P U B L I C A T I O N T R A N S M I T T A L

RR-DERBY

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DATER Apr.14/00

V2500-A1/A5 SERIES PROPULSION SYSTEMS SERVICE BULLETIN

This document transmits Revision 1 to Service Bulletin EV2500-79-0069

Document History

Service Bulletin Revision Status		Supplement Revision Status
Initial Issue	Dec.23/99	

Bulletin Revision 1

Remove	Incorporate	Reason for change
Pages 1 to 12 of the Service Bulletin	Pages 1 to 14 of the Service Bulletin	To revise Description, Interchangeability and Material information in line with EC98VR020B and EC98VR020C and editorial changes.

V2500-ENG-79-0069

CHECK THAT ALL PREVIOUS TRANSMITTALS HAVE BEEN INCORPORATED
If any have not been received please advise Publication Services, Rolls-Royce plc, Derby, England

LIST OF EFFECTIVE PAGES

The effective pages to this Service Bulletin following incorporation of Revision 1 are as follows:

	Page	Revision Number	Revision Date
	Bulletin		
R	1	1	Apr.14/00
R	2	1	Apr.14/00
R	3	1	Apr.14/00
R	4	1	Apr.14/00
R	5	1	Apr.14/00
R	6	1	Apr.14/00
R	7	1	Apr.14/00
R	8	1	Apr.14/00
R	9	1	Apr.14/00
R	10	1	Apr.14/00
R	11	1	Apr.14/00
R	12	1	Apr.14/00
R	13	1	Apr.14/00
R	14	1	Apr.14/00

OIL - PRESSURE OIL TUBES - ENGINE - INTRODUCTION OF RE-ROUTED OIL TUBES AND REVISED CLIPPING ABOVE THE EXTERNAL GEARBOX

1. Planning Information

A. Effectivity

(1) Airbus A319.

V2522-A5, V2524-A5 Engines prior to Serial No. V10725

(2) Airbus A320.

(a) V2500-A1 Engines prior to Engine Serial No. V0362.

R (b) V2527-A5, V2527E-A5 Engines prior to Serial No. V10725

(3) Airbus A321.

R V2530-A5, V2533-A5 Engines prior to Engine Serial No. V10725

R (4) ATA Locator 79-21-00

B. Concurrent Requirements

None

C. Reason

(1) Problem

Frettage of the ACOC and FCOC oil feed tubes can occur. In extreme conditions this can result in oil leaks.

The problem is caused by the movement of two clip positions during engine build. This movement is necessary to get sufficient clearance between one of the oil feed tubes and a cast mounting-boss on the external gearbox.

R (2) Background

R The problem has been found on engines in service.

(3) Objective

The purpose of this Service Bulletin is to maintain reliability.

(4) Substantiation

A satisfactory engineering analysis and a successful installation check on a production engine has been done on the changes introduced by this Service Bulletin.

(5) Effect of Bulletin on Workshop Procedures:

(a) Operation

Not Affected

(b) Maintenance

Not Affected

(c) Overhaul

Not Affected

(d) Repair Schemes

Not affected

(e) Interchangeability

Affected (See Interchangeability of parts (1.N)).

(f) Fits and Clearances

Not affected.

D. Description

(1) The ACOC and FCOC tubes have been revised, the changes are as follows:

(a) The tube assemblies that follow are re-routed to give additional clearance with the cast mounting boss of the external gearbox:

(i) Oil - Pressure pump to ACOC disconnect.

(ii) Oil - Pressure ACOC to FCOC disconnect.

(iii) Oil - Pressure ACOC to FCOC. (Disconnect to disconnect).

R (iv) Oil - Gearbox scavenge.

(b) A clip support bracket is revised, the thickness of the material has increased.

(c) A clip support bracket is revised, the profile has changed and the material has changed from Type 321 stainless steel to Type 18-8 (Nb).

R (d) Two revised tube support brackets are introduced similar to the existing items except for a different shape to suit the new contour of the rerouted oil scavenge tube assembly.

(e) In line with current design practices, the standard of clips in all the affected clip positions are changed from the 400WSS range to the AS62400 range.

