Model: 6027xx-xxx Serial #: All	Apr. 17, 2014
Product Bulletin # TDS-140	

Top Drive Model 6027 Handler Lock Sensor Inspection and Testing

The handler lock sensor should be inspected as soon as possible for indications of damage and routinely tested for proper operation.

Inspection Procedure

1. Remove the handler lock sensor guard (see Figure 1).

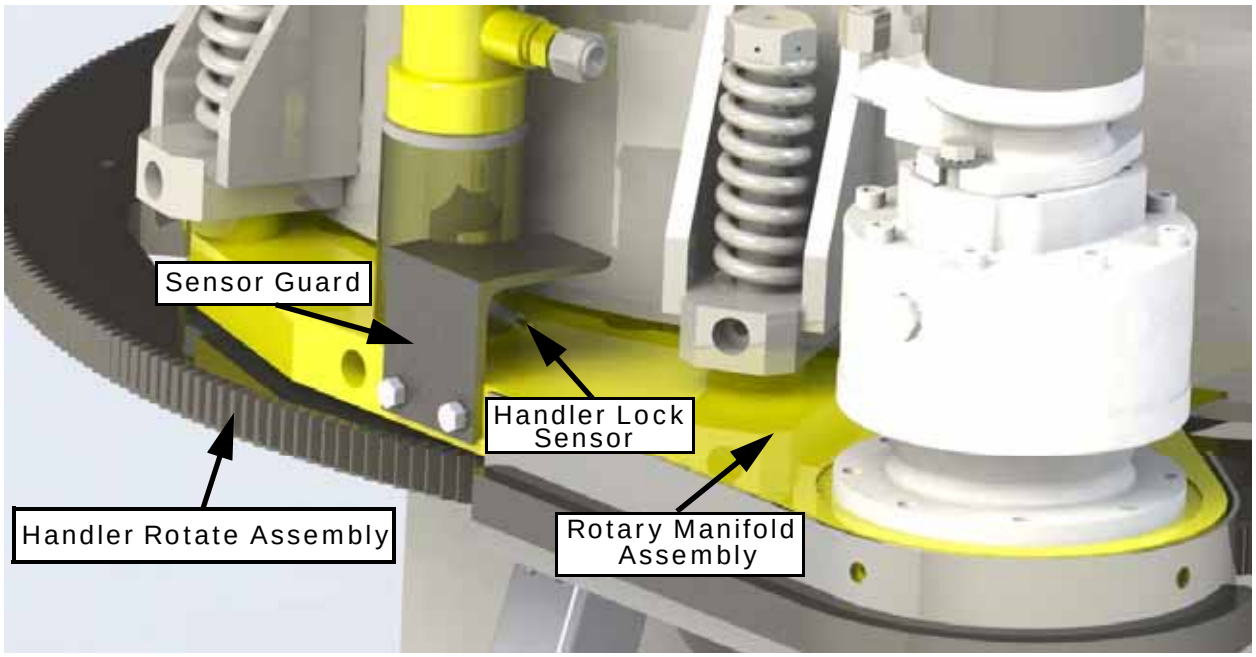

Figure 1: Remove Handler Lock Sensor Guard.

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2. Loosen the lock nut on the handler lock sensor (see Figure 2).

