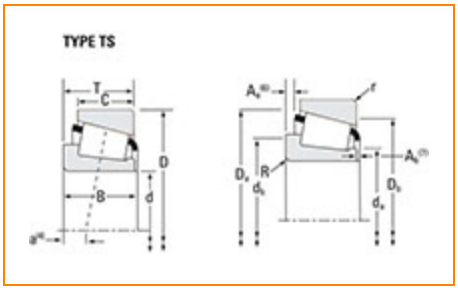
The Timken Company
4500 Mt Pleasant St. NW
N. Canton, OH 44720
Phone: (234) 262-3000
E-Mail: CustomerCAD@timken.com • **Web site:** www.timken.com

Part Number 3659 - 3620, Tapered Roller Bearings - TS (Tapered Single) 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	3600
Cone Part Number	3659
Cup Part Number	3620
Design Unit	Inch
Cage Material	Stamped Steel
Related Assembly Number(s)	3659-90010

Dimensions

d - Bore	15/16 in 23.813 mm

D - Cup Outer Diameter	2.4375 in 61.913 mm
B - Cone Width	1.1975 in 30.417 mm
C - Cup Width	0.9375 in 23.813 mm
T - Bearing Width	1.1250 in 28.575 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	0.09 in 2.300 mm
r - Cup Backface "To Clear" Radius[2]	0.130 in 3.30 mm
da - Cone Frontface Backing Diameter	1.24 in 31.5 mm
db - Cone Backface Backing Diameter	1.40 in 35.5 mm
Da - Cup Frontface Backing Diameter	2.28 in 57.90 mm
Db - Cup Backface Backing Diameter	2.05 in 52.07 mm
Ab - Cage-Cone Frontface Clearance	0.04 in 1 mm
Aa - Cage-Cone Backface Clearance	0.05 in 1.3 mm
a - Effective Center Location[3]	-0.47 in -11.9 mm

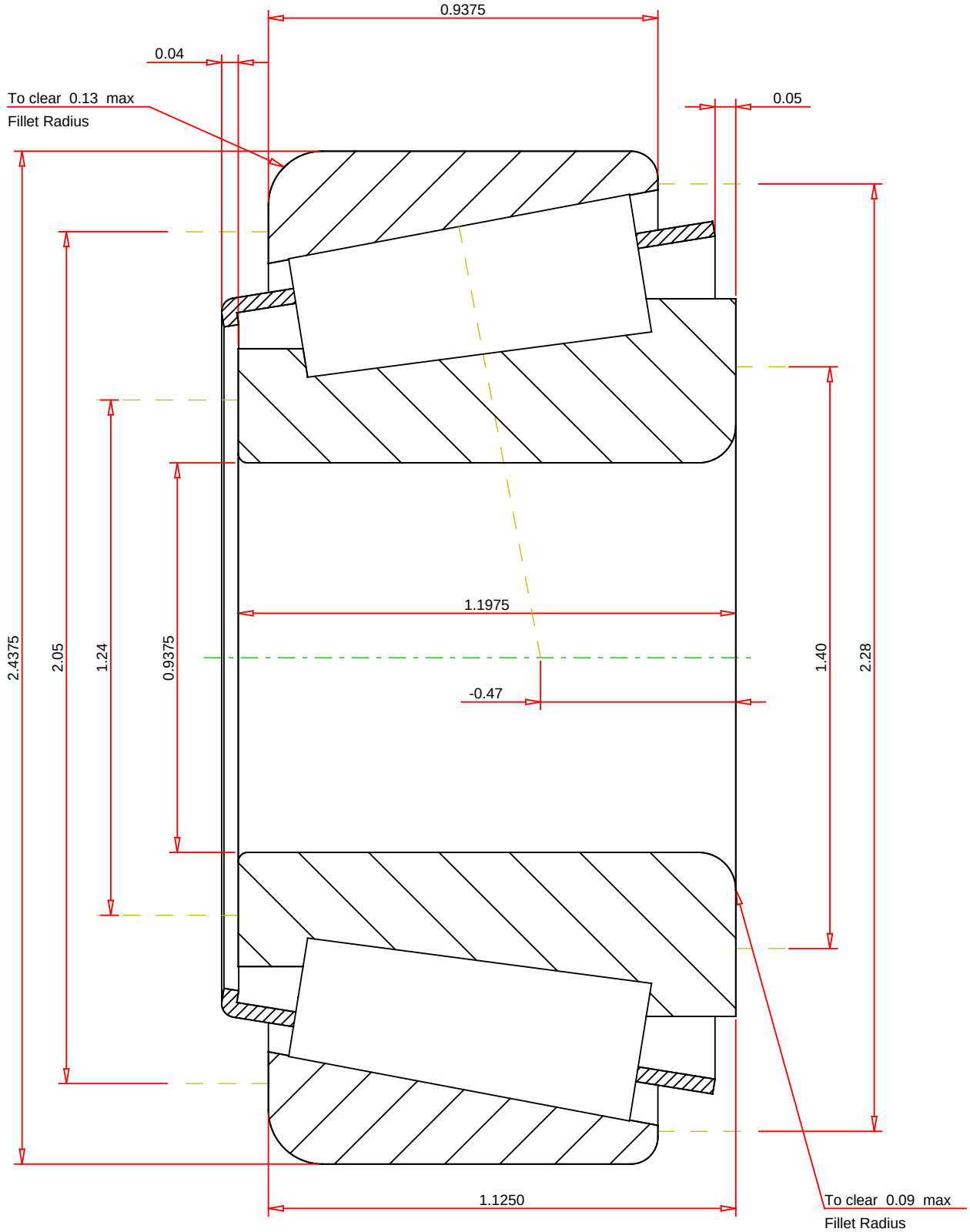
Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	5160 lbf 23000 N
C1 - Dynamic Radial Rating (1 million revolutions)[5]	19900 lbf 88600 N
C0 - Static Radial Rating	20200 lbf 89800 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	2500 lbf 11100 N

Factors

K - Factor[7]	2.07
e - ISO Factor[8]	0.28
Y - ISO Factor[9]	2.13
Cg - Geometry Factor[10]	0.0592

[1] These maximum fillet radii will be cleared by the bearing corners.
[2] These maximum fillet radii will be cleared by the bearing corners.
[3] Negative value indicates effective center inside cone backface.
[4] 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.
[5] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
[6] 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.
[7] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.
[8] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.
[9] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.
[10] Geometry constant for Lubrication Life Adjustment Factor a3l.



IMPERIAL UNITS

ISO Factor - e	0.28	
ISO Factor - Y	2.13	
Bearing Weight	1	lb
Number of Rollers Per Row	12	
Effective Center Location	-0.47	inch

TIMKEN

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

3659 - 3620
Tapered Roller Bearings - TS (Tapered Single)
Imperial

K Factor	2.07	
Dynamic Radial Rating - C90	5160	lbf
Dynamic Thrust Rating - Ca90	2500	lbf
Static Radial Rating - C0	20200	lbf
Dynamic Radial Rating - C1	19900	lbf

FOR DISCUSSION ONLY