

INTERNAL LOCKING DEVICE **ILD**



Enhanced Technology High Security Locking System



BACKGROUND

The ILD was developed to address security and operational deficiencies in high security padlocks and hasps currently used to secure Department of Defense (DoD) weapons storage magazines. The Office of the Assistant Secretary of Defense (OSD C3I) approved the ILD as “an alternative to the current high security padlock and hasp requirement” on 6 March 2001 for protection of conventional arms, ammunition, and explosives (AA&E). It was approved for use on structures protecting chemical and biological weapons by the Department of the Army, Military Operations (DAMO) on 14 April 2003. The ILD can be installed on hinged or sliding doors and provides numerous critical security and operational advantages over high security padlock and hasp systems.

PERFORMANCE CRITERIA

Approved designs and new products in development will address security vulnerabilities in high security padlock and hasp systems currently used on structures protecting nuclear, chemical, and category I and II conventional weapons. Systems requirements include cost effectiveness, ten-minutes of forced entry protection, operational in all environments, optional biometric operator verification and integration with MDARS System.



Universal mount ILD on double-sliding door



Universal mount dual key ILD on swinging door



Dual key ILD on sliding door

SYSTEM

A complete ILD system consists of the ILD, mounting hardware, and bolt work for either sliding or swinging doors. The ILD is approximately 8" x 3" x 5" and weighs less than ten pounds. The boltwork systems for swinging and sliding magazine doors are different, but provide the same easy operation. The ILD is available with either one or two cylinders. The dual cylinder model meets two person integrity (TPI) requirements for the protection of AA&E, chemical, and nuclear weapons.

FEATURES & BENEFITS

- *Easy to operate.*
- *Ten times more resistant to forced entry attack than high security padlock & hasps systems.*
- *Shutter plate shelters the lock cylinder from hostile environmental conditions:*
 - *resists wind-driven sand, dust, rain, ice, corrosive salt spray, extreme heat & cold, freeze-thaw conditions, & insect infestations.*
- *Unique key guide that allows quick, fluid key operation & greatly reduces the possibility of key breakage common with high security padlocks.*
- *Adaptable to most types of door/closure installations.*
- *Easily integrated with electronic monitoring and access control systems.*

OPERATIONAL WEAR RESISTANCE AND QUALITY ASSURANCE TESTING

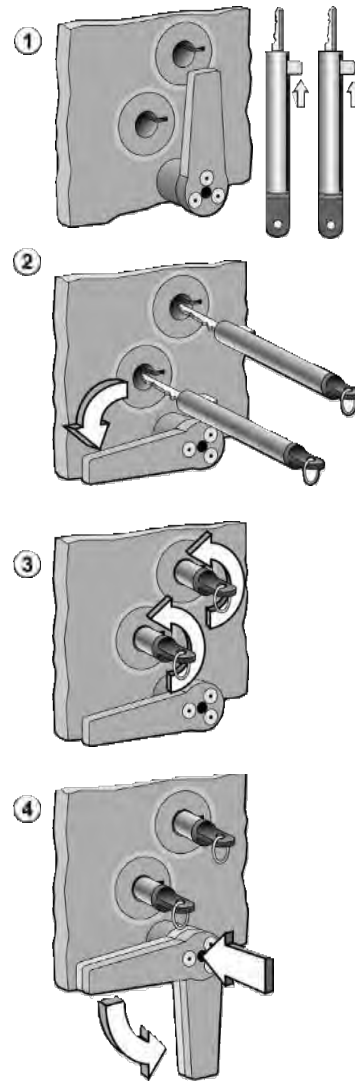
ILD systems must undergo a battery of tests and evaluation to obtain DOD approval for use to secure igloo and magazine doors. This includes environmental, unauthorized entry, operational, wear resistance, and quality assurance testing.



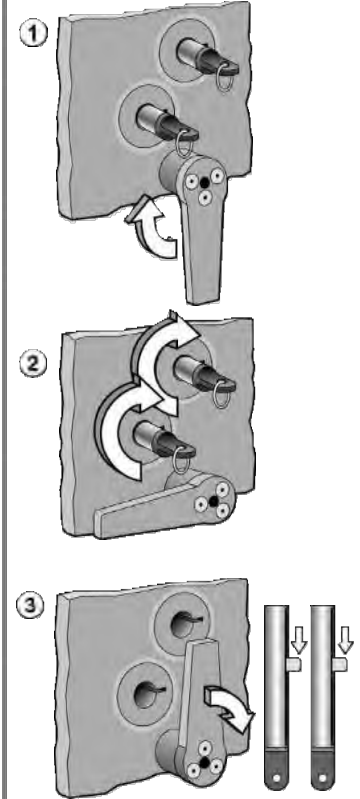
OPERATION

To open either the single or dual key ILD, the operating handle is first rotated to allow key access. Key(s) is/are inserted and rotated. The operating handle is pushed and turned to release the bolt and allow the door to open.

