

Fitting and Maintenance Instructions For Trapped Key Interlocks.



THE FOLLOWING INSTRUCTIONS FOR FITTING AND MAINTENANCE OF FORTRESS INTERLOCKS ARE OFFERED FOR GENERAL GUIDANCE ONLY, AND ARE INTENDED TO SATISFY THE PROVISIONS OF SECTION 6 OF THE HEALTH & SAFETY AT WORK ACT 1974. THE COMPANY WILL BE PLEASED TO OFFER ADVICE ON SPECIFIC PROBLEMS REGARDING THE APPLICATION, INSTALLATION, USE OR MAINTENANCE OF ITS PRODUCTS.

General

If correctly applied to plant and machinery, the company's products will satisfy the relevant provisions of the Health & Safety Act 1974. When choosing an interlock system, consideration must be given to the type of plant being interlocked, the frequency of operation, environmental conditions and the degree of protection required. Attention is drawn to the various Codes of Practice and British Standards, and also the information on specific applications included in our main product catalogue.

General Installation Instructions

1. All locks should be securely mounted to prevent tampering or unauthorised removal. It is recommended that either locknuts are used or all fixings are riveted over after tightening. Fixings should not be over tightened - maximum tightening torque generally 10lbs/ft.
2. Locks should be mounted to avoid excessive vibration.
3. Maximum recommended ambient temperature is 120°C.
4. Locks should be protected where possible from dust and/or water splash. Spring loaded or screw on protective covers are available, or alternatively locks can be mounted in steel enclosures with self closing lids. An alternative finish is available where locks are likely to be subject to salt or chemical attack.

Fitting and Operation

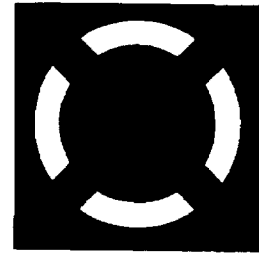
1. Basic Interlock Unit Type H31

This lock is normally used to interlock electrical switchgear by interfering with the switch operating mechanism in such a way that the interlock key can only be removed when the switch is in the desired position (usually 'OFF').

This can be achieved either directly using the lock spindle, or indirectly using a cam or lever affixed to the spindle. In both instances the lock and cam or lever should be fitted securely in such a manner as to prevent unauthorised tampering or interference.

Most switchgear manufacturers can offer specific advice on the application of interlocks to their equipment and can provide any special parts necessary to complete an installation.

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**FORTRESS
INTERLOCKS**

2. Key Operated Rotary Switches Type H31S and H31SC

These switches are intended for use as isolators or change-over switches on electrical supplies and the rating of the switch must be suitable for the application intended. Particular attention is drawn to paragraphs 40-45 of BS5304: 1975 which discusses control and power interlocking of machinery.

All electrical switches incorporated in our equipment are labelled with the maximum rating recommended by the manufacturer which should be strictly observed.

3. Solenoid Controlled Interlock Type H31SS

Comments as (2) above also apply to this interlock but it should be noted that we recommend vertical mounting in order that the unit will 'fail-to-safe' in the event of a spring failure (fig 1).

Solenoids are available in the range 24 to 240 volts either AC or DC as required. Operating voltages are marked on all solenoids and these should not be exceeded.

4. Interlock Deadlocks Type H31Q and H31Q2

Primarily intended for interlocking electrical switchgear or hydraulic valves, these locks can also be used in certain circumstances for interlocking sliding access doors. Please note that this lock is NOT normally suitable for use with hinged doors as it is not foolproof when used in this application.

Where locks are used as a 'scotch' on heavy machinery it is important that excessive loads cannot be applied directly to the locking bolt, but are taken in shear by a member at right angles to the lock axis (fig 2).

Maximum shear load permissible on lock bolt is 75 tonnes but under no circumstances should tensile/compression loads be applied to the bolt (fig 3).

5. Key Exchange Boxes Type H31J

Key exchange boxes should be mounted on a rigid surface away from vibration and in such a manner as to prevent access to the rear of the mechanism to prevent tampering.

6. Switch Control Units Type H31ODS/H31ODL

Attention is drawn to the maximum ratings which are indicated on the rear of each switch and must not be exceeded.

Attention is drawn to paragraphs 40-45 of BS 5304:1975 which discusses control and power interlocking of machinery.

7. Panel Door Lock Type H31CN/H31CN2

This lock should be used in such a manner that any load on a locked door is taken in shear across the locking bolt and not longitudinally (fig 4).

