

BRAKE PRODUCTS INCORPORATED

Supplier of Industrial Brake Parts Since 1985

Section 1980S
GEMCO™

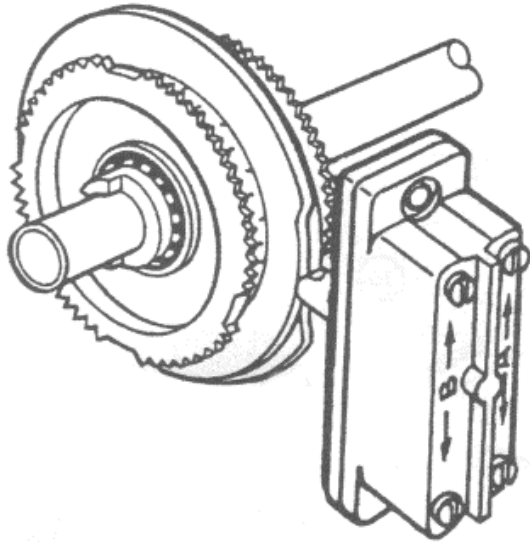
Micro-Adjust Rotating Cam Limit Switches

DESCRIPTION

The Gemco Rotating Cam Limit Switch has been developed to meet all requirements for an industrial multipurpose cam-actuated limit switch in applications where precise repetitive sequential, automatic, or semi-automatic operations are required in control circuitry. When motion is expressed in shaft rotation, either through a roller chain, gear train, or directly, the Gemco Rotating Cam Limit Switch makes it possible to open or close independent circuits at any desired angular position of the input shaft. Any closed circuit or open circuit from 4° to 356° is obtainable without the use of special cams. All cam settings can be adjusted at any angular position of the cam shaft.

MAINTENANCE & INSTALLATION

Lifetime sealed ball bearings provide smooth maintenance-free operation and allow mounting of the Gemco Micro-Adjust Rotating Cam Limit Switch in any position.

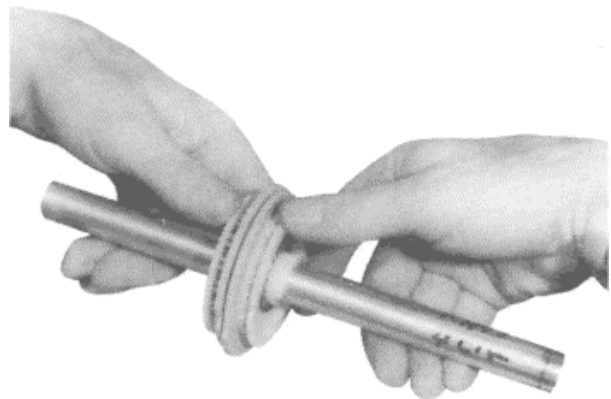


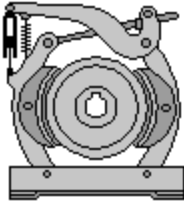
SUGGESTED SET-UP PROCEDURE

The Gemco Micro-Adjust Cams may be adjusted either before or after installation. The following procedure is recommended for cam adjustment.

1. Mount the assembly and couple shaft driving member with the shaft keyway aligned with the positioning arrow located on the bearing end plate. The machine should be in the start cycle position with all cams set at zero.
2. Turn cam adjustment disc to the desired setting, observing the angular degree position markings on the top of the cam block.
3. Follow the cam setting procedure as described inside the cover of the enclosure.

