

INSTALLATION AND MAINTENANCE INSTRUCTIONS

SERIES 15 ROTARY LIMIT SWITCH

⚠ WARNING

Always disconnect power before installing or servicing.
Failure to do so could lead to product damage or personal injury.

DESCRIPTION

The Series 15 rotary limit switch is designed to coordinate reversing operations with the number of revolutions of a motor shaft or driven equipment. Typical applications include limiting travel of machinery, opening and closing of doors and windows, operating valves, and various sequencing operations. Primary internal components are shown in Figure 1 and are the same for all forms.

The operating system consists of adjustable cams driven by a shaft through a gear reduction. Each cam operates the contacts of one switch unit. For various gear reductions available, see Table 1.

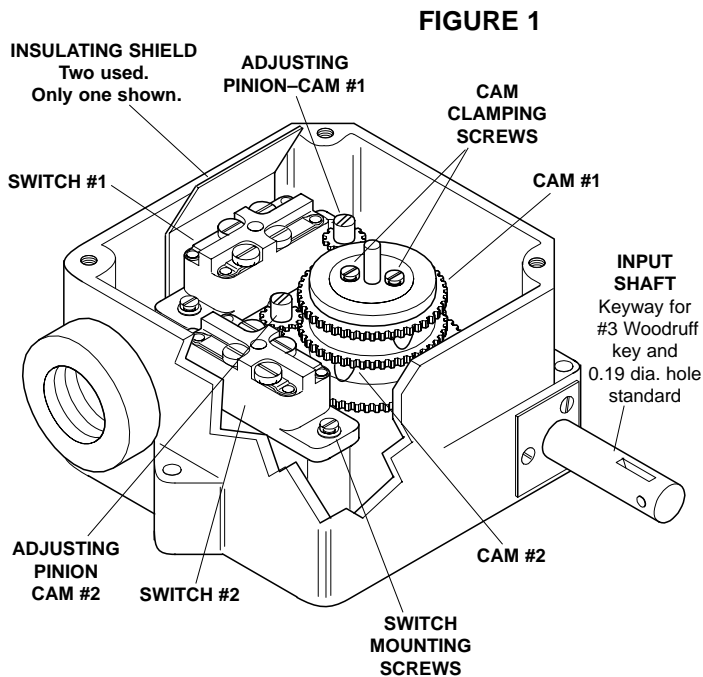


FIGURE 1

TABLE 1

| GEAR RATIO | TURNS OF INPUT SHAFT | | | |
|------------|----------------------|------|-------------|----------|
| | MAX. | MIN. | OVER TRAVEL | TO RESET |
| 20:1 | 19 | 1 | 1/2 | 1/3 |
| 40:1 | 38 | 2 | 1 | 2/3 |
| 80:1 | 75 | 3 | 2 | 1 |
| 111:1 | 104 | 1 | 3 1/4 | 1/3 |
| 222:1 | 208 | 2 | 6 1/2 | 2/3 |
| 320:1 | 300 | 1 | 10 | 1/3 |

INSTALLATION

Remove all source of power.

Mount the limit switch in any desired position using the three mounting holes provided in the enclosure. If the input shaft is to be used in conjunction with another shaft, a flexible coupling is recommended to eliminate stress on the shaft and bushings. The input shaft is provided with a slot for a #3 Woodruff key and a 0.19" dia. hole for ease in mounting any type of coupling or gear drive. The maximum permissible speed of the input shaft is 3,600 rpm.

CAUTION

When mounting Rotary Limit Switch, align input shaft with coupling to minimize stress on shaft and bushings.
DO NOT USE HAMMER OR SIMILAR TOOL TO FORCE COUPLING OR SPROCKET ONTO INPUT SHAFT.
Excessive stress on shaft may result in damage to rotary limit switch and could invalidate warranty.

ADJUSTMENT

The operating mechanism of the limit switch should be adjusted to correlate the motion of the equipment that it is controlling. For switch limitations, see Table 1.

To adjust the trip point of each switch unit:

1. Remove all power from the device.
2. Remove the enclosure cover.
3. Loosen the two cam clamping screws on top of the cam assembly one-half turn each (See Figure 1).
4. Locate the adjusting pinion of each cam by referring to the indicating arrow on insulation shield.
5. Depress pinion with a screwdriver until gears mesh.
5. Turn cam pinion rotating cam in direction to operate switch.
6. The white marker on the gear teeth is directly over the cam lobe that trips the switch. When the operating cam has been adjusted so the cam lobe has tripped the switch, the adjustment is complete.
7. Retighten clamping screws and replace gasket and cover.

⚠ CAUTION

Be sure insulating shields are in place over switches before replacing enclosure cover..

MAINTENANCE

The device has been permanently lubricated at the factory. An increase in life may be obtained by occasionally placing a small quantity of grease on the worm and worm gear.

To replace switch unit:

1. Remove all power from the device.
2. Remove the enclosure cover.
3. Turn cam so that cam lobe is away from cam follower on bracket.
4. Remove old switch. Do not discard bracket and insulation shield.
5. Install new switch along with bracket and insulation, pushing the bracket toward the center post as far as possible.
6. Tighten both mounting screws, then loosen 1/4 turn.
7. Loosen the cam clamping screws 1/2 turn.
8. Using adjusting pinion, rotate cam lobe past the cam follower. This will push the bracket into proper position.
9. Retighten both mounting screws.
10. Readjust cam following instructions under *ADJUSTMENT*.



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