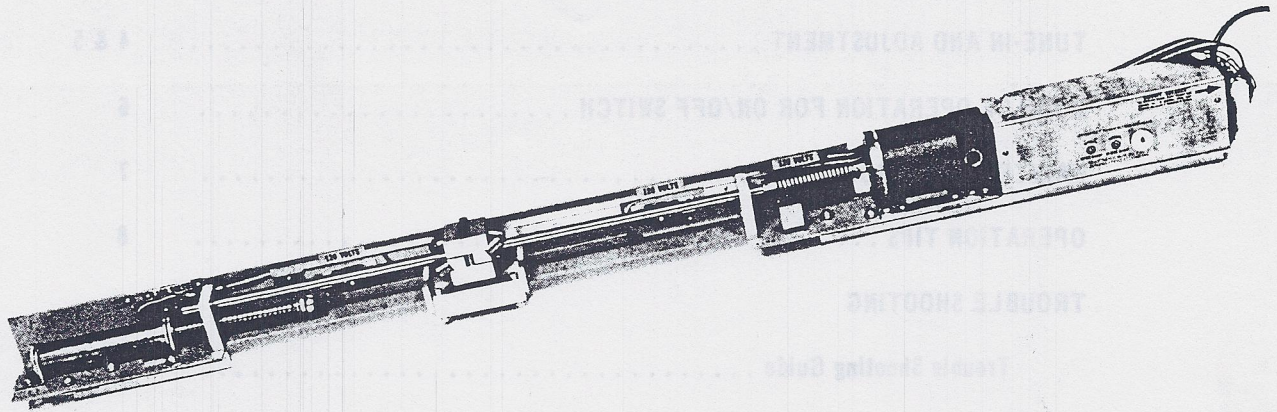


MAGIC-SLIDE OPERATOR



FUNCTIONAL OPERATION TROUBLE SHOOTING and MAINTENANCE MANUAL

STANLEY MAGIC-DOOR

*DIVISION OF THE STANLEY WORKS
FARMINGTON, CONNECTICUT 06032*

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FUNCTIONAL OPERATION

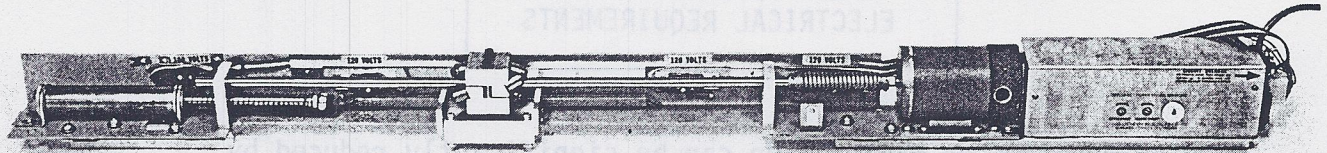


FIGURE 1

MECHANICAL

Actuating control makes contact (carpet, push plate, etc.). Control box is actuated, relays pull in starting the D.C. 1/8 hp. motor. The motor rotates a shaft. The coupling absorbs the initial shock. A linear actuator block with the bearings set at predetermined angles, travels along the rotating shaft converting rotary motion (shaft) to linear motion (linear actuator). The door is attached to the linear actuator block. The motor rotates at a fixed speed giving you initial opening speed. A trip rod attached to the linear actuator hits the first micro switch. This cuts the current to the motor, in turn slowing the opening speed of the door. This is called the opening damp area. The shaft rotating at a slower speed slides the door to the full open position where contact is made by the trip rod with the opening limit switch. At this point, power is cut to the motor and the door stops. A one and one half second delay is accomplished by the control box. The signal is given to the motor to start in its reverse direction (after all controls are clear). The motion of the motor in the reverse direction draws the linear actuator back to the full closed direction. While traveling in this direction the trip rod makes contact with the closing damp switch which reduces the factory preset closing speed. The reduction in speed is consistent until the door once again reaches the fully closed position where the closing limit switch is tripped and all power is cut off. The door is now in the fully closed position waiting for the next activation.

LATCHING FEATURE

A toggle switch located in the control box gives you two types of operation.

POSITION 1 – Control box is signaled from actuating control. The door does not stop until it reaches the full open position. The door travels to full open even if the actuating control is clear.

For Example: A person steps on the open carpet and then steps off.

The door travels to the full open position with no one on the carpet.

POSITION 2 – One and one half seconds after the signal from the actuating control is terminated the door begins to return to the closed position.

