

SERVICE BULLETIN

Bulletin Number: 2014-05	Date: May 5, 2014	Pages: 1 of 9	Revision: A
Subject: John Deere Active Roll Cylinder w/Internal Sensor (44695-22)			

Distribution:

Public - This bulletin is for public use, notification to the following parties is required:

All end-users and dealers that have received a 44695-22 cylinder.

Overview:

Premature wear of the piston seal may cause the cylinder to fail to operate properly and can damage the internal measurement sensor. Replacement of the piston assembly is required for all cylinders manufactured prior to February 14, 2014. The date of manufacture is located on the label located on the cylinder rod. If the label is missing or unreadable, the serial number can be accessed from the UC4.5 control panel or UC5 display screen. Refer to the instructions below to determine serial number.

Affected Products:

Part Number	Description	Date of Manufacture / Serial Number
44695-22	HYD CYLINDER AR 1.75IN W/INTERNAL SENSOR REV A	Manufactured Prior to February 14, 2014 Serial Number Range AR-00055 – AR-00445 Except 00424, 00429, 00430, 00437, 00444

Required Action:

1. If oil is leaking from the port where the cable exits the cylinder, a replacement cylinder is required.
2. If there is no visible leakage or damage to the cylinder, replace the piston assembly inside the cylinder following the procedure below.

Parts Ordering:

Order Part Number: **44695-22R**

Contact your Dealer or NORAC directly at 1-866-306-6722 to order.

The item includes the piston, seals and pipe wrench adapter for installation.

Serial Number Location:

The serial number is located on a label attached to the cylinder rod.



Figure 1: Serial Number Location on Rod

Accessing Serial Number from Display

UC5

1. If the Serial number is not located on the cylinder rod check the NORAC operator's screen.

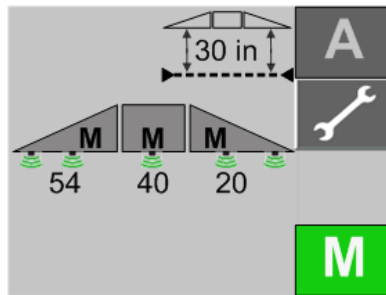






Figure 2: Operator's Screen in Manual Mode

2. In Manual Mode select the Wrench icon.
3. Press the Right Arrow  twice.
4. Select the Wrench. 
5. Select the Sensor icon. 
6. Select the Roll icon. 
7. Select "Intermediate Frame"
8. The screen will display "AS #2: #####" The numbers are the sensor serial number.

UC4.5

1. From the UC4.5 Control Panel Navigate to the Roll Sensor Screen.

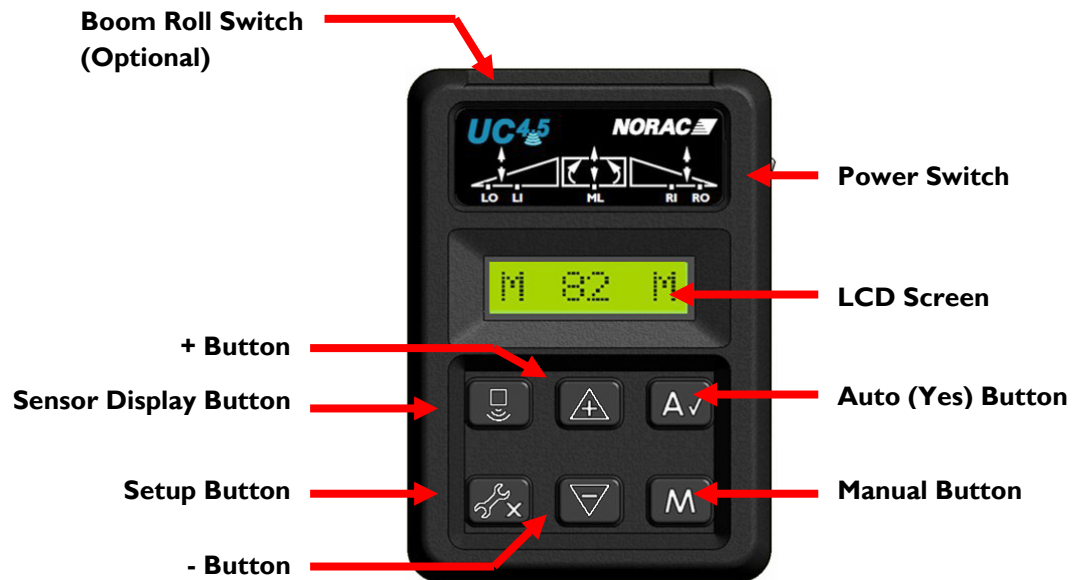







Figure 3: UC4.5 Control Panel

2. Press Sensor Display  until "MORE ?" is shown.
3. Press YES. 
4. Press Sensor Display  until "ROLL ?" is shown.
5. Press YES. 
6. Press Sensor Display  until "IF #####" is shown. The numbers are the sensor serial number.