NO TOOLS NECESSARY! TO ADJUST CAM SETTING





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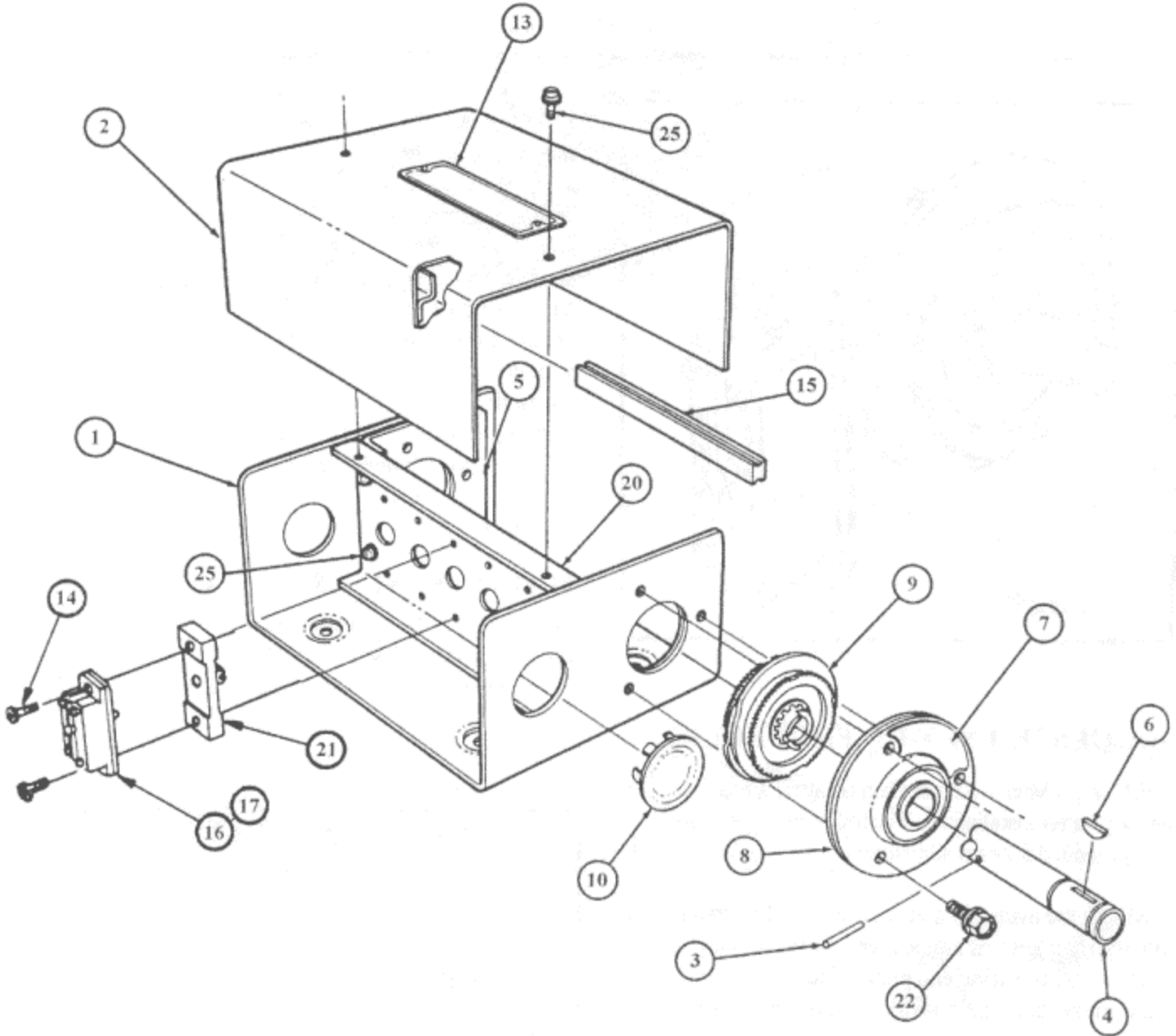
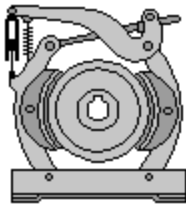


Figure 1
NEMA 1 Style



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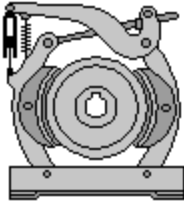
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When ordering spare parts, specify complete catalog number of Rotating Cam Limit Switch

