

Type DS

Access Interlock



The Type DS Access Interlock is used in applications to control access to areas containing hazards. The trapped key interlock has a vertical, slim design for simple installation and use. It is suitable for machine guarding where there is whole (full) body access as well as smaller (partial) access points or hatches.

The Type DS Access Interlock holds a movable guard closed until required access conditions are met. It is configurable with at least two parts; a latch bolt actuator and an interlock main body with at least one access key and lock cylinder.

Access keys must be taken to the interlock before releasing personnel keys or unlocking the movable guard.

Personnel keys are taken from the interlock and kept by personnel before entering the area. Personnel keys must be returned before the interlock can be closed and re-locked, reducing the risk of unexpected start-up. The removal of the first personnel key is enforced using the forced key removal feature.

Additional lock cylinders and keys can be configured for applications requiring multiple personnel keys or access conditions.

OPERATION

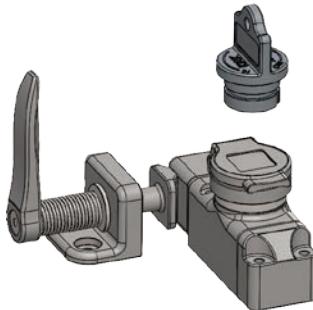
Type DS Access Interlock with access key.

Type DS Access Interlocks are mechanically operated and used to control access to areas with hazards.

This example shows part number SDS-KK10SPLO. Type DS Access Interlock with a single access key and spring latch actuator in the left position.

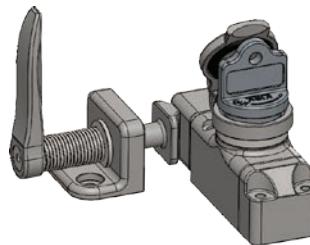
1

Interlock is closed and locked. The access key associated with the stopped or access condition must be taken to the interlock.



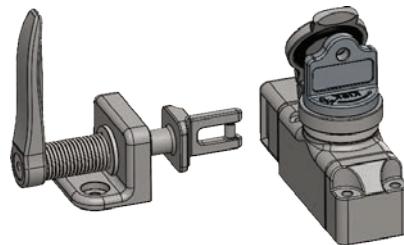
2

The access key is inserted and turned. The actuator can now be removed.



3

When actuator is removed to open the interlock and movable guard. The access key becomes trapped in the interlock.



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U-Type-DS-Kirk-E-01 (01-26)

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OPERATION

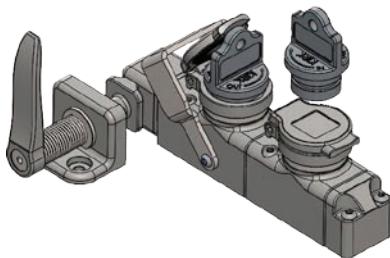
Type DS Access interlock with access & personnel keys with forced extraction.

Personnel keys are taken by personnel when accessing an area, preventing the interlock from being closed and reducing the risk of unexpected start-up. When multiple keys are used, all access keys must be inserted and turned before any trapped keys can be released.

This example shows part number SDS-KKI21SPL00. Type DS Access lock with an access key, personnel key and a spring latch actuator in the left position.

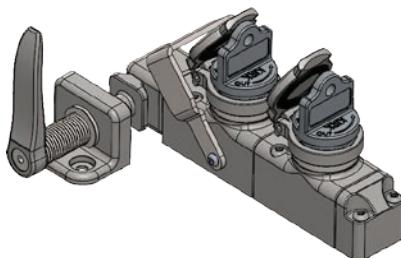
1

Interlock is closed and locked. The personnel key is trapped. The access key associated with the stopped or access condition must be taken to the interlock.



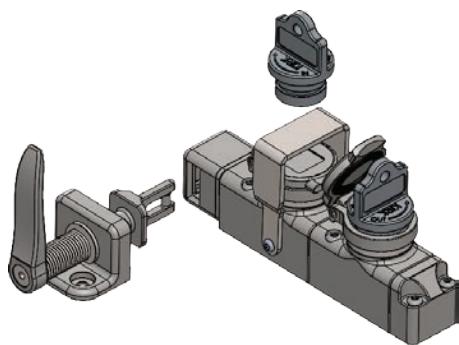
2

The access key is inserted and turned. The personnel key can now be turned and removed, the access key becomes trapped. The actuator and interlock remain locked.