Replacement Procedure:

! Warning!

Ensure all pressure has been bled from the system before disconnecting any lines or fittings. Hydraulic pressure will exist on the wing tilt circuits unless the wings are being supported by other means. The hydraulic installation may be performed with the wings in transport position, resting on the ground or with the tilt cylinders fully extended.

1. Remove the cylinder connected between the parallel lift frame and roll frame. It is also necessary to remove all hoses and electrical connections. See Figure 4 for the cylinder location. It may be necessary to roll the intermediate frame (where the cylinder is still attached) counterclockwise until the upper link pin can be accessed. It may be helpful to use a jack or strap between the boom frame and the intermediate frame.

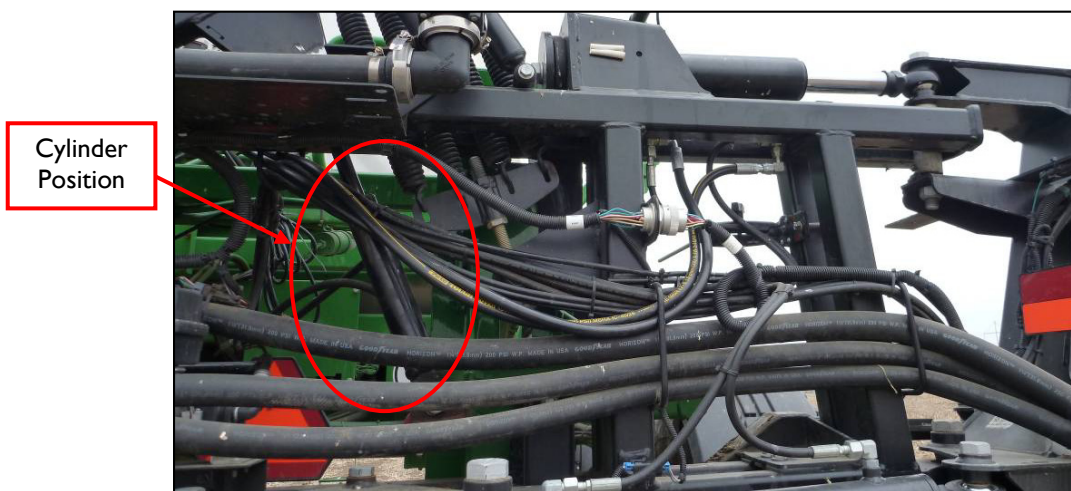


Figure 4: John Deere Link Arm Location (looking towards rear of sprayer)



Figure 5: Upper Pin Installed

2. Clamp the cylinder in a vice.

3. Remove the rod end gland with a pipe wrench or 3/16 Pin Spanner wrench.
4. Pull the rod from the cylinder barrel.
5. Clamp the rod mounting eye into the vice with the rod pointing upward.

Important

The piston and locking setscrew have been assembled using Threadlocker and may require using a torch to slightly heat the setscrew and piston to 400°F (200°C) to release the Threadlocker. Heat **ONLY** the setscrew and piston with the torch; do not aim the flame at, on or in the shaft. Heating the piston only takes about 10 to 15 seconds.

6. Remove the setscrew with a 2.5mm hex key. In the event the setscrew becomes stripped, drill it out with a 3/16 drill bit.
7. Use a pipe wrench or 3/16 Pin Spanner wrench to remove the old piston.

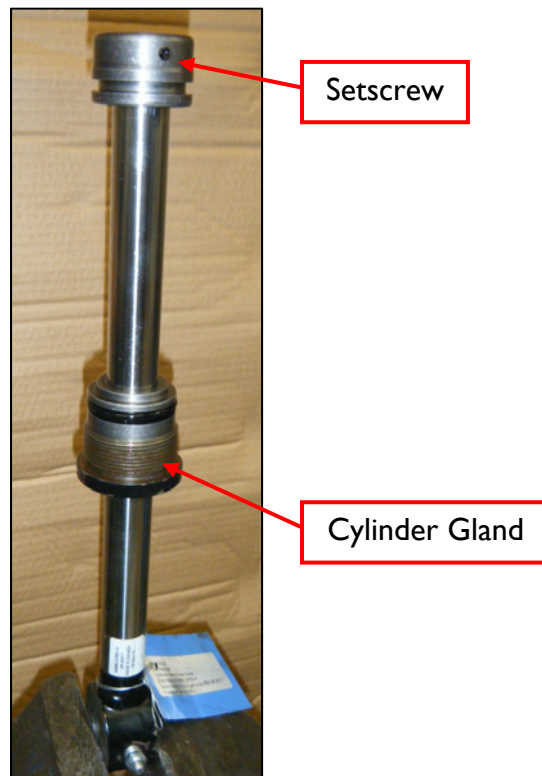


Figure 6: Cylinder Shaft

8. Wipe of the threads of the shaft and new piston.



Figure 7: Shaft Threads

9. Apply Threadlocker (Loctite 242 or similar) to the shaft before installing the new piston.
10. Remove the wear ring from the piston and thread onto the shaft.

