# Rod Ends & Spherical Bearings

QA1 is the #1 name in rod ends and spherical bearings for motorsports, with over 1,000,000 units sold annually. QA1 has the largest selection in the industry, economical prices, unmatched quality, and a huge inventory with over 99% same day shipments. Be sure to check out our X, EX and A series Endura-style rod ends - for unbeatable performance, nothing is better! Don't be fooled by cheap imitations ... we guarantee that you'll see the difference in performance.

# Table of Contents



# AM & AF Series

# Rod Ends

• 3-Piece • Endura Loaded Slot Design • Aluminum
• Teflon®/Kevlar® Self-Lubricating Race • Male & Female • Right & Left Hand Threads

- ***Over 10% lighter than traditional three-piece aluminum rod ends!***
- ***Strongest aluminum design available.***
- ***Designed for applications where weight is a concern.***
- ***Self-sealing liner keeps dirt and debris out.***
- ***Self-lubricating liner won't pound out like other styles.***
- ***Simply the best aluminum rod end available!***

## Exclusively by QA1

* Available in Red, Purple, Blue and Black.
**All other sizes anodized Red as standard.

**BALL**
- 52100 Bearing Steel
- Heat Treated
- Hard Chrome Plated
- Precision Ground

**RACE**
- Telon® / Kevlar®
- Self-Lubricating
- Self-Sealing

**BODY**
- Aircraft Aluminum
- Color Anodized

**EXCLUSIVE FEATURES**
- Metal to Metal Support for Heavy Shock Loads
- Increased Cross-Sectional Thickness for Greater Tensile Strength

MALE PART NUMBER — DIMENSIONS IN INCHES

| Right Hand | Left Hand | B +.0015 -.0005 | W ±.005 | A ±.015 | D ±.010 | C +.062 -.031 | Thread UNF-3A | Misalign. Angle a° | Ult. Radial Static Load Lbs. | Approx. Brg. Wgt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|
| AMR3 | AML3 | 0.1900 | 0.312 | 1.250 | 0.625 | 0.750 | 10-32 | 13 | 788 | 0.02 |
| AMR4 | AML4 | 0.2500 | 0.375 | 1.562 | 0.750 | 1.000 | 1/4-28 | 16 | 1,433 | 0.03 |
| AMR5 | AML5 | 0.3125 | 0.437 | 1.875 | 0.875 | 1.250 | 5/16-24 | 14 | 2,284 | 0.05 |
| AMR5-6 | AML5-6 | 0.3125 | 0.437 | 1.938 | 1.000 | 1.250 | 3/8-24 | 12 | 3,457 | 0.05 |
| AMR6 | AML6 | 0.3750 | 0.500 | 1.938 | 1.000 | 1.250 | 3/8-24 | 12 | 3,457 | 0.05 |
| AMR6-7 | AML6-7 | 0.3750 | 0.500 | 2.125 | 1.125 | 1.375 | 7/16-20 | 10 | 7,800 | 0.09 |
| AMR6-8 | - | 0.3750 | 0.500 | 2.125 | 1.125 | 1.375 | 1/2-20 | 10 | 7,800 | 0.09 |
| AMR6-10 | - | 0.3750 | 0.625 | 2.625 | 1.500 | 1.625 | 5/8-18 | 10 | 15,000 | 0.18 |
| AMR7 | AML7 | 0.4375 | 0.562 | 2.125 | 1.125 | 1.375 | 7/16-20 | 14 | 4,800 | 0.09 |
| AMR7-8 | AML7-8 | 0.4375 | 0.562 | 2.438 | 1.312 | 1.500 | 1/2-20 | 12 | 11,100 | 0.12 |
| AMR8 | AML8 | 0.5000 | 0.625 | 2.438 | 1.312 | 1.500 | 1/2-20 | 12 | 7,700 | 0.12 |
| AMR8-10* | AML8-10* | 0.5000 | 0.625 | 2.625 | 1.500 | 1.625 | 5/8-18 | 10 | 15,000 | 0.18 |
| AMR10 | AML10 | 0.6250 | 0.750 | 2.625 | 1.500 | 1.625 | 5/8-18 | 16 | 8,600 | 0.18 |
| AMR10H | AML10H | 0.6250 | 0.750 | 2.625 | 1.750 | 1.625 | 5/8-18 | 13 | 19,300 | 0.26 |
| AMR10-12 | AML10-12 | 0.6250 | 0.750 | 2.875 | 1.750 | 1.750 | 3/4-16 | 13 | 19,300 | 0.30 |
| AMR12 | AML12 | 0.7500 | 0.875 | 2.875 | 1.750 | 1.750 | 3/4-16 | 14 | 13,400 | 0.29 |
| AMR12-757 | - | 0.7570 | 0.875 | 2.875 | 1.750 | 1.750 | 3/4-16 | 14 | 13,400 | 0.29 |

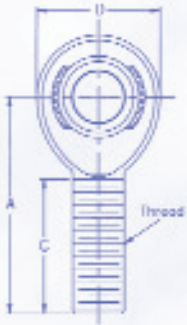
SELF-LUBRICATING

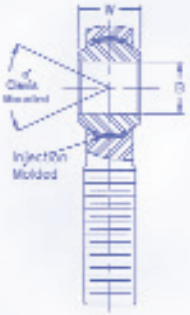
FEMALE PART NUMBER — DIMENSIONS IN INCHES

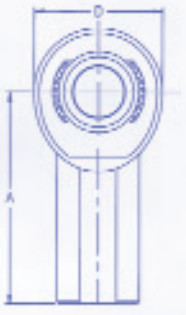
| Right Hand | Left Hand | B +.0015 -.0005 | W ±.005 | A ±.015 | D ±.010 | C +.062 -.031 | Thread UNF-2B | Misalign. Angle a° | Ult. Radial Static Load Lbs. | Approx. Brg. Wgt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|
| AFR3 | AFL3 | 0.1900 | 0.312 | 1.062 | 0.625 | 0.562 | 10-32 | 13 | 1,453 | 0.03 |
| AFR4 | AFL4 | 0.2500 | 0.375 | 1.312 | 0.750 | 0.750 | 1/4-28 | 16 | 2,363 | 0.04 |
| AFR5 | AFL5 | 0.3125 | 0.437 | 1.375 | 0.875 | 0.750 | 5/16-24 | 14 | 2,780 | 0.06 |
| AFR5-6 | - | 0.3125 | 0.437 | 1.625 | 1.000 | 0.937 | 3/8-24 | 14 | 4,512 | 0.09 |
| AFR6 | AFL6 | 0.3750 | 0.500 | 1.625 | 1.000 | 0.937 | 3/8-24 | 12 | 3,682 | 0.11 |

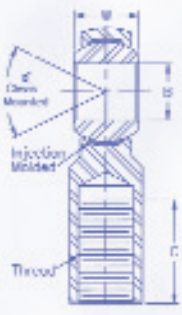
SELF-LUBRICATING

Stud configurations available.





# XPM & XPF Series Polished Rod Ends

• 3-Piece • Endura Loaded Slot Design • Chrome Moly Steel • Highly Polished
• Chrome Plated • Heat Treated • Heavy Duty • Teflon®/Kevlar® Self-Lubricating Race
• Male & Female • Right & Left Hand Threads

- ***Heavy duty.***
- ***Polished & Chrome Plated.***
- ***Mirror finish.***
- ***Commonly used on street rods & other applications where appearance is critical.***
- ***Metal to metal for heavy shock loads.***
- ***Increased cross-sectional thickness for greater tensile strength.***
- ***Self-sealing race keeps dirt out.***
- ***Self-lubricating liner won't pound out like other styles.***

**BALL**
- 52100 Bearing Steel
- Heat Treated
- Hard Chrome Plated
- Precision Ground

**RACE**
- Teflon® / Kevlar®
- Self-Lubricating
- Self-Sealing

**BODY**
- Chrome Moly Steel
- Heat Treated
- Highly Polished
- Chrome Plated

**EXCLUSIVE FEATURES**
- Metal to Metal Support for Heavy Shock Loads
- Increased Cross-Sectional Thickness for Greater Tensile Strength

MALE PART NUMBER — DIMENSIONS IN INCHES

| Right Hand | Left Hand | B +.0015 -.0005 | W ±.005 | A ±.015 | D ±.010 | C +.062 -.031 | Thread UNF-3A | Misalign. Angle a° | Ult. Radial Static Load Lbs. | Approx. Brg. Wgt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|
| XPMR8 | XPML8 | 0.5000 | 0.625 | 2.438 | 1.312 | 1.500 | 1/2-20 | 12 | 16,238 | 0.24 |
| XPMR10 | XPML10 | 0.6250 | 0.750 | 2.625 | 1.500 | 1.625 | 5/8-18 | 16 | 17,955 | 0.36 |
| XPMR10-12 | XPML10-12 | 0.6250 | 0.750 | 2.875 | 1.750 | 1.750 | 3/4-16 | 13 | 40,572 | 0.57 |
| XPMR12 | XPML12 | 0.7500 | 0.875 | 2.875 | 1.750 | 1.750 | 3/4-16 | 14 | 28,081 | 0.57 |

SELF-LUBRICATING

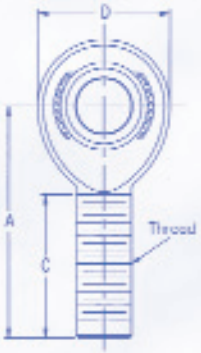
FEMALE PART NUMBER — DIMENSIONS IN INCHES

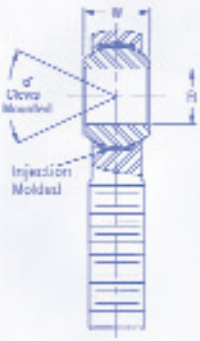
| Right Hand | Left Hand | B +.0015 -.0005 | W ±.005 | A ±.015 | D ±.010 | C +.062 -.031 | Thread UNF-2B | Misalign. Angle a° | Ult. Radial Static Load Lbs. | Approx. Brg. Wgt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|
| XPFR8 | XPFL8 | 0.5000 | 0.625 | 2.125 | 1.312 | 1.187 | 1/2-20 | 12 | 15,336 | 0.31 |
| XPFR10 | XPFL10 | 0.6250 | 0.750 | 2.500 | 1.500 | 1.500 | 5/8-18 | 16 | 17,955 | 0.45 |
| XPFR12 | XPFL12 | 0.7500 | 0.875 | 2.875 | 1.750 | 1.750 | 3/4-16 | 14 | 28,081 | 0.69 |

SELF-LUBRICATING

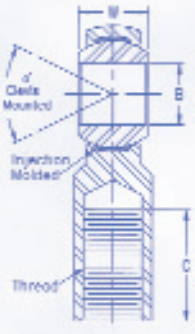
## Exclusively by QA1

*Wes Rydell Grandmaster designed by Chip Foose©*







# XM & XF Series Rod Ends

- 3-Piece • Endura Loaded Slot Design • Chrome Moly Steel
- Heat Treated • Heavy Duty • Teflon®/Kevlar ® Self-Lubricating Race
- Male & Female • Right & Left Hand Threads

*Tommy Nichols*

**BALL**
- 52100 Bearing Steel
- Heat Treated
- Hard Chrome Plated
- Precision Ground

**RACE**
- Teflon® / Kevlar®
- Self-Lubricating
- Self-Sealing

**BODY**
- Chrome Moly Steel
- Heat Treated
- Protective Coated for Corrosion Resistance

**EXCLUSIVE FEATURES**
- Metal to Metal Support for Heavy Shock Loads
- Increased Cross-Sectional Thickness for Greater Tensile Strength

- ***Heavy duty.***
- ***Metal to metal for heavy shock loads.***
- ***Increased cross-sectional thickness for greater tensile strength.***
- ***Commonly used on 4-Link and Ladder Bars.***
- ***Self-sealing race keeps dirt out.***
- ***Self-lubricating liner won't pound out like other styles.***

