

R E S T R I C T E D

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

TRACKED VEHICLES
E 109 Misc Instr No 1

CARRIER, ARMoured, TRACKED, 15-TON (FV 430 SERIES)

SP MOUNTING 105MM

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

DEFECTS AND
MODIFICATIONS BRANCH

14 OCT 1964

TECHNICAL GROUP
R. E. M. E.

SUMMARY

To effect a saving in vehicle weight a light alloy material has been introduced in the manufacture of road and track tensioner wheel hubs. When it becomes necessary to replace original steel hubs by one or more of the light alloy type, no action will be taken to allocate these hubs to a particular wheel station on the vehicle. Vehicles will function without detriment when fitted with a combination of steel and alloy hubs.

72602

FVRDE Approval No 21366

END

CARRIER, CARGO, FULL TRACKED, FV 431
CARRIER, PERSONNEL, FULL TRACKED, FV 432
GUN, SELF-PROPELLED, 105 MM GUN, FV 433
CARRIER, MAINTENANCE, FULL TRACKED, FV 434

DEFECTS AND
MODIFICATIONS BRANCH

22 OCT 1965

TECHNICAL GROUP
R. E. M. E.

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Hydraulic cooling systems

SUMMARY

1. The FV 433 (Abbot) introduces variation in component detail of hydraulic cooling system. The following notes are given to assist in identification of system type which is of importance when replacing a component or when field or base repairs are carried out.

DETAIL

2. System types:-

(a) Mk 1A hydraulic cooling system is fitted to:-

FV 432, Mk 1 (B81 engine)
FV 432, Mk 2 (K60 engine)
FV 434 (K60 engine)

(b) Mk 3 hydraulic cooling system is fitted to:-

FV 433 (K60 engine)

3. Mk 1A system:-

(a) Pump FV 531001:-

16 mm dia pistons.
25 deg angle body.
Body nose painted green at identification label location.

(b) Fan motor FV 531002:-

12 mm dia pistons retained on plunger.
12 deg angle body.
Body nose painted green.

(c) Controller FV 531004:-

Relief valve set to be fully open at 2300 ± 100 lb/sq in.
at 10 gal/min.

Top cover of controller has flat face for relief valve spring.

(d) Tank unit FV 531003.

4. Mk 3 system:-

(a) Pump FV 531006:-

20 mm dia pistons.
25 deg angle body of increased length and dia.
Body nose painted red at identification label location.

Note: This is a higher capacity pump and must not be interchanged with FV 531001 fitted to Mk 1A system.

(b) Fan motor FV 534013:-

Early pattern marked FV 534012 (12 off) have metric leakage ports to which UNF adapters are fitted.
12 mm dia pistons free floating in cylinder assembly.
25 deg angle body.
Body nose painted red.

Note: Motor must not be run as a pump.

(c) Controller FV 534014:-

Relief valve set to be fully open at 1750 ± 100 lb/sq in.
Top cover of controller has recessed face for relief valve spring, giving lower maximum pressure in system.
All other detail as for controller FV 531008 fitted to Mk 1A system.

(d) Tank unit FV 531005.

5. Heat exchangers:-

Type fitted varies with Mk and vehicle pattern as follows:-

FV 432, Mk 1	-	FV 491468	
FV 432, Mk 2	}	-	FV 575193
FV 434		-	FV 491453
FV 433		-	FV 491453

6. Test points:-

Leakage test points are fitted to FV 432, Mk 1 and 2 and FV 434 but are omitted on FV 433.

END

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

GUN, SELF-PROPELLED, 105 MM FIELD GUN, L 109, ABBOT (FV 433)

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Transmission

1. Introduction

To overcome design weakness in lock-up cut-off valve cover, new pattern components are introduced.

2. Item affected: Gearbox (TX 200) 4B

3. Action required by:-

Units authorized to carry out base repairs. During overhaul of gearbox assemblies to note and implement this instruction.

4. Detail:-

When any of the existing components listed below require replacement and are no longer serviced by RAOC, all items detailed in a. are to be removed and discarded. Units should demand and fit replacement new pattern components.

a. Existing components:-

<u>VAOS Section</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty per veh</u>
LV10	2520-99-866-7641	Cover, exhaust regulator valve	1
	FV 452397	Plate, cover, exhaust regulator	1
	FV 452398	Cap, cover, exhaust regulator	1
LV10	2520-99-866-2563	Valve, lock-up, cut-off	1
LV10	2520-99-866-2564	Spring, lock-up, cut-off	1

b. New pattern components:-

LV10	FV 453744	Cover, exhaust regulator valve	1
LV10	FV 453738	Valve, lock-up, cut-off	1
LV10	FV 453745	Spring, lock-up, cut-off	1

FVRDE Approval 27056
72609 (Def and Mods)

END

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

GUN, SELF-PROPELLED, 105 MM FIELD GUN, ABBOT, (FV 433)

CARRIER, MAINTENANCE, FULL TRACKED, FV 434

TECHNICAL HANDBOOK ~ MISCELLANEOUS INSTRUCTION

SUB-TITLE: Drivers instrument panel brackets counterbored to resist shock dislodgement

1. Introduction

To prevent instrument panel being dislodged through open slots of mounting brackets under shock conditions, mounting brackets are to be counterbored to locate spigot diameter of shock mounting.

2. Items affected:
- | | | |
|-----------------------|-----------|---------------------|
| Bracket mounting r.h. | FV 559927 | } FV 432 and FV 434 |
| Bracket mounting l.h. | FV 560074 | |
| Bracket mounting r.h. | FV 565192 | } FV 433 |
| Bracket mounting l.h. | FV 565190 | |

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

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

4. Sequence of operations:-

- a. Ensure master switch is off.
- b. Disconnect cables and wiring at instrument panel.
- c. Slacken wingnuts and remove instrument panel.
- d. FV 433 vehicles only:-

(1) See Fig 1: Counterbore the two slots to dimensions shown.

(2) See Fig 2: Counterbore the slot to dimensions shown.

e. FV 432 and FV 434 vehicles:-

(1) Remove instrument panel mounting brackets l.h. and r.h. retaining the fixing items.

(2) See Fig 3: Counterbore the two slots to dimensions shown.

(3) See Fig 4: Counterbore the slot to dimensions shown.

f. Paint exposed metal surfaces of brackets.

g. Refit mounting brackets where necessary, securing with the original fixing items.

h. Refit instrument panel and secure wingnuts, ensuring that mounting spigots sit in counterbores.

j. Reconnect cables and wiring to instrument panel, and test.

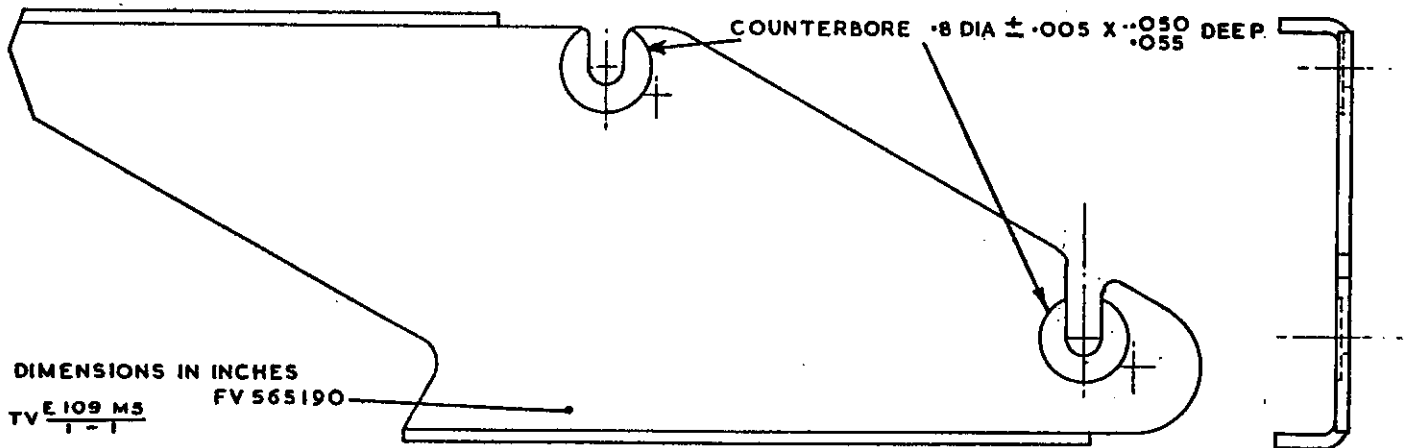


Fig 1 - Bracket l.h., slots counterboring

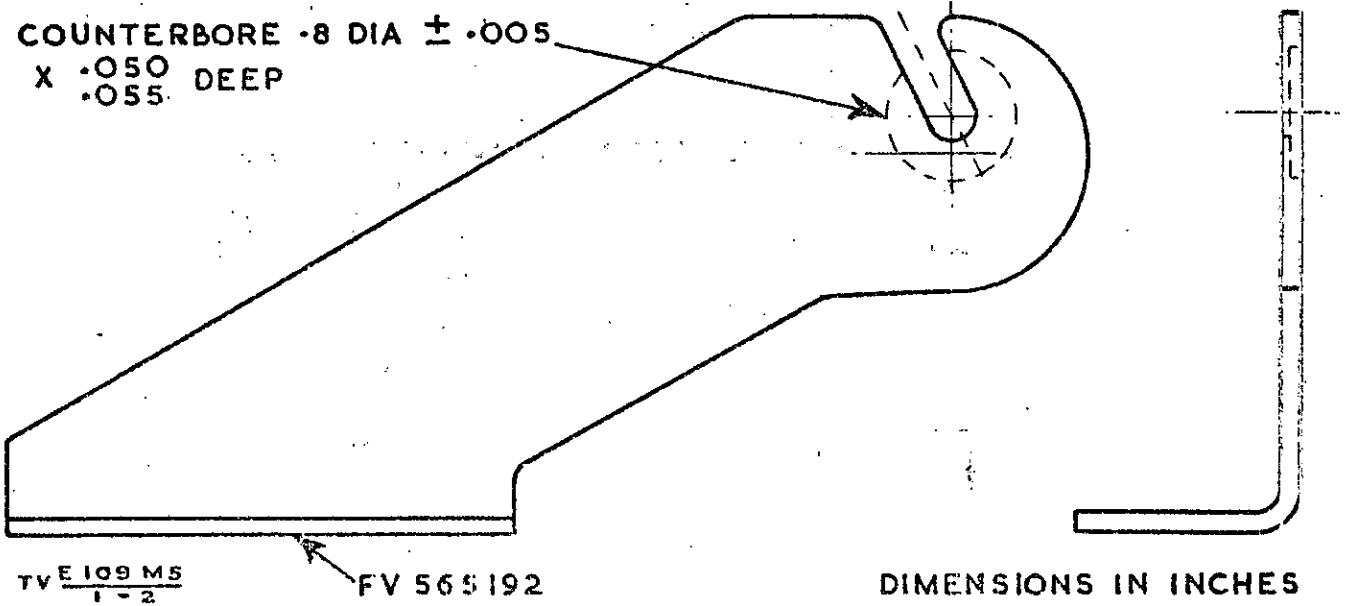


Fig 2 - Bracket r.h., slot counterboring

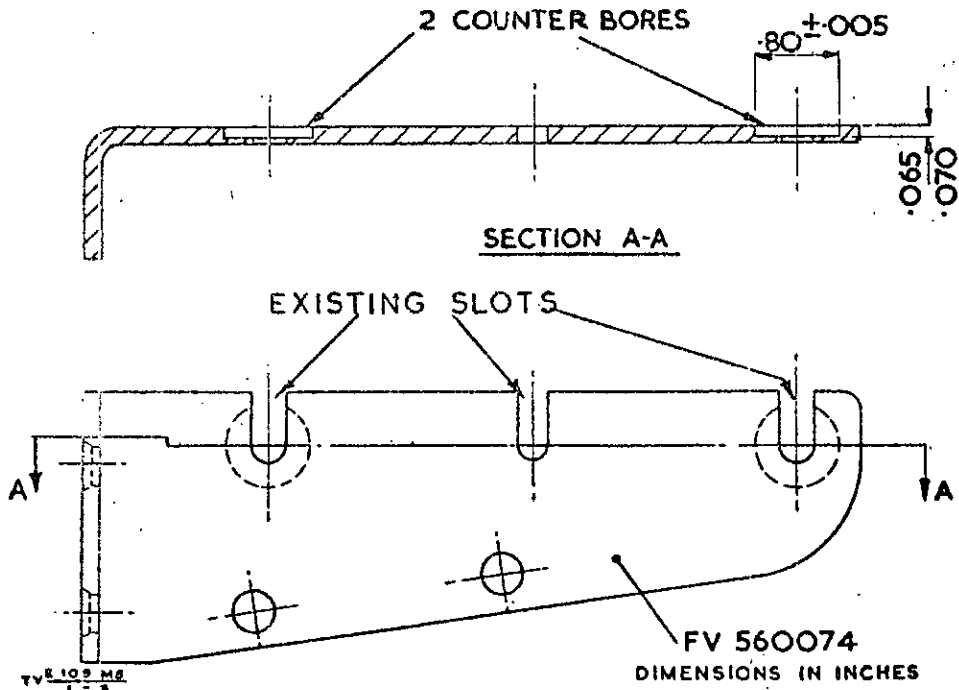


Fig 3 - Bracket l.h., slots counterboring

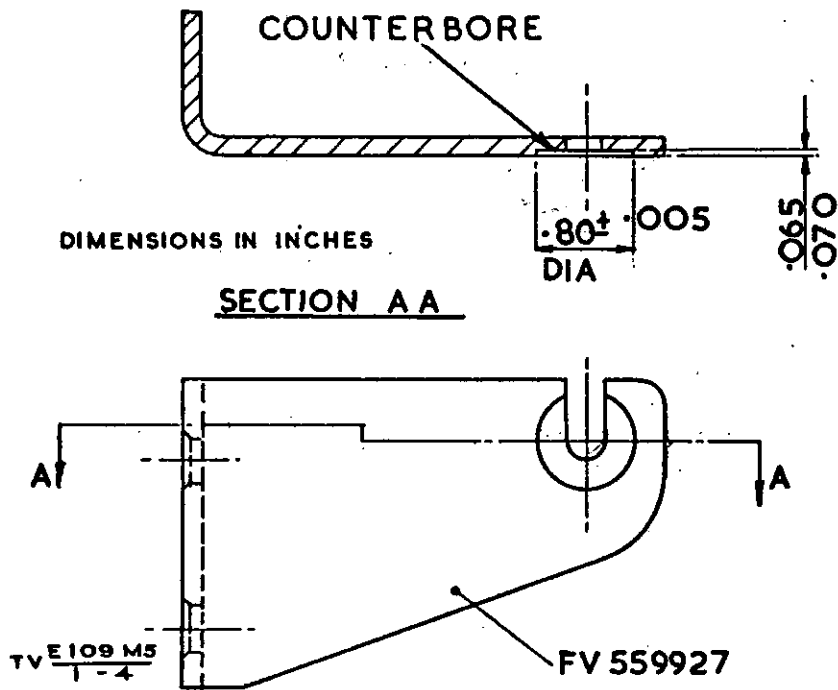


Fig 4 ⇒ Bracket r.h., slot counterboring

FVRDE Approval 29376
Def and Mods 72616

END

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

GUN, SELF-PROPELLED, 105 MM FIELD GUN, ABBOT, FV 433

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Fouling of K60 engine flywheel to output gear securing bolts.

1. Introduction

In some cases on the K60 engine the 3/8 in. UNF bolts securing flywheel to output gear are 1 in. instead of 7/8 in. long, which results in the bolts bottoming. To overcome this, those bolts found to be of 1 in. length are to be reduced to 7/8 in.

2. Item affected: Bolt, UNF, 3/8 in. x 1 in. G1 5305-99-941-6550

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Distribution - Class 291 and 297. Code No 2

Page 1

TRACKED VEHICLES
E 109 Misc Instr No 6

5. Action required by units authorized to carry out field or base repairs

When engine or transfer case is removed from power pack or during overhaul, carry out this instruction.

1. Detail: Shorten bolts from 1 in. to 7/8 in.

Def and Mods 72624

END

CARRIER, PERSONNEL, FULL TRACKED, FV 432, MK 2 AND 2/1
CARRIER, MAINTENANCE, FULL TRACKED, FV 434

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Injector leak-off pipe changed.

1. Introduction

To improve installation of fuel pipes, the existing flexible leak-off pipe (FV 538507) is to be replaced by a two piece pipe (FV 602691, FV 602690) when stocks of former expire. Plate C8 of ISPL Army Code No 14660, items 63, 65, and 66 show this instruction embodied.

2. Item affected:-

Hose flexible leak-off LV9ACR 2910-99-867-4798 (FV 538507)

3. Action required by:-

Units authorized to carry out unit, field or base repair

a. When the two piece leak-off pipe (LV9/ACR 4720-99-802-5248/4710-99-802-5249) is issued in lieu of one piece leak-off pipe (LV9/ACR 2910-99-867-4798) during repair or overhaul, carry out this instruction.

b. Record completion of this instruction in equipment log book.

4. Stores to be obtained locally:-

<u>VAOS Section</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty per eqpt</u>
G2	GB 15884	Steel, mild, hoop, 5/8 in. x 25 BG	7 in.
Z2	ZB 13849	Screw, self-tapping, Parker Kalon, rd hd, No 10 x 3/8 in. long	1

5. Detail:-

a. Remove and discard the existing leak-off flexible hose (2910-99-867-4798) (FV 538507)

b. See Fig 1

(1) Manufacture clip from material listed in para 4, to dimensions shown

(2) Fit replacement pipe assembly, consisting of pipe (4710-99-802-5249) (FV 602691) and hose (4720-99-802-5248) (FV 602690), and secure to power pack frame front upright using the manufactured clip and self-tapping screw, listed in para 4, as shown.

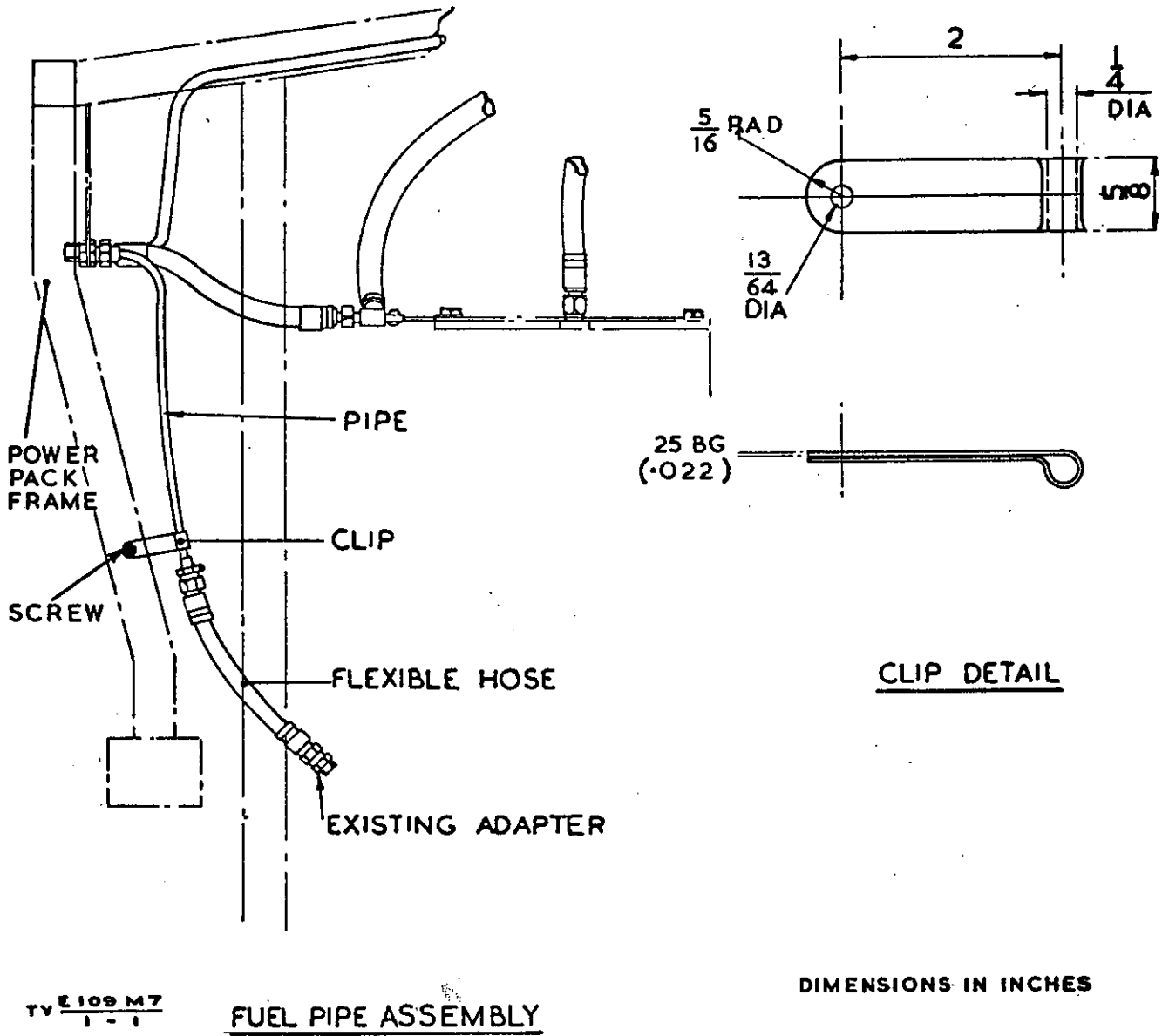


Fig 1 - Fuel leak-off pipe - Assembly and clip details

FVRDE Approval 21669
Def and Mods 70684

END

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

TRACKED VEHICLES
E 109 Misc Instr No 8

CARRIER, FULL TRACKED, 15 TON, FV 430 SERIES

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

Full details of Technical Description, and Unit, Field and Base Repairs for the Cooking/boiling Vessel, No 1, Mk 1 are given in Eng and Misc D 322.

A Veh 80330

END

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

TRACKED VEHICLES
E 109 Misc Instr No 9

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CARRIER, PERSONNEL, FULL TRACKED, FV 432, MK 1, 1/1, 2 AND 2/1
(0040.0110; 0040.0113; 0040.0111; 0040.0112)

GUN, SELF PROPELLED, 105 MM, FIELD GUN, ABBOT, FV 433 (0600.0000)

CARRIER, MAINTENANCE, FULL TRACKED, FV 434 (0070.0140)

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

Note: This Issue 3, Pages 1-2, supersedes Issue 2, Pages 1-2 dated 6 Jun 69. Paragraphs marked ● have been amended.

SUB-TITLE: Top support rollers

1. Introduction

● To conform with standard practice for suspension assemblies, girder section spring washers are to be fitted in place of single coil spring washers. In addition a torque figure is given for tightening the nuts.

2. Item affected: Top roller wheel. LV9/ACR 2530-99-865-6183

3. Action required by:-

Units authorized to carry out unit, field or base repairs

When carrying out repairs on top roller assemblies or during overhaul, demand the stores required and carry out this instruction.

4. Stores, tools and equipment:-

a. Stores to be obtained locally

<u>VAOS</u> <u>Section</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty</u> <u>per assy</u>
G1	5310-99-944-0567	Washer, spring 3/8 in. girder type	12

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b. Stores to be discarded

G1	5310-99-944-0550	Washer, spring 3/8 in. single coil type	12
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5. Detail:-

Refer to ISPL Army Code No 14660, Plate J6.

a. Remove and discard the twelve 3/8 in. single coil spring washers (5310-99-944-0550, item 22) from top roller assembly.

b. Fit the twelve 3/8 in. girder type spring washers (5310-99-944-0567) in their place. Tighten nuts to a torque of 40 lbf ft.

CARRIER, PERSONNEL, FULL TRACKED, FV 432
GUN, SELF-PROPELLED, 105 MM FIELD GUN, ABBOT, FV 433
CARRIER, MAINTENANCE, FULL TRACKED, FV 434

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

1. SUMMARY

This instruction gives details of a method of replacing damaged or broken vent nozzles in the types of secondary batteries used in FV 430 Series vehicles.

2. Items affected:-

FV 430 Series vehicles

- a. Battery, secondary, LV6/MT4 6140999017442, FV 342585
- b. Battery, secondary, LV6/MT4 6140998034364, FV 546133

3. Action required by:-

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

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Page 1

4. Stores required:-

- a. Vent nozzle (Lucas Pt No 54284213) for battery FV 342585.
- b. Vent nozzle (FV 546763) for battery FV 546133 NATO Cat No. will be notified by amendment action.

5. Detail:-

- a. With a 5/8 in. drill (lightly smeared with a film of grease, eg PX7, to avoid ingress of any swarf into battery) drill out horizontally remaining part of unserviceable nozzle to a depth of 1/2 in. inside centre block. Drilling to this depth will not damage inner side of nozzle locating groove.
- b. Insert replacement nozzle through drilled hole to original depth.
- c. Rebuild block to its original shape using Chatterton's compound.

32032 A Veh
Tech Gp REME

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FV430 SERIES VEHICLES, ALL MARKS

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

Note: This Issue 2, Page 1 supersedes Issue 1, Pages 1-2 dated Apr 69. The regulation has been revised throughout.

SUBJECT: Control panel alternator No 1 Mk 1
(MVEE Approval No 28555)

INTRODUCTION

1. The information given in Issue 1 of this regulation detailing the introduction of a new type diode Z42 5961-99-037-5960 (W185910/14) due to existing diode Z42 5920-99-037-2198 (W151056/6) no longer being produced, is now contained in Power W 117/2 Mod Instr No 4.

END

70711 (252)
Veh Br ALM/430 11

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TRACKED VEHICLES
E 109 Misc Instr No 11

ELECTRICAL AND MECHANICAL
ENGINEERING REGULATIONS

- a. Remove and discard the faulty diode (W 151056-6) (GV 7098) and 1/2mm bore sleeving from:-
- (1) Control panel No 1 (W 166454), item 17
 - or
 - (2) Control panel No 3 (W 168718), item 52
- b. See Fig 1: Fit the new diode (W 185910-14) to control panel No 1 or No 3, securing with the clip, nut, screw and washer listed in para 4.
- c. Fit the 1mm bore sleeving to diode wiring and connect up as shown.
- d. Check circuit.

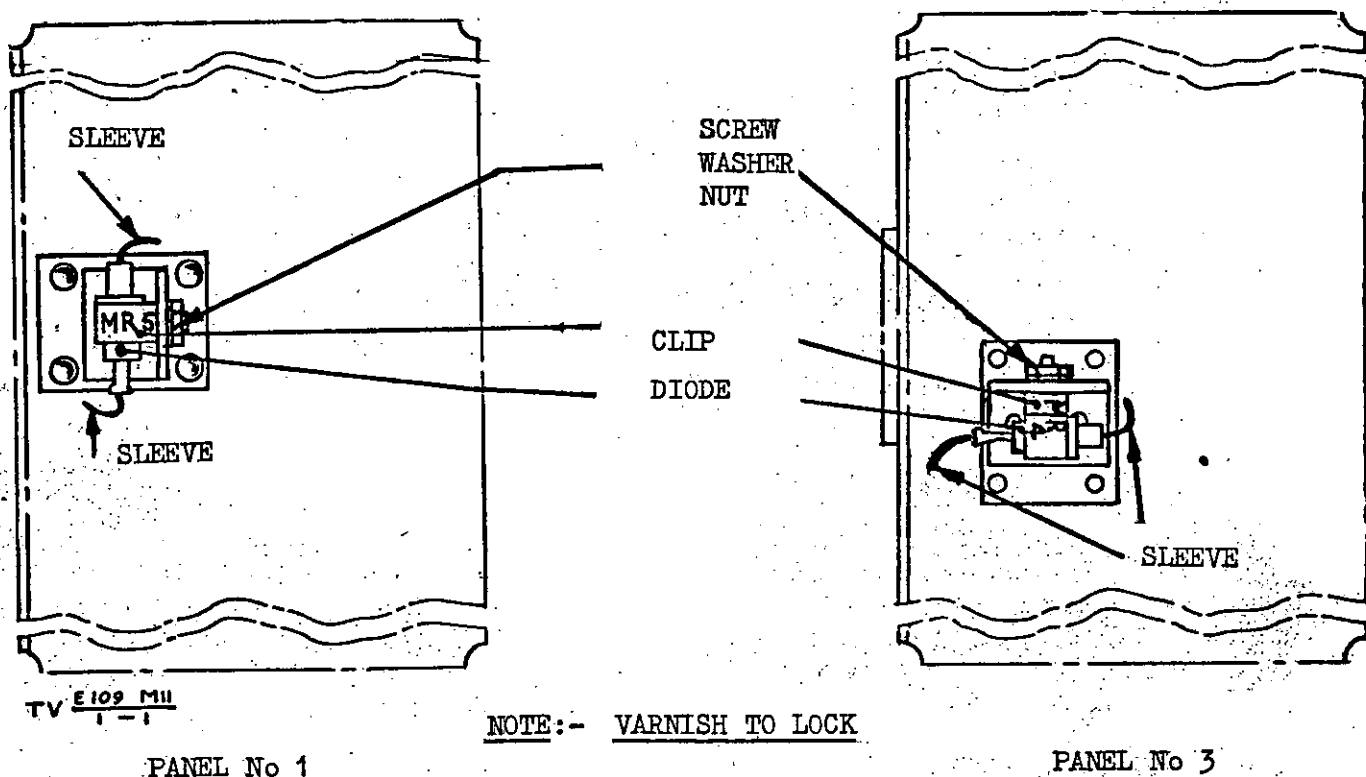


Fig 1 - Panel No 1 and No 3 assembly

FVRDE Approval 28555
Def and Mods 72637

END

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

TRACKED VEHICLES
E 109 Misc Instr No 12

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

(Code No 0040.0110; 0040.0111; 0040.0112; 0040.0113)

CARRIER, MAINTENANCE, FULL TRACKED, FV 434

(Code No 0070.0140)

GUN, SELF-PROPELLED, 105 MM FIELD GUN, ABBOT (FV 433)

(Code No 0600.0000)

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Smoke grenade discharger No 8, Mk 1.

1. Introduction

To improve reliability of firing circuit, the 22Ω 12W resistor is to be replaced by a 15Ω 12W resistor.

2. Item affected: Resistor, 22Ω 12W, RWV4-LZ 5905-99-011-3357

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Page 1

R E S T R I C T E D

TRACKED VEHICLES
E 109 Misc Instr No 12

ELECTRICAL AND MECHANICAL
ENGINEERING REGULATIONS

3. Action required by:-

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

When resistor 22 Ω 12W (Z 5905-99-011-3357) of resistance board (FV 497409) fails, units are to demand resistor 15 Ω 12W (Z.30 5905-99-011-3353), and on receipt, carry out this instruction.

b. All recipients of this EMER

Add particulars to Tkd Veh E 109 Misc Instr Index.

4. Detail

Remove and discard resistor 22 Ω 12W (Z 5905-99-011-3357) from resistor board (FV 497409) and fit in its place resistor 15 Ω 12W (Z.30 5905-99-011-3353).

FVRDE Approval 29691
Def and Mod 72636

END

Not recorded a Amend 20.4.71

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

Code: 0040.0111 and 0040.0112

CARRIER, MAINTENANCE, FULL TRACKED (FV 434)

Code: 0070.0140

LAUNCHER, GUIDED MISSILE, CARRIER MOUNTED, FULL TRACKED (FV 438)

Code: 0740.0180

COMMUNICATIONS SYSTEM, CARRIER MOUNTED, FULL TRACKED, MK 2/1 (FV 439)

Code: 0750.0172, 0760.0172, 0765.0172

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

Errata

Note: This Page 01, Issue 1, is to be filed immediately in front of Page 1.

2. Amend as follows:-

a. Page 4, Serial 1.a., Column F

Add: 'LV10/5330-99-866-7528 Ring, sealing' ✓

b. Page 5, Serial 4.b., Column F.

Add: 'LV6MTI/5330-99-808-1282 Ring, sealing'. ✓

CARRIER, PERSONNEL, FULL TRACKED, MK 2 AND 2/1 (FV 432)
Code: 0040.0111 and 0040.0112

CARRIER, MAINTENANCE, FULL TRACKED (FV 434)
Code: 0070.0140

LAUNCHER, GUIDED MISSILE, CARRIER MOUNTED, FULL TRACKED (FV 438)
Code: 0740.0180

COMMUNICATIONS SYSTEM, CARRIER MOUNTED, FULL TRACKED, MK 2/1 (FV 439)
Code: 0750.0172, 0760.0172 and 0765.0172

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

Errata

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

1. Amend as follows:-

a. Page 2, para 5.b.(1), line three

Delete: 'Tkd Veh E 107/2 Mod Instr No 78'
Insert: 'Tkd Veh E 107 Mod Instr No 32' ✓

b. Page 3, para 5.b.(2), line three

Delete: 'Tkd Veh E 107/2 Mod Instr No 78'
Insert: 'Tkd Veh E 107 Mod Instr No 32' ✓

c. Page 3, para 5.b. Note: line one

Delete: 'Tkd Veh E 107/2 Mod Instr No 78'
Insert: 'Tkd Veh E 107 Mod Instr No 32' ✓

d. Page 5, serial 4.a. column D

Delete: 'Tkd Veh E 107/2 Mod Instr No 78'
Insert: 'Tkd Veh E 107 Mod Instr No 32' ✓

e. Page 11, Fig 5, Note: line three

Delete: 'Tkd Veh E 107/2 Mod Instr No 78'
Insert: 'Tkd Veh E 107 Mod Instr No 32' ✓

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

CARRIER, MAINTENANCE, FULL TRACKED (FV 434)

LAUNCHER, GUIDED MISSILE, CARRIER MOUNTED, FULL TRACKED (FV 438)

COMMUNICATIONS SYSTEM, CARRIER MOUNTED, FULL TRACKED, MK 2/1, (FV 439)

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

Note: These Pages 1-6, Issue 2, supersede Pages 1-6, Issue 1, dated Feb 70, Para 1a, 1b, 1c, 1d, of Page 0, Issue 1, dated Aug 70 and Page 01, Issue 1, dated Feb 71. Reference to Pwr S 567/1 has been amended.

SUB-TITLE: Interchangeability of K60, Mk 4F and Mk 6F engines and power packs

1. Introduction

- a. The Mk 6F engine is significantly different from the Mk 4F externally, largely as a result of changes to the lubrication system and re-routing of the fuel return and spill pipes. This means that, although all power packs are externally identical and freely interchangeable between vehicles, power packs manufactured to accept a Mk 4F engine will not readily accept a Mk 6F engine and vice versa.
- b. There is also an external difference, affecting the lubrication system between the EARLY and LATE Mk 4F engines which will affect interchangeability of these engines. Para 5 refers to identification of Mk 4F engines and power packs.
- c. Until engines and power packs are modified externally to a common standard, it is possible to meet six separate interchangeability problems when an engine change becomes necessary.

2. Assemblies affected:

Engine, K60, No 4, Mk 4F	LV10/2815-99-866-9563
Engine, K60, No 4, Mk 6F	LV10/2815-99-808-1275
Power pack, Mk 4F	LV9/ACR/2815-99-801-2138
Power pack, Mk 6F	LV9/ACR/2815-99-808-1274

3. Items affected:-

Engine lubrication and fuel systems.

4. Action required by:-

Units authorized to carry out field and base repairs to note and, when stores are available, carry out this instruction when interchanging of Mk 4F and Mk 6F engines becomes necessary.

5. Identification of Mk 4F engines and power packs:

a. Engines:-

(1) An 'early' Mk 4F engine refers to an engine built in production prior to the introduction of Approval 27048 and not subsequently modified in accordance with Pwr S 567/1 Mod Instr No 18. An 'early' engine is one fitted with an original engine front cover (LV10/2815-99-866-7116) which only accommodates the small bore front crankcase breather pipe, engine cover to oil tank. For identification of original front engine cover, see Fig 1. Large bore breather pipe cannot be fitted.

(2) A 'late' Mk 4F engine refers to an engine which has approval 27048 incorporated in production or has been modified in accordance with Pwr S 567/1 Mod Instr No 18. A 'late' engine is one fitted with the new front engine cover (LV10/2815-99-804-5206 or LV10/2815-99-809-2095) which will accommodate the large bore front crankcase breather pipe, engine cover to oil tank. For identification of new front engine cover, see Fig 2. Four socket headed screwed plugs are fitted to front face of engine cover and a blanking cover (FV 142014) is fitted to engine cover large bore breather aperture.

b. Power packs:-

(1) An 'early' Mk 4F power pack refers to a pack assembled in production prior to the introduction of Approval 29314 and not subsequently modified in accordance with Tkd Veh E 107 Mod Instr No 32. An 'early' power pack is one fitted with a small bore front crankcase breather pipe, engine front cover to oil tank. For identification, see Fig 3.

(2) A 'late' Mk 4F power pack refers to a pack which has Approval 29314 incorporated in production or has been modified in accordance with Tkd Veh E 107 Mod Instr No 32. A 'late' power pack is one fitted with a large bore front crankcase breather pipe, engine front cover to oil tank. For identification, see Fig 4.

Note: Tkd Veh E 107 Mod Instr No 32 cannot be implemented unless Approval 27048 is incorporated or Pwr S 567/1 Mod Instr No 18 has been carried out.

6. Detail:-

Table 1 lists the type of installation problem that can be met when interchanging between 'early' and 'late' Mk 4F and Mk 6F engines, within power-packs, becomes necessary. It also details the modification action and stores required to overcome these problems. Reference is to be made to the relevant EMER Mod Instrs (to be published) when modifying the engine or power pack to effect installation.

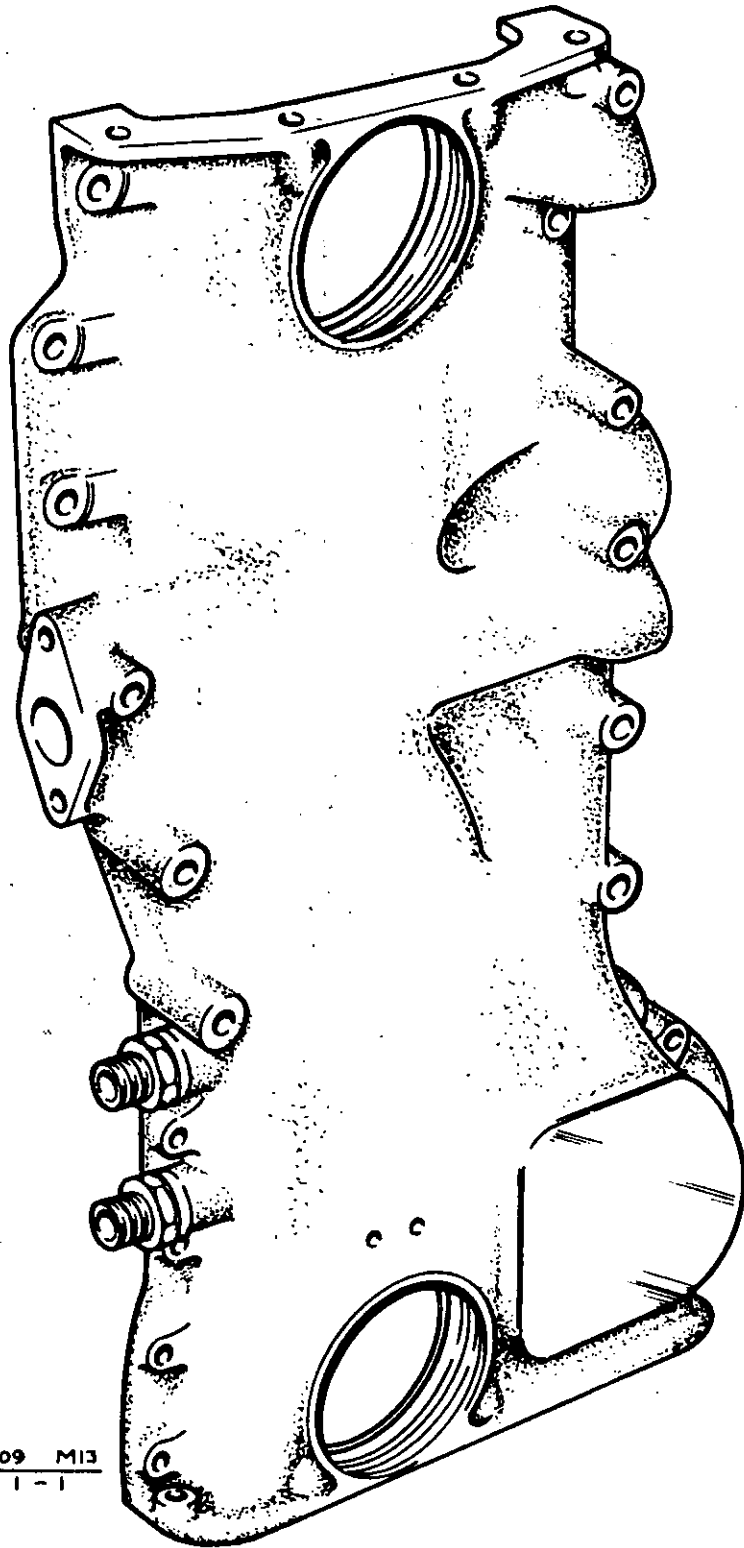
Note: Until the requisite modification kits and other stores are available for issue, Mk 4F and Mk 6F engines are not interchangeable. Careful management of spare engine resources will therefore be required locally to ensure that, as far as possible, a variety of spare engines is available to match the types of power packs which may require them.