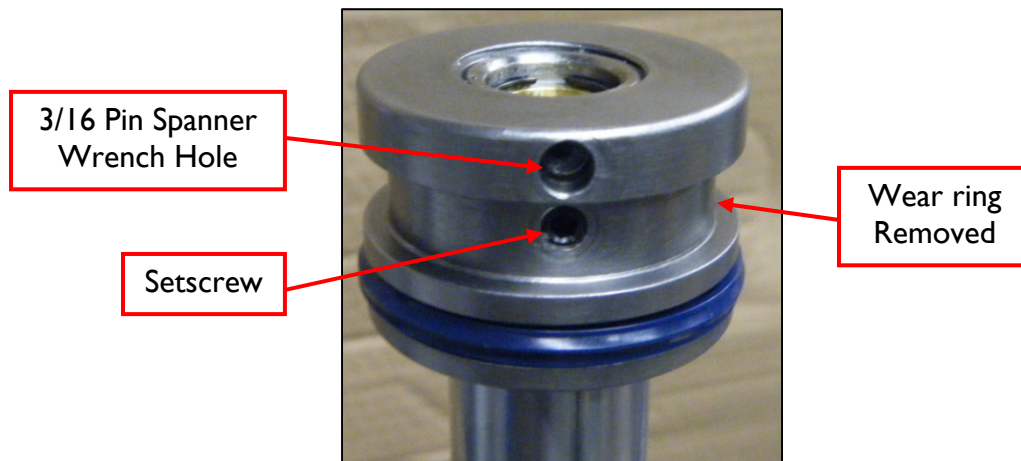


Figure 8: New Piston Installed

11. Use the tool provided or a 3/16 Pin Spanner wrench to tighten the piston onto the shaft.
 - a. To use the tool provided, place the ring over the piston and install the stop pin through the hole in the ring into the spanner wrench hole in the piston.
 - b. A pipe wrench can then be placed onto the ring.



Figure 9: 3/16 Pin Spanner Wrench

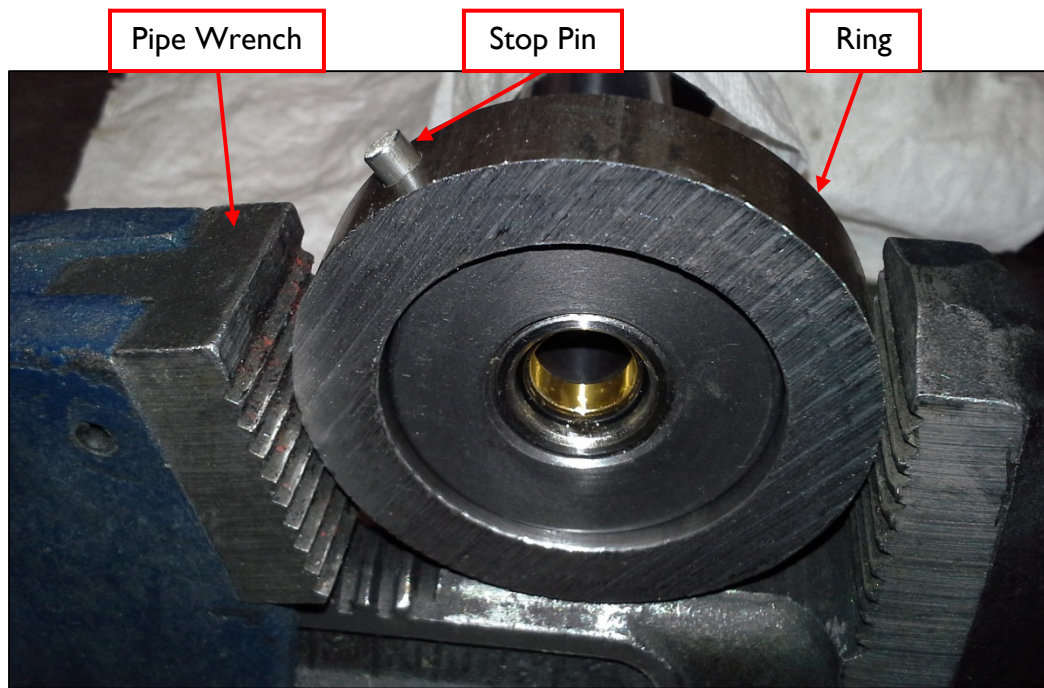


Figure 10: Piston Installation Tool

12. Tighten the piston to 100-150 ft-lbs (135-200nm).
13. Check the surface of the piston for damage during tightening. File off any burrs.
14. Apply Threadlocker to the setscrew and install.
15. Wipe down the piston to remove and dirt or debris.
16. Install the wear ring.



