



**The Timken Company**

4500 Mt Pleasant St. NW

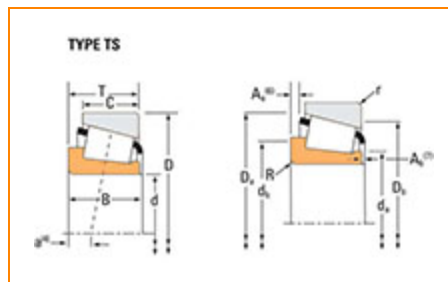
N. Canton, OH 44720

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

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

## Part Number 857, 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.



[Specifications](#) | [Dimensions](#) | [Abutment and Fillet Dimensions](#) | [Basic Load Ratings](#) | [Factors](#)

### Specifications

<b>Series</b>	855
<b>Cone Part Number</b>	857
<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>	797000 N
<b>C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)<sup>2</sup></b>	207000 N



Dimensions

d - Cone Bore	92.075 mm
---------------	-----------

B - Cone Width	57.531 mm
----------------	-----------

## Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius <sup>3</sup>	7.9 mm
--	--------

da - Cone Frontface Backing Diameter	106 mm
--------------------------------------	--------

db - Cone Backface Backing Diameter	121 mm
-------------------------------------	--------

Ab - Cage-Cone Frontface Clearance	1.5 mm
------------------------------------	--------

Aa - Cage-Cone Backface Clearance	3.8 mm
-----------------------------------	--------

a - Effective Center Location <sup>4</sup>	-15.2 mm
--	----------

## Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions) <sup>5</sup>	119000 N
---	----------

C1 - Dynamic Radial Rating (1 million revolutions) <sup>6</sup>	458000 N
---	----------

C0 - Static Radial Rating	630000 N
---------------------------	----------

C <sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions) <sup>7</sup>	68000 N
--	---------

## Factors

<b>K - Factor<sup>8</sup></b>	1.74
<b>G1 - Heat Generation Factor (Roller-Raceway)</b>	264.1
<b>G2 - Heat Generation Factor (Rib-Roller End)</b>	44.9
<b>Cg - Geometry Factor<sup>9</sup></b>	0.107

<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.

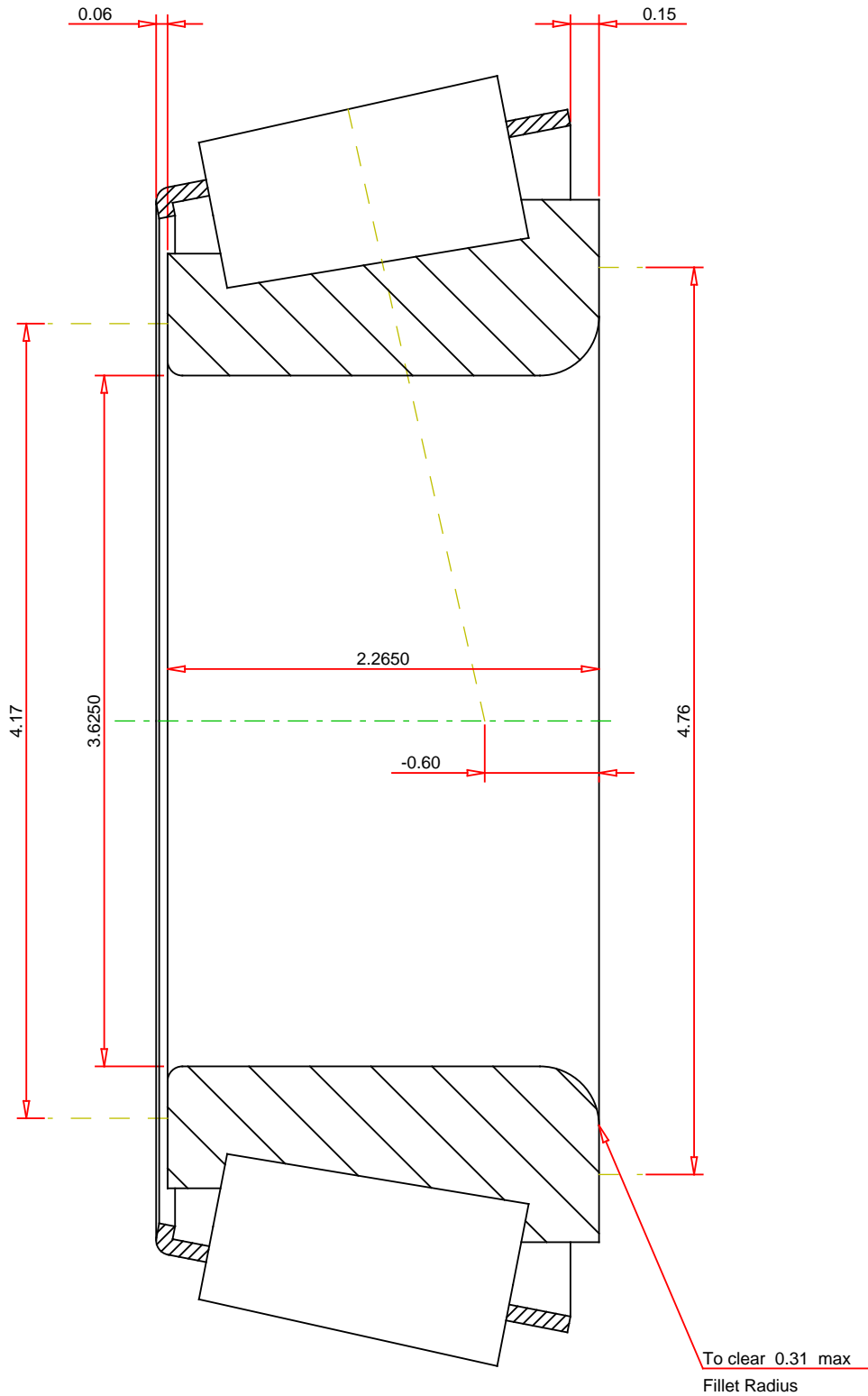
<sup>5</sup> Based on  $90 \times 10^6$  revolutions  $L_{10}$  life, for The Timken Company life calculation method.  $C_{90}$  and  $C_{a90}$  are radial and thrust values.

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

<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 19

**TIMKEN**®

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

**857**  
Tapered Roller Bearings - Single Cones - Imperial

K Factor	1.74
Dynamic Radial Rating - C90	26700 lbf
Dynamic Thrust Rating - Ca90	15300 lbf
Dynamic Radial Rating - C1	103000 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