Table 1 - (cont)

A	B	C	D	E	F	G
2.a.	Installation of 'late' Mk 4F engine to Mk 6F power pack			Modify as in Serial 1.a., 1.b. and 1.d.		
b.		Auth A/58/ MODS/1237	Tkd Veh E 107 Mod Instr No 14	Remove blanking cover (FV 142014) from engine front cover to allow fitting of large bore breather pipe. Remove 5/8 in. UNF d.e. union from small bore breather aperture in engine front cover and fit blanking plug	LV10/4730-99-865-2369 Plug, screwed, blanking, 5/8 in. UNF LV10/5310-99-865-1479 Washer, flat, aluminium, 5/8 in. i.d.	See Fig 2 and 4
3.	Installation of 'early' Mk 4F engine to 'late' Mk 4F power pack	-	-	Modify as in Serial 1.c.		
4.a.		29314	Tkd Veh E 107 Mod Instr No 32	Introduction of large bore front crankcase breather pipe and oil tank modified to accommodate pipe	LV9 ACR/MOD 29314 Mod set: Power pack.	Small bore breather pipe could be fitted but this alternative is retrograde and not recommended. See Fig 4 and 6
b.	Installation of Mk 6F engine to 'early' Mk 4F power pack	Auth A/58/ MODS/1055	Tkd Veh E 107 Mod Instr No 15	Remove adapter 1.3/8 in. - 1.5/8 in. UNF (LV9 ACR/4730-99-867-4754) from engine oil tank. Fit union d.e. 1.5/8 in. UNF to oil tank. Fit oil suction pipe assembly, tank to sump (FV650905)	LV9 ACR/2990-99-808-1277 Oil pipe assembly LV9 ACR/2990-99-808-1278 Oil pipe LV9 ACR/2990-99-808-1279 Pipe assembly LV6 MT6/4720-99-805-7786 Hose, rubber, 1.3/8 in. i.d. (2) LV6 MT1/4730-99-200-8881 Clip, hose, worm drive 1.1/2 in. to 2.1/8 in.(4) LV6 MT1/4730-99-804-4698 Union, d.e., 1.5/8 in. UNF LV9 ACR/5310-99-867-4755 Washer, flat, copper, 1.5/8 in. i.d. LV6 MT1/5330-99-808-1282 Ring sealing	These items are fitted to Mk 6F power pack. See Fig 6

Table 1 - (cont)

A	B	C	D	E	F	G
4.c.	Installation of Mk 6F engine to 'early' Mk 4F power pack	29592	Tkd Veh E 107 Mod Instr No 15	Fuel spill pipes re-routed to suit Mk 6F engine layout; two new pipes fitted	LV10/MOD 29592 Mod set: Fuel return and spill pipes	This modification is also required to accept a Mk 4F engine which has been modified to Tkd Veh E 107 Mod Instr No 14 (Approval 27103)
d.		29595	Tkd Veh E 107 Mod Instr No 15	Syphon break pipe re-routed from oil tank breather pipe to oil return pipe. Reshape syphon pipe of mod kit to suit, ensuring that pipe does not foul propeller shaft	LV9 ACR/MOD 29595 Mod set: Syphon break pipe	Syphon break pipe connects oil suction pipe to oil return pipe. See Fig 5 and 6
e.		29693	Tkd Veh E 107 Mod Instr No 15	Local insulation of fire wire adjacent to engine oil inlet elbow	LV6 MT1/8030-99-806-7982 Tape, protective	A SPIRWRAP sleeve is fitted to fire wire to prevent possible foul with the larger oil inlet elbow
5.	Installation of Mk 6F engine to 'late' Mk 4F power pack			Modify as in Serial 4.b., 4.c., 4.d. and 4.e.		The large bore breather pipe and modified oil tank are incorporated in the 'late' Mk 4F power pack
6.	Installation of 'late' Mk 4F engine to 'early' Mk 4F power pack			Modify as in Serial 4.a.		It is not necessary to modify power pack to effect installation of engine. However, should stores be available, the modification should be implemented



TV E 109 M13
1-1

Fig 1 - Engine front cover ('early' Mk 4F engine)

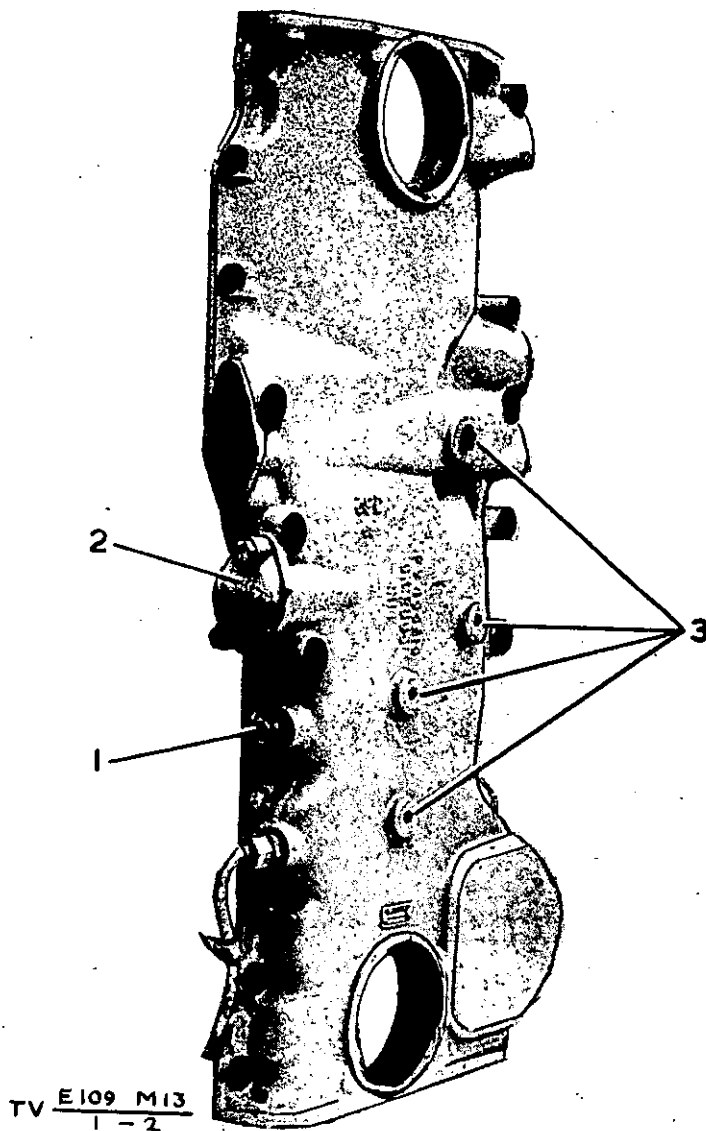
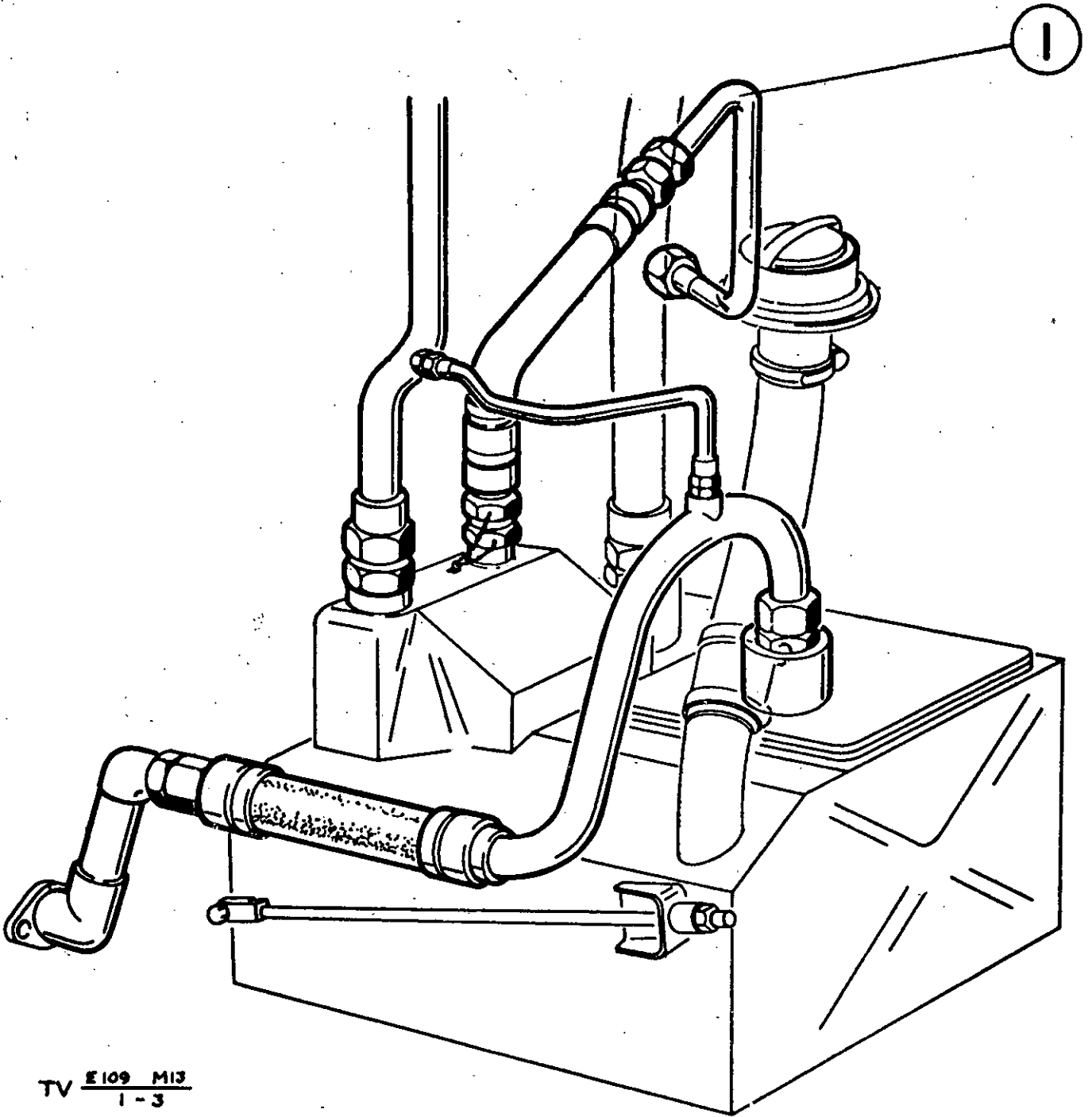


Fig 2 - Engine front cover ('late' Mk 4F engine)

1. Union, d.e. 5/8 in. UNF (small bore breather)
2. Blanking cover, FV 142014 (large bore breather)
3. Socket headed screwed plugs (4 off)



TV E109 M13
1-3

Fig 3 - Oil tank and pipe fittings ('early' Mk 4F power pack)

1. Small bore breather pipe

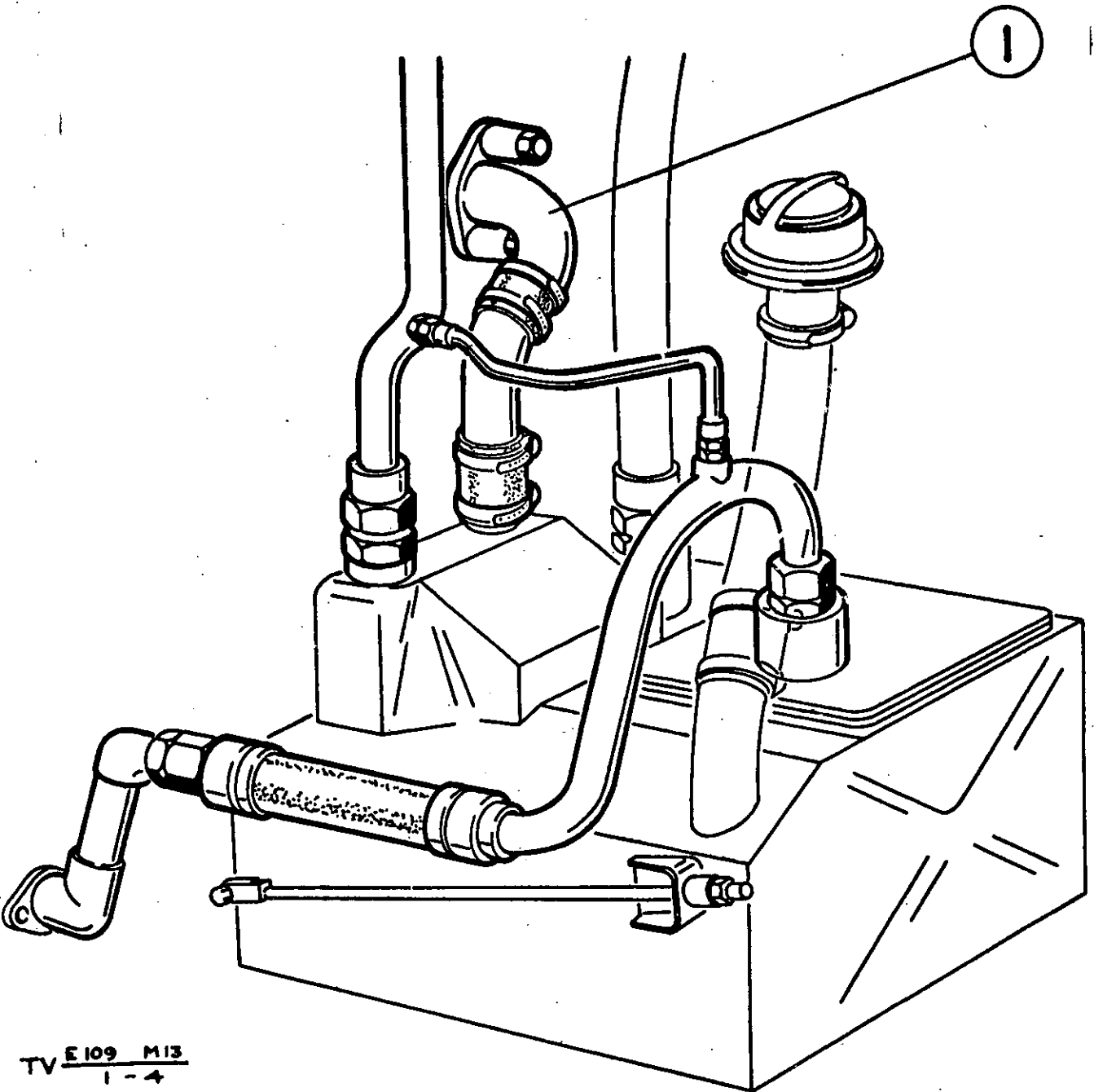
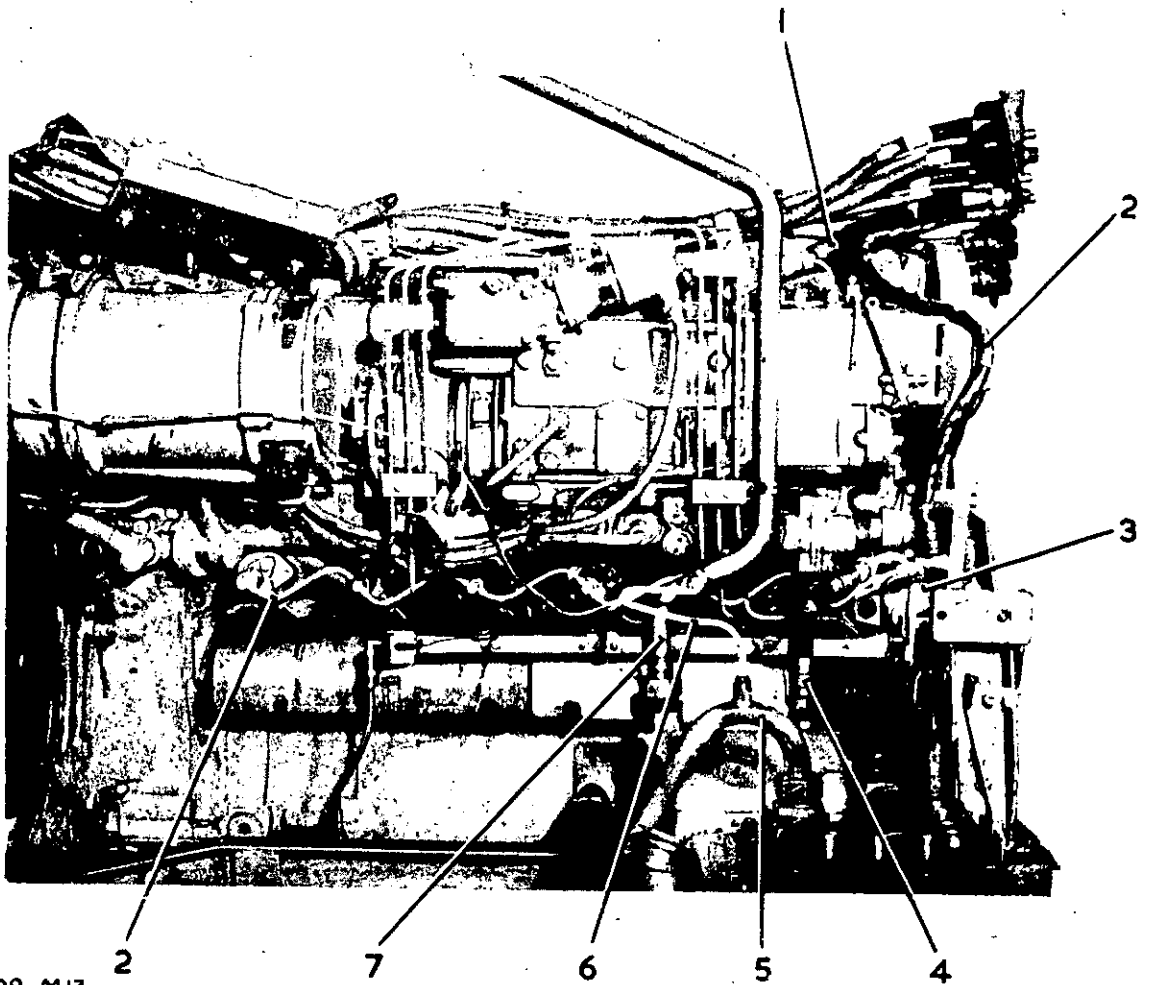


Fig 4 - Oil tank and pipe fittings ('late' Mk 4F power pack)

1. Large bore breather pipe



TV E 109 M13
1-5

Fig 5 - Oil and fuel pipes (Mk 4F engine and power pack)

1. Fuel spill pipe
2. Fuel leak-off pipe
3. Blanking cover, FV 142014 (large bore breather)
4. Small bore breather pipe
5. Oil suction pipe assembly
6. Syphon break pipe (oil suction to tank breather pipes)
7. Breather pipe, oil tank

Note: This is a 'late' Mk 4F engine fitted to an 'early' Mk 4F power pack. The power pack has not been modified to Tkd Veh E 107/~~3~~ Mod Instr No ~~32~~ 32. (Approval 29314).

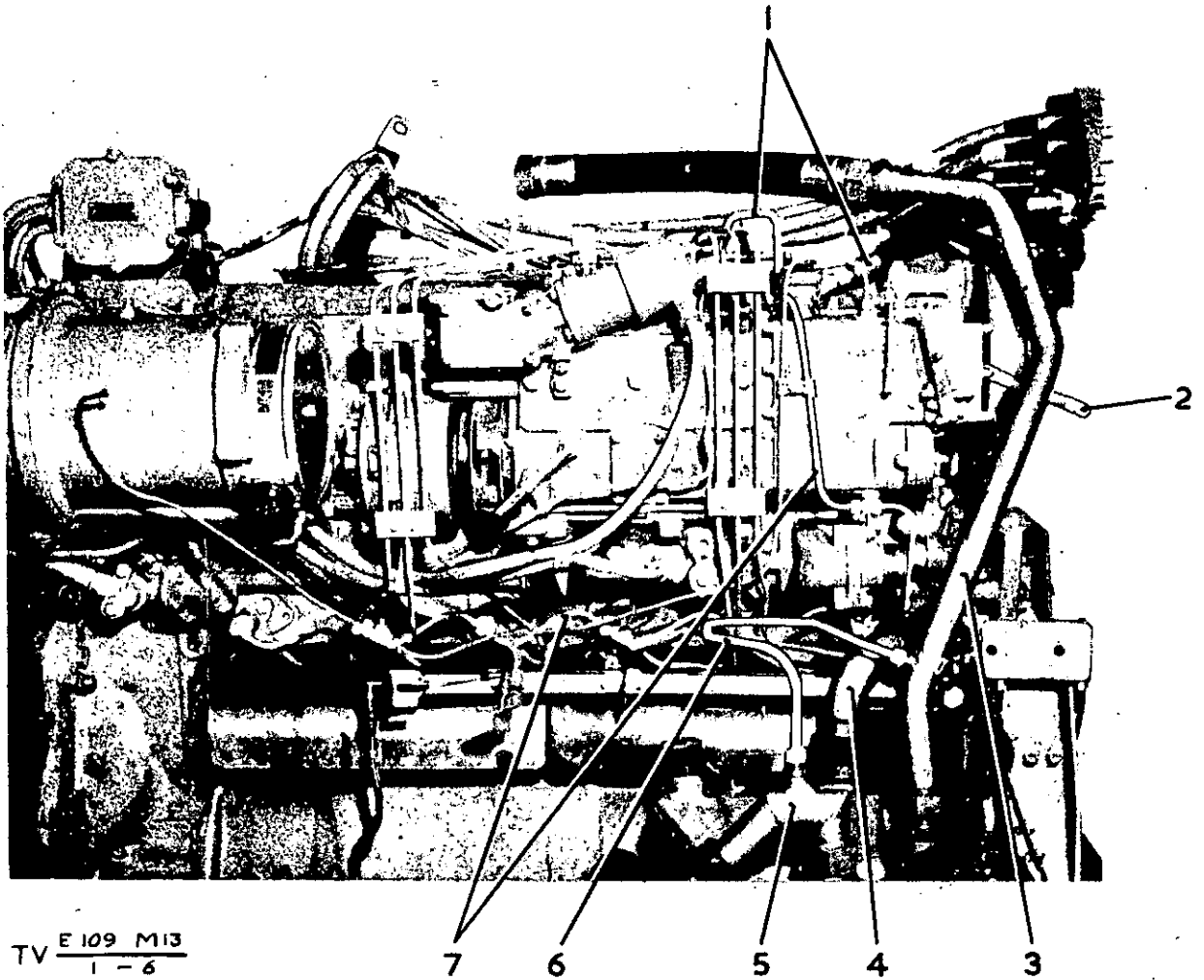
TV $\frac{E 109 M13}{1-6}$

Fig 6 - Oil and fuel pipes (Mk 6F engine and power pack)

1. Fuel spill pipes
2. Engine emergency stop control
3. Oil return pipe
4. Large bore breather pipe
5. Oil suction pipe assembly
6. Syphon break pipe (oil suction to return pipes)
7. Fuel leak-off pipe

72516 ('A' Veh)

END

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CARRIER, PERSONNEL, FULL TRACKED, FV 432, MK 1, 1/1, 2 AND 2/1
0040.0110, 0040.0013, 0040.0111, 0040.0112

SELF-PROPELLED, 105 MM FIELD GUN, ABBOT, FV 433
0600.0000

CARRIER, MAINTENANCE, FULL TRACKED, FV 434
0070.0140

CARRIER, MOUNTED, LAUNCHER GUIDED MISSILE, FULL TRACKED, FV 438
0740.0180

CARRIER, MOUNTED, RADIO/TELEGRAPH STATION, FULL TRACKED, FV 439

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

Cancellation

1. The information given in Issue 2 of this regulation is now contained in Pwr P 329/11, Misc Instr No 1.
2. All copies of Issue 2, Pages 1-2, dated May 70 are hereby cancelled and are to be destroyed.
3. When action detailed in para 2 has been completed:-
 - a. Delete reference to Issue 2 from Tkd Veh E 109 Misc Instr Index.
 - b. Delete all reference to Issue 2 from current Tkd Veh A 001.
 - c. Destroy this Issue 3.

END

VEHICLES

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

0040.0110, 0040.0013, 0040.0111/0040.0112

SELF-PROPELLED, 105 MM FIELD GUN, ABBOT, FV 433

0600.0000

CARRIER, MAINTENANCE, FULL TRACKED, FV 434

0070.0140

CARRIER, MOUNTED, LAUNCHER GUIDED MISSILE, FULL TRACKED, FV 438

0740.0180

CARRIER, MOUNTED RADIO/TELEGRAPH STATION, FULL TRACKED, FV 439

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

Note: These Pages 1-2, Issue 2, supersede Pages 1-2, Issue 1, dated 15 Oct 69. Item marked @ has been amended.

SUB-TITLE: Starter motor, No 3, Mk 2 (FV 546165)

1. Introduction

To prevent possible starter failure due to excessive overspeeding, a spacer and new pinion spring are to be fitted in place of existing spring.

2. Item affected: Pinion spring LV6/MT4/2920-99-803-9889 (CAV Y5549-100).

3. Action required by:-

a. Units authorized to carry out field or base repairs

(1) During repair or overhaul a new spring X3 2815-99-202-8405 (Y5586-485) and spacer X35316-99-203-6561 (Y5586-513) are to be demanded and fitted as a replacement for existing starter motor pinion spring LV6/MT4 2920-99-803-9889 (Y5549-100).

(2) Record completion in equipment log book.

b. All recipients of this EMER

Add particulars to Tkd Veh E 109 Misc Instr Index.

4. Detail:-

Refer to ISPL Army Code No 14660 Plate A72 for FV 432, Mk 2. Remove and discard the existing faulty pinion spring LV6MT4-2920-99-803-9889 (Y5549-100 item 70) and fit in its place the new spring (Y5586-485) and spacer (Y5586-513).

FVRDE Approval 23673
Def and Mods 72626

END

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CARRIER, PERSONNEL, FULL TRACKED, FV 432, MK 1, 1/1, 2 AND 2/1
(Code: 0040.0110; 0040.0113; 0040.0111; 0040.0112)

GUN, SELF-PROPELLED, 105 MM FD GUN ABBOT FV 433
(Code: 0600.0000)

CARRIER, MAINTENANCE, FULL TRACKED, FV 434 MK 1 AND 1/1
(Code: 0070.0140; 0070.0141)

LAUNCHER, GUIDED MISSILE, CARRIER MOUNTED, FULL TRACKED FV 438
(Code: 0740.0180)

RADIO, STATION, CARRIER MOUNTED, FULL TRACKED FV 439 MK 1 AND 2/1
(Code: 0750.0170; 0750.0172)

TELEGRAPH STATION, CARRIER MOUNTED, FULL TRACKED FV 439 MK 1 AND 2/1
(Code: 0765.0170; 0765.0172)

TELEPHONE EXCHANGE, CARRIER MOUNTED FULL TRACKED FV 439 MK 1 AND 2/1
(Code: 0765.0170; 0765.0172)

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Allison gearbox, oil temperature gauge

1. Introduction

Additional coloured marking is added to the dial of the oil temperature gauge to facilitate checking the gearbox oil level and to ensure that the gearbox is operating at a safe working temperature.

2. Item affected: Thermometer, electric, No 2, Mk 2 (FV 494518)
LV6/MT1/6685-99-881-3341

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 Misc Instr Index.

4. Detail:-

a. Remove the gearbox oil temperature gauge from the instrument panel. Expose the dial of the gauge by unscrewing the cap from the body and removing the glass cover, 'O' seal ring, perspex cover, a second 'O' seal ring and pointer pivot guard.

b. See Fig 1 and paint:-

(1) In red (H1/8010-99-942-8740 Paint, finishing, cellulose, brushing, red) the danger zone between 250°F and 300°F on the dial of the gauge. This area to extend from the digits to the upper edge of the dial.

(2) A yellow line (H1/8010-99-942-8745, Paint, finishing, cellulose, brushing yellow) across the face of the dial at the 180 - 185°F point.

c. Refit gauge components after first checking that the 'O' seal rings are serviceable.

d. Refit gauge to instrument panel and check for correct operation.

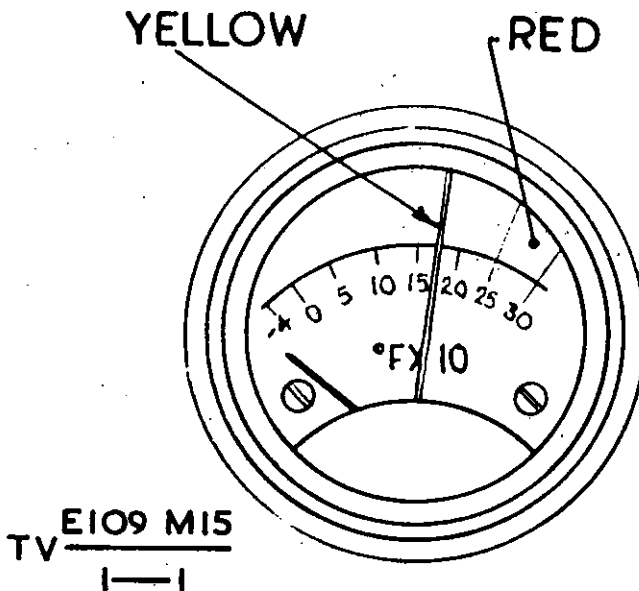


Fig.1 - Gearbox oil temperature gauge

Authority: A/58/Tech/1970 EME 7a(A)/170 meeting
Def and Mods 725/02
1834/69/UN

END

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CARRIER, PERSONNEL, FULL TRACKED, FV 432, MK 1, 1/1, 2, 2/1
(Code: 0040.0110, 0040.0113, 0040.0111, 0040.0112)

GUN, SELF-PROPELLED, 105 MM FIELD GUN, ABBOT, FV 433
(Code: 0600.0000)

LAUNCHER, GUIDED MISSILE, CARRIER MOUNTED, FULL TRACKED, FV 438
(Code: 0740.0180)

RADIO STATION, CARRIER MOUNTED, FULL TRACKED, FV 439, MK 1 AND 2/1
(Code: 0750.0170, 0750.0172)

TELEGRAPH STATION, CARRIER MOUNTED, FULL TRACKED, FV 439, MK 1 AND 2/1
(Code: 0760.0170, 0760.0172)

TELEPHONE EXCHANGE, CARRIER MOUNTED, FULL TRACKED, FV 439, MK 1 AND 2/1
(Code: 0765.0170, 0765.0172)

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Fouling of fuel tank mounting pads.

1. Introduction

To improve life of fuel tank support pads, existing felt pads are to be replaced with neoprene pads secured to hull wall with Araldite for FV 433 and bonded cork pads and additional neoprene sponge pads secured to hull wall with Araldite for FV 432, FV 438 and FV 439.

2. Item affected: Fuel tank mounting felt pads.

3. Action required by:-

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

When fuel tanks are removed during repair or overhaul, demand the stores required and carry out this instruction.

b. All recipients of this EMER

Add particulars to Tkd Veh E 109 Misc Instr Index.

4. Stores, tools and equipment:-

a. Stores to be demanded

<u>VAOS Section</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty per veh</u>
<u>FV 432, FV 438 and FV 439</u>			
LV9ACR	2590-99-806-8466 (FV 650982)	Pad	6
LV9ACR	2590-99-806-8467 (FV 650983)	Pad	4

b. Stores to be obtained locally

<u>VAOS Section</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty per veh</u>
<u>FV 432, FV 438 and FV 439</u>			
		Sponge, neoprene, closed cell, 1/4 in. thick	24 x 21 in.
<u>FV 433</u>			
LV6MT6	881-7012	Strip, expanded neoprene, 1/4 in. thick	11½ x 1½ in.
LV6MT6	881-7013	Strip, expanded neoprene, 1/2 in. thick	70 x 4 in.
LV6MT6	881-7014 7011	Strip, expanded neoprene, 3/4 in. thick	20 x 1½ in.
H1 (b)	8040-99-943-7791	Araldite (two tube pack) small or Araldite (two tube pack) large	as req'd as req'd

5. Detail

a. FV 432 Mk 1, 1/1, 2 and 2/1, FV 438 and FV 439. Refer to ISPL Army Code No 14660 Plate C1.

(1) Remove and discard the existing three pads (FV 480263 item 21) and two pads (FV 480262 item 20) from bottom and side respectively of l.h. and r.h. fuel tanks (item 1).

(2) See Fig 1. Form a chamfer on the two l.h. and r.h. tank lower securing brackets (FV 485364 item 22) at dimensions shown.

(3) Cut eight pads 21 in. x 3 in. from the neoprene sponge listed in para 4b.

(4) See Fig 2. Secure four of the manufactured pads to l.h. fuel tank cover plate (FV 525478 for Mk 1) or (FV 559774 for Mk 2) at dimensions shown using the Araldite and hardener listed in para 4b.

(5) Repeat for r.h. fuel tank cover plate (FV 525479 for Mk 1) or (FV 559775 for Mk 2).

(6) See Fig 1. Secure the three new pads (FV 650982) and two new pads (FV 650983) listed in para 4a to hull bottom and side plates respectively (at l.h. and r.h. fuel tank position) at dimensions shown, using the Araldite and hardener listed in para 4b.

b. FV 433 - Refer to ISPL Army Code No 13928 Plate C1.

(1) Remove and discard the existing pads (FV 528579 qty 1) (FV 528580 item 40, qty 1) (FV 487250 item 39, qty 4) (FV 413098 item 36, qty 4) (FV 413099 item 37, qty 2) (FV 413100 item 38, qty 4) (FV 528287, qty 1) (FV 566645 item 41, qty 1) (FV 566644, qty 1) (FV 518447 item 42, qty 2) from fuel tank (FV 518384, item 1).

(2) Cut the following pads from the neoprene strip listed in para 4b:-

- (a) Pad $11\frac{1}{2}$ in. x $1\frac{1}{2}$ in. Qty 1 from the $\frac{1}{4}$ in. thick material
 - (b) Pad 3 in. x $1\frac{1}{2}$ in. Qty 1
 - (c) Pad 6 in. x 2 in. Qty 4
 - (d) Pad $17\frac{1}{2}$ in. x 2 in. Qty 1
 - (e) Pad 12 in. x 2 in. Qty 2
 - (f) Pad 9 in. x 2 in. Qty 4
 - (g) Pad 28 in. x 2 in. Qty 1
 - (h) Pad 2 in. x 2 in. Qty 1
 - (j) Pad 16 in. x $1\frac{1}{2}$ in. Qty 1
 - (k) Pad 2 in. x 1 in. Qty 2
- from the $\frac{1}{2}$ in. thick material
- from the $\frac{3}{4}$ in. thick material

(3) See Fig 3. Secure the manufactured pads to hull side and bottom plate at dimensions shown using the Araldite and hardener listed in para 4b.

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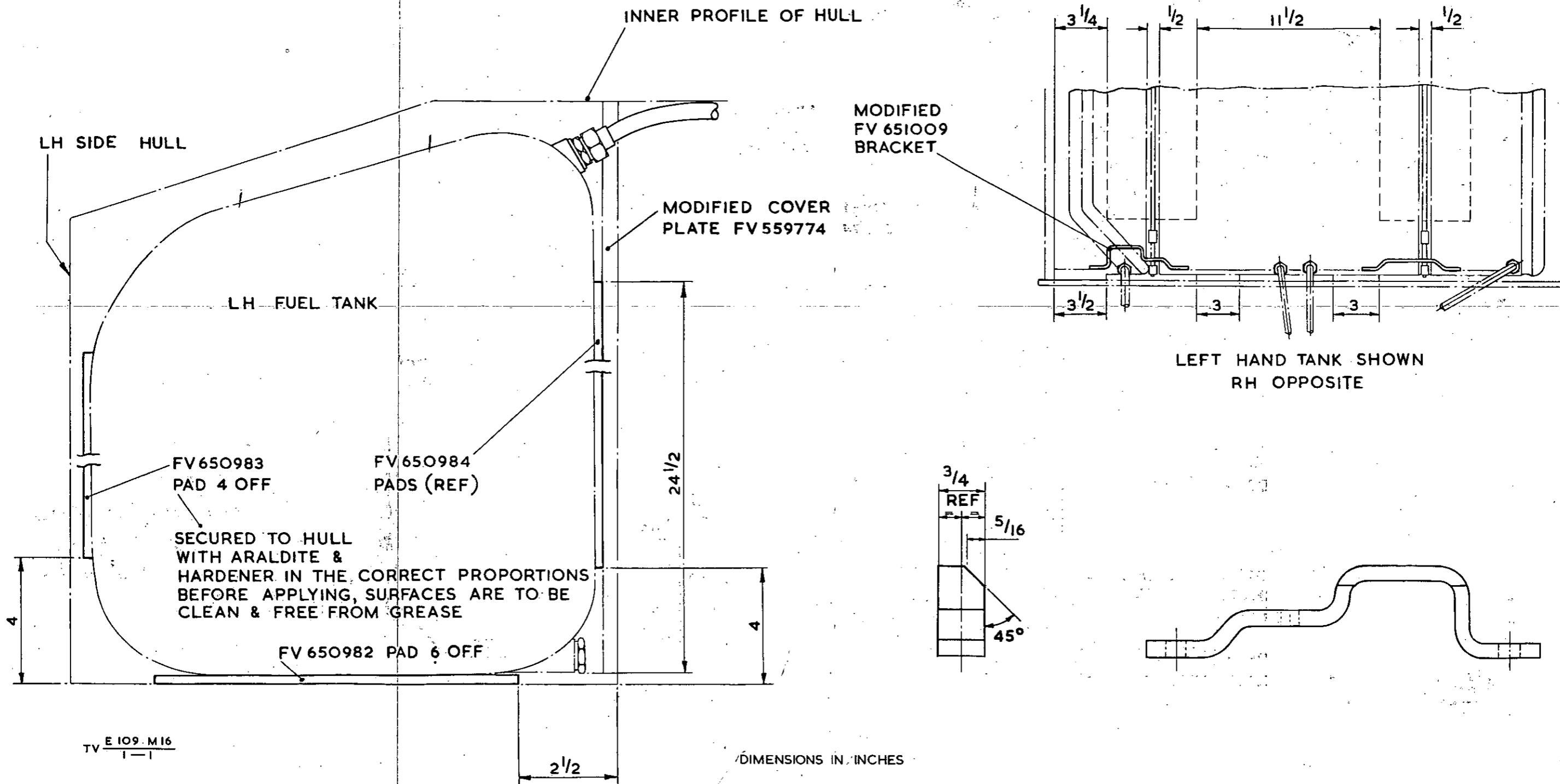
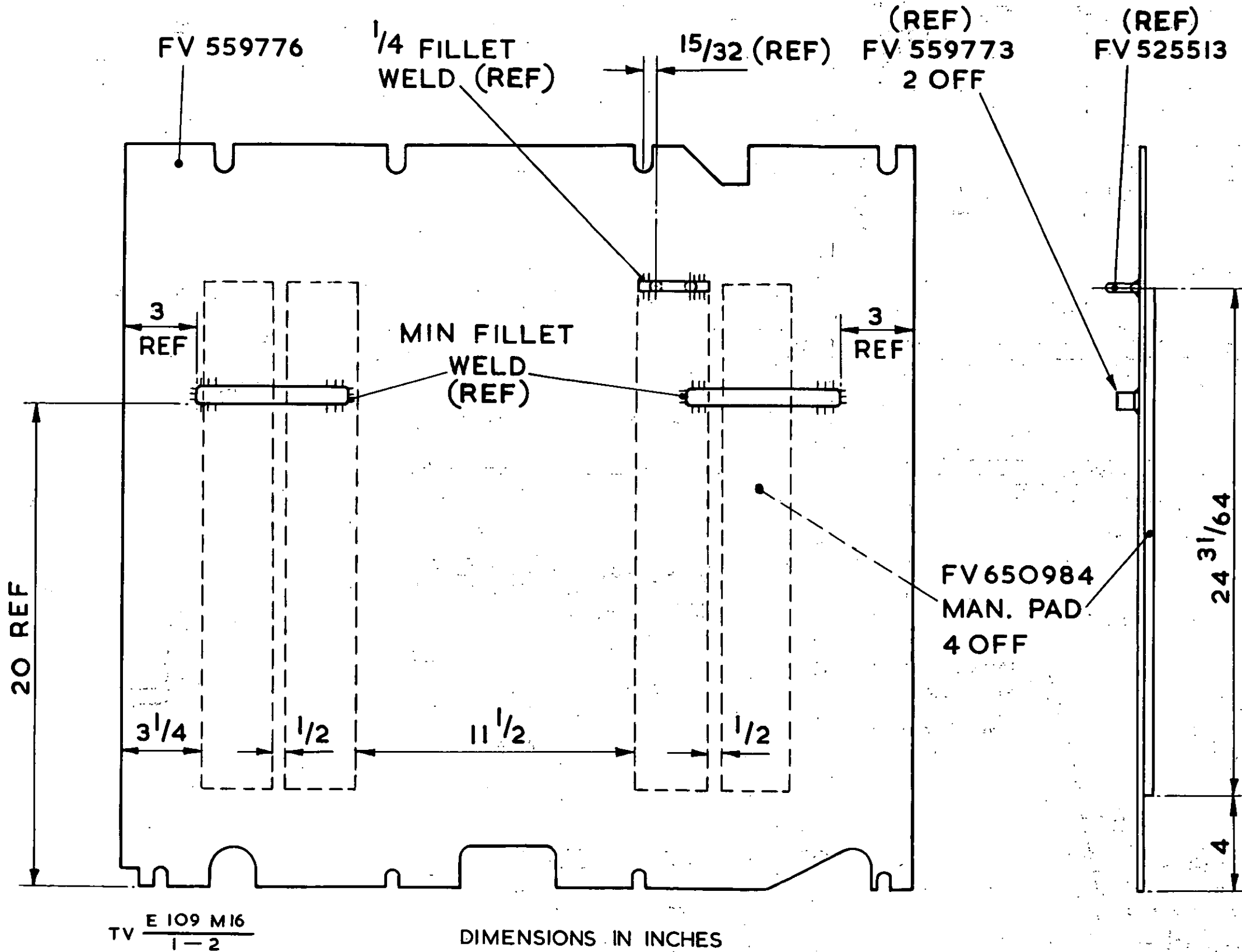


Fig 1 - FV 432, FV 438, FV 439 fuel tanks - assembly

~~RESTRICTED~~



BOND WITH 'ARALDITE' & HARDENER IN THE CORRECT PROPORTIONS. ENSURE THAT SURFACES ARE CLEAN & FREE FROM GREASE

Fig 2 - Cover plate l.h. - assembly

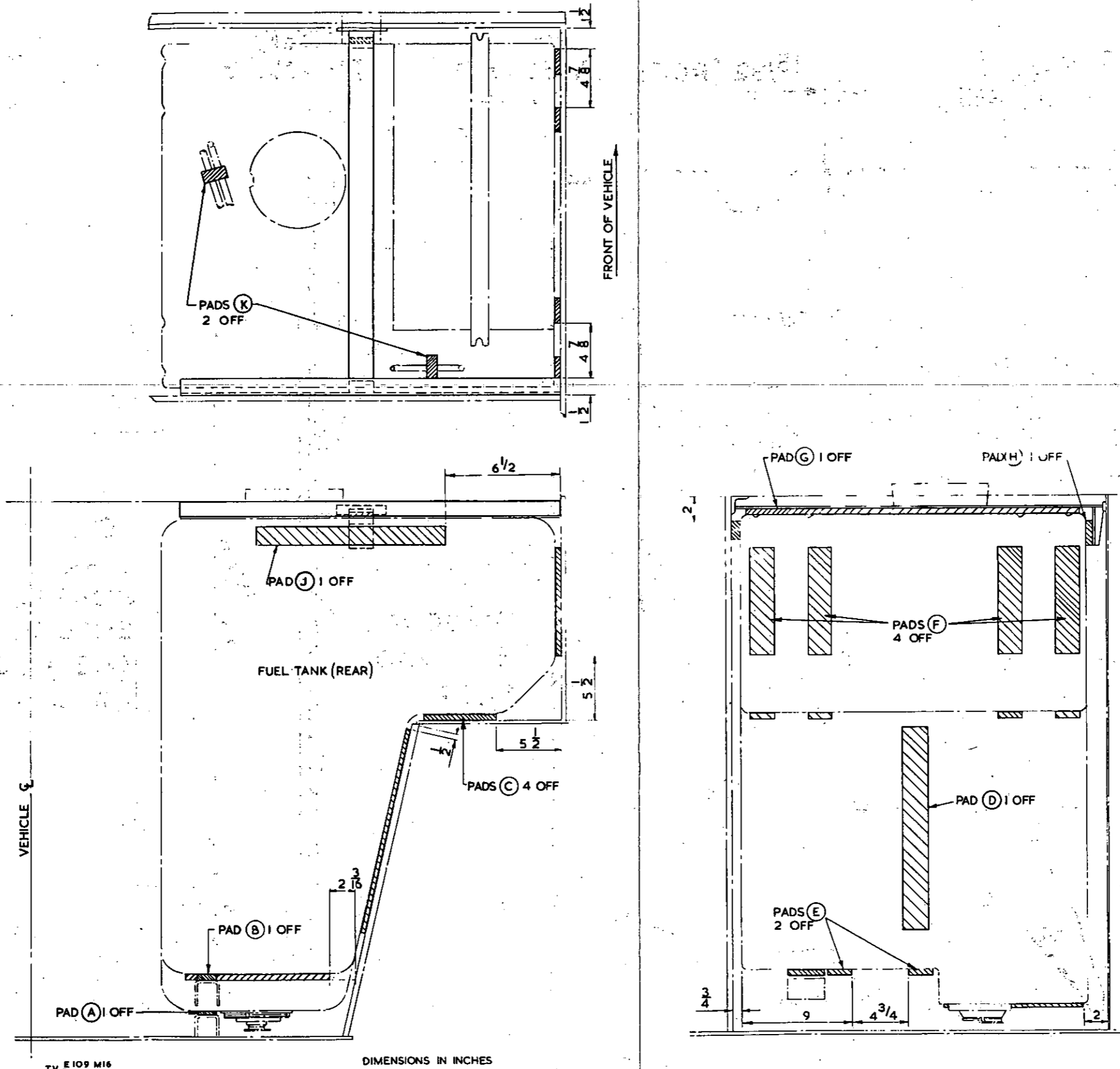


Fig 3 - FV 433 fuel tanks - assembly
END

Am D *cutback*

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

Code: 0040.0112

LAUNCHER, GUIDED MISSILE, CARRIER MOUNTED, FULL TRACKED, FV 438

Code: 0740.0180

RADIO STATION, CARRIER MOUNTED, FULL TRACKED, FV 439, MK 1 AND 2/1

Code: 0750.0170; 0750.0172

TELEGRAPH STATION, CARRIER MOUNTED, FULL TRACKED, FV 439, MK 1 AND 2/1

Code: 0760.0170; 0760.0172

TELEPHONE EXCHANGE, CARRIER MOUNTED, FULL TRACKED, FV 439, MK 1 AND 2/1

Code: 0765.0170; 0765.0172

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Improved mounting of Distribution panel, No 6, Mk 1

1. Introduction

To facilitate removal, the bolts securing the distribution panel and mounting plates are to be tack welded to underside of mounting plate.

