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V2500-A1/A5/D5 SERIES PROPULSION SYSTEMS SERVICE BULLETIN

This document transmits Revision 1 to Service Bulletin EV2500-79-0077

Document History

Service Bulletin Revision Status
 Initial Issue May 23/00

Supplement Revision Status

Bulletin Revision 1

Remove
 Pages 1, 6, 8 and
 13
 to 17 of the
 Service Bulletin

Incorporate
 Pages 1, 6, 8 and
 13
 to 17 of the
 Service Bulletin

Reason for change
 Initial issue

V2500-ENG-79-0077

Transmittal - Page 1 of 2

CHECK THAT ALL PREVIOUS TRANSMITTALS HAVE BEEN INCORPORATED

If any have not been received please advise Publication Services, Rolls-Royce plc, Derby, England

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LIST OF EFFECTIVE PAGES

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

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R	17	1	Oct.23/00

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MODIFICATION SERVICE BULLETIN – ENGINE – OIL INTRODUCTION OF A NEW OIL SCAVENGE PUMP
WITH IMPROVED CASING, SPACERS AND COVERS

1. Planning Information

A. Effectivity

(1) Airbus A319

V2522–A5 Engines prior to Serial No. V10725

V2524–A5 Engines prior to Serial No. V10725

(2) Airbus A319CJ

V2527M–A5 Engines prior to Serial No. V10725

(3) Airbus A320

V2500–A1 Engines prior to Serial No. V0362

V2527E–A5 Engines prior to Serial No. V10725

V2527–A5 Engines prior to Serial No. V10725

(4) Airbus A321

V2530–A5 Engines prior to Serial No. V10725

V2533–A5 Engines prior to Serial No. V10725

(5) Boeing MD90

V2525–D5 Engines prior to Serial No. V20286

V2528–D5 Engines prior to Serial No. V20286

(6) ATA Locator 79–00–00

B. Concurrent Requirements

None.



C. Reason

(1) Problem

IAE V2500 Service Bulletin ENG-79-0051 introduced revised spacers and covers. It has been found that the durability of this standard can be significantly improved, to keep to a minimum the wear found on components (mainly spacers) of some oil scavenge pumps.

(2) Evidence

(Refer to (1)).

(3) Objective

The purpose of this Service Bulletin is to eliminate the unusual wear on the seat of the spacers.

(4) Substantiation

Functional tests have been successfully performed at pump rig. Engine test pointed to verify the mechanical condition of the pump after the endurance test, has been successfully performed.

(5) Effect of Bulletin on:

(a) Operation

Not affected

(b) Maintenance

Not affected

(c) Overhaul

Not affected

(d) Repair Schemes

Affected

(e) Interchangeability

Not affected

(f) Fits and Clearances

Not affected



D. Description

(1) The oil scavenge pump has been revised, the changes are as follows:

- (a) Introduce an upgraded oil scavenge pump.
- (b) Introduce new covers with pockets in correspondence of the gear mesh zone.
- (c) Introduce new spacers with foolproof installation feature and without hard coating treatment.
- (d) Add two new Fig-Item positions for spacers. refer to Figure 1.
- (e) Casing and covers can be reworked. Refer to Section 3.

E. Compliance

Category Code 6

Accomplish when the sub-assembly (i.e. modules, accessories, components, build groups) is disassembled sufficiently to afford access to the affected part and to all affected spare parts.

F. Approval

The part number changes and/or part modifications described in sections 2 and 3 of this Service Bulletin have been shown to comply with the applicable Federal Aviation Regulations and are FAA-APPROVED for the Engine Model(s) listed.

G. Manpower

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

VENUE	EST'D MAN HOURS
(1) In Service	Not applicable
(2) At Overhaul	Not affected

NOTE: The parts affected by this Service Bulletin are accessible at Overhaul.

No extra time is required to support the new configuration.

H. Weight and Balance

- (1) Weight change
Negligible



(2) Moment Arm

Not affected

(3) Datum

Engine Front Mount Centerline (Power Plant Station (PPS)100)

I. Electrical Load Data

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

J. Software Accomplishment Summary

Not applicable

K. References

(1) Service Bulletin V2500-ENG-79-0051.

(2) Internal Reference No. 98VF004

(3) V2500 Component Maintenance Manual

(4) V2500 Standard Practice Manual

L. Other Publications Affected

(1) Illustrated Parts Catalogue (S-V2500-1IA), Chapter/Section 79-21-41 will be revised to add new parts.

(2) Illustrated Parts Catalogue (S-V2500-2IA), Chapter/Section 79-21-41 will be revised to add new parts.

(3) Illustrated Parts Catalogue (S-V2500-2IB), Chapter/Section 79-21-41 will be revised to add new parts.

