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EXCERPTED FROM:

Operation and Maintenance Manual for the Internal Locking Device, August 2006, Revised August 2018

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## 5-1.1 ILD ON LOCKING BOLTWORKS

### 5-1.1.1 ILD ON LOCKING BOLTWORKS

This section describes the removal and installation of the ILD on both the swinging and sliding door boltworks for either replacement or maintenance.

### 5-2.1.1 ILD ON LOCKING BOLTWORKS

#### 5-2.1.1.1 Tools

- a) 3/16" hex key wrench (T-handle or L) 3" minimum length
- b) 5/16" hex key wrench (T-handle or L)
- c) 1-7/16" open end or combination wrench (alternate; 1-7/16" socket wrench)
- d) 1-1/2" open end or combination wrench
- e) Thread anti-seize compound
- f) Transparent tape (1/4" wide x 1.0" long strips, Qty 2)

#### 5-2.2.1 ILD ON LOCKING BOLTWORKS

**Step 1:** Place ILD and locking bolt in the **Initial Position**.

**Step 2:** Remove upper support guide by unscrewing the 3/8"-16UNC x 1.00" long socket head cap screw using a 5/16" hex key wrench (see Figure 5-1). Set aside support guide, screw, and lock washer hardware for reassembly.



Figure 5-1: ILD ON LOCKING BOLTWORKS

**Step 3:** Remove the 1.00"-8UNC nylon locking nut that connects the steel lock bolt to the aluminum cam driver using a 1-1/2" open end wrench on the bolt head and a 1-7/16" open end wrench on the nut (see Figure 5-2).



**Figure 5-2. Removal of Cam Driver Nut**

**Step 4:** Remove cam driver bolt, thrust bearings and washers. Note the orientation of thrust bearings and washers for reassembly (see Figure 5-3). Remove the 1.00" thick steel lock bolt and set aside all hardware for reassembly.



**Figure 5-3. Disassembly of Bolt, Thrust Bearings, and Washers**

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**Step 5:** Place the ILD into the “**locked**” position. Remove ILD handle by unscrewing the 1/4"-20UNC x 1.25" socket head cap screw using a 3/16" hex key wrench (see Figure 5-4).



**Figure 5-4. Removal of ILD handle**

**Step 6:** Remove the bottom support bar. Remove ILD from its mounting surface by unscrewing the four (4) each 1/4"-20UNC x 2.00" socket head cap screws using a 3/16" hex key wrench (Figure 5-5). While removing the ILD, take care to not lose the wave spring located between the ILD shutter plate and the ILD mounting surface. The aluminum cam driver may be removed, if necessary, at this time by removing the spiral retaining ring. Note the orientation of cam driver, if removed, for reassembly.



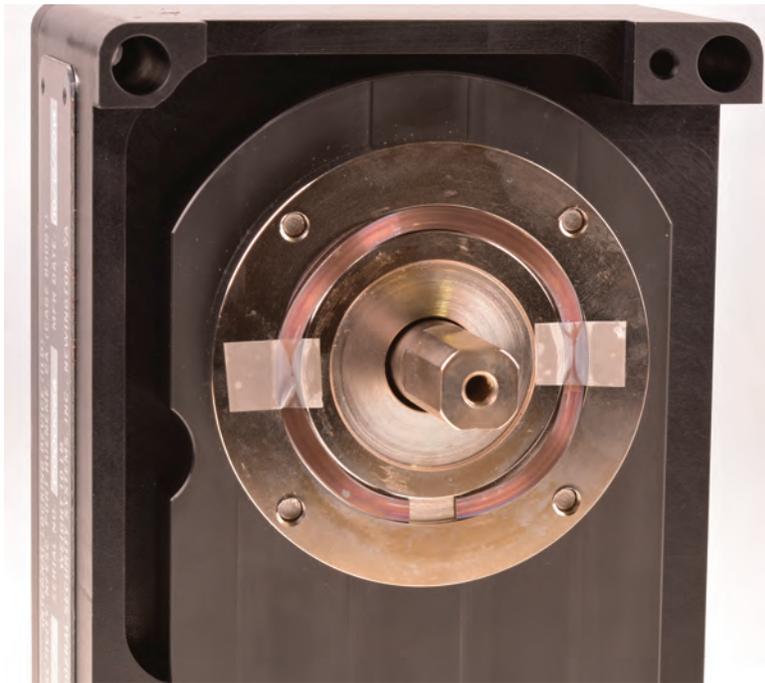
**Figure 5-5. Removal of ILD Mounting Screws**

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## 5-2H ILD Installation

Ú 1 Á 1 4 Clean ILD mounting surface before re-installing ILD. Install the wave spring on the ILD shutter plate with the ears of the spring positioned against the shutter plate and secure it in place with two (2) strips of transparent tape as shown in Figure 5-6. If installing a new ILD the wave spring should already be secured.

