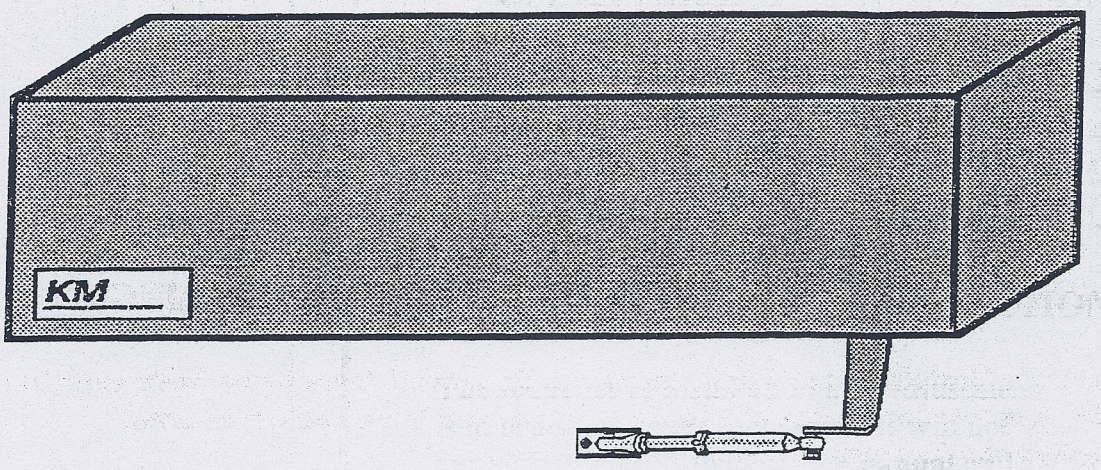
KM
Automated Entrance Systems

KM Systems, Inc.
4910 Starcrest Dr.
PO Box 3099
Monroe NC 28111 PH. 1-800-438-1937

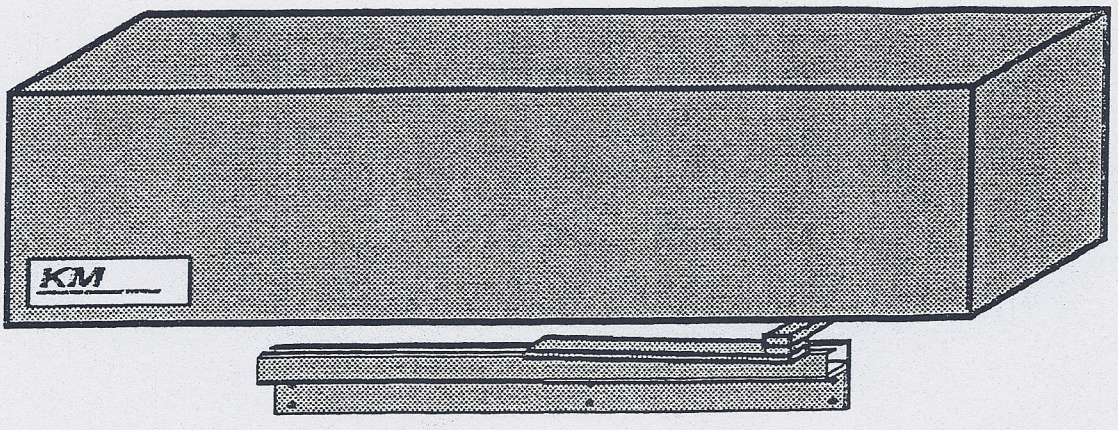
SERIES 3800

INSTALLATION INSTRUCTIONS

REGULAR ARM



SLIDE ARM



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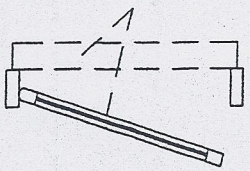
READ INSTALLATION INSTRUCTIONS BEFORE INSTALLING.

The sequence of installation and adjustment is in order, however some sections will not apply. Review this instruction manual and determine those sections that do apply.

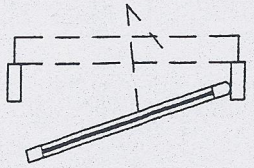
Be sure all doors swing freely and clear all objects before attaching arms.

HAND OF DOOR IDENTIFICATION

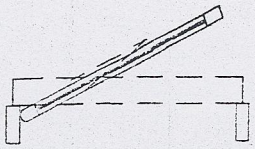
LHR (RH OUT)
REGULAR ARM



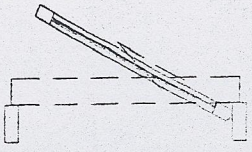
RHR (LH OUT)
REGULAR ARM



LH
SLIDE ARM



RH
SLIDE ARM



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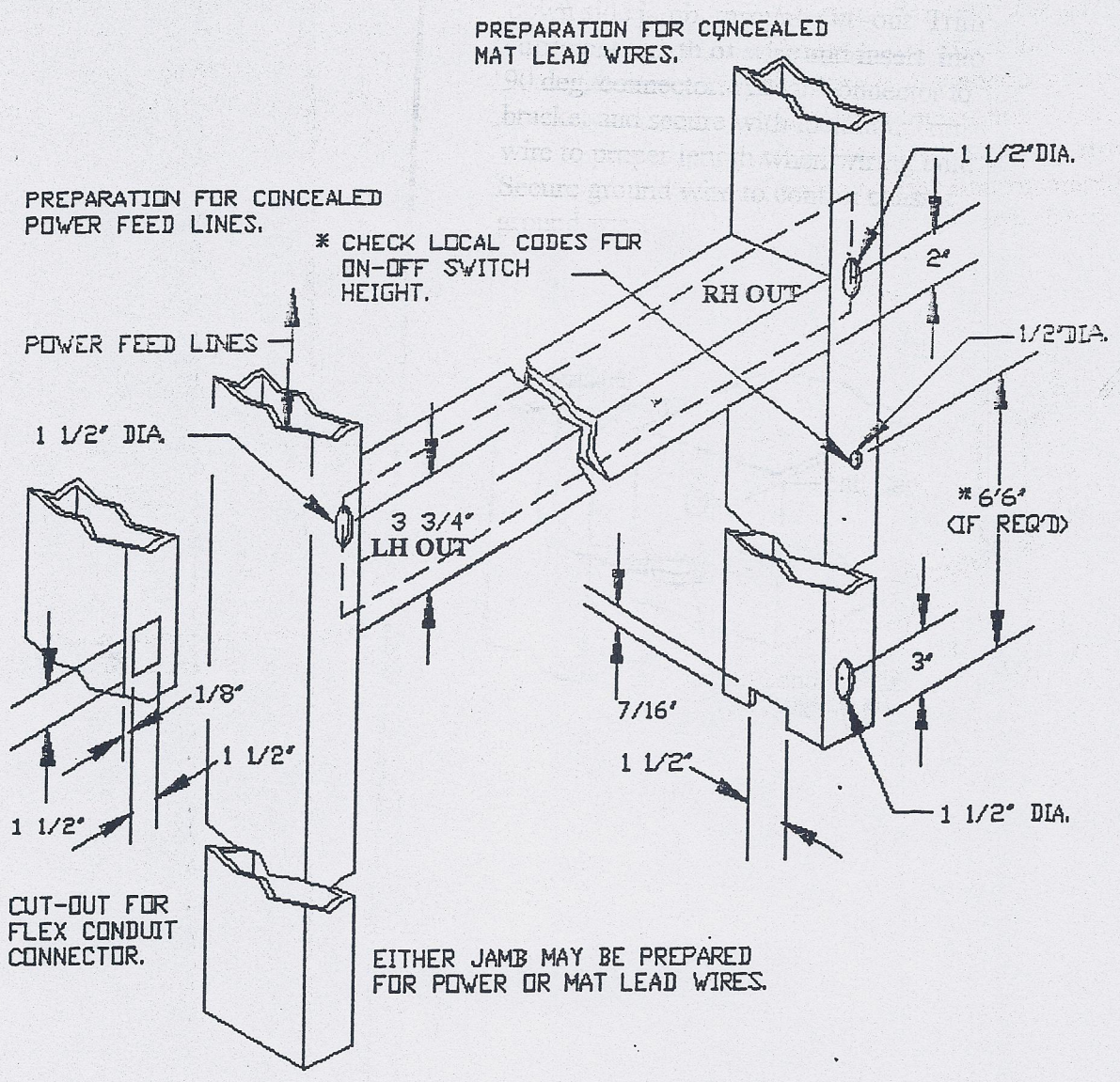
ELECTRICAL PREPAPATION

