⚠ Operator presence system ⚠

Your machine is equipped with an operator presence system to prevent the use of some features while the operator is not in the operator's seat.

The operator presence system should never be disconnected or bypassed.

If the system is inoperable, the system must be repaired.

⚠ Power Take-Off (PTO) ⚠

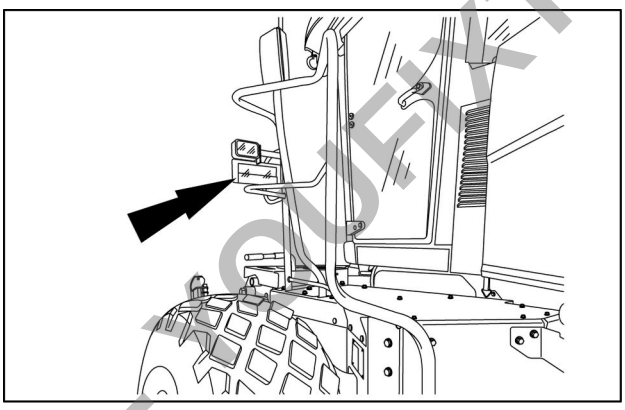
PTO-driven machinery can cause death or serious injury. Before working on or near the PTO shaft or servicing or clearing the driven machine, put the PTO switch in the disengage position, stop the engine, and remove the key.

Whenever a PTO is in operation, all guards must be in place to prevent death or injury to the operator or bystanders.

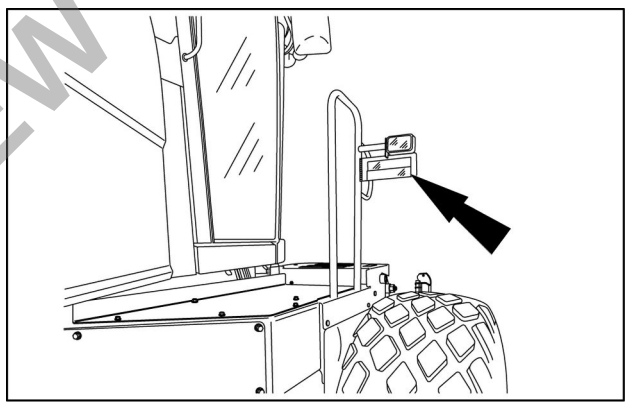
⚠ Reflectors and warning lights ⚠

Reflectors are located on the handrails in the areas as shown in Figure **1**.

Flashing amber warning lights must be used when operating on public roads.



NHIL14WR00278AA 1



NHIL14WR00279AA 2

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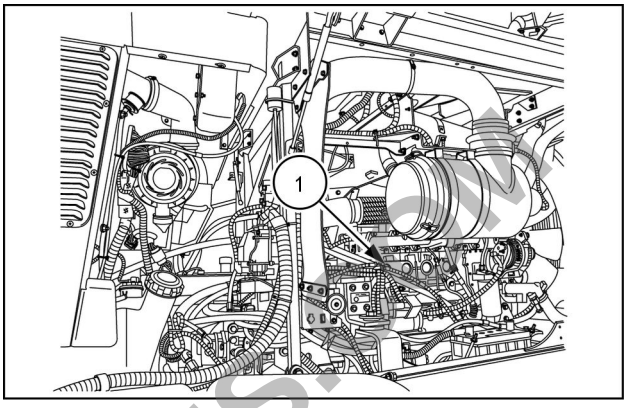
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Engine and crankcase - Check fluid level

NOTE: *Before checking the engine oil level, park the windrower on a level surface, stop the engine, set the park brake, and wait for a short period (minimum 5 minutes) to allow the oil to drain back into the oil pan.*

1. Clean the dipstick area of debris and remove dipstick **(1)** wipe it clean, and reinsert it fully.
2. Pull the dipstick out again and check the oil level. The oil level should be at the top of the flattened area.

NOTICE: *Do not operate the engine with the oil level below the "lower" mark on the dipstick. Damage to the engine may occur.*

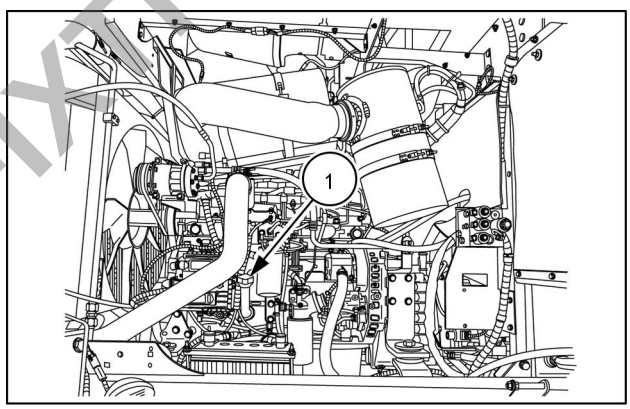


NHIL14WR00297AA 1

Adding engine oil

1. Clean any debris from around the crankcase fill cap **(1)** on the left side of the windrower.
2. Remove the fill cap **(1)** and add oil as required so the level is within the two marks on the dipstick. The quantity of oil represented by the upper and lower marks is approximately **2 l** (**2.1 US qt**).
3. Install the fill cap and check the dipstick.

NOTICE: *Do not operate the engine with the oil level above the "upper" mark. The excess oil will be burned off or pushed out the crankcase breather and give a false impression of oil consumption.*



NHIL14WR00293AA 2

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Hydraulic pump control housing - Remove - Splitter gearbox

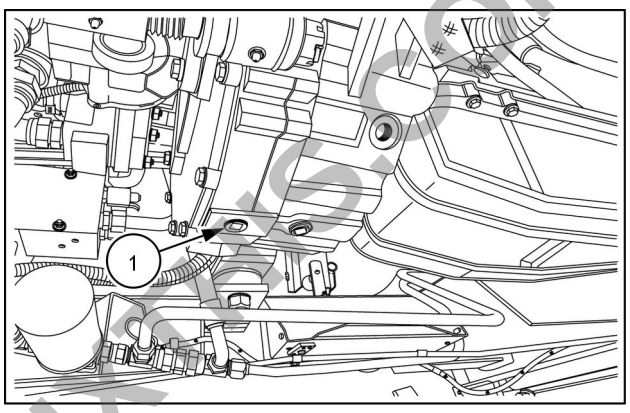
Speedrower® 220	NA
Speedrower® 260	NA

⚠ DANGER

Pressurized system!
Always remove all pressure before working on the hydraulic system. Follow the pressure BLEED program in the Configuration Mode to remove the pressure in the entire hydraulic system.
Failure to comply will result in death or serious injury.

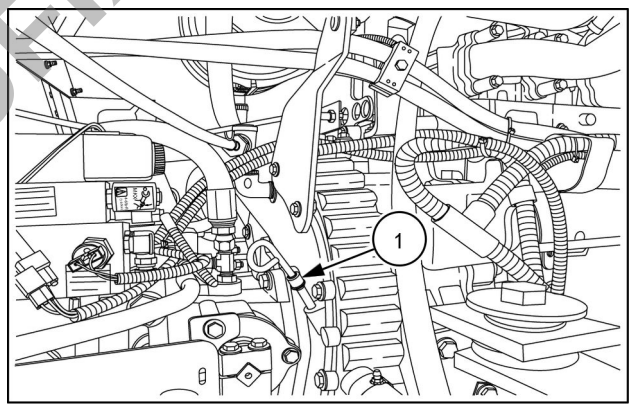
D0035A

1. Remove the plug **(1)** to drain the oil from the gearbox.



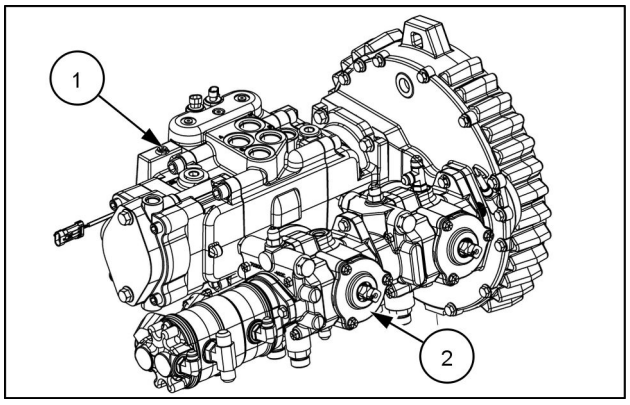
NHIL13WR00087AA 1

2. Remove the oil level indicator **(1)** and the oil will flow faster.



NHIL13WR00088AA 2

3. Remove the Header Drive Pump **(1)**, see **Hydraulic pump drive - Remove (31.226)**.
4. Remove the Tandem Pump **(2)**, see **Pump - Remove (29.218)**.