3

The personnel key is removed and the forced key removal latch can be lowered. The interlock is now unlocked and the actuator can be removed.



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USAGE

The Type DS Access Interlock can be used to control access into areas where hazards may be present. The Type DS Access Interlock can be used where there is whole (full) body access as well as smaller (partial) access points or hatches through single or multiple key configurations. The type DS Access Interlock accommodates some misalignment of guarding - see installation and drawings in this document. The Type DS Access Interlock is not sold with keys. Keys must be ordered separately.

Trapped key interlocks allow conditions and sequences to be enforced mechanically. This can include the operation of multiple access interlocks in a sequence or "daisy chaining".

Where a risk assessment identifies the possibility of whole (full) body access, a multiple cylinder interlock with personnel key(s) is recommended. This allows a personnel key to be taken and kept by the person(s) accessing the area to perform tasks such as maintenance. A risk assessment should consider foreseeable misuse by personnel or any motivation to defeat the device.

No hazardous substances were used in the manufacturing of the product. The product can be disposed of as standard waste.

INSTALLATION

Prepare the mounting location for the DS Access interlock body and latch bolt actuator using suitable through holes - see drawings within this document.

Ensure that when the guarding is closed, the latch bolt actuator engages properly with the interlock body. The type DS Access Interlock accommodates some misalignment of guarding - see installation and drawings in this document.

Suitable fasteners must be used - see drawings in this document. Fastenings should be secured against unauthorised removal by personnel and or from loosening through vibration.

 Before and after installation, correct operation of the interlock must be tested and checked, confirming that all keys are trapped or released as intended, and that the latch bolt actuator is only released under the expected conditions.

 For trapped key interlock systems to be effective, any additional keys that may be ordered for use during installation must be removed from the system and destroyed or retained by a responsible person as part of a controlled procedure. There should only be enough keys to operate the interlock system sequentially. No responsibility is taken for any additional keys left in the trapped key interlock system.

MAINTENANCE

The type DS Access Interlock should be inspected and maintained at regular intervals not exceeding 6 months or depending on a risk assessment. Inspection and maintenance must be performed by authorized personnel.

Inspection should include both periodic visual checks and confirming correct operation and mounting as described in the installation section. It should also consider any indication of damage or wear to the device.

The Type DS Access Interlock should be periodically lubricated with a small amount of dry powder graphite, if needed. DO NOT use oil or grease of any type as these will collect dirt and impede the proper operation of the lock cylinder.

In case of defects being detected please contact the manufacturer for further actions. Please see last page for contact information.

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TECHNICAL DATA

Type DS Access Interlock	
Interlock Housing	Stainless Steel 316
Cylinder Housing	Stainless steel (depending on lock type, brass components may be present)
Locking bolt actuator	Stainless steel 316
Weight	8.085 lbs / 1.85kg * * Weight based on product with 1 cylinder, no key, accessories, or mounting hardware
Salt Spray & Corrosion	Tested in accordance with BS EN 60068-2-11:1999 Test Ka.
Shock and Vibration	Tested in accordance with BS EN 61373:2010 (Category 1 Class B) BS EN 50155:2017 Section 13.4.11
Temperature rating	-58F to +158F / -40C to 70C** **User must ensure there is not a build up of ice or this may affect device operation
Operating Cycles	Suitable for +1,000,000 cycles
B1od	1,000,000
PL Rating	Up to PLd

APPLICATION

Type DS Access interlocks are mechanically operated and suitable for controlling access in applications where hazards must be controlled. A system may use a corresponding bolt interlock, or other trapped key interlock devices to control sources of hazardous energy.