Before preparing jambs, determine the method and requirements for the electrical wiring involved and whether mats or other type of activation is used.

For mounting on-off switch proceed to Operator Installation section.
CAUTION- Some local codes require on-off switches to be not over 6'-6" above the floor. A suggested method of installation is to prepare a 1 1/2" dia. hole as shown. To install , place switch through top hole (1 1/2" dia.) while holding lead wires, lower switch to second hole (1/2" dia.) and fish out toggle end of switch.
Install tabbed legend washer with mounting nut and secure with self tap screw.



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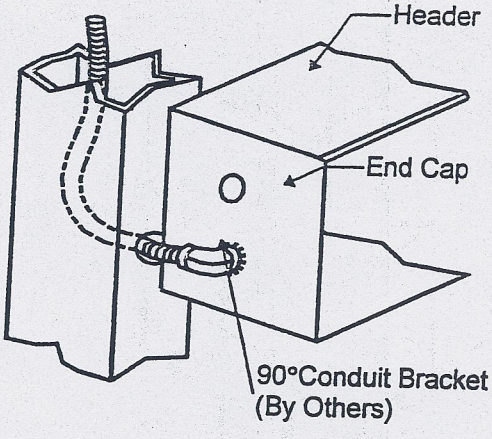
ELECTRICAL POWER

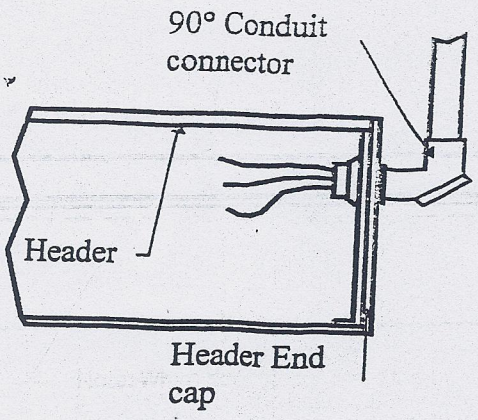
CONCEALED

Run flexible conduit or 3-wire cable down side jamb, through cut -out. Trim sufficient length of wire and insert into 90 deg. connector. Attach connector to bracket and secure with lock nut. Trim wire to proper length when wiring unit. Secure ground wire to control chassis ground wire.



SURFACE MOUNT

Connect 90 deg. elbow to bracket as shown, pull sufficient length of wire. Trim to proper length when wiring unit. Secure ground wire to control chassis ground wire.



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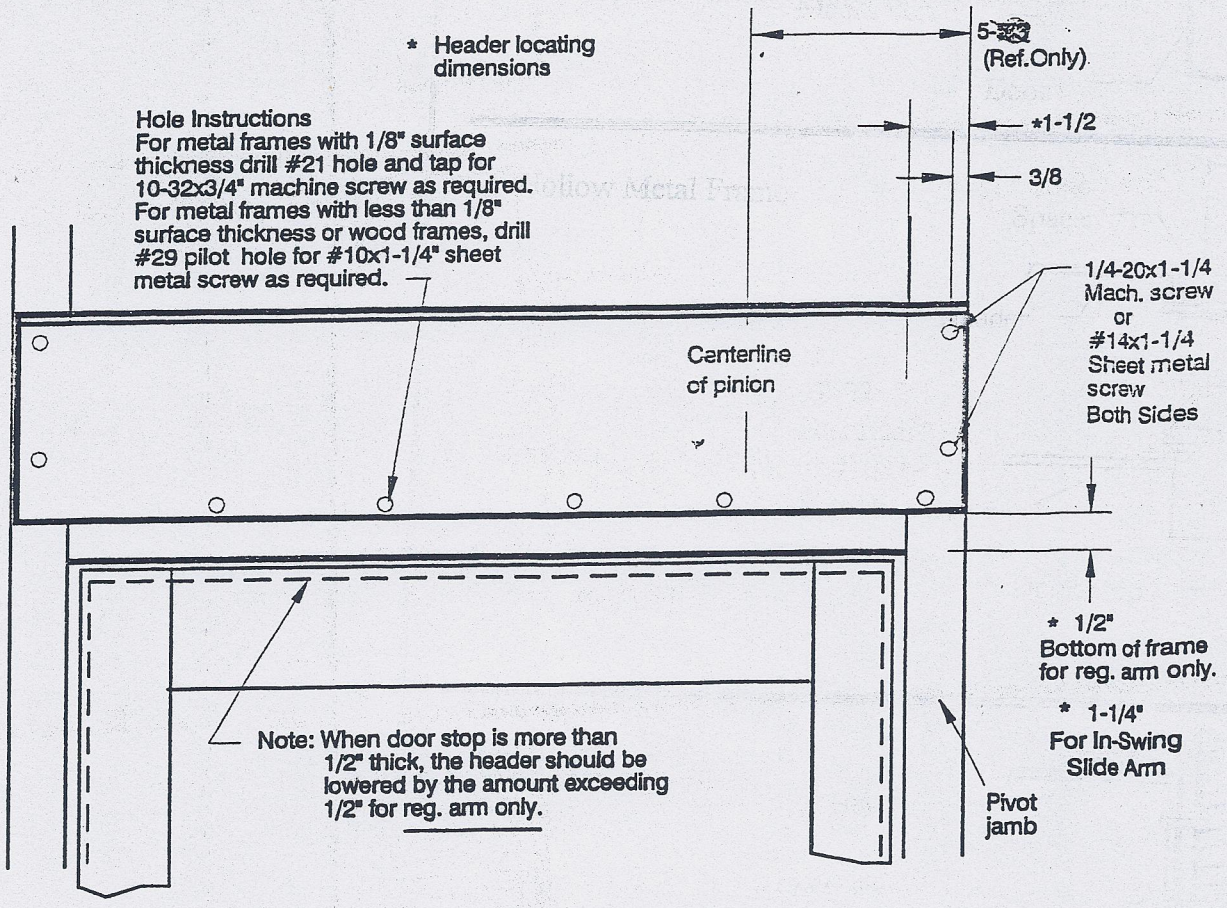
Header Installation