**Unsurpassed Performance • The Best Rod Ends for Racing!**

MALE PART NUMBER — DIMENSIONS IN INCHES

| Right Hand | Left Hand | B +.0015 -.0005 | W ±.005 | A ±.015 | D ±.010 | C +.062 -.031 | Thread UNF-3A | Misalign. Angle a° | Ult. Radial Static Load Lbs. | Approx. Brg. Wgt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|
| XMR3 | XML3 | 0.1900 | 0.312 | 1.250 | 0.625 | 0.750 | 10-32 | 13 | 2,851 | 0.03 |
| XMR3-4 | XML3-4 | 0.1900 | 0.312 | 1.562 | 0.750 | 1.000 | 1/4-28 | 10 | 5,260 | 0.04 |
| XMR4 | XML4 | 0.2500 | 0.375 | 1.562 | 0.750 | 1.000 | 1/4-28 | 16 | 5,260 | 0.04 |
| XMR4-5 | XML4-5 | 0.2500 | 0.375 | 1.875 | 0.875 | 1.250 | 5/16-24 | 13 | 8,452 | 0.07 |
| XMR5 | XML5 | 0.3125 | 0.437 | 1.875 | 0.875 | 1.250 | 5/16-24 | 14 | 7,639 | 0.07 |
| XMR5-6 | XML5-6 | 0.3125 | 0.437 | 1.938 | 1.000 | 1.250 | 3/8-24 | 12 | 12,978 | 0.11 |
| XMR6 | XML6 | 0.3750 | 0.500 | 1.938 | 1.000 | 1.250 | 3/8-24 | 12 | 9,544 | 0.11 |
| XMR6-7 | XML6-7 | 0.3750 | 0.500 | 2.125 | 1.125 | 1.375 | 7/16-20 | 10 | 17,508 | 0.15 |
| XMR7 | XML7 | 0.4375 | 0.562 | 2.125 | 1.125 | 1.375 | 7/16-20 | 14 | 10,285 | 0.15 |
| XMR7-8 | XML7-8 | 0.4375 | 0.562 | 2.438 | 1.312 | 1.500 | 1/2-20 | 12 | 23,452 | 0.24 |
| XMR8 | XML8 | 0.5000 | 0.625 | 2.438 | 1.312 | 1.500 | 1/2-20 | 12 | 16,238 | 0.24 |
| XMR8-10 | XML8-10 | 0.5000 | 0.625 | 2.625 | 1.500 | 1.625 | 5/8-18 | 10 | 31,390 | 0.36 |
| XMR8-12 | XML8-12 | 0.5000 | 0.625 | 2.875 | 1.750 | 1.750 | 3/4-16 | 16 | 17,955 | 0.42 |
| XMR10 | XML10 | 0.6250 | 0.750 | 2.625 | 1.500 | 1.625 | 5/8-18 | 16 | 17,955 | 0.36 |
| XMR10-12 | XML10-12 | 0.6250 | 0.750 | 2.875 | 1.750 | 1.750 | 3/4-16 | 13 | 40,572 | 0.57 |
| XMR12 | XML12 | 0.7500 | 0.875 | 2.875 | 1.750 | 1.750 | 3/4-16 | 14 | 28,081 | 0.57 |
| XMR12-14 | XML12-14 | 0.7500 | 0.875 | 3.375 | 2.000 | 1.875 | 7/8-14 | 12 | 55,692 | 0.88 |
| XMR14 | XML14 | 0.8750 | 0.875 | 3.375 | 2.000 | 2.000 | 7/8-14 | 7 | 45,051 | 0.88 |
| XMR16 | XML16 | 1.0000 | 1.375 | 4.125 | 2.750 | 2.125 | 1 1/4-12 | 17 | 76,200 | 2.38 |

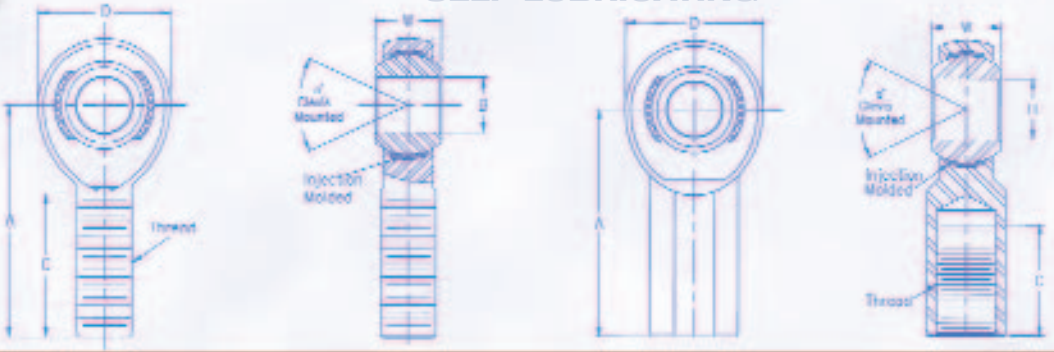
SELF-LUBRICATING

FEMALE PART NUMBER — DIMENSIONS IN INCHES

| Right Hand | Left Hand | B +.0015 -.0005 | W ±.005 | A ±.015 | D ±.010 | C +.062 -.031 | Thread UNF-2B | Misalign. Angle a° | Ult. Radial Static Load Lbs. | Approx. Brg. Wgt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|
| XFR3 | XFL3 | 0.1900 | 0.312 | 1.062 | 0.625 | 0.562 | 10-32 | 13 | 3,733 | 0.04 |
| XFR4 | XFL4 | 0.2500 | 0.375 | 1.312 | 0.750 | 0.750 | 1/4-28 | 16 | 6,190 | 0.06 |
| XFR5 | XFL5 | 0.3125 | 0.437 | 1.375 | 0.875 | 0.750 | 5/16-24 | 14 | 7,639 | 0.09 |
| XFR6 | XFL6 | 0.3750 | 0.500 | 1.625 | 1.000 | 0.937 | 3/8-24 | 12 | 9,544 | 0.14 |
| XFR7 | XFL7 | 0.4375 | 0.562 | 1.812 | 1.125 | 1.062 | 7/16-20 | 14 | 10,285 | 0.19 |
| XFR8 | XFL8 | 0.5000 | 0.625 | 2.125 | 1.312 | 1.187 | 1/2-20 | 12 | 15,336 | 0.31 |
| XFR10 | XFL10 | 0.6250 | 0.750 | 2.500 | 1.500 | 1.500 | 5/8-18 | 16 | 17,955 | 0.45 |
| XFR12 | XFL12 | 0.7500 | 0.875 | 2.875 | 1.750 | 1.750 | 3/4-16 | 14 | 28,081 | 0.69 |
| XFR16 | XFL16 | 1.0000 | 1.375 | 4.125 | 2.750 | 2.125 | 1 1/4-12 | 17 | 76,200 | 2.11 |

SELF-LUBRICATING

Stud configurations available.



# EXM & EXF Series Rod Ends

• 3-Piece • Endura Loaded Slot Design • Carbon Steel
• Teflon®/Kevlar® Self-Lubricating Race
• Male & Female • Right & Left Hand Threads

*Kat Kustoms*

**BALL**
- 52100 Bearing Steel
- Heat Treated
- Hard Chrome Plated
- Precision Ground

**RACE**
- Teflon® / Kevlar®
- Self-Lubricating
- Self-Sealing

**BODY**
- Carbon Steel
- Protective Coated for Corrosion Resistance

**EXCLUSIVE FEATURES**
- Metal to Metal Support for Heavy Shock Loads
- Increased Cross-Sectional Thickness for Greater Tensile Strength

- ***Self-lubricating liner won't pound out like other styles.***
- ***Metal to metal for heavy shock loads.***
- ***Increased cross-sectional thickness for greater tensile strength.***
- ***Self-sealing liner keeps dirt and debris out.***

**Exclusively by QA1**

MALE PART NUMBER — DIMENSIONS IN INCHES

| Right Hand | Left Hand | B +.0015 -.0005 | W ±.005 | A ±.015 | D ±.010 | C +.062 -.031 | Thread UNF-3A | Misalign. Angle a° | Ult. Radial Static Load Lbs. | Approx. Brg. Wgt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|
| EXMR3 | EXML3 | 0.1900 | 0.312 | 1.250 | 0.625 | 0.750 | 10-32 | 13 | 1,169 | 0.03 |
| EXMR3-4 | EXML3-4 | 0.1900 | 0.312 | 1.562 | 0.750 | 1.000 | 1/4-28 | 10 | 2,158 | 0.04 |
| EXMR4 | EXML4 | 0.2500 | 0.375 | 1.562 | 0.750 | 1.000 | 1/4-28 | 16 | 2,158 | 0.04 |
| EXMR4-5 | EXML4-5 | 0.2500 | 0.375 | 1.875 | 0.875 | 1.250 | 5/16-24 | 13 | 3,467 | 0.07 |
| EXMR5 | EXML5 | 0.3125 | 0.437 | 1.875 | 0.875 | 1.250 | 5/16-24 | 14 | 2,784 | 0.07 |
| EXMR5-6 | EXML5-6 | 0.3125 | 0.437 | 1.938 | 1.000 | 1.250 | 3/8-24 | 12 | 5,323 | 0.11 |
| EXMR6 | EXML6 | 0.3750 | 0.500 | 1.938 | 1.000 | 1.250 | 3/8-24 | 12 | 3,915 | 0.11 |
| EXMR6-7 | EXML6-7 | 0.3750 | 0.500 | 2.125 | 1.125 | 1.375 | 7/16-20 | 10 | 7,180 | 0.15 |
| EXMR7 | EXML7 | 0.4375 | 0.562 | 2.125 | 1.125 | 1.375 | 7/16-20 | 14 | 4,218 | 0.15 |
| EXMR7-8 | EXML7-8 | 0.4375 | 0.562 | 2.438 | 1.312 | 1.500 | 1/2-20 | 12 | 9,620 | 0.24 |
| EXMR8 | EXML8 | 0.5000 | 0.625 | 2.438 | 1.312 | 1.500 | 1/2-20 | 12 | 6,660 | 0.24 |
| EXMR8-10 | EXML8-10 | 0.5000 | 0.625 | 2.625 | 1.500 | 1.625 | 5/8-18 | 10 | 12,807 | 0.36 |
| EXMR10 | EXML10 | 0.6250 | 0.750 | 2.625 | 1.500 | 1.625 | 5/8-18 | 16 | 7,364 | 0.36 |
| EXMR10-12 | EXML10-12 | 0.6250 | 0.750 | 2.875 | 1.750 | 1.750 | 3/4-16 | 13 | 16,565 | 0.57 |
| EXMR12 | EXML12 | 0.7500 | 0.875 | 2.875 | 1.750 | 1.750 | 3/4-16 | 14 | 11,518 | 0.57 |

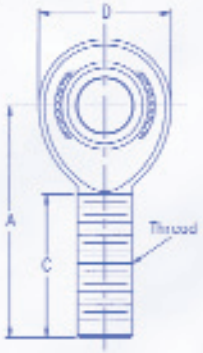
SELF-LUBRICATING

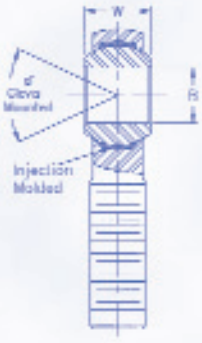
FEMALE PART NUMBER — DIMENSIONS IN INCHES

| Right Hand | Left Hand | B +.0015 -.0005 | W ±.005 | A ±.015 | D ±.010 | C +.062 -.031 | Thread UNF-2B | Misalign. Angle a° | Ult. Radial Static Load Lbs. | Approx. Brg. Wgt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|
| EXFR3 | EXFL3 | 0.1900 | 0.312 | 1.062 | 0.625 | 0.562 | 10-32 | 13 | 1,531 | 0.04 |
| EXFR4 | EXFL4 | 0.2500 | 0.375 | 1.312 | 0.750 | 0.750 | 1/4-28 | 16 | 2,539 | 0.06 |
| EXFR5 | EXFL5 | 0.3125 | 0.437 | 1.375 | 0.875 | 0.750 | 5/16-24 | 14 | 3,133 | 0.09 |
| EXFR6 | EXFL6 | 0.3750 | 0.500 | 1.625 | 1.000 | 0.937 | 3/8-24 | 12 | 3,915 | 0.14 |
| EXFR7 | EXFL7 | 0.4375 | 0.562 | 1.812 | 1.125 | 1.062 | 7/16-20 | 14 | 4,218 | 0.19 |
| EXFR8 | EXFL8 | 0.5000 | 0.625 | 2.125 | 1.312 | 1.187 | 1/2-20 | 12 | 6,660 | 0.31 |
| EXFR10 | EXFL10 | 0.6250 | 0.750 | 2.500 | 1.500 | 1.500 | 5/8-18 | 16 | 7,364 | 0.45 |
| EXFR12 | EXFL12 | 0.7500 | 0.875 | 2.875 | 1.750 | 1.750 | 3/4-16 | 14 | 11,518 | 0.69 |

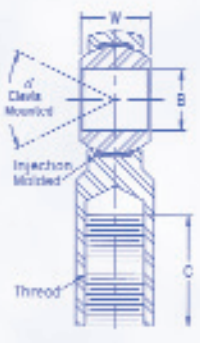
SELF-LUBRICATING

Stud configurations available.







