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Twin-Row 1225AFF
Twin-Row 1625AFF
Front Fold Planter

SERVICE MANUAL

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CASE IH AGRICULTURE

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Safety rules

Personal safety



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

Throughout this manual you will find the signal words DANGER, WARNING, and CAUTION followed by special instructions. These precautions are intended for the personal safety of you and those working with you.

Read and understand all the safety messages in this manual before you operate or service the machine.

⚠ DANGER indicates a hazardous situation that, if not avoided, will result in death or serious injury.

⚠ WARNING indicates a hazardous situation that, if not avoided, could result in death or serious injury.

⚠ CAUTION indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

FAILURE TO FOLLOW DANGER, WARNING, AND CAUTION MESSAGES COULD RESULT IN DEATH OR SERIOUS INJURY.

Machine safety

NOTICE: *Notice indicates a situation that, if not avoided, could result in machine or property damage.*

Throughout this manual you will find the signal word Notice followed by special instructions to prevent machine or property damage. The word Notice is used to address practices not related to personal safety.

Information

NOTE: *Note indicates additional information that clarifies steps, procedures, or other information in this manual.*

Throughout this manual you will find the word Note followed by additional information about a step, procedure, or other information in the manual. The word Note is not intended to address personal safety or property damage.

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Torque – Hydraulic tubes and fittings

NOTICE: *The torque values given are for* ***DRY TORQUES****.*

Standard Torque Data for Hydraulic Tubes and Fittings

Hoses / Tubes to Steel Fittings 37° Flared Fittings							
Size	Tubing OD		Thread Size	Nm		LB FT	
	Inches	mm		Min	Max	Min	Max
2	1/8	3.2	5/16-24	10	11	7	8
3	3/16	4.8	3/8-24	13	14	10	11
4	1/4	6.4	7/16-20	18	19	13	14
5	5/16	7.9	1/2-20	23	25	17	18
6	3/8	9.5	9/16-18	29	34	22	24
8	1/2	12.7	3/4-18	59	64	43	47
10	5/8	15.9	7/8-14	92	102	68	76
12	3/4	19.1	1-1/6-12	128	143	95	106
14	7/8	22.2	1-3/16-12	152	169	113	124
16	1	25.4	1-5/16-12	176	185	130	136
20	1-1/4	31.8	1-5/8-12	206	217	152	160
24	1-1/2	38.1	1-7/8-12	258	270	190	200
32	2	50.8	2-1/2-12	398	420	294	310

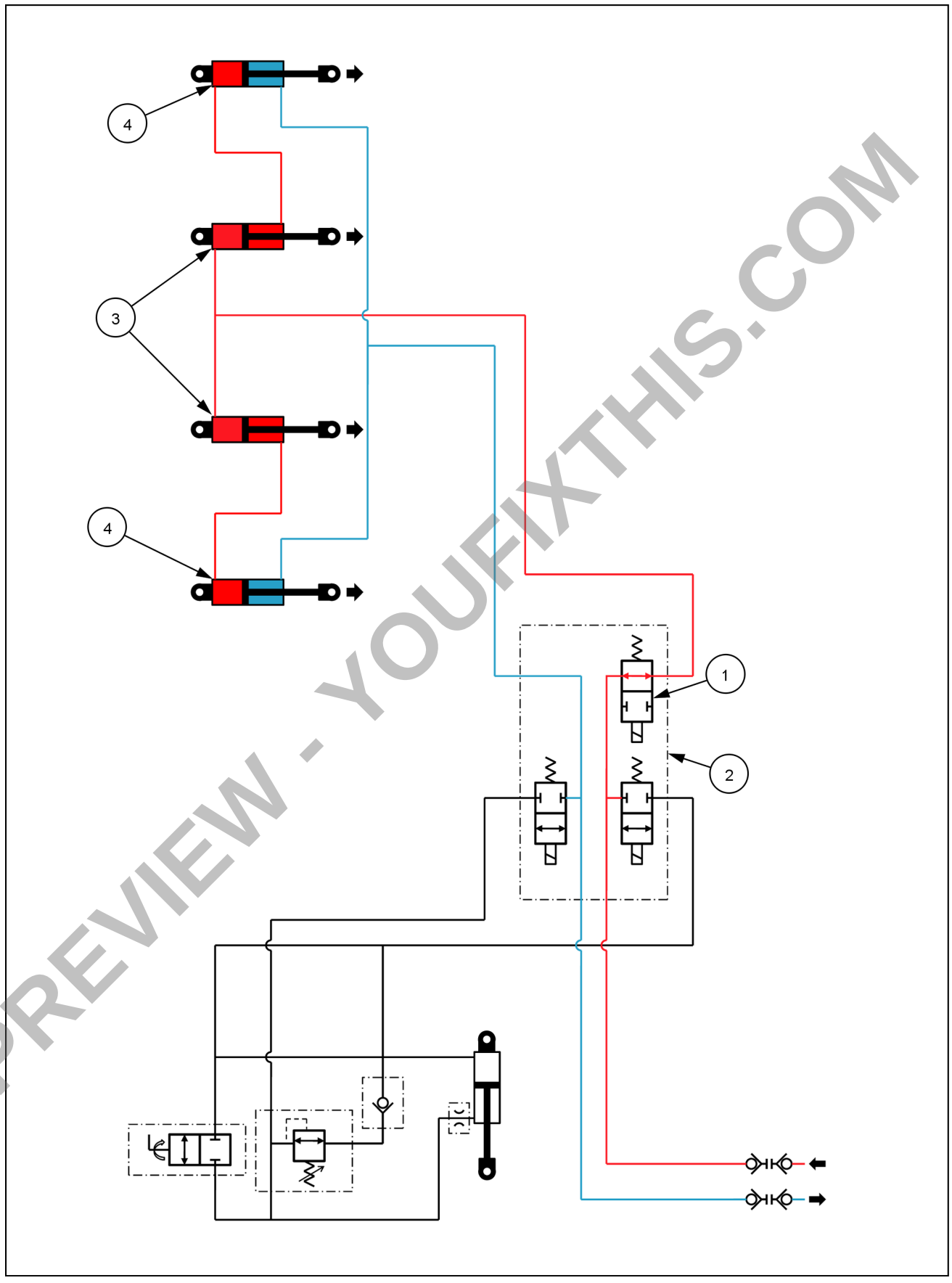
Fittings into steel / forged cylinder spuds, steel bodies, cast iron bodies O-ring Boss							
Size	Tubing OD		Thread Size	Nm		LB FT	
	Inches	mm		Min	Max	Min	Max
4	1/4	6.4	7/16-20	18	20	13	15
5	5/16	7.9	1/2-20	23	26	17	19
6	3/8	9.5	9/16-18	29	33	22	24
8	1/2	12.7	3/4-18	49	53	40	43
10	5/8	15.9	7/8-14	59	64	43	48
12	3/4	19.1	1-1/6-12	93	102	68	75
14	7/8	22.2	1-3/16-12	122	134	90	99
16	1	25.4	1-5/16-12	151	166	112	123
20	1-1/4	31.8	1-5/8-12	198	218	146	161
24	1-1/2	38.1	1-7/8-12	209	231	154	170

