


**The Timken Company**

4500 Mt Pleasant St. NW

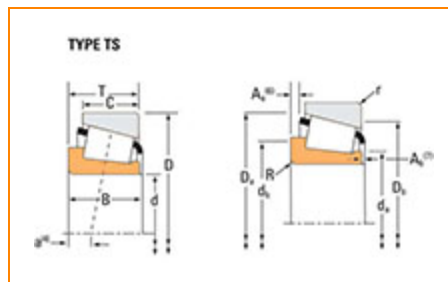
N. Canton, OH 44720

**Phone:** (234) 262-3000

**E-Mail:** [CustomerCAD@timken.com](mailto:CustomerCAD@timken.com) • **Web site:** [www.timken.com](http://www.timken.com)

## Part Number 12580, Tapered Roller Bearings - Single Cones - 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

<b>Cone Part Number</b>	12580
<b>Design Units</b>	Imperial
<b>Cage Type</b>	Stamped Steel
<b>C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions)<sup>1</sup></b>	17100 lbf 76000 N
<b>C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)<sup>2</sup></b>	4430 lbf 19700 N

### Dimensions



<b>d - Cone Bore</b>	13/16 in 20.638 mm
<b>B - Cone Width</b>	0.7813 in 19.845 mm

## Abutment and Fillet Dimensions

<b>R - Cone Backface "To Clear" Radius<sup>3</sup></b>	0.060 in 1.520 mm
<b>da - Cone Frontface Backing Diameter</b>	1.02 in 26 mm
<b>db - Cone Backface Backing Diameter</b>	1.12 in 28.5 mm
<b>Ab - Cage-Cone Frontface Clearance</b>	0.08 in 2 mm
<b>Aa - Cage-Cone Backface Clearance</b>	0.01 in 0.3 mm
<b>a - Effective Center Location<sup>4</sup></b>	-0.28 in -7.1 mm

## Basic Load Ratings

<b>C90 - Dynamic Radial Rating (90 million revolutions)<sup>5</sup></b>	2540 lbf 11300 N
<b>C1 - Dynamic Radial Rating (1 million revolutions)<sup>6</sup></b>	9810 lbf 43600 N
<b>C0 - Static Radial Rating</b>	9720 lbf 43200 N
<b>C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>7</sup></b>	1410 lbf 6260 N

## Factors

<b>K - Factor<sup>8</sup></b>	1.81
<b>G1 - Heat Generation Factor (Roller-Raceway)</b>	8.6
<b>G2 - Heat Generation Factor (Rib-Roller End)</b>	6.21
<b>Cg - Geometry Factor<sup>9</sup></b>	0.0495

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

<sup>2</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>3</sup> These maximum fillet radii will be cleared by the bearing corners.

<sup>4</sup> Negative value indicates effective center inside cone backface.

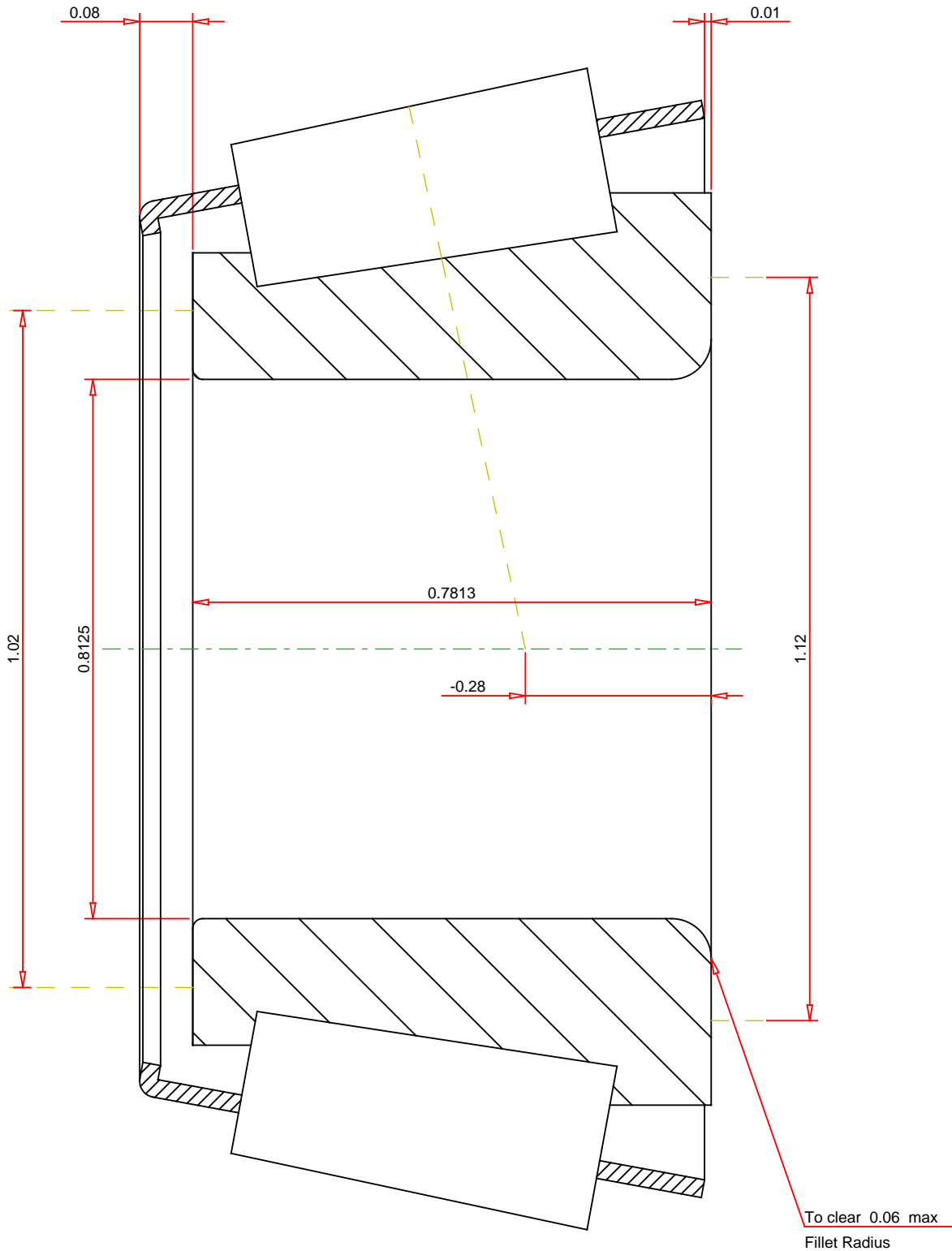
<sup>5</sup> Based on  $90 \times 10^6$  revolutions  $L_{10}$  life, for The Timken Company life calculation method.  $C_{90}$  and  $C_{a90}$  are radial and thrust values.

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<sup>7</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>8</sup> These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

<sup>9</sup> Geometry constant for Lubrication Life Adjustment Factor  $a_3$ .



## IMPERIAL UNITS

Number of Rollers Per Row	13	<div>TIMKEN®</div>	12580	
		Tapered Roller Bearings - Single Cones - Imperial		
		<div>THE TIMKEN COMPANY</div> <div>NORTH CANTON, OHIO USA</div>	K Factor	1.81
			Dynamic Radial Rating - C90	2540 lbf
			Dynamic Thrust Rating - Ca90	1410 lbf
			Dynamic Radial Rating - C1	9810 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.

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