-

Carry out this instruction.

DETAIL

4. (a) Remove the items affected from vehicle.

(b) Strip all components from the cap.

(c) Support the inside surface of cap with a suitable mandrel and stamp identity on cap, using 1/4 in. metal stamps in accordance with Fig 1.

(d) Fill stamped lettering with black enamel paint, clean off surplus.

(e) Reassemble cap and refit to correct unit in vehicle.

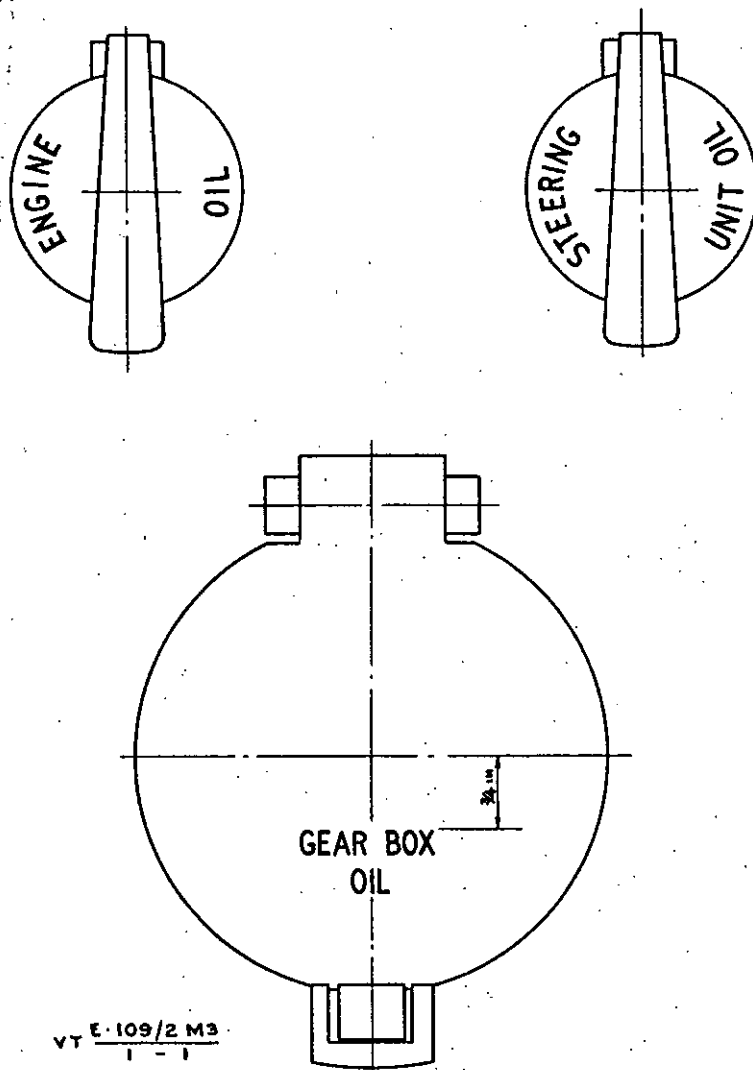


Fig 1 - Stamping of filler caps

70641  
FVRDE Approval 21477

END

*Labels  
Defects mods Chobha*

CARRIER, PERSONNEL, FULL TRACKED, FV 432, MK 1

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

DEFECTS AND  
MODIFICATIONS BRANCH

- 1 JUN 1965

TECHNICAL GROUP  
R. E. M. E.

SUB-TITLE: Fuel tap shield

SUMMARY

1. To improve serviceability, the existing black painted signs on shield will be replaced by plastic embossed labels.

2. Item affected:-

LV9 ACR/2510-99-865-7035 Shield, fuel supply components  
Drg FV 525359

3. Action required by:-

Units authorized to carry out unit repairs:-

Carry out this instruction.

Note: Senior officers in formations will arrange local manufacture and distribution of labels to units affected.

4. Stores, tools and equipment:-

Material to be obtained for plastic label manufacture.

Dymo tapewriter, Dymo tape, black, adhesive backing, Ref No 158-Bk,  
12 ft x 1/2 in. (Mnfr - Hellermann Equipment Ltd)

DETAIL

5. (a) Repaint fuel tap shield, blanking out existing black painted lettering.
- (b) See Fig 1. Secure plastic labels in positions shown by the adhesive backing.

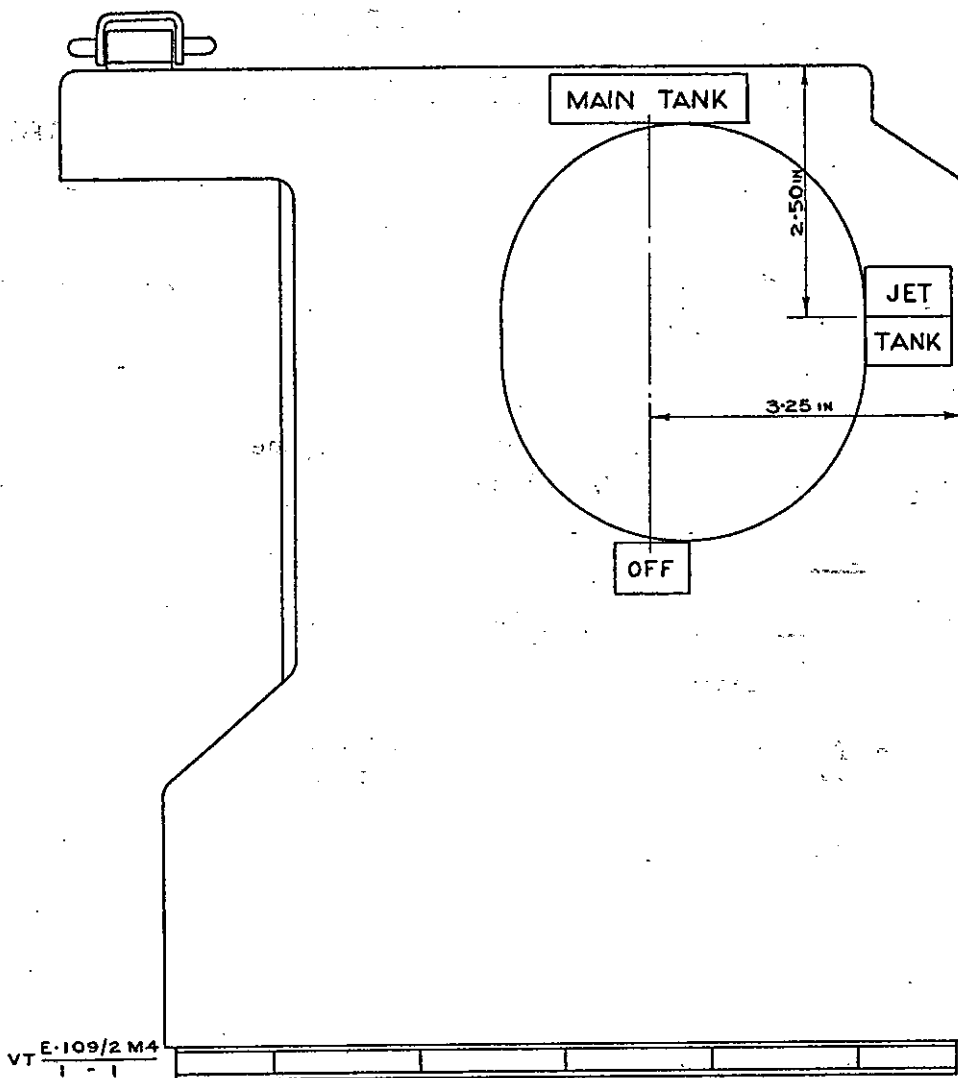


Fig 1 - Label fixing detail

70635  
FVRDE Approval 21410

END



Attn. *Defects & Mods Chapman*

CARRIER, PERSONNEL, FULL TRACKED, MK 1, FV 432  
TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

DEFECTS AND  
MODIFICATIONS BRANCH  
- 3 JUN 1965  
TECHNICAL GROUP  
R. E. M. E.

SUB-TITLE: Gearbox drain trough

SUMMARY

1. To give increased clearance between gearbox and hull the oil drain trough is to be reduced in height.

2. Action required by:-

Units authorized to carry out unit, field or base repairs:-

When power pack is removed during repair or overhaul, carry out this instruction.

DETAIL

3. (a) Ensure power pack compartment is clean and free from fuel and oil.  
(b) See Fig 1. Mark off metal to be removed, to dimensions shown.  
(c) Remove metal by flame cutting or grinding.  
(d) Grind finish top edges and remove all burrs.

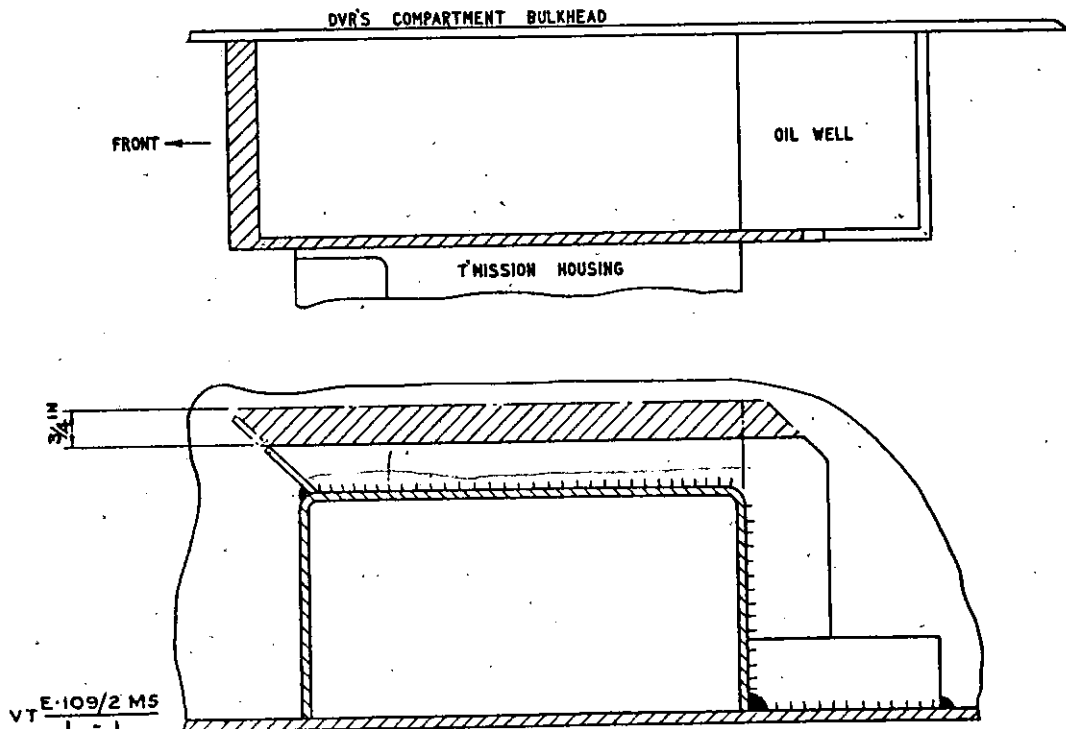


Fig 1 - Oil trough detail

70640  
FVRDE Approval 21476  
Issue 1, 8 Jun 65

END  
Distribution - Class 291. Code No 5

900  
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ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS  
(By Command of the Defence Council)

TRACKED VEHICLES  
E 109/2 Misc Instr No 6

CARRIER, PERSONNEL, FULL TRACKED, MK 1, FV 432  
TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

Errata

Notes This Page 0, Issue 1, is to be filed immediately in front of Page 1, Issue 1, dated 10 Jun 65.

1. Amend as follows:-

Page 2, Table 2:-

Delete: 'E 107/2 Mod 3'

Insert: 'E 107/2 Mod 21'

~~RESTRICTED~~

*Defects & Mods*  
*Cholsher*

CARRIER, PERSONNEL, FULL TRACKED, MK 1, FV 432  
TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

**DEFECTS AND  
MODIFICATIONS BRANCH**  
**- 1 JUN 1965**  
**TECHNICAL GROUP**  
**R. E. M. E.**

SUMMARY

1. This instruction describes the method whereby the Service is informed of the Modification State of vehicles on entry.
2. Item affected: Army Book 413.
3. Action required: For information only.

DETAIL

4. (a) When new vehicles enter the Service they are allotted a type letter to indicate the modifications which should have been embodied during production. No vehicle will necessarily be 'true to type' and therefore to ascertain the true modification state of a vehicle, reference should be made to the type letter and to the AB 413. The AB 413 will list those modifications applicable to the type which HAVE NOT been incorporated and those modifications additional to the type which HAVE been incorporated.
- (b) Type letters are a special coding system and may only be quoted in the Service when the modification state of vehicles is under discussion.
- (c) The first vehicles off production should have incorporated the modifications specified in Table 1. These vehicles were allotted type letter 'A'.
- (d) As production proceeded the additional modifications specified in Table 2 were introduced and the type letter advanced to 'B'.
- (e) Details of later type letters will be published as and when they are introduced.

Table 1 - Type 'A' Modifications

Approval No	Description of modification
8938	Re-introduction of Kigass priming pump.
21220	Periscope opening in driver's door reshaped.
21280	Improved method of securing locking sleeve in axle assembly.
21282	Floor plate. Change of material specification.
21286	Final drive. Improved bearing abutment on bearing housing.
21290	Hull floor plate, mortar mounting.

Table 1 - (cont)

Approval No	Description of modification
21294	Multi barrel smoke dischargers. Inspection of castings.
21306	Suspension, bump stop rings edge welded.
21341	Radiator deflector baffles altered to prevent air being caught up and carried round the cooling system.
21350	Suspension, track adjuster brackets, machining modification.
21351	Distribution panel No 5, wiring alterations in production
21352	Engine starter, push button replaced by double pole switch.
21354	Fuel system, introduction of ball and cone vent valve in place of float type.
21362	Smoke discharger junction box No 2 Mk 1 replaced by No 3 Mk 1.
21369	Hydraulic pipe. Material changed from Tungum to steel BS 980.
22600	M.S. type connectors. Approval of alternative manufacturer.
22716	Electrical. Flasher, stop light relays and switches improved.
22752	Electrical. Fan controller resistors altered to improve speed range of fan.
25745	Ammeter shunt No 3 Mk 1. Alteration of resistance.
25819	Electrical. Fan controller 20 ohm resistor replaced by 16 ohm.

Table 2 - Type 'B' Modifications

Approval No	Tkd Veh Instr No	Description of modification
21277		Final Drive. Modification to outer casing.
21346		Suspension. Axle arm distance piece - dimension and finish altered.
21347		Shock absorbers. Upper front mounting redesigned.
21357		Improved sealing of axle arms.
21358	E 107/2. Mod 3	Transmission. Driving gear added for navigational aid.
21361		Torsion bars. Additional protection.
21364		Multiple heat exchanger (1) Protective treatment (2) Change of drain plug
21367		Hull welded structure modified for 81 mm mortar and winch.

Table 2 - (cont)

Approval No	Tkd Veh Instr No	Description of modification
21370	E107/2 Mod	Transmission. Introduction of return springs on steering controls.
21378	E107/2 Mod	Modification to hull.
21391	E 107/2 Mod 4	Gearbox dipstick.
21393		Suspension. Modified axle arm settings.
21394	E107/2 Mod	Electrical. Introduction of accessories control box No 1 Mk 2.
21395		Stowage. Additional CES requirements.
21408	E107/2 Mod	Drivers hatch, new spring introduced.
21411	E 107/2 Mod 1	Drivers control panel starter switch guard.
21414	E 107/2 Mod 2	Straight through exhaust pipe in lieu of silencer.
21431	E107/2 Mod	Fuel system. Jettison tank breather modified.
21444		Fuel tanks redesigned.
21450	E 107/2 Mod 12	Fuel tank breather modified.
25903	(E 107/2 Mod 6 and 7	Fan drive. Introduction of high pressure hydraulic hose.
26068	2MAG	Radio. Removal of fixed capacitor from coaxial socket.

70651

END

ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS  
(By Command of the Defence Council)

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*Advis*  
*Defects + Mod Chobham*  
Branch  
TRACKED VEHICLES  
E 109/2 Misc Instr No 7

CARRIER, PERSONNEL, FULL TRACKED, MK 1, FV 432

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

DEFECTS AND  
MODIFICATIONS BRANCH  
- 1 JUL 1965  
TECHNICAL GROUP  
R. E. M. E.

SUB-TITLE: Engine oil tank drain

SUMMARY

1. To prevent oil tank fouling drain tube, overall height of tube is to be reduced.

DETAIL

2. Item affected: Engine oil drain, FV 480472
3. Action required by units authorized to carry out unit repairs:-  
Reduce overall height of engine oil tank drain tube by 1/2 in. in accordance with this instruction.

70655  
FVRDE Approval 21537

END

Issue 1, 21 Jun 65

Distribution - Class 291. Code No 2

Page 1

CARRIER, PERSONNEL, FULL TRACKED, MK 1 AND 2, FV 432

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

Errata

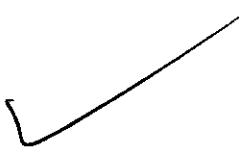
Note: This Page 0, Issue 2, is to be filed immediately in front of Page 1, Issue 2, dated 21 Jul 66.

1. Amend as follows:-

Page 1, para 4.(f)

Delete: 'G1/GA 90546, Pin, Mills, steel, 3/16 in.  
x 1.1/8 in.'

Insert: 'G1/5315-99-124-4078 Pin, spring, steel, 3/16 in.  
dia x 1.0 in. long, 0.040 in. thickness of  
material.'



CARRIER, PERSONNEL, FULL TRACKED, MK 1 AND 2, FV 432

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

DEFECTS AND  
MODIFICATIONS BRANCH  
12 JUL 1966  
TECHNICAL GROUP  
R. E. M. E.

Note: These Pages 1 and 2, Issue 2, supersedes Issue 1, Page 0, dated 15 Oct 65 and Pages 1 and 2, Issue 1, dated 10 May 65.

SUB-TITLE: Gear range selector

1. Introduction:-

To prevent seizure of reverse gear plunger in its housing and shearing of pin between control lever and pivot, the hole dimensions are to be increased and larger locking pin fitted.

2. Item affected: Selector gear FV 525282 on Mk 1 and 2 type 'A' vehicles.

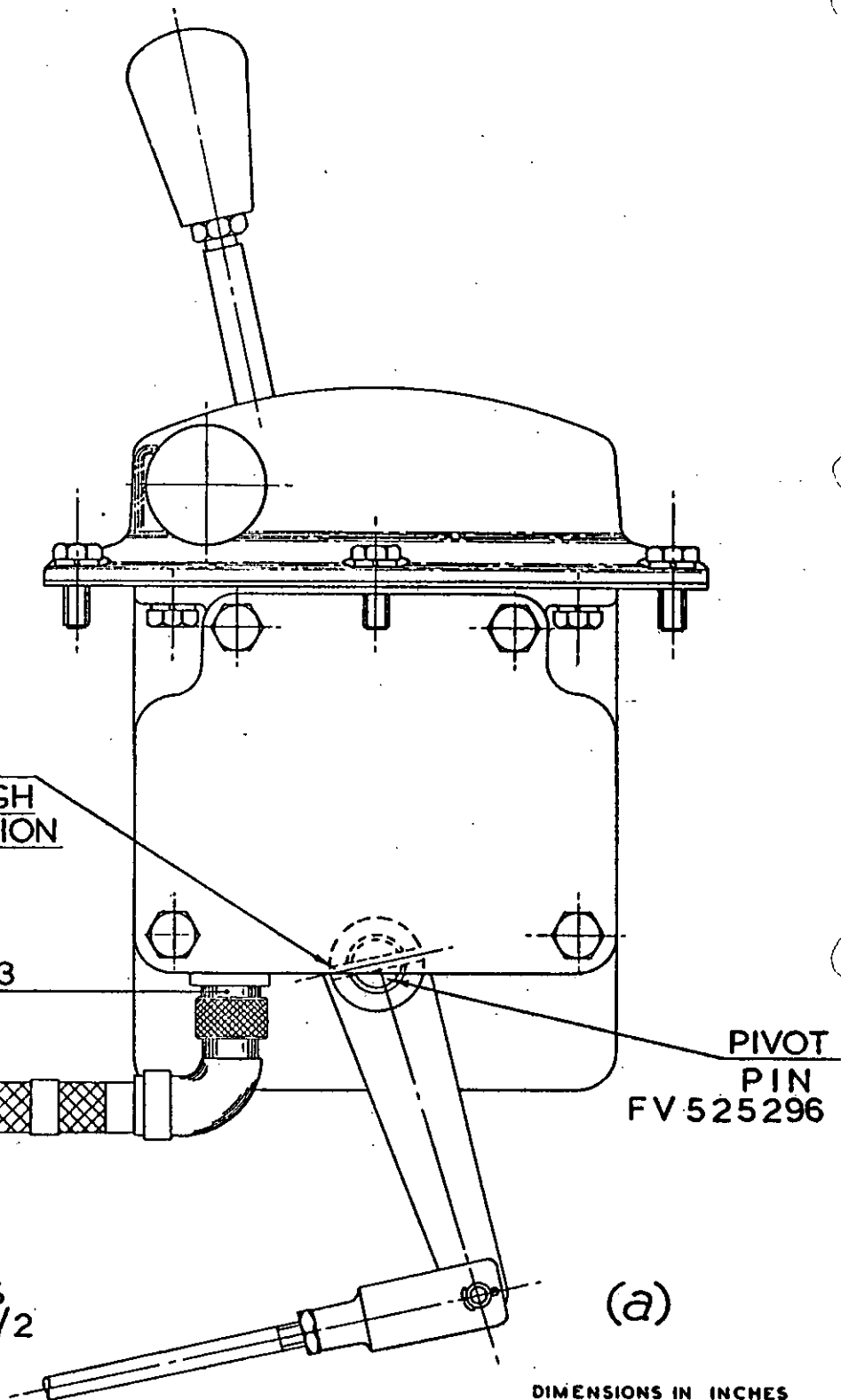
3. Action required by units authorized to carry out unit or field repairs:-

To note and carry out this instruction.

4. Sequence of operations:-

- (a) Remove gear range selector assembly and gasket from position on engine compartment sill, disconnecting lever control rod and the plug on switch harness LV6/MT4/2590-99-881-3644 (FV 514585/1).
- (b) Remove the four screws securing small cover plate on selector housing. Identify the four leads connected to switch. Disconnect switch and remove harness complete with adapter LV6/MT4/79366.
- (c) Remove detent plate LV9/ACR/2520-99-865-6715 (FV 525206) and dismantle reverse selector plunger components.
- (d) Remove pin locking control lever LV9/ACR/2520-99-865-6722 (FV 525292) to pivot LV9/ACR/5315-99-865-6723 (FV 525296).
- (e) See Fig 1. Drill and ream holes in detent plate and lever pivot joint to dimensions shown.
- (f) Secure lever and pivot joint using ~~G1/CA 90516 pin, Mills, steel, 3/16 in. x 1-1/8 in.~~ *G/5315-99-124-4078. Pin, Spring steel, 3/16 in. dia x 1.0 in long, 0.040 in thickness of material.*
- (g) Clean and re-assemble reverse gear plunger in detent plate.
- (h) Assemble switch harness on selector housing, connecting leads to their appropriate terminals on switch.
- (j) Fit detent plate and side cover to housing.
- (k) Fit assembly with gasket to engine compartment sill and reconnect linkage and plug.





.1875/.1887 DIA HOLE  
DRILL & REAM THROUGH  
LEVER IN CONJUNCTION  
WITH PIVOT PIN

ADAPTER FV(S) 6/5I/3

PIVOT  
PIN  
FV 525296

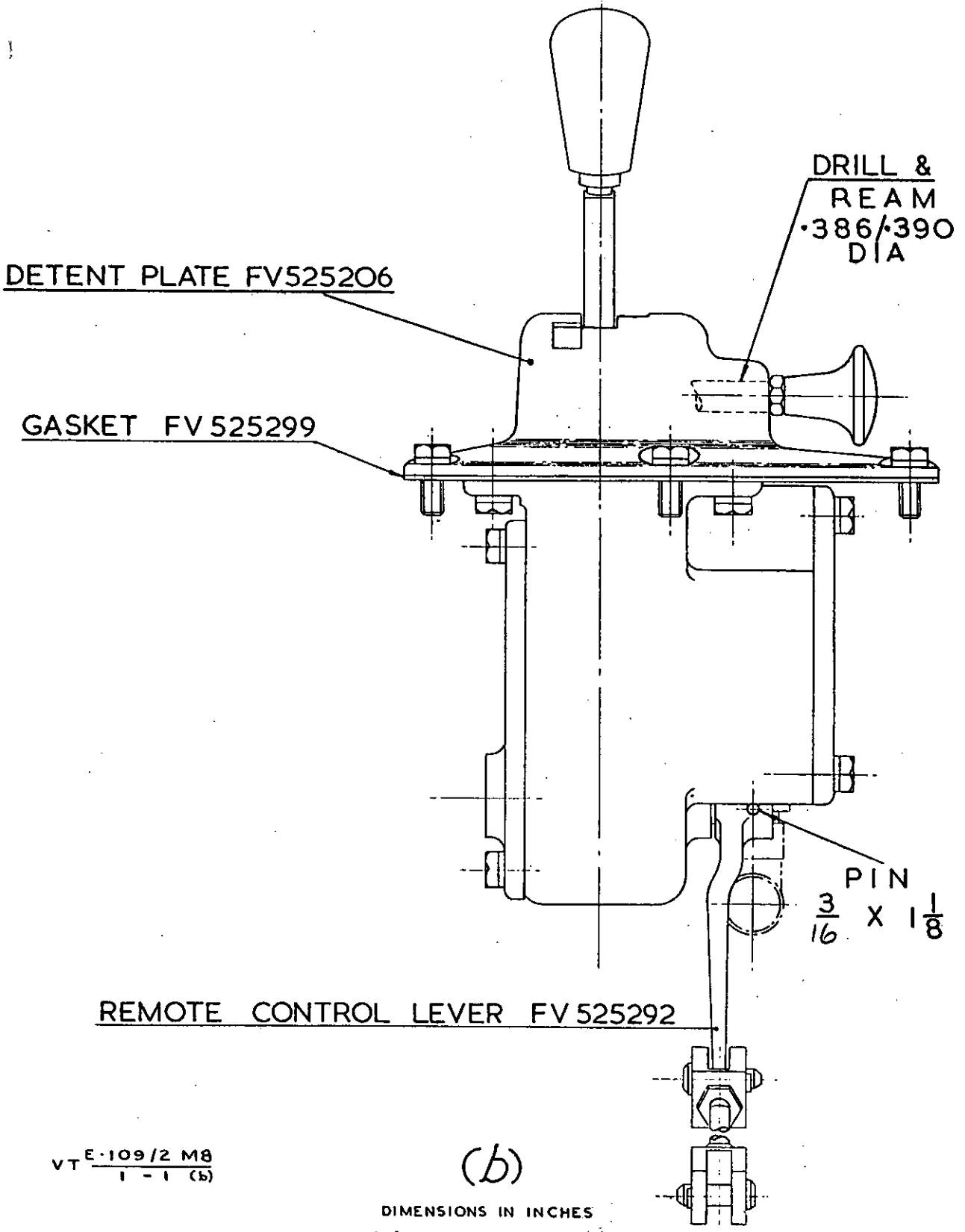
HARNESS  
FV514585/2

(a)

VT E-109/2 MB  
2 - 1 (a)

DIMENSIONS IN INCHES

Fig 1 (a) - Details of modification



VT  $\frac{E-109/2 M8}{1-1 (b)}$

Fig 1 (b) - Details of modification

70648

DE Approval 21479

END

Issue 1, 10 May 65

D & M.

MCD ~~AVM~~ DAVIES

Please Approve. Initials ~~3/19/65~~ JMA

ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS  
(By Command of the Defence Council)

TRACKED VEHICLES  
E 109/2 Misc Instr No 9

CARRIER, PERSONNEL, FULL TRACKED, MK 1, FV 432

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

DEFECTS AND  
MODIFICATIONS BRANCH  
- 7 SEP 1965  
TECHNICAL GROUP  
R. E. M. E.

SUB-TITLE: C11 radio station

1. Introduction:-

To improve component interchangeability, the support strip stud is to be repositioned and two holes increased to 9/32 in. dia.

2. Item affected:-

Support strip assembly RF15 (FV 456862)

3. Action required by units authorized to carry out unit repairs:-

Carry out this instruction.

DETAIL

4. See Fig 1. Remove existing 5/16 in. UNF X 3/4 in. long stud and weld to support strip in the position shown. Open out existing 7/32 in. dia holes to 9/32 in. dia.

