

SERVICE MANUAL

MODEL

9712

120 VAC

SOLENOID

SWING LOCK



*2511 Midpark Road • Montgomery, Alabama 36109
(334)281-8440 • FAX (334)286-6421*

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REVISION HISTORY:

PRELIMINARY RELEASE	1/2012
UPDATE FOR LOGO & ADDRESS	6/2021

WIRING DIAGRAM

MODEL

9712

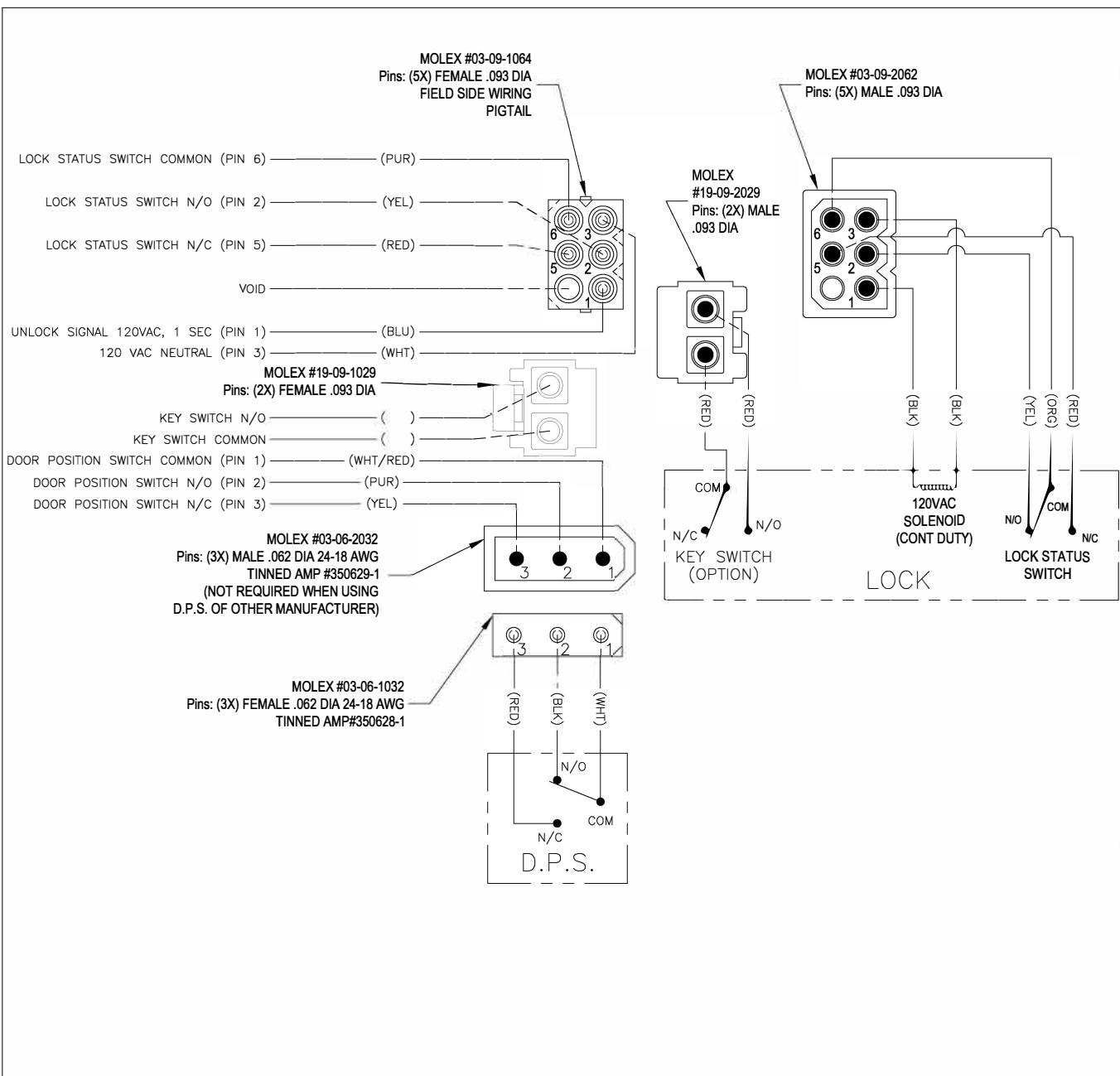
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REVISIONS				
REV	ECN	DESCRIPTION	DRAWN	CHK

- NOTES:**
- SOLENOID LOAD: 120VAC 10A INRUSH, .6A SEATED
 - SWITCH CONTACTS: 5A.
 - SCHEMATIC SHOWN WITH DOOR IN THE CLOSED AND LOCKED (SECURE) POSITION.
 - PLUGS AND RECEPTACLES INSIDE LOCK NOT SHOWN.
 - FOR SERIES LOCK STATUS AND DOOR POSITION SWITCH OPERATION, CONNECT LOCK FIELD SIDE WIRING YELLOW WIRE (LOCK STATUS SWITCH N/O) AND DPS FIELD SIDE PURPLE WIRE (DPS SWITCH N/O). CHECK CONTINUITY BETWEEN LOCK FIELD SIDE PURPLE (LOCK STATUS SWITCH COM) AND DPS FIELD SIDE WHT/RED (DPS SWITCH COM).
 - ALWAYS INSTALL IN ACCORDANCE WITH LOCAL REGULATIONS AND THE NATIONAL ELECTRIC CODE (NEC).
 - GROUND LOCK CASE IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE

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TITLE		DRAWN BY RLP	
WIRING DIAGRAM		APPROVED	
9712 120VAC		DATE 5/9/11	
SOLENOID LOCK		SCALE NONE	
© 1989 AIRTEQ SYSTEMS.	SIZE B	DWG. NO. EL-9712	REV A

