

 CT7-2E1 SERVICE BULLETIN - 72-0024 R00

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01/06/2023
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SB 72-0024 R00 ENGINE - COLD SECTION MODULE (72-30-00) - INTRODUCTION OF
NITRIDED NO. 3 AND NO. 4 ANNULAR BALL/TRILOBE ROLLER BEARINGS

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1. PLANNING INFORMATION

A. Effectivity

CT7-2E1

This Service Bulletin is applicable to CT7-2E1 engine serial numbers 780306 and below.

This Service has been introduced in production to CT7-2E1 engine serial numbers 780307 and up.

B. Description

This Service Bulletin introduces nitrided No. 3 annular ball bearings P/N 5184T20P01 and No. 4 trilobe roller bearings P/N 5184T21P01 to all CT7-2E1 engines.

C. Compliance

Category 7

GE recommends that you do this Service Bulletin at customer convenience/option.
Impact E

This recommendation is to improve the cost of ownership, reduce maintenance requirements, or is a product improvement.

NOTE: This Service Bulletin can be done in shop.

D. Concurrent Requirements

None.

E. Reason

(1) Objective:

To introduce new parts and to improve reliability.

(2) Condition:

Nitrided No. 3 and No. 4 bearings are being introduced for the CT7-2E1 engine model as a minor change for a product improvement rather than addressing metal chip generation events which have not been a prominent issue for this engine model.

(3) Cause:

Similar model engines continue to experience metal generation (bearing spall events) on a yearly basis due to hard particle contamination of the No. 3 annular ball bearings.

(4) Improvement:

This nitriding surface hardening improves the No. 3 ball bearing and No. 4 trilobe roller bearing by increasing bearing fatigue life and contamination resistance.

(5) Substantiation:

Substantiation is by analysis and comparative analysis.

F. Approval

The data contained in this Service Bulletin has been reviewed by the FAA or authorized entity representing the FAA and the repair(s) and modification(s) herein comply with the applicable Aviation Regulations and are APPROVED for installation in the model(s) listed in this Service Bulletin.

G. Manpower

No additional man-hours are required to comply with this Service Bulletin.

H. Weight and Balance

Weight and balance are not changed.

I. References

- CT7-2E1 Turboshaft Engine Service Record
- GEK 115715, CT7-2E Illustrated Parts Catalog
- GEK 112044-02, CT7-2E Shop Manual

**NOTE: The reference document listed below is for the engine manufacturer's internal use only:
CID: 526248**

J. Publications Affected

- CT7-2E1 Turboshaft Engine Service Record
- GEK 115715, CT7-2E Illustrated Parts Catalog

K. Interchangeability

One-way interchangeable.

The old part number may be used as a replacement only where the old part number was installed. The new part number is an acceptable replacement for either the old or new part number.

L. Software Accomplishment Summary

Not applicable.

2. MATERIAL INFORMATION

A. Material - Price and Availability

(1) Parts necessary to do this Service Bulletin:

Part Number	Qty/ Eng	Part Name	Unit (\$) Price	Pkg Qty	Lead Time Days
5184T20P01	(1)	Bearing, No. 3 Annular Ball	Quote	(-)	Quote
5184T21P01	(1)	Bearing, No. 4 Trilobe Roller	Quote	(-)	Quote

(2) Other Spare Parts:

None.

(3) Consumables:

None.

B. Industry Support Information

Not applicable.

C. Configuration Chart

New Part Number	Qty/ Eng	Part Name	Old Part Number/ IPC Location	Qty/ Eng	Op Code	Chg/ Sprt Code
FOR CT7-2E1						
5130T68G01	(X)	Cold Section Module (SIN 00900)	5130T68G01 01-160,72-00-00 01-001,72-30-00	(X)	RM	-/-
.5184T20P01	(1)	Bearing, No. 3 Annular Ball (SIN 01300)	.6038T48P02 01-210,72-30-00	(1)	RE	1/A
-	(-)	Bearing, No. 3 Annular Ball (SIN 01300)	.6064T35P01 01-210A,72-30-00	(ALT)	DE	-/A
-	(-)	Bearing, No. 3 Annular Ball (SIN 01300)	.6064T35P02 01-210B,72-30-00	(ALT)	DE	-/A
.5184T21P01	(1)	Bearing, No. 4 Trilobe Roller (SIN 01400)	.6064T14P01 01-455,72-30-00	(1)	RE	1/A
-	(-)	Bearing, No. 4 Trilobe Roller (SIN 01400)	.6064T15P01 01-455A,72-30-00	(ALT)	DE	-/A
-	(-)	Bearing, No. 4 Trilobe	.6064T15P03	(ALT)	DE	-/A

Roller
(SIN 01400)

01-455B,72-30-00

Operation CodesDE = Delete
RE = Replace
RM = RemainsChange Code

1 = One-way interchangeable

Support Code

A = Old parts will no longer be supplied.

