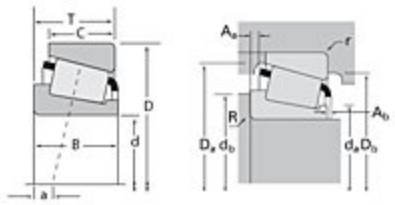
TIMKEN

The Timken Company
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E-Mail: CustomerCAD@timken.com • **Web site:** www.timken.com

Timken Part Number L507949 - L507910, Tapered Roller Bearings - TS (Tapered Single) Imperial

This is the most basic and most widely used type of tapered roller bearing. It 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.





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

Specifications

Series	L507900
Cone Part Number	L507949
Cup Part Number	L507910
Design Units	Imperial
Bearing Weight	0.400 Kg 0.80 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	57.150 mm 2.2500 in
D - Cup Outer Diameter	87.313 mm 3.4375 in

B - Cone Width	18.258 mm 0.7188 in
C - Cup Width	14.288 mm 0.5625 in
T - Bearing Width	18.258 mm 0.7188 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	1.520 mm 0.06 in
r - Cup Backface "To Clear" Radius[2]	1.52 mm 0.06 in
da - Cone Frontface Backing Diameter	61.98 mm 2.44 in
db - Cone Backface Backing Diameter	65.02 mm 2.56 in
Da - Cup Frontface Backing Diameter	83.10 mm 3.29 in
Db - Cup Backface Backing Diameter	78.99 mm 3.11 in
Ab - Cage-Cone Frontface Clearance	2.5 mm 0.1 in
Aa - Cage-Cone Backface Clearance	0 mm 0 in
a - Effective Center Location[3]	-0.80 mm -0.03 in

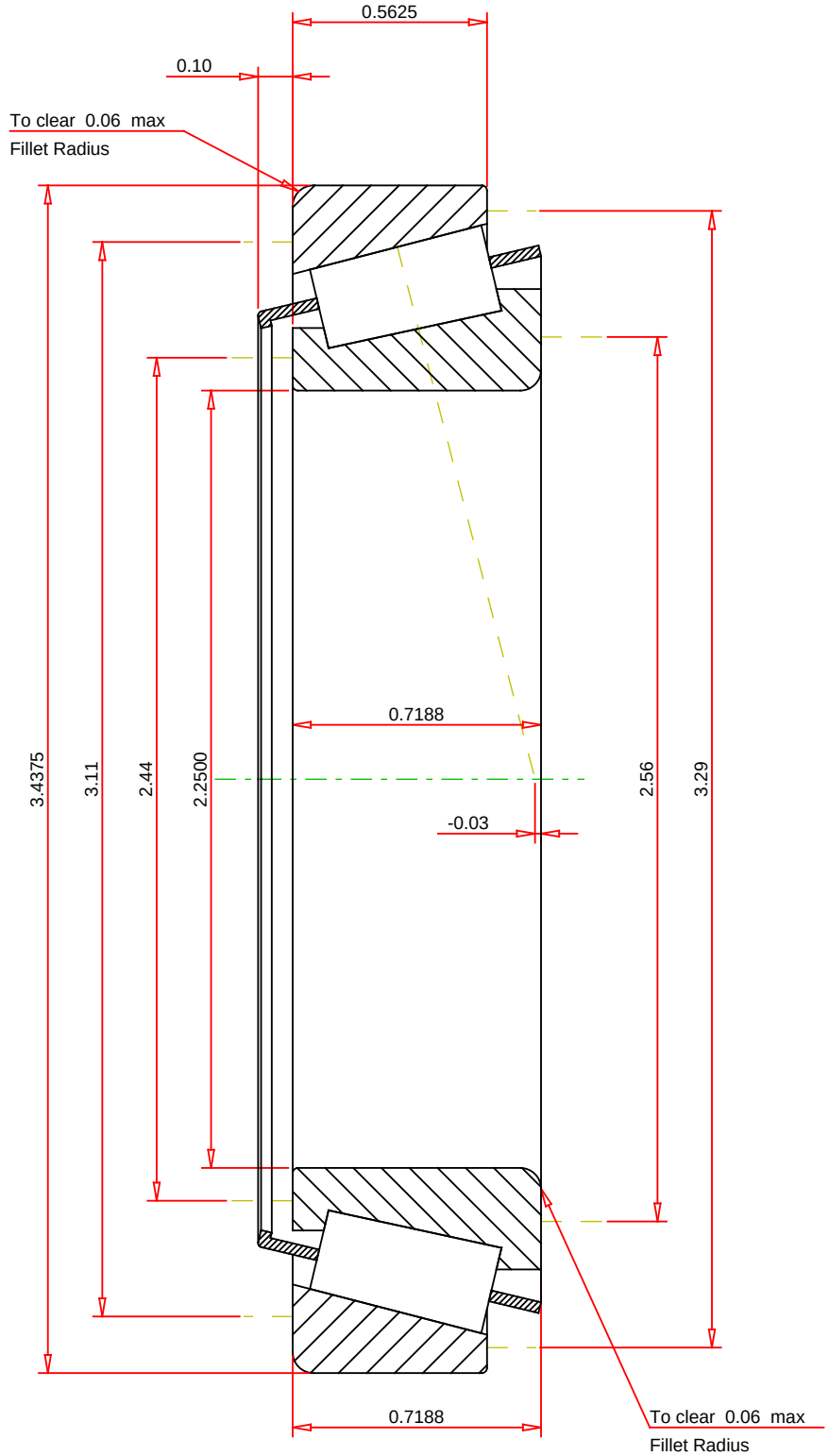
Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	16300 N 3650 lbf
C1 - Dynamic Radial Rating (1 million revolutions)[5]	62700 N 14100 lbf
C0 - Static Radial Rating	95600 N 21500 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	10800 N 2430 lbf

Factors

K - Factor[7]	1.5
e - ISO Factor[8]	0.39
Y - ISO Factor[9]	1.54
G1 - Heat Generation Factor (Roller-Raceway)	46.1
G2 - Heat Generation Factor (Rib-Roller End)	36.9
Cg - Geometry Factor	0.0914

[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.



IMPERIAL UNITS

ISO Factor - e	0.39	
ISO Factor - Y	1.54	
Bearing Weight	0.8	lb
Number of Rollers Per Row	29	
Effective Center Location	-0.03	inch

TIMKEN

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

L507949 - L507910
TS BEARING ASSEMBLY

K Factor	1.5	
Dynamic Radial Rating - C90	16300	lbf
Dynamic Thrust Rating - Ca90	10800	lbf
Static Radial Rating - C0	95600	lbf
Dynamic Radial Rating - C1	62700	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