



The Timken Company

4500 Mt Pleasant St. NW

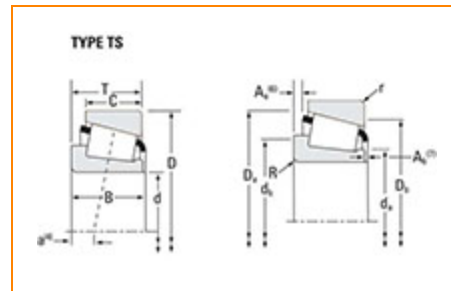
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Part Number 399A - 394A, Tapered Roller Bearings - TS (Tapered Single) Imperial

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.



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Specifications

Series	395
Cone Part Number	399A
Cup Part Number	394A
Design Units	Imperial
Bearing Weight	0.70 Kg 1.7 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	68.263 mm 2.6875 in
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D - Cup Outer Diameter	110.000 mm 4.3307 in
B - Cone Width	21.996 mm 0.8660 in
C - Cup Width	18.824 mm 0.7411 in
T - Bearing Width	21.999 mm 0.8661 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	2.290 mm 0.09 in
r - Cup Backface "To Clear" Radius²	1.27 mm 0.050 in
da - Cone Frontface Backing Diameter	73.91 mm 3.54 in
db - Cone Backface Backing Diameter	77.98 mm 3.07 in
Da - Cup Frontface Backing Diameter	105.40 mm 4.15 in
Db - Cup Backface Backing Diameter	101.09 mm 3.98 in
Ab - Cage-Cone Frontface Clearance	2.8 mm 0.11 in
Aa - Cage-Cone Backface Clearance	1.3 mm 0.05 in
a - Effective Center Location³	-0.8 mm -0.03 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	5760 lbf 25600 N
C1 - Dynamic Radial Rating (1 million revolutions)⁵	22200 lbf 98900 N
C0 - Static Radial Rating	28100 lbf 125000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	3970 lbf 17600 N

Factors

K - Factor⁷	1.45
e - ISO Factor⁸	0.4
Y - ISO Factor⁹	1.49
G1 - Heat Generation Factor (Roller-Raceway)	56
G2 - Heat Generation Factor (Rib-Roller End)	21.4
C_g - Geometry Factor¹⁰	0.0984

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

⁵ Based on 1×10^6 revolutions L_{10} life, for the ISO life calculation method.

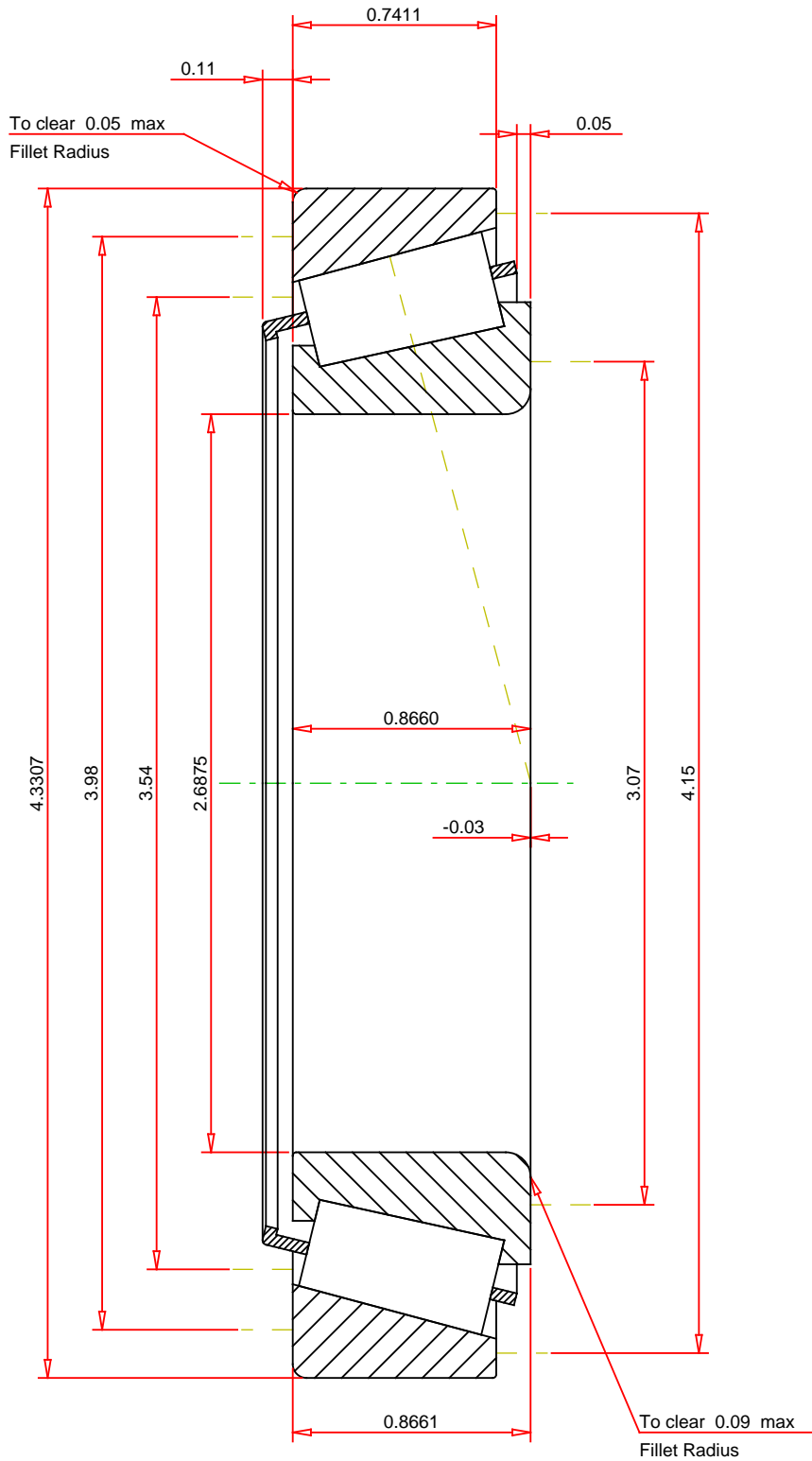
⁶ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

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	1.7 lb
Number of Rollers Per Row	22
Effective Center Location	-0.03 inch

TIMKEN®

399A - 394A
TS BEARING ASSEMBLY

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

K Factor	1.45
Dynamic Radial Rating - C90	5760 lbf
Dynamic Thrust Rating - Ca90	3970 lbf
Static Radial Rating - C0	28100 lbf
Dynamic Radial Rating - C1	22200 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