

# Emerson Power Transmission

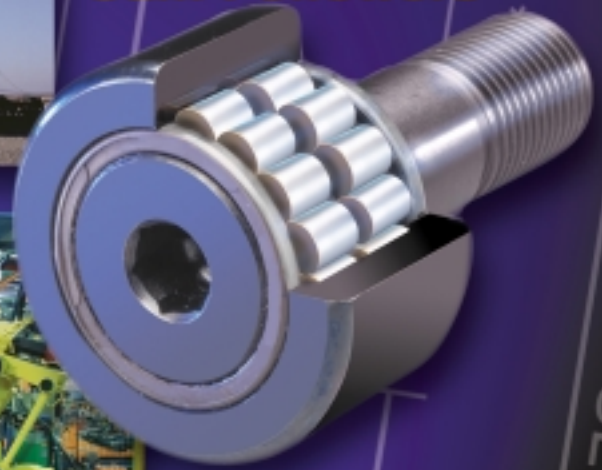
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# McGILL®

## Heavy-Duty CAMROL® Bearings

Cylindrical-Roller  
Cam Followers



  
**EMERSON™**  
Industrial Automation

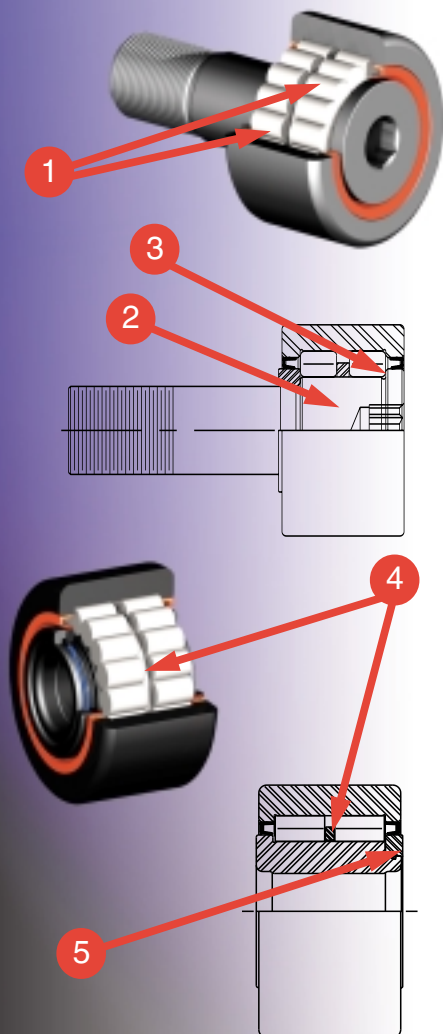
# Heavy-Duty CAMROL® Bearings

## The Industry Leader...

In 1937, McGILL engineers invented the first needle bearing cam follower. Since that time the McGILL® CAMROL® Bearing line has maintained its leadership position through development of innovative solutions to the problems faced by industry.

## The Problem Solver...Heavy-Duty

McGILL® Heavy-Duty CAMROL® bearings are designed to help solve some of the toughest problems in your cam follower applications. Utilizing Heavy-Duty CAMROL® Bearings in situations involving incidental thrust loads, higher speeds, contamination, or maintenance-free operation can provide significant operational life increases over standard cam followers.



### *Improved Thrust Capability*

Standard needle bearing cam followers are designed to handle heavy radial loads, however, thrust loads can cause early failure.

1. **Double Rows of Cylindrical Rollers** are designed in the bearing to help it take incidental thrust sometimes associated with cam follower operation. The double row of cylindrical rollers also allows for high speeds and a high dynamic rating for extended fatigue life.

### *Maintains McGILL Quality Features*

The Heavy-Duty CAMROL® Bearing was designed with tough applications in mind, and maintains a quality, robust design unique to McGILL.

2. **Zone Hardened** raceways provide high load ratings, and the ductile stem gives strength for absorbing shocks.
3. **Integral Flange** in the stud type prevents disassembly in thrust load situations.
4. **Center Thrust Ring** provides a smooth surface for thrust load carrying and roller guidance.
5. **Endplate Retention Ring** in the yoke-type is an innovative method for securing endplates, eliminating the need for endplate backup in certain applications.