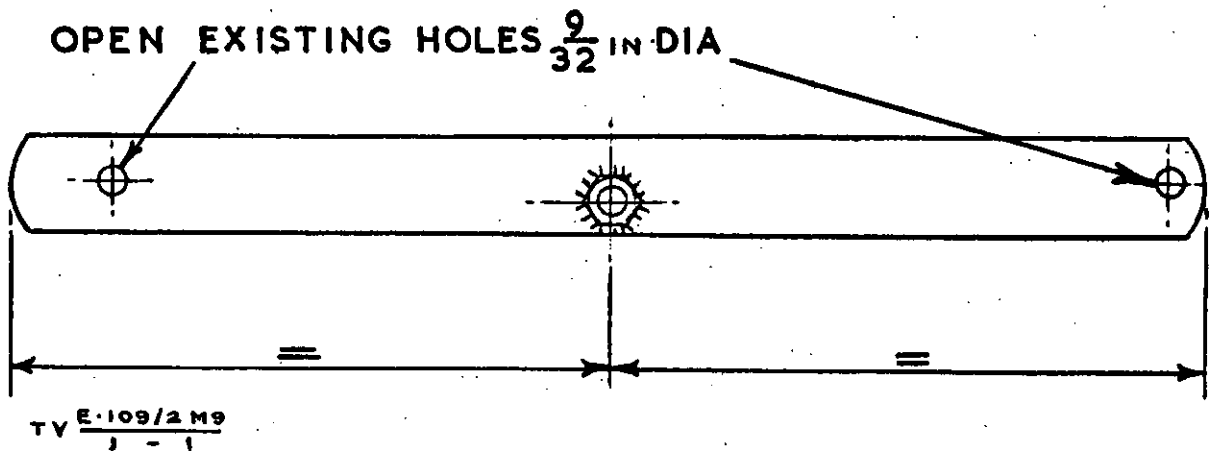


Fig 1 - Amended detail

FVRDE Approval 26477

END

Issue 1, 20 Sep 65

Distribution - Class 291. Code No 2

D9 17015  
Chobham

ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS  
(By Command of the Defence Council)

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Advise  
M.P.C. DIVISION

Advance Copy for INFORMATION  
TRACKED VEHICLES  
E 109/2 Misc Instr No 10

CARRIER, PERSONNEL, FULL TRACKED, MK 1, FV 432

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Electrical conduit

SUMMARY

1. To improve cable conduit end sealing and serviceability of couplings, new pattern sealing cones and nuts are to be introduced.
2. Item affected: Vehicle lighting systems
3. Action required by:-

Units authorized to carry out unit, field or base repairs:-

Carry out this instruction.

DEFECTS AND  
MODIFICATIONS BRANCH

13 SEP 1965

TECHNICAL GROUP

R. E. M. E.

Page 1

Issue 1, 20 Sep 65

Distribution - Class 291. Code No 2

TRACKED VEHICLES  
E 109/2 Misc Instr No 10

~~RESTRICTED~~

ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS

DETAIL

4. When units demand replacement coupling nuts Pt No 5310-99-805-6457 or rubber bushing 5340-99-901-6813 they will receive, as stocks become available, new pattern items. These items are to be fitted as mating pairs therefore units demanding one old pattern item and receiving new pattern are to demand additional new pattern item.

Old pattern: Nut, coupling LV6/MT4/5310-99-805-6457 Drg No FV(S)6/38/4.  
Rubber bushing LV6/MT4/5340-99-901-6813 Drg No FV(S)6/41/1.

New pattern: Nut, coupling LV6/MT3/LU 54931028 Drg No FV(S)6/82/1.  
Cone, sealing LV6/MT4/5975-99-881-2217 Drg No LU 54931752.

END

70660

FVRDE Approval 26219

Page 2

Issue 1, 20 Sep 65

ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS  
(By Command of the Defence Council)

*Avon*  
~~SECRET~~ Mr. D. L. DAVIES.  
Branch  
Advanced Copy for E 109/2  
TRACKED VEHICLES  
Misc Instr No 11

CARRIER PERSONNEL, FULL TRACKED, MK 1 AND 2, FV 432

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Mortar hatch

SUMMARY

1. To increase mortar hatch drainage; existing holes are to be increased in diameter.
2. Item affected: Hull roof stiffening ring FV 421480D.
3. Action required by:-
  - (a) Units authorized to carry out unit, field or base repairs:-  
Carry out this instruction.
  - (b) All recipients of this EMER:-

Add particulars to Tkd Veh E 109/2 Misc Instr Index.

DEFECTS AND  
MODIFICATIONS BRANCH  
23 SEP 1965  
TECHNICAL GROUP  
R. E. M. E.

~~RESTRICTED~~

TRACKED VEHICLES  
E 109/2 Misc Instr No 11

ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS

DETAIL

4. (a) Open out the eight existing 1/4 in. dia drainage holes, which are equally spaced around the roof stiffening ring, to 3/8 in. dia. Where necessary, loosen the seal and hold away from drill to avoid damage.
- (b) Remove burrs and paint bare metal surfaces.
- (c) Secure seal where necessary using suitable adhesive.

70659  
FVRDE Approval 21559

END

ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS  
(By Command of the Defence Council)

Attn. ....

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BRANCH:

TRACKED VEHICLES

Misc Instr No 12

DEFECTS AND  
MODIFICATIONS BRANCH

23 SEP 1965

TECHNICAL GROUP  
R. E. M. E.

CARRIER, PERSONNEL, FULL TRACKED, MK 1, FV 432

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Gearbox filler cap

1. Introduction:-

To prevent transfer of gearbox oil to engine, the gearbox filler cap breather holes are to be blanked off.

2. Item affected: LV6/MT1/EN/M 1539 Cap, filler, (gearbox unit) FV 586633

3. Action required by:-

(a) Units authorized to carry out unit repairs:-

Carry out this instruction.



~~RESTRICTED~~

TRACKED VEHICLES

E 109/2 Misc Instr No 12

ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS

(b) All recipients of this EMER:-

Add particulars to Tkd Veh E 109/2 Misc Instr Index.

DETAIL

4. (a) Remove gearbox filler cap from vehicle.
- (b) Remove centre fixing nut and lift out cap valve plate.
- (c) Block plate breather holes by soldering or suitable copper rivets.
- (d) Reassemble cap and fit to vehicle.

70671

FVRDE Approval 21570

END

ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS  
(By Command of the Defence Council)

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*Defective Goods Class*  
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TRACKED VEHICLES  
E 109/2 Misc Instr No 13

CARRIER, PERSONNEL, FULL TRACKED, MK 1, FV 432

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

DEFECTS AND  
MODIFICATIONS BRANCH  
  
16 NOV 1965  
  
TECHNICAL GROUP  
R. E. M. E.

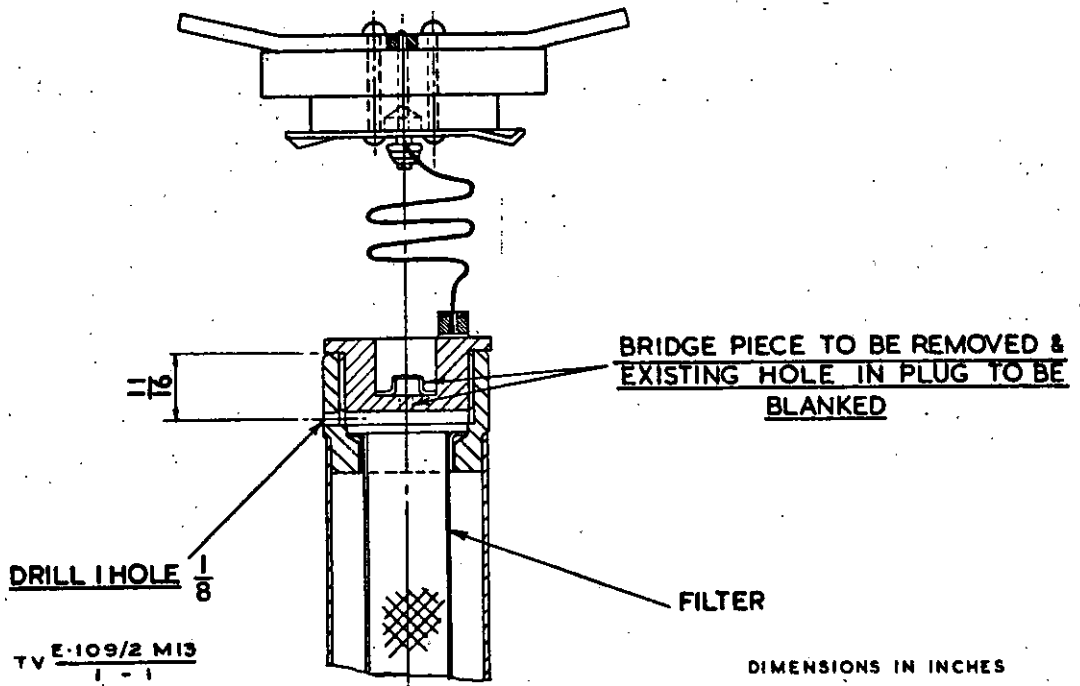
SUB-TITLE: Hydraulic tank breather

SUMMARY

1. To prevent water collecting and entering the hydraulic oil tank via the screwed filler plug breather, a hole is to be drilled in the tube and the plug blanked off.
2. Item affected: Filler tube assembly (FV 586520)
3. Action required by:-
  - (a) Units authorized to carry out unit, field or base repairs:-  
When power pack is removed for repairs or overhaul, carry out this instruction.
  - (b) All recipients of this EMER:-  
Add particulars to Tkd Veh E 109/2 Misc Instr Index.

DETAIL

4. (a) Drain off about a quart of hydraulic oil and remove filler tube assembly. Remove screwed plug and gauze filter.
- (b) See Fig 1. Remove bridge piece and blank off existing breather hole using solder or 1/8 in. dia rod of suitable length. Drill 1/8 in. hole where shown.
- (c) Thoroughly clean tube with dry air blast to remove all traces of swarf.
- (d) Refit tube assembly and top up hydraulic tank to correct level.



70658  
FVRDE Approval 21555

END

now

Defects Insp Branch  
Accd. Mr James

~~RESTRICTED~~

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TRACKED VEHICLES  
E 109/2 Misc Instr No 14

ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS  
(By Command of the Defence Council)

CARRIER, PERSONNEL, FULL TRACKED, FV 432, MK 1

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

DEFECTS AND  
MODIFICATIONS BRANCH  
10 JUN 1966  
TECHNICAL GROUP  
R. E. M. E.

SUB-TITLE: Exhaust manifold heat shields

SUMMARY

1. To facilitate removal of 'U' type heat shields from exhaust manifold when carrying out servicing operations, the two underside setscrews and washers are to be removed and discarded.
2. Action required by units authorized to carry out unit, field or base repairs

When power pack is removed for repair or servicing, to note and implement this instruction.

~~RESTRICTED~~

TRACKED VEHICLES  
E 109/2 Misc Instr No 14

ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS

DETAIL

3. When exhaust manifolds are removed during servicing, repair or overhauls, remove and discard the two underside setscrews with washers from exhaust manifolds. These are not required to secure heat shields to manifolds. Where screws are found to be seized, cut off by hacksaw and grind flush.

END

H.Q. Tech Gp REME  
70676 (Def & Mods)  
FVRDE Approval 11340

~~RESTRICTED~~

ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS  
(By Command of the Defence Council)

TRACKED VEHICLES  
E 109/2 Misc Instr No 15

CARRIER, PERSONNEL, FULL TRACKED, FV432, MK 2

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

Errata

Note: This Page 0 is to be filed immediately in front of Page 1.

1. Amend as follows:-

Page 1, para 4.d.

- a. Delete whole of para 4.d.
- b. Renumber existing para 4.e. to read 4.d.

5345 (Publications)

Issue 1, 15 May 67

Distribution - Class 291. Code No 2

Page 0

ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS  
(By Command of the Defence Council)

~~RESTRICTED~~ *Defects & Mods, b Whitlam*  
..... Branch TRACKED VEHICLES  
Attn. *Mr. Giles*..... E.109/2 Misc. Instr No 15  
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CARRIER, PERSONNEL, FULL TRACKED, FV 432, MK 2

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

DEFECTS AND  
MODIFICATIONS BRANCH

11 MAY 1966

TECHNICAL GROUP  
R. E. M. E.

SUB-TITLE: Notification of vehicle modification state on entry into Service.

SUMMARY

1. This instruction describes the method whereby the Service is informed of the Modification State of vehicles on entry.
2. Item affected: Army Book 413.
3. Action required: For information only

DETAIL

4. a. When new vehicles enter the Service they are allotted a type letter to indicate the modifications which should have been embodied during production. No vehicle will necessarily be 'true to type' and therefore, to ascertain the true modification state of a vehicle, reference should be made to the type letter and to the AB 413. The AB 413 will list those modifications applicable to the type which HAVE NOT been incorporated and those modifications additional to the types which HAVE been incorporated.
- b. Type letters are a special coding system and may only be quoted in the Service when the modification state of vehicles is under discussion.
- c. The first vehicles off production should have incorporated the modifications specified in Table 1. These vehicles were allotted type letter 'A'.
- d. As production proceeded the additional modifications specified in Table 2 were introduced and the type letter advanced to 'B'.
- d. Details of later type letters will be published as and when they are introduced.

Table 1 - Type 'A' Modification

Approval No	Tkd Veh Instr No	Description of Modification
21349 21359	E 107/2 Mod	Provision of a vision block in hull rear door Wire locking of all fluid line connectors and drain plug
21373	E 107/2 Mod	Introduction of lubricators for accelerator cross shaft
21390	E 109/2 Misc 1	Introduction of safety harness for driver

Table 1 - (cont)

Approval No	Tkd Veh Instr No	Description of Modification
21402	E 107/2 Mod (Part (b) only)	a. Hull front access plate hinges repositioned and
21405	E 107/2 Mod	b. driving mirrors repositioned
21427	E 107/2 Mod	Introduction of a larger spring for new pattern
21429	E 107/2 Mod	Commander's hatch locking handles
21433	E 107/2 Mod 14	Rear door latch plate and outer handle repositioned
21436	E 107/2 Mod 14	Introduction of stowage retainer bars for hull
21440	E 107/2 Mod 27	panniers
21459	E 107/2 Mod 27	Introduction of stops for accelerator pedal
21461	E 107/2 Mod 27	Introduction of new pattern switches for rear door
21469	E 107/2 Mod	and brake lights
21474	E 107/2 Mod 13	Introduction of a separate switch to control IR
21475	E 107/2 Mod	lights, sight and driver's hood wipers
21476	E 109/2 Misc 5	Additional wiring within distribution link box to
21477	E 109/2 Misc 3	improve reliability
21482	E 109/2 Misc 3	Introduction of Tungum tubing, in place of steel,
21483	E 107/2 Mod	for fuel system
21487	E 107/2 Mod	a. Protection strips added to driver's hatch
21488	E 107/2 Mod	b. Modification to driver's hood and method of
21489	E 107/2 Mod	attachment to hatch
21490	E 107/2 Mod	Revised method of mounting oil can on bulkhead to
21491	E 107/2 Mod	ensure security of can
21492	E 107/2 Mod	Introduction of a leak-off tube for main fuel tank
21493	E 107/2 Mod	vent
21494	E 109/2 Misc 5	Hull drain trough reduced in height to clear gearbox
21495	E 109/2 Misc 3	Engraving of oil filler caps on engine and gearboxes
21496	E 109/2 Misc 3	Introduction of separate reference points on Control
21497	E 109/2 Misc 3	panel, alternator, No 1, Mk 1
21498	E 109/2 Misc 3	Introduction of separate reference points on Recti-
21499	E 109/2 Misc 3	fier unit, No 1, Mk 1, Mod No 1
21500	E 109/2 Misc 3	Introduction of parallel sensing points on Power
21501	E 109/2 Misc 3	tool unit, No 2, Mk 1, Mod No 1
21502	E 109/2 Misc 3	Provision of a guard between radio harness and
21503	E 109/2 Misc 3	ventilation duct at r.h. rear of hull
21504	E 107/2 Mod	Introduction of throttle linkage for winch role
21505	E 107/2 Mod	conversion
21506	E 107/2 Mod	Additional wires added to generating system cables
21507	E 107/2 Mod	Size of weld between hull and final drive adaptor
21508	E 107/2 Mod	casing increased
21509	E 107/2 Mod	Introduction of battery ventilation system
21510	E 107/2 Mod	Re-routing and introduction of a shorter firewire
21511	E 107/2 Mod	element adjacent to clear injector rail
21512	E 107/2 Mod	Introduction of two sealed stowage containers at
21513	E 107/2 Mod	rear of hull



Table 1 - (cont)

Approval No	Tkd Veh Instr No	Description of Modification
21584	E 107/2 Mod	Introduction of open type crankcase breather connector
21592		Introduction of battery clamping bar with upturned angle in r.h. pannier mounting
21598		Removal of holes from rear aluminium floor plate
21600		Additional sealing pads on Mortar hatch
21618		Cut-out reduced and strengthening pieces added to 1st station torsion bar cover

70651 (Defects and Mods)

END

CARRIER, PERSONNEL, FULL TRACKED, MK 1, FV 432

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Army Modification Codes

SUMMARY

1. It is necessary to add Army Modification Codes to all Modification Instructions which have been issued for this vehicle.

DETAIL

2. Action required by all recipients:-

At top right-hand corner of Page 1 of each Modification Instruction, immediately underneath EMER No, insert 'Army Modification Code' followed by number as follows:-

Tkd Veh E 109/2 Mod Instr No 1 - Army Modification Code	J 00007
2 -	J 00008
4 -	J 00009
5 -	J 00010
6 -	J 00011
7 -	J 00012
11 -	J 00013
12 -	J 00014
13 -	J 00015
14 -	J 00016
15 -	J 00017
16 -	J 00018
17 -	J 00019
18 -	J 00020
19 -	J 00021
20 -	J 00022
21 -	J 00023
23 -	J 00024
24 -	J 00025
25 -	J 00026
26 -	J 00002
27 -	J 00003

3. Add particulars to E 109/2 Misc Instr Index

END

~~SECRET~~

*S & M to Hobbs*  
*Mr. Jones*

CARRIER, PERSONNEL, FULL TRACKED, MK 1, FV 432

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Ambulance role

SUMMARY

1. When ambulance role kit is transferred between vehicles, two rear stowage straps will be fitted to new vehicle, rear straps in original vehicle remaining in situ.

2. Item affected

- RH fuel tank stowage cleat.
- LH fuel tank stowage cleat.

Action required by

Units authorized to carry out unit repairs, when requested to transfer ambulance role kit between vehicles, to note and implement this instruction.

DETAIL

4. Demand the following items:-

<u>VAOS, Section</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty per veh</u>
H2	HB 6573	Web, cotton, 1 in.	36 in.
CN	5340-99-973-6159	Clip end, brass, 1 in.	2
CN	AA 0900	Eyelets, brass, 1/8 in.	4
G-1	XB 15100	Washer, brass, tin plated, 1/8 in.	8
G-1	GA 15949	Rivets, copper, flathead, 1/8 in. x 3/8 in.	4

5. a. See Fig 1: Manufacture two straps to the dimensions given.
- b. Fit straps to existing stowage cleats on l.h. and r.h. fuel tanks, forming an end loop, and securing by rivets and washers.

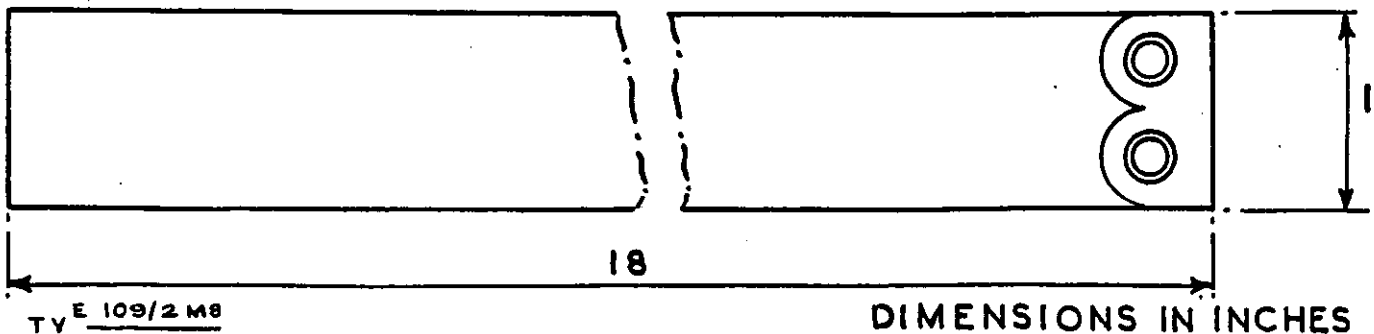


Fig 1 - Strap - detail.

END

~~RESTRICTED~~  
ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS  
(By Command of the Defence Council)

TRACKED VEHICLES  
E 109/2 Misc Instr No 19

CARRIER, PERSONNEL, FULL TRACKED, FV 432, MK 1, 2 AND 2/1

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Mortar hatch

SUMMARY

1. To strengthen design of safety catch, the retaining pin diameter is increased.
2. Item affected: Roof door catch, 2nd fold assy, FV 538659.
3. Action required by Units authorized to carry out unit, field or base repairs

To note and implement this instruction.

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TRACKED VEHICLES  
E 109/2 Misc Instr No 19

ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS

DETAIL

4. a. Remove catch assembly from vehicle.
- b. Remove existing mills pin from catch bolt and strip bolt and handle from assembly.
- c. Open out mills pin hole to 1/8 in. dia in catch bolt and handle.
- d. Assemble catch bolt and handle to catch, securing by means of 1/8 in. dia x 7/8 in. long mills pin, Pt No G1/GA 90616.
- e. Fit catch assembly to vehicle.

70685 (Def & Mods)  
FVRDE Approval 21683

END

N60

.....*Defects & Modifs* Branch  
*Chobham*  
Attn. *Mr. Davitts*.....

~~RESTRICTED~~

ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS  
(By Command of the Defence Council)

Advance Copy for ~~Information~~ FILES  
E 109/2 Misc Instr No 20

CARRIER, PERSONNEL, FULL TRACKED, FV 432

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

DEFECTS AND  
MODIFICATIONS BRANCH  
22 JUL 1966  
TECHNICAL GROUP  
R. E. M. E.

- 1. SUB-TITLE: Ventilation equipment gauge
- 2. Introduction

To prevent loose screw fouling pressure gauge indicator hand, dial securing screw is locked in position by use of locking compound.

- 3. Item affected

LV9 ACR/6685-99-867-1223 Gauge, pressure/suction, No 1 Mk 3 (FV 482414)

- 4. Action required by:-

Units authorized to carry out unit repairs - carry out the instruction.

TRACKED VEHICLES  
E 109/2 Misc Instr No 20

ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS

5. Detail

- a. Remove screw, locking dial from pressure gauge.
- b. Remove grease, oil etc from threads and refit with an application of sealing compound Pt No Y4 LBN 43272 on threads.
- c. Erase No 2 from modification record plate.

FVRDE Approval 26389  
70698 (Def and Mods)

END

CARRIER, PERSONNEL, FULL TRACKED, FV 432, MK 2 AND 2/1

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Distribution panel

1. Introduction: This instruction details action by units when demands for replacement Distribution panel No 5 Mk 1 or Accessories control box No 1 Mk 2, are met by issue of Distribution panel No 6 Mk 1 LV6 MT4/6110-99-802-4051.

2. Item affected: Distribution panel No 5 Mk 1 LV6 MT4/2590-99-881-5767 Accessories control box No 1 Mk 2 LV6 MT4/ FV 562043

3. Action required by:-

Units authorized to carry out unit field or base repairs. When fitting a replacement Distribution panel No 6 Mk 1, carry out this instruction.

4. Detail:-

- a. Disconnect vehicle and radio batteries.
- b. Disconnect all harnesses to panel and control box.
- c. Remove both assemblies, discarding unserviceable. Return serviceable to RAOC (RSSD).
- d. (1) Remove roof mounting straps from vehicle.  
(2) Position new panel over straps, utilizing existing front mounting holes, mark off new holes required on strap.  
(3) Drill and tap new holes.
- e. Connect harness to Panel which is designed to function for both original assemblies.
- f. Fit roof mounting straps to vehicle.
- g. Fit panel to vehicle.
- h. Connect vehicle and radio batteries and test circuit.

70670  
FVRDE Approval 21493  
(Def and Mods)

END



*Send copy.*

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ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS  
(Command of the Defence Council)

TRACKED VEHICLES  
E 109/2 Misc Instr No 22

CARRIER, PERSONNEL, FULL TRACKED, Mk 1, 2 AND 2/1, (FV 432)

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Gearbox dipstick.

1. Introduction:

To further improved control of gearbox lubrication a new pattern dipstick with revised marking is to be introduced.

2. Item affected: LV9/ACR 2520-99-866-2617 Dipstick, gearbox (FV 480368)

Action required by:

Units authorized to carry out unit repairs, demand new pattern dipstick Part No LV9/ACR 2520-99-866-2617 quoting this EMER as authority and implement this instruction.

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TRACKED VEHICLES  
E 109/2 Misc Instr No 22

ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATION

4. Detail:

When new pattern dipstick is received as replacement, remove existing dipstick and fit new item.

Note: Markings on existing dipstick read, 'ADD 1 QT - FULL HOT. 1,200 RPM NEUTRAL USE OMD. 40'.

Markings on new pattern dipstick read, 'ADD 1 QT - FULL 180° - 185°F 800 RPM NEUTRAL USE OMD 40'.

FVRDE Approval 21673  
70678 (Def and Mod)

END

CARRIER, PERSONNEL, FULL TRACKED, MK 2/1 (FV 432)

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Notification of vehicle modification state on entry into service

SUMMARY

1. This instruction describes the method whereby the Service is informed of the Modifications State of vehicles on entry.
2. Item affected Army Book 413
3. Action required: For information only

DETAIL

4. a. When new vehicles enter the Service they are allotted a type letter to indicate the modification which should have been embodied during production. No vehicle will necessarily be 'true to type' and therefore, to ascertain the true modification state of a vehicle, reference should be made to the type letter and to the AB 413. The AB 413 will list those modifications applicable to the types which HAVE NOT been incorporated and those modifications additional to the types which HAVE been incorporated.  
  
b. Type letters are a special coding system and may only be quoted in the Service when the modification state of vehicles is under discussion.  
  
c. The first vehicles off production should have incorporated the modifications specified in Table 1. These vehicles were allotted type letter 'A'.  
  
d. As production proceeds additional modifications will be specified in Table 2 and the type letter advanced to 'B'.  
  
e. Details of later type letters will be published as and when they are introduced.

Table 1 - Type 'A' Modifications

Approval No	Tkd Veh EMER No	Description of Modification
21384	E107/2 Mod Instr	Hand operated wiper introduced for commanders cupola l.h. periscope
21421	E107/2 Mod Instr 28	Stowage fittings for Carl Gustave added to hull roof

Table 1 - (cont)

Approval No	Tkd Veh EMER No	Description of Modification
21428		Retaining bars for hull panniers introduced
21430	E107/2 Mod Instr 37	Blanking plugs fitted to floor plate conversion apertures
21478	E107/2 Mod Instr	Ventilation ducting modified to clear commanders periscope
21479	E109/2 Misc Instr 8	Gear range selector control improvements
21486	E107/2 Mod Instr 30	Additional drain plug fitted to floatation screen platform
21495		Introduction of dipswitch No. 1 Mk 2
21549	E107/2 Mod Instr	Introduction of vision slots in floatation screen
21559	E109/2 Misc Instr 11	Mortar, hatch drainage holes increased in size
21580		Hull redesigned to accept ventilation system
21581		Introduction of redesigned ventilation system using 7 in. dia fan
21644		Power pack cable channel bracket modified to improve cable clearances
21680		Breather holes introduced in bottom face of radio distribution box No 1 Mk 3. Mod No 2
21700		Introduction of new harness for ventilation system introduced by 21580 and 21581
26426	E107/2 Mod Instr 15	Introduction of dust caps for sockets in armoured batten box
26687	E107/2 Mod Instr	Right angle co-axial plugs fitted to radio harness FV 324287/1

70651 (Def and Mods)

Note: These Pages 3-5 are to be filed immediately after Page 2.