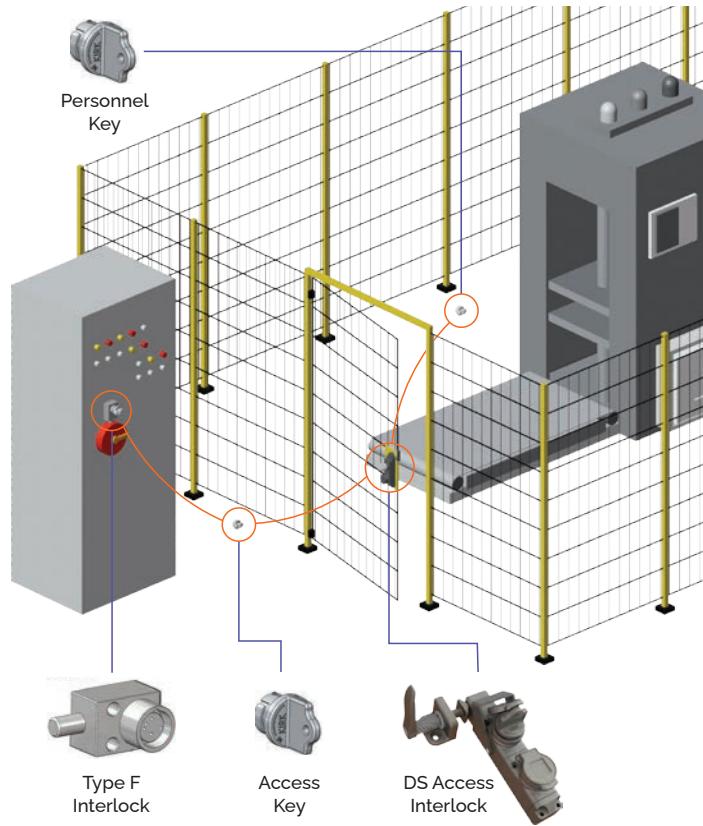
In this example schematic, the opening of guard is prevented until power has been switched OFF. Power cannot be restored until the personnel key is returned and the interlock & guard is closed.

Starting condition: switch is ON with power available to the equipment. The key is trapped in the bolt interlock mounted to the switch. The guard with mounted DS Access interlock is closed and locked with personnel key trapped.

When the switch is moved to the "OFF" position, the bolt interlock can be extended, releasing the access key to secure the switch in the "OFF" position.

The key is taken to the DS Access interlock to gain access. The key is trapped when the DS Access interlock and the guard is open. When a personnel key is configured for applications with whole (full) body access, the personnel key must be removed before the latch bolt actuator to open the guard. The personnel key is held with the person performing maintenance.

Additional personnel keys or padlockable hasps or lockboxes may also be used when multiple personnel are accessing an area based on a defined procedure.