# Heavy-Duty CAMROL® Bearings

## Resists Contamination

Even a small amount of contamination can significantly reduce bearing life. Dust can wick oil out of the bearing, water can wash grease out, and particulate matter or contamination can dent raceways.

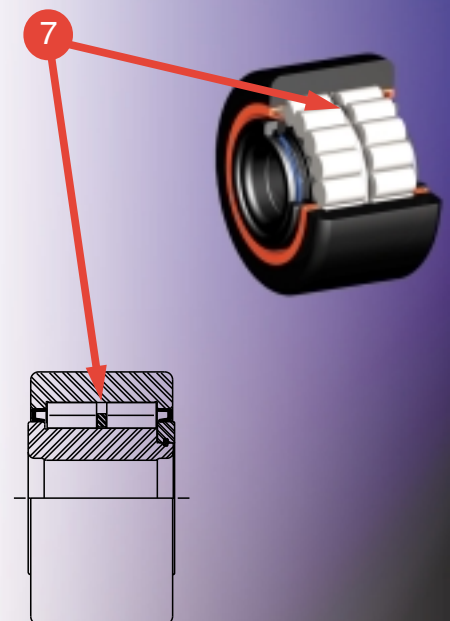
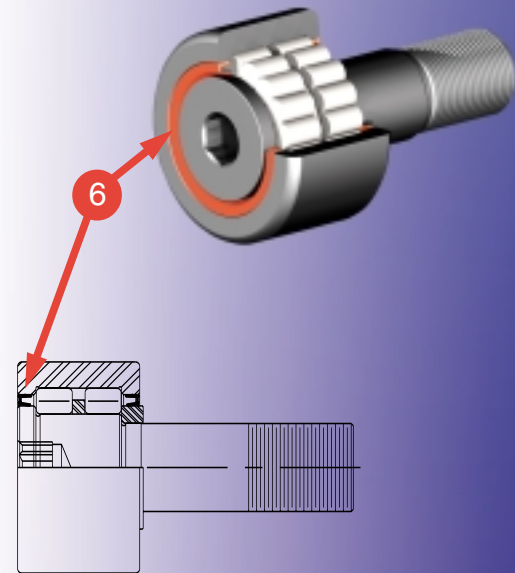
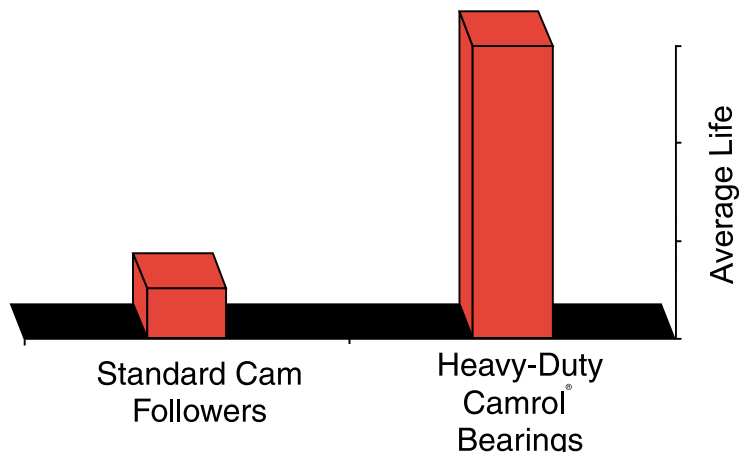
- 6. Rubber Lip Seals** are standard in the Heavy-Duty CAMROL® Bearings. Although standard cam followers do well in most situations, at times, seals such as those in the Heavy-Duty CAMROL® Bearing are needed for increased protection against contamination. The rubber lip seals are pointed inward for improved grease retention.

## Provides Lube-For-Life Operation

Heavy-Duty CAMROL® Bearings last up to 5 times longer than standard needle bearing cam followers in lube-for-life tests.