NOTE: The new ILD comes with a high security cylinder installed (or 2 cylinders if it is a dual key ILD). The new lock has an operator's key pre-installed in a key guide protector and a back-up key is included in the hardware package. Be sure to note the new cylinder and key serial numbers in your records.



**Figure 5-6. Installation of ILD Shutter Plate Wave Spring**

Step 8: Installation of the ILD is the reverse of Steps 1 through 5, and the following steps: 1) the ILD should be mounted to the boltwork mounting plate in the “locked” position and cycled to the “un-locked” positions at least three times to ensure the ILD is operating properly before proceeding with final installation of the boltwork parts. 2) Take care when tightening the 1.00"-8UNC nylon locking nut. The nut should be tightened so that clearance remains between all moving parts. If over tightened, the mechanism will bind. 3) Anti-seize compound should be applied to threads of all screws during reassembly. Do not over tighten screws. The recommended torque for ¼" ILD mounting screws is 8-10 ft-lbs, using a torque wrench is not mandatory.

4) Tighten the detent (Figure 5-7) so the cam driver bolt barely “hangs up” on the detent when the lock bolt is cycled. The reassembled ILD boltwork is shown in Figure 5-8.



: ][ i fY'5!7" Locking Bolt Detent



: ][ i fY'5-8" FYUggYa V'YX'Sk ]b[ ]b[ 'Dccf'Bc`fk cf\_`

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5-3'            =@ 'F9ACJ5 @5 B8 'BGH5 @5 HCB'fG@8 -B; '8CCF'6C@HKCF?L'

5-3.1            Hcc`g`UbX'Gi dd`jYg'FYei jfYX'

- a) 3/16" hex key wrench (T-handle or L) 6" minimum length
- b) 5/8" and/or 3/4" socket and socket wrench with 3" long extension
- c) Thread anti-seize compound
- d) Transparent tape (1/4" wide x 1.0" long strips, Qty 2)

Configurations of sliding door boltworks and associated hardware vary slightly depending on size of magazine door. The following procedures apply to all sliding door boltworks.

5-3.2''            =@ 'FYa cj U'