LOCK MAINTENANCE INFORMATION

**MODEL
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SWING LOCK**

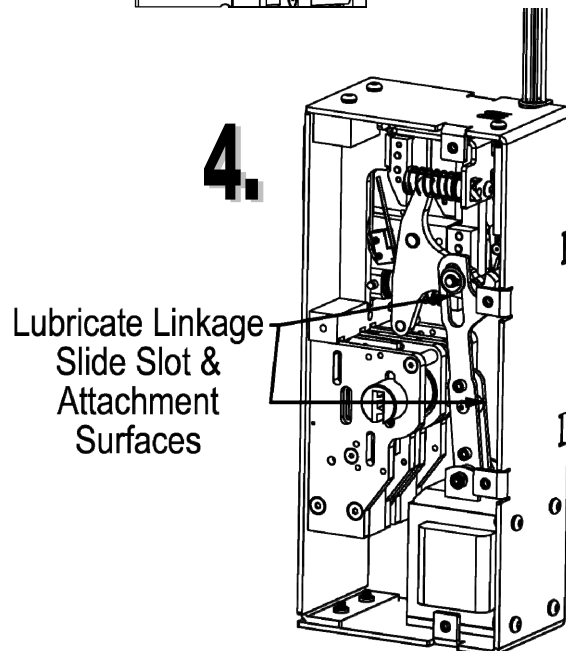
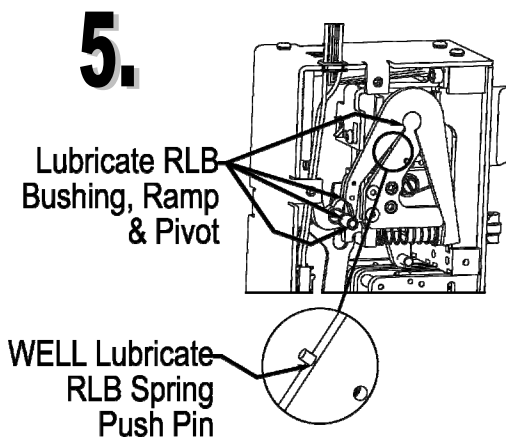
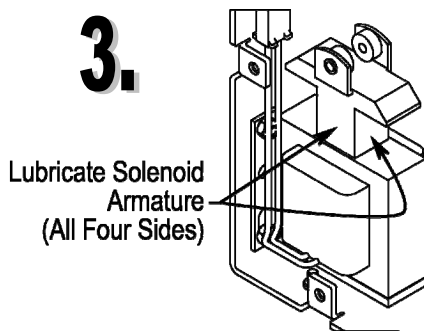
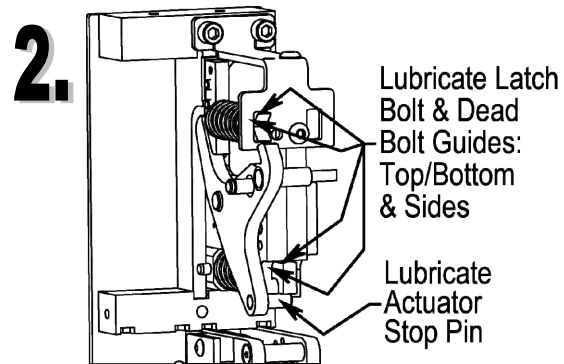
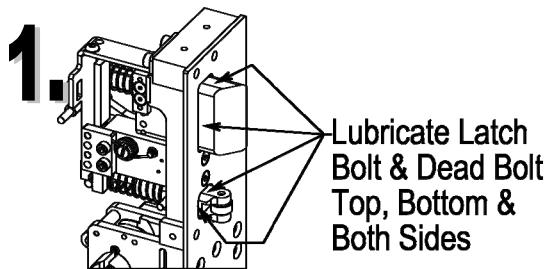


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GENERAL 9712 LOCK LUBRICATION

On high traffic and/or exterior doors / gates check lock lubrication once a year. On all other doors check lubrication every five years. The following components should be well lubricated - in the areas shown - with Super Lube[®] Multi-Purpose Synthetic Lubricant/Grease with PTFE (Teflon[®]) or equivalent. *DO NOT USE WD-40, GRAPHITE POWDER, LITHIUM GREASE or other lubricants when servicing these locks:*

1. Latch bolt and Dead bolt top, bottom & both sides
2. Latch bolt & Dead bolt guides top, bottom & both sides & Actuator Stop Pin
3. Solenoid Armature
4. Solenoid Attachment Linkage
5. RLB feature

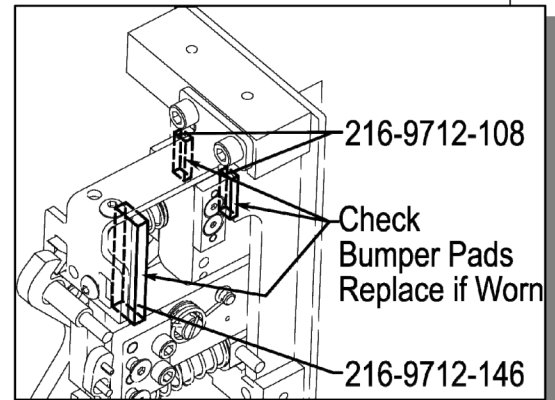


GENERAL LOCK MAINTENANCE INFORMATION

Lubricate Latch bolt external beveled surface (and strike) with Panef WhiteStick Lubricant with Silicone or equivalent.

Solenoid Lock Bumper Pads:

1. A Solenoid lock's unlocking action is instantaneous, requiring rubber bumpers as buffers to prevent the lock from destroying itself by its own operation.
2. When maintenance is performed the Bumper pads (two front and one rear) should be inspected for integrity and must be replaced if worn.



Troubleshooting

If the lock is not working properly the following instructions may be used as a starting point to help locate and correct the problem:

Lock Not Operating/Unlocking When 120VAC Control Signal Is Provided:

NO SOLENOID RESPONSE/ACTIVATION DETECTED:

Using a calibrated (or at least reliable) volt/ohm meter, verify that 120VAC is being supplied to the lock (see lock wiring diagram.) If 120VAC is being supplied to the lock, verify that 120VAC is reaching the solenoid inside the lock (2 pin connector.) If 120VAC is being supplied to the solenoid, verify that it is activating – if not the solenoid should be replaced.

SOLENOID IS ACTIVATING – LOCK NOT UNLOCKING:

Check mechanical interference – debris (toilet paper, paper clips etc. inserted into latch bolt / dead bolt gaps etc.)

Check internal linkages, actuator, keylock mechanism connection to solenoid linkage etc.

Lock Not Operating/Unlocking When 120VAC Control Signal Is Provided (continued):

SOLENOID OPERATES, LOCK UNLOCKS, BUT LATCHBOLT DOES NOT EXTEND:

For locks with Remote Latch Back (RLB): The latch bolt will only extend when door is opened (i.e. dead latch is completely extended) after lock has been unlocked
Check mechanical interference – debris (toilet paper, paper clips etc. inserted into latch bolt / dead bolt gaps etc.)

Check internal linkages, actuator, keylock mechanism connection to solenoid linkage etc.

Check RLB (latch back) feature bushing not rotating, dead latch pin not pushing on RLB arm, etc.

Check Latch Bolt Spring broken or Dead Latch spring broken.

