

NEW HOLLAND

REPAIR

MANUAL

HW345
HW365
Windrower

NEW HOLLAND AGRICULTURE

SERVICE

87576216

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HW345, HW365
REPAIR MANUAL
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The following pages are the collation of the contents pages from each section and chapter of the HW345 and HW365 Repair manual. Complete Repair part # 87576216.

The sections used through out all New Holland product Repair manuals may not be used for each product. Each Repair manual will be made up of one or several books. Each book will be labeled as to which sections are in the overall Repair manual and which sections are in each book.

The sections listed above are the sections utilized for the HW345 and HW365 Self-Propelled Windrowers.

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SECTION 00 - GENERAL INFORMATION

BOOK 1 - 87576217

Chapter 1 - General Information

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SECTION 10 - ENGINE

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Chapter 1 - Engine

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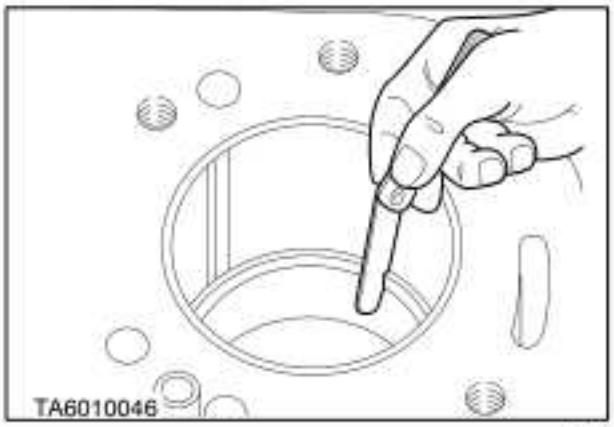
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4. Check the piston ring gap width, using a feeler gauge, in a vertical position at the top, middle, and bottom of the bore, Figure 172.

   Ring Gap Specifications(new rings and bore):
   Top compression ring
   0.29-0.53 mm (0.012-0.021 in.),

   2nd compression ring
   0.49-0.63 mm (0.020-0.029 in.),

   Oil control ring.
   0.29-0.58 mm (0.012-0.023 in.)



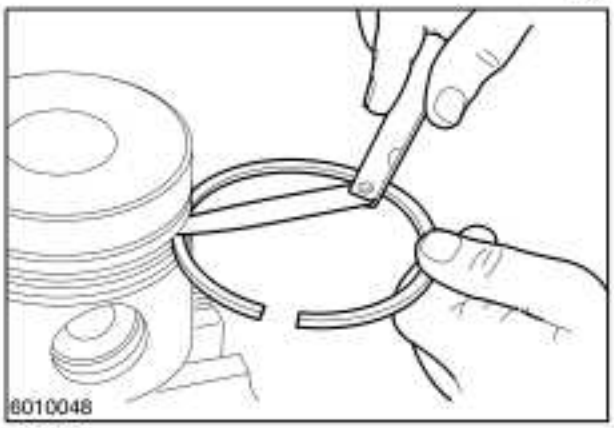
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5. Using a new piston ring, check with a feeler gauge, the gap between the ring and groove.

   2nd compression ring - .
   0.12-0.075 mm (0.005 - 0.003 in.),

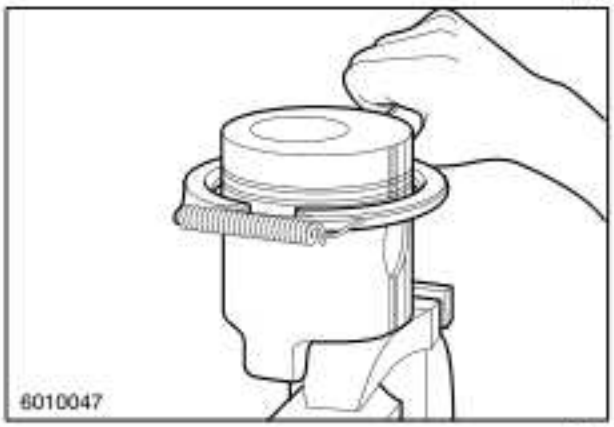
   Oil control ring
   0.07-0.03 mm (0.003-0.001 in.),.

