



The Timken Company

4500 Mt Pleasant St. NW

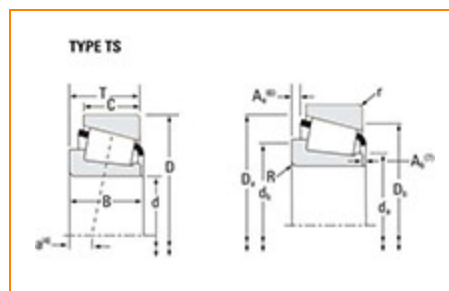
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Part Number 33891 - 33821, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	33800
Cone Part Number	33891
Cup Part Number	33821
Design Units	Imperial
Bearing Weight	0.8 Kg 1.8 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	52.388 mm 2.0625 in
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D - Cup Outer Diameter	95.250 mm 3.7500 in
B - Cone Width	28.575 mm 1.1250 in
C - Cup Width	22.225 mm 0.8750 in
T - Bearing Width	27.783 mm 1.0938 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	3.560 mm 0.14 in
r - Cup Backface "To Clear" Radius²	2.29 mm 0.090 in
da - Cone Frontface Backing Diameter	58.93 mm 2.32 in
db - Cone Backface Backing Diameter	66.04 mm 2.6 in
Da - Cup Frontface Backing Diameter	90.42 mm 3.56 in
Db - Cup Backface Backing Diameter	85.09 mm 3.35 in
Ab - Cage-Cone Frontface Clearance	2.8 mm 0.11 in
Aa - Cage-Cone Backface Clearance	1 mm 0.04 in
a - Effective Center Location³	-7.6 mm -0.3 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	7560 lbf 33600 N
C1 - Dynamic Radial Rating (1 million revolutions)⁵	29200 lbf 130000 N
C0 - Static Radial Rating	36200 lbf 161000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	4270 lbf 19000 N

Factors

K - Factor⁷	1.77
e - ISO Factor⁸	0.33
Y - ISO Factor⁹	1.82
G1 - Heat Generation Factor (Roller-Raceway)	52.5
G2 - Heat Generation Factor (Rib-Roller End)	18.5
Cg - Geometry Factor¹⁰	0.091

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.

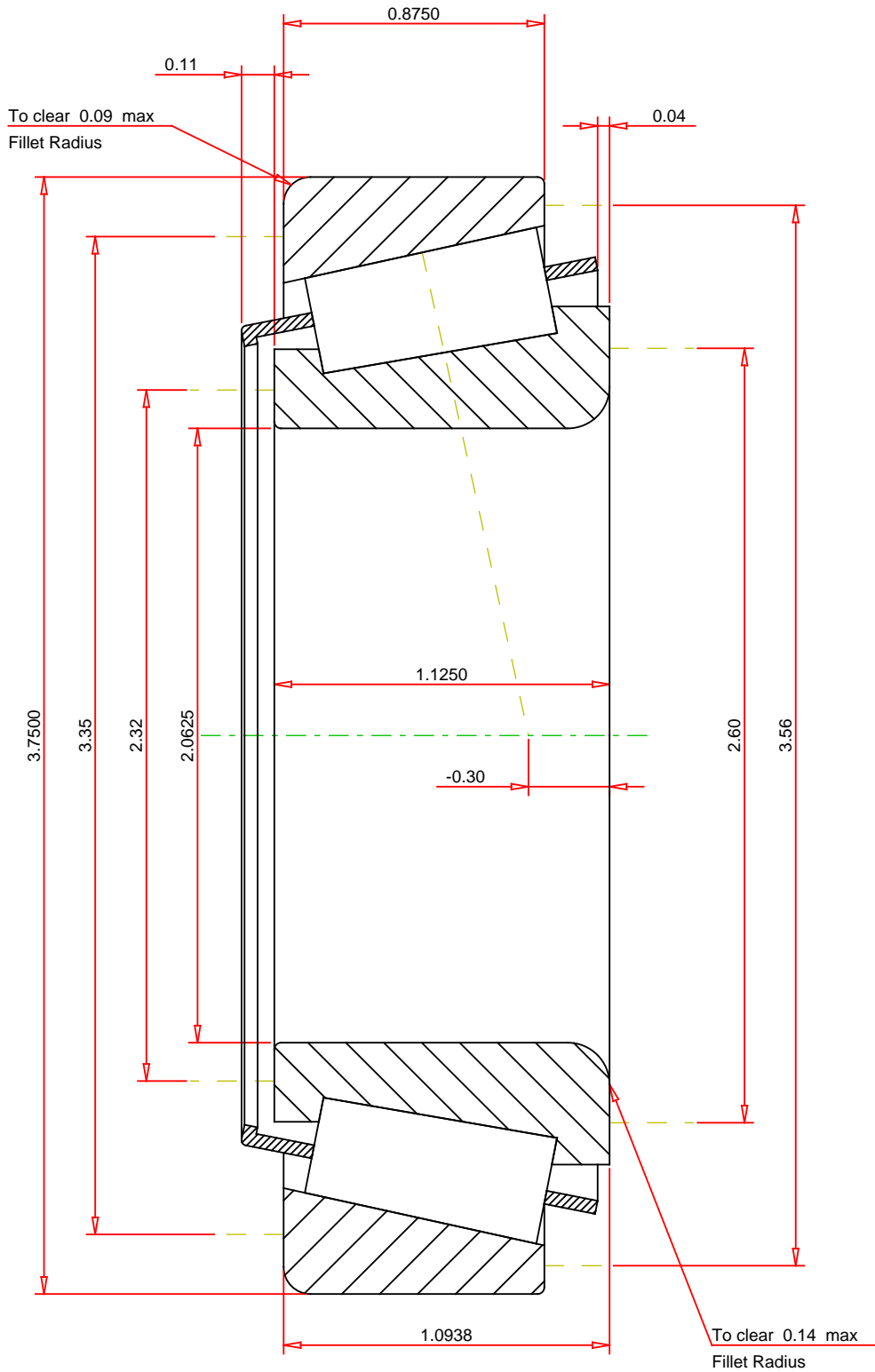
⁶ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

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 0.33
 ISO Factor - Y 1.82
 Bearing Weight 1.8 lbf
 Number of Rollers Per Row 18
 Effective Center Location -0.3 inch

TIMKEN®

THE TIMKEN COMPANY
 NORTH CANTON, OHIO USA

33891 - 33821
TS BEARING ASSEMBLY

K Factor	1.77
Dynamic Radial Rating - C90	7560 lbf
Dynamic Thrust Rating - Ca90	4270 lbf
Static Radial Rating - C0	36200 lbf
Dynamic Radial Rating - C1	29200 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