(f) The clip positions that follow are deleted:

CP1111, CP1116 and CP1117.

(g) The clip positions that follow are revised:

CP0200, CP1105, CP1108, CP1109 and CP1110.

(h) The clip positions that follow are added:

CP1400, CP1401 and CP1402.

(2) The gearbox accessory group has been re-numbered to show that the gearbox mounted bracket at (1) (d) is not interchangeable. Existing gearboxes can be re-identified.

E. Compliance

Category Code 6.

Accomplish when the subassembly (That is modules, accessories, components, build groups) is disassembled sufficiently to get access to all the affected parts.

F. Approval

The part number changes and/or part modification are given in Section 2 and 3 of this Service Bulletin They comply with the applicable Federal Aviation Regulations and are FAA APPROVED for the engine models listed.

G. Manpower

Estimate of man-hours necessary to embody this Service Bulletin in full:

(1) In Service

Not applicable

(2) At Overhaul

No additional time is necessary to embody this Service Bulletin

NOTE: It is possible to get access to the parts affected by this Service Bulletin at overhaul.

H. Material - Price and Availability

(1) A modification kit is not necessary.

(2) Refer to 2. Material Information for the prices and availability of future spares.

I. Tooling - Price and Availability

Special tools are not neccessary.

J. Weight and Balance

(1) Weight Change

None.

(2) Moment Arm

No effect.

(3) Datum

Engine front mount centreline (Power Plant Station (PPS) 100).

K. Electrical Load Data

The aircraft electrical load is not affected by this Service Bulletin.

L. References

(1) V2500 Engine Manual (E-V2500-1IA), Chapter/Section 72-00-60, Removal-03 or Removal-04 and Installation-01 or Installation-02.

R (2) Engineering Change 98VR020, 98VR020B and 98VR020C

M. Other Publications Affected

(1) Illustrated Parts Catalogue (IPC) Chapter/Sections 72-60-10, 72-61-00, 79-21-49, 79-22-48 and 79-22-49.

(2) Engine Manual (E-V2500-1IA), Chapter/Section 72-00-60, (A1) Removal-16 Config-01 (A5) Removal-02 Config-02 (A1) Installation-16 Config-01 (A5) Installation-03 Config-02

(3) Component Maintenance Manual (CMM-V2500-THD-1IA), Chapter/Section 79-21-49, Cleaning-01 and -02, Inspection/Check-01 Config-01 and Repair-003.

(4) A319/A320/A321 Aircraft Maintenance Manual (AMM), Chapter/Sections 79-11-41 and 79-21-42, Removal/Installation.

N. Interchangeability of Parts

R It is recommended that parts introduced by this Service Bulletin be installed as a complete set.

2. Material Information

A. Material - Price and Availability

The prices shown are for estimating purposes only and as such are given in good faith without commercial liability for advanced planning purposes only. Refer to IAE Spares and/or current Price Catalog for current prices.

(1) Modification kit

(a) Modification kit not required; existing parts can be reworked.

B. New production parts:

PART NO.	QTY	UNIT PRICE
6A6181	1	1551.00
4W0125	1	5.50
AS62414	3	29.70
4W0001	5	3.08
4W0103	3	5.40
AS62412	1	28.70
4W0102	1	5.40
6A6182	1	588.00
6A6183	1	1517.00
6A7437	1	34.00
6A7438	1	35.00
UP10480	1	12.20

NOTE: The unit prices, if shown, are an estimate and they are given for the purpose of planning only. For information about actual prices, refer to the IAE Price Catalogue or contact IAE's spare parts sales department.

