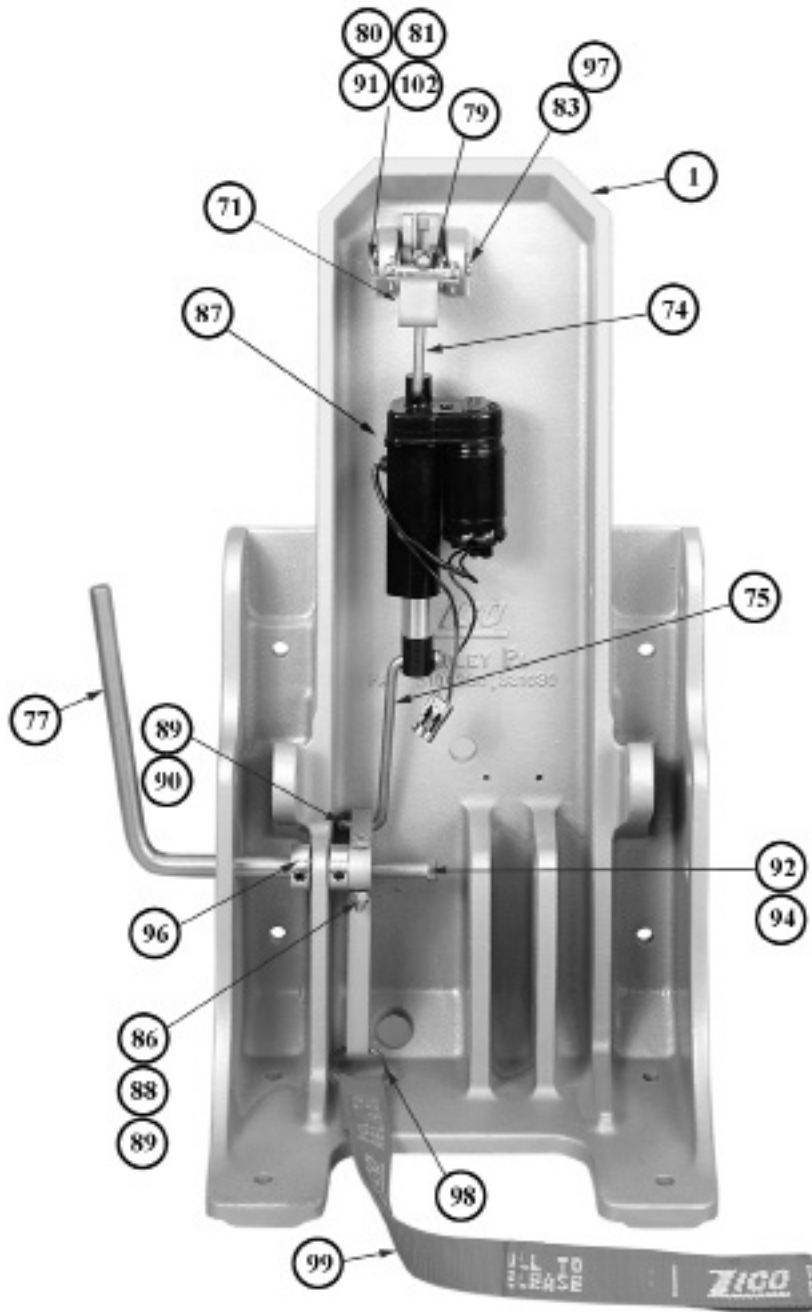


**QUIC-LIFT™ LADDER ACCESS SYSTEM (LAS)
ELECTRIC LOCKING SYSTEM
FIELD INSTALLATION GUIDE**



**Model LLAS-ELS shown for use with LAS Systems
Model LLAS-BHM-ELS is used with LAS-BHM Systems**

QUIC-LIFT™ Ladder Access Systems are available with either a manual or electric locking system. This guide covers installation of the electric system.

