INSTALLATION INSTRUCTIONS
INSTALLATION KIT # 22604
RDO3009 FORD SWING SIDE DOORS
WITH POWERED DOOR LATCHES

- Be certain these supplemental instructions are read and understood completely before installation is attempted. You should also refer to Service/Owner Manual for additional installation instructions and safety precautions.

- Check contents of this kit. Notify Ricon immediately of any missing parts. Claims for damages or shortages that have occurred during shipping must be made to freight carrier.

- Before installing door openers, check operation of doors. Doors should be correctly aligned. Make certain that the top and bottom latches on the left door work without excessive force. Adjust as needed. Doors must latch correctly before installing kit.

- After installation, the door must be unlocked before operating the power doors.

I. INSTALLATION OF RIGHT DOOR LATCH ACTUATOR

Figure [1] RIGHT DOOR

- **REMOVE DOOR HANDLE**

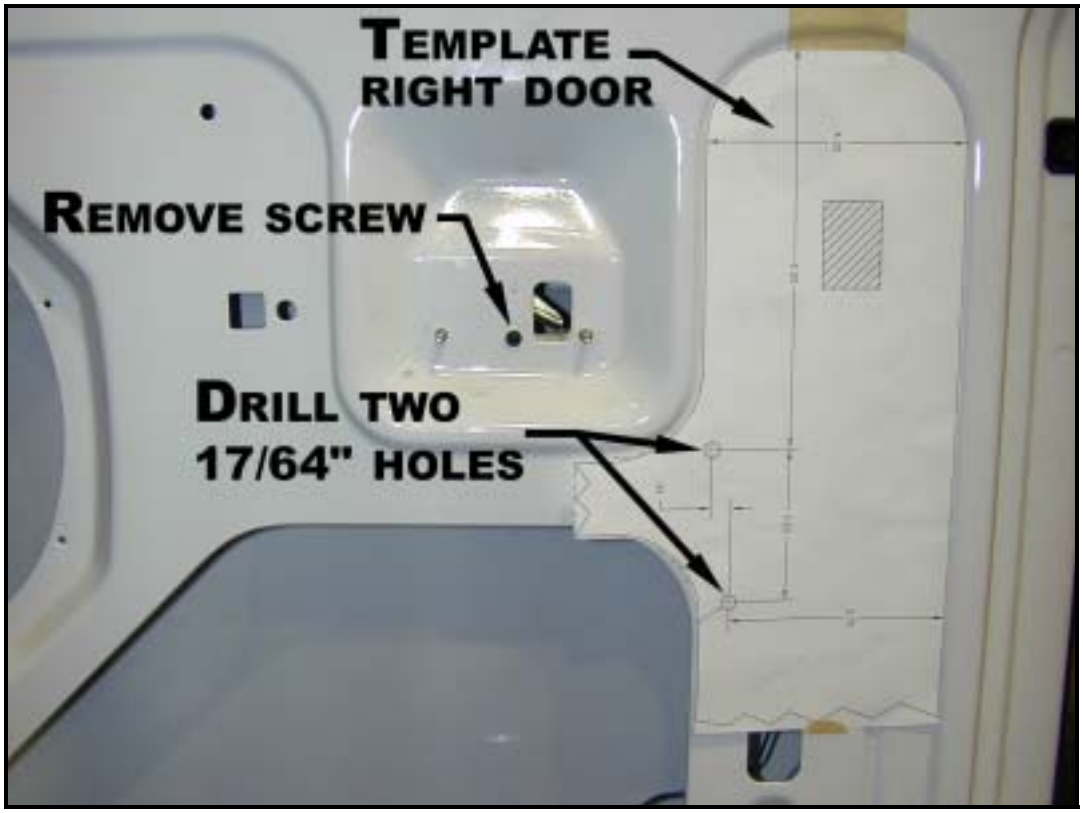

Figure [2] RIGHT DOOR ACTUATOR TEMPLATE

- **REMOVE SCREW FOR DOOR HANDLE RELEASE MECHANISM.**
- **CUT TEMPLATE ON DOTTED LINE, AND TAPE TO DOOR. (PROVIDED IN KIT)**
- **SEE ABOVE FIGURE.**
- **DRILL TWO 17/64” HOLE AS INDICATED ON TEMPLATE.**

Figure [3] HANDLE RELEASE MECHANISM

- **ATTACH LINK BRACKET (SUPPLIED IN KIT) TO CABLE.**

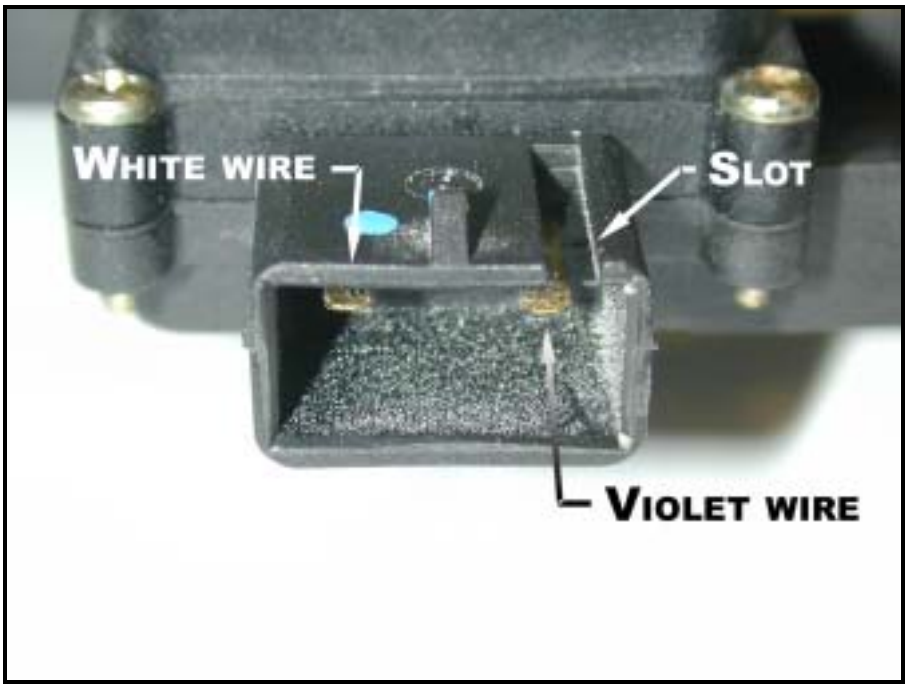

Figure [4] WIRE CONNECTIONS RIGHT DOOR

- **LOCATE SINGLE VIOLET AND WHITE WIRE FROM KIT.**
- **CONNECT SINGLE VIOLET WIRE TO ACTUATOR TERMINAL, SLOTTED SIDE.**
- **CONNECT SINGLE WHITE WIRE TO REMAINING TERMINAL.**