(4) Illustrated Parts Catalogue (S-V2500-3IA), Chapter/Section 79-21-41 will be revised to add new parts.

(5) Illustrated Parts Catalogue (S-V2500-3IB), Chapter/Section 79-21-41 will be revised to add new parts.

(6) Illustrated Parts Catalogue (S-V2500-5IA), Chapter/Section 79-21-41 will be revised to add new parts.

(7) Illustrated Parts Catalogue (S-V2500-5IB), Chapter/Section 79-21-41 will be revised to add new parts.

(8) Illustrated Parts Catalogue (S-V2500-6IA), Chapter/Section 79-21-41 will be revised to add new parts.



- (9) Illustrated Parts Catalogue (S-V2500-6IB), Chapter/Section 79-21-41 will be revised to add new parts.
- (10) Illustrated Parts Catalogue (S-V2500-7IA), Chapter/Section 79-21-41 will be revised to add new parts.
- (11) Illustrated Parts Catalogue (S-V2500-7IB), Chapter/Section 79-21-41 will be revised to add new parts.
- (12) Power Plant Illustrated Parts Catalogue (PIP-V2500-1IA), Chapter/Section 79-21-41 will be revised to add new parts.
- (13) Power Plant Illustrated Parts Catalogue (PIP-V2500-2IA), Chapter/Section 79-21-41 will be revised to add new parts.
- (14) Power Plant Illustrated Parts Catalogue (PIP-V2500-3IA), Chapter/Section 79-21-41 will be revised to add new parts.
- (15) Component Maintenance Manual (CMM-MECH-V2500-1IA) Chapter/Section 79-21-41 Cleaning, Inspection, Repair and Testing will be revised to include the new part numbers.
- (16) Component Maintenance Manual (CMM-MECH-V2500-3IA) Chapter/Section 79-21-41 Cleaning, Inspection, Repair and Testing will be revised to include the new part numbers.

M. Interchangeability of Parts

- (1) Affected. Refer to Section 2. Material Information.



2. Material Information

A. Material – Price and availability

The prices as 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 kits not required, existing parts can be reworked or are supplied as single line items.

(2) New production parts

Part Number	Qty	Unit Price US Dollars
4A7120	1	Price on request
4A7121	1	Price on request
4A7122	1	Price on request
4B7348	2	Price on request
4B7342	2	Price on request
4B7343	2	Price on request
4B7344	4	Price on request
4B7347	1	Price on request
4B7345	2	Price on request
4B7346	1	Price on request
4B7349	1	Price on request

R

B. Industry Support Information

The prices as 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.

Alternative parts may be supplied instead of parts listed. See Material Information disposition instructions.

C. Kits necessary for this Service Bulletin

The prices as 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.

Alternative parts may be supplied instead of parts listed. See Material Information disposition instructions.

(1) Modification Kit

None

V2500-ENG-79-0077

D. Parts affected by this Service Bulletin

Applicability: For each V2500 engine to incorporate Part 1 of this Bulletin.

NEW PART NO. (ATA No.)	QTY	KEYWORD	OLD PART NO.	INSTR DISP
4A7120 (79-22-41)	1	Pump, Assy Oil Scavenge	4A7117 (01-001)	(A)(B)(S1) (1D)
4A7121 (79-22-41)	1	Pump, Assy Oil Scavenge	4A7118 (01-001)	(A)(B)(S1) (1D)
4A7122 (79-22-41)	1	Pump, Assy Oil Scavenge	4A7119 (01-001)	(A)(B)(S1) (1D)
4B7348 (79-22-41)	2	Cover, A/O	4B7319 (01-050)	(A)(B)(S2) (1D)
4B7342 (79-22-41)	2	Spacer, A/O	4B7320 (01-200)	(A)(B)(C) (S2)(2D)
4B7342CL01 (79-22-41)	2 REF	Spacer, Assy Class/O	4B7320CL01 (01-201)	(A)(B)(D) (S2)(S3)(2D)
4B7342CL02 (79-22-41)	2 REF	Spacer, Assy Class/O	4B7320CL02 (01-202)	(A)(B)(D) (S2)(S3)(2D)
MS171462 (79-22-41)	1 REF	Pin, Spring	MS171462 (01-207)	(A)(D)(S2)
4B7343 (79-22-41)	2	Spacer, A/O	- (01-211)	(A)(S2)(S3) (C)
4B7343CL01 (79-22-41)	2 REF	Spacer, Assy Class/O	- (01-213)	(A)(D)(S2) (S3)
4B7343CL02 (79-22-41)	2 REF	Spacer, Assy Class/O	- (01-215)	(A)(D)(S2) (S3)
MS171462 (79-22-41)	1 REF	Pin, Spring	- (01-219)	(A)(D)(S2)
4B7344 (79-22-41)	2	Spacer, A/O	- (01-263)	(A)(S2)(C)
4B7344CL01 (79-22-41)	2 REF	Spacer, Assy Class/O	- (01-264)	(A)(D)(S2) (S3)