Lock Not Indicating Deadlock Condition:

Push Dead Latch in: Check Actuator for Physical Deadlock Condition (shown →)

If Actuator does not move into physical dead lock: Check extension spring (shown) and actuator rotary spring (on opposite side of lock (not shown))

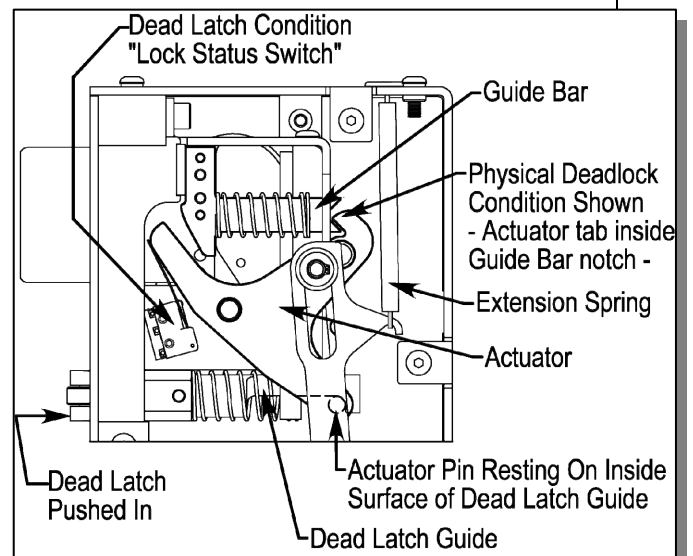
If springs are attached in good working order and actuator does not move into physical deadlock: Check other linkage and mechanical obstructions.

If Actuator moves into physical deadlock check Lock Status Switch for actuation.

An audible 'click' should be heard when the switch makes. The switch should only make when the latch bolt is physically dead locked. The lock status switch should release before the Actuator tab fully exits the Guide Bar Notch. (i.e. the latch bolt should still be restricted from being physically pushed in from outside the lock when the switch unmakes.)

If lock status switch is audibly making when physically deadlocked: Use a calibrated/reliable volt/ohm meter to check electrical contact being made at the correct pins (see wiring diagram) when the lock status switch makes.

If lock status switch operation at pins is verified: Check for correct door gap and check control system (control side wiring/relays/other control system issues.)



RECOMMENDED SPARE PARTS

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RECOMMENDED SPARE PARTS

9712

<u>PART NUMBER</u>	<u>DESCRIPTION</u>
• 160-9712-100	9712 Main Wiring Harness
• 160-9712-108	Solenoid & Connector Assembly
• 216-9712-108	Front Bumper (2 Per Lock)
• 216-9712-146	Rear Bumper
• 216-9700-271	Actuator Cam Torsion Spring
• 315-0000-015	Latch Bolt Spring
• 315-0000-016	Dead Latch Spring
• 315-9712-101	Linkage Lift Spring
• 340-9712-301M	Terminal, Male, 14-20AWG
• 340-9712-302M	Terminal, Male, 24-28AWG

**DETAIL DRAWINGS
EXPLODED VIEWS
PARTS LISTS**

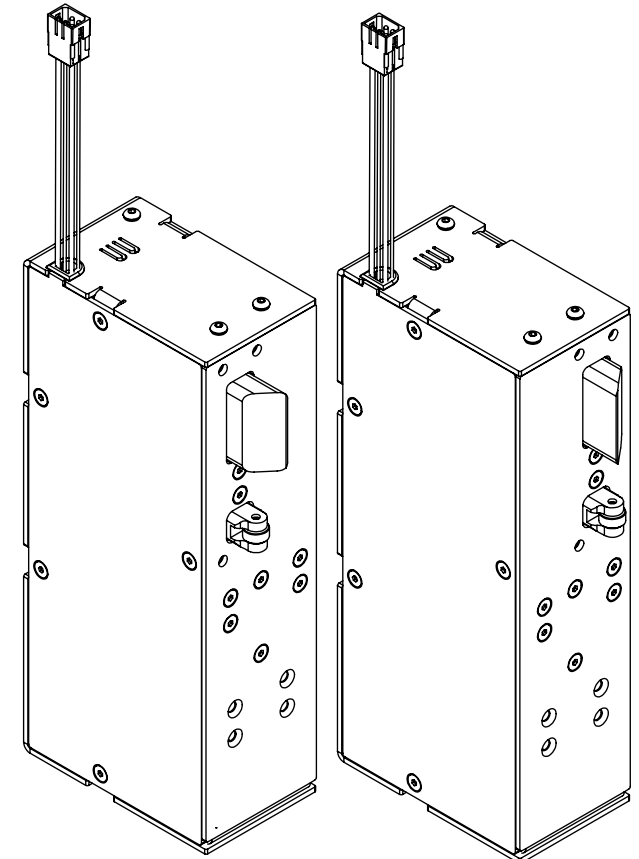
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REVISIONS				
ECN #	REV.	DESCRIPTION	DATE	APPROV.
	A	Lock Updated Per In House Million Cycle Test	5/31/10	
	B	ASTM 1,000,000 Cycle RELEASE	7/26/11	

ITEM NO.	PART NUMBER	DESCRIPTION	Left Hand QTY	Left Hand RLB QTY	Right Hand QTY	Right Hand RLB QTY
1	146-9712-330L	L.H. MOGUL LINKAGE ASSY.	1	1	-	-
2	146-9712-330R	R.H. MOGUL LINKAGE ASSY.	-	-	1	1
3	146-9712-331KS	MOGUL WHEEL ASSY, KS	1	1	1	1
4	146-9712-340A	INMATE KEYSWITCH ASSY. SIDE A	1	1	1	1
5	146-9712-340B	INMATE KEYSWITCH ASSY. SIDE B	1	1	1	1
6	146-9712-500L	MAIN LOCK SUBASSY, LH	1	-	-	-
7	146-9712-500RLB	MAIN LOCK SUBASSY, LH w/RLB	-	1	-	-
8	146-9712-500R	MAIN LOCK SUBASSY, RH	-	-	1	-
9	146-9712-500RRLB	MAIN LOCK SUBASSY, RH w/RLB	-	-	-	1
10	146-9712-510	REAR HOUSING ASSY.	1	1	1	1
11	160-9712-100	9712 Main Wiring Harness	1	1	1	1
12	216-9500-025	INSULATOR PAD	1	1	1	1
13	216-9712-120B	Side A Blank Cover Plate	1	1	1	1
14	216-9712-121B	Side B Blank Cover Plate	1	1	1	1
15	310-0000-014	SCREW SHCS 2-56x3/8 Black W/LOCKING PATCH	2	2	2	2
16	310-1032-017	SCREW, FH SOC., 10-32 X 3/8	10	10	10	10
17	310-1032-030	SCREW BHCS 10-32X1/2 W/NYLOX PATCH	4	4	4	4
18	310-1032-032	SCREW, FH SOC., 10-32 X 7/16	6	6	6	6
19	310-9712-000	SH Shoulder Screw, .188DX1.25LX8-32 McMaster 94035A209 or Eq	1	1	1	1
20	312-0832-005	NUT, 8-32, Thin NYLOCK, McMaster 90101A009 or eq.	1	1	1	1
21	313-0000-010	WASHER LOCK SPLIT #10 PLT	4	4	4	4
22	313-0000-063	WSHR, FLAT, .255 ID X .505 OD X .030 THK, STL	1	1	1	1
23	313-9712-001	UHMW Polyethylene Flat Washer .38"IDx .63"OD, .03" Thick, McMaster #95649A241 or eq.	2	2	2	2
24	313-9712-002	WASHER, .192"ID, .375"OD, .05"-.07" Thk, Zc Plt Steel, McMaster #90183A215 or eq.	-	1	-	1
25	315-9712-001	1/4" Shaft External Retainer Ring, McMaster # 97633A130 or eq.	1	1	1	1
26	315-9712-101	LINKAGE LIFT SPRING	1	1	1	1
27	317-9712-001	Bushing, 3/16"ID x .313"OD x .5"Len, McMaster 6391K116 or eq.	-	1	-	1