C. Parts affected by this Service Bulletin:

All Engines

72-60-10

	FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	OLD PART NO.	INSTR DISP
R	01-630	4P7355	1	Bracket	4P7266	(A)(S1)
R	01-632	4B7354	1	Bracket, assembly	4B7265	(A)(S1)

All Engines

79-21-49

	FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	OLD PART NO.	INSTR DISP
R	01-100	6A6181	1	Tube assembly - Oil - Pressure pump to ACOC disconnect	5A8796	(A)(S1)
R	01-133	4W0125	1	Bolt, machine bi-hex (0.190 dia x 1.875) (CP0200)	4W0130	(C)(S1)(1D)
R	01-134	-	1	Washer (CP0200)	5W1086	(E)(1D)
R	01-136	AS62414	1	Clip (22,22 mm (0.875)) (CP0200)	400WSS14	(C)(S2)(1D)
R	01-140	4W0001	1	Nut, self locking, bi-hex (0.190 dia) (CP0200)	4W0043	(C)(S1)(1D)
R	01-144	AS62414	1	Clip (22,22 mm (0.875)) (CP1110)	400WSS14	(C)(S2)(1D)
R	01-149	-	1	Bolt, machine bi-hex (0.190 dia x 0.500) (CP1116)	4W0130	(E)(1D)
R	01-150	-	1	Washer (CP1116)	5W1086	(E)(1D)
R	01-152	-	1	Clip, loop type (CP1116)	400WSS14	(E)(1D)
R	01-156	-	1	Nut, A/O self locking (0.190 dia) (CP1116)	4W0043	(E)(1D)
R	01-157	4W0103	1	Bolt, machine bi-hex (0.190 dia x 0.500) (CP1109)	AS21407	(C)(S1)(1D)
R	01-160	AS62412	1	Clip (19,05 mm (0.750)) (CP1109)	400WSS12	(C)(S2)(1D)
R	01-165	4W0102	1	Bolt, machine bi-hex (0.190 dia x 0.438) (CP1400)	-	(C)(F)
R	01-168	AS62414	1	Clip (22,22 mm (0.875)) (CP1400)	-	(C)(F)
R	01-172	4W0001	1	Nut, self locking, bi-hex (0.190 dia) (CP1400)	-	(C)(F)
R	02-100	6A6182	1	Tube assembly, Oil - Pressure ACOC to FCOC disconnect	5A9153	(A)(S1)
R	02-500	6A6183	1	Tube assembly, Oil - Pressure ACOC to FCOC (Disc to disc)	5A8795	(A)(S1)
R	02-517	4W0103	1	Bolt, machine bi-hex (0.190 dia x 0.500) (CP1105)	AS21407	(C)(S1)(1D)
R	02-520	AS62412	1	Clip (19,05 mm (0.750)) (CP1105)	400WSS12	(C)(S2)(1D)
R	02-528	AS62414	1	Clip (22,22 mm (0.875)) (CP0200)	400WSS14	(C)(S2)(1D)
R	02-549	4W0102	1	Bolt, maching bi-hex (0.190 dia x 0.438) (CP1401)	-	(C)(F)
R	02-552	AS62414	1	Clip (22,22 mm (0.875)) (CP1401)	-	(C)(F)
R	02-556	4W0001	1	Nut, self locking bi-hex (0.190 dia) (CP1401)	-	(C)(F)

	FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	OLD PART NO.	INSTR DISP
R	02-557	4W0103	1	Bolt, machine bi-hex (0.190 dia x 0.500) (CP1402)	-	(C)(F)
R	02-564	4W0001	1	Nut, self locking, bihex (0.190 dia) (CP1402)	-	(C)(F)
R	02-576	AS62414	1	Clip (22,22 mm (0.875)) (CP1108)	400WSS14	(A)(1D)(S2)
R	02-581	-	1	Bolt, machine bi-hex (0.190 dia x 0.500) (CP1111)	4W0103	(E)(1D)
R	02-588	-	1	Nut, A/O self locking (0.190 dia) (CP1111)	4W0043	(E)(1D)
R	02-589	-	1	Bolt, machine bi-hex (0.190 dia x 0.500) (CP1117)	4W0103	(E)(1D)
R	02-590	-	1	Washer (CP1117)	5W1086	(E)(1D)
R	02-592	-	1	Clip, loop type (CP1117)	400WSS14	(E)(1D)
R	02-596	-	1	Nut, A/O self locking (0.190 dia) (CP1117)	4W0043	(E)(1D)

All Engines

79-22-48

	FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	OLD PART NO.	INSTR DISP
R	04-100	4B7353	1	Tube, assembly of	4B7325	(A)(S1)
R	04-122	6A7437	1	Bracket	5W8399	(A)(S1)

