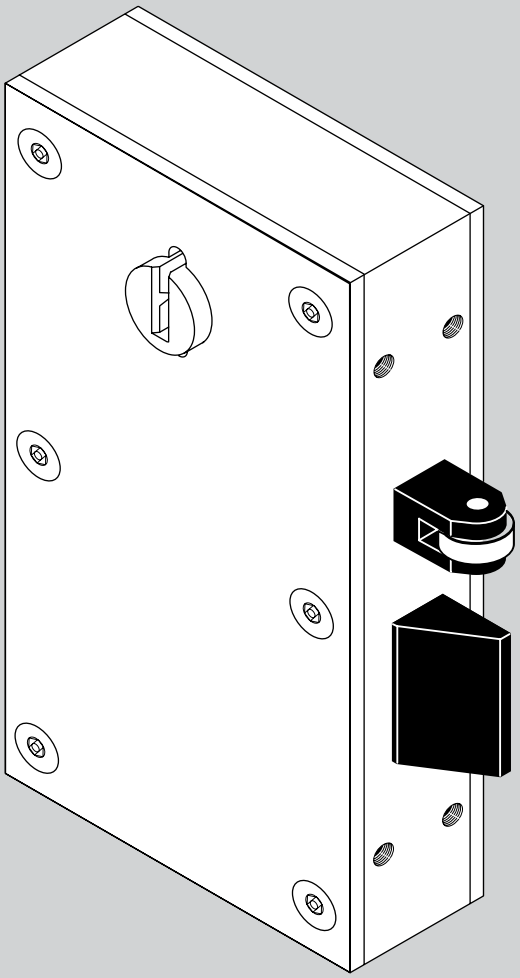
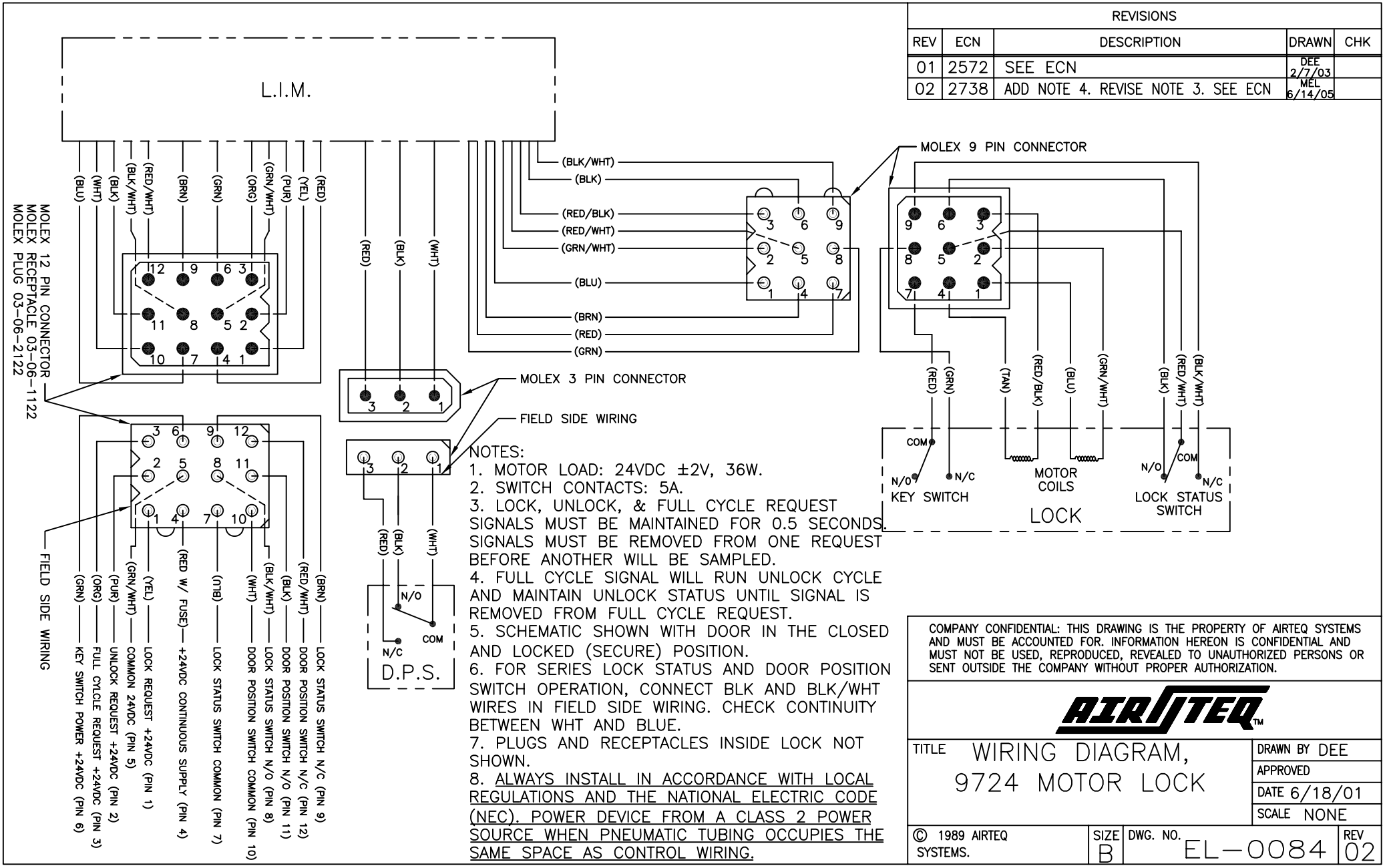
9724 SERIES LOCK
WITH PARACENTRIC KEYING