Table 2 - Type 'B' Modifications

Approval No	Tkd Veh EMER No (unless otherwise stated)	Description of Modification
21485		Suspension shock absorber bolts, 'AF' size of hexagon heads increased
21493	E 109/2 Misc Instr No 21	Introduction of distribution panel, No 6, Mk 1, in place of No 5, Mk 1
21539	E 107/2 Mod Instr No 34	Cupola, two additional hinge blocks added
21552	E 107/2 Mod Instr No 51	Commanders seat, addition of locking device
21575		Hull, introduction of improved tapped bosses for drainage
21629	E 107/2 Mod Instr No 59	Exhaust silencer, introduction of improved strap mounted design
21633		Transmission accelerator cross-shaft, abutment added to housing
21638		Power pack heat exchanger, introduction of improved bracket
21652		Steering unit breather pipe, introduction of longer hose
21660		Mortar hatch release rod, introduction of stronger clip
21668		Power pack frame, modification to engine mountings
21669	E 107/2 Mod Instr No 43	K60 engine, injector leak off pipe re-routed to clear fuel stop control
21673	E 109/2 Misc Instr No 22	TX200, gearbox dipstick, addition of new markings
21683	E 109/2 Misc Instr No 19	Mortar hatch catch, retaining pin, increased diameter
21685	E 107/2 Mod Instr No 33	K60, firewire, re-routed
29305		Fuel system, reinstatement of bracket FV485364
29314		K60 engine, crankcase front breather, introduction of pipe of larger diameter
29405		Electrical, introduction of new harnesses

Table 3 - Type 'C' Modifications

Approval No	Tkd Veh EMER No (unless otherwise stated)	Description of Modification
21484		Suspension shock absorber, rod diameter increased
21544		Suspension shock absorber, bolt in anchor plate reversed

~~RESTRICTED~~

Table 3 (cont)

Approval No	Tkd Veh EMER No (unless otherwise stated)	Description of Modification
21580		Hull, modified to accept new ventilation system
21586		Front and rear top roller, increased clearance
21594		Engine switch board, No 3, Mk 1, various modifications to improve reliability
21614		Steering unit rear mounting bracket, material changed
21622		Track link, introduction of polyurethane washer under track tread pad
21649		Filler cap, copper joint washer replaces rubber joint washer
28080		Connector, analogue, No 1, Mk 1, lug, insulating cover fitted
29309		Cupola rotating ring, periscope retainer added
29312	E 107/2 Mod Instr No 25	Sprocket ring bolts, introduction of single coil girder section washer
29338		Headlight guard, modified to prevent damage to wiring
29341		K60 engine, use of running in oil
29357		Ventilation installation, modifications to reduce maintenance
29358		Engine bulkhead covers, introduction of 'Sealastic' sealing
29361	E 107/2 Mod Instr No 56	Buoyancy trimmer unit, copper washer replaces existing washer
29381		Engine emergency stop control, addition of a foot operated cable control
29411		Smoke discharger terminal box, 'U' seal replaced by flat gasket
29423		Track adjuster, clearance between idler arm and end cap increased
29489		Battery venting, introduction of longer pipes to outer vent spouts
29507		Engine front mounting bracket, radiography reclassified

Table 4 - Type 'D' Modifications

Approval No	Tkd Veh EMER No (unless otherwise stated)	Description of Modification
21422		Final drive shaft, introduction of serrated type in place of splined type
26620		Inter vehicle slave harness FV157934 replaced by FV324284
29331		Exhaust extension, flange modified and C.A. washer added

Table 4. (cont)

Approval No	Tkd Veh EMER No (unless otherwise stated)	Description of Modification
29337		Engine bulkhead removable covers, introduc-
29354		tion of lock nut of full diameter and knurled
29356		Ventilation ducting, paint specification
29376		changed
29395		Track guard, introduction of mud flaps
29408		Drivers instrument panel, mounting brackets
29412		counter-bored to locate spigot diameter of
29420		shock mount
29467	E 107/2 Mod Instr No 54	Ventilation equipment, addition of 'Norgen'
29513		type filter in atmospheric connection
29534		Flotation screen, glass fibre stats attached
29539		to rubber screen by adhesive
		Fuel system access covers, retaining strips
		strengthened
		Radio distribution box, No 1, Mk 3, addition
		of guard to external charge switch
		Hull roof, addition of bosses for mounting
		quadrant on Wombat (Miser) role
		Introduction of towing eyes made of thicker
		material
		Top roller assemblies, introduction of girder
		spring washers in place of ordinary washers
		Distribution panel, No 6, Mk 1, cooking ves-
		sel output sockets turned through 90°

END

Delete END from Page 2

CARRIER, PERSONNEL, FULL TRACKED, MK 1, 1/1, 2 AND 2/1, (FV 432)

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Power pack numbering

1. Introduction

To identify power pack assembly for data purposes and assembly modification embodiment record, the sub-frame is to be serial numbered.

2. Item affected: Power pack frame

3. Action required by:-

a. Units and establishments holding this equipment

Request REME to carry out this instruction.

b. Units authorized to carry out unit, field or base repairs

Carry out this instruction on all power packs and also when requested by units holding stocks of power packs.

Note: Power packs are to be numbered on Wednesday, 18 Jan 67.

c. All recipients of this EMER

Add particulars to Tkd Veh E 109/2 Misc Instr Index.

4. Detail:-

a. MK 1 and 1/1. Refer to Tkd Veh E 103/2, Chapter 1, page 4, Fig 2.

b. Power packs with parent vehicle

(1) Examine angled top face of power pack frame adjacent to accelerator bell-crank lever bracket, for existing serial number.

(2) Where not already stamped with prefix S.P. and four digit No, stamp prefix PP followed by the four figures of vehicle registration number, excluding letters (using  $\frac{1}{4}$  in. metal type stamp). eg Power pack in vehicle O2EA41, becomes 'PPO241'.

c. MK 2 and 2/1. Refer to Tkd Veh E 103/2, Chapter 1, page 13, Fig 10.

d. Power packs with parent vehicle

(1) Examine angled top face of power pack frame adjacent to transmission disengagement lever, for existing serial number.

(2) Where not already stamped with prefix S.P. and four digit No, stamp prefix PP followed by the four figures of vehicle registration number, excluding letters (using  $\frac{1}{4}$  in. metal type stamp). eg Power pack in vehicle O9EA62, becomes 'PPO962'.



- e. Power pack without parent vehicle (exchange assemblies or ORD stock)
- (1) Apply to Defects and Modifications Branch, Technical Group REME, Box No 6, Chobham Lane, Chertsey, Surrey, for allocation of new serial no.
  - (2) Mark frame with prefix and No supplied (using  $\frac{1}{4}$  in. metal type stamp).

XP 0062

70699 (Def and Mods)  
Auth 58/Tech/1425  
dated 11 Jul 66

END

CARRIER, PERSONNEL, FULL TRACKED, FV 432

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Command role kit, tables reduced in width

1. Introduction

To facilitate assembly of the four tables in the command role, each table top is reduced in width and the eight striker plates have their existing holes enlarged.

2. Items affected:-

Table small, r.h. FV 462542;                      Table small, l.h. FV 462567  
Table with drawer, r.h. FV 462873;            Table with drawer l.h. FV 462876

3. Action required by:-

a. Units and establishments holding this equipment

Request REME to carry out this instruction

b. Units authorized to carry out unit repairs

Carry out this instruction during or after installation of Command role kit.

c. All recipients of this EMER

Add particulars to Tkd Veh E 109/2 Misc Instr Index.

4. Sequence of operations:-

a. Remove the four tables (FV 462567, FV 462542, FV 462873 and FV 462876) from vehicle retaining the fixing items.

b. Reduce the overall width of each table top from 21 in. to 20.5/8 in. by cutting away material from the edge nearest to centre line of vehicle.

c. Paint exposed surfaces of each table top.

d. Striker plates, r.h. FV 462877 quantity four, and l.h. FV 462878 quantity four, welded to table supports underside.

(1) Increase size of existing 5/8 in. dia hole to 13/16 in. and chamfer hole on the 'outside' of each striker plate 1/16 in. x 45°.

e. Paint exposed metal surfaces.

f. Refit tables in vehicle, securing with original fixing items.

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ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS  
(By Command of the Defence Council)

TRACKED VEHICLES  
E 109/2 Misc Instr No 26

CARRIER, PERSONNEL, FULL TRACKED, FV 432, MK 1, 1/1. 2 AND 2/1

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

Note: These Pages 1-2 supersede Pages 1-2, Issue 1, dated 26 May 67. Para 4 has been amended.

SUB-TITLE: Command role kit, map board talc increased in size.

1. Introduction

Map board talc increased in size to give a better fit within frame.

2. Item affected: Map board

3. Action required by:-

a. Units and establishments holding this equipment

(1) When existing map board talc sheets are damaged or are found to be too small for requirements, demand the stores required.

(2) On receipt of stores, request REME to carry out this instruction.

TRACKED VEHICLES  
E 109/2 Misc Instr No 26

ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS

b. Units authorized to carry out unit repairs

Carry out this instruction during or after installation of Command role kit.

c. All recipients of this EMER

Add particulars to Tkd Veh E 109/2 Misc Instr Index.

4. Stores to be obtained locally

<u>VAOS Section</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty per veh</u>
LV6/MM13	9330-99-809-0554	Plastic sheet, clear	28 in. x 21.1/2 in.

5. Detail:-

a. Remove and discard existing sheets.

b. Fit new talc sheets 28 in. x 21.1/2 in. as required, from material listed in para 4.

FVRDE Approval 29522  
(Def and Mods) 706117

END

*Not a U.S. issue*

CARRIER, PERSONNEL, FULL TRACKED, FV 432; MK 1 AND 1/1

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

Errata

Note: This Page 0 is to be filed immediately in front of Page 1.

1. Amend as follows:-

a. Page 1, para 4.a., item No 3

Delete: 'G1 5306-99-941-0346 - Bolt, machine, UNF, 'S' steel  
hex hd, zinc plated, 1/2 in.  
x 2.3/4 in. Qty 4'

Insert: 'G1 5306-99-941-0343 - Bolt, machine, UNF, 'S' steel,  
hex hd, zinc plated, 1/2 in. x  
2 in. Qty 4'

b. Page 4, sub-para 5.h.

Add: 'Silencer is designed for gas flow in one direction only.  
As an aid to correct fitting, an indicator arrow is  
embossed between manufacturer's name BURGESS and drawing  
number FV 503894. Arrow indicates gas flow direction.'

*[Handwritten signature]*  
24/7/71

EME/TECH/E35/12129 A/FV02/9.

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CARRIER, PERSONNEL, FULL TRACKED, MK 1, 1/1, 2 AND 2/1 (FV 432)

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

Note: This Issue 4, supersedes Issue 1, Page 0 dated Sep 71, Issue 2, Pages 1-8 and 13-16 dated Jun 72 and Issue 3, Pages 9-12 dated Dec 74.

SUBJECT: Exhaust system and roof door catch assembly  
(MVEE Approval 29557)

CANCELLATION

1. This modification has been cancelled under the authority of 'A' Veh D & M Committee Approvals 31017/31042.
2. Salvage any useful items from modification kit and return to maintenance stock. Scrap remaining items and dispose of through normal channels.
3. Remove all copies of Issue 1, Page 0; Issue 2, Pages 1-8 and 13-16 and Issue 3, Pages 9-12 of this instruction and destroy.
4. Against subject reference in modification instruction index add 'Cancelled'.

END

70811 (223)  
Vehs & Wpns Br REME ALM/43000

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CARRIER, PERSONNEL, FULL TRACKED, FV 432, MK 1 AND 1/1

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

Note: This Issue 2, Pages 1-16, supersedes Issue 1, Pages 1-16, dated Jul 68, and Issue 1, Page 0, dated Sep 71. This Regulation has been revised throughout.

SUB-TITLE: Exhaust system and roof door catch assembly

1. Introduction

This instruction refers to the fitting of a new exhaust silencer, new heat shield assembly and consequent alterations to the roof plate assembly and roof door catch assembly.

2. Equipment affected: Exhaust system

3. Action required by:-

a. Units authorized to carry out field or base repairs

(1) When replacement of silencer becomes necessary demand the stores required and carry out this instruction.

(2) Record completion in equipment log book.

b. All recipients of this EMER

Add particulars to Tkd Veh E 109/2 Misc Instr Index.

4. Stores, tools and equipment:-

Note: All annotations used on figures refer to the item numbers in the following lists of stores.

a. Stores to be demanded

The following store is to be demanded, as required, quoting this regulation as the authority for demand.

<u>Item No</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty per veh</u>
1	LV9/BTN 2990-99-848-7388	Silencer, exhaust	1

b. Stores to be obtained locally

2	G1 5306-99-941-0313	Bolt, machine, UNF, 'S' steel, hex hd, zinc plated, 3/8 in. x 1.1/2 in.	4
3	G1 5306-99-941-0342	Bolt, machine, UNF, 'S' steel, hex hd, zinc plated, 1/2 in. x 1.3/4 in.	1
4	G1 5310-99-941-0924	Nut, precision, UNF, 'P' steel, hex, chamfered, zinc plated, 1/4 in.	14
5	G1 5310-99-941-0926	Nut, precision, UNF, 'P' steel, hex, chamfered, zinc plated 3/8 in.	4
6	G1 5305-99-941-0569	Screw precision UNF 2A 'S' steel hex hd, zinc plated 1/2 x 1.1/2 in.	3
7	G1 5310-99-941-0928	Nut, precision, UNF, 'P' steel, hex, chamfered, zinc plated, 1/2 in.	11
8	G1 5315-99-942-3566	Pin, steel, headless, 1/8 in. dia x 7/8 in. long	1
9	G1/GA 10912	Rivet, coppered, bifurcated, oval hd, No 11 G x 1/2 in.	32
10	G1 5320-99-949-9085	Rivet, solid, steel, 3/16 in. x 3/8 in.	21
11	G1 5320-99-949-7570	Rivet, solid, steel, 3/16 in. x 1/2 in.	11
12	G1 5305-99-941-0565	Screw, precision, UNF, 2A, 'S' steel hex hd, zinc plated, 1/2 in. x 1 in.	8
13	G1 5307-99-943-4203	Stud, welding, UNF, fluxed, 1/4 in. x 1.1/4 in.	14
14	G1 5310-99-941-6745	Washer, flat, round, steel, zinc plated, 1/2 in. i.d. x 1 in. o.d. x .092 in. thick	8
15	G1 5310-99-120-4032	Washer, flat, round, steel, zinc plated 0.270/0.265. i.d. x 0.562 in. o.d. x 0.056 in. thick	14
16	G1 5310-99-941-0548	Washer, lock, steel cad-plated 1/4 in. bolt size	14



<u>Item No</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty per veh</u>
17	G1 5310-99-941-0550	Washer, lock, steel, cad-plated 3/8 in. bolt size	4
18	G1 5310-99-941-0552	Washer, lock, steel, cad-plated 1/2 in. bolt size	2
19	G2 5660-99-960-9248	Fencing wire, steel galvanized, hex shape mesh, 19 s.w.g. 1/2 in. mesh, 47.1/8 in. x 17.1/2 in. (see Fig 8)	1
20	G2 9515-99-960-6073	Steel, plate, carbon, 3/16 in. thick 4 in. x 25 in. long (see Fig 15)	1
21	G2 9510-99-960-5909	Steel, bar, carbon, round, 7/8 in. x 12 in. long (see Fig 2)	1
22	G2 9515-99-960-5800	Steel, strip, carbon 3/16 in. thick, 2 in. x 130 in. (see Fig 2 & 9)	1
23	G2 9515-99-960-6073	Steel plate, carbon, 3/16 in. thick, 11 in. x 4 in. (see Fig 12)	1
24	G2 9515-99-960-9368	Steel sheet, carbon, cold rolled, 20 BG. 48 in. x 11 in. (see Fig 3)	2
25	G2 9515-99-960-9368	Steel sheet, carbon, cold rolled, 20 BG. 48 in. x 25 in. (see Fig 5)	1
26	G2 9515-99-960-9326	Steel strip, carbon, hot rolled, 1 in. x 1/8 in. (10 BG) x 12 in. long (see Fig 2)	1
27	G2 9510-99-960-5811	Steel bar, carbon, hot rolled, flat 2.1/4 in. x 2.1/4 in. x 3/8 in. (see Fig 2)	1
29	G2 4710-99-960-4743	Tubing, steel, 2.1/2 in. o.d. x 3/16 in. gauge x 4.1/4 in. (see Fig 10)	1
30	H9 5640-99-120-4747	Cloth, asbestos, 1/8 in. thick, 47.1/8 in. x 18.3/4 in. (see Fig 7)	1
31	H9 HB 5013	Cloth, asbestos, reinforced, 1/4 in. thick, 47.1/4 in. x 10.1/2 in. (see Fig 3)	1
32	H9 HB 3631	Packing, asbestos, plaited, round, 1/4 in. (see Fig 1)	77.1/2 in.

c. Stores to be locally manufactured

Manufacture the following items in accordance with details given in relevant Fig:-

<u>Item No</u>	<u>Fig No</u>	<u>Description</u>	<u>Qty per veh</u>
33	13	Stool	1
34	15	Bracket, heat shield, large	1
35	2	Bracket, roof plate	2
37	2	Spacing washer	14
38	2	Packing piece, short	4
39	2	Packing piece, long	1
40	2	Packing piece, square	1
41	3	Insulation, (sandwich plate)	1
42	3	Plate, steel, (sandwich plate)	2
43	4	Heat shield assembly	1
44	5	Outer cover plate	1
45	6	Outer cover welded assembly	1
46	7	Heat shield insulation	1
47	8	Heat shield inner cover, wire mesh	1
48	9	Bracket, heat shield, small	4
49		Washer, heat shield mesh, 9/64 in. i.d. x 3/4 in. sq x 20 BG	32
50	10	Adapter sleeve, exhaust pipe to silencer	2

d. Stores to be altered

The following stores are to be altered in accordance with the relevant Fig:-

51	11	Alteration to roof plate, l.h. items removed
52	12	Alteration to roof plate, l.h. re-work
53	14	Altered roof door catch assembly
56	10	Altered exhaust piping

e. Stores to be removed

The following items of the existing roof door catch assembly are to be removed from the existing assembly for use on the new assembly:-

<u>Item No</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty per veh</u>
57	LV9/ACR 2510-99-865-7011	Bolt, sliding catch, vehicular door	1
58	LV9/ACR 2510-99-865-7010	Spring, helical, compression	1
59	FV 538662	Handle, sliding catch, roof door	1
60	FV 499868	Body, roof door catch	1
61	FV 499889	Mounting plate	1

f. Items to be discarded

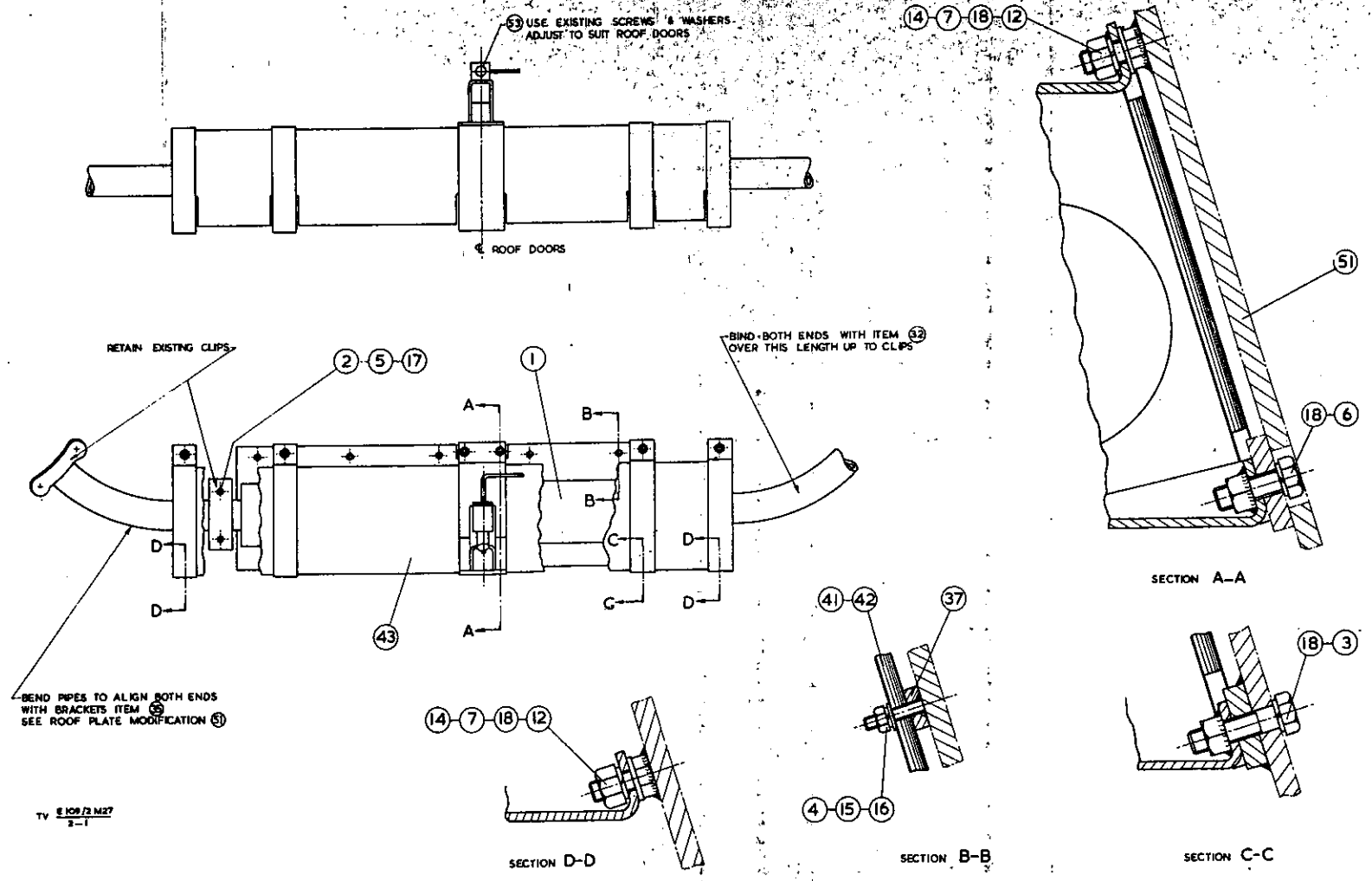
<u>Item No</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty per veh</u>
62	LV9/ACR 2990-99-867-3423	Silencer, exhaust	1
63	LV9/ACR 2990-99-865-6621	Shield, silencer, heat	1

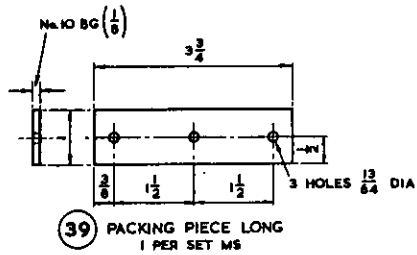
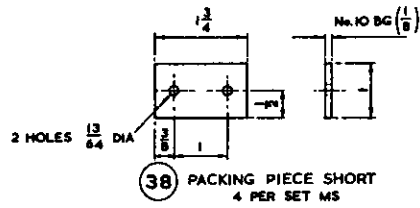
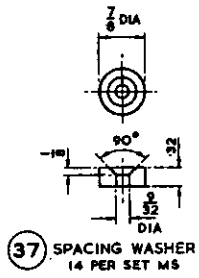
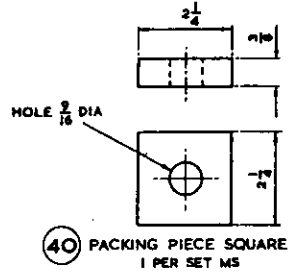
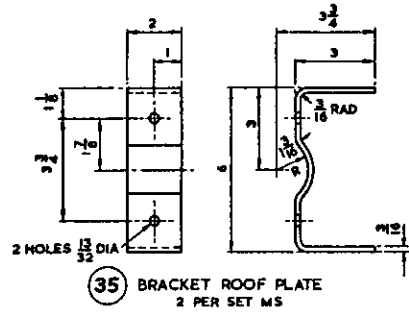
5. Sequence of operations:-

- a. Remove door catch assembly from heat shield on vehicle.
  - b. Remove heat shield assembly.
  - c. Remove existing silencer, tail pipe and short front exhaust pipe, retain all clips.
  - d. Remove stool from door catch assembly, by cutting at the weld (original stool is replaced by new stool, see Fig 13.)
- Note: Handle must be reversed, see Fig 1.
- e. Manufacture items listed in para 4.c.
  - f. Alter items listed in para 4.d.
  - g. Weld new adapter sleeves (item 50) to shortened ends of front and rear exhaust pipes (see Fig 10).
  - h. Fit new silencer, altered front and rear exhaust pipes, altering the alignment of exhaust pipes to suit new silencer, new brackets on roof plate and main front exhaust pipe.
  - j. Wrap asbestos packing (item 32) round exhaust pipes, as shown in Fig 1.
  - k. Fit altered roof door catch assembly to new heat shield assembly, see Fig 1.
  - l. Fit new heat shield assembly, see Fig 1.
  - m. Test roof door catch assembly for effectiveness, adjust if necessary.
  - n. Remove a strip of cushioning pad on roof door, (first quarter), 3 in. wide measured from central edge and full length of pad, so that when door is latched open, cushioning pad is clear of heat shield.
  - o. Check exhaust pipe joints for leaks.

