


**The Timken Company**

4500 Mt Pleasant St. NW

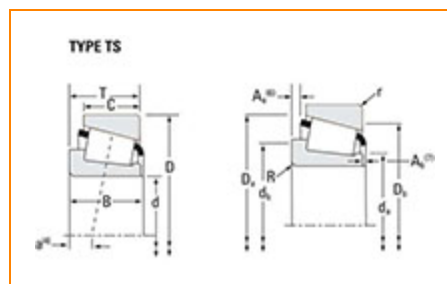
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## Part Number M86649 - M86610, Tapered Roller Bearings - TS (Tapered Single) Imperial

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>	M86600
<b>Cone Part Number</b>	M86649
<b>Cup Part Number</b>	M86610
<b>Design Unit</b>	Inch
<b>Cage Material</b>	Stamped Steel
<b>Related Assembly Number(s)</b>	M86649-90010 M86649-90011 M86649-90024 M86649-90025

### Dimensions



<b>d - Bore</b>	1 3/16 in 30.163 mm
<b>D - Cup Outer Diameter</b>	2.5312 in 64.292 mm
<b>B - Cone Width</b>	0.8438 in 21.433 mm
<b>C - Cup Width</b>	0.6563 in 16.670 mm
<b>T - Bearing Width</b>	0.8438 in 21.433 mm

## Abutment and Fillet Dimensions

<b>R - Cone Backface "To Clear" Radius<sup>1</sup></b>	0.06 in 1.5 mm
<b>r - Cup Backface "To Clear" Radius<sup>2</sup></b>	0.06 in 1.52 mm
<b>da - Cone Frontface Backing Diameter</b>	1.5 in 38 mm
<b>db - Cone Backface Backing Diameter</b>	1.73 in 44 mm
<b>Da - Cup Frontface Backing Diameter</b>	2.40 in 60.96 mm
<b>Db - Cup Backface Backing Diameter</b>	2.13 in 54.10 mm
<b>Ab - Cage-Cone Frontface Clearance</b>	0.07 in 1.8 mm
<b>Aa - Cage-Cone Backface Clearance</b>	0.03 in 0.8 mm
<b>a - Effective Center Location<sup>3</sup></b>	-0.13 in -3.3 mm

## Basic Load Ratings

<b>C<sub>90</sub> - Dynamic Radial Rating (90 million revolutions)<sup>4</sup></b>	3510 lbf 15600 N
<b>C<sub>1</sub> - Dynamic Radial Rating (1 million revolutions)<sup>5</sup></b>	13500 lbf 60200 N
<b>C<sub>0</sub> - Static Radial Rating</b>	16100 lbf 71700 N
<b>C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>6</sup></b>	3280 lbf 14600 N

## Factors

<b>K - Factor<sup>7</sup></b>	1.07
<b>e - ISO Factor<sup>8</sup></b>	0.55
<b>Y - ISO Factor<sup>9</sup></b>	1.1
<b>G<sub>1</sub> - Heat Generation Factor (Roller-Raceway)</b>	16.8
<b>G<sub>2</sub> - Heat Generation Factor (Rib-Roller End)</b>	9.36
<b>C<sub>g</sub> - Geometry Factor<sup>10</sup></b>	0.0736

<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.