MAGIC-SLIDE OPERATOR

IMPORTANT INFORMATION

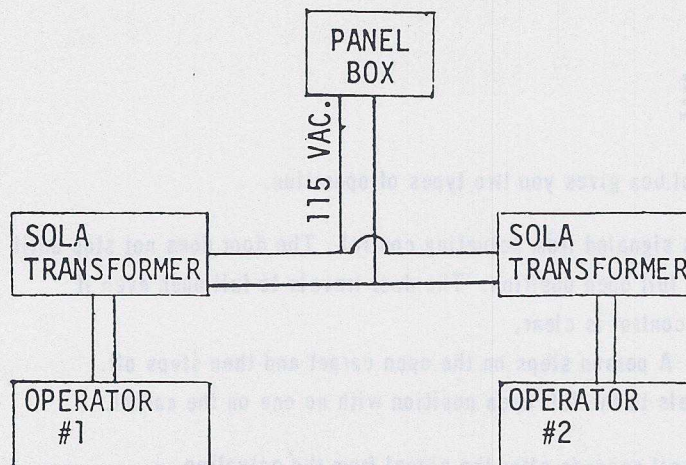
MAGIC-SLIDE OPERATOR ELECTRICAL REQUIREMENTS

Service problems on Magic-Slide can be significantly reduced by insisting that the operators have their own service line from the main circuit breaker panel. Not more than two Magic-Slide operators should be on the same line. If lights or other machinery are powered from the same line as the operators, whenever these lights or machinery go on or off, the voltage in the entire line is changed and the performance of the operators will be adversely affected. An example would be a compressor on the same line with one or two Magic-Slide operators. If the operators were tuned in with the compressor off, the doors might not close completely when the compressor came on. Conversely, if the doors were tuned in when the compressor was running, the doors might slam closed when the compressor was off.

If in doubt as to whether the operator has its own dedicated service line, an easy way of checking is to turn off the service at the circuit breaker panel. If lights go off or other service is interrupted, other service is being served off that line and could cause erratic operation. The electrician should be asked to make the necessary changes.

There will be instances where the power coming into the building has voltage variations. A voltage regulating transformer can be used to provide the necessary stable voltage for reliable operator performance and avoid call backs for control box adjustments. We recommend the Sola voltage regulating transformer, No. 23-22-125, which can be purchased from Farmington

The part No. is 514682. The Sola is 6-5/8"H, 7-7/16"W, 4-1/2"D, and weighs 28 lbs. so it cannot be put in the header.



MAXIMUM OF TWO OPERATORS PER 115, 15 AMP CIRCUIT.

A SEPARATE SOLA TRANSFORMER MUST BE USED FOR EACH OPERATOR.

