

Individual Row Hydraulic Downforce for 1720 and 1725 Planters



JOHN DEERE



PREDELIVERY INSTRUCTIONS **Individual Row Hydraulic Downforce** **(IRHD)**

A109654I ISSUE L9 (ENGLISH)

John Deere Seeding Group

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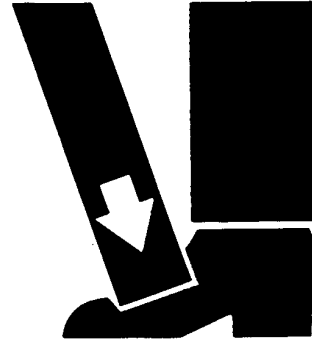
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Use Proper Lifting Equipment

Lifting heavy components incorrectly can cause severe injury or machine damage.

Follow recommended procedure for removal and installation of components in the manual.



DX,LIFT -19-04JUN90-1/1

TSS226 —UN—23AUG88

Precautions for Welding

Remove paint before welding or heating (see Safety Section in this manual for more information on paint removal and high-pressure lines).

⚠ CAUTION: Avoid potentially toxic fumes and dust. Hazardous fumes can be generated when paint is heated by welding, soldering, or using a torch. Do all work outside or in a well ventilated area. Dispose of paint and solvent properly. If you sand or grind paint, avoid breathing the dust by wearing an approved respirator. If you use solvent or paint stripper, remove with soap and water before welding. Remove solvent or paint stripper containers and other flammable material from area before welding. Allow fumes to disperse at least 15 minutes before welding or heating.

IMPORTANT: Welding on the engine is NOT ALLOWED. If welding must be performed on the machine, follow these precautions.

IMPORTANT: High currents or electrostatic discharge into electronic components from welding may cause permanent damage.

1. Remove paint from the area to be welded and ground cable clamp location.
2. Disconnect the negative (-) battery cable(s) or open battery (-) switch if equipped.

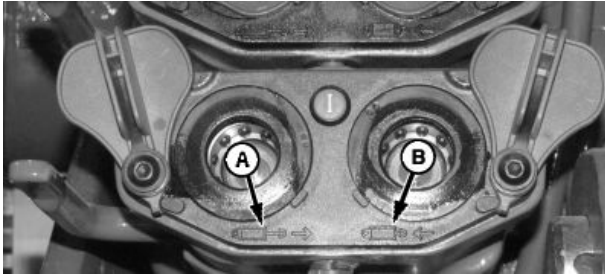


3. Disconnect the positive (+) battery cable(s) or open battery (+) switch if equipped.
4. Clear or move any wiring harness sections away from the welding area.
5. Welding on engine components is not allowed.
6. Never connect the welder ground to any engine component or engine driven components that may be connected to the engine.
7. After welding, reverse steps 2—3.

DX,WELDING,PRECAUTIONS -19-06DEC10-1/1

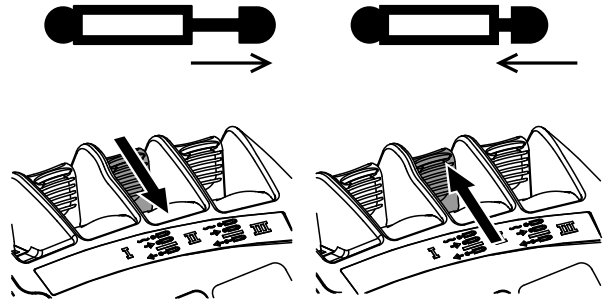
TSS953 —UN—15MAY90

Recommendations for Hydraulic Connections



Tractor Valves

A94532 —UN—25SEP18



Extend and Retract Lever Position

A86251 —UN—18APR17

The Extend (A) and Retract (B) symbols are on the tractor selective control valve (SCV).