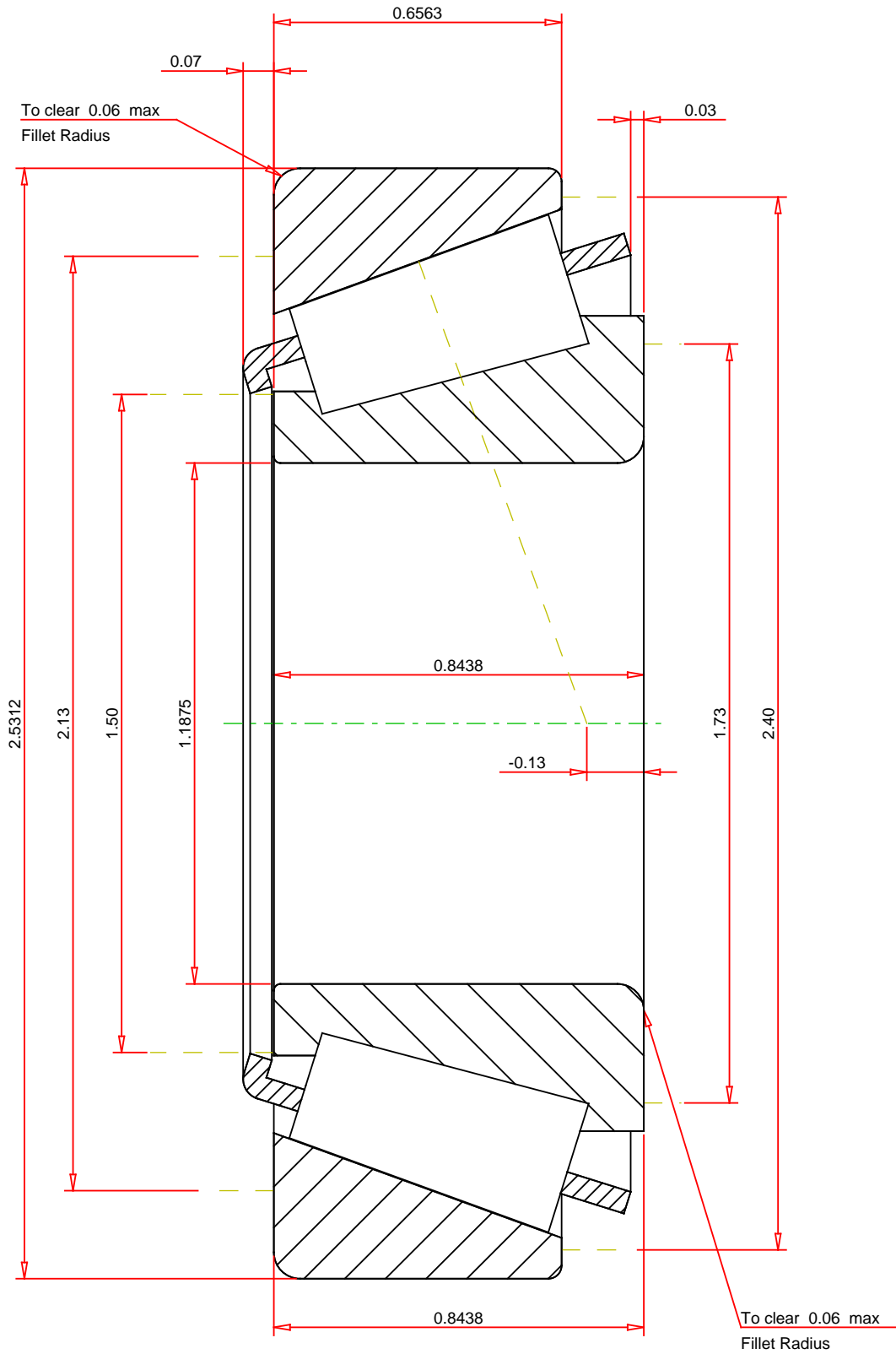
<sup>7</sup> These factors apply for both inch and metric calculations. Consult your Timken representative for instruction

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.

<sup>10</sup> Geometry constant for Lubrication Life Adjustment Factor  $a_3$ .



IMPERIAL UNITS

<div>ISO Factor - e0.55</div> <div>ISO Factor - Y1.1</div> <div>Bearing Weight0.7 lb</div> <div>Number of Rollers Per Row18</div> <div>Effective Center Location-0.13 inch</div>		<div>TIMKEN®</div> <div>THE TIMKEN COMPANY</div> <div>NORTH CANTON, OHIO USA</div>		<div>M86649 - M86610</div> <div>Tapered Roller Bearings - TS (Tapered Single)</div> <div>Imperial</div>	
				<div>K Factor1.07</div> <div>Dynamic Radial Rating - C903510 lbf</div> <div>Dynamic Thrust Rating - Ca903280 lbf</div> <div>Static Radial Rating - C016100 lbf</div> <div>Dynamic Radial Rating - C113500 lbf</div>	