Before preparing the frame for the header, determine if the equipment is the correct hand and arm type. To properly identify the hand of the door refer to the Hand of Door section on page 1. The header shown below is a right hand out (LHR) or left hand in (LH). (Shown with hidden door stop for LH IN).

Mounting the header

Be sure there is proper support in the wall to secure the header at the vertical jambs, and behind the header at intervals between the vertical jambs. Secure to top of door frame with the appropriate fasteners as indicated in " Hole instructions" below.



Warning: Do not permit operator pinion and door arm assembly to extend below the bottom of the door frame for in-swing applications.

Note: 1. All door frames for regular arm must be provided with door stops.
2. Door(s) and frame(s) for parallel operation with panic breakaway must be center pivoted or be capable of swinging in both directions, and be equipped with a breakaway device.

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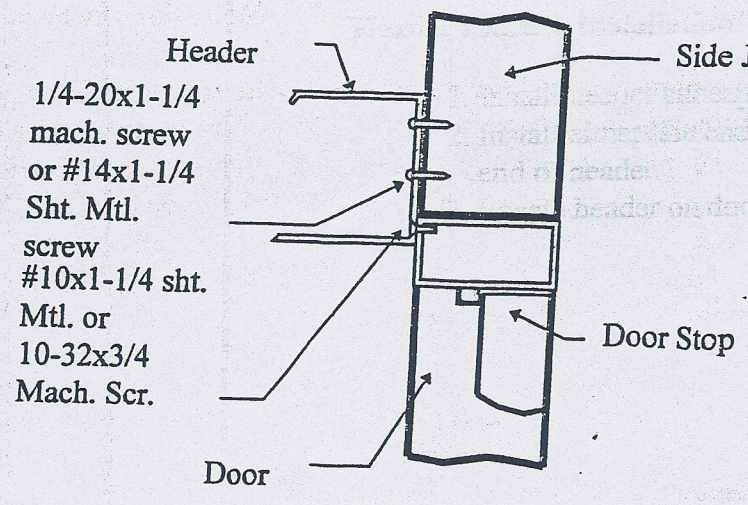
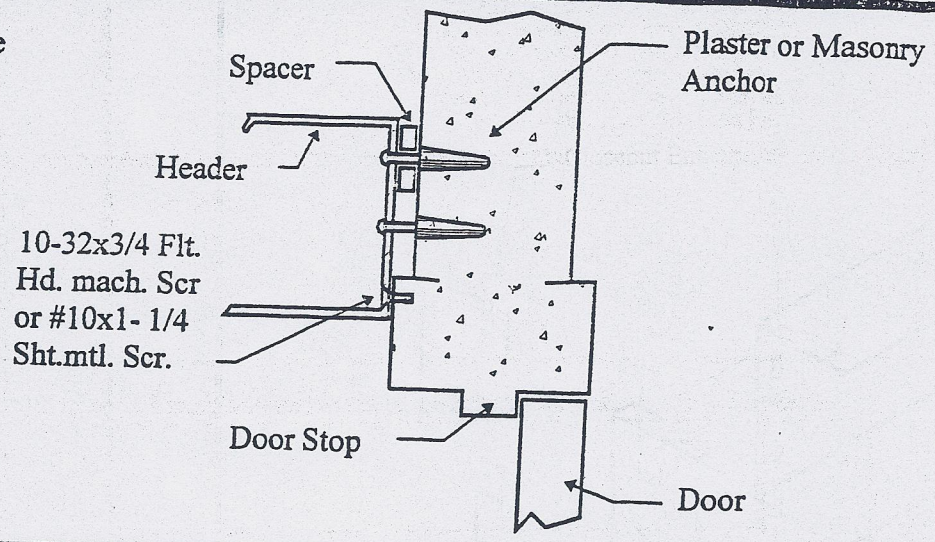
Back Plate Anchorage