# PCM & PCM-T Series

# Rod Ends

• 2-Piece • Chrome Moly Steel • Heat Treated • Black Oxide
• Self-Lubricating Optional • Right & Left Hand Threads

*BR Fabrication*

**BALL**
- 52100 Bearing Steel
- Heat Treated
- Hard Chrome Plated
- Precision Ground

**BODY**
- Chrome Moly Steel
- Heat Treated
- Black Oxide Coated for Corrosion Resistance
- Teflon® Lined Optional

## METAL TO METAL

MALE PART NUMBER — DIMENSIONS IN INCHES

| Right Hand | Left Hand | B +.0015 - .0005 | W ±.005 | A ±.015 | D Ref. | C +.062 - .031 | Thread UNF-3A | Misalign. Angle a° | Ult. Radial Static Load Lbs. | Approx. Brg. Wgt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|
| PCMR8 | PCML8 | 0.5000 | 0.625 | 2.438 | 1.312 | 1.500 | 1/2-20 | 20 | 17,000 | 0.24 |
| PCMR8-10 | PCML8-10 | 0.5000 | 0.625 | 2.625 | 1.500 | 1.625 | 5/8-18 | 20 | 19,300 | 0.30 |
| PCMR10 | PCML10 | 0.6250 | 0.750 | 2.625 | 1.500 | 1.625 | 5/8-18 | 26 | 18,000 | 0.36 |
| PCMR10-12 | PCML10-12 | 0.6250 | 0.750 | 2.875 | 1.750 | 1.750 | 3/4-16 | 26 | 27,000 | 0.48 |
| PCMR12 | PCML12 | 0.7500 | 0.875 | 2.875 | 1.750 | 1.750 | 3/4-16 | 24 | 25,000 | 0.57 |

**High Strength**

•

**Economical Prices**

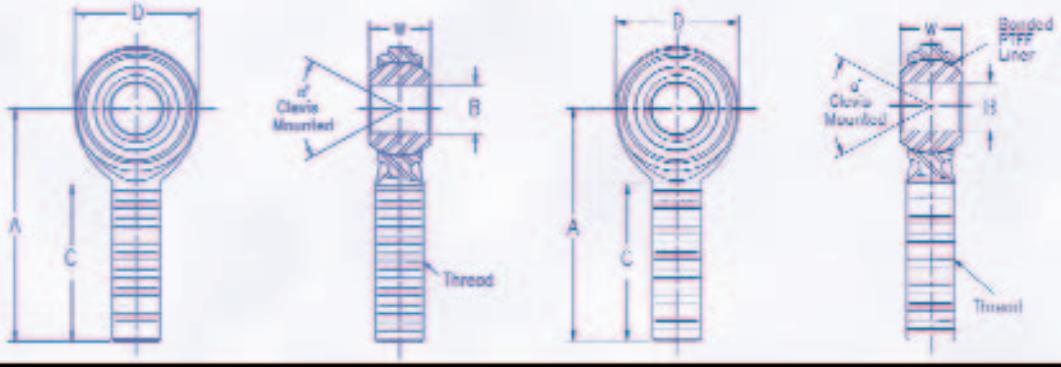
## TEFLON® LINED

MALE PART NUMBER — DIMENSIONS IN INCHES

| Right Hand | Left Hand | B +.0015 - .0005 | W ±.005 | A ±.015 | D Ref. | C +.062 - .031 | Thread UNF-3A | Misalign. Angle a° | Ult. Radial Static Load Lbs. | Approx. Brg. Wgt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|
| PCMR8T | PCML8T | 0.5000 | 0.625 | 2.438 | 1.312 | 1.500 | 1/2-20 | 20 | 14,500 | 0.24 |
| PCMR8-10T | PCML8-10T | 0.5000 | 0.625 | 2.625 | 1.500 | 1.625 | 5/8-18 | 20 | 17,650 | 0.30 |
| PCMR10T | PCML10T | 0.6250 | 0.750 | 2.625 | 1.500 | 1.625 | 5/8-18 | 26 | 15,200 | 0.36 |
| PCMR10-12T | PCML10-12T | 0.6250 | 0.750 | 2.875 | 1.750 | 1.750 | 3/4-16 | 26 | 23,000 | 0.48 |
| PCMR12T | PCML12T | 0.7500 | 0.875 | 2.875 | 1.750 | 1.750 | 3/4-16 | 24 | 21,400 | 0.57 |

SELF-LUBRICATING

**Many other styles, sizes and materials available. Please call for further information.**



# CM & CF Series Rod Ends

- 2-Piece • General Purpose • Metal to Metal
- Male & Female • Right & Left Hand Threads
- Metric & Inch Dimensions

*University of Wisconsin - Stout Society of Automotive Engineers*

**BALL**
- 52100 Bearing Steel
- Heat Treated
- Hard Chrome Plated
- Precision Ground

**BODY**
- Carbon Steel
- Protective Coated for Corrosion Resistance

**Metal to Metal**

•

**Metric Available**

MALE PART NUMBER — DIMENSIONS IN INCHES

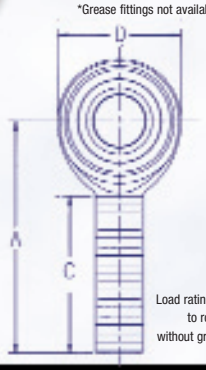
| Right Hand | Left Hand | B +.0025 -.0005 | W ±.005 | A ±.015 | D Ref. | C +.062 -.031 | Thread UNF-3A | Misalign. Angle a° | Ult. Radial Static Load Lbs. | Approx. Brg. Wgt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|
| CMR3* | CML3* | 0.1900 | 0.312 | 1.250 | 0.625 | 0.750 | 10-32 | 20 | 2,074 | 0.03 |
| CMR3-4* | CML3-4* | 0.1900 | 0.312 | 1.562 | 0.750 | 1.000 | 1/4-28 | 20 | 4,824 | 0.04 |
| CMR4* | CML4* | 0.2500 | 0.375 | 1.562 | 0.750 | 1.000 | 1/4-28 | 27 | 3,820 | 0.04 |
| CMR4-5* | CML4-5* | 0.2500 | 0.375 | 1.875 | 0.875 | 1.250 | 5/16-24 | 27 | 6,534 | 0.06 |
| CMR5* | CML5* | 0.3125 | 0.437 | 1.875 | 0.875 | 1.250 | 5/16-24 | 22 | 5,110 | 0.07 |
| CMR5-6 | CML5-6 | 0.3125 | 0.437 | 1.938 | 1.000 | 1.250 | 3/8-24 | 22 | 7,920 | 0.10 |
| CMR6 | CML6 | 0.3750 | 0.500 | 1.938 | 1.000 | 1.250 | 3/8-24 | 22 | 7,605 | 0.11 |
| CMR6-7 | CML6-7 | 0.3750 | 0.500 | 2.125 | 1.125 | 1.375 | 7/16-20 | 22 | 9,486 | 0.14 |
| CMR6-8 | CML6-8 | 0.3750 | 0.500 | 2.125 | 1.125 | 1.375 | 1/2-20 | 22 | 9,486 | 0.17 |
| CMR7 | CML7 | 0.4375 | 0.562 | 2.125 | 1.125 | 1.375 | 7/16-20 | 21 | 9,122 | 0.15 |
| CMR7-8 | CML7-8 | 0.4375 | 0.562 | 2.438 | 1.312 | 1.500 | 1/2-20 | 21 | 12,816 | 0.22 |
| CMR8 | CML8 | 0.5000 | 0.625 | 2.438 | 1.312 | 1.500 | 1/2-20 | 20 | 12,224 | 0.24 |
| CMR8-10 | CML8-10 | 0.5000 | 0.625 | 2.625 | 1.500 | 1.625 | 5/8-18 | 20 | 15,804 | 0.34 |
| CMR8-12 | CML8-12 | 0.5000 | 0.750 | 2.625 | 1.500 | 1.625 | 3/4-16 | 26 | 13,540 | 0.42 |
| CMR10 | CML10 | 0.6250 | 0.750 | 2.625 | 1.500 | 1.625 | 5/8-18 | 26 | 13,540 | 0.36 |
| CMR10Z-102 | CML10Z-101 | 0.6250 | 0.875 | 2.875 | 1.750 | 1.750 | 5/8-18 | 24 | 15,000 | 0.48 |
| CMR10-12 | CML10-12 | 0.6250 | 0.750 | 2.875 | 1.750 | 1.750 | 3/4-16 | 26 | 19,350 | 0.51 |
| CMR12 | CML12 | 0.7500 | 0.875 | 2.875 | 1.750 | 1.750 | 3/4-16 | 24 | 18,810 | 0.57 |
| CMR12-757 | - | 0.7570 | 0.875 | 2.875 | 1.750 | 1.750 | 3/4-16 | 24 | 18,810 | 0.56 |

FEMALE PART NUMBER — DIMENSIONS IN INCHES

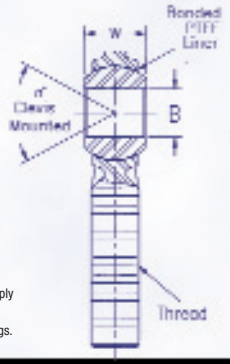
| Right Hand | Left Hand | B +.0025 -.0005 | W ±.005 | A ±.015 | D Ref. | C +.062 -.031 | Thread UNF-2B | Misalign. Angle a° | Ult. Radial Static Load Lbs. | Approx. Brg. Wgt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|
| CFR3* | CFL3* | 0.1900 | 0.312 | 1.062 | 0.625 | 0.500 | 10-32 | 20 | 2,079 | 0.04 |
| CFR3-4 | - | 0.1900 | 0.312 | 1.312 | 0.750 | 0.687 | 1/4-28 | 20 | 4,824 | 0.05 |
| CFR4 | CFL4 | 0.2500 | 0.375 | 1.312 | 0.750 | 0.687 | 1/4-28 | 27 | 3,820 | 0.05 |
| CFR5 | CFL5 | 0.3125 | 0.437 | 1.375 | 0.875 | 0.687 | 5/16-24 | 22 | 5,110 | 0.08 |
| CFR6 | CFL6 | 0.3750 | 0.500 | 1.625 | 1.000 | 0.812 | 3/8-24 | 22 | 7,605 | 0.13 |
| CFR7 | CFL7 | 0.4375 | 0.562 | 1.812 | 1.125 | 0.937 | 7/16-20 | 21 | 9,122 | 0.18 |
| CFR8 | CFL8 | 0.5000 | 0.625 | 2.125 | 1.312 | 1.062 | 1/2-20 | 20 | 12,224 | 0.29 |
| CFR10 | CFL10 | 0.6250 | 0.750 | 2.500 | 1.500 | 1.375 | 5/8-18 | 26 | 13,540 | 0.43 |
| CFR12 | CFL12 | 0.7500 | 0.875 | 2.875 | 1.750 | 1.562 | 3/4-16 | 24 | 18,810 | 0.65 |

*Grease fittings not available.