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Type DS

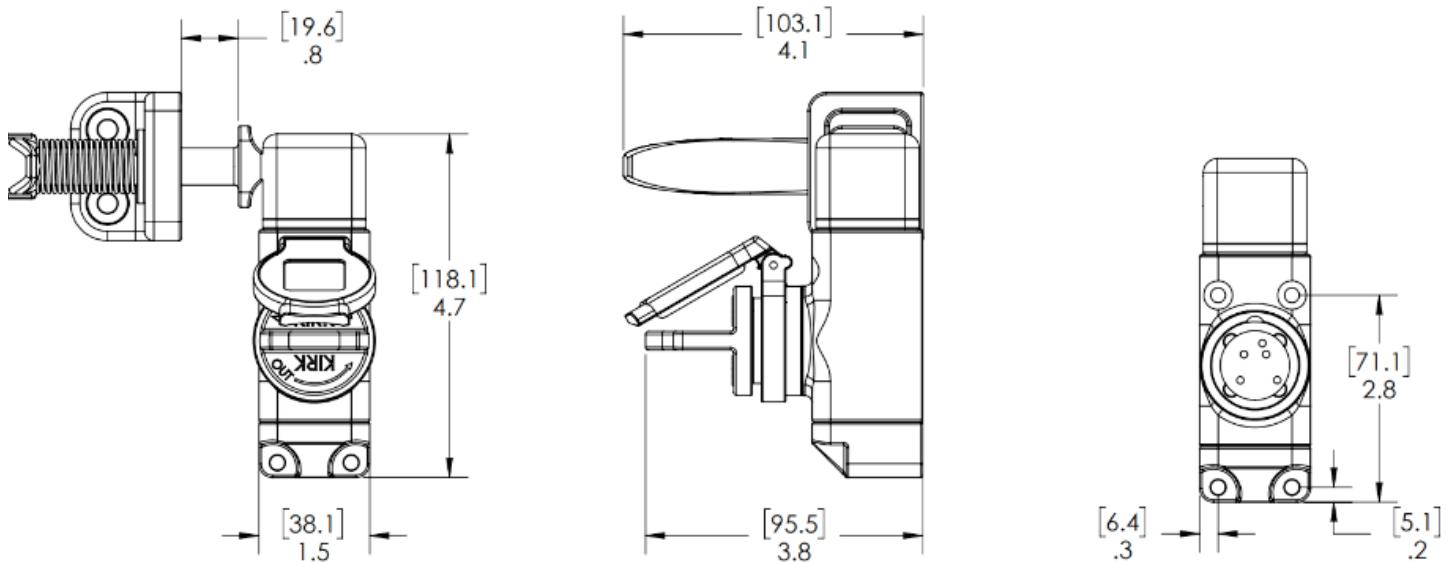
Access Interlock



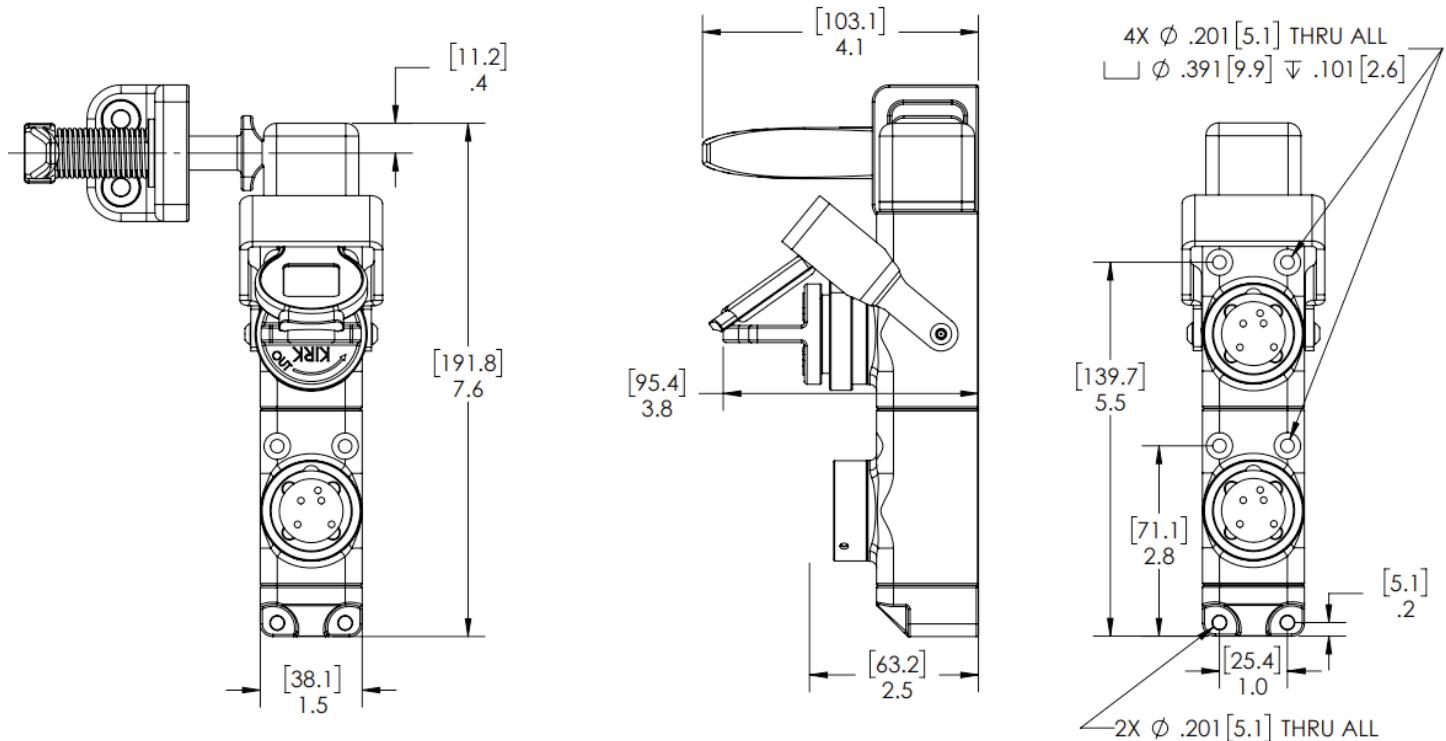
DRAWING

Dimensions: in [mm] inches

Type DS (Single Lock)



