1740 / 2340 / 2850 / 3350 / 3850 / 4350

Air Cart

1740 / 2340 PIN Y9S015001 and above

2850 / 3350 PIN Y8S015001 and above

3850 / 4350 PIN Y9S015001 and above

SERVICE MANUAL

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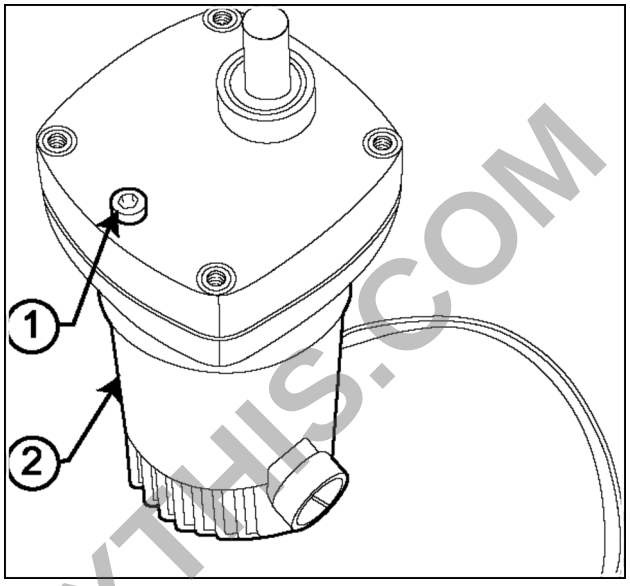
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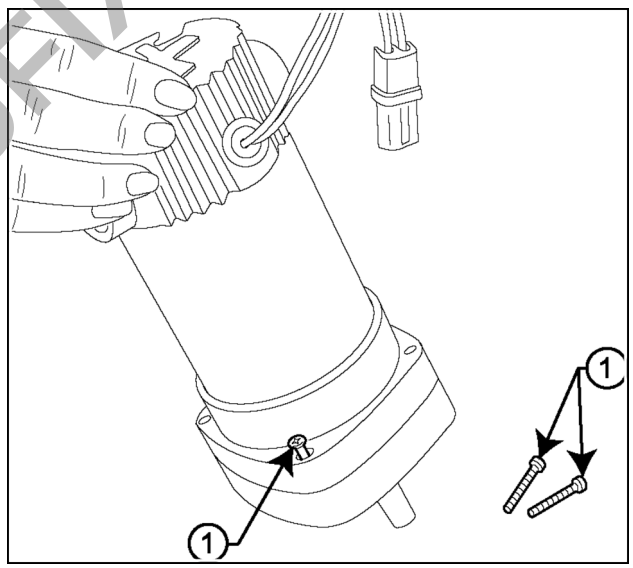
Metering system motor - Reseal

1. Using an allen wrench, remove the oil drain plug **(1)** from the electric motor **(2)**.
2. Drain the gear oil from the motor.



105169M1 1

3. Loosen and remove the four socket head torx screws **(1)** from the output shaft side of the motor.



105170M1 2

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Wire harnesses - Electrical schematic frame 07 Lighting: module, warning, tail

2850	Tow Between
3350	Tow Between
3850	Tow Between
4350	Tow Between
2850	Tow Between
3350	Tow Between
3850	Tow Between
4350	Tow Between
2850	Tow Between
3350	Tow Between
3850	Tow Between
4350	Tow Between
2850	Tow Between
3350	Tow Between
3850	Tow Between
4350	Tow Between

Connector x-006 - Transport Bar
Connector x-008 - Transport Bar
Connector x-009 - Module
Connector x-010 - Right Warning
Connector x-011 - Left Warning
Connector x-012 - Left Tail
Connector x-013 - Right tail

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Seeding tank sensors Bin depth sensor - Dynamic description

Operation

The bin Level sensor will detect the level of product in each tank.

Signal voltage and frequency

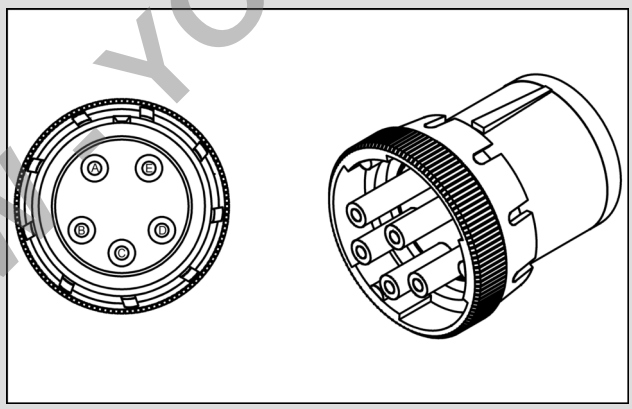
The signal from the bin depth sensor can be monitored with display. Refer to **Cab seeding controls - Check Diagnostics - Monitor (55.517)**, and select **Tank n Level**. The signal voltage and frequency are both displayed.

