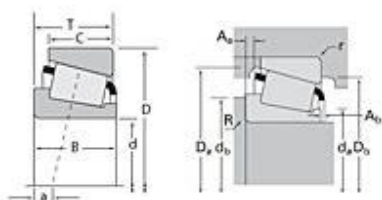


# TIMKEN

The Timken Company  
 4500 Mt Pleasant St. NW  
 N. Canton, OH 44720  
 Phone: (234) 262-3000  
 E-Mail: CustomerCAD@timken.com • Web site: www.timken.com

## 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

<b>Series</b>	11500
<b>Cone Part Number</b>	11590
<b>Cup Part Number</b>	11520
<b>Design Units</b>	Imperial
<b>Bearing Weight</b>	0.20 lb 0.100 Kg
<b>Cage Type</b>	Stamped Steel

### Dimensions

<b>d - Bore</b>	0.6250 in 15.875 mm
<b>D - Cup Outer Diameter</b>	1.6875 in 42.863 mm

<b>B - Cone Width</b>	0.5625 in 14.288 mm
<b>C - Cup Width</b>	0.3750 in 9.525 mm
<b>T - Bearing Width</b>	0.5625 in 14.288 mm

#### Abutment and Fillet Dimensions

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

#### Basic Load Ratings

<b>C90 - Dynamic Radial Rating (90 million revolutions)<sup>4</sup></b>	1100 lbf 4870 N
<b>C1 - Dynamic Radial Rating (1 million revolutions)<sup>5</sup></b>	4230 lbf 18800 N
<b>C0 - Static Radial Rating</b>	3920 lbf 17400 N
<b>C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>6</sup></b>	1320 lbf 5860 N

## Factors

<b>K - Factor<sup>7</sup></b>	0.83
<b>e - ISO Factor<sup>8</sup></b>	0.7
<b>Y - ISO Factor<sup>9</sup></b>	0.85
<b>G1 - Heat Generation Factor (Roller-Raceway)</b>	3.4
<b>G2 - Heat Generation Factor (Rib-Roller End)</b>	4.63
<b>Cg - Geometry Factor</b>	0.0465

<sup>1</sup> These maximum fillet radii will be cleared by the bearing corners.

<sup>2</sup> These maximum fillet radii will be cleared by the bearing corners.

<sup>3</sup> Negative value indicates effective center inside cone backface.

<sup>4</sup> Based on  $90 \times 10^6$  revolutions  $L_{10}$  life, for The Timken Company life calculation method.  $C_{90}$  and  $C_{a90}$  are radial and thrust values.

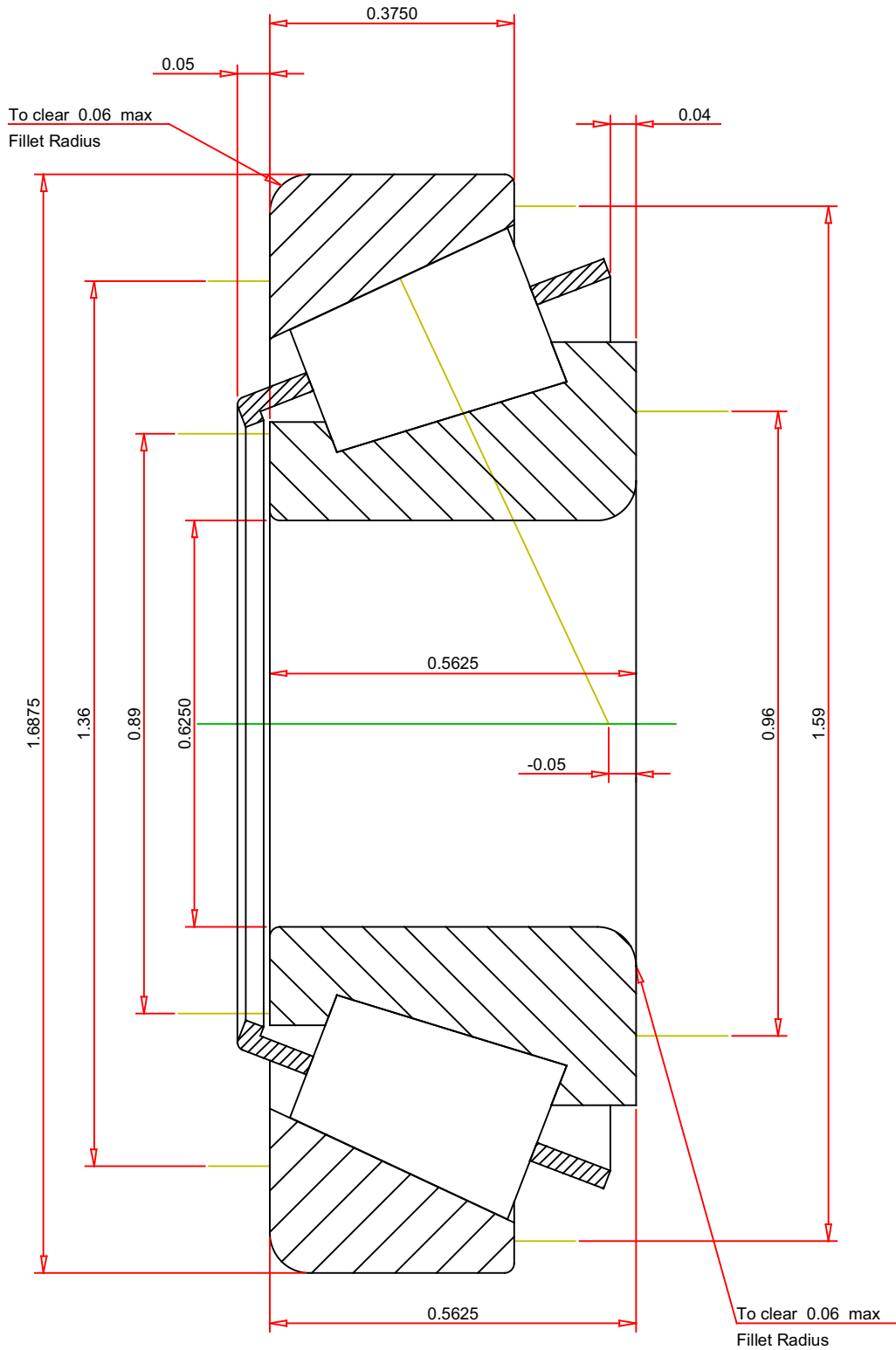
<sup>5</sup> Based on  $1 \times 10^6$  revolutions  $L_{10}$  life, for the ISO life calculation method.

<sup>6</sup> Based on  $90 \times 10^6$  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.

<sup>7</sup> These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

<sup>8</sup> These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

<sup>9</sup> 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

**TIMIKEN**®

**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**