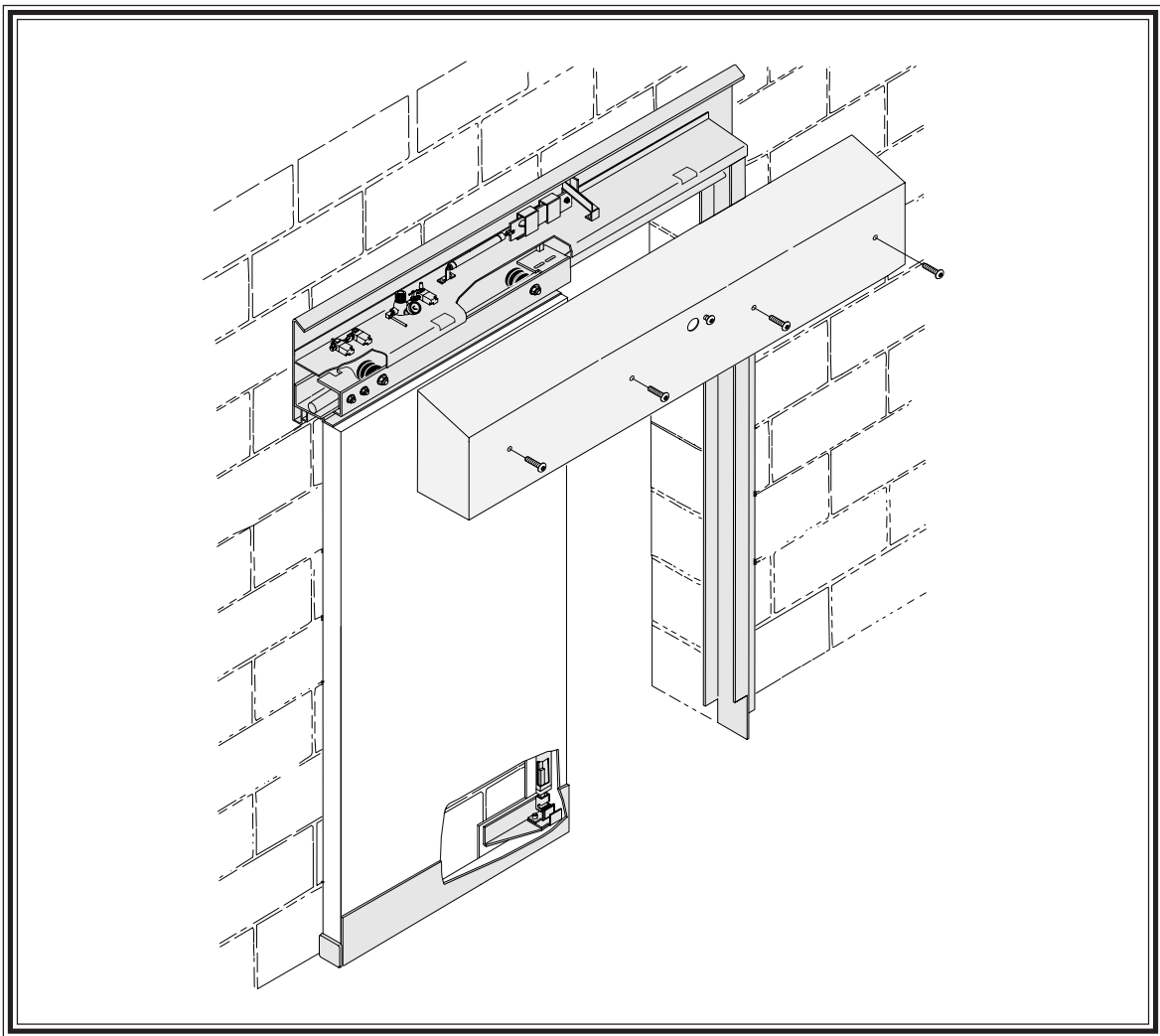
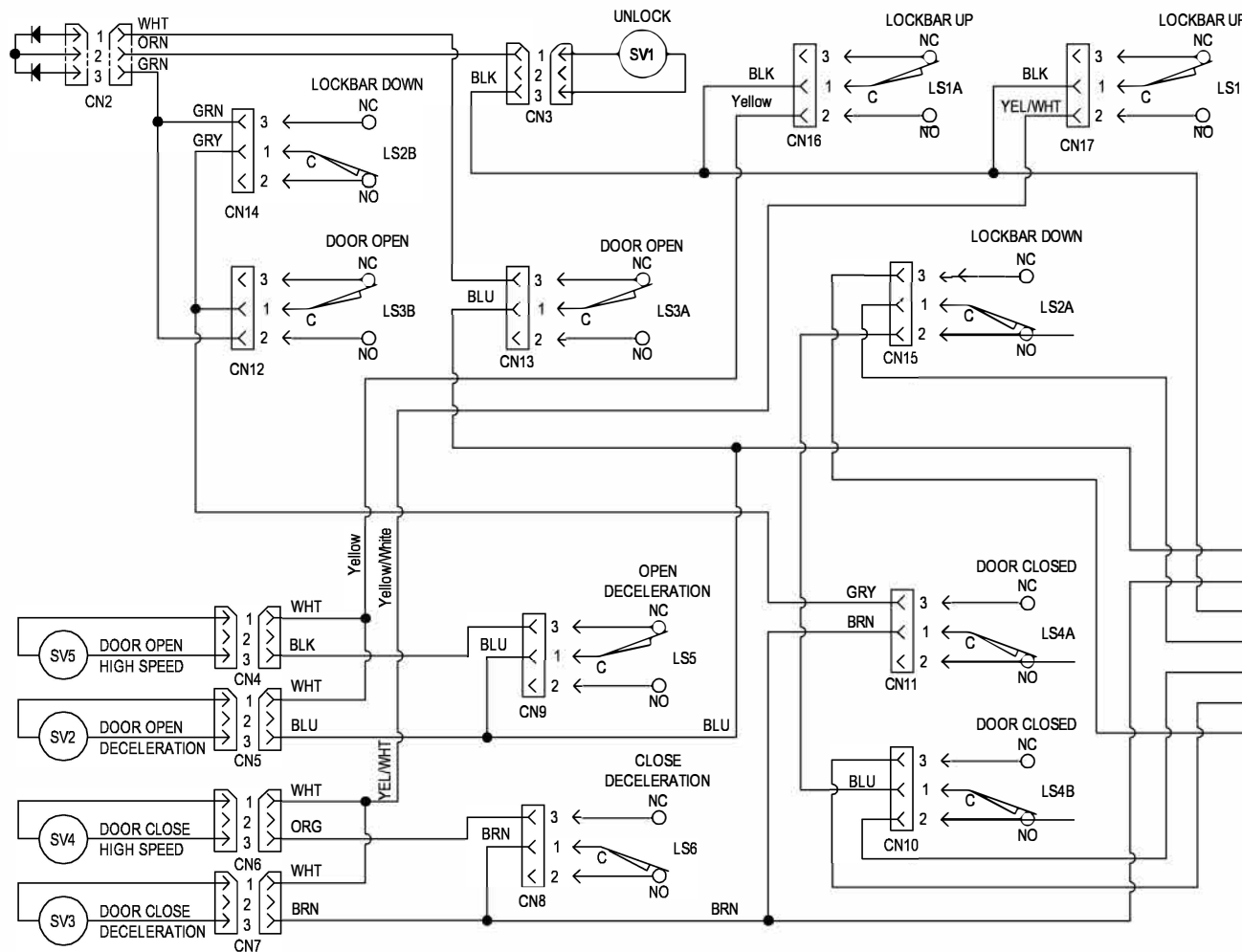




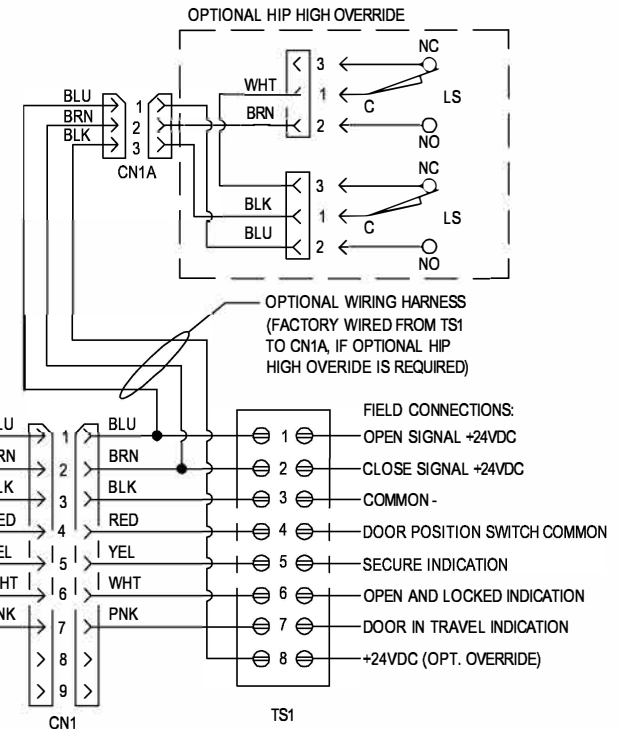
8220 SERIES SLIDING DOOR OPERATOR





- NOTES:
1. SCHEMATIC SHOWN WITH DOOR IN THE CLOSED AND LOCKED POSITION.
 2. SOLENOIDS: (SV1 THRU SV5) 24VDC, 2.4 WATTS EACH.
 3. ALWAYS INSTALL IN ACCORDANCE WITH LOCAL REGULATIONS AND THE NATIONAL ELECTRIC CODE (NEC). POWER DEVICE FROM A CLASS 2 POWER SOURCE WHEN PNEUMATIC TUBING OCCUPIES THE SAME SPACE AS CONTROL WIRING.