2. Item affected:- Mounting plates (FV 586507, Page L.64, Item 29 ISPL Code No 14660) and bolts of distribution panel

3. Action required by:-

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

During repair or overhaul, carry out this instruction.

b. All recipients of this EMER:

Add particulars to Tkd Veh E 109 Misc Instr Index.

4. Detail:-

- a. Remove the nuts tack welded to the underside of the distribution panel mounting plates (see User Handbook Code No 14693 Fig 15A for illustration of distribution panel and mounting plates).
- b. Clean up plates and tack weld bolt heads in position where nuts were originally secured.

FVRDE Approval 29664
Def and Mods 706133

END

19.8.71

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

Code: 0040.0110; 0040.0113; 0040.0111; 0040.0112

CARRIER, MAINTENANCE, FULL TRACKED MK 1 AND 1/1 (FV 434)

Code: 0070.0140; 0070.0141

LAUNCHER, GUIDED MISSILE, CARRIER MOUNTED, FULL TRACKED (FV438)

Code: 0740.0180

COMMUNICATIONS SYSTEM, CARRIER MOUNTED, FULL TRACKED, MK1 AND 2/1 (FV439)

Code: 0750.0170; 0750.0172; 0760.0170; 0760.0172

0765.0170; 0765.0172

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

Note: These Pages 1-2, Issue 3 supersede Pages 1-2, Issue 2 dated Dec 70. Paragraph marked ● has been amended.

SUB-TITLE Allison gearbox excess oil evacuating pump

1. Introduction

The oil level of the Allison gearbox is critical and overfilling with oil results in overheating of the gearbox with subsequent failure. To assist in maintaining the correct oil level, an oil evacuating pump is to be introduced.

2. Item affected: Evacuating oil pump, Nesthill type 55, LV9 ACR/NIV6.

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

Modify pumps in accordance with para 5.a. of this instruction.

Note: Pumps (LV9 ACR/NIV6) are issued in accordance with Equipment Table Scale 033/41 (Edition Five) dated Jul 70, with Amendment No 1.

4. Stores, tools and equipment:-

a. Stores to be obtained locally

<u>Part No</u>	<u>Designation</u>	<u>Qty per veh</u>
LV6 MT6/4720-99-912-7726	Hose, rubber, 5/8 in.i.d. x 29/32 in.o.d.	2ft 6 in.
LV6 MT1/4730-99-942-9463	Clip, hose, worm drive 5/8 to 7/8 in.	1

<u>Part No</u>	<u>Designation</u>	<u>Qty</u> <u>per veh</u>
G2/4710-99-960-4699	Tubing, steel, 21/32 in. o.d. x 10 S.W.G.	1ft 9 in.
G2/9515-99-960-9326	Steel strip, 1in. x 1/8 in.	As req.

b. Stores to be locally manufactured

<u>Fig No</u>	<u>Description</u>	<u>Qty</u> <u>per veh</u>
1	Bridge plate	1
1	Suction tube	1

5. Detail

a. Preparation

- (1) Manufacture bridge plate, see Fig 1.
- (2) Manufacture suction tube, see Fig 1 and braze bridge plate to tube in the detailed position. Screw suction tube to pump using leather washer and lock-nut, supplied with pump, to lock suction tube in position.

Note: In due course a modification to lower the gearbox sump and revise the oil level is to be introduced. When implemented, it will necessitate increasing the suction tube length by 3/8 in. Details are to be published in Tkd Veh E 107 Mod Instr No 17 stating the new length of tube required, to be locally manufactured.

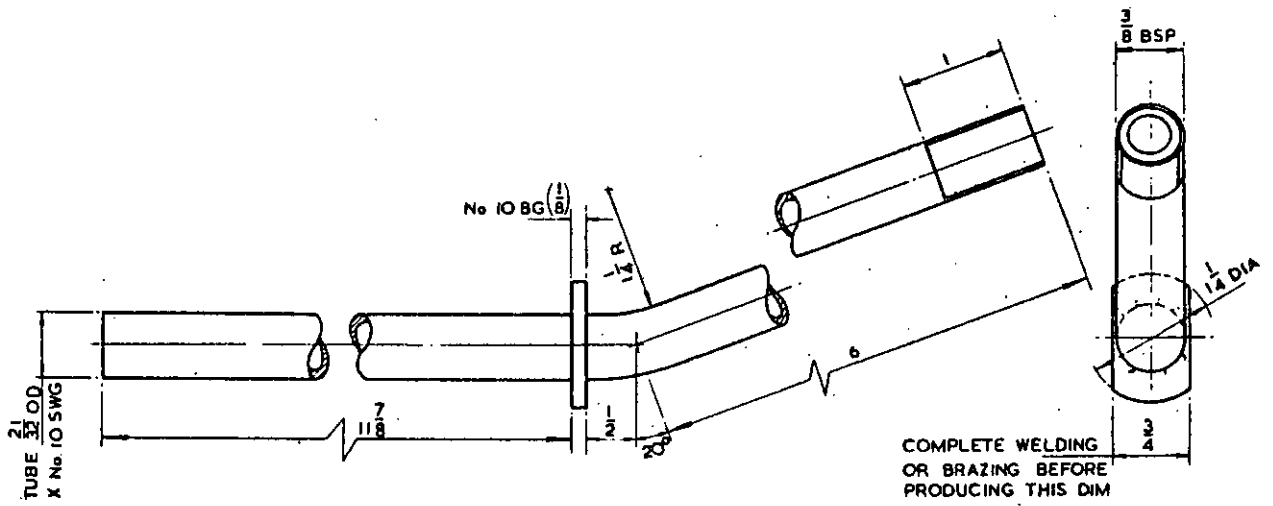
- (3) Fit 5/8 in. i.d. rubber hose to pump discharge tube and secure with hose clip.
- (4) Obtain a clean container for discharge of excess oil.

b. Operating evacuating pump

- (1) Check oil level of gearbox in accordance with the relevant Servicing Schedule.
- (2) If the oil level is 'HIGH' ie, registers above 'SAFE' zone band on dipstick, insert suction tube into gearbox dipstick orifice ensuring that full length of tube is inserted, see Fig 2.
- (3) Place clean container on hull floor and insert discharge hose into container.
- (4) With engine still idling at 800 rev/min and an oil temperature gauge reading of 180 F, operate the pump until full flow of oil from discharge tube is reduced to a slight dribble.

Note: Oil level will remain stable for approximately three minutes.

- (5) Re-check oil level as per Servicing Schedule.

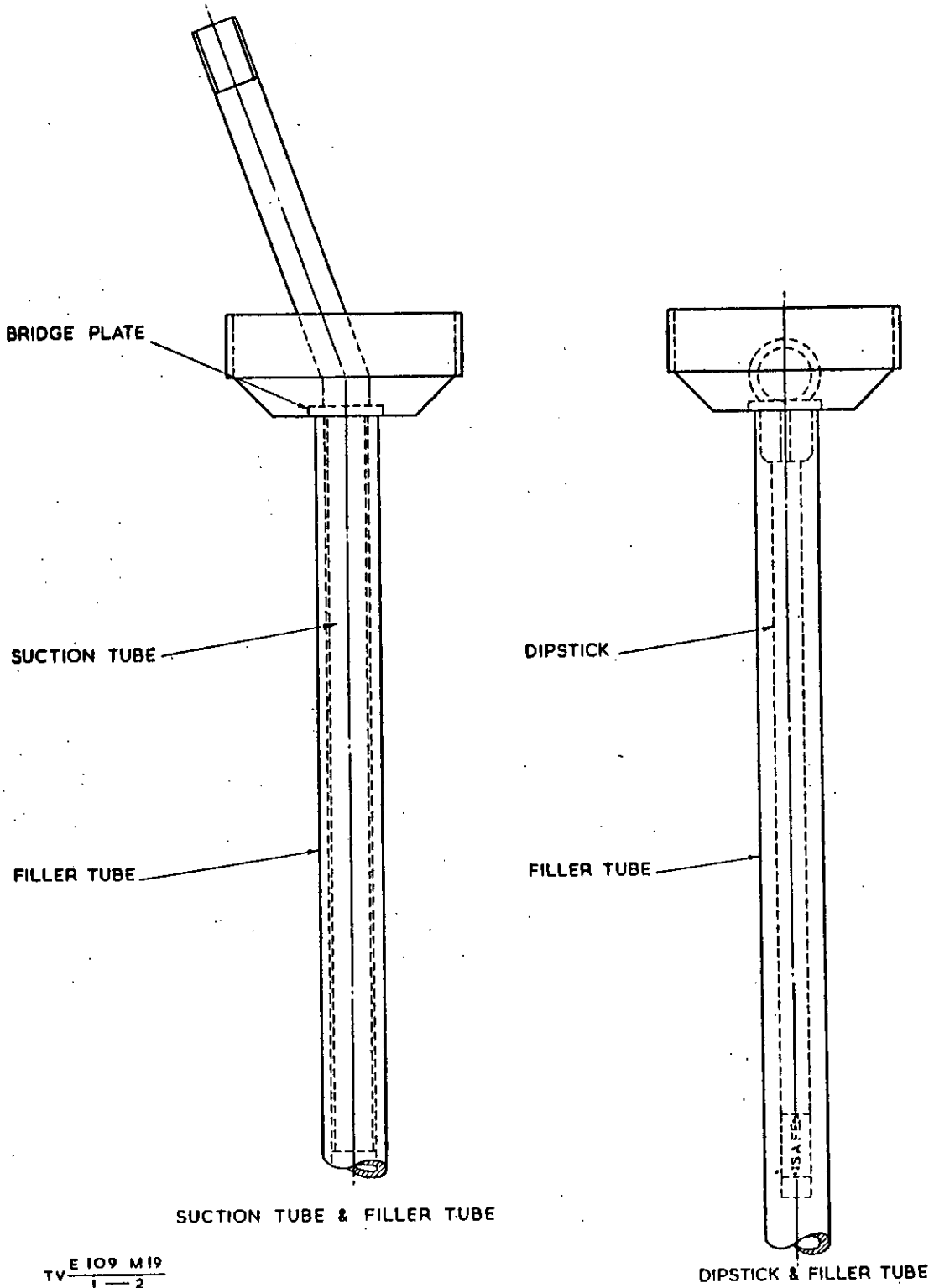


TV E 109 M 19
1-1

MATL :- MILD STEEL
WELDED OR BRAZED
CONSTRUCTION

DIMENSIONS IN INCHES

Fig 1 Suction tube and bridge plate



SUCTION TUBE & FILLER TUBE

DIPSTICK & FILLER TUBE

E 109 M19
TV 1-2

Fig 2 - Relative positions of suction tube and dipstick.

Note: Length of suction tube corresponds to centre of 'SAFE' zone band on dipstick

12109/EME7a/10118/9/A ('A' Vehs)

END

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CARRIER, PERSONNEL, FULL TRACKED, FV 432, MK 1, 1/1, 2 AND 2/1
Code: 0040.0110, 0040.0113, 0040.0111 and 0040.0112

CARRIER, MAINTENANCE, FULL TRACKED, FV 434, MK 1 AND 1/1
Code: 0070.0140 and 0070.0141

LAUNCHER, GUIDED MISSILE, CARRIER MOUNTED, FULL TRACKED, FV 438
Code: 0740.0180

RADIO, STATION, CARRIER MOUNTED, FULL TRACKED, FV 439, MK 1 AND 2/1
Code: 0750.0170 and 0750.0172

TELEGRAPH STATION, CARRIER MOUNTED, FULL TRACKED, FV 439, MK 1 AND 2/1
Code: 0760.0170 and 0760.0172

TELEPHONE EXCHANGE, CARRIER MOUNTED, FULL TRACKED, FV 439, MK 1 AND 2/1
Code: 0765.0170 and 0765.0172

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Gear range selector assembly

1. Introduction

To give a more positive fixing of the linkage the Mills pin is replaced by a Roll pin and loctite is applied to the pivot pin LV9ACR/5315-99-865-6723 (FV 525296) before assembly of the lever LV9ACR/2520-99-865-6722 (FV 525292).

2. Item affected: Gear range selector (FV 525282).

3. Action required by:-

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

When carrying out repairs to the gear range selector or on overhaul, carry out this instruction.

b. All recipients of this EMER

Add particulars to Tkd Veh E 109 Misc Instr Index.

4. Stores, tools and equipment:-

Stores to be obtained locally

<u>VAOS</u> <u>Section</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty</u> <u>per veh</u>
G1	5315-99-124-4078	Pin, spring, steel, 3/16 in. dia x 1.0 in. long, 0.040 in. thickness of material	1
H1(b)	8030-99-220-1024	Loctite, grade AV (10 cc)	As reqd

5. Detail

Refer to ISPL, AD Code No 14660, Plate G4. On assembly of the gear range selector, apply loctite to the pivot pin (item 4) before fitting the lever (item 9). Secure lever to pivot using a pin, spring, steel, as listed at para 4.

MVEE Approval 29735
VIB MS 725/29735

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CARRIER, PERSONNEL, FULL TRACKED FV 432 MK 1, 1/1, 2 AND 2/1
Code: 0040.0110, 0040.0111, 0040.0112 and 0040.0113

GUN, SELF-PROPELLED, 105 MM FD GUN ABBOT FV 433
Code: 0600.0000

CARRIER, MAINTENANCE, FULL TRACKED, FV 434 MK 1 AND 1/1
Code: 0070.0140 and 0070.0141

LAUNCHER, GUIDED MISSILE, CARRIER MOUNTED, FULL TRACKED FV 438
Code: 0740.0180

RADIO STATION, CARRIER MOUNTED, FULL TRACKED FV 439 MK 1 AND 2/1
Code: 0750.0170 and 0750.0172

TELEGRAPH STATION, CARRIER MOUNTED, FULL TRACKED FV 439 MK 1 AND 2/1
Code: 0760.0170 and 0760.0172

TELEPHONE EXCHANGE, CARRIER MOUNTED, FULL TRACKED FV 439 MK 1 AND 2/1
Code: 0765.0170 and 0765.0172

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Coupling - shaft flexible

1. Introduction

Three extraction holes are to be drilled in the Coupling-shaft flexible, to facilitate its removal from the flywheel.

2. Item affected: LV10/2520-99-865-3654 Coupling-shaft flexible

3. Action required by:-

a. Units authorized to carry out field or base repairs

During repair or overhaul, carry out this instruction.

b. All recipients of this EMER

Add particulars to Tkd Veh E 109 Misc Instr Index.

4. Detail

See Fig 1. Drill and tap three 5/16 in. UNF holes as shown.

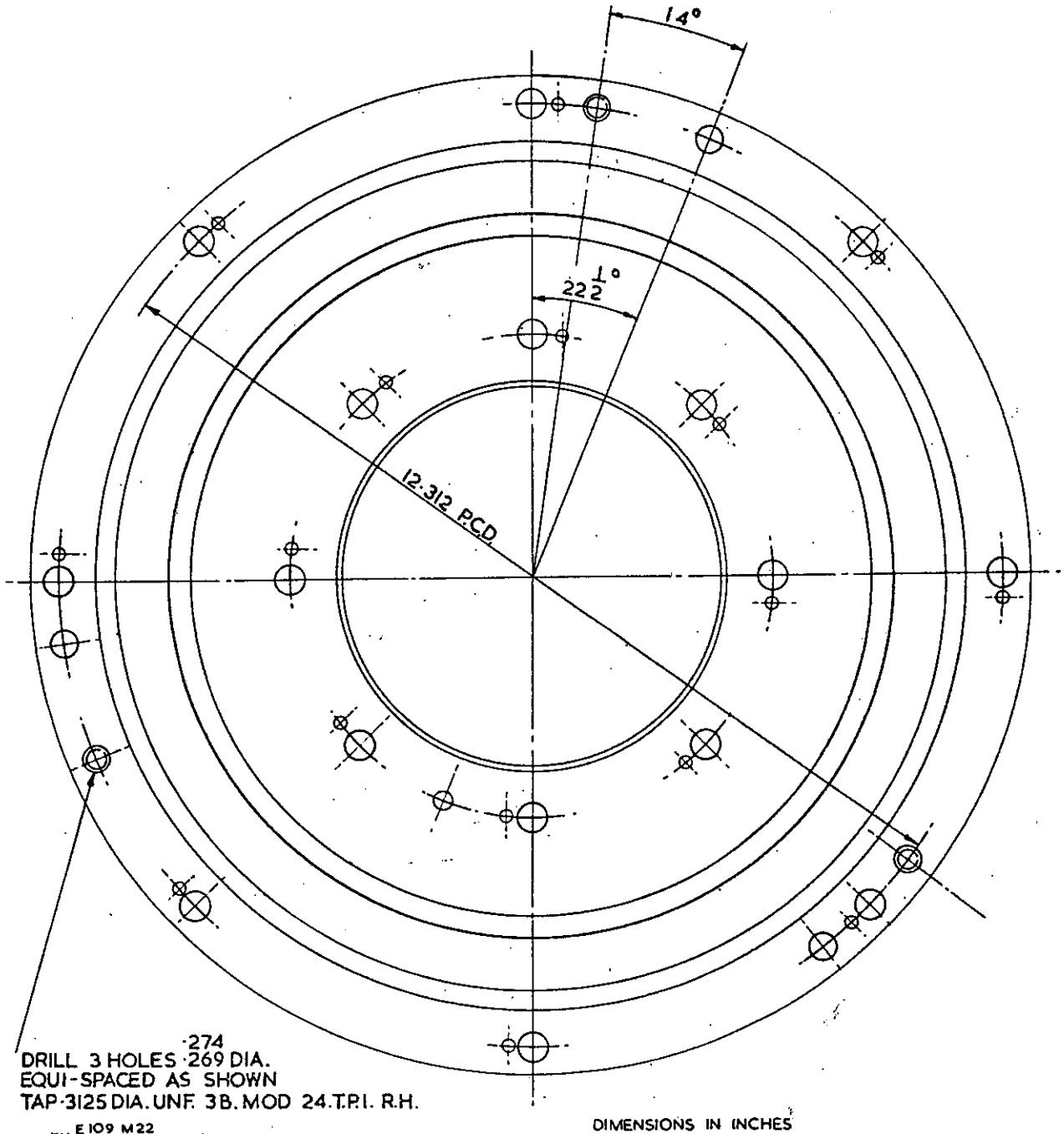


Fig 1 - Drilling detail - Coupling-shaft flexible

MD 7K D 101

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①

FV430 SERIES VEHICLES, ALL MARKS

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

Errata

Note: This Page 0 is to be filed immediately in front of Page 1, Issue 1 dated Sep 71.

Amend as follows:

- 1. Page 3, para 4, Table 2, item 6

Delete: 5330-99-881-4847
 Insert: 5330-99-801-4847

~~RESTRICTED~~

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

Code: 0040.0110, 0040.0113, 0040.0111, 0040.0112

GUN, SELF-PROPELLED, 105 MM FD GUN, ABBOT FV 433

Code: 0600.0000

LAUNCHER, GUIDED MISSILE, CARRIER MOUNTED, FULL TRACKED, FV 438, SWINGFIRE

Code: 0740.0180

RADIO STATION, CARRIER MOUNTED, FULL TRACKED, FV 439, MK 1 AND 2/1

Code: 0750.0170, 0750.0172

TELEGRAPH STATION, CARRIER MOUNTED, FULL TRACKED, FV 439, MK 1 AND 2/1

Code: 0760.0170, 0760.0172

TELEPHONE EXCHANGE, CARRIER MOUNTED, FULL TRACKED, FV 439, MK 1 AND 2/1

Code: 0765.0170, 0765.0172

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Final drive assembly

1. Introduction

a. At present two types of final drive assembly are in service for the same vehicle role. The latest pattern (Approval 21422), which was introduced on FV 434 vehicles from first production, incorporates an increased diameter mainshaft and larger hub, sprocket ring, with serrations replacing the involute splines on both components. It is intended to modify all old pattern drive assemblies when spares for the old type final drive are exhausted.

b. This instruction details the stores requirement for modifying old pattern final drives and the procedure for demanding them to ensure that the most economic use is made of the old pattern spares.

2. Items affected:-

- LV9ACR/2520-99-865-6343 ✓ Final drive, vehicular left) FV 432, FV 438 and
- LV9ACR/2520-99-865-6344 ✓ Final drive, vehicular right) FV 439 vehicles

- LV9ACR/2520-99-200-9040 ✓ Final drive, vehicular left } FV 433 vehicles
- LV9ACR/2520-99-200-9039 ✓ Final drive, vehicular right }

3. Action required by:-

a. Units authorized to carry out field or base repairs

During repair or overhaul, carry out this instruction.

b. All recipients of this EMER

Add particulars to Tkd Veh E 109 Misc Instr Index.

4. Stores, tools and equipment required:-

Table 1 shows the stores required to modify old pattern final drives to Approval 21422. These must be demanded as individual items. Table 2 lists the corresponding components of the old pattern drive which are replaced.

Table 1 ✓

<u>VAOS</u> <u>Section</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty per</u> <u>final drive</u>
LV9ACR	2520-99-802-6478 (FV 586586)	Shaft, vehicular, final drive, steel	1
LV9ACR	2520-99-802-6479 (FV 586587)	Hub, sprocket ring, steel	1
LV9ACR	2520-99-802-6481 (FV 586591)	Retainer, oil seal, steel 5.75 in. i.d. x 10.5 in. o.d. x 1.437 in. w	1
LV9ACR	5310-99-802-6482 (FV 586590)	Nut, plain, round, UNS, 2B steel, phosphate, 3 in. 12 t.p.i. 5.5 in. o.d. x 1.72 in. o/a lg.	1
LV6MT1	5330-99-801-5626 (Superfect No 62558)	Seal, plain, encased, 5 1/4 in. i.d. x 6.25 in. o.d. x 9/16 in. w.	1
6 MT1	5330-99-801-6924 (Gaco Mis 54)	Seal, plain, 5 1/4 in. i.d. x 6 1/4 in. o.d. x 1/2 in. w	1
LV9ACR	5310-99-813-9945 (FV 586592 Issue B)	Washer, flat, 3.505 in. i.d. x 4.0 in.) o.d. x 0.104 in. thick	} Demand as reqd (App 29798)
LV9ACR	5310-99-813-9946 (FV 586593 Issue B)	Washer, flat, 3.505 in. i.d. x 4.0 in.) o.d. x 0.048 in. thick	

Table 2 ✓

<u>VAOS</u> <u>Section</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty per</u> <u>final drive</u>
LV9ACR	2520-99-865-6331 (FV 500039)	Shaft, shouldered, vehicular, final drive	1
LV9ACR	2520-99-865-6311 (FV 413810)	Hub, sprocket ring, vehicular, final drive	1
LV9ACR	2520-99-865-6318 (FV 413821)	Retainer, oil seal	1
LV9ACR	5310-99-865-6316 (FV 413819)	Nut, plain, round, 2-3/4 in. 12 t.p.i.	1 <i>No etach</i>
LV6MT1	5330-99-881-5710 (Superfect No 6005)	Seal, plain, encased, 5 in. i.d. x 6.006 in. o.d. x 9/16 in. w	1
LV6MT1	5330-99-801-4847 (Gaco Mis 50)	Seal, plain, 5 in. i.d. x 6 in. o.d. x 1/2 in. w.	1
LV9ACR	2520-99-865-6326 (FV 499555)	Packing piece, 3.240 in. x 4.00 in.) x 0.104 in.	} As fitted
LV9ACR	2520-99-865-6327 (FV 499556)	Packing piece, 3.240 in. x 4.00 in.) x 0.048 in.	

5. Detail:-

a. When a hub, sprocket ring (2520-99-865-6311) of the old pattern is required, demand the new hub, sprocket ring, together with its associated components as shown at para 4, Table 1 and fit as replacements to the items shown at Table 2.

b. If only an old pattern shaft (2520-99-865-6331) is required then, demand the old pattern shaft and fit as a replacement to the original final drive assembly. When stocks of the old pattern shaft are exhausted, take action as in para 5.a.

MVEE Approval 21422
Veh Investigation Br 725/21422

END

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

Code: 0040.0110; 0040.0113; 0040.0111; 0040.0112

GUN, SELF-PROPELLED, 105 MM FD GUN, ABBOT, FV 433

Code: 0600.0000

CARRIER, MAINTENANCE, FULL TRACKED, FV 434, MK 1 AND 1/1

Code: 0070.0140; 0070.0141

LAUNCHER, GUIDED MISSILE, CARRIER MOUNTED, FULL TRACKED, FV 438, SWINGFIRE

Code: 0740.0180

RADIO STATION, CARRIER MOUNTED, FULL TRACKED, FV 439, MK 1 AND 2/1

Code: 0750.170; 0750.0172

TELEGRAPH STATION, CARRIER MOUNTED, FULL TRACKED, FV 439, MK 1 AND 2/1

Code: 0760.0170; 0760.0172

TELEPHONE EXCHANGE, CARRIER MOUNTED, FULL TRACKED, FV 439, MK 1 AND 2/1

Code: 0765.0170; 0765.0172

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Steering unit

1. Introduction

A modified crown wheel, differential flange (crown wheel side) coupled with reduced diameter fitting bolts have been introduced into service to eliminate assembly difficulties caused by misalignment of the holes in the crown wheel and flange. Completion of this modification is denoted by the erasure of No 9 from the modification record plate.

2. Items affected:-

LV10/5306-99-865-3804 (FV 450869)	Bolt, crown wheel, short - 3 off
FV 450874	Crown wheel, steering unit
FV 450864	Differential flange, crown wheel side

3. Action required by:-

a. Units authorized to carry out base repairs

During repair or overhaul, carry out this instruction.

b. All recipients of this EMER

Add particulars to Tkd Veh E 109 Misc Instr Index.

4. Detail:-

a. The crown wheel and differential flange have been drilled to accept three dowels 0.6239/0.6234 in. dia x 2 in. long (5315-99-808-1122/FV 668193) on a pitch circle diameter of 10.0788/10.0787 in. In addition the three original fitted bolts (5306-99-865-3804/FV 450869), shank dia 0.7495 in./0.7490 in. have been replaced by bolts (5306-99-808-1123/FV 668194) of reduced shank dia 0.744/0.739 in.

b. The reduced diameter bolts (FV 668194) must not be used to replace the old pattern bolts (FV 450869) on existing assemblies unless the full modification covered by this instruction has been implemented.

Note: ISPL Code No 14660 Page F7 gives incorrect Plate Refs for the differential flanges. Differential flange FV 450864 should read Plate Ref No 1 and Differential flange FV 450863 should read Plate Ref No 2.

MVEE Approval 27097
Veh Investigation Br 725/27097

END

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CARRIER, PERSONNEL, FULL TRACKED, MK 1, 1/1, 2 AND 2/1 (FV 432)
GUN, SELF-PROPELLED, 105 MM FIELD GUN, ABBOT, (FV 433)
CARRIER, MAINTENANCE, FULL TRACKED, (FV 434)
LAUNCHER, GUIDED MISSILE, CARRIER MOUNTED, FULL TRACKED, (FV 438)
COMMUNICATIONS SYSTEM, CARRIER MOUNTED, FULL TRACKED, MK-1 AND 2/1 (FV 439)

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Removal of paint from internal surfaces of wheel hubs.

1. Introduction

To prevent contamination of the oil by paint, the internal surfaces of wheel hubs received as replacements, are to be stripped of paint before fitting to vehicle.

2. Items affected:-

LV9/2530-99-802-3060 Hub wheel track support
LV9/2530-99-867-4173 Hub road wheel
LV9/2530-99-867-4174 Hub tensioner wheel

3. Action required by:-

Units authorized to carry out unit, field or base repair

Before fitting replacement hubs, carry out this instruction.

4. Stores to be obtained locally:-

H1 8010-99-220-2306 Remover paint, water rinsable.

5. Detail:-

- a. Apply paint remover to internal surfaces and remove all paint.
- b. Thoroughly clean internal surfaces to remove all traces of paint remover.

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CARRIERS, FULL TRACKED - FV 430 SERIES

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Beam lifting power pack

1. Introduction

All units are hereby informed that the safe working load (SWL) of the beam has been increased from 33 cwt to 36 cwt with a corresponding increase in the proof load from 66 cwt to 72 cwt.

2. Item affected: LV9ACR/4910-99-802-3190 Beam, lifting, power pack.
(FV 586352)

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 Misc Instr Index.

4. Detail:-

Re-mark/re-stamp lifting beam to show the revised SWL of 36 cwt.

Alt Note: D69/9077
Veh Branch/725/15

END

Misc Instr detail faulty. - NB 1/86

distributed with correct information
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CARRIER, PERSONNEL, FULL TRACKED FV 432 MK 1, 1/1, 2 AND 2/1
(Code 0040.0110; 0040.0113; 0040.0111; 0040.0112)

GUN, SELF-PROPELLED, 105 MM FD GUN, ABBOT FV 433
(Code 0600.0000)

CARRIER, MAINTENANCE, FULL TRACKED, FV 434 MK 1 AND 1/1
(Code 0070.0140; 0070.0141)

LAUNCHER, GUIDED MISSILE, CARRIER MOUNTED, FULL TRACKED FV 438, SWINGFIRE
(Code 0740.0180)

RADIO STATION, CARRIER MOUNTED, FULL TRACKED FV 439 MK 1 AND 2/1
(Code 0750.0170; 0750.0172)

TELEGRAPH STATION, CARRIER MOUNTED, FULL TRACKED FV 439 MK 1 AND 2/1
(Code 0760.0170; 0760.0172)

TELEPHONE EXCHANGE, CARRIER MOUNTED, FULL TRACKED FV 439 MK 1 AND 2/1
(Code 0765.0170; 0765.0172)

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Switches, toggle

1. Introduction

When toggle switches made by National Switch Factories (NSF) become unserviceable they will be replaced by the Honeywell 'TL' series. Before the 'Honeywell' switch can be fitted, additional components are required because the piercing hole is too large for the 'Honeywell' switch to be fitted to existing assemblies. This instruction details the method of fitting and the additional items required.

2. Item/s affected:-

Z32/5930-99-956-1440 Switch, toggle
Z32/5930-99-956-1441 Switch, toggle
Z32/5930-99-956-1442 Switch, toggle
Z32/5930-99-956-1445 Switch, toggle

3. Action required by:-

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

On receipt of a 'Honeywell' manufactured toggle switch in place of a NSF toggle switch during repair or overhaul, carry out this instruction.

b. All recipients of this EMER

Add particulars to Tkd Veh E 109 Misc Instr Index.

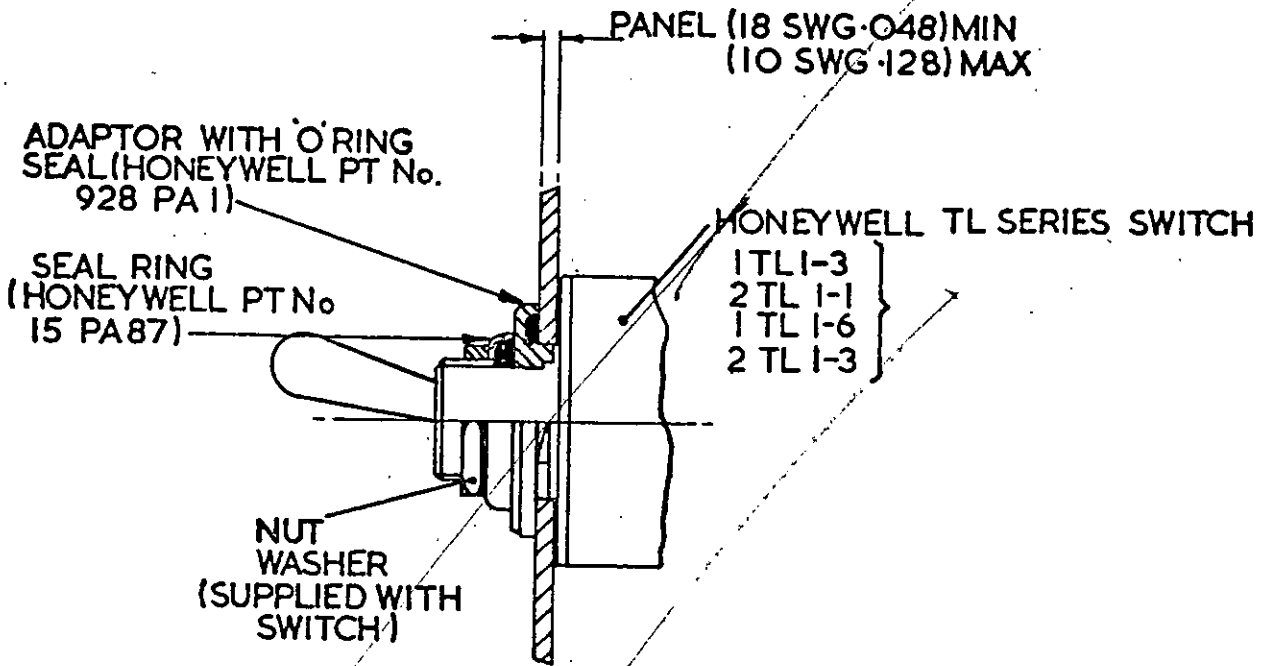
4. Detail:-

a. See Fig 1. When a 'Honeywell' switch is received as a replacement, demand the additional items shown under and fit as shown.

<u>Part No</u>	<u>Designation</u>	<u>Qty</u> <u>per eqpt</u>
✓ LV6MT4/5930-99-816-6417 (Honeywell 928 PAI)	Adapter, switch <i>any.</i>	1
✗ Z6/5930-99-197-5395 (Honeywell 15 PA87)	Ring, seal <i>X</i>	1

b. The following 'Honeywell' switches will be introduced into service and also created as maintenance spares together with the items shown at para 4a.

- (1) LV6MT4/5930-99-193-8455 Switch, toggle (replaces
(Honeywell 1TL1-3) Z32/5930-99-956-1440)
- (2) LV6MT4/5930-99-816-6416 Switch, toggle (replaces
(Honeywell 2TL1-1) Z32/5930-99-956-1442)
- (3) LV6MT4/5930-99-142-2997 Switch, toggle (replaces
(Honeywell 1TL1-6) Z32/5930-99-956-1441)
- (4) LV6MT4/5930-99-881-6815 Switch, toggle (replaces
(Honeywell 2TL1-3) Z32/5930-99-956-1445)



TV E 109 M 27
1-1

TYPICAL ASSY OF TL SERIES HONEYWELL SWITCH & ADAPTOR.

Fig 1 - Fitting detail for 'Honeywell' switches

*This drawing is
questionable*

M35 (409)
Vehs Branch ALM/FVO/9/32862

END

Fire wire Control Box N°1 MK1

6MT4 / 4210 99 881 4024

NB1 1/86

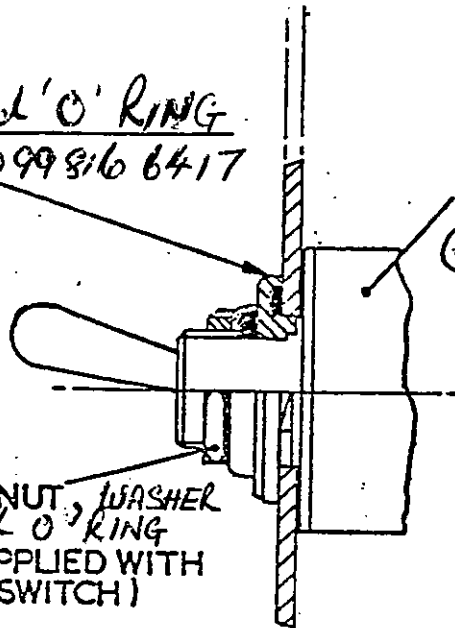
FV 430

ADAPTOR and 'O' RING
6MT4 / 593099816 6417

SWITCH TOGGLE
(HONEYWELL SW 12 TW 1-8)

6MT4 / 593099625 8263.

