SQUARE D
Instruction Bulletin

Bulletin No. 30072-309-08D
October, 1992
Raleigh, NC, U.S.A.
Supersedes 30072-309-08C dated 3/81

# Door Closing Mechanism for Single or Multiple Door Enclosures with 40" High Maximum Door Openings
## Class 9423 Type M10L

## INTRODUCTION

This instruction bulletin contains information on enclosure construction, installation, adjustments and parts ordering for the Class 9423 Type M10L door closing mechanism. This kit is designed for use on:

- ❑ Doors for NEMA 1 or 12 enclosures
- ❑ Doors constructed of 10-16 gauge material
- ❑ Doors of 1-1/8, 1-1/4, 1-3/8, 1-1/2 inch depth
- ❑ Doors hinged on right hand side
- ❑ Doors for enclosures with or without Class 9422 flange mounted operating mechanism

## ENCLOSURE CONSTRUCTION

Figure 1 shows the dimensional requirements for construction of the enclosure.

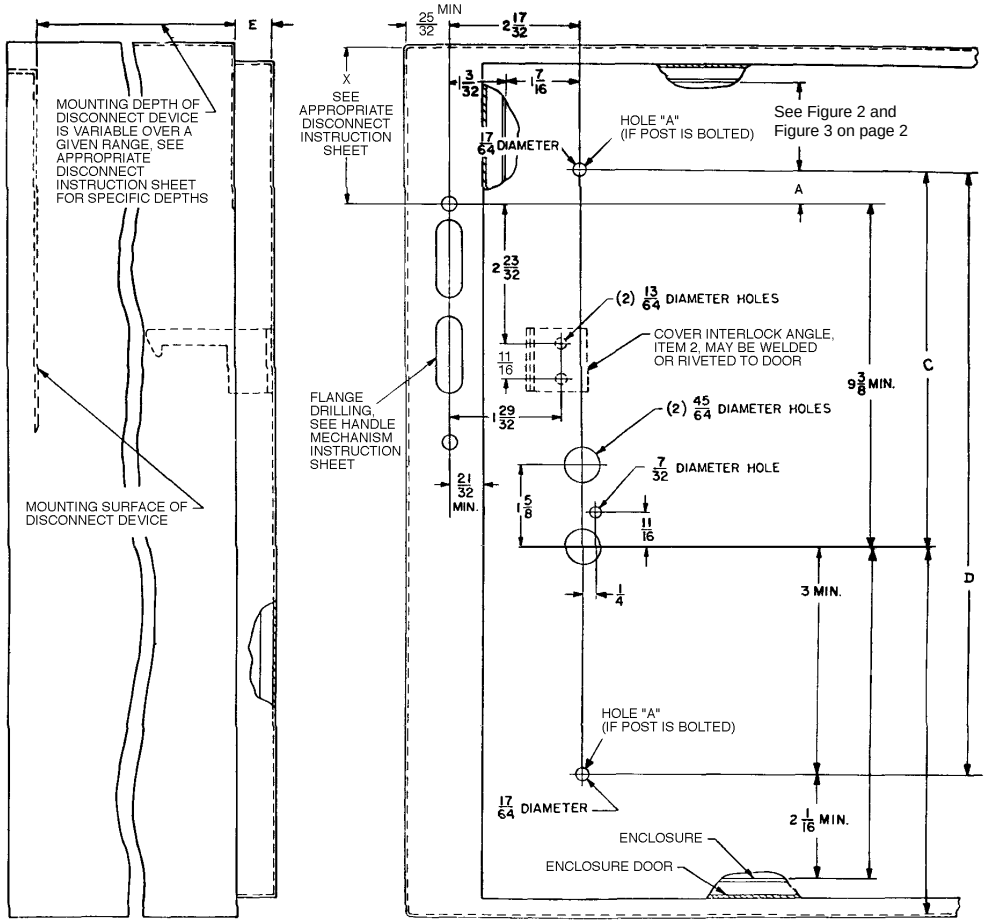



**Figure 1 Enclosure Construction**

Standard enclosures designed to accept Square D door closing mechanism are available from several enclosure manufacturers. These enclosures are pre-drilled and often include a cover interlock bracket and other items of door hardware. A pre-drilled cover latch bar may also be furnished. As a result, purchased enclosures may not require some parts included in the Type M10L kit.