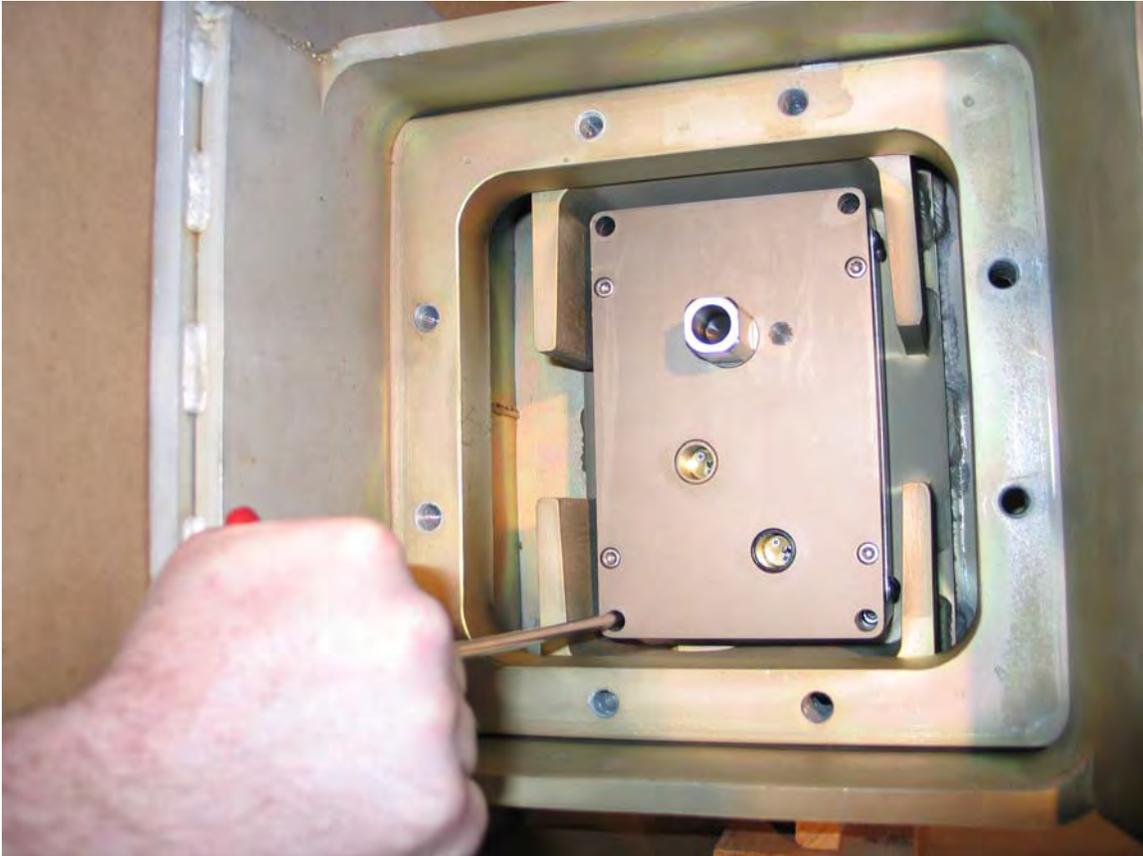
Step 1: Place ILD and locking bolt in the "locked" position. Remove the 7/16" bolts (using 5/8" socket) or 1/2" bolts (using 3/4" socket) securing the T-bolt plate to the enclosure/weldment. Remove boltplate by grasping locking T-bolt and pulling plate out of enclosure (see Figure 5-9).



: ][ i fY5!9'' 'FYa cj U'cZT-Vc`hP`UH'

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**Step 2:** Remove the ILD from the enclosure/weldment, by unscrewing the four (4) 1/4"-20UNC x 2.00" socket head cap screws using a 3/16" hex wrench, (Figure 5-10). While removing the ILD lock take care to not lose the wave spring positioned between the ILD shutter plate and the ILD mounting surface.

