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Timken Part Number 09081 - 09195AB, 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	09000
Cone Part Number	09081
Cup Part Number	09195AB
Design Units	Imperial
Bearing Weight	0.30 lb 0.100 Kg
Cage Type	Stamped Steel

Dimensions

d - Bore	0.8120 in 20.625 mm
D - Cup Outer Diameter	1.9380 in 49.225 mm
D1 - Flange Outer Diameter	2.0898 in 53.081 mm
B - Cone Width	0.8480 in 21.539 mm
C - Cup Width	0.5625 in 14.288 mm
C1 - Cup Flange Width	0.1280 in 3.251 mm
T1 - Bearing Width	0.7813 in 19.845 mm
T - Bearing Width to Flange	0.3468 in 8.809 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]	0.050 in 1.30 mm
da - Cone Frontface Backing Diameter	1.00 in 25.40 mm
db - Cone Backface Backing Diameter	1.08 in 27.40 mm
Da - Cup Frontface Backing Diameter	1.85 in 46.99 mm
Ab - Cage-Cone Frontface Clearance	0.06 in 1.5 mm

Aa - Cage-Cone Backface Clearance	0.07 in 1.8 mm
a - Effective Center Location[3]	-0.36 in -9.1 mm

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	2500 lbf 11100 N
C1 - Dynamic Radial Rating (1 million revolutions)[5]	9630 lbf 42800 N
C0 - Static Radial Rating	9100 lbf 40500 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	1140 lbf 5050 N

Factors

K - Factor[7]	2.2
e - ISO Factor[8]	0.27
Y - ISO Factor[9]	2.26
G1 - Heat Generation Factor (Roller-Raceway)[10]	8
G2 - Heat Generation Factor (Rib-Roller End)	4.05
Cg - Geometry Factor[11]	0.0452

[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.

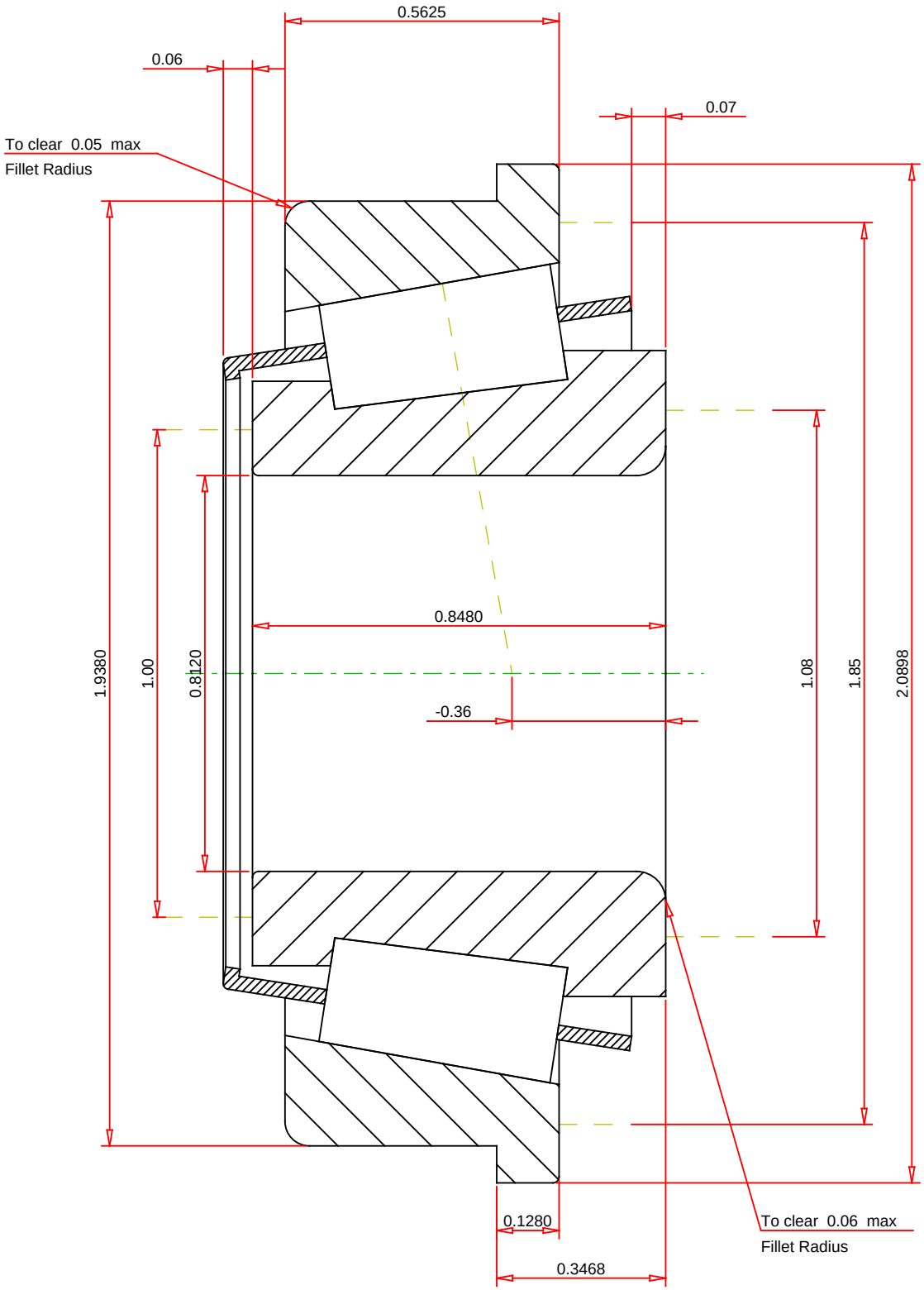
[7] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[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	0.27	
ISO Factor - Y	2.26	
Bearing Weight	0.3	lb
Number of Rollers Per Row	12	
Effective Center Location	-0.36	inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

09081 - 09195AB
TSF BEARING ASSEMBLY

K Factor	2.2	
Dynamic Radial Rating - C90	2500	lbf
Dynamic Thrust Rating - Ca90	1140	lbf
Static Radial Rating - C0	9100	lbf
Dynamic Radial Rating - C1	9630	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