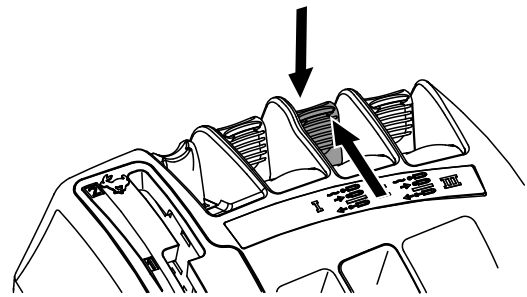
Refer to the tractor Operator's Manual for specific hydraulic operational details.

CAUTION: Avoid injury due to hydraulic hose failure. Inspect the hoses regularly. Replace damaged hoses.

IMPORTANT: Avoid motor seal damage. Connect the case drain hose before any other hose. Connect return hoses for hydraulic motors to a tractor extend (A) SCV.

To turn off the hydraulic motors, move the tractor SCV to the float (not neutral) position.

NOTE: Functions connected to power beyond are active when the tractor engine is running. Port locations



Float Lever Position

A82587 —UN—15MAY14

A—Extend

B—Retract

for pressure, return, and load sense vary by tractor model (see your tractor Operator's Manual).

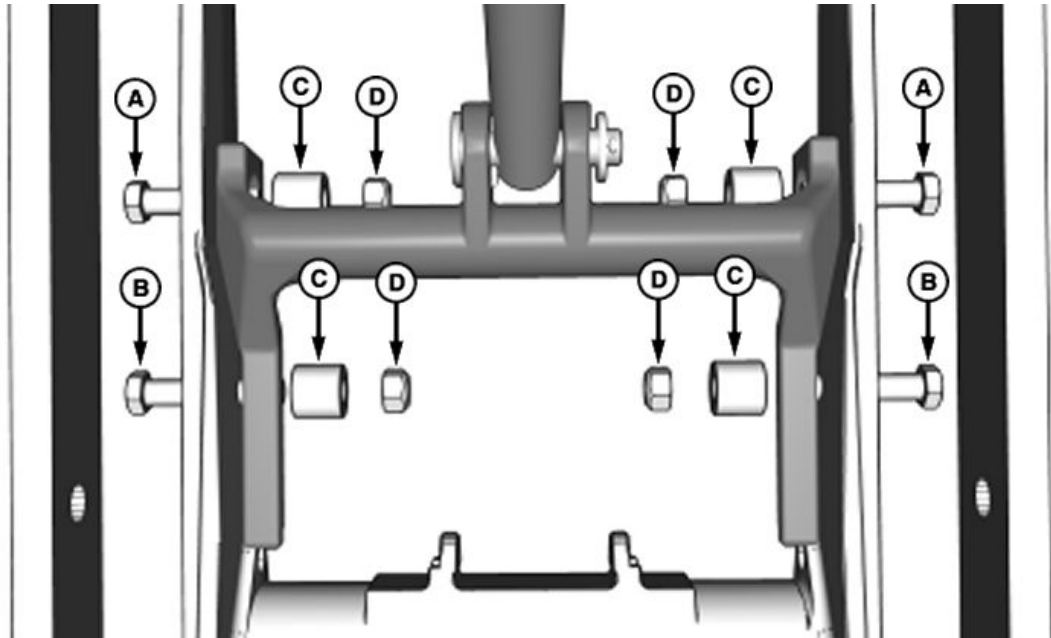
Each vacuum blower must be connected to a separate SCV when using vacuum automation.

Hose Connections			Function Settings for John Deere Tractors	
SCV Symbol	Hose Tag	Implement Function	Flow	Detent (time)
	"D" Case Drain	Hydraulic Motor Return Connect case drain before any other hose.	Non-Pressurized Return	
Extend (A)	Retract	Vacuum, Hydraulic Return	When using vacuum automation, set flow at 7. During manual vacuum operation, set flow at 4 and adjust as necessary.	Continuous "C"
Retract (B)	Extend	Vacuum, Activate		
Float		Vacuum, Deactivate		
Extend (A)	Extend	Unfold	Start at 5 and adjust as necessary.	Start at 10 and adjust as necessary.
Retract (B)	Retract	Fold		
Extend (A)	Extend	Marker Raise	Start at 5 and adjust as necessary.	Start at 10 and adjust as necessary.
Retract (B)	Retract	Marker Lower		