Follow the procedures below when constructing the enclosure:

1. If door closing mechanism is used with a Class 9422 disconnect switch or circuit breaker operating mechanism, see appropriate instruction sheet for flange drilling information and additional construction dimensions. Measure dimension B and drill hole A per Figure 2 or Figure 3. See Table 1 for figure selection.

**Table 1 Positioning Roller Latch Assembly**

| B (range) | Refer to |
|---|---|
| 1-11/16" to 5-5/16" | Figure 2 |
| 5-5/16" or more | Figure 2 or Figure 3 |

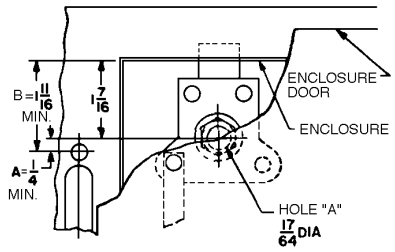



**Figure 2 Positioning Roller Latch, B = 1-11/16" to 5-5/16"**

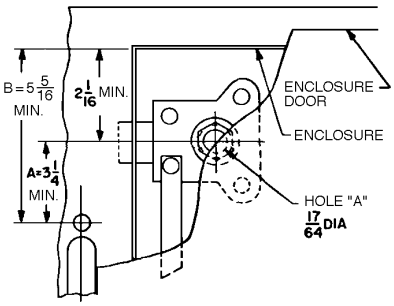



**Figure 3 Positioning Roller Latch, B Š 5-5/16"**

If door closing mechanism is used independently, roller latch assembly may be assembled either per Figure 2 or Figure 3.

2. Drill all remaining holes shown in Figure 1 on page 1 observing minimum dimensions. Assemble cover interlock blade, item 1, and cover interlock angle, item 2, with two screw assemblies, item 22, for appropriate door depth as shown in Figure 4.

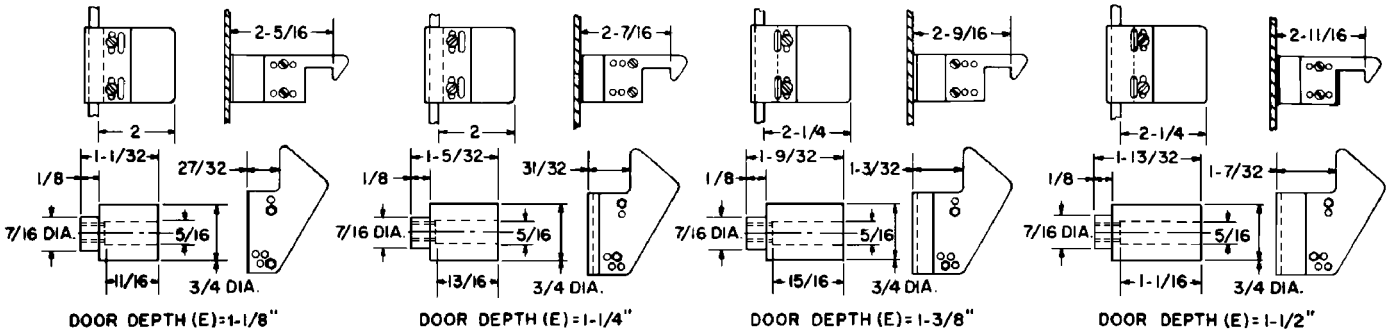
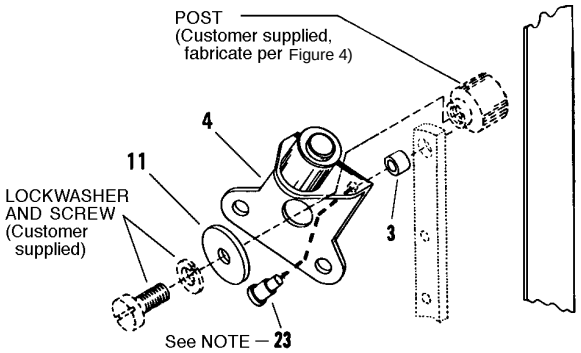



**Figure 4 Door Depth Dimensions**

3. Weld or rivet (rivets are included with the handle mechanism kit) cover interlock angle to door. If post (customer supplied item) is to be welded to door, weld it at this time as shown in Figure 5. Enclosure may be painted at this time.




