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Timken Part Number 07098 - 07196-B, Tapered Roller Bearings - TSF (Tapered Single with Flange) Imperial

Like the TS bearing design, the TSF design consists of two main separable parts: the cone (inner ring) assembly and the cup (outer ring). It is typically mounted in opposing pairs on a shaft. TSF bearings have flanged cups to facilitate axial location and accurately align seals in through-bored housings.



Specifications | Dimensions | Abutment and Fillet Dimensions | Basic Load Ratings | Factors

Specifications

Series	07000
Cone Part Number	07098
Cup Part Number	07196-B
Design Units	Imperial
Bearing Weight	0.30 lb 0.100 Kg
Cage Type	Stamped Steel

Dimensions

d - Bore	0.9835 in 24.981 mm
D - Cup Outer Diameter	1.9687 in 50.005 mm
D1 - Flange Outer Diameter	2.1209 in 53.871 mm
B - Cone Width	0.5614 in 14.260 mm
C - Cup Width	0.3750 in 9.525 mm
C1 - Cup Flange Width	0.1094 in 2.779 mm
T1 - Bearing Width	0.5313 in 13.495 mm
T - Bearing Width to Flange	0.2657 in 6.749 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	0.06 in 1.5 mm
r - Cup Backface "To Clear" Radius[2]	0.04 in 1 mm
da - Cone Frontface Backing Diameter	1.14 in 29.00 mm
db - Cone Backface Backing Diameter	1.22 in 31.00 mm
Da - Cup Frontface Backing Diameter	1.95 in 49.02 mm
Ab - Cage-Cone Frontface Clearance	0.08 in 2 mm

Aa - Cage-Cone Backface Clearance	0 in 0 mm
a - Effective Center Location[3]	-0.11 in -2.8 mm

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	1700 lbf 7550 N
C1 - Dynamic Radial Rating (1 million revolutions)[5]	6540 lbf 29100 N
C0 - Static Radial Rating	6650 lbf 29600 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	1170 lbf 5190 N

Factors

K - Factor[7]	1.45
e - ISO Factor[8]	0.40
Y - ISO Factor[9]	1.49
G1 - Heat Generation Factor (Roller-Raceway)[10]	7.6
G2 - Heat Generation Factor (Rib-Roller End)	7.07
Cg - Geometry Factor[11]	0.0509

[1] These maximum fillet radii will be cleared by the bearing corners.
[2] These maximum fillet radii will be cleared by the bearing corners.
[3] Negative value indicates effective center inside cone backface.
[4] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are

radial and thrust values.

[5] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

[6] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

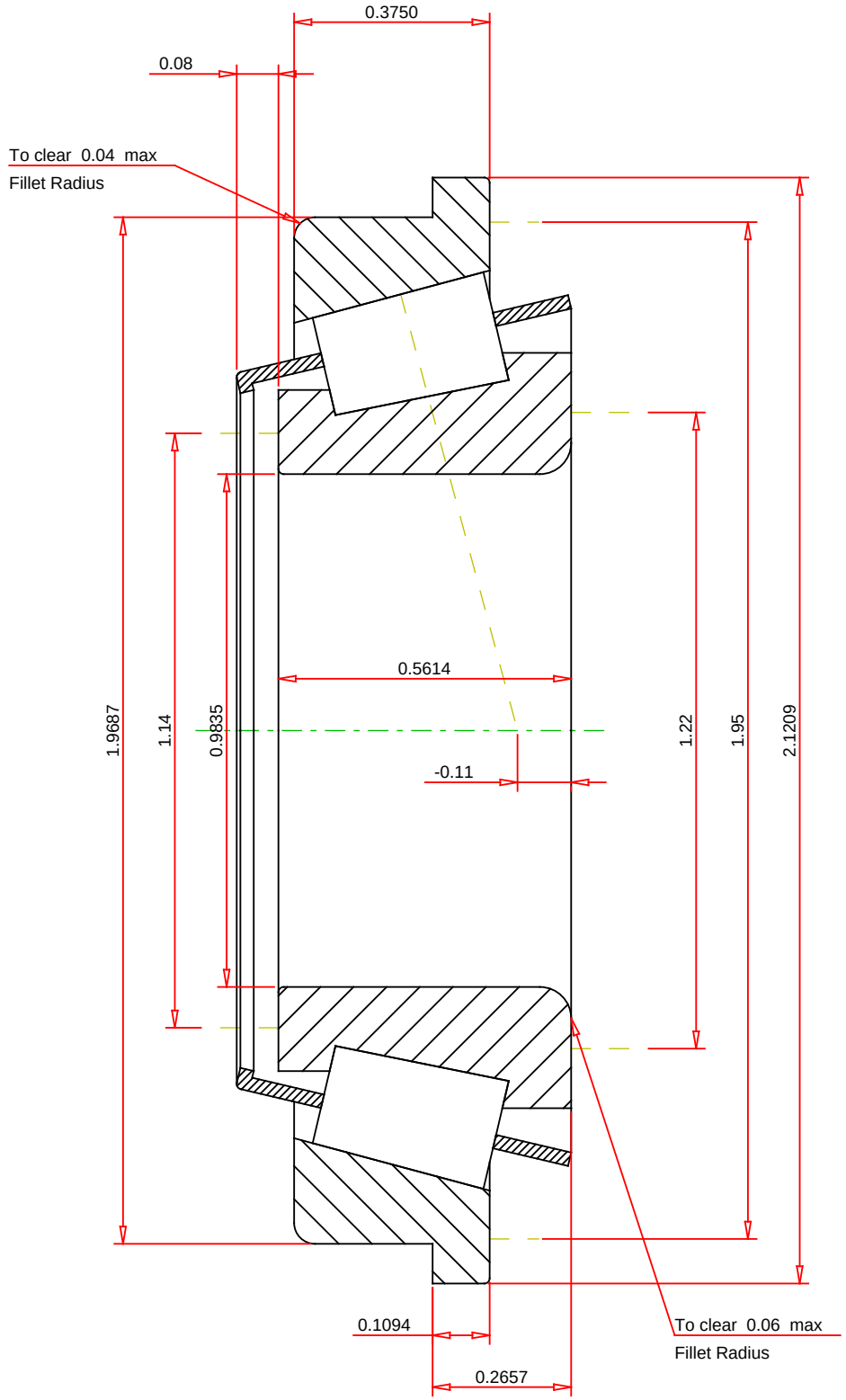
[7] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[8] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[9] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[10] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[11] Geometry constant for Lubrication Life Adjustment Factor a3l.



IMPERIAL UNITS

ISO Factor - e	0.4	
ISO Factor - Y	1.49	
Bearing Weight	0.3	lb
Number of Rollers Per Row	16	
Effective Center Location	-0.11	inch

TIMKEN

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

07098 - 07196-B
TSF BEARING ASSEMBLY

K Factor	1.45	
Dynamic Radial Rating - C90	1700	lbf
Dynamic Thrust Rating - Ca90	1170	lbf
Static Radial Rating - C0	6650	lbf
Dynamic Radial Rating - C1	6540	lbf

Every reasonable effort has been made to ensure the accuracy of the information contained in this writing, but no liability is accepted for errors, omissions or for any other reason.

FOR DISCUSSION ONLY