Power Beyond Connections			
Hydraulic Function	Tag Color	Tractor Port	Implement Function
Power Beyond	Red	"P" Pressure	<i>NOTE: Do not connect hoses with power beyond couplers to an SCV.</i>
	Black	"R" Return	
	Orange	"LS" Load Sense	
			Pneumatic Down Force

Continued on next page

LM78752.000021C -19-05APR19-1/2



Top View of Row Unit

A—Cap Screw, M12 x 55 (2 used) B—Cap Screw, M12 x 65 (2 used) C—Bushing, 13 mm (4 used)
D—Lock Nut, M12 (4 used)

- Attach the actuator to the parallel arms using the supplied cap screws (A and B), bushings (C), and lock nuts (D). Tighten to specification.
- Repeat on the remaining row units.

Specification

Lock Nuts (D)—Torque
(dry)..... 110 N·m
(81 lb·ft)

LM78752,00005A4 -19-13NOV19-7/7

A93071—UN—10OCT17

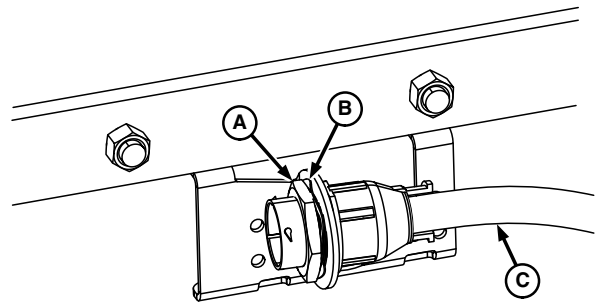
BA33646 — Install the ExactEmerge™ Row Unit Harness

Remove the Existing Row Unit Harness

NOTE: If an electric drive performance upgrade was ordered with the IRHD kit, the row unit harness is not installed. Skip the removal procedure and continue on to the installation of the row unit harness.

NOTE: The standard row unit harness is shown. The harness varies from machine to machine.

- Remove and discard the nut (A) and lock washer (B).
- Remove the row unit harness (C) from the bracket.



A—Nut
B—Lock Washer

C—Row Unit Harness

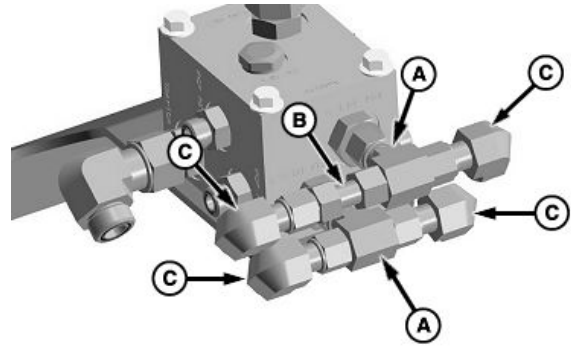
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LM78752,00005BF -19-17DEC19-1/5

A105984—UN—16DEC19

5. Install T-fittings (A), union (B), and 90° swivel elbows (C) to the combination valve block as shown. Tighten to specification.

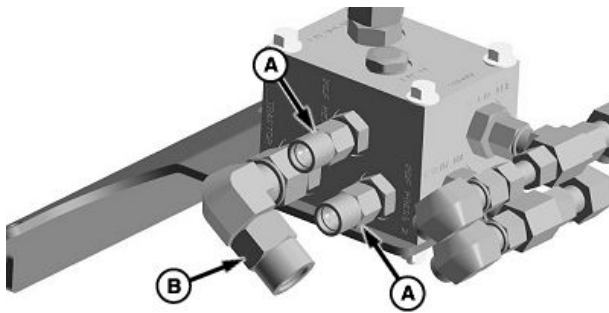
Specification	
T-Fitting (A)—Torque (lubricated).....	63 N·m (46 lb·ft)
Specification	
Union (B)—Torque (lubricated).....	63 N·m (46 lb·ft)
Specification	
90° Swivel Elbow (C)—Torque (lubricated).....	63 N·m (46 lb·ft)