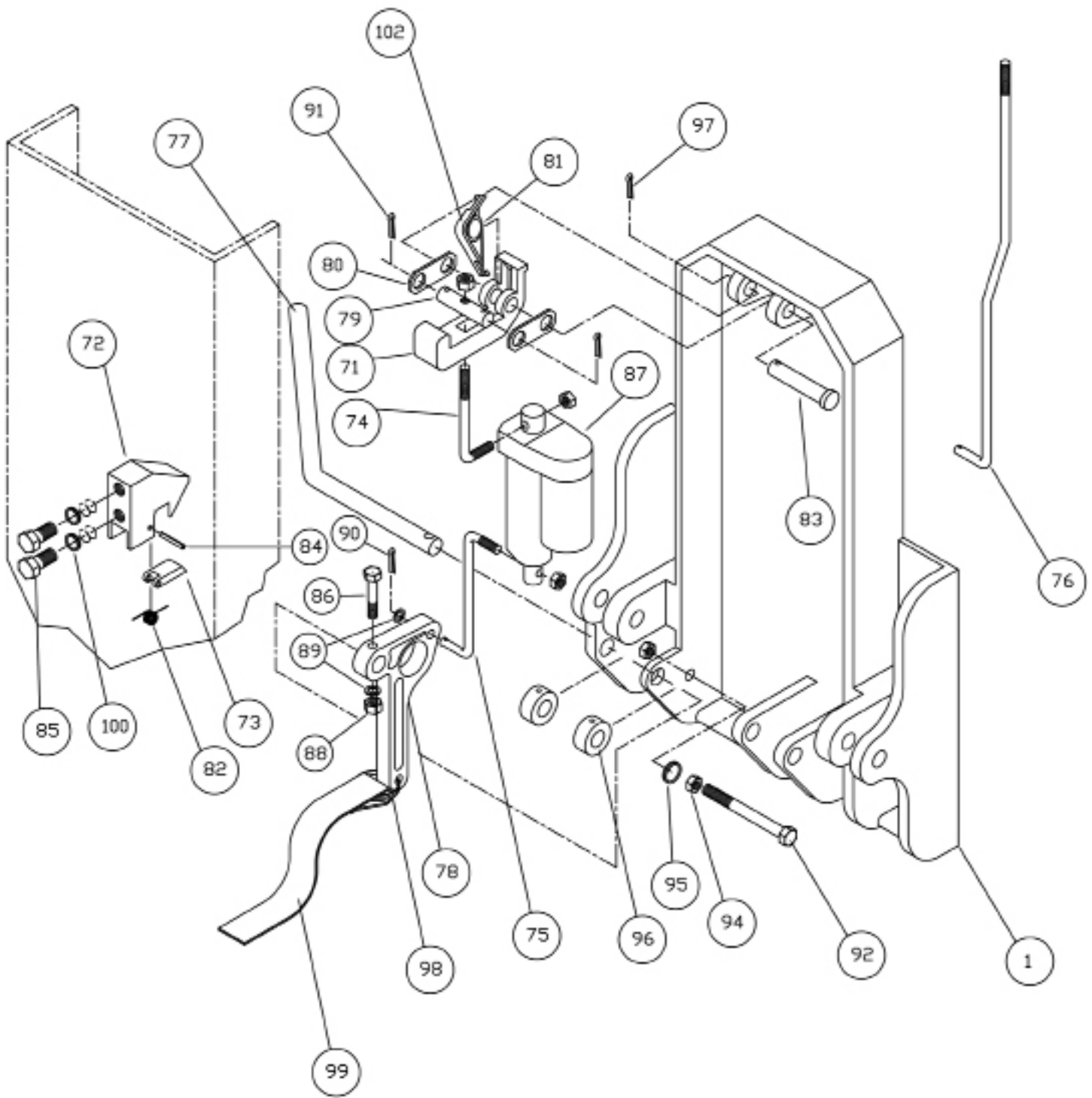
The standard model LAS base casting was changed on march 23, 1998.

The model LAS-BHM Bulk Head base casting was changed September 16, 1998.

If your system predates the above dates, new base castings will be required for installation of the electric locking system.

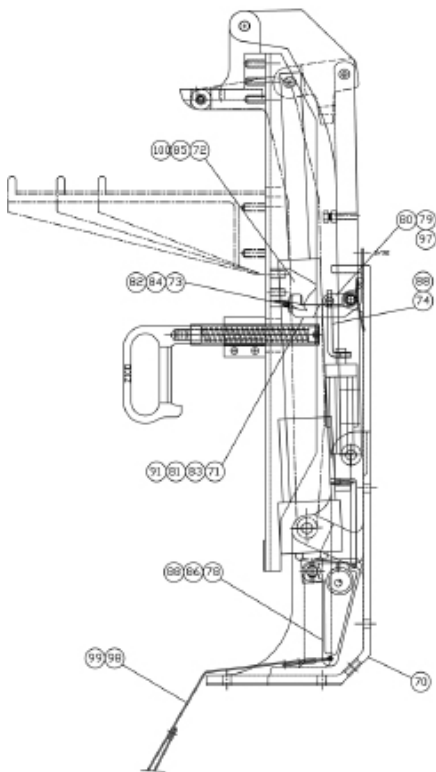
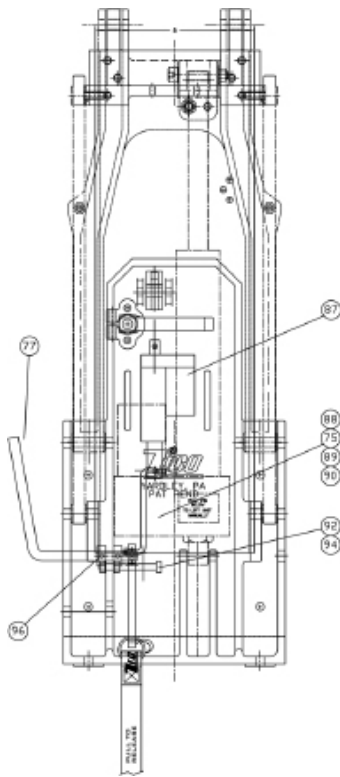
The electric locking system provides a positive means of retaining the ladders.

Press down on the operating switch and the small electric actuator opens the locking mechanism. After a momentary delay, the LAS main electric actuator lowers the system.



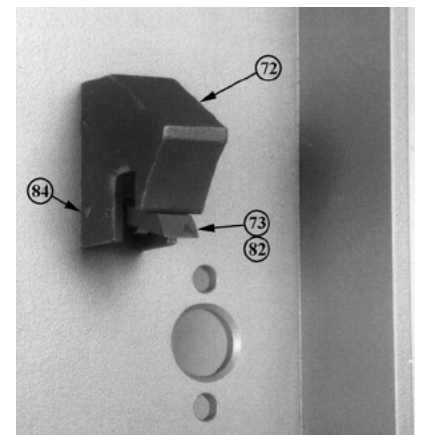
Use eye protection while working with spring (81)
 Use extreme care when loading and unloading spring on tool (102)
 Remove and discard tool after pin (83) is installed

