



The Timken Company

4500 Mt Pleasant St. NW

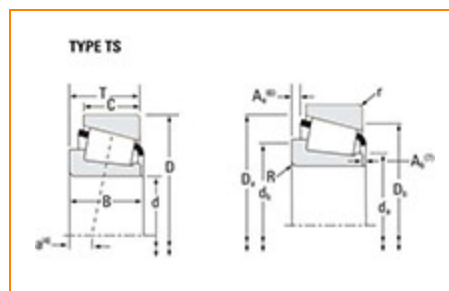
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Part Number 6461 - 6420, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	6400
Cone Part Number	6461
Cup Part Number	6420
Design Units	Imperial
Bearing Weight	4.2 Kg 9.4 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	76.2 mm 3 in
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D - Cup Outer Diameter	149.225 mm 5.8750 in
B - Cone Width	54.229 mm 2.1350 in
C - Cup Width	44.450 mm 1.7500 in
T - Bearing Width	53.975 mm 2.1250 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	3.560 mm 0.14 in
r - Cup Backface "To Clear" Radius²	3.3 mm 0.130 in
da - Cone Frontface Backing Diameter	89.41 mm 4.3 in
db - Cone Backface Backing Diameter	96.01 mm 3.78 in
Da - Cup Frontface Backing Diameter	140 mm 5.55 in
Db - Cup Backface Backing Diameter	129.03 mm 5.08 in
Ab - Cage-Cone Frontface Clearance	1.5 mm 0.06 in
Aa - Cage-Cone Backface Clearance	2.3 mm 0.09 in
a - Effective Center Location³	-15 mm -0.59 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	24000 lbf 107000 N
C1 - Dynamic Radial Rating (1 million revolutions)⁵	92400 lbf 411000 N
C0 - Static Radial Rating	104000 lbf 463000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶	14800 lbf 66000 N

Factors

K - Factor⁷	1.61
e - ISO Factor⁸	0.36
Y - ISO Factor⁹	1.66
G1 - Heat Generation Factor (Roller-Raceway)	158
G2 - Heat Generation Factor (Rib-Roller End)	29.1
Cg - Geometry Factor¹⁰	0.0931

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.

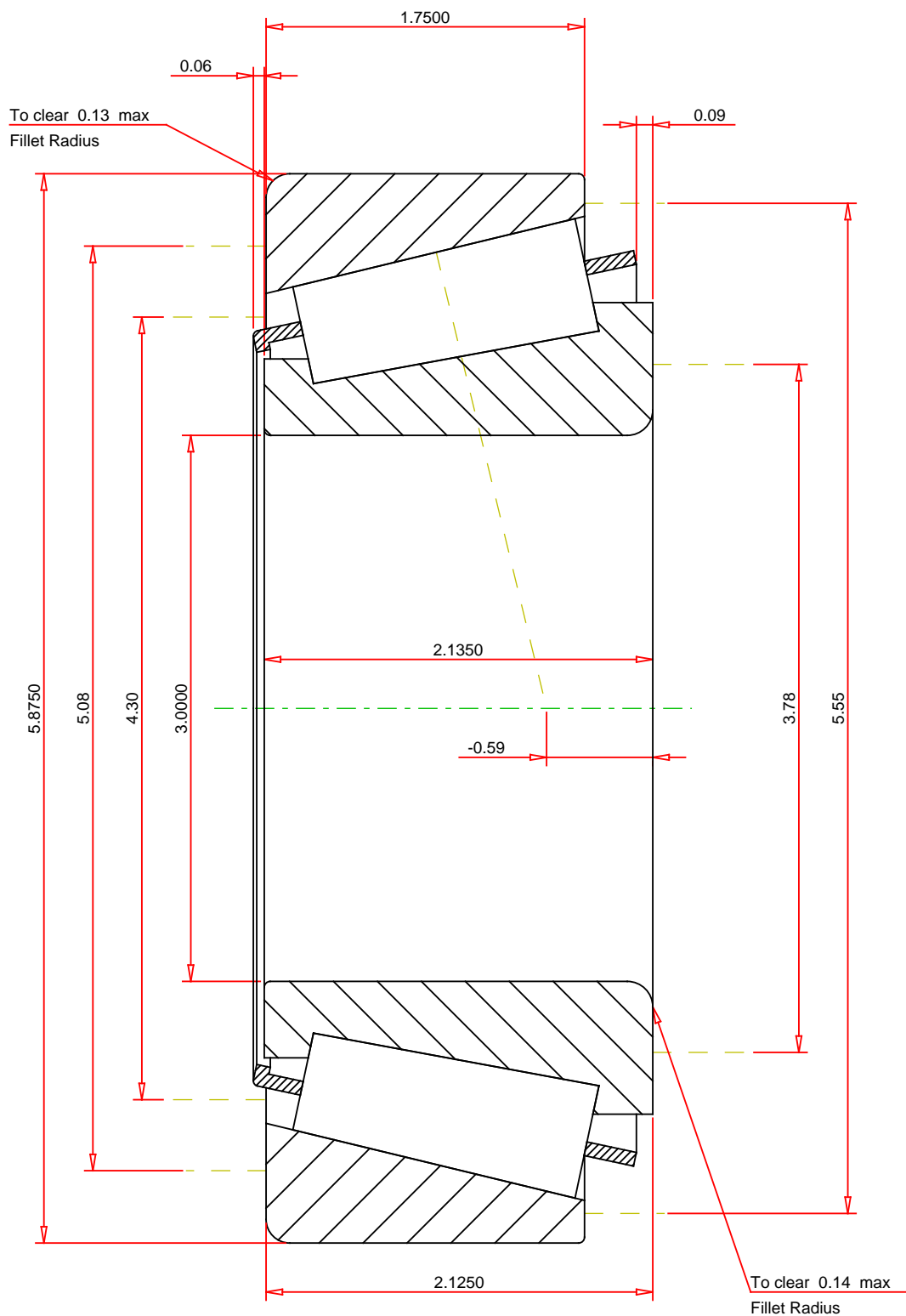
⁶ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

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 a_3 .



IMPERIAL UNITS

ISO Factor - e	0.36
ISO Factor - Y	1.66
Bearing Weight	9.4 lb
Number of Rollers Per Row	17
Effective Center Location	-0.59 inch



THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

6461 - 6420 TS BEARING ASSEMBLY		
K Factor	1.61	
Dynamic Radial Rating - C90	24000	lbf
Dynamic Thrust Rating - Ca90	14800	lbf
Static Radial Rating - C0	104000	lbf
Dynamic Radial Rating - C1	92400	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