ITEM	DESCRIPTION	QTY.	PART NUMBER
1	ENCLOSURE (Ref Fig. #1-3 for NEMA Style)	1	Specify Catalog No.
2	COVER (Ref Fig. #1-3 for NEMA stle)	1	Specify Catalog No.
3	ROLL PIN (1/8" x 1")	As Req'd	04564001
4	CAM SHAFT	1	Specify Catalog No.
5	SWITCH SUPPORT BRACKET	2	C0185400
6	WOODRUFF KEY #606	1	04564002
7	DECAL DRIVE MECHANISM	1	NP0011300
8	FLANGE BEARING-NEMA 1, 4, 12 (3/4")	2	04570001
9	CAM ASSEMBLY (1 per circuit)	As Req'd	SD0117800
10	CONDUIT PLUG (NEMA 1)	1	Specify Catalog No.
* 11	INSTRUCTION LABEL (Inside Cover)	1	NP0067700
* 12	INSTRUCTION SHEET	1	NP0067600
13	NAMEPLATE	1	NP0010900
14	PAN HEAD MACHINE SCREW (#6-32 X 1")	As Req'd	04560001
15	ADJUSTING STICK	1	P0034600
• 16	SNAP SWITCH S.P.D.T. See Sect. 1950 D.P.D.T.	As Req'd	1950-1-B-A-AO 1950-4-B-A-AO
• 17	SNAP SWITCH S.P.D.T. See Sect. 1950 w/RUBBER BOOT D.P.D.T.	As Req'd	1950-1-B-A-AR 1950-4-B-A-AR
18	COVER LATCH ASS'Y. (NEMA 4) See Fig. #2	As Req'd	Specify Catalog No.
19	COVER CAPTIVE SCREW (NEMA 12) See Fig. #3	As Req'd	SD0169600
20	SNAP SWITCH BRACKET	1	Specify Catalog No.
21	ROLLER FOLLOWER	As Req'd	SD0157100
22	HEX BOLT 5/16-18 X 5/8" w/LOCK WASHER	6	04560003
* 23	CENTER BEARING ASSEMBLY (13+ Circuit)	1	SD0119500
* 24	CONDUIT FITTING (NEMA 4 & 12) See Figs. #2 & #3	1	Specify Catalog No.
25	PAN HEAD MACHINE SCREW w/SEMS WASHER (#10-32 X 3/8")	As Req'd	04560002

* Item not shown on drawing

• It is recommended that snap switches be replaced after fifteen million operations.



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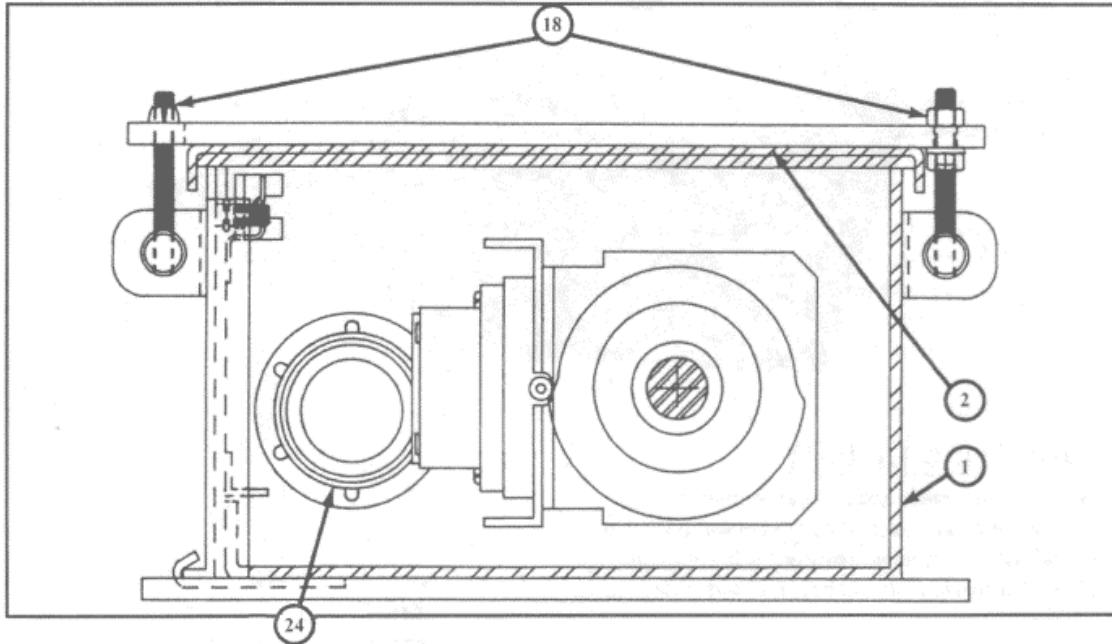