**COMPONENT PARTS FOR MANUAL AND ELECTRIC
 LOCKING SYSTEMS - EXPLODED VIEW**



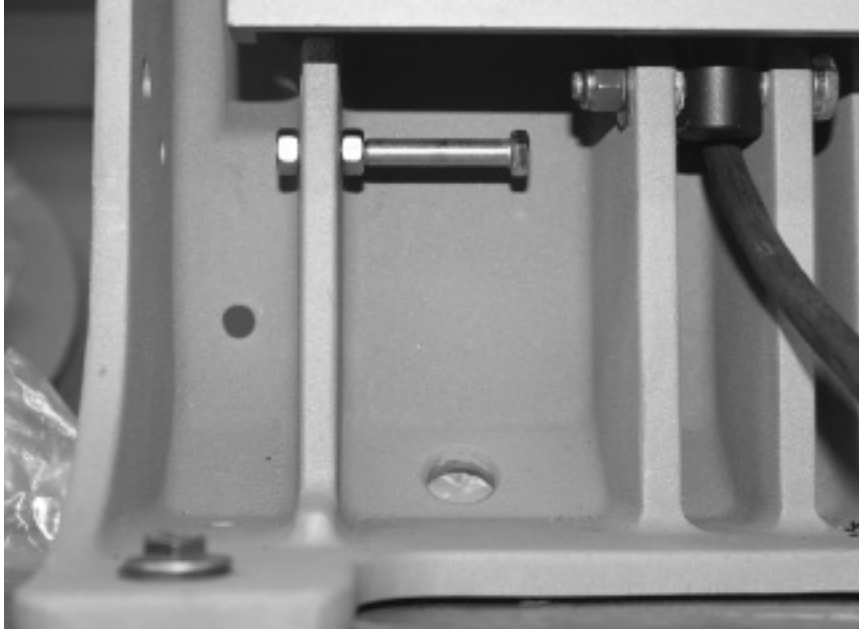
ITEM NO.	PART NO.	DESCRIPTION	QTY.
70	3097-280-101	Base casting for LAS	} 1
	3097-107-101	Base casting for LAS-BHM	
71	3097-280-103	Latch casting	1
72	3097-280-105	Hook casting	1
73	3097-280-107	Latch keeper casting	1
74	3097-285-109	Upper rod	1
75	3097-285-111	Lower road	1
77	3097-280-115	Handle	1
78	3097-280-117	Crank arm	1
79	3097-280-119	Link pin	1
80	3097-280-121	Link plate	2
81	3097-280-123	Latch spring	1
82	3097-280-125	Keeper spring	1
83	9080-004336	Clevis pin - 7/16 x 2-1/4	1
84	9040-101214	Spring pin - 1/8 x 7/8	1
85	9010-163712	Screw, hex head - 3/8-16 x 3/4 S/S	2
86	9010-332522	Screw, allen - 1/4-20 x 1-3/8	1
87	3097-285-135	Electric actuator	1
88	9013-172500	Nut, self-locking - 1/4-20	4
89	9014-112500	Washer, plain - 1/4 ID	4
90	9070-000608	Cotter pin - 1/16 x 1/2	1
91	9070-000912	Cotter pin - 3/32 x 3/4	2
92	9010-103180	Screw - 5/16-18 x 5	1
94	9013-103100	Nut - 5/16-18	2
95	9014-203100	Washer, lock - 5/16 ID	1
96	3097-280-127	Shaft collar - 1/2"	2
97	9070-001212	Cotter pin - 1/8 x 3/4"	1
98	0000-000-120	Key ring - 1"	1
99	3097-280-129	Strap - 1" W x 24" L	1
100	9014-203700	Lockwasher, split - 3/8 ID	2
101	3097-285-200	Control panel assembly (not shown)	1
102	3097-280-131	Spring installation tool	1
103	3097-725-113	Hook spacer	3

Hook Casting and Latch Keeper Assembly attached to channel support 3097-105-154 or 3097-105-155. Parts 72, 73, 82, 84 85 & 100.

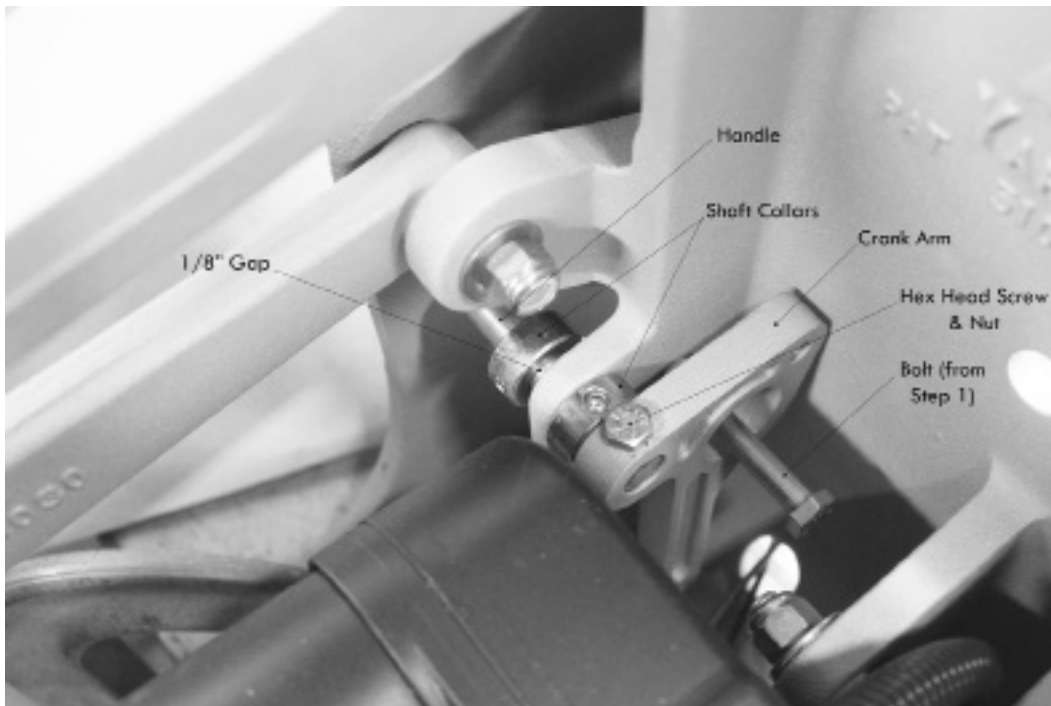


Note: Numbers in parenthesis refer to item numbers (see LAS manual page 34).