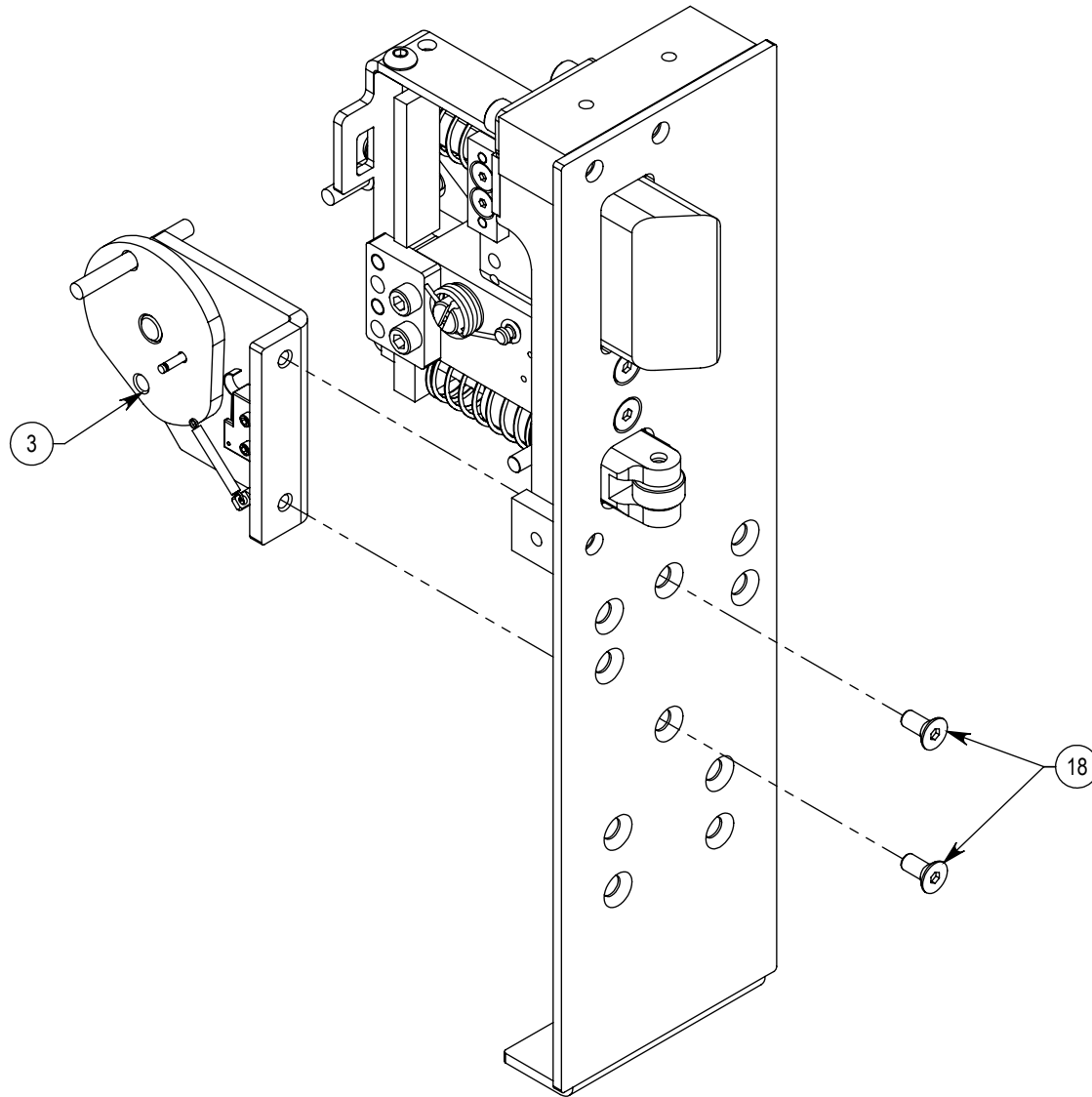
Left Hand 9712

Right Hand 9712

	DATE	NAME	AIR/TEQ
DRAWN	7/26/11	RLP	
CHECKED			
TITLE:			
9712 SOLENOID LOCK			
FINISH:	SIZE	DWG. NO.	REV
NONE (SEE REFERENCED PARTS)	A	9712	B
SCALE: 1:4			SHEET 1 OF 7

Left Hand Lock Shown, Right Hand Lock Assembly is Identical

REVISIONS				
ECN #	REV.	DESCRIPTION	DATE	APPROV.
	A	Lock Updated Per In House Million Cycle Test	5/31/10	
	B	ASTM 1,000,000 Cycle RELEASE	7/26/11	