Fittings into aluminum bodies O-ring Boss							
Size	Tubing OD		Thread Size	Nm		LB FT	
	Inches	mm		Min	Max	Min	Max
4	1/4	6.4	7/16-20	9	15	7	11
6	3/8	9.5	9/16-18	23	34	17	25
8	1/2	12.7	3/4-18	34	54	25	40
10	5/8	15.9	7/8-14	41	75	30	55
12	3/4	19.1	1-1/6-12	75	108	55	80
14	7/8	22.2	1-3/16-12	108	129	80	95
16	1	25.4	1-5/16-12	115	163	85	120
20	1-1/4	31.8	1-5/8-12	163	224	120	165
24	1-1/2	38.1	1-7/8-12	183	258	135	190

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Hydraulic systems - Hydraulic schematic frame 01 Main Lift Circuit



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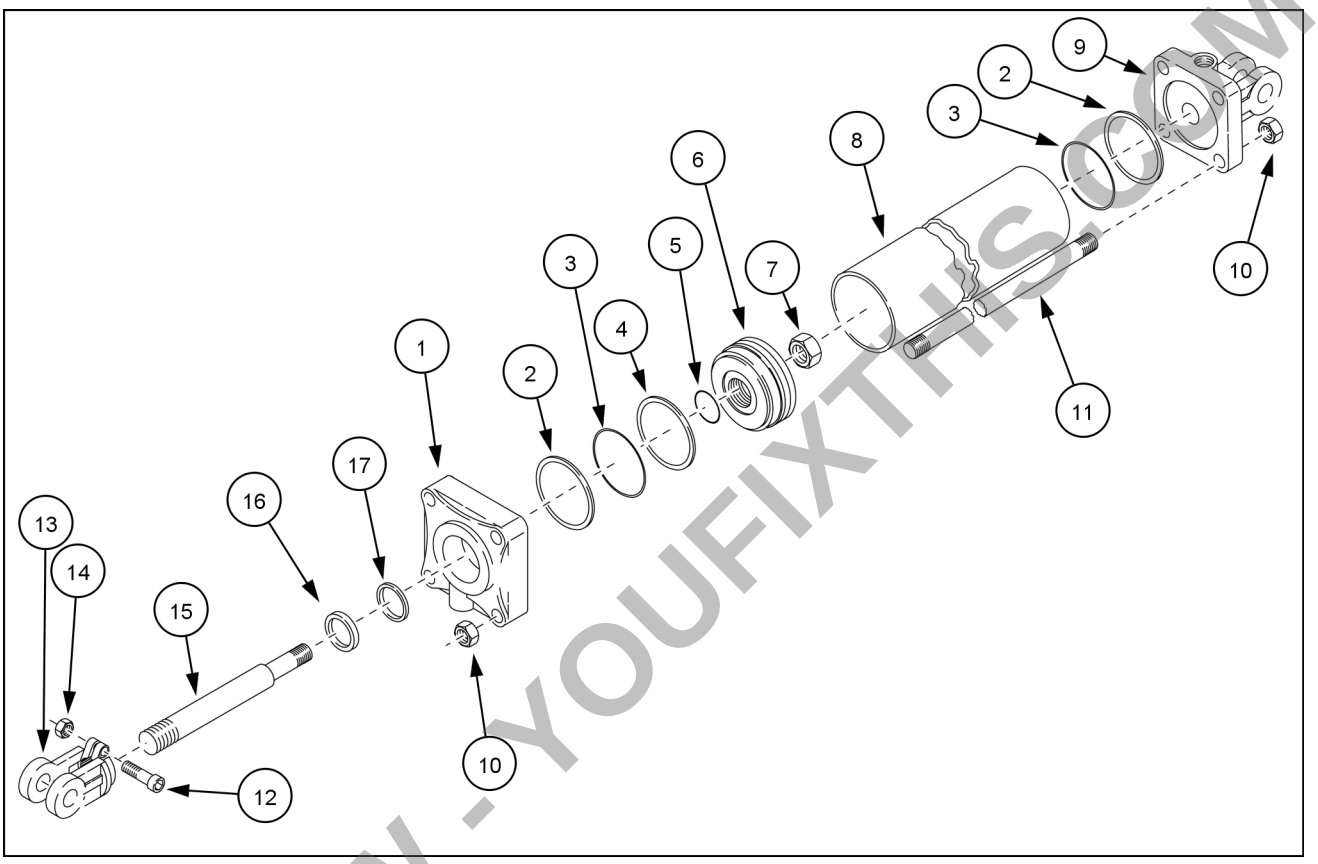
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Machine leveling control system - Assemble Hydraulic hitch cylinder