NHIL14WR00219AA 3

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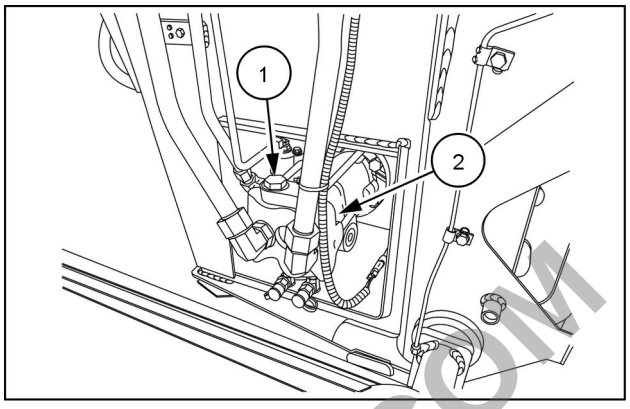
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7. Install motor and brake assembles.
8. Install the bolts **(1)** that secure the hydraulic motor **(2)**and brake to the front mechanical drive hub. Torque bolts to **137 N·m** (**101 lb ft**).

⚠ CAUTION

Heavy object!
The component is heavy. Use care not to drop the component when installing, removing, or handling.
Failure to comply could result in minor or moderate injury.

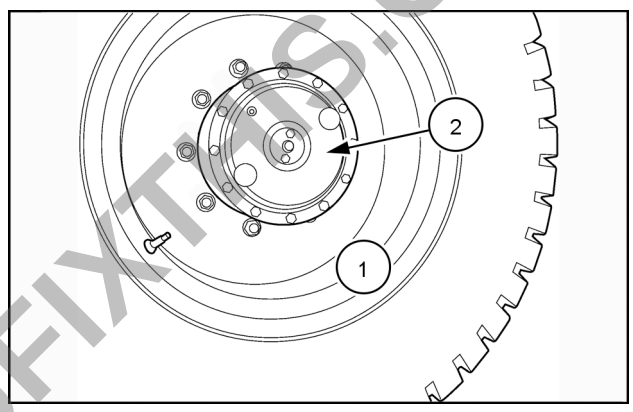
C0095A



NHIL13WR00851AA 4

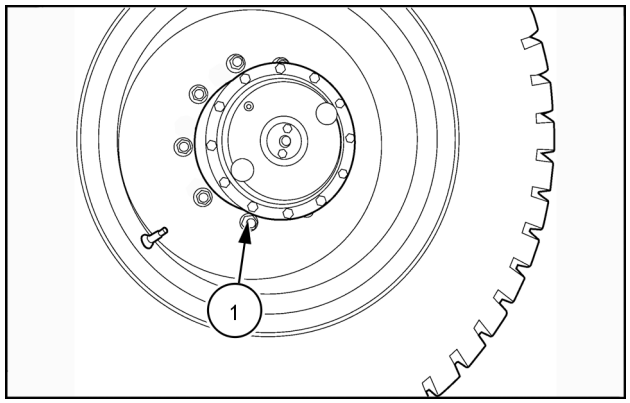
9. Reinstall the drive wheel **(1)** on the final drive **(2)**.

NOTE: *Diamond tread tires are omni directional. Install cleat tread tires so the tread V's are on top of the tire pointing forward.*



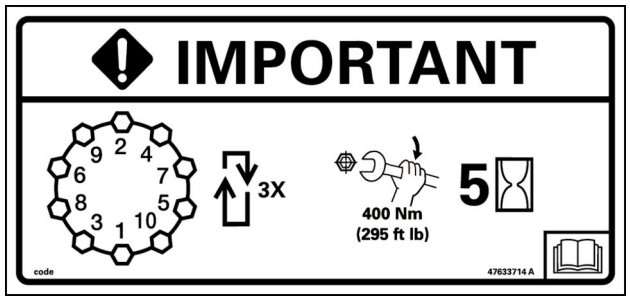
NHPH12WR00598AA 5

10. Install the special flanged lug nuts **(1)**. Torque the nuts to **400 N·m** (**295 lb ft**), per label on the wheel.



NHPH12WR00598AA 6

Ten lug drive hub torque pattern.



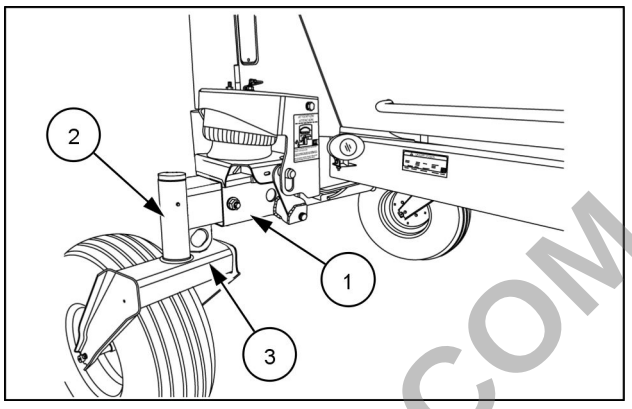
47633714_A 7

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Non-powered rear axle - Overview - Suspended rear axle

All 6-cylinder units are equipped with suspended rear axles. The suspended rear axle consists of two axle tubes **(1)** that pivot independently around pivot pins that attach the axle tubes to the frame. Travel is 9 degrees up from level, and 8 degrees down. The axle tubes have an air shock mounting bracket to attach the bottom of the air shock. The top of the air shock is mounted inside a mounting bracket that is welded to the frame. Tread width adjustments are common with the adjustable rear axle. The axle extension tube **(2)** is inserted into the axle tube and is adjustable to **2286 mm** (**90 in**), **2667 mm** (**105 in**) and **3048 mm** (**120 in**). Two types of wheel supports **(3)** are available to mount the rear tires. The two-sided fork style can be used with 14L x 16.1 rear tires and the single arm wheel support can be used with 14L x 16.1 or 16.5L x 16.1 rear tires. The air springs use compressed air to provide appropriate suspension with a connecting airline that maintains equal pressure in both springs and allows filling at a single location. Lockout pins should be installed to disable the suspension when the header ‘is temporarily removed to maintain satisfactory steering.



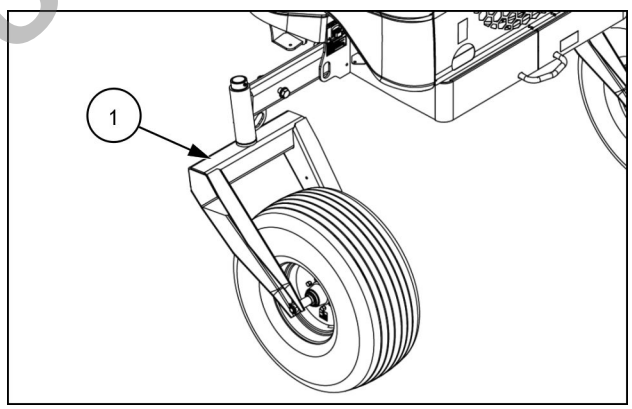
NHIL14WR00084AA 1

Rear tire support choices

All units are available with a choice of a fabricated steel, fork-style rear tire support, or a cast-iron, single-side support with cantilevered rear spindle.