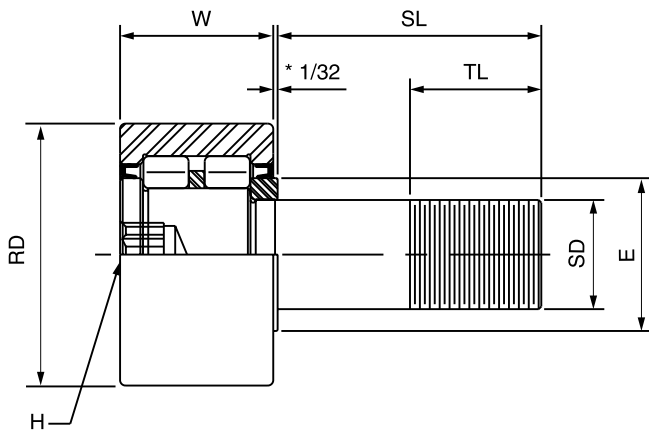
- 7. Large Lubricant Reservoirs** and rubber lip seals help keep more grease in the bearing for maintenance-free operation.

## Up to Five Times Longer Life

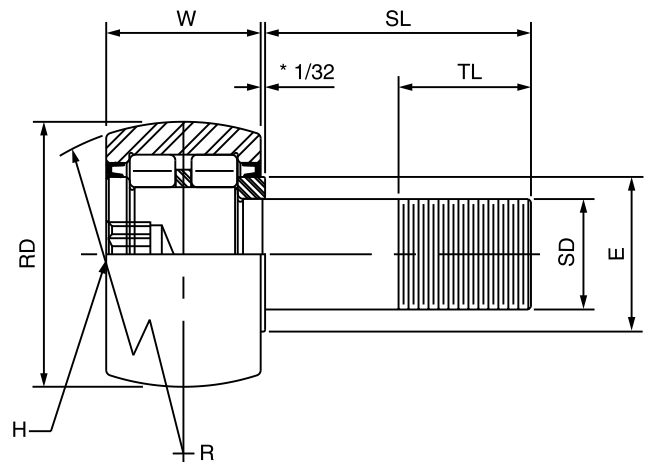


# Heavy-Duty CAMROL® Bearings

## CFD Series



## CCFD Series



CFD and CCFD STUD SERIES - Dimensions in Inches

| Bearing Number | Roller Diameter<br>RD<br>+.000<br>-.001 | Roller Width<br>W<br>+.000<br>-.005 | Stud Diameter<br>SD<br>+.001<br>-.000 | Stud Length<br>SL | Min. Thread Length<br>TL | Fine Threads Class 2A | Hex Hole Size H | Endplate OD E | Crown Radius R (CCFD) | Rec'd Hsg. Bore<br>+.0002<br>-.0003 | Max. Rec'd Torque**<br>In.-Lbs. | ISO/ABMA Load Rating*** |             | Track Roller Load Rating<br>Dynamic Lbs. |       |
|----------------|---|-------------------------------------|---------------------------------------|-------------------|--------------------------|-----------------------|-----------------|---------------|-----------------------|-------------------------------------|---------------------------------|-------------------------|-------------|--|-------|
|                |   |                                     |                                       |                   |                          |                       |                 |               |                       |                                     |                                 | Dynamic Lbs.            | Static Lbs. |  |       |
| CFD-1 1/4      | CCFD-1 1/4                              | 1.250                               | .750                                  | .500              | 1 1/4                    | 5/8                   | 1/2-20          | 1/4           | 45/64                 | 14                                  | .5003                           | 350                     | 4000        | 4260                                     | 3300  |
| CFD-1 3/8      | CCFD-1 3/8                              | 1.375                               | .750                                  | .500              | 1 1/4                    | 5/8                   | 1/2-20          | 1/4           | 45/64                 | 14                                  | .5003                           | 350                     | 4000        | 4260                                     | 3600  |
| CFD-1 1/2      | CCFD-1 1/2                              | 1.500                               | .875                                  | .625              | 1 1/2                    | 3/4                   | 5/8-18          | 5/16          | 55/64                 | 20                                  | .6253                           | 650                     | 6150        | 6910                                     | 5000  |
| CFD-1 5/8      | CCFD-1 5/8                              | 1.625                               | .875                                  | .625              | 1 1/2                    | 3/4                   | 5/8-18          | 5/16          | 55/64                 | 20                                  | .6253                           | 650                     | 6150        | 6910                                     | 5400  |
| CFD-1 3/4      | CCFD-1 3/4                              | 1.750                               | 1.000                                 | .750              | 1 3/4                    | 7/8                   | 3/4-16          | 5/16          | 15/16                 | 20                                  | .7503                           | 1250                    | 7900        | 9190                                     | 6650  |
| CFD-1 7/8      | CCFD-1 7/8                              | 1.875                               | 1.000                                 | .750              | 1 3/4                    | 7/8                   | 3/4-16          | 5/16          | 15/16                 | 20                                  | .7503                           | 1250                    | 7900        | 9190                                     | 7100  |
