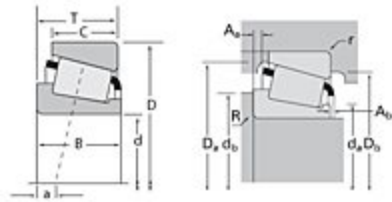


# TIMKEN

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## Timken Part Number 09067 - 09196, 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>           | 09000              |
| <b>Cone Part Number</b> | 09067              |
| <b>Cup Part Number</b>  | 09196              |
| <b>Design Units</b>     | Imperial           |
| <b>Bearing Weight</b>   | 0.200 Kg<br>0.4 lb |
| <b>Cage Type</b>        | Stamped Steel      |

### Dimensions

|                               |                        |
|-------------------------------|------------------------|
| <b>d - Bore</b>               | 19.050 mm<br>0.7500 in |
| <b>D - Cup Outer Diameter</b> | 49.225 mm<br>1.9380 in |

|                          |                        |
|--------------------------|------------------------|
| <b>B - Cone Width</b>    | 19.050 mm<br>0.7500 in |
| <b>C - Cup Width</b>     | 17.463 mm<br>0.6875 in |
| <b>T - Bearing Width</b> | 21.209 mm<br>0.8350 in |

#### Abutment and Fillet Dimensions

|  |                      |
|--|----------------------|
| <b>R - Cone Backface "To Clear" Radius<sup>1</sup></b> | 1.270 mm<br>0.050 in |
| <b>r - Cup Backface "To Clear" Radius<sup>2</sup></b>  | 1.52 mm<br>0.06 in   |
| <b>da - Cone Frontface Backing Diameter</b>            | 23.88 mm<br>0.94 in  |
| <b>db - Cone Backface Backing Diameter</b>             | 25.40 mm<br>1.00 in  |
| <b>Da - Cup Frontface Backing Diameter</b>             | 44.50 mm<br>1.79 in  |
| <b>Db - Cup Backface Backing Diameter</b>              | 41.40 mm<br>1.63 in  |
| <b>Ab - Cage-Cone Frontface Clearance</b>              | 2 mm<br>0.08 in      |
| <b>Aa - Cage-Cone Backface Clearance</b>               | -0.3 mm<br>-0.01 in  |
| <b>a - Effective Center Location<sup>3</sup></b>       | -7.40 mm<br>-0.29 in |

#### Basic Load Ratings

|   |                     |
|---|---------------------|
| <b>C90 - Dynamic Radial Rating (90 million revolutions)<sup>4</sup></b>             | 11100 N<br>2500 lbf |
| <b>C1 - Dynamic Radial Rating (1 million revolutions)<sup>5</sup></b>               | 42800 N<br>9630 lbf |
| <b>C0 - Static Radial Rating</b>  | 40500 N<br>9100 lbf |
| <b>C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>6</sup></b> | 5050 N<br>1140 lbf  |

## Factors

|   |        |
|---|--------|
| <b>K - Factor<sup>7</sup></b>                           | 2.2    |
| <b>e - ISO Factor<sup>8</sup></b>                       | 0.27   |
| <b>Y - ISO Factor<sup>9</sup></b>                       | 2.26   |
| <b>G1 - Heat Generation Factor<br/>(Roller-Raceway)</b> | 8      |
| <b>G2 - Heat Generation Factor<br/>(Rib-Roller End)</b> | 4.05   |
| <b>Cg - Geometry Factor</b>                             | 0.0452 |

<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.