NUT, WASHER
and O'RING
(SUPPLIED WITH
SWITCH)



On receipt of adaptor, remove existing O-ring
and place in place - demand and get this delivery
6MT4 / 533099 866 6988

Fig 1 - Fitting detail for 'Honeywell' switches

6MT4 / 593099816 6417 ADAPTOR Y6054-355

Zn Alloy 5 7/64" OD with key flanged to accommodate
locking ring .15 in thk.

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FV 430 SERIES VEHICLES, ALL MARKS

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

Note ...

This Issue 2, supersedes Issue 1 Pages 1-2 dated Nov 73.

SUBJECT: Driver's seat

CANCELLATION

- 1 This modification has been cancelled under the authority of 'A' Veh D&M Committee MAE 20/0/0004.
- 2 Remove all copies of Issue 1, Pages 1-2 of this instruction and destroy.
- 3 Against subject reference in Tkd Veh A 001 and Miscellaneous Instruction Index add 'Cancelled'.

END

70911(27)
Vehs & Wpns Br REME ALM/43000

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CARRIER, PERSONNEL, FULL TRACKED, FV 432, MK 1, 1/1, 2, AND 2/1
(Code: 0040.0110, 0040.0113, 0040.0111 and 0040.0112)

GUN, SELF PROPELLED, 105 mm FD GUN, ABBOT, FV 433
(Code: 0600.0000)

CARRIER, MAINTENANCE, FULL TRACKED, FV 434, MK 1, AND 1/1
(Code: 0070.0140, and 0070.0141)

LAUNCHER, GUIDED MISSILE, CARRIER MOUNTED, FULL TRACKED, SWINGFIRE, FV 438
(Code: 0740.0180)

RADIO STATION, CARRIER MOUNTED, FULL TRACKED, SAC 50, FV 439, MK 1, AND 2/1
(Code: 0750.0170, and 0750.0172)

TELEGRAPH STATION, CARRIER MOUNTED, FULL TRACKED, MESSAGE CENTRE, FV 439,
MK 1, AND 2/1
(Code: 0760.0170, and 0760.0172)

TELEPHONE EXCHANGE, CARRIER MOUNTED, FULL TRACKED, AUTO 20, FV 439,
MK 1, AND 2/1
(Code: 0765.0170, and 0765.0172)

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Driver's seat

1. Introduction

Constant depressing of the driver's seat longitudinal adjustment bar results in the bar being bent, causing intermittent operation of the adjustment mechanism. The adjustment bar is to be strengthened with a length of angle iron to overcome this defect.

2. Item affected:

LV6MT13 2540-99-881-3827 Seat, longitudinal, adjusting bar.

3. Action required by:

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

When requested by units, or whenever the driver's seat is removed during repair or overhaul, carry out this instruction.

b. All recipients of this EMER

Add particulars to Tkd Veh E 109 Misc Instr Index.

4. Stores, tools and equipment:

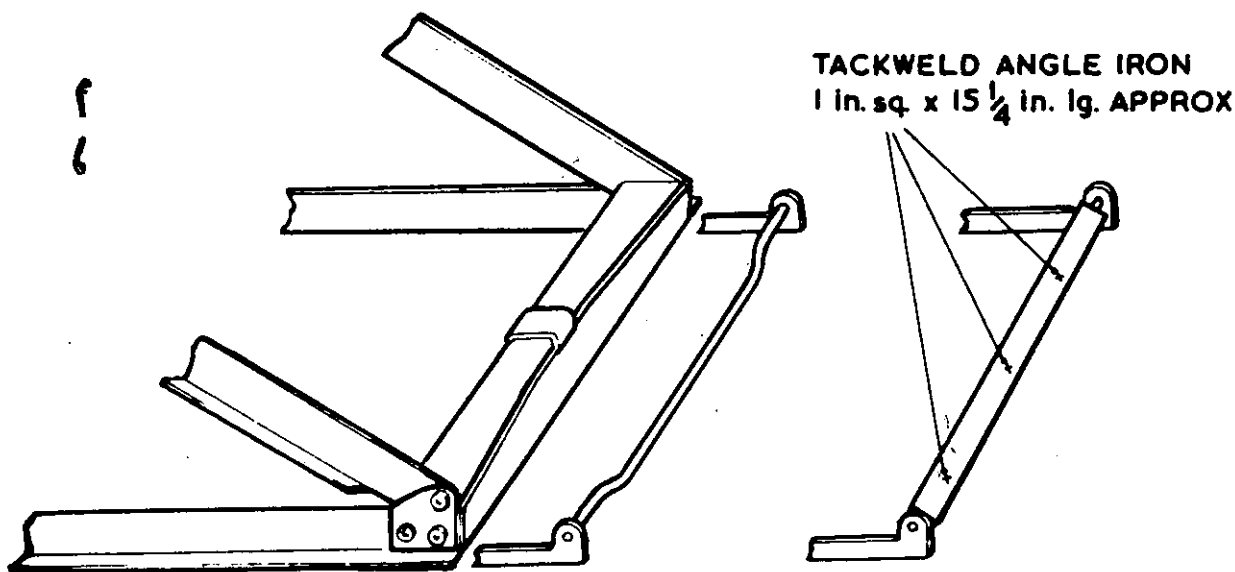
Stores to be obtained locally

<u>VAOS Section</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty per veh</u>
G2	9520-99-960-6076	Steel, angle, mild steel, 1 x 1 x 1/8 in.	15.1/4 in.

5. Detail

a. Check adjustment bar for straightness over its centre section and straighten if necessary.

b. See Fig 1. Make up a length of angle iron to the dimensions given, and tack-weld angle to bar as shown.



TV E 109 M28
1-1

DIMENSIONS IN INCHES

Fig 1 -- Driver's seat -- detail

M60154 (73)
S/S 1998
Vehicles Br ALM/FVO/9/17

END

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

CARRIER, MAINTENANCE, FULL TRACKED, FV 434

CARRIER, MOUNTED LAUNCHER GUIDED MISSILE, FULL TRACKED, FV 438

CARRIER, MOUNTED RADIO/TELEGRAPH STATION, FULL TRACKED, FV 439

GUN, SELF PROPELLED, 105 MM ABBOT

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Re-routing and clamping of Allison gearbox throttle valve actuator pipe

1. Introduction

The Allison gearbox valve actuator pipe connecting into the f.i.p. governor has no intermediate support. This lack of support enables pipe to vibrate leading to chafing and fatigue failures. This instruction details the fitting of a suitable clip.

2. Item affected:-

LV10/2520-99-866-7549 Gearbox, Allison
LV10/4710-99-866-9576 Pipe, throttle valve, actuator to governor

3. Action required by:-

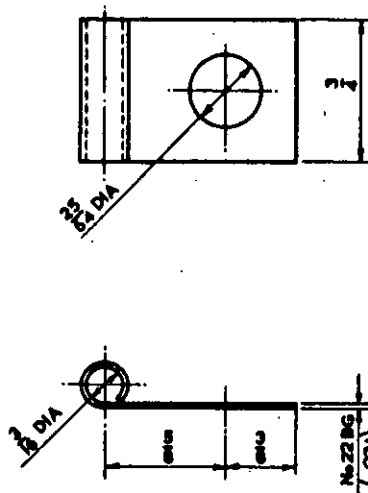
a. Units and establishments holding equipment

Request REME to carry out this instruction.

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

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

4. Estimated time required: 1 man-hour to manufacture and embody.
5. Stores to be provided locally:-
 - a. Pipe clamp - see Fig 1
 - b. Screw 3/8 in. UNC x 5/8 in. G1/5305-99-941-0711
 - c. Washer, 3/8 in., sq sect G1/5310-99-941-6629
6. Detail:-
 - a. Manufacture pipe clamp as detailed in Fig 1..
 - b. Fit clamp to pipe and secure to lug on gearbox where indicated in Fig 2.
 - c. Adjust pipe before finally tightening screw, ensuring that pipe is routed clear of filler neck on FV 432, FV 434, FV 438 and FV 439 vehicles.



V 958/1

MATL. STEEL 681449 EN2

DIMENSIONS IN INCHES

Fig 1 - Manufacturing details of pipe clip

Bend pipe clear
of filler

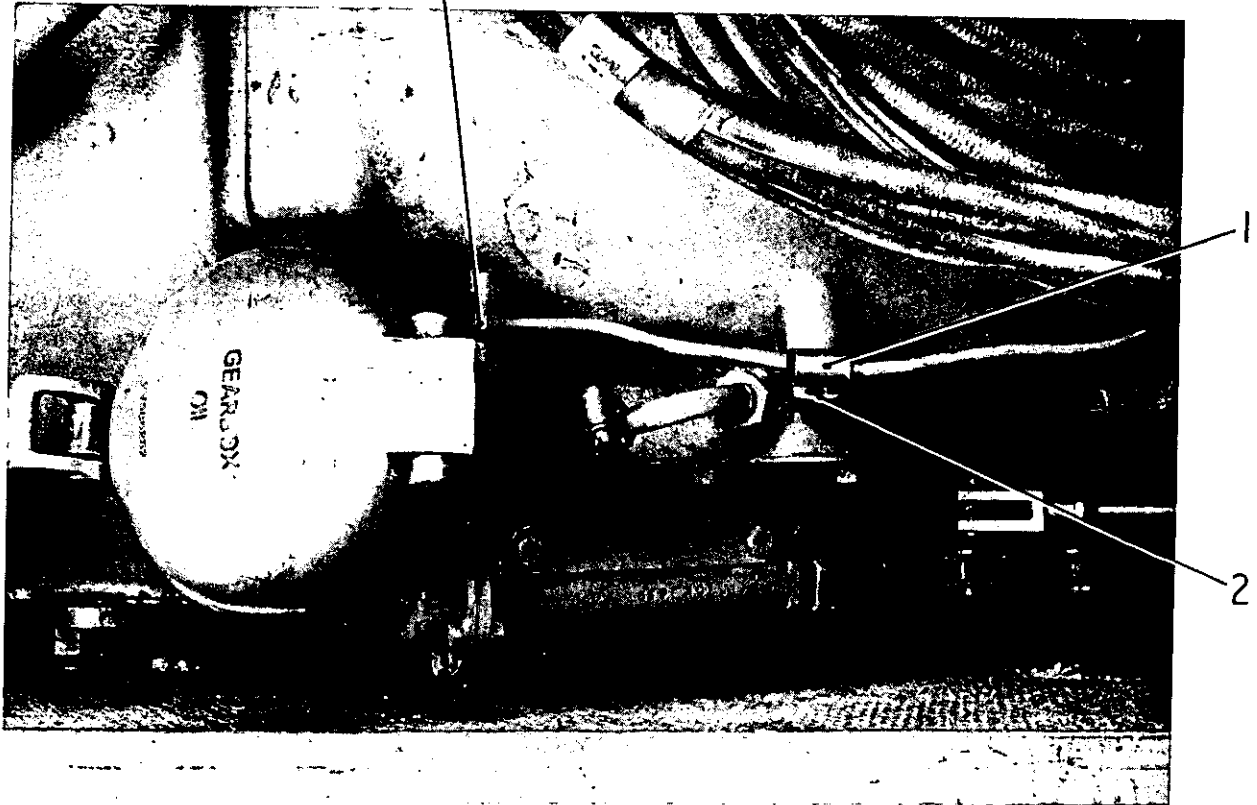


Fig 2 - View of clip on gearbox (FV 432, Mk 2 illustrated)

1. Pipe clip
2. Screw, 3/8 in. UNC x 5/8 in. and spring washer

M 60154 (297)
A/FVO2/9
Vehs Branch

END

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CARRIERS, FULL TRACKED, FV 430 SERIES

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUB-TITLE: Battery 12V, 100 Ah, spillage of acid, safety precaution

1. Introduction

Cases have occurred of acid burns to eyes and face when removing the plug filler strip from batteries. This instruction refers to modification of the plug filler strip for safety reasons.

2. Item affected

LV6MT4/6140-99-881-3706 Plug filler, acid resisting, rubber
fitted to

LV6MT4/6140-99-881-4364 Battery, secondary, 12V, 100Ah

3. Action required by:-

a. Units and establishments holding this equipment

When carrying out maintenance, request REME to carry out this instruction.

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

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

c. All recipients of this EMER

Add particulars to Tkd Vehs E 109 Misc Instr Index.

4. Detail

- a. Remove each battery cover in turn.

- b. CAREFULLY REMOVE each battery plug filler strip.
- c. Cut rubber strip $\frac{1}{2}$ in. either side of each filler plug to obtain six separate plugs per battery.
- d. Fit plugs and refit battery cover.

M 60203 (218)
Vehs Br ALM/FV *02/9/75*
REME Support Group

END

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

CARRIER, MAINTENANCE, FULL TRACKED, MK 1 and 1/1 (FV434)

LAUNCHER, GUIDED MISSILE, CARRIER MOUNTED, FULL TRACKED (FV438)

COMMUNICATIONS SYSTEM, CARRIER MOUNTED, FULL TRACKED, MK 2/1 (FV439)

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: K60 MK 4F and 4G fuel injectors

INTRODUCTION

For the purpose of standardisation of stores, the fuel injectors for K60, Mk 6F engines are to be fitted to Mk 4F and 4G engines when stocks of Mk 4 injectors have been exhausted. Mk 6F injectors must be fitted in complete sets of six when used on Mk 4F and 4G engines.

Item affected

LV6 MT12/2910-99-808-5016 Nozzle assembly.

Action required by units authorised to carry out unit, field or base repairs.

a. When nozzle assembly, LV6 MT12/2910-99-808-5016, is issued in lieu of nozzle assembly LV6 MT12/2910-99-881-5870, carry out this instruction.

b. When Mk 6F nozzle assemblies are first issued in lieu of Mk 4 nozzles, demand additional Mk 6F nozzles, as necessary, to complete a set of six. Do not mix Mk 4 injectors with Mk 6F injectors.

END

70203 (17)
ALM/FV02/9/27169

No APP
①

CARRIER, FULL TRACKED, FV 432, FV 434, FV 438, FV 439 ALL MARKS

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

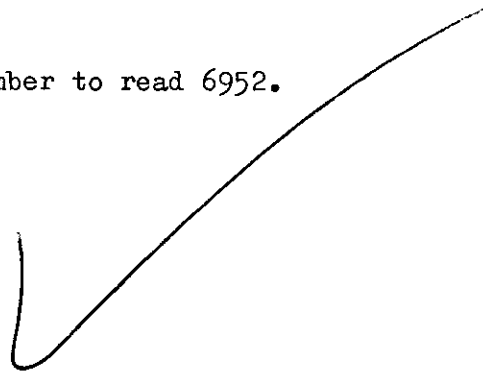
Errata

Note: This Page 0 is to be filed immediately in front of Page 1, Issue 1, dated Sep 76.

Amend as follows:

1. Page 1, SUBJECT.

Amend last four figures of part number to read 6952.



Project No 70200(261)
VEHS BR ALM/FVO/H25/34

ADM ←

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CARRIER, FULL TRACKED, FV432, FV434, FV438, FV439, ALL MARKS

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: Driver's periscope wiper, hand operating lever,
LV9ACR/2540-99-866-6962 6952.

INTRODUCTION

1. It is possible for the subject lever to be trapped between the hatch door and the LH ledge of the hatchway on closure. To eliminate this possibility a new handle is to be manufactured and fitted.

APPLICABILITY

2. Mounting assembly periscope AFV No 2 Mk 1, FV 462402 fitted to subject vehicles (Code Nos 0040.0110; 0040.0111; 0040.0112; 0040.0113; 0070.0140; 0070.0141; 0740.0180; 0750.0170; 0750.0172; 0760.0170; 0760.0172; 0765.0170; 0765.0172).

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 Misc Instr Index.

Stores to be provided locally

4. Mild steel strip 3/4 in. x 1/8 in. x 5 in. long.

Detail

5. a. Manufacture handle as detailed in Fig 1.

b. Fit manufactured handle to periscope mounting assembly in place of straight handle, as detailed in Fig 1, and peen over screw ends.

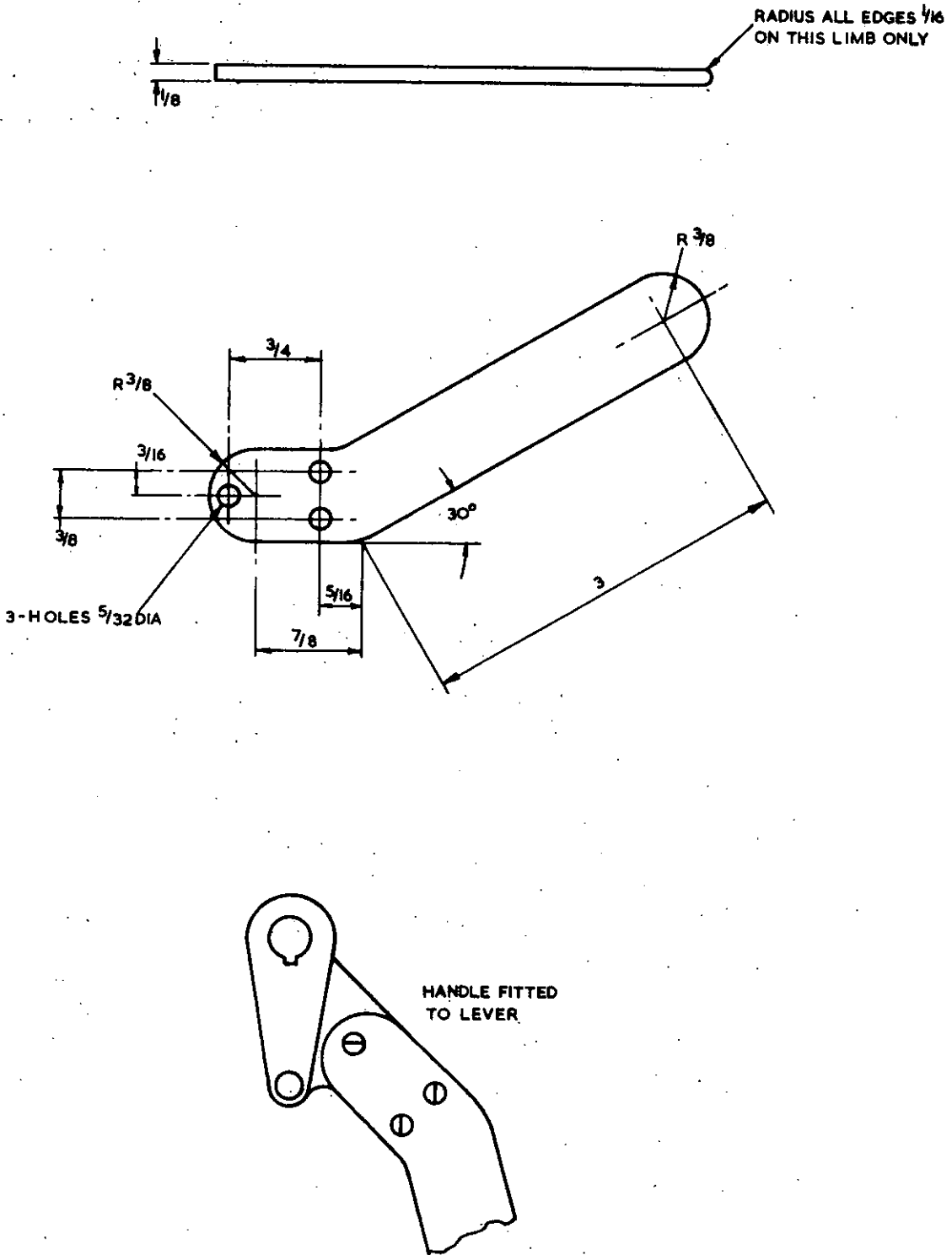


Fig 1. Manufacturing and fitting detail
(Dimensions in inches)

V3027/1

70203 (333)
Vehs Br ALM/FVO/H25/34

END

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CARRIER, FULL TRACKED, FV432, FV434, FV438 AND FV439 ALL MARKS

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: Junction box, intercom, No 2 Mk 1

INTRODUCTION

1. The earth braiding fitted to subject junction box is breaking due to flexing of box mounting. This instruction details the procedure to be carried out when the earth braid is broken.

APPLICABILITY

2. Item affected: LV6MP4/2590-99-881-8336 Junction box

IMPLEMENTATION

3. Action required by:

a. Units and establishments holding equipment

Examine subject junction box to ascertain if earth braid is serviceable, if not, request REME to carry out this instruction.

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

When requested by units carry out this instruction.

c. All recipients of this EMER

Add particulars to Tkd Vehs E 109 Misc Instr Index.

4. Stores to be obtained locally

Braid copper. Y3/6145-99-105-6829, as required.

5. Detail

From stores detailed in para 4 manufacture an earth link long enough to fit to a bolt on the junction box body and to a stud on the vehicle hull. Allow enough free length to permit the junction box to flex without straining the earth link.

END

70200 (197)
Vehs Br ALM/FVO/9/L105/17

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CARRIER FULL TRACKED FV 430 SERIES

ALL MARKS

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: Final drive ring nut spanner.

INTRODUCTION

1. The ring nut spanner, is to be modified to provide a drive on all nut slots to overcome in service failure of the existing 3 lug type.

APPLICABILITY

2. Spanner ring cracked, LV9ACR 5120-99-808-2415 and LV9ACR 5120-99-808-2416.

IMPLEMENTATION

Action required by:-

3. a. Units and establishments holding equipment

Examine subject spanner to ascertain if this instruction is applicable.

b. Units authorized to carry out field or base repairs

When requested by units carry out this instruction.

c. All recipients of this EMER

Add particulars to Tkd Vehs E 109 Misc Instr Index.

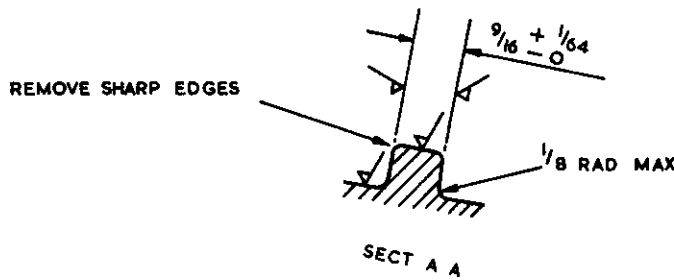
4. Stores to be obtained locally

LV9ACR 5310-99-865-6316 Nut, plain, round for spanner LV9ACR 5120-99-808-2416

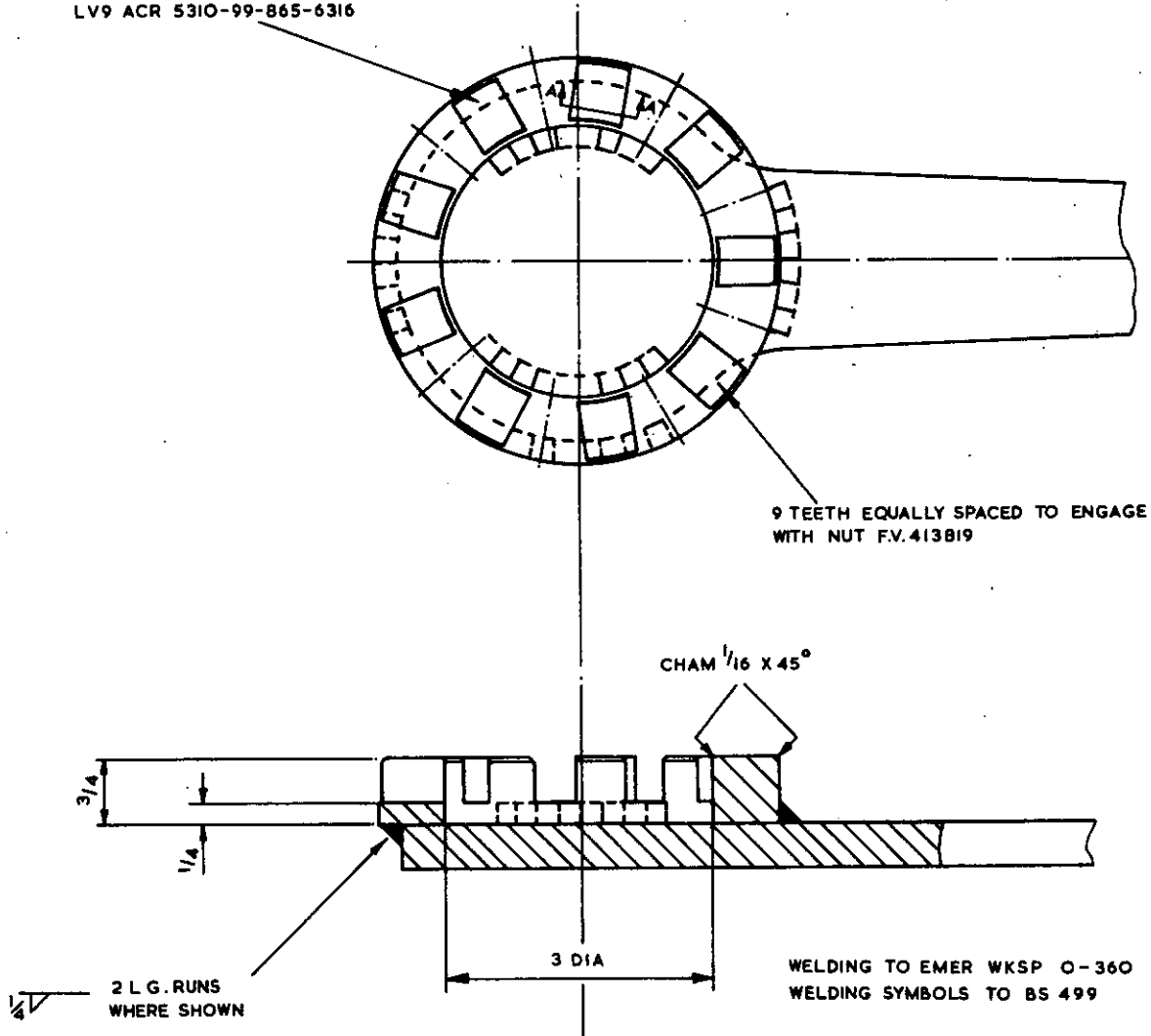
LV9ACR 5310-99-802-6482 Nut, plain, round for spanner LV9ACR 5120-99-808-2415

DETAIL

5. a. Obtain the appropriate store as detailed in para 4.
- b. Modify nut, plain, round as detailed in Fig 1 or 2.
- c. Remove the three existing lugs from subject spanner and weld modified nut to spanner as detailed in Fig 1 or 2.



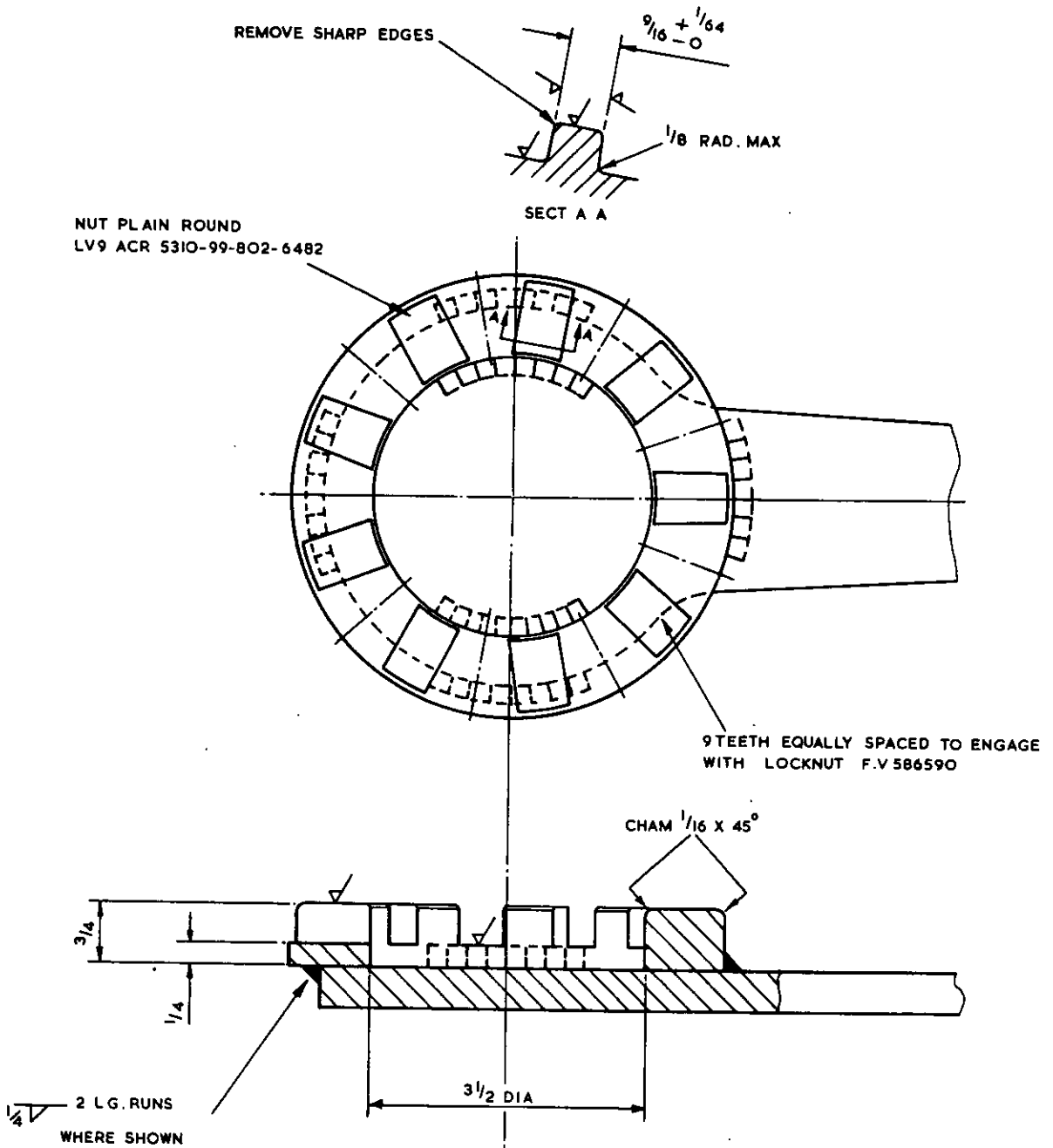
NUT PLAIN ROUND
LV9 ACR 5310-99-865-6316



Dimensions in inches

3235/1

Fig 1 - Modification to ring spanner FV 650638
(LV9ACR 5120-99-808-2416)



Dimensions in inches

3235/2

Fig 2 - Modification to ring spanner FV 650644
(LV9ACR 5120-99-808-2415)

70203 (452)
Veh Br. ALM/FV0/9/30885/30886

END

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ANNEX B.
amended.
Derek

CARRIER, FULL TRACKED, FV 430 SERIES, ALL MARKS

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: Steering unit rear mountings

INTRODUCTION

1. There is the possibility of cracks developing on the front torsion bar housing around the steering gearbox rear mounting. If cracks are found in this area repairs should be carried out as detailed in this instruction. High mileage vehicles are particularly prone to this fault.

APPLICABILITY

2. Front torsion bar housing fitted to subject vehicles.

IMPLEMENTATION

3. Action required by:

a. Units authorized to carry out field or base repairs

(1) When cracks are found during steering unit change or overhaul carry out this instruction.

(2) Record completion of instruction in AB 413.

b. All recipients of this EMER

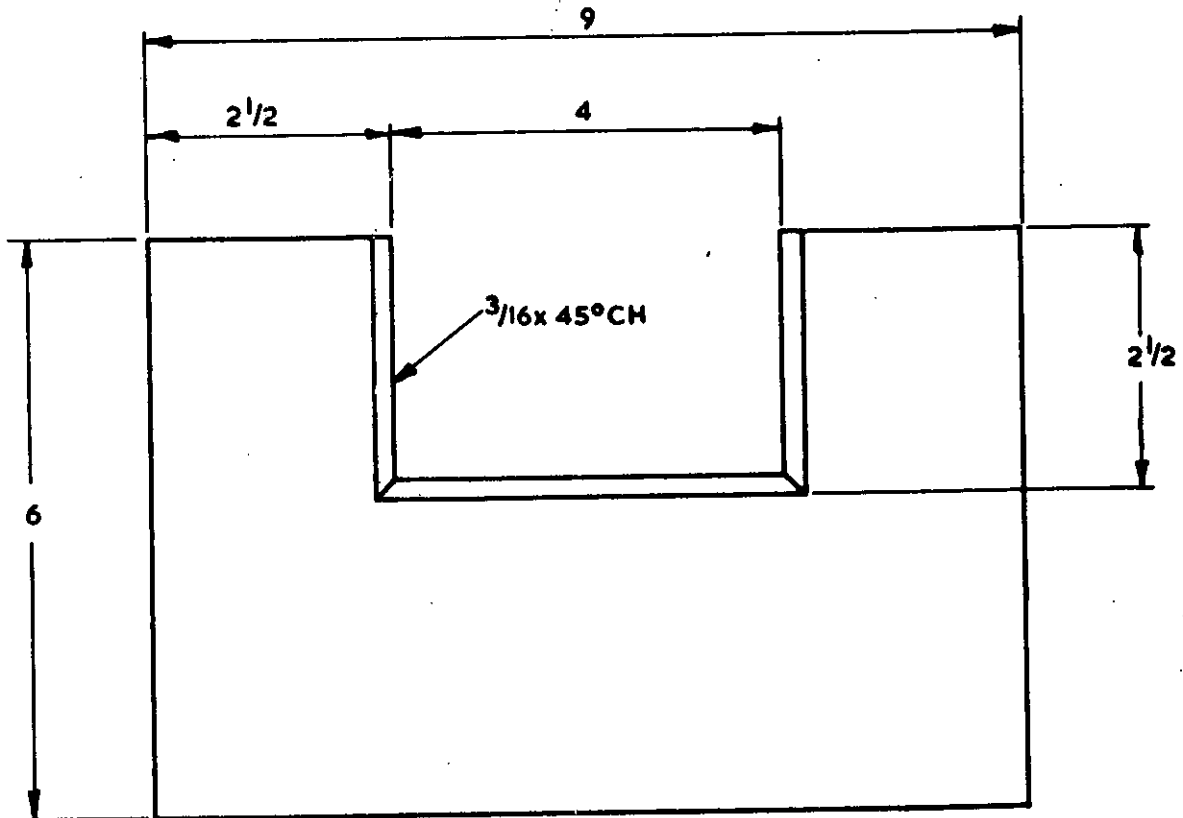
Add particulars to Tkd Vehs E 109 Misc Instr Index.

4. Stores to be obtained locally

<u>COSA Section</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty reqd</u>
G2	9510-99-960-5863	Steel bar, carbon, flat 6 in. x 3/8 in.	6 lb

5. Detail

- a. Manufacture plate as detailed in Fig 1 from material detailed in para 4.
- b. Drill the ends of the crack and gauge out the full length
- c. Reweld crack and grind weld flush.
- d. Fit manufactured plate and weld all round including the steering box mounting.
- e. Repaint repaired area.
- f. Carry out modification detailed in Tkd Vehs E 107 Instr No 49 before refitting steering unit.



Dimensions in inches

Fig 1 - Manufacturing detail of strengthening plate

V3058/1

70203 (460)
ALM/FVO/9/F4/27C

END

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CARRIER, FULL TRACKED, FV 432, FV 434, FV 438, FV 439, ALL MARKS

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: Flasher thermal - low flash rate.

INTRODUCTION

1. Two ratings of flasher units are on issue under the same part number, but on occasions fail to meet the required flash rate. This instruction details the fitting of lower wattage lamps to overcome this problem.

APPLICABILITY

2. Flasher unit thermal, LV6MT3/5945-99-802-5943, fitted to subject vehicles (Code Nos 0040.0110; 0040.0111; 0040.0112; 0040.0113; 0070.0140; 0070.0141; 0740.0180; 0750.0170; 0750.0172; 0760.0170; 0760.0172; 0765.0170; 0765.0172)

IMPLEMENTATION

3. Action required by:

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

(1) When carrying out repairs to vehicle check turnlight rate of flash. If outside the range 70-99 flashes/min. carry out this instruction before changing flasher unit.

(2) Record completion of this instruction in vehicle log book.

b. All recipients of this EMER

Add particulars to Tkd Veh E 109 Misc Instr Index.

4. Stores to be provided locally

<u>COSA</u> <u>Section</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty</u> <u>per veh</u>
X5	6240-99-995-3284	Lamp filament 28V, 18W SCC clear	4

Detail

5. If on test, flash rate is not between 70 and 99 flashes/min, replace the existing 24W turnlight lamps with 18W lamps detailed in para 4 before discarding the flasher unit as unserviceable. Retain the 24W lamps as spares.

70212 Vehs Br (30)
ALM/FVO/9

END

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FV 430 SERIES VEHICLES, ALL MARKS

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

①

Note ...

This Issue 2, supersedes Issue 1, Page 1 dated Feb 77.

SUBJECT: Driver's seat

CANCELLATION

- 1 This modification has been cancelled under the authority of 'A' Veh D&M Committee MAE 20/0/0004.
- 2 Remove all copies of Issue 1, Page 1 of this instruction and destroy.
- 3 Against subject reference in Tkd Veh A 001 and Miscellaneous Instruction Index add 'Cancelled'.

M.D. E107 N°66 ISSUED Aug 86

END

H Light DM ✓ 0086

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CARRIER, FULL TRACKED, FV 430 SERIES, ALL MARKS, EXCLUDING FV 433

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: Driver's seat

INTRODUCTION

1. To eliminate a design weakness the stiffening piece spot welded to the driver's seat cross lever assembly is to be welded for its full length.

APPLICABILITY

2. Lever, cross, assembly LV6MT13/2540-99-881-3824 fitted to subject vehicles (Code Nos 0040.0110; 0040.0111; 0940.0112; 0040.0113; 0070.0140; 0070.0141; 0740.0180; 0750.0170; 0750.0172; 0760.0170; 0760.0172; 0765.0170; 0765.0172).

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 Misc Instr Index.

Detail

4. When driver's seat is removed examine cross lever assembly to ascertain if stiffening piece is welded for its full length, if not, weld full length.

END

70212 (44)
Vehs Br ALM/FVO/9/30932

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

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TRACKED VEHICLES
E 109 Misc Instr No 38

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FV430 SERIES VEHICLES, ALL MARKSTECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTIONErrata

Note: This Page 0 is to be filed immediately in front of Page 1, Issue 2 dated Dec 79.

Amend as follows:

1. Page 1, para 2 APPLICABILITY

Delete Code Nos 0040-0110, 0040-0113, 0760-0170, 0765-0170

70511 (87)
Veh Br ALM/FVO/9/38553

CURT DYM

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TRACKED VEHICLES
E 109 Misc Instr No 38

CONDITIONS OF RELEASE

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CARRIER, FULL TRACKED, FV 430 SERIES, ALL MARKS

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

Note: This Page 1, Issue 2 supersedes Page 1, Issue 1 dated March 78.
Regulation has been revised.

SUBJECT: Fire warning system

INTRODUCTION

1. A modification to the fire wire control box No 1 Mk 1 (FV 494568) is now available to overcome the problem of burning out the transistor in either the 1B2/3 or 1BRA (whichever is fitted) when the Clansman radio is installed.

APPLICABILITY

2. Control box No 1 Mk 1 (FV 494568) fitted to subject vehicles (Code No^B 0040.0110, 0040.0111, 0040.0112, 0040.0113, 0600.0000, 0070.0140, 0070.0141, 0740.0180, 0750.0170, 0750.0172, 0760.0170, 0760.0172, 0765.0170, 0765.0172).

PRIORITY

3. a. Immediate - when vehicle radio harness is converted.
b. Routine - at all other times.

DETAIL

4. Carry out the modification to control box No 1 Mk 1 as detailed in EMER Power P 457/4 No 1 dated Jun 78.

70412 (284)
Veh Br ALM/FVO/9/38553

END

Issue 2, Dec 79 (230)

~~RESTRICTED~~

Page 1

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CARRIER, FULL TRACKED, 15 TON, FV430 SERIES

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

B ✓
APP ✓
①

SUBJECT: TX200-4B transmission thrust washers

INTRODUCTION

1. During base overhaul of gearbox TX200-4B the fiberfil thrust washers fitted to the low and reverse planet carrier, are to be replaced by thrust washers bronze and steel type.

APPLICABILITY

2. Washer thrust bronze Part No 5310-99-825-3816 Qty 12
Washer thrust bronze Part No 5310-99-825-3817 Qty 12
Washer thrust steel Part No 3120-99-828-4247 Qty 8
Washer thrust steel Part No 3120-99-828-4248 Qty 8

Fitted to subject vehicles Code Nos (0040.0110, 0040.0111, 0040.0112, 0040.0113, 0060.0000, 0070.0140, 0070.0141, 0740.0180, 0750.0170, 0750.0172, 0760.0170, 0760.0172, 0765.0170, 0765.0172).

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CARRIER, PERSONNEL, FULL TRACKED, FV430 SERIES FITTED WITH
ENGINE K60, MK 4F, MK 4G, MK 6F

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: Fuel injection pump

INTRODUCTION

1. When existing stocks of bobbin, driven dog Part No LV10/2815-99-804-3631 are exhausted, they will be replaced by bobbin plug, driven dog, Part No LV10/5340-99-819-2759.