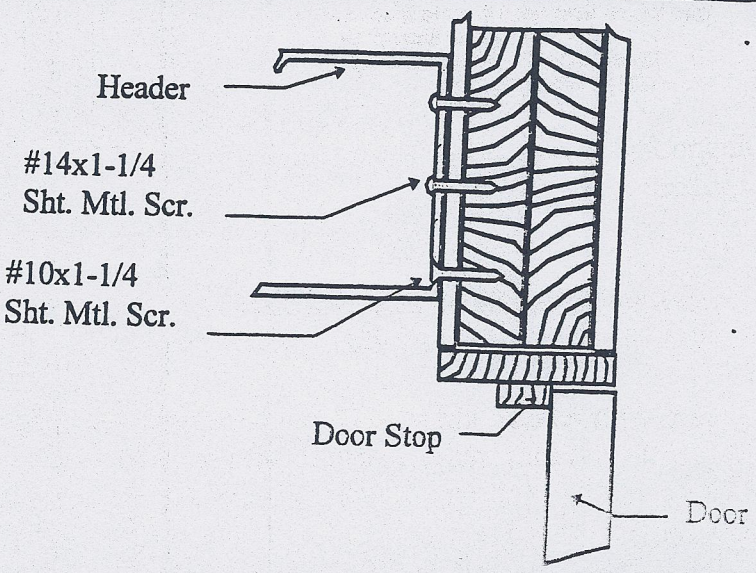
Aluminum Frame



Hollow Metal Frame



Wood Frame



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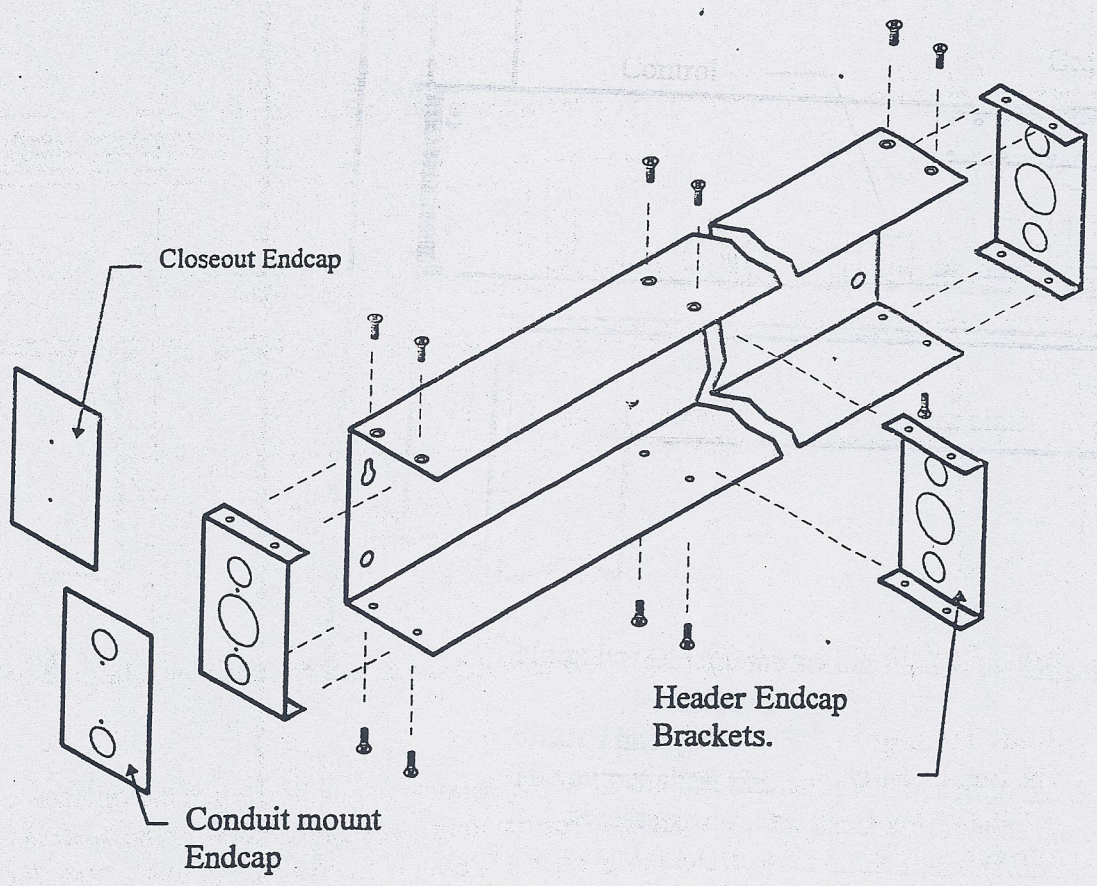
Header Endcap Installation

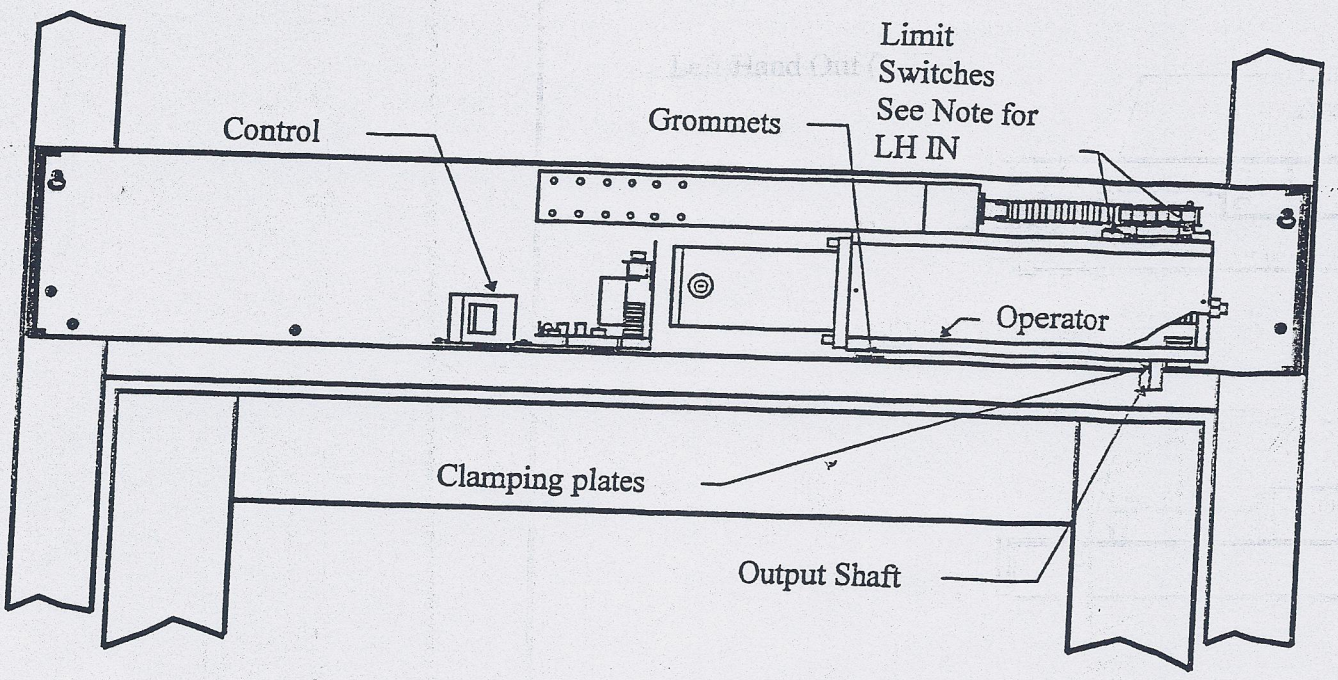
1. Install header endcap brackets to header with 10-32 flat head screws.
2. Install either the endcap for conduit connection or the endcap for closeout on desired end of header.
3. Locate header on door frame as shown on page 4 and secure.



OPERATOR MOUNTING -REGULAR & SLIDE

LHR (RH OUT) & LH IN SHOWN, RHR (LH OUT) & RH IN OPPOSITE

Install the operator in the header as shown below; align the four mounting holes in the operator with the shock mount grommets on the operator.
Use the 1/4-20 flat head screws provided to secure the operator through the shock mount grommets and into the pre-attached clamping plates inside the operator.

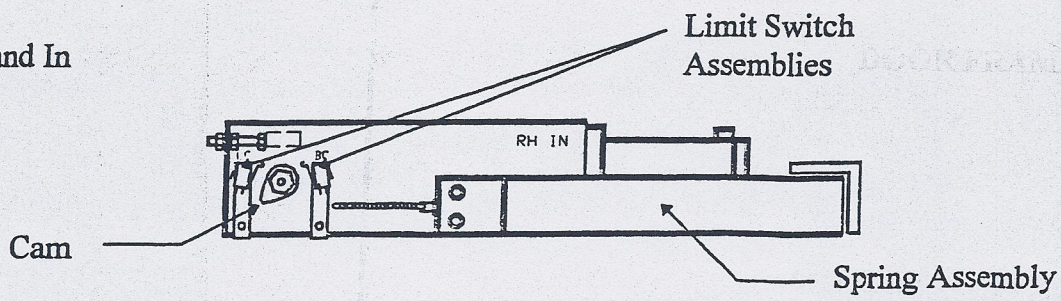


Note: For LH IN, the spring tube is towards the cover and the limit switches are opposite.