A—T-Fitting (61H1039) (2 used) C—90° Swivel Elbow (61H1095) (4 used)
 B—Union (AXE18507)

A105740 —UN—24SEP19

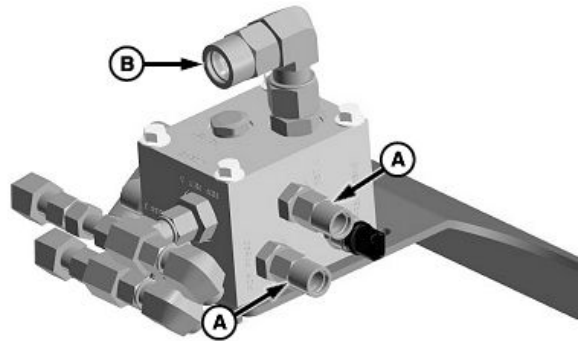
SH27916,00002A0 -19-21NOV19-5/8



A—Quick-Lock Adapter (AA72716) (4 used) B—Quick-Lock Adapter (AA78591) (2 used)

6. Install quick-lock adapters (A and B) to the previously installed fittings as shown. Tighten to specification.

Specification	
Quick-Lock Adapter (A)—Torque (lubricated).....	63 N·m (46 lb·ft)



Specification	
Quick-Lock Adapter (B)—Torque (lubricated).....	102 N·m (75 lb·ft)

A105741 —UN—24SEP19

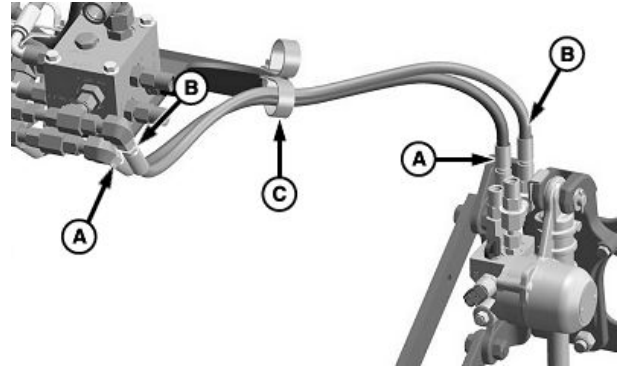
A105742 —UN—24SEP19

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SH27916,00002A0 -19-21NOV19-6/8

9. Install the hydraulic hoses (A and B) to the combination valve block. Route the hoses through the hose clamp (C) and install on row unit 7 as shown.