REVISIONS				
REV	ECN	DESCRIPTION	DRAWN	CHK
07	2570	ADDED NOTE 3.	DEE	2/5/03
08	2772	ADDED CN17 - Additional Lockbar up Status Switch	RLP	1/30/06
09	2901	Swapped "High Speed" & "Deceleration" labels to match pneumatic layout	RLP	5/23/07

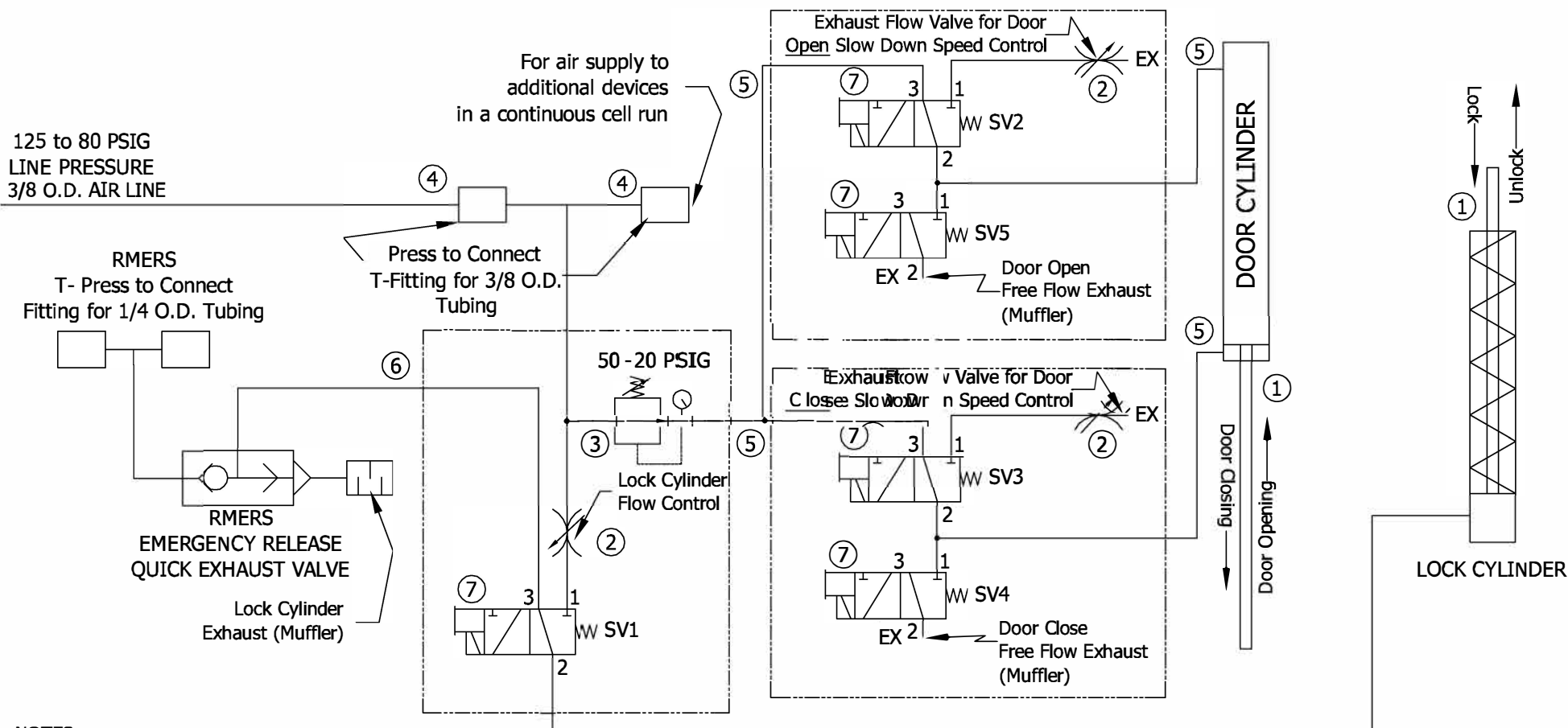


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TITLE		DRAWN BY RLP	
WIRING DIAGRAM		APPROVED	
8220 & 8250		DATE 5-23-07	
SERIES SLIDER		SCALE N/A	
© 1989 AIRTEQ SYSTEMS.		SIZE DWG. NO.	REV
B		EL-0086-B	09

REVISIONS				
REV	ECN	DESCRIPTION	DRN	CHK



NOTES:

- SCHEMATIC SHOWN WITH DOOR IN THE CLOSED AND LOCKED POSITION
- EXTRA FINE THREAD SCREW ADJUSTMENT REQUIRED FOR FLOW CONTROL
- 0-60 PSI RANGE
- MAIN AIR SUPPLY IS 3/8"OD x .25"ID BLACK NYLON 11 TUBE.
- ALL INTERNAL PLUMBING IN .25"OD x .17"ID BLACK NYLON 11 TUBE.
- EMERGENCY AIR SUPPLY (OPTIONAL) IN .25"ID x .17"ID RED NYLON 11 TUBE.
- VALVE SPECIFICATIONS:
UNIVERSAL 3 WAY INLINE, 0.08CV; SOLENOID 24VAC, 2.4W
- REFER TO DRAWING NO. 820830 FOR ELECTRICAL SCHEMATIC

AIR/TEQ

TITLE	Air Schematic		DRAWN BY RLP
	8220 & 8250		APPROVED
	Series Sliders		DATE 4/18/08
			SCALE N/A
© 1989 AIRTEQ SYSTEMS.	SIZE B	DWG. NO. PN-0012-B	REV

8220 SERIES SLIDING DOOR PARTS LIST

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	***	BACKPLATE WELDMENT, L/C (SHOWN)
1	1	***	(OR) BACKPLATE WELDMENT, R/C
2	1	82008903	ASSY, LIMIT SWITCH, DBL, LH
3	1	820090	ASSY, SPEED REDUCING SWITCH, LH
4	1	820395	ASSY, SPEED REDUCING SWITCH, RH
5	1	82008904	ASSY, LIMIT SWITCH, DBL, RH
6	9	10001301	SCREW, CARRIAGE, 1/4-20 X 3/4
7	18	10002407	NYLOCK NUT, 1/4-20 ZINC PLATED
8	1	10002802	WASHER, CONICAL, SERRATED, 3/8
9	18	10000706	FLAT WASHER, 1/4, TYPE B, REG.
10	1	82104801	OVERRIDE GUIDE, L/C (SHOWN)
10	1	82104802	(OR) OVERRIDE GUIDE R/C
11	1	820223	OVERRIDE CATCH, L/C (SHOWN)
11	1	820080	(OR) OVERRIDE CATCH, R/C
12	1	82008701	ASSY, LOCK SWITCH, L/C (SHOWN)
12	1	82008702	(OR) ASSY, LOCK SWITCH, R/C
13	1	10000101	PEM STUD, 1/4-20 X 3/4
14	1	***	RECEIVER CHANNEL, L/C (SHOWN)
14	1	***	(OR) RECEIVER CHANNEL, R/C
15	1	100072	TERMINAL STRIP
16	1	82004301	ASSY, LOCK CYLINDER, L/C (SHOWN)
16	1	82004302	(OR) ASSY, LOCK CYLINDER, R/C
17	1	820021	LOCKBAR SLIDE BRACKET

See 820080FD or 820080FD-M
for components

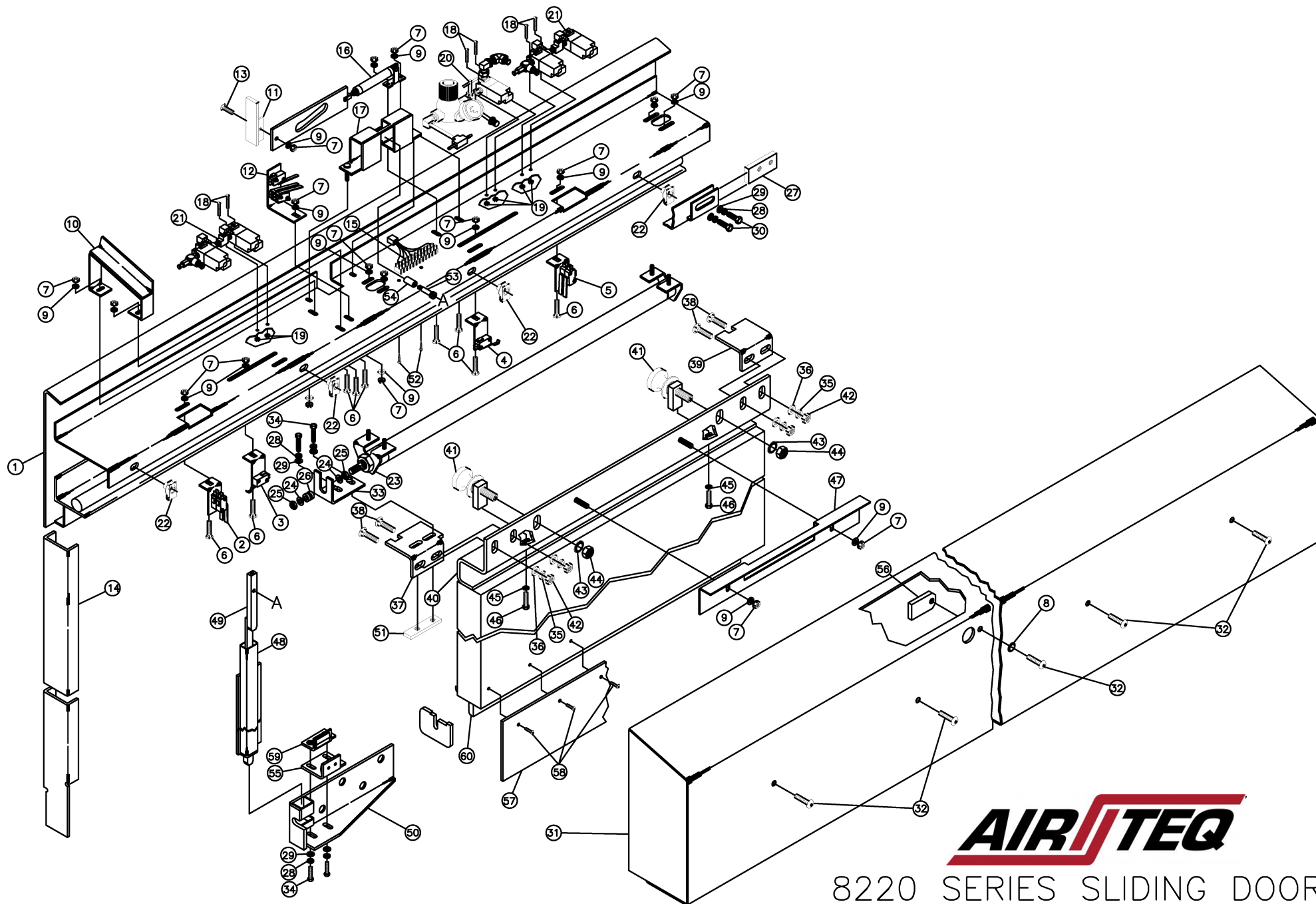
22	4	10006209	SELF RETAINING NUT, SHORT, 3/8-16
23	1	***	ASSY, AIR CYLINDER
24	2*	10000501	FLAT WASHER, .447 I.D. X .880 O.D. X .030
25	2*	10000306	HEX JAM NUT, 7/16-20
26	1*	10000401	GROMMET
27	1	820072	DOOR STOP PLATE
28	6	10001408	LOCK WASHER, 3/8
29	6	10000708	FLAT WASHER, 3/8, TYPE B, REG.
30	2	10001001	SCREW, HEX, CAP, 3/8-16 X 5/8, GRD 5
31	1	***	HOUSING COVER, L/C (SHOWN)
31	1	***	(OR) HOUSING COVER, R/C
32	5	10003401	SCREW, TP, BH, 3/8-16 X 1
33	1	820218	DOOR DRIVE BRACKET
34	4	10001006	SCREW, HEX, CAP, 3/8-16 X 1
35	4	10001410	LOCK WASHER, 1/2
36	4	10000710	FLAT WASHER, 1/2
37	1	820195	LOCK BRACKET, FRONT, L/C (SHOWN)
37	1	820193	(OR) LOCK BRACKET, FRONT, R/C
38	4	10001302	SCREW, CARRIAGE, 1/2-13 X 1-1/4
39	1	82019401	LOCK BRACKET, REAR, L/C (SHOWN)
39	1	82019201	(OR) LOCK BRACKET, REAR, R/C
40	1	***	DOOR HANGER
41	2	82009801	ASSY, ROLLER
42	4	10000210	HEX NUT, 1/2-13