Prior operation:
Machine leveling control system - Visual inspection Hydraulic hitch cylinder (35.610)

NOTE: *Parts marked with an asterisk (*) are included in a seal kit. When performing cylinder assembly, seal kit parts must be used for proper cylinder sealing.*



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Hydraulic hitch cylinder

Ref.	Description	Ref.	Description	Ref.	Description
1	Rod cap	7	Piston nut	13	Rod clevis
2	*Backup ring	8	Cylinder tube	14	Clevis collar nut
3	*O-ring	9	Clevis cap	15	Piston rod
4	*Piston seal	10	Tie rod nut	16	*Wiper seal
5	*O-ring	11	Tie rod	17	*U-cup seal
6	Piston	12	Clevis collar bolt		

1. Lubricate all parts with **CASE IH AKCELA HY-TRAN® ULTRA™ HYDRAULIC TRANSMISSION OIL** during assembly.
2. Place the piston rod **(15)** in a vise without damaging the piston rod outer diameter.

NOTICE: *Do not over tighten the vise as component damage may occur.*

3. Screw the rod clevis **(13)** onto the piston rod **(15)**.
4. Install the clevis collar bolt **(12)** and the clevis collar nut **(14)** into the clevis.
5. Torque the bolt to **47 - 57 N·m** (**35 - 42 lb ft**).

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Warning indicators, alarms, and instruments - Dynamic description - Steering flash error codes

When a problem is detected the system switches to the float mode, the float light illuminates, and the “On” light in the switch box flashes in a set pattern. The flash pattern indicates the error code. This code indicates the problem that the ECU is detecting. Once the error is corrected the system switches back to the active mode. If there are multiple faults occurring at the same time, then the system will flash up to five codes in the order in which they were detected, then repeat.

Code	Diagnostic	Corrective action
1 - 1	Float valve HS short to battery	Check float valve coil and cable to ECU. ECU is detecting an unexpected voltage in the circuit.
1 - 1	Float valve LS short to battery	
1 - 2	Float valve HS short to ground	Check float valve coil and cable to ECU. ECU is detecting a short to ground.
1 - 2	Float valve LS short to ground	
1 - 3	Float valve open circuit	Check float valve coil and cable to ECU. ECU is failing to detect presence of coil - no circuit continuity.
2 - 1	ST1 valve HS short to battery	Check ST-1 valve coil and cable to ECU. ECU is detecting an unexpected voltage in the circuit.
2 - 1	ST1 valve LS short to battery	
2 - 2	ST1 valve HS short to ground	Check ST-1 valve coil and cable to ECU. ECU is detecting a short to ground.
2 - 2	ST1 valve LS short to ground	
2 - 3	ST1 valve open circuit	Check ST-1 valve coil and cable to ECU. ECU is failing to detect presence of coil - no circuit continuity.
3 - 1	ST2 valve HS short to battery	Check ST-2 valve coil and cable to ECU. ECU is detecting an unexpected voltage in the circuit.
3 - 1	ST2 valve LS short to battery	
3 - 2	ST2 valve HS short to ground	Check ST-2 valve coil and cable to ECU. ECU is detecting a short to ground.
3 - 2	ST2 valve LS short to ground	
3 - 3	ST2 valve open circuit	Check ST-2 valve coil and cable to ECU. ECU is failing to detect presence of coil - no circuit continuity.
5 - 1	Tractor sensor short to ground	Check tractor wheel sensor for: A. travel limits of sensor B. cable to ECU C. function of sensor
5 - 2	Tractor sensor open circuit	ECU not detecting tractor sensor. Use same steps as for 5 - 1.
6 - 1	Caster sensor short to ground	Check caster wheel sensor, using same steps as for 5 - 1.
6 - 1	Caster sensor open circuit	ECU not detecting caster sensor. Use same steps as for 5 - 1.
8 - 1	ECU low voltage	Check tractor voltage above **10 V**DC. Check connections to ECU. Check harnesses and switchbox connections.

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240-Seeding Detected on a Control Off Row Alarm: Seed Detected on Row that has been Shut Off

Control Module : TCOM or WSMB2

Cause:
(See above)

Possible failure modes:

1. Row has not been Shut Off.
2. Dirty or defective Seed Sensor.
3. Damaged Module harness.
4. Defective Module.

Solution:

1. Find out if the fault code is still active.

   Turn system power ON.

   Clear all fault codes by using the Alarm Reset button on the Alarm Log screen.

   Cycle system power.

   A. Fault code 240 is logged. Go to step **2**.

   B. Fault code is not logged. Return unit to field operation and monitor for recurring fault.
2. Verify Row is supposed to be Shut Off.
3. Inspect TCOM Module Harness for damage. Repair or replace if necessary.
4. Inspect TCOM Module for damage. Replace if necessary.
5. Inspect Tru Count Clutch Valve Boxes.
6. Inspect Tru Count Row Clutches.
7. Clean/inspect Seed Sensor. Replace if necessary.
8. Inspect WSMB2 Module Harness for damage. Repair or replace if necessary.
9. Inspect WSMB2 Module for damage. Replace if necessary.
10. Clear all fault codes by using the Alarm Reset button on the Alarm Log screen.

    Turn system power OFF.

    Turn system power ON.