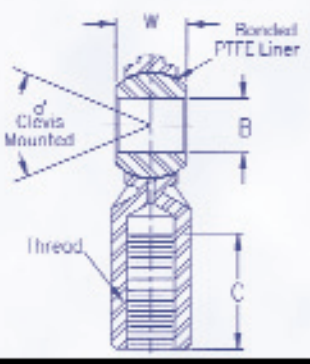
Grease fittings and stud configurations available.




Load ratings only apply to rod ends without grease fittings.



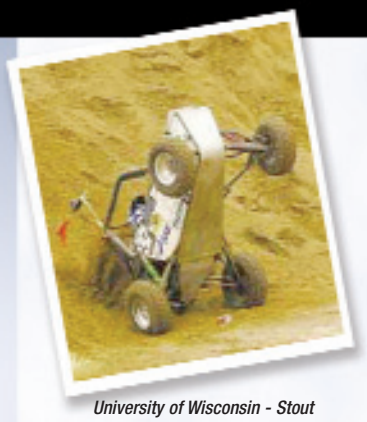




# CM-T & CF-T Series

# Rod Ends

• 2-Piece • General Purpose • Self-Lubricating
• Male & Female • Right & Left Hand Threads



*University of Wisconsin - Stout Society of Automotive Engineers*

**BALL**
- 52100 Bearing Steel
- Heat Treated
- Hard Chrome Plated
- Precision Ground

**BODY**
- Carbon Steel
- Protective Coated for Corrosion Resistance
- Teflon® Lined

**Teflon® Lined**

•

**Economical Prices**

MALE PART NUMBER — DIMENSIONS IN INCHES

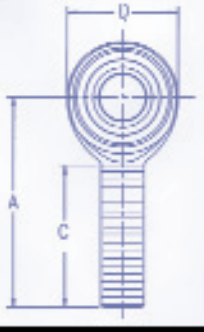
| Right Hand | Left Hand | B +.0025 -.0005 | W ±.005 | A ±.015 | D Ref. | C +.062 -.031 | Thread UNF-3A | Misalign. Angle a° | Ult. Radial Static Load Lbs. | Approx. Brg. Wgt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|
| CMR3T | CML3T | 0.1900 | 0.312 | 1.250 | 0.625 | 0.750 | 10-32 | 20 | 1,450 | 0.03 |
| CMR3-4T | CML3-4T | 0.1900 | 0.312 | 1.562 | 0.750 | 1.000 | 1/4-28 | 20 | 3,375 | 0.04 |
| CMR4T | CML4T | 0.2500 | 0.375 | 1.562 | 0.750 | 1.000 | 1/4-28 | 27 | 2,675 | 0.04 |
| CMR4-5T | CML4-5T | 0.2500 | 0.375 | 1.875 | 0.875 | 1.250 | 5/16-24 | 27 | 4,575 | 0.06 |
| CMR5T | CML5T | 0.3125 | 0.437 | 1.875 | 0.875 | 1.250 | 5/16-24 | 22 | 3,575 | 0.07 |
| CMR5-6T | CML5-6T | 0.3125 | 0.437 | 1.938 | 1.000 | 1.250 | 3/8-24 | 22 | 5,540 | 0.10 |
| CMR6T | CML6T | 0.3750 | 0.500 | 1.938 | 1.000 | 1.250 | 3/8-24 | 22 | 5,325 | 0.11 |
| CMR6-7T | CML6-7T | 0.3750 | 0.500 | 2.125 | 1.125 | 1.375 | 7/16-20 | 22 | 6,640 | 0.14 |
| CMR6-8T | CML6-8T | 0.3750 | 0.500 | 2.125 | 1.125 | 1.375 | 1/2-20 | 22 | 6,640 | 0.17 |
| CMR7T | CML7T | 0.4375 | 0.562 | 2.125 | 1.125 | 1.375 | 7/16-20 | 21 | 6,385 | 0.15 |
| CMR7-8T | CML7-8T | 0.4375 | 0.562 | 2.438 | 1.312 | 1.500 | 1/2-20 | 21 | 8,971 | 0.22 |
| CMR8T | CML8T | 0.5000 | 0.625 | 2.438 | 1.312 | 1.500 | 1/2-20 | 20 | 8,550 | 0.24 |
| CMR8-10T | CML8-10T | 0.5000 | 0.625 | 2.625 | 1.500 | 1.625 | 5/8-18 | 20 | 11,062 | 0.34 |
| CMR8-12T | CML8-12T | 0.5000 | 0.750 | 2.625 | 1.500 | 1.625 | 3/4-16 | 26 | 9,478 | 0.42 |
| CMR10T | CML10T | 0.6250 | 0.750 | 2.625 | 1.500 | 1.625 | 5/8-18 | 26 | 9,478 | 0.36 |
| CMR10-12T | CML10-12T | 0.6250 | 0.750 | 2.875 | 1.750 | 1.750 | 3/4-16 | 26 | 13,545 | 0.51 |
| CMR12T | CML12T | 0.7500 | 0.875 | 2.875 | 1.750 | 1.750 | 3/4-16 | 24 | 13,167 | 0.57 |

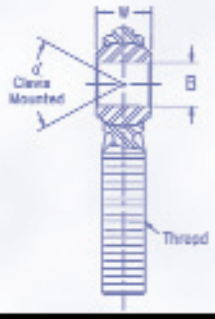
SELF-LUBRICATING

FEMALE PART NUMBER — DIMENSIONS IN INCHES

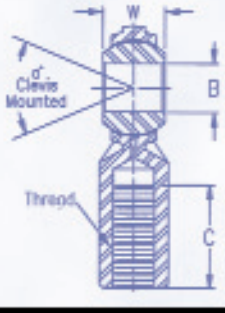
| Right Hand | Left Hand | B +.0025 -.0005 | W ±.005 | A ±.015 | D Ref. | C +.062 -.031 | Thread UNF-2B | Misalign. Angle a° | Ult. Radial Static Load Lbs. | Approx. Brg. Wgt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|
| CFR3T | CFL3T | 0.1900 | 0.312 | 1.062 | 0.625 | 0.500 | 10-32 | 20 | 1,450 | 0.04 |
| CFR4T | CFL4T | 0.2500 | 0.375 | 1.312 | 0.750 | 0.687 | 1/4-28 | 27 | 2,675 | 0.05 |
| CFR5T | CFL5T | 0.3125 | 0.437 | 1.375 | 0.875 | 0.687 | 5/16-24 | 22 | 3,575 | 0.08 |
| CFR6T | CFL6T | 0.3750 | 0.500 | 1.625 | 1.000 | 0.812 | 3/8-24 | 22 | 5,325 | 0.13 |
| CFR7T | CFL7T | 0.4375 | 0.562 | 1.812 | 1.125 | 0.937 | 7/16-20 | 21 | 6,385 | 0.18 |
| CFR8T | CFL8T | 0.5000 | 0.625 | 2.125 | 1.312 | 1.062 | 1/2-20 | 20 | 8,550 | 0.29 |
| CFR10T | CFL10T | 0.6250 | 0.750 | 2.500 | 1.500 | 1.375 | 5/8-18 | 26 | 9,478 | 0.43 |
| CFR12T | CFL12T | 0.7500 | 0.875 | 2.875 | 1.750 | 1.562 | 3/4-16 | 24 | 13,167 | 0.65 |

SELF-LUBRICATING







# GM-T & GF-T Series
# Rod Ends

*Wes Rydell - Genuin*
*Designed by Chip Foose©*

**BALL**
- 440C Stainless Steel
- Heat Treated
- Precision Ground

**BODY**
- 300 Series Stainless Steel
- Teflon® Lined

**300 Series Stainless Steel • Teflon® Lined • Can be Polished**

MALE PART NUMBER — DIMENSIONS IN INCHES

| Right Hand | Left Hand | B +.0015 -.0005 | W ±.005 | A ±.015 | D ±.010 | C +.062 -.031 | Thread UNF-3A | Misalign. Angle a° | Ult. Radial Static Load Lbs. | Approx. Brg. Wgt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|
| GMR3T | GML3T | 0.1900 | 0.312 | 1.250 | 0.625 | 0.750 | 10-32 | 20 | 900 | 0.03 |
| GMR4T | GML4T | 0.2500 | 0.375 | 1.562 | 0.750 | 1.000 | 1/4-28 | 27 | 1,350 | 0.04 |
| GMR5T | GML5T | 0.3125 | 0.437 | 1.875 | 0.875 | 1.250 | 5/16-24 | 22 | 2,000 | 0.07 |
| GMR6T | GML6T | 0.3750 | 0.500 | 1.938 | 1.000 | 1.250 | 3/8-24 | 22 | 3,000 | 0.11 |
| GMR7T | GML7T | 0.4375 | 0.562 | 2.125 | 1.125 | 1.375 | 7/16-20 | 21 | 3,750 | 0.15 |
| GMR8T | GML8T | 0.5000 | 0.625 | 2.438 | 1.312 | 1.500 | 1/2-20 | 20 | 4,650 | 0.24 |
| GMR10T | GML10T | 0.6250 | 0.750 | 2.625 | 1.500 | 1.625 | 5/8-18 | 26 | 5,850 | 0.36 |
| GMR12T | GML12T | 0.7500 | 0.875 | 2.875 | 1.750 | 1.750 | 3/4-16 | 24 | 7,500 | 0.57 |

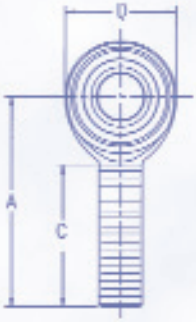
SELF-LUBRICATING

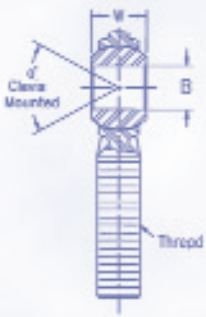
FEMALE PART NUMBER — DIMENSIONS IN INCHES

| Right Hand | Left Hand | B +.0015 -.0005 | W ±.005 | A ±.015 | D ±.010 | C +.062 -.031 | Thread UNF-2B | Misalign. Angle a° | Ult. Radial Static Load Lbs. | Approx. Brg. Wgt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|
| GFR3T | GFL3T | 0.1900 | 0.312 | 1.062 | 0.625 | 0.500 | 10-32 | 20 | 900 | 0.04 |
| GFR4T | GFL4T | 0.2500 | 0.375 | 1.312 | 0.750 | 0.687 | 1/4-28 | 27 | 1,350 | 0.05 |
| GFR5T | GFL5T | 0.3125 | 0.437 | 1.375 | 0.875 | 0.687 | 5/16-24 | 22 | 2,000 | 0.08 |
| GFR6T | GFL6T | 0.3750 | 0.500 | 1.625 | 1.000 | 0.812 | 3/8-24 | 22 | 3,000 | 0.13 |
| GFR7T | GFL7T | 0.4375 | 0.562 | 1.812 | 1.125 | 0.937 | 7/16-20 | 21 | 3,750 | 0.18 |
| GFR8T | GFL8T | 0.5000 | 0.625 | 2.125 | 1.312 | 1.062 | 1/2-20 | 20 | 4,650 | 0.29 |
| GFR10T | GFL10T | 0.6250 | 0.750 | 2.500 | 1.500 | 1.375 | 5/8-18 | 26 | 5,850 | 0.43 |
| GFR12T | GFL12T | 0.7500 | 0.875 | 2.875 | 1.750 | 1.562 | 3/4-16 | 24 | 7,500 | 0.65 |