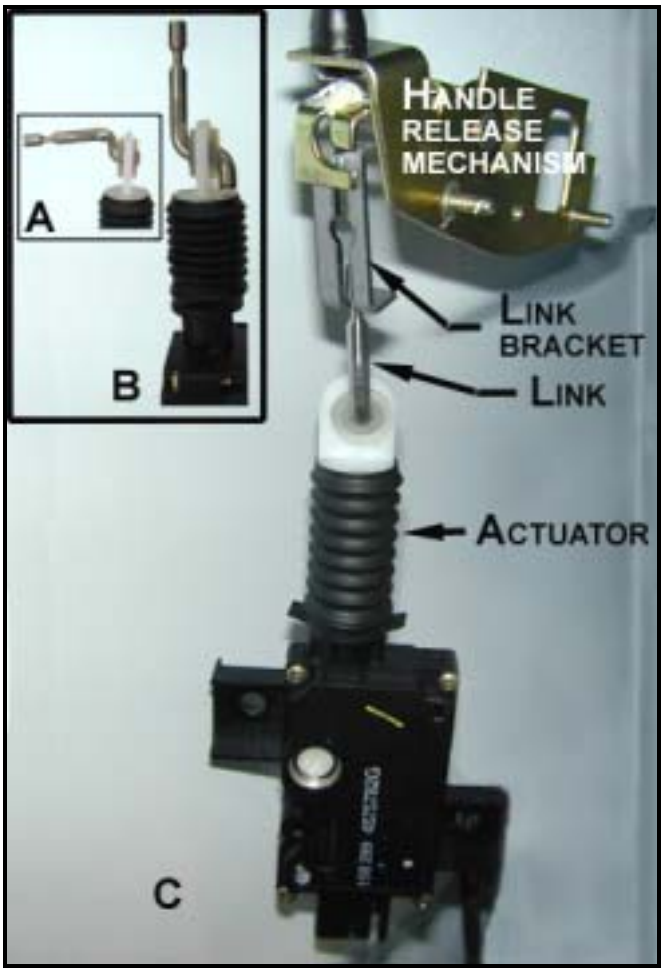

Figure [5] ACTUATOR ASSEMBLY

- **CONNECT LINK TO ACTUATOR, REFER TO DETAIL A AND B.**
- **INSERT LINK THROUGH HOLE IN LINK BRACKET, SEE DETAIL C.**

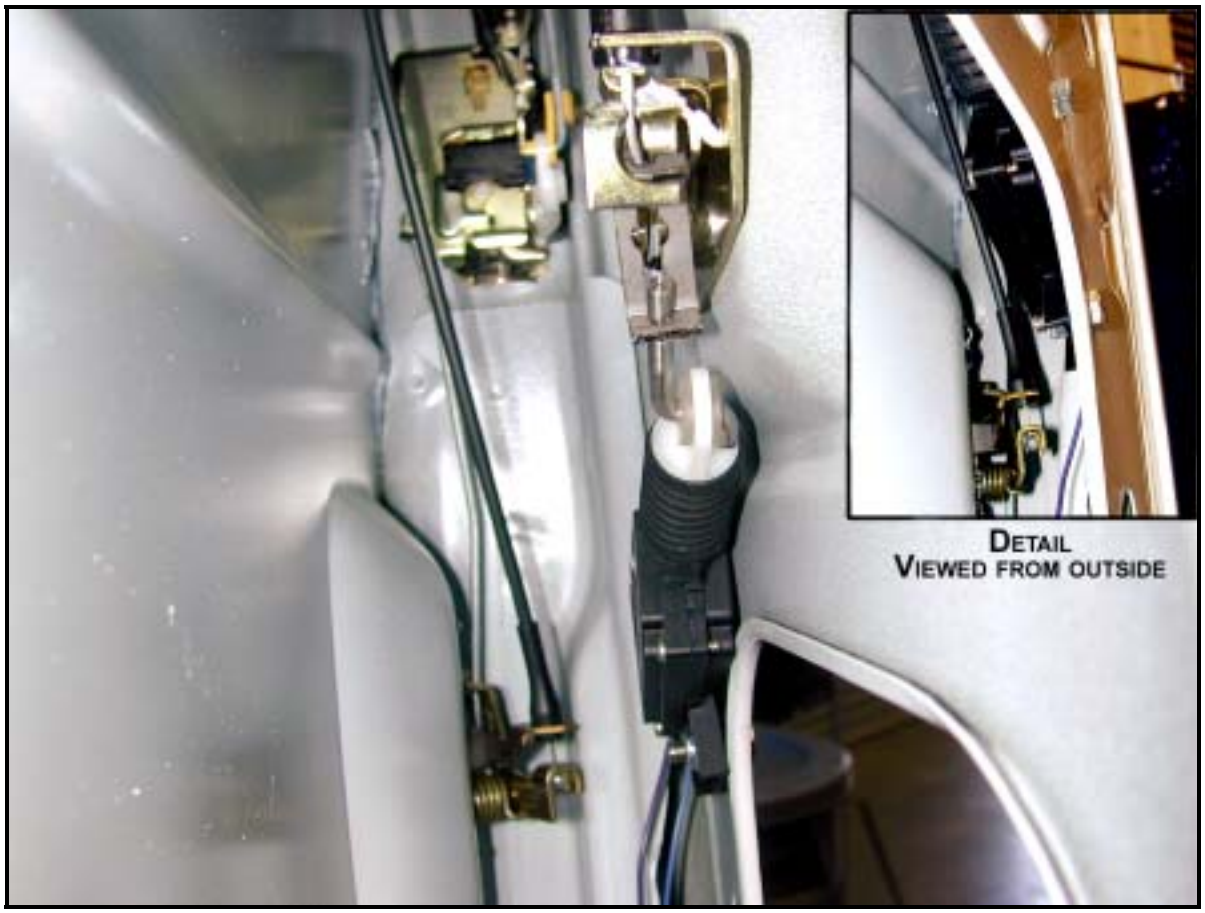

Figure [6] RIGHT SIDE DOOR ACTUATOR

- **ACTUATOR ASSEMBLY IS SHOWN FROM INSIDE OF DOOR PANEL.**
- **REMOUNT RELEASE MECHANISM AND INSTALL SCREW REMOVED IN FIGURE 2.**
- **INSTALL ACTUATOR WITH TWO 1/4" SCREWS WITH LOCK NUTS. DO NOT OVER TIGHTEN BOLTS.**
- **REINSTALL DOOR HANDLE REMOVED IN FIGURE 1.**

II. INSTALLATION OF LEFT DOOR LATCH ACTUATOR ASSEMBLY

Figure [7] CABLES, LEFT DOOR HANDLE

- **DOOR HANDLE VIEWED FROM INSIDE OF DOOR.**
- **REMOVE TWO CLIPS HOLDING CABLES FOR DOOR LATCHES.**

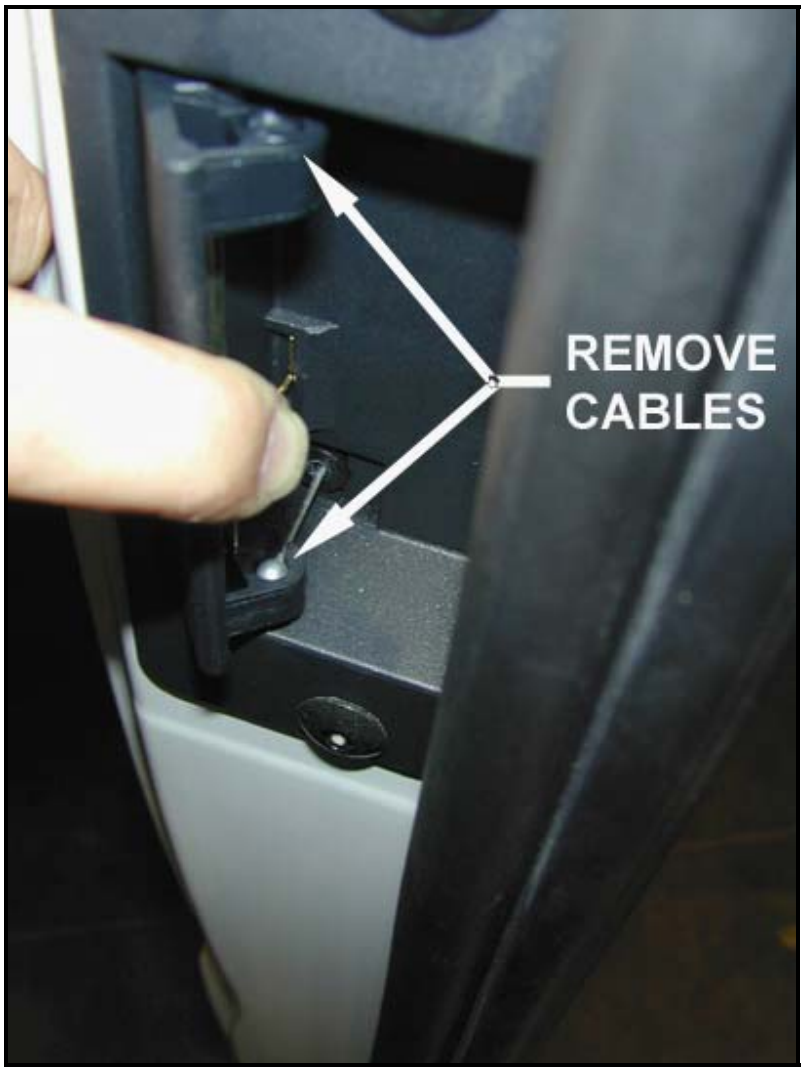

Figure [8] LEFT DOOR HANDLE

- **REMOVE BALL END OF CABLES FROM HANDLE.**
- **FROM INSIDE OF DOOR REMOVE CABLES FROM DOOR HANDLE.**

Figure [9] LEFT DOOR TEMPLATE

- **CUT TEMPLATE ON DOTTED LINE.**
- **INSTALL TEMPLATE TO UPPER LEFT SIDE OF DOOR WITH TAPE.**
- **DRILL ALL 9 HOLES WITH 17/64” DRILL BIT.**
- **REMOVE TEMPLATE.**

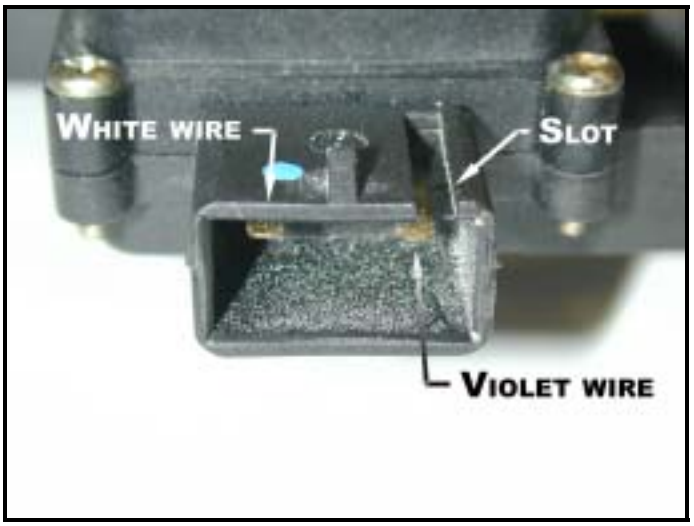

Figure [10] LEFT DOOR WIRE CONNECTIONS

- **LOCATE VIOLET AND WHITE TWO WIRE HARNESSES FROM KIT.**
- **INSTALL ONE VIOLET WIRE TO EACH ACTUATOR TERMINAL, SLOTTED SIDE.**
- **CONNECT ONE WHITE WIRE TO REMAINING TERMINAL OF EACH ACTUATOR.**