NOTES:

1. MOTOR LOAD: 24VDC ±2V, 36W.
2. SWITCH CONTACTS: 5A.
3. LOCK, UNLOCK, & FULL CYCLE REQUEST SIGNALS MUST BE MAINTAINED FOR 0.5 SECONDS. SIGNALS MUST BE REMOVED FROM ONE REQUEST BEFORE ANOTHER WILL BE SAMPLED.
4. FULL CYCLE SIGNAL WILL RUN UNLOCK CYCLE AND MAINTAIN UNLOCK STATUS UNTIL SIGNAL IS REMOVED FROM FULL CYCLE REQUEST.
5. SCHEMATIC SHOWN WITH DOOR IN THE CLOSED AND LOCKED (SECURE) POSITION.
6. FOR SERIES LOCK STATUS AND DOOR POSITION SWITCH OPERATION, CONNECT BLK AND BLK/WHT WIRES IN FIELD SIDE WIRING. CHECK CONTINUITY BETWEEN WHT AND BLUE.
7. PLUGS AND RECEPTACLES INSIDE LOCK NOT SHOWN.
8. 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
01	2572	SEE ECN	DEE 2/7/03	
02	2738	ADD NOTE 4. REVISE NOTE 3. SEE ECN	MEL 6/14/05	

AIRTEQ™

TITLE WIRING DIAGRAM, 9724 MOTOR LOCK

DRAWN BY DEE
APPROVED
DATE 6/18/01
SCALE NONE

SIZE B | DWG. NO. EL-0084 | REV 02

9724 SERIES MOTOR LOCK, W/PARACENTRIC KEYING PARTS LIST

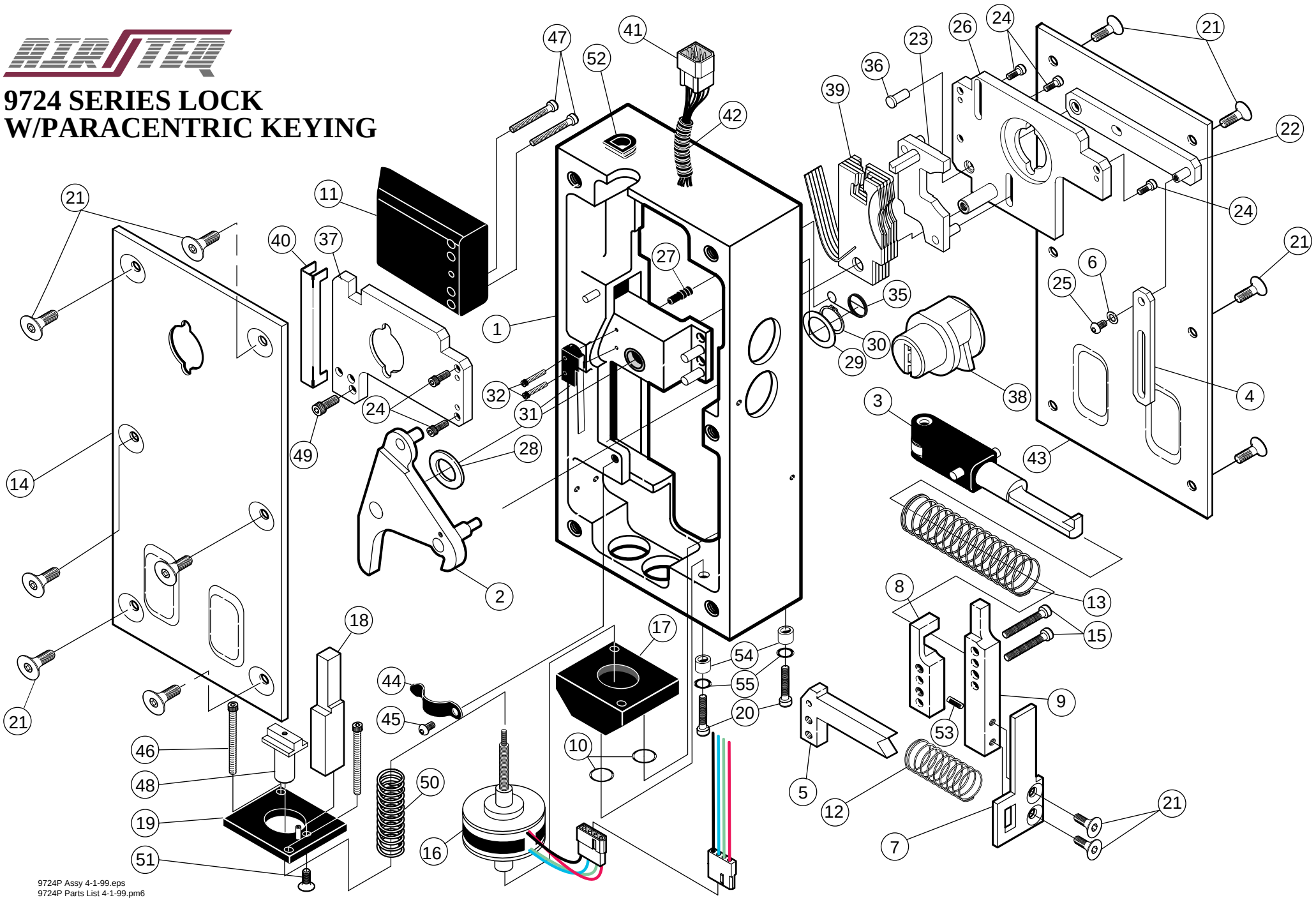
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	146-9700-072	ASSY, LOCK BODY, PARACENTRIC
2	1	146-9700-107	ASSY, ACTUATOR CAM
3	1	146-9700-040	ASSY, ROLLER BOLT
4	1	216-9700-227	PULL LINK
5	1	146-9700-045	ASSY, GUIDE BAR
6	1	313-0000-092	WASHER, #6, TYPE A, PLAIN
7	1	216-9700-211	EXTENDED BOLT GUIDE
8	1	216-9700-142	DEADBOLT SUPPORT BAR, FRONT
9	1	216-9700-141	DEADBOLT SUPPORT BAR, REAR
