



The Timken Company

4500 Mt Pleasant St. NW

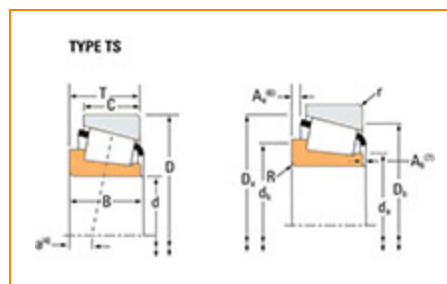
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Part Number 1680, Tapered Roller Bearings - Single Cones - Imperial

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

Cone Part Number	1680
Design Units	Imperial
Cage Type	Stamped Steel
C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions)¹	20600 lbf 91500 N
C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)²	5330 lbf 23700 N

Dimensions



d - Cone Bore	1 5/16 in 33.338 mm
B - Cone Width	0.8125 in 20.638 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius³	0.140 in 3.56 mm
da - Cone Frontface Backing Diameter	1.52 in 38.5 mm
db - Cone Backface Backing Diameter	1.75 in 44.5 mm
Ab - Cage-Cone Frontface Clearance	0.06 in 1.5 mm
Aa - Cage-Cone Backface Clearance	0.04 in 1 mm
a - Effective Center Location⁴	-0.21 in -5.3 mm

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁵	3060 lbf 13600 N
C1 - Dynamic Radial Rating (1 million revolutions)⁶	11800 lbf 52500 N
C0 - Static Radial Rating	13000 lbf 57900 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁷	1950 lbf 8650 N

Factors

K - Factor⁸	1.57
G1 - Heat Generation Factor (Roller-Raceway)	16.6
G2 - Heat Generation Factor (Rib-Roller End)	8.67
Cg - Geometry Factor⁹	0.0644

¹ Based on 1×10^6 revolutions L_{10} life, for the ISO life calculation method.

² Based on 90×10^6 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.

³ These maximum fillet radii will be cleared by the bearing corners.

⁴ Negative value indicates effective center inside cone backface.

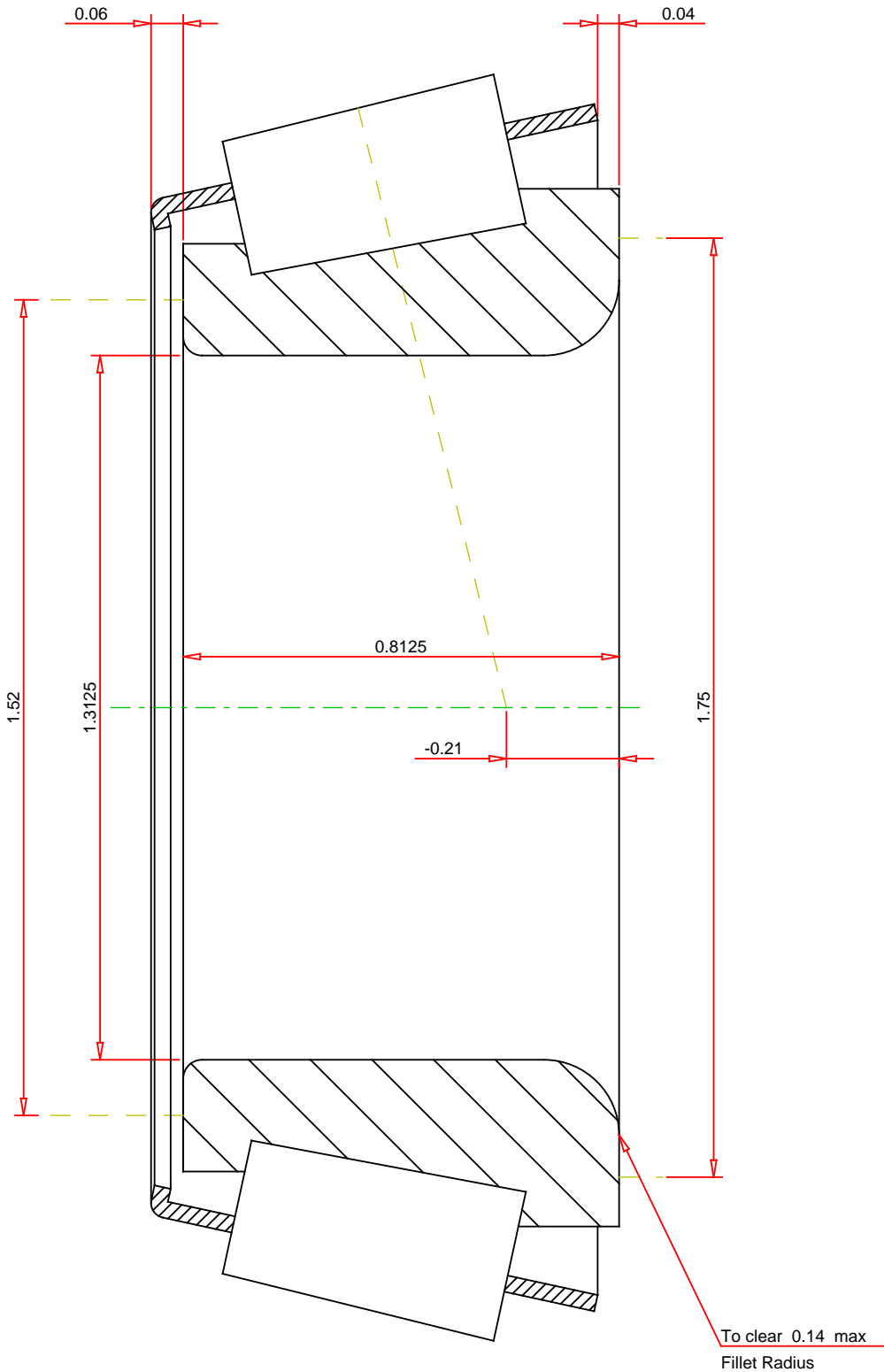
⁵ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.

⁶ Based on 1×10^6 revolutions L_{10} life, for the ISO life calculation method.

⁷ Based on 90×10^6 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.

⁸ These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

⁹ Geometry constant for Lubrication Life Adjustment Factor a_3 .



IMPERIAL UNITS

<div>Number of Rollers Per Row16</div>	<div><div>TIMKEN®</div><div>THE TIMKEN COMPANY</div><div>NORTH CANTON, OHIO USA</div></div>	<div><div>1680</div><div>Tapered Roller Bearings - Single Cones - Imperial</div></div> <div><div>K Factor</div><div>Dynamic Radial Rating - C90</div><div>Dynamic Thrust Rating - Ca90</div><div>Dynamic Radial Rating - C1</div></div> <div><div>1.57</div><div>3060 lbf</div><div>1950 lbf</div><div>11800 lbf</div></div>
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