NEW PART NO. (ATA No.)	QTY	KEYWORD	OLD PART NO.	INSTR DISP
4B7344CL02 (79-22-41)	2 REF	Spacer, Assy Class/0	- (01-265)	(A)(D)(S2) (S3)
MS171462 (79-22-41)	1 REF	Pin, Spring	- (01-268)	(A)(D)(S2)
4B7344 (79-22-41)	2	Spacer, A/0	4B7321 (01-270)	(A)(B)(C) (S2)(2D)
4B7344CL01 (79-22-41)	2 REF	Spacer, Assy Class/0	4B7321CL01 (01-271)	(A)(B)(D) (S2)(S3)(2D)
4B7344CL02 (79-22-41)	2 REF	Spacer, Assy Class/0	4B7321CL02 (01-272)	(A)(B)(D) (S2)(S3)(2D)
MS171462 (79-22-41)	1 REF	Pin, Spring	MS171462 (01-277)	(A)(D)(S2)
4B7347 (79-22-41)	1	Cover, A/0	4B7318 (01-330)	(A)(B)(S2) (1D)
4B7345 (79-22-41)	2	Spacer, A/0	4B7321 (01-530)	(A)(B)(C) (S2)(2D)
4B7345CL01 (79-22-41)	2 REF	Spacer, Assy Class/0	4B7321CL01 (01-531)	(A)(B)(D) (S2)(2D)(S3)
4B7345CL02 (79-22-41)	2 REF	Spacer, Assy Class/0	4B7321CL02 (01-532)	(A)(B)(D) (S2)(2D)(S3)
MS171462 (79-22-41)	1 REF	Pin, Spring	MS171462 (01-537)	(A)(D)(S2)
R 4B7346 (79-22-41)	1	Spacer, A/0 Interch.Dwg	4B7322 (01-590)	(A)(B)(C) (S2)
R 4B7346CL01 (79-22-41)	1 REF	Spacer, Assy Class/0	4B7322CL01 (01-591)	(A)(B)(D) (S2)(2D)(S3)
R 4B7346CL02 (79-22-41)	1 REF	Spacer, Assy Class/0	4B7322CL02 (01-592)	(A)(B)(D) (S2)(2D)(S3)
R 4B7349 (79-22-41)	1	Casing	4B7107 (01-690)	(A)(B)(S2) (1D)



E. Instructions disposition codes:

(A) New part will be available from May 2000.

(B) Old part is no longer available.

(C) Part coded (C) is a control drawing. When you order this number either part coded (D) will be supplied.

(D) See note (C).

(S1) Old and new parts coded (S1) are fully interchangeable.

(S2) New parts coded (S2) must be fitted as a set. Mixing of old and new parts is not permissible.

(S3) At the time of the assembly of the pump, the proper spacer classification will be selected.

(1D) New pump part number may be obtained by rework and re-identification of the old part number.

(2D) Old part number will be scrapped.

F. Tooling - Price and Availability

Special tools are not necessary.



3. Accomplishment Instructions

A. Return the old oil scavenge pump to:

FIAT AVIO S.p.A.

312 Via Nizza

10127 TORINO

ITALY

or

GENERAL ELECTRIC ENGINE SERVICES-DALLAS, LP

Accessory Services Engineering

9311 Reeves ST. MD LF26

DALLAS, TX 75235-2095

USA

B. Rework Instructions

(1) Rework the 4B7107 casing as follows:

PROCEDURE	RELATED DATA
(a) Machine the casing	Refer to Figure 2
(b) Do an inspection of the casing	See reference (4), TASK 72-23-05-230-501. No cracks permitted.
(c) Apply the chromate conversion coating to the machined surfaces.	See reference (4), TASK 70-38-02-300-503.
(d) Cancel the old part number and identify the part with the new part number.	Old part number 4B7107 New part number 4B7349 See references (4) TASK 70-09-00-400-501. Use vibro-engraving equipment.

