PRODUCT BULLETIN NUMBER: 77

Canrig
Drilling Technology Limited

SAFETY ALERT

DATE: June 28, 2002

SUBJECT: **Maintenance of Back-Up Wrench Gripper Assembly**

SERIAL NUMBERS: **002 and up**

INCIDENT: When opening the gripper after breaking a connection during a back-reaming operation, the die retainer pin broke and a portion fell from the back-up wrench gripper.

DISCUSSION: Improperly maintained gripper assemblies can cause over-loading of the die blocks, die retainer pins and cylinder components. In extreme cases, the retaining pins or dies can fail and possibly fall from the top drive.

RECOMMENDATION: The following items should be addressed for gripper maintenance:

1. Check the die retainer pins for signs of damage whenever doing maintenance. Replace if worn or damaged. Always replace the retaining ring in the die block to ensure the pin is captured.
2. If the retaining ring groove is damaged in the die block, the die block must be taken out of service and replaced with one in good working order.
3. The gripper assembly should be checked and cleaned regularly for contamination build up. Dried drilling fluids and other contaminates can prevent the cylinder from operating properly. Wash thoroughly. Excessive build up of matter can cause over-loading of the die retainer pin and possible failure.
4. Follow the recommended greasing schedule in the Maintenance section of the Parts Book. The gripper cylinder should be greased weekly.
5. Check the tong dies frequently under periods of heavy use. Change the dies when worn.
6. Ensure the stabbing bell is sized correctly for the pipe and in good working order.
7. Ensure all capscrews are properly torqued and safety wired.

Attached is a recommended procedure for removing and installing die blocks in the gripper assembly.

INFORMATION:

For further information contact:

Field Operations Manager
Canrig Drilling Technology Ltd.
14703 FM 1488
Magnolia, Texas 77354
Phone: 281.259.8887
Fax: 281.259.8158

Gripper Die Block

Removal and Installation

1. Ensure the top drive is not connected to the drill string and is at floor level.

2. Fully extend the back-up wrench gripper so that it is below the threads of the lower well control valve.

3. If the gripper is not below the pin connection of the LWCV, float the quill up and install the quill support tool below the washpipe stuffing box. See Fig. 1. If the tool is not available, blocking can be used.