Fork-style rear tire support

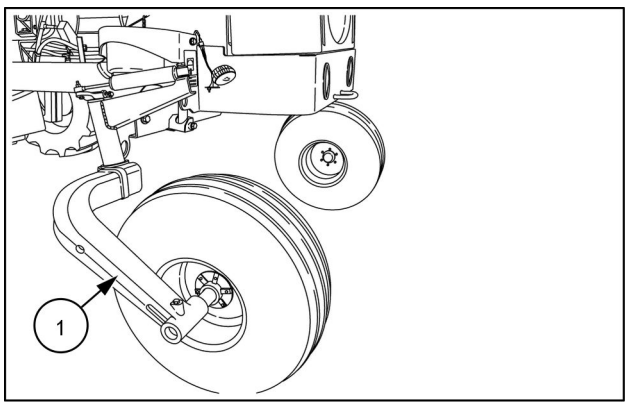
Forked-style support **(1)** is only available with 14L x 16.1 tires.



NHIL14WR01101AA 2

Single-side tire support

Single-sided style support **(1)** is only available with 14L x 16.1 or 16.5L x 16.1 tires.



NHIL13WR00115AA 3

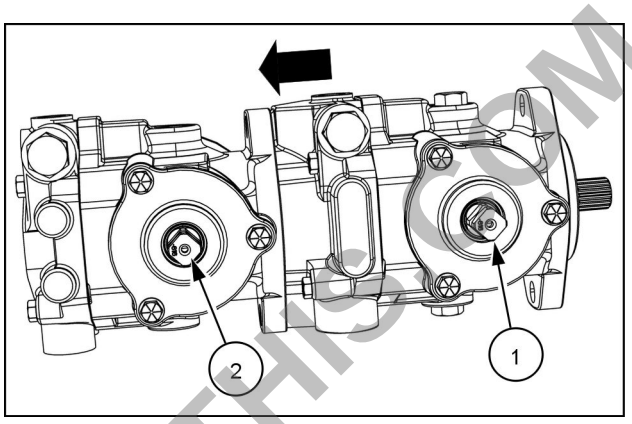
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The two-speed hydrostatic transmission and drive system provides propulsion to the right-hand **(1)** and left-hand **(2)** ground drive motors. The propulsion system sends system operating hydraulic pressure to the ground drive motors which rotate the wheels in the forward or reverse direction. The steering system creates a difference between the rotation speeds of the wheels enabling the windrower to turn.

Ground drive hydraulic pumps (Hydro tandem pump)

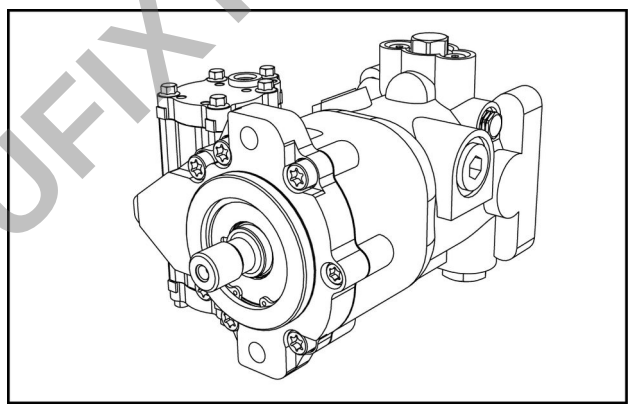
Description	Variable displacement transmission pump
Displacement	49.2 cc/rev
Rotation	Counter-clockwise (looking at shaft end)
Ports	System operating pressure port “A”
	System operating pressure port “B”
Sensors	Feedback sensor



NHIL14WR00145AA 2

Ground drive motors

Maker	Sauer Danfoss
Description	Motor, hydraulic
Displacement	46 cc
Ports	System pressure port “A”
	System pressure port “B”
	Case drain
	Control pressure supply port (two-speed)
	System pressure gauge port “A”
	System pressure gauge port “B”



NHIL14WR00146AA 3

Each drive motor converts supplied hydraulic flow into mechanical torque, which is in turn directly transferred through the modular brake and the drive gearbox to its attached drive wheel.

The continuous removal of oil from the low loop side of the hydrostat via the shuttle valves on each motor provides a cooling circuit. The shuttle valves drain off **5.67 - 7.57 l/min** (**1.5 - 2.0 US gpm**) from each motor under full load. The charge pump replenishes the oil removed by the shuttle operation, as well as any lost to internal leakage in the motor.

NOTE: *When diagnosing internal leakage in the motors, case drain flow will include the* ***5.67 - 7.57 l/min*** *(****1.5 - 2.0 US gpm****) from the shuttle valve operation.*

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Brakes and controls - 33

Parking brake or parking lock - 110

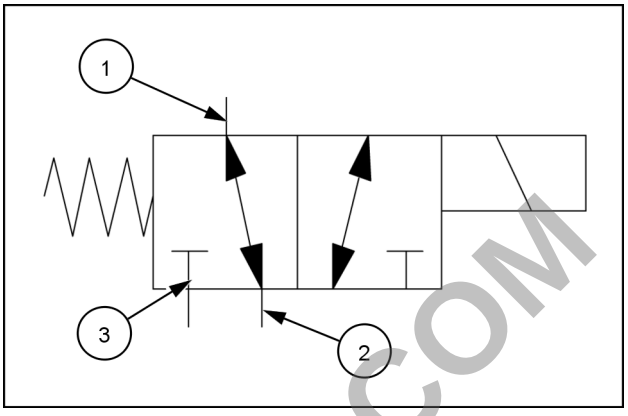
Speedrower® 220
Speedrower® 260

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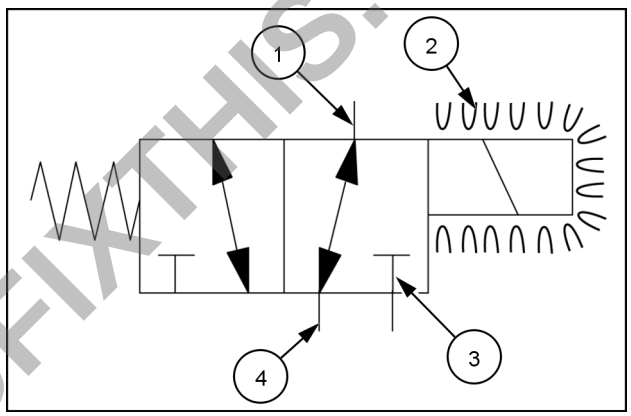
Control valve, directional, two position

This is a symbol for a directional control valve. The valve switches the direction of hydraulic pressure from one output to another output. The symbol is shown in neutral or de-energized position. In de-energized position, hydraulic pressure will travel from **(1)** to **(2)** in either direction. closed passage **(3)** will block hydraulic pressure at the control valve.