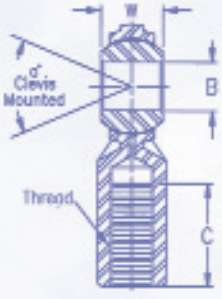
SELF-LUBRICATING

**Many other styles, sizes and materials available. Please call for further information.**







# CM-ET & CF-ET Series
# Rod Ends

*Craig Smith*

**BALL**
- 440C Stainless Steel
- Heat Treated
- Hard Chrome Plated
- Precision Ground

**BODY**
- 17-4 PH Stainless Steel
- Heat Treated
- Teflon® Lined

**17-4 PH Stainless Steel • Teflon® Lined • Can be Polished**

MALE PART NUMBER — DIMENSIONS IN INCHES

| Right Hand | Left Hand | B +.0015 -.0005 | W ±.005 | A ±.015 | D ±.010 | C +.062 -.031 | Thread UNF-3A | Misalign. Angle a° | Ult. Radial Static Load Lbs. | Approx. Brg. Wgt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|
| CMR5ET | CML5ET | 0.3125 | 0.437 | 1.875 | 0.875 | 1.250 | 5/16-24 | 22 | 6,451 | 0.07 |
| CMR6ET | CML6ET | 0.3750 | 0.500 | 1.938 | 1.000 | 1.250 | 3/8-24 | 22 | 8,627 | 0.11 |
| CMR7ET | CML7ET | 0.4375 | 0.562 | 2.125 | 1.125 | 1.375 | 7/16-20 | 21 | 9,370 | 0.15 |
| CMR8ET | CML8ET | 0.5000 | 0.625 | 2.438 | 1.312 | 1.500 | 1/2-20 | 20 | 15,130 | 0.24 |
| CMR10ET | CML10ET | 0.6250 | 0.750 | 2.625 | 1.500 | 1.625 | 5/8-18 | 26 | 16,922 | 0.36 |
| CMR12ET | CML12ET | 0.7500 | 0.875 | 2.875 | 1.750 | 1.750 | 3/4-16 | 24 | 25,549 | 0.57 |

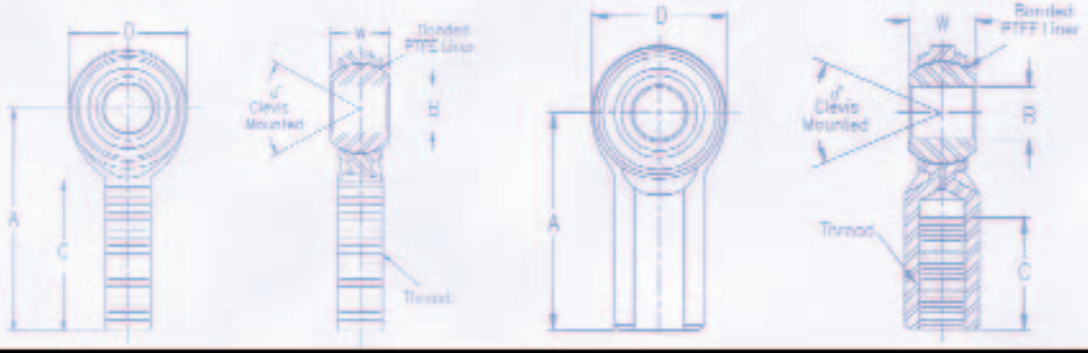
SELF-LUBRICATING

FEMALE PART NUMBER — DIMENSIONS IN INCHES

| Right Hand | Left Hand | B +.0015 -.0005 | W ±.005 | A ±.015 | D Ref. | C +.062 -.031 | Thread UNF-2B | Misalign. Angle a° | Ult. Radial Static Load Lbs. | Approx. Brg. Wgt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|
| CFR5ET | CFL5ET | 0.3125 | 0.437 | 1.375 | 0.875 | 0.687 | 5/16-24 | 22 | 6,451 | 0.08 |
| CFR6ET | CFL6ET | 0.3750 | 0.500 | 1.625 | 1.000 | 0.812 | 3/8-24 | 22 | 8,627 | 0.13 |
| CFR7ET | CFL7ET | 0.4375 | 0.562 | 1.812 | 1.125 | 0.937 | 7/16-20 | 21 | 9,370 | 0.18 |
| CFR8ET | CFL8ET | 0.5000 | 0.625 | 2.125 | 1.312 | 1.062 | 1/2-20 | 20 | 15,130 | 0.29 |
| CFR10ET | CFL10ET | 0.6250 | 0.750 | 2.500 | 1.500 | 1.375 | 5/8-18 | 26 | 16,922 | 0.43 |
| CFR12ET | CFL12ET | 0.7500 | 0.875 | 2.875 | 1.750 | 1.562 | 3/4-16 | 24 | 25,549 | 0.65 |

SELF-LUBRICATING

Many other styles, sizes and materials available.
Please call for further information.



# K, H & H-CP Series

## Rod Ends

• 3-Piece • Precision • Corrosion & Wear Resistant Races • Male & Female
• Right & Left Hand Threads • Metric & Inch Dimensions

**BALL**
- 52100 Bearing Steel
- Heat Treated
- Hard Chrome Plated
- Precision Ground

**RACE**
- Stainless Steel
- Heat Treated
- Corrosion and Wear Resistant
- Teflon® Lined Optional

**BODY - K Series**
- Carbon Steel
- Protective Coated for Corrosion Resistance

**BODY - H & H-CP Series**
- Chrome Moly Steel
- Heat Treated
- Protective Coated for Corrosion Resistance
- Chrome Plated (H-CP)

**Large Bore Sizes Available**
•
**Stainless Steel Races Standard**
•
**Metric Available**
•
**Teflon® Lined Available**

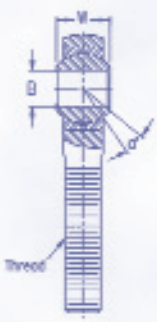
MALE PART NUMBER — DIMENSIONS IN INCHES

| KM Series | HM Series | HM-CP Series | B +.0015 -.0005 | W +.000 -.005 | A ±.015 | D ±.010 | C +.062 -.031 | Thread UNF-3A | Misalign. Angle a° | Ult. Rad. Static Load Lbs. KM | Ult. Rad. Static Load Lbs. HM & HM-CP | Approx. Brg. Wgt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KM3 | HM3 | HM3CP | 0.1900 | 0.312 | 1.250 | 0.625 | 0.750 | 10-32 | 13 | 1,169 | 2,851 | 0.03 |
| KM3-4 | HM3-4 | HM3-4CP | 0.1900 | 0.312 | 1.562 | 0.750 | 1.000 | 1/4-28 | 10 | 2,158 | 5,260 | 0.04 |
| KM4 | HM4 | HM4CP | 0.2500 | 0.375 | 1.562 | 0.750 | 1.000 | 1/4-28 | 16 | 2,158 | 5,260 | 0.04 |
| KM4-5 | HM4-5 | HM4-5CP | 0.2500 | 0.375 | 1.875 | 0.875 | 1.250 | 5/16-24 | 13 | 3,467 | 8,452 | 0.07 |
| KM5 | HM5 | HM5CP | 0.3125 | 0.437 | 1.875 | 0.875 | 1.250 | 5/16-24 | 14 | 2,784 | 7,639 | 0.07 |
| KM5-6 | HM5-6 | HM5-6CP | 0.3125 | 0.437 | 1.938 | 1.000 | 1.250 | 3/8-24 | 12 | 5,323 | 12,978 | 0.11 |
| KM6 | HM6 | HM6CP | 0.3750 | 0.500 | 1.938 | 1.000 | 1.250 | 3/8-24 | 12 | 3,915 | 9,544 | 0.11 |
| KM6-7 | HM6-7 | HM6-7CP | 0.3750 | 0.500 | 2.125 | 1.125 | 1.375 | 7/16-20 | 10 | 7,180 | 17,508 | 0.16 |
| KM7 | HM7 | HM7CP | 0.4375 | 0.562 | 2.125 | 1.125 | 1.375 | 7/16-20 | 14 | 4,218 | 10,285 | 0.16 |
| KM7-8 | HM7-8 | HM7-8CP | 0.4375 | 0.562 | 2.438 | 1.312 | 1.500 | 1/2-20 | 12 | 9,620 | 23,452 | 0.25 |
| KM8 | HM8 | HM8CP | 0.5000 | 0.625 | 2.438 | 1.312 | 1.500 | 1/2-20 | 12 | 6,660 | 16,238 | 0.25 |
| - | HM8H | HML8HCP | 0.5000 | 0.625 | 2.625 | 1.500 | 1.625 | 1/2-20 | 12 | - | 31,390 | 0.34 |
| KM8-10 | HM8-10 | HM8-10CP | 0.5000 | 0.625 | 2.625 | 1.500 | 1.625 | 5/8-18 | 10 | 12,807 | 31,390 | 0.38 |
| KM10 | HM10 | HM10CP | 0.6250 | 0.750 | 2.625 | 1.500 | 1.625 | 5/8-18 | 16 | 7,364 | 17,995 | 0.38 |
| - | HM10H | HM10HCP | 0.6250 | 0.750 | 2.875 | 1.750 | 1.750 | 5/8-18 | 16 | - | 40,572 | 0.52 |
| KM10-12 | HM10-12 | HM10-12CP | 0.6250 | 0.750 | 2.875 | 1.750 | 1.750 | 3/4-16 | 13 | 16,565 | 40,572 | 0.60 |
| KM12 | HM12 | HM12CP | 0.7500 | 0.875 | 2.875 | 1.750 | 1.750 | 3/4-16 | 14 | 11,518 | 28,081 | 0.60 |
| - | HM12H | HM12HCP | 0.7500 | 0.875 | 3.375 | 2.000 | 1.875 | 3/4-16 | 12 | - | 55,692 | 0.92 |

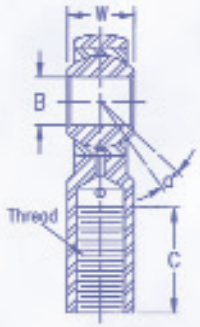
FEMALE PART NUMBER — DIMENSIONS IN INCHES

| KF Series | HF Series | B +.0015 -.0005 | W +.000 -.005 | A ±.015 | D ±.010 | C +.062 -.031 | Thread UNF-2B | Misalign. Angle a° | Ult. Rad. Static Load Lbs. KF | Ult. Rad. Static Load Lbs. HF | Approx. Brg. Wgt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| KF3 | HF3 | 0.1900 | 0.312 | 1.062 | 0.625 | 0.562 | 10-32 | 13 | 1,531 | 3,733 | 0.04 |
| KF4 | HF4 | 0.2500 | 0.375 | 1.312 | 0.750 | 0.750 | 1/4-28 | 16 | 2,539 | 6,190 | 0.06 |
| KF5 | HF5 | 0.3125 | 0.437 | 1.375 | 0.875 | 0.750 | 5/16-24 | 14 | 3,133 | 7,639 | 0.09 |
| KF6 | HF6 | 0.3750 | 0.500 | 1.625 | 1.000 | 0.937 | 3/8-24 | 12 | 3,915 | 9,544 | 0.15 |
| KF7 | HF7 | 0.4375 | 0.562 | 1.812 | 1.125 | 1.062 | 7/16-20 | 14 | 4,218 | 10,285 | 0.20 |
| KF8 | HF8 | 0.5000 | 0.625 | 2.125 | 1.312 | 1.187 | 1/2-20 | 12 | 6,660 | 15,336 | 0.33 |
| KF10 | HF10 | 0.6250 | 0.750 | 2.500 | 1.500 | 1.500 | 5/8-18 | 16 | 7,364 | 17,955 | 0.48 |
| KF12 | HF12 | 0.7500 | 0.875 | 2.875 | 1.750 | 1.750 | 3/4-16 | 14 | 11,518 | 28,081 | 0.72 |

Grease fittings and stud configurations available. Teflon® lined optional.





