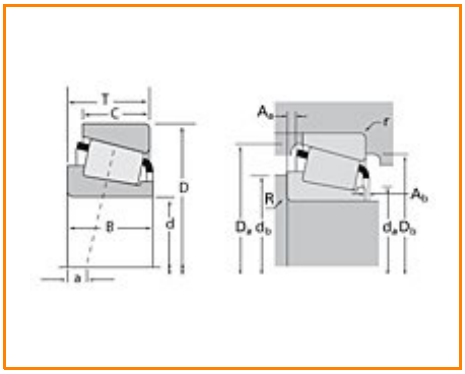
The Timken Company
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Timken Part Number LM654649 - LM654610, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	LM654600
Cone Part Number	LM654649
Cup Part Number	LM654610
Design Units	Imperial
Bearing Weight	19.60 Kg 43.200 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	285.750 mm 11.2500 in
D - Cup Outer Diameter	380.898 mm 14.9960 in
B - Cone Width	65.088 mm 2.5625 in
C - Cup Width	49.213 mm 1.9375 in
T - Bearing Width	65.088 mm 2.5625 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	302.01 mm 13.07 in
db - Cone Backface Backing Diameter	306.07 mm 12.05 in
Da - Cup Frontface Backing Diameter	369.06 mm 14.53 in
Db - Cup Backface Backing Diameter	356.11 mm 14.02 in
Ab - Cage-Cone Frontface Clearance	2 mm 0.08 in
Aa - Cage-Cone Backface Clearance	6.9 mm 0.27 in
a - Effective Center Location[3]	11.4 mm 0.45 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	187000 N 42100 lbf
C1 - Dynamic Radial Rating (1 million revolutions)[5]	722000 N 162000 lbf
C0 - Static Radial Rating	1720000 N 387000 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	138000 N 31100 lbf

Factors

K - Factor[7]	1.35
e - ISO Factor[8]	0.43
Y - ISO Factor[9]	1.39
G1 - Heat Generation Factor (Roller-Raceway)	1920
G2 - Heat Generation Factor (Rib-Roller End)	265.6
Cg - Geometry Factor	0.174

[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.

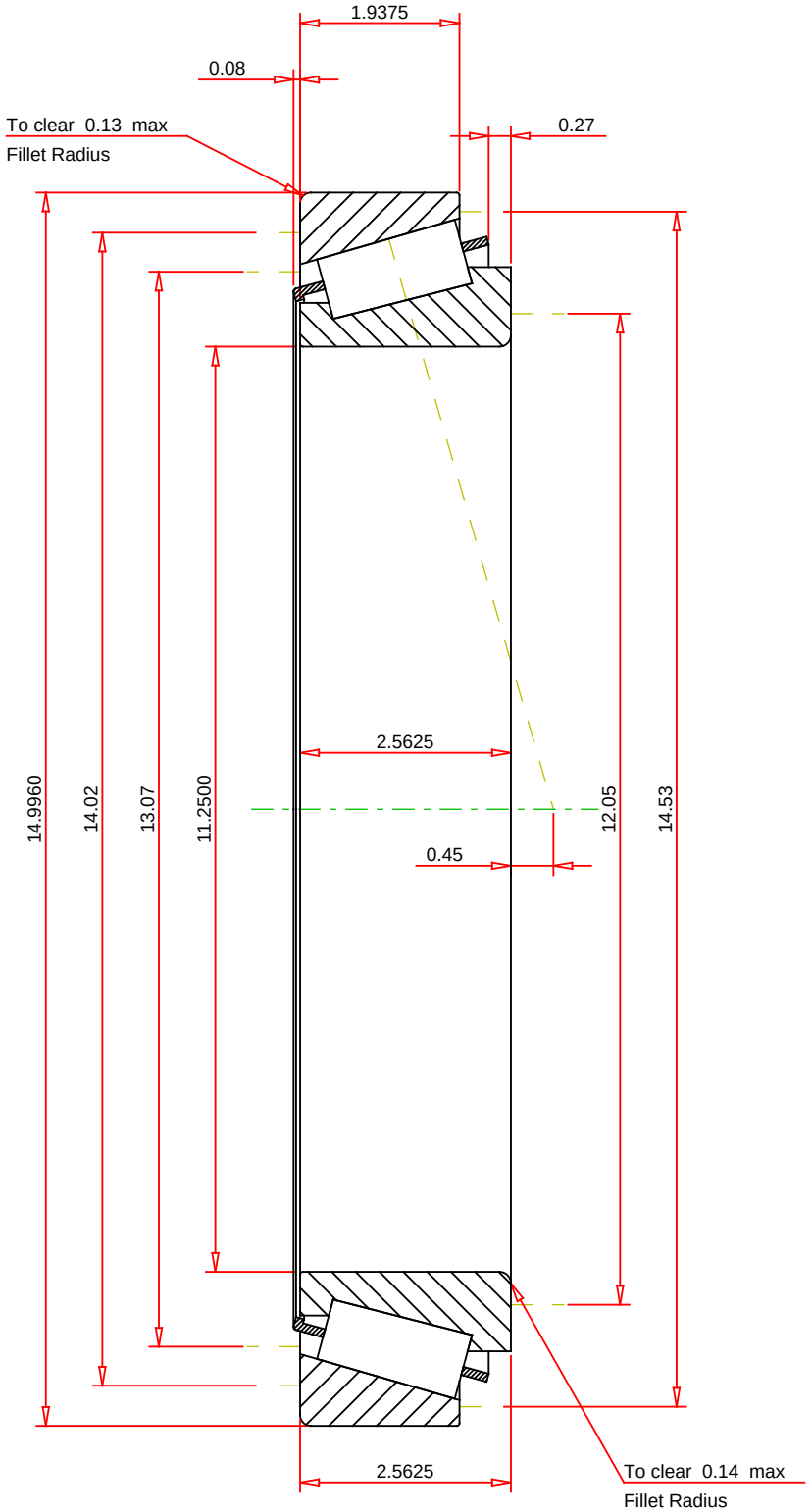
[6] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

[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	0.43	
ISO Factor - Y	1.39	
Bearing Weight	43.2	lb
Number of Rollers Per Row	45	
Effective Center Location	0.45	inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

LM654649 - LM654610
TS BEARING ASSEMBLY

K Factor	1.35	
Dynamic Radial Rating - C90	187000	lbf
Dynamic Thrust Rating - Ca90	138000	lbf
Static Radial Rating - C0	1720000	lbf
Dynamic Radial Rating - C1	722000	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