1. With ladders removed and system in stored position, install 5-1/16 x 2-3/4 Bolt (92) through LAS Base Casting, then lower system completely.



2. Connect Handle (77) and Crank Arm (78) to LAS Base Casting using two 1/2" Shaft Collars (96), one Hex Head Screw (86), and one 1/4-20 Self-Locking Nut (88). See cover page for additional reference.



3. Build Sub Assembly by combining Link Plate (80) with Link Pin (79) and Cotter Pin (91), then position Sub Assembly to Latch Casting (71).

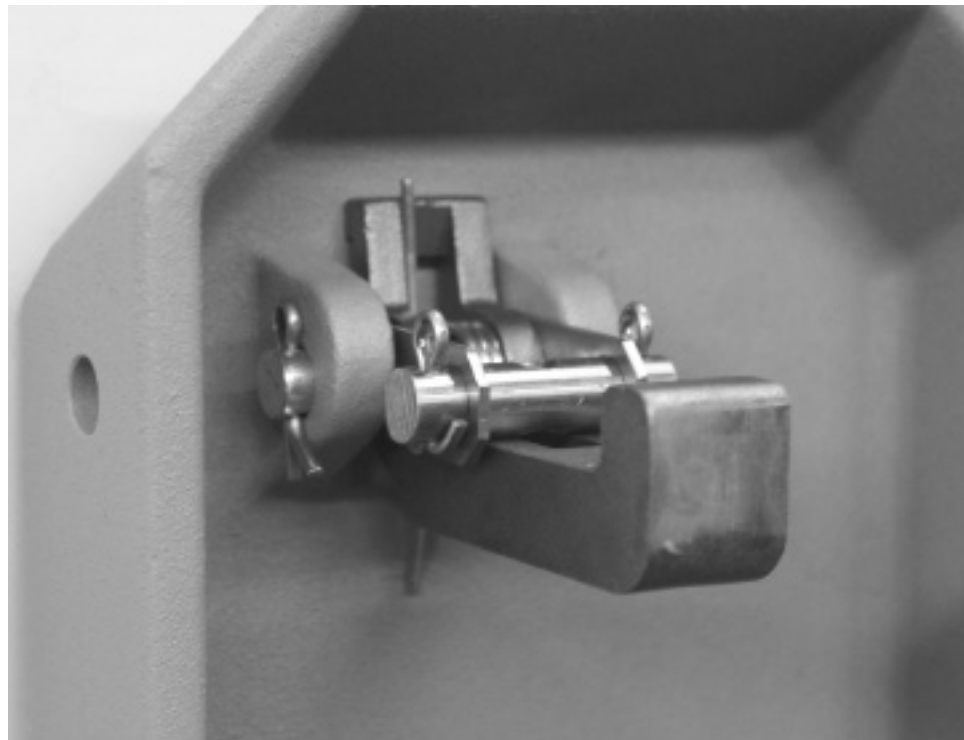
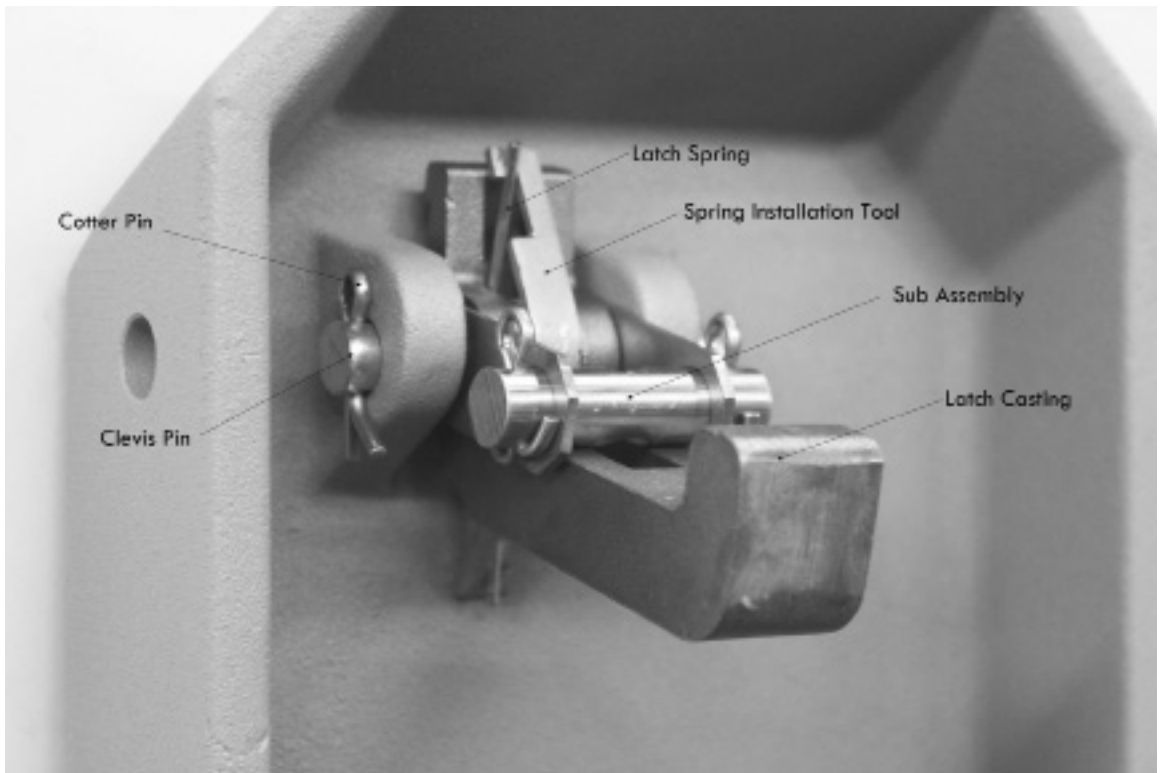