ITEM	QTY	PART NUMBER	DESCRIPTION
43	2**	10002803	WASHER, CONICAL, SERRATED, 5/8
44	2**	10000211	HEX NUT, 5/8-11
45	2**	10000707	FLAT WASHER, 5/16, TYPE B, REG.
46	2**	10001004	SCREW, HEX, CAP, 5/16-18 X 1-1/2, GRD 5
47	1	***	SWITCH ACTUATOR BRACKET
48	1	***	LOCKTUBE WELDMENT
49	1	***	LOCKBAR WELDMENT
50	1	820170	DOOR GUIDE BRACKET, L/C (SHOWN)
50	1	820181	(OR) DOOR GUIDE BRACKET, R/C
51	1	820108	NUT PLATE
52	2	10001000	SCREW, HEX HD, 6-20 X 1/2, TYPE AB
53	1	10002503	SHOULDER SCREW, 3/8 DIA X 1-1/2 LG, 5/16-18
54	1	820107	LOCKBAR SLIDE BEARING
55	1	821017	ASSY, OUTSIDE GUIDE
56	1	820073	SHUTTER
57	1	***	DOOR SKIRT
58	AS REQ'D	10003402	SCREW, TP, BH, 10-32 X 1/2
59	1	821016	ASSY, INSIDE GUIDE
60	1	***	DOOR GUIDE, L/C (SHOWN)
60	1	***	(OR) DOOR GUIDE, R/C
61	1	***	8200 SERIES WIRING HARNESS (NOT SHOWN)

* PART OF ASSY, AIR CYLINDER ITEM #23

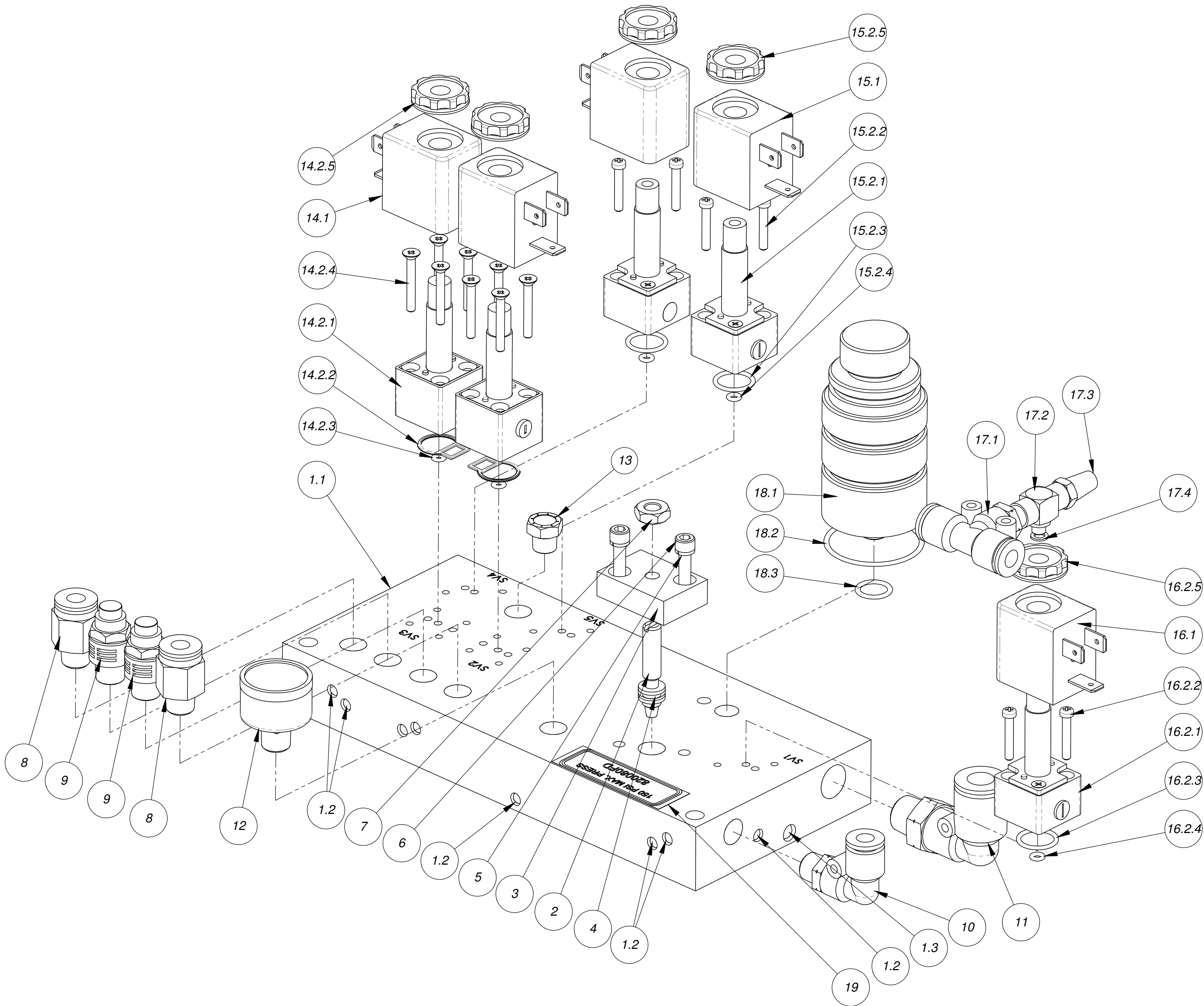
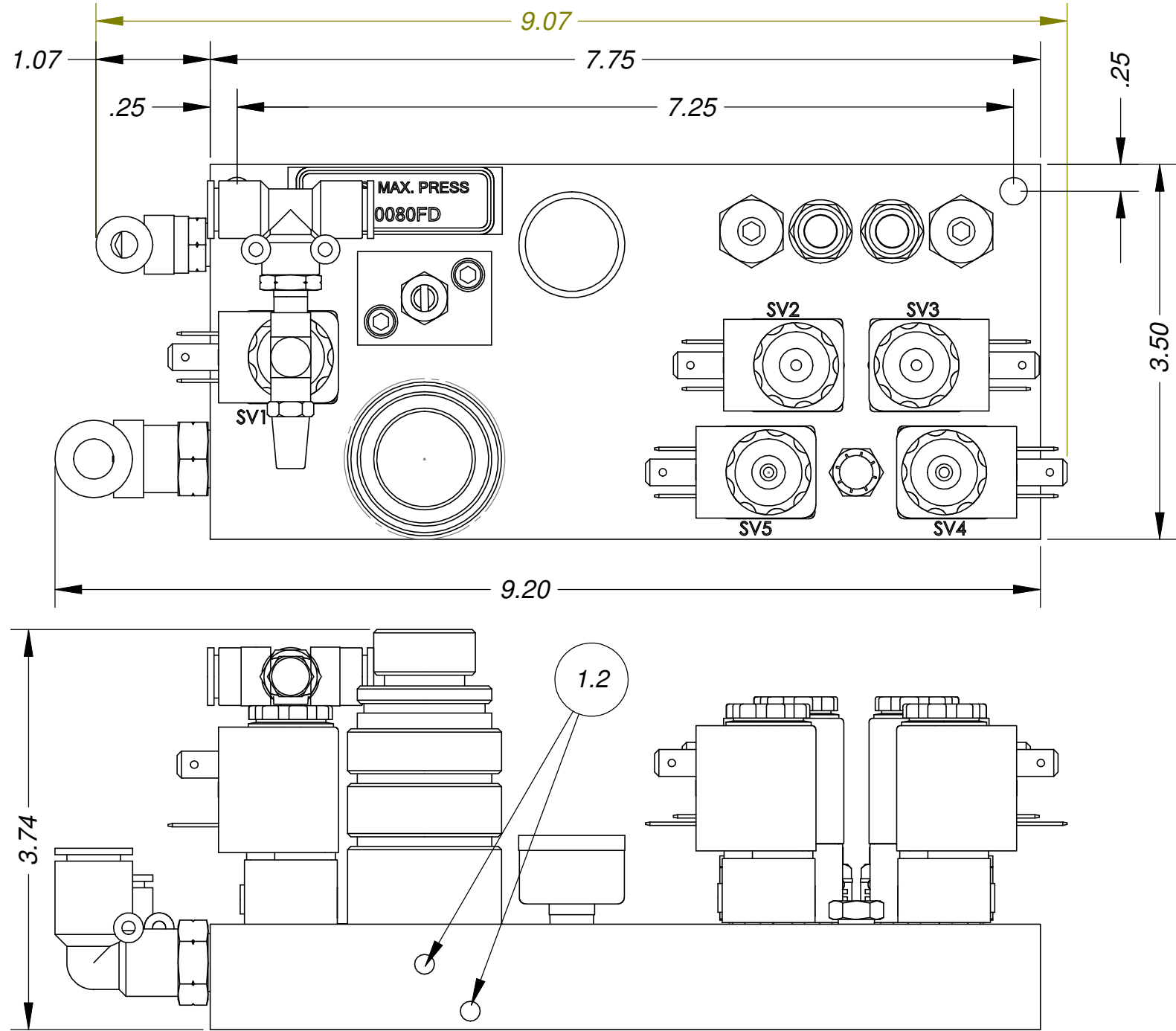
** PART OF ASSY, ROLLER ITEM #41

