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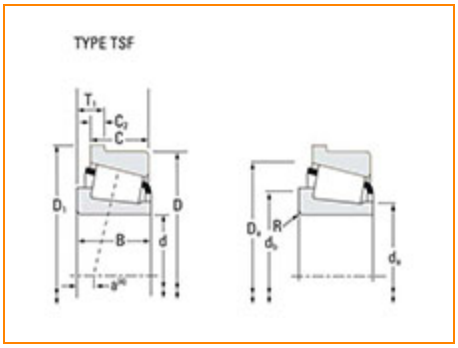
Part Number 2559 - 2523-B, Tapered Roller Bearings - TSF (Tapered Single with Flange) Imperial

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	2500
Cone Part Number	2559
Cup Part Number	2523-B
Design Unit	Inch
Cage Material	Stamped Steel

Dimensions

- Bore	1 3/16 in 30.163 mm

D - Cup Outer Diameter	2.7500 in 69.850 mm
D1 - Flange Outer Diameter	2.9020 in 73.711 mm
B - Cone Width	0.9983 in 25.357 mm
C - Cup Width	0.7500 in 19.050 mm
C1 - Cup Flange Width	0.1560 in 3.962 mm
T1 - Bearing Width to Flange	0.3438 in 8.733 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	0.03 in 0.800 mm
r - Cup Backface "To Clear" Radius[2]	0.06 in 1.5 mm
da - Cone Frontface Backing Diameter	1.44 in 36.5 mm
db - Cone Backface Backing Diameter	1.46 in 37 mm
Da - Cup Frontface Backing Diameter	2.62 in 66.04 mm
Ab - Cage-Cone Frontface Clearance	0.06 in 1.5 mm
Aa - Cage-Cone Backface Clearance	0.02 in 0.5 mm
a - Effective Center Location[3]	-0.34 in -8.6 mm

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	21700 N
C1 - Dynamic Radial Rating (1 million revolutions)[5]	18800 lbf 83700 N
C0 - Static Radial Rating	21200 lbf 94400 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	2280 lbf 10200 N

Factors

K - Factor[7]	2.14
e - ISO Factor[8]	0.27
Y - ISO Factor[9]	2.19
G1 - Heat Generation Factor (Roller-Raceway)	23.6
G2 - Heat Generation Factor (Rib-Roller End)	9.6
Cg - Geometry Factor[10]	0.0656

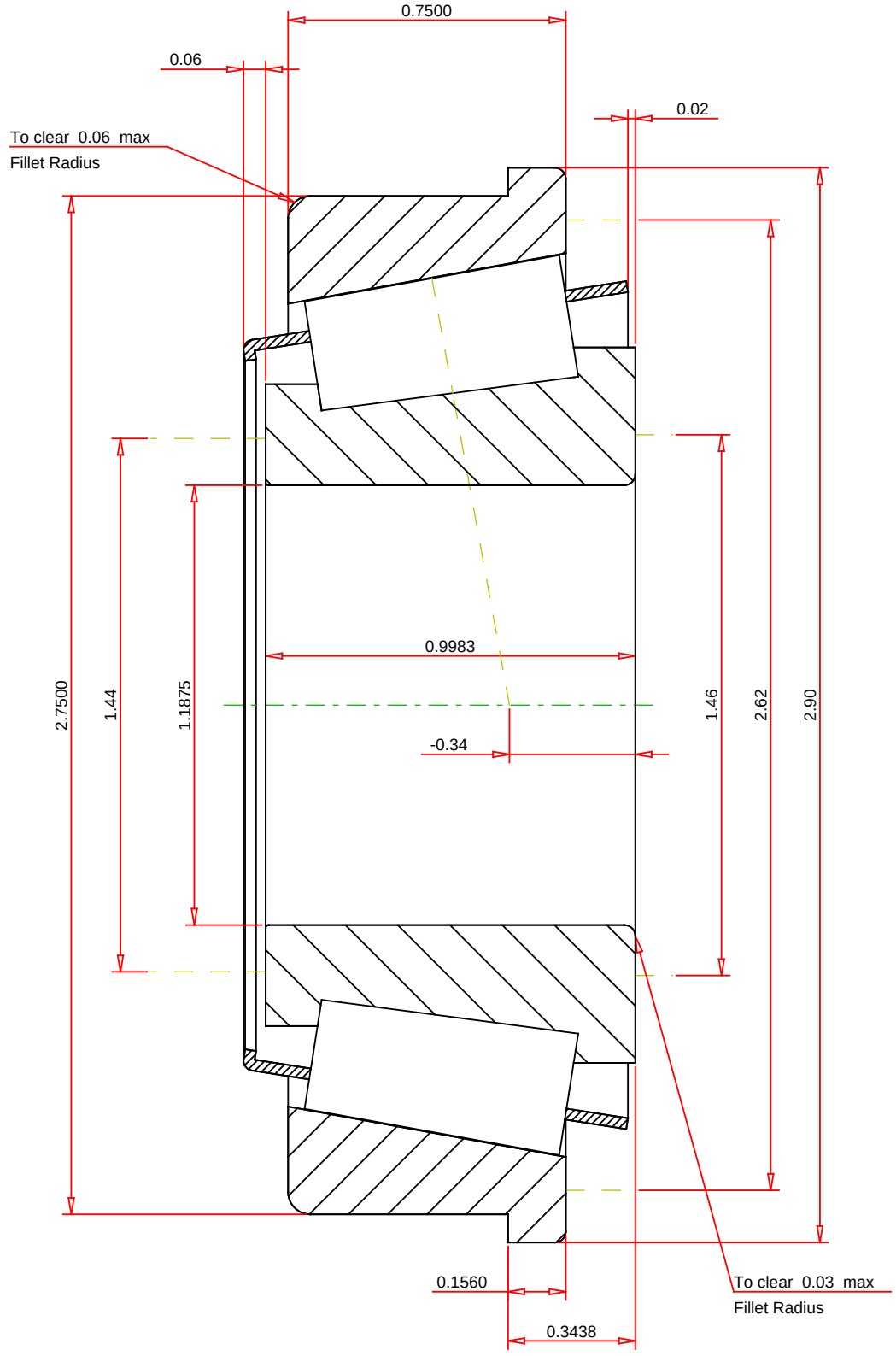
[1] These maximum fillet radii will be cleared by the bearing corners.
[2] These maximum fillet radii will be cleared by the bearing corners.
[3] Negative value indicates effective center inside cone backface.
[4] Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
[5] Based on 1×10^6 revolutions L_{10} life, for the ISO life calculation method.
[6] Based on 90×10^6 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] Geometry constant for Lubrication Life Adjustment Factor a3l.



IMPERIAL UNITS

ISO Factor - e	0.27	
ISO Factor - Y	2.19	
Bearing Weight	1.1	lb
Number of Rollers Per Row	16	
Effective Center Location	-0.34	inch

TIMKEN

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NORTH CANTON, OHIO USA

2559 - 2523-B

Tapered Roller Bearings - TSF (Tapered Single with Flange) Imperial

K Factor	2.14	
Dynamic Radial Rating - C90	4880	lbf
Dynamic Thrust Rating - Ca90	2280	lbf
Static Radial Rating - C0	21200	lbf
Dynamic Radial Rating - C1	18800	lbf

FOR DISCUSSION ONLY