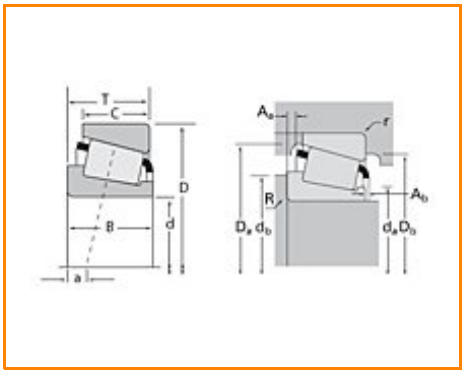
The Timken Company
4500 Mt Pleasant St. NW
N. Canton, OH 44720
Phone: (234) 262-3000
E-Mail: CustomerCAD@timken.com • **Web site:** www.timken.com

Timken Part Number HM807035 - HM807011, 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	HM807000
Cone Part Number	HM807035
Cup Part Number	HM807011
Design Units	Imperial
Bearing Weight	1.700 Kg 3.70 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	41.275 mm 1.6250 in
D - Cup Outer Diameter	104.775 mm 4.1250 in
B - Cone Width	36.513 mm 1.4375 in
C - Cup Width	28.575 mm 1.1250 in
T - Bearing Width	36.513 mm 1.4375 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	1.520 mm 0.06 in
r - Cup Backface "To Clear" Radius[2]	0.76 mm 0.030 in
da - Cone Frontface Backing Diameter	56.90 mm 2.24 in
db - Cone Backface Backing Diameter	59.94 mm 2.36 in
Da - Cup Frontface Backing Diameter	100.10 mm 3.96 in
Db - Cup Backface Backing Diameter	90.93 mm 3.58 in
Ab - Cage-Cone Frontface Clearance	2.5 mm 0.1 in
Aa - Cage-Cone Backface Clearance	3 mm 0.12 in
a - Effective Center Location[3]	-7.4 mm -0.29 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	44500 N 10000 lbf
C1 - Dynamic Radial Rating (1 million revolutions)[5]	172000 N 38600 lbf
C0 - Static Radial Rating	223000 N 50200 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	37100 N 8350 lbf

Factors

K - Factor[7]	1.2
e - ISO Factor[8]	0.49
Y - ISO Factor[9]	1.23
G1 - Heat Generation Factor (Roller-Raceway)	63.9
G2 - Heat Generation Factor (Rib-Roller End)	17.1
Cg - Geometry Factor	0.076

[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.

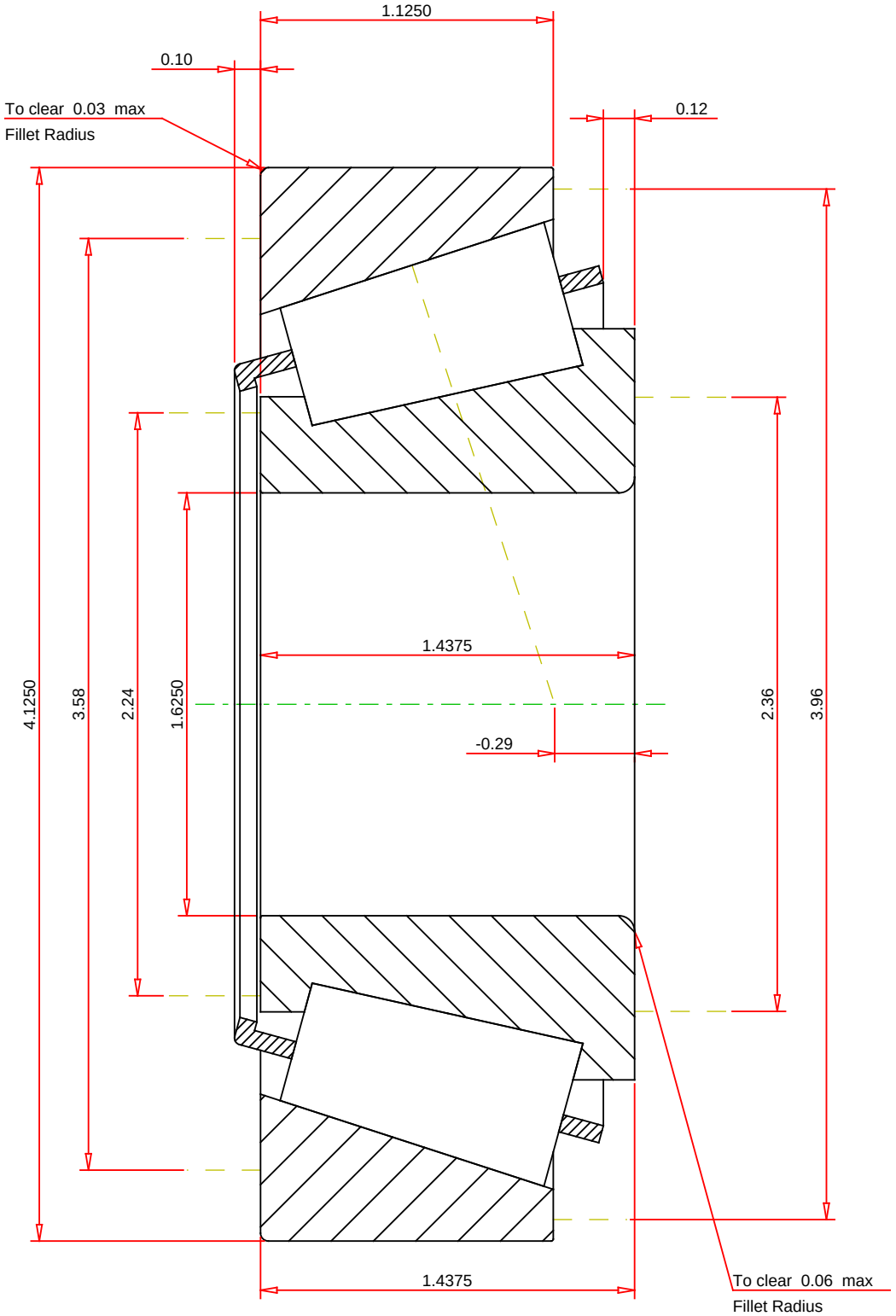
[6] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

[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.



IMPERIAL UNITS

ISO Factor - e	0.49	
ISO Factor - Y	1.23	
Bearing Weight	3.7	lb
Number of Rollers Per Row	18	
Effective Center Location	-0.29	inch

TIMKEN

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

HM807035 - HM807011
TS BEARING ASSEMBLY

K Factor	1.2	
Dynamic Radial Rating - C90	44500	lbf
Dynamic Thrust Rating - Ca90	37100	lbf
Static Radial Rating - C0	223000	lbf
Dynamic Radial Rating - C1	172000	lbf

FOR DISCUSSION ONLY