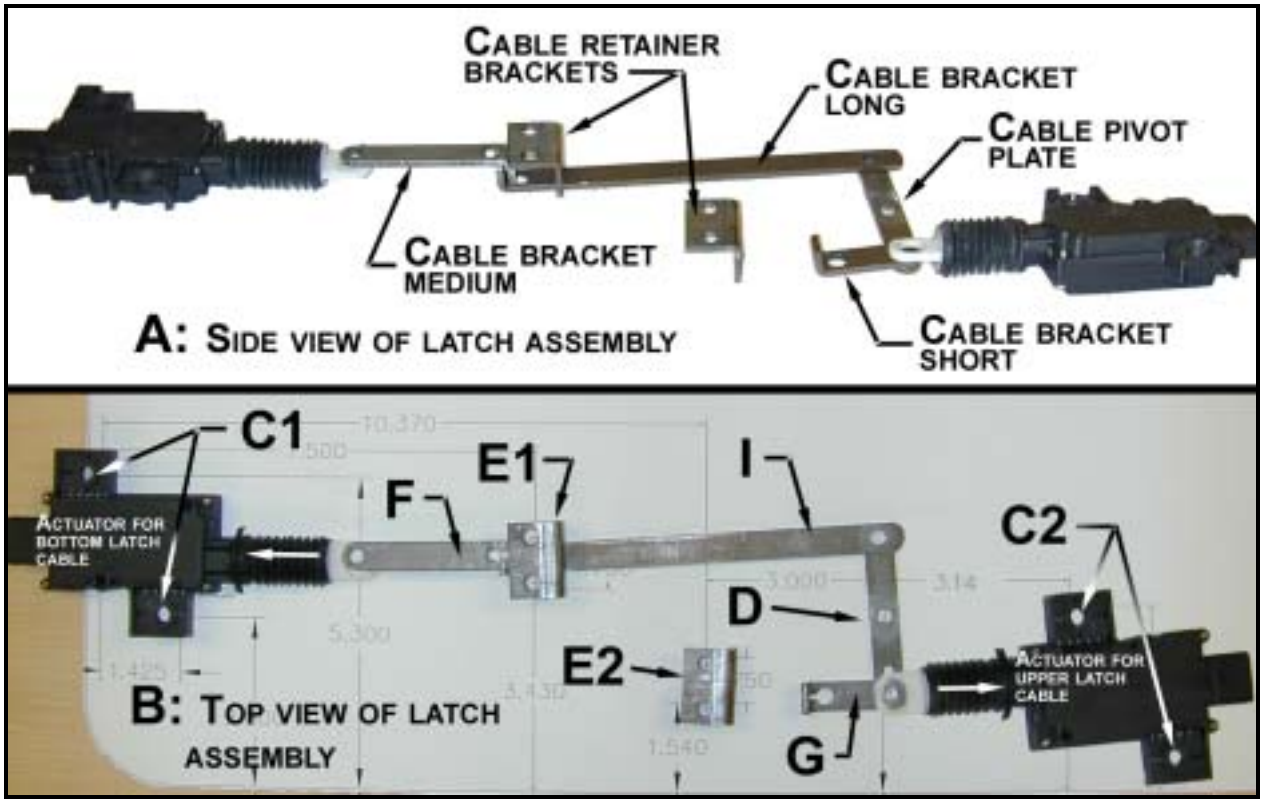

Figure [11] LEFT DOOR LATCH ASSEMBLY

- **INSTALL E1 AND E2 CABLE RETAINER BRACKETS TO INSIDE OF DOOR USING 1/4-20 BOLTS AND LOCK NUTS. BRACKETS ARE INSTALLED WITH NOTCH SIDE DOWN.**
- **ATTACH F [MEDIUM CABLE BRACKET] WITH ANGLE FACING INBOARD TO C1 [ACTUATOR], USING 1/4-20 BOLT AND LOCK NUT. NOTE: BOLT IS INSTALLED THROUGH ACTUATOR AND INTO BRACKET WITH LOCK NUT ON BRACKET SIDE. <u>DO NOT OVER TIGHTEN</u>, BRACKET MUST MOVE FREELY ON ACTUATOR.**
- **INSTALL C1 [ACTUATOR] TO DOOR USING SPACERS AND 1/4-20 BOLTS AND LOCK NUTS.**
- **ATTACH LOWER LATCH CABLE TO MEDIUM CABLE BRACKET [F] BY INSERTING BALL END OF CABLE THROUGH HOLE IN BRACKET AND PULLING CABLE THROUGH SLOT.**
- **ATTACH LONG CABLE BRACKET [I] WITH ANGLE FACING OUTBOARD TO LOWER LATCH CABLE. ALIGN GROOVE IN CABLE WITH SLOT IN CABLE BRACKET [E1] AND PUSH CABLE UNTIL SEATED IN BRACKET.**
- **INSTALL BOLT THROUGH CABLE PIVOT PLATE [D], SHORT CABLE BRACKET [G], AND ACTUATOR [C2]. INSTALL LOCK NUT SO BRACKETS ROTATE FREELY ON ACTUATOR. NOTE: ANGLE SIDE OF SHORT CABLE BRACKET FACING OUTBOARD.**
- **ATTACH CABLE PIVOT PLATE [D] TO DOOR WITH 1/4- 20 BOLT, SPACER AND LOCK NUT.**
- **INSTALL ACTUATOR [C2] WITH 1/4-20 BOLTS, SPACERS AND LOCK NUTS.**
- **ATTACH UPPER LATCH CABLE TO SMALL CABLE BRACKET [G] BY INSERTING BALL END OF CABLE THROUGH HOLE IN BRACKET AND PULLING CABLE THROUGH SLOT.**
- **ALIGN GROOVE IN CABLE WITH SLOT IN CABLE BRACKET [E2] AND PUSH CABLE UNTIL SEATED IN BRACKET.**

Figure [12] MANUAL RELEASE CABLE

- **DRILL 1/2" HOLE FOR GROMMET AS SHOWN ABOVE.**
- **INSERT SMALLER LOOP OF CABLE THROUGH GROMMET AND INTO HOLE. PUSH GROMMET UNTIL SEATED.**
- **CONNECT CABLE TO PIVOT PLATE AND LONG CABLE BRACKET, USING 1/4-20 BOLTS, WASHER AND LOCK NUT.**
- **DO NOT OVER TIGHTEN, PIVOT PLATE AND CABLE BRACKET MUST MOVE FREELY.**

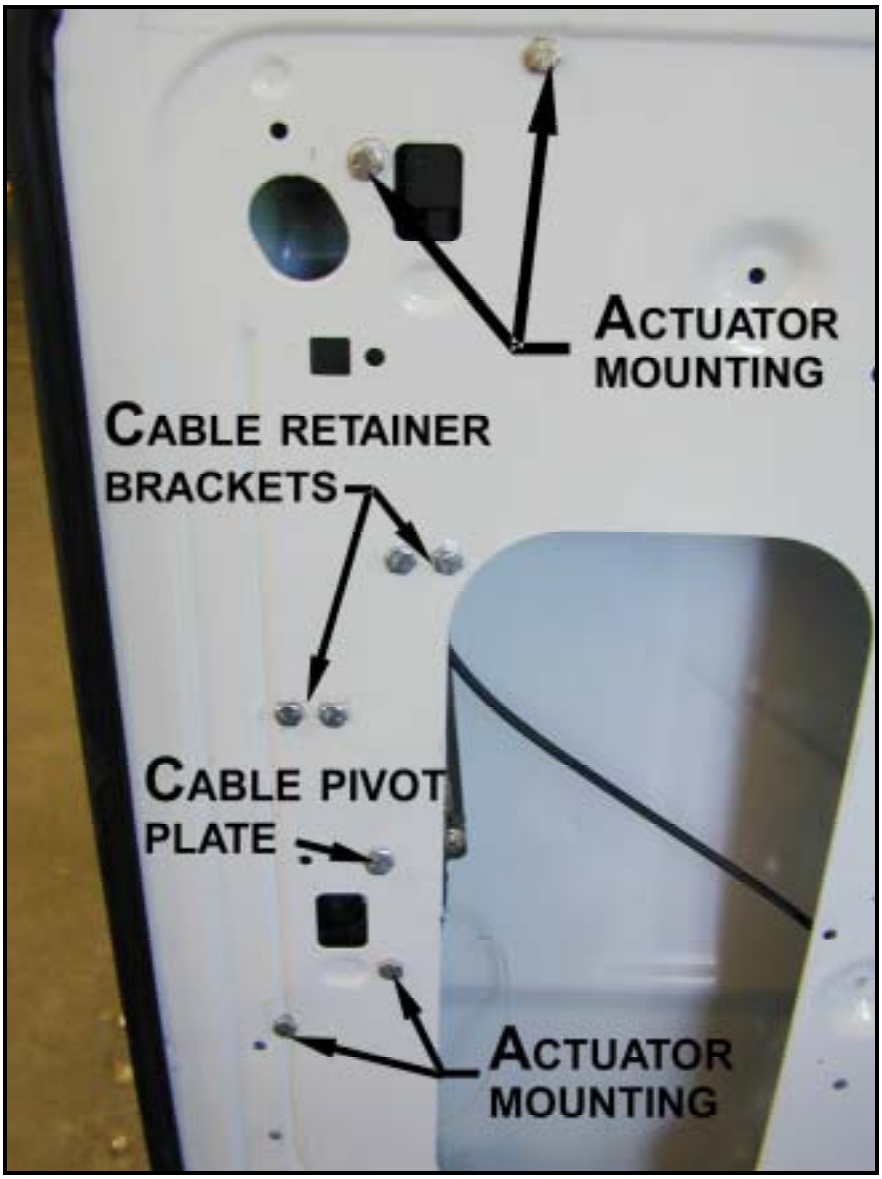

Figure [13] LEFT DOOR WITH LATCH ASSEMBLY INSTALLED

III. INSTALLATION OF DOOR OPENERS

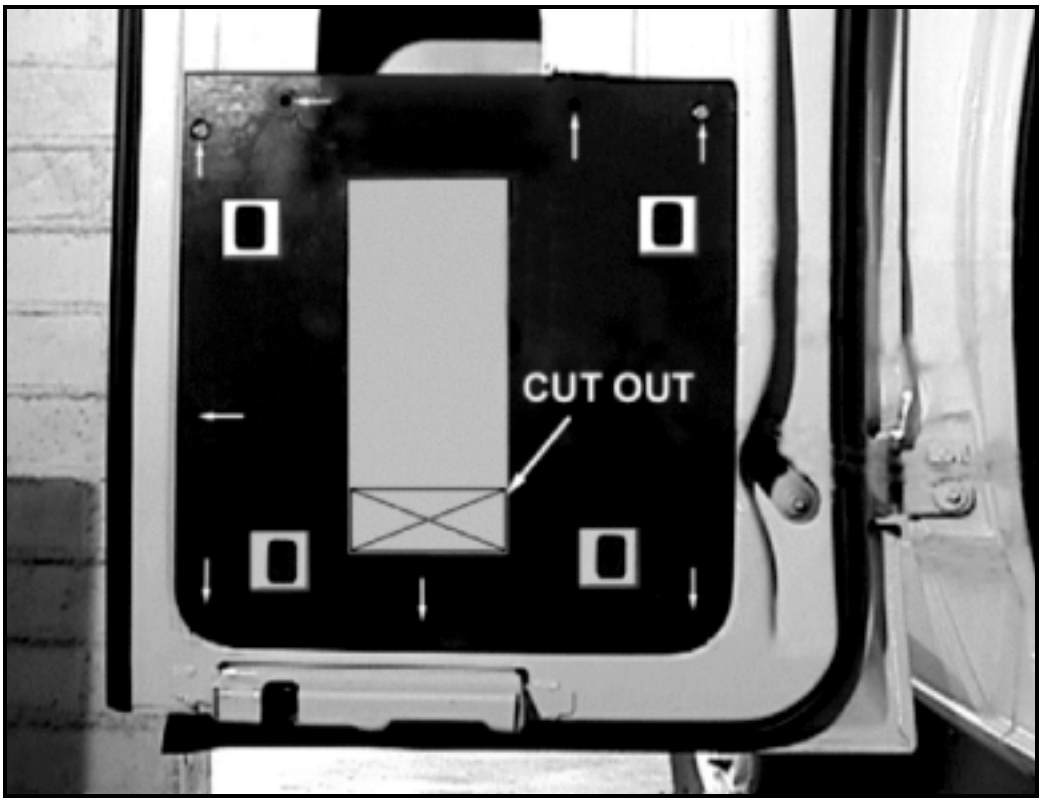

Figure [14] LEFT DOOR

- **LOCATE LEFT HAND MOUNTING BRACKET AS SHOWN.**
- **DRILL EIGHT 9/32” DIAMETER HOLES IN VAN DOOR PANEL WHERE SHOWN.**
- **CUT OUT DOOR PANEL IN AREA SHOWN TO CLEAR DOOR OPENER.**