4. Remove shipping ziptie from the Latch Spring (81) and Spring Installation Tool (102).



5. Place Spring Installation Tool (102) with mounted Latch Spring (81), shorter side of spring up, into the Latch Casting as shown. Install Latch Casting with Sub Assembly and Spring Installation Tool into LAS Base Casting using Clevis Pin (83) and Cotter Pin (97). Remove Spring Installation Tool from Latch Spring, leaving Latch Spring in place.



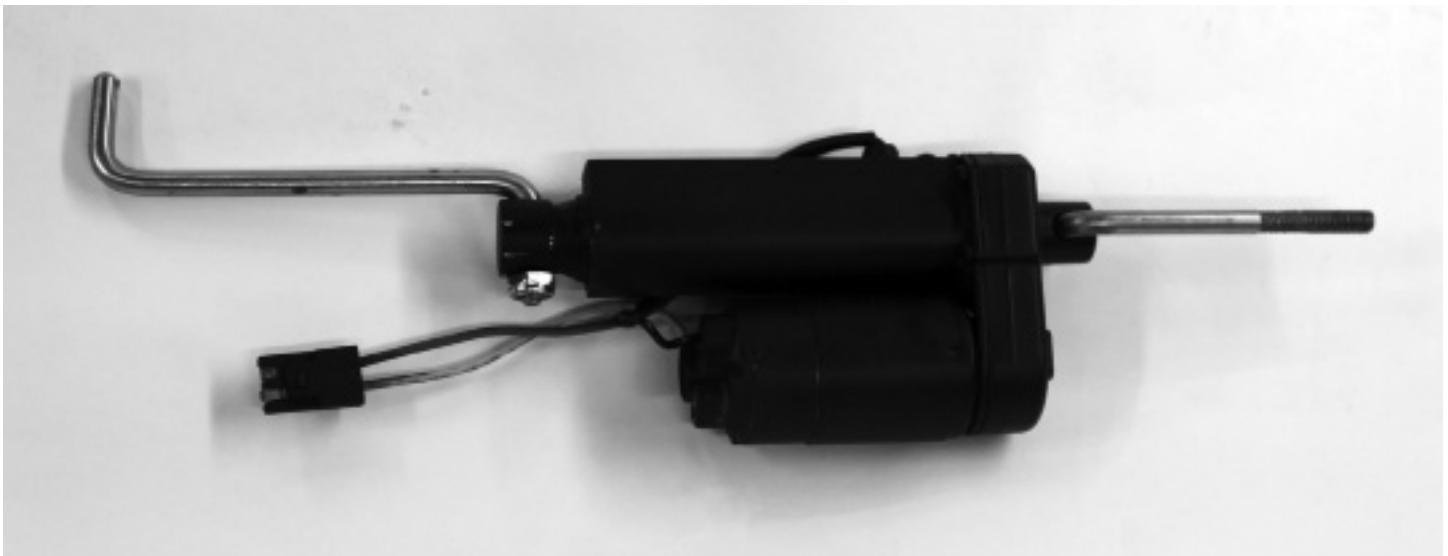
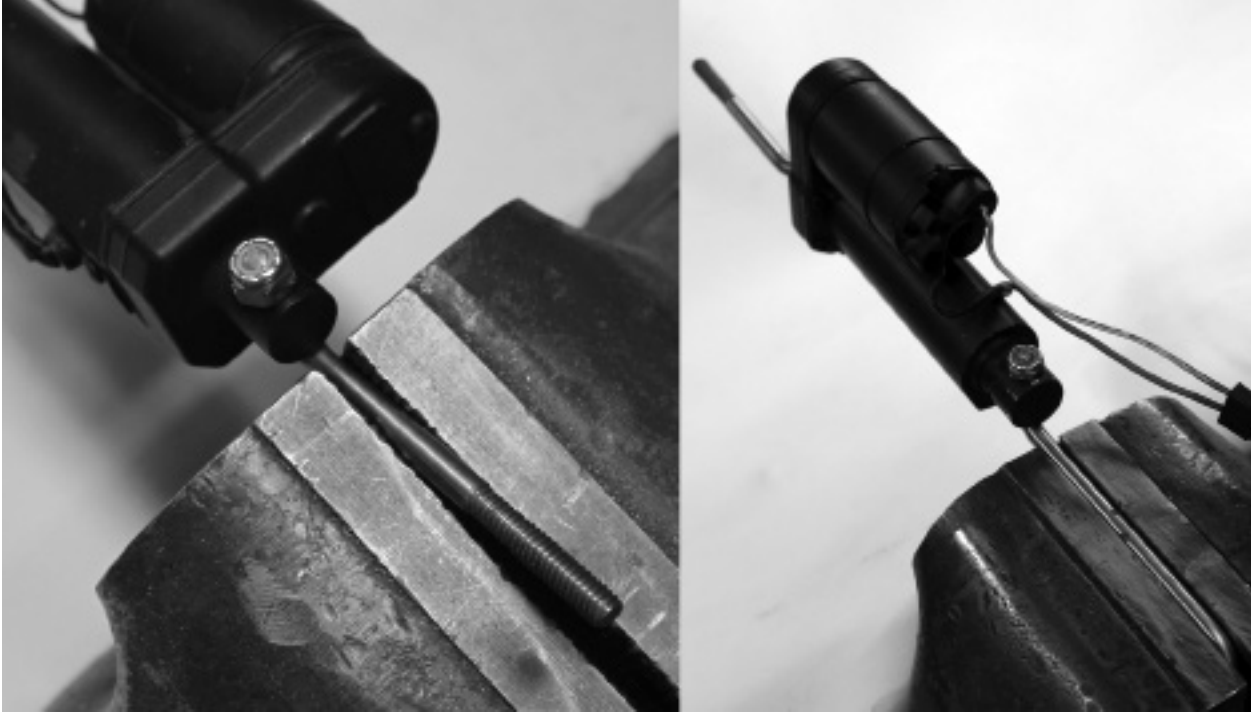