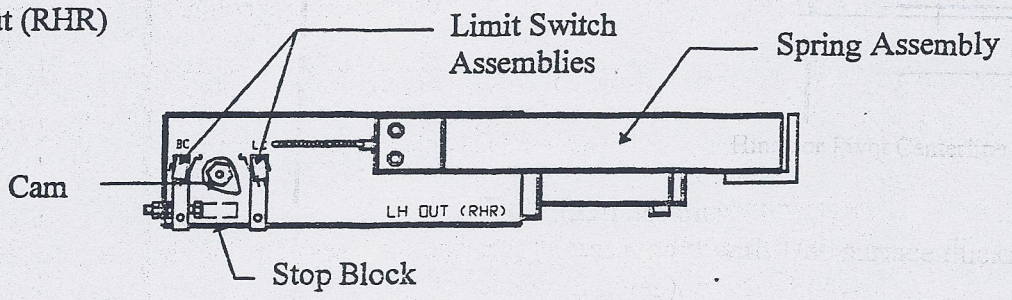
Shaft Timing:
The output shaft timing is 90° out from the door close position when the operator is installed. It is necessary to rotate the shaft towards the door until the location of the shaft is in the correct position for arm attachment. (Note: If possible apply power to the operator and activate to the open position to attach the arm.)

Limit Switches:
Once the door arm is installed, make sure the limit switches are set to provide proper latch and backcheck position to obtain safe door operation. Special attention should be given to the backcheck limit switch and cam when the door is in the full open position. Make sure the tip of the cam does not rotate past the tip of the limit switch lever or the operator will go back into high speed and blow the fuse.

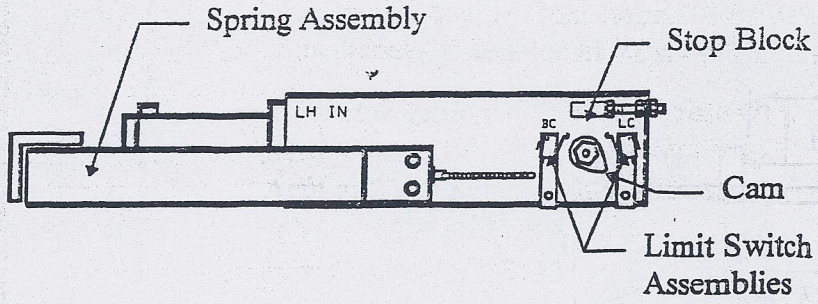
Right Hand In



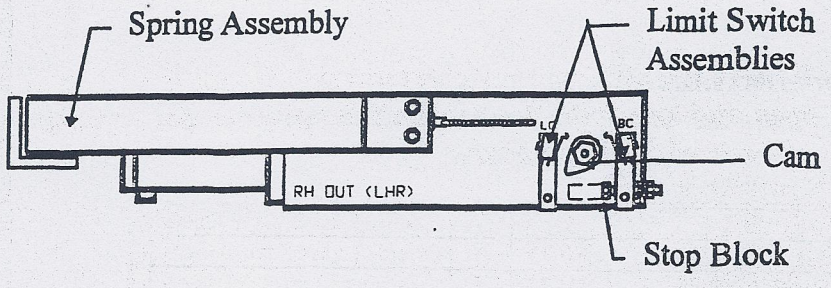
Left Hand Out (RHR)



Left Hand In



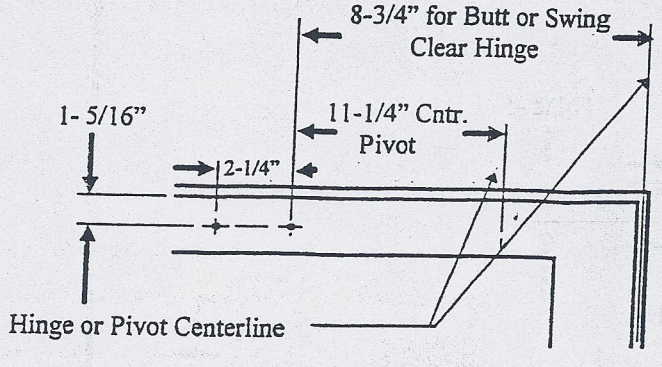
Right Hand Out (LHR)



Note: 1. The limit switches are labeled " LC " for latch check, and " BC " for back check.
2. The stop block is located on the final stage gear and is shown in the full panic position.
3. The 90° stop adjustment screw is not shown, but is located opposite the illustrated full panic stop block and adjustment screw.

REGULAR ARM - CENTER PIVOT INSTALLATION

⚠ **DOOR FRAME MUST HAVE DOOR STOP**



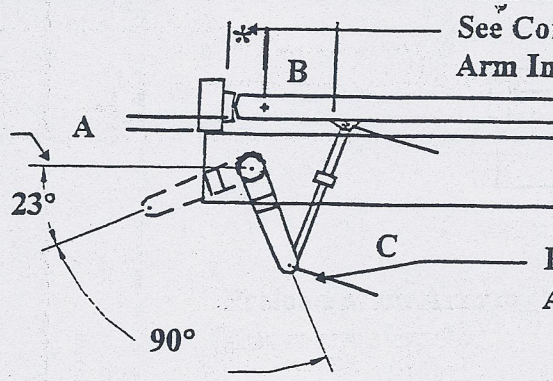
Hole Instructions

For **Metal Doors** with 1/8" surface thickness Drill #7 hole and tap for 1/4-20 x 5/8" machine screw (2 holes).

For **Metal Doors** with less than 1/8" surface thickness or **Wood Doors** Drill 3/16" pilot hole for #14 x 1-1/4" sheet metal screw (2 holes).

Note: All hole locations shown above are located from centerline of pivot or hinge.

Operator Pinion at rest-Install Arm at 23° Angle



See Correct Chart Below for Pivot and Arm Information (2 3/4" & 3 3/4" Pivot)

Preload Main Arm to Approximately 90°

Note: If there is a adjacent wall that interferes with the 23° arm installation, put the operator in hold open and locate the door to the full open position. Attach the Main arm and secure the secondary arm assembly to the door.

