



The Timken Company

4500 Mt Pleasant St. NW

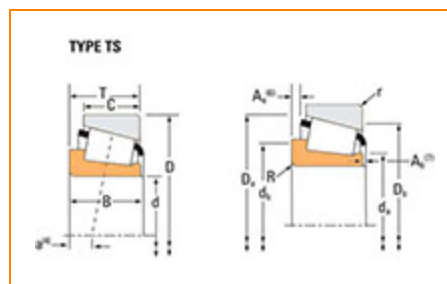
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Part Number 537, Tapered Roller Bearings - Single Cones - Imperial

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	535
Cone Part Number	537
Design Units	Imperial
Cage Type	Stamped Steel
C1 - Dynamic Radial Rating (Two-Row, 1 million revolutions)¹	67400 lbf 300000 N
C90(2) - Dynamic Radial Rating (Two-Row, 90 million revolutions)²	17500 lbf 77700 N



Dimensions

d - Cone Bore	2 in 50.8 mm
B - Cone Width	1.4550 in 36.957 mm

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius³	0.140 in 3.6 mm
da - Cone Frontface Backing Diameter	2.32 in 59 mm
db - Cone Backface Backing Diameter	2.56 in 65 mm
Ab - Cage-Cone Frontface Clearance	0.07 in 1.8 mm
Aa - Cage-Cone Backface Clearance	0.08 in 2 mm
a - Effective Center Location⁴	-0.48 in -12.2 mm

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)⁵	10000 lbf 44600 N
C1 - Dynamic Radial Rating (1 million revolutions)⁶	38700 lbf 172000 N
C0 - Static Radial Rating	46200 lbf 206000 N
C_{a90} - Dynamic Thrust Rating (90 million revolutions)⁷	5090 lbf 22700 N

Factors

K - Factor⁸	1.97
G1 - Heat Generation Factor (Roller-Raceway)	64.3
G2 - Heat Generation Factor (Rib-Roller End)	16.1
Cg - Geometry Factor⁹	0.0938

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

² 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.

³ These maximum fillet radii will be cleared by the bearing corners.

⁴ Negative value indicates effective center inside cone backface.

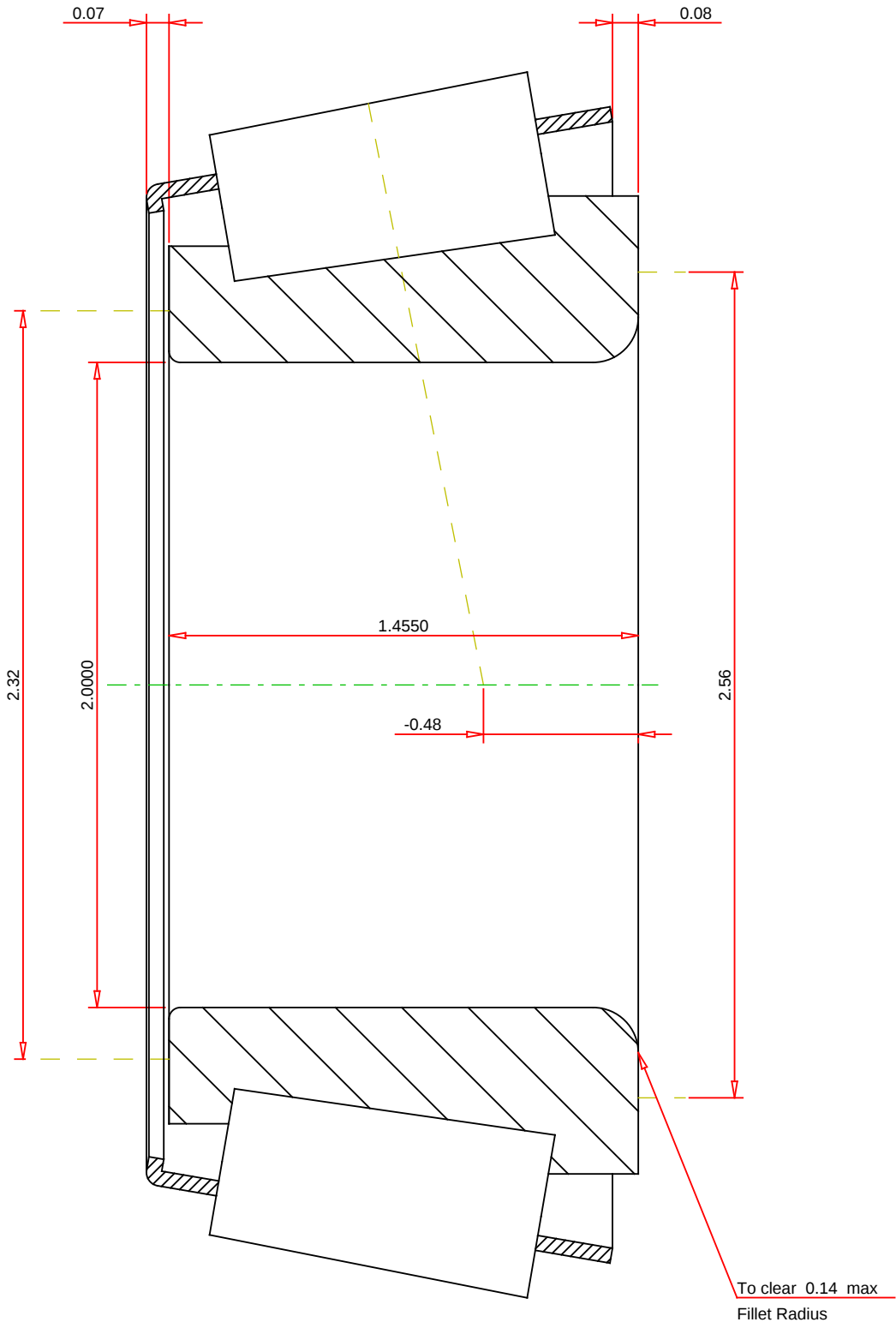
⁵ Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.

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

⁷ 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.

⁸ These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

⁹ Geometry constant for Lubrication Life Adjustment Factor a_3 .



IMPERIAL UNITS

Number of Rollers Per Row16	TIMIKEN® THE TIMKEN COMPANY NORTH CANTON, OHIO USA	537 Tapered Roller Bearings - Single Cones - Imperial K Factor Dynamic Radial Rating - C90 Dynamic Thrust Rating - Ca90 Dynamic Radial Rating - C1 1.97 10000 5090 38700 lbf lbf lbf lbf
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