All Engines

79-22-49

	FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	OLD PART NO.	INSTR DISP
R	10-470	6A7634	1	Bracket	6A4712	(A)(S1)

V2500-A1 Engines

72-61-00

	FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	OLD PART NO.	INSTR DISP
R	01-001	4A1002	1	Gearbox, accessory group	4A1001	(S1)(2D)

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V2500-A1 Engines

79-21-49

	FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	OLD PART NO.	INSTR DISP
R	01-138	UP10480	1	Spacer (15 mm) (CP0200)	5W1033	(C)(S1)(1D)

V2500-A5 Engines

72-61-00

	FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	OLD PART NO.	INSTR DISP
R	01-001	4A1027	1	Gearbox, accessory group	4A1026	(S1)(2D)

V2500-A5 Engines

79-21-49

	FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	OLD PART NO.	INSTR DISP
R	01-138	UP10480	1	Spacer (15 mm) (CP0200)	UP10482	(C)(S1)(1D)
R	01-138	-	1	Spacer, sleeve (25 mm) (CP0200)	5W1033	(E)(1D)

D. Instruction Disposition Codes

R (1) (A) New part will be available from January 2000.

(2) (C) New part is available.

(3) (E) Redundant part.

(4) (F) Additional.

(5) (S1) Old and new parts are not interchangeable.

(6) (S2) Old and new parts are freely and fully interchangeable.

(7) (1D) Old parts can be used on other applications.

R (8) (2D) Old part can be re-identified to new part number.

3. Accomplishment Instructions

A. Rework Instructions

(1) None

B. Assembly Instructions

(1) Get access to the affected tube assemblies. (Refer to the V2500 Engine Manual (E-V2500-1IA), Chapter/Section 72-00-60, Removal-03 or Removal-04).

(2) Remove tube assembly 5A9153. (Refer to Figure 1).

(a) Disconnect the tube at the ACOC outlet port and the connection with tube 5A8795.

(b) Disconnect the tube from clip point CP0220.

(i) Remove and discard the tube.

(3) Remove tube assembly 5A8795. (Refer to Figures 1, 2 and 3).

(a) Disconnect the tube from CP0200, CP1117, CP1111, CP1108, CP1105 and CP0905.

(i) Remove and discard clip points CP1117 and CP1111.

(b) Disconnect the tube from the disconnect point adjacent to CP0906.

(i) Remove and discard the tube.

(c) Remove and discard brackets 5W8399 and 4B7265.

(4) Remove tube assembly 5A8796. (Refer to Figures 1 and 2).

(a) Disconnect the tube from CP0200, CP1116, CP1110 and CP1109.

(i) Remove and discard clip point CP1116.

(b) Remove and discard bracket 5W8399.

(c) Disconnect the tube from the disconnect point adjacent to CP0250 and the oil pump and filter assembly.

(i) Remove and discard the tube.

(5) Install tube assembly 6A6183. (Refer to Figures 1, 2 and 3).

(a) Install the brackets 6A7437 and 4B7340 for CP1401 and 1402.

R (b) Install CP1401 and CP1402.

(c) Connect the tube to the disconnect point adjacent to CP0906 torque the connector to 478 to 513 lbfin (54 to 58 Nm).

(d) Attach the tube to CP0905, CP1105, CP1108, CP1402, CP1401 and CP0200 and torque the nuts to 36 to 45 lbfin (4 to 5 Nm).

(6) Install tube assembly 6A6182. (Refer to Figure 1).

(a) Connect the tube to the disconnect point adjacent to CP0200 and the outlet port of the ACOC. torque the connectors to 478 to 513 lbfin (54 to 58 Nm).

(b) Attach the tube to CP0220 and torque the nut to 36 to 45 lbfin (4 to 5 Nm).

(7) Install tube assembly 6A6181. (Refer to Figures 1 and 2).