*** PART NUMBER ASSIGNED ON A JOB BY JOB BASIS



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	4407-004	MANIFOLD BODY, COMPLETE	1
1.1	4407-001	MANIFOLD BODY, MACH	1
1.2	01-0231	BALL, STEEL, 3/16	12
1.3	01-0260	BALL, METAL, .250" DIA	1
2	4407-002	NEEDLE, VALVE	1
3	4407-003	NEEDLE VALVE BLOCK	1
4	04-01-010	O-RING, BUNA, .239 ID X .070CS, #010	1
5	01-0191	WASHER, LOCK, STEEL, #8	2
6	01-0004	SCREW, SHC, #8 X .0625, BLOX	2
7	01-0230	NUT, HEX, 1/4-28	1
8	02-1212	FITTING, METAL, 1/4 TUBE - 1/8 NPT	2
9	02-1213	FITTING, PLASTIC, SPEED CON. MUFFLER	2
10	02-1217	FITTING, PLASTIC, ELBOW, 1/8 NPT - 1/4 TUBE	1
11	02-1218	FITTING, ELBOW, PLASTIC, 3/8 TUBE - 1/4 NPT	1
12	02-1211	GAGE, 0-60, 1" BACK MOUNT, 1/8 NPT	1
13	4407-005	FITTING, MUFFLER, SINTERED BRONZE, 1/8 NPT	1
14	03-4228-001	SOL.ARM. ASSY W/COIL, GKR, 1.5mm, COMPLETE	2
14.1	03-4230-024-3L	COIL, IND FORM B, 24 VDC	1
14.2	03-4231-001	SOL.ARM.ASSY.COMPLETE, GKR, 1.5mm	1
14.2.1		ARM. ASSY, GKR,1.5mm	1
14.2.2		GASKET, GKR	1
14.2.3		O-RING, GKR	1
14.2.4		SCREW, MOUNTING, GKR	4
14.2.5		NUT, COIL RETAINING, OPEN	1
15	03-4229-001	SOL.ARM. ASSY, W/COIL, KR, 1.5mm, COMPLETE	2
15.1	03-4230-024-3L	COIL, IND FORM B, 24 VDC	1
15.2	03-4232-001	SOL.ARM.ASSY COMPLETE, KR, 1.5mm	1
15.2.1		ARM. ASSY, KR	1
15.2.2		SCREW, ARM, MTG	2
15.2.3		O-RING, LG, KR	1
15.2.4		O-RING, SM, KR	1
15.2.5		NUT, COIL RETAINING, OPEN	1
16	03-4229-002	SOL.ARM. ASSY, W/COIL, KR, 1mm, COMPLETE	1
16.1	03-4230-024-3L	COIL, IND FORM B, 24 VDC	1
16.2	03-4232-002	SOL.ARM.ASSY COMPLETE, KR, 1.0mm	1
16.2.1		ARM. ASSY, KR	1
16.2.2		SCREW, ARM, MTG	2
16.2.3		O-RING, LG, KR	1
16.2.4		O-RING, SM, KR	1
16.2.5		NUT, COIL RETAINING, OPEN	1
17	02-1219	QUICK EXHAUST VALVE ASSY.	1
17.1	02-1215	FITTING, TEE, PLASTIC, 1/4 TUBE - 10-32	1
17.2	02-1216	QUICK EXHAUST VALVE, 10-32	1
17.3	02-1214	MUFFLER, 10-32	1
17.4	4407-007	GASKET, RUBBER	1
18	02-1210	REGULATOR ASSY, COMPLETE	1
18.1		REGULATOR, 1/2-13	1
18.2		O-RING, LG	1
18.3		O-RING, SM	1
19	4407-006	LABEL	1

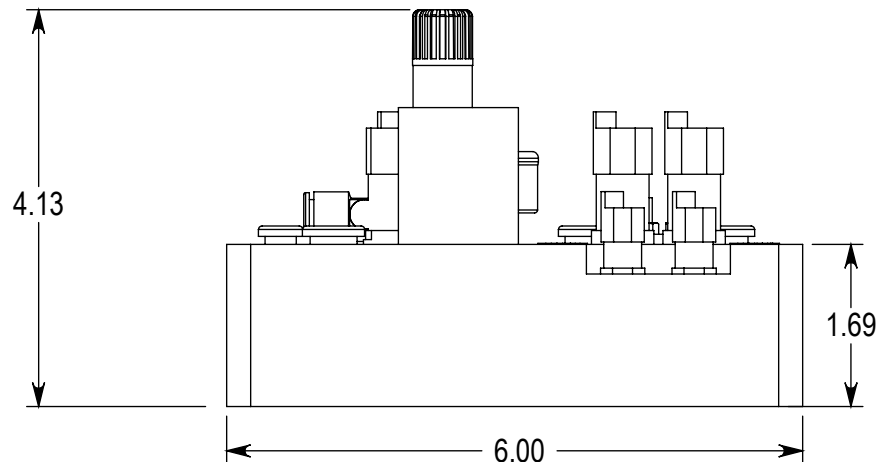
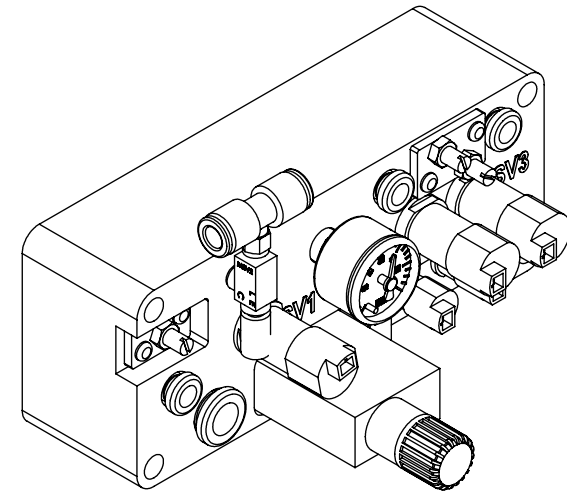
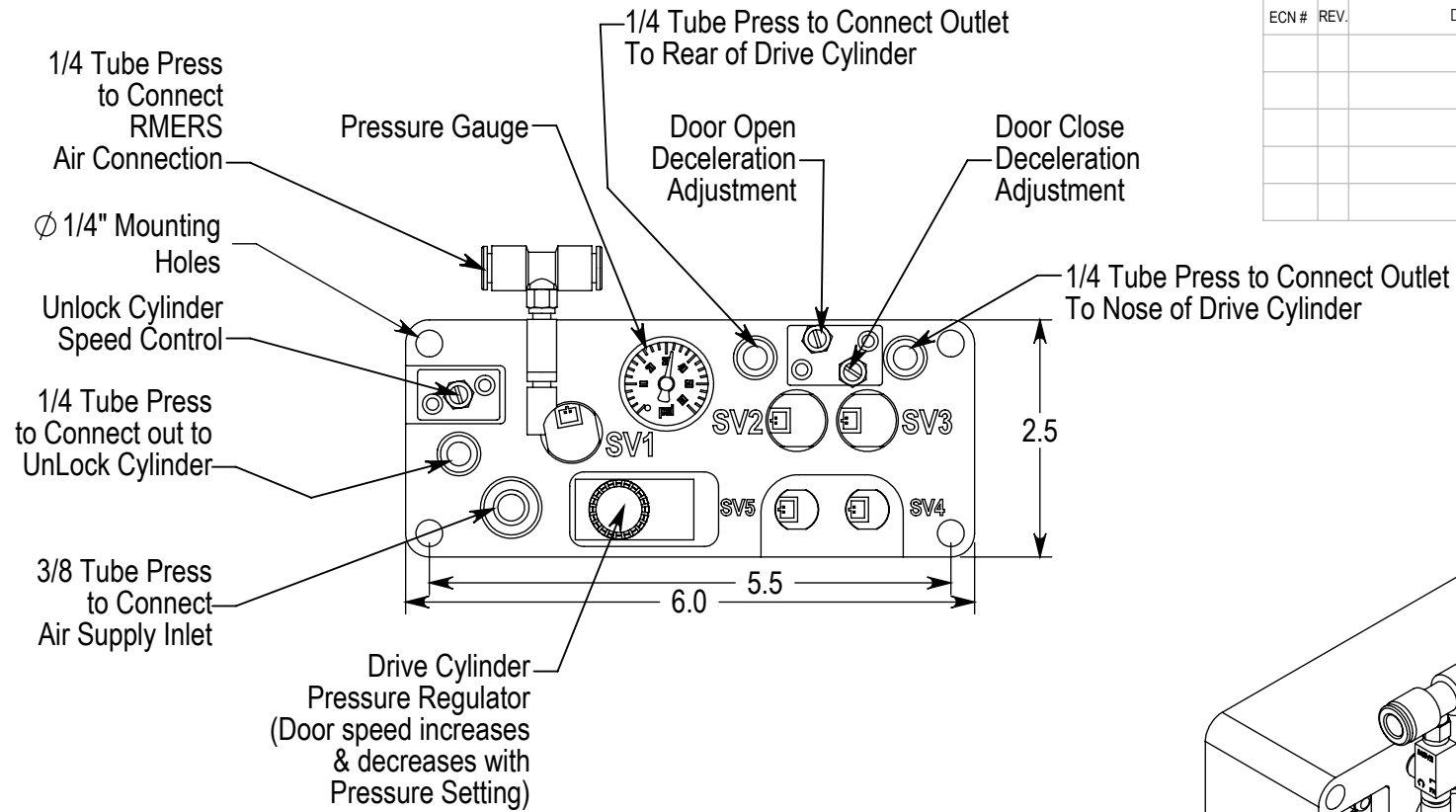
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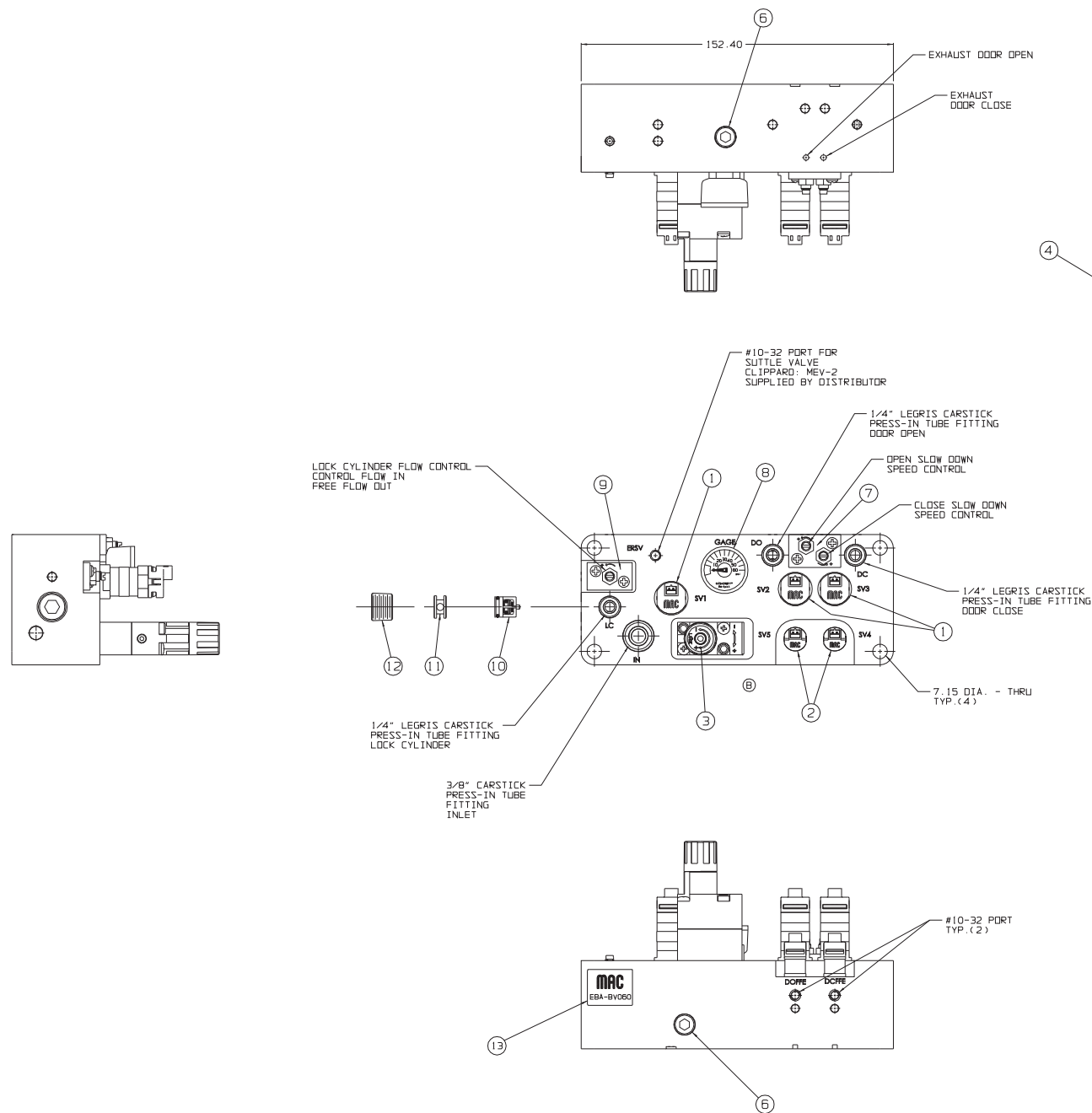
REVISIONS	
A	ECL08084 05/30/08 TPO CHANGED DIMENSIONS CHANGED AS WELL AS OVERALL LENGTH
B	ECL08126 08/28/08 TPO ADDED LABEL, ITEM # 19
C	ECL08169 10-06-08 M.M. ADDED P/N 17.4 TO ASSY
D	UPDATED DESCRIPTIONS FOR ITEMS 15, 16 AND ECL 09026 03-31-09 M.DL
F	UPDATED DESCRIPTIONS FOR ITEMS 15, 16 AND ECL 10051 08/24/10 TPO