(2) Rework 4B7319 cover (2 off) as follows :

(a) Machine the cover	Refer to Figure 3.
-----------------------	--------------------



- | | |
|--|--|
| (b) Do an inspection of the cover | See reference (4), TASK
72-23-05-230-501.
No cracks are permitted |
| (c) Apply the chromate conversion coating to the machined surfaces | See reference (4), TASK
70-38-02-300-503 |
| (d) Cancel the old part number and identify the part with the new part number. | Old part number 4B7319
New part number 4B7348

See references (4) TASK
70-09-00-400-501
Use vibro-engraving equipment |

(3) Rework 4B7318 as follows:

- | | |
|--|--|
| (a) Machine the cover | Refer to Figure 4 |
| (b) Do an inspection of the cover | See reference (4), TASK
72-23-05-230-501
No cracks permitted |
| (c) Apply the chromate conversion coating to the machined surfaces | See reference (4), TASK
70-38-02-300-503 |
| (d) Cancel the old part number and identify the part with the new part number. | Old part number 4B7318
New part number 4B7347

See references (4) TASK
70-09-00-400-501
Use vibro-engraving equipment |

C. Assembly Instructions

(1) For V2500 A1 Engine Model:

- (a) Assemble the oil scavenge pump. Use approved procedure in the Component Maintenance Manual, Chapter 79-22-41, Assembly.
- (b) Cancel the old part number 4A7117 and re-identify the pump with the new part number 4A7120.

(2) For V2500 A5 Engine Model:

- (a) Assemble the oil scavenge pump. Use approved procedure in the Component Maintenance Manual, Chapter 79-22-41, Assembly.
- (b) Cancel the old part number 4A7118 and re-identify the pump with the new part number 4A7121.



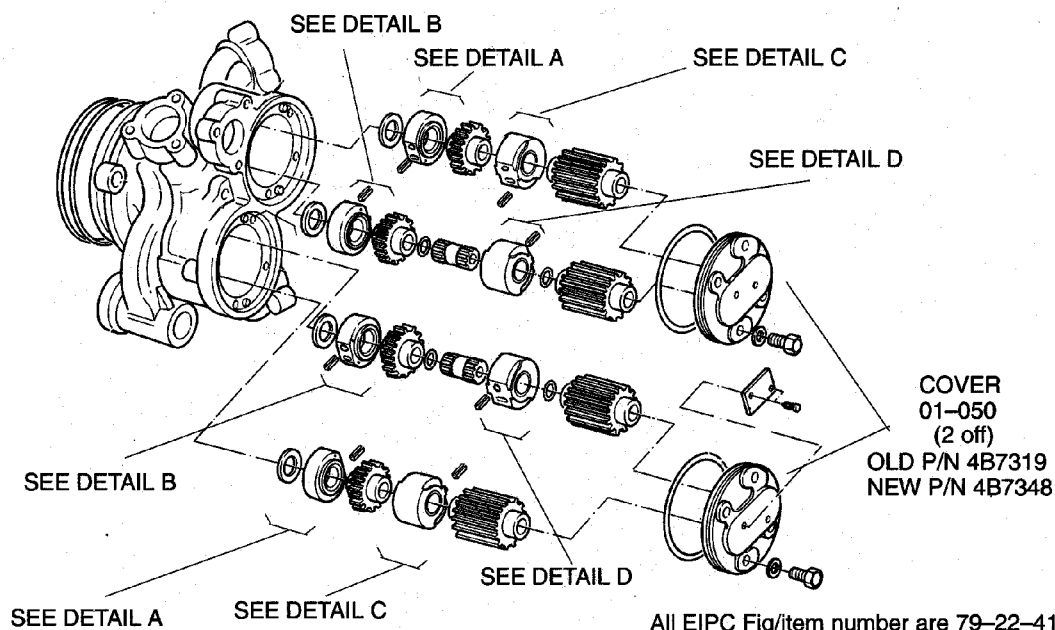
(3) For V2500 D5 Engine Model:

- (a) Assemble the oil scavenge pump. Use approved procedure in the Component Maintenance Manual, Chapter 79-22-41, Assembly.
- (b) Cancel the old part number 4A7119 and re-identify the pump with the new part number 4A7122.

D. Recording Instructions

A record of accomplishment is necessary.

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All EIPC Fig/item number are 79-22-41

DETAIL A

OLD CONFIGURATION		
NOMENCLATURE	FIG-ITEM	P/N
SPACER A/O	01-270	4B7321
SPACER ASSY CLASS	01-271	4B7321CL01
SPACER ASSY CLASS	01-272	4B7321CL02
PIN, SPRING	01-277	MS171462
NEW CONFIGURATION		
SPACER A/O	01-270	4B7344
SPACER ASSY CLASS	01-271	4B7344CL01
SPACER ASSY CLASS	01-272	4B7344CL02
PIN, SPRING	01-277	MS171462

DETAIL B

OLD CONFIGURATION		
NOMENCLATURE	FIG-ITEM	P/N
SPACER A/O	01-270	4B7321
SPACER ASSY CLASS	01-271	4B7321CL01
SPACER ASSY CLASS	01-272	4B7321CL02
PIN, SPRING	01-277	MS171462
NEW CONFIGURATION		
SPACER A/O	01-530	4B7345
SPACER ASSY CLASS	01-531	4B7345CL01
SPACER ASSY CLASS	01-532	4B7345CL02
PIN, SPRING	01-537	MS171462