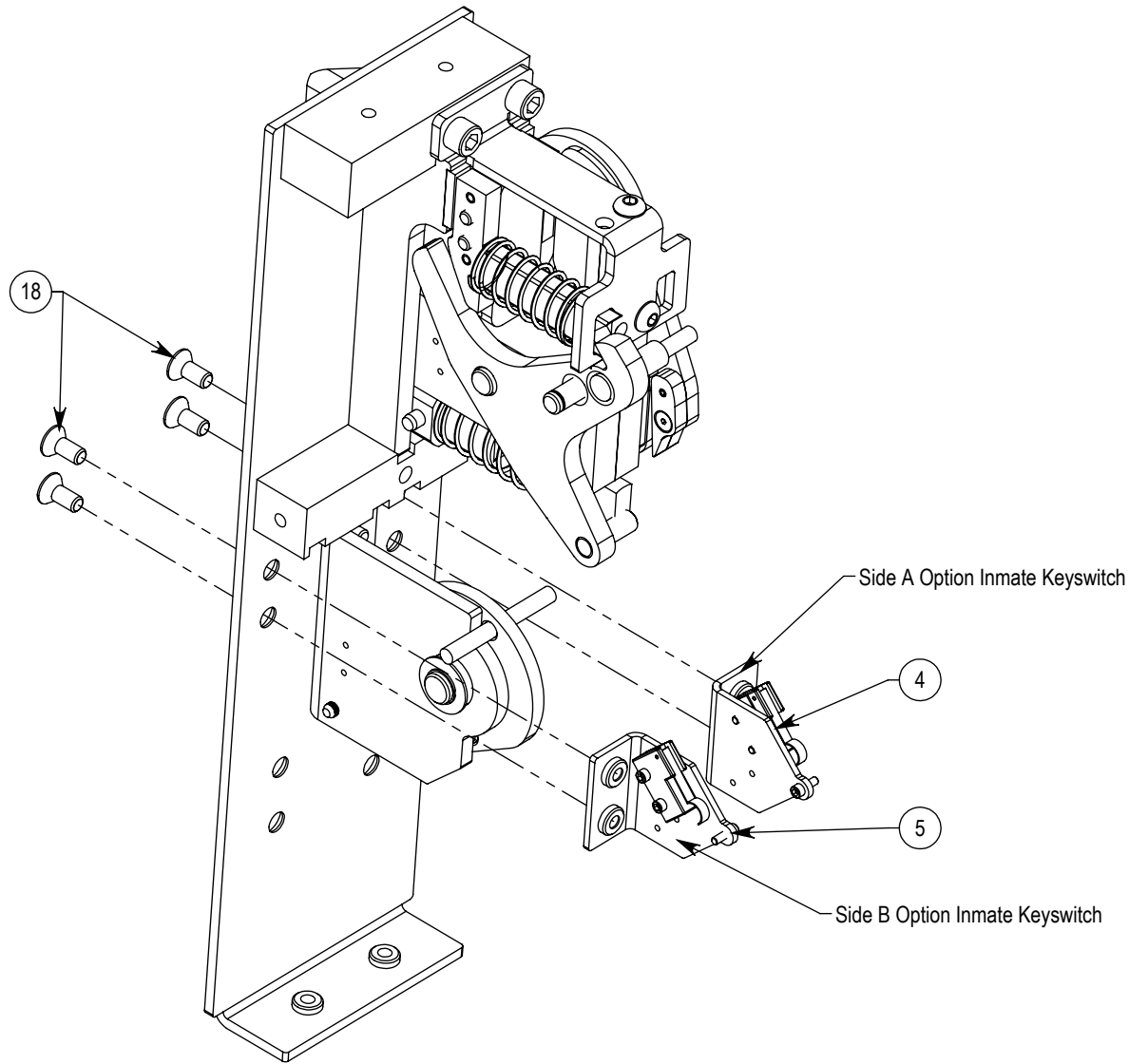


Mogul Wheel Assembly (146-9712-331X) Attachment, See drawing 146-9712-331X for configurations of Mogul Wheel Assembly for given lock functions (Key Switch, KLHB, ELHB and combinations)

	DATE	NAME	AIR/TEQ
DRAWN	7/26/11	RLP	
CHECKED			
TITLE:			
9712 SOLENOID LOCK			
Mogul Wheel Assembly Attachment			
FINISH:	SIZE	DWG. NO.	REV
NONE (SEE REFERENCED PARTS)	A	9712	B
SCALE: 1:2			SHEET 2 OF 7

Left Hand Lock Inmate Keying Installation Shown, Right Hand Lock Assembly is Identical

REVISIONS				
ECN #	REV.	DESCRIPTION	DATE	APPROV.
	A	Lock Updated Per In House Million Cycle Test	5/31/10	
	B	ASTM 1,000,000 Cycle RELEASE	7/26/11	