**NOTE**

Before installing rivet (item 23), refer to Figure 2 and Figure 3 to determine in which hole of the latch arm to place the rivet.

**Figure 5 Welding Post to Door and Assembling Roller Latch**

4. Fabricate cover latch bar from 1/4" x 1/2" steel bar per Figure 6. Determine dimensions C and D by measuring appropriate holes in enclosure door as shown in Figure 1. Determine dimension A by measuring between flange and door holes as shown above in Figure 2 or Figure 3.

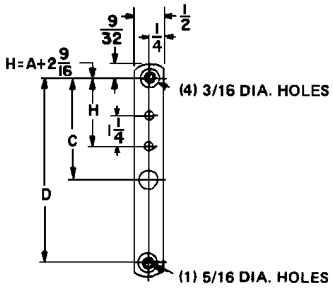



**Figure 6 Cover Latch Bar**

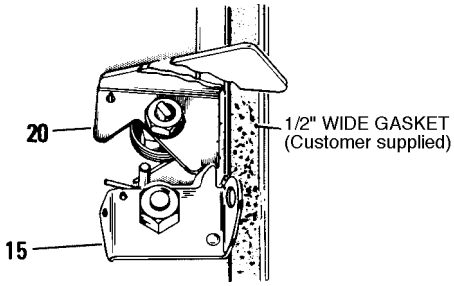



**Figure 7 Latch Mechanism**

## INSTALLATION

To install the door closing mechanism, follow the procedures below.

1. Attach 1/2" wide gasket around inside of door as shown in Figure 7.
2. Using rivets (item 23), rivet spacers (item 3) and roller latch arms (item 4) to cover latch bar. Using rivet (item 27), rivet latch bracket (item 15) to cover latch bar. ROLLER LATCH ARMS AND BRACKET MUST BE FREE TO ROTATE.
3. Using two screw assemblies (item 24), attach latch bar angle (item 5) to cover latch bar. Using two screw assemblies (item 22), assemble latch bar blade (item 6) to latch bar angle for appropriate door depth as shown in Figure 4 on page 2.
4. Position gasket (item 7) and front plate assembly (item 8) on door. Thread defeater pin bushing (item 9) and handle shaft bushing (item 10) into front plate assembly.
5. If post has not been welded to door: mount gasket and post, (customer supplied) roller latch arms (item 4) and washer (item 11) to door with screw, lockwasher and nut (customer supplied) as shown in Figure 8 on page 4. If post has been welded to door: mount roller latch arms and washer to post with screw and lockwasher (customer supplied) as shown in Figure 5 on page 2.
6. Place “O” ring (item 12) in groove in handle assembly (item 13). Lubricate handle assembly shaft and slide handle assembly into handle shaft bushing (item 10). Engage latch bar spring (item 14) with latch bracket (item 15) and place them over the handle shaft bushing. Latch bar spring must be positioned as shown in Figure 8 on page 4. Secure handle assembly with lockwasher and nut (items 25 and 26).
7. Place cover interlock spring (item 16) over defeater pin bushing (item 9) and position as shown in Figure 8 on page 4. Place “O” ring (item 17) in groove in defeater pin (item 18) and lubricate defeater pin. Slide defeater pin into defeater pin bushing. Using two screw assemblies and nuts (items 28 and 29), assemble locking lever blade (item 19) and locking lever base (item 20) for appropriate door depth as shown in Figure 4 on page 2. Slide locking lever base onto defeater pin and engage cover interlock spring. Secure with lockwasher and nut (items 25 and 26).
8. Apply pressure sensitive instruction plate (item 21) to enclosure flange adjacent to handle assembly. FLANGE MUST BE CLEAN AND DRY FOR INSTRUCTION PLATE TO ADHERE.