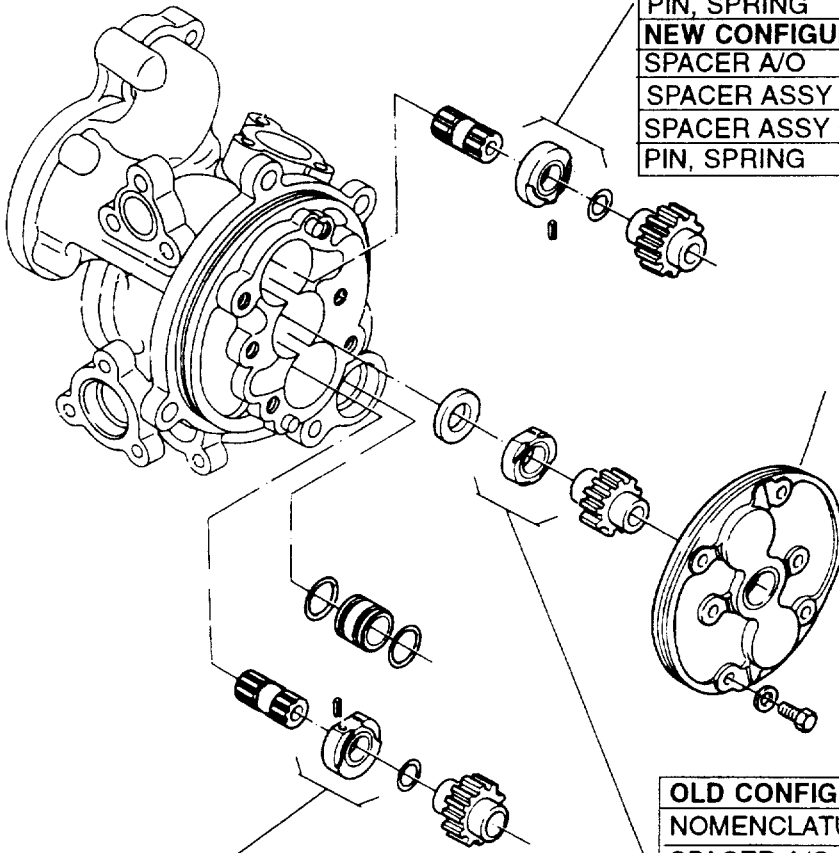
DETAIL C

OLD CONFIGURATION		
NOMENCLATURE	FIG-ITEM	P/N
SPACER A/O	01-200	4B7320
SPACER ASSY CLASS	01-201	4B7320CL01
SPACER ASSY CLASS	01-202	4B7320CL02
PIN, SPRING	01-207	MS171462
NEW CONFIGURATION		
SPACER A/O	01-200	4B7342
SPACER ASSY CLASS	01-201	4B7342CL01
SPACER ASSY CLASS	01-202	4B7342CL02
PIN, SPRING	01-207	MS171462

DETAIL D

OLD CONFIGURATION		
NOMENCLATURE	FIG-ITEM	P/N
SPACER A/O	01-200	4B7320
SPACER ASSY CLASS	01-201	4B7320CL01
SPACER ASSY CLASS	01-202	4B7320CL02
PIN, SPRING	01-207	MS171462
NEW CONFIGURATION		
SPACER A/O	01-211	4B7343
SPACER ASSY CLASS	01-213	4B7343CL01
SPACER ASSY CLASS	01-215	4B7343CL02
PIN, SPRING	01-219	MS171462

Oil scavenge pump
Fig 1 sheet 1



OLD CONFIGURATION		
NOMENCLATURE	FIG-ITEM	P/N
SPACER A/O	01-530	4B7321
SPACER ASSY CLASS	01-531	4B7321CL1
SPACER ASSY CLASS	01-532	4B7321CL2
PIN, SPRING	01-537	MS171462
NEW CONFIGURATION		
SPACER A/O	01-263	4B7344
SPACER ASSY CLASS	01-264	4B7344CL1
SPACER ASSY CLASS	01-265	4B7344CL2
PIN, SPRING	01-268	MS171462

COVER
01-330
OLD P/N 4B7318
NEW P/N 4B7347

OLD CONFIGURATION		
NOMENCLATURE	FIG-ITEM	P/N
SPACER A/O	01-530	4B7321
SPACER ASSY CLASS	01-531	4B7321CL1
SPACER ASSY CLASS	01-532	4B7321CL2
PIN, SPRING	01-537	MS171462
NEW CONFIGURATION		
SPACER A/O	01-263	4B7344
SPACER ASSY CLASS	01-264	4B7344CL1
SPACER ASSY CLASS	01-265	4B7344CL2
PIN, SPRING	01-268	MS171462