NHIL13WR00611AA 1

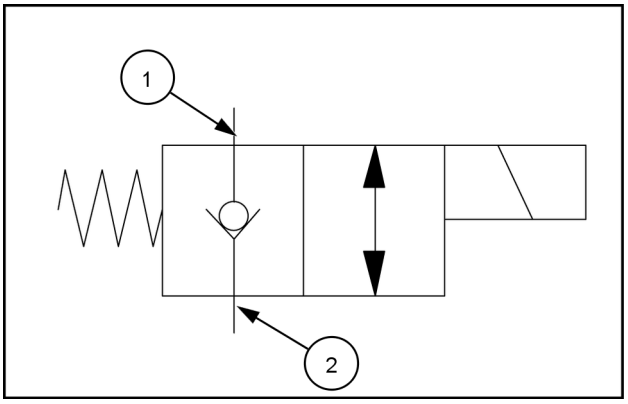
When the solenoid of the directional control valve is energized **(2)**, the spool of the valve shifts to the energized position. Ports **(1)** and **(4)** are now aligned and hydraulic pressure flows in either direction. closed passage **(3)** that was open when the valve was de-energized, now blocks hydraulic flow at the control valve.



NHIL13WR00617AA 2

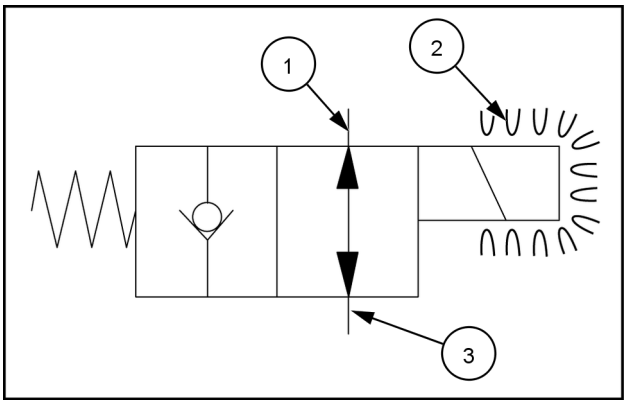
Control valve, single check

The single check control valve blocks hydraulic flow in one direction when de-energized, and allows flow in either direction when energized. When the valve solenoid is de-energized, hydraulic pressure will flow from **(2)** to **(1)**. Hydraulic flow is blocked from **(1)** to **(2)**.



NHIL13WR00613AA 3

When the solenoid of the single check control valve is energized **(2)**, hydraulic pressure will flow from **(1)** to **(3)** in either direction.



NHIL13WR00618AA 4

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Steering control - 101

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Cab climate control - 50

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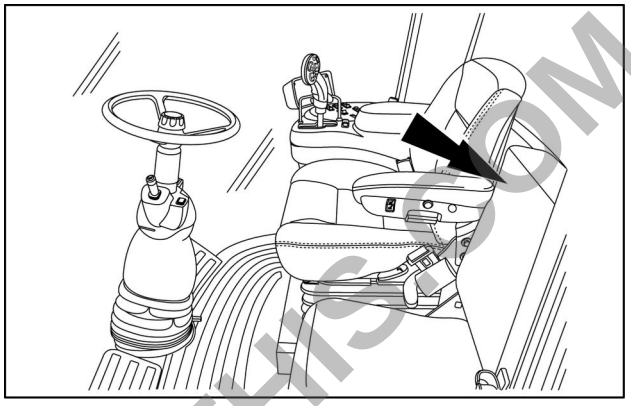
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Electrical system - Component localization - Universal Control Module (UCM)

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Speedrower® 260	NA

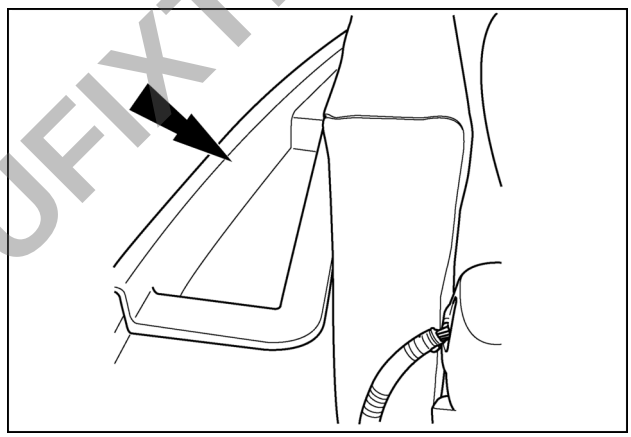
The Universal Control Module (UCM) is located behind the instructor's seat.

Remove the instructor's seat.



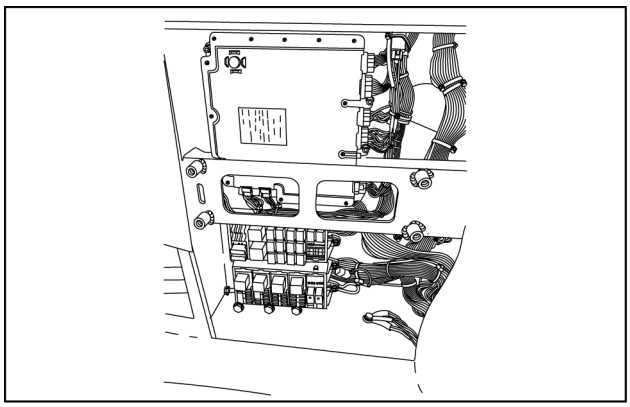
NHIL13WR00517AA 1

Remove the storage tray.



10041209 2

Pull the cab insulation back.



NHIL13WR00739AA 3

Connector X-001

Pin	UCM internal circuit reference	Description
1	C_GND	Ground GND-002 - Located by left battery
2	5VREF1_OUT	**5.0 V** reference out.
3	5VREF2_OUT	**5.0 V** reference for FNR handle position sensor B-054.
4	ARMREST CLK	Multi-function Handle (MFH) switch S-049 input signal
5	LSD_09	Low side driver (ground source) for R.H. flashing light relay K-018 coil

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Hydrostatic drive control system - Dynamic description - Steering neutral

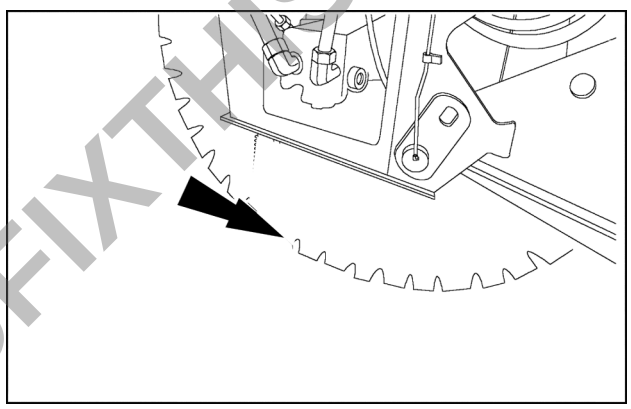
Speedrower® 220	NA
Speedrower® 260	NA

The hydrostatic pump has two swash angle sensors to measure for propulsion and steering neutral. By turning the steering wheel back and forth, true neutral for the propulsion/steering sensors can be achieved. When the swashplate sensors are in neutral, they are in a closed vertical position. There is no hydraulic fluid movement in the pump.

This operation will only work if the neutral centering spring is adjusted to the specified length.

When the unit will not start, turn the steering wheel back and forth to move and center the swash plates in the propulsion pump.

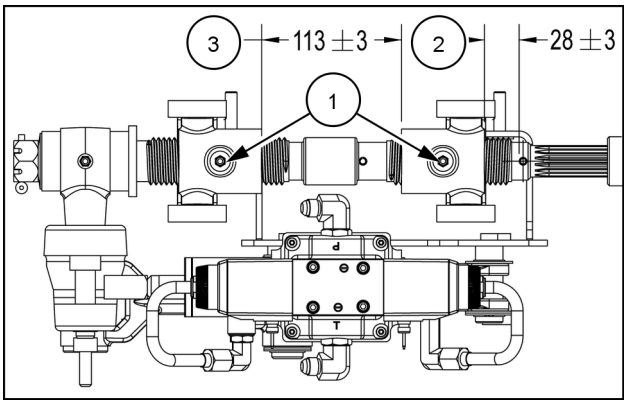
Park the windrower on a flat level surface and chock both front wheels.