CONTROL BOX WIRING

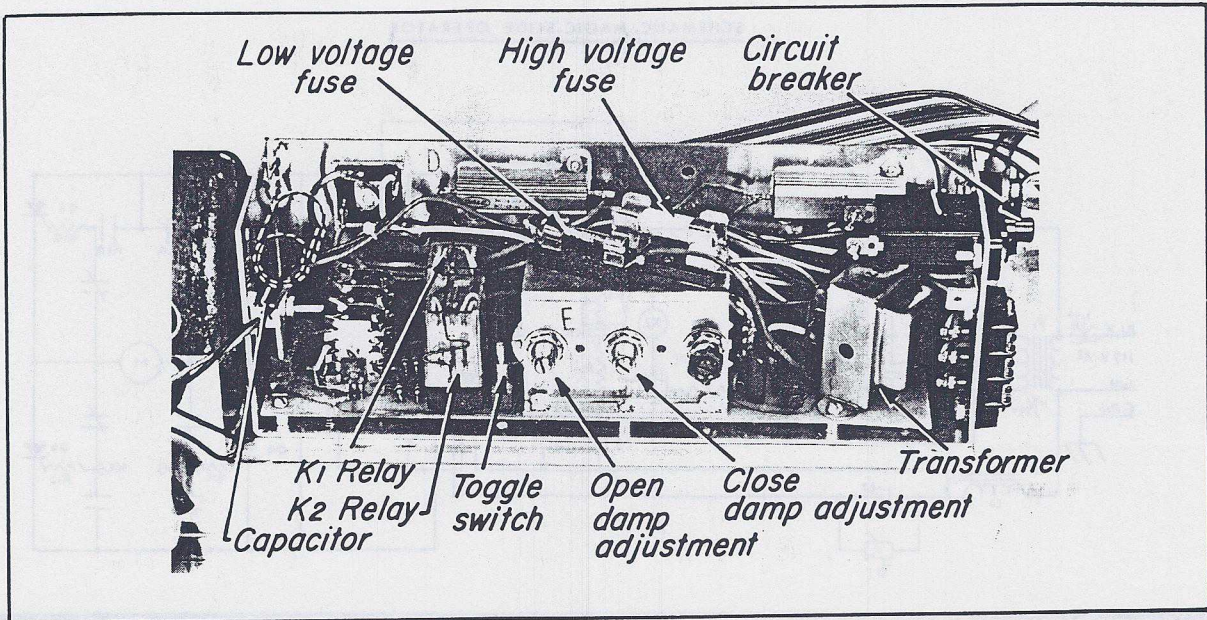


FIGURE 4

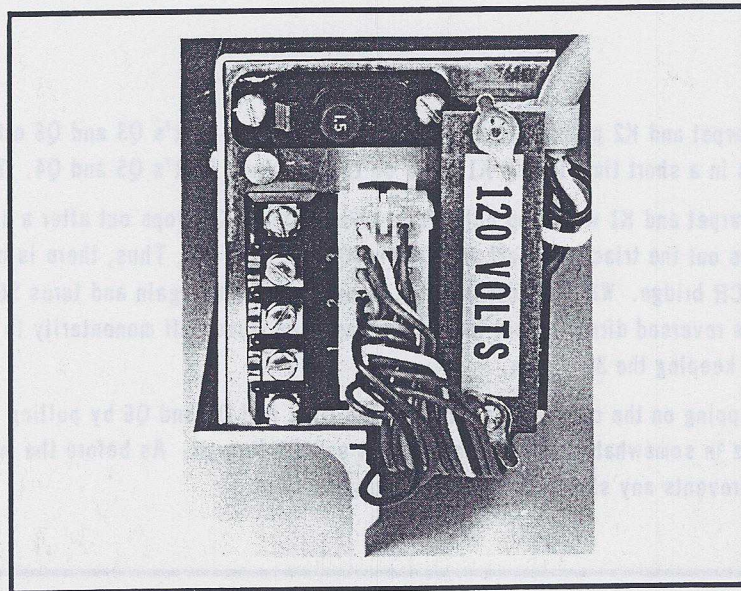


FIGURE 5

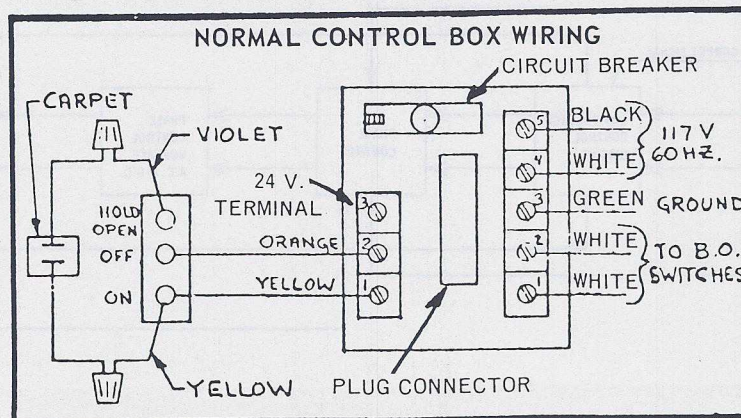