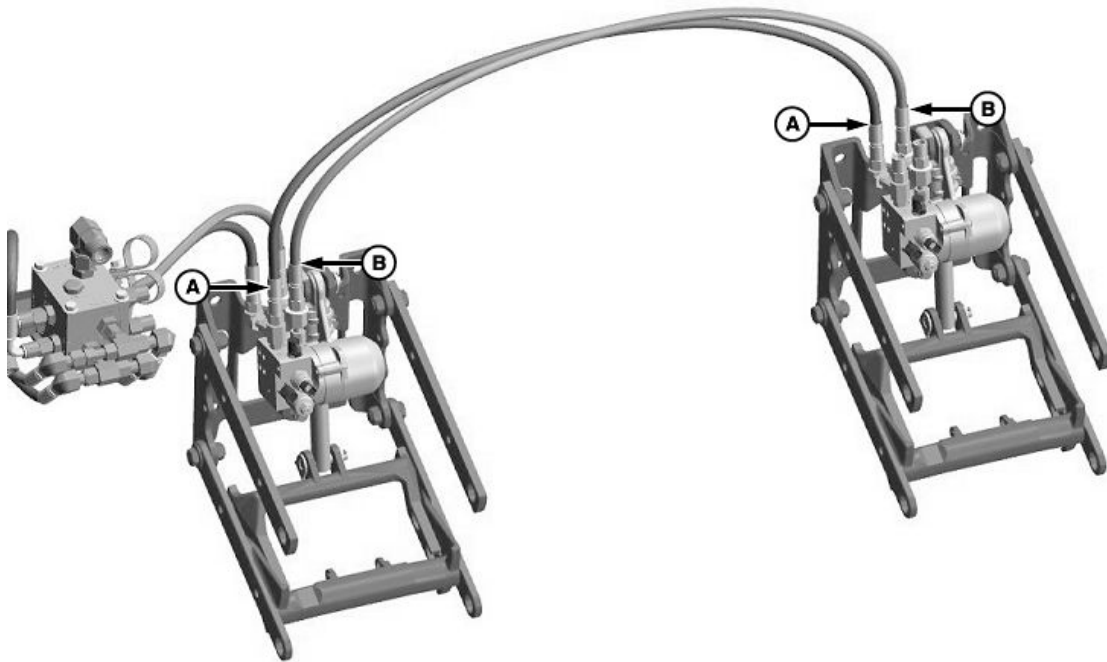
A—Hydraulic Hose, Pressure (AA95167) C—Hose Clamp (N205415)
 B—Hydraulic Hose, Return (AA95168)



Row Unit 7 Shown

SH27916,00002A1 -19-21NOV19-12/17

A105968 —UN—22OCT19



Row Units 7 (left) and 8 (right)

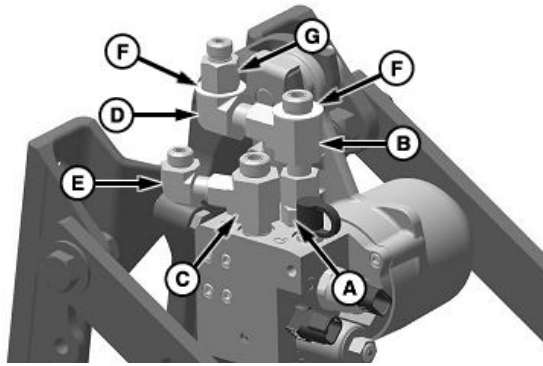
A—Hydraulic Hose, Pressure (AA89158) B—Hydraulic Hose, Return (AA89159)

10. Install the hydraulic hoses (A and B) on row units 7 and 8 as shown.

Continued on next page

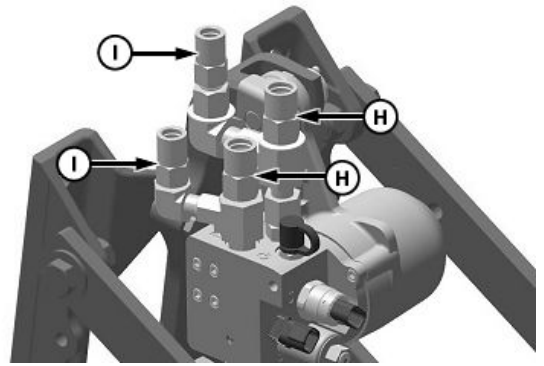
SH27916,00002A1 -19-21NOV19-13/17

A105968 —UN—22OCT19



Row Units 4 and 13

A106978 —UN—06NOV19



Quick-Lock Adapters (H and I)

A106977 —UN—06NOV19

- A—Adapter Fitting (61H1173)
- B—T-Fitting (61H1031)
- C—T-Fitting (61H1642)
- D—90° Swivel Elbow (61H1095)
- E—90° Swivel Elbow (61H1094)
- F—Washer, 20 mm ID (H223751) (2 used)

- G—Reducer (61H1481)
- H—Quick-Lock Adapter (AA72716) (2 used)
- I—Quick-Lock Adapter (AA72229) (2 used)

2. **On row units 4 and 13 ONLY:** Install the adapter fitting (A), T-fittings (B and C), 90° swivel elbows (D and E), washers (F), and reducer (G). Install quick-lock adapters (H and I) on the fittings as shown. Tighten to specification.