Shown with Spring Installation Tool Removed

6. Prepare Latch Actuators

A. Install Upper Rod (74) into stationary end of Electric Actuator (87).

B. Install Lower Rod (75) into ram end of Electric Actuator (87).



NOTE: Do not place threading in vise.

7. Connect Upper Rod

A. Insert threaded end of Upper Rod (74) up through the slot in the Latch Casting (71) and thread it into the Link Pin (79) until rod extends out 1/4".

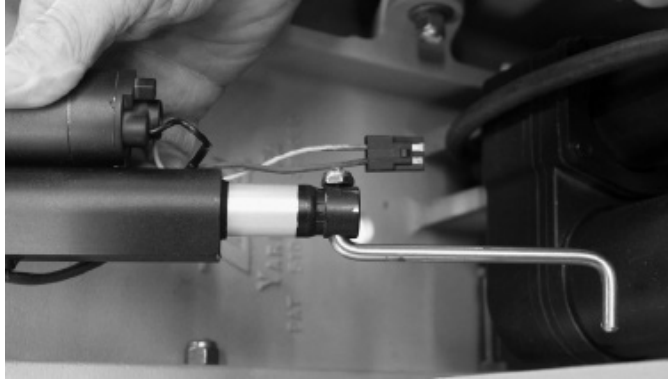


B. Hold Electric Actuator (87) square at base and add Nut (88) to threaded end of Upper Rod (74) through Sub Assembly and tighten.

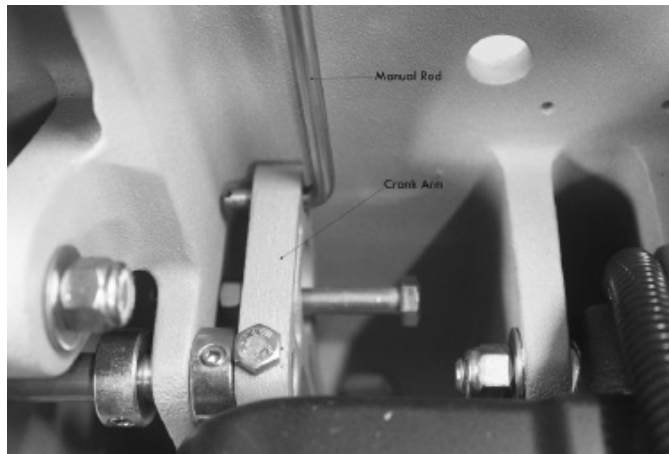


8. Connect Lower Rod

A. Turn ram end of Electric Actuator (87) until ram is fully extended outward 1".



B. Adjust position of Lower Rod (75) until it engages the hole in the Crank Arm (78).



C. Secure Lower Rod (75) to Crank Arm (78) with Washer (89) and Cotter Pin (90).



9. Push Handle and confirm that latch system is operating properly.



Proper Locked Position



Proper Unlocked Position

10. Install the pre-assembled Hook (72) and Latch Keeper (73) castings to the LAS Channel Support with two Hex Head Bolts (85) and two Lock Washers (100), using the holes provided. Apply striker grease to Hook and Latch Keeper.



Inside View



Outside View

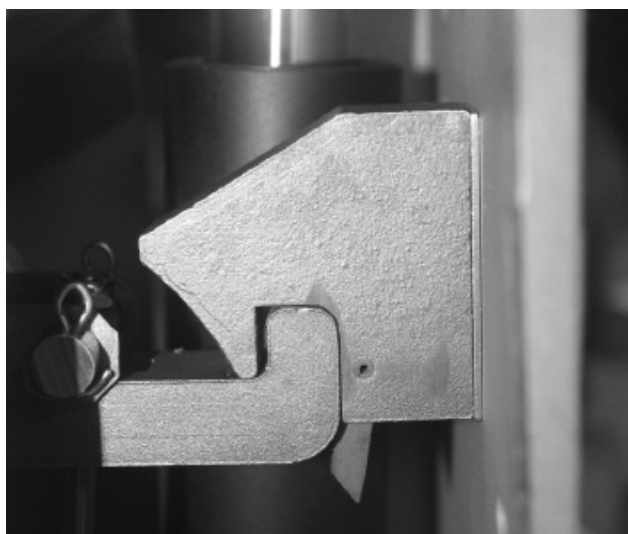
11. Raise LAS system to full "UP" position until actuators ratchet. Looking through the side of the unit, confirm that the Latch Assembly is fully engaging the Hook and Latch Keeper. Lock is properly adjusted if Hook moves towards the Base Casting when lock is unlatched.