FIGURE 6

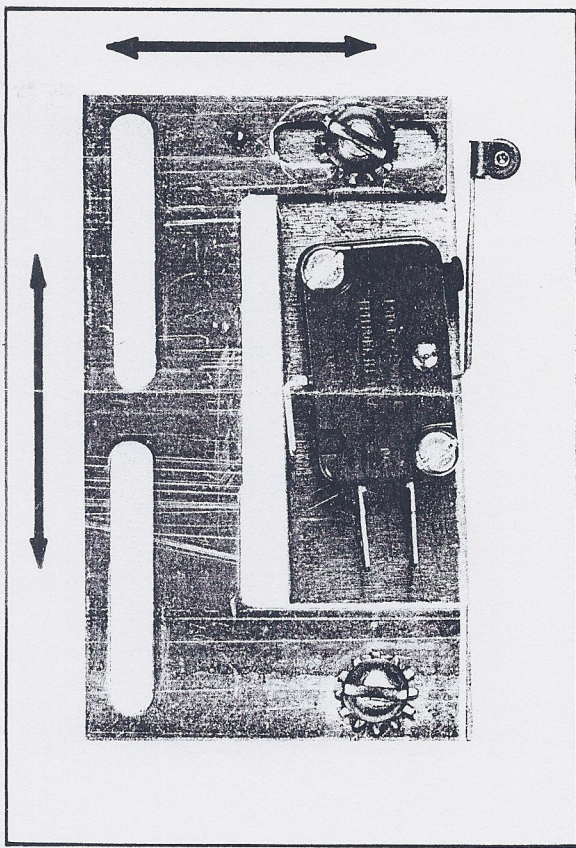
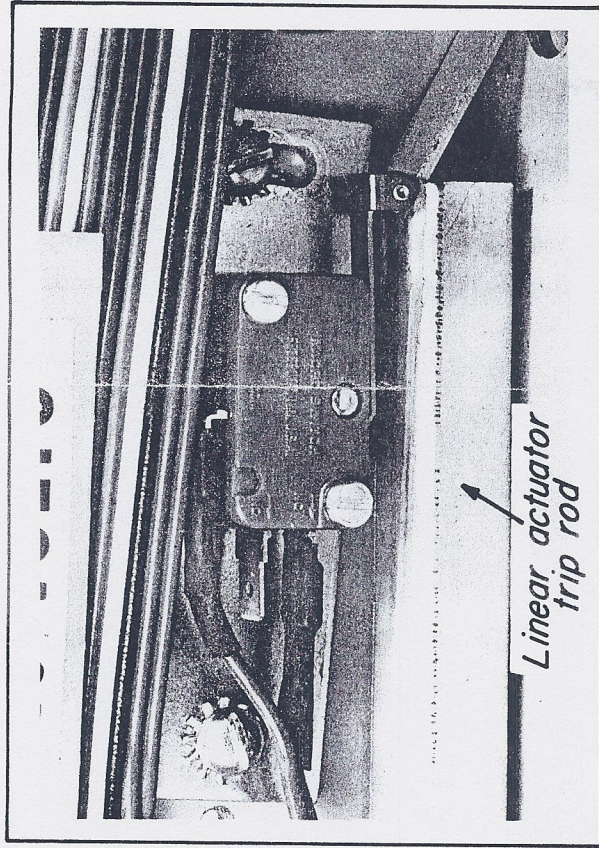
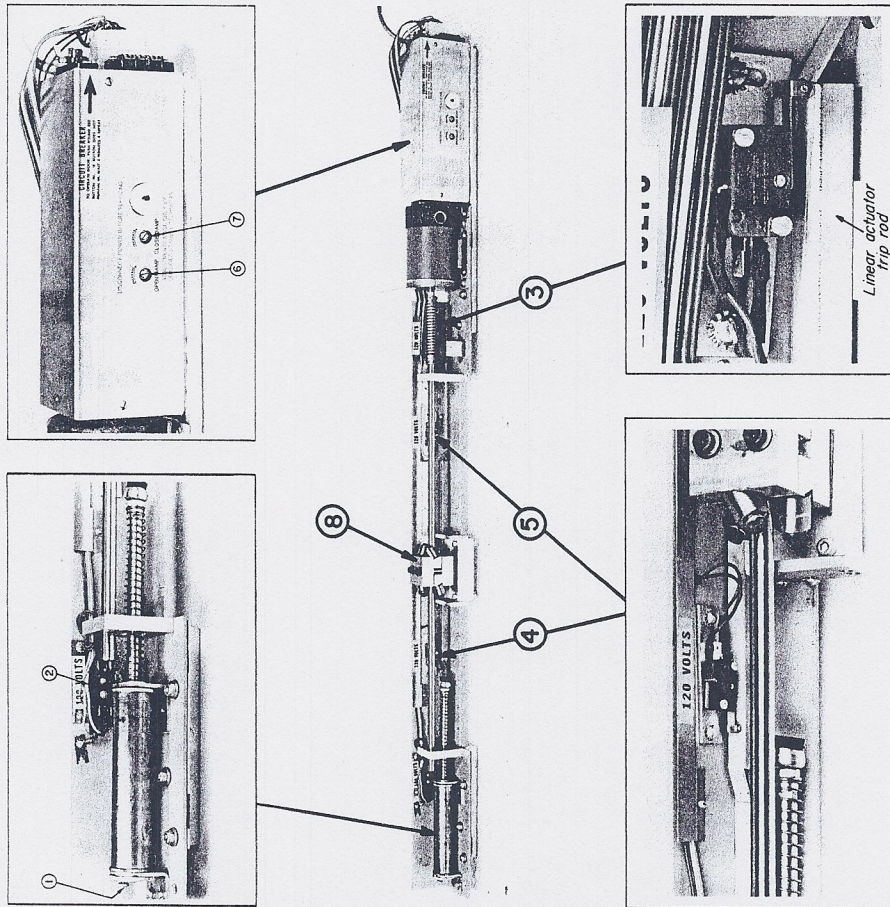