Maximum permissible shear load is 5 tonnes.

A self aligning bolt can be supplied for use on poorly fitting doors or guards (details available on request).

8. Panel Door Lock Type H31P, H31P2-H31P6

This lock is suitable for use on doors of width 250mm and greater.

Care should be taken when installing to ensure that the lock and spigot are correctly aligned or damage may occur.

A self aligning spigot is available for use on poorly fitting doors or guards (details available on request) and an override device is available to allow opening of the door from the inside in an emergency.



9. Time Delay and Rotation Sensing Units

Individual instruction leaflets are supplied with these units.

Maintenance.

Under normal operating conditions very little maintenance is required. If used in dry dusty conditions periodic 'blowing-out' with compressed air followed by the application of Foliac No. 1371 powered graphite is recommended.

Under no circumstances should locks be greased or oiled as this will clog the mechanism and render locks inoperable.

All locking systems should be checked periodically for correct operation. In the event of malfunction steps should be taken to replace or have repaired any defective items. Panel door interlocks should be checked to ensure that operating keys can only be removed with the doors locked. In the case of key exchange boxes these should be checked to ensure that access keys can only be released when isolation keys are trapped and all electrical switches should be checked for correct operation and function.

The company will be pleased to furnish any further specific information that may be required.

Fig 1.

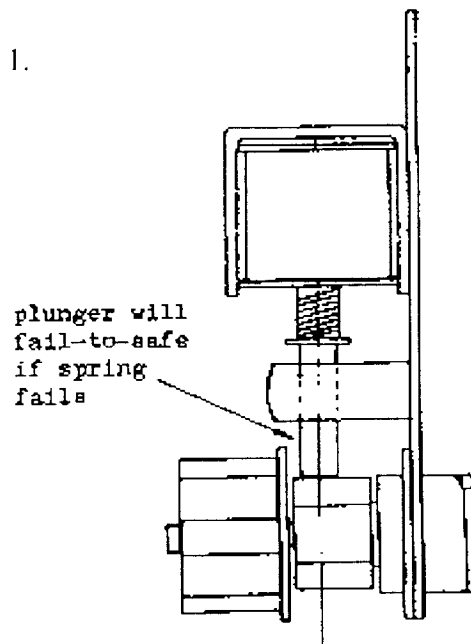


Fig. 2

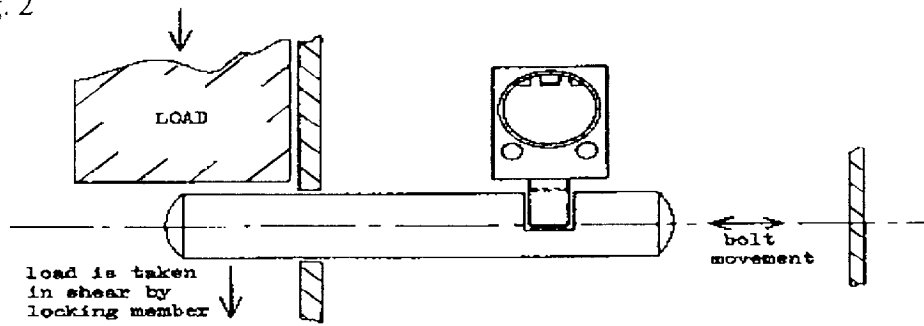


Fig. 3

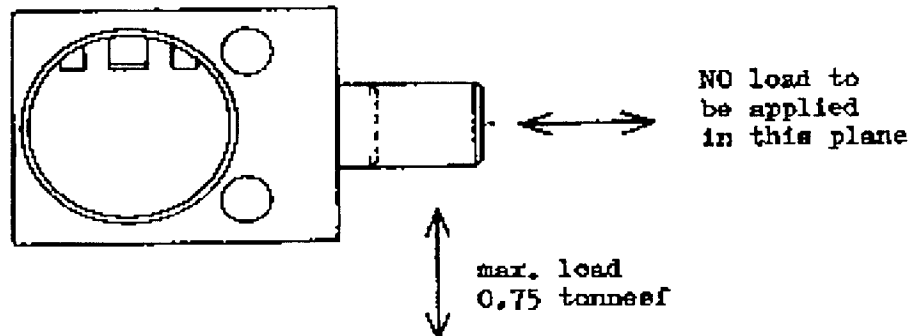


Fig. 4