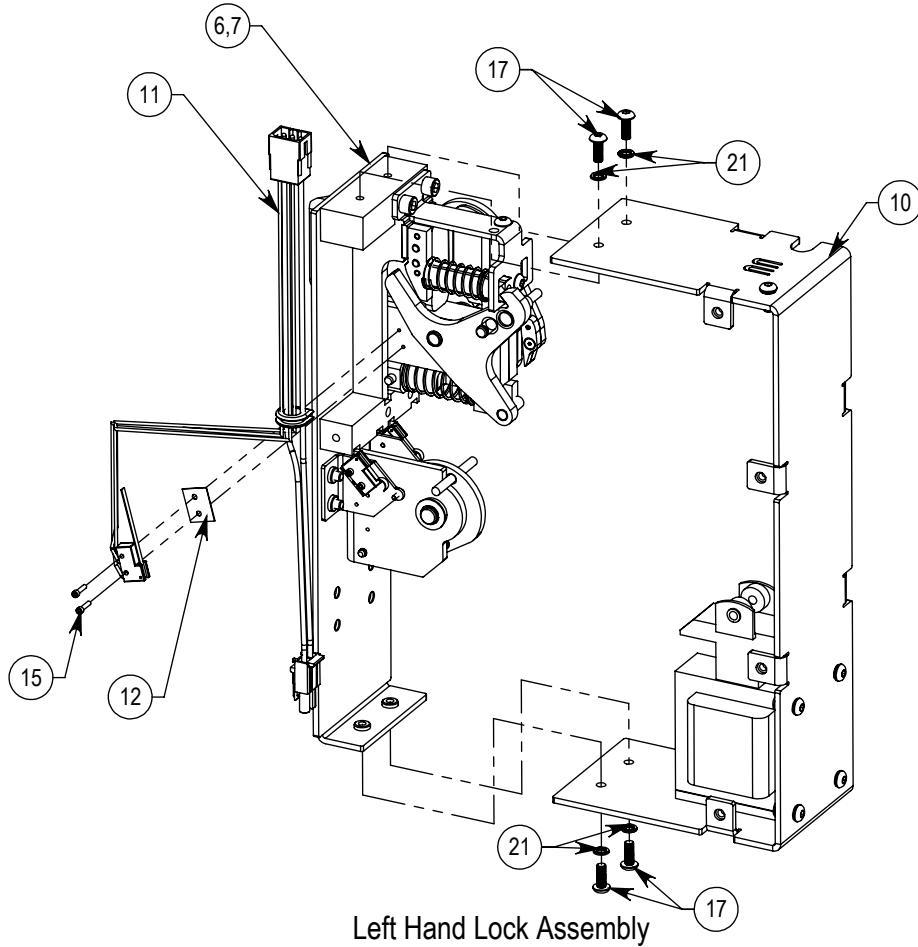


See 146-9712-340A or B for Inmate Keying sub assembly detail

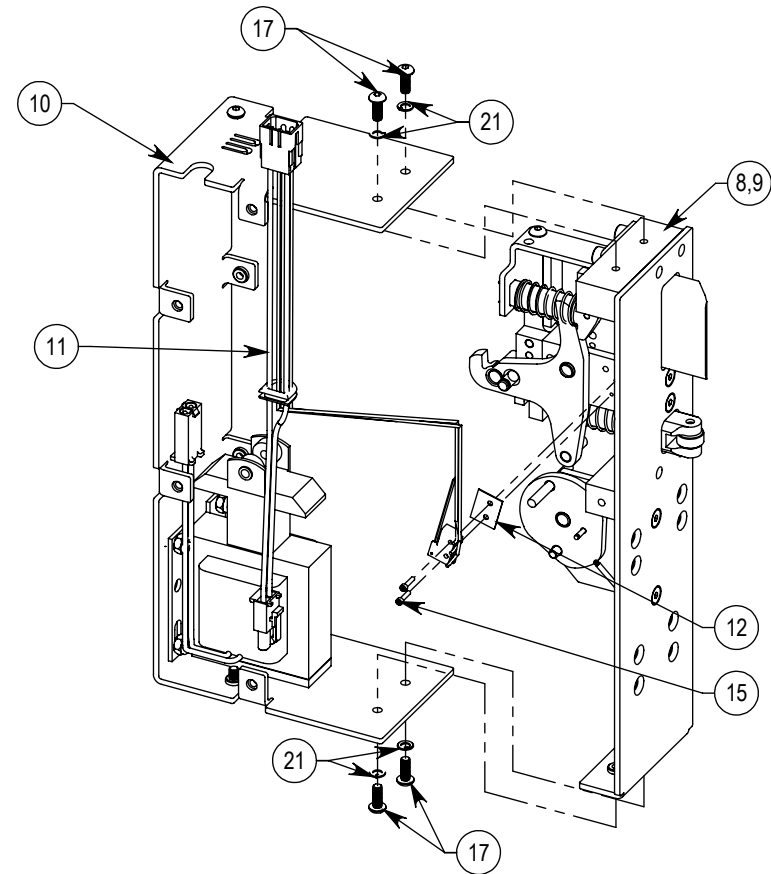
	DATE	NAME	AIR/TEQ
DRAWN	7/26/11	RLP	
CHECKED			
TITLE:			
9712 Solenoid Lock Inmate Keyswitch Assembly Installation			
FINISH: None (See Referenced Parts)	SIZE A	DWG. NO. 9712	REV B
SCALE: 1:2			SHEET 3 OF 7

Rear Housing Installation

REVISIONS				
ECN #	REV.	DESCRIPTION	DATE	APPROV.
	A	Lock Updated Per In House Million Cycle Test	5/31/10	
	B	ASTM 1,000,000 Cycle RELEASE	7/26/11	