Tolerances Unless Otherwise Specified:			MATERIAL SPEC.		PC. NO.: 4407-601			
TYPE	FINISHED	AS CAST	PROCESS SPEC.		MADE FROM:			
DEC .00	± .015"	± .030"			MODEL FILE: 4407-601.SLDASM			
DEC .000	± .005"	± .010"						
FRACTIONAL	± 1/64"	± 1/32"						
ANGLES *	± 1/2°	± 1°						
FINISH 175 µ in.					CAD FILE: 4407-601.sldrw			
8200FD					D 4407-601			
8220/8250 Series Manifold Assy								
ECL:	Airtec Systems			DRAWN	CHECKED	APPRVD.	SHEET NO. 1 of 1	SHEETS
	3224 Mobile Hwy			TPO	TPO		SCALE 3:4	
	Montgomery, AL 36108			01/17/08	01/17/08		APPROX. WT.	

REVISIONS				
ECN #	REV.	DESCRIPTION	DATE	APPROV.



DATE		NAME	AIR/TEQ
DRAWN	9-06-13	RLP	
CHECKED			
TITLE:			
Manifold Assembly, Fully Driven 8200			
FINISH:	SIZE	DWG. NO.	REV
	A	820080FD-M	
SCALE: 1:2		SHEET 1 OF 1	



EBA-BV060			
ITEM #	QTY. REQ'D	DESCRIPTION	PART#
1	3	BV314 SERIES VALVES	BV314A-CD1-00-BCAA-CTA MOD 8560
2	2	BV210 SERIES VALVES	BV210A-CA1-00-BEHA-CTA
3	1	46 SERIES REGULATOR	PR46A-0B4B
4	1	BAR ASSEMBLY	CCMV14A-10021-05

CCMV14A-10021-05			
ITEM #	QTY. REQ'D	DESCRIPTION	PART#
5	1	CIRCUIT BAR	BR-0063-34-0-05
6	2	1/8" PIPE PLUG	B4-3114
7	1	FLOW CONTROL PLATE ASS'Y	N-45021
8	1	PRESSURE GAGE (0-60 PSI)	24177-060-01
9	1	FLOW CONTROL PLATE ASS'Y	N-35011
10	1	CHECK VALVE INSERT	28639
11	1	SPACER	28672
12	1	1/4" PIPE PLUG	B4-3214
13	1	LABEL	14401

NOTE:
- SEE TP-259 FOR TEST PROCEDURE

				MODEL NUMBER BV210 & BV314 SERIES	
				AIRTEQ SYSTEMS	
				Manifold Assy, 8200 Fully Driven	
				MATERIAL	PART NUMBER
					820080FD-M

**LUBRICATION, MAINTENANCE &
ADJUSTMENTS
8220 & 8250
SLIDING DOORS**



***3224 Mobile Highway Road • Montgomery, Alabama 36108
(334)281-8440 • FAX (334)286-4320***

LUBRICATION and MAINTENANCE

1) Lubrication:

The lock plate mechanism, bell crank and manual override mechanism should be well lubricated, in the areas shown, with Super Lube® Multi-Purpose synthetic lubricant grease.

- Check for dried, caked or dust/debris contaminated grease.
- Wipe off grease in poor condition and apply new grease

2) Roller Track

DO NOT lubricate the roller track.

To maintain smooth and quiet operation:

- Keep roller track free of any accumulation of dirt, dust, or other debris.

If the track does not feel smooth:

- Wipe track off with a lint free cloth or scouring pad (Scotch Brite® or equivalent.)
- Do not use steel wool, sandpaper, or anything that may leave grit or fibers on the track.

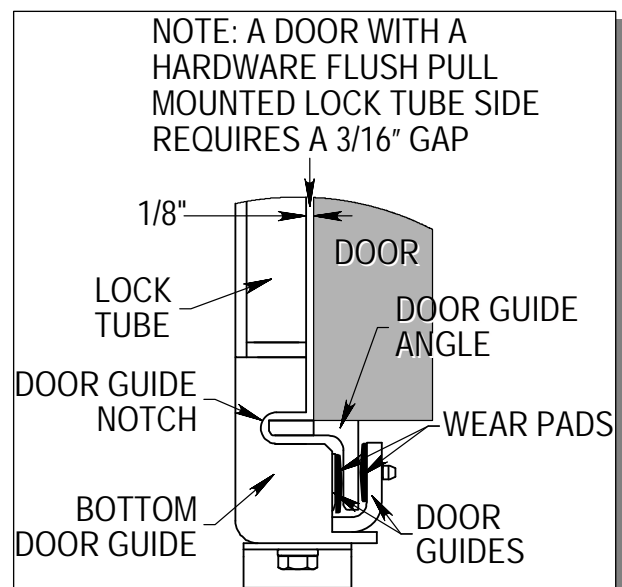
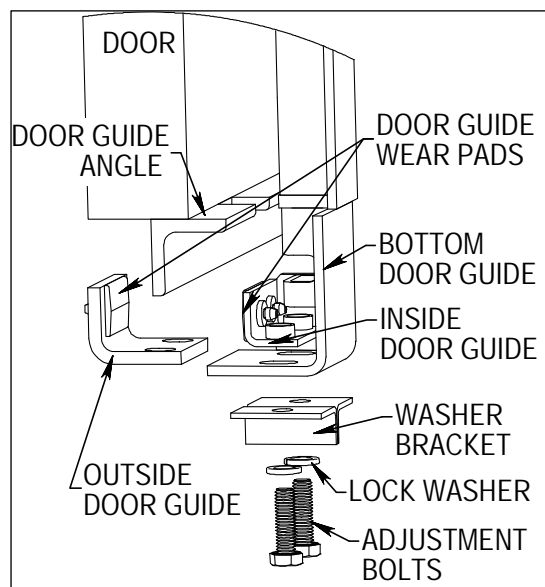
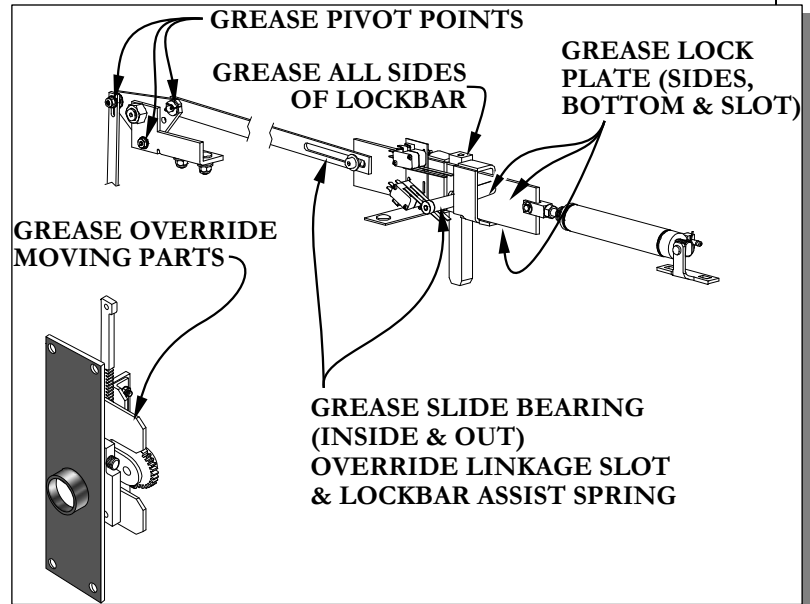
3) Rollers