    A. Fault code 240 is logged. Submit a concern through ASIST.

    B. Fault code is not logged. Return unit to field operation.
11. Refer to harness **Wire harnesses - Electrical schematic frame 09 AccuRow output harness (55.100)**, connector **F**, pins B, C, D and E.

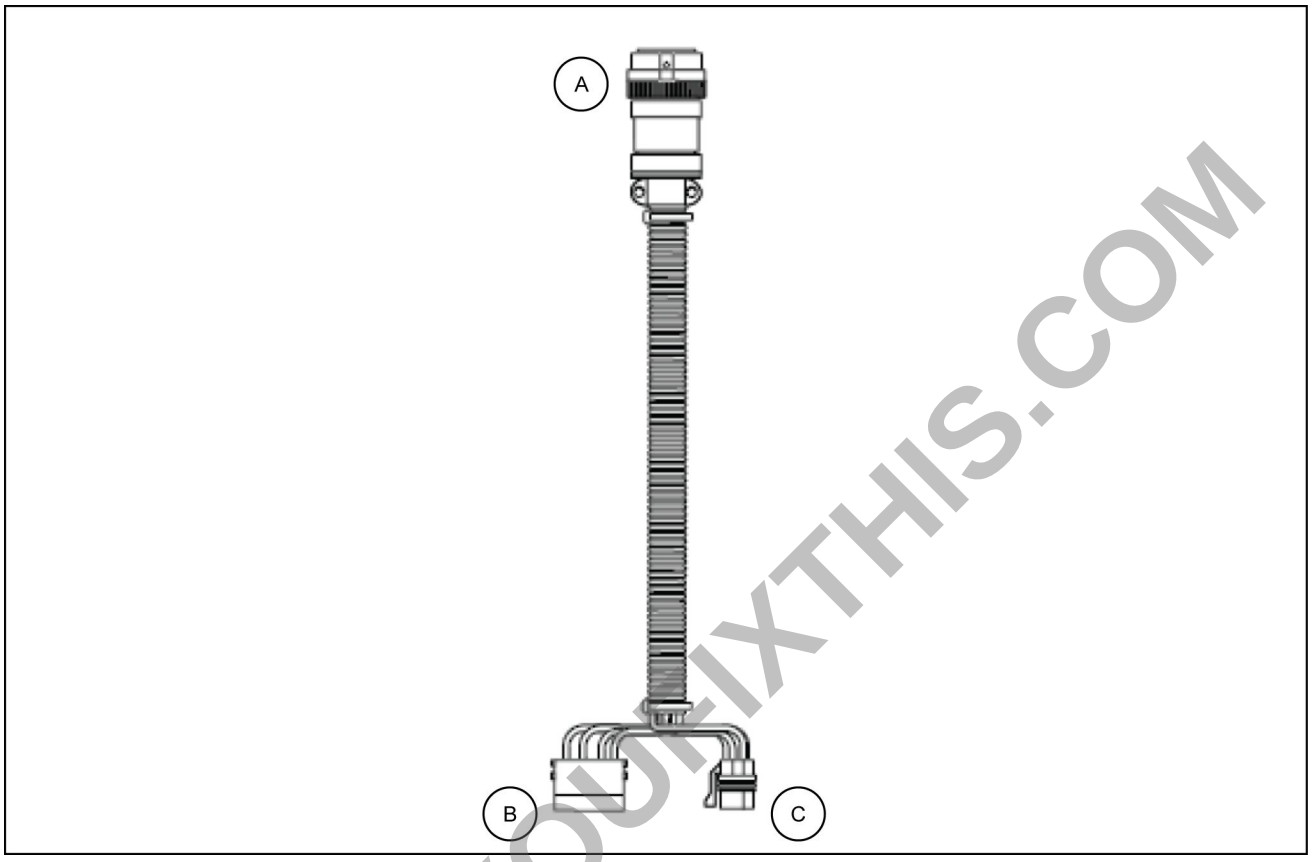
    Refer to harness **Wire harnesses - Electrical schematic frame 09 AccuRow output harness (55.100)**, connector **G**, pins B, C, D and E.

    Refer to harness **Wire harnesses - Electrical schematic frame 09 AccuRow output harness (55.100)**, connector **I**, pins 2, 11, 1, and 12.

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Wire harnesses - Electrical schematic frame 01 Hitch adapter extension harness



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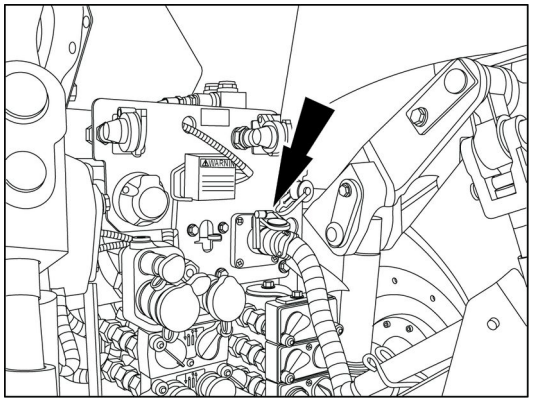
CONNECTOR	DESCRIPTION
A	Implement to tractor connection
B	Power connection
C	CAN connection

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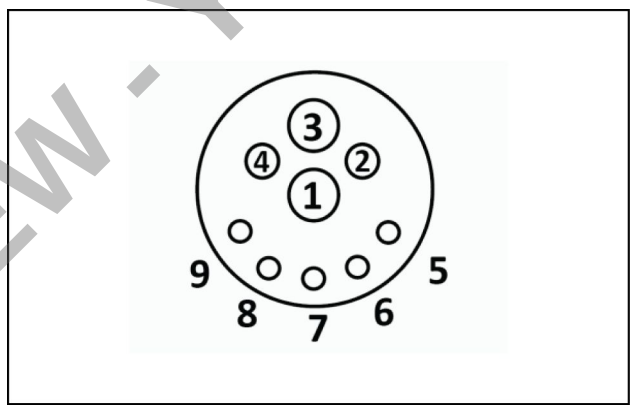
Wire connectors - Component diagram 01 Hitch adapter extension harness connectors

