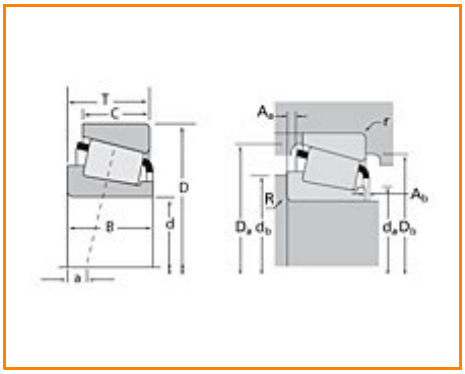
The Timken Company
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Timken Part Number LM522546 - LM522510, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	LM522500
Cone Part Number	LM522546
Cup Part Number	LM522510
Design Units	Imperial
Bearing Weight	2.300 Kg 5.10 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	107.95 mm 4.25 in
D - Cup Outer Diameter	159.987 mm 6.2987 in
B - Cone Width	34.925 mm 1.3750 in
C - Cup Width	26.988 mm 1.0625 in
T - Bearing Width	34.925 mm 1.3750 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	3.560 mm 0.14 in
r - Cup Backface "To Clear" Radius[2]	3.30 mm 0.130 in
da - Cone Frontface Backing Diameter	116.08 mm 5.43 in
db - Cone Backface Backing Diameter	121.92 mm 4.8 in
Da - Cup Frontface Backing Diameter	154.43 mm 6.08 in
Db - Cup Backface Backing Diameter	146.05 mm 5.75 in
Ab - Cage-Cone Frontface Clearance	2 mm 0.08 in
Aa - Cage-Cone Backface Clearance	2.3 mm 0.09 in
a - Effective Center Location[3]	-1.5 mm -0.06 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	60100 N 13500 lbf
C1 - Dynamic Radial Rating (1 million revolutions)[5]	232000 N 52200 lbf
C0 - Static Radial Rating	357000 N 80300 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	41400 N 9300 lbf

Factors

K - Factor[7]	1.45
e - ISO Factor[8]	0.40
Y - ISO Factor[9]	1.49
G1 - Heat Generation Factor (Roller-Raceway)	232
G2 - Heat Generation Factor (Rib-Roller End)	63.3
Cg - Geometry Factor	0.158

[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.

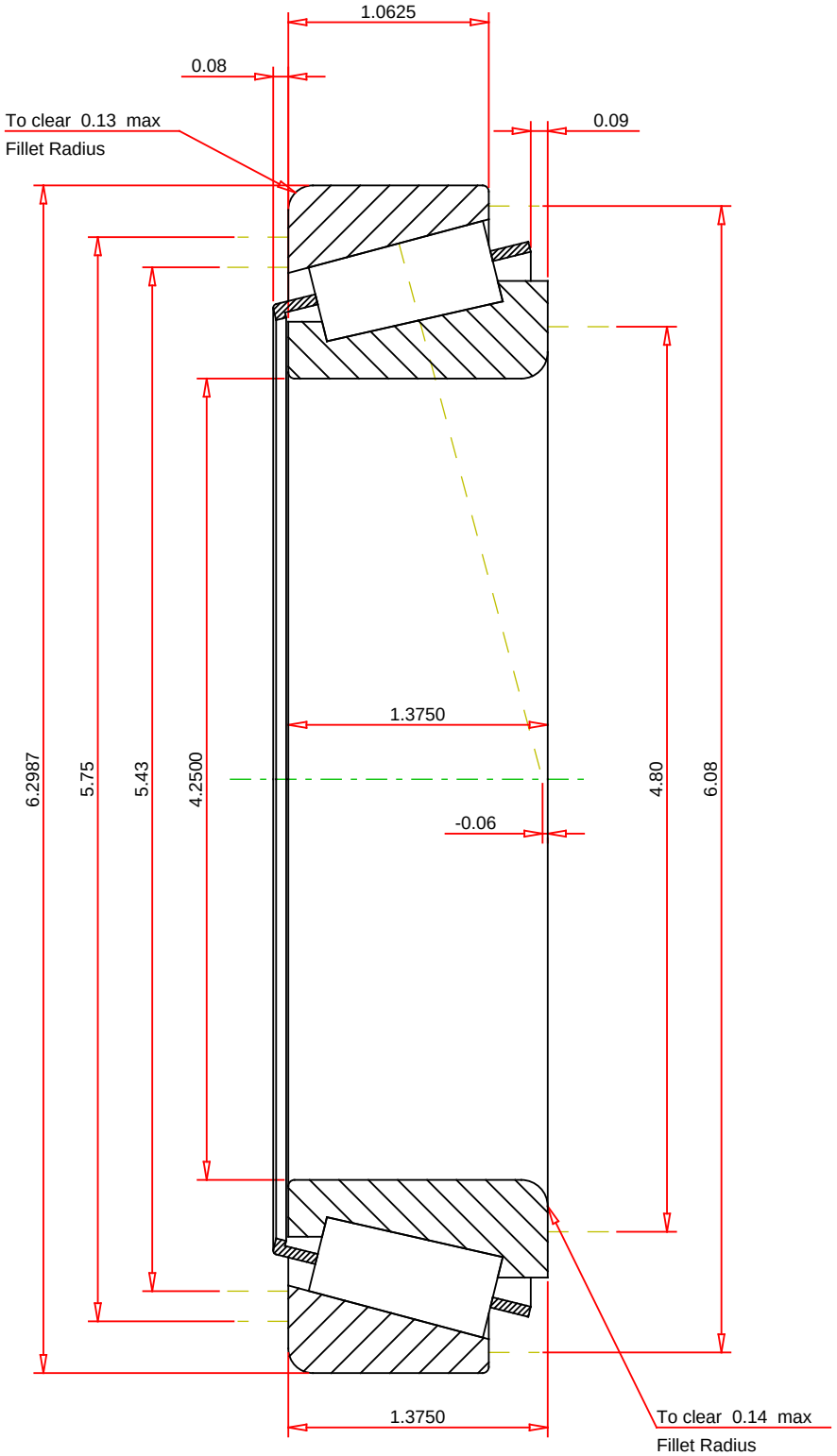
[6] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

[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	0.4	
ISO Factor - Y	1.49	
Bearing Weight	5.1	lb
Number of Rollers Per Row	34	
Effective Center Location	-0.06	inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

LM522546 - LM522510
TS BEARING ASSEMBLY

K Factor	1.45	
Dynamic Radial Rating - C90	60100	lbf
Dynamic Thrust Rating - Ca90	41400	lbf
Static Radial Rating - C0	357000	lbf
Dynamic Radial Rating - C1	232000	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