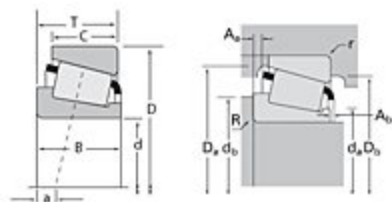




The Timken Company  
 4500 Mt Pleasant St. NW  
 N. Canton, OH 44720  
 Phone: (234) 262-3000  
 E-Mail: [CustomerCAD@timken.com](mailto:CustomerCAD@timken.com) • Web site: [www.timken.com](http://www.timken.com)

## Timken Part Number 6580 - 6535, 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>	6500
<b>Cone Part Number</b>	6580
<b>Cup Part Number</b>	6535
<b>Design Units</b>	Imperial
<b>Bearing Weight</b>	4.700 Kg 10.40 lb
<b>Cage Type</b>	Stamped Steel

### Dimensions

<b>d - Bore</b>	88.900 mm 3.5000 in
<b>D - Cup Outer Diameter</b>	161.925 mm 6.3750 in

<b>B - Cone Width</b>	55.100 mm 2.1693 in
-----------------------	------------------------

<b>C - Cup Width</b>	42.863 mm 1.6875 in
----------------------	------------------------

<b>T - Bearing Width</b>	53.978 mm 2.1251 in
--------------------------	------------------------

## Abutment and Fillet Dimensions

<b>R - Cone Backface "To Clear" Radius<sup>1</sup></b>	3.560 mm 0.14 in
--	---------------------

<b>r - Cup Backface "To Clear" Radius<sup>2</sup></b>	3.30 mm 0.130 in
---	---------------------

<b>da - Cone Frontface Backing Diameter</b>	102.11 mm 4.72 in
---	----------------------

<b>db - Cone Backface Backing Diameter</b>	113.03 mm 4.45 in
--	----------------------

<b>Da - Cup Frontface Backing Diameter</b>	154.43 mm 6.08 in
--	----------------------

<b>Db - Cup Backface Backing Diameter</b>	140.97 mm 5.55 in
---	----------------------

<b>Ab - Cage-Cone Frontface Clearance</b>	1.5 mm 0.06 in
---	-------------------

<b>Aa - Cage-Cone Backface Clearance</b>	3.8 mm 0.15 in
--	-------------------

<b>a - Effective Center Location<sup>3</sup></b>	-13.20 mm -0.52 in
--	-----------------------

## Basic Load Ratings

<b>C90 - Dynamic Radial Rating (90 million revolutions)<sup>4</sup></b>	114000 N 25600 lbf
---	-----------------------

<b>C1 - Dynamic Radial Rating (1 million revolutions)<sup>5</sup></b>	439000 N 98800 lbf
---	-----------------------

<b>C0 - Static Radial Rating</b>	523000 N 118000 lbf
----------------------------------	------------------------

<b>C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>6</sup></b>	78100 N 17600 lbf
---	----------------------

## Factors

<b>K - Factor<sup>7</sup></b>	1.46
<b>e - ISO Factor<sup>8</sup></b>	0.40
<b>Y - ISO Factor<sup>9</sup></b>	1.5
<b>G1 - Heat Generation Factor (Roller-Raceway)</b>	199
<b>G2 - Heat Generation Factor (Rib-Roller End)</b>	33.5
<b>Cg - Geometry Factor</b>	0.104

<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.