NHIL14WR00110AA 1

Be sure both grease fittings on the steering nuts **(1)** are facing down.

2. Measure from the rear shoulder of the roll pin to the front edge of the steering nut. Dimension **(2)** should be **28 mm** (**1.10 in**).
3. Measure from the back edge of the first steering nut to the front edge of the second steering nut. Dimension **(3)** should be **113 ± 3 mm** (**4.45 ± 0.12 in**).



NHIL14WR00092AA 2

NOTICE: *Use a non-permanent thread locking compound on the threads of the cap screws that attach the pintle arms to the steering nuts.*

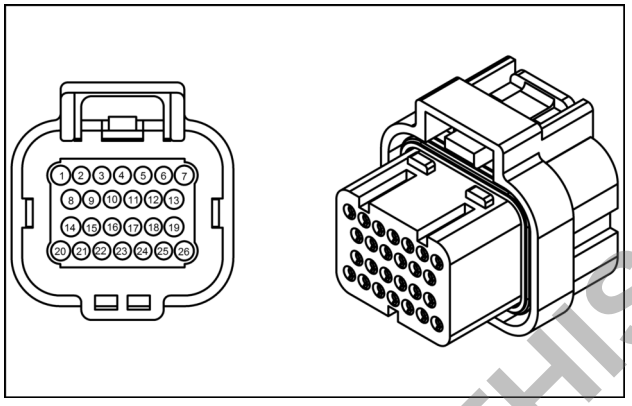
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Wire connectors - Component Diagram 00 – Connectors X-000 to X-009

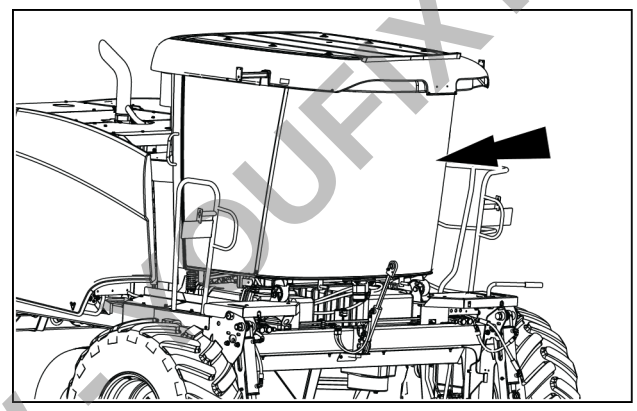
Speedrower® 220	Draper ready - Factory-fitted to accept draper
Speedrower® 260	Draper ready - Factory-fitted to accept draper

X-001 - A-001 UNIVERSAL CONTROL MODULE (UCM) (82016219)



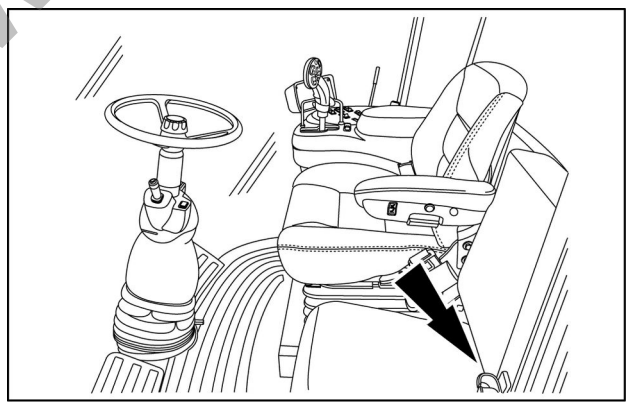
82016219 1

82016219



NHIL14WR01176AA 2

Connector X-001 is inside the cab.



NHIL12WR00067AA 3

Connector X-001 is behind the instructional seat.

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Electronic modules - 640

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FAULT CODES - DTC

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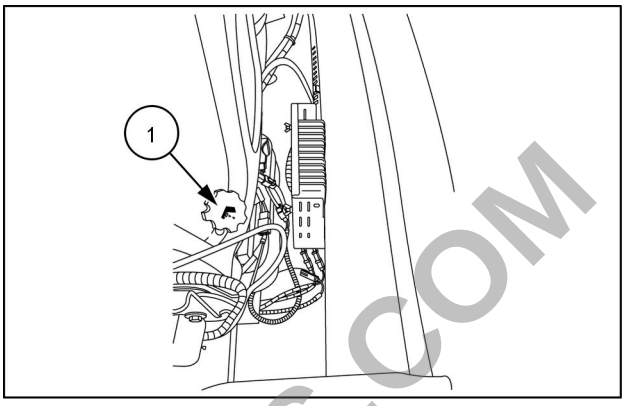
Pneumatically-adjusted operator seat - Static description - Optional leather operator seat adjustments

Lumbar adjuster

Adjust the lumbar support for personal back comfort.

On the left-hand rear side of the seat back:

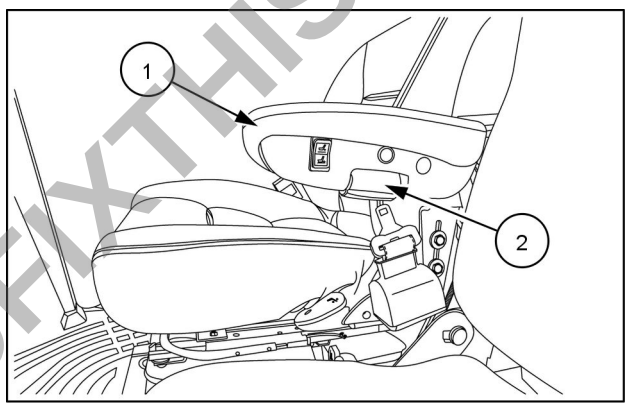
1. Turn the knob **(1)** clockwise to increase support.
2. Turn the knob counter-clockwise to decrease support.



NHIL13WR00068AA 1

Left armrest

The armrest **(1)** can be tilted up for easier access to the operator's seat. The angle of the armrest is also adjustable **23 °** upward or **12 °** downward from horizontal by turning the adjustment knob **(2)**.

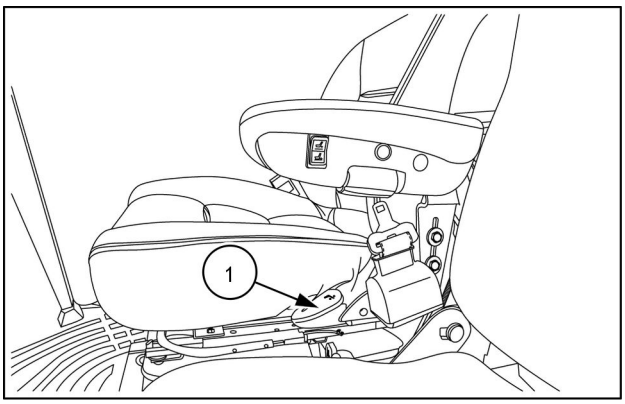


NHIL13WR00067AA 2

Backrest

To adjust the backrest:

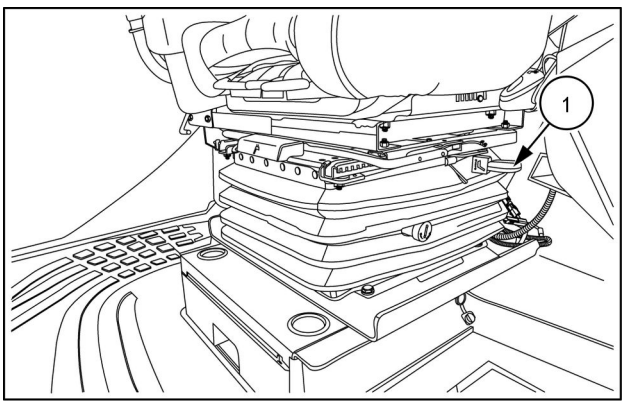
1. Lift the lever **(1)** and tilt the backrest to the desired position.
2. Release the lever to hold the backrest in the selected position.