	Specification
Adapter Fitting (A)—Torque (lubricated).....	37 N·m (27 lb·ft)

	Specification
T-Fitting (B)—Torque (lubricated).....	50 N·m (37 lb·ft)

	Specification
T-Fitting (C)—Torque (lubricated).....	37 N·m (27 lb·ft)

	Specification
90° Swivel Elbow (D)—Torque (lubricated).....	50 N·m (37 lb·ft)

	Specification
90° Swivel Elbow (E)—Torque (lubricated).....	24 N·m (18 lb·ft)

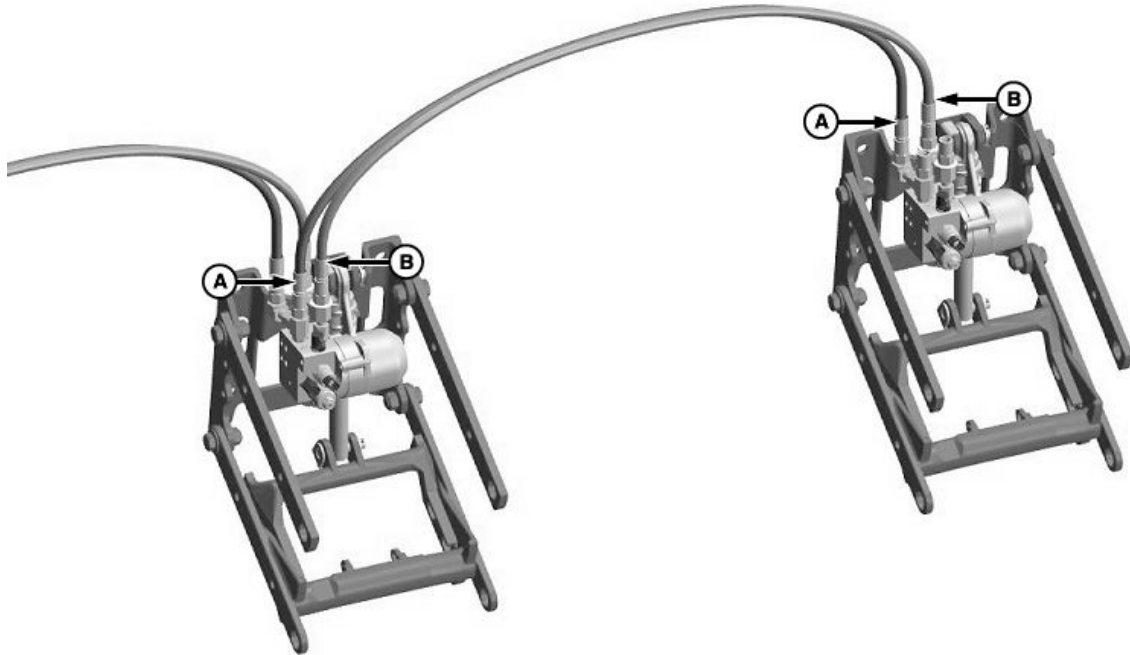
	Specification
Reducer (G)—Torque (lubricated).....	50 N·m (37 lb·ft)

	Specification
Quick-Lock Adapter (H)—Torque (lubricated).....	50 N·m (37 lb·ft)

	Specification
Quick-Lock Adapter (I)—Torque (lubricated).....	24 N·m (18 lb·ft)

Continued on next page

SH27916.00002A3 -19-21NOV19-3/22



Row Units 10 (left) and 11 (right)

A—Hydraulic Hose, Pressure
(AA89158)

B—Hydraulic Hose, Return
(AA89159)