6. Install the piston rings, but note the following:



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7. Always ensure the correct expander, Tool No.380000324, is used to remove or install rings, Figure 174.



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DESCRIPTION OF OPERATION

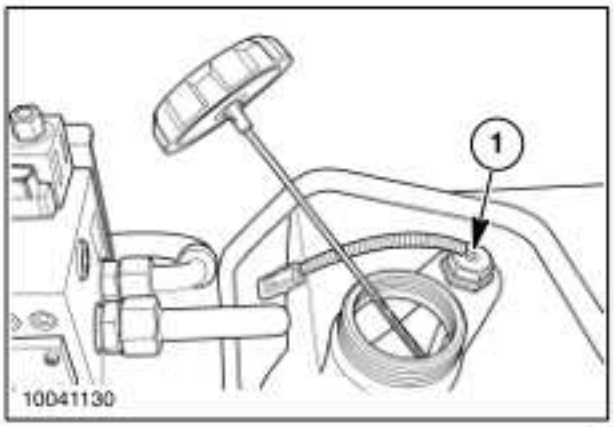
INTRODUCTION

The individual circuits that comprise the electrohydraulic system are shown in schematic drawings. An explanation of each circuit is provided for each schematic.

HYDRAULIC OIL LEVEL SWITCH CIRCUIT

The hydraulic oil level switch (S-19), 1, is mounted inside the hydraulic oil reservoir. This is normally open switch. When the level of the hydraulic oil becomes too low, the float will descend and the switch closes completing the circuit.

Current flow is sensed by the XCM (A-15) and a warning message will appear on the display.



1

"HYD OIL LEVEL LOW" will appear on the bottom line of the display (A-02).



2

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FAULT CODE – 428-03 Propulsion Cylinder Position Sensor R-23A Shorted To High Source

Context:
This fault code was created to test the propulsion cylinder to verify that it is positioned at the full extent and that it is not stuck at that point.

Cause:
Propulsion cylinder position sensor indicates the cylinder is stuck at the reverse extent or is moving very slowly from reverse extent to neutral. This fault will set if the cylinder does not move off of full extent in 0.2 seconds when commanded to move.

Possible failure modes:

1. Mechanical binding of the propulsion cylinder or linkage to position sensor (Refer to Section 29).
2. Propulsion Forward Solenoid L-14 failure.

Solution:

1. Enter Dealer Setup and select "Fault History" on the display. Scroll through any faults to select 428-03. Clear the fault and then perform the Propulsion System Procedure in Section 29, Chapter 2.

   The success of this diagnostic requires software version 4.4.0.0 or higher, and that the mechanical systems are functioning and properly adjusted. Ensure that the mechanical components are capable of moving.

   A. If the fault reoccurs, proceed to Step 2.

   B. If the fault does not reoccur, proceed to Step 6.

2. Test the control outputs. Attach a clamp-on ammeter probe to either lead of the propulsion forward solenoid L-14. From the "Diagnostic Tests" menu, select "Outputs", "Propulsion", and select "Propulsion Fwd L-14" and press the gear up/down button on the MFH. The display will toggle to read 50%. Next move the MFH forward out of neutral, then release the parking brake. At this point, the park brake switch light should go out, and power will be applied to the coil circuit. Observe the ammeter reading.

   A. The ammeter reading should go from zero to –2.20 amps. If the state on the display did not change from Off to 50% when the gear up/down button was pressed, replace Main Control Module (A-15). Repeat Step 1.

   B. If the display shows 50%, yet there is no current, either there is an open circuit or the Propulsion Forward Solenoid (L-14) is open. Continue troubleshooting at Step 3.

   C. If the current reading is within the proper limits, the Propulsion Forward Solenoid (L-14) may be electrically functioning, yet mechanically faulty. Replace L-14 and repeat Step 1.