CONNECTOR A



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CONNECTOR A			
PIN NUMBER	**WIRE NUMBER**	**CIRCUIT REFERENCE**	**ELECTRICAL SCHEMATIC FRAME**
1	Black - 1002	Solenoid Ground	
2	Black - 1005	ECU Ground	
3	Red - 1002	Solenoid Power	
4	Red - 1004	ECU Power	
5		NOT USED	
6	Red – none	CAN Power	
7	Black - none	CAN Ground	
8	Yellow - none	CAN Hi	
9	Green - none	CAN Lo	

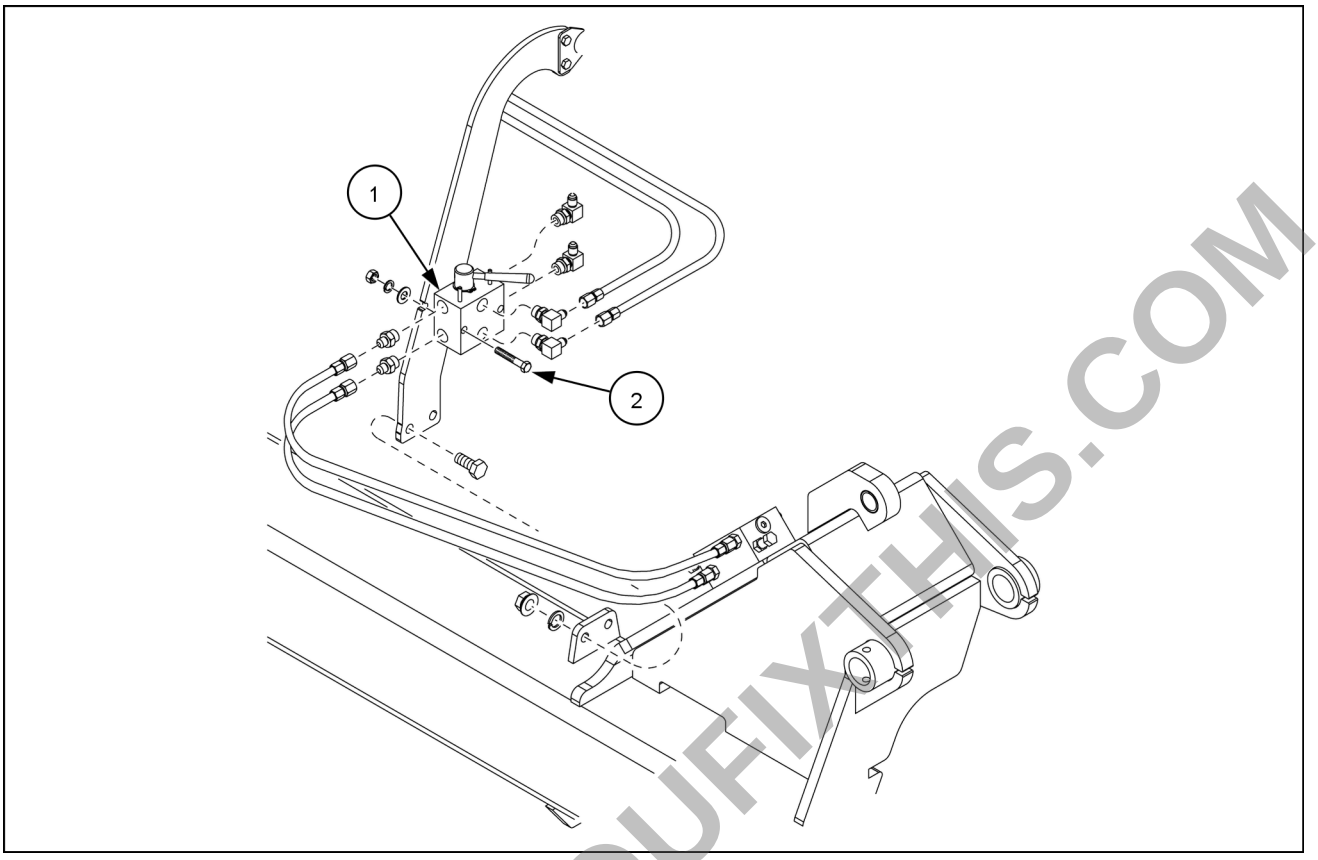


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Hydraulic systems - Remove Auxiliary kit double selector valve

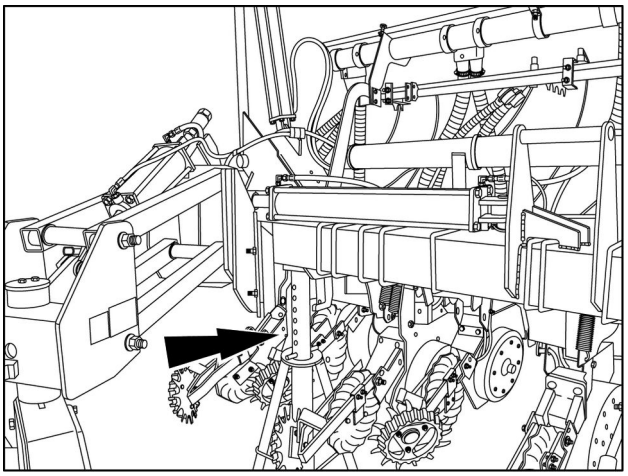


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Auxiliary kit double selector valve

Ref.	Description
1	Selector valve
2	Mounting bolt

1. Move the planter to a hard and level surface.
2. Unfold the planter to the planting position.
3. Raise the planter to a height that will allow for the proper installation of the safety stands.
4. Place one safety stand under the outside of each wing in between the first and the second planter rows.