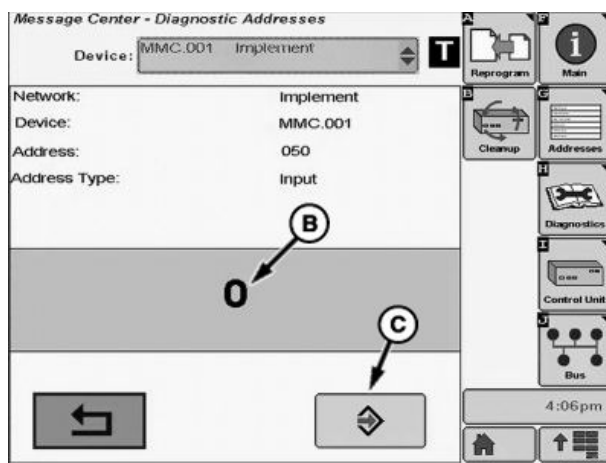
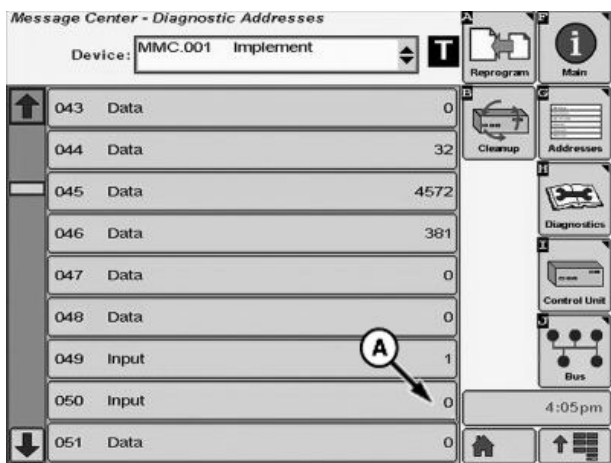
14. Install the hydraulic hoses (A and B) on row units 10 and 11 as shown.

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SH27916,00002A3 -19-21NOV19-17/22

A105974—UN—22OCT19

System Startup



A94474—UN—21DEC16

A94475—UN—03JAN17

A—050 Input

B—Number

C—Enter

13. Use the arrows to find the diagnostic address **050 Input** (A) and select it.

14. Select **Enter** (C).

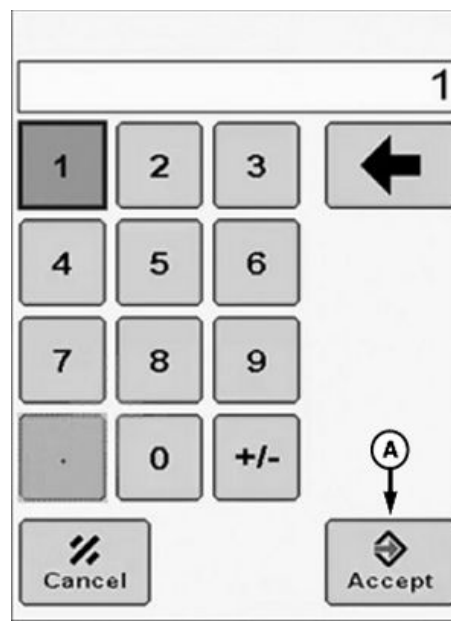
NOTE: The 050 Input page is the row number index. It opens with a number (B) displayed in the center of the screen.

LM78752,00003D3 -19-27FEB18-6/12

15. Verify the parallel arm configuration on a single row by entering the row number.

16. Select **Accept** (A).

A—Accept



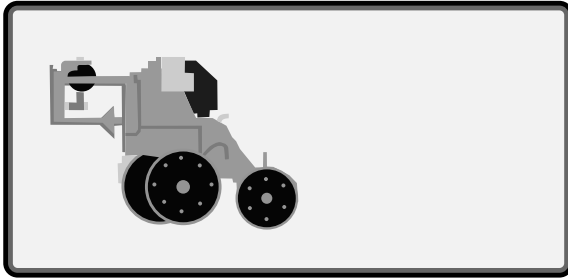
Number Pad

A94473—UN—21DEC16

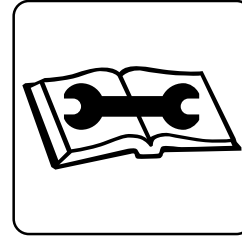
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LM78752,00003D3 -19-27FEB18-7/12

