



The Timken Company

4500 Mt Pleasant St. NW

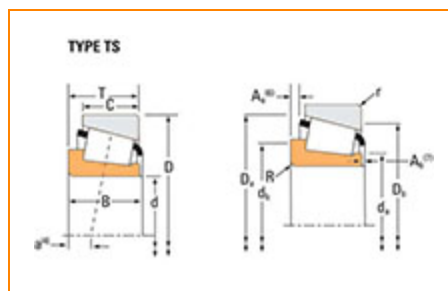
N. Canton, OH 44720

Phone: (234) 262-3000

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

Part Number 97450, 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

Series	97000
Cone Part Number	97450
Design Units	Imperial
Cage Type	Stamped Steel
C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions)¹	147000 lbf 655000 N
C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)²	38200 lbf 170000 N

Dimensions

d - Bore	4.5000 in 114.300 mm
B - Cone Width	1.9460 in 49.428 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius³	0.14 in 3.600 mm
da - Cone Frontface Backing Diameter	5.39 in 137 mm
db - Cone Backface Backing Diameter	5.51 in 140 mm
Ab - Cage-Cone Frontface Clearance	0.21 in 5.3 mm
Aa - Cage-Cone Backface Clearance	0.28 in 7.1 mm
a - Effective Center Location⁴	0.52 in 13.2 mm

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁵	21900 lbf 97500 N
C1 - Dynamic Radial Rating (1 million revolutions)⁶	84500 lbf 376000 N
C0 - Static Radial Rating	109000 lbf 486000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁷	27600 lbf 123000 N

Factors

K - Factor⁸	0.79
G1 - Heat Generation Factor (Roller-Raceway)	237.1
G2 - Heat Generation Factor (Rib-Roller End)	44.6
Cg - Geometry Factor⁹	0.131

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.

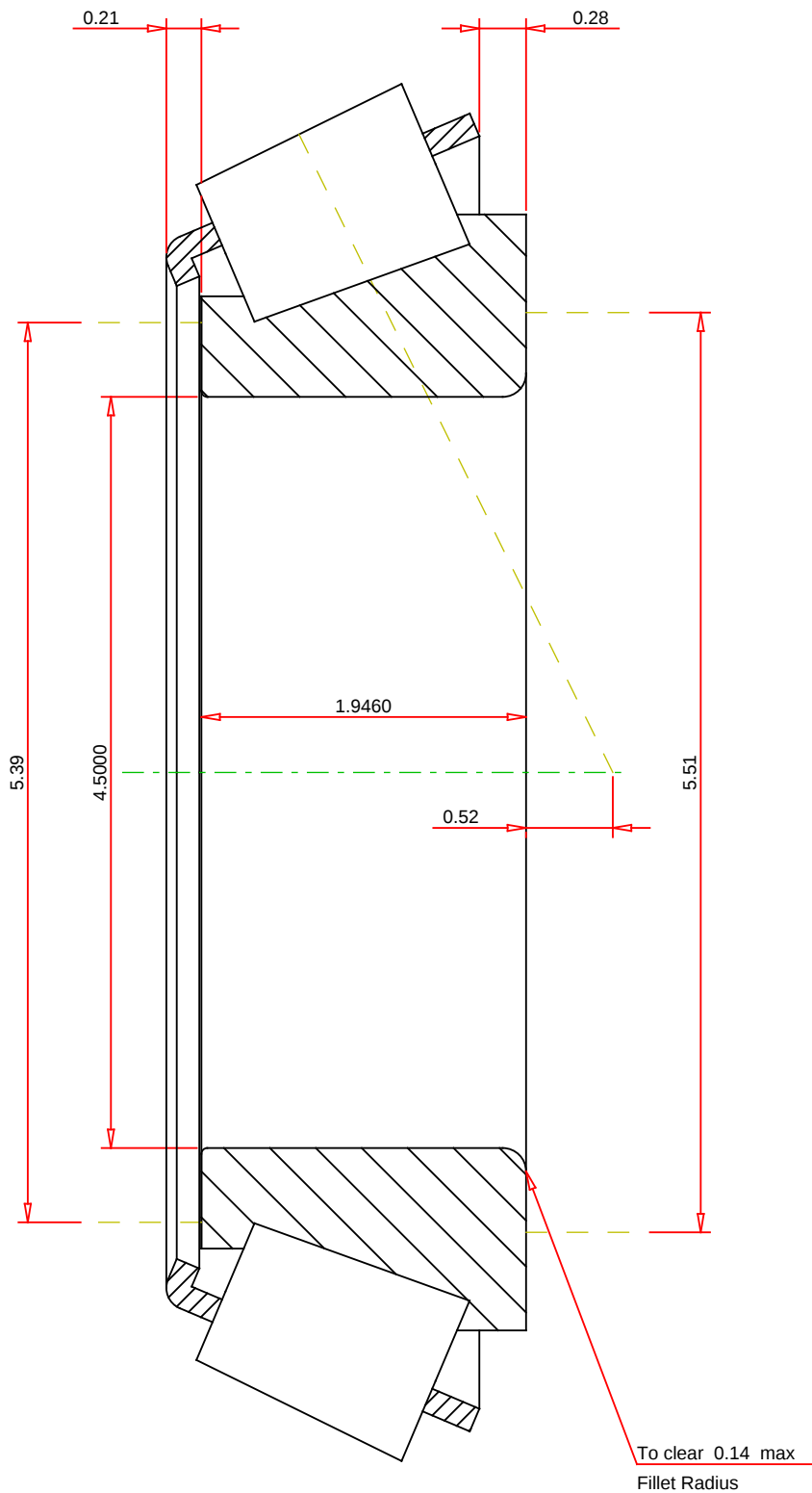
⁵ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.

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

97450
SINGLE TAPERED CONE

K Factor	0.79	
Dynamic Radial Rating - C90	21900	lbf
Dynamic Thrust Rating - Ca90	27600	lbf
Dynamic Radial Rating - C1	84500	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