10	2	313-0000-081	O-RING, 2-011
11	1	216-9700-122	LATCHBOLT
12	1	315-0000-015	SPRING, LATCHBOLT
13	1	315-0000-016	SPRING, DEADLATCH
14**	1	216-9700-XXX	COVER PLATE, PARACENTRIC
15	2	310-1032-007	SCREW, SHCS, 10-32 X 1
16	1	340-0000-234	STEPPER MOTOR
17	1	216-9724-004	MOTOR MOUNT, LOWER
18	2	216-9724-006	REAR GUIDE
19	1	146-9724-000	ASSY, MOTOR MOUNT, UPPER
20	1	310-1032-019	SCREW, FH SOC., 10-32 X 5/8
21	14	310-0000-009	SCREW, FH SOC., 10-32 X 1/2
22	1	146-9700-074	ASSY, PIVOT LINK
23	1	146-9700-075	SLIDE WELDMENT
24	5	310-0832-009	SCREW, SHCS, 8-32 X 1/2
25	1	310-0632-003	SCREW, BH SOC., 6-32 X 3/8
26	1	146-9700-073	ASSY, CYL. SUPPORT PLATE, LINKAGE SIDE
27	1	216-9700-276	ANCHOR PIN, TORSION SPRING
28	1	313-0000-077	WASHER, NYLON
29	1	313-0000-070	WASHER, STEEL
30	1	315-0000-013	RETAINING RING
31	1	160-9700-007	ASSY, LOCK STATUS SWITCH
32	2	310-0000-014	SCREW, SHCS, 2-56 X 3/8
35	1	315-0000-036	TORSION SPRING, ACTUATOR CAM
36	1	216-9700-233	PIN
37	1	216-9700-229	CYL. SUPPORT PLATE, CAM SIDE
38	1	216-5010-001	CYLINDER, KEYED RIGHT SIDE (SHOWN) 5 TUMBLER
38	1	216-0082-278	(OR) CYLINDER, KEYED LEFT SIDE 5 TUMBLER
38	1	216-5010-002	(OR) CYLINDER, KEYED BOTH SIDES 5 TUMBLER
	1	216-5010-103	(OR) CYLINDER, KEYED ONE SIDE 6 TUMBLER
	1	216-5010-104	(OR) CYLINDER, KEYED BOTH SIDES 6 TUMBLER
39	1	449-5010-000	5 TUMBLER KIT
	1	449-5010-001	(OR) 6 TUMBLER KIT