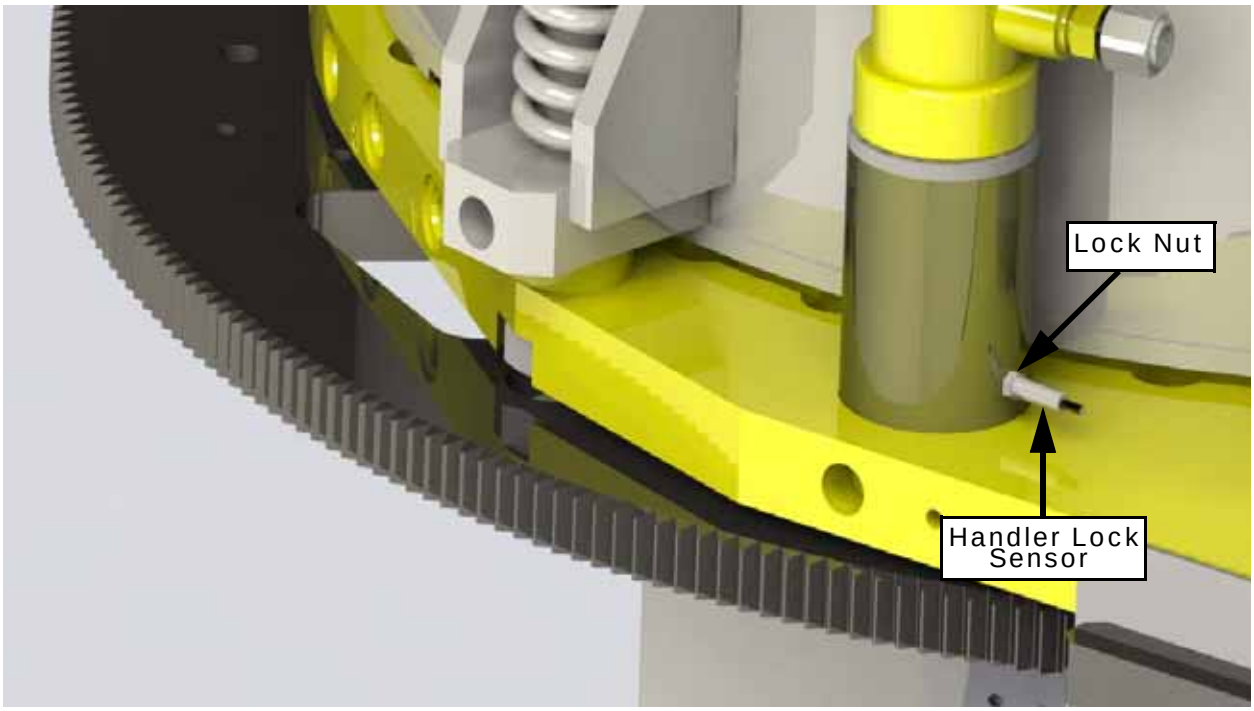

Figure 2: Loosen Lock Nut on Handler Lock Sensor.

3. Remove the sensor and inspect for damage. If there is any damage, replace with a new sensor.

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4. Ensure the handler lock pin is in the fully locked position (see Figure 3).