NHIL13WR00067AA 3

Fore/Aft isolator

The seat can float a short distance forward or rearward when the isolator lever **(1)** is DOWN. With the isolator lever in the UP position, the seat does not float. The float position absorbs shocks and reduces operator fatigue when traveling over rough terrain.



NHIL13WR00066AA 4

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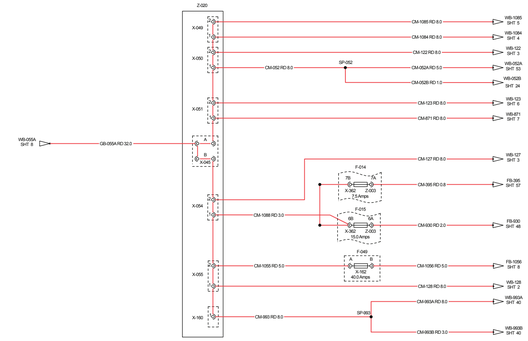
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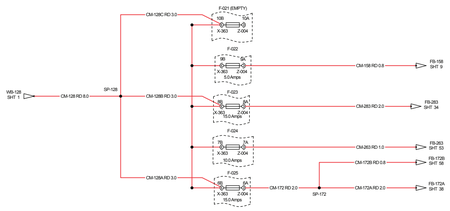
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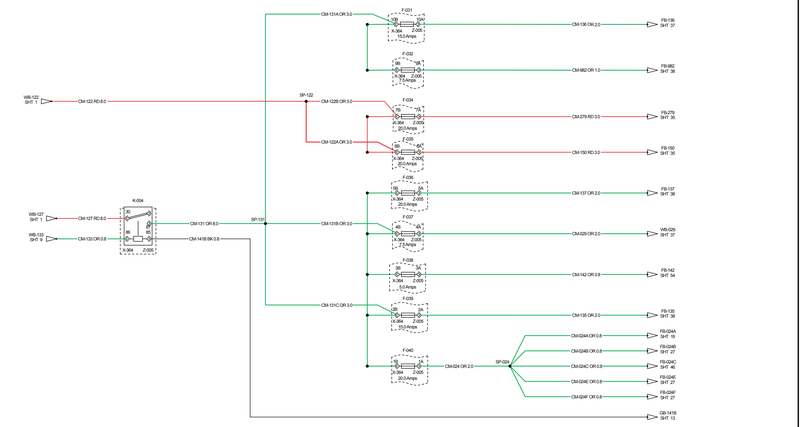
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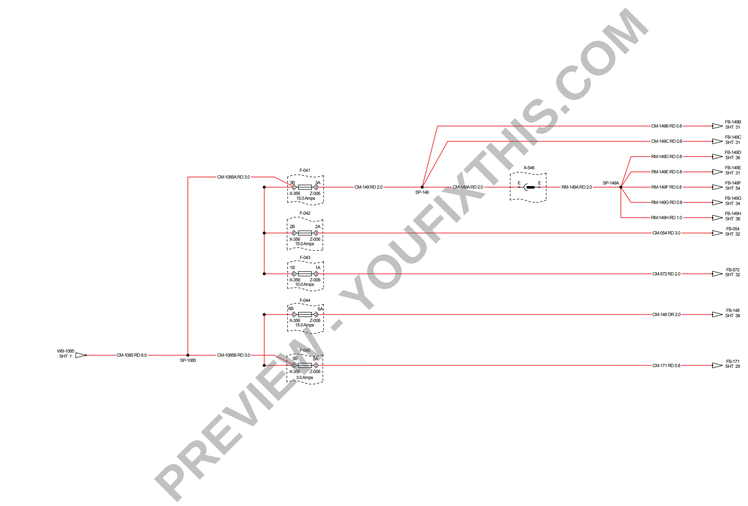


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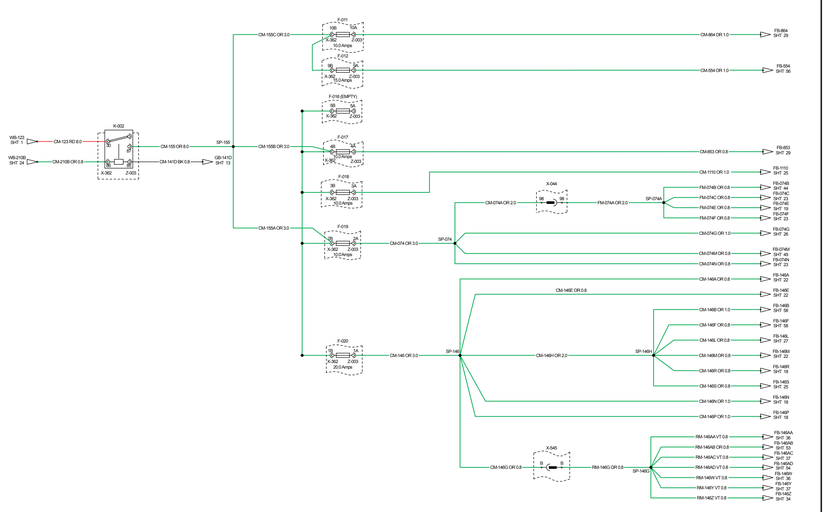


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SHEET 4 OF 68 - POWER DISTRIBUTION



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SHEET 8 OF 68 - STARTING/CHARGING

SPEEDROWER® 220 / SPEEDROWER® 260
SELF-PROPELLED WINDROWER
47779258
ELECTRICAL SCHEMATIC
6-CYLINDER, NON-DRAPER
MODEL YEAR 2015 PRODUCTION

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12V UNSWITCHED POWER
IGNITION KEY ON
STARTING SEQUENCE

COMPONENT LEGEND

Label Prefix	Component Type
A	Electronics
B	Sensors
D	Diodes
E	Lights
F	Fuses
G	Generators
H	Audio
J	Outlets
K	Relays
M	Motors
Q	Circuit Breakers
R	Resistive
S	Switches
W	Splice Blocks
Y	Solenoids

WIRING REFERENCES

Color	Color Code	Function
Black	BK	Ground, Chassis
Blue	BL	Printed Circuit Ground
White	WH	Increasing Actuation
Gray	GY	Decreasing Actuation
Orange	OR	Power After Ignition
Yellow	YE	Signal Wires
Red	RD	Battery Voltage
Violet	VT	Lighting
Pink	PK	Reference Voltage

MF - 431 - YE
WIRE COLOR
CIRCUIT NUMBER
HARNESS CODE

ACTUATORS

HAND, FOOT, TEMPERATURE, LIQUID LEVEL/FLOW, LEVER, PRESSURE

SCHEMATIC SYMBOLS

DIODE, FUSE, LAMP, MOTOR, COIL, RESISTOR, VARIABLE RESISTOR, CHASSIS GROUND (EARTH), TWISTED WIRES, SHIELD & DRAIN, TO CHASSIS GROUNDS PAUE, SPEED PICKUP, REED POSITION SENSOR, HALL EFFECT SENSOR

CONTACTS
▲ MAINTAINED
▲ MOMENTARY

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STEER MOTOR
PN 47515828
DISP. 66 CC/REV

HYDRO TANDEM PUMP 49.2/49.2 15T
PN 84598637 [47364395]
MULTIPLE GEAR PUMP 6.6/35.1/6.6 9T
PN 84586626 [47364395]

