



The Timken Company

4500 Mt Pleasant St. NW

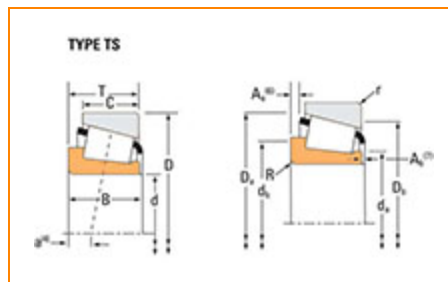
N. Canton, OH 44720

Phone: (234) 262-3000

E-Mail: CustomerCAD@timken.com • **Web site:** www.timken.com

Part Number 4553, 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

Cone Part Number	4553
Design Units	Imperial
Cage Type	Stamped Steel
C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions)¹	70600 lbf 314000 N
C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)²	18300 lbf 81400 N

Dimensions



d - Cone Bore	2 1/8 in 53.975 mm
B - Cone Width	1.8310 in 46.507 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius³	0.140 in 3.56 mm
da - Cone Frontface Backing Diameter	2.48 in 63 mm
db - Cone Backface Backing Diameter	2.76 in 70 mm
Ab - Cage-Cone Frontface Clearance	0.09 in 2.3 mm
Aa - Cage-Cone Backface Clearance	0.29 in 7.4 mm
a - Effective Center Location⁴	-0.74 in -18.8 mm

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁵	10500 lbf 46800 N
C1 - Dynamic Radial Rating (1 million revolutions)⁶	40500 lbf 180000 N
C0 - Static Radial Rating	53200 lbf 237000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁷	6030 lbf 26800 N

Factors

K - Factor⁸	1.74
G1 - Heat Generation Factor (Roller-Raceway)	73.6
G2 - Heat Generation Factor (Rib-Roller End)	20.2
Cg - Geometry Factor⁹	0.103

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.

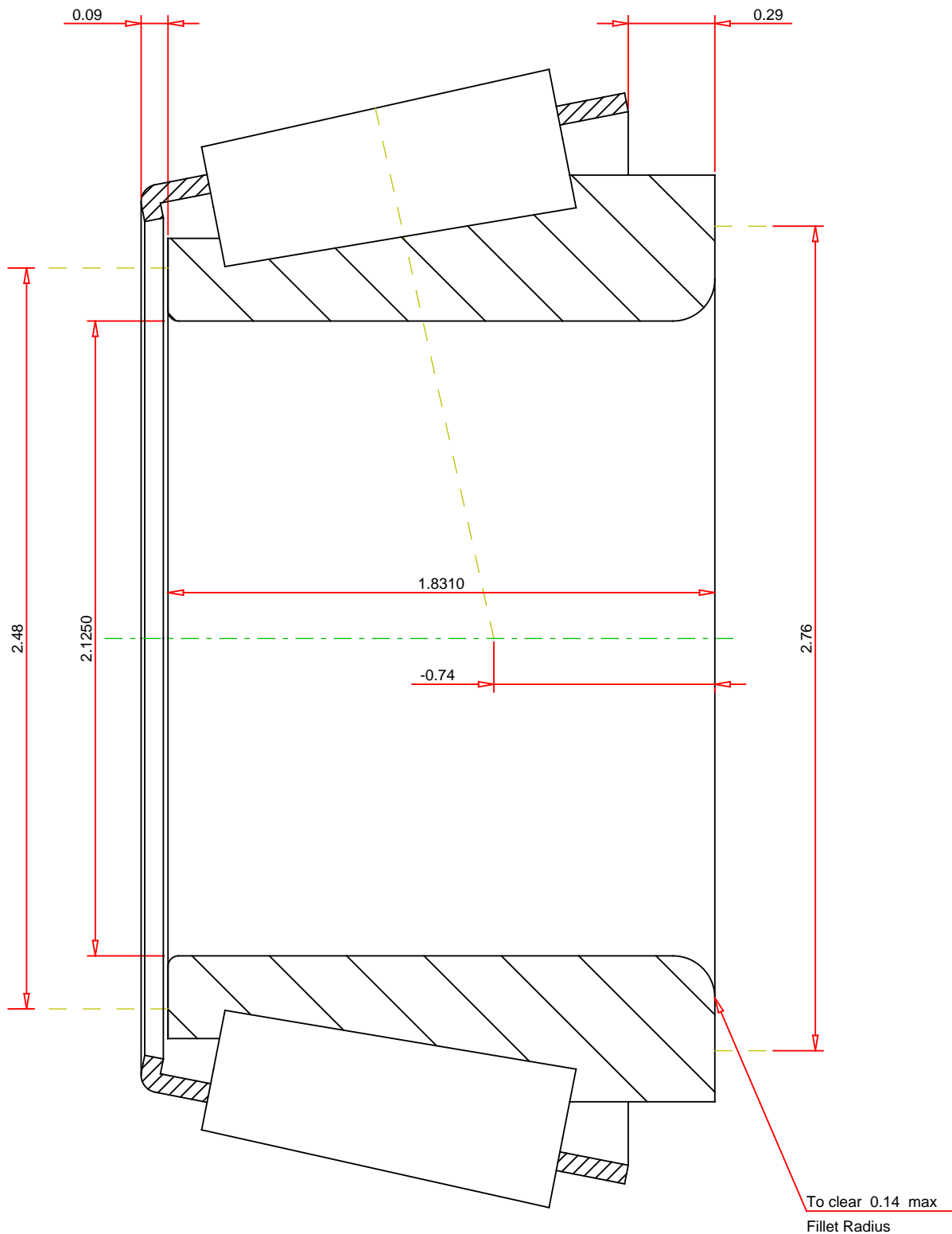
⁵ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.

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

Number of Rollers Per Row

17

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

4553

Tapered Roller Bearings - Single Cones - Imperial

K Factor	1.74
Dynamic Radial Rating - C90	10500 lbf
Dynamic Thrust Rating - Ca90	6030 lbf
Dynamic Radial Rating - C1	40500 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