The roller assemblies are factory lubricated and sealed. They do not require lubrication.

If the track is clean and the rollers still do not roll smoothly, wipe rollers with a clean lint free cloth.

4) Bottom Guide Wear Pads

The door bottom is held in place by two Door Guide plates (each having a nylon wear pad.) Check for excessive door movement in and out from the wall. 1/16th movement at the bottom of the door is acceptable. More than 1/16th movement requires that the guides be adjusted and/or the wear pads be replaced. Bottom Door Guide adjustment is detailed in the Mechanical Adjustments section, under number 4 part b: "To Adjust Door Bottom Lateral Position."



MECHANICAL ADJUSTMENTS

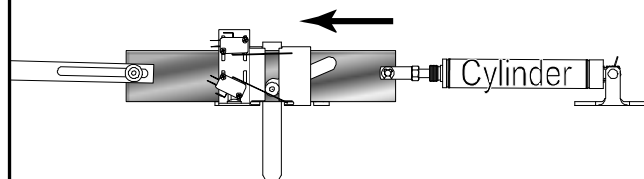
1) Lock Position Adjustment

- The lockbar engages the door at the top and bottom in both the open and closed positions.
- The top locking points are determined by the door hanger mounted front and rear Lock Brackets.
- To Check the rear Lock Bracket position:
 - Move the door to the fully closed position
 - Hold the door tight into the receiver column
 - Manually raise and lower the lockbar. (move the Lockplate slide by hand as shown.)
- When raised and lowered the Lockbar should freely enter and exit the lock bracket notch and not bind or hang
- If Lock Bracket interferes with the Lockbar raising or lowering or if the Lock Bracket notch presses on either side of the Lock Bar then the Lock Bracket should be adjusted.
- To Adjust Lock Bracket:
 - Allow LOCKBAR to drop into the BOTTOM DOOR GUIDE Notch and into the LOCK BRACKET
 - Loosen Lock Bracket Adjustment Nuts
 - Move LOCK BRACKET to obtain the vertical engagement with the UPPER LOCKBAR LUG shown
 - Move LOCK BRACKET horizontally so Lock Bar freely moves in Lock Bracket notch.
 - The LOCKBAR must move freely up and down in the LOCK BRACKET
- Move the door to the full open position and repeat this procedure to position the Front Lock Bracket
- Do not adjust the REAR LOCK BRACKET so high that the door can not close when the lockbar is unlocked manually and then the lock bar release to rest on top of the bottom door guide angle as the door is moved (if the lock bracket is too high it will run into the upper LOCKBAR LUG preventing the door from closing.)

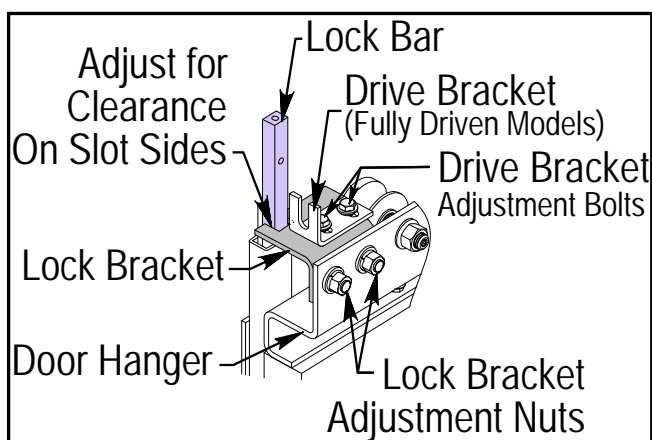
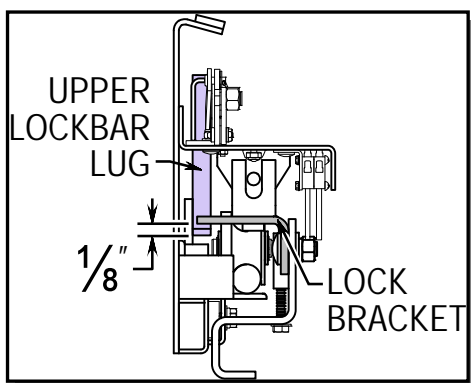
Note: Because the door Drive Bracket is attached to the Front Lock Bracket, any adjustment of the Front Lock Bracket must be followed by an adjustment of the door drive bracket.

TO RAISE LOCKBAR

Manually Move Lockplate Away
From Cylinder: 8200 Series
or Motor: 7200 Series

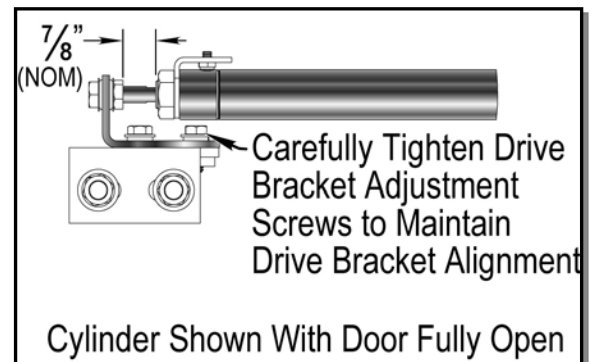
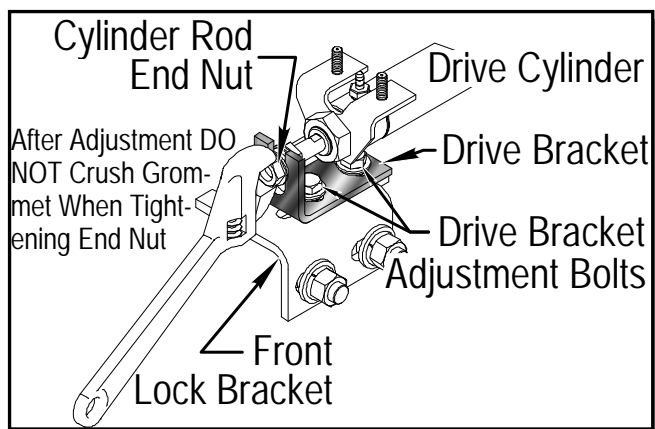
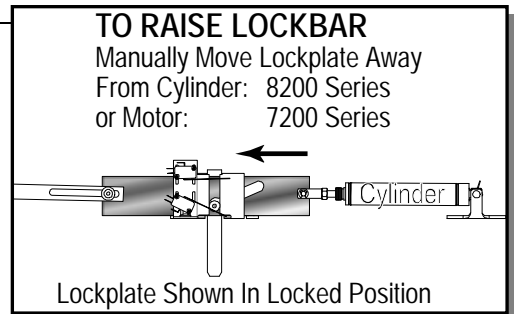


Lockplate Shown In Locked Position



2) Door Drive Bracket Adjustment

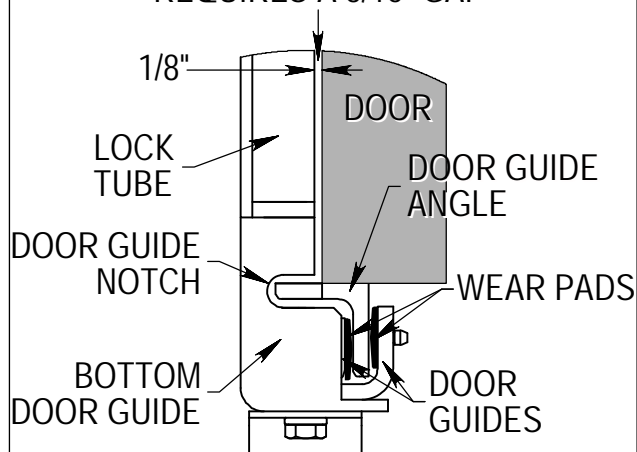
- The Door Drive Cylinder rod must not be side loaded.
- One test for a side load condition:
 - Move the door to the open/locked position.
 - Manually unlock the door by moving the Lock Plate as shown.
 - With the LOCKBAR lifted, manually move the door towards the closed position. The door should move easily and may even start to move by itself, this is normal.
 - Approaching the fully open position, the effort required to move the door should not increase at all.
 - Possible conditions present if door movement becomes restricted approaching the fully open position:
 - Severely side loaded cylinder rod (Drive Bracket Adjustment required)
 - Vertically misaligned door - either rubbing the cover or bottom door guide slot (Door Height Adjustment required, followed by a Drive Bracket Adjustment)
 - Horizontally misaligned door – Rubbing the lock column or cover (Door Lateral Position Adjustment required, followed by a Drive Bracket Adjustment)
 - Dirty roller track (Roller Track requires cleaning)
 - Door Skirt is dragging a high spot in the floor (Door Skirt Adjustment required)
- To Adjust the Drive Bracket:
 - Loosen the Drive Bracket Adjustment Bolts
 - Slightly loosen Cylinder Rod End Nut (allows cylinder rod to slide freely in the drive bracket slot).
 - Move the door to the open/locked position.
 - Typically the cylinder will push the bracket out to the end of the slot. Move bracket by hand in & out and back & forth until the bracket / cylinder feels 'free.'
 - Secure the Drive Bracket Adjustment Bolts - ensure the drive bracket does not move while tightening the bolts.
 - Tighten the Cylinder Rod Nut with the door in the open position. NOTE: Do not over tighten the cylinder rod nut and crush the rubber grommet!
 - DO NOT bind the cylinder rod
 - Verify proper cylinder rod alignment (No Side Loading on Cylinder)