D. Parts Disposition

Use serviceable parts for engines not changed by this Service Bulletin.

E. Tooling - Price and Availability

No special tooling required.

3. ACCOMPLISHMENT INSTRUCTIONSA. Replacement of No. 3 Annular Ball Bearing

- (1) Remove the installed No. 3 annular ball bearing (01-210, 72-30-00) (refer to
- [Figure 1](#)
-) as follows:

NOTE: Only disassembly to the level necessary to remove the No. 3 bearings is required. The steps below may be performed in any order.

- (a) Remove the No. 3 bearing forward inner race (01-210, 72-30-00). Refer to CT7-2E Shop Manual GEK 112044-02, 72-30-00, DISASSEMBLY, TASK 72-30-00-030-801, paragraph 7.E.
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- (b) Remove the No. 3 bearing aft inner race (01-210, 72-30-00). Refer to CT7-2E Shop Manual GEK 112044-02, 72-38-00, DISASSEMBLY, TASK 72-38-00-030-801, paragraph 4.C.
-
- (c) Remove the No. 3 bearing outer race (01-210, 72-30-00). Refer to CT7-2E Shop Manual GEK 112044-02, 72-30-00, DISASSEMBLY, TASK 72-30-00-030-801, paragraph 13.C.

- (2) Install the nitrided No. 3 annular ball bearing (P/N 5184T20P01) (refer to
- [Figure 1](#)
-) as follows:

NOTE: Steps below may be performed in any order.

- (a) Install the No. 3 bearing outer race and cage assembly (01-210, 72-30-00). Refer to CT7-2E Shop Manual GEK 112044-02, 72-30-00, ASSEMBLY, TASK 72-30-00-430-801, paragraph 5.C.
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- (b) Install the No. 3 bearing aft inner race (01-210, 72-30-00). Refer to CT7-2E Shop Manual GEK 112044-02, 72-30-00, ASSEMBLY, TASK 72-30-00-430-801, paragraph 6.B.
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- (c) Install the No. 3 bearing forward inner race (01-210, 72-30-00). Refer to CT7-2E Shop Manual GEK 112044-02, 72-30-00, ASSEMBLY, TASK 72-30-00-430-801, paragraph 14.D.

- (3) Reassemble the engine and perform required checks. Refer to CT7-2E Shop Manual 112044-02.

B. Replacement of No. 4 Trilobe Roller Bearing

- (1) Remove the installed No. 4 trilobe roller bearing (01-455, 72-30-00) (refer to
- [Figure 2](#)
-) as follows:

NOTE: Only disassembly to the level necessary to remove the No. 4 bearings is required. The steps below may be performed in any order.

- (a) Remove the No. 4 bearing inner race (01-455, 72-30-00). Refer to CT7-2E Shop Manual GEK 112044-02, 72-30-00, DISASSEMBLY, TASK 72-30-00-030-801, paragraph 8.G.
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- (b) Remove the No. 4 bearing outer race (01-455, 72-30-00). Refer to CT7-2E Shop Manual GEK 112044-02, 72-39-00, DISASSEMBLY, TASK 72-39-00-030-801, paragraph 3.C.