ITEM	QTY	PART NUMBER	DESCRIPTION
40	1	216-9600-108	WIRE COVER
41	1	SEE WIRING DIAGRAM	ASSY, 9 PIN MOLEX CONNECTOR
42	1	340-0000-205	SPLIT LOOM, 6"
43**	1	216-9700-XXX	COVER PLATE, BLANK (SHOWN)
44	1	319-0000-058	TENSION CLIP
45	1	310-0832-016	SCREW, BH SOC., 8-32 X 1/4
46	2	310-1032-023	SCREW, SHCS, 10-32 X 1 3/4
47	2	310-0832-018	SCREW, SHCS, 8-32 X 1
48	1	146-9724-001	ASSY, MOTOR SHAFT BLOCK
49	1	310-1032-021	SCREW, SHCS, 10-32 X 1/2
50	1	315-0000-058	SPRING, MOTOR ASSIST
51	1	310-0632-009	SCREW, FH SOC., 6-32 X 3/8
52	1	319-0000-077	GROMMET
53	1	310-1032-014	SET SCREW, 10-32 X 1/4

* NOT USED ON ALL MODELS.

** PART VARIES DEPENDING UPON MOUNTING APPLICATION.

9724 SERIES LOCK
W/PARACENTRIC KEYING



9724P Assy 4-1-99.eps
9724P Parts List 4-1-99.pm6

9724P SERIES LOCK
RECOMMENDED SPARE PARTS LIST

PART NUMBER	DESCRIPTION
160-9724-000	MOTOR ASSY, 9724
315-0000-058	SPRING, MOTOR ASSIST
315-0000-015	SPRING, LATCHBOLT
315-0000-016	SPRING, DEADLATCH
216-9700-271	TORSION SPRING, ACTUATOR CAM
160-9400-012*	ASSY, KEY SWITCH
160-9700-007	ASSY, LOCK STATUS SWITCH
340-0000-209	TERMINAL, MALE
125-0000-097 (97-230-0)	L.I.M. MODULE W/RLB
or	
125-0000-097 (97-230-1)	L.I.M. MODULE WO/RLB

*** NOT USED ON ALL MODELS**

LOCK MAINTENANCE INFORMATION

ELECTRO-MECHANICAL LOCKING DEVICES

A. Lubrication and cleaning

1. Each lock is well lubricated at the time of assembly. However, all lubricants deteriorate eventually and need replacing on a regularly scheduled basis in order to prevent equipment failure. Airteq Systems recommends cleaning and lubricating each type of lock according to the following instructions approximately every (2) years. (Yearly for locks in high use areas).

9424 SERIES LOCK:

Remove the side cover plate and lubricate the angled ramp surface on the sideplate that the deadlatch bolt dowel pin rides against. Lubricate the stop side of the deadlatch bolt (back side). When replacing the side cover, hold the bolt slightly retracted by rotating and holding the manual release mechanism gear with one finger. This insures that the deadlatch limit switch operating lever will not be trapped between the cover and the actuator plate. The lower lock mechanism should be checked and cleaned once a year (or more often if if special conditions exist) for accumulated dirt and other debris that would interfere with proper operation. Lubrication of upper lock mechanism is not necessary nor recommended.

9624 SERIES LOCK:

Remove the slide cover. Remove the housing cover. Remove the slide assembly. Clean and re-lubricate the slide with a thin coating of recommended lubricant on the following surfaces:

a.) The 45º angled surface that contacts the deadbolt.
b.) The flat "shelf" that lifts the back of the latchbolt.
c.) The two small areas where the slide contacts the back wall of the slide cavity.
d.) The edges of the two "rails" which contact the side of the right side cover.
e.) The front and rear faces of the slide which contact the slide cavity walls.

