

# Automatic Overload Release Clutches



Models MOR & ORI

## THE MAXITORQ ADVANTAGES

- Dependable, positive safety protection for operators and machines – eliminates costly shutdowns.
- Recommended for excessive torsional loading due to heavy shock or sudden over normal load.
- Automatically disengages – no heat or drag in neutral.
- Easy on-line adjustment allows for wear compensation and for release settings over a wide range of torque values.
- Highest torque in the smallest space.
- Easy on-line manual adjustment allows fine tuning of the machine.
- Available in single position models offering timer registration.

### SIMPLE, EFFICIENT “BUILT-IN PROTECTION”

The Carlyle Johnson MAXITORQ Overload Release Clutch is designed to protect a machine and its products against damage resulting from accidental overloading of the mechanism. This type of clutch promises freedom from costly shutdowns, resulting in substantial savings to the user.

When overload occurs, the clutch automatically disengages, preventing damage to the machine. When the jammed condition has been cleared, the clutch can be reengaged and the machine is again in operation.

The overload release clutch is specifically recommended for applications where the nature of the overload will be a heavy shock, or a suddenly applied load of a magnitude substantially greater than the normal driving load. In the disengaged position, the discs are “free floating” resulting in positive neutral with a minimum of torque 1% of rated torque being transmitted with no ratcheting. Typical applications include Packaging Machinery, Glass Bottle Making, Textile Machines, Hand Wheel Release, Bookbinding Machines, Bottle Filling and Labeling Equipment, and Conveyor Lines.

### COMPLETE OVERLOAD RELEASE PACKAGE

Carlyle Johnson can furnish the overload release clutch with ring type drive cup and hub adapters as a complete package designed for your application.

Overload release-type driving ring cup connects the overload release clutch with either the driven or driving member.

All working surfaces of the ring cups are heat-treated. Because of the unusual cam construction, it is recommended that we furnish overload release-type



**MOR STANDARD CAMS**

#### **ORI INVERTED CAM TYPE**

For single registration enabling registering two shafts to a specific relationship.



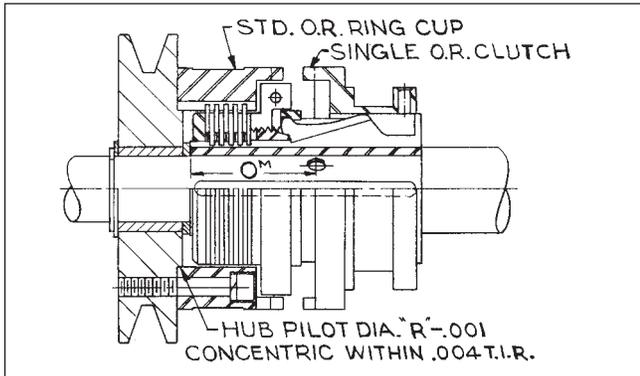
driving ring cups as well as the clutch. The hub or cut-off coupling type adapter is furnished by the user, or is available through the factory to suit installation requirements.

### SHIFTERS

Special overload release shifters are available for clutch sizes 20 through 26. Shoes and studs are available for all sizes including 27 and 28 for riveting into shifter yokes designed by the customer. The user can, if desired, incorporate a limit switch in the power input line. This switch is operated in conjunction with the clutch shifter sleeve to open the circuit when clutch is released by an overload. MAXITORQ Overload Release Clutches may be used on a continuous shaft, or as a cut-off coupling type for connecting two shafts.

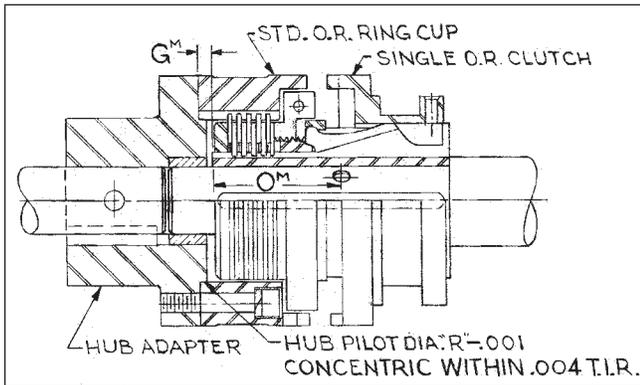
# AUTOMATIC OVERLOAD RELEASE CLUTCHES

## TYPICAL PULLEY TYPE APPLICATION



The pulley is used to support the ring type driving cup. The clutch is keyed to the shaft and positioned with reference to the pulley. A dardelet self-locking full dog point set screw is provided to secure the clutch position.

## TYPICAL CUT-OFF COUPLING APPLICATION



The hub adapter is keyed and pinned to one shaft. This hub adapter has an internal bronze bearing to align the two shafts. The standard overload release ring cup is piloted on and bolted to the hub adapter. The clutch is keyed to the shaft and positioned with reference to the hub adapter. A dardelet self-locking full dog point set screw is provided to secure the clutch position.

*NOTE: MAXITORQ Clutches and brakes as furnished can run dry or in oil. We specifically recommend Series A oils. If high gear loading or worm and wheels are adjacent to the clutch and indicate extreme pressure additives that would reduce clutch torque, please contact the factory for recommendations.*

## REPLACEMENT PARTS

Every MAXITORQ clutch, brake, or torque limiter is designed to permit rapid, easy replacement of normal wear parts, without the use of special tools. Parts may be obtained for any MAXITORQ product by specifying the part number, clutch size, and serial number.