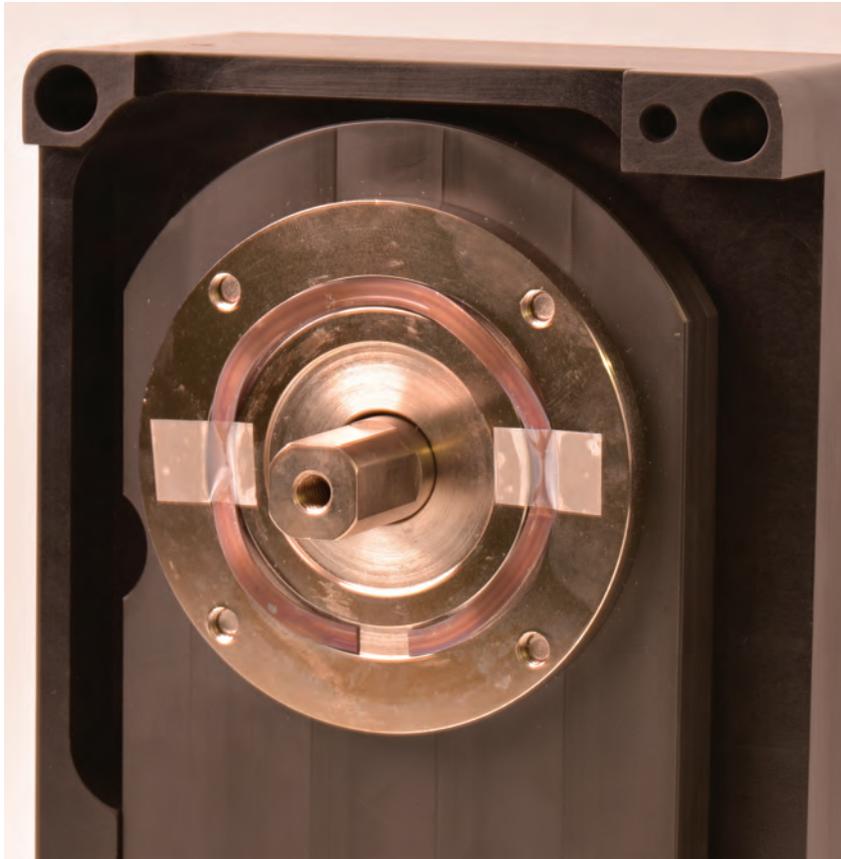


: ][ i fY5!%0" FYa cj U`cZ=@ Mci bh]b[ `SWYk g`

### 5-3.3 `=@ `bhU`U]cb`

**Step 3:** Clean ILD mounting surface before re-installing ILD. Install the wave spring on the ILD shutter plate with the ears of the spring positioned against the shutter plate and secure it in place with (2) strips of transparent tape as shown in Figure 5-11. If installing a new ILD the wave spring should already be secured.

**NOTE:** The new ILD comes with a high security cylinder installed (or 2 cylinders if it is a dual key ILD). The new lock has an operator's key pre-installed in a key guide and a back-up key is included in the hardware package. Be sure to note the new cylinder and key serial numbers in your records.



: ][ i fY 5!%4 " -bgHJ`Ujcb`cZ=@`S\ i Hhf`P`UH`WUj Y`Sdf]b[ `

**Step 4:** Installing the ILD is the reverse of steps 1 and 2, and the following steps:  
1) ILD must be mounted to the boltwork mounting plate in the “locked” position and cycled from “locked” to “un-locked” positions at least three times to ensure the ILD is operating properly before proceeding with final installation of the boltwork parts.  
2) With the ILD in the “locked” position, re-install the T-bolt plate on to enclosure/ weldment with the T-bolt in the “locked” position as shown in Figure 5-12. 3) Before installing the T-bolt plate securing bolts, apply anti-seize compound to the threads of all the bolts, install and tighten to 35 ft.lbs. for 7/16 bolts and 50 ft.lbs. for 1/2” bolts. Use of a torque wrench is not mandatory. Figure 5-13 shows the face of reassembled sliding door boltwork in locked position.



: [[ i fY'5!%2"FYUggYa V'YX'Surface Mount S`X]b[ 'Dccf'Bc`fk cf\_`



: [[ i fY'5!%3"FYUggYa V'YX'S`X]b[ 'Dccf'Bc`fk cf\_ in Locked Position`

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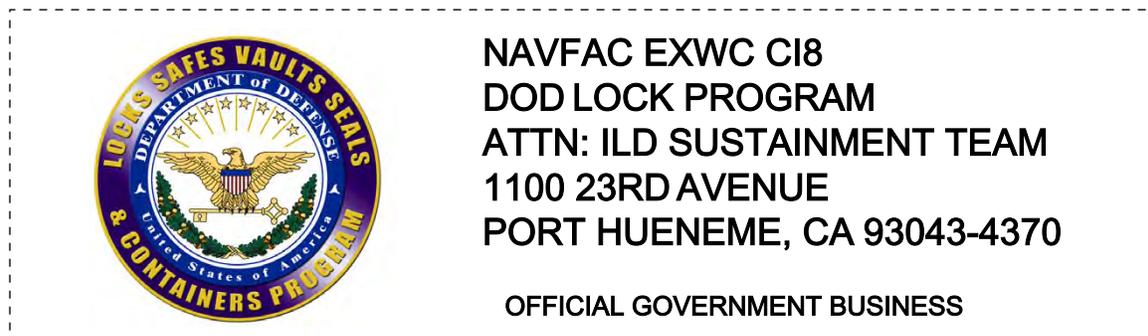
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**Returning the original ILD to NAVFAC**

**Step 1:** Notify the DoD Lock Program Sustainment Team at 1-805-982-5625 or email [ILD\\_Field\\_Support@navy.mil](mailto:ILD_Field_Support@navy.mil) when return shipment is ready. Be sure to reference the cylinder/key serial number(s) of the ILD(s) being returned. Provide the shipping method and tracking information when possible.

**Step 2:** Re-use the carton and cushioning material from the replacement ILD if still serviceable, or, use a carton of appropriate dimensions to safely pack the original ILD and all keys. Seal the carton with suitable shipping tape.

**Step 3:** Cut out the return shipping label below, Figure 5-14, and affix to sealed package. Ship the package to NAVFAC via the approved shipping methods of your command.



**Figure 5-14. NAVFAC Return Shipping Label**