## ADJUSTMENT PROCEDURE

When using these door closing mechanisms with a disconnect switch or circuit breaker operating mechanism, follow the adjustment procedures below.

1. With disconnect switch or circuit breaker in “OFF” position, open door with screwdriver per instruction plate (item 21).
2. Close door but do not turn door handle. Door should latch so that it cannot be opened again without a screwdriver. It should be impossible to close the disconnect switch or circuit breaker with door in this position.
3. Turn door handle to handle stop. Door should seal tightly. It should now be possible to close the disconnect switch or circuit breaker if the latch bar blade (item 6) has been positioned correctly. Adjust blade if required.
4. With disconnect switch or circuit breaker in “ON” position, it should be impossible to open door. If door can be opened, bend cover interlock blade (item 1) downward. If entry to controller is desired with the disconnect switch or breaker in the “ON” position: FIRST – Unlatch door handle and maintain opening pressure. SECOND – Operate defeater screw in disconnect handle. Door should now open.

No adjustment is required when using these door closing mechanisms without a disconnect switch or circuit breaker operating mechanism.

## PARTS LIST

Table 2 Parts List

| Item | Description | Part Number | Quan. | Item | Description | Part Number | Quan. |
|---|---|---|---|---|---|---|---|
| 1 | Cover Interlock Blade | 30007-213-01 | 1 | 16 | Cover Interlock Spring | 30017-172-01 | 1 |
| 2 | Cover Interlock Angle | 30007-218-01 | 1 | 17 | "O" Ring, 1/4" | 29206-00160 | 1 |
| 3 | Spacer, 3/8 x 3/8, for 1-1/8" deep doors<br>Spacer, 3/8 x 1/2, for 1-1/4" deep doors<br>Spacer, 3/8 x 5/8, for 1-3/8" deep doors<br>Spacer, 3/8 x 3/4, for 1-1/2" deep doors | 30007-219-01<br>30007-219-02<br>30007-219-03<br>30007-219-04 | 2 | 18 | Defeater Pin | 31008-061-01 | 1 |
| | | | | 19 | Locking Lever Blade | 30007-212-01 | 1 |
| | | | | 20 | Locking Lever Base | 30007-211-04 | 1 |
| 4 | Roller Latch Arm | 30007-139-50 | 2 | 21 | Instruction Plate | 30009-032-01 | 1 |
| 5 | Latch Bar Angle | 30007-214-01 | 1 | 22 | Screw Assembly 8-32 x 1/4 | 21911-14081 | 4 |
| 6 | Latch Bar Blade | 30007-215-01 | 1 | 23 | Rivet, 1/4 x 29/32, for 1-1/8" deep doors<br>Rivet, 1/4 x 1-1/32, for 1-1/4" deep doors<br>Rivet, 1/4 x 1-5/32, for 1-3/8" deep doors<br>Rivet, 1/4 x 1-9/32, for 1-1/2" deep doors | 30007-216-01<br>30007-216-02<br>30007-216-03<br>30007-216-04 | 2 |
| 7 | Gasket | 31008-050-01 | 1 | | | | |
| 8 | Front Plate Assembly | 30007-100-50 | 1 | | | | |
| 9 | Defeater Pin Bushing | 31008-118-01 | 1 | 24 | Screw Assembly, 8-32 x 7/16 | 21911-14141 | 2 |
| 10 | Handle Shaft Bushing | 31008-119-01 | 1 | 25 | Lockwasher, 3/8" | 23701-00240 | 2 |
| 11 | Washer, 1/4" | 23602-11606 | 2 | 26 | Nut, 3/8-16 | 23003-00240 | 2 |
| 12 | "O" Ring, 3/8" | 29206-00240 | 1 | 27 | Rivet, 5/16 x 7/16 | 31008-124-01 | 1 |
| 13 | Handle Assembly | 31008-125-50 | 1 | 28 | Screw Assembly, 8-32 x 1/2 | 21911-14161 | 2 |
| 14 | Latch Bar Spring | 30017-171-01 | 1 | 29 | Nut, 8-32 | 23001-00140 | 2 |
| 15 | Latch Bracket | 30007-096-02 | 1 | | | | |