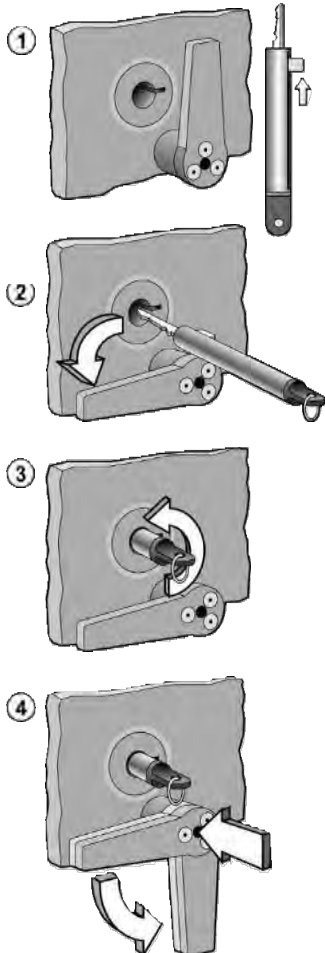
Open Operation



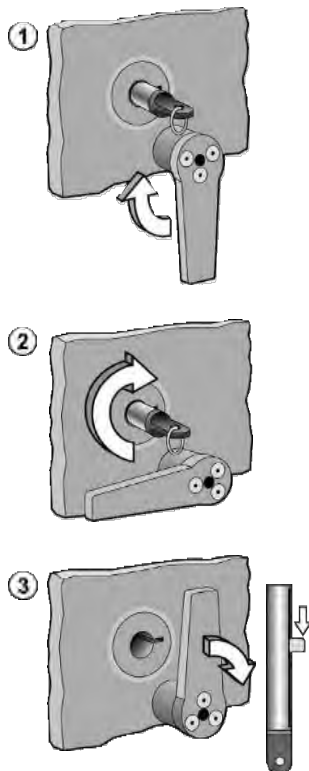
Closed Operation



Open Operation

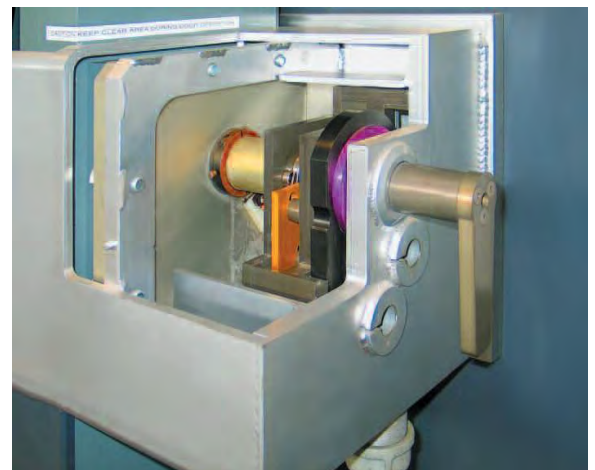


Closed Operation



To close the door the steps are repeated in reverse order. The ILD requires no maintenance other than cylinder and key lubrication. The boltwork needs only occasional lubrication to ensure trouble-free operation.

The ILD has been vigorously tested for reliability and will provide many years of dependable service.



TEST PARAMETERS, PERFORMANCE REQUIREMENTS AND VERIFICATION STANDARDS TABLE

| TEST PARAMETERS | REQUIREMENTS | TEST STANDARDS |
|---|---|---|
| ENVIRONMENTAL | | |
| High Temperature | Operates effectively at 160° F | MIL-STD-810E Method 501.3 |
| Low Temperature | Operates effectively at -60° F | MIL-STD-810E Method 502.3 |
| Salt Fog Environment | Operates effectively in corrosive, moist environment | MIL-STD-810E Method 509.3, ASTM G-85 (Ref 8) ASTM G 112-92 (Ref 9) |
| Sand and Dust | Operates effectively on a simulated door panel after exposure to driven sand and dust | MIL-STD-810E Method 510.3 |
| Vibration | Operates effectively after exposure to prescribed vibration | MIL-STD-810E Method 514.4 ASTM D 3580 (Ref 10) |
| Icing/Freezing Rain | Operates effectively on a simulated door panel under icy conditions and after thawing | MIL-STD-810E Method 521.1 |
| UNAUTHORIZED ENTRY | | |
| Surreptitious Neutralization Resistance | Resists 15 minutes of surreptitious neutralization attempts by picking, shimmying, impressing, and bypassing methods | MIL-P-43607G |
| Forced Entry | Simulated magazine door with ILD resists forced entry for 10 minutes using medium threat including unlimited hand and battery-powered tools; limited thermal tools | DOD 5100.76-M (Ref 11) Section 3.0 and NCEL OR# 098-09-88 |
| Pull Test | Simulated door resists being pulled open with a 12,000-lb force | MIL-P-43607G |
| Operational | Operates effectively without a design failure for the duration of the test (problems due to ILD operator, installation, or manufacture errors will be corrected and the test resumed) | TM 56-90-04 |
| WEAR RESISTANCE | | |
| Cycle Fatigue | Operates effectively after 10,000 cycles | MIL-P-43607G |
| MANUFACTURING QUALITY CONTROL | | |
| Surface Abrasion | Meets material specification requirements as described in MIL-A-8625E and NFESC procurement contracts for ILD production units | FED-STD-141C, Method 6192.1 (Ref 12) |
| Coating Thickness | Meets material specification requirements as described in MIL-A-8625E | ASTM B244 (Ref 13) |

APPROVED ILD APPLICATIONS

Single and Double Sliding Magazine Doors

Single and Double Swinging Magazine Doors

Personnel Door (Armory)

Universal Mount (For all Swinging & Sliding Magazine Doors) Biometric Operator Verification

ILD SUPPORT POINT OF CONTACT

Contact ILD Field Support Coordinator for assistance with lock cylinders, keys, bolt information, and replacement parts.

ILD Field Support Coordinator

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DSN: 551-5625

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