Note: Before final assembly, all parts except roof plate, is to be painted with the following:-

- |                     |  |
|---------------------|--|
| H1 8010-99-910-6646 | Paint, priming, red lead, brushing (one gal can).                          |
| H1 8010-99-910-2001 | Paint, war equipment, matt, heat resisting, brushing, black (one gal can). |

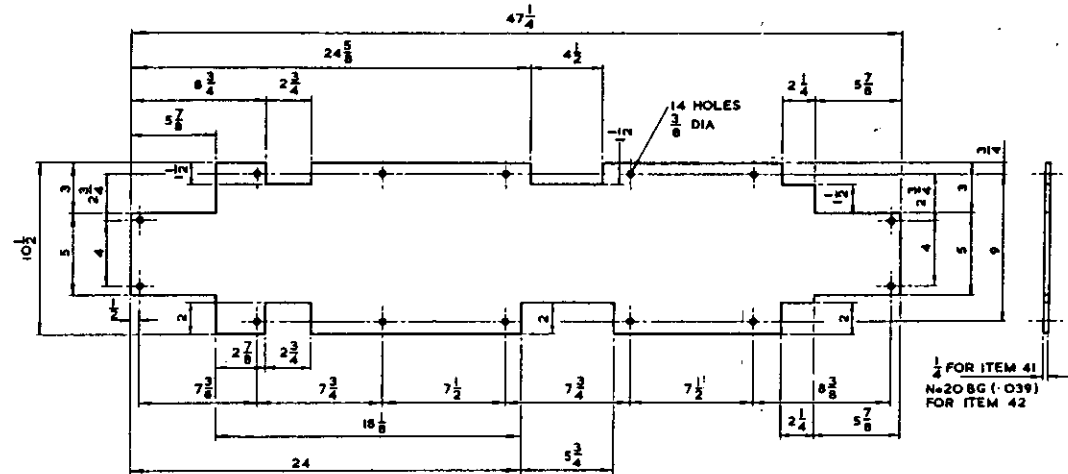




TV E 109/2 M27  
2-2

DIMENSIONS INCHES

Fig 2 - Exhaust component details



1/4 FOR ITEM 41  
No. 10 BG (1-039)  
FOR ITEM 42

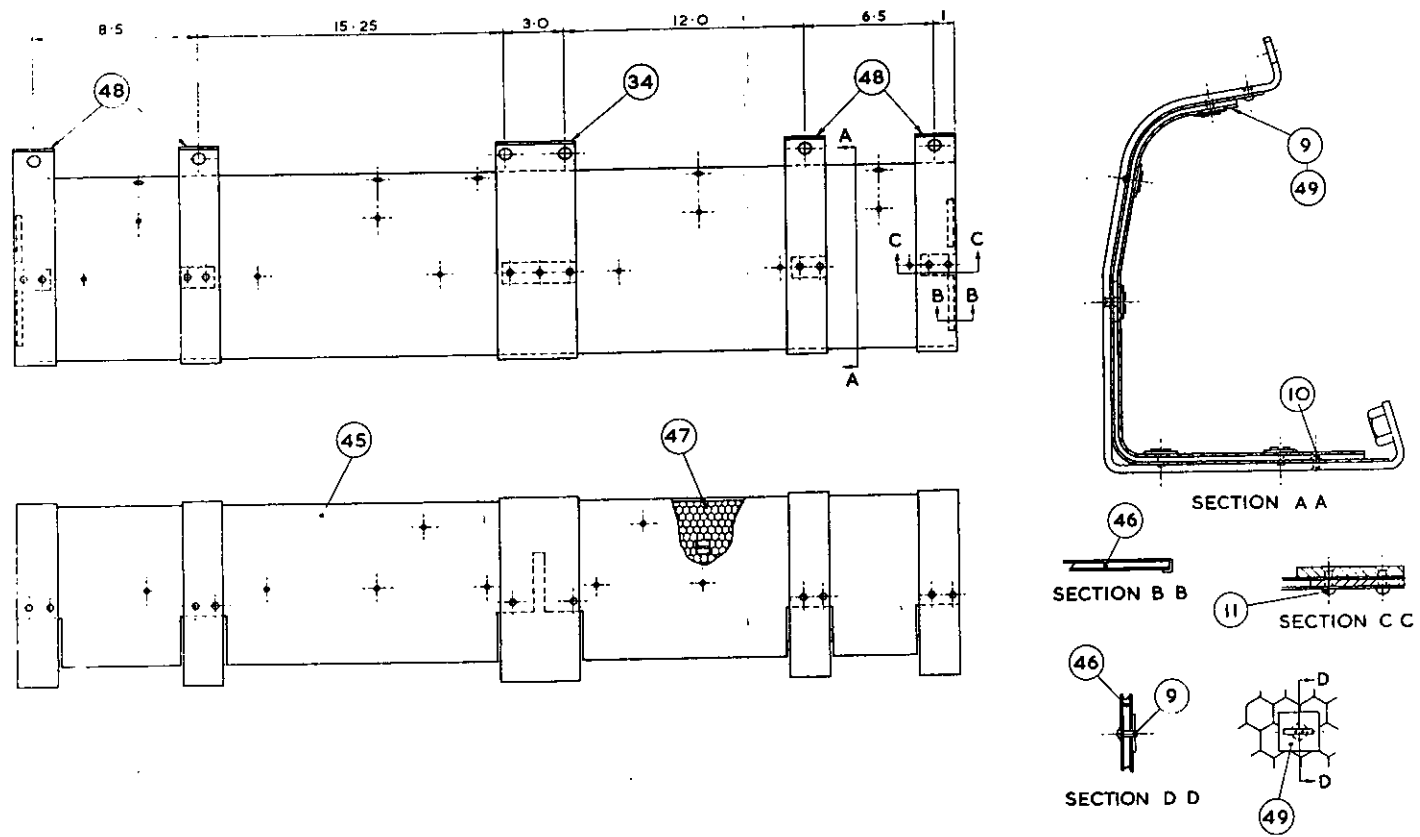
TV E 109/2 M27  
2-3

41 1 PER SET - HARD ASBESTOS

42 2 PER SET - MILD STEEL

DIMENSIONS IN INCHES

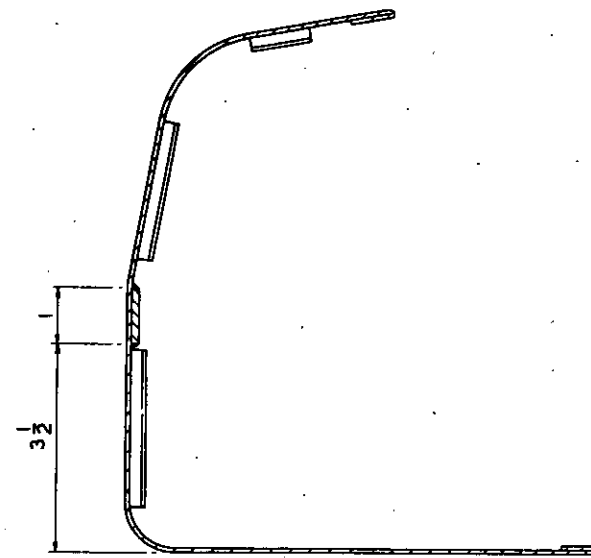
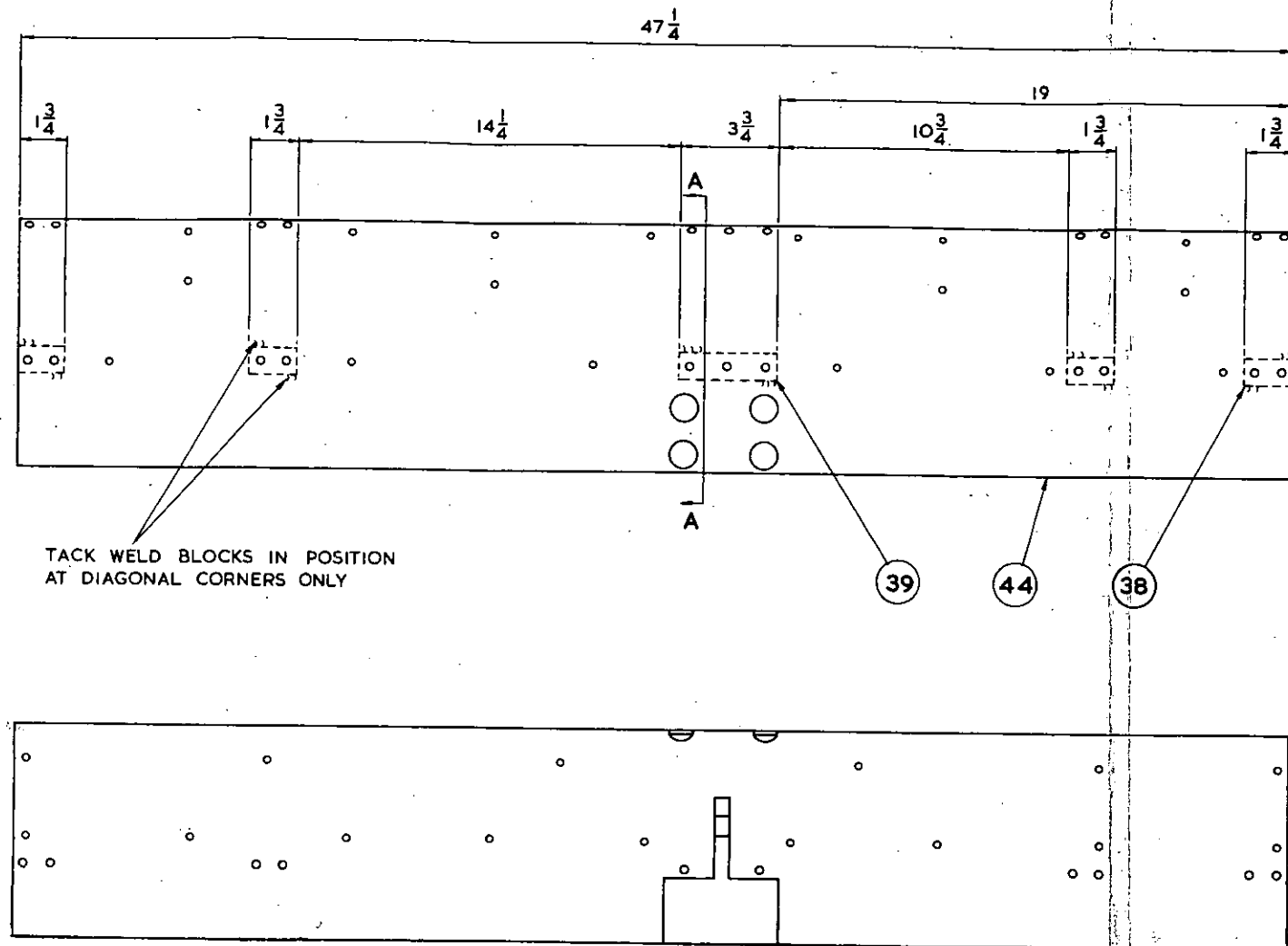
Fig 3 - Sandwich plate



(43) 1 PER SET

DIMENSIONS IN INCHES

Fig 4 - Heat shield



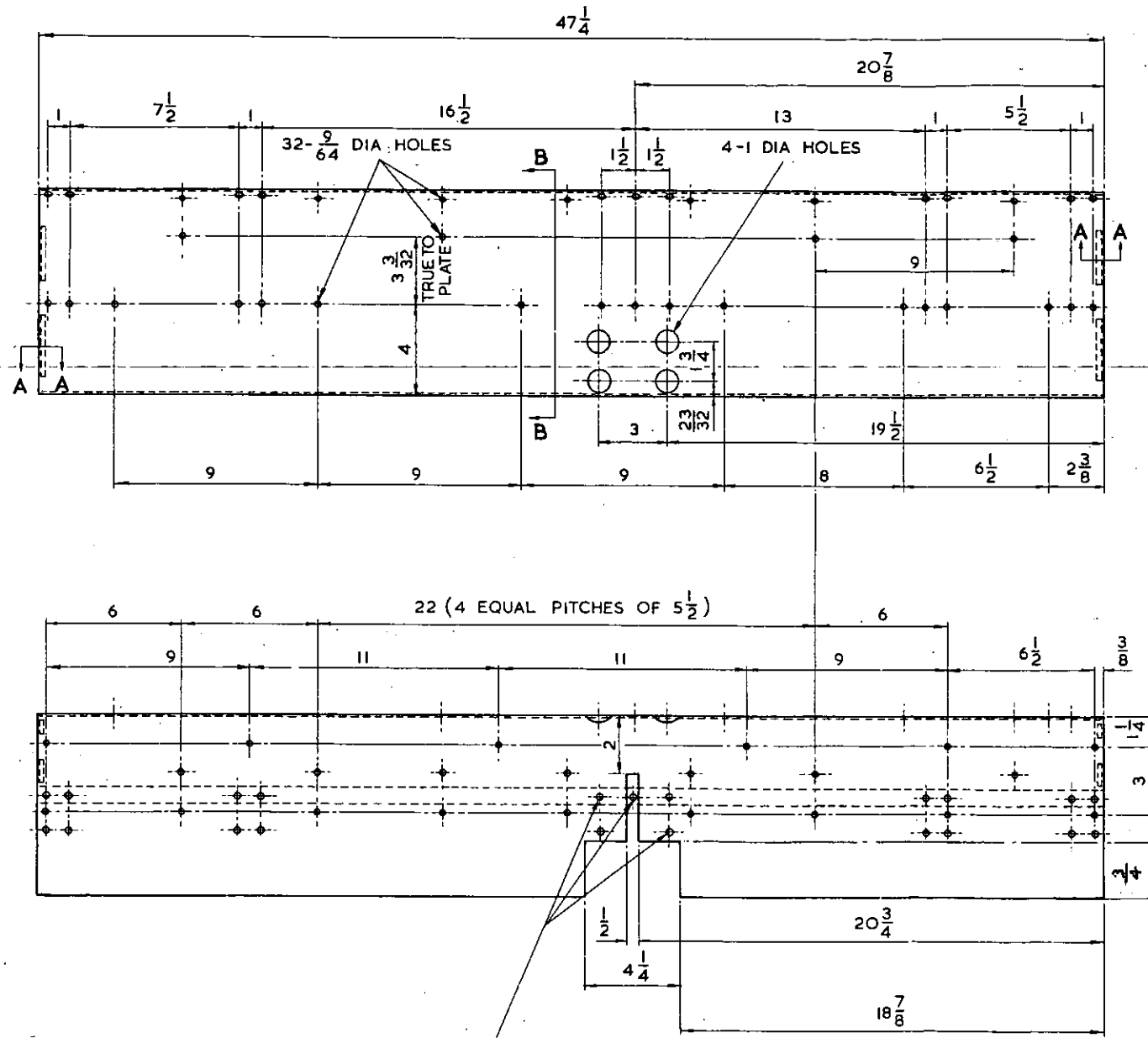
TACK WELD BLOCKS IN POSITION  
AT DIAGONAL CORNERS ONLY

(45) 1 PER SET

DIMENSIONS IN INCHES

Fig 6 - Outer cover, welded assembly

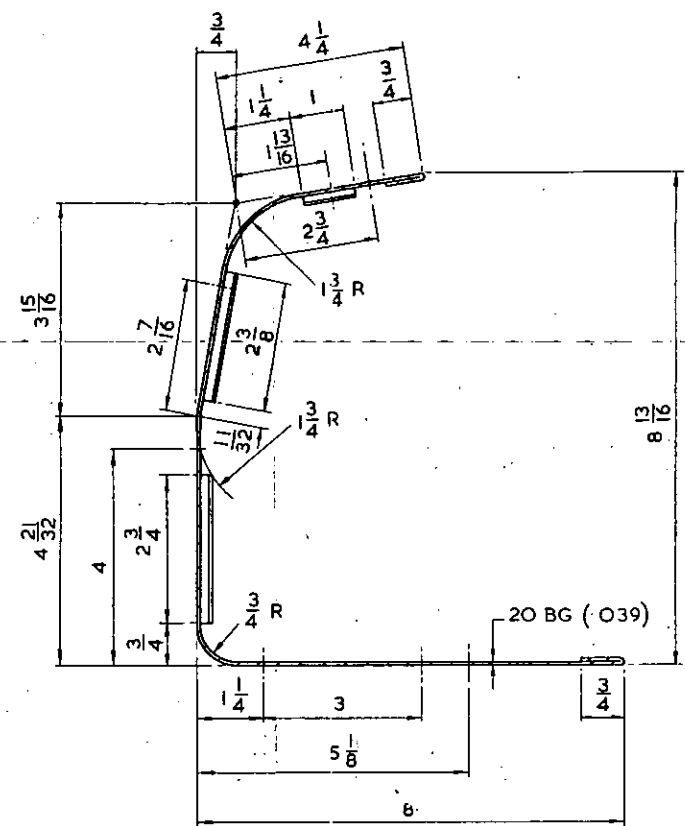
Note: These Pages 9-12, Issue 3, supersede Pages 9-12, Issue 2, dated Jun 72. Figs 5, 6, 7 and 8 have been amended.



32-  $\frac{13}{64}$  DIA HOLES MARKED THUS •  
TO BE DRILLED IN CONJUNCTION  
WITH ITEMS 34 & 48

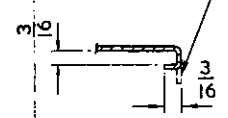
44 1 PER SET - MILD STEEL

Fig 5 - Outer cover plate



SECTION B-B

THE FLANGES ON ONE END OF  
COVER TO REMAIN TURNED DOWN  
UNTIL ASBESTOS & WIRE MESH  
HAVE BEEN FITTED AS SHOWN



SECTION A-A

DIMENSIONS IN INCHES



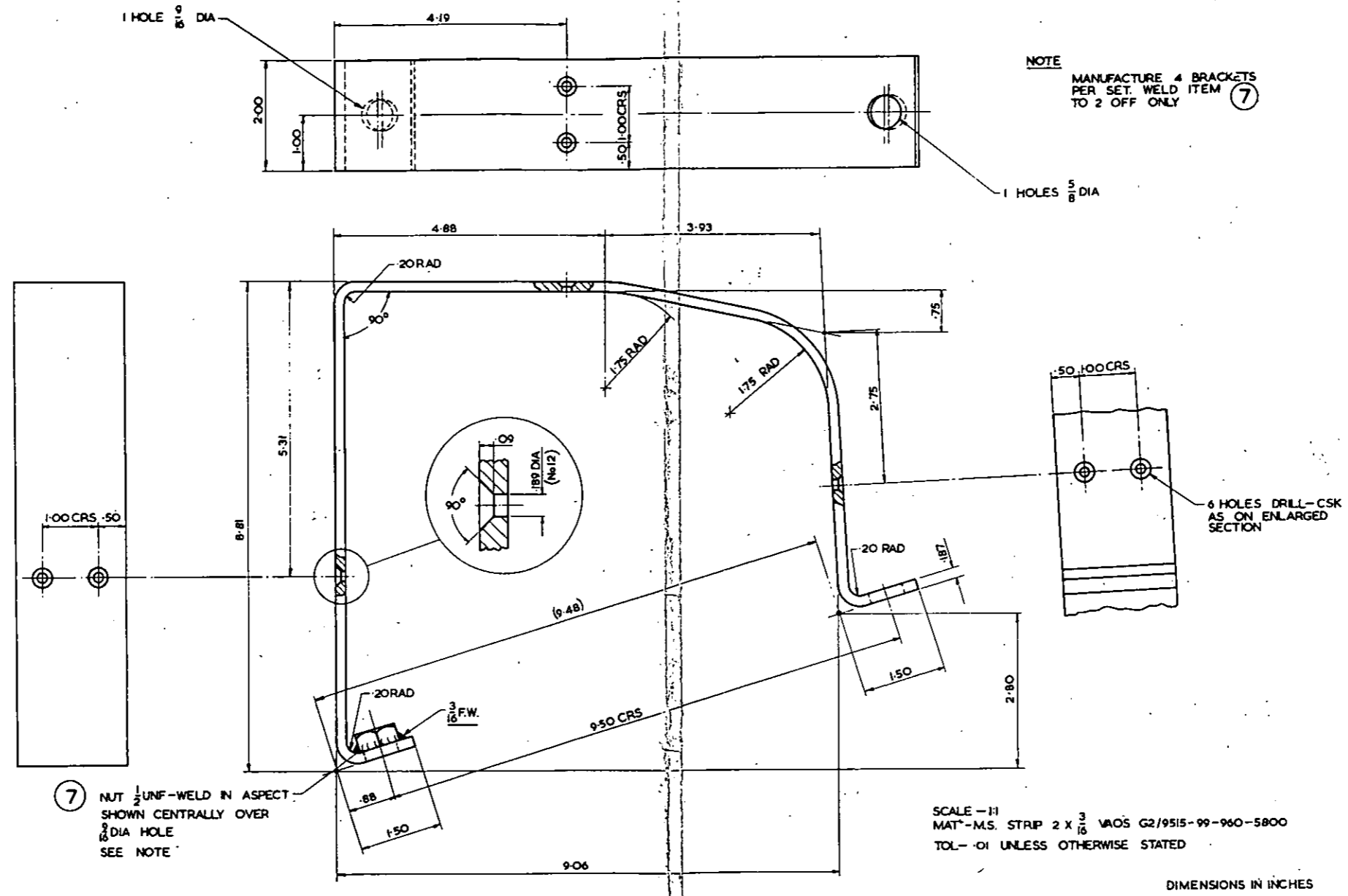


Fig 9 - Bracket heat shield, small

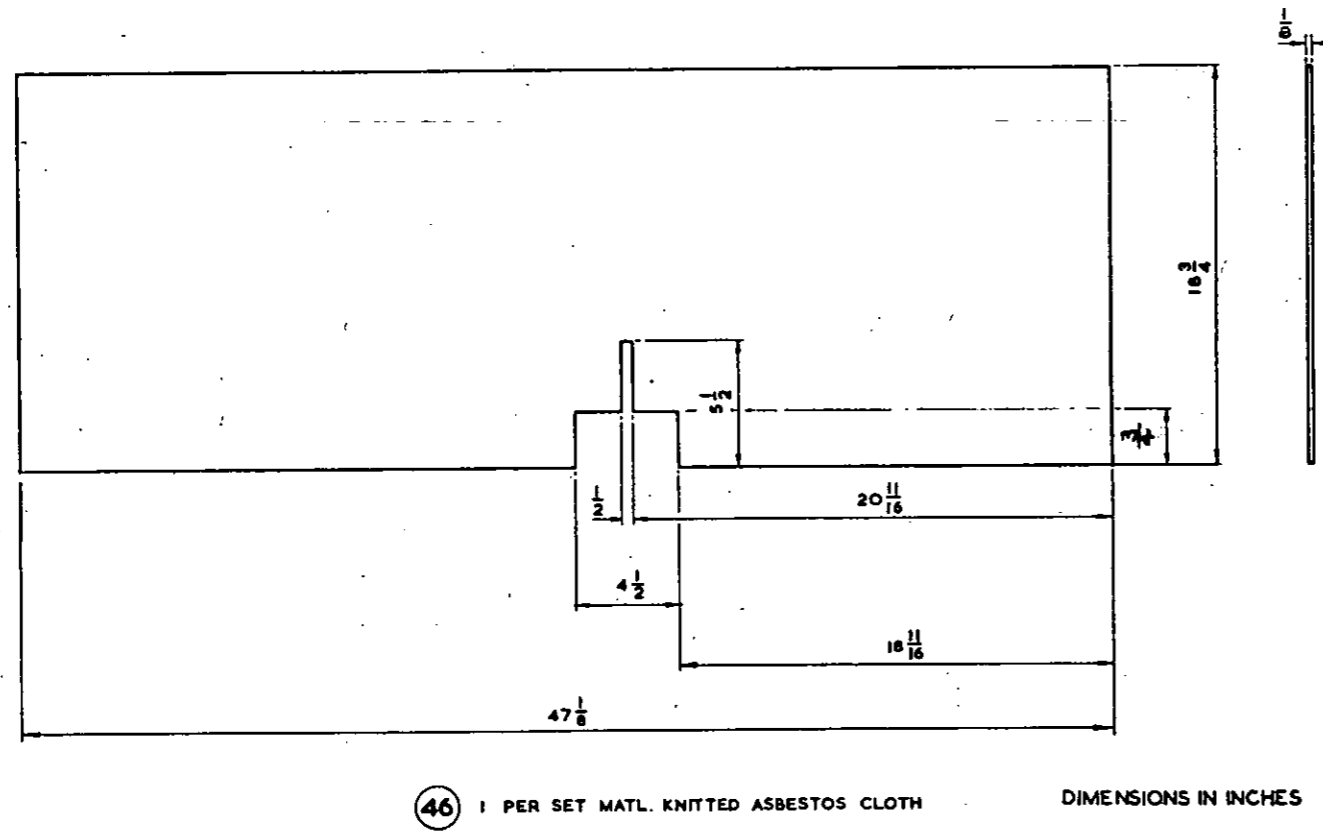


Fig 7 - Heat shield insulation

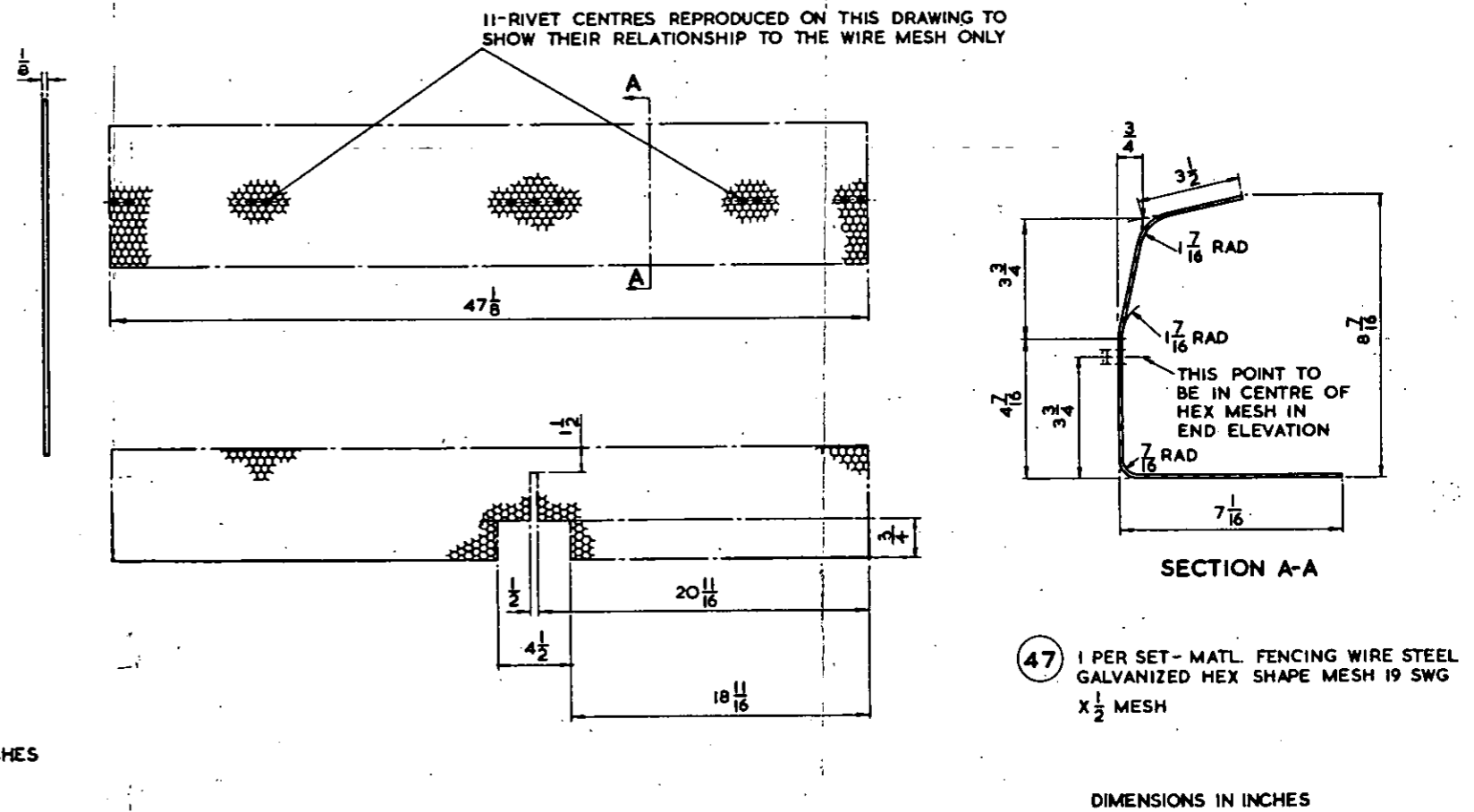


Fig 8 - Heat shield inner cover, wire mesh

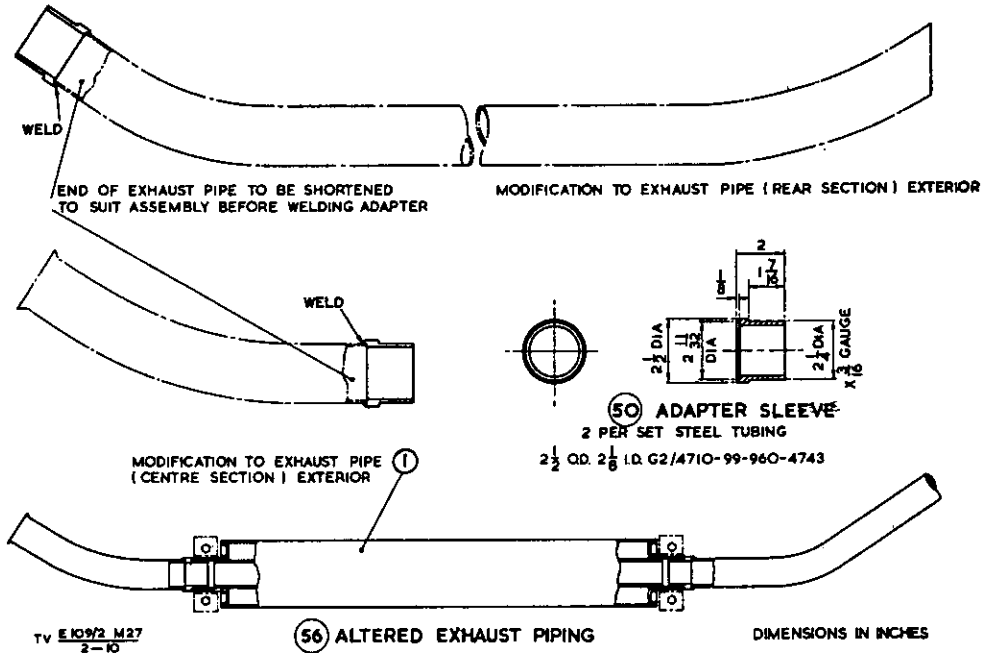


Fig 10 - Adapter sleeve and exhaust piping

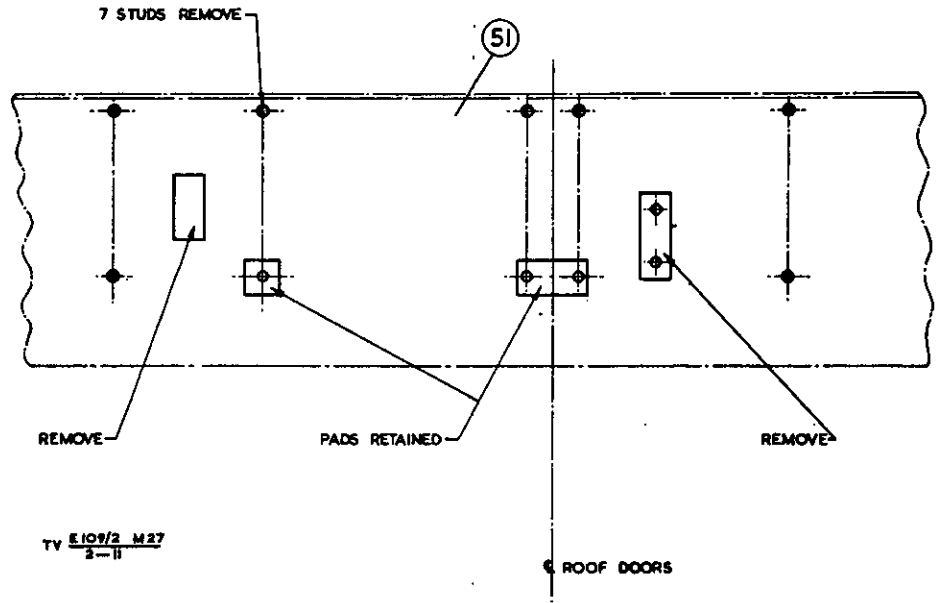
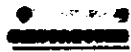
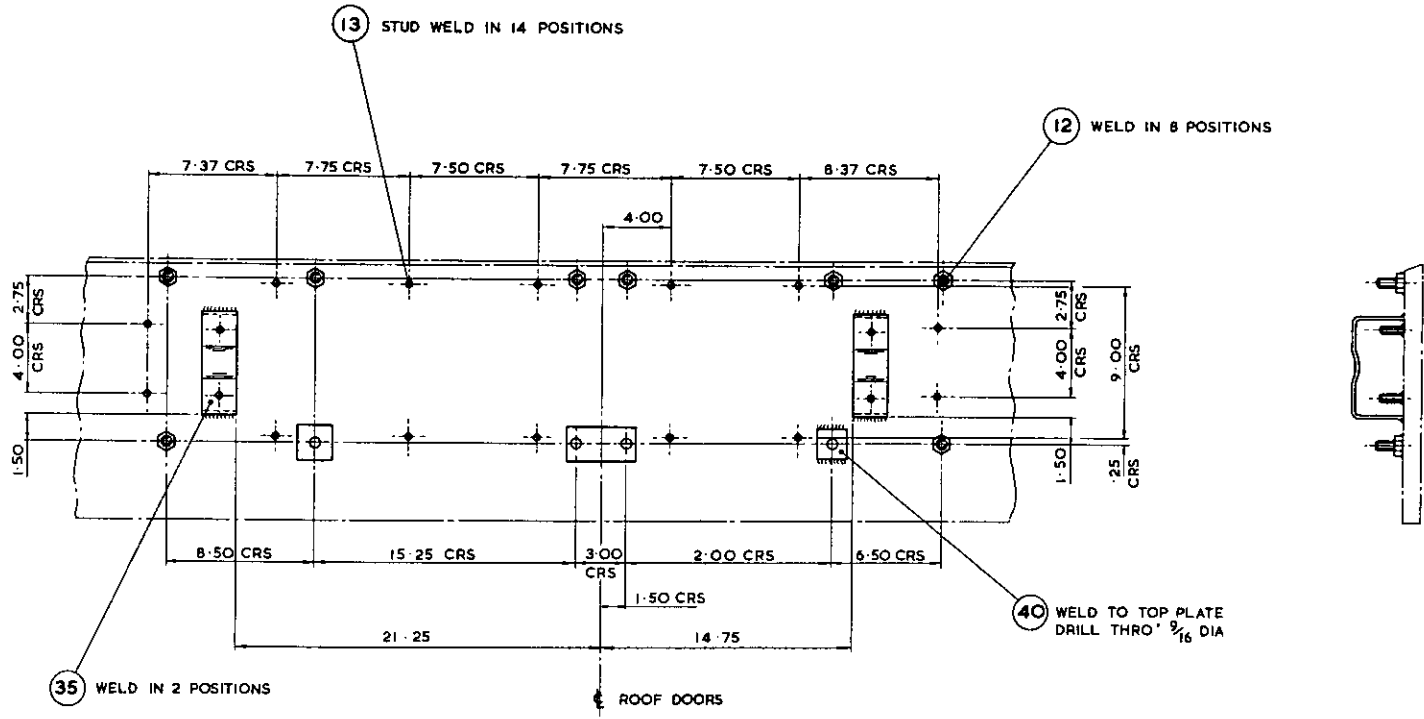