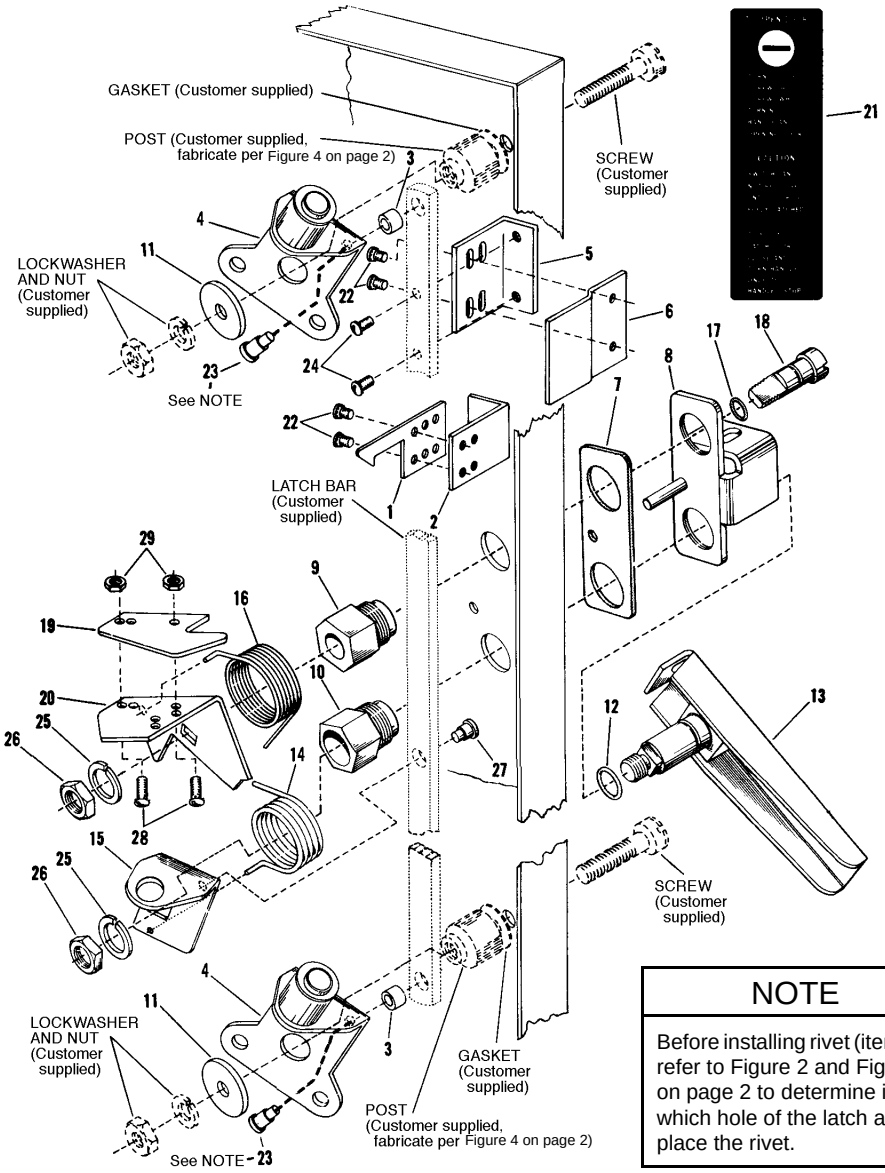



**Figure 8 Door Closing Mechanism Assembly Drawing**

PLEASE NOTE:

Electrical equipment should be serviced only by qualified electrical maintenance personnel, and this document should not be viewed as sufficient instruction for those who are not otherwise qualified to operate, service or maintain the equipment discussed. Although reasonable care has been taken to provide accurate and authoritative information in this document, no responsibility is assumed by Square D for any consequences arising out of the use of this material.

NOTE

Before installing rivet (item 23), refer to Figure 2 and Figure 3 on page 2 to determine in which hole of the latch arm to place the rivet.

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