Figure 2
NEMA 4 Style

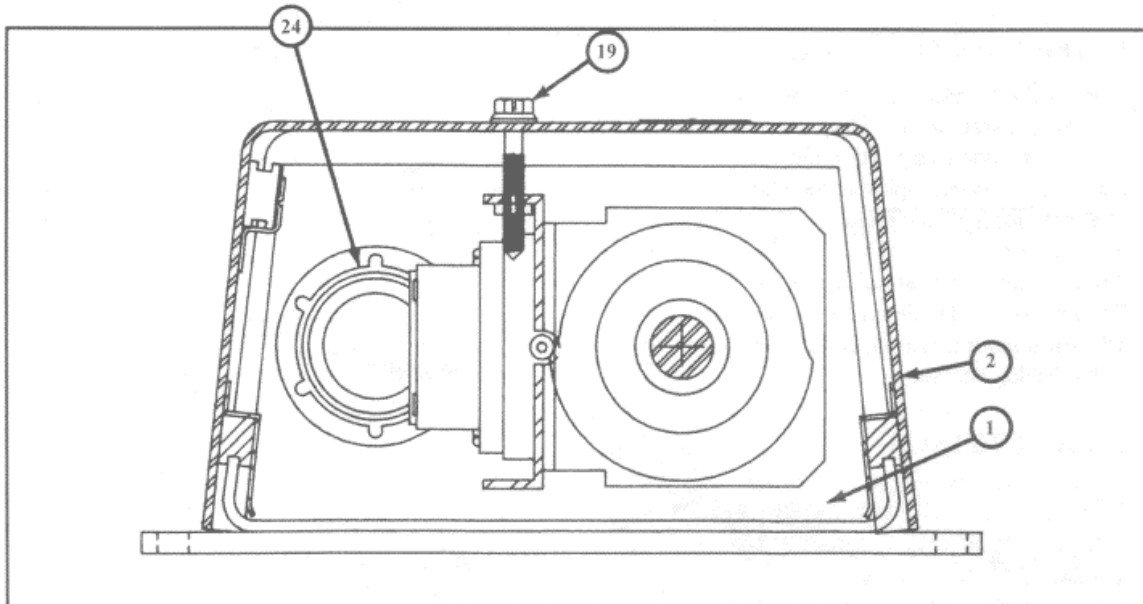
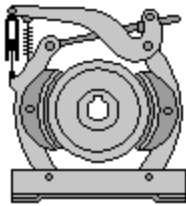