- (2) Install the nitrided No. 4 trilobe roller bearing (P/N 5184T21P01) (refer to
- [Figure 2](#)
-) as follows:

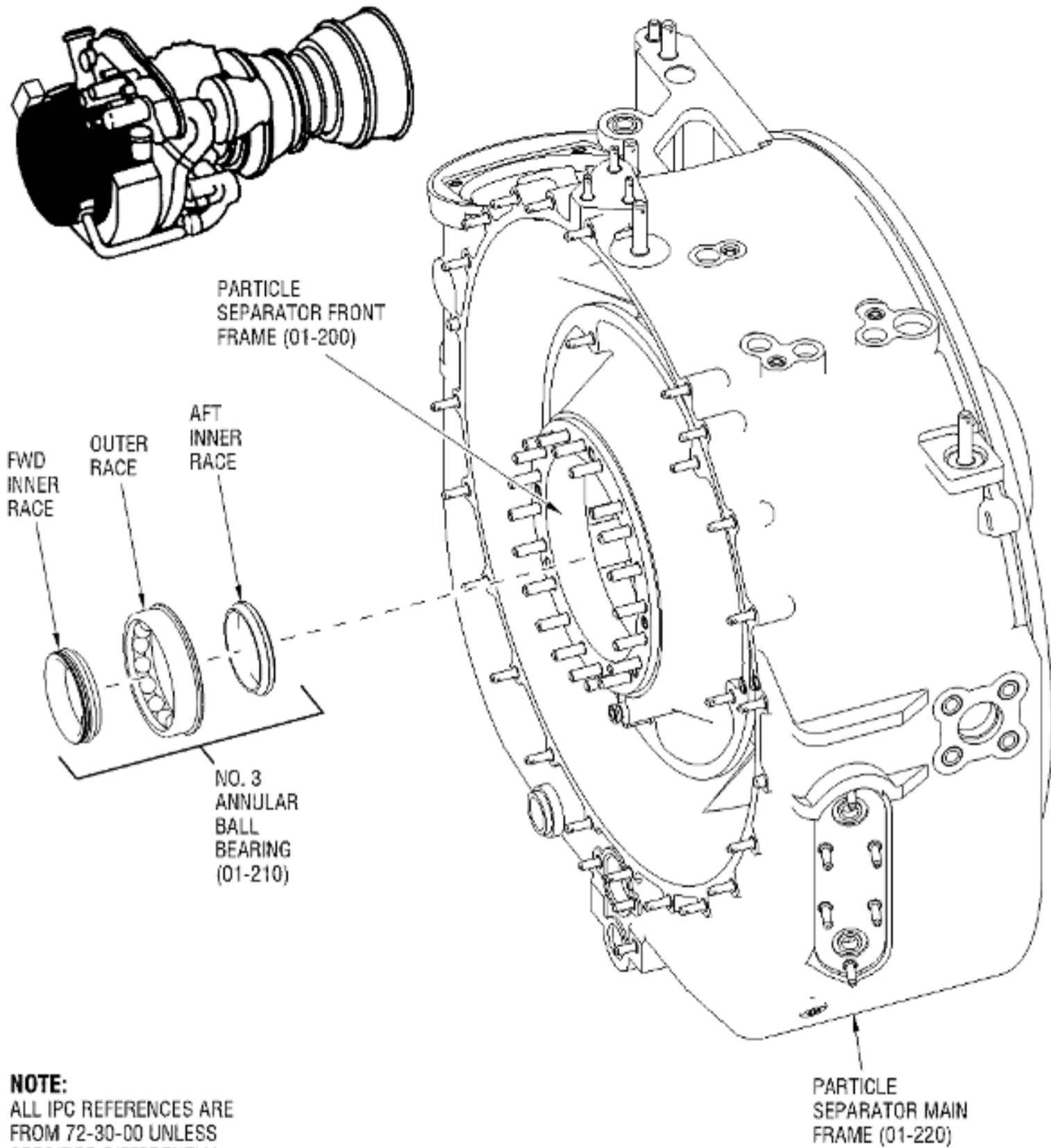
NOTE: Steps below may be performed in any order.

- (a) Install the No. 4 bearing outer race (01-455, 72-30-00). Refer to CT7-2E Shop Manual GEK 112044-02, 72-39-00, ASSEMBLY, TASK 72-39-00-430-801, paragraph 3.D.
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- (b) Install the No. 4 bearing inner race (01-455, 72-30-00). Refer to CT7-2E Shop Manual GEK 112044-02, 72-30-00, ASSEMBLY, TASK 72-30-00-430-801, paragraph 9.A.

- (3) Reassemble the engine and perform required checks. Refer to CT7-2E Shop Manual 112044-02.