APPLICABILITY

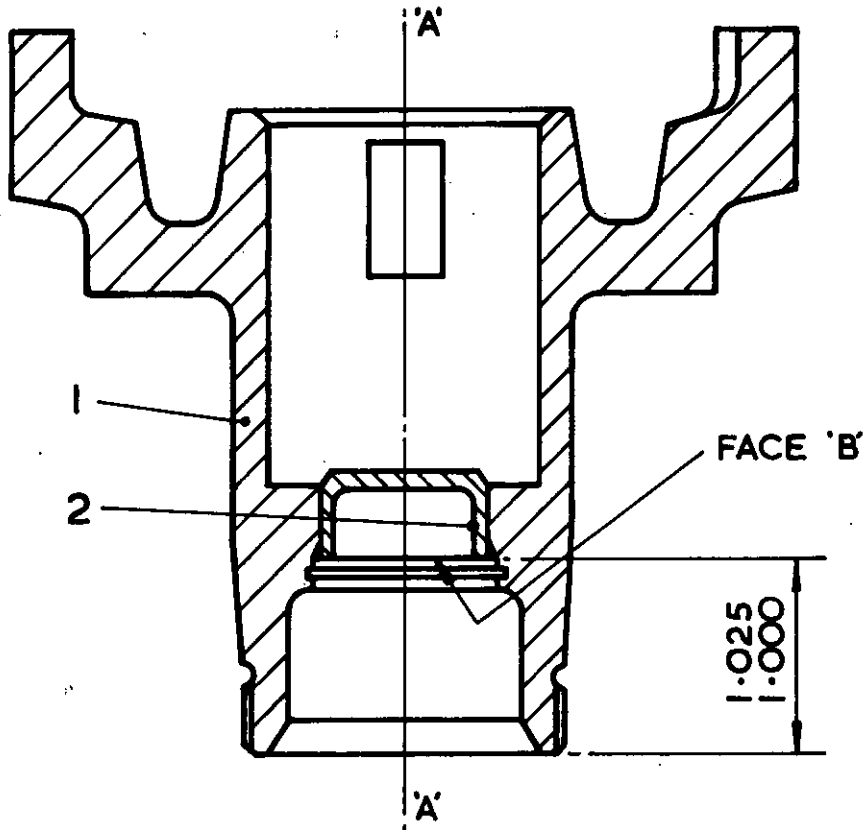
2. Clutch, half positive LV10/2815-99-804-3644.

IMPLEMENTATION

3. Action required by:
 - a. Units authorized to carry out field or base repairs
Fit new parts as detailed in para 4.
 - b. All recipients of this EMER
Add particulars to Tkd Veh E 109 Misc Instr Index.

4. Detail

Apply one coat of Sealant H1 8030-99-220-4532 to mating faces and press plug into clutch as detailed in Fig 1. Remove surplus sealant.



FACE 'B' (ITEM 2) TO BE SQUARE WITH AXIS 'A' 'A'
(ITEM 1) TO WITHIN .005 T.I.R. AFTER PRESSING

v4572/1

Fig 1 - Clutch, half positive
(Dimensions in inches)

END

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FV430 SERIES VEHICLES, ALL MARKS EXCLUDING FV433

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

Note: This Issue 2 supersedes Issue 1, Page 1 dated May 79.

SUBJECT: Radiator header tank - PRV installation

(MAE 20/0/0001)

CANCELLATION

1. This miscellaneous instruction has been cancelled under the authority of 'A' Veh D&M Committee MAE 20/0/0001.
2. Remove all copies of Issue 1, Page 1 of this instruction and destroy.
3. Against subject reference in Tkd Veh A 001 and miscellaneous instruction index add 'Cancelled'.

END

70811 (287)
Vehs & Wpns Br ALM/43000

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FV430 SERIES VEHICLE, ALL MARKS

TECHNICAL HANDBOOK - MISCELLANIOUS INSTRUCTION

Note...

This Issue 2 pages 1 and 2 supersedes Issue 1 dated Sep 79. Paragraphs 2 and 5 have been amended.

SUBJECT: Inspection of brake drums

INTRODUCTION

1. Cracks have been found on steering unit brake drums. To lessen the risk of accidents caused by drums breaking up they are to be inspected and discarded as detailed in this instruction.

APPLICABILITY

2 All FV 430 steering unit brake drums.

2.1 Fitted to subject vehicles (Code No 0040-0111, 0040-0112, 0040-2111, 0040--2112, 0040-3000, 0040-3001, 0041-3000, 0041-3001, 0041-3002, 0041-3003, 0045-1112, 0045-3000, 0070-0140, 0070-0141, 0070-3000, 0070-3001, 0600-0000, 0600-0001, 0736-3000, 0740-0180, 0740-0300, 0760-3000, 0760-3001, 0735-3000, 0760-0172, 0765-0172, 0750-3000, 0755-3000, 0040-3002) held by user units.

IMPLEMENTATION

3 Action required by:

3.1 Units authorised to carry out unit, field or Base repairs

Carry out this instruction.

3.2 All recipients of this EMER

Add particulars to Tkd Veh E 109 Misc Instr Index.

4 Inspection detail

Brake drums are to be inspected at the first 1000 miles of drum mileage and thereafter at intervals of 500 drum miles. Any drum found cracked is to be discarded and replaced.

D175-03-1712

71111(264)
Vehs & Wpns Br ALM/430/F4/021
Issue 2 Feb 87 (230)

5 Reporting and recording

5.1 Details of periodic inspections are to be recorded in the relevant AB 413 to include date of inspection, and mileage of drum (l.h and r.h).

5.2 Details of drum changes and mileage at change to be noted in AB 413.

D175-03-1712

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

~~RESTRICTED~~

TRACKED VEHICLES
E 109 Misc Instr No 42

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CARRIER, FULL TRACKED, FV 432, 434, 438, 439 ALL MARKS
GUN SELF PROPELLED, 105 MM FIELD GUN, ABBOT FV 433
TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: Inspection of brake drums

INTRODUCTION

1. Cracks have been found on steering unit brake drums. To lessen the risk of accidents caused by drums breaking up they are to be inspected and discarded as detailed in this instruction.

APPLICABILITY

2. All FV 430 Series vehicles (Code Nos 0040.0110, 0040.0111, 0040.0112, 0040.0113, 0600.0000, 0070.0140, 0070.0141, 0740.0180, 0750.0170, 0750.0172, 0760.0170, 0760.0172, 0765.0170, 0765.0172).

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 Misc Instr Index.

4. Inspection detail

Brake drums are to be inspected at the first 1000 miles of drum mileage and thereafter at intervals of 500 drum miles. Any drum found cracked is to be discarded and replaced.

5. Reporting and recording

a. Details of periodic inspections are to be recorded in the relevant AB 413 to include date of inspection, and mileage of drum (l.h. and r.h.).

b. Details of drum changes and mileage at change to be noted in AB 413.

c. Defect reports are required for all unserviceable drums. This should include any evidence of overheating.

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FV430 SERIES VEHICLES ALL MARKS

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION NO. 43

COMPLETELY REVISED

ACTION

Removal and insertion of leaves

- | | |
|---|--|
| 1 Remove | Insert |
| 1.1 Issue 2, Pages 1 and 2 dated Oct 90 (one leaf). | Issue 3, Pages 1 to 3/4 dated Jun 99 (two leaves). |

Amendment record

- 2 Record the incorporation of this Amendment and destroy this instruction sheet and the pages removed.

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FV430 SERIES VEHICLES ALL MARKS

TECHNICAL HANDBOOK – MISCELLANEOUS INSTRUCTION NO. 43 (Completely revised)

SUBJECT: Deletion of floatation equipment and trackguards
(MVEE Approval No. 31040/31041)

INTRODUCTION

1 This instruction details the removal of floatation equipment as vehicles are no longer required to swim, and also details the removal of trackguard items which were fitted to improve the vehicle's swimming capability.

APPLICABILITY

2 All FV430 series vehicles (Code No's 0040-0111, 0040-0112, 0040-2111, 0040-2112, 0040-3002, 0042-3000, 0042-3001, 0045-3000, 0060-3000, 0070-0140, 0070-0141, 0070-3000, 0070-3001, 0735-3000, 0735-3002, 0736-3000, 0754-3000, 0755-3000).

REASON FOR MISCELLANEOUS INSTRUCTION

3 Code 4 - to improve maintainability.

PRIORITY

4 ARMY: Routine.

IMPLEMENTATION PLAN

5

5.1 Floating equipment. Units authorized to carry out level 4 maintenance.

5.2 Trackguards. Units authorized to carry out levels 2, 3 and 4 maintenance.

Sequence of operations

6 Carry out the instruction as follows:

6.1 Floataion equipment:

6.1.1 Remove all detachable floataion equipment and reduce to scrap. All wading screen struts are to be returned to stores.

6.1.2 Remove and discard the fixed components and brackets on the hull made redundant by this instruction.

6.2 Trackguards. Remove and discard all trackguards and associated items **except** for the components detailed below:

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
<u>AFV432</u>				
1	9ACR	2510-99-783-7646	Panel trackguard, LHF.	
2		2510-99-783-7648	Brace trackguard, LHF.	
3		2510-99-783-7649	Panel trackguard, RHF.	
4		2510-99-783-7648	Brace trackguard, LHF.	
5		2510-99-783-7647	Panel trackguard, LHF.	
6		5340-99-865-6523	Hinge, butt, LHR.	
7		2510-99-865-6544	Trackguard, LHR.	
8		2510-99-783-7650	Panel trackguard, RHR.	
9		5340-99-865-6523	Hinge, butt, RHR.	
10		2510-99-865-6545	Trackguard, RHR.	
<u>V434</u>				
11	9ACR	2510-99-803-4319	Plate vehicular, trackguard, LHF.	
12		2540-99-783-7652	Bracket mudguard, LHF.	
13		2510-99-783-7649	Panel trackguard, RHF.	
14		2510-99-783-7648	Brace trackguard, RHF.	
15		2510-99-803-4316	Mudguard vehicular, LHR.	
16	9ACR	2540-99-783-7654	Stay mudguard, LHR.	
17		2510-99-803-4386 FV 611393	Mudguard vehicular, RHR.	
18		2540-99-783-7654	Stay mudguard, RHR.	

-7653
FV 951798

-7654
FV 951799

9ACR 2540-99-803-4317 MUDFLAP

6.3 Remove all side fixing studs and grind flush, remove all sharp corners. Paint as required.

PUBLICATION AMENDMENTS

7 Necessary amendments to AC 14660 and AC 14861 will be issued separately.

To OIC Tech Comms
Gp.

From OIC Tech Tkd Veh
De M Section

Date

Tel x 2238

Your ref SG/006

Our ref

Subject FV430 Series - Deletion of Flotation Eqpt

Reference EMER Tkd Veh E109 Misc Instt N°43.
(copy attached)

Please request sections under your
control to delete reference to flotation
when amending EMERs (see attached)

A request based on subject EMER
passed to on 7/12/81.

R Pocock

To
OIC Specialist EMER
Group

From: Head Trk Veh D+M Section

Date 7 December 1981

Tei x 8238

Your ref

Our ref ALM/43000

Subject Deletion of Flotation Equipment
EMER Trk Veh E109 Misc Inst 1043.

1. As a result of subject Misc Inst all FV430 Series EMERs require amendment action.
2. The run-on date for the FV430 Series Vehicles is currently given as the 1990s.

R. Peacock

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FV430 SERIES VEHICLES ALL MARKS

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

Note ...

This Issue 2, Pages 1 and 2 supersedes Issue 1, Page 1 dated Mar 80.

SUBJECT: Deletion of flotation equipment

(MVEE Appr No 31040/31041)

INTRODUCTION

- 1 This instruction details the removal of flotation equipment as vehicles are no longer required to swim.

APPLICABILITY

2 Hull all FV 430 series vehicles (Code No 0040-0110, 0040-0111, 0040-0112, 0040-0113, 0600-0000, 0070-0140, 0070-0141, 0740-0180, 0750-0172, 0760-0170, 0760-0172, 0765-0170, 0765-0172).

IMPLEMENTATION

3 Action required by:

3.1 Units authorised to carry out base repairs

Carry out this instruction.

3.2 All recipients of this EMER

Add particulars to Tkd Veh E 109 Misc Instr Index.

Detail

4 Remove all detachable flotation equipment and reduce to produce. All wading screen struts are to be returned to stores.

5 Remove and discard the fixed components and brackets on the hull made redundant by this instruction.

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FV430 SERIES VEHICLES ALL MARKS

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: Deletion of flotation equipment

(MVEE Appr No 31040/31041)

INTRODUCTION

1. This instruction details the removal of flotation equipment as vehicles are no longer required to swim.

APPLICABILITY

2. Hull all FV430 series vehicles (Code Nos 0040.0110, 0040.0111, 0040.0112, 0040.0113, 0600.0000, 0070.0140, 0070.0141, 0740.0180, 0750.0172, 0760.0170, 0760.0172, 0765.0170, 0765.0172).

IMPLEMENTATION

3. Action required by:

a. Units authorized to carry out base repairs

Carry out this instruction.

b. All recipients of this EMER

Add particulars to Tkd Veh E 109 Misc Instr Index.

Detail

4. Remove all detachable flotation equipment and reduce to produce. All wading screen struts are to be returned to stores.

5. Remove flotation equipment ~~stowage~~ bracketry

END

70512 (43)
Veh Br ALM/FVO/9/31040/31041

M ✓
Approved ✓
Chenck

NO FLotation

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FV 430 SERIES VEHICLES, ALL MARKS

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

(K)

SUBJECT: EMER Decade titles

1. Amend titles of the following regulations to read as shown below:
 - a. Tkd Veh E 107, E109
'FV 430 SERIES VEHICLES, ALL MARKS'
 - b. Tkd Veh E 100/8
'LAUNCHER, GUIDED MISSILE, CARRIER MOUNTED, FULL TRACKED
SWINGFIRE (FV 438)'
 - c. Tkd Veh E 100/9, E103/9, E104/9, E108/9
'CARRIER, COMMUNICATIONS, FULL TRACKED, MKs 1 AND 2/1 (FV 439)'

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FV 430 SERIES VEHICLES, ALL MARKS
TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: Improved throttle actuator valve adjustment

①

INTRODUCTION

1. To enable the throttle actuator valve to be adjusted with the power pack in situ a nut is to be added to the lower piston actuator rod FV 451622.

APPLICABILITY

2. Actuator valve LV10/2520-99-804-7091 fitted to subject vehicles (Code Nos: 0040-0110, 0040-0111, 0040-0112, 0040-2111, 0040-2112, 0045-1112, 0045-3000, 0070-0140, 0070-0141, 0070-3000, 0070-3001, 0750-3000, 0600-0000, 0600-0001, 0740-0180, 0740-0300, 0750-0172, 0760-0172, 0765-0172) held by user units.

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 Tke Veh E 109 Misc Instr Index

4. Stores to be obtained locally

<u>Item No</u>	<u>COSA Section</u>	<u>NSN/Part No</u>	<u>Designation</u>	<u>Qty per eqpt</u>
1	G1	5310-99-941-3524	Nut 1/4 UNF	1
2	H1	8030-99-224-8996	Loctite 601	10 ml
		OR		
	H1	8030-99-224-9438	Loctite 601	50 ml
3	G1	5315-99-120-2079	Split pin 3/32 x 5/8 in.	1

5. Detail

Note: Item numbers quoted refer to those used in para 4.

When power pack is next removed, disconnect the throttle actuator valve clevis pin, remove yoke and locknut. Using the stores listed in para 4 screw nut (1) to the end of the lower piston actuator rod FV 451622 (LV10/2520-99-866-7454) threads and lock, using locking sealant (2). Reassemble locknut, yoke and clevis pin using new split pin (4). The length of the rod, can now be adjusted by applying a spanner to the new nut (1) and turning the rod. After final adjustment lock yoke using original locknut.

END

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FV 430 SERIES VEHICLES, ALL MARKS

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: Driver's instrument panel mountings

INTRODUCTION

1. Due to the change in pattern of commercial stores, the new mountings do not include the machined spigot diameter which locates in the vehicle mounting brackets. To prevent the instrument panel being dislodged through open slots of mounting brackets under shock conditions, washers are introduced and secured to the bracket recesses.

APPLICABILITY

2. Driver's instrument panel brackets FV 603163 and FV 603164 fitted to subject vehicles (Code Nos 0040-0110, 0040-0111, 0040-0112, 0040-0113, 0040-2110, 0040-2111, 0040-2112, 0040-2113, 0045-1112, 0045-3000, 0070-0140, 0070-0141, 0070-3000, 0070-3001, 0750-3000, 0600-0000, 0600-0001, 0740-0180, 0740-0300, 0750-0001, 0750-0172, 0760-0172, 0765-0172) held by user units.

IMPLEMENTATION

Action required by:

3. a. Units authorised to carry out unit, field or base repairs.
(1) When new mounts are installed carry out this instruction.
b. All recipients of this EMER, add particulars to Tkd Vehs E109 Misc Instr Index.

4. Stores to be obtained locally

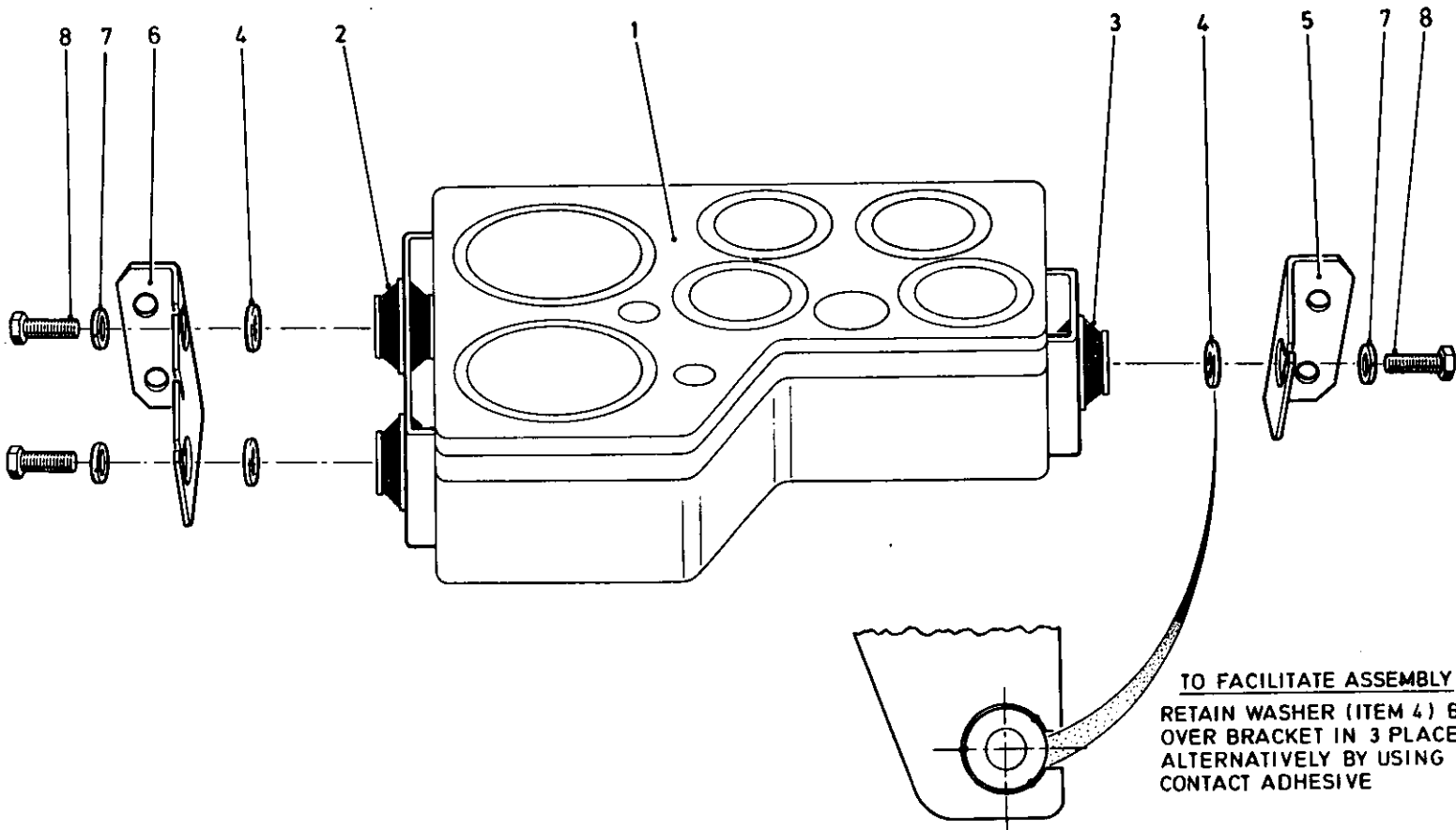
<u>Item No</u>	<u>COSA Section</u>	<u>NSN/Part No</u>	<u>Designation</u>	<u>Qty per eqpt</u>
1	G1	5310-99-948-2565	Washer 5/16 D x 3/40 D x 0.048 in THK	3
2	H1	8040-99-943-7791	Araldite 2 x 1/2 oz Tube	1

Detail

Note: Item numbers quoted refer to those used in the list of stores in para 4

5. Carry out the instructions as follows:

- a. Using contact adhesive (2), bond washers (1) to bracket FV 603163 and FV 603164 in 3 positions as shown in Figure 1.



V6636/1

- | | |
|--|------------------------------|
| 1. Driver's instrument panel | 5. Bracket R/H FV 603163 |
| 2. Mount resilient L/H (Was FV 530651) | 6. Bracket L/H FV 603164 |
| 3. Mount resilient R/H (Was FV 530652) | 7. Spring washer 5/16 dia |
| 4. Flat washer 5/16 dia. | 8. Screw 5/16 UNF x 1 1/4 lg |

Fig 1 Driver's instrument panel anti-vibration mounts

70812 (269)
Vehs & Wpns Br ALM/43000

CONDITIONS OF RELEASE

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FV 430 SERIES VEHICLES, ALL MARKS

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: Air conditioning and ventilation system deflection box

(MAE 20/2/0053)
(TSS 3757)

INTRODUCTION

- 1 To facilitate removal, the deflector box securing holes are slotted.

APPLICABILITY

- 2 Deflector box FV 586500.

2.1 Fitted to subject vehicles (Code No 0040 0110, 0040 0111, 0040 0113, 0040 2110, 0040 2111 and 0040 2113 held by user units).

IMPLEMENTATION

- 3 Action required by.

3.1 Units authorised to carry out unit field or base repairs.

3.1.1 When deflector box is next removed carry out this instruction.

3.2 All recipients of this EMER, add particulars to Tkd Veh E 109 Misc Instr Index.

- 4 Detail.

4.1 Cut a slot in each of the four deflector box mounting plates, to the dimensions shown in Fig 1.

4.2 Paint all exposed surfaces.

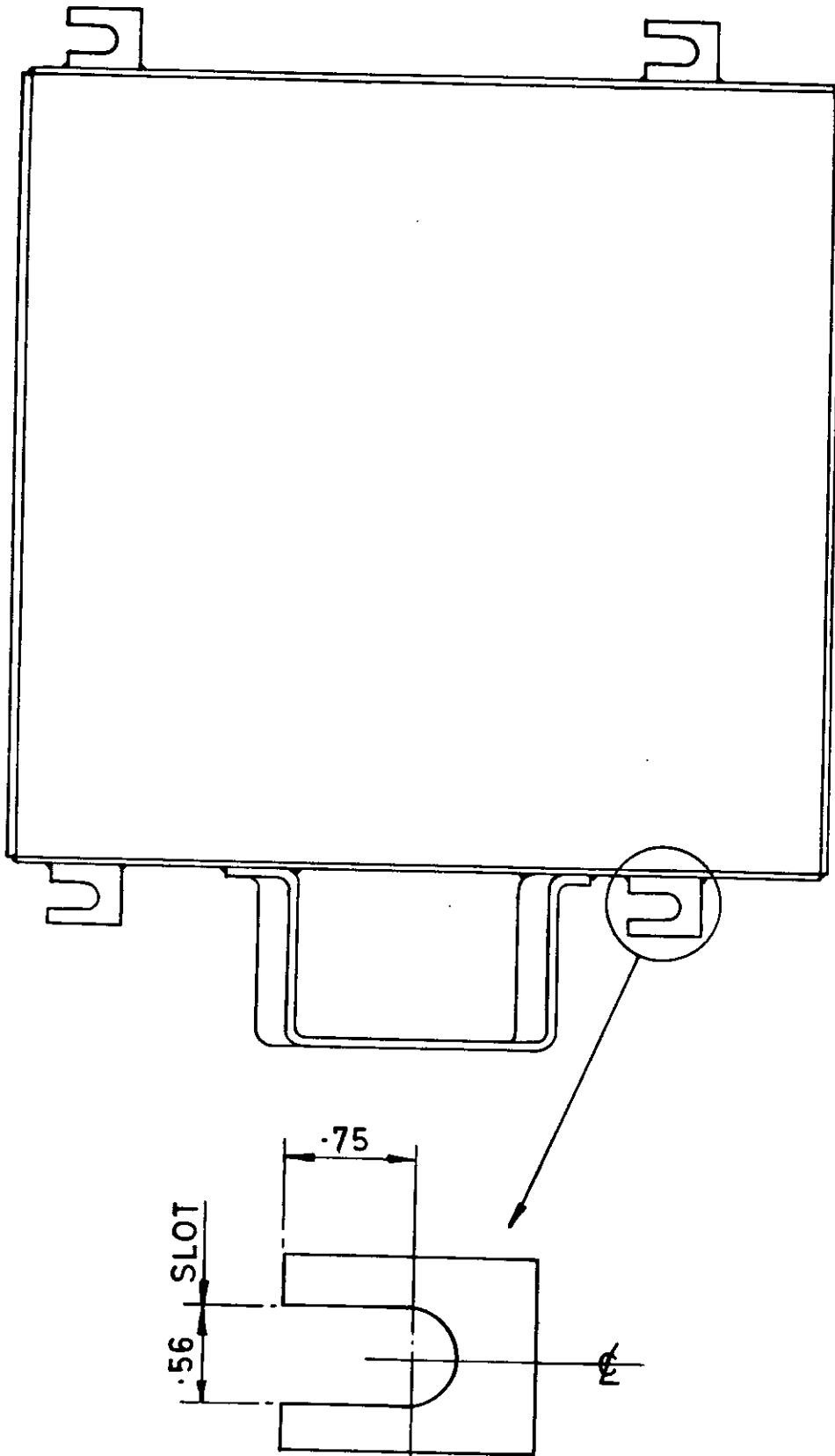


Fig 1 - Deflector box

V6857/1

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FV430 SERIES VEHICLES, ALL MARKS

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

Note...

This issue 2, pages 1 and 2 supersede pages 1 and 2 dated August 84. All paragraphs have been amended.

SUBJECT: Shock absorber resilient bushes
(TSS 7/12/82)

INTRODUCTION

1 To overcome premature damage to shock absorber resilient bushes, flat washers are fitted either side of the bush to reduce the possibility of bonding failure.

1.1 Limitations on use of equipment. Nil

APPLICABILITY

2 All FV 430 shock absorber mounts.

2.1 Fitted to subject vehicles (Code No 0040-0111, 0040-0112, 0040-2111, 0040-2112, 0040-3000, 0040-3001, 0041-3000, 0041-3001, 0041-3002, 0041-3003, 0045-1112, 0045-3000, 0070-0140, 0070-0141, 0070-3000, 0070-3001, 0600-0000, 0600-0001, 0736-3000, 0740-0180, 0740-0300, 0750-0001, 0750-0172, 0754-3000, 0760-0172, 0765-0172, 0750+3000, 0755-3000) held by user units.

IMPLEMENTATION

3 Action required by:

3.1 Units authorised to carry out unit, field and base repairs.

3.1.1 When shock absorbers are next removed, carry out this instruction.

3.2 All recipients of this instruction, add particulars to EMER Tkd Veh E 109 Miscellaneous Instruction Index.

Stores, tools and equipment

4

4.1 Items to be obtained

<u>Item No</u>	<u>COSA Section</u>	<u>NSN/Part No</u>	<u>Designation</u>	<u>Qty per eqpt</u>
1	G2	9510-99-964-7050	Steel bar 60 mm dia	150 mm

5 Carry out the instruction as follows:

5.1 Manufacture 16 steel washers from the stores listed in para 4, to the following dimensions:

5.1.1 External diameter 53 mm

5.1.2 Internal diameter 32 mm

5.1.3 Thickness 4 mm

5.2 When replacing shock absorbers, fit one washer either side of the resilient mounts.

Vehs & Wpns Br REME ALM/43000

Project No 71111(95)

D068-02-1104
Issue 2 Apr 86

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CARRIER, FULL TRACKED, FV 430 SERIES, ALL MARKSTECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: Rectifier Unit, No 1, Mk 1 (FV 342588)

INTRODUCTION

1 A modification to the subject assy is available involving the replacement of capacitors, diodes and their base plate assemblies due to existing items being obsolete/no longer provided.

APPLICABILITY

2 Rectifier Unit, No 1, Mk 1, FV 342588 6MT4/6130-99-881-6514 fitted to FV 430 series vehicles with K60 engine installation. (Code Numbers: All codes, less FV 432 Mk 1 Vehicles fitted with B81 engine).

IMPLEMENTATION

3 All recipients of this EMER, add particulars to Tkd Veh E 109 Misc Instr Index.

DETAIL

4 When an internal failure occurs, units should if possible replace it with a modified assy (See Mod Strikes 2 and 3 and EMER power W 127/2 Mod Instr No 1) and return the defective item through normal RAOC channels for base repair.

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FV 430 SERIES VEHICLES, ALL MARKS

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION

SUBJECT: EMER Decade titles

1 Amend titles of the following regulations to read as shown below:

Tkd Veh E 100/9, E 102/9, E 103/9, E 104/9, E 107/9, E 108/9

CARRIER, INSTALLATION, FULL TRACKED, FV 439

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FV 430 SERIES VEHICLES, ALL MARKS

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTIONS

Completely Revised

ACTION

Removal and insertion of leaves

1 Remove

1.1 Pages 1 and 2, Issue 1
dated Nov 94 (one leaf).

Insert

Pages 1 to 3/4, Issue 2
Jan 98 (two leaves).

Amendment record

- 2 Record the incorporation of this Amendment and destroy this instruction sheet and the pages removed.



Directorate General Equipment Support (Land)
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DLO Chertsey
 Chobham Lane Chertsey Surrey KT16 0EE

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CLASSIFICATION

Uc

FACSIMILE TRANSMISSION COVER SHEET

DATE: 09 November 2000	REFERENCE:	SUBJECT: Axle arms
TO: SGT BARON 9-4381-3370 94881-3426		Number of pages including this cover sheet: 4
Rank/Grade, Name and Appointment of Authorising/Transmitting Officer: Trevor Tarrant		Signature:
MESSAGE		Please contact originator above if this document is illegible or if any part is not received.
<p>Bob,</p> <p>Whatever axle arms / brackets you have fitted to vehicles can remain until replacement is required. When replacing these components fit the following:</p> <p>Fit new type axle arm (-2795/6) to L/H and R/H when a new axle arm is required, FV432/6/9. Fit new type axle arm (-6161/2) to L/H and R/H when a new axle arm is required, FV434. Brackets to be replaced to the original pattern (-6164/5) on failure. Shock absorbers to have the bushes changed to suit the type of arm and bracket fitted. Intermediate axle arms are being phased out.</p> <p>Regards,</p> <p>Trevor.</p>		



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CLASSIFICATION

Uc

FACSIMILE TRANSMISSION COVER SHEET

DATE: 08 November 2000	REFERENCE:	SUBJECT: Axle arms
TO: Noel Adey 9-4374-3372		Number of pages including this cover sheet: 14
Rank/Grade, Name and Appointment of Authorising/Transmitting Officer: Trevor Tarrant		Signature:
MESSAGE		Please contact originator above if this document is illegible or if any part is not received.
<p>Noel,</p> <p>E107 Mod Instr No. 67, copy attached. This details the modification of the axle arms and top roller brackets to have a "big end" type mounting, with the shock absorber mounts changed to suit. Cancelled Aug 94.</p> <p>E109 Misc Instr No 52, Issue 1, Nov 94, was issued to clarify the situation with the issue of two new arms (-2795 and 6, for FV432 and derivatives) E109 Misc Instr No 52, Issue 2, Jan 98, was issued to clarify the situation.</p> <p>Intermediate axle arms to be phased out. (Letter to follow regarding existing stocks) Fit new type axle arm (-2795/6) to L/H and R/H when a new axle arm is required, FV432/6/9. Fit new type axle arm (-6161/2) to L/H and R/H when a new axle arm is required, FV434. Brackets to be replaced to the original pattern (-6164/5) on failure. Shock absorbers to have the bushes changed to suit the type of arm and bracket fitted.</p> <p>Trevor.</p>		

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FV 430 SERIES VEHICLES, ALL MARKS

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION (Completely Revised)

SUBJECT: Axle arms and shock absorbers.

INTRODUCTION

1 This instruction is to clarify the build standard of axle arms and shock absorbers

1.1 Limitations on use of equipment. Nil.

APPLICABILITY

2 All FV 430 axle arms and shock absorbers.

REASON FOR MISCELLANEOUS INSTRUCTION

3 Code 4 - to improve maintainability.

PRIORITY

4 Routine.

IMPLEMENTATION PLAN

5 This instruction is to be implemented by Units authorised to carry out levels 2, 3 and 4 maintenance.

Action required by:

6

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

6.1.1 When axle arms and shock absorbers are next removed, carry out this instruction.

72211(253)
ATSA Chertsey

9801\NTCP-1403
Jan 98, Issue 2 (230)

Stores, tools and equipment

7

7.1 Stores to be demanded.

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
1	9ACR	2530-99-865-6161	Axle arm l.h. (FV 434)	2
2		2530-99-865-6162	Axle arm r.h. (FV 434)	2
3		2520-99-837-2795	Axle arm l.h (FV 432)	2
4		2520-99-837-2796	Axle arm r.h. (FV 432)	2
5		2530-99-865-6116	Shock absorber (FV 432 and derivatives)	4
6		2540-99-829-7997	Bush assy (includes pin) new pattern	4
7		2530-99-865-6164	Bracket assy top roller l h r original pattern	1
8		2530-99-865-6165	Bracket assy top roller r h r original pattern	1
9		2530-99-865-6157	Axle arm intermediate l h	3
10		2530-99-865-6158	Axle arm intermediate r.h	3
11	6MT1	5340-99-881-9095	Bush original pattern	4

Sequence of operations

8 Build standard to be as follows:

NOTE

The caps, (for securing the shock absorber locating pin on the axle arms) and the axle arms (items 3 and 4), are machined together and are therefore a matched set. If more than one axle is removed the caps must be bolted to the axle to prevent mismatching. The loss or damage to a cap, or the mounting point on an axle, will result in the axle having to be renewed, because of the machine matching.

8.1 EMER Tracked Vehicles, E 107 Mod Instr No. 67 was cancelled Aug 94, and the introduction of two new axles (items 3 and 4), for the FV 432 and derivatives, detailed in E 109 Misc Instr No. 52 Issue 1, Nov 94, this remains unchanged, and is incorporated in this instruction

8.2 Axle arms (items 1 and 2) will now **only** be issued for FV 434.

8.3 Shock absorber (item 5) 9 ACR 2530-99-865-6116 remains for the FV 432 and derivatives (excluding FV 434), and will still be supplied with the original bushes (item 11). These may require changing to suit the type of axle or rear top roller fitted to the vehicle.

FV 432 and derivatives. FV 434 intermediate axles

8.4 A further change is now introduced, the intermediate axle arms (items 9 and 10) are phased out and are no longer to be demanded.

8.5 For FV 434, axle arms (items 1 and 2) are to be demanded in place of (items 9 and 10), when a new axle is required.

8.6 For FV 432 and derivatives, axle arms (items 3 and 4) are to be demanded in place of items 9 and 10) when a new axle is required.

FV 432, FV 436 and FV 439 front and rear wheel stations

8.7 For FV 432, FV 436 and FV 439, axle arms (items 3 and 4) are to be demanded in place of (items 1 and 2) when an axle is required and the shock absorber (item 5) bottom bush changed to the new pattern bush (item 6).

8.8 On vehicles with E 107 Mod Instr No. 67 carried out to the rear top roller brackets (recognised by the use of a plain locating pin secured with caps) where the bracket is still serviceable and the vehicle requires a new shock absorber, the top shock absorber bush must be replaced by the new pattern bush (item 6).

8.9 On failure of the modified bracket (E 107 Mod Instr No. 67), the original pattern bracket (item 7 or 8) is to be reinstated, this will require the shock absorber top bush to be changed back to the original pattern (item 11).

TESTING AFTER EMBODIMENT

9 Nil

EFFECT ON WEIGHT

10 Negligible

PUBLICATION AMENDMENTS

NOTE

Necessary amendments will be issued separately.

11 Nil.

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FV 430 SERIES VEHICLES, ALL MARKS

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION
(Completely Revised)

SUBJECT: Axle arms and shock absorbers.

INTRODUCTION

1 This instruction is to clarify the build standard of axle arms and shock absorbers.

1.1 Limitations on use of equipment. Nil.

APPLICABILITY

2 All FV 430 axle arms and shock absorbers.

REASON FOR MISCELLANEOUS INSTRUCTION

3 Code 4 - to improve maintainability.

PRIORITY

4 Routine.

IMPLEMENTATION PLAN

5 This instruction is to be implemented by Units authorised to carry out levels 2, 3 and 4 maintenance.

Action required by:

6

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

6.1.1 When axle arms and shock absorbers are next removed, carry out this instruction.

72211(253)
ATSA Chertsey

9801WTCP-1403
Jan 98, Issue 2 (230)

Stores, tools and equipment

7

7.1 Stores to be demanded.

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
1	9ACR	2530-99-865-6161 ^{F.V. CAP}	Axle arm l.h. (FV 434)	2
2		2530-99-865-6162	Axle arm r.h. (FV 434)	2
3		2520-99-837-2795	Axle arm l.h (FV 432)	2
4		2520-99-837-2796	Axle arm r.h. (FV 432)	2
5		2530-99-865-6116	Shock absorber (FV 432 and derivatives)	4
6		2540-99-829-7997	Bush assy (includes pin) <u>new pattern</u>	4
7		2530-99-865-6164	Bracket assy top roller l.h.r. original pattern	1
8		2530-99-865-6165	Bracket assy top roller r.h.r original pattern	1
9		2530-99-865-6157	Axle arm intermediate l.h.	3
10		2530-99-865-6158	Axle arm intermediate r.h.	3
11	6MT1	5340-99-881-9095	<u>Bush original pattern</u>	4

new type.

Sequence of operations

8 Build standard to be as follows:

NOTE

The caps, (for securing the shock absorber locating pin on the axle arms) and the axle arms (items 3 and 4), are machined together and are therefore a matched set. If more than one axle is removed the caps must be bolted to the axle to prevent mismatching. The loss or damage to a cap, or the mounting point on an axle, will result in the axle having to be renewed, because of the machine matching.

8.1 EMER Tracked Vehicles, E 107 Mod Instr No. 67 was cancelled Aug 94, and the introduction of two new axles (items 3 and 4), for the FV 432 and derivatives, detailed in E 109 Misc Instr No. 52 Issue 1, Nov 94, this remains unchanged, and is incorporated in this instruction.

8.2 Axle arms (items 1 and 2) will now **only** be issued for FV 434.

8.3 Shock absorber (item 5) 9 ACR 2530-99-865-6116 remains for the FV 432 and derivatives (excluding FV 434), and will still be supplied with the original bushes (item 11). These may require changing to suit the type of axle or rear top roller fitted to the vehicle.

FV 432 and derivatives, FV 434 intermediate axles

8.4 A further change is now introduced, the intermediate axle arms (items 9 and 10) are phased out and are no longer to be demanded.

8.5 For FV 434, axle arms (items 1 and 2) are to be demanded in place of (items 9 and 10), when a new axle is required.

8.6 For FV 432 and derivatives, axle arms (items 3 and 4) are to be demanded in place of items 9 and 10) when a new axle is required.

FV 432, FV 436 and FV 439 front and rear wheel stations

8.7 For FV 432, FV 436 and FV 439, axle arms (items 3 and 4) are to be demanded in place of (items 1 and 2) when an axle is required and the shock absorber (item 5) bottom bush changed to the new pattern bush (item 6).

8.8 On vehicles with E 107 Mod Instr No. 67 carried out to the rear top roller brackets (recognised by the use of a plain locating pin secured with caps) where the bracket is still serviceable and the vehicle requires a new shock absorber, the top shock absorber bush must be replaced by the new pattern bush (item 6).

8.9 On failure of the modified bracket (E 107 Mod Instr No. 67), the original pattern bracket (item 7 or 8) is to be reinstated, this will require the shock absorber top bush to be changed back to the original pattern (item 11).

TESTING AFTER EMBODIMENT

9 Nil.

EFFECT ON WEIGHT

10 Negligible.

PUBLICATION AMENDMENTS

NOTE

Necessary amendments will be issued separately.

11 Nil.

*FV. 499 564
650 252*

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**FV430 SERIES VEHICLES, ALL MARKS
TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION**

SUBJECT: Axle arms and shock absorbers

INTRODUCTION

1 This instruction is to clarify the build standard of axle arms and shock absorbers.

1.1 Limitations on use of equipment. Nil.

APPLICABILITY

2 All FV430 axle arms and shock absorbers.

2.1 Fitted to subject vehicles (Code No 0040-0111, 0040-0112, 0040-2111, 0040-2112, 0040-3002, 0042-3000, 0042-3001, 0045-3000, 0060-3000, 0062-3000, 0070-0140, 0070-0141, 0070-3000, 0070-3001, 0735-3000, 0735-3001, 0736-3000, 0750-3000, 0754-3000, 0755-3000).