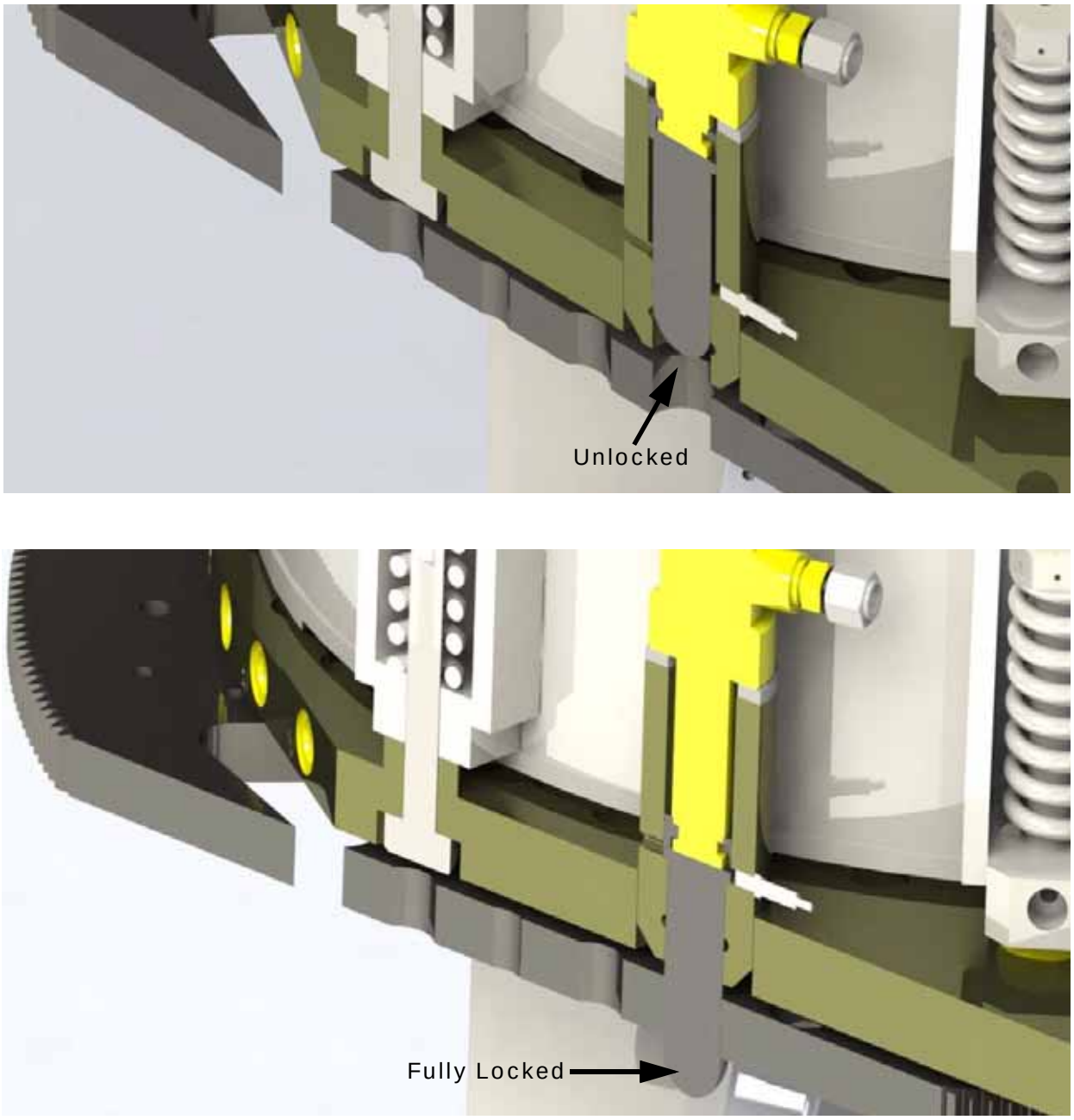

Figure 3: Ensure Handler Lock Pin is in Fully Locked Position.

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5. Install the sensor in the appropriate threaded hole; turn the sensor until it makes contact with the pin.

> Caution! Do not overtighten the sensor after it makes contact with the lock pin.

6. Loosen the sensor by turning it counterclockwise ¼ turn to allow clearance with the pin.
7. While holding the sensor in place, tighten the lock nut to secure the sensor's position.
8. Test the sensor to ensure it is functioning correctly (see "Testing Procedures" below).

Testing Procedures

Sensor Test

Test the handler lock sensor as follows:

1. Activate the handler unlock command; visually verify the pin is in the up position.
2. On the HMI display, verify that the input for the handler lock sensor is OFF.
3. Release the handler unlock command (this should allow the lock pin to drop down).
4. Visually verify that the handler lock pin is fully locked (see Figure 3 on page 3).

> Note: It may be necessary to rotate the handler slowly until the lock pin moves into the locked position.

5. On the HMI display, verify that the input for the handler lock sensor is ON.
6. Repeat steps 1 through 5 of the sensor test at least three times or until confident that the sensor is working properly.

> Note: If the sensor test fails, replace the sensor (see "Inspection Procedure" on page 1), and then repeat steps 1 through 6 of the sensor test until the sensor passes.

7. Install the sensor guard (and safety wire).
8. If the sensor is working properly, proceed to the "Alarm Test" on page 5.

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Alarm Test

Test the alarms as follows:

1. Verify the alarms are functioning by unlocking and then rotating the handler until the pin is between the locking holes.
2. Release the handler unlock command to lock the handler; visually verify the handler is between the holes.
3. Confirm that the handler lock fault alarm is active (audible and/or visual).
4. If the alarms are working properly, proceed to the “Safety Interlock Test.”

Safety Interlock Test

Note:
An interlock in the program should prevent torquing against the Back-up Wrench (BUW) Gripper when the handler is unlocked or when the handler lock fault alarm is active.

Test the safety interlock as follows:

1. With the handler lock pin between the holes, release the handler unlock command to lock the handler; visually verify the pin is between the holes.
2. Reduce the make-up torque limit to 5,000 ft-lb or lower.
3. Ensure the elevator and links are hanging straight down over well center and all personnel are clear of the area.
4. Close the BUW Gripper.
5. Send the torque make-up command, and then confirm there is no torque applied by the top drive. Verify the torque display remains at zero.
6. Activate the handler unlock command.

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7. Repeat steps 2 through 6 of the safety interlock test.

Note:
On some newer programs, an interlock will not allow the BUW Gripper to close with the handler unlocked or when the handler lock fault alarm is active. In those cases, step 5 of the safety interlock test does not apply.

Note:
Should any issue arise that can't be resolved with this bulletin, contact RigLine 24/7™.

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