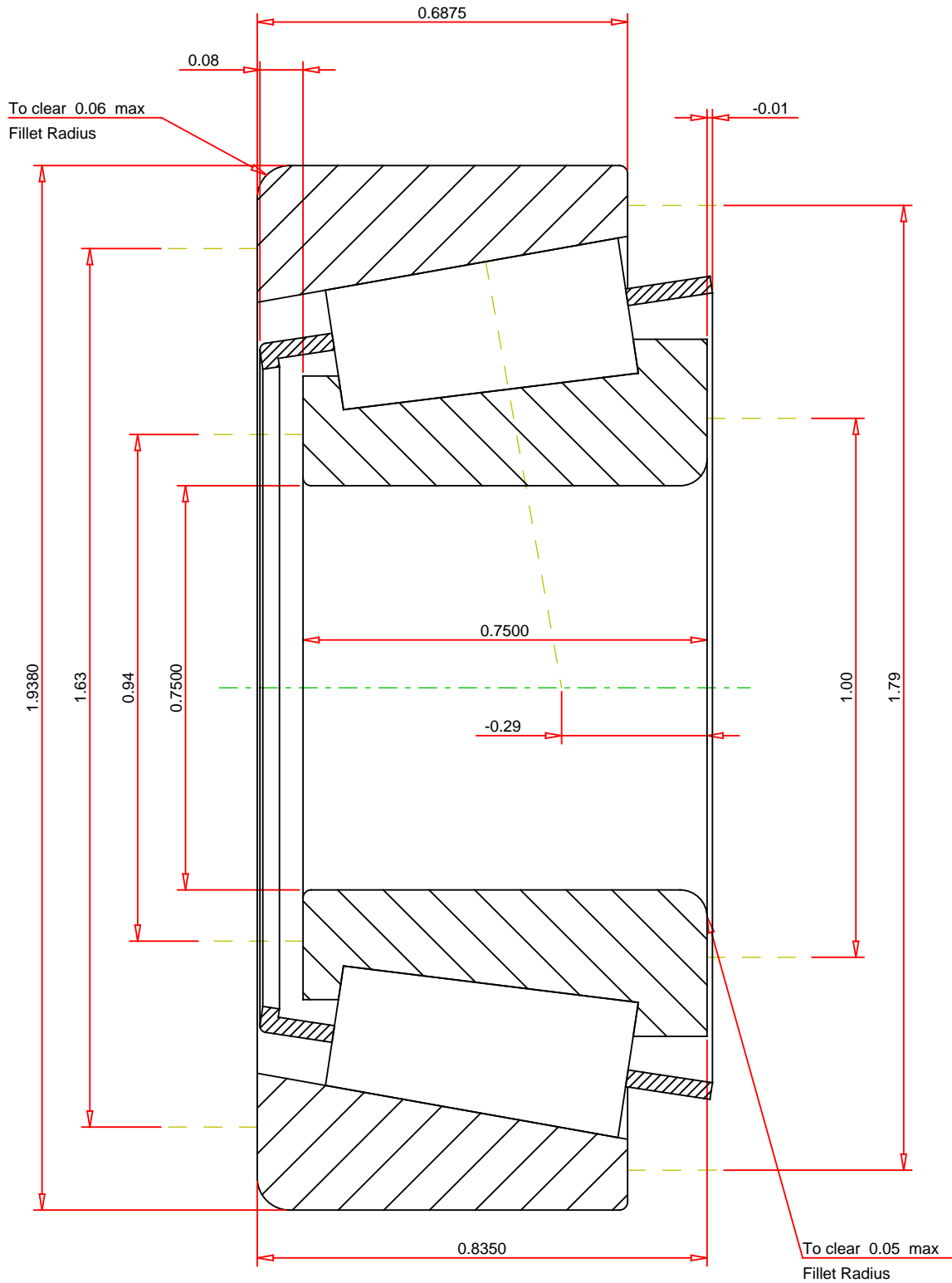
<sup>5</sup> Based on  $1 \times 10^6$  revolutions  $L_{10}$  life, for the ISO life calculation method.

<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.



**IMPERIAL UNITS**

|                           |            |
|---------------------------|------------|
| ISO Factor - e            | 0.27       |
| ISO Factor - Y            | 2.26       |
| Bearing Weight            | 0.4 lb     |
| Number of Rollers Per Row | 12         |
| Effective Center Location | -0.29 inch |

**TIMKEN**®

**09067 - 09196**  
**TS BEARING ASSEMBLY**

**THE TIMKEN COMPANY**  
 NORTH CANTON, OHIO USA

|                              |           |
|------------------------------|-----------|
| K Factor                     | 2.2       |
| Dynamic Radial Rating - C90  | 11100 lbf |
| Dynamic Thrust Rating - Ca90 | 5050 lbf  |
| Static Radial Rating - C0    | 40500 lbf |
| Dynamic Radial Rating - C1   | 42800 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**