***2 3/4" Center Pivot**

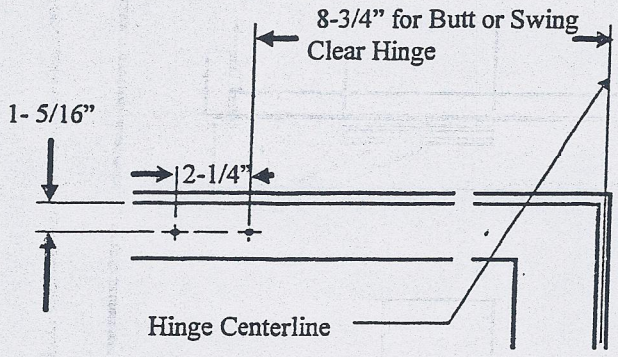
Depth of Reveal	A	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"	4 1/2"	5"	5 1/2"	6"
Pivot to 1st Dr Shoe Screw	B	11 1/8	11 1/8	11 1/8	11 1/8	11 1/8	11 1/8	11 1/8	11 1/8	11 1/8	11 1/8
Total Sec. Arm Length	C	15 1/2	16	16 1/2	17	17 1/2	18	18 1/2	19	19 1/2	20
Secondary Rod Length	–	13 1/2	14	14 1/2	15	15 1/2	16	16 1/2	17	17 1/2	18

***3 3/4" Center Pivot**

Depth of Reveal	A	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"	4 1/2"	5"	5 1/2"	6"
Pivot to 1st Dr Shoe Screw	B	11 1/8	11 1/8	11 1/8	11 1/8	11 1/8	11 1/8	11 1/8	11 1/8	11 1/8	11 1/8
Total Sec. Arm Length	C	16	17	17	17	17	17 1/2	18 1/2	19	19 1/2	20
Secondary Rod Length	–	14	15	15	15	15	15 1/2	16 1/2	17	17 1/2	18

REGULAR ARM - BUTT HINGE INSTALLATION

⚠ **DOOR FRAME MUST HAVE DOOR STOP**

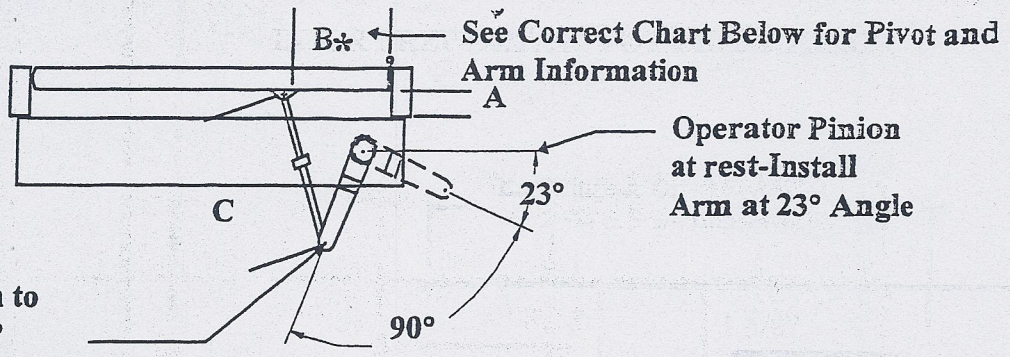


Hole Instructions

For **Metal Doors** with 1/8" surface thickness Drill #7 hole and tap for 1/4-20 x 5/8" machine screw (2 holes).

For **Metal Doors** with less than 1/8" surface thickness or **Wood Doors** Drill 3/16" pilot hole for #14 x 1-1/4" sheet metal screw (2 holes).

Note: All hole locations shown above are located from centerline of pivot or hinge.



Note: If there is a adjacent wall that interferes with the 23° arm installation, put the operator in hold open and locate the door to the full open position. Attach the Main arm and secure the secondary arm assembly to the door.

*3800

Depth of Reveal	A	2"	2 1/2"	3"	3 1/2"	4"	4 1/2"	5"	5 1/2"	6"
Pivot to 1st Dr Shoe Screw	B	8 3/4"	8 3/4"	8 3/4"	8 3/4"	8 3/4"	8 3/4"	8 3/4"	8 3/4"	8 3/4"
Total Sec. Arm Length	C	15"	15 1/2"	16"	16 1/2"	17"	17 1/2"	18 "	18 1/2"	19 "
Secondary Rod Length	–	13"	13 1/2"	14"	14 1/2"	15"	15 1/2"	16 "	16 1/2"	17"

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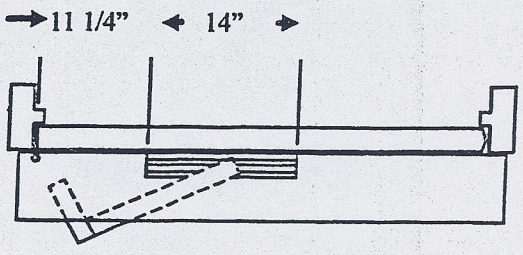
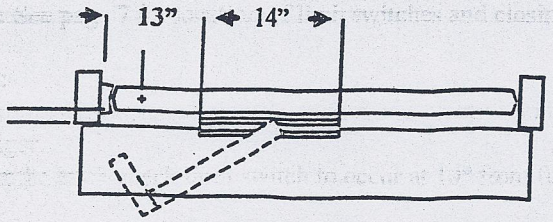
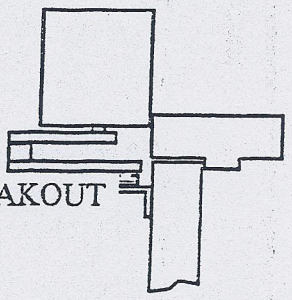
SLIDE ARM - BUTT HINGE AND CENTER PIVOT
RH SHOWN

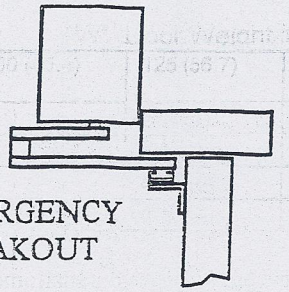
BUTT HINGE



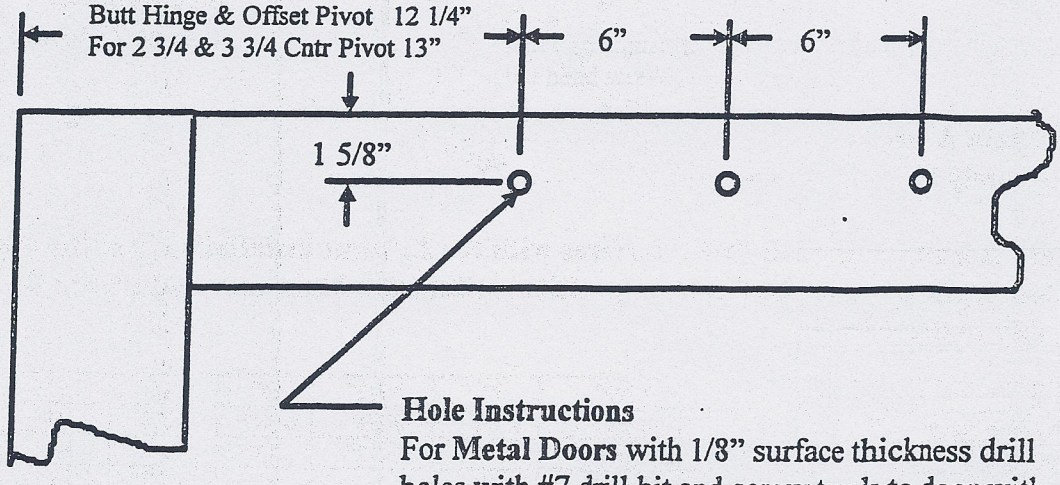
CENTER PIVOT (3 3/4")







DOOR PREP DETAIL FOR SLIDE TRACK



Hole Instructions

For **Metal Doors** with 1/8" surface thickness drill holes with #7 drill bit and screw track to door with 1/4-20 x 5/8" machine screws. For **Metal Doors** with less than 1/8" surface thickness or **Wood** Doors drill 3/16" pilot hole for # 14 x 1- 1/4" sheet metal screw.

