

T-105 Inspection Limits and Repair

Subject:	EXTEX Engineered Products, Inc. Replacement Bearings for Certain Rolls Royce 250 Engine Models.
EXTEX Part Numbers:	Various – see Table 1.
Installation(s):	Various Rolls Royce Model 250 Engines
Revision History:	IR – Dated 12/10/14 Initial Release. A – Dated 2/08/16 Updated Timken to EXTEX Engineered.
Reason:	To provide Supplemental Instructions for Continued Airworthiness (ICA).
Description:	This document provides the owner/operator with inspection and repair procedures for certain bearings used in Rolls Royce model 250 engines. The inspection results determine if the component is serviceable in its current condition.
Applicability:	Rolls Royce Model 250 Engines with any of the bearing part numbers in Table 1 installed.
Accomplishment Instructions:	<ol style="list-style-type: none"> 1. Refer to Original Equipment Manufacturers (OEM's) published instructions for engine disassembly, cleaning, inspection, rework, assembly, operation, and testing. 2. All work must be performed at an FAA approved repair facility. 3. You may use the OEM ICA for the equivalent OEM part for visual and non-destructive inspections, inner bore and outer diameter service limits, demagnetization methods, and other allowable repairs of the listed Extex replacement bearing(s). The Extex Bearing internal clearance limits are listed in Table 1 by part number.
Approval:	This document is FAA approved.
Notes:	Please contact your EXTEX customer service representative with any questions.

As part of the FAA approval process, EXTEX demonstrated that the OEM's Instructions for Continued Airworthiness (ICA) are applicable to these replacement bearings.

The OEM is also known as the Type Certificate Holder (TCH).

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TABLE 1: BEARING INTERNAL CLEARANCE LIMITS

*Engine Type	Bearing Position	Description	Part Numbers(s)	BearingType	Minimum (Inches)	Maximum (Inches)
C20 C30	No. 1	Compressor Rotor Front (10 x 26 x 8)	6898607AL 6898607TA	BALL	.0005	.0008
C30 C40	No. 1	Compressor Rotor Front (10 x 26 x 10)	23066716AL, 23066716TA	ROLLER	.0011	.0017
C20	No. 2	Compressor Rotor Rear (30 x 55 x 13)	6889093AL 6889093TA E6889093	BALL	.0014	.0018
C30	No. 2	Compressor Rotor, Rear (30 x 72 x 19-23)	23009670TA	BALL	.0028	.0032
C20	No. 2-1/2	Power Turbine Pinion (Internal) (32 O.D. x 7 W)	23034787AL 23034787TA	OUTER RACE AND ROLLER	N/A	N/A
C20	No. 3	Power Turbine Pinion, Front (40 x 68 x 14)	23053297AL 23053297TA	ROLLER	.0025	.0032
C20	No. 4	Power Turbine Pinion, Rear (40 x 68 x 14)				
C20 C30 C40	No. 5	Power Turbine Rotor, Front (40 x 62 x 12-15)	6871505AL 6871505TA	BALL	.0013	.0019
C20 C30 C40	No. 6	Power Turbine Rotor, Rear (42 O.D. x 9 W)	23007202AL 23007202TA E23007202	OUTER RACE AND ROLLER	N/A	N/A
C20 C30 C40	No. 7	Gas Producer Turbine Rotor, Front (42 O.D. x 9 W)				
C20 C30 C40	No. 8	Gas Producer Turbine Rotor, Rear (20 x 42 x 15)	23007152AL 23007152TA 23031478AL 23031478TA	BALL	.0029	.0034
C30 C40	No. 8	Gas Producer Turbine Rotor, Rear (20 x 42 x 15)	23058131AL, 23058131TA	BALL BEARING & SLEEVE ASSEMBLY	.0029	.0034
C20	--	Torque Meter Gear Forward (Roller) (30 x 62 x 16)	23004554AL, 23004554TA	ROLLER	.0007	.0017
C20	--	Torque Meter Gear Rear (Roller) (25 x 62 x 17)	6875035AL 6875035TA E6875035	ROLLER	.0011	.0017
C20	--	Torque Meter Piston (25 x 52 x 15)	6859433AL	BALL	.0026	.0036
C20	--	Helical Power Take-off (PTO) Gearshaft, Forward (40 x 68 x 15)	23001949AL, 23001949TA E6887772	ROLLER	.0012	.0019

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*Engine Type	Bearing Position	Description	Part Numbers(s)	Bearing Type	Minimum (Inches)	Maximum (Inches)
C20	--	Helical Power Take-Off (PTO) Gearshaft, Rear (40 x 68 x 15)	E6824728 23004553AL 23004553TA	BALL	.0005	.0009
C20	--	Gearshaft, Spur, Gasifier (17 x 30 x 7)	E23008065 23008065AL, 23008065TA	BALL	.0003	.0008
C20	--	Gearshaft, Fuel Control and Oil Pump (10 x 26 x 8)	E23005749, 23005749AL, 23005749TA	BALL	.0003	.0009
C20	--	Gearshaft, Fuel Control, Oil Pump (25 x 62 x 17)	23007157AL, 23007157TA	BALL	.0008	.0012
C20 C30 C40	--	Gearshaft, Spur, Idler Gear (12 x 28 x 8)	E23008469, 23008469AL, 23008469TA	BALL	.0004	.0009
C20 C30	--	Gearshaft PT Tach and Governor (25 x 42 x 9)	E23007151, 23007151AL, 23007151TA	BALL	.0005	.0010
C30 C40	--	Gearshaft, Spur, Centrifugal Breather (12 x 37 x 12)	23005746AL, 23005746TA	BALL	.00060	.00105
C20	--	Gearshaft, Spur, idler (15 x 42 x13)	E23005747, 23005747AL, 23005747TA	BALL	.00045	.00100
C30 C40	--	Helical Power Take-off (PTO) Gearshaft (45 x 85 x 19)	6889326AL	BALL	.0012	.0019
C30 C40	--	Torque Meter Piston (40 x 80 x 18)	6889336AL	BALL	.0039	.0049
C20R	No. 1	Comp. Rotor Front (17 x 30 x 9)	23009609AL	ROLLER	.0013	.0017

*Note: "C20", "C30", "C40" are descriptions of the general engine series. Refer to the applicable PMA supplement for the specific eligible engine models.