Air Purge Test (IRHD System Only)



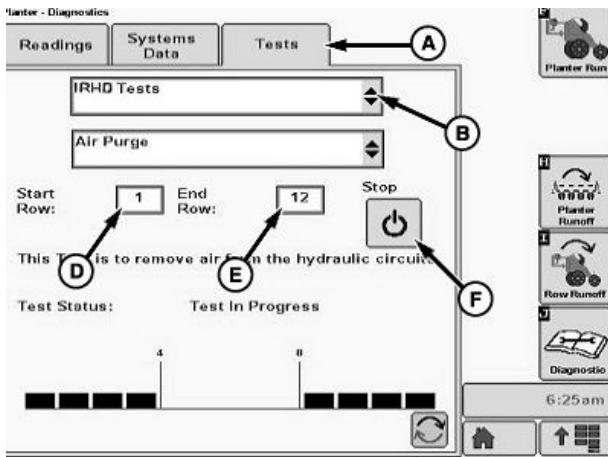
A79863 —UN—29JAN14



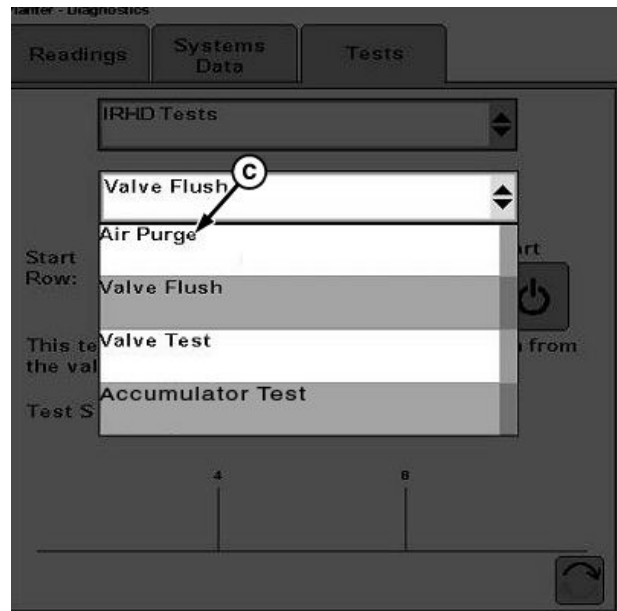
Diagnostic Button

A59567 —UN—08MAR07

Planter Button



A91234 —UN—29JUN16



A91233 —UN—29JUN16

A—Tests Tab
B—Drop-Down Box

C—Air Purge
D—Start Row Input Box

E—End Row Input Box
F—Start / Stop Button

Reason for running this test: Anytime air has been allowed into the hydraulic circuit when switching tractors or changing hydraulic hoses.

IMPORTANT: Before running the air purge test, Individual Row Hydraulic Downforce (IRHD) circuit must be connected to the tractor power beyond. The test must be performed at idle with all the other SCVs disengaged.

This test must be run at least two times.

1. Use the following test to remove air from the hydraulic circuits.

Select **Menu** >> **Planter** button >> **Diagnostics** button >> **Tests** tab (A).

2. Select **IRHD Tests** from the drop-down box (B).

3. Select **Air Purge** (C) from the drop-down list.
 4. Input selected row units for the air purge test using the input boxes (D and E).
 5. To start air purge test, select the start/stop button (F).
- NOTE: To stop valve test at any time, select button (F).*
6. Repeat this test 1 time.

Test Complete appears on-screen when air purge test is completed without failures.

The length of timer for the air purge procedure varies by the number of rows being flushed.

7. Check and fill the hydraulic reservoir in the tractor.

BB83525,00002F6 -19-06APR17-1/1

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