OLD CONFIGURATION		
NOMENCLATURE	FIG-ITEM	P/N
SPACER A/O	01-590	4B7322
SPACER ASSY CLASS	01-591	4B7322CL1
SPACER ASSY CLASS	01-592	4B7322CL2
NEW CONFIGURATION		
SPACER A/O	01-590	4B7346
SPACER ASSY CLASS	01-591	4B7346CL1
SPACER ASSY CLASS	01-592	4B7346CL2

All EIPC Fig/item number are 79-22-41

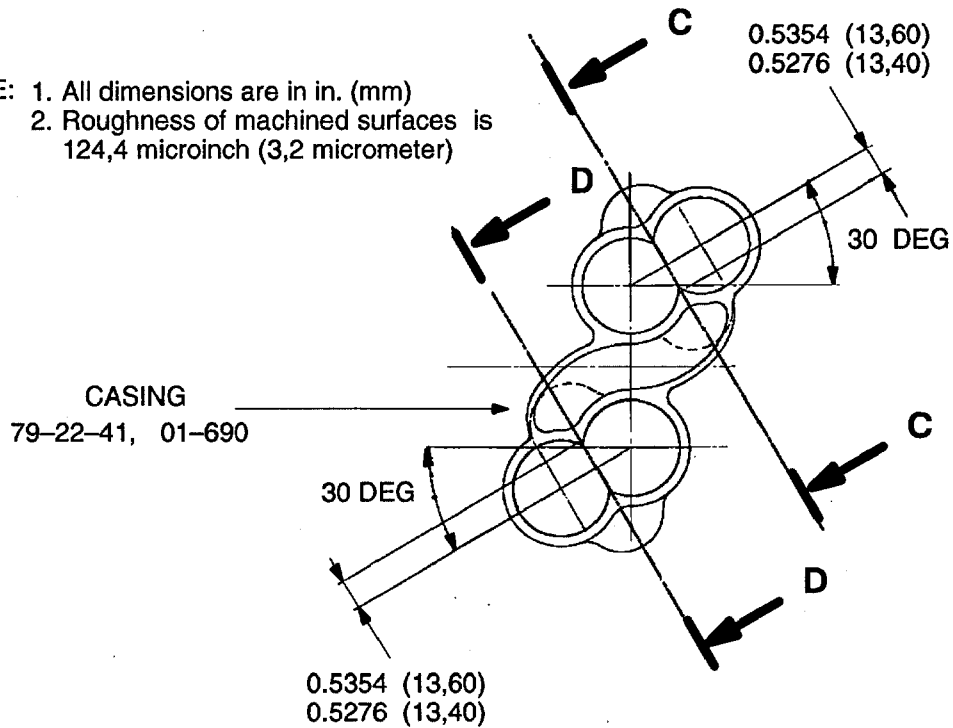
Oil scavenge pump
Fig 1 sheet 2

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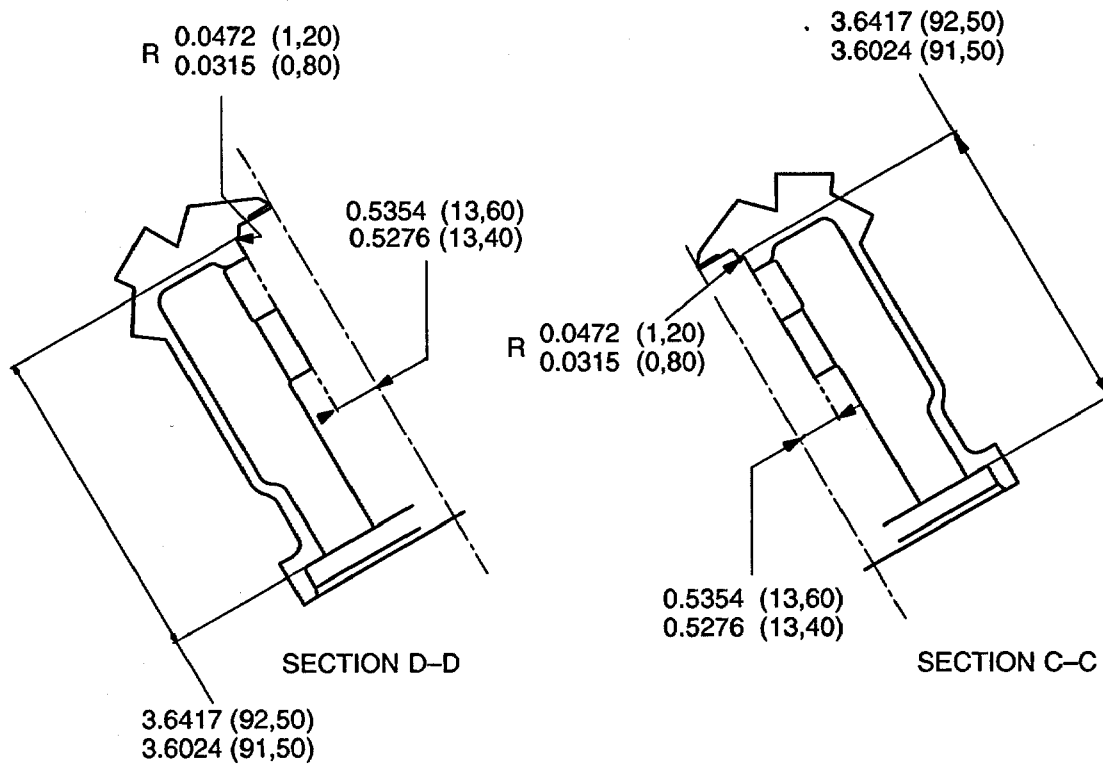
R
R