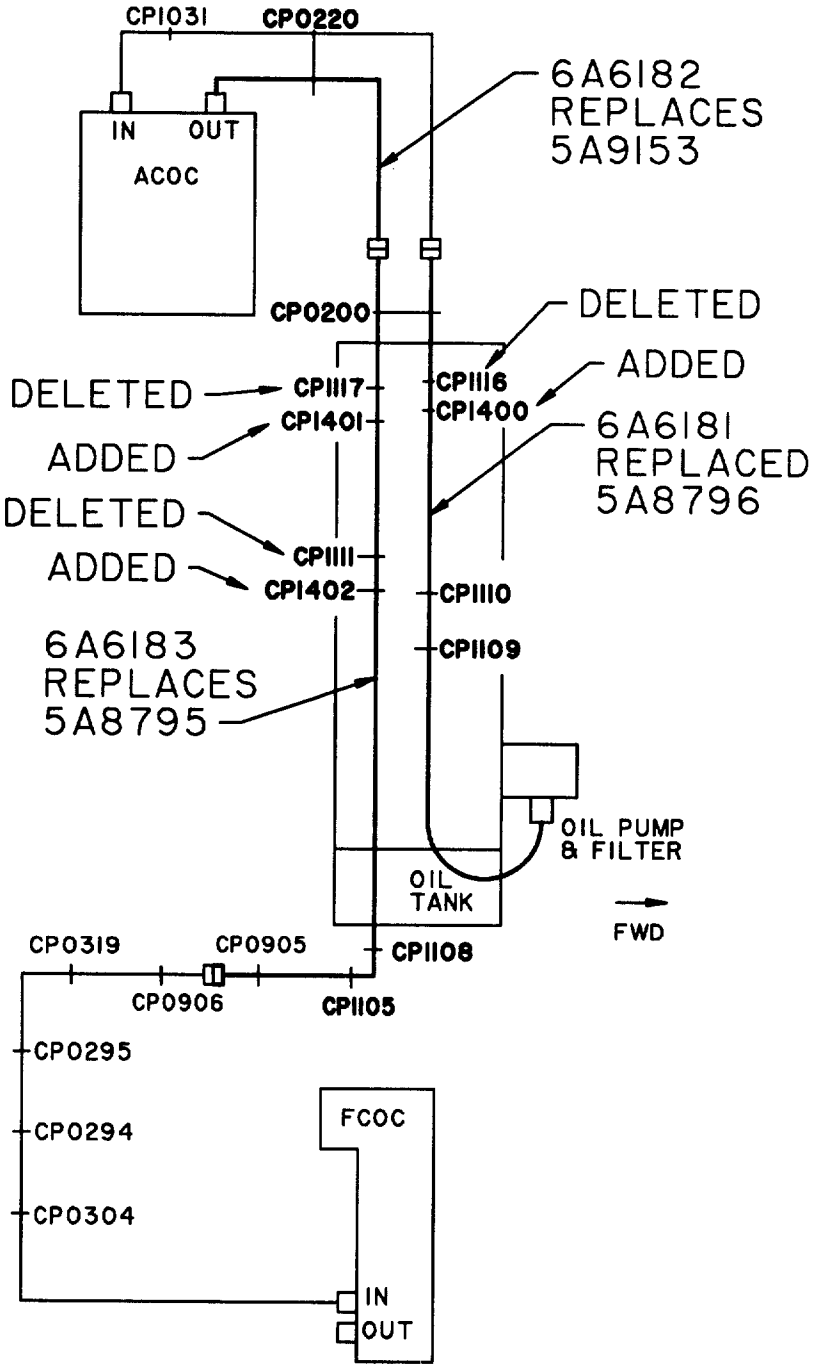
(a) Install bracket 6A7437 for CP1400.

(b) Install CP1400.

(c) Connect the tube to the disconnect point adjacent to CP0200 and the oil pump and filter assembly torque the connectors to 478 to 513 lbfin (54 to 58 Nm).

(d) Attach the tube to CP1109, CP1110 and CP1400 and torque the nuts to 36 to 45 lbfin (4 to 5 Nm).

(8) Install the External Gearbox Module (Refer to the V2500 Engine Manual (E-V2500-1IA), Chapter/Section 72-00-60, Installation-01 or Installation-02).