Fig 11 - Alteration to roof plate, l.h. items removed





ALL WELDS  $\frac{3}{16}$  FILLET.  
 USE M.S. ELECTRODES & WELD  
 IN ACCORDANCE WITH EMER  
 WORKSHOP O-360  
 TV E109/2 M27  
 2-12

DIMENSIONS IN INCHES

Fig 12 - Alterations to roof plate, l.h. re-work

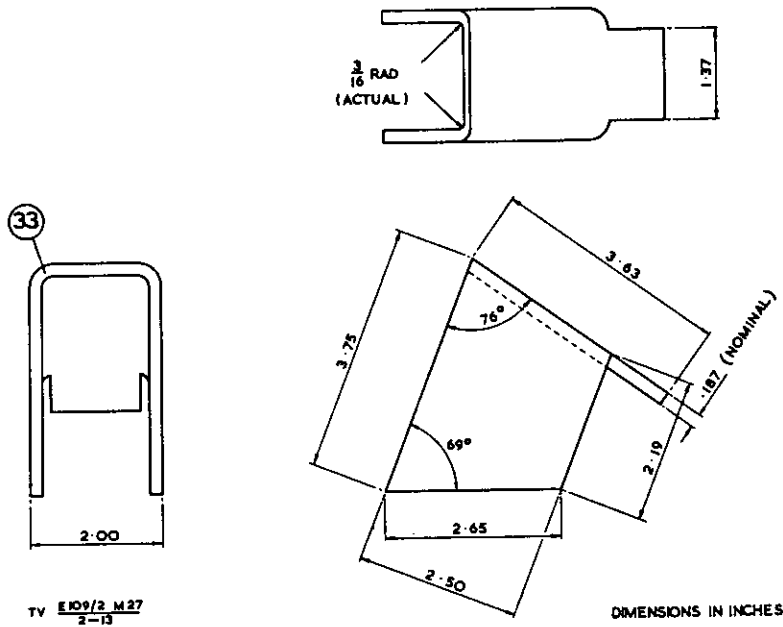


Fig 13 - Stool

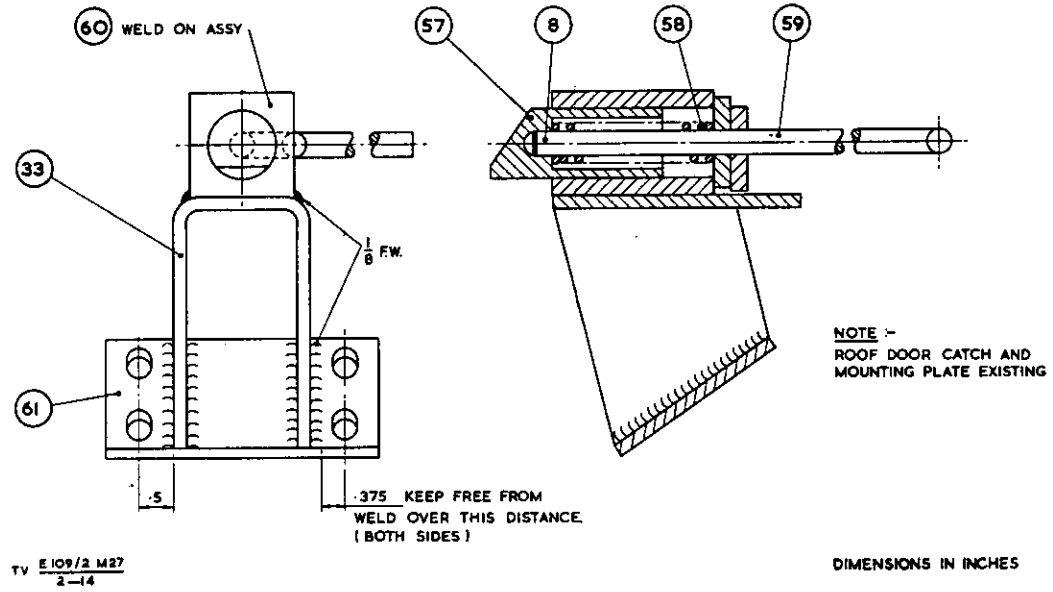


Fig 14 - Altered roof door catch assembly

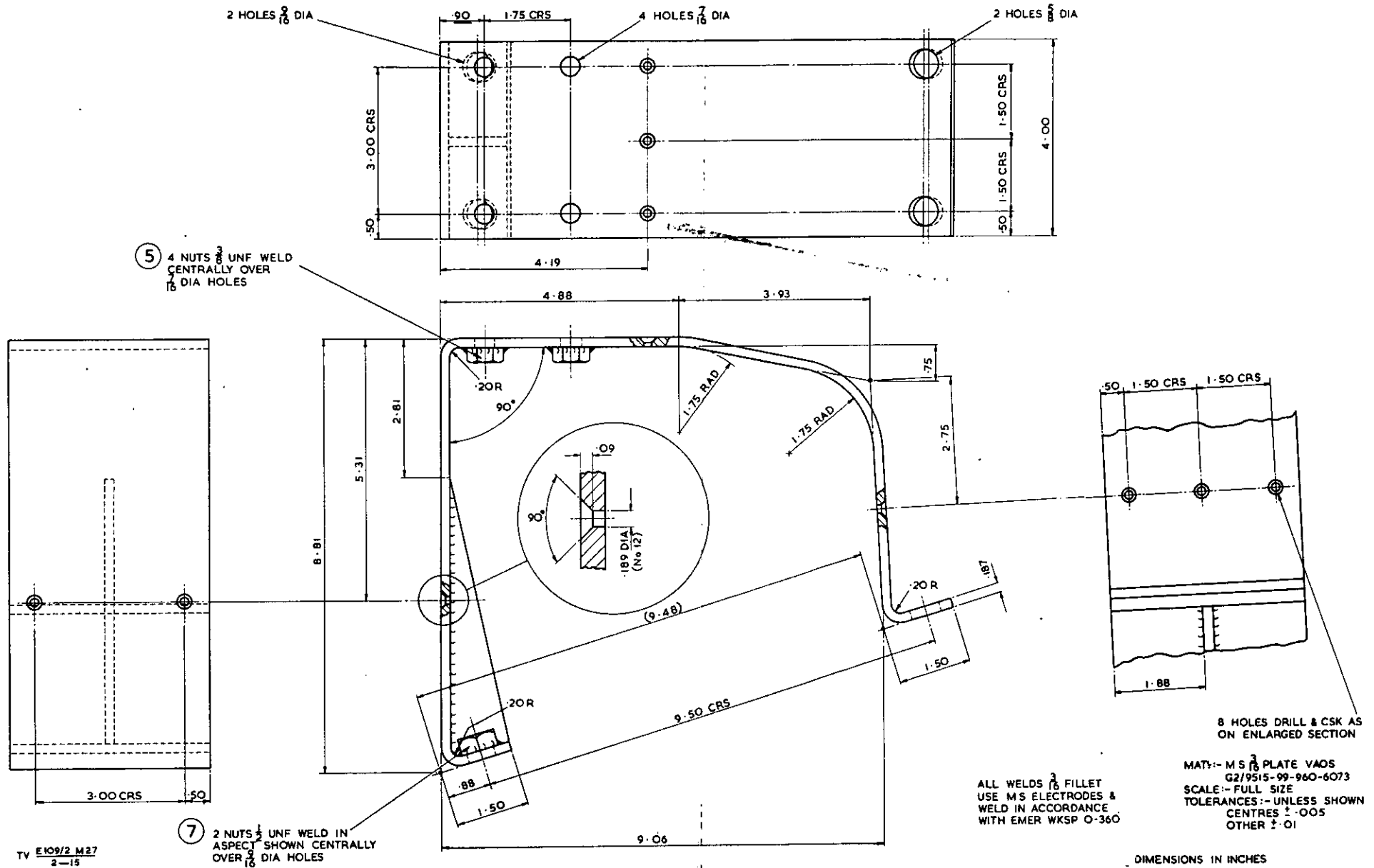


Fig 15 - Bracket, heat shield, large

END

A D OK

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CARRIER, PERSONNEL, FULL TRACKED, FV 432, MK 1, 2 AND 2/1  
Code 0040.0110, 0040.0111, 0040.0112

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Ventilation system, driver's compartment nozzle hoses

1. Introduction

To secure the existing hoses to nozzles in driver's compartment, hose clips are to be fitted.

2. Item affected: Hose non-metallic LV9 ACR 4720-99-802-3560 (FV 481873)

3. Action required by:-

a. Units authorized to carry out unit, field or base repairs

- (1) When carrying out repairs to ventilation ducting in driver's compartment or during overhaul, carry out this instruction.
- (2) Record completion in equipment log book.

b. All recipients of this EMER

Add particulars to Tkd Veh E 109/2 Misc Instr Index.

4. Stores to be obtained locally:-

<u>VAOS Section</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty per veh</u>
LV6 MT1	4730-99-200-8879	Clip, hose	2

5. Detail

Refer to ISPL Army Code No 14660 Plate T1. Fit a hose clip (LV6 MT1 4730-99-200-8879) to secure each of the two existing hoses (item 25) to the flexible nozzles (item 24) of ventilation system in driver's compartment.

~~RESTRICTED~~

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→ Mod Trk D & M

5819

ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS  
(By Command of the Defence Council)

~~TOP SECRET~~

TRACKED VEHICLES  
E 109/2 Misc Instr No 29

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CARRIER, PERSONNEL, FULL TRACKED, MK 1, 1/1, 2 AND 2/1 (FV 432)

Ⓚ

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

Note: This Issue 2 supersedes Issue 1, Page 1-4 dated Nov 69.

SUBJECT: Change of exhaust extension support strut  
(MVEE Approval 29730)

CANCELLATION

1. This modification has been cancelled under the authority of 'A' Veh D & M Committee Approvals 31040/31041.
2. Remove all copies of Issue 1, Pages 1-4 of this instruction and destroy.
3. Against subject reference in modification instruction index add 'Cancelled'.

END

70811 (222)  
Vehs & Wpns Br REME ALM/43000

~~TOP SECRET~~



Ch D OK

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ENGINEERING REGULATIONS  
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E 109/2 Misc Instr No 29

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CARRIER, PERSONNEL, FULL TRACKED, FV 432, MK 2 AND 2/1 (WOMBAT ROLE ONLY)

Code 0040.0111, 0040.0112

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Change of exhaust extension support strut

1. Introduction

To enable exhaust extension pipe to be used in 'WOMBAT' role, the existing support strut is to be replaced by a new type of strut.

2. Item affected: Exhaust extension pipe, support strut FV 580149

3. Action required by:-

a. Units and establishments holding this equipment

When vehicles have 'WOMBAT' kit fitted, request REME to carry out this instruction.

b. Units authorized to carry out unit, field or base repairs

(1) When requested by units, carry out this instruction.

(2) Record completion in equipment log book.

c. All recipients of this EMER

Add particulars to Tkd Veh E 109/2 Misc Instr Index.

MR HAWKINS

~~RESTRICTED~~

4. Stores to be obtained locally:-

<u>VAOS Section</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty per veh</u>
G1	5305-99-941-0511	Screw, UNF, 1/4 in. x 1/2 in.	2
G1	5310-99-944-0548	Washer, lock, single coil	2
G2	9515-99-960-5771	Steel, mild, flat bar, 1 in. x 3/16 in.	21.1/2 in.

5. Detail:-

a. See Fig 1. Manufacture a strut from the 3/16 in. mild steel bar listed in para 4 to dimension shown.

Note: Part number of strut becomes FV 650062.

b. Paint exposed surface of strut.

c. Remove and discard the existing strut (FV 586149, item 4 of Fig 30, User Handbook Army Code No 14693) retaining the 3/8 in. UNF screw, plain and lock washer on extension exhaust pipe.

d. See Fig 2. Fit (to check) and stow the manufactured strut (FV 650062) to vehicle as shown, using the two 1/4 in. UNF screws and lock washers, listed in para 4 and retained 3/8 in. UNF screw, plain and lock washer as shown.

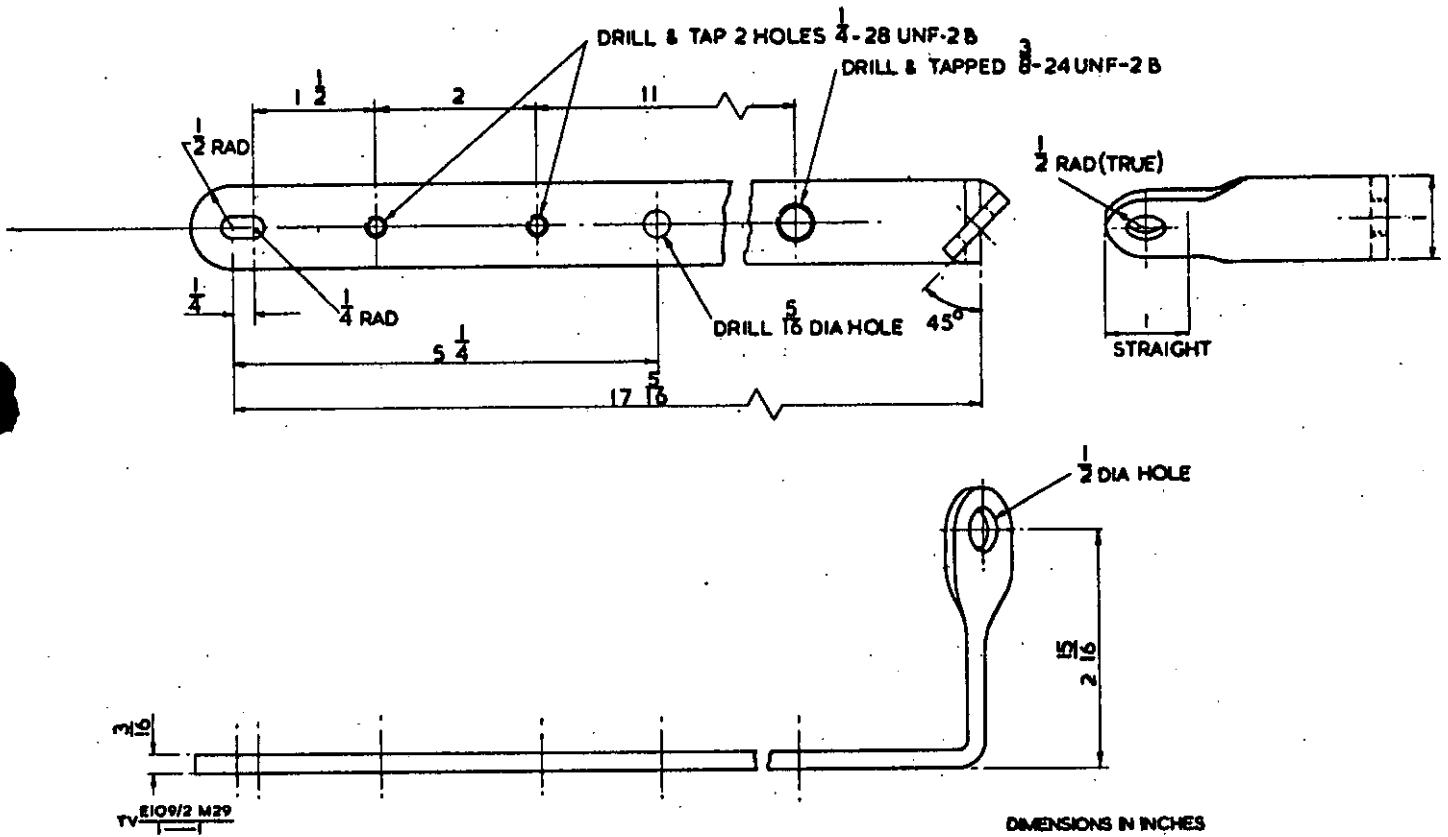


Fig 1 - Strut - details

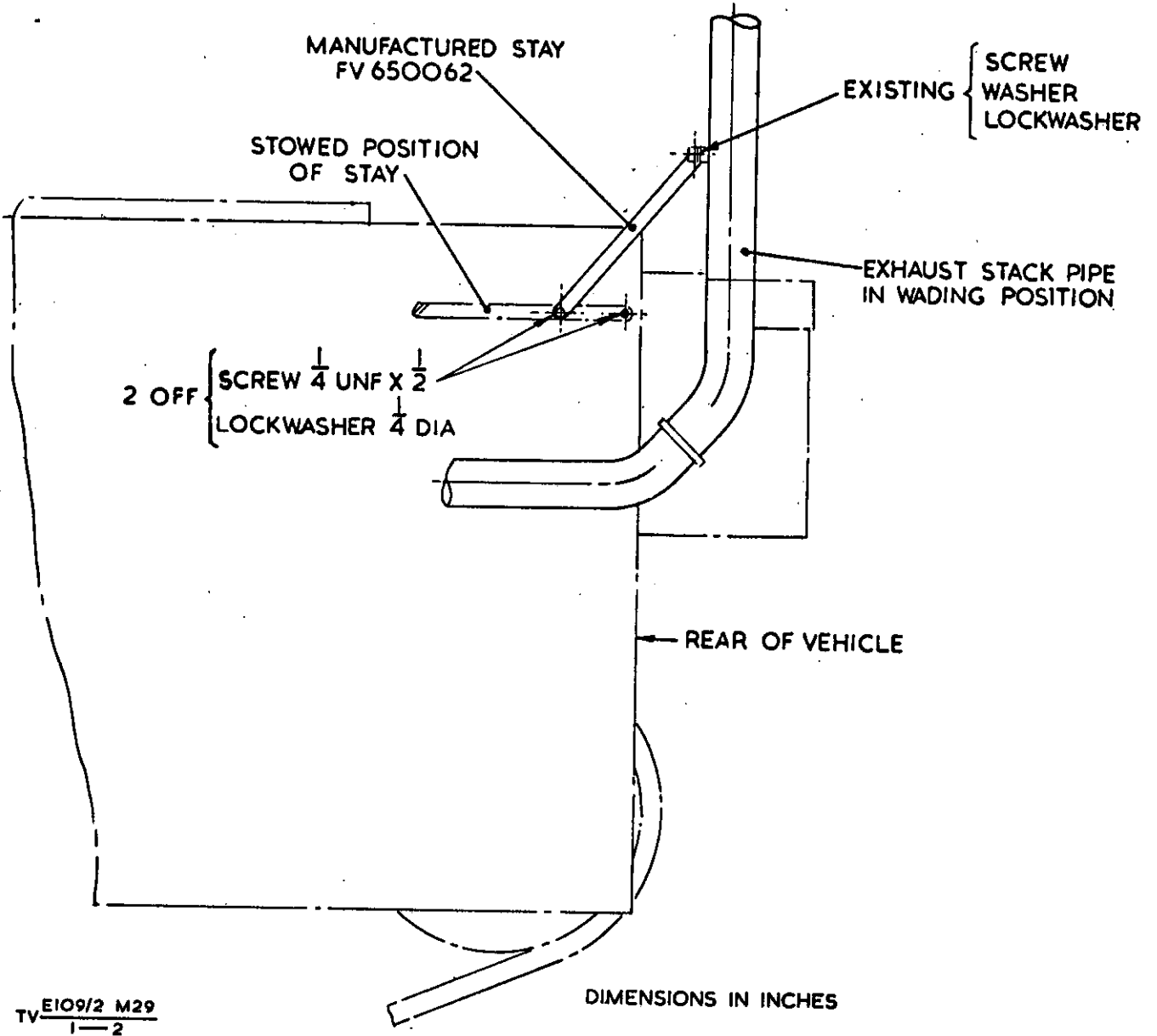


Fig 2 - Strut - assembly

FVRDE Approval 29730  
Def and Mods 725/29730

END

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CARRIER, PERSONNEL, FULL TRACKED, MK 2 AND 2/1 (FV432)

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE:- FACE furniture bonding

1. Introduction

To make earth points on FACE installation furniture more accessible and to provide a faster means of connection and disconnection, the securing holes are repositioned and drilled and tapped into brackets.

2. Items affected:-

- V5/1290-99-962-6062 (FR 16C 426) Bracket support computer l.h.
- V5/1290-99-962-6063 (FR 16C 485) Bracket support computer r.h.
- V5/1290-99-962-0501 (FR 16D 777) Adapter support frame voltage regulator.
- V5/1290-99-962-0930 (FR 16C 1390) Bracket support supply control unit r.h.
- V5/1290-99-962-0931 (FR 16C 1391) Bracket support supply control unit l.h.
- V5/1290-99-962-0502 (FR 16D 413) Bracket support computer.
- V5/1290-99-962-0815 (FR 16D 397) Frame support console and power supply.

3. Action required by:-

a. Units and establishments holding this equipment

- (1) Examine FACE furniture, see Tkd Veh E105/2 Instr No 3, to determine whether the earth securing holes have been repositioned as shown in Figs 1 - 10. If not demand stores required.
- (2) On receipt of stores, request REME to carry out this instruction.

b. Units authorized to carry out unit repairs

Carry out this instruction.

c. All recipients of this EMER

Add particulars to Tkd Veh E109/2 Misc Instr Index.

4. Stores to be obtained locally

<u>VAOS Section</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty per veh</u>
G1	5310-99-943-6080	Washer crinkle 1/4	16

5. . Detail

- a. Identify brackets as detailed in para 2.
- b. Remove brackets from vehicle and drill and tap as detailed in Figs 1 - 10.
- c. Ensure area around tapped hole is clean.
- d. Fit existing earth bolts into tapped hole complete with crinkle washer.
- e. Refit brackets into vehicle.

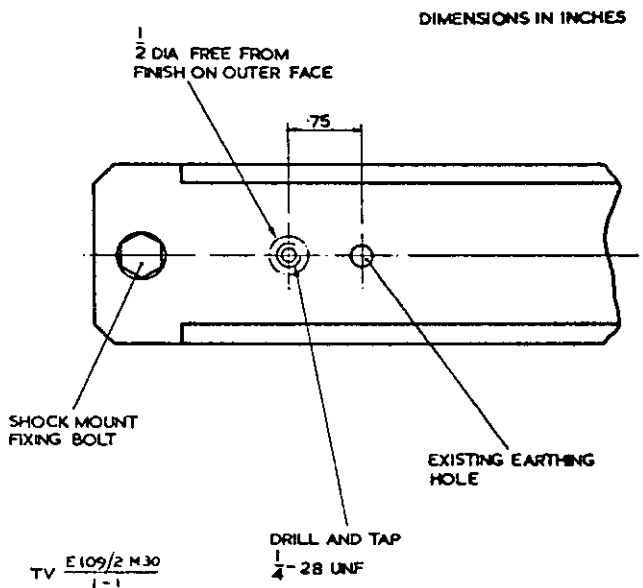


Fig 1 - Bracket support computer r.h.

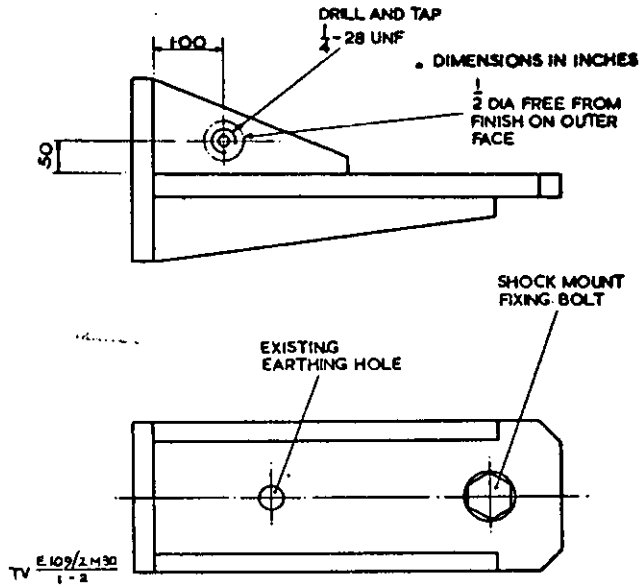


Fig 2 - Bracket support computer l.h.

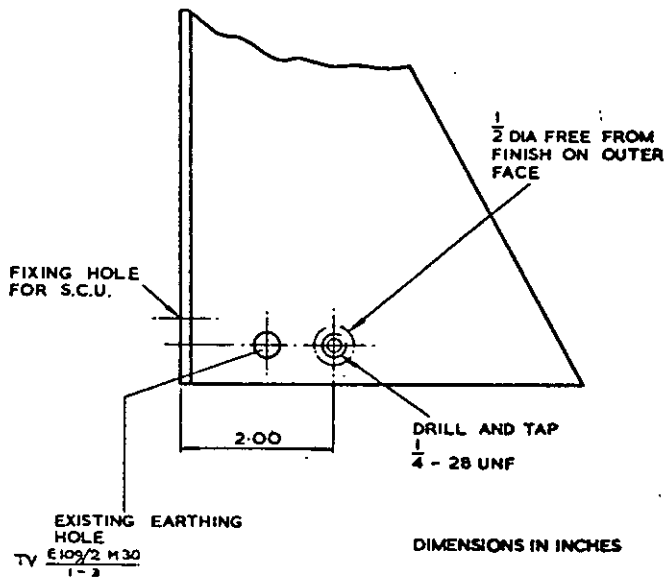


Fig 3 - Bracket support supply control unit l.h.