Diagnostic screen values matched to fault codes

Diagnostic Parameter	Fault Code Range	Measurement (at Idle)	Fault Code Description
Tank 1 Level	**<0.6 - >6.8 V** **<3 - >106 ms**	**3.0 V 29.4 ms** (empty) **5.0 V 6.9 ms** (full)	520221-03 - Voltage is above normal. 520221-04 - Voltage is below normal. 5202212-08 - Abnormal frequency, period, or width.
Tank 2 Level	**<0.6 - >6.8 V** **<3 - >106 ms**	**3.0 V 29.4 ms** (empty) **5.0 V 6.9 ms** (full)	520222-03 - Voltage is above normal. 520222-04 - Voltage is below normal. 520222-08 - Abnormal frequency, period, or width.
Tank 3 Level	**<0.6 - >6.8 V** **<3 - >106 ms**	**3.0 V 29.4 ms** (empty) **5.0 V 6.9 ms** (full)	520223-03 - Voltage is above normal. 520223-04 - Voltage is below normal. 520223-08 - Abnormal frequency, period,

Connectors

Tank 1 Bin Level Sensor



87706919 1

POSITION	Wire Color and size	CIRCUIT REFERENCE	Voltage
B	Yellow 0.75	+12V_SEN	
C	Brown 0.75	TANK 1 LEVEL	depends on state
D	Light green 0.75	ECU_GND	**~0 V**

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520222-00-Tank 2 Level, Data valid but above normal operation range - most severe level

Control Module : Air Cart Rate ECU

Context:
The Rate ECU detected an abnormally high voltage on its tank 2 level sensor signal input.

Cause:
Short to high source, or defective component.

Possible failure modes:

1. High short on signal wiring between device and Rate ECU.
2. Faulty Rate ECU hardware or software.

Solution:

1. Determine if the fault code is still active:

   Cycle system power or reset the Air Cart Rate ECU.

   Select UTIL > FAULT and check both ACTIVE and INACTIVE faults. Refer to **Cab seeding controls - Check Faults (55.517)**.
   Review: Fault Count, First Time, Last Time

   Also view the Tank 2 Level voltage as measured by the Air Cart Rate ECU.
   Select DIAGN > MONTR and choose Tank 2 Level . Refer to **Cab seeding controls - Check Diagnostics - Monitor (55.517)**.

   A. Fault 520222-0 is active. Go to Step **2**.

   B. Fault is inactive. Continue operation and monitor for recurring fault.
2. Disconnect the connector at the sensor indicated by the fault code.

1740 and 2340 Tow Behind	**X-119**
1740 and 2340 Tow Between	**X-119**
50 Series Tow Behind	**X-119**
50 Series Tow Between	**X-119**

Measure the following voltages on the implement harness connector:

Measure with Voltmeter		Measured Voltage	Interpretation and Action
Positive lead	**Negative lead**		
tank level connector on low bin 1 sensor (TANK LEVEL, cavity 2)	ECU_GND (TANK LEVEL, cavity 1)	**7.1 - 8.1 V**	Normal
		< 7.1 V	Should not occur. Double-check measurement, double-check fault code.
		> 8.1 V	Look for high short on tank level connector on low bin 1 sensor (wire.
		Voltage differs from signal monitor screen?	Check the voltage between Stank level connector on low bin 1 sensor (and ECU_GND at the ECU connector. If this voltage still differs from the signal monitor screen, go to Step 3. If the voltage here matches the signal monitor screen, there is a problem in the wiring harness.

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520321-04-Meter1 Right, Voltage below normal, or shorted to low source

2850	
3350	
3850	
4350	

Control Module : Section Control ECU

Context:
The Section Control ECU detected an abnormally low voltage on its meter speed signal input.

Cause:
Open circuit on sensor power, short circuit to low source, or defective component.

Possible failure modes:

1. Bad connection or open circuit in power wire to the device.
2. Low short on signal wire between device and Section Control ECU.
3. Low short on power wire to the device.
4. Faulty speed sensor.
5. Faulty Section Control ECU hardware or software.

Solution:

1. Determine if the fault code is still active:

   Cycle system power or reset the Section Control ECU.

   Select UTIL > FAULT and check both ACTIVE and INACTIVE faults. Refer to **Cab seeding controls - Check Faults (55.517)**.
   Review: Fault Count, First Time, Last Time

   Also view the Meter1 Right voltage as measured by the Section Control ECU.
   Select DIAGN > MONTR and choose Meter1 Right. Refer to **Cab seeding controls - Check Diagnostics - Monitor (55.517)**.

   A. Fault is inactive. Continue operation and monitor for recurring fault.

   B. Fault 520321-4 reoccurs, and is listed as active in the fault review screen. Go to Step **3**.
2. Inspect wires and contacts at both mating ends of all connectors referenced by the diagnostic procedures.

   Repair all contacts that are bent, broken, or improperly seated in their connector housing.

   Clean dirty or corroded contacts.

   Ensure that connector mating ends are securely mated back together.

   Cycle power and check for active fault.

   A. Fault 520321–4 is active. Go to Step **3**.

   B. Fault is inactive. Continue operation.
3. Disconnect the meter 1 right speed sensor **X-177** from the harness.

   Measure the following voltages at the implement harness connector.

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Metering mechanical drive - Static description incorrect output

Drive link in the box may be disconnected (indicated by half the required output). There also may be worn or loose linkages, which will output less than the expected amount.

You could have the following problems:

1. Continually get only half the required output. (Use the table to check output ratio.)
2. Consistently getting less than the expected amount.

Solution

Carefully select the set number indicated, rotate the input sprocket of the meter drive box the required number of turns and carefully count the output. Small errors are generally in the setting position.

SETTING #	INPUT TURNS	OUTPUT TURNS	STANDARD
0	50	-	0 +/- 1/8 turn
30	50	-	10 1/4 +/- 1/4 turn
65	50	-	25 1/8 +/- 1/2 turn

- Half the required output indicates one drive link in the gearbox is disconnected.

Worn or looses linkages will always output less than the expected amount.

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