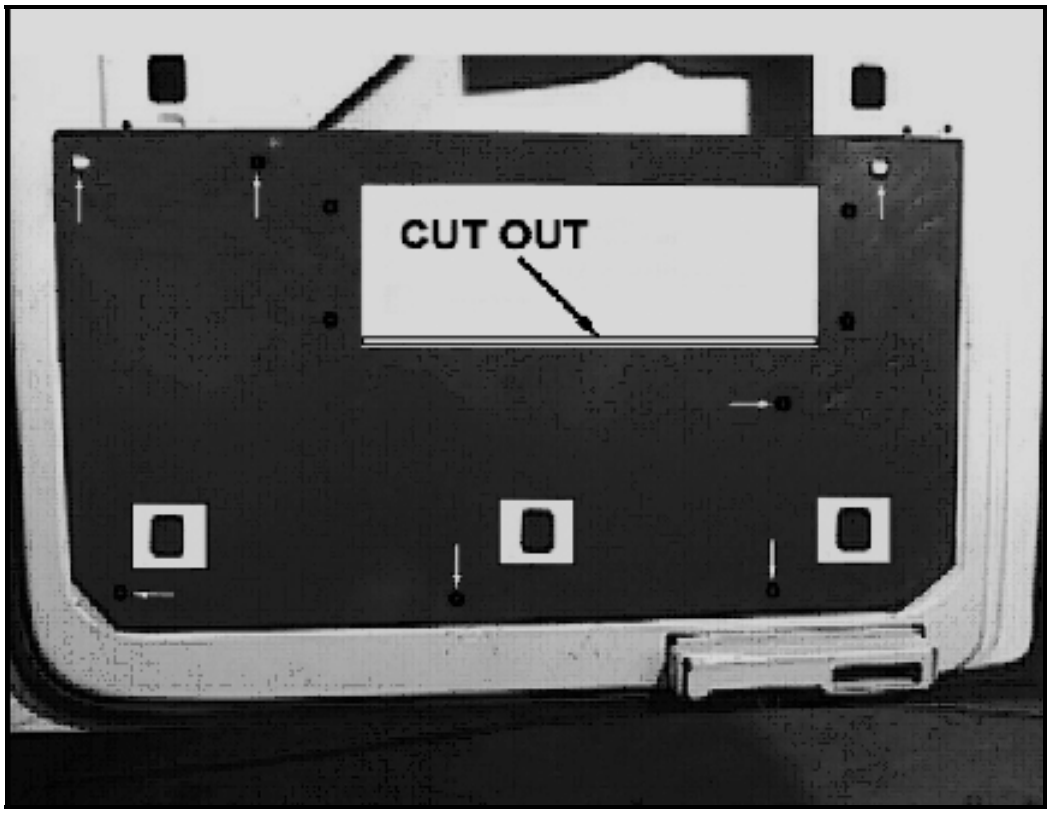

Figure [15] RIGHT DOOR

- **LOCATE RIGHT HAND MOUNTING BRACKET AS SHOWN.**
- **DRILL SEVEN 9/32” HOLES IN VAN DOOR PANEL, INDICATED BY THE WHITE ARROWS.**
- **CUT OUT DOOR PANEL, AS INDICATED IN PHOTO TO ALLOW FOR DOOR OPENER CLEARANCE.**

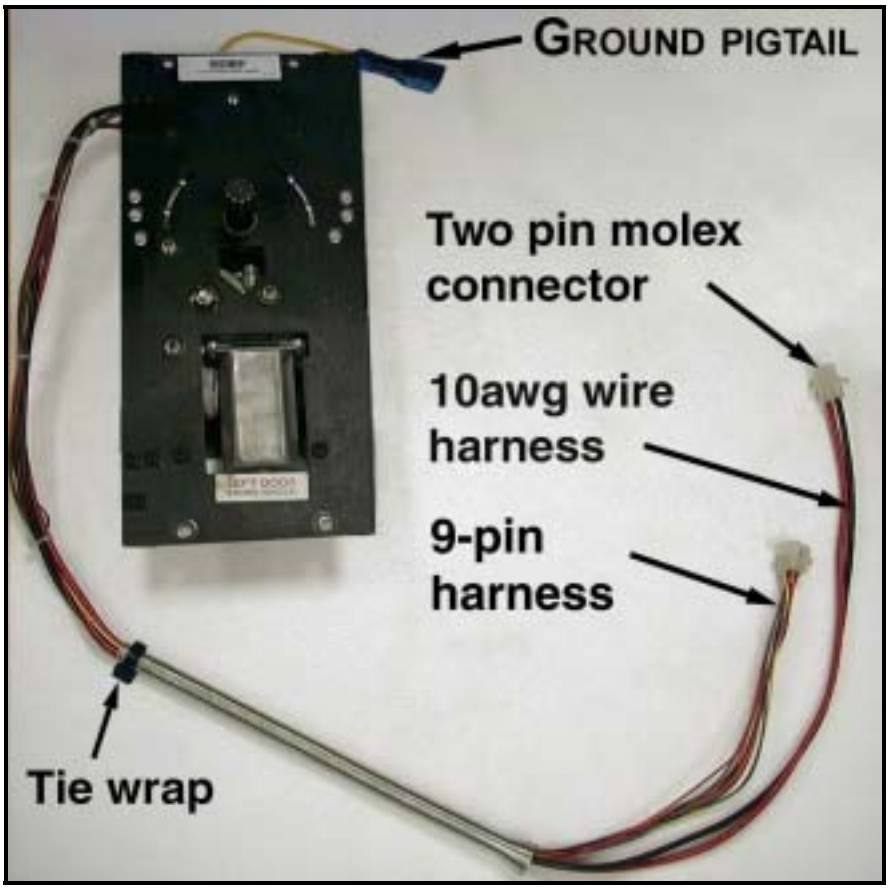

Figure [16] DOOR MOTOR ASSEMBLY

- **INSTALL TIE WRAP AT END OF SPRING ON BOTH MOTOR ASSEMBLIES.**
- **NOTE 10AWG TWO WIRE HARNESS AND GROUND PIGTAIL.**

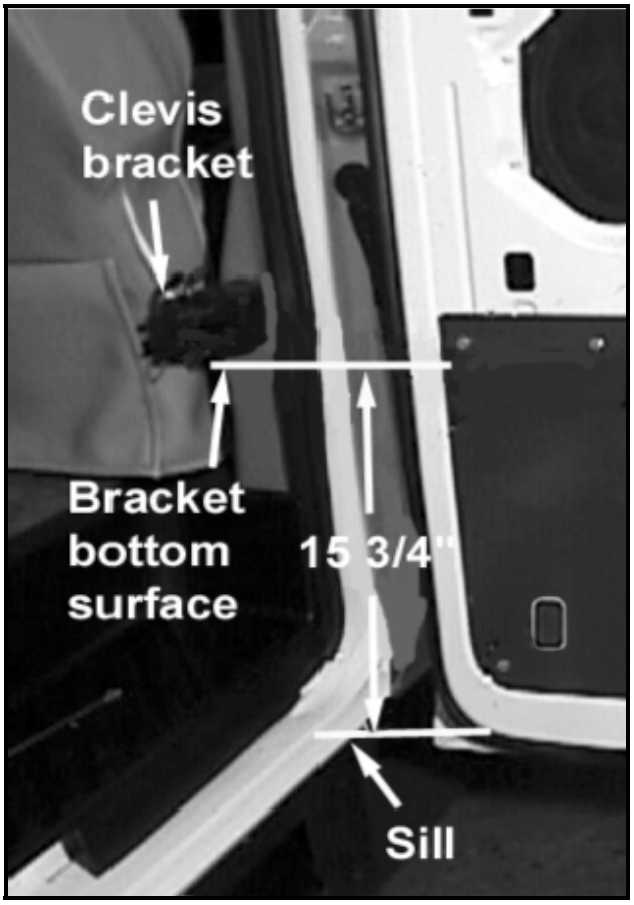

Figure [17] RIGHT DOOR CLEVIS BRACKET

- **LOCATE CLEVIS BRACKET AS SHOWN.**

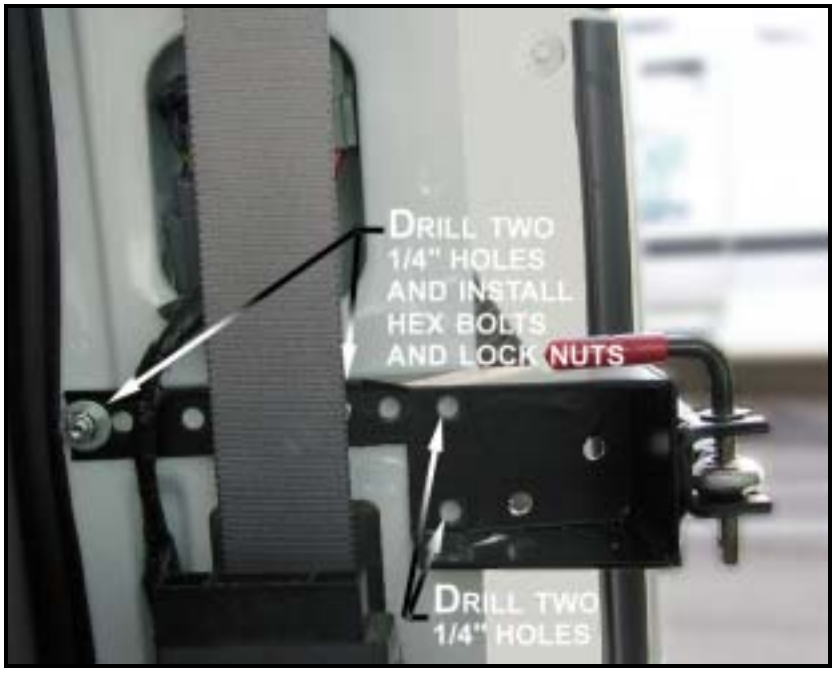

Figure [18] RIGHT CLEVIS BRACKET

- **DRILL TWO 1/4" HOLES AND INSTALL BOLTS AND LOCK NUTS, AS SHOWN IN PHOTO ABOVE.**
- **DRILL TWO 1/4" HOLES AND INSTALL ANGLE BRACKET, SEE FIG. 26.**