Adjust the KM 3800 series operator to the ANSI A156.19 standard for power assist and low energy operated doors.

Opening Speed:

Since the 3800 has only one speed open, the only adjustment required for the open cycle is the location of backcheck. Adjust the backcheck limit switch so that the total open cycle time is no less than 4 seconds, and the open time from 0° to 80° is at least 3 seconds.

Note: See page 7 for location of limit switches and closing rheostat.

Closing Speed:

Adjust the closing speed rheostat with the black knob so that the door closes from 90° to 10° in 3 seconds or longer.

Adjust the latch check limit switch to occur at 10° from fully closed.

The following table is a guide line for door open times with different door sizes and weights.
(For special door configurations see ANSI A156-19)

"W" Door Weight in Pounds (Kg)

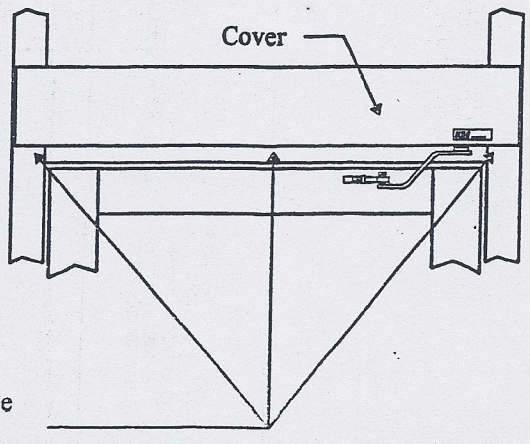
"D" Door leaf width Inches (mm)	100 (45.4)	125 (56.7)	150 (68.0)	175 (79.4)	200 (90.7)
30 (762)	3.0 sec.	3.0 sec.	3.0 sec.	3.0 sec.	3.5 sec.
36 (914)	3.0 sec.	3.5 sec.	3.5 sec.	4.0 sec.	4.0 sec.
42 (1067)	3.5 sec.	4.0 sec.	4.0 sec.	4.5 sec.	4.5 sec.
48 (1219)	4.0 sec.	4.5 sec.	4.5 sec.	5.0 sec.	5.5 sec.

Time Delay adjustment is accomplished by turning the trimpot located on the control.

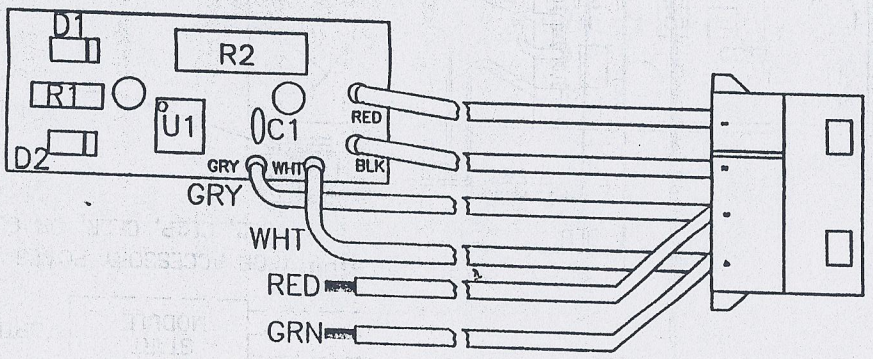
Units that are equipped with Push to Start feature, are connected to the activation plug just like the standard control. Use the red and green wires to connect the activation device(s).

For accessory power, there is a short connector located near the activation plug with two blue wires. This is 24vac 1 amp limit. Refer to the wiring diagram WD 3800 for locations.

After all adjustments have been made, install cover, snapping securely in place and fastening with the three 6-32 flat head screws.