Left Hand Lock Assembly

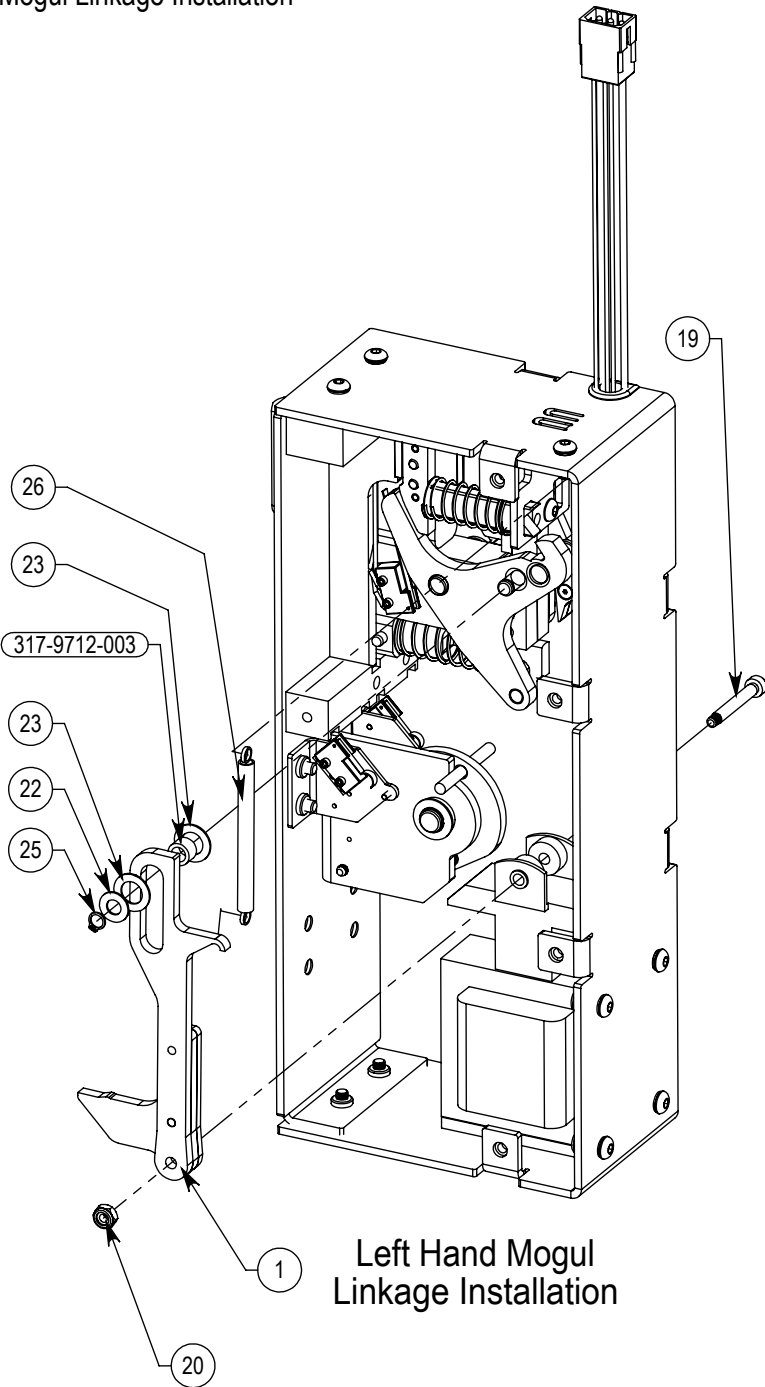


Right Hand Lock Assembly

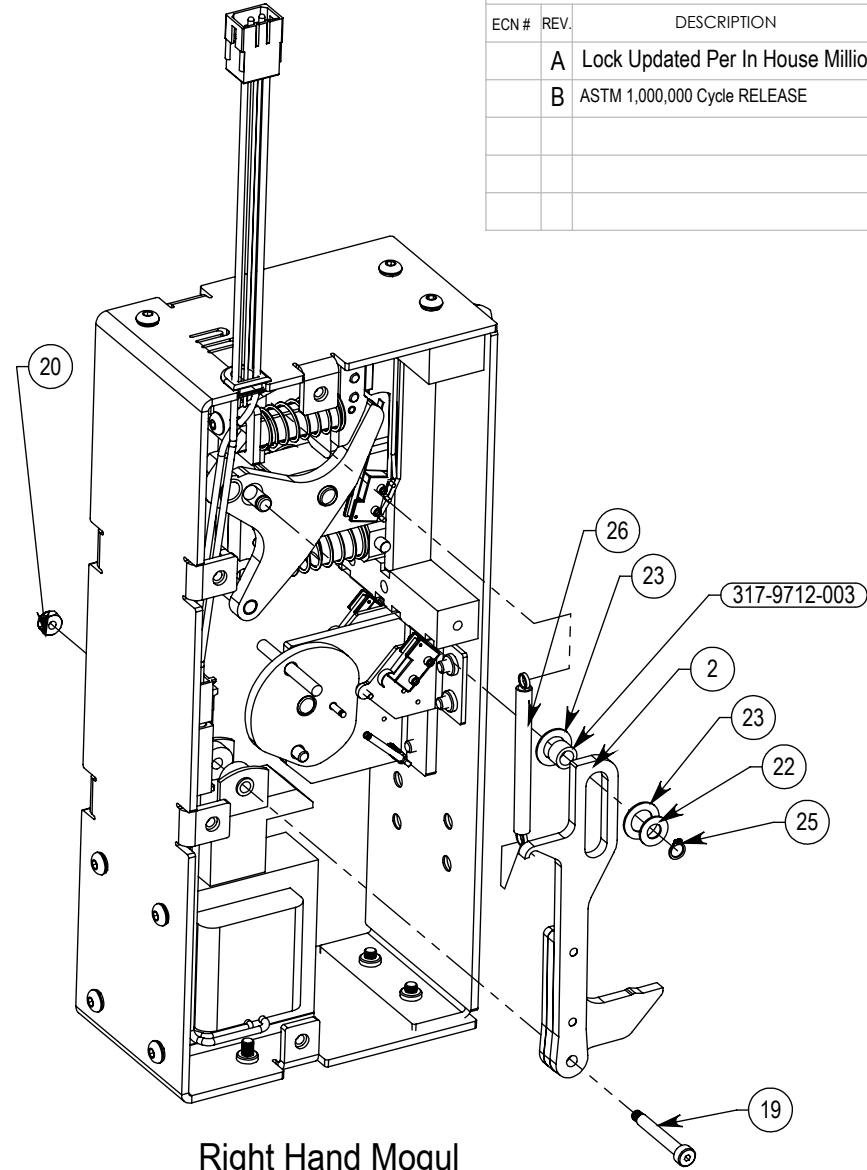
	DATE	NAME	AIR/TEQ
DRAWN	7/26/11	RLP	
CHECKED			
TITLE:			
9712 SOLENOID LOCK Rear Housing Installation			
FINISH: None (See Referenced Parts)	SIZE A	DWG. NO. 9712	REV B
SCALE: 1:4			SHEET 4 OF 7

Mogul Linkage Installation

REVISIONS				
ECN #	REV.	DESCRIPTION	DATE	APPROV.
	A	Lock Updated Per In House Million Cycle Test	5/31/10	
	B	ASTM 1,000,000 Cycle RELEASE	7/26/11	