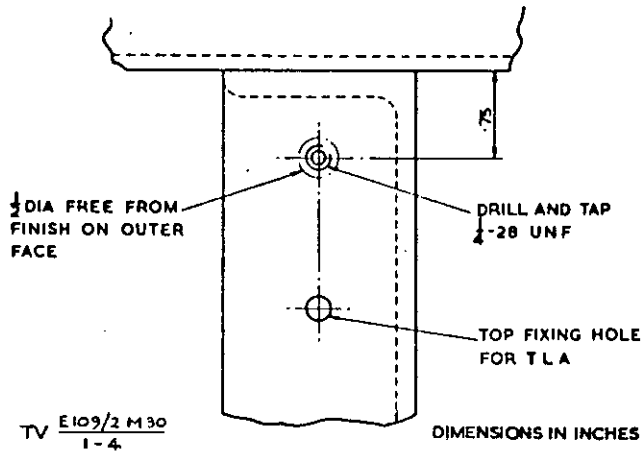


Fig 4 - Adapter support frame voltage regulator (r.h.)  
Typical for (l.h.)

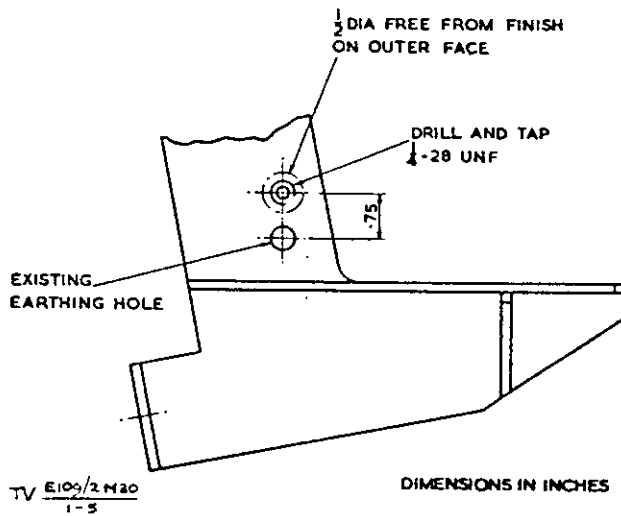


Fig 5 - Bracket support computer (l.h. lower)  
Typical for (r.h. lower)



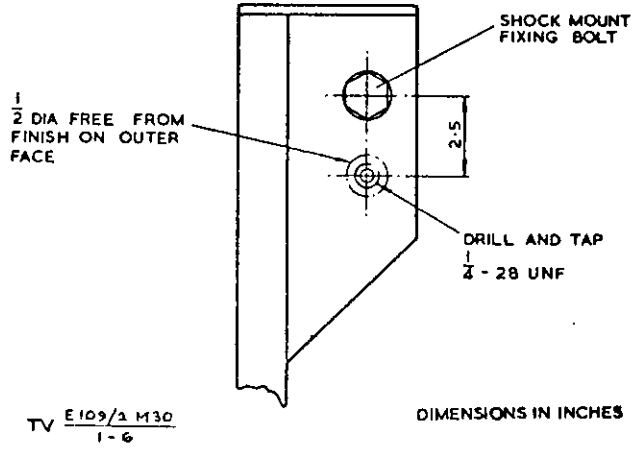


Fig 6 - Frame support console (l.h. top)

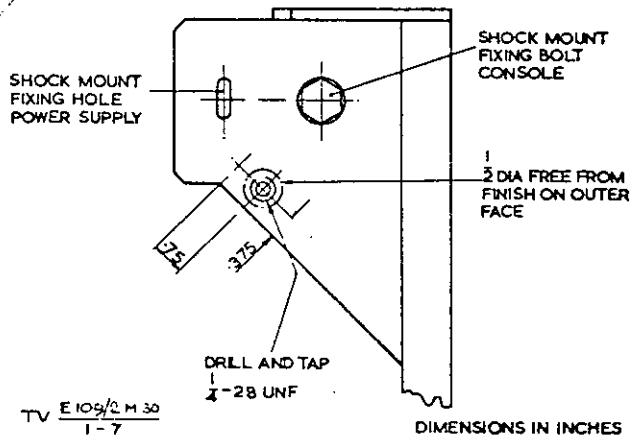


Fig 7 - Frame support console (r.h. top) and  
power supply (l.h. top)  
Typical for power supply (r.h. top)

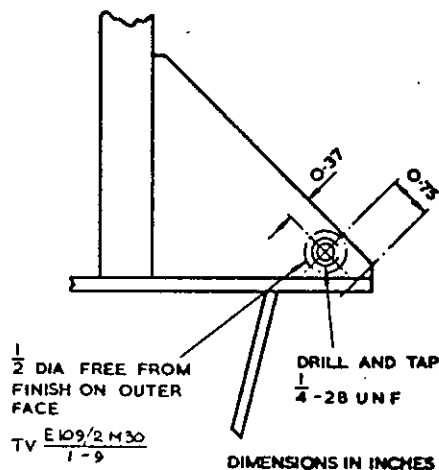
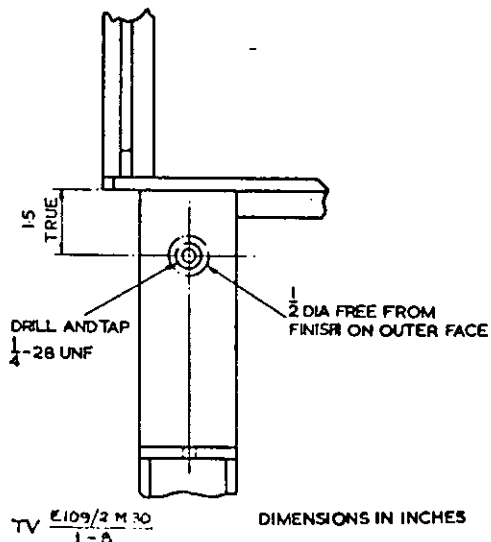


Fig 8 - Frame support console (l.h.lower) Fig 9 - Frame support console (r.h.lower) and power supply (l.h.lower)

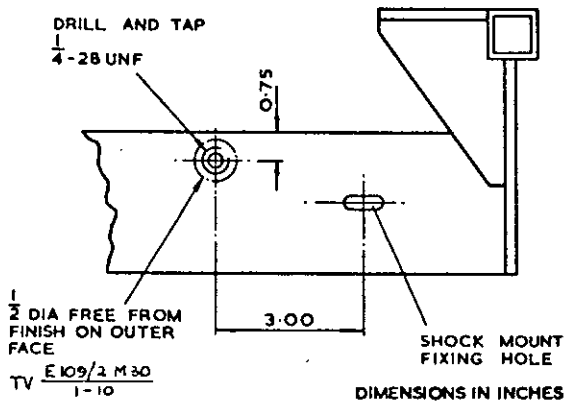


Fig 10 - Frame support power supply (r.h. lower)

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CARRIER, PERSONNEL, FULL TRACKED, FV 432 MK 1 AND 1/1

Code: 0040.0110, 0040.0113

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Radio Distribution Box No 1 Mk 1 (FV 494582)

1. Introduction

The existing RLB relay fitted to the radio distribution box is now obsolete and an alternative relay will be supplied on demand, necessitating modification to the supporting bracket before it can be fitted. This modification need only be carried out when failure of the existing relay occurs.

2. Item affected: 6MT4/2590-99-881-3606 Bracket, assembly, radio  
(FV 530576) distribution box

3. Action required by:-

a. Units authorized to carry out field or base repairs

On receipt of Relay armature Z37/5945-99-193-8674 or Z37/5945-99-193-8670 in place of Relay magnetic Z/5945-99-011-9244, during repair or overhaul, carry out this instruction.

b. All recipients of this EMER

Add particulars to Tkd Vehs E 109/2 Misc Instr Index.

4. Stores, tools and equipment:-

a. Stores to be obtained locally

<u>VAOS Section</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty per assy</u>
Z2	5305-99-941-9197	Screw, ch hd, 6 BA, 3/8 in. lg	2
Z2	5310-99-943-8626	Nut, 6 BA	2
Z2	5310-99-120-6055	Washer, ext, shakeproof, 6 BA	2
G2	9515-99-960-9325	Steel, strip, 14 s.w.g. (1 in. x 1.3/4 in. reqd approx)	
		Wire, BTC, 22 s.w.g. (1 in. reqd approx)	
G2	3439-99-910-5043	Solder, 60/40, lead alloy, type 1	

b. Stores to be removed and reduced to produce

<u>VAOS Section</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty per assy</u>
		Cable length (2.1/2 in. lg) between terminals, Relay RB 23 and Relay RB b complete with insulation sleeves H20	1

c. Stores to be modified

FV 530597	Bracket	1
(Pt No becomes FV 634717 after modification)		

5. Detail

- To enable the alternative relay to be fitted (FV 394896/394906) modify the existing bracket (FV 530597) to the details shown in Fig 1.
- On re-assembly of bracket assembly (FV 530576) replace the cable length between terminals RB 23 and RB b with a wire link as shown in Fig 2.
- Cross off Mod No 2 from modification record plate on completion of modification.

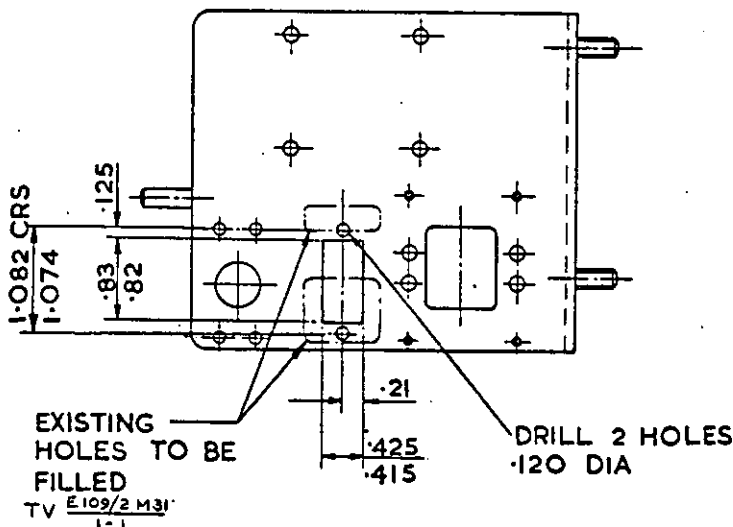


Fig 1 - Bracket modification detail

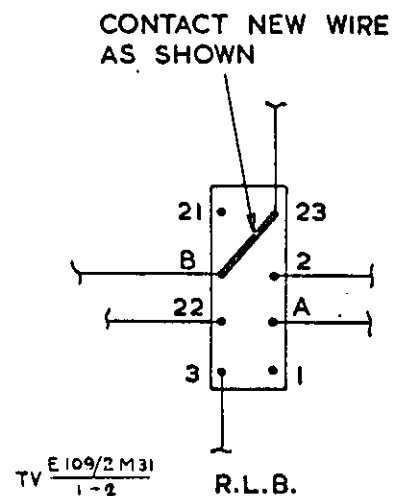


Fig 2 - Wiring detail

MVEE Approval 29789  
VIB 725/29789

END

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CARRIER, PERSONNEL, FULL TRACKED, MK 2 AND 2/1 (FV 432)

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: FACE furniture

1. Introduction

During early production of FACE furniture the part number on bracket, voltage regulator was incorrectly stencilled.

2. Item affected: Bracket, voltage regulator V5 1290-99-962-0508

3. Action required by:-

Units holding a FACE role vehicle, carry out this instruction.

4. Detail:-

a. See Tkd Veh E 105/2 Inst Instr No 3 para 15 and Figure 8 to identify position of bracket, voltage regulator.

b. Examine part number on bracket and correct if necessary to that shown in para 2.

12129 (Vehs Branch)  
 E35

END

~~RESTRICTED~~

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CARRIER, PERSONNEL, FULL TRACKED, FV 432, MK 1 AND 1/1

Code: 0040.0110; 0040.0113

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Power Tool Unit, No 1, Mk 1 (FV 546129)

1. Introduction

The original diodes fitted to the power tool unit are out of production and are replaced by alternative diodes. These replacement diodes are longer necessitating fitting of packing pieces behind the plugs and sockets to avoid electrical/mechanical damage.

On completion of this instruction cross off No 2 from the modification record plate.

2. Items affected:

Plugs/Sockets (FV 585038, FV 585029, FV 585024) fitted to the Power Tool Unit, No 1, Mk 1.

3. Action required by:-

a. Units authorized to carry out base repairs

On receipt of Z 42/5960-99-037-3836/3837, Device, semi-conductor diodes, in place of LV6 MT4/5960-99-804 1852/1853, during repair or overhaul, carry out this instruction.

Note: Any serviceable diodes removed are to be retained and used as spares for repairing/overhauling other power units.

b. All recipients of this EMER

Add particulars to Tkd Veh E 109/2 Misc Instr Index.

4. Stores to be obtained locally:-

The following additional items are required to fit the alternative diodes.

~~RESTRICTED~~

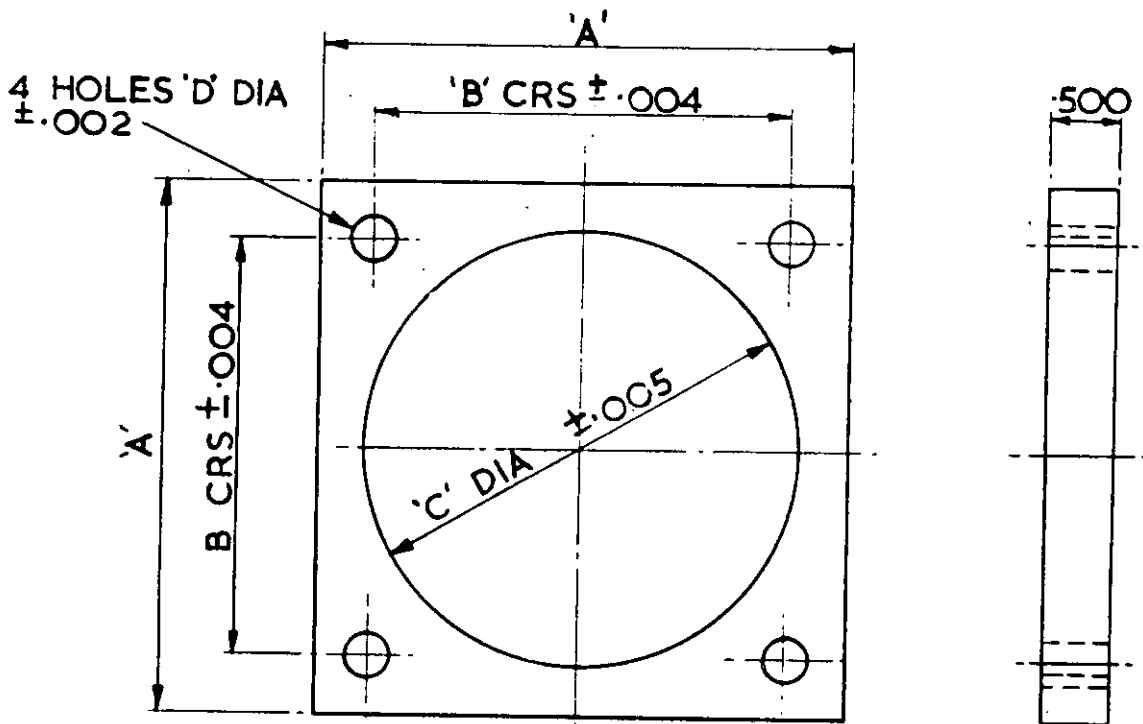
<u>VAOS</u> <u>Section</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty</u> <u>per eqpt</u>
LV6 MT4	5935-99-800-9971 (FV 585128)	Gasket	2
LV6 MT4	5935-99-800-9952 (FV 585127)	Gasket	1
LV6 MT4	5935-99-881-9660 (FV 585125)	Gasket	1
Z2	5305-99-941-2328	Screw,machine,UNC, 2A, MS fillister hd,cadmium plated No 8 x 1 in.	8
Z2	5305-99-941-2317	Screw, machine, UNC, 2A, MS fillister hd,cadmium plated,No 6 x 1 in.	4
Z2	5305-99-941-2306	Screw,machine,UNC, 2A,MS fillister hd,cadmium plated,No 4 x 1 in.	4
G2	9510-99-960-5796	Steel,carbon,hot rolled,flat 1.3/4 in. x 1/2 in.	1 lb.) Demand
G2	9510-99-960-5804	Steel,carbon,hot rolled,flat 2 in. x 1/2 in.	1 lb.) as
G2	9510-99-960-5812	Steel,carbon,hot rolled,flat 2.1/4 in. x 1/2 in. or alternatively any suitable 1/2 in.thick mild steel plate.	1 lb.) reqd - for manufa- cture of distance pieces- Fig 1. ) refers.

5. Detail:-

a. See Fig 1. Manufacture two distance pieces as per Dwg FV 635914 and one off each as per Dwgs FV 635915 and FV 635916. Plate all surface areas with cadmium/zinc.

b. On re-assembly of power tool unit, fit the packing pieces behind the plugs/sockets with an additional gasket and secure with the machine screws listed at para 4.

c. Paint exposed surface areas.



A	B	C	D	FVRDE DRG No.
1.625	1.250	1.270	0.120	FV635916
2.000	1.562	1.645	0.149	FV635915
2.250	1.750	1.895	0.175	FV635914

Fig 1 - Distance pieces



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CARRIER, PERSONNEL, FULL TRACKED, MK 1, 1/2, 2 AND 2/1 (FV 432)

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: Ventilation equipment, pressure/suction gauge filter

INTRODUCTION

1. The original filter fitted to gauge, atmosphere line is now out of production and is replaced by a later type filter. This later type filter is wider and necessitates manufacturing a new bracket.

APPLICABILITY

2. Item affected

Bracket, double angle, steel, LV9/ACR 2540-99-804-2206 (FV 602997)

IMPLEMENTATION

3. Action required by:-

a. Units authorized to carry out unit, field or base repairs

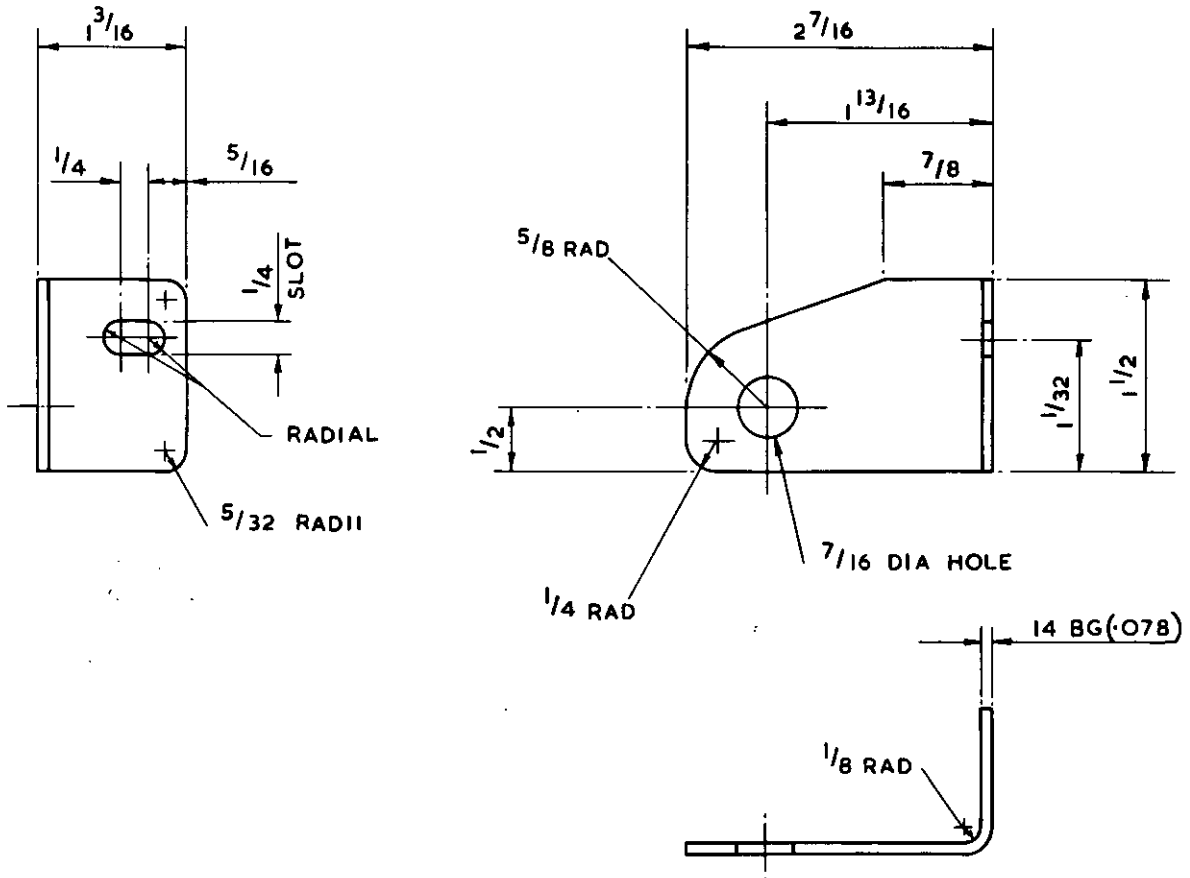
On receipt of filter, LV6MT1 4330-99-822-7088, in place of LV6MT1 4330-99-804-3651 during repair or overhaul, carry out this instruction.

b. All recipients of this EMER

Add particulars to Tkd Veh E 109/2 Misc Instr Index.

4. Detail

- a. Manufacture bracket from m.s. plate (BS 1449 EN 3A) detailed in Fig 1.
- b. Discard bracket, double angle, and fit filter using locally manufactured bracket.



V 2096/1

**DIMENSIONS IN INCHES**

Fig 1 - Bracket

M 60225(155)  
VB/ALM/FV02/9  
Vehs Branch

END

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CARRIER, PERSONNEL, FULL TRACKED, MK 1 AND MK 1/1 (FV 432)

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: Fire extinguisher CO<sub>2</sub> - Fixed type

INTRODUCTION

1. On the l.h. fixed extinguisher cylinder, there is a probability that the guard cannot be raised sufficiently to allow manual operation of piercing lever. This is due to a foul of the guard on the padding immediately above. This instruction details the action to be taken when a foul exists.

APPLICABILITY

2. Fixed fire extinguisher system fitted to subject vehicles (Code Nos 0040:0110 and 0040:0113).

IMPLEMENTATION

3. Action required by:-

Units holding equipment:-

Examine fixed fire extinguisher cylinders to ascertain if the manual trigger guard fouls insulation. Should a foul exist, carry out this instruction.

Detail

4. a. Mark the position of foul on insulation padding.
- b. Remove an area of padding to clear trigger guard.

c. If removal of padding does not remove foul, a further small adjustment can be made by elongating the securing holes of lower bottle support bracket and allowing bracket to rest on pannier plate.

Note: If a variation in cylinder length exists, the shortest cylinder should be fitted in the l.h. position.

M 60225(232)  
ALM/FV 02/9  
Vehs Branch

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CARRIER, PERSONNEL, FULL TRACKED, MK 1, 1/1, 2 AND 2/1 (FV 432)

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: Trailer harness

INTRODUCTION

1. Trailer harness is not protected by a watertight covering and during wading or pressure hose-down, water can pass down harness and enter internal control box.

APPLICABILITY

2. Harness trailer socket LV6 MT4 2590-99-881-5667.

IMPLEMENTATION

3. Action required by:-

- a. Units authorized to carry out unit, field or base repairs

At first opportunity carry out this instruction.

- b. All recipients of this EMER:-

Add particulars to Tkd Veh E 109/2 Misc Instr Index.

4. Stores to be provided locally

Sealing compound (waterproofing) LV6 MT4 WPG 2540-99-816-2664.

5. Detail

Before fitting replacement harness, form a waterproof sleeve around cables and rear of socket, as shown in Fig 1, using item detailed in para 4.



Fig 1 - Protection of harness and socket

VB 283/1

M 60225(264)  
ALM/FV 02/9  
Vehs Branch

END

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CARRIER, PERSONNEL, FULL TRACKED, MK1, 1/1, 2 AND 2/1 (FV 432)

GPMG TURRETED ROLE

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: Commander's hatch equilibrator mounting.

INTRODUCTION

1. The equilibrator securing screws are to be lengthened and locking nuts fitted to overcome loosening of screws in service.

APPLICABILITY

2. Item affected: LV9/ACR/2510-99-815-8996 Hatch assembly

IMPLEMENTATION

3. Action required by:

a. Units authorized to carry out unit, field or base repairs

Carry out this instruction as soon as possible.

b. All recipients of this EMER

Add particulars to Tkd Vehs E 109/2 Misc Instr Index.

Stores to be provided locally:

- |       |                     |  |       |
|-------|---------------------|--|-------|
| 4. a. | G1/5305-99-941-9193 | Screw, socket hd, 2 in. x 5/16 UNF       | 2 off |
| b.    | G1/5310-99-101-6108 | Nut self locking, nylon insert, 5/16 UNF | 4 off |

Sequence of operations:

5. a. Remove the upper two screws,  $1\frac{3}{4}$  in. long, securing equilibrator bracket to hatch and fit 2 in. long screws, para 4a.
- b. Remove the lower two screws,  $1\frac{1}{2}$  in. long, securing equilibrator bracket to hatch and fit  $1\frac{3}{4}$  in. long screws removed at para 5a.
- c. Fit the self locking nuts, para 4b, to the thread protruding through hatch and tighten.

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CARRIER, PERSONNEL, FULL TRACKED, MK 1, 1/1, 2 AND 2/1, FV432  
FITTED WITH GPMG TURRET

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

Errata

Note: This Page 0 is to be filed immediately in front of Page 1, Issue 1 dated Feb 77

Amend as follows:

Page 1, para 4

Delete: G1/5315-99-112-2829

Insert: G1/5315-99-948-9621



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CARRIER PERSONNEL FULL TRACKED, MK 1, 1/1, 2 AND 2/1, FV 432

FITTED WITH GPMG TURRET

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: Mounting, machine gun

INTRODUCTION

1. To prevent overtightening of remote firing handle pivot bolt, the bolt is pinned to machine gun mounting sideplate on assembly.

APPLICABILITY

2. Mounting machine gun, LV4/1005-99-820-5269, fitted in GPMG turret installed on subject vehicles (Code Nos 0040.0110; 0040.0111; 0040.0112; 0040.0113).

IMPLEMENTATION

3. Action required by:

a. Units authorized to carry out unit, field or base repairs

At first opportunity carry out this instruction.

b. All recipients of this EMER

Add particulars to Tkd Vehs E 109/2 Misc Instr Index.

Stores to be provided locally

4. Pin spring, G1/5315-99-112-2829, 3/32 in. dia x 5/8 in. long .... 1 off

Detail

5. a. Check action of remote firing handle to ensure it has a minimum of side movement and is free to swing on centre pivot bolt.

b. Drill a 3/32 in. dia hole through pivot bolt boss, as detailed in Fig 1 and fit spring pin detailed in para 4.

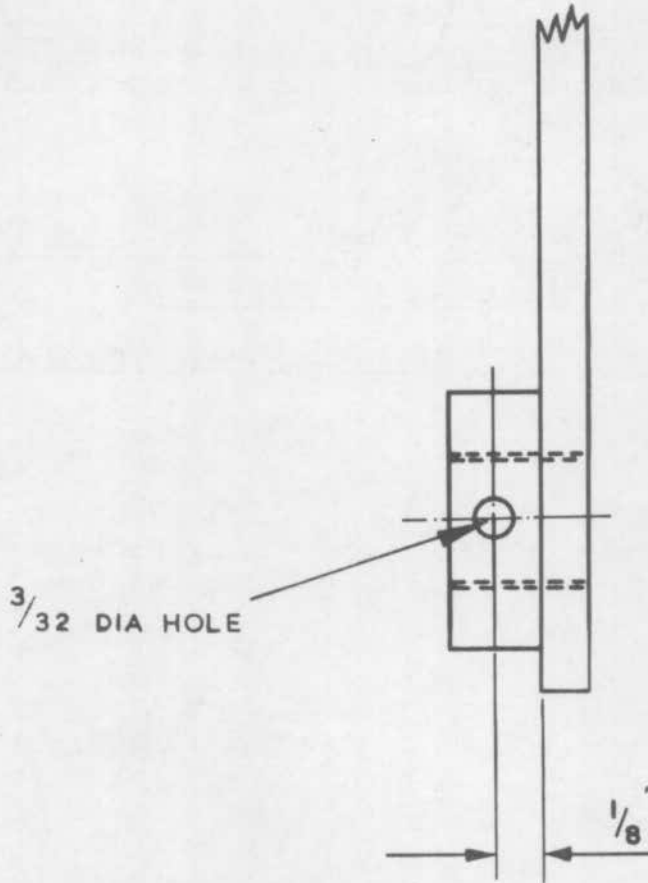


Fig 1. Position of hole in pivot bolt boss  
(Dimensions in inches)

V3218/1

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CARRIER PERSONNEL, FULL TRACKED, MK 1, 1/1, 2 AND 2/1, FV 432

FITTED WITH GPMG TURRET

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: Cut-out added to hatch

INTRODUCTION

1. To clear gun butt during max depression, a cut-out is to be added to the hatch.

APPLICABILITY

2. Hatch, FV 730297, fitted to GPMG turret, Serial Nos 038 to 109 incl., installed on subject vehicles (Code Nos 0040.0110; 0040.0111; 0040.0112; 0040.0113).