### Overload Release Clutch Parts

No. 106-6  
O. R. Ring Type  
Driving Cup

No. 115-1  
Locking Plate

No. 112  
Outer Disc

No. 114  
separator Spring

No. 113-1  
Inner Disc

Balance of Inner  
and Outer Discs  
with Separator  
Springs

No. 105-1  
Adjusting Ring

No. 108  
Thrust Collar

No. 110  
Levers

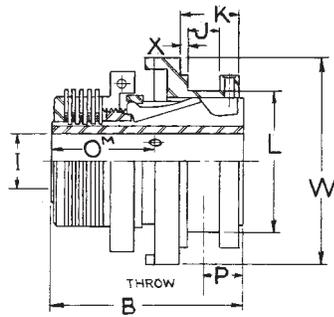
No. 111  
Lever  
Retaining Ring

No. 104-999  
Single Sleeve with  
Wedges Riveted in

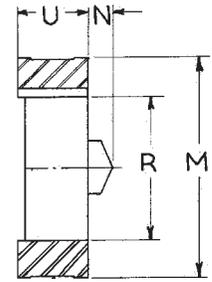
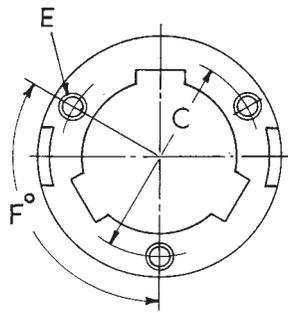
No. 103  
Body with Dardelet  
Set Screw  
No. 116

# OVERLOAD RELEASE CLUTCHES & CUPS

## Clutch Assembly



## O.R. Ring Type Driving Cup



### CLUTCHES - SPECIFICATIONS MOR and ORI

Clutch Size	Torque Adjustment Range lbs. ft.	Dynamic Torque lbs. ft.	Axial Sleeve Pressure lbs.	Std. Body Bores +.001/- .001			A	B	Throw D	J	K	L	O <sup>m</sup>	P	W	X
				Min.	Max.	Keyway Max.										
MOR0021999	20-40	13	20	3/4	7/8	3/16 x 3/32	2.594	3.000	.375	.500	.938	2.125	1.641	.625	3.125	.125
MOR0022999	40-80	27	30	1	1 1/8	3/16 x 3/32	3.188	3.469	.438	.500	1.063	2.625	1.938	.703	3.625	.172
MOR0023999	80-160	53	30	1 1/4	1 3/8	1/4 x 1/8	3.938	4.031	.531	.625	1.234	3.25	2.266	.797	4.625	.188
MOR0024999	140-280	92	40	1/2	1 5/8	5/16 x 5/32	4.250	4.031	.531	.625	1.234	3.563	2.266	.797	5.00	.188
MOR0025999	240-380	158	60	1 3/4	1 5/8	3/8 x 3/16	4.938	4.813	.609	.750	1.438	4.063	2.719	.953	5.875	.203
MOR0026999	400-800	263	80	2	2 1/4	7/16 x 7/32	5.469	5.000	.609	.750	1.438	4.625	2.906	.953	6.625	.203
MOR0027999	800-1600	525	105	2 1/2	2 3/4	9/16 x 9/32	7.594	6.344	.875	.812	1.750	6.500	3.75	1.125	9.125	.313
MOR0028999	1200-2400	788	150	2 3/4	3	9/16 x 9/32	8.625	6.563	.875	.812	1.750	7.500	3.989	1.125	10.125	.313

NOTE: Dardelet self-locking full dog point set screw must bottom in spotted hole in shaft. 5/16 set screw requires 7/32 hole 1/8 deep in customer's shaft; 7/16 in screw; 5/16" hole 1/8" deep.

### O.R. RING TYPE DRIVING CUP Ø SPECIFICATIONS

CUP SIZE	C Bolt Circle	No. Thru Holes	E Drilled Holes	Cap Screw Size	F	M	N	R Ring I.D.	U
MOR0021-106-600	2.563	3	.266	1/4	120 <sup>1</sup> / <sub>4</sub>	3.125 3.123	.344	2.017 2.015	1.013
MOR0022-106-600	3.063	3	.266	1/4	120 <sup>1</sup> / <sub>4</sub>	3.625 3.623	.344	2.517 2.515	1.156
MOR0023-106-600	3.313	3	.344	5/16	120 <sup>1</sup> / <sub>4</sub>	4.625 4.623	.469	3.267 3.265	1.313
MOR0024-106-600	4.438	3	.344	5/16	120 <sup>1</sup> / <sub>4</sub>	5.125 5.123	.469	3.767 3.765	1.313
MOR0025-106-600	5.313	4	.406	3/8	90 <sup>1</sup> / <sub>4</sub>	6.125 6.123	.578	4.517 4.515	1.594
MOR0026-106-600	6.250	6	.406	3/8	60 <sup>1</sup> / <sub>4</sub>	7.125 7.120	.594	5.517 5.515	1.781
MOR0027-106-600	8.063	6	.531	1/2	60 <sup>1</sup> / <sub>4</sub>	9.125 9.120	.203	7.017 7.015	2.188
MOR0028-106-600	9.063	6	.531	1/2	60 <sup>1</sup> / <sub>4</sub>	10.125 10.120	.813	8.017 8.015	2.438



291 Boston Turnpike, P.O. Box 9546, Bolton, CT 06043  
 Tel: 860-643-1531 ¥ Fax: 860-646-2645 ¥ email: maxitorq@cjmco.com  
 Toll Free: 888-629-4867