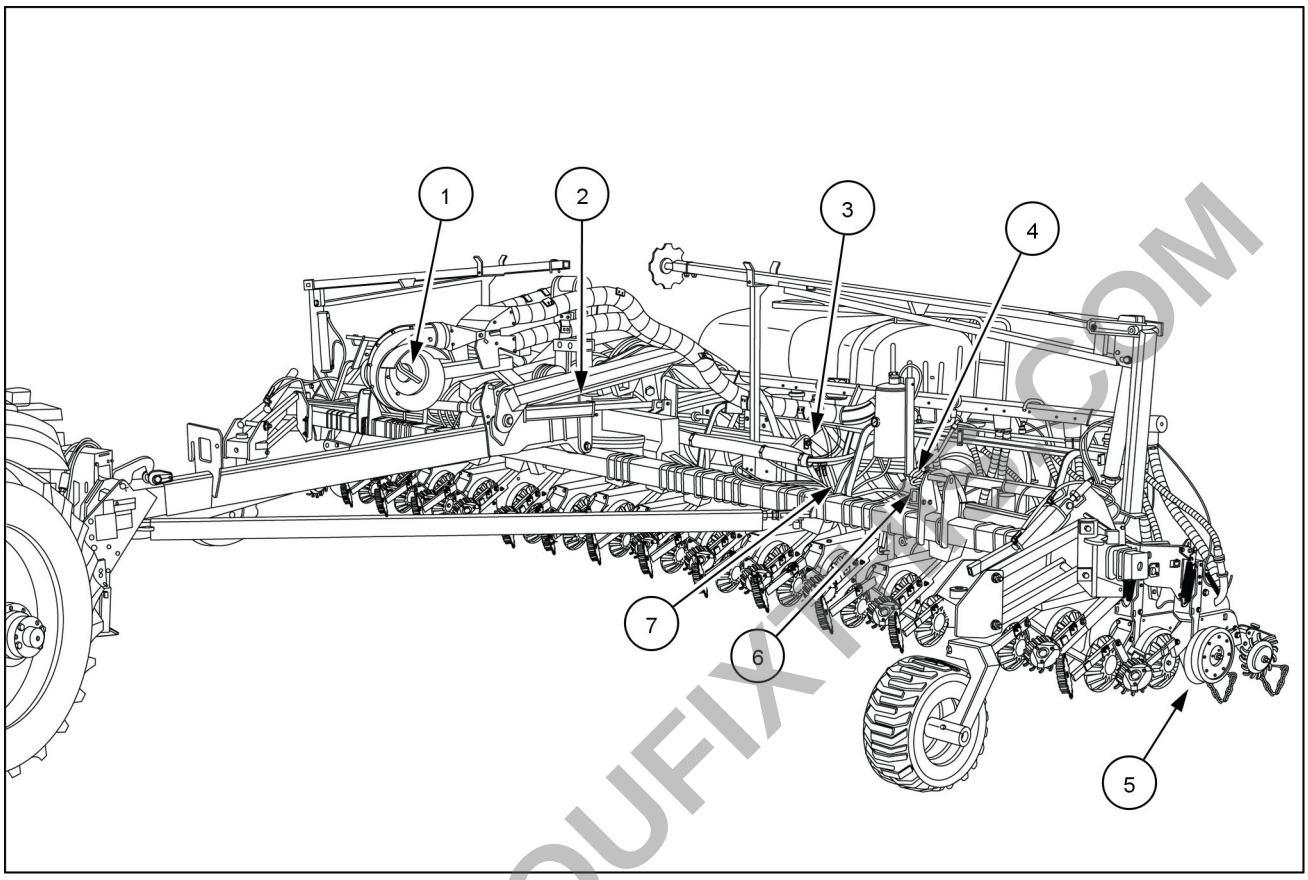


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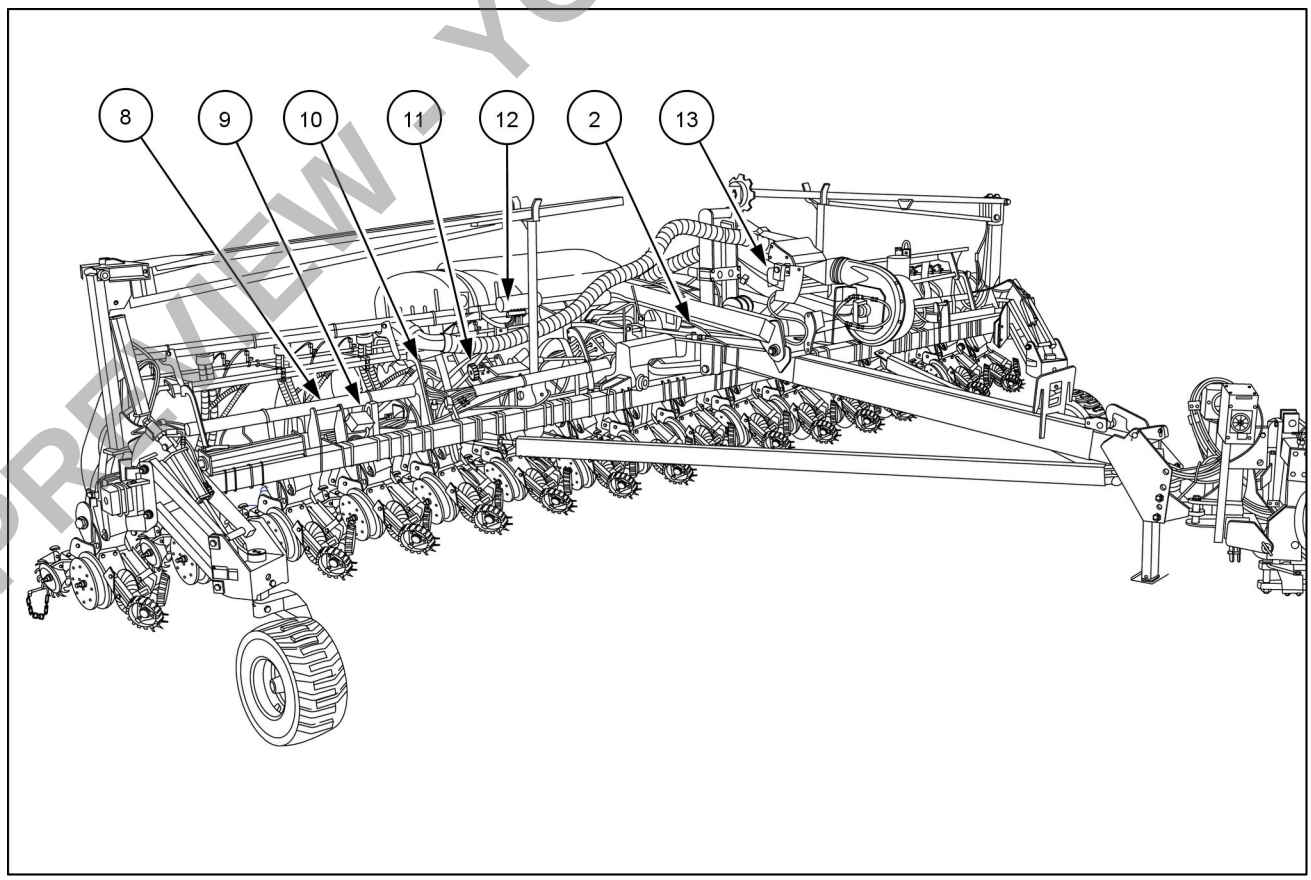
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Electrical system - Component Diagram 00 Electrical components



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RAIL13PLA0059GA 2

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Basic instructions - Shop and assembly 20

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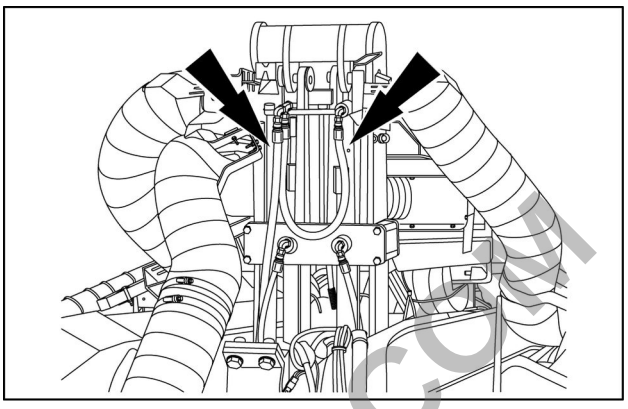
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Cylinder - Overview Center lift cylinder

See item **(13)** of **Hydraulic systems - Component diagram (35.000)**.

See item **(8)** of **Hydraulic systems - Hydraulic schematic frame 08 (35.000)**.