| CFD-2          | CCFD-2                                  | 2.000                               | 1.250                                 | .875              | 2                        | 1                     | 7/8-14          | 7/16          | 1 5/32                | 24                                  | .8753                           | 1500                    | 12100       | 14600                                    | 9500  |
| CFD-2 1/4      | CCFD-2 1/4                              | 2.250                               | 1.250                                 | .875              | 2                        | 1                     | 7/8-14          | 7/16          | 1 5/32                | 24                                  | .8753                           | 1500                    | 12100       | 14600                                    | 10500 |
| CFD-2 1/2      | CCFD-2 1/2                              | 2.500                               | 1.500                                 | 1.000             | 2 1/4                    | 1 1/8                 | 1-14            | 1/2           | 1 5/16                | 30                                  | 1.0003                          | 2250                    | 16600       | 22600                                    | 14000 |
| CFD-2 3/4      | CCFD-2 3/4                              | 2.750                               | 1.500                                 | 1.000             | 2 1/4                    | 1 1/8                 | 1-14            | 1/2           | 1 5/16                | 30                                  | 1.0003                          | 2250                    | 16600       | 22600                                    | 15000 |
| CFD-3          | CCFD-3                                  | 3.000                               | 1.750                                 | 1.250             | 2 1/2                    | 1 1/4                 | 1 1/4-12        | 3/4           | 1 27/32               | 30                                  | 1.2503                          | 3450                    | 25100       | 36500                                    | 18300 |
| CFD-3 1/4      | CCFD-3 1/4                              | 3.250                               | 1.750                                 | 1.250             | 2 1/2                    | 1 1/4                 | 1 1/4-12        | 3/4           | 1 27/32               | 30                                  | 1.2503                          | 3450                    | 25100       | 36500                                    | 20300 |
| CFD-3 1/2      | CCFD-3 1/2                              | 3.500                               | 2.000                                 | 1.375             | 2 3/4                    | 1 3/8                 | 1 3/8-12        | 3/4           | 2 3/16                | 30                                  | 1.3753                          | 4200                    | 34200       | 52500                                    | 23700 |
| CFD-4          | CCFD-4                                  | 4.000                               | 2.250                                 | 1.500             | 3 1/2                    | 1 1/2                 | 1 1/2-12        | 3/4           | 2 27/64               | 30                                  | 1.5003                          | 5000                    | 44100       | 67900                                    | 32500 |
| CFD-5          | CCFD-5                                  | 5.000                               | 2.750                                 | 2.000             | 5 1/16                   | 2 9/16                | 2-12            | 7/8           | 2 61/64               | 48                                  | 2.0003                          | 5000                    | 67800       | 109500                                   | 50500 |
| CFD-6          | CCFD-6                                  | 6.000                               | 3.250                                 | 2.500             | 6                        | 3                     | 2 1/2-12        | 1             | 3 11/16               | 56                                  | 2.5003                          | 5000                    | 101900      | 169900                                   | 71500 |

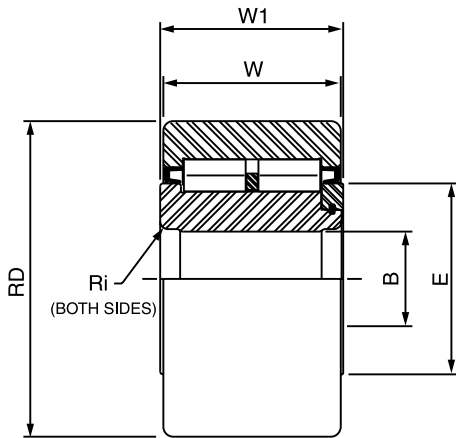
\*1/16 for CFD/CCFD 5 and 6

\*\*Clamping torque is based on dry threads. If threads are lubricated, use half of values shown.