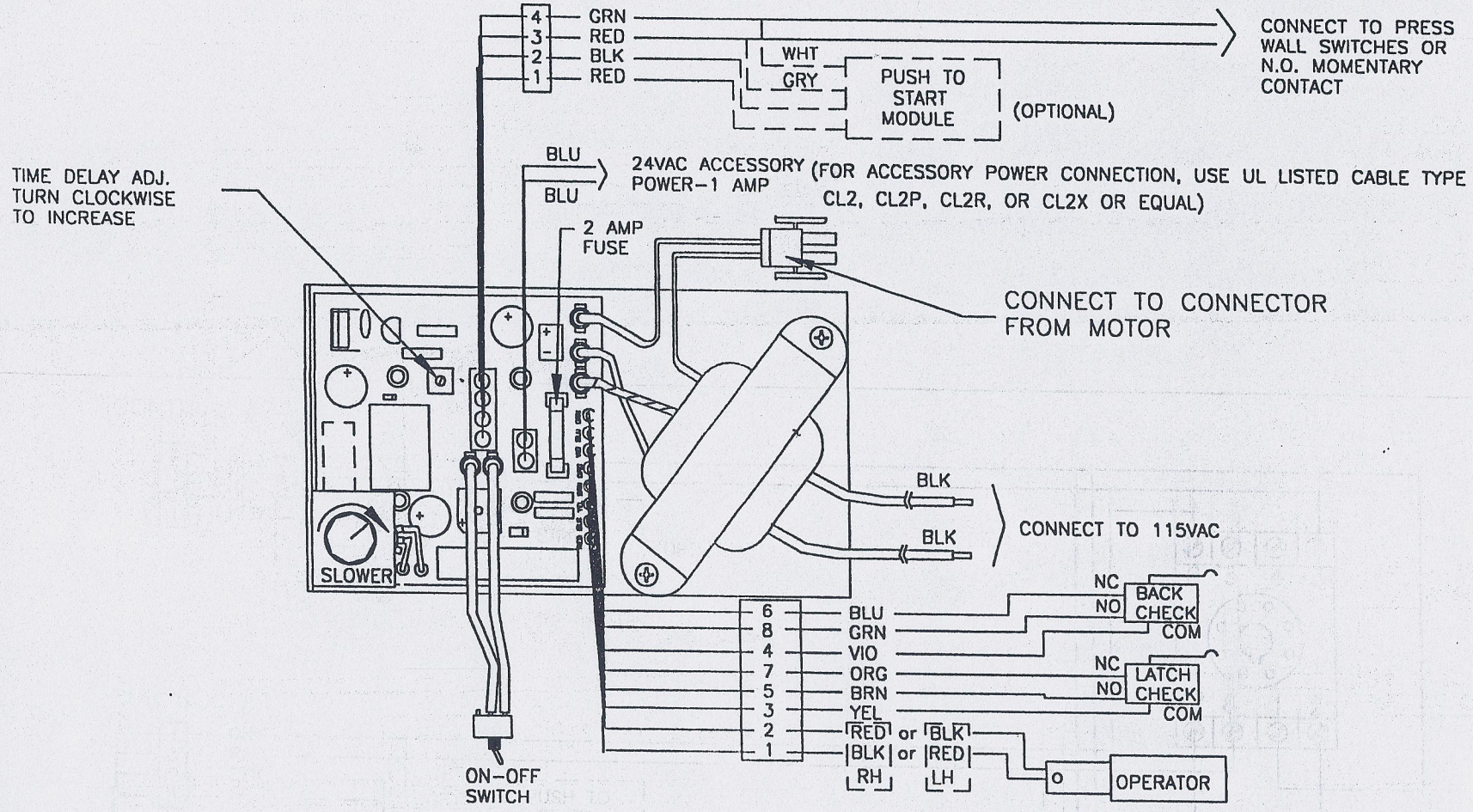
Attach cover with three cover screws



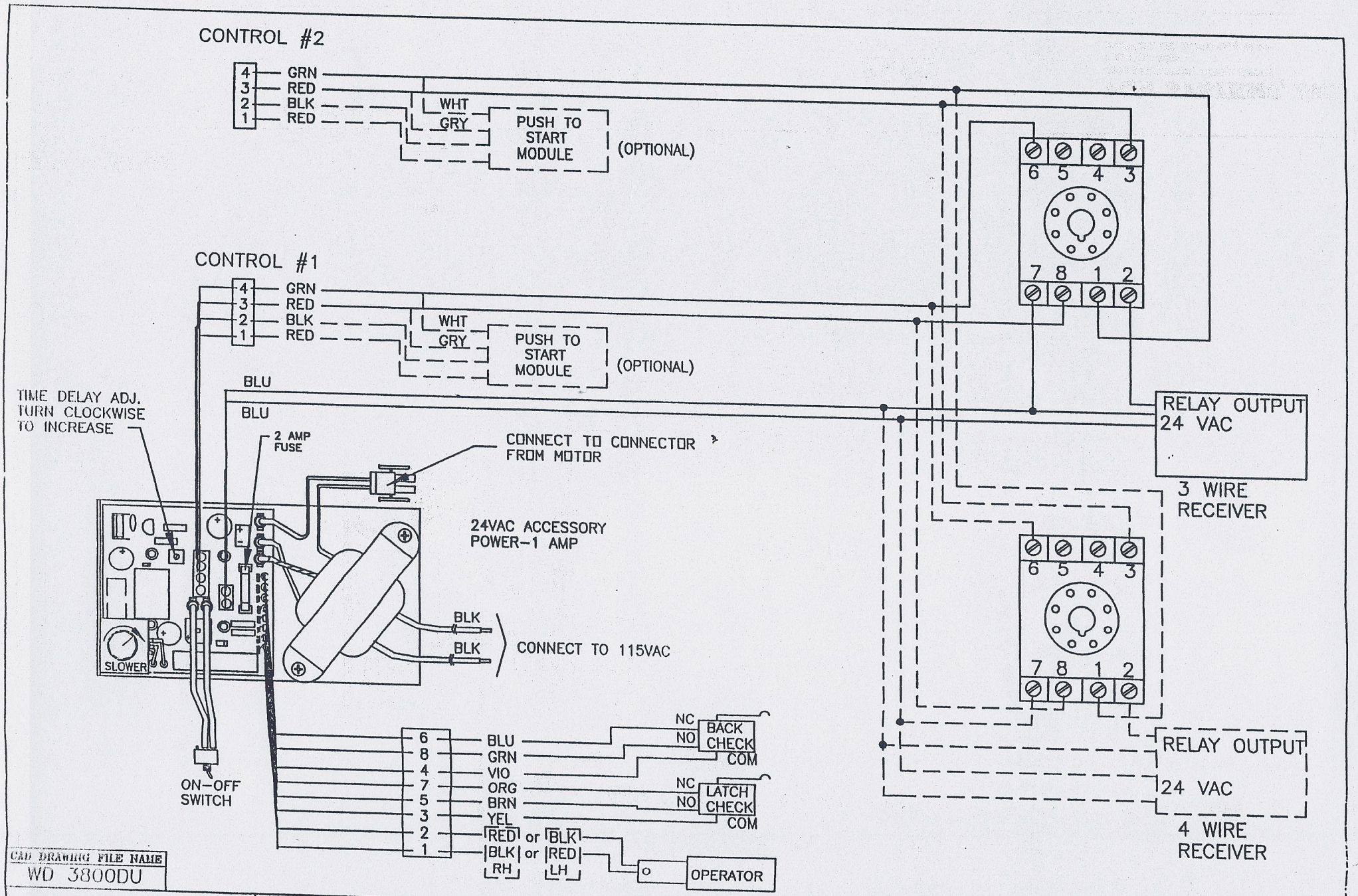
NOTE: 1. ATTACH THE BOARD TO THE TOP OF THE TRANSFORMER BY REMOVING THE PAPER FROM THE STANDOFFS ON THE BACK SIDE OF THE BOARD AND PRESSING FIRMLY IN PLACE.

2. REMOVE ACTIVATION PLUG FROM CONTROL AND PLUG IN THE PUSH TO START MODULE. USE THE RED AND GREEN WIRES TO CONNECT TO ACTIVATION DEVICES.

TEMP. NO. WD 3800-PTS	DESCRIPTION: PUSH TO START WIRING INSTRUCTIONS	KM AUTOMATED ENTRANCE SYSTEMS	KM SYSTEMS, INC 4010 STAGECREST DRIVE (28110) P.O. BOX 3099 MONROE, NC 28111-3099 U.S.A.
DATE: 11-20-96			



CAD DRAWING FILE NAME WD 3800		
TEMP. NO. WD–3800	DESCRIPTION: 3800 WIRING DIAGRAM	KM AUTOMATED ENTRANCE SYSTEMS KM SYSTEMS, INC 4910 STARCREST DRIVE (28110) P.O. BOX 3099 MONROE, NC 28111-3099 U.S
DATE: 6–5–97		



CAD DRAWING FILE NAME
WD 3800DU

TEMP. NO.
WD–3800DU

DATE:
6–5–97

DESCRIPTION:

SPECIAL DUAL 3800 WIRING DIAGRAM

USED WITH EITHER 3 WIRE OR 4 WIRE RECEIVER

KM
AUTOMATED ENTRANCE SYSTEMS

KM SYSTEMS, INC.
4810 STARCREST DRIVE (28110)
P.O. BOX 3000
MONROE, NC 28111-3000 U.S.A.