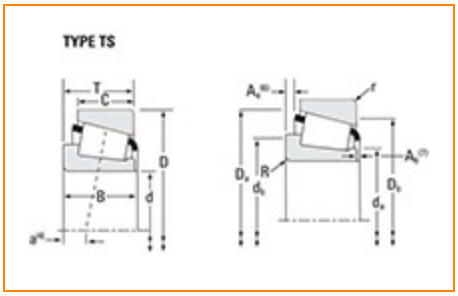
The Timken Company
4500 Mt Pleasant St. NW
N. Canton, OH 44720
Phone: (234) 262-3000
E-Mail: CustomerCAD@timken.com • **Web site:** www.timken.com

Part Number LM503349 - JLM503319, 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	LM503300
Cone Part Number	LM503349
Cup Part Number	JLM503319
Design Units	Imperial
Bearing Weight	0.4 Kg 1 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	45.987 mm 1.8105 in
D - Cup Outer Diameter	85.001 mm 3.3465 in
B - Cone Width	18.001 mm 0.7087 in
C - Cup Width	14 mm 0.5512 in
T - Bearing Width	17.998 mm 0.7086 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	2.290 mm 0.09 in
r - Cup Backface "To Clear" Radius[2]	0.25 mm 0.010 in
da - Cone Frontface Backing Diameter	51.05 mm 2.01 in
db - Cone Backface Backing Diameter	55.12 mm 2.17 in
Da - Cup Frontface Backing Diameter	76.96 mm 3.03 in
Db - Cup Backface Backing Diameter	72.90 mm 2.87 in
Ab - Cage-Cone Frontface Clearance	2.3 mm 0.09 in
Aa - Cage-Cone Backface Clearance	0.5 mm 0.02 in
a - Effective Center Location[3]	-2 mm -0.08 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	3930 lbf 17500 N
C1 - Dynamic Radial Rating (1 million revolutions)[5]	15100 lbf 67400 N
C0 - Static Radial Rating	17000 lbf 75400 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	2700 lbf 12000 N

Factors

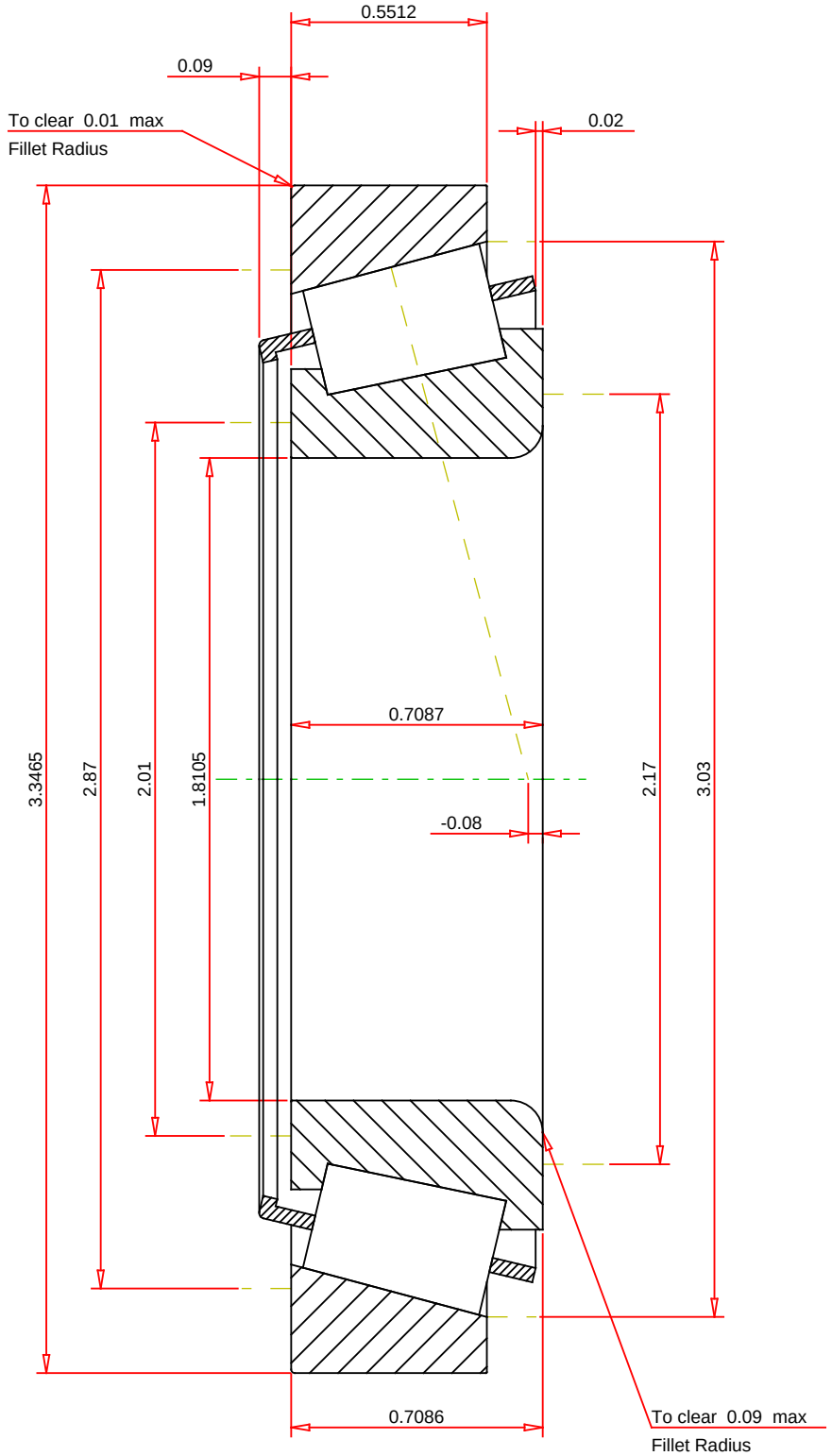
K - Factor[7]	1.45
e - ISO Factor[8]	0.4
Y - ISO Factor[9]	1.49
G1 - Heat Generation Factor (Roller-Raceway)	28.3
G2 - Heat Generation Factor (Rib-Roller End)	22.5
Cg - Geometry Factor[10]	0.0789

[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	0.4	
ISO Factor - Y	1.49	
Bearing Weight	1	lb
Number of Rollers Per Row	24	
Effective Center Location	-0.08	inch

TIMKEN

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

LM503349 - JLM503319
TS BEARING ASSEMBLY

K Factor	1.45	
Dynamic Radial Rating - C90	3930	lbf
Dynamic Thrust Rating - Ca90	2700	lbf
Static Radial Rating - C0	17000	lbf
Dynamic Radial Rating - C1	15100	lbf

FOR DISCUSSION ONLY