# COM & COM-T Series

# Spherical Bearings

• Chrome Moly Steel • Heat Treated
• Self-Lubricating Optional • Metric & Inch Dimension

**BALL**
- 52100 Bearing Steel
- Heat Treated
- Hard Chrome Plated
- Precision Ground

**RACE**
- Chrome Moly Steel (Mfr.'s option - stainless steel)
- Heat Treated
- Teflon® Lined (COM-T / HCOM-T)

**Available in sizes up to 2" I.D. Call for information!**

•

**Chrome Moly Steel Races Standard**

•

**Stainless & Metric Available**

## METAL TO METAL

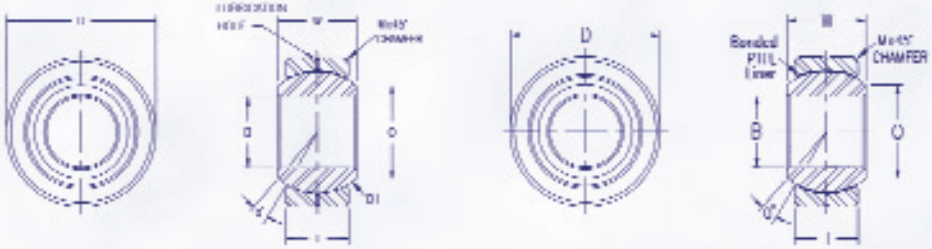
PART NUMBER — DIMENSIONS IN INCHES

| Metal to Metal | B + .0015 - .0005 | D + .0000 - .0007 | T ±.005 | W ±.005 | O Flat Dia. Ref. | M Cham. Ref. | Ball Dia. Ref. | Misalign. Angle a° | Ult. Radial Static Load Lbs. | Approx. Brg. Wt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|
| COM2 | 0.1650 | 0.4687 | 0.187 | 0.250 | 0.235 | 0.020 | 0.343 | 9.0 | 3,200 | 0.01 |
| COM3 | 0.1900 | 0.5625 | 0.218 | 0.281 | 0.293 | 0.015 | 0.406 | 11.0 | 4,875 | 0.01 |
| COM4 | 0.2500 | 0.6562 | 0.250 | 0.343 | 0.364 | 0.022 | 0.500 | 13.5 | 7,425 | 0.02 |
| COM5 | 0.3125 | 0.7500 | 0.281 | 0.375 | 0.419 | 0.032 | 0.562 | 12.0 | 9,713 | 0.03 |
| COM6 | 0.3750 | 0.8125 | 0.312 | 0.406 | 0.516 | 0.032 | 0.656 | 10.0 | 12,600 | 0.04 |
| COM7 | 0.4375 | 0.9062 | 0.343 | 0.437 | 0.530 | 0.032 | 0.687 | 8.0 | 14,180 | 0.05 |
| COM8 | 0.5000 | 1.0000 | 0.390 | 0.500 | 0.640 | 0.032 | 0.781 | 9.5 | 19,875 | 0.07 |
| COM9 | 0.5625 | 1.0937 | 0.437 | 0.562 | 0.710 | 0.032 | 0.875 | 9.5 | 24,945 | 0.09 |
| COM10 | 0.6250 | 1.1875 | 0.500 | 0.625 | 0.780 | 0.032 | 0.968 | 8.5 | 31,920 | 0.11 |
| COM12 | 0.7500 | 1.4375 | 0.593 | 0.750 | 0.920 | 0.044 | 1.187 | 9.0 | 47,880 | 0.20 |
| COM14 | 0.8750 | 1.5625 | 0.703 | 0.875 | 0.980 | 0.044 | 1.312 | 9.5 | 62,940 | 0.26 |
| COM16 | 1.0000 | 1.7500 | 0.797 | 1.000 | 1.118 | 0.044 | 1.500 | 10.0 | 82,800 | 0.39 |

## TEFLON® LINED

PART NUMBER — DIMENSIONS IN INCHES

| Teflon® Lined | B + .0015 - .0005 | D + .0000 - .0007 | T ±.005 | W ±.005 | O Flat Dia. Ref. | M Cham. Ref. | Ball Dia. Ref. | Misalign. Angle a° | Ult. Radial Static Load Lbs. | Approx. Brg. Wt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|
| COM3T | 0.1900 | 0.5625 | 0.218 | 0.281 | 0.293 | 0.015 | 0.406 | 11.0 | 4,875 | 0.01 |
| COM4T | 0.2500 | 0.6562 | 0.250 | 0.343 | 0.364 | 0.022 | 0.500 | 13.5 | 7,425 | 0.02 |
| COM5T | 0.3125 | 0.7500 | 0.281 | 0.375 | 0.419 | 0.032 | 0.562 | 12.0 | 9,713 | 0.03 |
| COM6T | 0.3750 | 0.8125 | 0.312 | 0.406 | 0.516 | 0.032 | 0.656 | 10.0 | 12,600 | 0.04 |
| COM7T | 0.4375 | 0.9062 | 0.343 | 0.437 | 0.530 | 0.032 | 0.687 | 8.0 | 14,180 | 0.05 |
| COM8T | 0.5000 | 1.0000 | 0.390 | 0.500 | 0.640 | 0.032 | 0.781 | 9.5 | 19,875 | 0.07 |
| COM9T | 0.5625 | 1.0937 | 0.437 | 0.562 | 0.710 | 0.032 | 0.875 | 9.5 | 24,945 | 0.09 |
| COM10T | 0.6250 | 1.1875 | 0.500 | 0.625 | 0.780 | 0.032 | 0.968 | 8.5 | 31,920 | 0.11 |
| COM12T | 0.7500 | 1.4375 | 0.593 | 0.750 | 0.920 | 0.044 | 1.187 | 9.0 | 47,880 | 0.20 |
| COM14T | 0.8750 | 1.5625 | 0.703 | 0.875 | 0.980 | 0.044 | 1.312 | 9.5 | 62,940 | 0.26 |
| COM16T | 1.0000 | 1.7500 | 0.797 | 1.000 | 1.118 | 0.044 | 1.500 | 10.0 | 82,800 | 0.39 |



# WPB-T & NPB-T Series Spherical Bearings

• Wide Series (WPB-T) • Narrow Series (NPB-T)
• Stainless Steel • Self-Lubricating

*Fly-N-Hi Off-Road*

**BALL**
- 440C Stainless Steel
- Heat Treated
- Hard Chrome Plated
- Precision Ground

**RACE**
- Stainless Steel
- Heat Treated
- Teflon® Lined
- Staking Groove (WPB-TG; NPB-TG)

see pg. 99 sent in 90-99 pack

## WIDE SERIES

PART NUMBER — DIMENSIONS IN INCHES

| Teflon® Lined | B + .0000 - .0005 | D + .0000 - .0005 | T ±.005 | W + .000 - .002 | O Flat Dia. Ref. | M Chamfer Ref. | Ball Dia. Ref. | Misalign. Angle a° | Ult. Radial Static Load Lbs. | Ult. Axial Static Load Lbs. | Approx. Brg. Wt. Lbs. | No Load Breakaway Torque In.-Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WPB4T | 0.2500 | 0.6250 | 0.327 | 0.437 | 0.300 | 0.022 | 0.531 | 15 | 5,500 | 1,770 | 0.03 | 0.25-5 |
| WPB5T | 0.3125 | 0.6875 | 0.317 | 0.437 | 0.360 | 0.032 | 0.593 | 14 | 9,400 | 1,640 | 0.04 | 1-8 |
| WPB6T | 0.3750 | 0.8125 | 0.406 | 0.500 | 0.466 | 0.032 | 0.687 | 8 | 13,700 | 2,630 | 0.06 | 1-8 |
| WPB7T | 0.4375 | 0.9375 | 0.442 | 0.562 | 0.537 | 0.032 | 0.781 | 10 | 20,700 | 3,650 | 0.08 | 3-12 |
| WPB8T | 0.5000 | 1.0000 | 0.505 | 0.625 | 0.607 | 0.032 | 0.875 | 9 | 21,400 | 4,970 | 0.10 | 3-12 |
| WPB9T | 0.5625 | 1.1250 | 0.536 | 0.687 | 0.721 | 0.032 | 1.000 | 10 | 26,600 | 5,370 | 0.14 | 3-12 |
| WPB10T | 0.6250 | 1.1875 | 0.567 | 0.750 | 0.752 | 0.032 | 1.062 | 12 | 29,000 | 6,130 | 0.16 | 3-12 |
| WPB12T | 0.7500 | 1.3750 | 0.630 | 0.875 | 0.845 | 0.044 | 1.250 | 13 | 37,000 | 7,730 | 0.24 | 3-12 |
| WPB14T | 0.8750 | 1.6250 | 0.755 | 0.875 | 0.995 | 0.044 | 1.375 | 6 | 65,200 | 10,800 | 0.35 | 3-12 |
| WPB16T | 1.0000 | 2.1250 | 1.005 | 1.375 | 1.269 | 0.044 | 1.875 | 12 | 104,000 | 19,300 | 0.97 | 3-12 |

**Teflon® Lined • Unsurpassed Reliability**

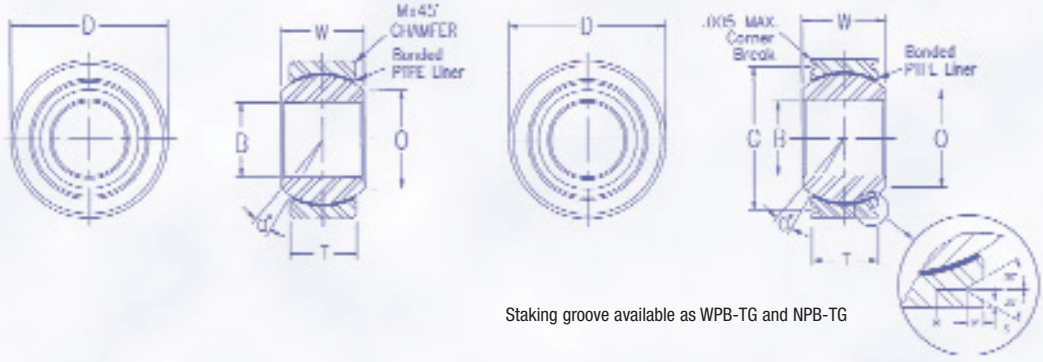
SELF-LUBRICATING

## NARROW SERIES

PART NUMBER — DIMENSIONS IN INCHES

| Teflon® Lined | B + .0000 - .0005 | D + .0000 - .0005 | T ±.005 | W + .000 - .002 | O Flat Dia. Ref. | M Chamfer Ref. | Ball Dia. Ref. | Misalign. Angle a° | Ult. Radial Static Load Lbs. | Ult. Axial Static Load Lbs. | Approx Brg. Wt. Lbs. | No Load Breakaway Torque In.-Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NPB3T | 0.1900 | 0.5625 | 0.218 | 0.281 | 0.293 | 0.015 | 0.406 | 10 | 3,975 | 150 | 0.02 | 0.25-5 |
| NPB4T | 0.2500 | 0.6562 | 0.250 | 0.343 | 0.364 | 0.022 | 0.500 | 10 | 6,040 | 430 | 0.02 | 0.25-5 |
| NPB5T | 0.3125 | 0.7500 | 0.281 | 0.375 | 0.419 | 0.032 | 0.562 | 10 | 8,750 | 700 | 0.03 | 1-8 |
| NPB6T | 0.3750 | 0.8125 | 0.312 | 0.406 | 0.475 | 0.032 | 0.625 | 9 | 10,540 | 1,100 | 0.04 | 1-8 |
| NPB7T | 0.4375 | 0.9062 | 0.343 | 0.437 | 0.530 | 0.032 | 0.687 | 8 | 13,200 | 1,400 | 0.05 | 3-12 |
| NPB8T | 0.5000 | 1.0000 | 0.390 | 0.500 | 0.600 | 0.032 | 0.781 | 8 | 17,900 | 2,100 | 0.07 | 3-12 |
| NPB9T | 0.5625 | 1.0937 | 0.437 | 0.562 | 0.670 | 0.032 | 0.875 | 8 | 23,200 | 3,680 | 0.09 | 3-12 |
| NPB10T | 0.6250 | 1.1875 | 0.500 | 0.625 | 0.739 | 0.032 | 0.968 | 8 | 30,500 | 4,720 | 0.12 | 3-12 |
| NPB12T | 0.7500 | 1.4375 | 0.593 | 0.750 | 0.920 | 0.044 | 1.187 | 8 | 46,400 | 6,750 | 0.21 | 3-12 |
| NPB14T | 0.8750 | 1.5625 | 0.703 | 0.875 | 0.980 | 0.044 | 1.312 | 8 | 62,200 | 9,350 | 0.27 | 3-12 |
| NPB16T | 1.0000 | 1.7500 | 0.797 | 1.000 | 1.118 | 0.044 | 1.500 | 9 | 82,200 | 12,160 | 0.39 | 3-12 |