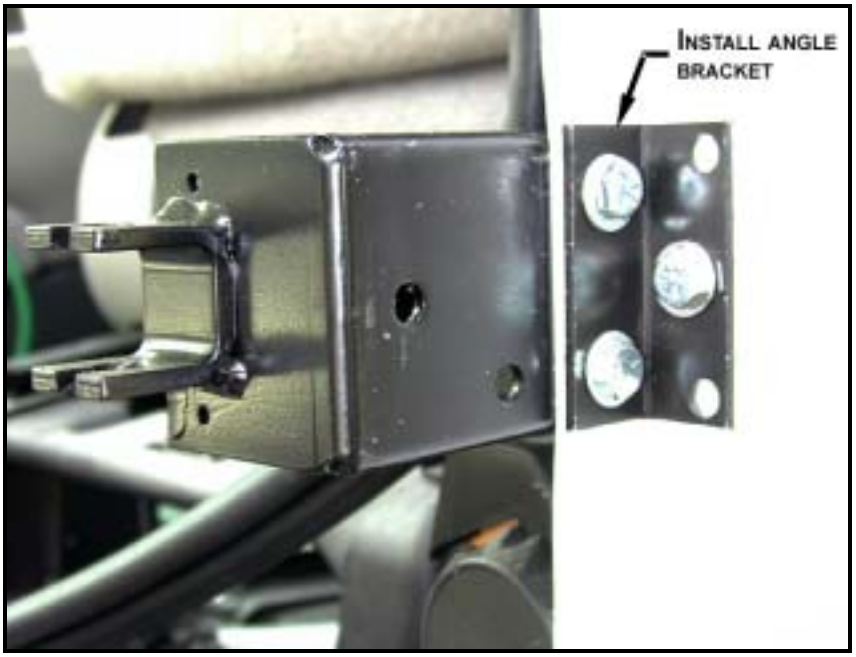

Figure [19] RIGHT DOOR CLEVIS BRACKET

- **INSTALL ANGLE BRACKET WITH TWO 1/4-20 HEX BOLTS AND LOCK NUTS.**
- **DRILL ONE 1/4" HOLE INTO "B" PILLAR. INSTALL 1/4-20 BOLTS WITH LOCK NUT.**

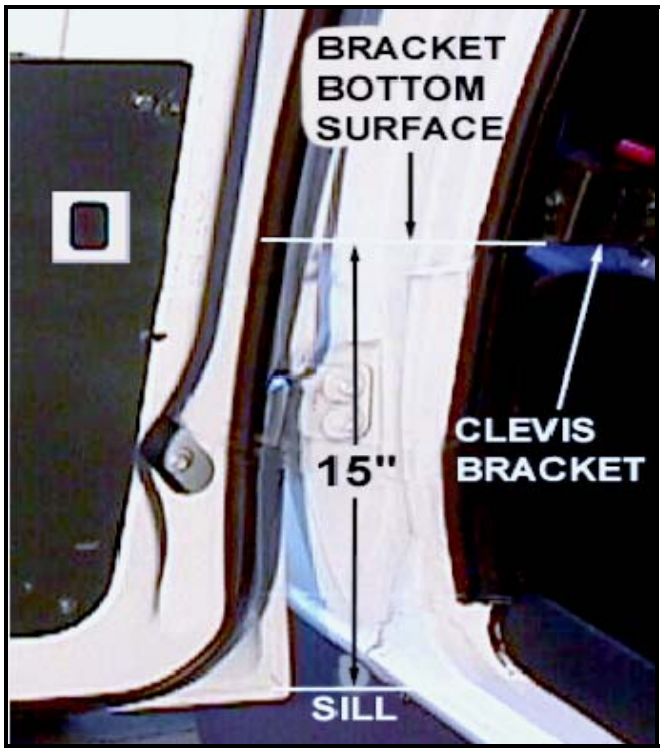

Figure [20] LEFT DOOR CLEVIS BRACKET

- **LOCATE CLEVIS BRACKET AS SHOWN.**

Figure [21] LEFT DOOR CLEVIS BRACKET

- **BOLT ANGLE BRACKET TO CLEVIS USING 1/4-20 HEX BOLT AND LOCK NUT.**
- **FASTEN CLEVIS BRACKET TO VAN WITH 1/4" SHEET METAL SCREWS.**

Figure [22] LEFT CLEVIS BRACKET

- **INSTALL FIVE SHEET METAL SCREWS AS SHOWN.**

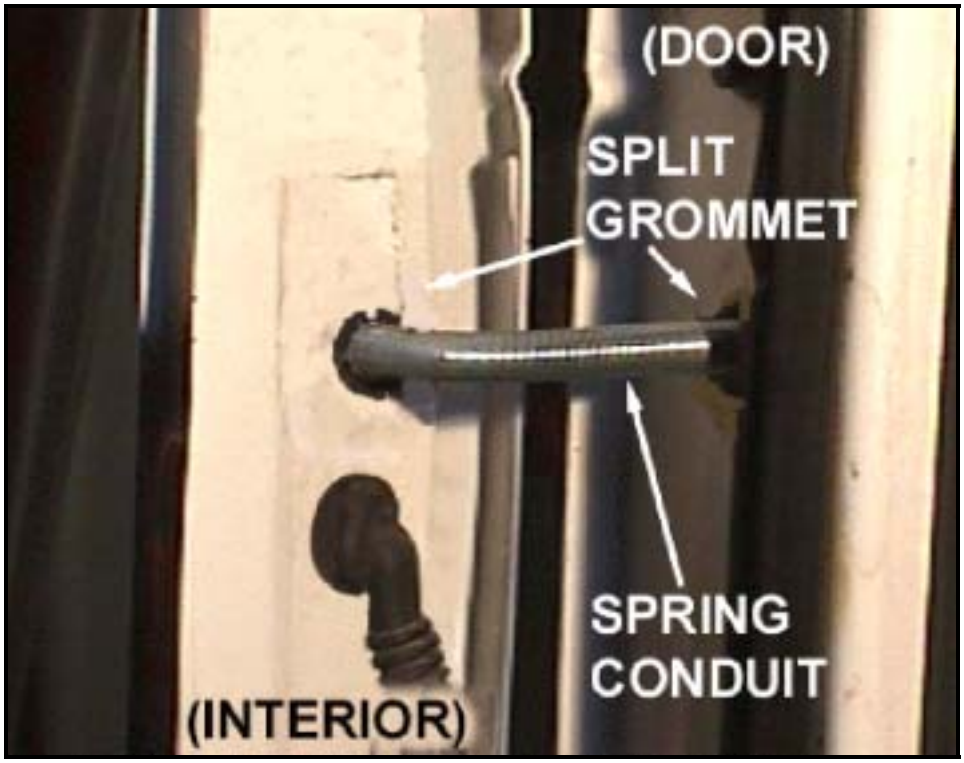

Figure [23] RIGHT DOOR GROMMET AND SPRING CONDUIT

- **CUT TWO 1” HOLES IN RIGHT DOOR JAMB WHERE SHOWN.**
- **ROUTE THE MOTOR HARNESS WITH SPRING CONDUIT THROUGH DOOR JAMBS AS SHOWN.**
- **INSTALL THE SUPPLIED GROMMETS AROUND THE SPRING AND PUSH INTO HOLES.**
- **CONNECT CROSSOVER HARNESS TO MOTOR HARNESS.**

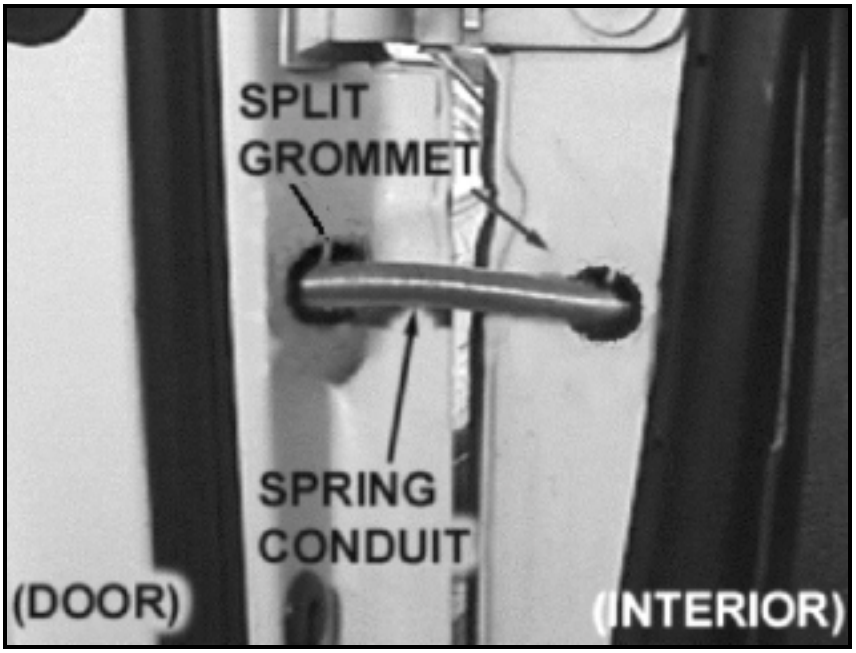

Figure [24] LEFT DOOR GROMMET AND SPRING CONDUIT

- **CUT TWO 1” HOLES IN LEFT DOOR WHERE SHOWN.**
- **ROUTE THE MOTOR HARNESS WITH SPRING CONDUIT THROUGH DOOR JAMBS AS SHOWN.**
- **INSTALL THE SUPPLIED GROMMETS AROUND THE SPRING AND PUSH INTO DOOR JAMBS.**
- **CONNECT CROSSOVER HARNESS TO MOTOR HARNESS.**

Figure [25] ADDITIONAL LIMIT SWITCH CONNECTIONS

- **LEFT DOOR: WHITE WIRE FROM ACTUATOR GOES TO THE LIMIT SWITCH WITH A BROWN WIRE; LIMIT SWITCH WITH BLUE WIRE IS NOT USED.**
- **RIGHT DOOR: WHITE WIRE FROM ACTUATOR GOES TO THE LIMIT SWITCH WITH A BLUE WIRE; LIMIT SWITCH WITH BROWN WIRE IS NOT USED.**
- **CONNECT VIOLET WIRE FROM LATCH ACTUATORS TO GROUND PIGTAIL ON MOTOR ASSEMBLY.**