IMPLEMENTATION

3 Action required by:

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

3.1.1 When axle arms and shock absorbers are next removed, carry out this instruction.

3.2 All recipients of this instruction, add particulars to EMER Tkd Veh E109 Miscellaneous Instruction Index.

Stores, tools and equipment

4

Item No	DMC	NSN/Part No	Designation	Qty per eqpt
1	9ACR	2530-99-865-6161 FV499543	Axle arm L/H	434 only (432)
2	9ACR	2530-99-865-6162 FV499544	Axle arm R/H	434 only (432)
3	9ACR	2520-99-837-2795 650357	Axle arm L/H	432

RE-PLACES
 MOD E109 No 67

EMER Tkd Veh E109
 Issue 2
 JAN 98

Item No	DMC	NSN/Part No	Designation	Qty per eqpt
4	9ACR	2520-99-837-2796 FV680358	Axle arm R/H 432	2.
5	9ACR	2530-99-865-6116 FV398555	Shock absorber	4
6	9ACR	2530-99-829-7997 FV650232	Bush assy + PIN (DRG & DERIVATIVE EQUIPMENTS) (silent bloc)	4
7	9ACR	2530-99-865-6164	Bracket assy top roller LHR	1
8	9ACR	2530-99-865-6165	Bracket assy top roller RHR	1

Detail
 801.4413 LH }
 657.6589 RH } @ 0200000000
 BRKTS.

5 Build standard to be as follows:

- 5.1 EMER Tracked Vehicles, E107 Mod Instr No 67 has been cancelled, and the introduction of 2 new axles (items 3 and 4), has brought about changes in the build standards.
- 5.2 Axle arms (items 1 and 2) will now only be issued for FV434 in future.
- 5.3 Shock absorber (item 5) 9ACR/2530-99-865-6116 remains for ~~FV432~~.
- 5.4 Axle arms (items 3 and 4) are now to be demanded in place of (items 1 and 2) for all FV432's and derivatives (excluding FV434).
- 5.5 Shock absorber (item 5) to be demanded, the bottom bush assy (6MT1/5340-99-881-9095) to be removed and replaced by bush assy (item 6). The modified shock absorber to be used in conjunction with items 3 and 4.
- 5.6 Vehicles with Mod Instr No 67 carried out to the rear top roller brackets, Units are then to demand (item 6) to modify the top bush assy of the shock absorber.
- 5.7 When failure of the top roller brackets with Mod Instr No 67 incorporated has failed then units are to replace top roller brackets with the original type (items 7 and 8).

NOTE: ① CAPS, FOR S/ABS PIN, AND AXLE ARM ARE
 ARE MACHINE MATCHED. SEE FV650638. FV650374
 ② THEREFORE LOSS OR DAMAGE TO THE CAP WILL
 NECESSITATE
 REQUIRE A NEW AXLE TO BE FITTED

ELECTRICAL AND MECHANICAL
ENGINEERING REGULATIONS

~~UNRESTRICTED~~

TRACKED VEHICLES
E 107 Mod Instr No 67

CANCELLED

<u>Item No</u>	<u>COSA Section</u>	<u>NSN/Part No</u>	<u>Designation</u>	<u>Qty</u>
	9ACR	2540-99-829-5374	Mod set: Mounting, shock absorber. Comprising:	1
1	9ACR	2540-99-829-7997 FV 650232	Bush assy (silent bloc)	(6)
2			Fixed bracket)	(12)
3	9ACR	2530-99-761-0700 FV 650374	Cap) Clamp assy	(12)
4	G1	5306-99-941-0315	Bolt, hex hd 3/8 in. UNF x 2 in. lg	(24)
5	G1	5310-99-944-0550	Washer lock 3/8 in. dia	(24)
<u>8.2 Items to be removed</u>				
6	6MT1	2540-99-881-9095 E 13240	Mount, resilient. (bush, silent bloc)	6
7	9ACR	2530-99-865-6114 FV 300040	Bolt, threaded shoulder	6
8	G1	5310-99-941-7128 BS A/126/Q	Nut, self locking, hex, UNF, steel, nylon insert, cadmium plated 5/8 in.	6
<u>8.3 Items to be modified</u>				
9	9ACR	2530-99-865-6161 FV 499543	Axle arm LH front and rear	2
10	9ACR	2530-99-865-6162 FV 499544	Axle arm RH front and rear.	2
11	9ACR	2530-99-865-6116 FV 395555	Shock absorber	4
12	9ACR	2530-99-865-6165 FV 499567	Bracket assy, top roller RH (rear)	1
13	9ACR	2530-99-865-6164 FV 499566	Bracket assy, top roller LH (rear)	1

Sequence of operations

Note ...

New Shock absorber. 650 383.

Numbers in brackets refer to items listed in para 8, stores to be demanded and items to the removed and modified.

Refer to Fig 1 for general arrangement.

9 Carry out the modification as follows:

9.1 Remove tracks and front and rear road wheels to permit removal of shock absorbers, front and rear axle arms and rear top roller assemblies.

9.2 Discard shock absorber mounting bolts and nuts (7 and 8).

9.3 Remove and discard resilient mount bushes (6) from shock absorbers (11) with the exception of the front shock absorber top bushes, and replace with new bush assys (silent bloc) (1).

9.4 Remove and dismantle rear top roller assemblies and continue as follows to each bracket (12 and 13).

Refer to Fig 2

9.5 Fill existing 1.1/4 in. - 12 UNF tapped hole with weld flush with faces of casting web.

9.6 Bore inline to dimensions shown in section A-A.

9.7 Machine outer faces of webs over a 3.1/2 in. dia circle to allow for a flat seating of the fixed brackets (2).

9.8 Fit mandrel (1.1/8 in. x 6 in. lg stock steel bar) to bores to allow fixed brackets (2) to be lined up and welded in correct positions.

9.9 Weld fixed brackets (2) to casting using 3/8 in. fillet welds, see view 2/1 and section B-B.

9.10 Assemble caps (3) to the brackets (2) with a suitable 0.020 in. shim between the two mating surfaces and inline bore the clamp assemblies (2 and 3) to dimensions shown in view 2/2.

9.11 Remove caps (3) and machine top roller bracket casting (12 and 13) to remove webs allowing for vertical entry of shock absorber bush assy (1) see dimensions view 2/3.

9.12 Drill cap bolt holes to new diameter of 13/32 in.

9.13 Remove all burrs and sharp edges. Paint all exposed surfaces.

9.14 Reassemble top roller assemblies and refit to hull.

9.15 Remove and dismantle axle arm assemblies (9 and 10) and carry out the following procedures:

Refer to Fig 3.

9.16 Fill existing 1.1/4 in. - 12 UNF tapped hole with weld, flush with faces of axle arm web.

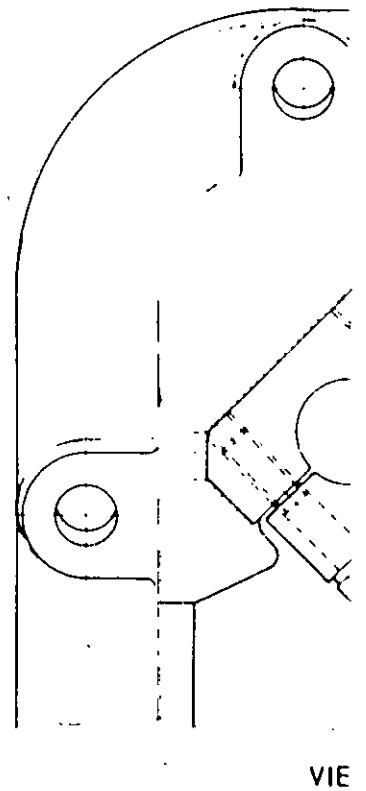
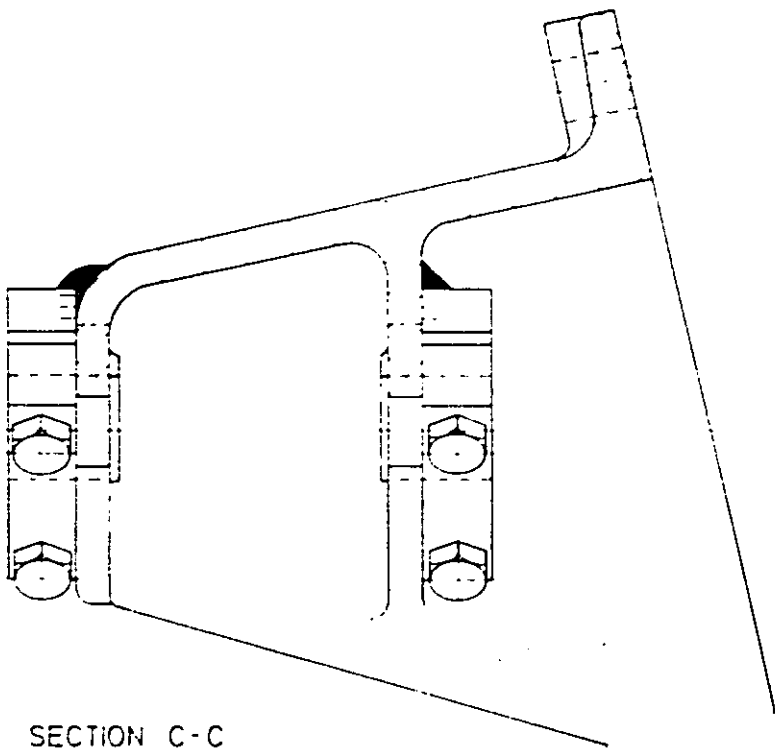
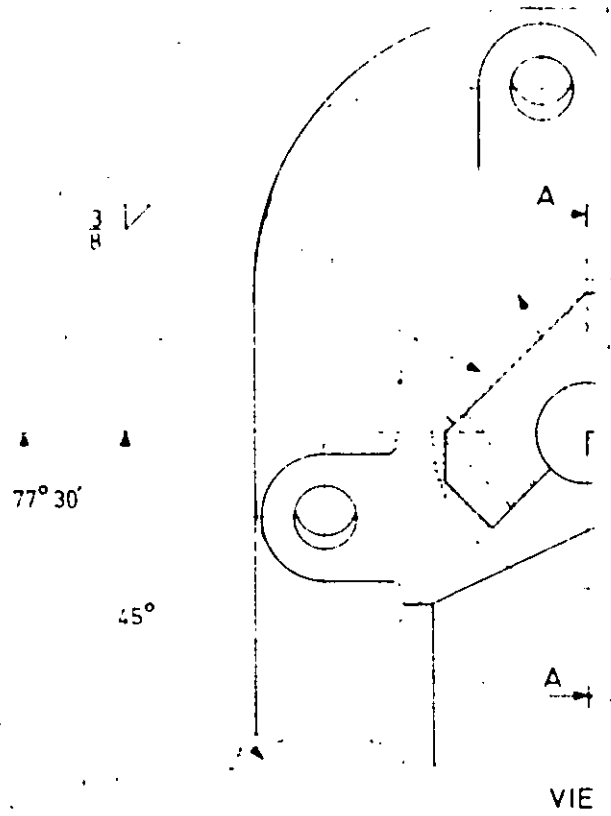
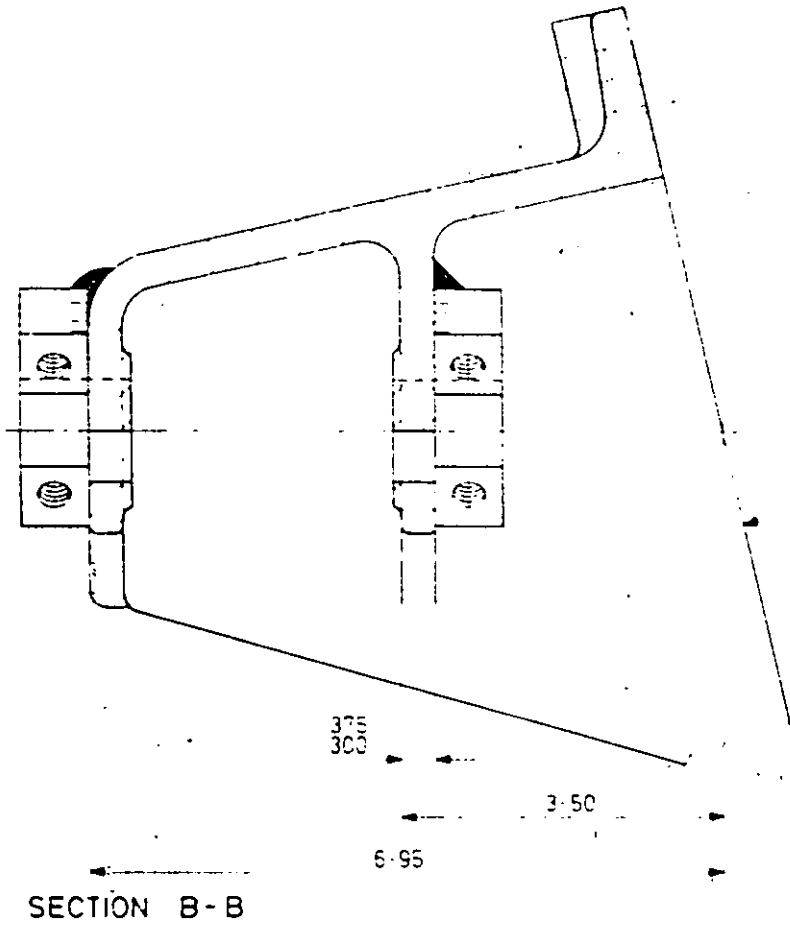
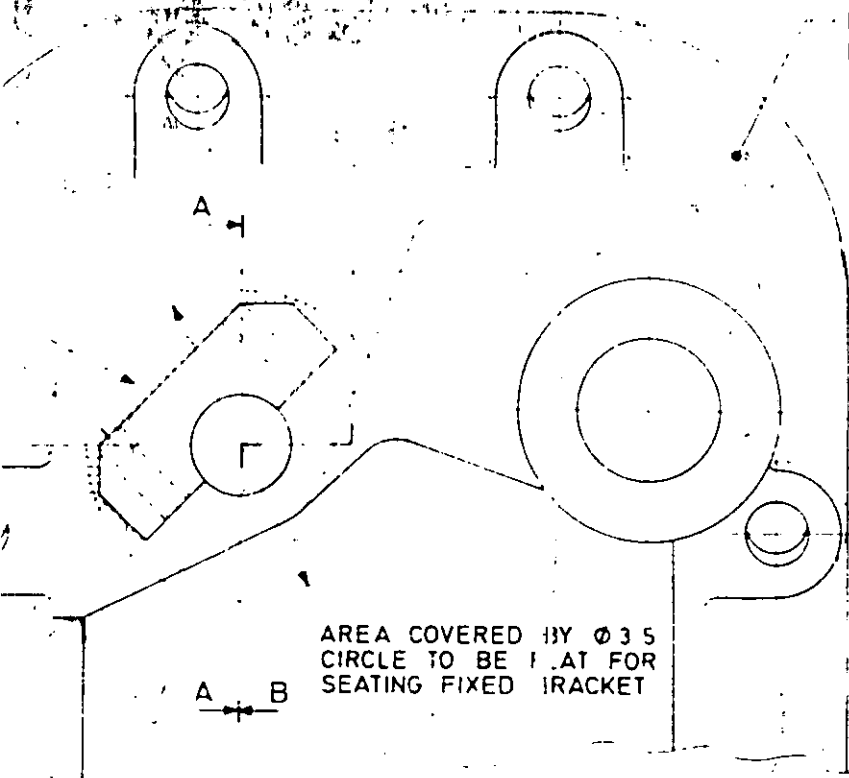


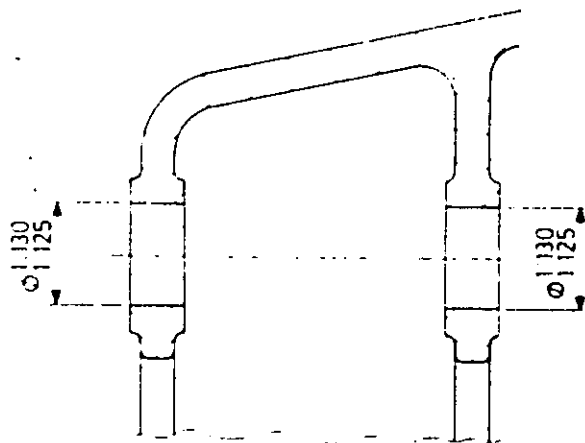
Fig 2

Rear top roller bracket m
(Dimensions in in)

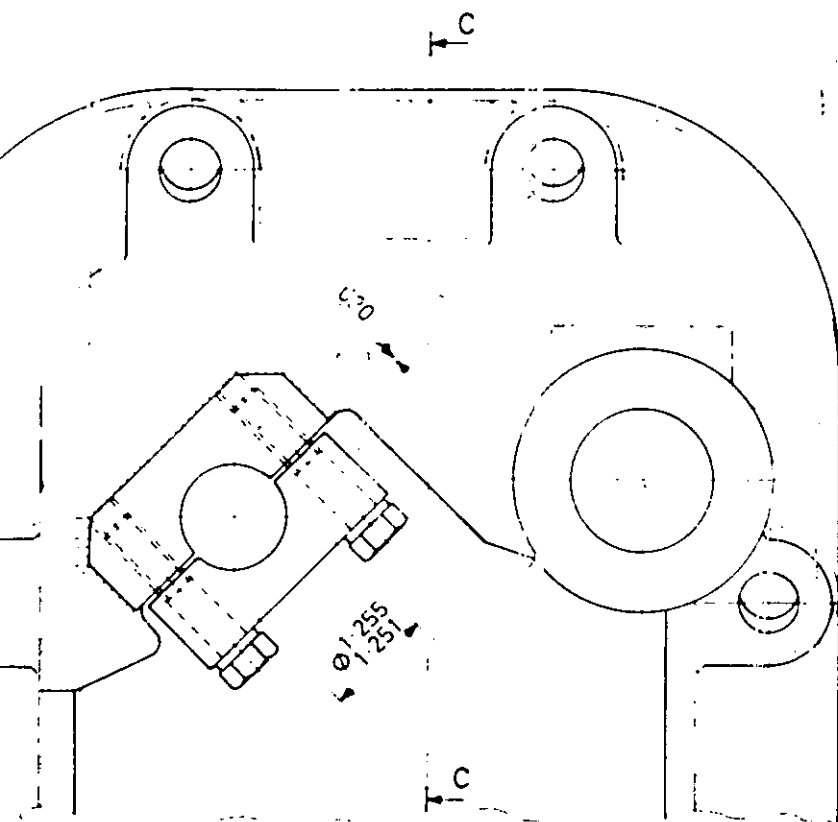
FV 499568 TOP ROLLER BKT. REAR LH AS DRAWN
FV 499569 " " " " RH OPP HAND
(ASSY DRG LHD FV 499565, RHD FV 499567)



VIEW 2/1

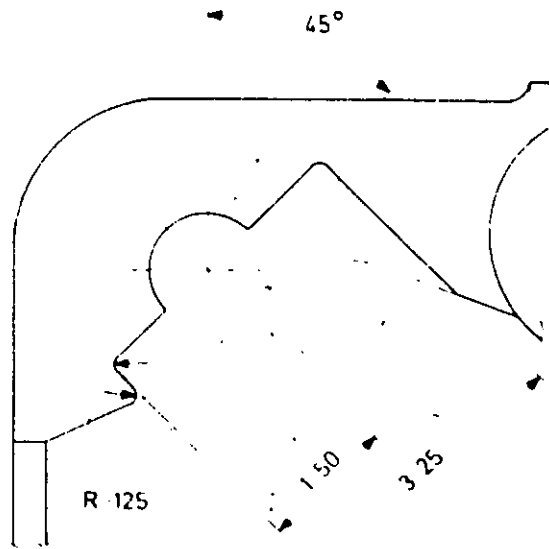


SECTION A-A
(BEFORE WELDING FIXED BRACKETS
TO TOP ROLLER BRACKET)



VIEW 2/2

VIEW SHOWING INNER & OUTER WEBS
CUT AWAY (FIXED BRACKET REMOVED
FOR CLARITY)



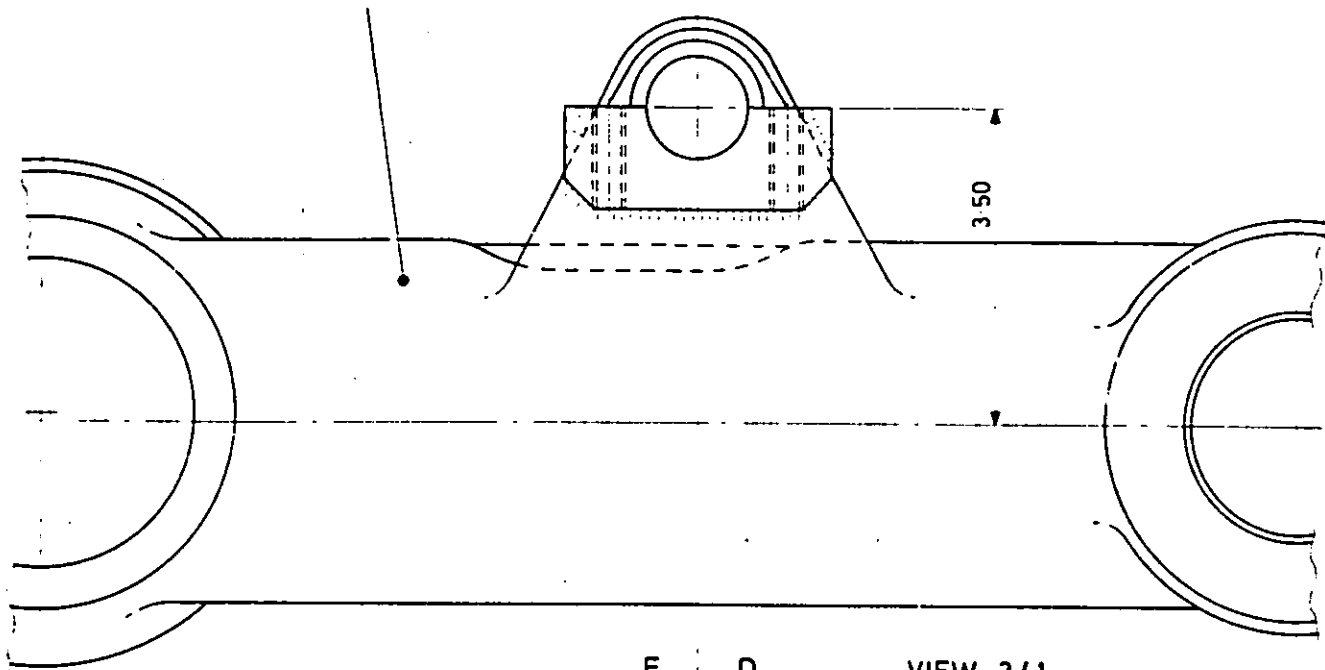
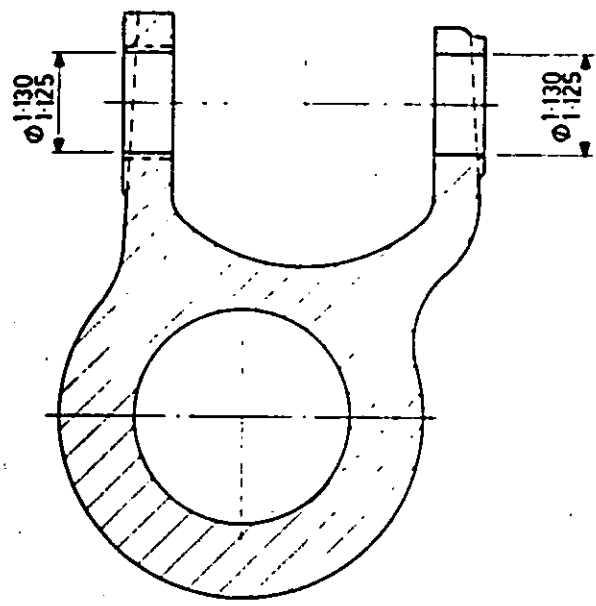
REMOVE ALL BURRS & SHARP EDGES
VIEW 2/3

roller bracket modifications
(dimensions in inches)

V6592/2
Fig 2

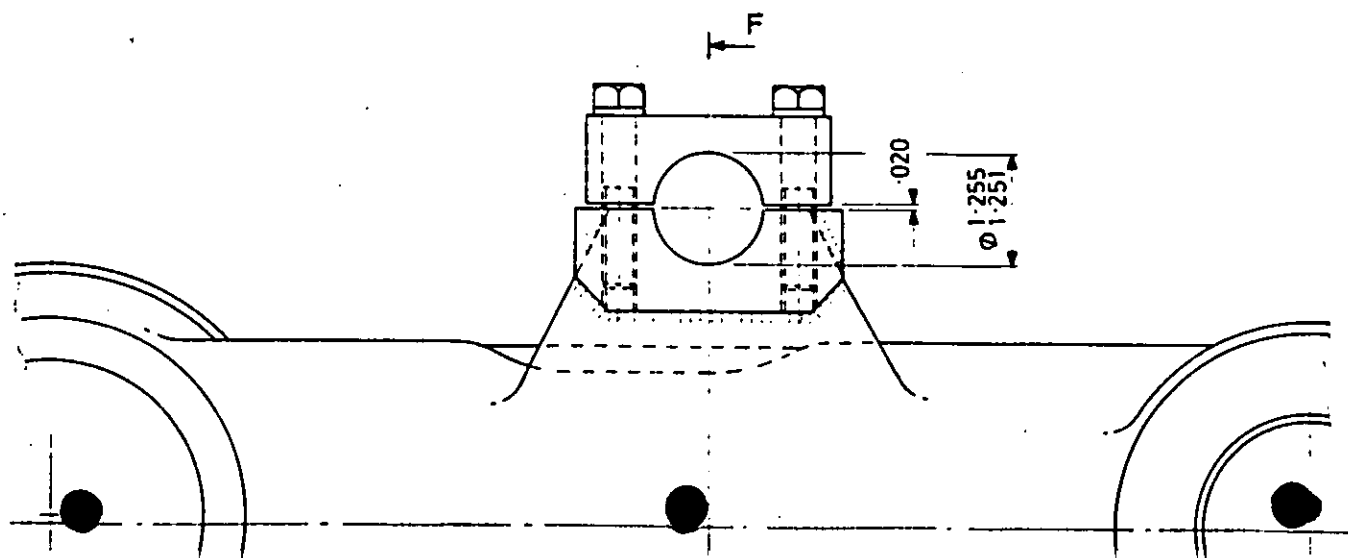
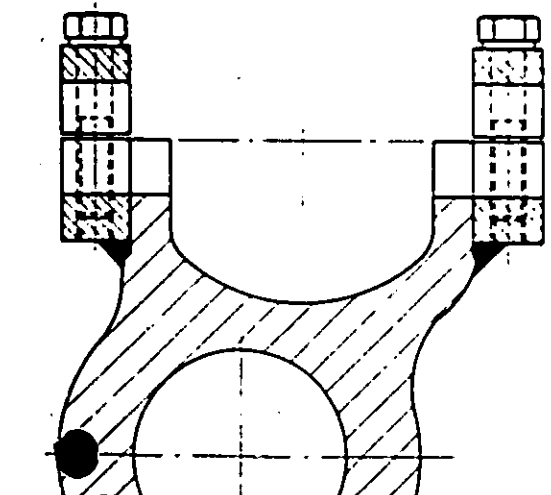
FV499263 AXLE ARM LH AS DRAWN (ASSY DRG FV499543)
FV499264 " " RH OPP. HAND (ASSY DRG FV499544)

E D



E D

VIEW 3/1



E D

.020
 $\phi 1.255$
 $\phi 1.251$

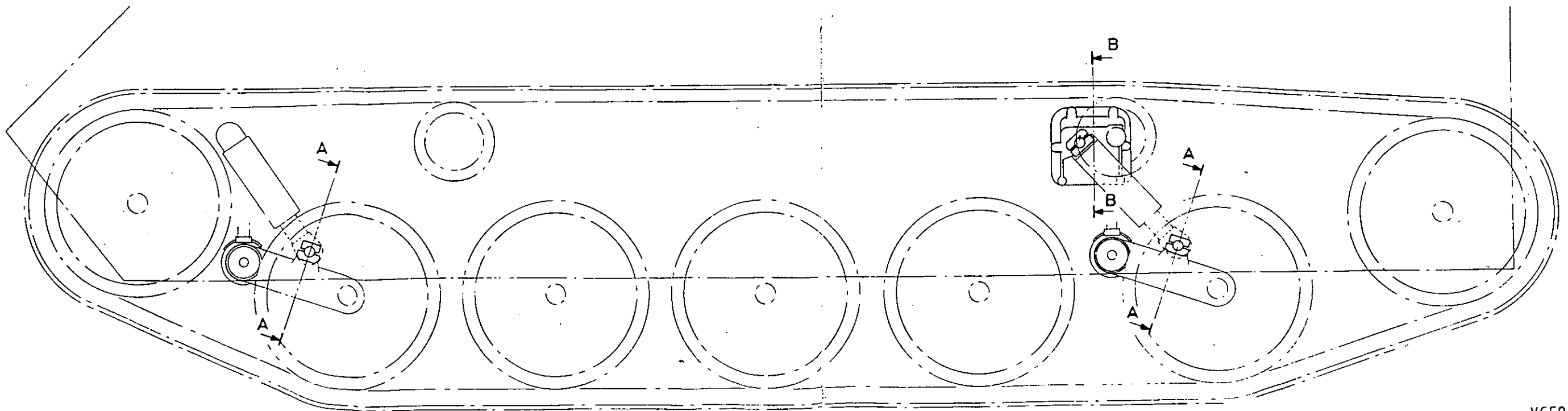
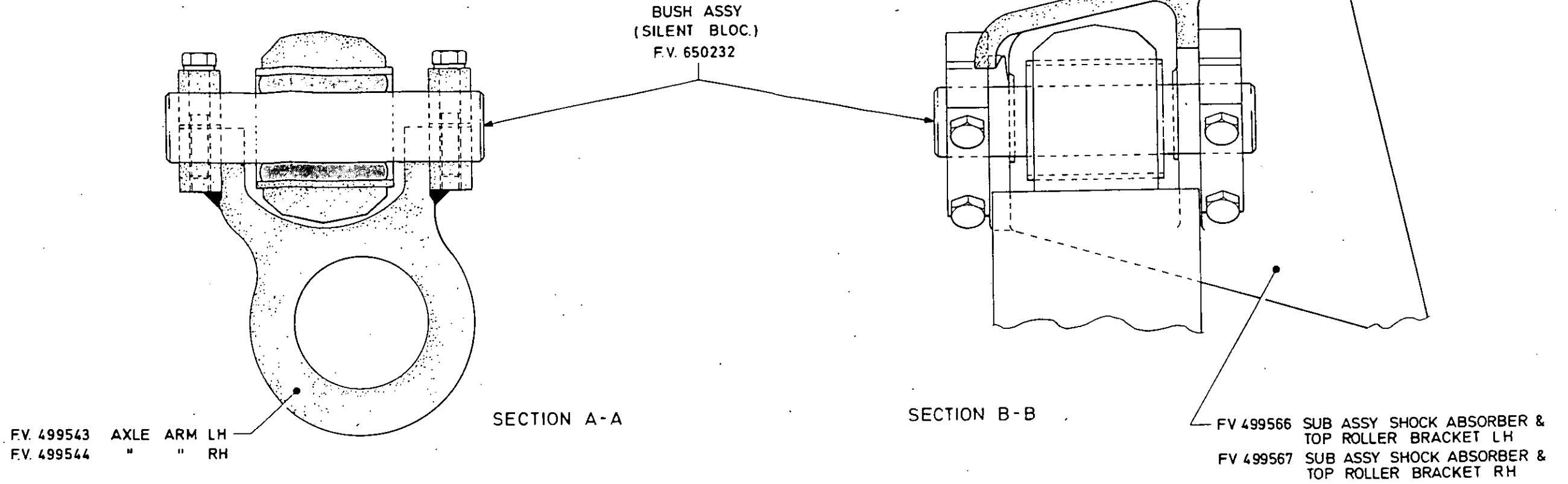
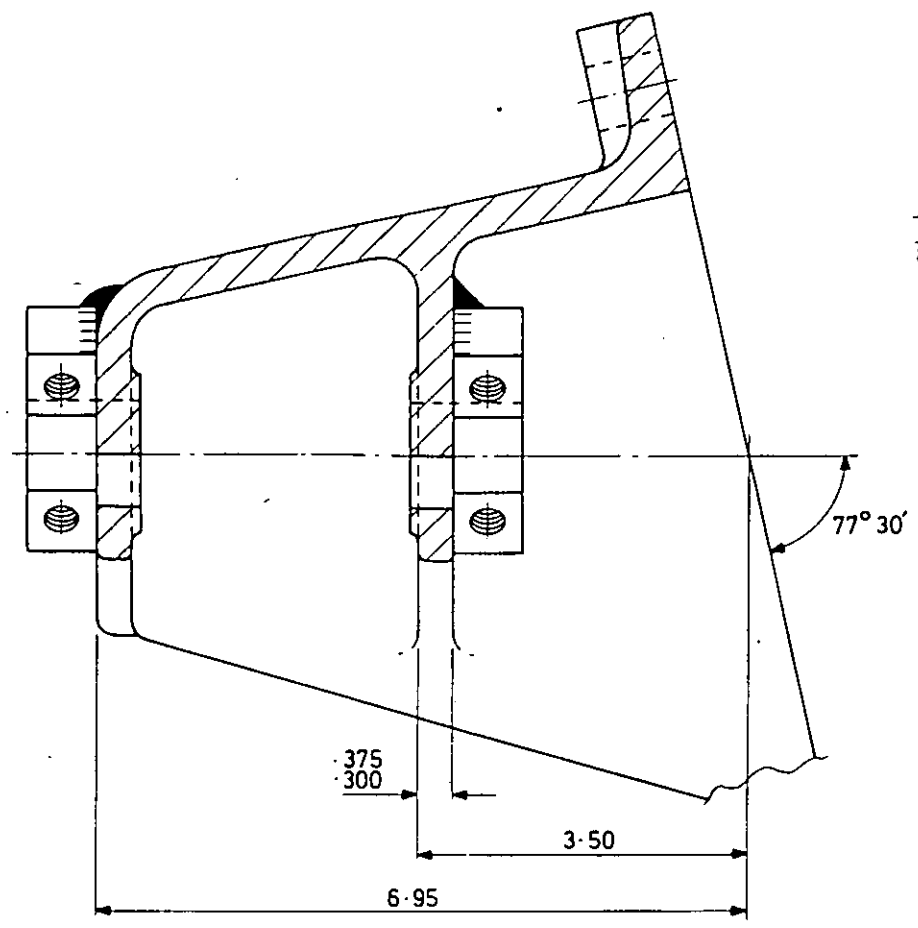


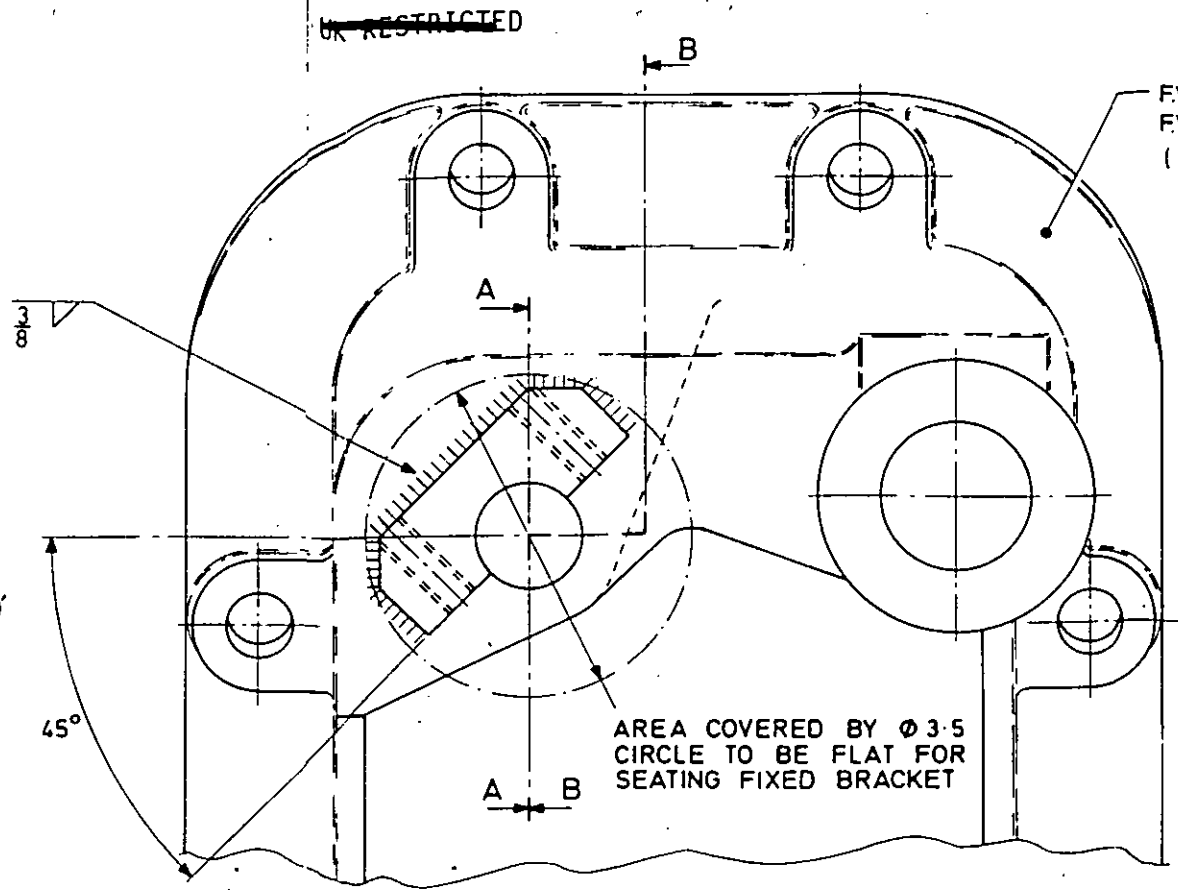
Fig 1

General arrangement of shock absorber mountings

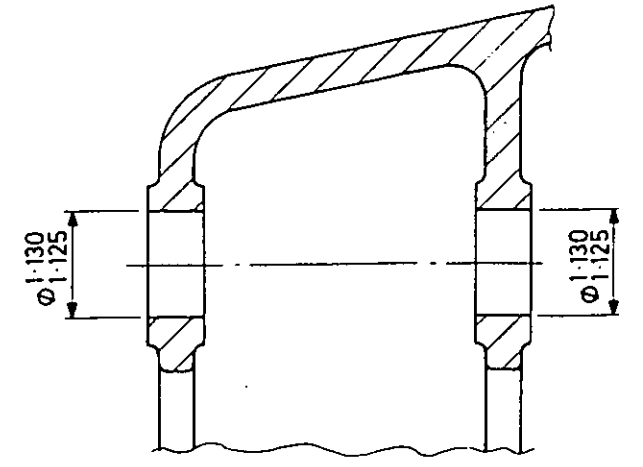
FV.499568 TOP ROLLER BKT. REAR LH AS DRAWN
FV.499569 " " " " RH OPP. HAND
(ASSY DRG L.H.D. FV.499566, R.H.D. FV.499567)