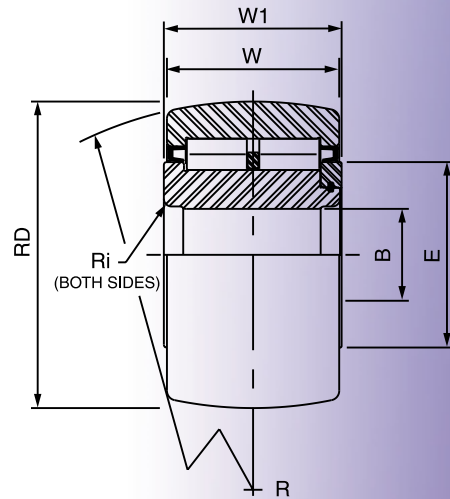
\*\*\*Ratings for comparison purposes only.

# Heavy-Duty CAMROL® Bearings

## CYRD Series



## CCYRD Series



### CYRD and CCYRD YOKE SERIES - Dimensions in Inches

| Bearing Number | Roller Diameter RD<br>+.000<br>-.001 | Roller Width W<br>+.000<br>-.005 | Bore Diameter B<br>+.0002<br>-.0004 | Overall Width W1<br>+.005<br>-.010 | Endplate OD E | Crown Radius R (CCYRD) | Bore Corner Ri** Min | Recommended Shaft Diameter |                     |                     | ISO/ABMA Load Rating* |             | Track Roller Load Rating Dynamic Lbs. |       |
|----------------|--------------------------------------|----------------------------------|-------------------------------------|------------------------------------|---------------|------------------------|----------------------|----------------------------|---------------------|---------------------|-----------------------|-------------|---------------------------------------|-------|
|                |                                      |                                  |                                     |                                    |               |                        |                      | Push Fit +/- .0002         | Drive Fit +/- .0002 | Press Fit +/- .0002 | Dynamic Lbs.          | Static Lbs. |                                       |       |
| CYRD-1 1/4     | CCYRD-1 1/4                          | 1.250                            | .750                                | .3750                              | .8125         | 45/64                  | 14                   | .030                       | .3745               | .3751               | .3753                 | 4000        | 4260                                  | 3300  |
| CYRD-1 3/8     | CCYRD-1 3/8                          | 1.375                            | .750                                | .3750                              | .8125         | 45/64                  | 14                   | .030                       | .3745               | .3751               | .3753                 | 4000        | 4260                                  | 3600  |
| CYRD-1 1/2     | CCYRD-1 1/2                          | 1.500                            | .875                                | .4375                              | .9375         | 55/64                  | 20                   | .040                       | .4370               | .4376               | .4378                 | 6150        | 6910                                  | 5000  |
| CYRD-1 5/8     | CCYRD-1 5/8                          | 1.625                            | .875                                | .4375                              | .9375         | 55/64                  | 20                   | .040                       | .4370               | .4376               | .4378                 | 6150        | 6910                                  | 5400  |
| CYRD-1 3/4     | CCYRD-1 3/4                          | 1.750                            | 1.000                               | .5000                              | 1.0625        | 15/16                  | 20                   | .050                       | .4995               | .5001               | .5005                 | 7900        | 9190                                  | 6650  |
| CYRD-1 7/8     | CCYRD-1 7/8                          | 1.875                            | 1.000                               | .5000                              | 1.0625        | 15/16                  | 20                   | .050                       | .4995               | .5001               | .5005                 | 7900        | 9190                                  | 7100  |
| CYRD-2         | CCYRD-2                              | 2.000                            | 1.250                               | .6250                              | 1.3125        | 1 5/32                 | 24                   | .060                       | .6245               | .6251               | .6255                 | 12100       | 14600                                 | 9500  |
| CYRD-2 1/4     | CCYRD-2 1/4                          | 2.250                            | 1.250                               | .6250                              | 1.3125        | 1 5/32                 | 24                   | .060                       | .6245               | .6251               | .6255                 | 12100       | 14600                                 | 10500 |