3. Test L-14 for an open circuit. Disconnect L-14 at **connector X070**. Using an ohmmeter, test for continuity across pin A and B. The meter should read 1.5 – 1.7 ohms.

   A. Replace L-14 if out of tolerance or an open circuit is found. Repeat Step 1.

   B. If the coil tests good continue with Step 4.

4. Test circuit 353 white for continuity between **connector X001** pin 4, and **connector X070** pin A.

   A. If continuity is found, continue with Step 5.

   B. If the circuit is open, disconnect main frame harness **connector X044** and test for continuity between **connector X001** pin 4 and **connector X044** pin 25. If no continuity is found, locate and repair the open, otherwise locate and repair the open between **connector X044** pin 25 and **connector X070** pin A. Repeat Step 1.

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4-Line Display - Engine Coolant Temperature Scale

The first segment of the bar graph will appear when the coolant temperature is less than 66°C (150°F).

Coolant: C□ H

The second segment of the bar graph will appear when the coolant temperature is 66 – 78°C (150 – 174°F).

Coolant: C□□ H

The third segment of the bar graph will appear when the coolant temperature is 79 – 90°C (175 – 194°F).

Coolant: C□□□ H

The fourth segment of the bar graph will appear when the coolant temperature is 91 – 98°C (195 – 209°F).

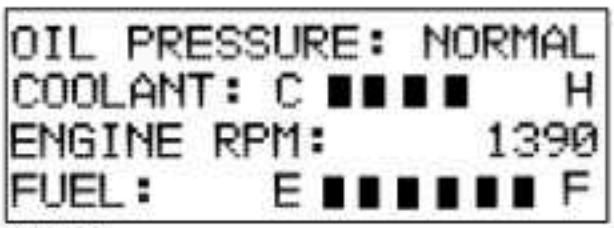
Coolant: C□□□□ H

The fifth segment of the bar graph will appear when the coolant temperature is 99 – 107°C (210 – 225°F).

Coolant: C□□□□□ H

The sixth segment of the bar graph will appear when the coolant temperature is equal to or greater than 107°C (225°F).

Coolant: C□□□□□□H



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A-Pillar Display – Engine Coolant Temperature Scale

	°C		°F
	>110.0		>230
	107.2-110.0		225-230
	103.3-106.6		218-224
	98.8-102.7		210-217
	97.7-98.3		208-209
	96.1-97.2		205-207
	93.8-95.5		201-204
	91.1-93.3		196-200
	88.3-90.5		191-195
	85.5-87.7		186-190
	82.2-85.0		180-185
	78.8-81.6		174-179
	75.5-78.3		168-173
	72.2-75.0		162-167
	68.8-71.6		156-161
	65.5-68.3		150-155
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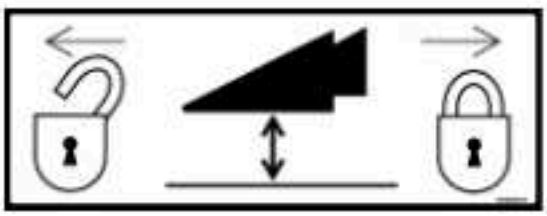
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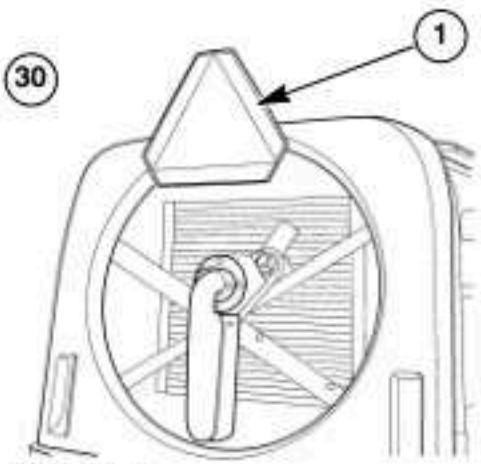
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SMV 20041065 (1)
The slow moving vehicle sign, 1, is mounted on a spade at the top rear of the windrower.

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