FIGURE 8

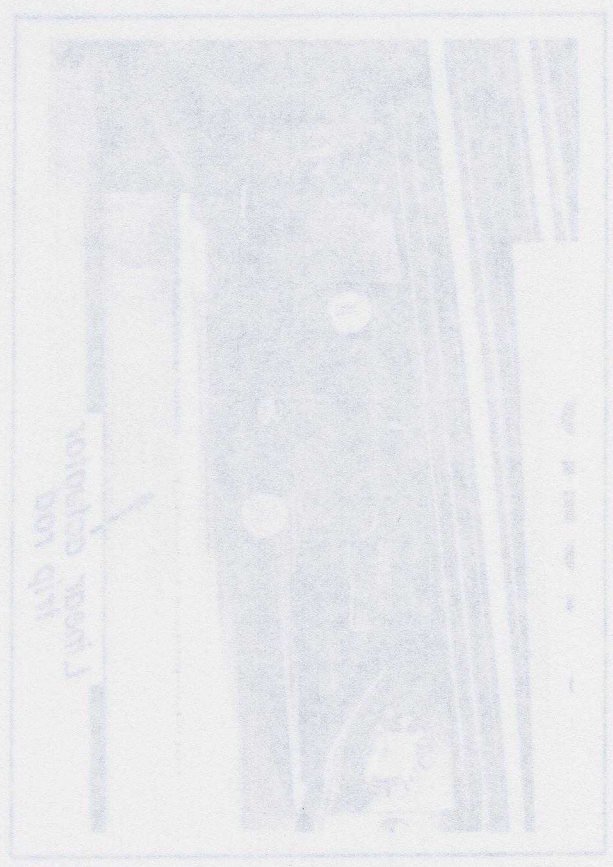
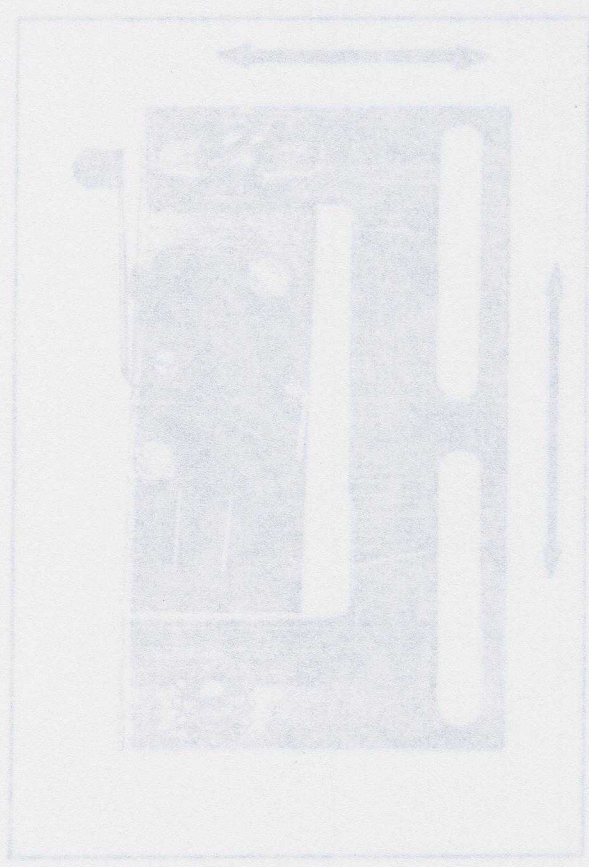
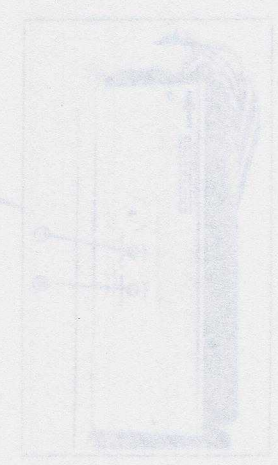
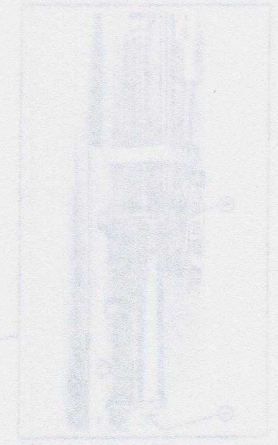
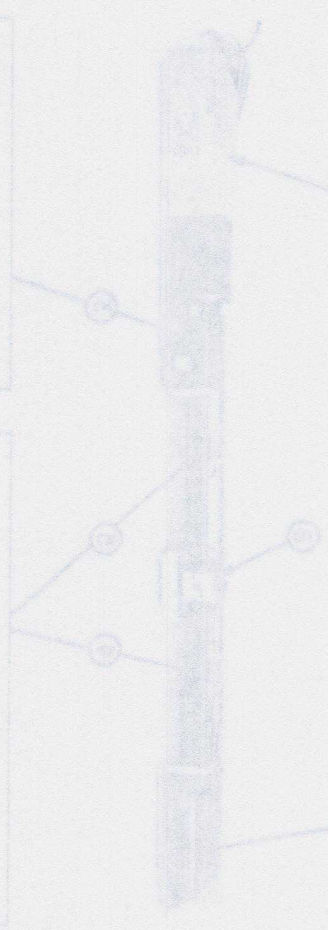
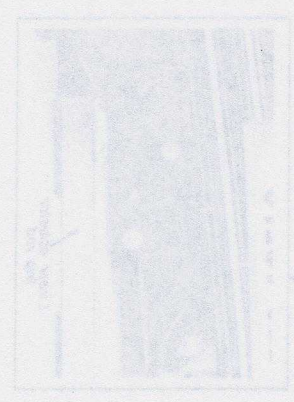
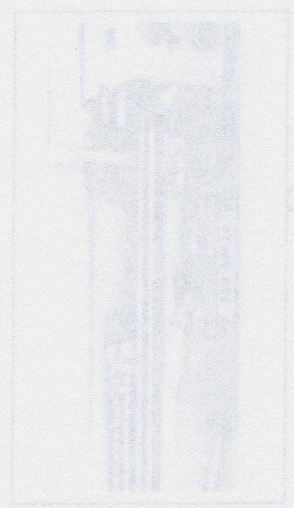


- KEY
1. Checking Cylinder Adjustment
 2. Open Limit Switch
 3. Close Limit Switch
 4. Opening Damp Switch
 5. Closing Damp Switch
 6. Opening Damp Adjustment
 7. Closing Damp Adjustment
 8. Linear Actuator Block

FIGURE 7

100

- 1. 100
- 2. 100
- 3. 100
- 4. 100
- 5. 100
- 6. 100
- 7. 100



TUNE-IN AND ADJUSTMENT

CAUTION -

Do not activate door with slide assembly disconnected from door. The linear actuator will turn freely and destroy all switches.