SELF-LUBRICATING




Staking groove available as WPB-TG and NPB-TG

# YPB-T & YPB-TG Series
# Spherical Bearings

- High Misalignment
- Stainless Steel
- Self-Lubricating

*Nick Licata*

**BALL**
- 440C Stainless Steel
- Heat Treated
- Hard Chrome Plated
- Precision Ground

**RACE**
- Stainless Steel
- Heat Treated
- Teflon® Lined
- Staking Groove (YPB-TG)

## HIGH MISALIGNMENT

PART NUMBER — DIMENSIONS IN INCHES

| Teflon® Lined | B + .0000 - .0005 | D + .0000 - .0005 | T ±.005 | W +.000 -.005 | O Flat Dia. Ref. | M Chamfer Ref. | Ball Dia. Ref. | Misalign. Angle a° | Ult. Radial Static Load Lbs. | Approx. Brg. Wt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|
| **YPB4T** | 0.2500 | 0.7400 | 0.255 | 0.593 | 0.390 | 0.020 | 0.593 | 24 | 7,560 | 0.04 |
| **YPB5T** | 0.3125 | 0.9060 | 0.345 | 0.813 | 0.512 | 0.030 | 0.781 | 23 | 16,975 | 0.07 |
| **YPB6T** | 0.3750 | 0.9060 | 0.345 | 0.813 | 0.512 | 0.030 | 0.781 | 23 | 16,975 | 0.07 |
| **YPB7T** | 0.4375 | 1.0000 | 0.345 | 0.875 | 0.618 | 0.030 | 0.875 | 22 | 19,018 | 0.10 |
| **YPB8T** | 0.5000 | 1.1250 | 0.401 | 0.937 | 0.730 | 0.030 | 1.000 | 20 | 25,263 | 0.16 |
| **YPB10T** | 0.6250 | 1.3750 | 0.567 | 1.200 | 0.856 | 0.030 | 1.250 | 20 | 44,651 | 0.25 |
| **YPB12T** | 0.7500 | 1.5625 | 0.620 | 1.280 | 0.970 | 0.035 | 1.325 | 18 | 53,507 | 0.32 |

SELF-LUBRICATING

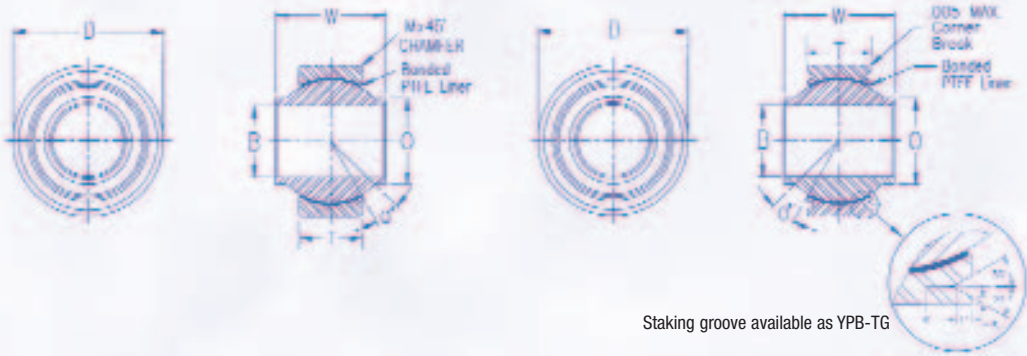
**Teflon® Lined • Largest Selection**

## HIGH MISALIGNMENT WITH STAKING GROOVE

PART NUMBER — DIMENSIONS IN INCHES

| Teflon® w/Lined V-Groove | B + .0000 - .0005 | D + .0000 - .0005 | T ± .005 | W +.000 - .005 | O Flat Dia. Ref. | P + .000 - .015 | R + .002 - .005 | S Min. | Ball Dia. Ref. | Misalign. Angle a° | Ult. Radial Static Load Lbs. | Approx. Brg. Wt. Lbs. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **YPB4TG** | 0.2500 | 0.7400 | 0.255 | 0.593 | 0.390 | 0.030 | 0.015 | 0.020 | 0.593 | 24 | 7,560 | 0.04 |
| **YPB5TG** | 0.3125 | 0.9060 | 0.345 | 0.813 | 0.512 | 0.030 | 0.015 | 0.020 | 0.781 | 23 | 16,975 | 0.07 |
| **YPB6TG** | 0.3750 | 0.9060 | 0.345 | 0.813 | 0.512 | 0.030 | 0.015 | 0.020 | 0.781 | 23 | 16,975 | 0.07 |
| **YPB7TG** | 0.4375 | 1.0000 | 0.345 | 0.875 | 0.618 | 0.030 | 0.015 | 0.020 | 0.875 | 22 | 19,018 | 0.10 |
| **YPB8TG** | 0.5000 | 1.1250 | 0.401 | 0.937 | 0.730 | 0.030 | 0.015 | 0.020 | 1.000 | 20 | 25,263 | 0.16 |
| **YPB10TG** | 0.6250 | 1.3750 | 0.567 | 1.200 | 0.856 | 0.040 | 0.020 | 0.030 | 1.250 | 20 | 44,651 | 0.25 |
| **YPB12TG** | 0.7500 | 1.5625 | 0.620 | 1.280 | 0.970 | 0.060 | 0.020 | 0.030 | 1.325 | 18 | 53,507 | 0.32 |

SELF-LUBRICATING




Staking groove available as YPB-TG

# Clevises & Rod Eyes

*Brad Kingma*

**STANDARD CLEVIS**
- Carbon Steel
- Protective Coated for Corrosion Resistance

**STANDARD ROD EYE**
- Carbon Steel
- Protective Coated for Corrosion Resistance

**Economical Prices**

## CLEVISES

PART NUMBER — DIMENSIONS IN INCHES

| Right Hand | Left Hand | Bore x Thread Ref. | B +.005 -.000 | D ±.010 | W ±.005 | A ±.015 | C +.062 -.031 | S ±.005 | Thread Ref. |
|---|---|---|---|---|---|---|---|---|---|
| CR4-5 | CL4-5 | 1/4 X 5/16 | 0.2500 | 0.875 | 0.625 | 2.250 | 1.250 | 0.1880 | 5/16-24 |
| CR5-5 | CL5-5 | 5/16 X 5/16 | 0.3125 | 0.875 | 0.625 | 2.250 | 1.250 | 0.1880 | 5/16-24 |
| CR5-6 | CL5-6 | 5/16 X 3/8 | 0.3125 | 0.875 | 0.625 | 2.250 | 1.250 | 0.1880 | 3/8-24 |
| CR5-8 | CL5-8 | 5/16 X 1/2 | 0.3125 | 1.000 | 0.750 | 2.500 | 1.500 | 0.2500 | 1/2-20 |
| CR6-8 | CL6-8 | 3/8 X 1/2 | 0.3750 | 1.000 | 0.750 | 2.500 | 1.500 | 0.2500 | 1/2-20 |
| CR6-8-1CP* | CL6-8-1CP* | 3/8 X 1/2 | 0.3750 | 1.000 | 0.750 | 2.750 | 1.500 | 0.3125 | 1/2-20 |
| CR6-8-2CP* | CL6-8-2CP* | 3/8 X 1/2 | 0.3750 | 1.000 | 0.750 | 2.750 | 1.500 | 0.3750 | 1/2-20 |
| CR6-10 | CL6-10 | 3/8 X 5/8 | 0.3750 | 1.125 | 0.825 | 3.375 | 2.000 | 0.3750 | 5/8-18 |
| CR6-10CP* | CL6-10CP* | 3/8 X 5/8 | 0.3750 | 1.125 | 0.825 | 3.375 | 2.000 | 0.3750 | 5/8-18 |
| CR6-12 | CL6-12 | 3/8 X 3/4 | 0.3750 | 1.125 | 0.825 | 3.375 | 2.000 | 0.3750 | 3/4-16 |
| CR7-8 | CL7-8 | 7/16 X 1/2 | 0.4375 | 1.125 | 0.825 | 3.375 | 2.000 | 0.3750 | 1/2-20 |
| CR7-10 | CL7-10 | 7/16 X 5/8 | 0.4375 | 1.125 | 0.825 | 3.375 | 2.000 | 0.3750 | 5/8-18 |
| CR8-10 | CL8-10 | 1/2 X 5/8 | 0.5000 | 1.125 | 0.825 | 3.375 | 2.000 | 0.3750 | 5/8-18 |
| CR8-12 | CL8-12 | 1/2 X 3/4 | 0.5000 | 1.125 | 0.825 | 3.375 | 2.000 | 0.2500 | 3/4-16 |
| CR8-12AL** | CL8-12AL** | 1/2 X 3/4 | 0.5000 | 1.125 | 0.825 | 3.375 | 2.000 | 0.2500 | 3/4-16 |
| CR8-12-1 | CL8-12-1 | 1/2 X 3/4 | 0.5000 | 1.125 | 0.825 | 3.375 | 2.000 | 0.3750 | 3/4-16 |

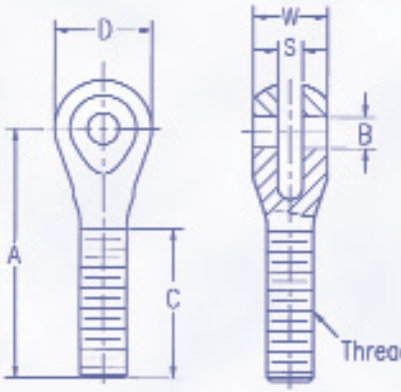
## ROD EYES

PART NUMBER — DIMENSIONS IN INCHES

| Right Hand | Left Hand | Bore x Thread +.005 -.000 | B ±.010 | D ±.010 | W ±.005 | A ±.015 | C +.062 -.031 | Thread Ref. |
|---|---|---|---|---|---|---|---|---|
| RER8 | N/A | 1/2 X 1/2 | 0.500 | 1.312 | 0.625 | 2.437 | 1.500 | 1/2-20 |
| RER8-12 | N/A | 1/2 X 3/4 | 0.500 | 1.500 | 0.875 | 2.875 | 1.750 | 3/4-16 |
| RER10 | N/A | 5/8 X 5/8 | 0.625 | 1.500 | 0.750 | 2.625 | 1.625 | 5/8-18 |
| RER10-12*** | N/A | 5/8 X 3/4 | 0.625 | 1.500 | 0.875 | 2.500 | 1.650 | 3/4-16 |
| RER10-12-1 | REL10-12-1 | 5/8 X 3/4 | 0.625 | 1.750 | 0.875 | 2.875 | 1.750 | 3/4-16 |
| RER12 | N/A | 3/4 X 3/4 | 0.750 | 1.750 | 0.875 | 2.875 | 1.750 | 3/4-16 |