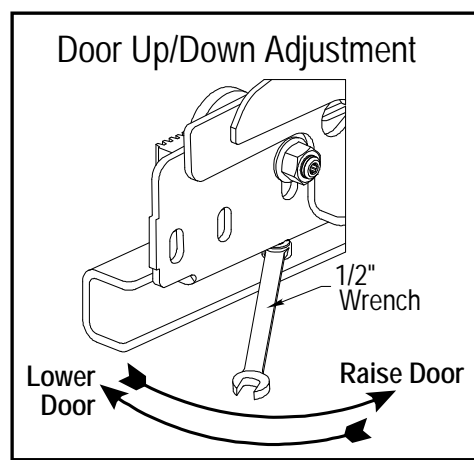
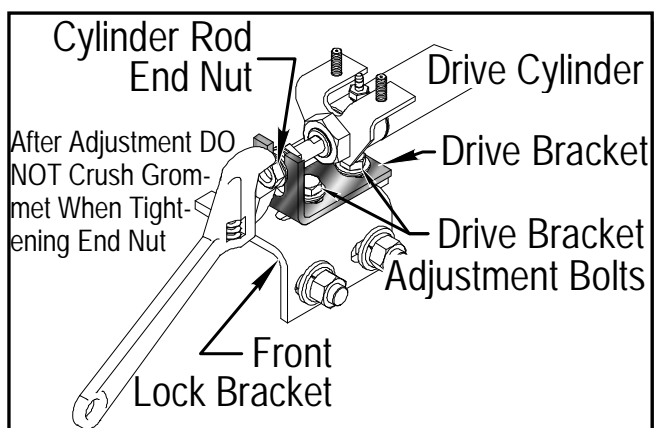
3) Door Height Adjustment

- Improper door height may result in the door hanger rubbing on the cover, or the bottom door guide angle rubbing on the top or bottom of the bottom Door Guide Notch.
- There are two height adjustment bolts, one for each side of the door. One complete turn will move the door up or down 1/16".
- Turn the bolt clockwise to raise the door and counterclockwise to lower the door.
- When making height adjustments, first determine how much change is needed, loosen the axle nut, turn the adjustment bolt the appropriate amount, then tighten the axle nut securely and check for proper clearances.

NOTE: A DOOR WITH A HARDWARE FLUSH PULL MOUNTED LOCK TUBE SIDE REQUIRES A 3/16" GAP



Note: After any adjustment is made to the door height or the door in or out, re-adjustment of the drive cylinder to the drive cylinder bracket is required. (See Item 2 on preceding page)



4) Door Lateral Position Adjustment

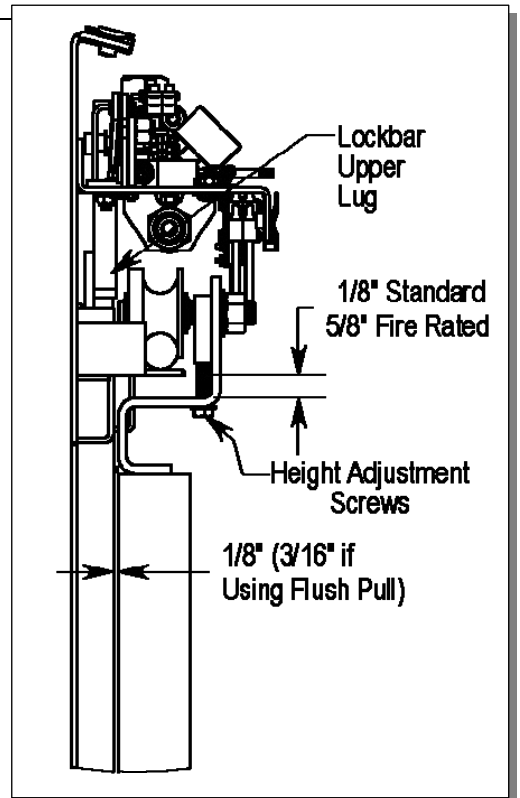
- The sliding door should clear the lock tube and the sides of the receiving pocket by a minimum of 1/16"
- If the door rubs on any of these surfaces, or if the door hanger rubs on the cover, adjustment is required.
- *Note: After any door position adjustment is made. The Door Drive Bracket / Cylinder Alignment must be re-adjusted.*

a) To Adjust Door Top Lateral Position:

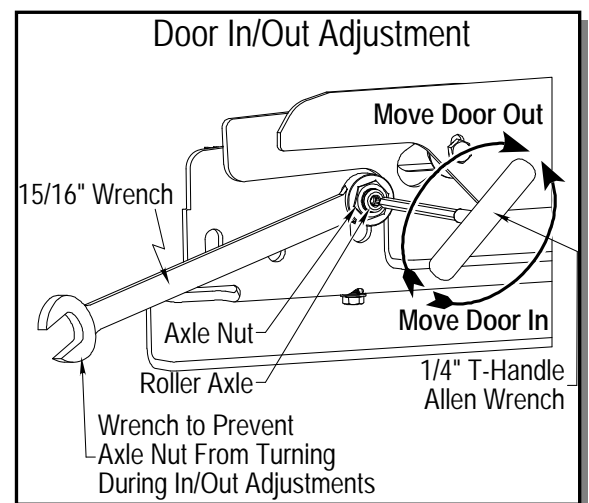
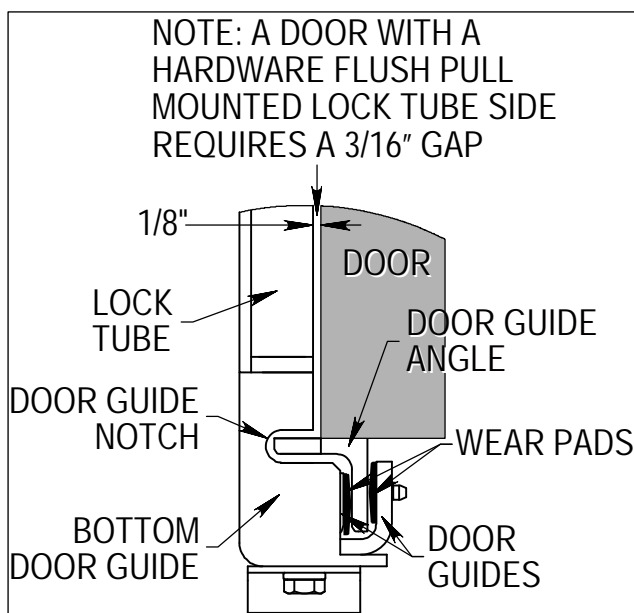
- The top of the door can be adjusted at both the front and rear edge of the door. Loosen the appropriate axle nut.
- While holding the nut with a wrench, turn the axle with a 1/4" Allen wrench. Each complete turn of the axle will move the door approximately 1/8". Turn the axle clockwise to move the door away from the wall and counterclockwise to bring the door closer to the wall. Tighten the axle nuts securely after adjustment.

b) To Adjust Door Bottom Lateral Position

- Loosen the two bolts on the bottom side of the bottom door guide mounting bracket.
- While holding the guides against the door guide angle, move the door and guides to the desired position. (a 1/16" shim may be used to help space guides and Bottom Guide Angle properly)
- Tighten the bolts
- Check that the bottom door guide angle travels smoothly through the guides throughout limits of door travel
- Check door Gap throughout travel (Lock column, wall and receiver pocket)

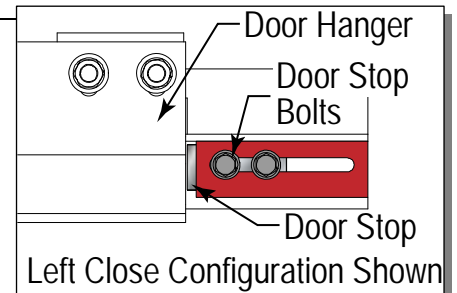


After any door position adjustment is made. The Door Drive Bracket / Cylinder Alignment must be re-adjusted.



5) Rear Door Stop Adjustment

- The rear door stop locates the door for the proper locked open position.
- If the lock bar does not drop completely and freely into the bottom door guide notch in the locked open position, the rear door stop MAY need adjustment
- NOTE two other conditions should also be checked if the door is not freely locking in the OPEN position:
 1. The door MAY be hanging out of plumb (i.e. one side higher than the other). This condition will cause the top end of the door to be misaligned with the bottom end. The door should be vertically adjusted to allow the bottom door guide notch to freely engage the lock bar in the open position. Depending on installation conditions (receiver not plumb, lock column not plumb, and/or door out of square) there may need to be some compromise between door plumb and making the device work.
 2. The front (TOP) lock bracket horizontal position may also need adjustment
 3. *Any door position or front lock bracket adjustment requires that the Door Drive Bracket / Cylinder Alignment must be re-adjusted*



To Adjust the Rear Door Stop:

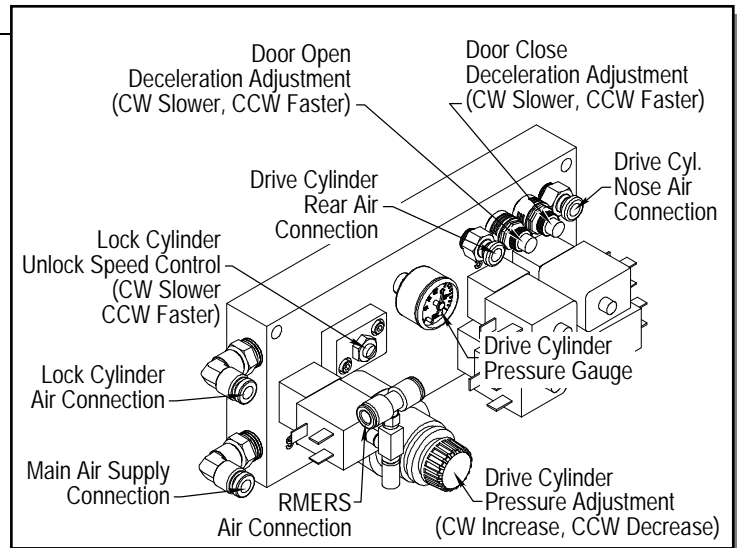
- Loosen the Door Stop Bolts.
- Move the door to the position where the lock bar drops completely & freely into the bottom door guide slot.
- Slide the Door Stop up against the door hanger at that door position.
- Provisionally secure the Door Stop in that position
- Check for proper operation of the device (freely locking in both the Open and Closed positions.)
- When device operates properly, torque the Door Stop Bolts to 75 ft/lbs.