- (1) Disconnect power. Manually open door. Check that the linear actuator trip rod is engaging the switches as shown in Figure 8. If adjustment is required loosen switch bracket adjusting screws and adjust the switch so that the switch roller is actuated by the linear actuator trip rod as shown in Figure 8.
- (2) It is important that the door move freely. Disconnect operator from door and slide door open and closed manually. Check for bind and/or drag. Correct and reconnect door to operator.

OPENING ADJUSTMENT

REFER TO FIGURE 7

- (1) Turn checking cylinder adjustment screw CW in all the way, then turn adjustment screw CCW 1/4 turn.
- (2) Turn opening damp adjusting screw, control box, CW all the way.
- (3) Remove control box cover, switch latching toggle switch, inside control box, toward you.
- (4) Actuate operating control. The door will open and the door will stop and the motor will stall as soon as the trip rod linear actuator activates the opening damping switch.
- (5) Slowly turn opening damp pot CCW until door opens all the way and engages the checking cylinder.
- (6) If carpets are used as the opening actuating control place the latching toggle switch to its non latching position. (away from you)

CLOSING ADJUSTMENT

REFER TO FIGURE 7

- (1) Turn closing damp adjusting screw on control box, CW all the way.
- (2) Deactivate operating control. The door will close and stop when the linear actuator trip rod engages the closing damp switch.
- (3) Turn the closing damp adjustment screw CCW until the door closes to its fully closed position.
- (4) With actuator control disconnected and door in fully closed position, push open door approximately 4" and release. Door should close completely.

CHECK COMPLETE TUNE-IN

- (1) Recycle the door when it is one quarter closed, one half closed and 3/4 closed. Readjust as necessary. To increase damping action turn damping adjusting screws CW, to decrease damping adjustments turn damping adjusting screws CCW.
- (2) Make sure that when the door is in its fully closed position the roller of the closing limit switch is at the top of the ramp of the linear actuator trip rod as shown in Figure 8.

MODE OF OPERATION FOR ON/OFF SWITCH

AUTO-SLIDE 5000 & 6000 ON/OFF SWITCH

The standard 5000 and 6000 Auto-Slide door package contains an on/off switch.

The switch is located in the jamb insert approximately 6'-8" from floor.

The on/off switch is wired to turn off 117 volt power to the motor circuit but not to the entire operator when placed in the "off" position.

The on/off switch is generally used for locking a store after business hours.

The following steps should be performed as indicated below:

1. Place on/off switch in "off" position.
2. Push sliding door(s) open and egress from building.
3. Push sliding door(s) closed.
4. Lock sliding doors.

The following steps should be followed for the unlocking of the door package:

1. Unlock sliding door(s) and push open door(s).
2. Enter building.
3. Place on/off switch in "on" position.

The on/off switch also can be used to hold the door(s) open as follows:

1. Actuate door operator so that door(s) opens to full open position.
2. Place on/off switch to "off" position.

MAINTENANCE PROCEDURES

CAUTION -

When inspecting linear actuator and/or other moving parts of the operator, always, disconnect the power.

NOTE: All switches are 120 volts. Disconnect power before replacement.

THE FOLLOWING MAINTENANCE SHOULD BE PERFORMED AT LEAST EVERY 6 MONTHS:

- (1) Clean rotating shaft with clean dry cloth. Do not lubricate.
- (2) Check and tighten linear actuator.
- (3) Clean bearings with clean dry cloth. Do not lubricate. Replace if necessary.
- (4) Checking cylinder - dismantle, inspect for wear and replace if necessary.
- (5) Disconnect linear actuator block from door, and cables if the package is a bi-parting unit. Slide door open and closed if there is a binding or drag correct the condition. Connect linear actuator block to door.
- (6) Break out SX doors. Check to see that power is interrupted. If power is not interrupted check break out switches and magnets. (See Trouble Shooting Chart B-2)
- (7) Check opening and closing speeds, and damp and checking action. (See Tune-In Section)
- (8) Break out SX door. Check that door does not require more than 50 lbs. of force to push the door in its emergency egress position. If force is greater than 50 lbs. adjust break force according to Auto-Slide 6000 installation instructions.
- (9) Check for loose fasteners especially motor mounting, pillow blocks, operator mounting clip screws, switch mounting brackets and flexible coupling.
- (10) Inspect moulding, dovetail, and rails. Tighten and/or replace if necessary.

OPERATION TIPS

- (1) In super market installations a button switch, wired in parallel with the inside carpet, should be installed on the exterior side of the jamb for one way traffic out. During business hours this allows store employees to enter the door by actuating the button switch.

NOTE: The control box toggle switch must be placed in its latching position when the button switch is installed.

CAUTION: Forcing the sliding door open and actuating the inside carpet with the door forced open will permanently damage control box components.

- (2) The sliding door must move freely, or the Magic-Slide operator will not perform properly. To check door bind and/or drag, disconnect power and disconnect operator linear actuator and cables from the door. Manually slide the door open and closed. If the sliding door does not move freely correct bind and/or drag.

NOTE: It is important that the header cover be closed. An open header cover will create header sag and increase the chance of door drag.

