



**The Timken Company**

4500 Mt Pleasant St. NW

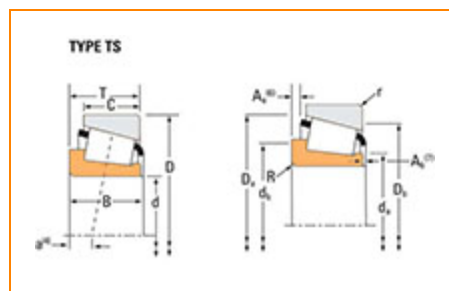
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## Part Number 18685, Tapered Roller Bearings - Single Cones - Imperial

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>Series</b>	18600
<b>Cone Part Number</b>	18685
<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>	20400 lbf 90600 N
<b>C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)<sup>2</sup></b>	5280 lbf 23500 N

### Dimensions

<b>d - Bore</b>	1.7500 in 44.450 mm
<b>B - Cone Width</b>	0.6875 in 17.463 mm

## Abutment and Fillet Dimensions

<b>R - Cone Backface "To Clear" Radius<sup>3</sup></b>	0.110 in 2.800 mm
<b>da - Cone Frontface Backing Diameter</b>	1.95 in 49.5 mm
<b>db - Cone Backface Backing Diameter</b>	2.17 in 55 mm
<b>Ab - Cage-Cone Frontface Clearance</b>	0.09 in 2.3 mm
<b>Aa - Cage-Cone Backface Clearance</b>	0.01 in 0.3 mm
<b>a - Effective Center Location<sup>4</sup></b>	-0.08 in -2 mm

## Basic Load Ratings

<b>C90 - Dynamic Radial Rating (90 million revolutions)<sup>5</sup></b>	3030 lbf 13500 N
<b>C1 - Dynamic Radial Rating (1 million revolutions)<sup>6</sup></b>	11700 lbf 52000 N
<b>C0 - Static Radial Rating</b>	13800 lbf 61300 N
<b>C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>7</sup></b>	1940 lbf 8630 N

## Factors

<b>K - Factor<sup>8</sup></b>	1.56
<b>G1 - Heat Generation Factor (Roller-Raceway)</b>	23.9
<b>G2 - Heat Generation Factor (Rib-Roller End)</b>	17.7
<b>Cg - Geometry Factor<sup>9</sup></b>	0.0725

<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.

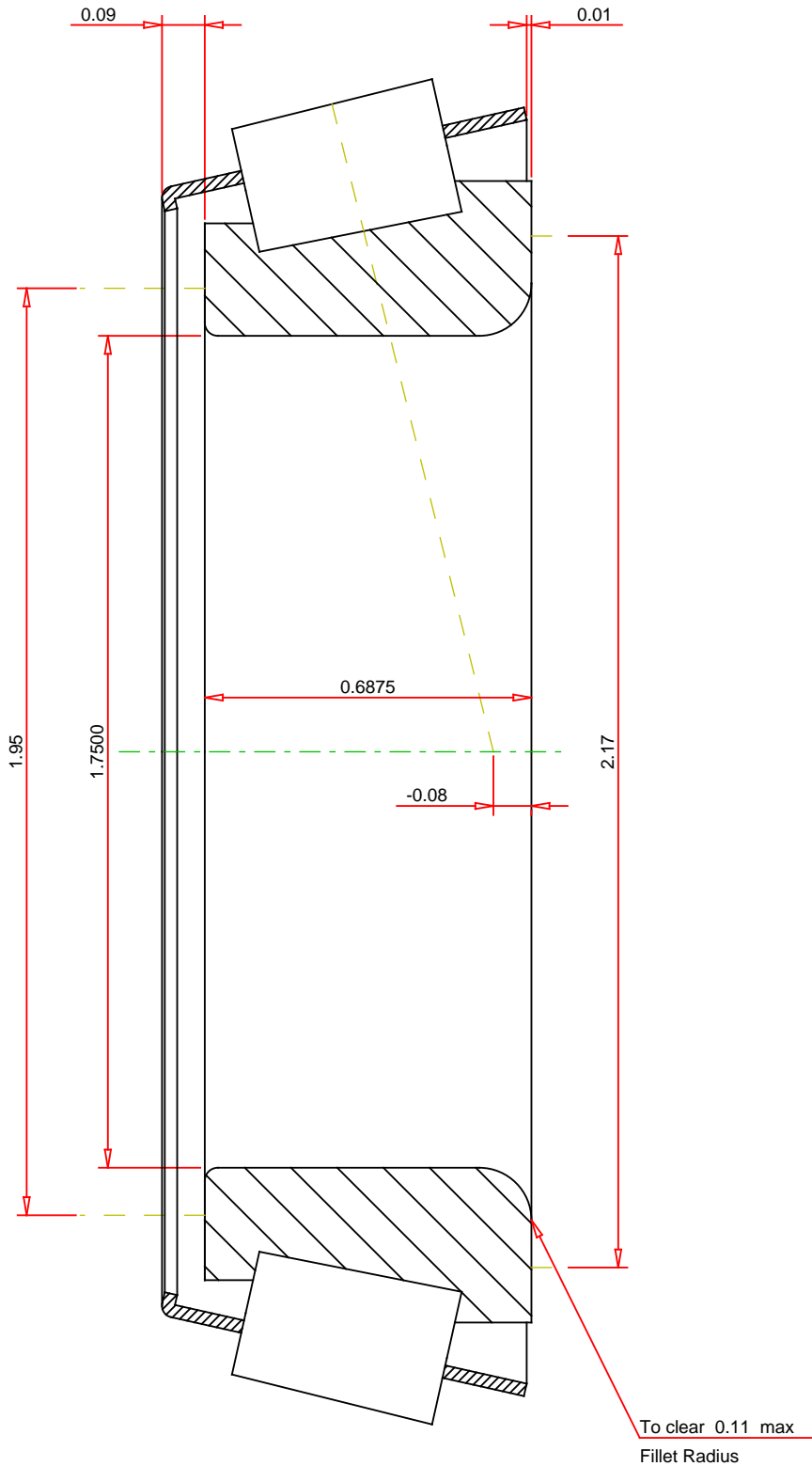
<sup>5</sup> Based on  $90 \times 10^6$  revolutions  $L_{10}$  life, for The Timken Company life calculation method.  $C_{90}$  and  $C_{a90}$  are radial and thrust values.

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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 20

TIMKEN®

THE TIMKEN COMPANY  
NORTH CANTON, OHIO USA

18685  
SINGLE TAPERED CONE

K Factor	1.56	
Dynamic Radial Rating - C90	3030	lbf
Dynamic Thrust Rating - Ca90	1940	lbf
Dynamic Radial Rating - C1	11700	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