Figure 3
NEMA 12 Style



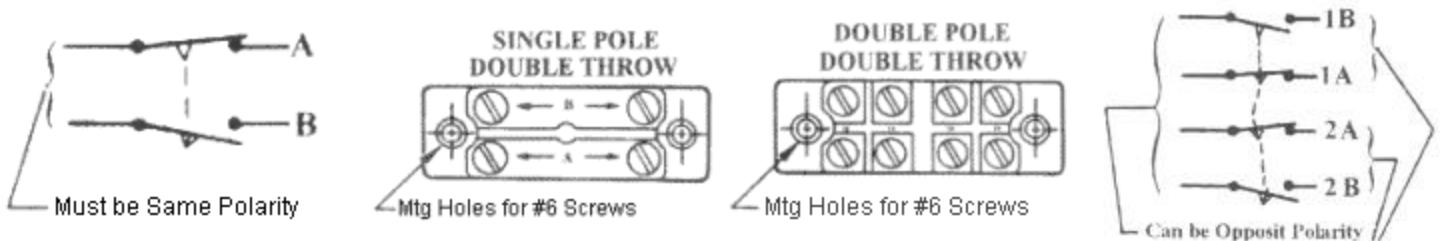
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ELECTRICAL CONTACTS

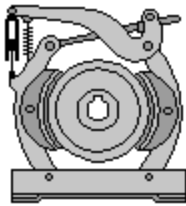
The welded silver cadmium oxide contacts provide the following advantages: (1) High electrical conductivity. (2) Excellent resistance to sticking contacts, (3) Minimum electrical erosion. The presence of cadmium oxide gives high arc quenching characteristics of cadmium without a reduction of high conductivity of fine silver. This is because the cadmium oxide remains as discrete particles throughout the silver base and each exhibits its own physical characteristics.

ELECTRICAL CONTACT RATINGS											
Switch Type	Contacts	Volts	AC						Volts	DC	
			Inductive Pilot Duty 35% Power Factor							Inductive Pilot Duty and Resistive	
			Make		Break		Continuous Carrying Amperes	Make, Break and Continuous Carrying Amperes		Make and Break Amperes	Continuous Carrying Amps
			Amps.	VA	Amps.	VA					
1950-4	DPDT	115	30	3450	3	345	10	10	115	0.2	10
		230	15	3450	1.5	345	10	10	230	0.1	10
		440	7.5	3450	0.75	345	10	10	600	----	10
		575	6	3450	0.6	345	10	10			
1950-1	SPDT	110	40	----	15	----	15	15	115	0.25	15
		220	20	----	10	----	15	15	230	0.1	15
		440	10	----	6	----	15	15	600	----	15
		600	8	----	5	----	15	15			



APPLICATION NOTE

The N.O. and N.C contacts of the single pole, double throw snap on circuits of the same snap switch has two poles, which can be used on opposite polarities. The N.O. and N.C. circuit of each pole of the two pole snap switch, however, must be used on the same polarity.



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MOUNTING OF UNIT

Mount the assembly and couple the input shaft to the driving member, with the shaft keyway up and in line with the positioning arrow on the bearing end plate. The machine should be in the start cycle position.

ESTABLISHING CAM SHAFT DIRECTION OF ROTATION

Cam settings should be made with the cam shaft uppermost to the viewer. The picture at the top illustrates this viewing position and also shows the adjusting tool being applied to the adjusting wheel. Shaft rotation is always established off the right end of the unit even when the input shaft, whether direct or through a gear reducer, is situated at the left end. As an aid to designating shaft rotation when gear reducer is used, consult page 10 of the 1980 Catalog Section.

CAM SETTINGS

For clockwise rotation, set "make" angle with the black dial and "break" with the red dial for dwell settings less than 180° or greater. Reverse colors for dwells greater than 180°

For counterclockwise rotation, set "make" angle with the white dial and "break" with the yellow dial. Reverse colors for dwells greater than 180°

Switch connections should be made in accordance with the illustrations to the right, which, incidentally, are both clockwise rotating examples.

TYPICAL SETTINGS AT BEGINNING OF MACHINE CYCLE

OPEN  CLOSED 

ALL CAMS SHOWN AT ZERO CYCLE POSITION