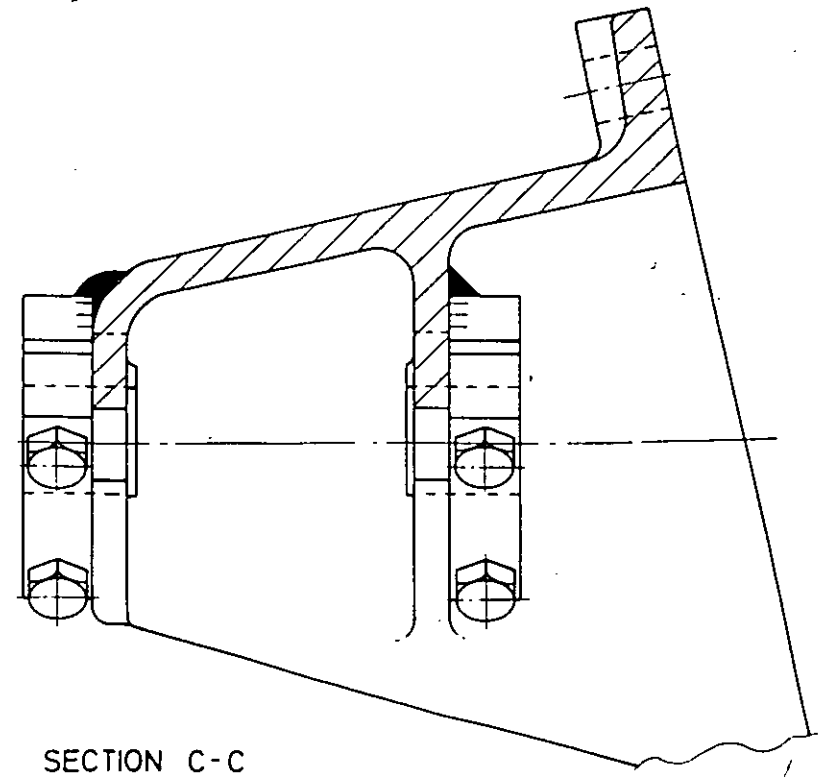
SECTION B-B



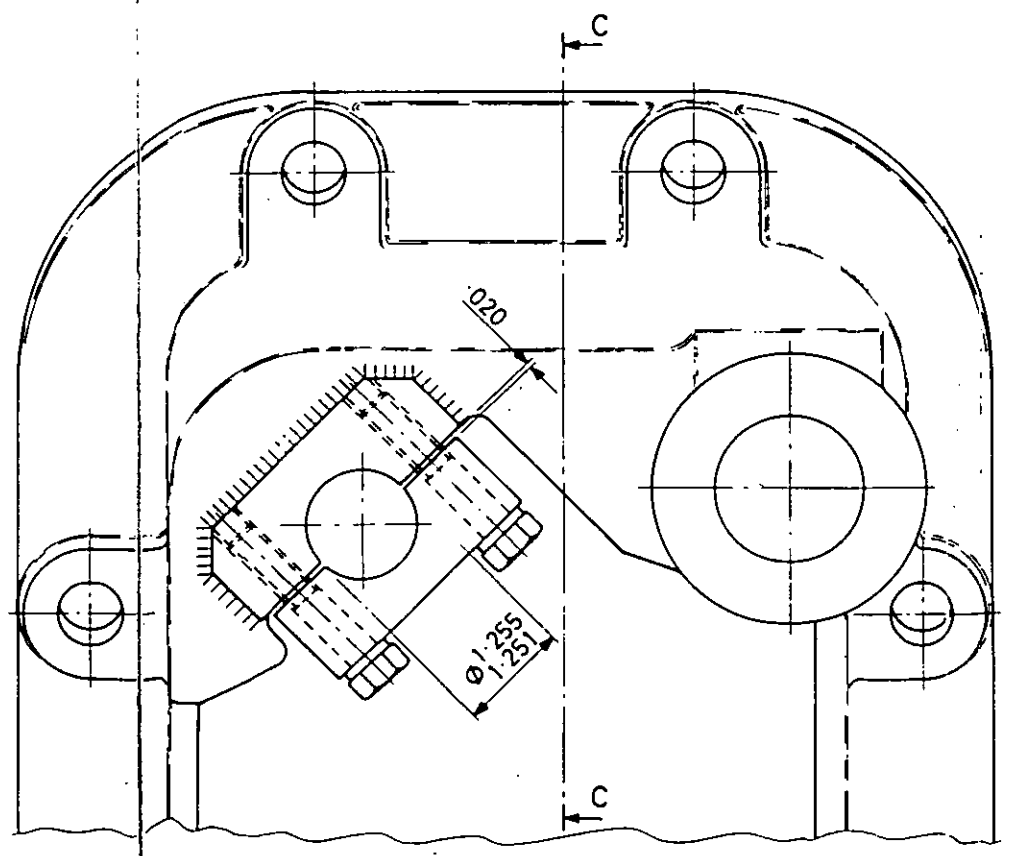
VIEW 2/1



SECTION A-A
(BEFORE WELDING FIXED BRACKETS
TO TOP ROLLER BRACKET)

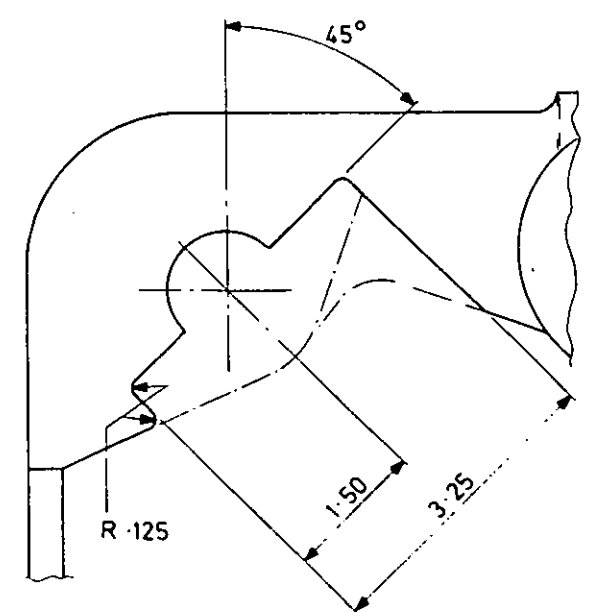


SECTION C-C



VIEW 2/2

VIEW SHOWING INNER & OUTER WEBS
CUT AWAY (FIXED BRACKET REMOVED
FOR CLARITY)

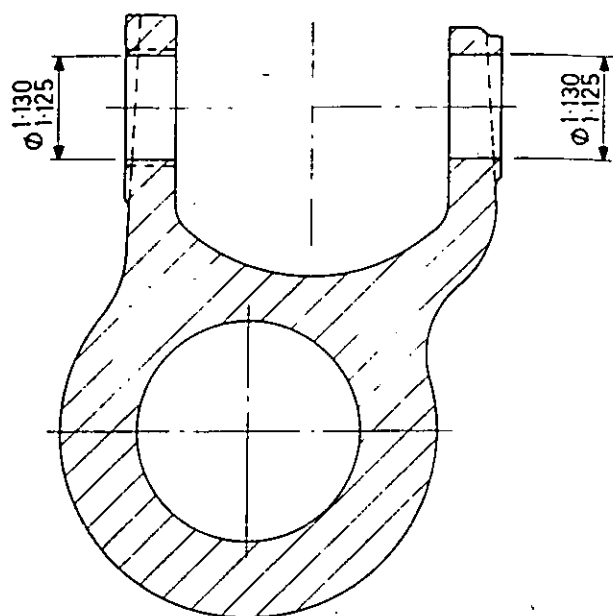


REMOVE ALL BURRS & SHARP EDGES
VIEW 2/3

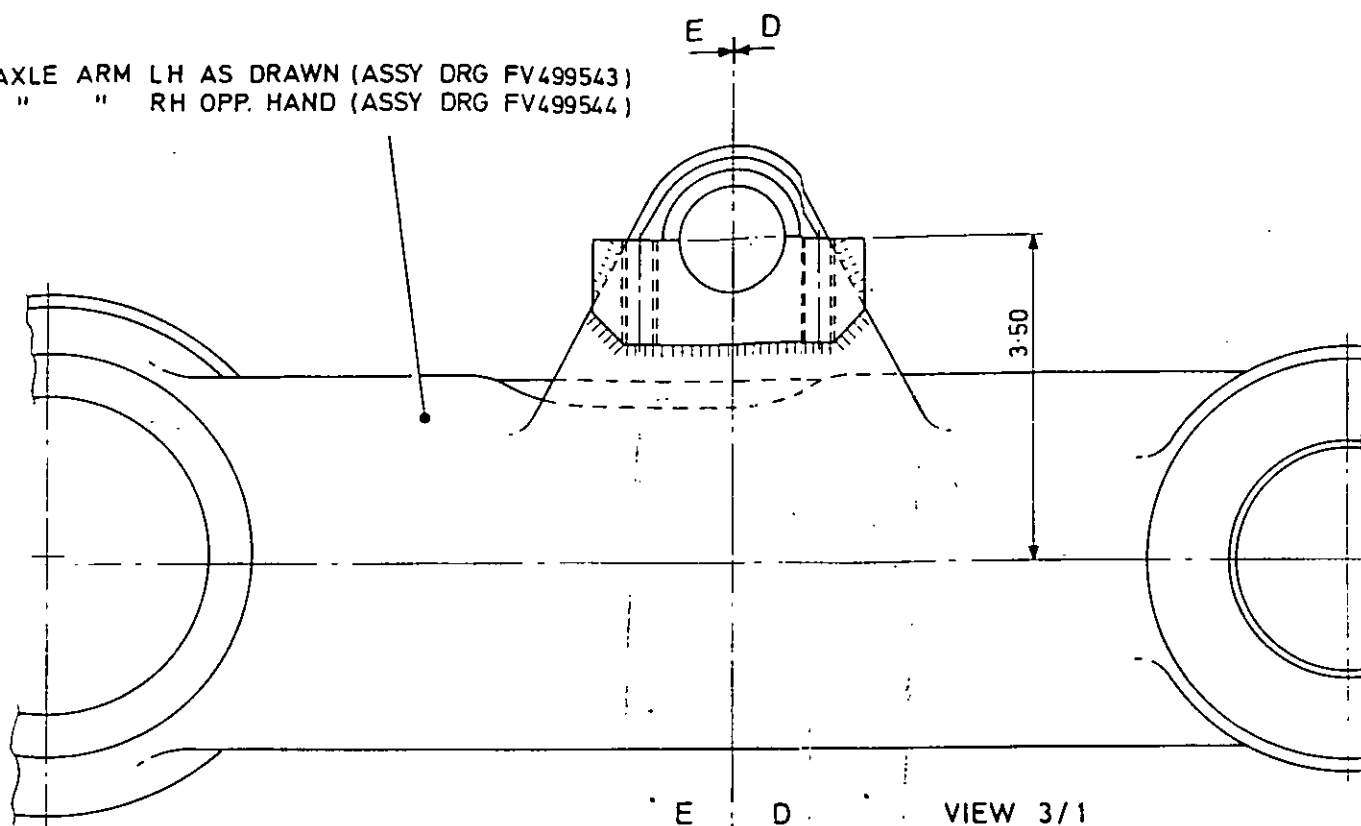
Rear top roller bracket modifications
(Dimensions in inches)

Fig 2

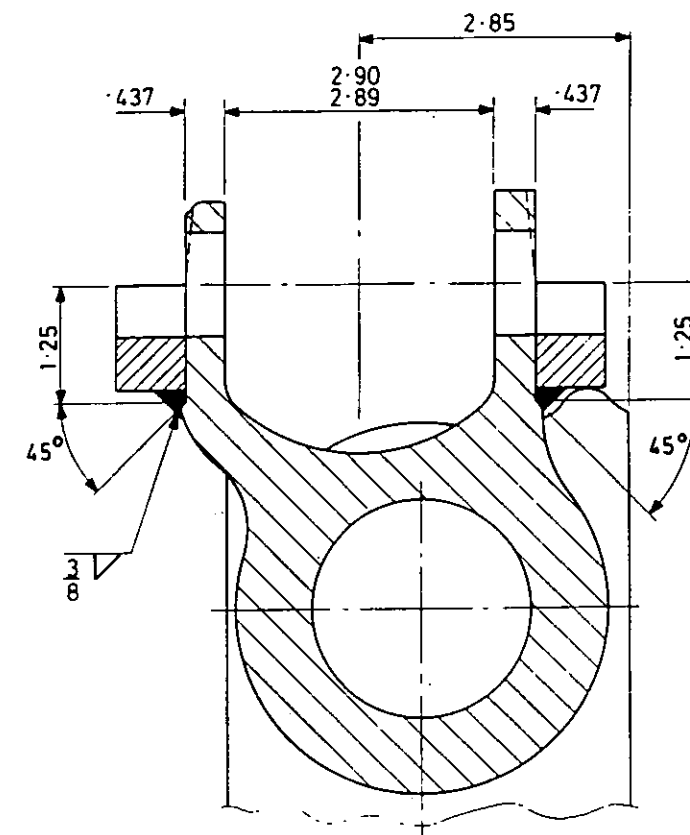
FV.499263 AXLE ARM LH AS DRAWN (ASSY DRG FV499543)
FV.499264 " " RH OPP. HAND (ASSY DRG FV499544)



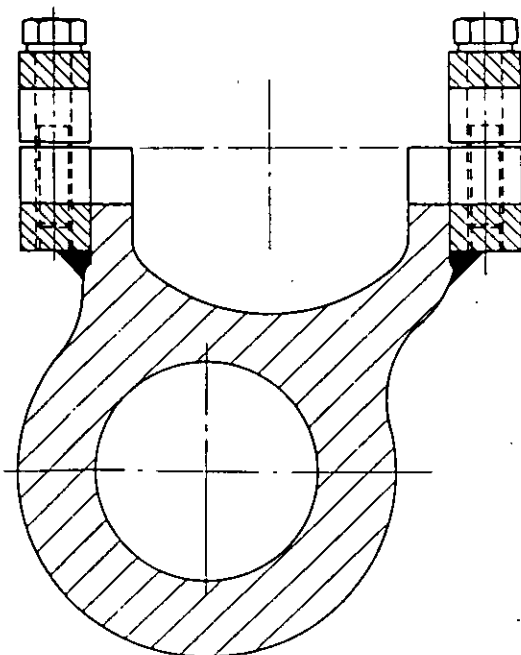
SECTION D-D
(BEFORE WELDING FIXED BRACKETS
TO AXLE ARM)



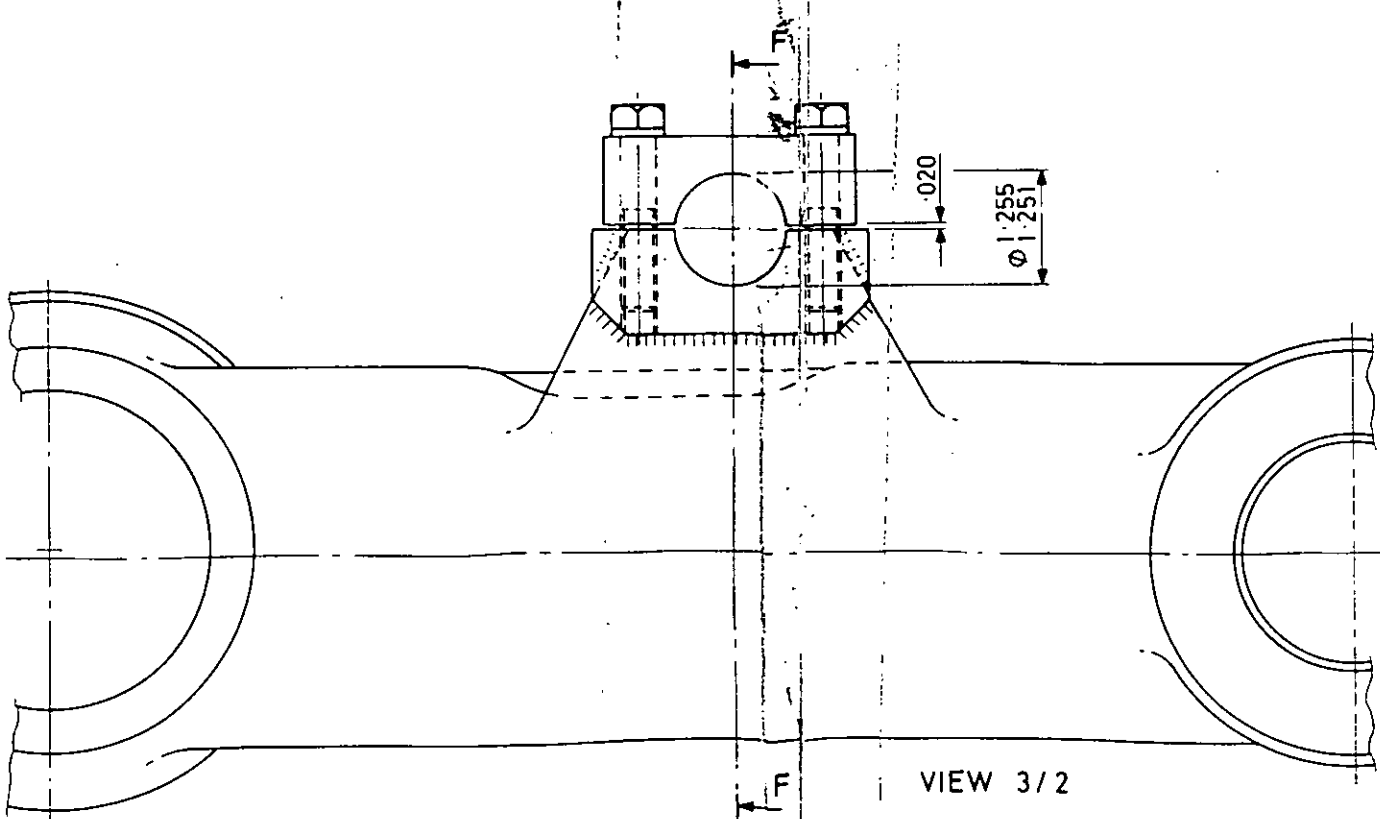
VIEW 3/1



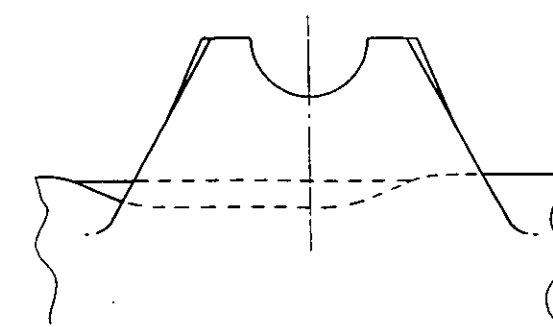
SECTION E-E



SECTION F-F



VIEW 3/2



VIEW SHOWING WEBS CUT AWAY
(FIXED BRACKET REMOVED FOR CLARITY)

VIEW 3/3

Fig 3

V6592/3
Fig 3

MEMORANDUM

To:	From: Your name Army Technical Support Agency Technical Services X,X Building 13B, Chobham Lane Chertsey Surrey KT16 OEE
Date: 9 June 1998	Tel: Chertsey Mil XXXX
Your Ref:	Our Ref:
Subject:	

E109 No 59

The NSNs for the towing eye and the bushes have not^{yet} been provisioned
ESPPA have been requested to speak to Maj Montgomery and provision these following a conversation with Gary
Walton.

An NBI has also been put out to inform units to demand these items rather than locally manu them when required so
that they are provisioned.

Name:

Signature:

Rank :

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CARRIER FULL TRACKED FV 432, 435, 436 AND 439

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTIONS

SUBJECT: Towing eye reclamation.

(Approval No. MAE 42/0/0014)

INTRODUCTION

1 This instruction introduces a method of reclamation for front and rear worn/damaged towing brackets:

1.1 Limitation on use of equipment. Nil.

APPLICABILITY

2

2.1 Fitting to subject vehicles Code No. 0040-0111, 0040-0112, 0040-2111, 0040-2112, 0040-3000, 0042-3000, 0042-3001, 0045-3000 and 0060-3000 held by user units.

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

REASON FOR MISCELLANEOUS INSTRUCTION

3 Code 4 - to improve maintainability.

PRIORITY

4 Routine.

ESTIMATED TIME REQUIRED

5

5.1 Embodiment: 3.6 man-hour.

5.2 Testing: 0.5 man-hours.

5.3 Manufacturing: 0.5 man-hours.

IMPLEMENTATION PLAN

6

6.1 This instruction is to be implemented by:

6.1.1 Units authorised to carry out levels 3 and 4 maintenance.

Action required by

7

7.1 Units and establishments holding equipment:

7.1.1 Examine equipment to see if this instruction is applicable.

7.1.2 Request REME to carry out this instruction.

7.2 Units authorized to carry out levels 3 and 4 maintenance:

7.2.1 Carry out this instruction when requested by the holding unit, or during overhaul.

7.2.2 Upon completion, record details of this instruction in equipment documents.

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 authority for demand.

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
1	9MCV	2510-99-304-1687 FV 952599	Bush towing eye (0.75 in.)	As reqd
2	9MCV	2510-99-660-8528 FV 952585	Bush towing eye (1 in.)	As reqd
3	9ACR	2510-99-838-1429 FV 952583	Towing eye assy	As reqd

Sequence of operations

9 Carry out this instruction as follows:

NOTE

Refer to EMER Workshop O 360 Chapter 12 for welding ferrous armour.

9.1 When the front towing eyes are within repairable limits:

9.1.1 Bore eyes to dimensions shown in Fig 1 and tack weld in each new bush in eight places as shown.

- 9.2 When one, or both front towing eyes are outside repairable limits:
- 9.2.1 Cut off both front towing eyes to within 6 mm of armour plate.
 - 9.2.2 Remove remaining metal by grinding, avoid overheating of armour plate.
 - 9.2.3 Finish smooth armour surface and use Non Destructive Testing (NDT), dye penetrant, to establish that no surface cracks are present.
 - 9.2.4 Mark out position of new towing eyes.
 - 9.2.5 Check steel temperatures are above 12 degrees C.
 - 9.2.6 Using a 3.25 mm diameter electrode make the initial root weld across the top of the towing eyes, inspect for accuracy of position and squareness. Hammer eyes flat to plate.
 - 9.2.7 Make the next root weld in the overhead position across the bottom of the towing eyes.
 - 9.2.8 Using a 5 mm diameter electrode make the vertical welds. Alternate from side to side completing no more than 2 in. at a time, to minimise distortion.
 - 9.2.9 Complete welds on top and bottom of towing eyes with capping passes.
 - 9.2.10 Inspect after 72 hours with NDT that the welds and plates are crack free.
- 9.3 When one or both rear towing eyes are in repairable limits:
- 9.3.1 Bore eyes to dimensions shown in Fig 2, and tack weld each new bush in eight places as shown.

TESTING AFTER EMBODIMENT

10 Nil.

EFFECT ON WEIGHT

11 Negligible.

PUBLICATION AMENDMENTS

12 Nil.

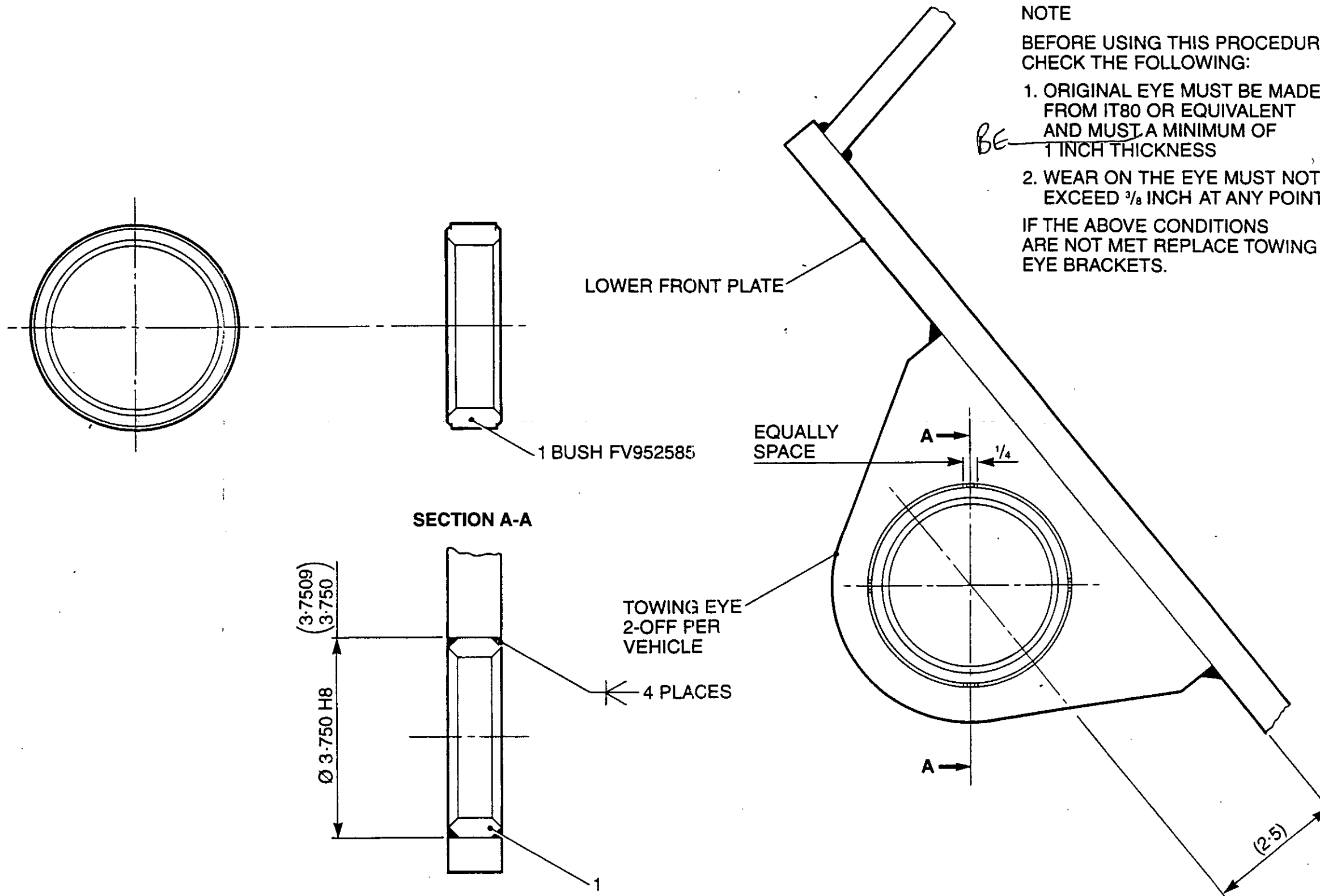
NOTE

BEFORE USING THIS PROCEDURE
CHECK THE FOLLOWING:

1. ORIGINAL EYE MUST BE MADE
FROM IT80 OR EQUIVALENT
AND MUST A MINIMUM OF
1 INCH THICKNESS

2. WEAR ON THE EYE MUST NOT
EXCEED $\frac{3}{8}$ INCH AT ANY POINT

IF THE ABOVE CONDITIONS
ARE NOT MET REPLACE TOWING
EYE BRACKETS.



RECLAMATION PROCEDURE

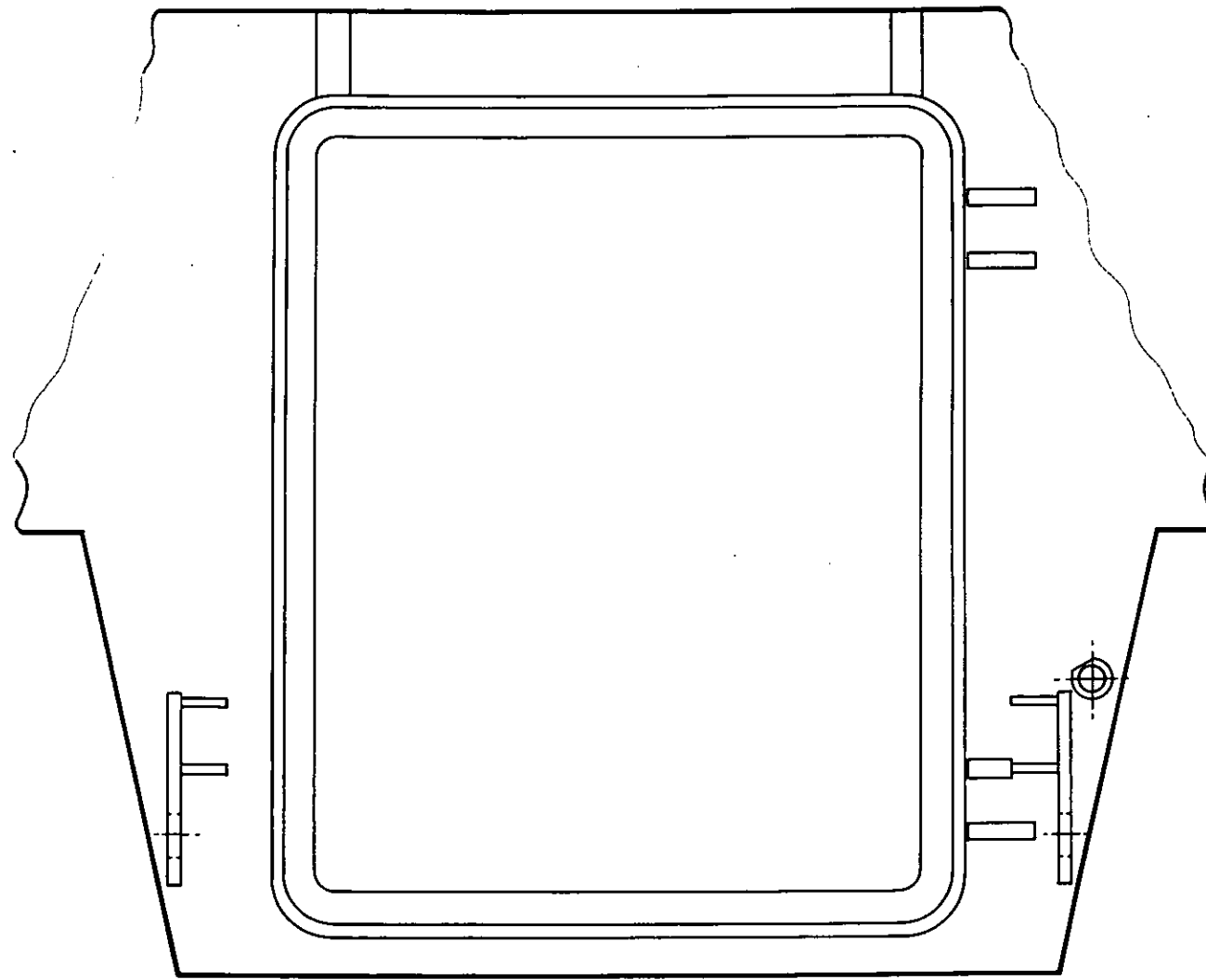
1. DRILL OUT TOWING EYE AS SHOWN
2. ASSEMBLE BUSH - DETAIL 1
3. TACK WELD TO SECURE

SPECIFICATIONS

- WELD TO MVEE SPEC 1031
- FINISH TO MVEE SPECIFICATION 666 PART 2-3
- COLOUR AS PER CONTRACT

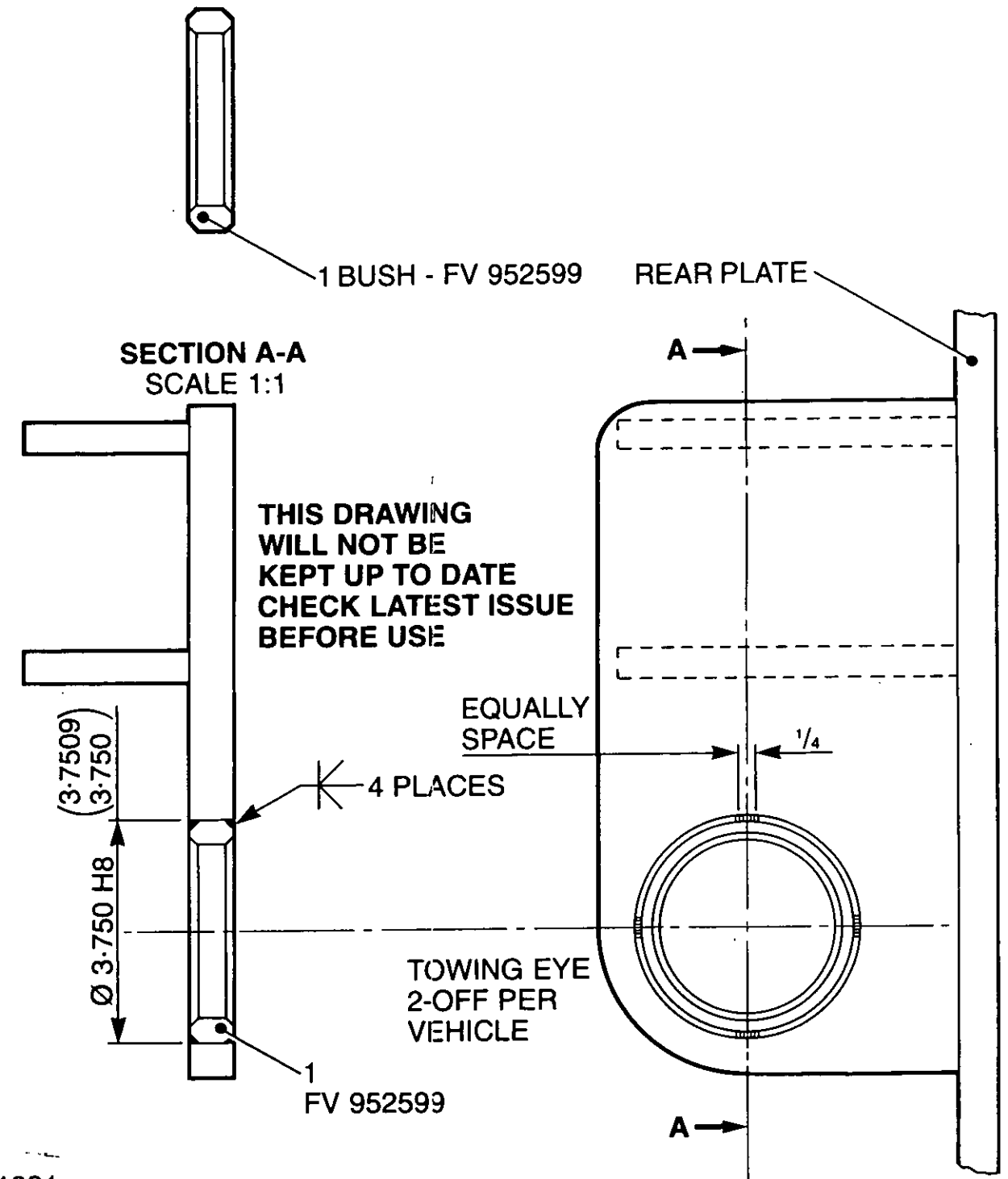
Fig 1 Front towing eye

V13613/2



USED ON FV 430 SERIES
432 MK I, I/I II, II/I
435
436

SPECIFICATIONS
WELD TO MVEE SPEC. 1031
FINISH TO MVEE SPEC. 666 PART 2-3
COLOUR AS PER CONTRACT



RECLAMATION PROCEDURE:
1 DRILL OUT TOWING EYE AS SHOWN
2 ASSEMBLE BUSH
3 TACK WELD TO SECURE

V13613/1

Fig 2 Rear towing eye

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FV 430 SERIES VEHICLES, ALL VARIANTS

TECHNICAL HANDBOOK - MODIFICATION INSTRUCTION

SUBJECT: Tacho head replacement
(Approval No. MAE 43/0/0017)

INTRODUCTION

- 1 This instruction details the replacement of the original variable voltage tacho head with a frequency driven unit.

APPLICABILITY

- 2
- 2.1 Fitted to subject vehicles held by user units.
- 2.2 Unmodified stock, held at all levels of technical storage.

REASON FOR MISCELLANEOUS INSTRUCTION

- 3 Code 4 - to improve maintainability.

PRIORITY

- 4 Routine.

ESTIMATED TIME REQUIRED

- 5 Embodiment: 2.5 man-hours.

MODIFICATION IMPLEMENTATION PLAN

- 6 This instruction is to be implemented by units authorised to carry out level 2 repairs.

Action required by:

7

7.1 Units and establishments holding equipment:

7.1.1 Examine equipment to see if this instruction is applicable

7.1.2 Request REME to carry out this instruction on:

7.1.2.1 All FV 434 vehicles as soon as is convenient.

7.1.2.2 All FV 430 series other than FV 434 vehicles on the failure of the tacho.

7.2 All recipients of this instruction: Add particulars to EMER Tkd Veh 109 Misc Instr Index.

7.3 Units authorized to carry out level 2 repairs:

7.3.1 Carry out this instruction when requested by the holding unit, or during overhaul.

7.3.2 Upon completion, record details of this instruction in equipment documents.

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.

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
1	6MT4	6680-99-930-8913 (FV 547578)	Tacho head (Murphy).	1
2	6MT4	5935-99-805-0221	Double connector.	1
8.2 <u>Stores to be removed and returned to stores.</u>				
3	6MT1	6680-99-881-9096	Tacho (Smiths).	1
4	Z37	5940-99-805-0220	Single connector.	1

Sequence of operations

9 Carry out the modification as follows:

Refer to Fig 1

9.1 Turn off battery master switch.

9.2 Remove driver's instrument panel by removing the eight screws on the face of the panel.

9.3 Disconnect the leads from the tacho head at plug No. 1, remove and return the head to stores.

9.4 Fit the new Murphy tacho head.

- 9.5 Remove the single connector on the negative lead, between panel lights 5 and 6 and replace with a double connector.
- 9.6 Fit the short lead from connection E1 on the Murphy tachometer into the new double connector, fitted in Sub-Para 9.5.
- 9.7 Fit the lead from D1 and the long lead from E1 on the Murphy tachometer, to the D and E connections respectively on plug No. 1 (as removed in Sub-Para 9.3).
- 9.8 Fit the lead from the positive connection on the Murphy tachometer to the double connector on plug No. 3 marked 3A.

TESTING AFTER EMBODIMENT

10 Nil.

EFFECT ON WEIGHT

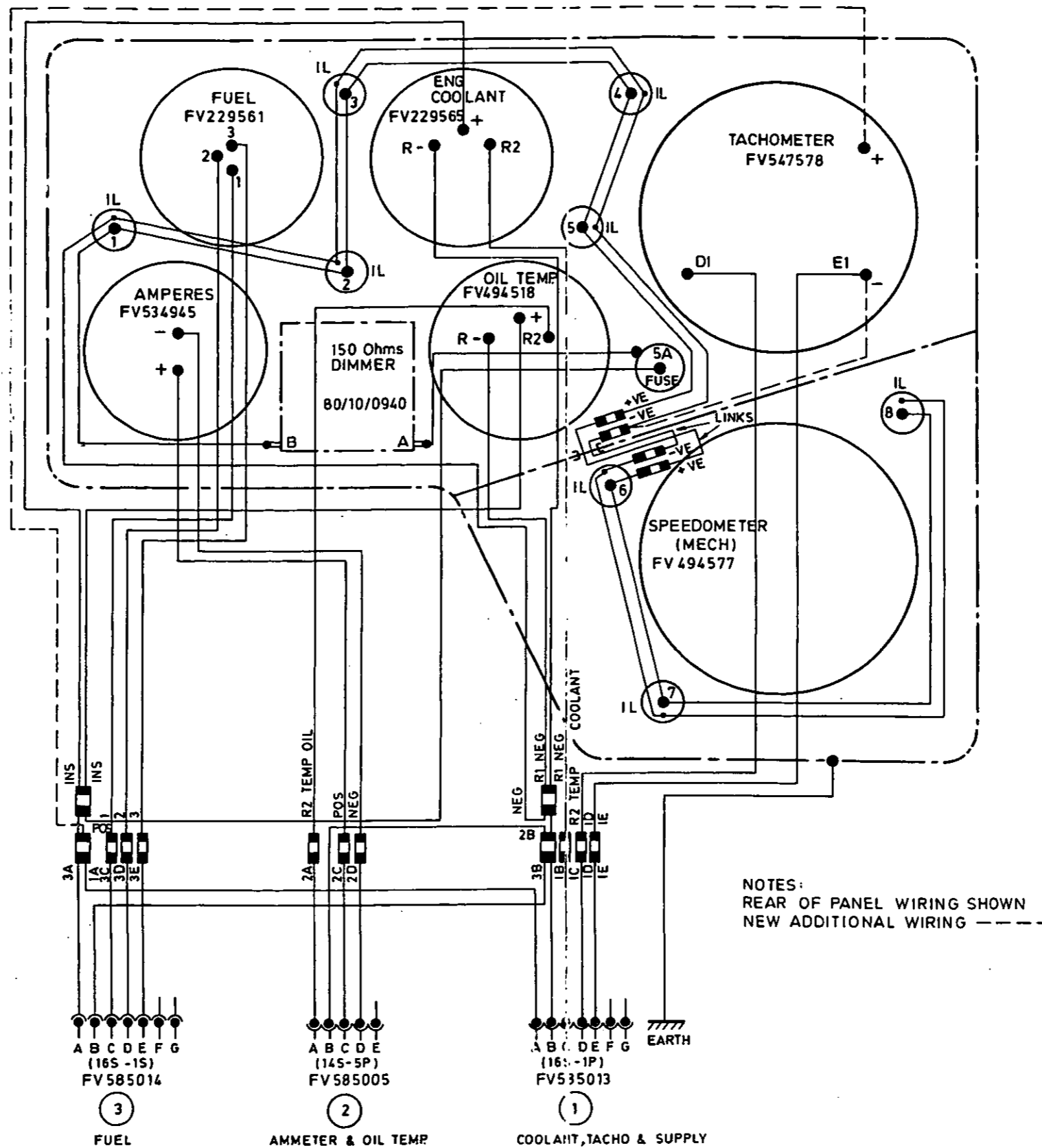
11 Negligible.

PUBLICATION AMENDMENTS

NOTE

Necessary amendments will be issued separately.

12 Nil.



NOTES:
 REAR OF PANEL WIRING SHOWN
 NEW ADDITIONAL WIRING - - - -

Fig 1 Instrument wiring diagram

V13868/1

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FV 430 SERIES VEHICLES

TECHNICAL HANDBOOK – MISCELLANEOUS INSTRUCTION NO. 60

SUBJECT: Screen spray unit.
(Approval No. 41c/0349/LCVG)

INTRODUCTION

1 This instruction introduces the method of fitting a replacement system when the existing episcopes screen spray unit no longer functions.

1.1 Limitations on use of equipment. Nil.

APPLICABILITY

2 All FV430 Series vehicles, when original screen spray unit fails to function.

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

REASON FOR MISCELLANEOUS INSTRUCTION

3 Code 5 - to conform to changes in pattern of commercial stores.

PRIORITY

4 Routine.

ESTIMATED TIME REQUIRED

5 Embodiment: 1.5 man-hours.

IMPLEMENTATION PLAN

6

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

41c/0349(554)
ATSA Chertsey

9806\NTCP-1502
Jul 98, Issue 1 (23Q)

Action required by:

7

7.1 Units and establishments holding equipment:

7.1.1 Examine equipment to see if this instruction is applicable.

7.2 Units authorized to carry out levels 3 and 4 maintenance:

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

7.2.2 Record completion of this modification on the unit management information system.

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.