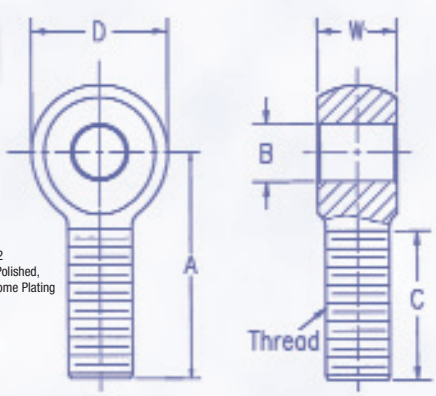
**CLEVIS**

* CP denotes Polished, Hard Chrome Plating
**AL denotes 7075-T6 aluminum




**ROD EYE**

***RER10-12 denotes Polished, Hard Chrome Plating



# Jam Nuts & Double Adjusters

*Holcomb Motorsports*

**STEEL JAM NUTS**

- High Carbon Steel
- Chrome Plated
- Reference ANSI B18.2.2-1972

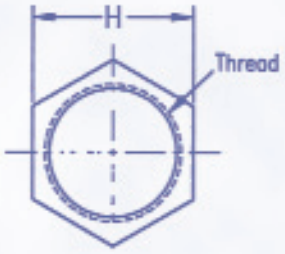
**ALUMINUM JAM NUTS**

- 7075 Aluminum
- Clear Anodized

**DOUBLE ADJUSTERS**

- High Carbon Steel
- Polished & Chrome Plated

## Jam Nuts




### Steel Jam Nuts

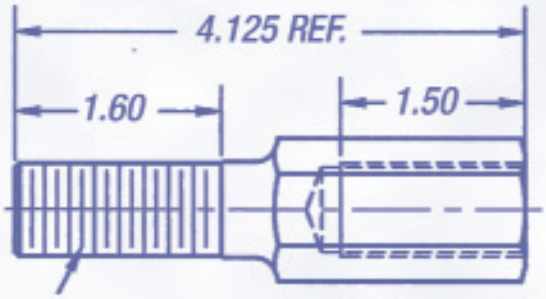
| PART NUMBER | | DIMENSIONS IN INCHES | | |
|---|---|---|---|---|
| Right Hand | Left Hand | Threads UNF-2B | H Hex | W Width |
| JNR4S | JNL4S | 1/4-28 | 7/16 | 0.163 |
| JNR5S | JNL5S | 5/16-24 | 1/2 | 0.195 |
| JNR6S | JNL6S | 3/8-24 | 9/16 | 0.227 |
| JNR7S | JNL7S | 7/16-20 | 11/16 | 0.260 |
| JNR8S | JNL8S | 1/2-20 | 3/4 | 0.323 |
| JNR10S | JNL10S | 5/8-18 | 15/16 | 0.387 |
| JNR10S-1 | JNL10S-1 | 5/8-18 | 3/4 | 0.387 |
| JNR12S | JNL12S | 3/4-16 | 1-1/8 | 0.425 |


### Aluminum Jam Nuts

| PART NUMBER | | DIMENSIONS IN INCHES | | |
|---|---|---|---|---|
| Right Hand | Left Hand | Threads UNF-2B | H Hex | W Width |
| JNR4A | JNL4A | 1/4-28 | 7/16 | 0.163 |
| JNR5A | JNL5A | 5/16-24 | 1/2 | 0.195 |
| JNR6A | JNL6A | 3/8-24 | 9/16 | 0.227 |
| JNR7A | JNL7A | 7/16-20 | 11/16 | 0.260 |
| JNR8A | JNL8A | 1/2-20 | 3/4 | 0.323 |
| JNR10A | JNL10A | 5/8-18 | 15/16 | 0.387 |
| JNR10A-1 | JNL10A-1 | 5/8-18 | 3/4 | 0.387 |
| JNR12A | JNL12A | 3/4-16 | 1-1/8 | 0.425 |

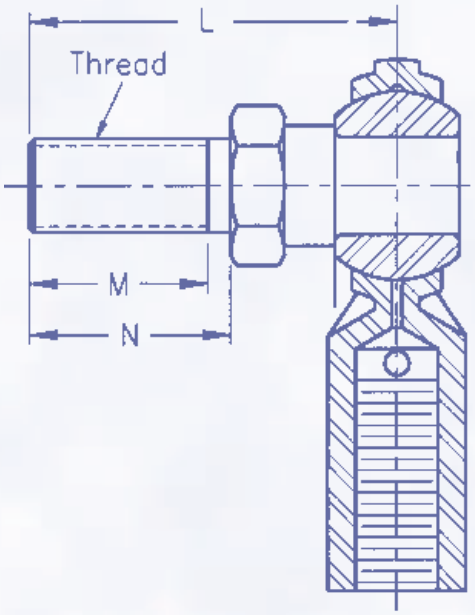
## Double Adjuster

**Part Number ADJ12-12**




# Technical Information

*Frank Ingram*




## ROD END STUD SPECIFICATIONS

- Inch / Metric
- Low Carbon Steel / Stainless Steel
- Protective Coated for Corrosion Resistance
- Right Hand Threads Standard
- Available with All Catalogued Rod Ends, Male and Female*

DIMENSIONS IN INCHES

| Rod End Bore Size | L Ref. | N ±.010 | M Ref. | Thread UNF-2A |
|---|---|---|---|---|
| 3/16 | 1.000 | 0.500 | 0.437 | 10-32 |
| 1/4 | 1.031 | 0.562 | 0.500 | 1/4-28 |
| 5/16 | 1.219 | 0.687 | 0.593 | 5/16-24 |
| 3/8 | 1.562 | 0.906 | 0.812 | 3/8-24 |
| 7/16 | 1.750 | 1.062 | 0.937 | 7/16-20 |
| 1/2 | 2.000 | 1.125 | 1.000 | 1/2-20 |
| 5/8 | 2.500 | 1.500 | 1.375 | 5/8-18 |
| 3/4 | 3.000 | 1.182 | 1.625 | 3/4-16 |

* Please consult QA1 for availability of stainless steel studs and metric studs.

When ordering a standard stud, add the letter "S" to the completed rod end number. **Example: CMR8S** If studded rod end is ordered with a grease fitting, the standard placement is in the right hand location with stud pointed toward the viewer. Please specify if alternate placement is required. When ordering a stud and grease fitting, add the letter "S" and "Z" to the completed number. **Example: CMR8SZ**

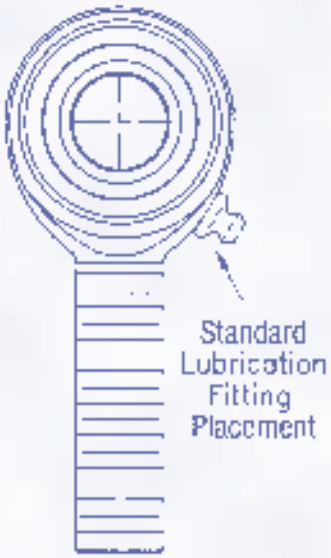
## GREASE FITTING CONFIGURATION

### Location

Standard grease fitting locations are illustrated below. Note that for a female configuration, once the male threaded component is fully engaged, the grease is forced through the hole at the top of the female shank to facilitate ball lubrication.

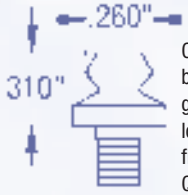
### Standard Grease Fitting

Order by adding the letter "Z" to the completed number. **Example: CMR8Z**



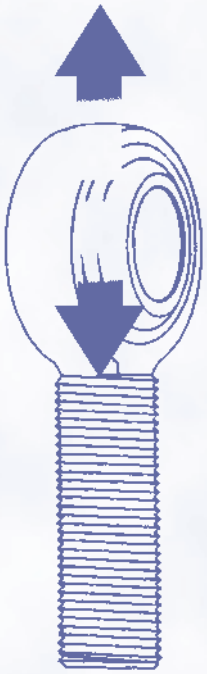

*Male*


*Female*




Catalog load ratings are based on rod ends without grease fittings. For adjusted load ratings with grease fittings, consult QA1 Engineering.

# Technical Information



## Radial Static Load Ratings

The ultimate radial static load rating is measured as the failure point when a load is increasingly applied to a pin inserted through the rod end's bore and pulled straight up while the rod end is fixtured. Note that QA1's catalogued radial load ratings include a safety factor, and that insertion of a grease fitting into the radius of the rod end may reduce the load rating due to lesser cross-sectional material in the stressed point. The actual rating is determined by calculating the lowest of the following three values:

1. Race material compressive strength ( R value ): $R = E \times T \times X$

2. Rod end head strength ( H Value, cartridge type construction ): $H = [ (\frac{T}{2}\sqrt{D^2-T^2}) + (\frac{D^2}{2} \times \text{SIN}^{-1}\frac{T}{2}) - ( \text{O.D. of Bearing} \times T ) ] \times X$

   Angle of $\frac{T}{D}$ expressed in radians

3. Shank strength ( S Value ) Male threaded rod end: $S = [ ( \text{root diameter of thread}^2 \times .78 ) - ( N^2 \times .78 ) ] \times X$

   Female threaded rod end: $S_1 = [ ( J^2 \times .78 ) - ( \text{major diameter of thread}^2 \times .78 ) ] \times X$

Where: E = Ball Diameter
T = Housing Width
X = Allowable Stress ( See Table )
D = Head Diameter
N = Diameter of Drilled Hole in Shank of Male Rod End
J = Shank Diameter of Female Rod End

| MATERIAL | ALLOWABLE STRESS ( PSI ) |
|---|---|
| Brass | 30,000 |
| Aluminum Bronze | 35,000 |
| 300 Series Stainless Steel | 35,000 |
| Low Carbon Steel | 52,000 |
| Alloy Steel | 140,000 |

# Frequently Asked Questions

**The Teflon® liner in my three piece rod ends always pounds out when I run my car on dirt, leaving the rod end loose. What can I do to avoid this?**

Teflon® "pounding out" on dirt applications is a common problem. It occurs because the Teflon® fabric liner and the three piece design of these rod ends are not engineered to withstand the introduction of sand, dirt, etc. QA1 has addressed this problem with the Endura series rod ends, engineered specifically for racing applications. This series of rod ends includes a self-lubricating, maintenance-free Teflon®/Kevlar® injection-molded liner, and is constructed in such a manner that it is nearly impossible for the liner to ever "pound out". These rod ends are offered in aluminum (over 10% lighter than traditional three-piece aluminum rod ends), carbon steel, heat-treated chrome moly steel, and chrome plated chrome moly steel.

**What maintenance do I need to perform on my rod ends to keep them operating properly?**

Most rod ends are designed to be relatively maintenance-free. For metal-to-metal rod ends, a thin layer of grease applied occasionally to the ball will assist in extending the life of these products. Rod ends that are Teflon® lined are self-lubricating and are designed to be relatively maintenance-free. Check your rod ends frequently for wear and replace them as needed.

**What rod end is best for my application?**

With over 5,000 sizes, styles and materials in QA1 rod ends to choose from, QA1 manufactures a rod end for virtually every application. However, for nearly all performance racing applications, QA1 strongly recommends the Endura series rod ends. QA1 Endura rod ends are engineered specifically for the rigors of performance racing, and are the only rod ends designed to withstand dirt, sand, grit, and other debris that commonly come into contact with racing vehicles. The Endura series is self-lubricating, self-sealing and maintenance-free. These rod ends have all of the advantages of metal-to-metal rod ends when encountering heavy shock loads, while also enjoying the advanced wear characteristics of three-piece rod ends. They are available in aluminum, heat-treated chrome moly steel, polished chrome moly steel, and carbon steel. The QA1 aluminum Endura series rod ends are over 10% lighter than traditional three-piece aluminum units, and also have greater tensile strength due to increased cross-sectional thickness in the rod end body. If you need assistance with your particular application, please call the QA1 technical support line at 952-985-5675.

**Will QA1 assist me in determining which product to use for my application?**

We are always glad to assist you in making your product selection. QA1 technical support staff is very experienced and knowledgeable about QA1 products and their use. When requested, we will use information supplied by you to assist you in determining which QA1 product is best suited to your application. However, the final decision as to part selection and the correct installation and usage of the product is yours. Please call for assistance if a QA1 product does not appear to fit your application – there is always the possibility that another part will work better. Parts that have been installed, damaged, altered or forced in any way are not eligible for return.

**Technical support and order lines are open Monday - Friday 8 a.m. to 5 p.m. CST.**