Type DS (Two Lock)



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Type DS

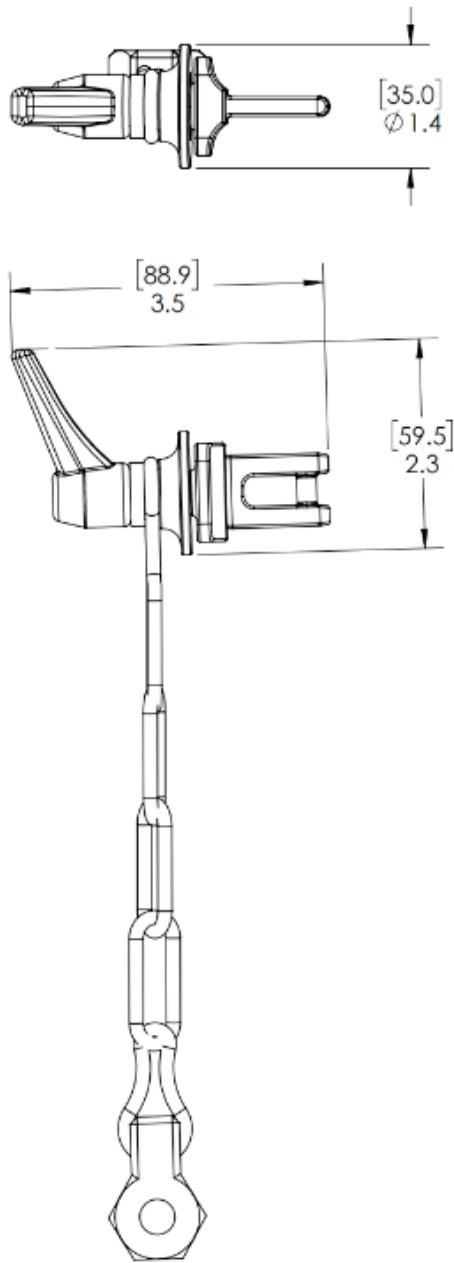
Access Interlock



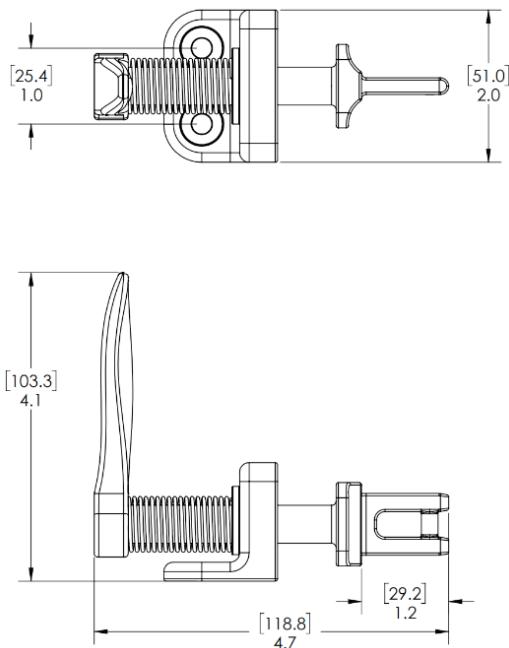
DRAWING

Dimensions: in [mm] inches

Type DS (Chain Latch)



Type DS (Latch)



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ORDER INFORMATION

Part number	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	S	D	S	-										S

