


The Timken Company

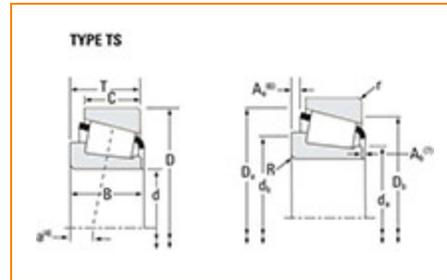
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Part Number 6461A - 6420, Tapered Roller Bearings - TS (Tapered Single) Imperial

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	6461A
Cup Part Number	6420
Design Unit	Inch
Cage Material	Stamped Steel

Dimensions

d - Bore	76.2 mm
D - Cup Outer Diameter	149.225 mm
B - Cone Width	54.229 mm



C - Cup Width	44.450 mm
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T - Bearing Width	53.975 mm
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Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius¹	9.700 mm
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r - Cup Backface "To Clear" Radius²	3.3 mm
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da - Cone Frontface Backing Diameter	89 mm
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db - Cone Backface Backing Diameter	108 mm
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Da - Cup Frontface Backing Diameter	140 mm
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Db - Cup Backface Backing Diameter	129.03 mm
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Ab - Cage-Cone Frontface Clearance	1.5 mm
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Aa - Cage-Cone Backface Clearance	2.3 mm
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a - Effective Center Location³	-15 mm
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Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁴	107000 N
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C1 - Dynamic Radial Rating (1 million revolutions)⁵	411000 N
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C0 - Static Radial Rating	463000 N
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C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁶ 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
C_g - 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.

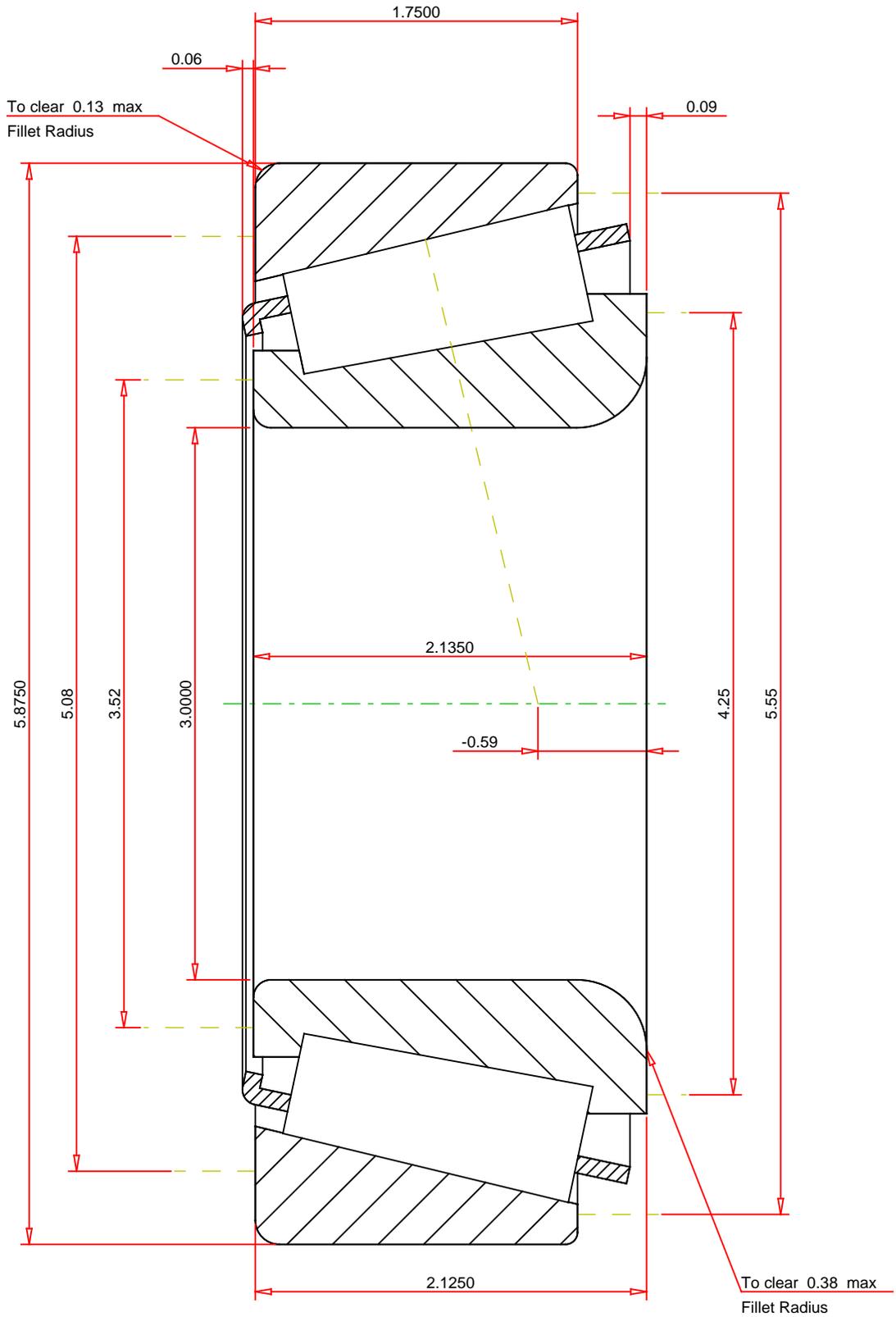
⁶ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

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 a3l.



IMPERIAL UNITS

ISO Factor - e	0.36
ISO Factor - Y	1.66
Bearing Weight	9.2 lb
Number of Rollers Per Row	17
Effective Center Location	-0.59 inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

6461A - 6420
Tapered Roller Bearings - TS (Tapered Single)
Imperial

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.

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