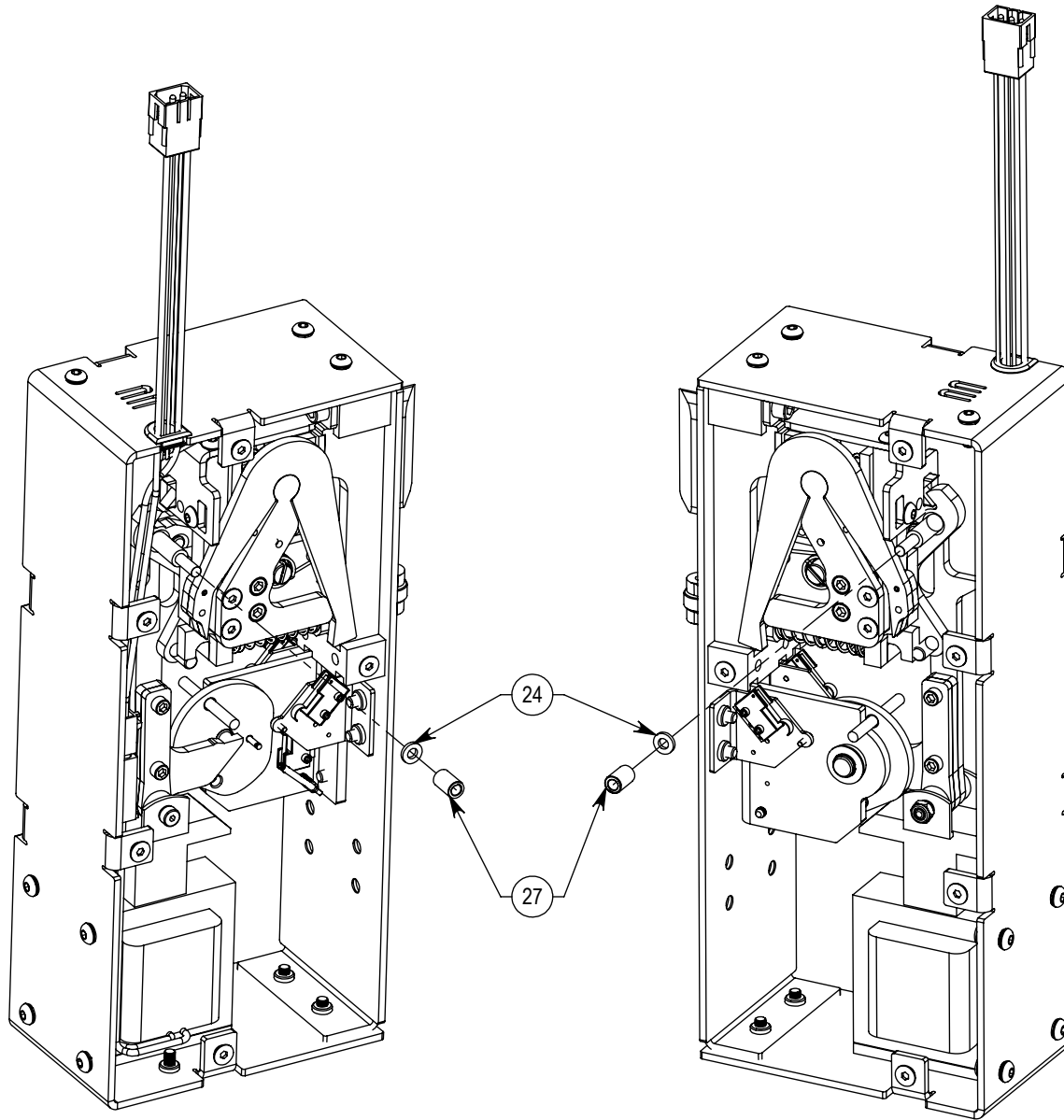
Left Hand Mogul Linkage Installation



Right Hand Mogul Linkage Installation

	DATE	NAME	AIR/TEQ
DRAWN	7/26/11	RLP	
CHECKED			
TITLE:			
9712 SOLENOID LOCK Mogul Linkage Installation			
FINISH: NONE (SEE REFERENCED PARTS)	SIZE A	DWG. NO. 9712	REV B
SCALE: 1:3			SHEET 5 OF 7

This Step Only for Locks with RLB Function



Left Hand Lock RLB

Right Hand Lock RLB

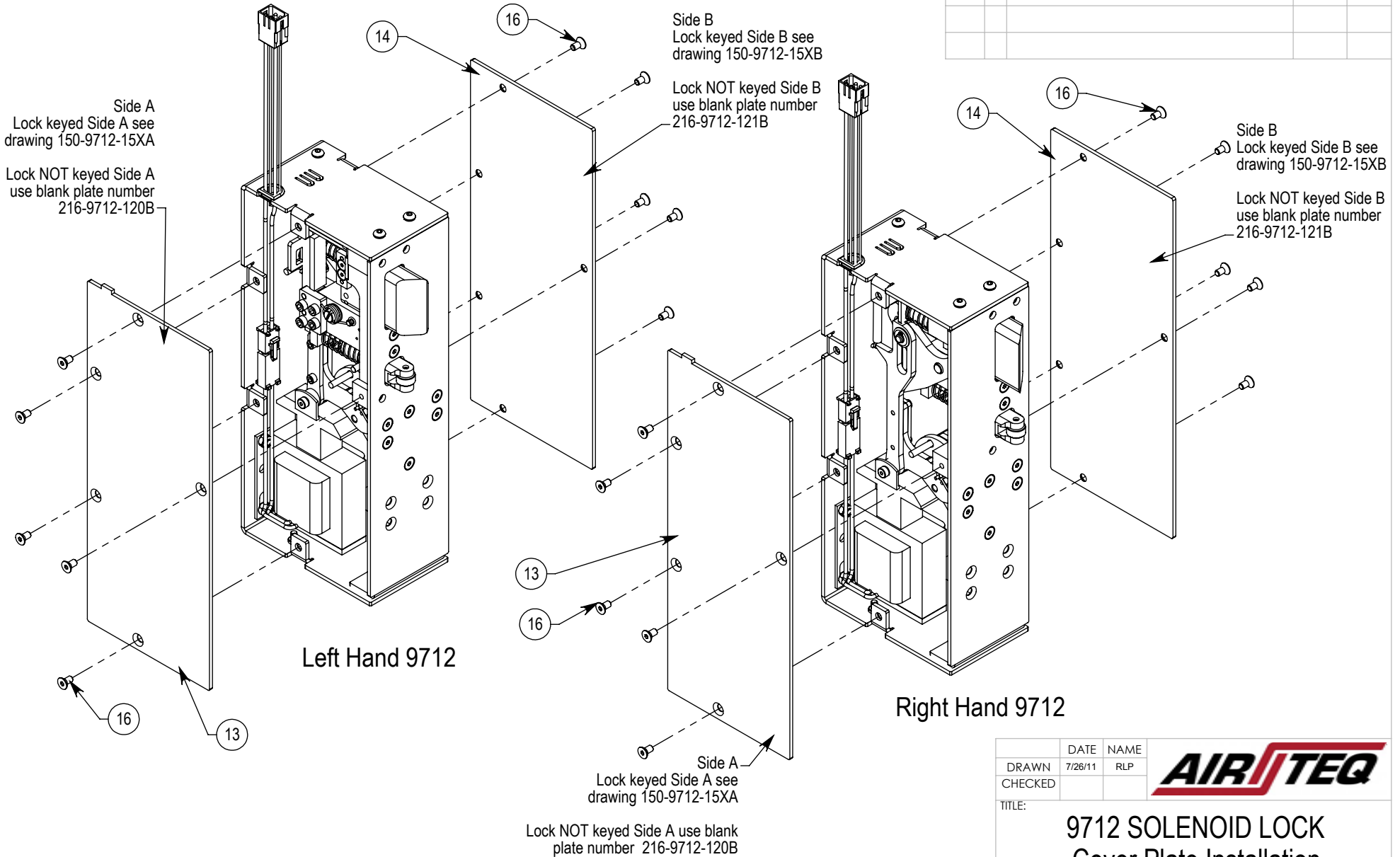
REVISIONS				
ECN #	REV.	DESCRIPTION	DATE	APPROV.
	A	Lock Updated Per In House Million Cycle Test	5/31/10	
	B	ASTM 1,000,000 Cycle RELEASE	7/26/11	

	DATE	NAME	AIR/TEQ
DRAWN	7/26/11	RLP	
CHECKED			
TITLE:			
9712 SOLENOID LOCK			
RLB Final Component Installation			
FINISH: NONE (SEE REFERENCED PARTS)	SIZE A	DWG. NO. 9712	REV B
SCALE: 1:3			SHEET 6 OF 7

See Drawing 150-9712-15XA for cover plate with key cylinder ring for locks keyed side A or 216-9712-120B for blank Side A plate if not keyed on side A

See Drawing 150-9712-15XB for cover plate with key cylinder ring for locks keyed side B or 216-9712-121B for blank Side B plate if not keyed on side B

REVISIONS				
ECN #	REV.	DESCRIPTION	DATE	APPROV.
	A	Lock Updated Per In House Million Cycle Test	5/31/10	
	B	ASTM 1,000,000 Cycle RELEASE	7/26/11	



Note: Side A = Left Hand Hinge Side Cover, Right Hand Stop Side Cover
Side B = Left Hand Stop Side Cover, Right Hand Hinge Side Cover

	DATE	NAME	
DRAWN	7/26/11	RLP	
CHECKED			
TITLE:			
9712 SOLENOID LOCK Cover Plate Installation			
FINISH: NONE (SEE REFERENCED PARTS)	SIZE A	DWG. NO. 9712	REV B
SCALE: 1:3			SHEET 7 OF 7