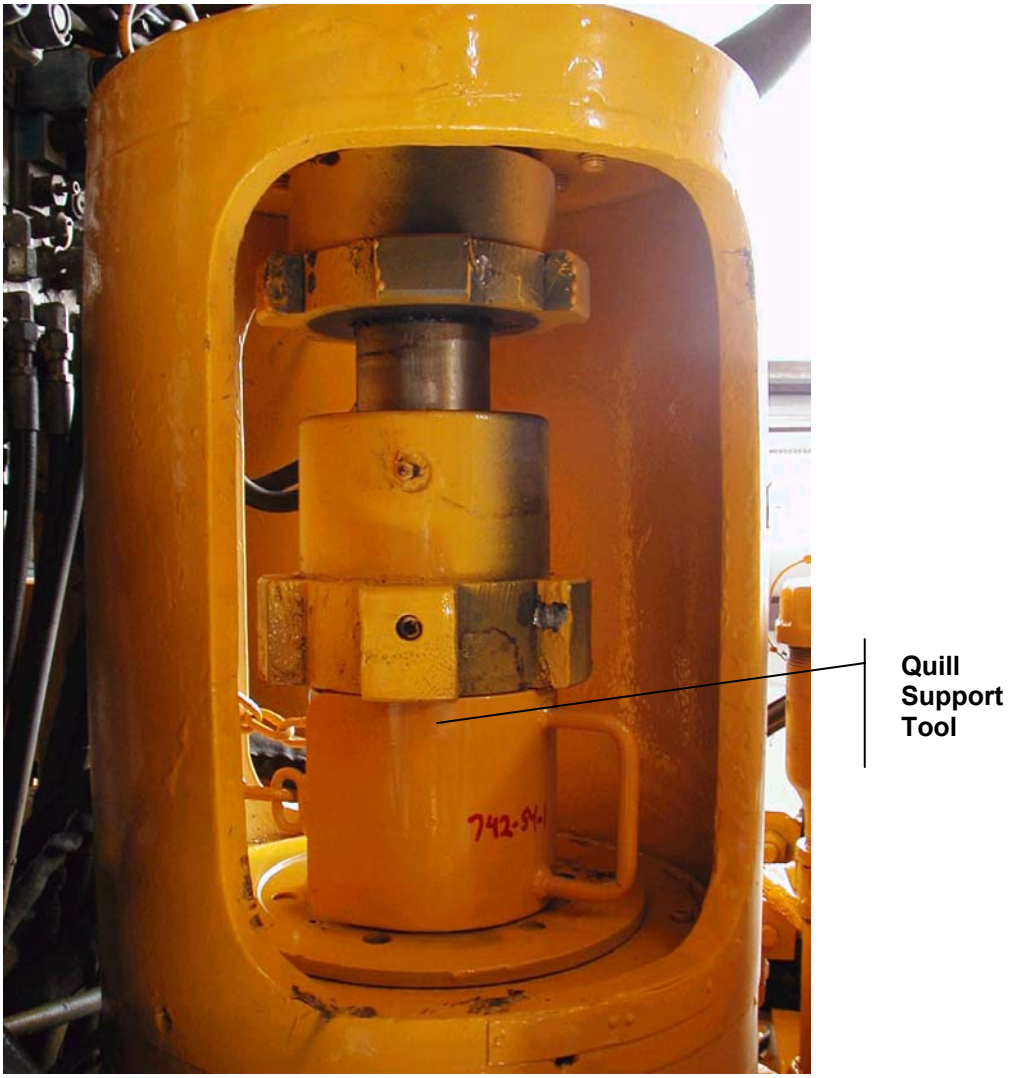

Fig. 1

4. Close the gripper by moving the switch/joystick to Gripper Maintain Closed. The gripper die block assembly should appear as it does in Fig. 2.

Fig. 2

5. Turn off the hydraulic power unit. Function a hydraulic device to remove any residual hydraulic pressure, ie. Handle Rotate or Torque Boost. Proper safety procedures should be followed such as Lock Out/ Tag Out. The hydraulic quick couplers can be disconnected in the circuit to prevent accidental energization.

6. Remove the retaining ring in the top of the die block. See Fig. 3.

Fig. 3

7. From below, use a small punch to push up the die block retaining pin. Pull out the pin from the top. See Fig. 4. Inspect the pin for signs of wear or damage. Replace with a new pin if required.

Fig. 4

8. Pull the die block away from the gripper rod and remove from the gripper body. See Fig. 5.

Fig. 5

9. Lift the gripper block out of the gripper frame.

10. Repeat steps 6 through 9 for the stationary die block.

11. While the die block is removed, grease the two fittings on the end of the gripper rod. See Fig. 6. Refer to the Lubrication and Maintenance Section for more information.

Fig. 6

12. Prior to installing the die blocks, apply a light coat of grease to the recessed area on the back. This will help prevent corrosion and make removal easier next time. See Fig. 7.

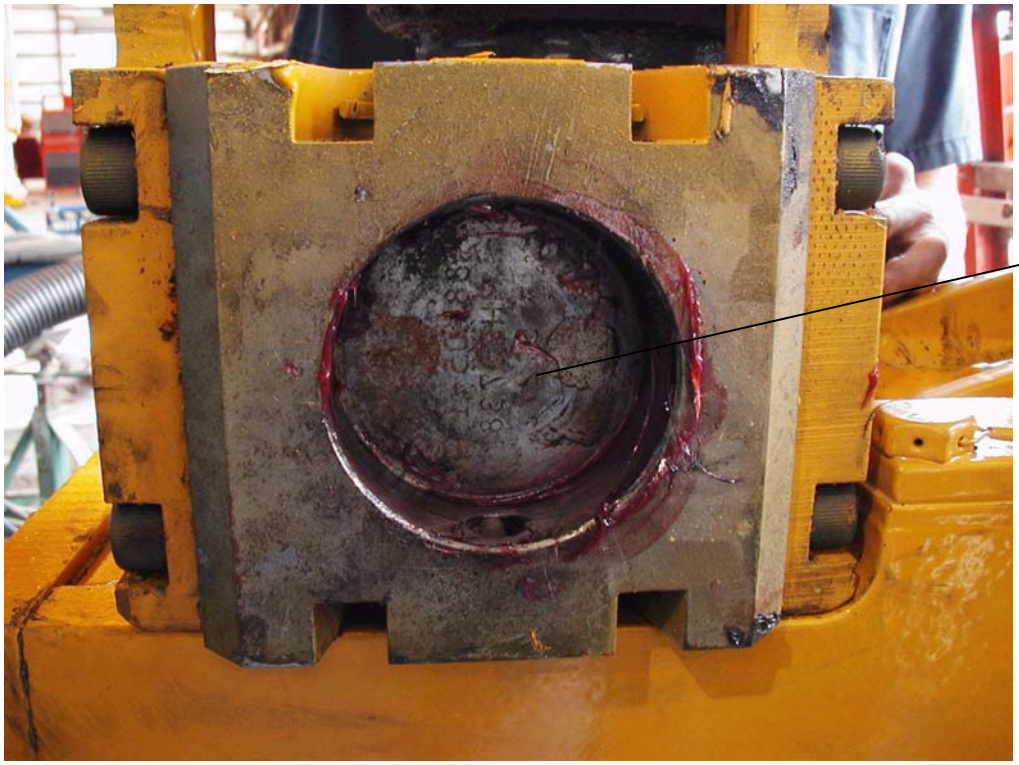

Fig. 7

13. Lift the die block into the frame and slide over the shaft.

14. Grease the die retaining pin and drop into the hole in the die block.

15. Install the retaining ring to prevent the pin from accidentally coming out.

16. Repeat Steps 13, 14 and 15 for the other die block.

17. Energize the hydraulic circuit. Return the gripper joystick to the OPEN position. The gripper die block will retract.

18. Float up the quill and remove the quill support or blocking.