PNEUMATIC ADJUSTMENTS

1) Drive Cylinder Pressure:

The drive cylinder pressure is adjusted by a pressure regulator. Increasing drive cylinder pressure will increase the door's travel speed.

- To increase Drive Cylinder Pressure:
 - Turn Pressure Adjustment knob clockwise
- To decrease Drive Cylinder Pressure:
 - Turn Pressure Adjustment knob:
 - Counterclockwise below desired pressure
 - Clockwise up to desired pressure.
- Cylinder drive force is gauge pressure shown multiplied by 1.23: (i.e. 32.5 psig x 1.23 = 40 lbs)
- NOTE: Dirt particles in the air stream may lodge under the pressure regulator diaphragm during door operation. This condition can result in a constant air "bleed off" that is usually clearly audible. To correct this problem:
 - Turn off the air supply to the door.
 - Disassemble, clean and re-assemble the pressure regulator
 - The pressure regulator body does not need to be removed from the valve manifold.
 - Check main air system particle filter element(s) at the compressor location
 - A dirty filter element can permit dirt particles into the line air stream.
 - Turn on air supply to the door



2) Lock Cylinder Unlock Speed (Lock bar Unlocking Speed & Noise-"Bang"):

- To increase the lock cylinder speed (and raise Lock Bar Unlocking noise/bang):
 - Loosen the LOCK CYLINDER UNLOCK SPEED CONTROL jamb nut
 - Turn the LOCK CYLINDER UNLOCK SPEED CONTROL adjustment screw OUT (counter clockwise) slightly
 - Secure the LOCK CYLINDER UNLOCK SPEED CONTROL jamb nut
- To decrease the lock cylinder speed (and reduce Lock Bar Unlocking noise/bang)
 - Loosen the LOCK CYLINDER UNLOCK SPEED CONTROL jamb nut
 - Turn the LOCK CYLINDER UNLOCK SPEED CONTROL adjustment screw IN (clockwise) slightly
 - Secure the LOCK CYLINDER UNLOCK SPEED CONTROL jamb nut
- Changes done with the LOCK CYLINDER UNLOCK SPEED CONTROL do not affect the unlocking force exerted by the lock cylinder on the lock bar. The LOCK CYLINDER UNLOCK SPEED CONTROL does affect the speed and the corresponding momentum of the lock bar as it raises.
- The Lock Cylinder Speed should be adjusted until the lock bar can be clearly heard when unlocking but no more. Allowing the lock bar to unlock at maximum speed (and noise) puts excessive strain on the lock bar roller bearing shoulder bolt and should be avoided.

3) Door Deceleration Control

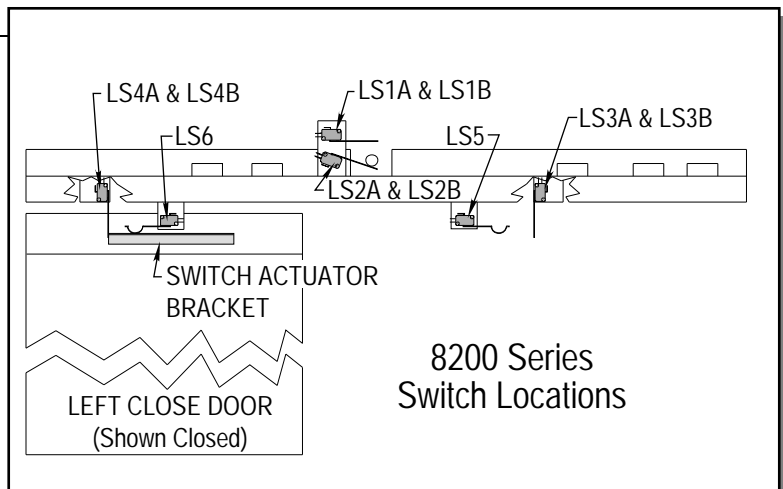
The deceleration controls slow the door down a few inches prior to end of travel for smooth, consistent locking in the open and closed positions. If a door impacts the receiving column or rear door stop too hard or travels too slowly in the last few inches of travel, the deceleration control for the door direction in question (Open or Close) must be adjusted:

- To reduce the end of travel speed (to correct door ramming the receiving column or rear door stop):
 - Turn the associated direction's Deceleration Adjustment knob clockwise.
- To increase the end of travel speed (to correct door traveling too slowly in the deceleration range):
 - Turn the associated direction's Deceleration Adjustment knob counter clockwise.
- Note: If a door "bounces" – (briefly reverses direction) when a deceleration switch is initially contacted:
 - Drive cylinder pressure is likely adjusted too high: Decrease drive cylinder pressure (step 1 above)
 - Adjust Deceleration Control for appropriate door deceleration speed

ELECTRICAL ADJUSTMENTS

1) Secure/Unsecure Indication

Device Status indication is controlled by the Lock Bar Down Status Switches (LS2A & LS2B) and the Door Position Switches, Door Closed Status (LS4A & LS4B) and Door Open Status Switches (LS3A & LS3B). Both the Door Closed Status Switch (LS4B) and the Lock Bar Down Status Switch (LS2A) must be made in order to generate a secure indication. If either switch is not made, an insecure indication is provided.



a) Lock Bar Down Status Switches (LS2A & LS2B)

The Lock Bar Down Status Switches are located in front and near the bottom of the lock mechanism.

Only when the lock bar is at its lowest point should these switches be depressed.

To adjust the Lock Bar Down Status Switch Position:

- Place the door in the closed/locked position.
- The lock bar lifting pin should be at the bottom end of the Z shaped slot in the horizontal lock slide.
- Slots are provided in the mounting bracket for adjustment.
- Loosen the screws securing the Lock Bar Down Status Switches.
- Lower the switches away from the lifting pin.
- Then slowly raise the switches until the contacts close (switches will click at this point).
- Secure the screws attaching the Lock Bar Down Status Switches.

b) Door Closed Position Status Switches (LS4A & LS4B)

These Door Closed Position Status Switches are ganged together on a bracket mounted to the device tray near the receiving column/channel. These Status Switches signal the lock bar to drop when the door reaches the fully closed position. They should be fully depressed by the SWITCH ACTUATOR BRACKET when the door is in the closed/locked position. Pulling the door against the Lock bar (away from the receiving column/channel) should not release either of these Door Closed Position Status Switches.

To adjust the Door Position Status Switch:

- Loosen the switch bracket mounting nut that secures switch bracket to the device tray.
- Position the door in the closed/locked position.
- Hold the door tightly against the lock bar towards the open position.
- Position the switches so that they are fully depressed (switch arms fully activated)
- Switch Bracket should not at an angle, both switches should make at the same time
- Tighten the switch bracket mounting nut.

2) Lock Bar Unlocked Status Switches (LS1A & LS1B)

The Lock Bar Unlocked Status Switch engages the door drive cylinder after the lock bar is fully raised when the control panel has provided a door open or door close signal. These switches are located in front of and near the top of the lock mechanism. These Status Switches should be depressed when the lock bar is at the top of its travel.

To adjust the Lock Bar Up Status Switch Position:

- Loosen the screws securing the Lock Bar Up Status Switches.
- Manually pull the horizontal lock plate to the fully unlocked position, lock bar fully raised
- Slots are provided in the mounting bracket for adjustment.
- Raise the switches away from the lifting pin.
- Then slowly lower the switches until the contacts close (switches will click at this point).
- Secure the screws attaching the Lock Bar Up Status Switches.

3) Fully Open Switches (LS3A & LS3B)

These Door Fully Open Position Status Switches are ganged together on a bracket mounted to the device tray near the rear door stop of the device. These Status Switches signal the lock bar to drop when the door reaches the fully open position. They should be fully depressed by the SWITCH ACTUATOR BRACKET when the door is in the fully open/locked position.

To adjust the Door Position Status Switch:

- Loosen the switch bracket mounting nut that secures switch bracket to the device tray.
- Position the door in the opened/locked position.
- Hold the door tightly against the lock bar towards the closed position.
- Position the switches so that they are fully depressed (switch arms fully activated)
- Switch Bracket should not at an angle, both switches should make at the same time
- Tighten the switch bracket mounting nut.

4) Deceleration Switches (LS5 & LS6)

There are two deceleration switches: LS5 signals open deceleration and LS6 controls signals close deceleration. The open deceleration switch (LS5) is located above and near the center of the door when the door is in the open position. The close deceleration switch (LS6) is located above and near the center of the door when the door is in the closed position. The deceleration switches deactivate a solenoid valve, which slows down the door travel speed toward the end of the door's range of motion. These switches are adjusted in conjunction with the door deceleration flow control valves.

- If the door impacts the receiving column or rear door stop too hard, or if the door moves too slowly at the end of its travel, first refer to "Door Deceleration Control" in Pneumatic Adjustment section.
- If proper deceleration cannot be achieved pneumatically, adjust the position of the deceleration switch.
- The position of the deceleration switch determines the point at which the door begins to slow.

To adjust a deceleration switch position:

- Loosen the switch bracket mounting nut that secures the deceleration switch bracket to the device tray.
- Slide the bracket to the desired position in device tray mounting slot and tighten the nut.
 - Moving the switch towards the center of the device will cause the door to decelerate sooner.
 - Increasing the deceleration length will increase the time it takes to open or close the door.
 - Decreasing the deceleration length too much can result in the door "bouncing" at the end of its travel or impacting the receiving column or rear door stop too severely.
- Check that the Deceleration switch arm is riding smoothly onto the SWITCH ACTUATOR BRACKET and is not interfering with any door or roller hardware. If interference is detected adjust the switch position to remove the interference.