Fully Engaged

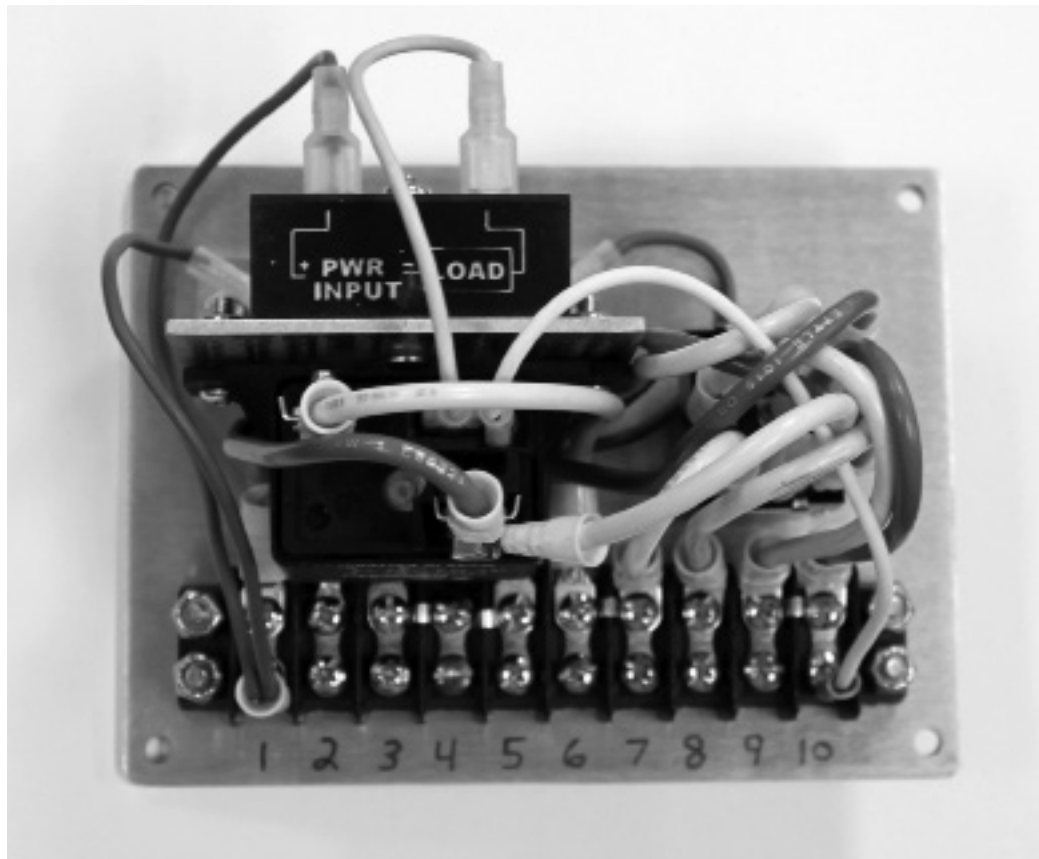
Not Fully Engaged

12. If Hook is not fully engaging, you can add shims under the hook to adjust. Note: If more than one shim is needed, you'll need to use longer bolts with Hook and Latch Keeper Assembly.