- (3) **CLOSING LIMIT SWITCH ADJUSTMENT:** If the door does not fully close, the problem is that the closing limit switch is not properly adjusted. Refer to Figure 8 in the Tune-In Section. With the door in its closed position the roller must be positioned on the linear actuator trip rod as shown in Figure 8.

TROUBLE SHOOTING GUIDE

BEFORE REFERRING TO THE TROUBLE SHOOTING CHART MAKE SURE THAT:

- (1) There is power. Check the circuit breaker at the main circuit panel.
- (2) Place VOM probes on terminals 4 and 5 of 120 volt terminal strip on operator control box. Reading must be 117 volts A.C.
- (3) SO panels are tightly closed and magnets in top door rail are actuating magnetic switches.
- (4) There is not a mechanical bind in the sliding door. Disconnect power. Disconnect operator linear actuator and cables from the door. Manually slide the door open and closed. If the sliding door does not move freely correct bind and/or drag.

NOTE: It is important that the header cover be closed. An open header cover will create header sag and increase the chance of door drag.

CAUTION: 1. Always disconnect power before inspecting linear actuator and other moving parts of the operator.

2. All switches, including magnetic break out switches are 120 volts. Disconnect power before inspecting and/or replacement.

MAGIC-SLIDE FIELD TROUBLE SHOOTING CHART

TROUBLE	TEST	CAUSE	REMEDY
(A) Door will not open when opening carpet is actuated motor doesn't run and control box relays do not energize.	(1) Check on-off-hold-open switch and on-off switch located on jamb.	Switch is off.	Place switch in "ON" position.
	(2) Check circuit breaker.	Circuit breaker tripped.	Push circuit breaker into "ON" position.
	(3) Set VOM to 120 volts AC scale. Place meter probes on terminals 4 & 5 of 117 volt terminal strip at control box. If meter does not read 117 volts. . . .	Power supply has been interrupted. Circuit breaker at main panel tripped.	Reset main panel breaker.
	(4) Turn off power. Disconnect break out switch leads from terminals 1 & 2 of 117 volt terminal strip. With VOM check continuity across leads. If meter reads infinite OHMS. . . . NOTE: Make sure that S.O. panels are closed when checking continuity.	Break out switches and/or leads are open.	Replace switches and/or leads.
	(5) Shut power off. Remove both fuses from control box. If either fuse reads infinite OHMS. . . .	Fuse(s) open.	Replace fuse(s).
	(6) Place jumper across terminals 1 & 2 of 3 terminal strip. If door opens	Carpet is open or carpet leads are open.	Replace carpet and/or leads.
	(7) Make sure that relays are properly seated in sockets.		Reseat relays in socket.
	(8) If after performing the above tests the relays do not energize when the opening carpet is activated. . . .	Faulty relays or control box component failure.	Replace relays and/or control box.
(B) Door will not open when opening carpet is actuated. Relays energize but motor does not run.	(1) Turn off power. Remove high voltage (large) fuse from control box. Check for continuity with VOM meter. If reading is infinite OHMS.	Fuse is open (Blown).	Replace fuse.

MAGIC-SLIDE FIELD TROUBLE SHOOTING CHART

TROUBLE	TEST	CAUSE	REMEDY
(B) Door will not open when opening carpet is actuated. Relays energize but motor does not run. continued	(2) Turn off power. Disconnect break out switch leads from terminals 1 & 2 of 117 volt terminal strip at control box. Check for continuity with VOM meter. If reading is infinite OHMS...	Magnetic break out switches and/or leads are open.	Replace switch or switches and check switch leads for open lead. Rewire if necessary. NOTE: Leads should be securely connected to terminals 1 & 2.
	(3) Turn off power. Disconnect 16 pin connector plug from control box. With doors in closed position check for continuity with VOM across socket 6 (orange lead) and socket 8 (red lead) of female plug. If reading is infinite OHMS....	Opening limit switch and/or leads are open.	Replace opening limit switch and/or rewire switch leads.
	(4) Turn off power. Disconnect 16 pin connector plug from control box. With VOM check OHMS reading across socket 10 (red lead) and 11 (black lead) of female plug. Meter should read between 135 OHMS and 165 OHMS. If it reads less	Motor failure.	Replace motor.
(C) Door will not open. Motor does not run, only one relay energizes.	(1) Interchange relays. If door opens.	Faulty relay.	Replace relay.
	(2) If door doesn't open after relays are interchanged.	Faulty control box component.	Replace control box.
(D) Door does not open. - motor runs. Relays energize, but roller bearing shaft doesn't turn.	(1) Check set screws attaching coupling to shaft.	Set screws loose.	Tighten set screws and apply locktite.
	(2) Visibly check coupling for damage.	Coupling damaged.	Replace coupling.
(E) Door opens to fully open position, motor does not shut off.	(1) Check that trip rod is actuating opening limit switch.	Misadjustment of opening limit switch.	Readjust opening limit switch plate. See Tune-In Section.
	(2) Turn off power. Disconnect break out switch leads from terminal 1 & 2 of 117 volt terminal strip. With VOM check each lead to ground. If meter reads "0" OHMS	The break out switch and/or leads are shorted to ground.	Change break out switches and/or rewire leads.