- The center lift cylinders are double-acting hydraulic cylinders that work in conjunction with the gauge wheel lift cylinders to raise and lower the planter. Center lift cylinders extend to raise and retract to lower the planter. If equipped with hydraulic hitch option, center lift cylinders operate when hydraulic hitch solenoid 3 is energized. Hydraulic oil flow direction from the tractor determines whether center lift cylinders are extended or retracted.



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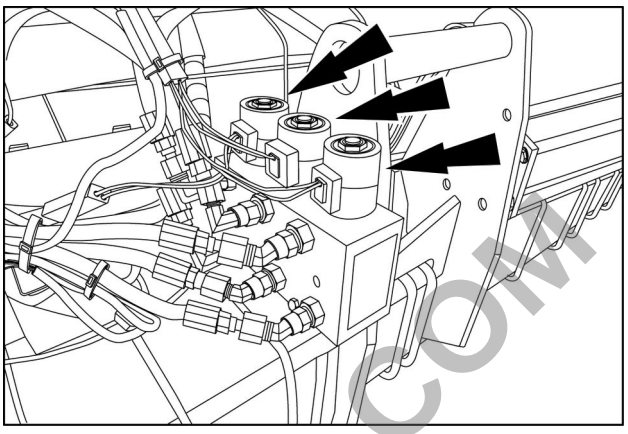
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Electrical system - Component diagram 04 Solenoids

See item **(4)** of **Electrical system - Component Diagram 00 (55.000)**.

See item **(8)** of **Wire harnesses - Electrical schematic frame 10 (55.100)**.