REAR (SHAFT END)
PUMP RH DRIVE

LH DRIVE

REAR PUMP
CASE FLUSH

CASE DRAIN

LH
LIFT PUMP
6.6 CC/REV

OIL COOLER
35.1 CC/REV

RH
LIFT PUMP
6.6 CC/REV

REAR (SHAFT END)
PUMP RH DRIVE

REAR PUMP
CHARGE

PUMP
LH DRIVE

FRONT PUMP
CHARGE

LEFT WHEEL MOTOR
STD SPEED PN 47570419
DISP. 48 CC/REV
HIGH SPEED PN 84171196
DISP. 36/50/68 CC/REV

MULTI-DISC PARKING BRAKE
PN 87631994

LEFT LIFT CYLINDER
PN 84357187
DOUBLE ACTING
2.75 inch BORE
10.5 inch STROKE

TILT CYLINDER
PN 84196465
DOUBLE ACTING
2 inch BORE
8 inch STROKE

0.032"
ORIFICE

0.055" ORIFICE

15 GPM MAX

CRG2

HYDRAULIC RELIEF CHARGE MANIFOLD
PN 47404488 [47404499]

ENABLE VALVE
PN 47410023

AUTOGUIDANCE VALVE (OPTION)
PN 47450953

CF2

CF1

X2

DIAG1

CRG1

CRG PSI

X3 IN X1 CRG3

15 PSI CRACK

CHARGE
PRESSURE

STEER VALVE
STD SPEED PN 47515829
DISP. 350/230 CC/REV
HIGH SPEED PN 47515830
DISP. 350/230 CC/REV

L 3SP R T

HEADER FWD (TOP)

PUMP CASE DRAIN

CHARGE PUMP
35.1 CC/REV

PISTON PUMP EDC 105 CC/REV

HEADER REV (BOTTOM)

SUCTION STAINERS

TILT RETRACT

HYDRAULIC RESERVOIR
PN 84484106
CAPACITY 11 GAL
SUCTION STAINER 100 MESH
RESERVOIR LEVEL SENSOR

DISC HEADER

PISTON MOTOR
PN 87037263
3.0 C/R

PISTON MOTOR
PN 87037263
3.0 C/R

RIGHT ACCUMULATOR
1.0 GALLON DIAPHRAM TYPE
800 PSI PRE-CHARGE

LEFT ACCUMULATOR
1.0 GALLON DIAPHRAM TYPE
800 PSI PRE-CHARGE

RIGHT ACCUMULATOR

LEFT ACCUMULATOR

LEFT HEADER LIFT

RIGHT HEADER LIFT

PARKING BRAKE

2 SPEED

CHRG

TLT CAP

CRG PSI

LIFT CAP

3 SPEED

LAC LHL RAC RHL TLT ROD BRK 2SPD

S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12 S13

Y01 Y02 Y03 Y04 Y05 Y06 Y07 Y08 Y09 Y10 Y13 Y23 Y28

LHD RHD

REL-L REL-R

T T2 LP-1 LP-2 DRN-3 DRN-2 RP-3 RP-1 RP-2 DRN-1 TMP DP LIFT CAP 3SPD

LIFT MANIFOLD
PN 84590998 [47420179]

DIRECTION CONTROL VALVE
PN 87043394

SYSTEM CONTROL CYLINDER
PN 47429670
BORE 1.5 INCH
STROKE 3.28 INCH

MULTI-DISC PARKING BRAKE
PN 87631994

RIGHT WHEEL MOTOR
STD SPEED PN 47570419
DISP. 46 CC/REV
HIGH SPEED PN 84171196
DISP. 36/50/68 CC/REV

RIGHT LIFT CYLINDER
PN 84357187
DOUBLE ACTING
2.75 inch BORE
10.5 inch STROKE

OIL COOLER
PN 84160114

CHECK VALVE
PN 47481633
125 PSI

CHARGE FILTER
PN 84487527
OPERATING PRESSURE 500 PSI
MAX. HARD PARTICLE SIZE 500 MICRON

LEGEND

- PRIMARY CIRCUIT, SYSTEM PRESSURE
- CHARGE PRESSURE
- REDUCED PRESSURE VS. SYSTEM PRESSURE
- RETURN TO TANK / SUMP
- STEERING
- PROPULSION SYSTEM

NON-DRAPER READY
6-CYLINDER
SPEEDROWER® SERIES
SELF-PROPELLED WINDROWER

47886002

HYDRAULIC SCHEMATIC

NORTH AMERICA MODELS, MODEL YEAR 2015

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Recovery station dye injector tool with a charged system

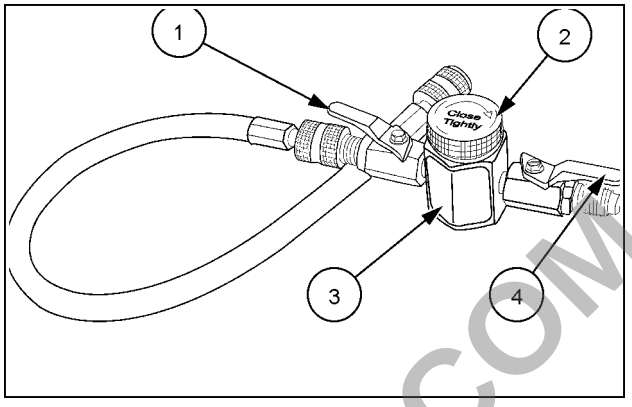
NOTE: *Valves are shown in the open position.*

The R134a dye injector tool is designed to be used with the **380000315** recycling station.

1. Disconnect the low pressure hose (blue) from the **13 mm** (**0.5 in**) acme flare fitting on the rear of the station.
2. Connect the dye injector to the fitting.
3. Connect the low pressure hose to the dye injector.

   NOTE: *The dye injector can be permanently mounted on the recycling station with the two threaded holes on the bottom of the reservoir.*

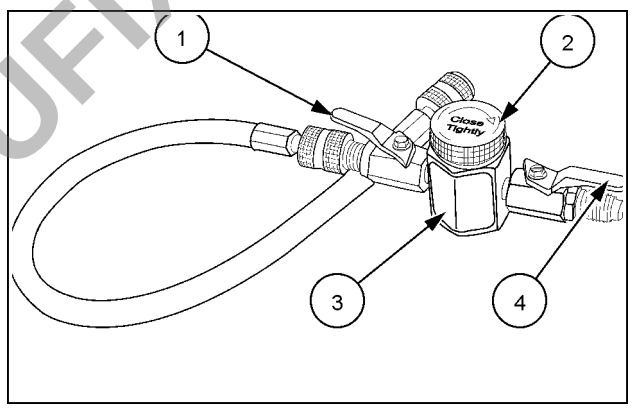
4. Open the valves **(1)**, **(4)** on either side of the reservoir **(3)** on the dye injector.
5. Recover **0.23 kg** (**0.5 lb**) of refrigerant from the system. This amount of refrigerant will act as a carrier to inject the dye.
6. After repairing the system, use fluorescent dye cleaner to remove any traces of dye from around the leak location to avoid false diagnosis in the future.



RCPH07CCH414ABC 2

6. Close the valve **(4)** on the machine side of the dye injector and continue to recover. This will draw the refrigerant out of the reservoir on the dye injector.
7. Close the valve **(1)** on the station side of the dye injector and stop recovering.
8. Remove the cap **(2)** from the reservoir and fill the reservoir **(3)** with the contents of one bottle of fluorescent dye. Reinstall the cap on the reservoir and tighten securely.
9. Open the valve on the side of the reservoir on the dye injector.
10. Recharge the air conditioning system with the proper amount of refrigerant removed earlier - **0.23 kg** (**0.5 lb**). Start the recharging process and immediately open the valve on the station side of the dye injector to prevent drawing the dye into the charging station. The dye will be injected into the system while recharging.
11. Install the dye identification sticker on a clearly visible area on the compressor body close to the service ports. This will alert service personnel in the future to the presence of the dye in the system.
12. Operate the air conditioning system for about 15 minutes to circulate the dye throughout the system. Turn off the system and use the UV lamp and goggles to locate leaks. The exact location of the leak will be shown by a bright yellow/green glow of the dye.