MAGIC-SLIDE FIELD TROUBLE SHOOTING CHART

TROUBLE	TEST	CAUSE	REMEDY
(E) Door opens to fully open position, motor does not shut off. continued	(3) Turn off power. Disconnect 16 pin plug connector from control box. With a VOM check continuity of the following sockets in the female plug:		
	a. Socket 7 (brown lead) to ground, and socket 5 (red lead) to ground. If either reads "0" OHMS. . . .	Lead(s) of closing limit switch are pinched.	Rewire leads.
	b. Socket 14 (white lead) to ground, and socket 1 (gray lead) to ground. If either reads "0" OHMS. . . .	Lead(s) of closing damp switch are pinched	Rewire leads.
	c. Socket 12 (violet lead) to ground, and socket 9 (blue lead) to ground. If either reads "0" OHMS. . . .	Lead(s) of opening damp switch are pinched .	Rewire leads.
	d. Socket 6 (orange lead) to ground, and socket 8 (red lead) to ground. If either reads "0" OHMS. . . .	Lead(s) of opening limit switch are pinched.	Rewire leads.
	e. Place OHM meter across socket 6 (orange lead) and socket 8 (red lead). If reading is "0" OHMS with trip rod making contact with opening limit switch. . . .	The opening limit switch is faulty.	Replace opening limit switch.
(F) Door opens to damp zone and stalls.	(1) Turn opening damp adjustment CCW until door opens to full open position.	Opening damp misadjusted.	Readjust opening damp. See Tune-In Section.
(G) Door opens fully, motor cuts off, but door will not close.	(1) Turn off power. Check both high voltage and low voltage fuses with VOM. If reading on either fuse is infinite OHMS. . . .	Faulty fuse(s).	Replace fuse(s).
	(2) Interchange relays, closing relay with opening relay. If door closes	Faulty closing relay.	Replace closing relay.
	(3) Turn off power. Disconnect 16 pin plug connector from control box. With a VOM check the female plug for continuity across socket 7 (brown lead) and socket 5 (red lead). If reading is infinite OHMS.	Closing limit switch is faulty and/or leads are open.	Replace closing limit switch and/or rewire switch leads.
	(4) If reading is "0" OHMS.	Faulty component in control box.	Replace control box.
	(5) Disconnect carpet leads from terminals 1 & 2 of 3 terminal strip. If door closes	Shorted carpets(s).	Replace carpet(s).

MAGIC-SLIDE FIELD TROUBLE SHOOTING CHART

TROUBLE	TEST	CAUSE	REMEDY
(H) Door opens, starts to close and then recycles	(1) Turn checking cylinder adjustment screw CCW.	Checking cylinder adjusted too tight.	Readjust checking cylinder. See Tune-In Section.
	(2) Check that carpet leads are connected to terminal 1 & 2 of low voltage terminal strip.	Carpet leads not wired correctly.	Wire carpet leads to terminal 1 & 2 of low voltage terminal strip.
(I) Door does not close completely – stays open 1" – 2"	(1) Turn closing damp adjustment screw CCW, if door closes	Closing damp not adjusted properly.	Readjust closing damp adjustment. See Tune-In Section.
	(2) Adjust closing limit switch plate so that motor shuts off when door is fully closed.	Closing limit switch plate not properly adjusted.	Readjust closing limit switch plate. See Tune-In Section.
(J) Door slams on opening cycle.	(1) Turn opening damp adjustment CW and checking cylinder adjustment CW.	Opening damp and checking cylinder not properly adjusted.	Readjust opening damp and checking cylinder. See Tune-In Section.
(K) Door slams on closing cycle.	(1) Turn closing damp adjustment CW.	Closing damp not properly adjusted.	Readjust closing damp. See Tune-In Section.
(L) Door closing speed excessively slow.		Control box not properly adjusted at factory.	Replace control box.
(M) Circuit breaker continues to trip.	(1) Turn off power. Disconnect 16 pin connector plug from control box with VOM check socket 10 (red lead) to ground and socket 11 (black lead) to ground. If either reads "0" OHMS.	Motor lead(s) shorted to metal.	Route motor leads away from metal and tape.
	(2) Disconnect door from operator. If the door does not slide freely.	Door is dragging on threshold.	Adjust door so that it moves freely.

GLOSSARY OF TERMS

CCW _____ Counter Clockwise

CW _____ Clockwise

DAMP _____ A resistance is applied to the phase control circuit, which slows down the motor.

LEFT HAND OPERATOR _____ The operator slides the door to the left, viewing the door from the exterior side.

NC _____ Normally closed

NO _____ Normally open

OPERATING CONTROL _____ Any signal that is used to actuate an operator such as a carpet, photo electric, push plate, etc.

RIGHT HAND OPERATOR _____ The operator slides the door to the right, viewing the door from the exterior side.

VOM _____ Volt OHM meter.