NOTE: 1. All dimensions are in in. (mm)
2. Roughness of machined surfaces is 124,4 microinch (3,2 micrometer)



R

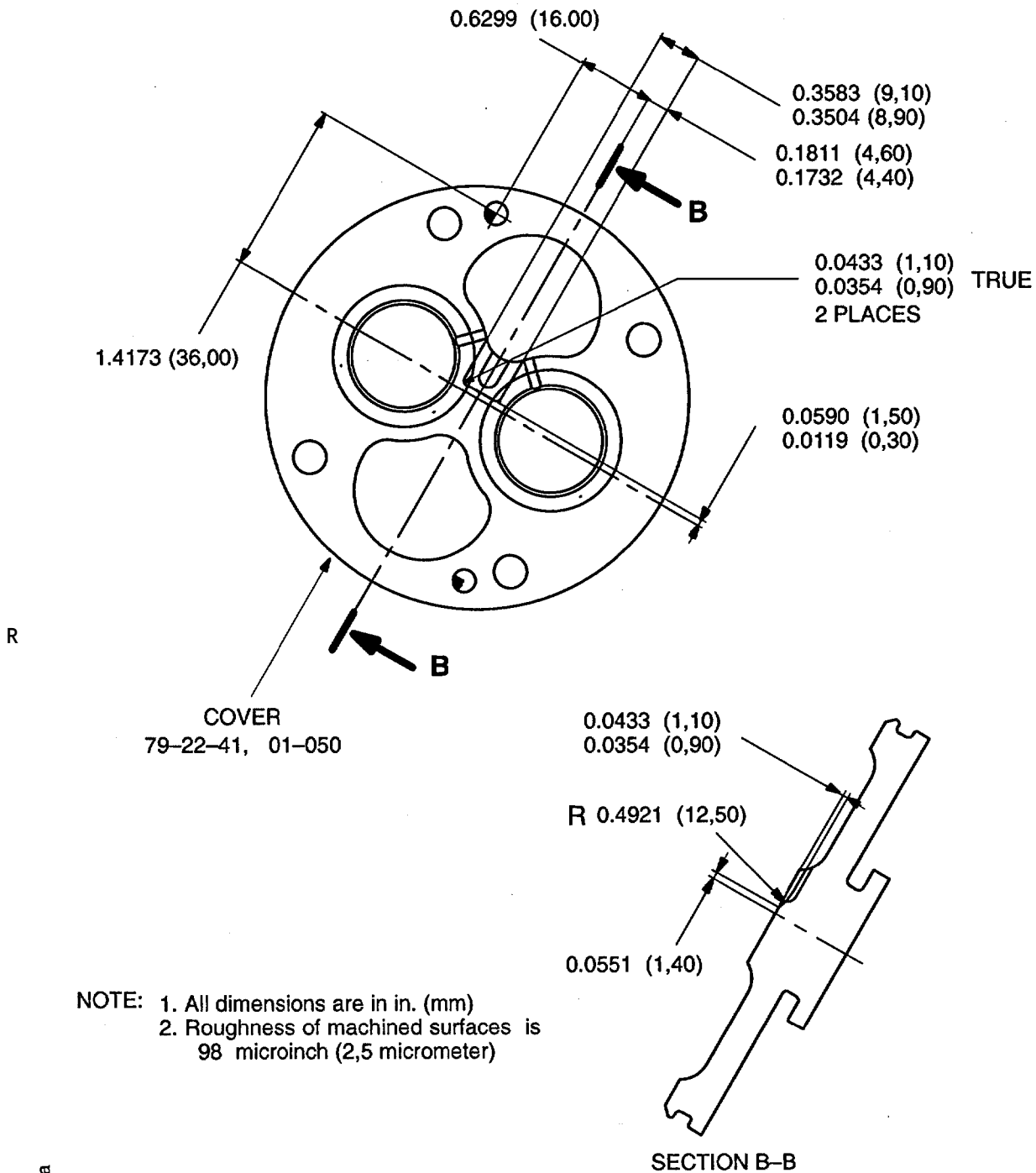


Machine the casing
Fig 2

R
R

May.23/00
R Oct.23/00

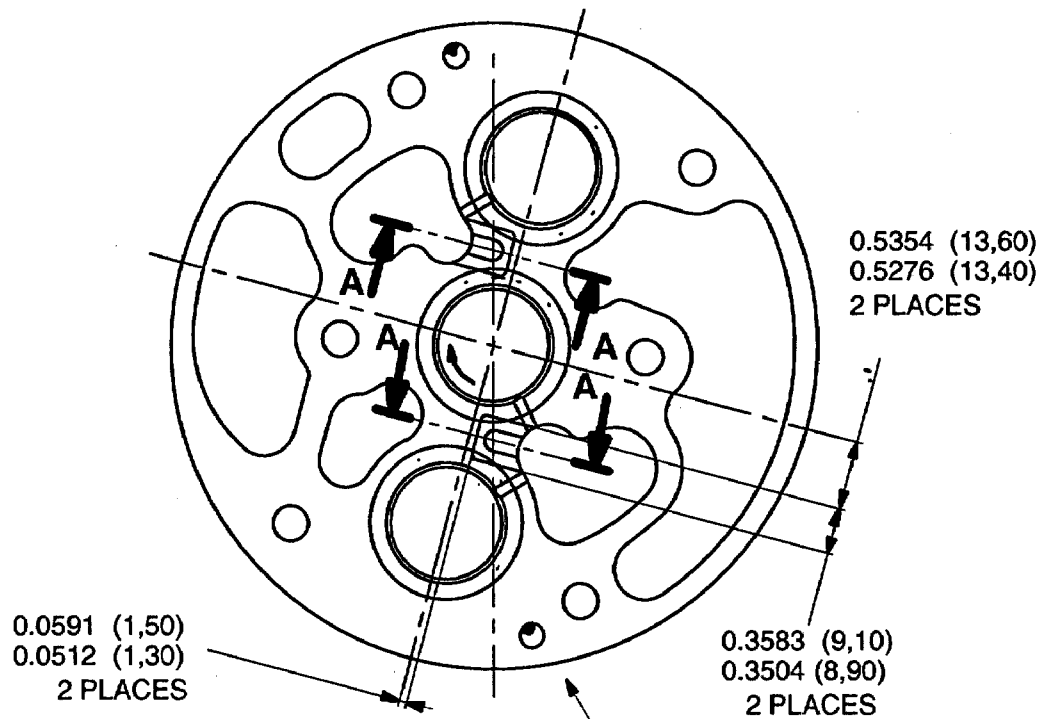
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