



The Timken Company

4500 Mt Pleasant St. NW

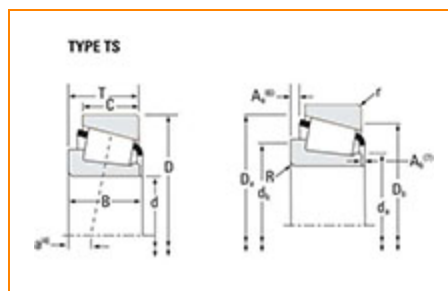
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Part Number LL510749 - LL510710, Tapered Roller Bearings - TS (Tapered Single) Imperial

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.



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Specifications

Series	LL510700
Cone Part Number	LL510749
Cup Part Number	LL510710
Design Units	Imperial
Bearing Weight	0.30 Kg 0.600 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	63.500 mm 2.5000 in
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D - Cup Outer Diameter	92.075 mm 3.6250 in
B - Cone Width	12.700 mm 0.5000 in
C - Cup Width	9.525 mm 0.3750 in
T - Bearing Width	13.495 mm 0.5313 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	1.520 mm 0.06 in
r - Cup Backface "To Clear" Radius²	1.52 mm 0.06 in
da - Cone Frontface Backing Diameter	68.07 mm 3.35 in
db - Cone Backface Backing Diameter	70.1 mm 2.76 in
Da - Cup Frontface Backing Diameter	87.90 mm 3.50 in
Db - Cup Backface Backing Diameter	86.11 mm 3.39 in
Ab - Cage-Cone Frontface Clearance	2.3 mm 0.09 in
Aa - Cage-Cone Backface Clearance	0.3 mm 0.01 in
a - Effective Center Location³	3 mm 0.12 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	2260 lbf 10000 N
C1 - Dynamic Radial Rating (1 million revolutions)⁵	8700 lbf 38700 N
C0 - Static Radial Rating	12000 lbf 53300 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	1560 lbf 6960 N

Factors

K - Factor⁷	1.44
e - ISO Factor⁸	0.41
Y - ISO Factor⁹	1.48
G1 - Heat Generation Factor (Roller-Raceway)	33.9
G2 - Heat Generation Factor (Rib-Roller End)	45.9
Cg - Geometry Factor¹⁰	0.0827

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.

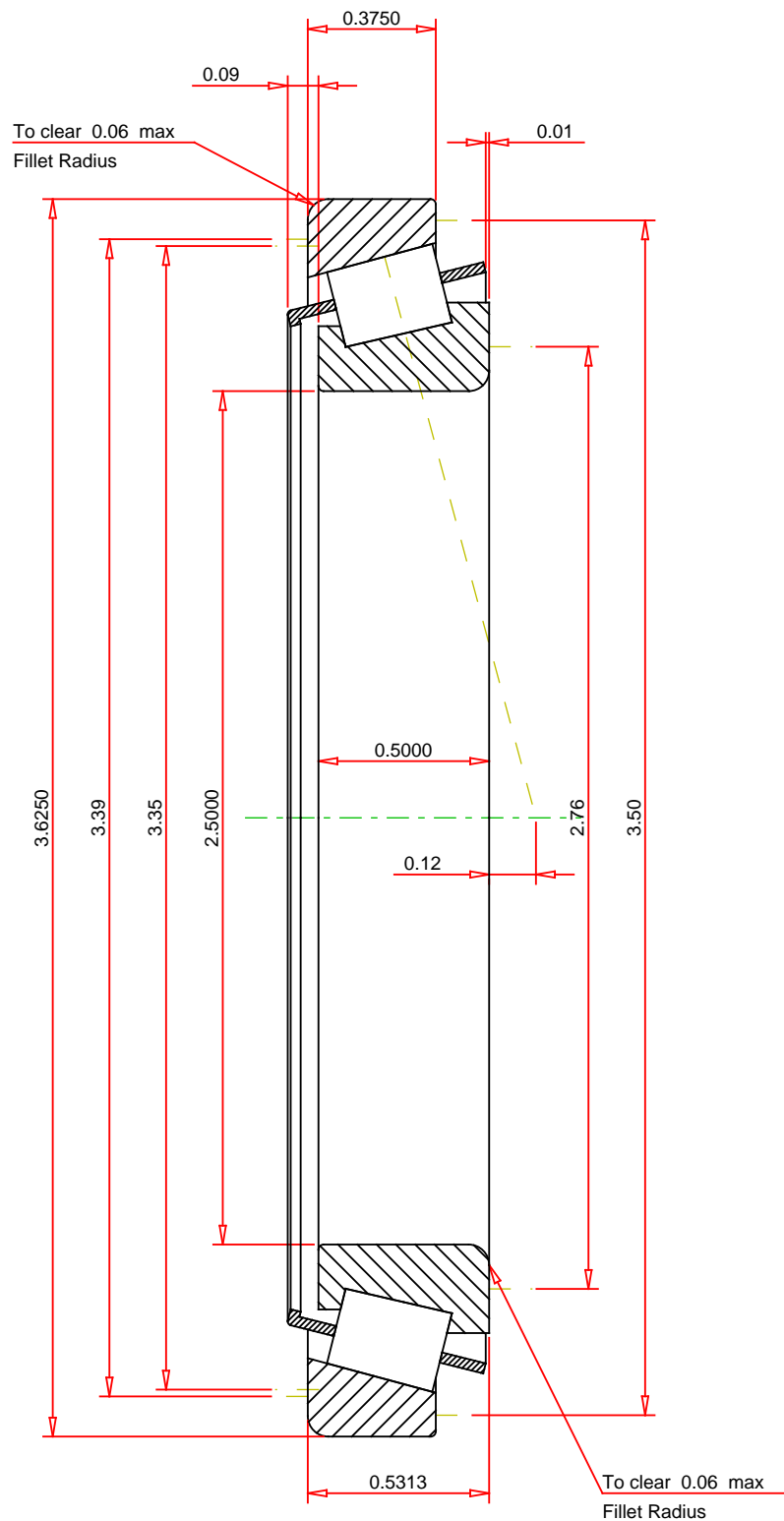
⁶ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

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 a_3 .



IMPERIAL UNITS

ISO Factor - e	0.41
ISO Factor - Y	1.48
Bearing Weight	0.6 lb
Number of Rollers Per Row	31
Effective Center Location	0.12 inch

TIMKEN[®]

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

LL510749 - LL510710 TS BEARING ASSEMBLY		
K Factor	1.44	
Dynamic Radial Rating - C90	2260	lbf
Dynamic Thrust Rating - Ca90	1560	lbf
Static Radial Rating - C0	12000	lbf
Dynamic Radial Rating - C1	8700	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