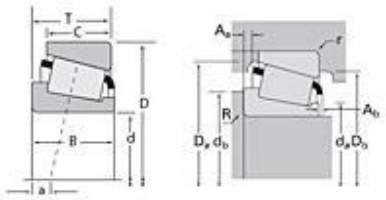
TIMKEN

The Timken Company
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Timken Part Number 11590 - 11520, 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	11500
Cone Part Number	11590
Cup Part Number	11520
Design Units	Imperial
Bearing Weight	0.20 lb 0.100 Kg
Cage Type	Stamped Steel

Dimensions

d - Bore	0.6250 in 15.875 mm
D - Cup Outer Diameter	1.6875 in 42.863 mm

B - Cone Width	0.5625 in 14.288 mm
C - Cup Width	0.3750 in 9.525 mm
T - Bearing Width	0.5625 in 14.288 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	0.060 in 1.520 mm
r - Cup Backface "To Clear" Radius[2]	0.060 in 1.52 mm
da - Cone Frontface Backing Diameter	0.89 in 22.61 mm
db - Cone Backface Backing Diameter	0.96 in 24.38 mm
Da - Cup Frontface Backing Diameter	1.59 in 40.39 mm
Db - Cup Backface Backing Diameter	1.36 in 34.54 mm
Ab - Cage-Cone Frontface Clearance	0.05 in 1.3 mm
Aa - Cage-Cone Backface Clearance	0.04 in 1 mm
a - Effective Center Location[3]	-0.05 in -1.30 mm

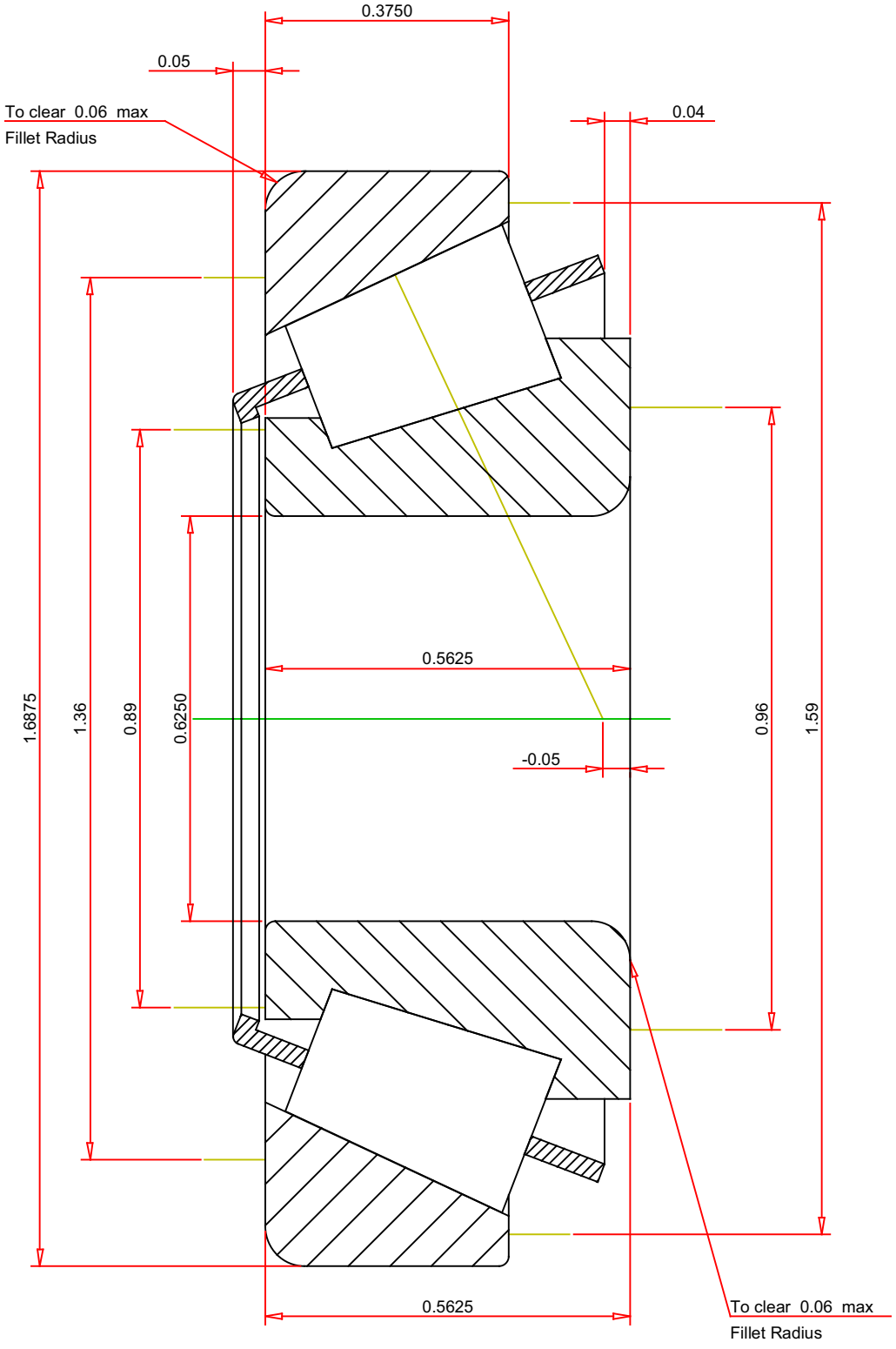
Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	1100 lbf 4870 N
C1 - Dynamic Radial Rating (1 million revolutions)[5]	4230 lbf 18800 N
C0 - Static Radial Rating	3920 lbf 17400 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	1320 lbf 5860 N

Factors

K - Factor[7]	0.83
e - ISO Factor[8]	0.7
Y - ISO Factor[9]	0.85
G1 - Heat Generation Factor (Roller-Raceway)	3.4
G2 - Heat Generation Factor (Rib-Roller End)	4.63
Cg - Geometry Factor	0.0465

[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	0.7	
ISO Factor - Y	0.85	
Bearing Weight	0.2	lb
Number of Rollers Per Row	13	
Effective Center Location	-0.05	inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

11590 - 11520
TS BEARING ASSEMBLY

K Factor	0.83	
Dynamic Radial Rating - C90	1100	lbf
Dynamic Thrust Rating - Ca90	1320	lbf
Static Radial Rating - C0	3920	lbf
Dynamic Radial Rating - C1	4230	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