

**GH-BETTIS**

**INSTRUCTIONS FOR THE**

**REMOVAL AND INSTALLATION OF**

**ACTUATORS FROM LOCKING DEVICE**

**MODEL KHDX3X**

PART NUMBER: 109029

REVISION: "A"

DATE: October, 1992



## 1.0 **INTRODUCTION**

1.1 This service procedure is offered as a guide to enable removal and installation of the actuator from a GH-Bettis, KHD73X locking device.

## 2.0 **SUPPORT ITEMS AND TOOLS**

2.1 All required tools are American Standard inch. Suggested tools needed are: 1/2" inch drive socket set (which should include allen sockets), 12" and 18" inch adjustable wrenches and a rubber or leather mallet.

2.2 Latex window caulk.

## 3.0 **REFERENCE GH-BETTIS MATERIALS**

3.1 GH-Bettis Assembly Drawing part number 109045.

## 4.0 **GENERAL**

4.1. Numbers in parentheses ( ) indicate the bubble number, reference number, used on assembly drawing and locking device parts list.

**WARNING      PRIOR TO REMOVING THE ACTUATOR FROM THE LOCKING DEVICE THE ACTUATOR MUST BE IN THE FULL FAIL POSITION, AND THE KEY REMOVED FROM THE ACTUATOR.**

4.2 The K-MASS is an epoxy type resin coating varying from 1/2" to 3/4" thick. The locking device is standard, however, due to the thickness of the coating several hex head screws had to be changed to socket cap screws.

4.3 All of the seams where the K-MASS comes together, and around all exposed hardware were caulked to provide a weather tight seal. The caulk must be replaced to insure that the K-MASS will work properly during the event of a fire.

4.4 The actuator is very heavy and will require a means of assistance to lift it from the locking device/valve assembly.

## 5.0 **PREPARATION FOR DISASSEMBLY**

5.1 Measure the exposed length of the actuator stop screws and record each. Marking the position indicator's orientation on the cover is helpful.

5.2 Note the orientation of the actuator, and mark appropriately

5.3 Remove all supply pressure, and insure that the actuator is in the full fail position.

5.4 Remove the four hex cap screws and the position indicator and weather cover from the actuator.

## 6.0 **DISASSEMBLY**

6.1 Cut and remove the latex caulk from only the joints and screw heads needed to remove the adapter flange and actuator.

6.2 Remove the lock cover assembly (50) from the locking device housing (10).

- 6.3 Loosen the hex jam nut (40) and hold in place while tightening the stop screw (30) until it impacts the stem adapter and torque to 100 ft-lbs. Then tighten the hex jam nut to 100 ft-lbs.
- 6.4 Adjust the actuator stop screw, opposite the housing from the spring cartridge, until the key becomes free. Remove the key if possible.
- 6.5 Using a crane or other heavy duty lifting equipment support the actuator while performing the next step.
- 6.6 If unable to remove the key do not remove the four hex head cap screws (100), instead loosen them, and try to move the actuator from side to side. If the key still will not come out then tighten or loosen the stop screw until the tension is removed, then, remove the four hex head cap screws (100).
- 6.7 Slowly lift the actuator off of the locking device.
- 6.8 Remove the four socket head cap screws (90) from the adapter plate (20) and remove it from actuator.
- 6.9 If the actuator is to be repaired or refurbished refer to the Service Instructions Disassembly and Reassembly procedure.

7.0 **REASSEMBLY**

- 7.1 If the adapter plate (20) is not installed on the actuator then mount it to the actuator with the socket head cap screws (90).
- 7.2 Using a crane or other heavy duty lifting equipment lift the actuator and place back on the locking device in the position noted in step 5.2.
- 7.3 Bolt the actuator in place with the four hex head cap screws (100).
- 7.4 Using the stop screws on the actuator align the key way and replace the key.
- 7.5 Reinstall the position indicator and weather cover to the top of the yoke, and fasten with the socket head cap screws.
- 7.6 Return the stop screws to the length noted in step 5.1 and align the marks on the position indicator/cover.
- 7.7 Reconnect all supply pressure.
- 7.8 Back out the stop screw (30) on the locking device until it loses thread engagement. **NOTE: Do not tighten the hex jam nut (50)! Tightening this hex jam nut may damage the retaining ring (120).**
- 7.9 Caulk all places where the caulk was cut or removed in step 6.1.
- 7.10 Replace lock cover assembly (50) and lock into place.
- 7.11 Refer to Locking Device Operating Instructions, part number 109001, to test set up.

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