C. Service Record Entry

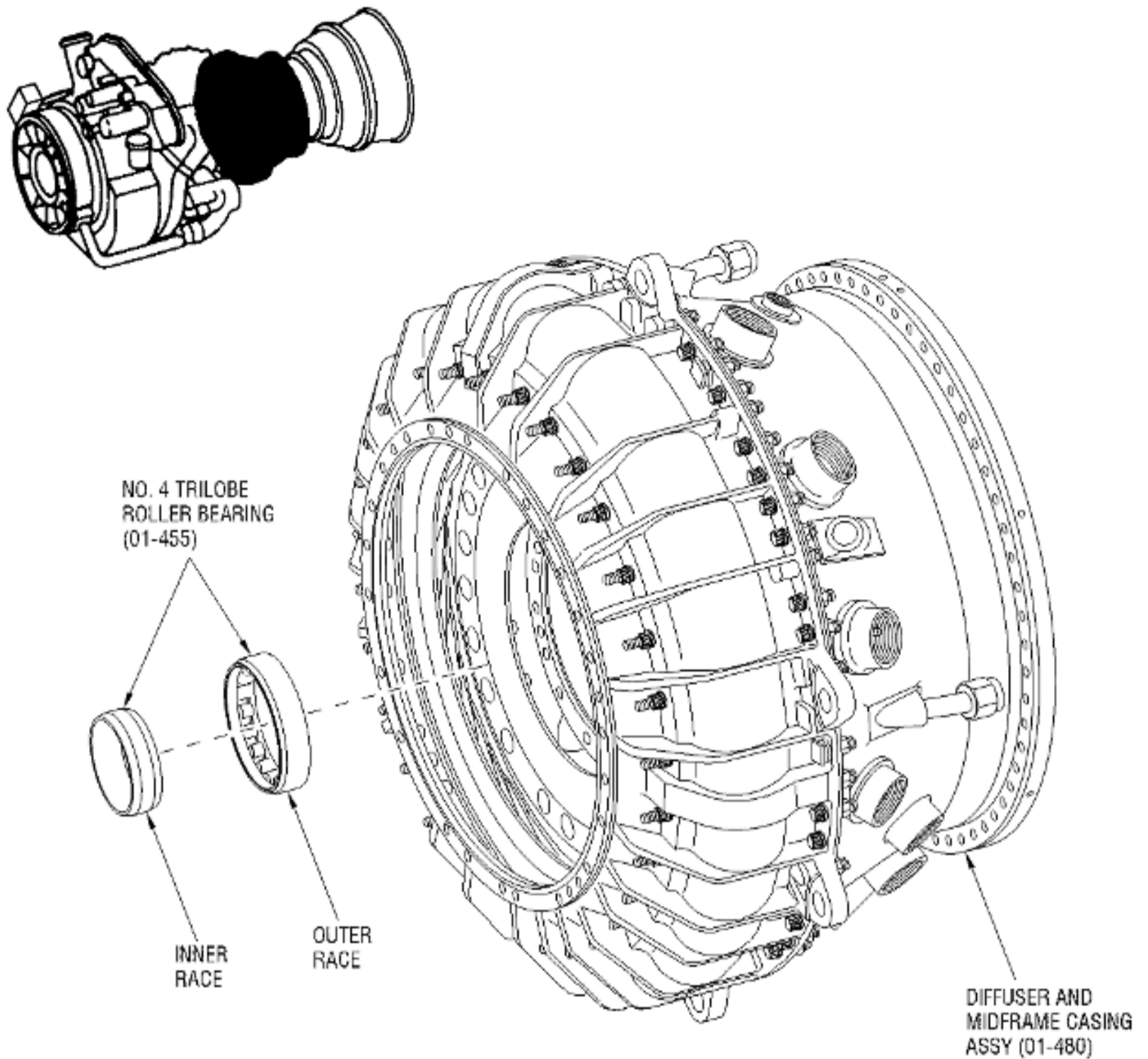
Record compliance with this Service Bulletin in the appropriate CT7-2E1 Turboshaft Engine Service Record.



NOTE:
ALL IPC REFERENCES ARE FROM 72-30-00 UNLESS SPECIFIED DIFFERENTLY.

6021229-00

No. 3 Annular Ball Bearing, Replacement
Figure 1



NOTE:
ALL IPC REFERENCES ARE FROM 72-30-00 UNLESS SPECIFIED DIFFERENTLY.

6021227-00

No. 4 Trilobe Roller Bearing, Replacement
Figure 2

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