When replacing the slide assembly, hold the latchbolt retracted into the lock housing while inserting the slide assembly near the top of the cavity so that it drops in above the lock status switch lever arm and not on top of it. Replace the housing cover and slide cover and fasten securely.Lubrication of the upper lock mechanism is not necessary nor recommended.

9724 SERIES LOCK:

Remove one side cover plate and lubricate the deadbolt shaft and cam surface. Lubricate the latchbolt shaft and the stop sides of both bolts.

9724P SERIES LOCK: (PARACENTRIC KEYING)

Remove one side cover plate and lubricate the deadbolt shaft and cam surface. Lubricate the latchbolt shaft and the stop sides of both bolts.

KEYS AND LEVER TUMBLERS:

1) Key wear can cause improper operation of the lock and may damage the lock's lever tumblers. Keys in constant use should be periodically compared to a similar new key. When grooves due to wear are noted in the steps on the key bit, the old key should be replaced.

2) When rekeying is performed, new tumbler stacks should be purchased as a set including a new key. This enables Airteq to maintain complete keying records.

WARNING:

1) Never use WD40 or similar silicone based lubricants.

2) Never use graphite powder as a lubricant.

3) Never lubricate the lever tumblers.

ALL LOCKS:

Lubricate the beveled surfaces of all lock bolts with stick lubricant as required.

2. RECOMMENDED LUBRICANTS:

Multipurpose teflon based grease: Lubricate internal moving parts with SYNCO SUPER LUBE WITH TEFLON or equivalent.

Stick lubricant: Lubricate the beveled surfaces of all latch bolts and strikes with stick lubricant as required. Use PANEF WHITE STICK LUBRICANT WITH SILICONE or equivalent.

B. Electrical:

1. The electrical system of this lock is operated on regulated 24VDC (± 2 V) current. Any other voltage or current condition is not acceptable.

TROUBLESHOOTING
9424, 9524, 9624 AND 9724 LOCKS

If the lock is not working properly, the following chart may be used as a guide to locate and correct the problem.

Because the lock receives its signal from the electronic control system, a thorough check of the control system should be conducted. Using a volt/ohm meter known to be accurate, verify the correct power signal input at the appropriate connector pin. If the proper electronic signal is not evident, begin checking " upstream " from the connector. If the electronic signal input is correct, the problem is within the locking device, use the following chart to locate and correct the problem.

The recommended voltage at the lock is 24 VDC ±2V. If the correct voltage is not evident, begin checking "upstream" from the lock. If the voltage is correct, the problem is within the locking device or it's logic interface module, use the following chart to locate and correct the problem.

PROBLEM	CHECK
LATCHBOLT WILL NOT RETRACT	*MECHANICAL INTERFERENCE *POWER INPUT TO L.I.M. (12pin connector) (24 VDC should be momentarily present on pin 2 at the initiation of an unlock request, momentarily present on pin 3 at the initation of a full cycle request and constantly present on pin 4.) *BROKEN OR LOOSE WIRING *IF CORRECT VOLTAGE IS PRESENT ON REQUIRED PINS AND LOCK DOES NOT FUNCTION, LOGIC INTERFACE MODULE OR MOTOR MAY BE FAULTY. *FAULTY KEY SWITCH
LATCHBOLT WILL NOT EXTEND	*MECHANICAL INTERFERENCE *POWER INPUT TO L.I.M. (12pin connector) (24 VDC should be momentarily present on pin 1 at the initiation of an lock request, momentarily present on pin 3 at the initiation of a full cycle request and constantly present on pin 4.) *BROKEN OR LOOSE WIRING *IF CORRECT VOLTAGE IS PRESENT ON REQUIRED PINS AND LOCK DOES NOT FUNCTION, LOGIC INTERFACE MODULE OR MOTOR MAY BE FAULTY. *FAULTY KEY SWITCH
LOCK RETRACTS BUT WITH LOW STALL FORCE	*BAD CONNECTION TO ONE MOTOR COIL. *LOW VOLTAGE. (Required voltage is 24 VDC ±2V)
MANUAL OVERRIDE NOT WORKING PROPERLY	*MECHANICAL INTERFERENCE *PROPER ENGAGEMENT OF KEY CYLINDER CAM IN LOCK
DOOR POSITION SIGNAL NOT GIVEN	*BROKEN OR LOOSE WIRING (SEE WIRING DIAGRAM)
LATCHBOLT POSITION SIGNAL NOT GIVEN	*BROKEN OR LOOSE WIRING (SEE WIRING DIAGRAM)