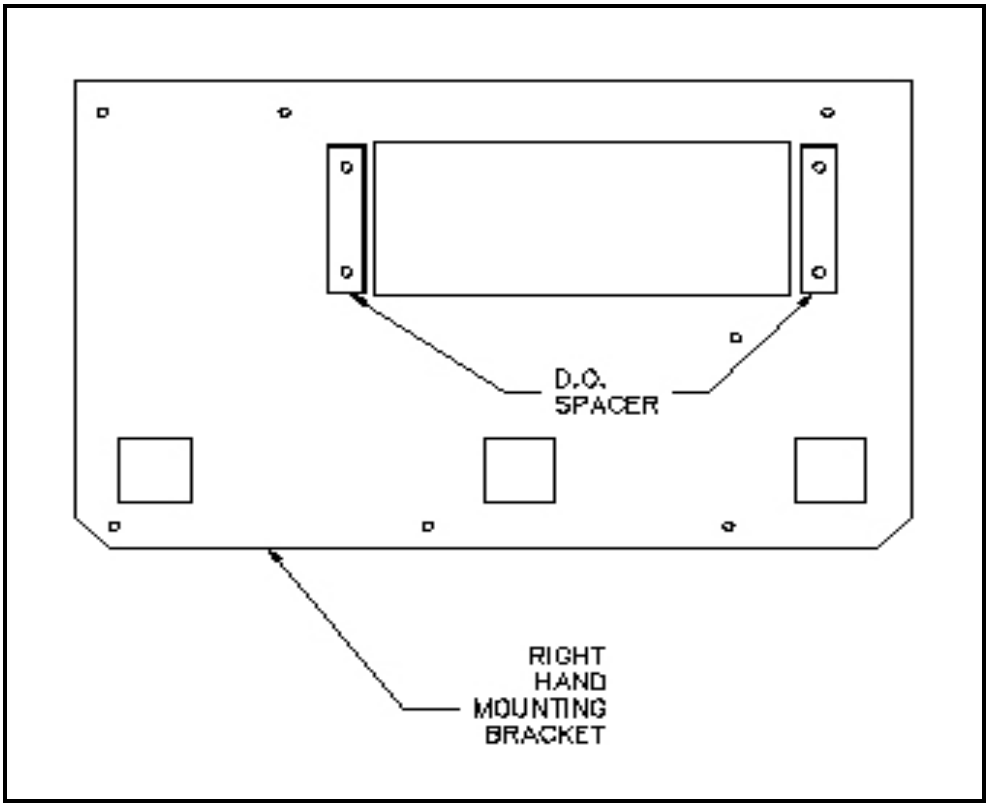

Figure [26] FACTORY DOOR PANEL APPLICATIONS

- **NOTE: INSTALLATIONS USING FACTORY INTERIOR DOOR PANEL WILL REQUIRE SPACERS [SUPPLIED] TO BE INSTALLED BETWEEN DOOR OPENER AND MOUNTING BRACKET.**
- **INSTALL DOOR OPENER SPACERS BETWEEN DOOR OPENER AND MOUNTING BRACKET.**

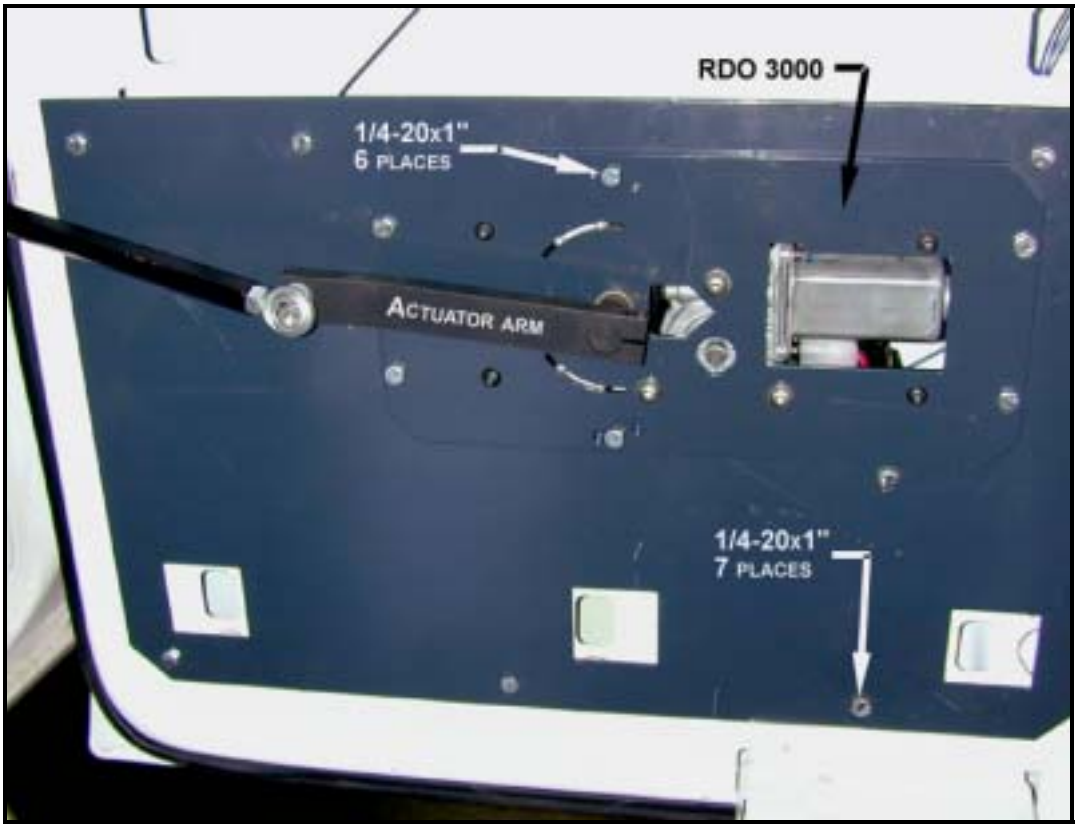

Figure [27] RIGHT DOOR MOUNTING BRACKET

- **FASTEN RIGHT HAND BRACKET TO PANEL WITH HARDWARE SHOWN.**

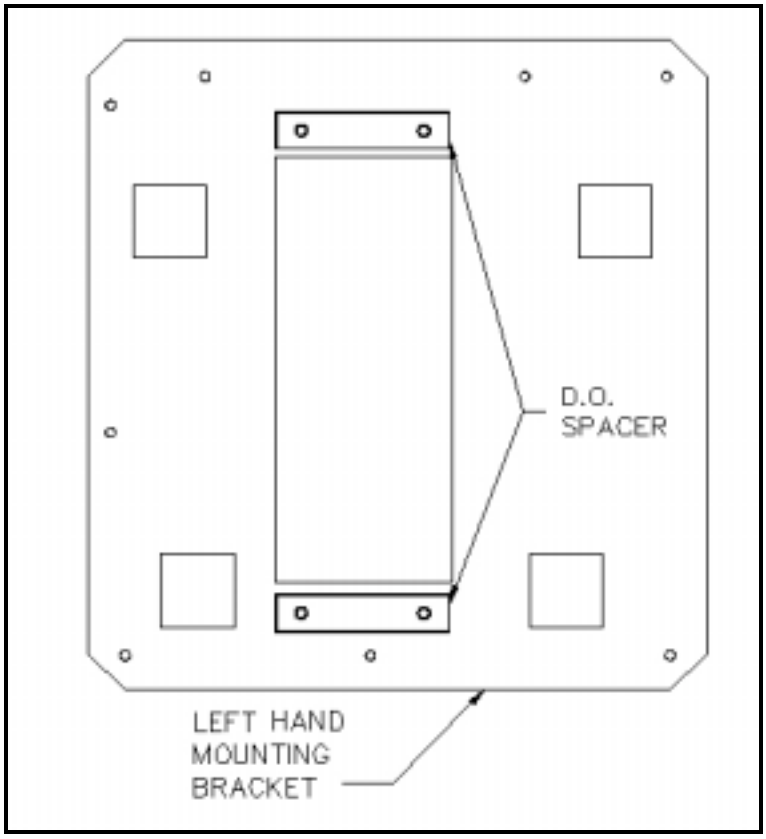

Figure [28] FACTORY DOOR PANEL APPLICATIONS

- **NOTE: INSTALLATIONS USING FACTORY INTERIOR DOOR PANEL WILL REQUIRE SPACERS [SUPPLIED] TO BE INSTALLED BETWEEN DOOR OPENER AND MOUNTING BRACKET.**
- **INSTALL DOOR OPENER SPACERS BETWEEN DOOR OPENER AND MOUNTING BRACKET.**