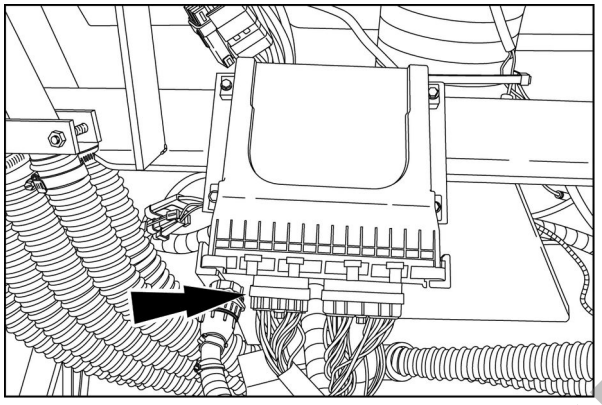
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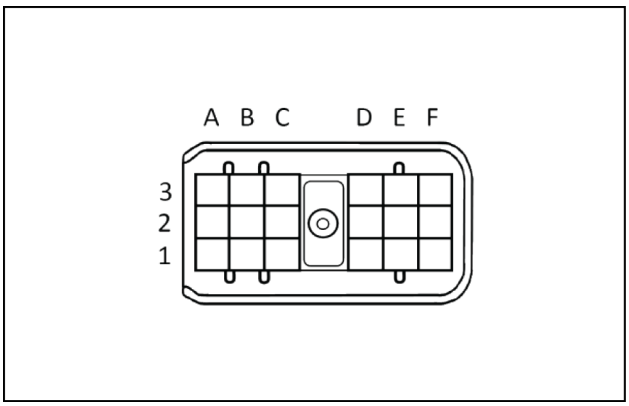
Wire connectors - Component diagram 06 Working Set Master (WSMT) harness connectors (2 of 2)

CONNECTOR G



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CONNECTOR G			
PIN NUMBER	**WIRE NUMBER**	**CIRCUIT REFERENCE**	**ELECTRICAL SCHEMATIC FRAME**
A1	Green – 1039	Row 18 input (Row 12 on WSMT)	
A2	Violet – 1034	Row 13 input (Row 7 on WSMT)	
A3	Blue / White - 1029	Row 8 input (Row 2 on WSMT)	
B1	Brown – 1038	Row 17 input (Row 11 on WSMT)	
B2	Grey – 1033	Row 12 input (Row 6 on WSMT)	
B3	Orange / Black - 1027	Hopper 2 Signal	
C1	Blue – 1037	Row 16 input (Row 10 on WSMT)	
C2	Red / White – 1025	Hopper 4 Signal	
C3	Black - 1012	Sensor Ground	
D1	Orange – 1036	Row 15 input (Row 9 on WSMT)	
D2	White / Red – 1024	Hopper 5 Signal	
D3	Red – 1018	Sensor Power	
E1	Yellow - 1035	Row 14 input (Row 8 on WSMT)	
E2	Green / Black – 1028	Row 7 input (Row 1 on WSMT)	
E3	Blue / Black – 1026	Hopper 3 Signal	
F1	Pink – 1032	Row 11 input (Row 5 on WSMT)	
F2	Tan - 1031	Row 10 input (Row 4 on WSMT)	
F3	White / Black - 1030	Row 9 input (Row 3 on WSMT)	



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FAULT CODES - DTC

DIAGNOSTIC

[TCOM or WSMB2] - 240-Seeding Detected on a Control Off Row Alarm: Seed Detected on Row that has been Shut Off 5

[WSMB2 or POM or TCOM or CFM] - 217-Member Module Detection Alarm: The number of member modules detected does not match the System Configuration 7

[WSMB2 or POM or TCOM or CFM] - 251-New Hardware Detected Alarm: .New Module Plugged into Implement harness 9

[WSMB2 or POM or TCOM] - 236-Intermittent Member Module Detected Alarm: A Member Module that had previously failed Communications is Detected 10

[WSMB2] - 211-All Rows Failed Alarm: No Seed Rate detected on all Rows. 12

[WSMB2] - 219-Row Sensor Detection Alarm: The number of seed sensors connected does not agree with the number of Sensors configured on the Seed Sensor Configuration screen. 14

[WSMB2] - 220-Row Sensor Installed Incorrectly Alarm: Rows are not detected sequentially on a Module. 15

[WSMT2 or WSMB2] - 212-Row Failure Alarm: Seed Rate has fallen below the Row Fail Rate Setting set on the Seed Monitor Setup screen 16

[WSMT2 or WSMB2] - 213-High Population Limit Exceeded Alarm: Seed Rate has exceeded the High Alarm Setting on the Seed Monitor Screen 17

[WSMT2 or WSMB2 or POM or TCOM] - 603-Member module Communication Failed Alarm: Communications with an Active Module has Failed 18

[WSMT2 or WSMB2 or POM or TCOM] - 604-Member Module Communication Failed Alarm: ECU Voltage (ECU PWR) is below 11Vdc or Higher than 16Vdc 20

[WSMT2 or WSMB2 or POM or TCOM] - 605-Solenoid Voltage Out of Range Alarm: Solenoid Voltage (PWR) is below 11Vdc or Higher than 16Vdc 22

[WSMT2 or WSMB2] - 214-Low Population Limit Exceeded Alarm: Seed Rate has dropped below the Low Alarm Setting on the Seed Monitor Screen 24

[WSMT2 or WSMB2] - 602-8 Volt Supply Failure Alarm: .8V Supply Voltage (Sensor Power) is below 7.2Vdc or Higher than 16Vdc 25

[WSMT2] - 202-Ground Speed Failure: Seeds are detected when there is no ground speed. (Only active in Planter Monitor Mode) 26

[WSMT2] - 203-Continuous Test Failure Alarm: Control conditions exceed the disk RPM limits. 28

[WSMT2] - 204-5 Revolution Test Failure Alarm: Control conditions exceed the disk RPM limits. 30

[WSMT2] - 205-Channel Failure Alarm: Control Channel Failure due to Module/Sensor. 32

[WSMT2] - 206-Channel Unable to Control Alarm: Control Channel Failure due to incorrect Control Channel Settings or faulty Feedback Sensor. 34

[WSMT2] - 207-Channel Unstable Alarm: Control Channel Unstable due to incorrect Control Channel Settings or faulty Feedback Sensor. 35

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