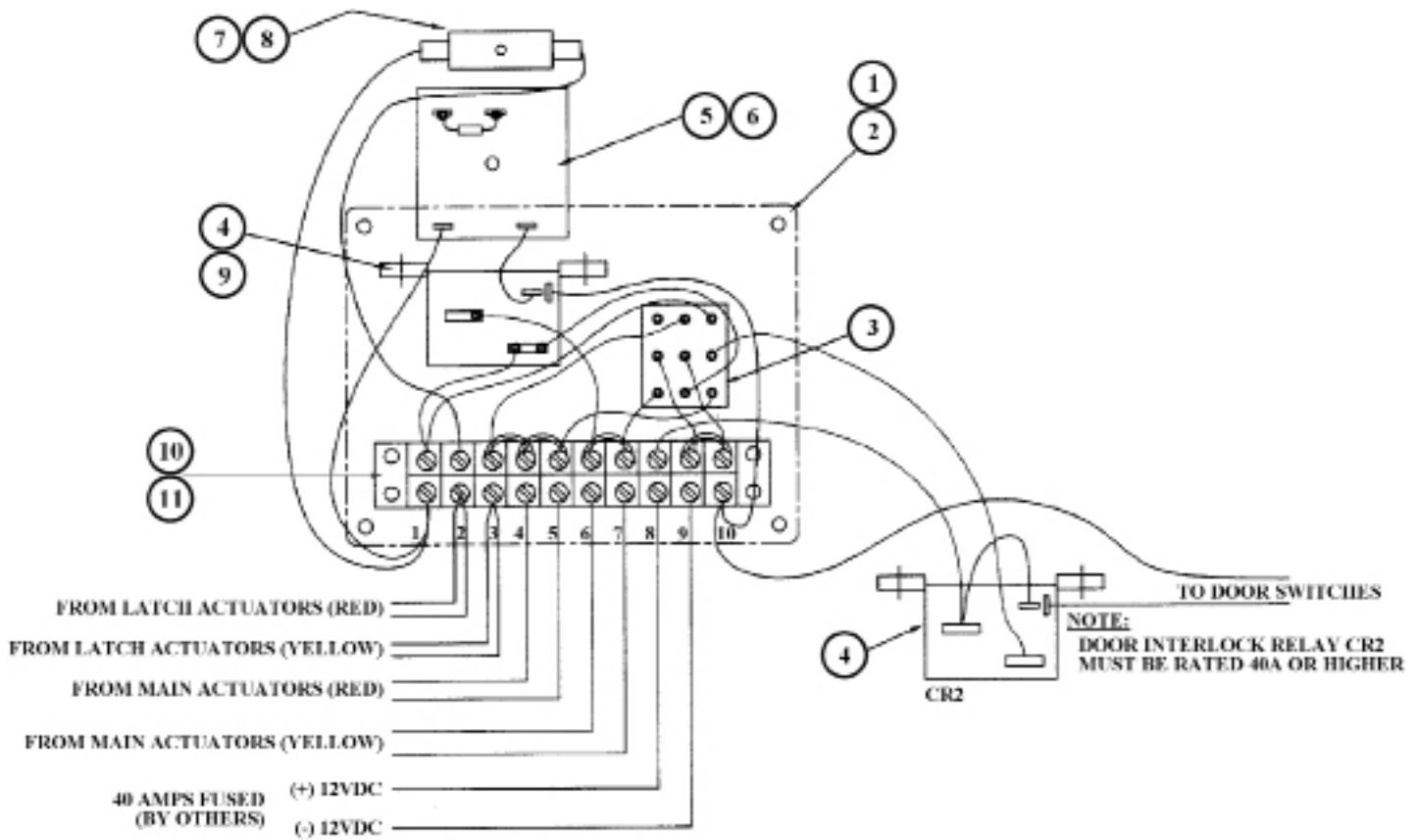
Shown with Shim

13. Manually unlock LAS System and lower to full "DOWN" position.
14. Wire and mount the Ladder Control Circuit and Control Panel (101). See pages 14 & 15.
15. Read and understand the Mode of Operaiton, then complete a test run.



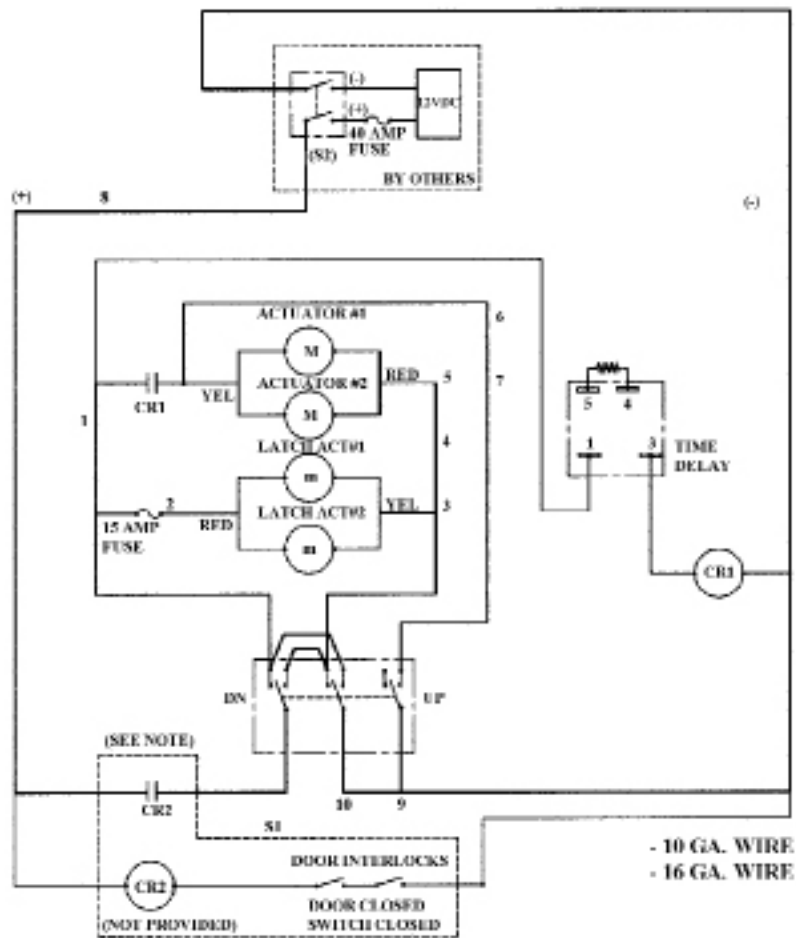
LADDER CONTROL PANEL

Note: Mount Ladder Control with its timer and relay into a waterproof compartment.



ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	3097-285-113	Nameplate (not shown)	1
2	3097-285-115	Mounting Plate	1
3	3097-285-117	Switch, 3P2T MOM	1
3B	3097-105-145	Boot, Toggle Switch	1
4	3097-285-119	Relay	1
5	3097-285-121	Timer	1
6	3097-285-123	Resister	1
7	3097-285-125	Fuseholder	1
8	3097-285-127	Fuse, 1/4ø x 1-1/4, 15 Amp	1
9	3097-285-129	Sub-Plate	1
10	3097-285-131	Terminal Block, 10 POS	1
11	3097-285-133	Jumper, Term	4

WIRING FOR LLAS-ELS ELECTRIC LOCKING SYSTEM (SHOWING DOOR INTERLOCKS)



WIRING SCHEMATIC FOR LLAS-ELS ELECTRIC LOCKING SYSTEM (SHOWING DOOR INTERLOCKS)

Mode of Operation

- Turn on power to LAS unit - S2 (by others)
- Close all interlocked doors. (Device will not operate or will stop anytime an interlock is broken.)

Down Mode

- Actuate switch and hold in the down position - (S1).
- the latch actuator will start to unlock the latch, there will be a one (1) second delay after the latch actuator stops to ensure complete latch dis-engagement.
- Ladders will start to move down.
- At full down position release the switch.

Up Mode

- Actuate the switch and hold in the up position (S1).
- Both the lock actuator and main actuators will extend simultaneously.
- Hold the switch until both units have reached full up position (you'll hear ratcheting sound).

In the event the small electric actuator fails to operate, the lock may be de-activated by pulling outward on the strap (99) or pushing back on the handle (77).

NOTE: Relay CR2 for door interlock must be rated 40A or higher.



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