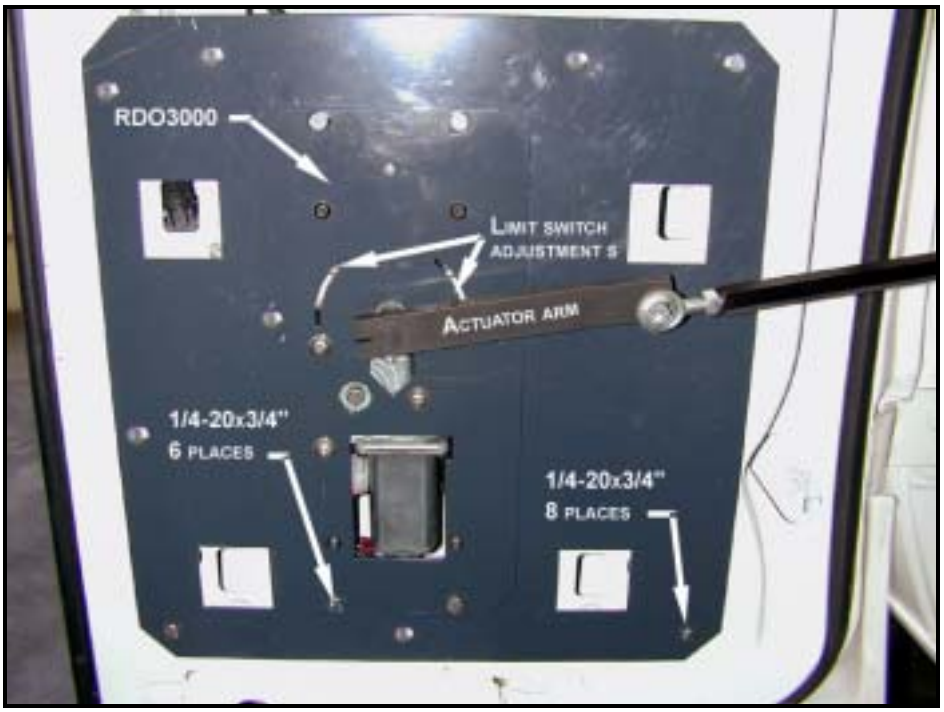

Figure [29] LEFT DOOR

- **ATTACH BRACKET TO PANEL WITH HARDWARE SHOWN.**

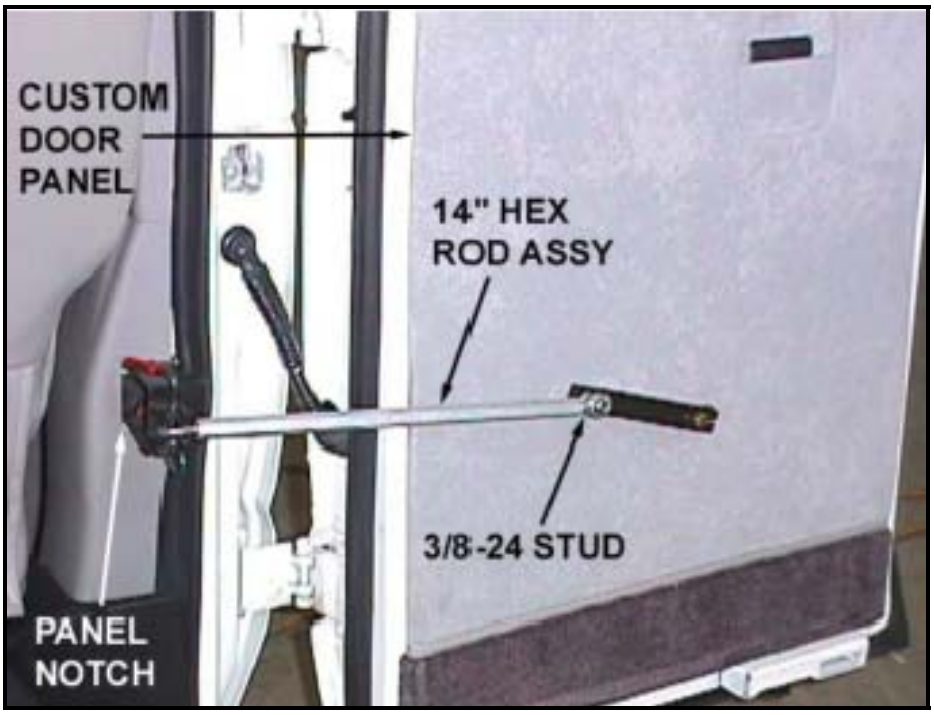

Figure [30] RIGHT DOOR

- **INSTALL HEX ROD ASSEMBLY ON RIGHT DOOR ACTUATOR AS SHOWN.**

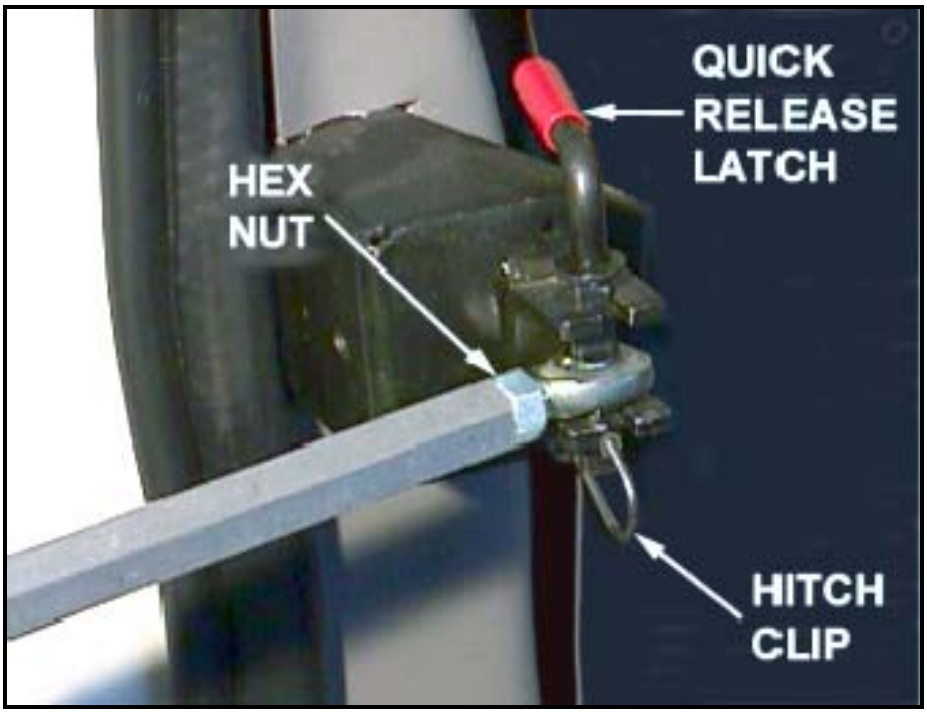

Figure [31] LEFT CLEVIS ASSEMBLY

- **FASTEN HEX ROD TO LEFT CLEVIS BRACKET WITH HARDWARE SHOWN.**

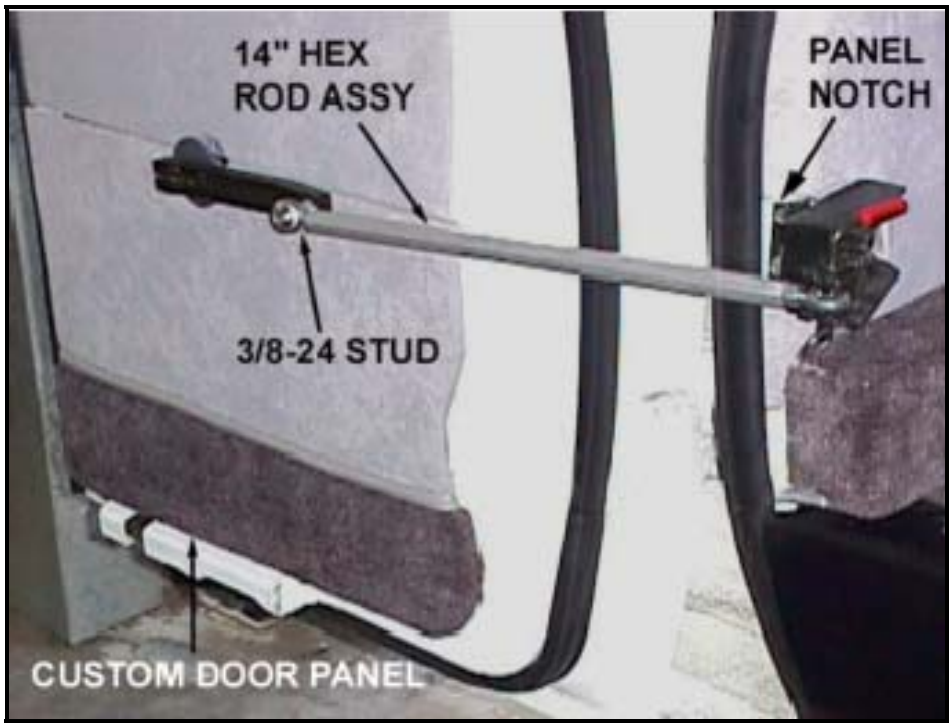

Figure [32] LEFT DOOR

- **INSTALL 14" HEX ROD ASSEMBLY ON LEFT DOOR WITH HARDWARE SHOWN.**

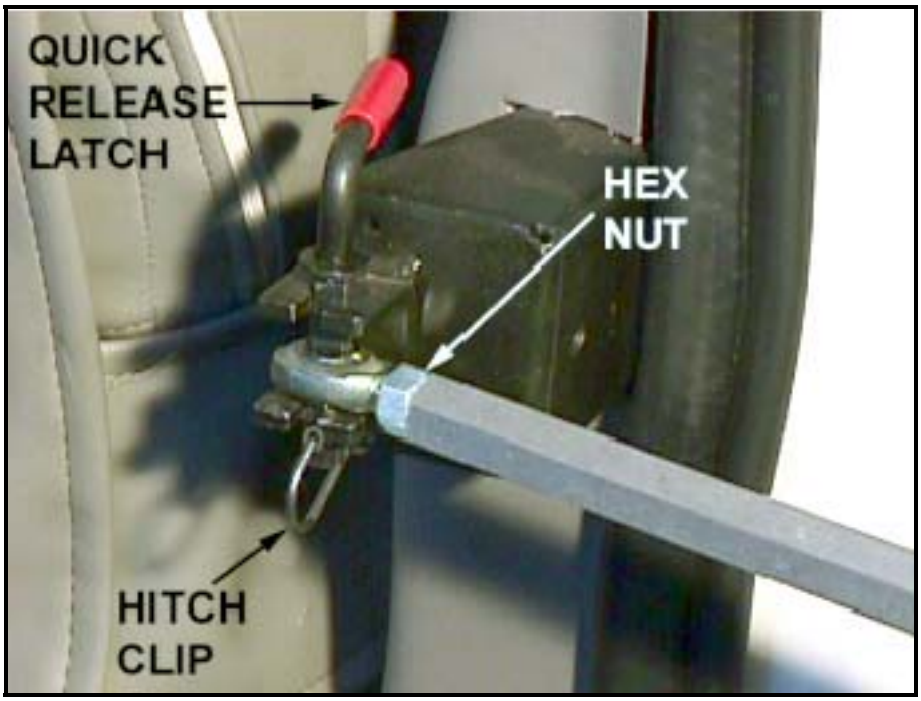

Figure [33] RIGHT CLEVIS ASSEMBLY

- **FASTEN HEX ROD TO RIGHT CLEVIS BRACKET WITH HARDWARE SHOWN.**

Figure [34] CLEVIS RELEASE TOOL

- **USING SUPPLIED CLIPS AND SCREWS, MOUNT CLEVIS RELEASE TOOL IN A LOCATE THAT IS EASILY REACHED.**

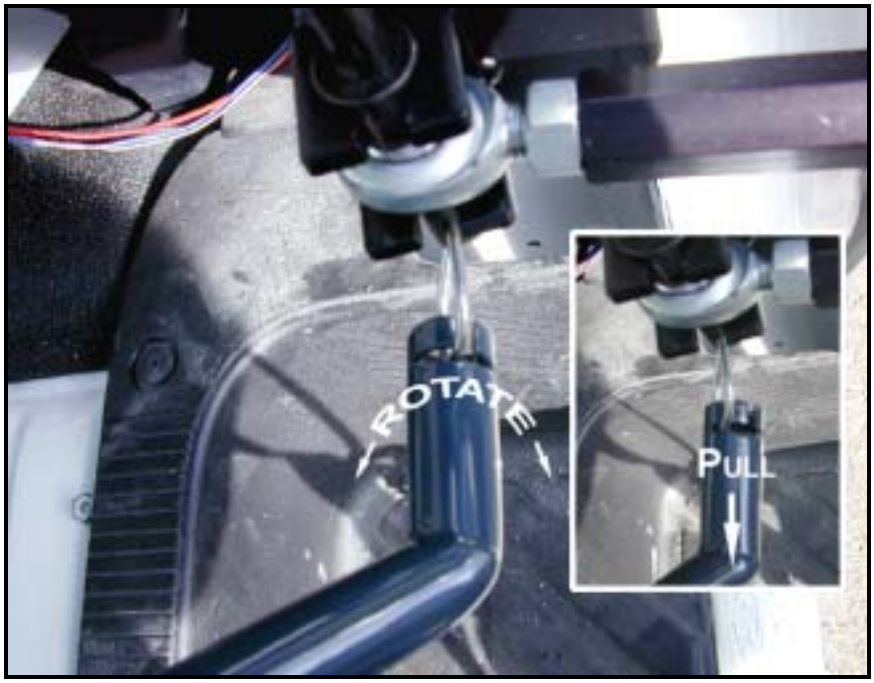

Figure [35] HITCH PIN REMOVAL

- **ALIGN SLOT IN TOOL WITH HITCH PIN, PUSH IN AND ROTATE TOOL. PULL TO REMOVE PIN. SEE ABOVE PHOTO.**

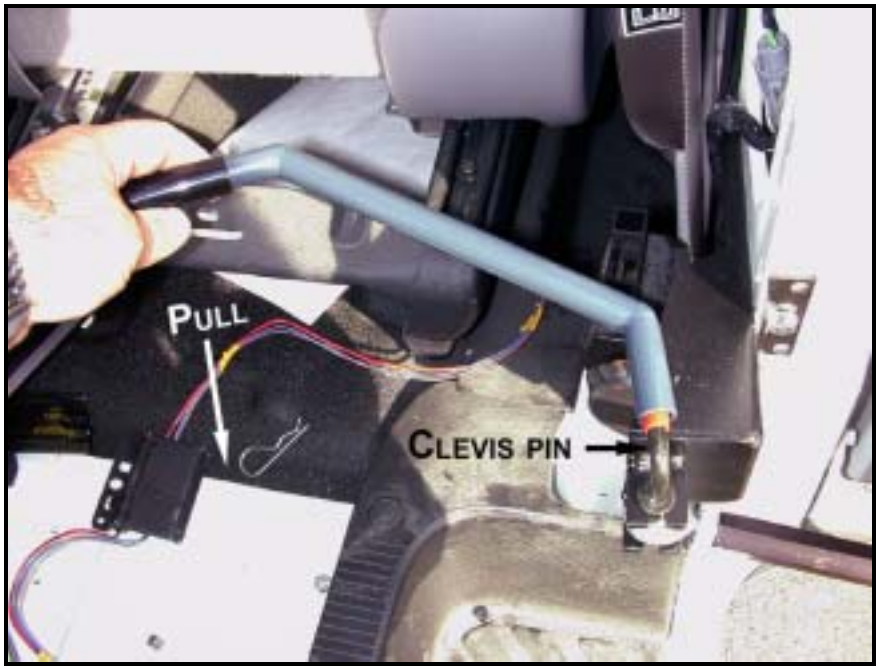

Figure [36] CLEVIS PIN REMOVAL

- **CAUTION, WITH DOOR CLOSED THERE IS A GREAT AMOUNT OF FORCE ON THE CLEVIS PIN, KEEP HANDS AWAY FROM PIN AND HEX ROD.**
- **INSERT TOOL OVER CLEVIS PIN, PULL TOOL TO ROTATE PIN 90 DEGREES. PIN WILL POP OUT. OPEN THE DOOR BY USING DOOR HANDLE.**

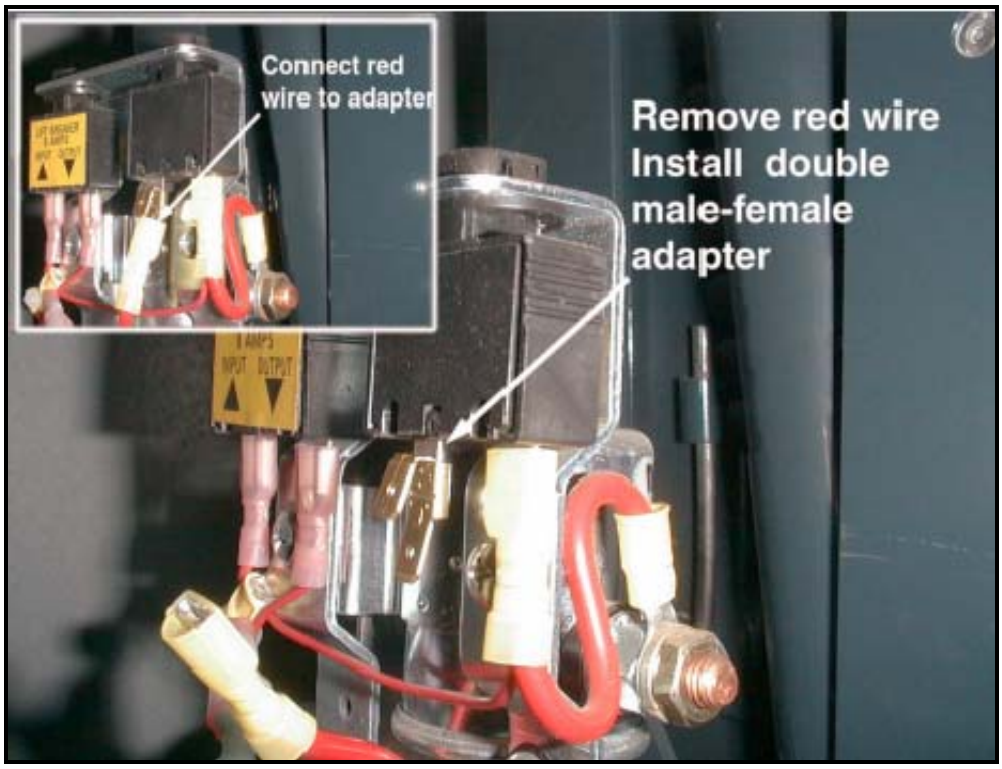

Figure [37] TYPICAL S-SERIES CIRCUIT BREAKER

- **DISCONNECT WIRE FROM AUX SIDE OF 30AMP CIRCUIT BREAKER, CONNECT TERMINAL ADAPTER (DOUBLE MALE-SINGLE FEMALE) TO CIRCUIT BREAKER.**