IMPLEMENTATION

3. Action required by:

a. Units holding equipment

(1) Examine turret to ascertain if this instruction applies, if so, request supporting workshop assistance.

(2) Enter details of this instruction in vehicle documents.

b. Units authorized to carry out field or base repairs

(1) When requested by units or during overhaul carry out this instruction.

(2) Record completion of instruction in vehicle documents.

c. All recipients of this EMER

Add particulars to Tkd Vehs E 109/2 Misc Instr Index.

Detail

4. Remove hatch and machine as detailed in Fig 1.

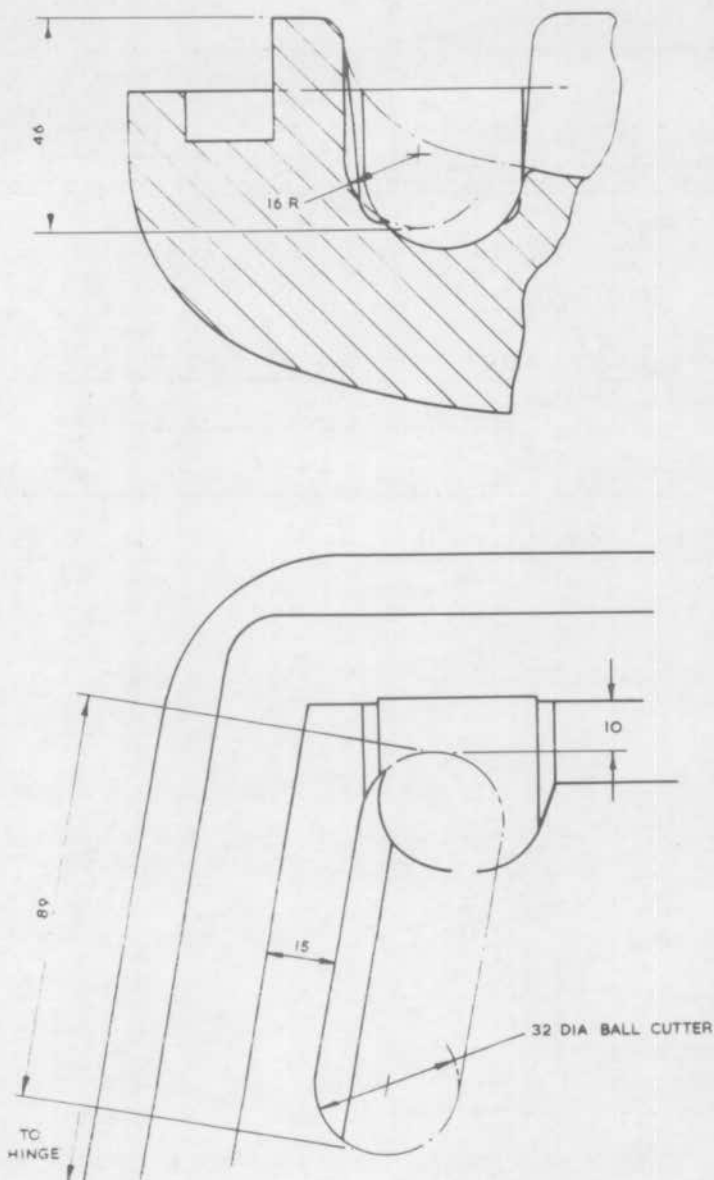


Fig 1. Modification to hatch  
(Dimensions in mm)

V3382/1

70212 (42)  
Vehs Br ALM/FV02/9/30919

END

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CARRIER, PERSONNEL, FULL TRACKED, FV 432 MK 1 and MK 1/1

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: Heat exchanger right hand mounting clamp

INTRODUCTION

1. To aid removal and replacement of heat exchanger the one half of the r.h. mounting clamp is to be decreased in width.

APPLICABILITY

2. R.h mounting clamp, LV9 ACR/FV524894, fitted to subject vehicles (Code Nos 0040.0110 and 0040.0113).

IMPLEMENTATION

3. Action required by:

- a. Units authorized to carry out unit, field or base repairs  
When heat exchanger is removed carry out this instruction.
- b. All recipients of this EMER  
Add particulars to Tkd Veh E109/2 Misc Instr Index.

4. Detail

When clamp is removed decrease its width to  $1\frac{1}{2}$  in. on one half, this will allow it to be passed between the ports, without removing the inter-connecting valve block, during removal and replacement.

70212 (97)  
Vehs Br  
432/9/TSS/1544

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was there an approval number  
N.

CARRIER, PERSONNEL, FULL TRACKED, MK 1, 1/1, 2 AND 2/1 (FV 432)

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

Note: This Issue 2 dated Apr 80 supersedes Issue 1 dated Feb 78. Paras 1 and 2 have been updated.

SUBJECT: Inspection of GPMG turret and adaptor plate

INTRODUCTION

1. Cracks have been reported in the edges of the adaptor plate strengthening webs. These cracks do not affect the adaptor plate web's strength but to ensure that the remainder of the turret and adaptor plate provides the required strength and protection all visible areas are to be inspected at each four monthly REME inspection.

Note: Under no circumstances is the protective padding introduced by Tkd Veh E 107/2 Mod Instr No 120 to be removed during this four monthly inspection.

2. Inspections are to be recorded and any defects reported on as detailed in this instruction.

APPLICABILITY

3. All vehicles fitted with 7.62mm GPMG turret - CES 31033.

IMPLEMENTATION

4. Action required by:

a. Units authorized to carry out unit repairs

At next four monthly inspection carry out this instruction.

b. All recipients of this EMER

Add particulars to Tkd Veh E 109/2 Misc Instr Index.

INSPECTION DETAIL

5. Inspect all visible internal and external areas of turret and adaptor plate, particularly plate edges.

Reporting and recording

6. a. Reports of defects are to be forwarded to Vehicles Branch REME on an AF G3660 (Defect Report). NIL returns are not required.
- b. The report MUST identify the turret number. Vehicle registration number does not identify turret.
- c. Details of cracks are to be entered in Box 17 of the report detailing position and length, also whether they are in the parent plate or the welds.
- d. A record of the inspection is to be entered in the AB413 of the parent vehicle with turret number.

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CARRIER, PERSONNEL, FULL TRACKED, FV432 MK 1, 2 AND 2/1  
FITTED WITH WINCH AND EARTH ANCHOR KIT  
TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: Pulley block, 10 ton

INTRODUCTION

1. Lubrication of pulley block, 10 ton is changed from oil to grease.

IMPLEMENTATION

2. This instruction is to be carried out by units holding winch and earth anchor kits.

DETAIL

3. Refer to EMER Eng of Misc U 547 Mod Instr No 1.

END

70412 (162)  
Veh Br ALM/FV02/36235



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CARRIER, PERSONNEL, FULL TRACKED, FV 432, ALL MARKS

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: Head rest padding

INFORMATION

During storage, the foam padding of the head rests has been found to peel away from the metal brackets. When this happens it should be re-glued using Adhesive EC 1099 H1/8040-99-220-2852.

END

70412 (213)  
Veh Br ALM 43025  
Data Centre Code FVF 7A

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CARRIER PERSONNEL, FULL TRACKED, ALL MARKS (FV432)  
FITTED WITH 30 mm GUN TURRET

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: Wiring harness, sight unit control box to image intensifier tube

INTRODUCTION

1. The harness between the sight unit control box and image intensifier tube has been re-routed to prevent damage to the harness.

APPLICABILITY

2. Item affected

6MT4/2590-99-820-5088 Wiring harness (FV 582439/1)

IMPLEMENTATION

3. Action required by:

- a. Units authorized to carry out unit, field or base repairs

When requested by units or during repair/overhaul carry out this instruction.

- b. All recipients of this EMER

Add particulars to Tkd Veh E 109/2 Misc Instr Index.

4. Detail

Disconnect harness at control box (PL & SK3) and free from existing run. Re-route harness around l.h. side and front of night sight mounting, over turret sill plate to pass in front of lower mantlet stop. Secure to large cables on turret sill using existing tape clip. Re-connect to sight unit control box.

END

70412 (239)  
Veh Br Appr 39199  
Data Centre Code: FVF 7A

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CARRIER, PERSONNEL, FULL TRACKED, MKs 1, 1/1, 2 AND 2/1 (FV432)

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: Replacement dipstick for B81 engines - Mks 1 and 1/1 vehicles

INTRODUCTION

1. To ensure the correct oil level is obtained in vehicles fitted with B81 Mk 8F engines a new dipstick has been provided.

ITEM AFFECTED

2. Engine oil tank dipstick.

STORES TO BE OBTAINED

3. 9ACR 6680-99-833-7200 Dipstick straight Qty 1.

DETAIL

4. Examine dipstick, if found to be cranked replace with new straight dipstick.

70412 (260)  
Veh Br ALM/FVO/9/31016  
Data Centre Code FVF7A

END

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CARRIER, PERSONNEL, FULL TRACKED, MK 1, 1/1, 2 AND 2/1 (FV432)

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTIONS

Note: This Issue 2 Pages 1 and 2, supersedes Issue 1 Pages 1 and 2, dated Feb 80. Additional information incorporated.

SUBJECT: Mounting machine gun GPMG turret

INTRODUCTION

1. A washer is introduced to the remote trigger control obviate a foul between lever and machine gun frame.

APPLICABILITY

2. Mounting machine gun LV4/1005-99-820-5269, fitted in GPMG turret installed on subject vehicles (Code Nos 0040.0110, 0040.0111, 0040.0112, 0040.0113).

IMPLEMENTATION

Action required by:

3. a. Units authorized to carry out unit, field or base repairs  
At first opportunity carry out this instruction.
- b. All recipients of this EMER  
Add particulars to Tkd Veh E 109/2 Misc Instr Index.

Stores tools and equipment

A. Stores to be obtained locally

<u>Item No</u>	<u>COSA Section</u>	<u>NSN/Part No</u>	<u>Designation</u>	<u>Qty</u>
1	G1	5310-99-120-5770	Washer flat, steel, 5/8 in. 0.48 in. thk	1

Detail (Refer to Fig 1)

5. a. Ensure bolts (item 2) are tightened to 19 lbf ft torque.
- b. Using feeler gauges determine the clearance between lever (item 3) and machine gun mounting side plate.

- c. Reduce thickness of washer G1/5310-99-120-5770 to maintain 0.010 in. clearance when fitted.
- d. Fit modified washer to mechanism as shown at item 1.
- e. Ensure arm trigger lever (item 4) moves freely in the trigger plunger (item 5).

Note: If arm trigger lever does not move freely in the trigger plunger it will be necessary to fit and drill a new pin (item 6).

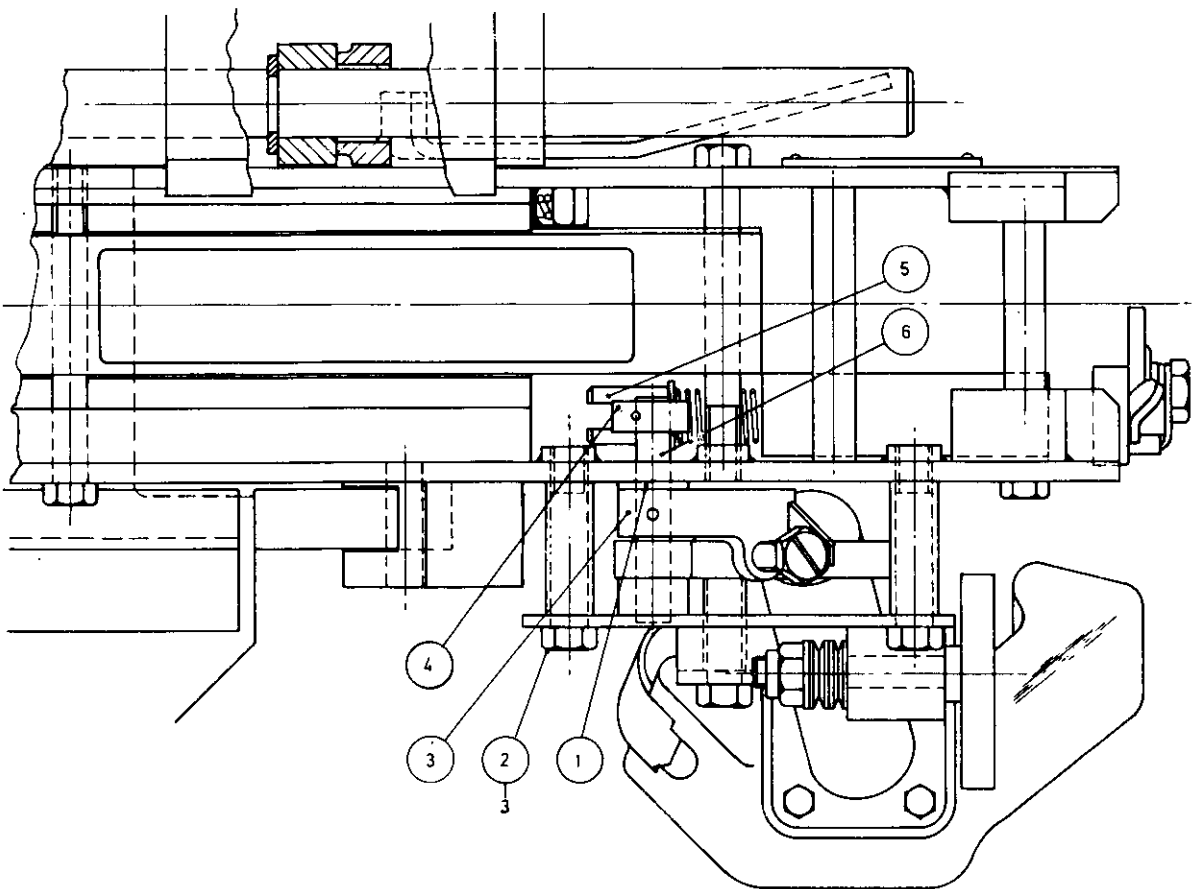


Fig 1 - Remote trigger location details

V5021/1

70611 (31)  
Veh Br ALM/FV02/9/30977  
Data Centre Code FVF74

END

. MED. TKO. D & M

5405

ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS  
(By Command of the Defence Council)

~~RESTRICTED~~

TRACKED VEHICLES  
E 109/2 Misc Instr No 47

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CARRIER, PERSONNEL, FULL TRACKED, MKS 1, 1/1, 2 AND 2/1 (FV432)

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

Cancellation

1. The information given in Issue 1 of this regulation is now cancelled.
2. All copies of Issue 1, Page 1, are hereby cancelled and are to be destroyed.
3. This instruction is to be retained until the publication of an amended A 001, when it is to be destroyed.

END

70511 (93)  
Veh Br ALM FVO2/9/31062

~~RESTRICTED~~

31038

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B ✓  
APP ✓  
Wash

CARRIER, PERSONNEL, FULL TRACKED, MKs 1, 1/1, 2 AND 2/1 (FV 432)

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: Addition of hardened steel washer to turret gearbox clutch

INTRODUCTION

1. When the gearbox clutch slips the disc spring cuts a groove into the mild steel tab washer, allowing spring load to reduce, and the clutch to slip at a lower torque. To overcome this problem a hardened steel washer is introduced.

APPLICABILITY

2. Gearbox clutch FV 713656 fitted to 7.62mm GPMG turret installed on subject vehicles (Code Nos 0040.2110, 0040.2111, 0040.2112, 0040.2113).

IMPLEMENTATION

3. Action required by:

a. Units authorized to carry out unit, field and base repairs

Carry out this instruction.

b. All recipients of this EMER

Add particulars to Tkd Veh E 109/2 Misc Instr Index.

4. STORES TO BE OBTAINED

6MT7/3120-99-532-3957 Hardened steel washer

5. DETAIL

On receipt of washer fit between tab washer and spring disc.

CONDITIONS OF RELEASE

- |  |  |
|--|--|
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CARRIER, PERSONNEL, FULL TRACKED, MK. 1, 1/1, 2 AND 2/1 (FV432)

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: Drain holes added to mortar mount base plate

INTRODUCTION

1. To allow drainage of water from the mortar mount, four holes are to be drilled in the base plate and mattress. The mattress is also to be slotted as detailed in this instruction.

APPLICABILITY

2. Vehicles fitted with 81 mm mortar mount.

Items affected:

FV 561346	Base and platform
FV 625114	Shock absorber mattress

IMPLEMENTATION

3. Action required by:

a. Units authorized to carry out unit, field or base repairs

When requested by units or during repair/overhaul, carry out this instruction.

b. All recipients of this EMER

Add particulars to Tkd Veh E 109/2 Misc Instr Index.

DETAIL

4. a. Drill four holes 1/2 in. dia in the mortar mount base plate platform at dimensions shown in Fig 1.

b. Drill four holes 3/4 in. dia through the shock absorber mattress to correspond with the holes in the base plate.

c. Cut slots in the mattress from the holes to the outer edges as shown in Fig 2.

Note: The mattress is only to be slotted to the depth of the plywood base.



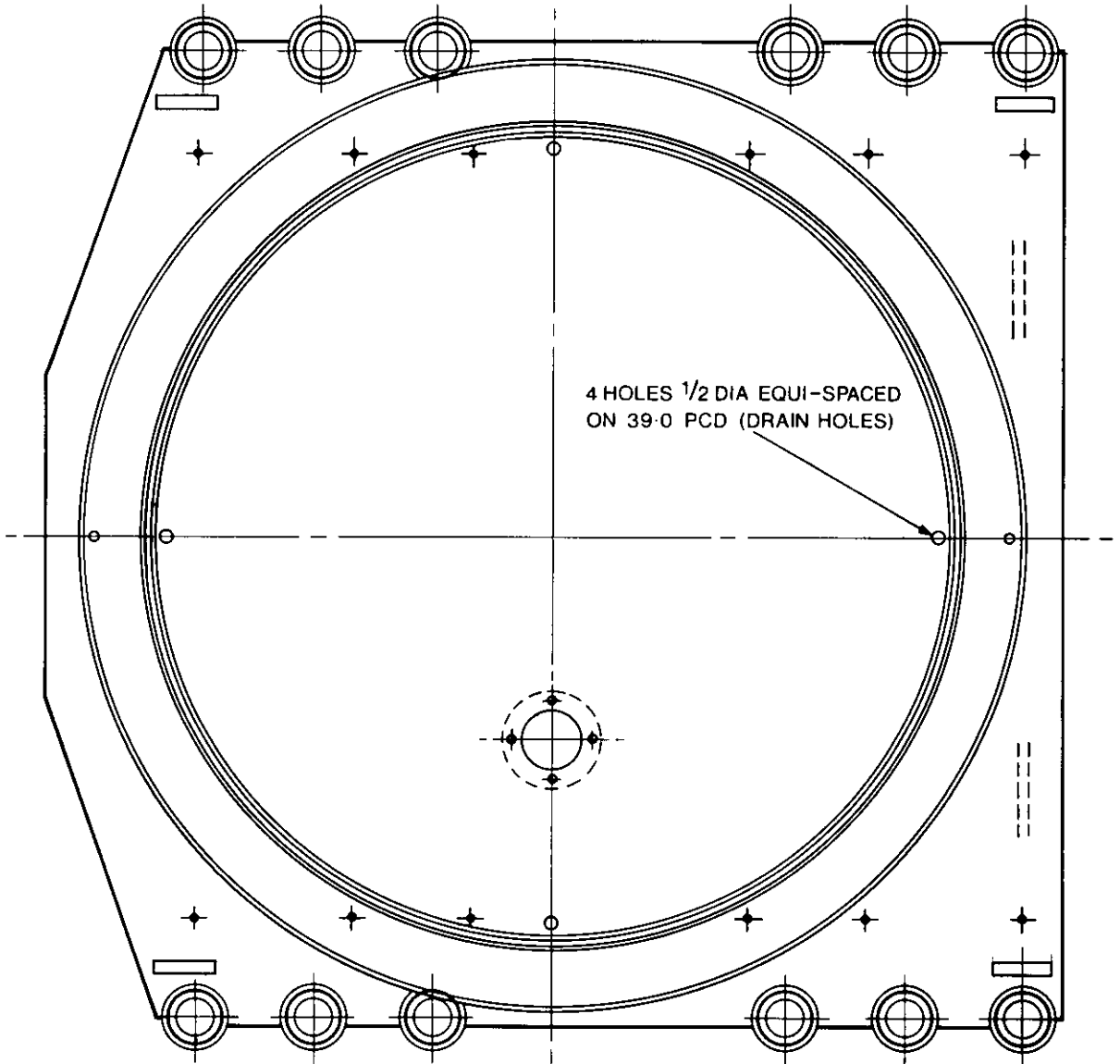


Fig 1 - Base and platform drain hole detail  
(Dimensions in inches)

V5157/2

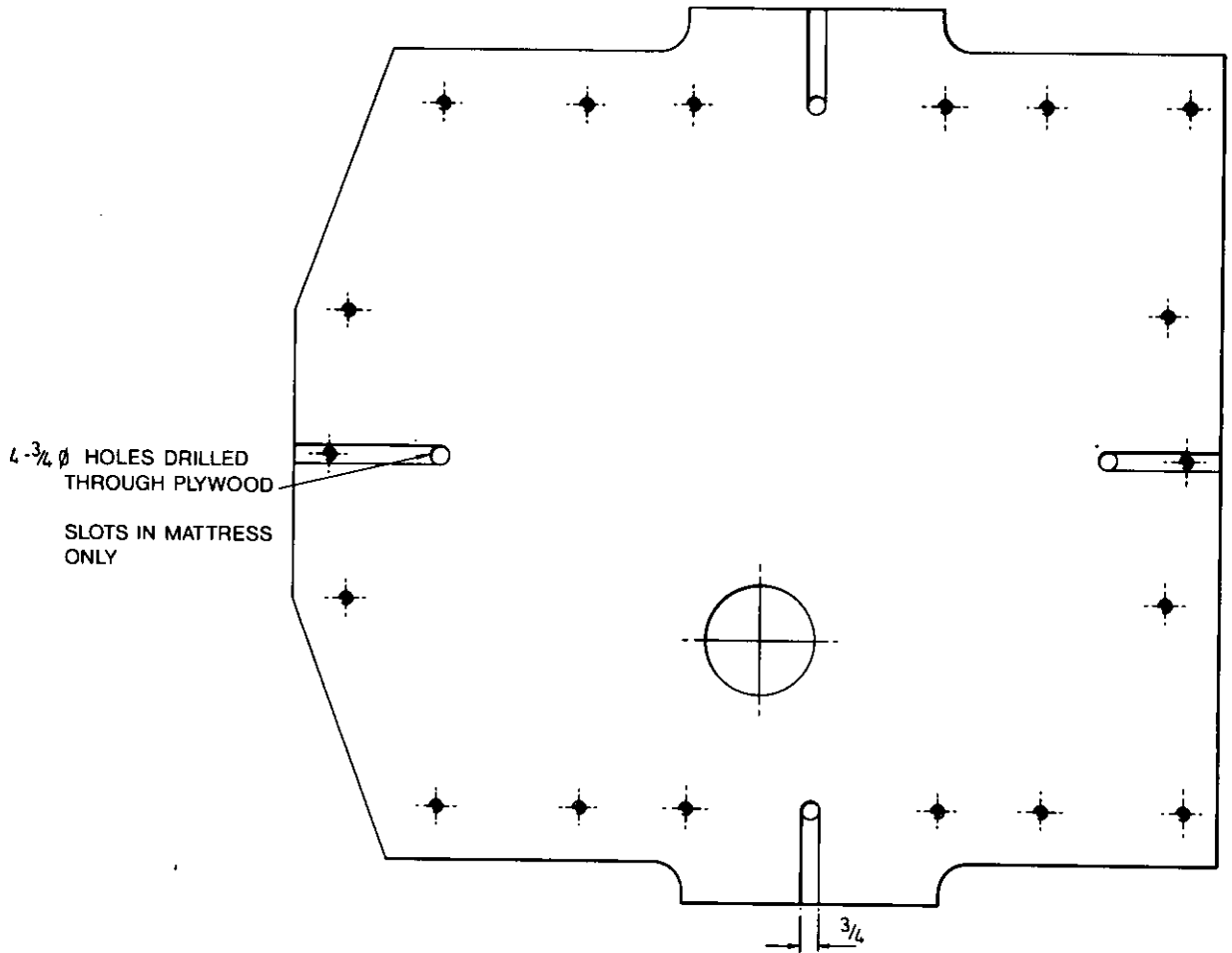


Fig 2 - Shock absorber mattress - hole and slots detail  
(Dimensions in inches)

V5157/1

70512 (140)  
Veh Br ALM/FVO/9/31076  
Data Centre Code FVF 7A

END

→ CVR (T) D & M

MIAL 7460

ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS  
(By Command of the Defence Council)

~~RESTRICTED~~

TRACKED VEHICLES  
E 109/2 Misc Instr No 50

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APPL ✓  
C

CARRIER, PERSONNEL, FULL TRACKED,

MK 1, 1/1, 2 AND 2/1 (FV432) -

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: Deletion of K1-gas equipment

INTRODUCTION

1. Deletion of requirement of cold start facility by the user allows removal of associated pipes and fittings from vehicles as and when access is available.

APPLICABILITY

2. Cold start equipment fitted to subject vehicles FV432 Mk 1, 1/1 Code Nos 0040-2110, 0040-2113.

IMPLEMENTATION

3. Action required by:

a. Units authorized to carry out unit, field and base repairs

When requested by units or during repair/overhaul when accessible, carry out this instruction.

b. All recipients of this EMER

Add particulars to Tkd Veh E 109/2 Misc Instr Index.

Detail

4. Disconnect and remove all cold start equipment from vehicle hull only.

END

70512 (331)  
Veh Br AIM/31064

ELECTRICAL AND MECHANICAL  
ENGINEERING REGULATIONS  
(By Command of the Defence Council)

TRACKED VEHICLES  
E 109/2 Misc Instr No 51

~~RESTRICTED~~  
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CARRIER, PERSONNEL, FULL TRACKED, MK 1, 1/1, 2 AND 2/1 (FV 432)

TECHNICAL HANDBOOK - MODIFICATION INSTRUCTION

SUBJECT: Fuel filter

(MVEE Approval No 31083)

INTRODUCTION

1. a. When existing stocks of filter, fluid, pressure LV6MT12 2910-99-802-4062 (FV 538155) are exhausted, they will be replaced by filter, fluid, pressure LV6MT12 2910-99-807-5753 (FV 182431).
- b. This instruction details the stores required to fit the new filter assembly.

APPLICABILITY

2. Filter, fluid, pressure (FV 538155) fitted to subject vehicles (Code No 0040-0110, 0040-0113, 0040-2110, 0040-2113) held by user units.

IMPLEMENTATION

3. a. Units and establishments holding equipment  
Record the Subject and EMER number in equipment documents.
- b. Units authorized to carry out unit, field or base repairs
  - (1) When a new pattern fuel filter assembly is received, carry out this instruction.
  - (2) Record completion details of instruction against appropriate entry in equipment documents.
- c. All recipients of this EMER  
Add particulars to Tkd Veh E 109 Misc Instr Index.

Stores, tools and equipment

4. Stores to be demanded

The following items are to be demanded quoting this instruction as authority for demand:

<u>Item No</u>	<u>COSA Section</u>	<u>NSN/Part No</u>	<u>Designation</u>	<u>Qty per eqpt</u>
1	9ACR	4730-99-838-0889	Adaptor, union, pipe (FV 951702)	2

Sequence of operations

5. Carry out the modification as follows:

Remove both thread protection plugs from filter head and assemble pipe union adaptors (FV 951702) using new copper washers.

END

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CARRIER, PERSONNEL, FULL TRACKED, MK, 1/1, 2 and 2/1 (FV 432)

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: Air Conditioning and Ventilation System, Water Trap  
(MAE 43/0/0001/1)

INTRODUCTION

- 1
- 1.1 When existing stocks of Filter, Fluid Vacuum LV6MT1 4330-99-804-3651 are exhausted, they will be replaced by Filter, Fluid Vacuum LV6MT1 4330-99-738-8571.
- 1.2 This instruction details the stores required to fit the new filter assembly.

APPLICABILITY

2 Water Trap (FV603161) fitted to subject vehicles (Code No 0040-0010, 0040-0113, 0040-2110, 0040-2113) held by user units.

IMPLEMENTATION

- 3
- 3.1 Units and establishments holding equipment Record the Subject and EMER number in equipment documents.
- 3.2 Units authorized to carry out unit, field or base repairs
- 3.2.1 When a new pattern Filter, Fluid Vacuum is received, carry out this instruction.
- 3.2.2 Record completion details of instruction against appropriate entry in equipment documents
- 3.3 All recipients of this EMER Add particulars to Tkd Veh E 109/2 Misc Instr Index.

Stores, tools and equipment

4 Stores to be demanded The following items are to be demanded quoting this instruction as authority for demand:

<u>Item No</u>	<u>COSA Section</u>	<u>NSN/Part No</u>	<u>Designation</u>	<u>Qty per eqpt</u>
1	LV6MT1	4730-99-551-0577	Adaptor, double-ended (FV 952508)	2
2	LV6MT1	5330-99-881-3207	Washer Sealing (ENOTS 48-0213-02)	2

Sequence of operations

Note ...

The item numbers quoted in brackets refer to those listed in Para 4 of this instruction.

5 Carry out the modification as follows:

Remove both thread protection plugs from filter head and assemble adaptor double-ended (item 1) using new sealing washers (item 2).

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**CARRIER, PERSONNEL, FULL TRACKED, FV 432 MK 2 AND MK 2/1**

**TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION**

**SUBJECT: Tractor, 105 mm light gun**

(Project No. 96/ES42c(1)/154)

**INTRODUCTION**

1 To allow the 105 mm light gun to be towed by a FV 432 a tow bar is manufactured and the rear door modified to provide an escape hatch.

1.1 Limitations on use of equipment: Authorized to tow 105 mm light gun only.

**APPLICABILITY**

2 Carrier, Personnel, Full Tracked FV 432 vehicles authorized for conversion by UOR.

**REASON FOR MODIFICATION**

3 Code 2 - to improve operational performance.

**PRIORITY**

4 Routine.

**ESTIMATED TIME REQUIRED**

5

5.1 Embodiment: 20 man-hours.

5.2 Manufacturing: 20 man-hours.

72212(124)  
ATSA Chertsey

9709WMP0205  
Sep 97, Issue 1 (23X)



**MODIFICATION IMPLEMENTATION PLAN**

6

- 6.1 This instruction is to be implemented by units authorized to carry out levels 3 and 4 maintenance.
- 6.2 Associated modification instructions: E 109/2 Misc Instr No. 54.
- 6.3 Modification strike plate action: N/A.

**Action required by:**

7

- 7.1 Units authorized to carry out levels 3 and 4 maintenance:
  - 7.1.1 When requested by users obtain the items listed in Para 8 and carry out this modification.
  - 7.1.2 On completion, record details of this instruction in equipment documents.
- 7.2 All recipients of this instruction. Add particulars to EMER Tkd Veh E 109/2 Misc Instr index.

**Stores, tools and equipment**

8

- 8.1 Stores to be demanded.
  - 8.1.1 The following items are to be demanded quoting this instruction as authority for demand.
  - 8.1.2 Registration of vehicle for equipment held by user units.

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
1		From ATSA Chertsey	Rear door escape hatch Drawing Set No. V13439	
2		From 18 Base Wksp	Tow bar assy Drawing Set No. 1806	

8.2 Stores or suitable equivalent to be obtained locally:

3	3JG	5360-99-815-7177	Spring	1
4	6MT13	2540-99-452-6157	Pintle	1

- 8.2.1 Demand stock metal as required to manufacture tow bar to drawings.

8.3 Items/stores to be modified.

- 8.3.1 As per drawings.

### Sequence of operations

#### NOTE

The item numbers of Para 8 are used as reference throughout this instruction.

9 Carry out the modification as follows:

#### Escape hatch

- 9.1 Locally manufacture all items other than item 3.
- 9.2 Cut and modify rear door as per Drawings V13439.
- 9.3 Assemble as shown.

#### Tow bar assembly

- 9.4 Manufacture all items other than item 4.
- 9.5 Weld assembly as shown.
- 9.6 Fit to vehicle.

#### EFFECT ON WEIGHT

10 220 kg (100 lb).

#### PUBLICATION AMENDMENTS

11 Necessary amendments will be issued separately.

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**CARRIER, PERSONNEL, FULL TRACKED, FV 432 MK 2 AND 2/1**

**TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION**

**SUBJECT: FV 432 Limber role (105 mm light gun)**

(Project No: 96/ES41c(1)/154)

**INTRODUCTION**

- 1 To allow the FV 432 to carry ammunition for the 105 mm light gun, lashing points are fitted.
  - 1.1 Limitations on use of equipment: As per letter from HQ QMG. Reference D/DGES(A)/420/4/1/3 ES41c(1) dated 22 Sep 95. Relevant contents reproduced in Annex A.

**APPLICABILITY**

- 2 Carrier, Personnel, Full Tracked, FV 432 vehicles as authorised by UOR.

**REASON FOR MODIFICATION**

- 3 Code 2 - to improve operational performance.

**PRIORITY**

- 4 Routine.

**ESTIMATED TIME REQUIRED**

- 5
  - 5.1 Assembling: 10 man-hours.
  - 5.2 Manufacturing: 3 man-hours.

72212(125)  
ATSA Chertsey

9709\WMP0204  
Sep 97, Issue 1 (23X)

**MODIFICATION IMPLEMENTATION PLAN**

6

6.1 This instruction is to be implemented by units authorized to carry out levels 3 and 4 maintenance.

6.2 Associated modification instructions: E 109/2 Misc Instr No. 53.

**Action required by:**

7

7.1 Army units authorized to carry out levels 3 and 4 maintenance:

7.1.1 When requested by users obtain the items listed in Para 8 and carry out this instruction.

7.1.2 On completion, record details of this instruction in equipment documents.

7.2 All recipients of this instruction. Add particulars to EMER Tkd Veh E 109/2 Misc Instr index.

**Stores, tools and equipment**

8

8.1 Stores to be demanded.

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

8.1.2 Registration of vehicle equipment held by user units.

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
1		From RSA Larkhill	Trial report No. 102196 Dtd Mar 94 (illustrates correct stowage and security of various ammunition loads).	
2		From ATSA Chertsey	Drawing set No. V12861.	

8.2 Stores or suitable equivalent to be obtained locally:

3	A4	1670-99-137-1052	Net cargo aerial delivery.	1
4	E3	3990-99-798-5398	Tiedown cargo vehicle.	5
5	G1	5340-99-970-3761	Pin quick release.	12

8.2.1 Demand stock metal as required to complete this instruction.

**Sequence of operations**

**WARNING**

**DANGER TO LIFE AND LIMB. WHEN THE SUBJECT VEHICLE IS USED TO CARRY AMMUNITION THE INSTRUCTIONS IN ANNEX A SHOULD BE STRICTLY ADHERED TO.**

9 Carry out the modification as follows:

- 9.1 Secure front lashing down bracket (V12861/1) to the rear engine panel at floor level.
- 9.2 Secure rear lashing down bracket (V12861/2) to the vehicle chassis through the floor plate by the rear door.
- 9.3 Remove crew seats (Qty 6) from hull wall bracket at the pivot pin and retain items.
- 9.4 Secure side rails (V12861/3) to the hull wall brackets using pin quick release (item 5).
- 9.5 Manufacture safety net securing hooks as shown in photographs in RSA trial report.

**NOTE**

The stowage and method of security of the ammunition can be found in the RSA trial report (item 1). Use the tiedown straps (item 4) to secure the ammunition boxes and attach the cargo net (item 3) to cover the load as a safety net in the event of the vehicle turning over.

**TESTING AFTER EMBODIMENT**

10 Nil.

**EFFECT ON WEIGHT**

11 Negligible.

**PUBLICATION AMENDMENTS**

**NOTE**

Necessary amendments will be issued separately.

12 Nil.

ANNEX A

**FV 432 LIMBER ROLE - OP HAMDEN**

1 To serve as an aide memoire, Ordnance Board clearance was given for each FV 432 to carry the following ammunition load:

- 1.1 30 x Shell 105 mm Fd HE L31A3.
- 1.2 6 x Shell 105 mm Fd Smoke BE L45L2.
- 1.3 4 x Shell 105 mm Fd illum L43A3.
- 1.4 24 x Cart Prop 105 mm Fd Normal L35A2.
- 1.5 16 x Cart Prop 105 mm Fd Super L36A3.

2 This clearance was subject to the following provisos:

- 2.1 That the loading was in accordance with Reference A, and this should be brought to the attention of the FV 432 crews. Particular attention should be paid to secure stowage of part loads.
- 2.2 The ammunition is to be carried at no more than 35 kph.
- 2.3 The ammunition is to be carried for not more than 300 km in FV 432.
- 2.4 No radios are to be fitted or used in the vehicles when carrying 105 mm ammunition.

CARRIER, FULL TRACKED, FV 432 MK 2 AND 2/1

GENERAL INSTRUCTION NO. 2

Sponsor:  
DGES(L)

Publication Agency:  
DLO Chertsey  
Project No: S01008 (366)  
File ref:

AMENDMENT RECORD

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

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

**SUBJECT: Front hatch hinge replacement**  
(Approval No. 43/0/0032)

CLASS  
17 APR 2000

**INTRODUCTION**

- 1 This instruction introduces a method of replacing the front hatch hinges.
  - 1.1 Limitations on use of equipment. Nil.

**APPLICABILITY**

- 2 All FV 432 vehicles when the front hatch hinges require replacement.
  - 2.1 Unmodified stock, held at all levels of technical storage.

**REASON FOR MODIFICATION**

- 3 Code 4 – to improve maintainability.

**PRIORITY**

- 4 Routine.

**ESTIMATED TIME REQUIRED**

- 5 Embodiment: 2.00 man-hours.

**MODIFICATION IMPLEMENTATION PLAN**

6

- 6.1 This instruction is to be implemented by Units authorized to carry out levels 3 or 4 maintenance
- 6.2 Associated instructions. Nil

**Action required by**

7

7.1 Units and establishments holding equipment:

7.1.1 Examine equipment documents to see if modification is applicable.

7.2 Army units authorized to carry out levels 3 and 4 maintenance:

7.2.1 When requested by units or during overhaul of equipment carry out this modification.

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

7.3 All recipients of this instruction. Add particulars to AESP 2350-T-251-821 Gen Instr Index.**Stores, tools and equipment**

8

8.1 Stores to be demanded:

8.1.1 The following items are to be demanded, as required, quoting this instruction as the authority.

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
1	9ACR	2540-99-874-8857	Hinge, front access cover, hatch half.	2
2	9ACR	2540-99-831-1116	Hinge, front access cover, hull half.	2
3	9ACR	5315-99-804-5525	Pin.	2

**Repair schemes****NOTE**

The item numbers of Para 8 are used as reference throughout this instruction.

## 9 Carry out this instruction, as follows, using items 1, 2 and 3 as required:

9.1 To replace the front access cover hinges (hatch), follow the repair scheme detailed at Fig 1.

or

9.2 To replace the front access cover hinges (hull), follow the repair scheme detailed at Fig 2.

or

9.3 To replace the front access cover hinges (hull and hatch), follow the repair scheme detailed at Fig 3, followed by the repair scheme detailed at Fig 1.

**TESTING AFTER EMBODIMENT**

## 10 Check front access hatch to ensure that it opens, closes and seals correctly.



**EFFECT ON WEIGHT**

11 Negligible.

**PUBLICATION AMENDMENTS**

**NOTE**

Necessary amendments will be issued separately.

12 Nil.

NOTES

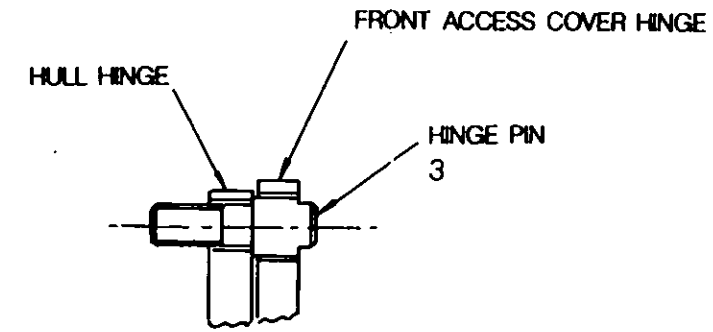
- (1) This scheme is to be used when hinges on front access cover assembly are replaced.
- (2) Welding is to be carried out to EMER Wksp O 360 Chap 12, using a 3.25 mm rod.
- (3) Before commencing with repair, remove front access cover from the vehicle.

- 1 Remove existing access cover hinges by gas cutting or gouging within 6 mm of armour plate.
- 2 Remove remaining metal by grinding. Avoid overheating of armour plate.
- 3 Finish smooth armour plate and protective strip and use NDT (penetrant dye) to establish that no surface cracks are present.

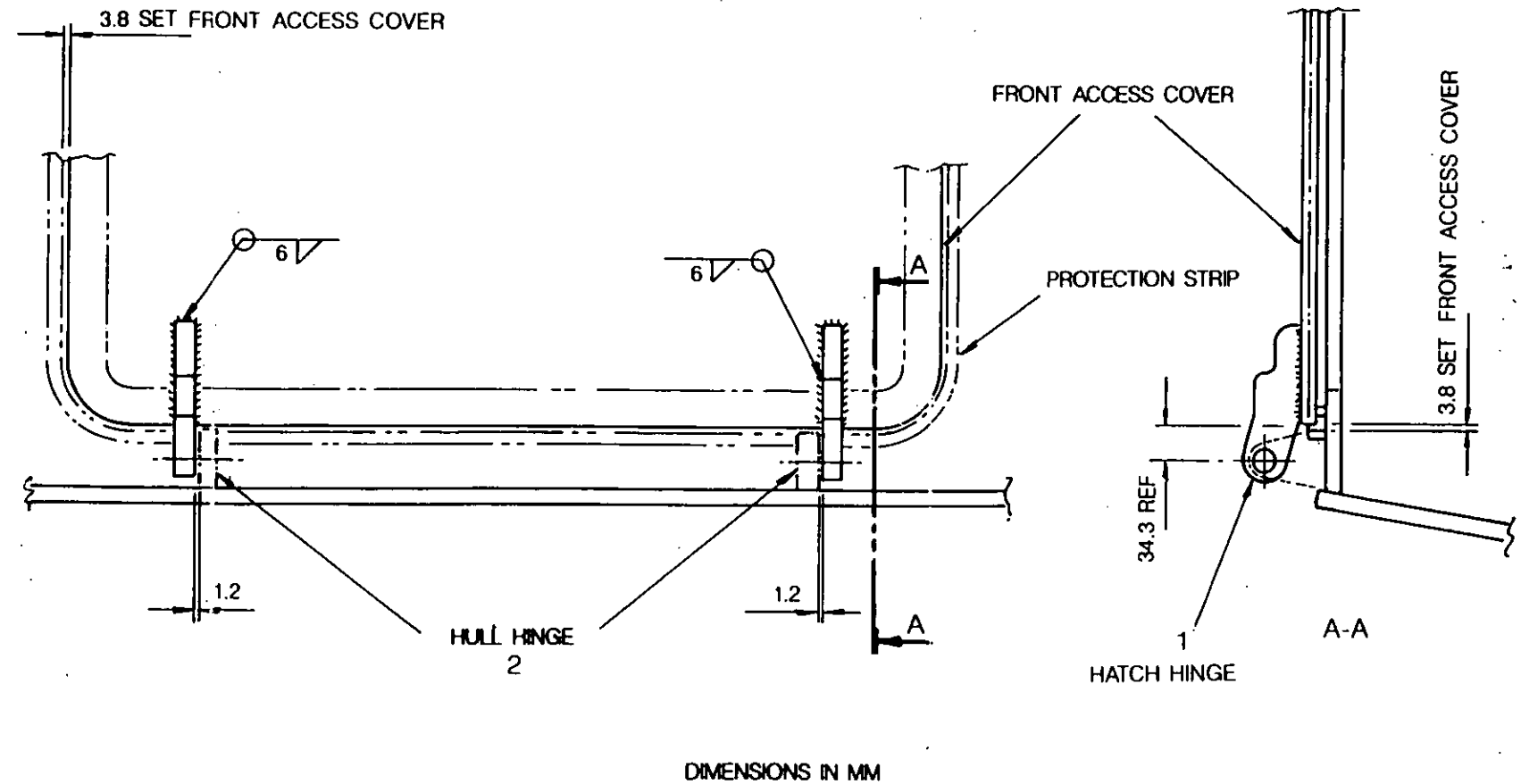
NOTE

If cracks are present a separate repair procedure will be required.

- 4 Locate front access cover on vehicle and set to 3.8 mm from inside edge of protection strip and clamp in position.
- 5 Set first front access cover hinge to 1.2 mm from first hull hinge and align hole centres using hinge pin (item 3). Make initial root weld along bottom edge of hinge and cover.
- 6 Set second front access cover hinge to 1.2 mm from second hull hinge and align hole centres using hinge pin (item 3). Make initial root weld along bottom edge of hinge and cover.
- 7 Check accuracy of hinge for position and squareness and use hinge pin (item 3) to ensure clearance when pivoting. See detail 'B'.
- 8 Unclamp front access cover and remove from vehicle.
- 9 Complete welding of front access hinges as shown.
- 10 Inspect.
- 11 After 72 hours, check with NDT that welds and plates are crack free.
- 12 Finish to DEF STAN 03-32 Part 2, colour as per contract.



DETAIL B



V14677/4

Fig 1 Replacement of the front access cover hinges (hatch), set from the hull hinges

NOTES

- (1) This scheme is to be used when only the hinges on the hull are to be replaced. Hull hinge positions are set from existing front access cover assembly hinges.
- (2) Welding is to be carried out to EMER Wksp O 360 Chap 12, using a 3.25 mm rod.
- (3) Before commencing with repair, remove front access cover from the vehicle.

- 1 Remove existing hull hinges by gas cutting or gouging to within 6 mm of armour plate. Avoid damaging protection strip.
- 2 Remove remaining metal by grinding. Avoid overheating of armour plate.
- 3 Linish smooth armour plate and protection strip and use NDT (penetrant dye) to establish that no surface cracks are present.

NOTE

If cracks are present a separate repair procedure will be required.

- 4 Replace weld removed from edge of protection strip during ops 1, 2 and 3 with a fillet weld as indicated on detail 'B'.
- 5 Locate front access cover on vehicle, set to 3.8 mm and clamp in position.
- 6 Set first hull hinge to 1.2 mm from first front access cover hinge and align holes centres using hinge pin (item 3). Make initial root weld along bottom edge of hinge and hull.
- 7 Set second hull hinge to 1.2 mm from second front access cover hinge and align holes using hinge pin (item 3). Make initial root weld along bottom edge of hinge and hull.
- 8 Check accuracy of hinge for position and squareness and use hinge pin (item 3) to ensure clearance when pivoting. See detail 'D'.
- 9 Unclamp front access cover and remove from vehicle.
- 10 Complete fillet welding of hull hinges as shown.
- 11 Replace weld removed from hull nose plates during ops 1, 2 and 3 with a fillet weld as indicated as detail 'C'.
- 12 Inspect.
- 13 After 72 hours, check that welds and plates are crack free.
- 14 Finish to Def Stan 03-32 Part 2, colour as per contract.

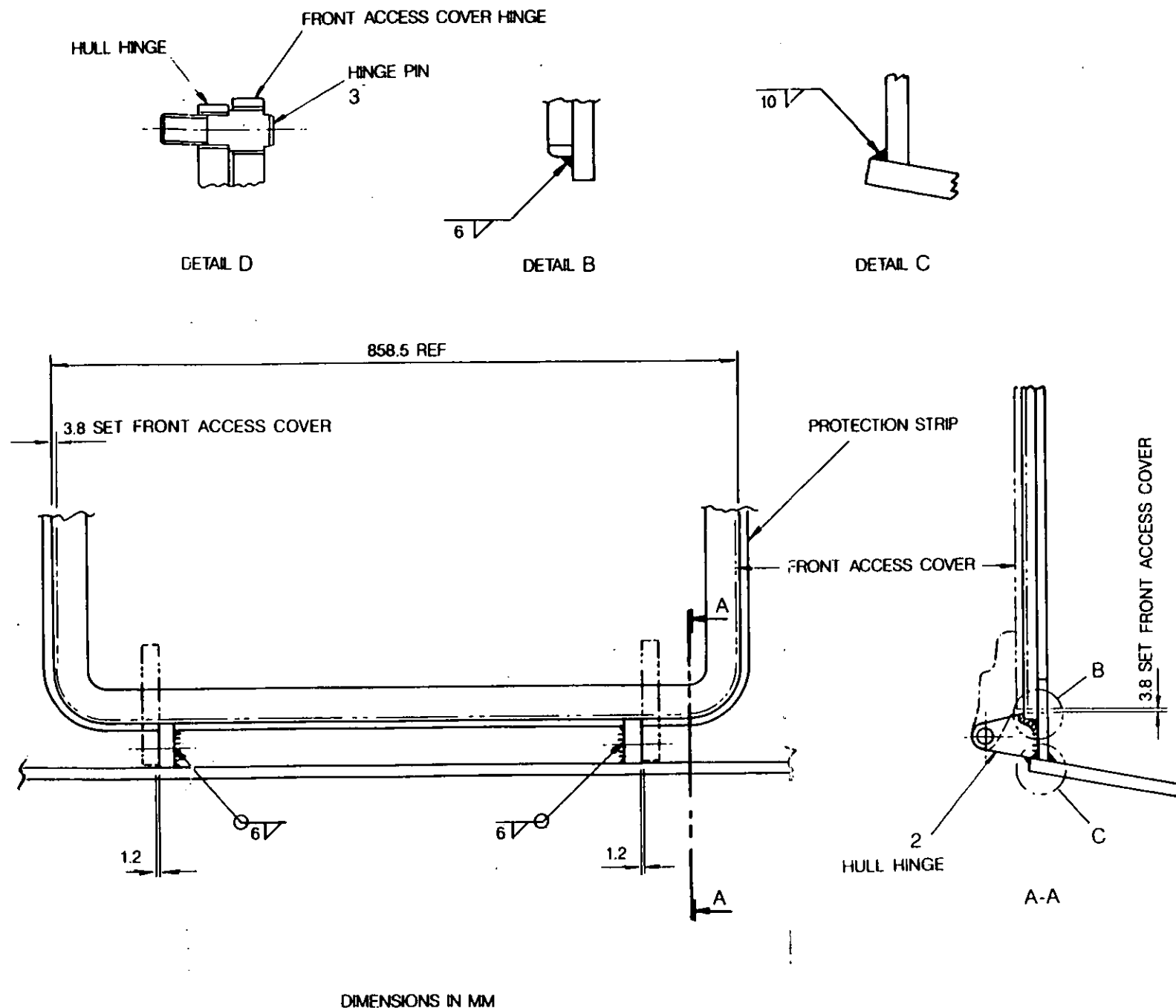


Fig 2 Replacement of the front access cover hinges (hull), set from the hatch hinges

NOTES

(1) This scheme is to be used when the hinges on hull and front access cover are to be replaced. Use this scheme to replace the hull hinges, followed by the scheme detailed at Fig 1, to replace the front access cover hinges.

(2) Welding is to be carried out to EMER Wksp O 360 Chap 12, using a 3.25 mm rod.

(3) Before commencing with repair, remove front access cover from the vehicle.

1 Remove existing hull hinges by gas cutting or gouging to within 6 mm of armour plate. Avoid damaging protection strip.

2 Remove remaining metal by grinding. Avoid overheating of armour plate.

3 Finish smooth armour plate and protection strip and use NDT (penetrant dye) to establish that no surface cracks are present.

NOTE

If cracks are present a separate repair procedure will be required.

4 Replace weld removed from edge of protection strip during ops 1, 2 and 3 with a fillet weld as indicated at detail 'B'.

5 Set first hinge to 125.7 mm from inside of protection strip and make initial root weld along bottom edge of hinge.

6 Check accuracy of hinge for position and squareness.

7 Complete fillet welding of hinge as shown.

8 Set second hinge to 607 mm and make initial root weld along bottom edge of hinge.

9 Check accuracy of hinge for position and squareness.

10 Complete fillet welding of hinge as shown.

11 Replace weld removed from hull nose plates during ops 1, 2 and 3 with a fillet weld as indicated at detail 'C'.

12 Inspect.

13 After 72 hours, check with NDT that welds and plates are crack free.

14 Finish to Def Stan 03-32 Part 2, colour as per contract.

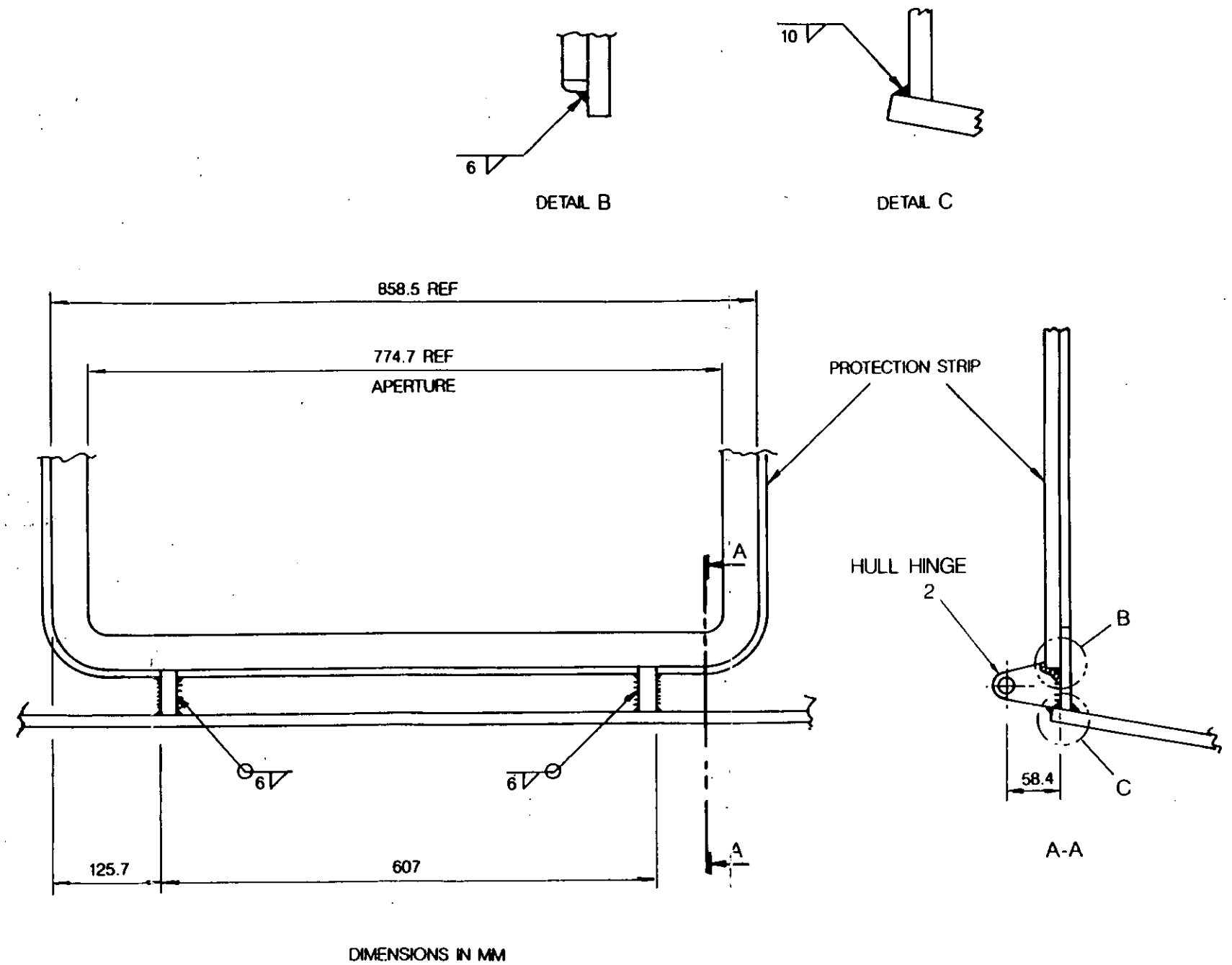


Fig 3 Replacement of the front access cover hinges (hull), set to the original build standard