    NOTE: *The operating time needed for the dye to penetrate a leak and show will depend on the size of the leak. A very small leak could take hours or days of system operation to appear.*

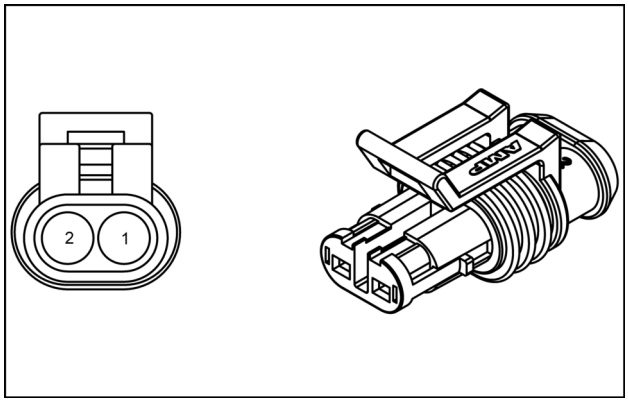


RCPH07CCH414ABC 3

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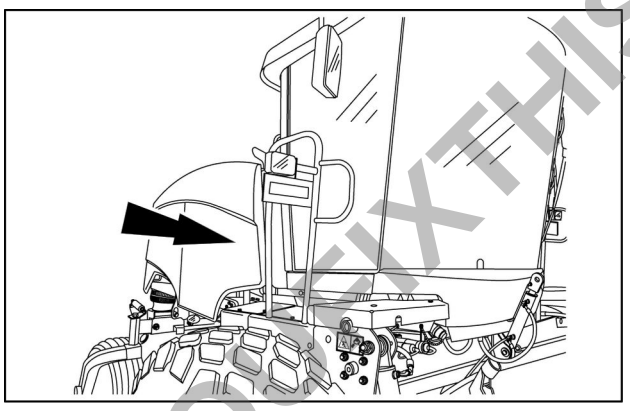
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X-153 - Y-072 SOLENOID, POWER TAKE-OFF (PTO) TANDEM PUMP RIGHT SIDE FORWARD (82012083)



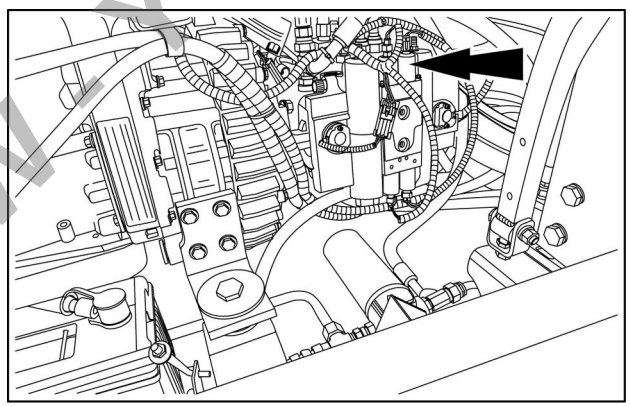
82012083 4

82012083



NHIL14WR00290AA 5

Connector X-153 is on the right -hand side of the machine.



NHIL13WR00064AA 6

Connector X-153 connects to the Power Take-Off (PTO) tandem pump right side forward solenoid (Y-072)

Pin	From	Wire	Description	Color-Size	Frame
1	**X-044 (Female) pin 80** FM TO CM PASS-THRU	FM-1101	FM-1101	WH - 0.8	**Wiring harnesses - Electrical schematic sheet 42 – Power Take-Off (PTO) direction control (55.100)**
2	SP-819-P-X	FM-819B	FM-819B	GY - 0.8	

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DTC 229A-DEF/AdBlue tank level sensor voltage too low

Control Module : ECU

NOTE: *Because this fault causes inducement, it is necessary to perform the Engine Restart Counter Reset / Unlock Inducement configuration with the Electronic Service Tool (EST) before you return the machine to service. See* ***Selective Catalytic Reduction (SCR) exhaust treatment - Configure - Engine restart counter reset (10.500)*** *if necessary.*

Context:
For information regarding the functional operation of the Selective Catalytic Reduction (SCR) system refer to **Selective Catalytic Reduction (SCR) exhaust treatment - Dynamic description (10.500)**. The Engine Control Unit (ECU) **A-9000** monitors the level and temperature of the DEF/AdBlue® fluid. If the ECU **A-9000** senses that the signal from the DEF/AdBlue® tank level and temperature sensor **B-9101** is less than **0.27 V** for **0.5 s**, this fault will occur.

Cause:
The DEF/AdBlue® tank level and temperature sensor **B-9101** temperature signal to the ECU **A-9000** is less than **0.27 V**.

Possible failure modes:

1. Faulty DEF/AdBlue® tank level and temperature sensor **B-9101**, damaged internally.
2. Faulty DEF/AdBlue® tank level and temperature sensor **B-9101** signal wiring, grounded.
3. Faulty ECU **A-9000**, software.

Solution:

1. Verify fault is present and active.

   Use the Electronic Service Tool (EST) to check the status of this fault.

   A. If the fault is present and active, continue with Step **2**.

   B. If the fault is no longer present or in an inactive state, the fault may be intermittent and not currently active. Continue with Step **4**.
2. Verify the condition of the DEF/AdBlue® tank level and temperature sensor **B-9101**.

   Fill the DEF/AdBlue® tank.

   Disconnect the vehicle (VE) harness from the DEF/AdBlue® tank level and temperature sensor **B-9101** at connector **X-9101**.

   Use a multimeter to measure the resistance of the DEF/AdBlue® tank level and temperature sensor **B-9101**:

From	To	Value
X-9101 pin 1	**X-9101 pin 2**	There should be a measurable amount of resistance, typically between **12,400 - 16,100 Ω**

   A. If there is a measurable amount of resistance, leave connector **X-9101** disconnected and continue with Step .**3**.

   B. If there is no measurable amount of resistance (**0.0 Ω**), the DEF/AdBlue® tank level and temperature sensor **B-9101** has failed internally. Replace the DEF/AdBlue® tank level and temperature sensor **B-9101** unit. .
3. Check the DEF/AdBlue® tank level and temperature sensor **B-9101** temperature signal circuit wiring for a short to ground condition.

   Disconnect the vehicle (VE) harness from the ECU **A-9000** at connector **X-9001**.

   Use a multimeter to check for continuity on the vehicle (VE) harness side from:

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Place the key switch OFF.

Disconnect the frame wiring harness from the cab wiring harness at connector **X-044**.

Place a jumper wire between frame wiring harness connector **X-044 pin 103** to chassis ground.

Use a multimeter to check for continuity.

From	To	Result
Frame main harness connector **X-192** pin W	Chassis ground	There should be continuity.

A. If there is continuity, leave the wiring harness disconnected. Continue with step **6**.

B. If there is no continuity, locate and repair faulty wiring.

6. Check the signal circuit for an open condition.

Place the key switch OFF.

Disconnect the wiring harness from A-001 at connector **X-007**.

Place the jumper wire on the cab harness side of connector **X-044 pin 103** to chassis ground.

Use a multimeter to check for continuity.

From	To	Result
Cab harness connector **X-007 pin 13**	Chassis ground	There should be continuity.

A. If there is no continuity, locate and repair faulty wiring.

B. If there is continuity, the fault may be internal to the UCM. Load the appropriate module software.

Wiring harnesses - Electrical schematic sheet 44 (55.100)

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