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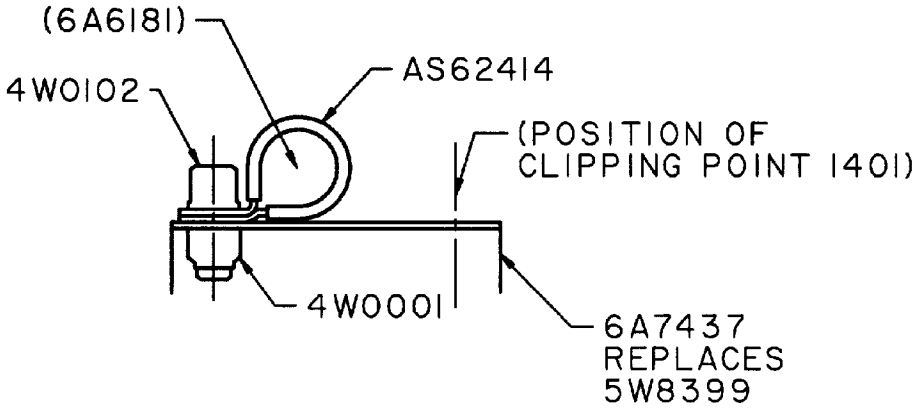
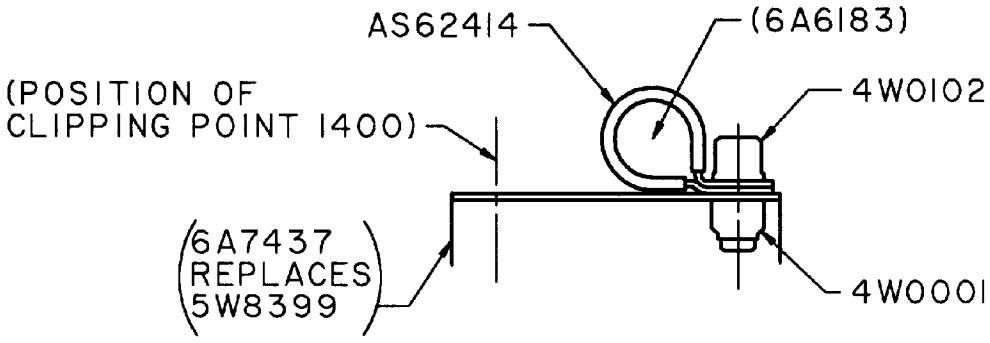
R Schematic view of pressure oil tubes - Before and after alteration
R Fig 1



CLIPPING POINT 1400

R FWD.



CLIPPING POINT 1401

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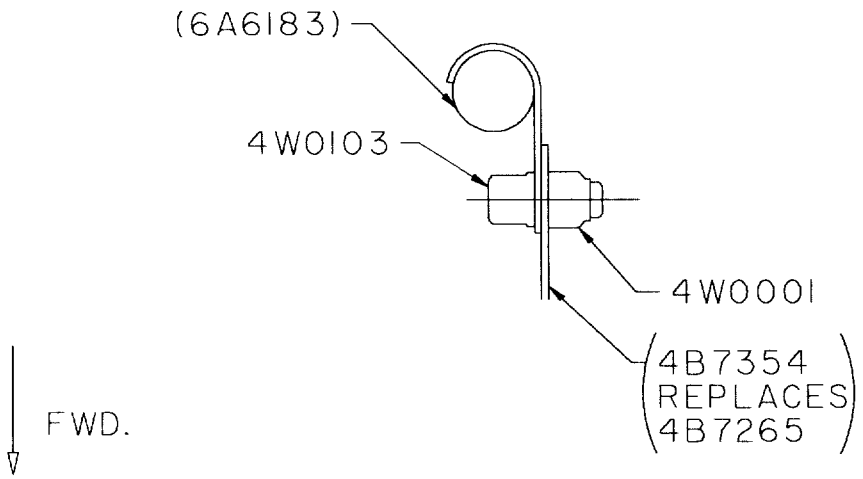
R Clipping point 1400 and 1401
R Fig 2

R



CLIPPING POINT 1402

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R Clipping point 1402
R Fig 3