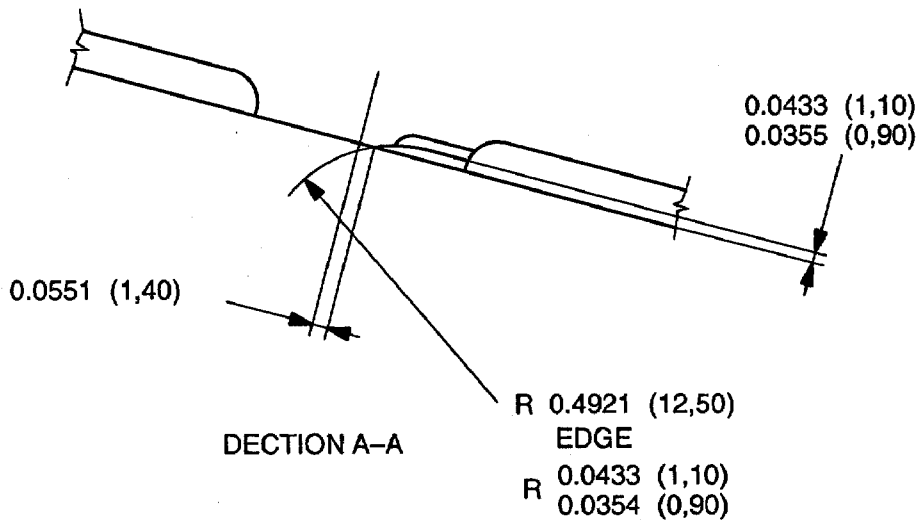
Machine the cover (01-050)
Fig 3



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NOTE: 1. All dimensions are in in. (mm)
2. Roughness of machined surfaces is
98 microinch (2,5 micrometer)



Machine the cover (01-330)
Fig 4

May.23/00
R Oct.23/00