| CYRD-2 1/2     | CCYRD-2 1/2                          | 2.500                            | 1.500                               | .7500                              | 1.5625        | 1 5/16                 | 30                   | .070                       | .7495               | .7501               | .7505                 | 16600       | 22600                                 | 14000 |
| CYRD-2 3/4     | CCYRD-2 3/4                          | 2.750                            | 1.500                               | .7500                              | 1.5625        | 1 5/16                 | 30                   | .070                       | .7495               | .7501               | .7505                 | 16600       | 22600                                 | 15000 |
| CYRD-3         | CCYRD-3                              | 3.000                            | 1.750                               | 1.0000                             | 1.8125        | 1 27/32                | 30                   | .080                       | .9994               | 1.0002              | 1.0006                | 25100       | 36500                                 | 18300 |
| CYRD-3 1/4     | CCYRD-3 1/4                          | 3.250                            | 1.750                               | 1.0000                             | 1.8125        | 1 27/32                | 30                   | .080                       | .9994               | 1.0002              | 1.0006                | 25100       | 36500                                 | 20300 |
| CYRD-3 1/2     | CCYRD-3 1/2                          | 3.500                            | 2.000                               | 1.1250                             | 2.0625        | 2 3/16                 | 30                   | .09                        | 1.1244              | 1.1252              | 1.1256                | 34200       | 52500                                 | 23700 |
| CYRD-4         | CCYRD-4                              | 4.000                            | 2.250                               | 1.2500                             | 2.3125        | 2 27/64                | 30                   | .100                       | 1.2494              | 1.2502              | 1.2506                | 44100       | 67900                                 | 32500 |
| CYRD-5         | CCYRD-5                              | 5.000                            | 2.750                               | 1.7500                             | 2.8750        | 2 61/64                | 48                   | .110                       | 1.7494              | 1.7502              | 1.7506                | 67800       | 109500                                | 50500 |
| CYRD-6         | CCYRD-6                              | 6.000                            | 3.250                               | 2.2500                             | 3.3750        | 3 11/16                | 56                   | .120                       | 2.2494              | 2.2502              | 2.2506                | 101900      | 169900                                | 71500 |

\*Ratings for comparison purposes only.

\*\*Max. fillet for shaft

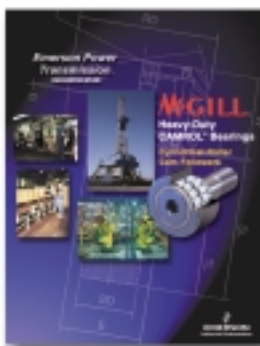
## Choose From a Broad Range of Cam Follower Solutions:



**CAMROL® Bearings**



**CRES CAMROL® Bearings**



**Heavy-Duty CAMROL® Bearings**



**Aerospace  
Cam Followers**



**Metric CAMROL®  
Bearings**



**TRAKROL®  
Bearings**



**Special-Duty  
CAMROL® Bearings**

**For ordering information, contact your authorized McGILL Distributor or McGILL Customer Service: Telephone: 219-465-2200; FAX: 219-465-2290**

### APPLICATION CONSIDERATIONS

The proper selection and application of power transmission products and components, including the related area of product safety, is the responsibility of the customer. Operating and performance requirements and potential associated issues will vary appreciably depending upon the use and application of such products and components. The scope of the technical and application information included in this publication is necessarily limited. Unusual operating environments and conditions, lubrication requirements, loading supports, and other factors can materially affect the application and operating results of the products and components and the customer should carefully review its requirements. Any technical advice or review furnished by Emerson Power Transmission Corp.

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