- **RECONNECT WIRE THAT WAS REMOVED FROM BREAKER. CONNECT 10AWG RED WIRE TO TERMINAL ADAPTER.**

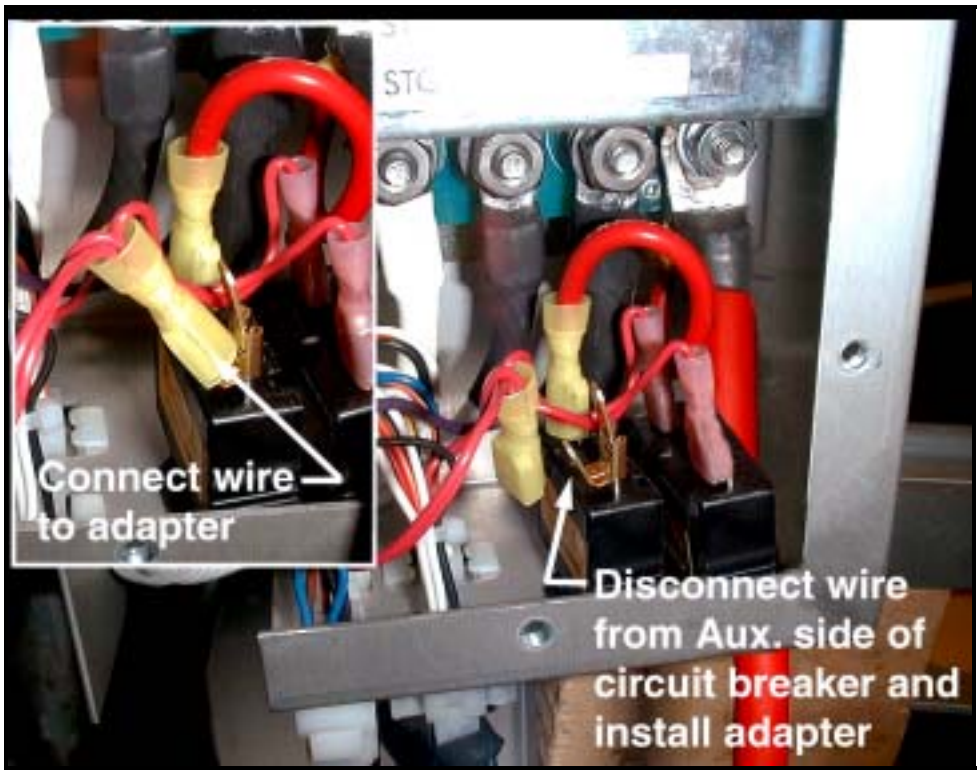

Figure [38] TYPICAL UNI-LITE CIRCUIT BREAKER

- **DISCONNECT WIRE FROM AUX SIDE OF 30AMP CIRCUIT BREAKER, CONNECT TERMINAL ADAPTER (DOUBLE MALE-SINGLE FEMALE) TO CIRCUIT BREAKER.**
- **RECONNECT WIRE THAT WAS REMOVED FROM BREAKER. CONNECT 10AWG RED WIRE TO TERMINAL ADAPTER.**

ELECTRICAL HARNESS ROUTING (BOTH SIDES)

1. Plug interconnecting harness to lift.
2. Connect 9-pin Molex connectors at door pillars to interconnecting harness.
3. Connect 10awg harness to Molex connector of left door opener.
4. Route 10awg harness to 30amp circuit breaker.
5. Connect red 10awg harness to 30amp circuit breaker.
6. Connect black 10awg wire to a good ground.
7. **Note that for right side door, 2-pin connector is not used.**

Figure [39] DETAIL OF ACTUATOR ARM ASSEMBLY

- **MOTOR SHAFT HAS MORE SPLINES THAN EARLIER MOTOR ASSEMBLIES, (R2900) ALLOWING FOR ADJUSTMENT THAT IS MORE PRECISE.**
- **WITH DOOR CLOSED, THE ANGLE OF THE ACTUATOR ARM AND HEX ROD ASSEMBLY SHOULD BE AS SHOWN IN PHOTO ABOVE. MINOR ADJUSTMENT CAN BE MADE WITH HEX ROD.**
- **LIMIT SWITCHES MAY NEED TO BE ADJUSTED FOR CORRECT OPERATION OF DOOR OPENERS.**
- **CHECK AND TIGHTEN ALL HARDWARE.**

ADJUSTMENTS

1. Refer to the Service/Owner Manual Final adjustments.
2. Adjust as needed.

NOTES: