


**The Timken Company**

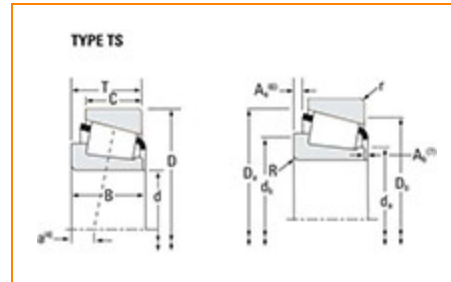
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**Part Number LM503349 - LM503310, Tapered Roller Bearings - TS (Tapered Single) Imperial**

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.



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**Specifications**

<b>Series</b>	LM503300
<b>Cone Part Number</b>	LM503349
<b>Cup Part Number</b>	LM503310
<b>Design Unit</b>	Inch
<b>Bearing Weight</b>	0.70 lb 0.3 Kg
<b>Cage Material</b>	Stamped Steel

**Dimensions**

**- Bore**

 1.8105 in  
45.987 mm

<b>D - Cup Outer Diameter</b>	2.9518 in 74.976 mm
<b>B - Cone Width</b>	0.7087 in 18.001 mm
<b>C - Cup Width</b>	0.5512 in 14 mm
<b>T - Bearing Width</b>	0.7087 in 18.001 mm

## Abutment and Fillet Dimensions

<b>R - Cone Backface "To Clear" Radius<sup>1</sup></b>	0.090 in 2.290 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>	2.01 in 51 mm
<b>db - Cone Backface Backing Diameter</b>	2.17 in 55 mm
<b>Da - Cup Frontface Backing Diameter</b>	2.83 in 71.88 mm
<b>Db - Cup Backface Backing Diameter</b>	2.64 in 67.06 mm
<b>Ab - Cage-Cone Frontface Clearance</b>	0.09 in 2.3 mm
<b>Aa - Cage-Cone Backface Clearance</b>	0.02 in 0.5 mm
<b>a - Effective Center Location<sup>3</sup></b>	-0.08 in -2 mm

## Basic Load Ratings

<b>C90 - Dynamic Radial Rating (90 million revolutions)<sup>4</sup></b>	3930 lbf 17500 N
<b>C1 - Dynamic Radial Rating (1 million revolutions)<sup>5</sup></b>	15100 lbf 67400 N
<b>C0 - Static Radial Rating</b>	17000 lbf 75400 N
<b>C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>6</sup></b>	2700 lbf 12000 N

## Factors

<b>K - Factor<sup>7</sup></b>	1.45
<b>e - ISO Factor<sup>8</sup></b>	0.4
<b>Y - ISO Factor<sup>9</sup></b>	1.49
<b>G1 - Heat Generation Factor (Roller-Raceway)</b>	28.3
<b>G2 - Heat Generation Factor (Rib-Roller End)</b>	22.5
<b>C<sub>g</sub> - Geometry Factor<sup>10</sup></b>	0.0789

<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.

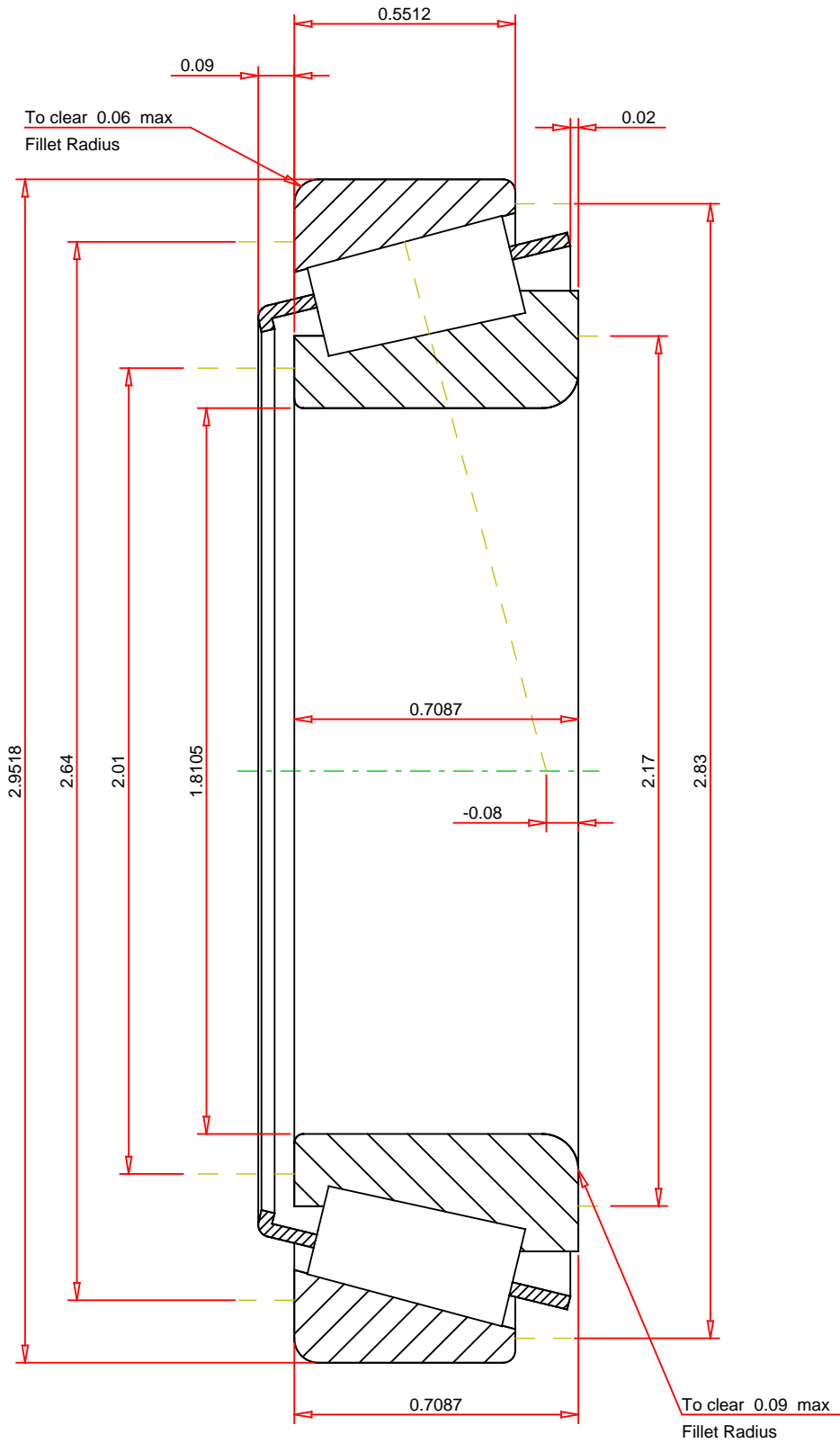
<sup>6</sup> Based on  $90 \times 10^6$  revolutions  $L_{10}$  life, for The Timken Company life calculation method.  $C_{90}$  and  $C_{a90}$  are radial and thrust values for a single-row,  $C_{90(2)}$  is the two-row radial value.

<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 a3l.



**IMPERIAL UNITS**

ISO Factor - e	0.4
ISO Factor - Y	1.49
Bearing Weight	0.7 lbf
Number of Rollers Per Row	24
Effective Center Location	-0.08 inch

**TIMKEN**®

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NORTH CANTON, OHIO USA

**LM503349 - LM503310**  
Tapered Roller Bearings - TS (Tapered Single)  
Imperial

K Factor	1.45
Dynamic Radial Rating - C90	3930 lbf
Dynamic Thrust Rating - Ca90	2700 lbf
Static Radial Rating - C0	17000 lbf
Dynamic Radial Rating - C1	15100 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**