Figure 11: Piston with Wear Ring Installed

17. Coat the wear ring and seal in hydraulic oil.
18. Install the shaft into the cylinder.

19. Tighten the rod gland.
20. Reinstall the cylinder on the sprayer.
21. Install the cylinder into the lower mount so that the cylinder ports face the front of the sprayer. Ensure the pivot sleeve is installed into the cylinder. Install the bolt through the cylinder and sleeve and torque to 250 ft-lbs (339 Nm).

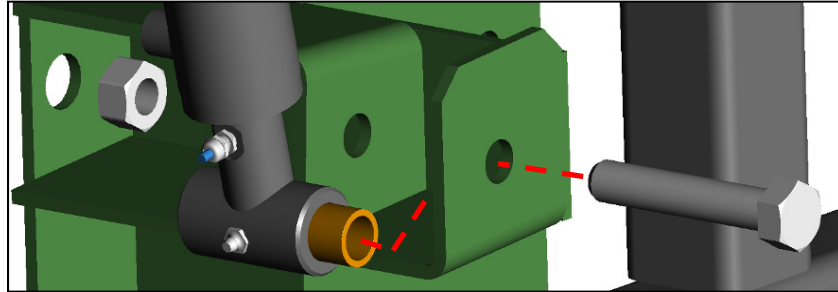


Figure 12: Lower Bolt Installation

22. Install upper pin from the rear of the sprayer through the intermediate frame and the cylinder adding a mounting plate between both sides of the cylinder and the frame. Add the final plate to the front side of the intermediate frame.

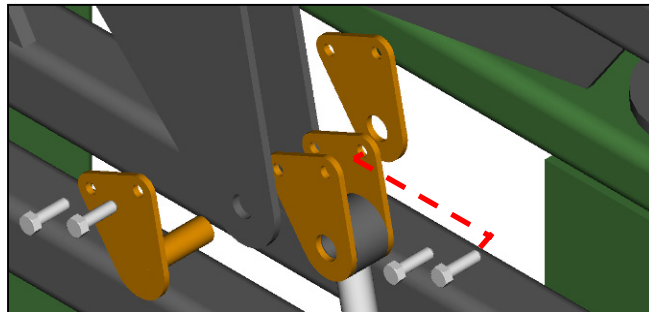


Figure 13: Upper Pin Installation

23. Tighten the upper pin mounting bolts to 16 ft-lbs.
24. Install the 6MB-4MOR (F12) fittings into the cylinder.
25. Install the 4MOR-4FORX90 (F14) fitting onto the cylinder fitting at the cap end of the cylinder.

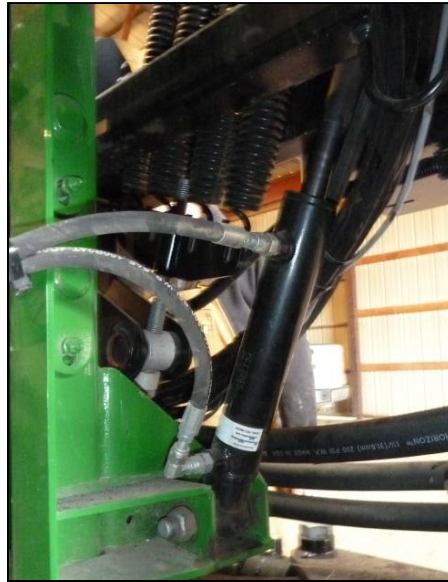


Figure 14: Roll Cylinder Installed with Hoses

26. Operate the cylinder and check for leaks.

Warranty Considerations:

Repairs may be done by sprayer operators or dealer. NORAC will supply replacement piston assemblies at no charge for all affected 44695-22 cylinders. Dealers will be reimbursed for one hour of labor to remove, repair/replace and reinstall cylinder. To order replacement parts, please contact NORAC or your local NORAC dealer. NORAC will supply parts free of charge to all affected 44695-22 product regardless of the warranty period.

The repair must be completed by July 11, 2014 to maintain cylinder warranty.

Questions:

If you have any questions or concerns please contact NORAC's Technical Support Team or Sales Associates.