1, 2, 3	Series	SDS = Type DS Access Interlock																																																													
5, 6, 7	Cylinder Type	KKI = KIRK HD Series (stainless) Please contact sales if you require other key & lock cylinder types.																																																													
		SD Series - max cylinders 7																																																													
8, 9	Cylinders	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>1</td> <td>0</td> <td>= E 1 CYL</td> <td>Key Free/ guard (Door) Locked</td> <td>4</td> <td>0</td> <td>= EEEE 4 CYL</td> <td>Keys Free/ Guard (Door) Open</td> </tr> <tr> <td>2</td> <td>0</td> <td>= EE 2 CYL</td> <td>Keys Free/ Guard (Door) Locked</td> <td>4</td> <td>1</td> <td>= WEEE 4 CYL</td> <td>W Keys Free/ Guard (Door) Open</td> </tr> <tr> <td>2</td> <td>1</td> <td>= WE 2 CYL</td> <td>W Key Free/ Guard (Door) Open</td> <td>4</td> <td>2</td> <td>= WWEE 4 CYL</td> <td>W Keys Free/ Guard (Door) Open</td> </tr> <tr> <td>3</td> <td>0</td> <td>= EEE 3 CYL</td> <td>Keys Free/ Guard (Door) Open</td> <td>4</td> <td>3</td> <td>= WWEE 4 CYL</td> <td>W Keys Free/ Guard (Door) Open</td> </tr> <tr> <td>3</td> <td>1</td> <td>= WEE 3 CYL</td> <td>W Key Free/ Guard (Door) Open</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>2</td> <td>= WWE 3 CYL</td> <td>W Keys Free/ Guard (Door) Open</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>														1	0	= E 1 CYL	Key Free/ guard (Door) Locked	4	0	= EEEE 4 CYL	Keys Free/ Guard (Door) Open	2	0	= EE 2 CYL	Keys Free/ Guard (Door) Locked	4	1	= WEEE 4 CYL	W Keys Free/ Guard (Door) Open	2	1	= WE 2 CYL	W Key Free/ Guard (Door) Open	4	2	= WWEE 4 CYL	W Keys Free/ Guard (Door) Open	3	0	= EEE 3 CYL	Keys Free/ Guard (Door) Open	4	3	= WWEE 4 CYL	W Keys Free/ Guard (Door) Open	3	1	= WEE 3 CYL	W Key Free/ Guard (Door) Open					3	2	= WWE 3 CYL	W Keys Free/ Guard (Door) Open				
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		W Key positions begin at the top of the interlock. For more than 4 cylinders, please consult sales.																																																													
10, 11	Latch Bolt Actuator Type	SP = Spring Latch		CL = Chain Latch																																																											
12	Access Head Position	L = Left R = Right		This is the direction or side where the latch bolt actuator enters the interlock.																																																											
13	Release Module	0 = None P = Yes (Please contact sales for availability) Release module (DEU/Ref DEUMFS000)																																																													
14	Stamp Key Interchange max. 5 alphanumeric characters	S = Yes		Stamp Key Interchange is only applicable for Kirk Key lock cylinders																																																											

Terminology

'E' represents access keys and locks, 'W' represents personnel keys and locks. Personnel keys and locks (W) are positioned at the top of the interlock above any access key and locks.

Sequence of Operation:

- Keys and locks are operated in sequence from the bottom of the interlock, starting with an access lock.
- Inserting an access key will allow the access key above to then be inserted, or a personnel key above to be removed.
- Access keys become trapped when an access key above is inserted, or when a personnel key above is removed.
- Personnel keys are released when the access key below is inserted, or when the personnel key below is removed.
- When the top most personnel key is removed, the forced key removal latch must be lowered before the latch bolt actuator can be removed and the movable guard opened.

As standard, stainless steel protective lock covers are provided as standard on all DS Access Interlocks.

Tamper resistant fastenings are shipped as standard with all Type DS Access Interlocks. See installation and maintenance instructions.

Forced Key Removal Feature:

- The forced key removal latch is included as standard on the top most lock position when a personnel key & lock is configured.
- The forced key removal latch can only be lowered when the top most personnel key is removed from the interlock.
- The forced key removal latch must then be lowered before the latch bolt actuator can be removed

Kirk Key Interlock Company LLC
9048 Meridian Circle, NW, North Canton, OH 44720, USA
Tel: +1 234.209.9301 Email: sales@kirkkey.com

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