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
1	6MT3	2540-99-823-8827	Container (reservoir)	1
2	6MT6	4710-99-808-5350	Tubing	2 mtr
3	6MT3	2540-99-823-8828	Valve	1
4	6MT1	2540-99-300-0986	Pump	1
8.2 <u>Stores or suitable equivalent to be obtained locally:</u>				
5	G2	9515-99-964-7751	Sheet steel 1.6 mm	As reqd
6	G2	9510-99-964-6985	Steel bar flat 60 x 6 mm	As reqd
8.3 <u>Stores to be removed and reduced to scrap:</u>				
7	6MT3	2520-99-881-9223	Screen spray unit	1

Sequence of operations

9 Carry out the instruction as follows:

Refer to Fig 1 and 2

9.1 Washer reservoir support:

9.1.1 Cut and drill the sheet steel (item 5) to produce two blanks.

9.1.2 Bend each of the blanks as shown, in opposite directions, to produce one left hand and one right hand hook.

9.1.3 Fit the two hooks using the bolts at points A and B on the thermostat access hatch, and hang the container reservoir (item 1).

Refer to Fig 3

9.2 Washer pump:

- 9.2.1 Remove the original washer pump/reservoir, retain the mounting screws.
- 9.2.2 Cut the flat bar (item 6) and produce a rectangular shape, 2 3/8 in. x 3 1/2 in.
- 9.2.3 Drill the three 5/16 in. diameter mounting holes A, B and C (approximate dimensions only, given in Fig 3) using the original washer bottle mounting plate as a pattern. Drill two 5.5 mm holes for mounting the new washer pump using the pump (item 4) as a template, and tap to 1/4 UNF.
- 9.2.4 Enlarge the mounting holes of the new pump (item 4) to 5/16 in. diameter.
- 9.2.5 Mount the prepared plate in the position of the original washer pump/reservoir, using the original pump mounting screws.
- 9.2.6 Fit a length of tubing (item 2) to the new pump (item 4), and bolt to the mounting plate fitted to the hull, using two 1/4 in. UNF screws.

Refer to Fig 2

9.3 Tubing:

- 9.3.1 Fit a length of tubing (item 2) into the washer reservoir (item 1) and route this and the tube from the pump, to the area by the electrical filter box, cut to length. Fit the pipes from the pump, reservoir and episcopes washer jet to the non return valve, with the direction arrows on the non return valve facing the outlet to the screen washer jet.
 - 9.3.2 Using cable ties secure the tubing to suitable points.
- 9.4 Connect a length of tubing from the non return valve to the episcopes washer jet.

TESTING AFTER EMBODIMENT

- 10 Fill the reservoir and test pump operation.

EFFECT ON WEIGHT

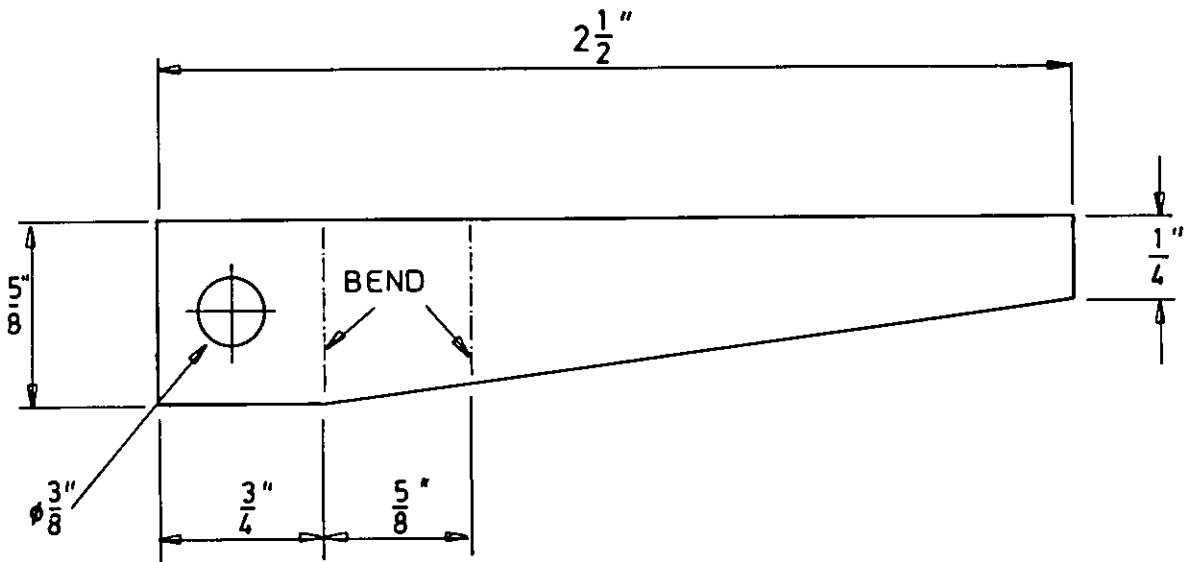
- 11 Negligible.

PUBLICATION AMENDMENTS

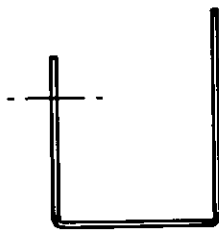
NOTE

Necessary amendments will be issued separately.

- 12 Nil.



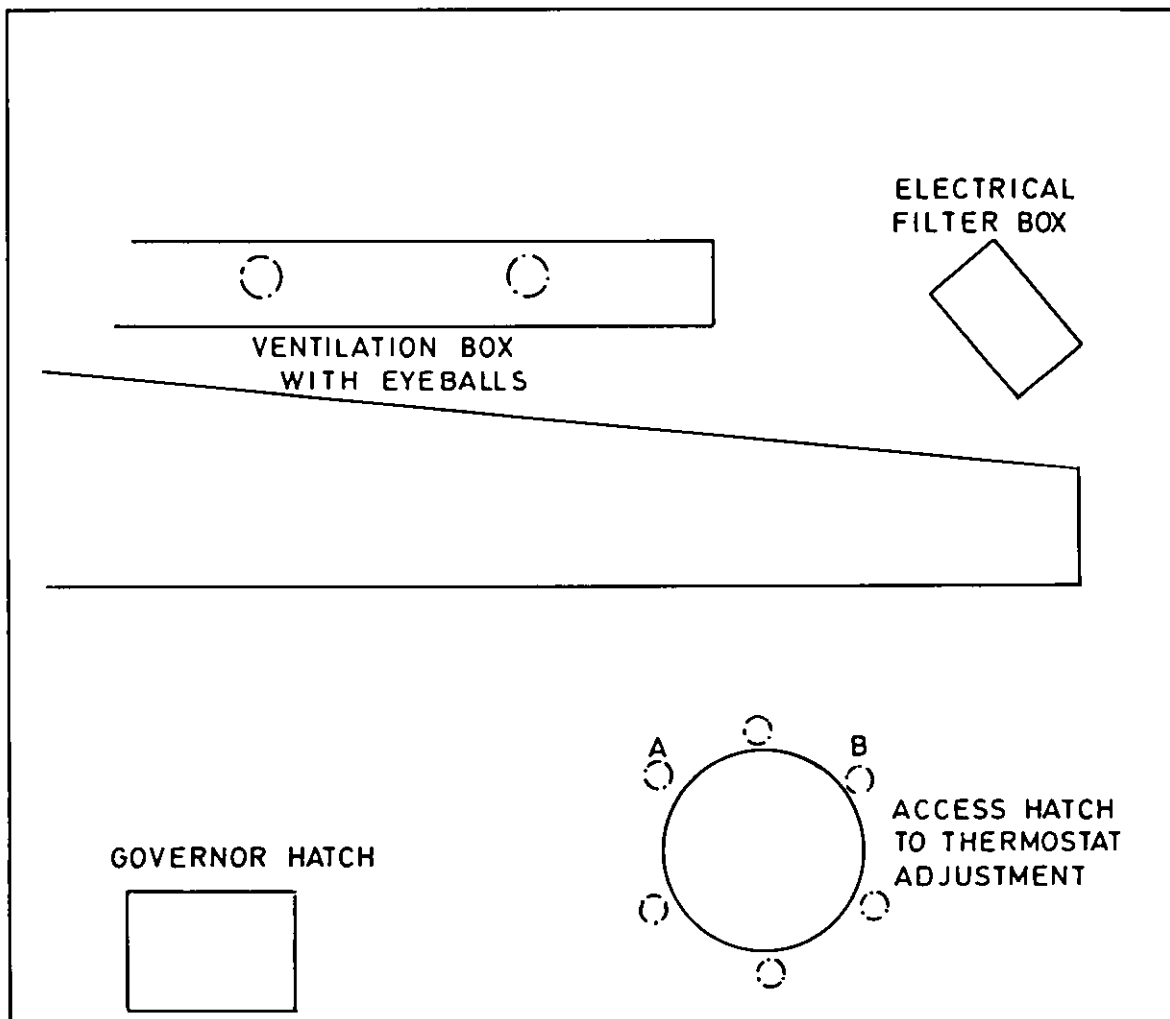
CUTTING SIZE FOR HOOK



END VIEW AFTER BENDING

V14258/1

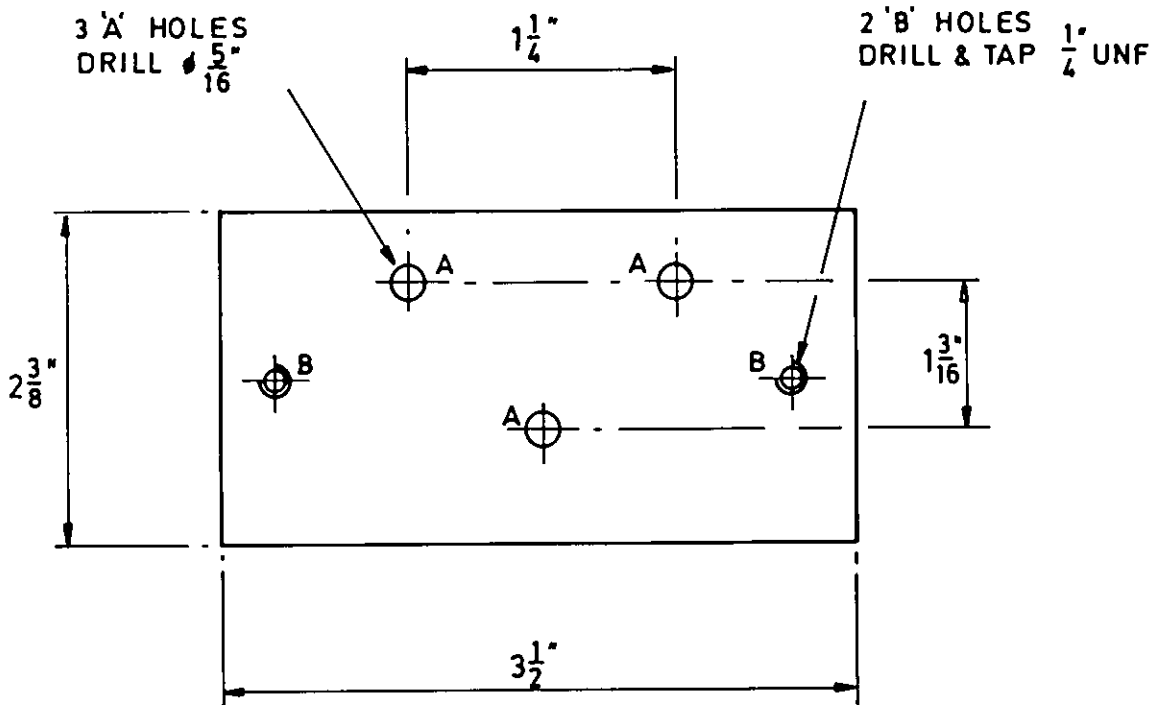
Fig 1 Hook details



ENGINE HATCH FROM DRIVERS SEAT

V14258/2

Fig 2 Position of reservoir



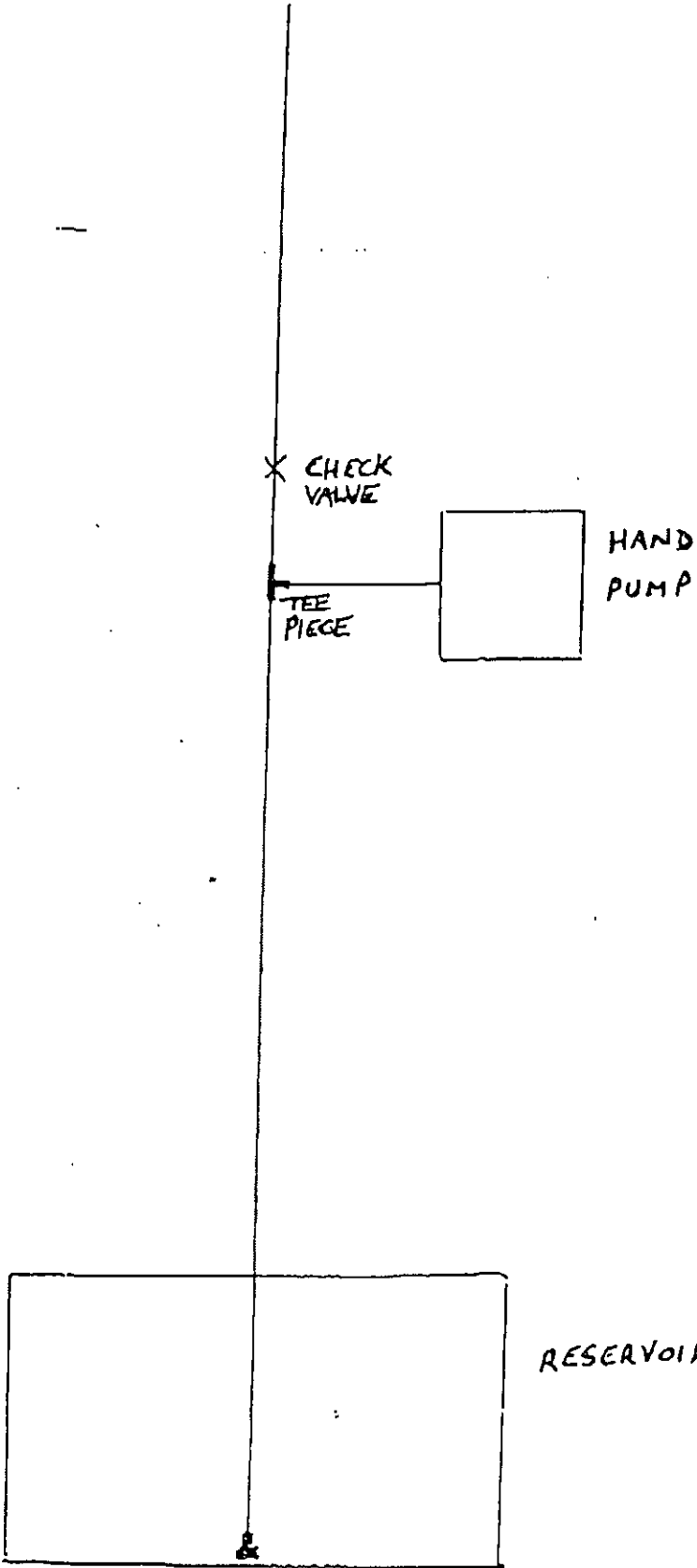
NOTE:
MATERIAL : 6mm THK. MILD STL.
'A' HOLE POSITIONS TO MATCH OLD
WASHER BOTTLE MOUNTING BRACKET

V14258/3

Fig 3 Pump mounting plate

ABRO BOVINGTON SUGGESTED INSTALLATION

TO SPRAY UNIT



ATTACHMENT BOLTS
~~1/4 UNF CARBON STEEL, QTY 2~~
~~5340-99-725-7659~~

1/4 UNF SOCKET HD
 5305-99-941-8855

N.P.V
 2540-99-807 2786

E109 MISC INSTR NO. 60

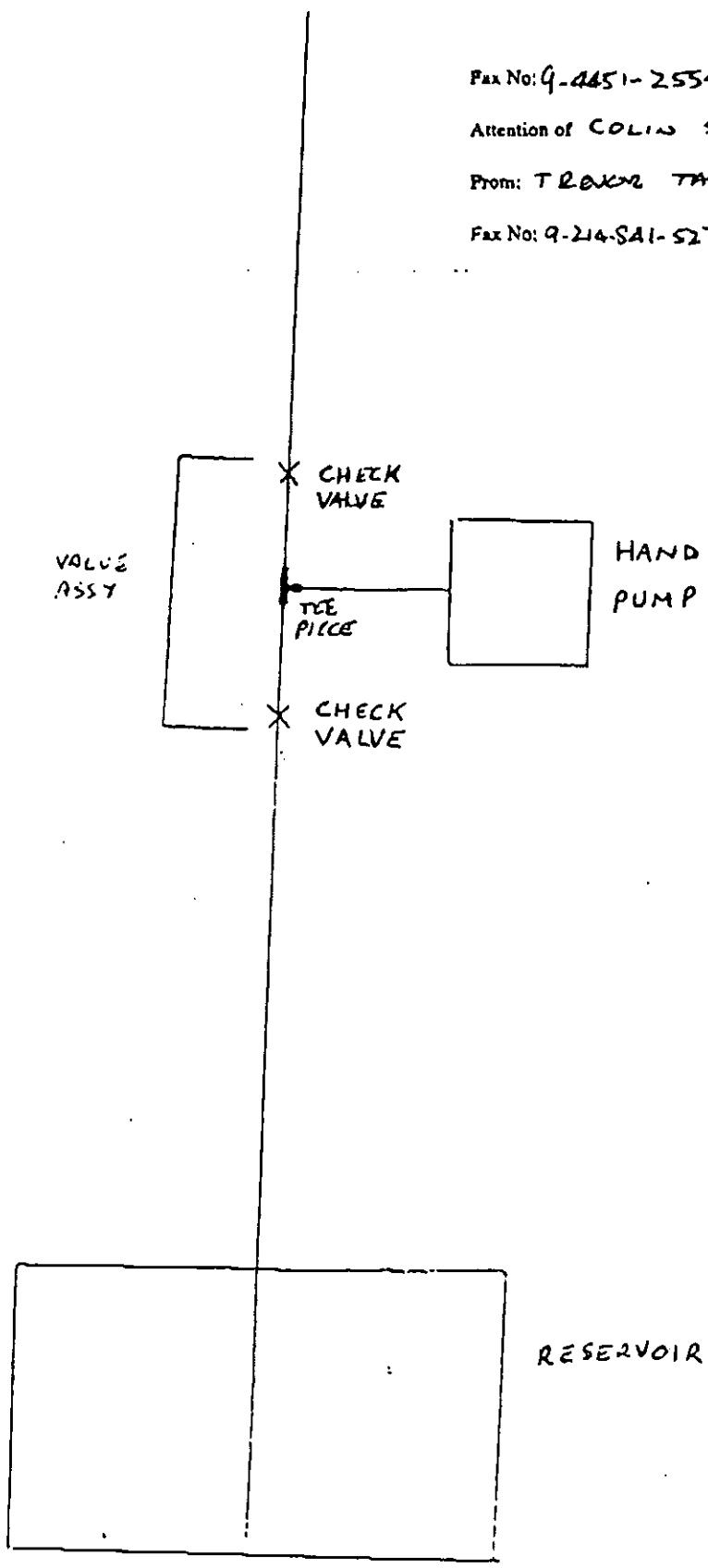
TO SPRAY UNIT

Fax No: 9-4451-2554 Pages 2

Attention of COLIN SIMPSON

From: TROYE THORNT

Fax No: 9-214-SAI-5277 Date 3/5/00



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FV 430 SERIES VEHICLES - ALL MARKS

TECHNICAL HANDBOOK - MISCELLANEOUS INSTRUCTION NO. 61

SUBJECT: Idler arm reclamation
(Approval No. 43/0/0029)

INTRODUCTION

1 This instruction introduces a method of reclamation for worn idler arm assemblies.

1.1 Limitations on use of equipment. Nil.

APPLICABILITY

2 All 430 series vehicles.

REASON FOR INSTRUCTION

3 Code 4 - to improve maintainability.

PRIORITY

4 Routine.

ESTIMATED TIME REQUIRED

5 Embodiment: 4 man-hours.

IMPLEMENTATION

6 This instruction is to be implemented by units authorized to carry out level 4 repairs.

Action required by:

7

7.1 Units authorized to carry out level 4 repairs:

7.1.1 Examine equipment to see if this instruction is applicable.

S9900068(324)
ATSA Chertsey

9908\NTCP-3105
Sep 99, Issue 1 (23 Q)

7.1.2 During overhaul of equipment, obtain the items listed in Para 8 and carry out this instruction.

7.1.3 Upon completion, record details of this instruction in equipment documents.

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

Stores, tools and equipment

8

8.1 Stores or suitable equivalent to be obtained locally:

Item No.	DMC	NSN/Part No.	Designation	Qty per eqpt
1	H1	8040-99-224-8996	Loctite 601.	As reqd

8.2 Tools and stores to be manufactured:

2		FV 2229555	Bush long.	1
3		FV 2229556	Bush short.	1

8.3 Items/stores to be modified:

4	9ACR	2530-99-796-0386	Idler arm r.h.	1
5	9ACR	2590-99-978-3110	Idler arm l.h.	1

8.4 Special tools and test equipment required:

6		ABRO-BOV 0862	Milling fixture.	1
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Sequence of operations

9 Carry out the reclamation scheme as follows:

9.1 Clean idler arm and inspect to drawing FV 499979.

9.2 Loctite idler arm in boring jig, (Fig 1). Rough bore to 3.500 ± 0.010 in. Finish bore to 3.5430 to 3.5445 in., and de-burr, (Fig 2).

9.3 Manufacture bushes (item 2 and 3), (Fig 3 and 4).

9.4 Apply Loctite 601 to external diameters of both bushes and insert into idler arm ensuring internal chamfer on small bush is to the outside (Fig 5).

9.5 Inspect idler arm to FV 499979.

TESTING AFTER EMBODIMENT

10 Nil.

EFFECT ON WEIGHT

11 Negligible.

PUBLICATION AMENDMENTS

12 Nil.

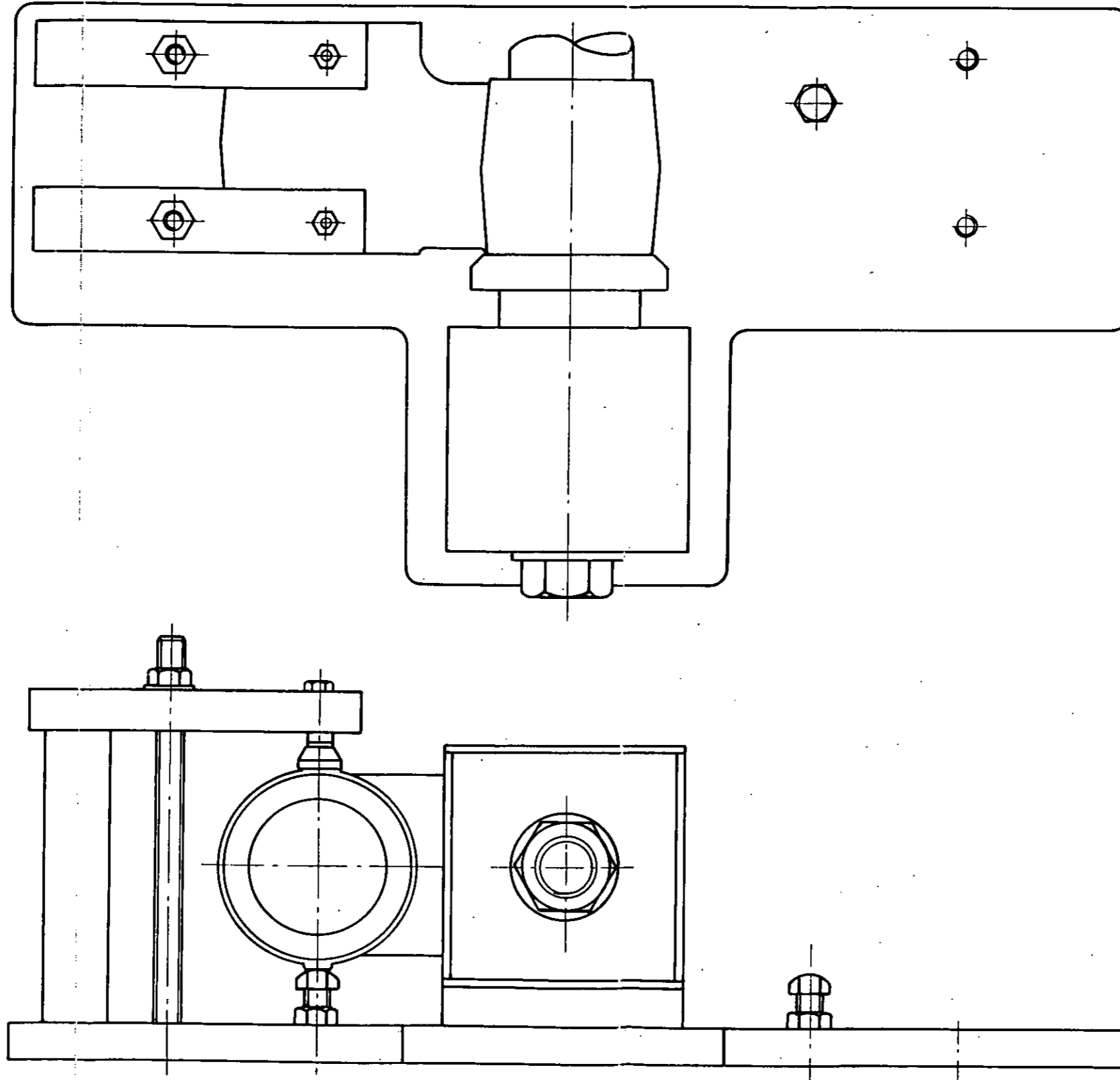
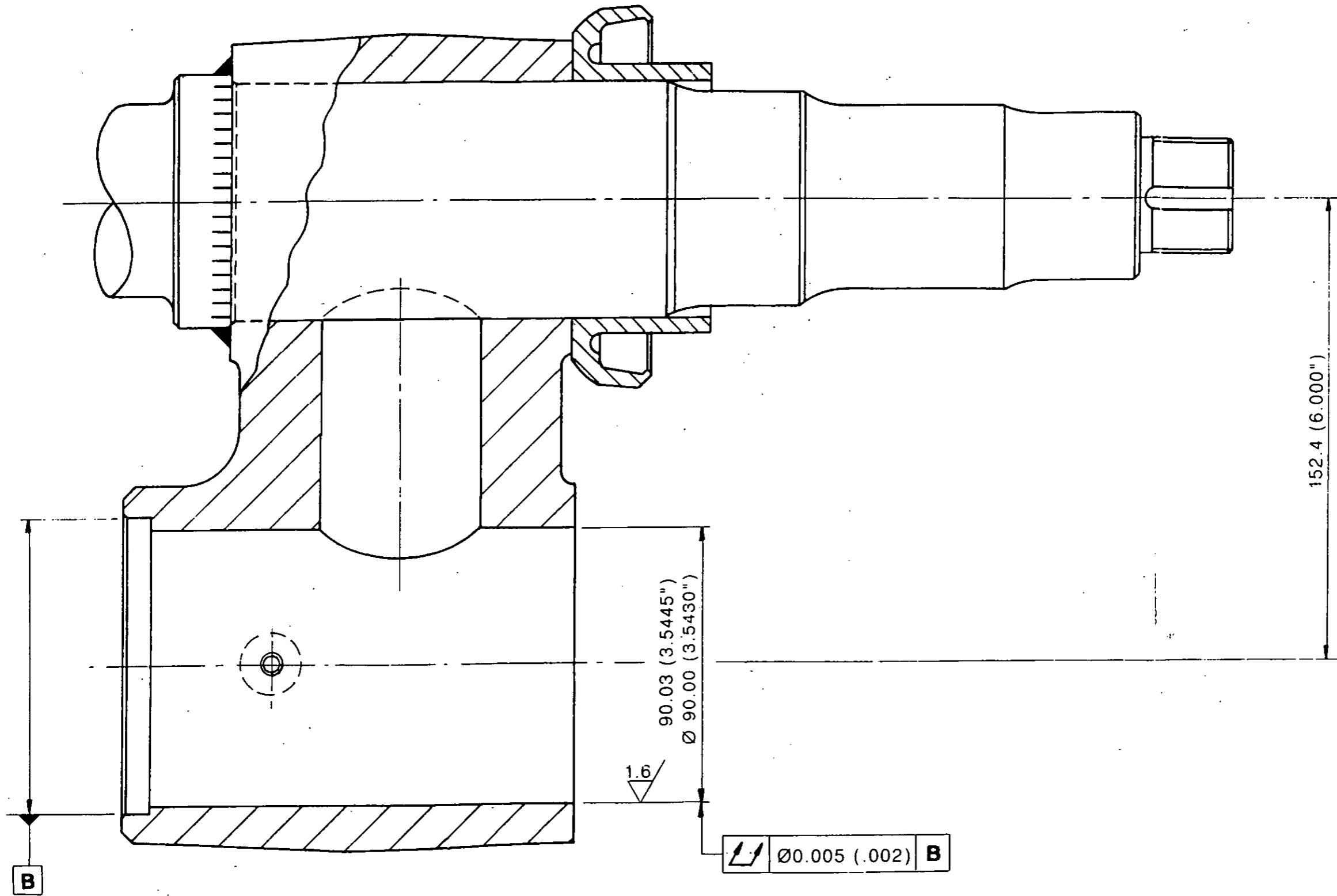


Fig 1 Axle arm mounted in boring jig

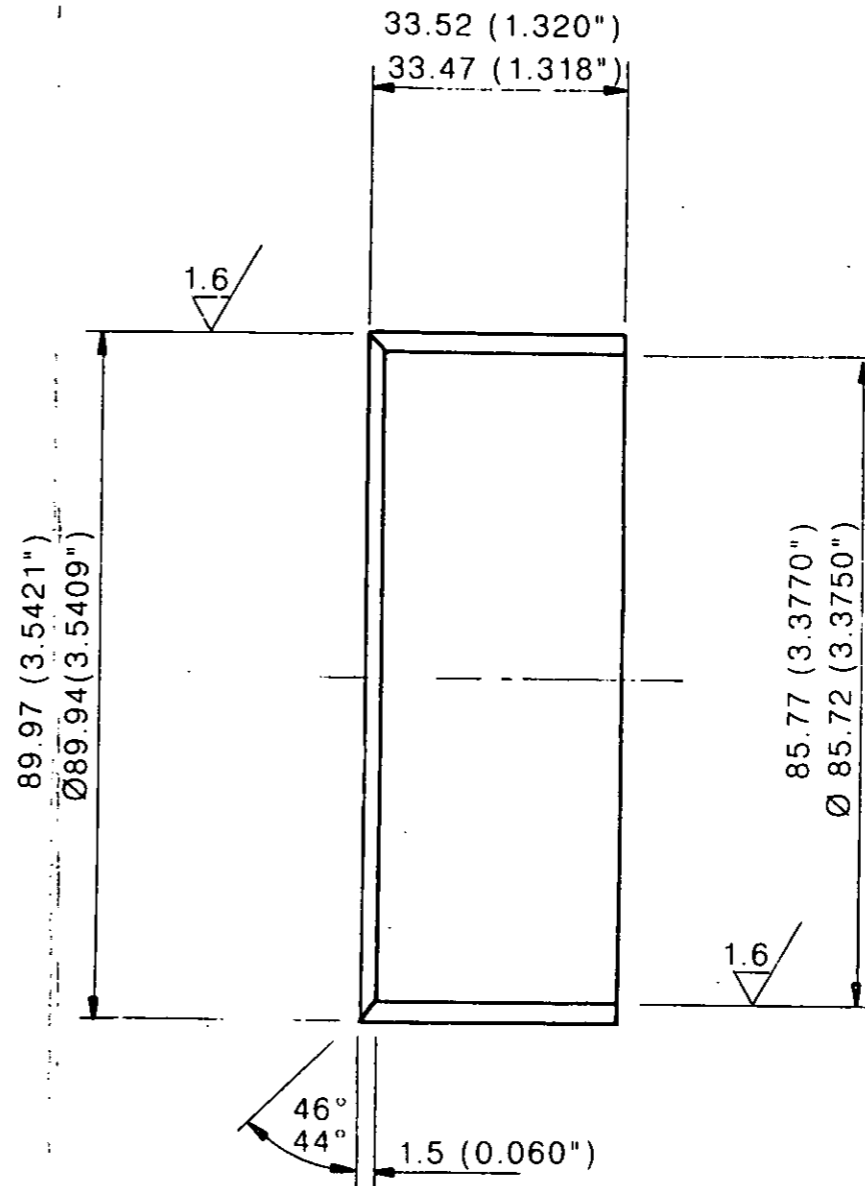
V14554/1



DIMENSIONS IN mm(INCHES)

Fig 2 Axle arm machining

V14554/4



SERVICE DRAWING NUMBER & MAKERS APPROVED SYMBOL
TO DEF. STAN. 05-34 TIE-ON LABEL

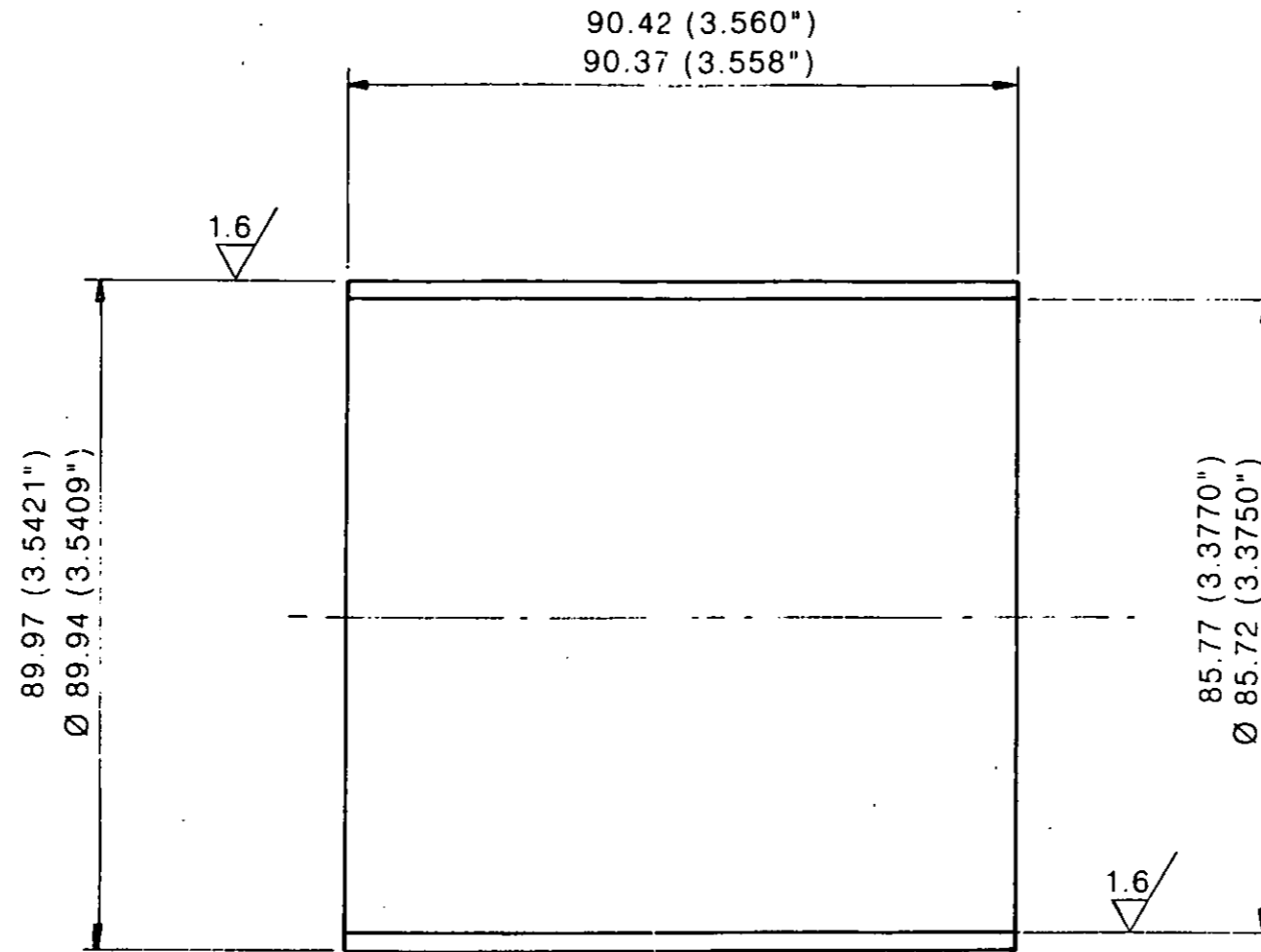
DIMENSIONS IN mm(INCHES)

SECTION THRO' C/L

MATERIAL: Ø90 OUTSIDE x 3 THK WALL TUBE
TO BS6323 PT. 4 CFS 3 BK.

V14554/2

Fig 3 Axle arm bus, small



SECTION THRO' C/L

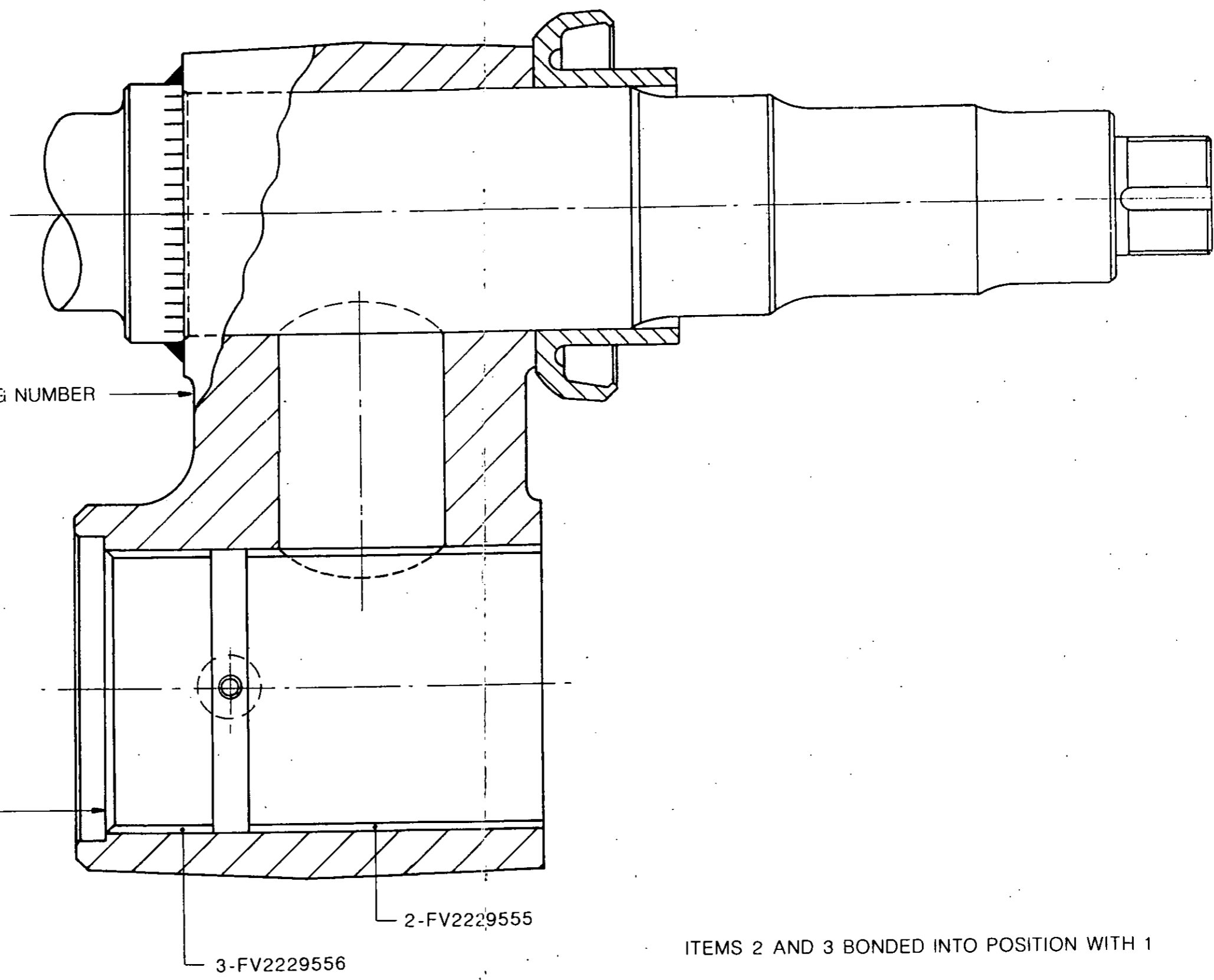
MATERIAL: Ø90 OUTSIDE x 3 THK WALL TUBE
TO BS6323 PT. 4 CFS 3 BK

SERVICE DRAWING NUMBER & MAKERS APPROVED SYMBOL,
TO DEF. STAN. 05-34 TIE-ON LABEL

DIMENSIONS IN mm(INCHES)

Fig 4 Axle arm bush large

V14554/3



REMOVE EXISTING SERVICE DRAWING NUMBER
RETAIN MAKERS APPROVED SYMBOL
VIBRO ETCH SERVICE DRG. NUMBER
TO DEF STAN. 05-34
FV2229558 R.H.
FV2229557 L.H.

INSTALL ITEM 3
WITH CHAMFER TO OUTSIDE

2-FV2229555

3-FV2229556

ITEMS 2 AND 3 BONDED INTO POSITION WITH 1

Fig 5 Axle arm with bushes fitted

V14554/5