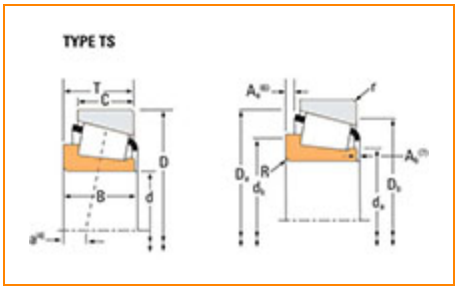
The Timken Company
4500 Mt Pleasant St. NW
N. Canton, OH 44720
Phone: (234) 262-3000
E-Mail: CustomerCAD@timken.com • **Web site:** www.timken.com

Part Number 357, 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	355
Cone Part Number	357
Design Units	Imperial
Cage Type	Stamped Steel
C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions)[1]	38000 lbf 169000 N
C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)[2]	9840 lbf 43800 N

Dimensions

d - Cone Bore	1.5748 in 40 mm
B - Cone Width	0.8540 in 21.692 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[3]	0.090 in 2.3 mm
da - Cone Frontface Backing Diameter	1.83 in 46.5 mm
db - Cone Backface Backing Diameter	2.01 in 51 mm
Ab - Cage-Cone Frontface Clearance	0.09 in 2.3 mm
Aa - Cage-Cone Backface Clearance	0 in 0 mm
a - Effective Center Location[4]	-0.19 in -4.8 mm

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[5]	5650 lbf 25100 N
C1 - Dynamic Radial Rating (1 million revolutions)[6]	21800 lbf 97000 N
C0 - Static Radial Rating	20000 lbf 88800 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[7]	2960 lbf 13200 N

Factors

K - Factor[8]	1.91
G1 - Heat Generation Factor (Roller-Raceway)	30
G2 - Heat Generation Factor (Rib-Roller End)	12.2
Cg - Geometry Factor[9]	0.0732

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

[2] Based on 90 x 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.

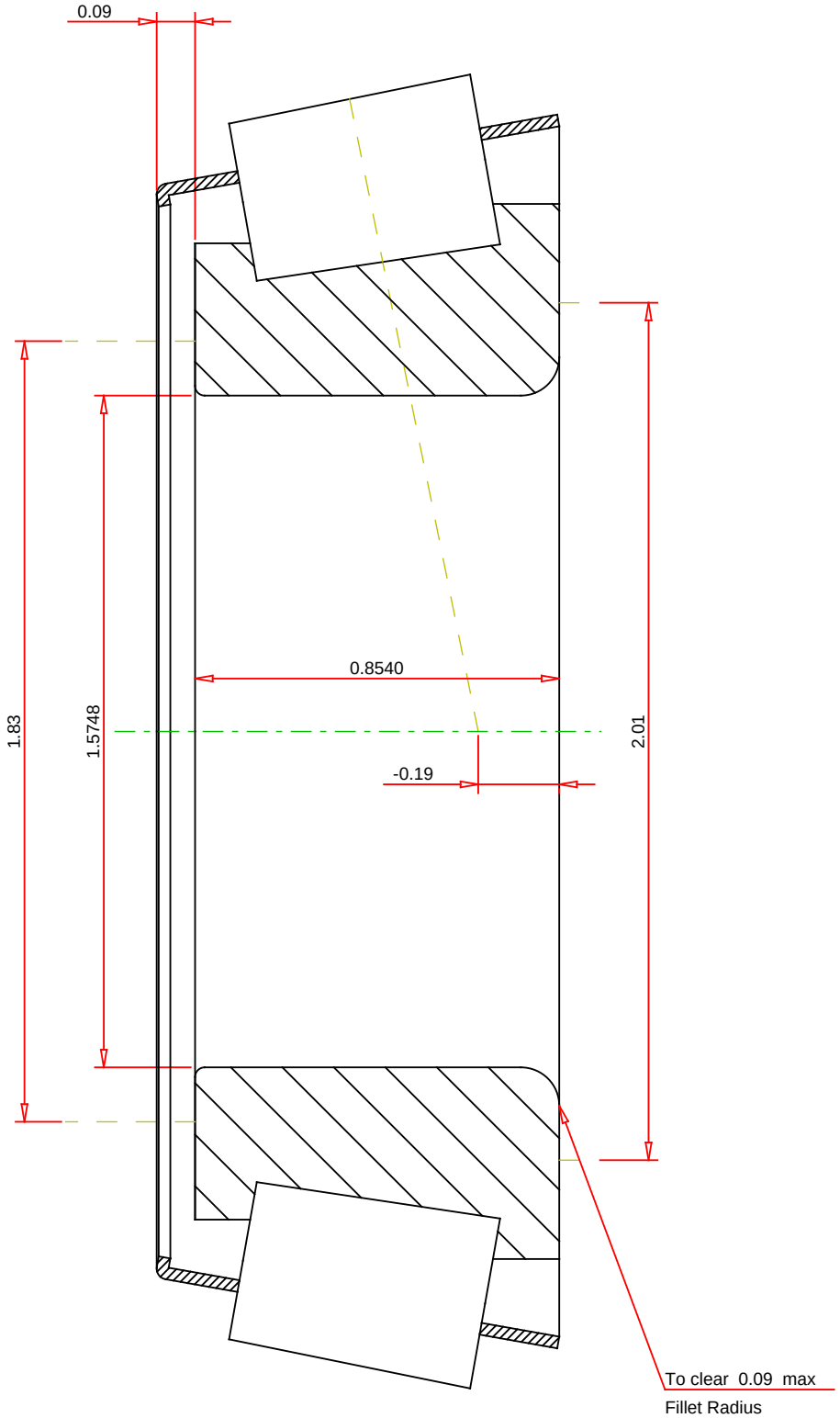
[5] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.

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

[7] Based on 90 x 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 a3l.



IMPERIAL UNITS

Number of Rollers Per Row	16

TIMKEN

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

357
Tapered Roller Bearings - Single Cones - Imperial

K Factor	1.91	
Dynamic Radial Rating - C90	5650	lbf
Dynamic Thrust Rating - Ca90	2960	lbf
Dynamic Radial Rating - C1	21800	lbf

FOR DISCUSSION ONLY