SERVICE MANUAL

Guardian™ SP.295F / Guardian™ SP.300F
Guardian™ SP.345F / Guardian™ SP.400F
Tier 4B (final)
Sprayer

PIN YFYM00001 and above

Part number 47691240
1st edition English
February 2015

NEW HOLLAND AGRICULTURE

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3649	5024	10	amber	The aftertreatment outlet NOx sensor heater is unable to maintain its normal operating temperature	None on performance	Check engine wiring harness
3681	3228	2	amber	The aftertreatment outlet NOx sensor indicates that the power supply to the sensor is incorrect	None on performance	Check engine wiring harness
3682	3218	2	amber	The Aftertreatment outlet NOx sensor indicates that the power supply to the sensor is incorrect	None on performance	Check engine wiring harness
3697	630	12	red	Error internal to the ECM related to engine software failures	Engine may not start or may be difficult to start	Call Cummins Service
3712	5246	0	red	Critical SCR related fault codes have been active for an extended period of time and require immediate attention	Engine power derate	Call Cummins Service
3714	1569	31	amber	Critical fault codes related to engine operation are active	Possible reduced engine performance	Call Cummins Service
3717	3226	13	amber	A nominal system voltage mismatch has been detected by the aftertreatment outlet NOx sensor	None on performance	Check engine wiring harness
3718	3216	13	amber	A nominal system voltage mismatch has been detected by the aftertreatment intake NOx sensor	None on performance	Check engine wiring harness
3724	168	17	amber	Low voltage to the EGR valve device driver has been detected	Possible reduced engine performance	Call Cummins Service
3725	3216	10	amber	The aftertreatment NOx sensor reading is not valid	None on performance	Check engine wiring harness
3727	5571	7	none	The fuel rail high pressure relief valve has opened at a lower than expected pressure	Possible reduced engine performance	Call Cummins Service
3737	1675	31	none	The starter motor has been temporarily disabled in order to prevent starter damage	Starter operation is prohibited until the starter has adequately cooled	Check for cause of excessive engine cranking, poor battery connections, check engine harness
3741	5571	0	amber	The fuel rail high pressure relief valve has opened due to high fuel rail pressure	Engine may run rough, may stop running, may not start or may be difficult to start	Check for air in fuel, high fuel return restriction
3748	3216	20	amber	An offset in the intake NOx sensor reading has been detected	None on performance	Call Cummins Service
3749	3226	20	amber	An offset in the outlet NOx sensor reading has been detected	Possible reduced engine performance	Check engine wiring harness

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Foam marking system - Overview - Troubleshooting

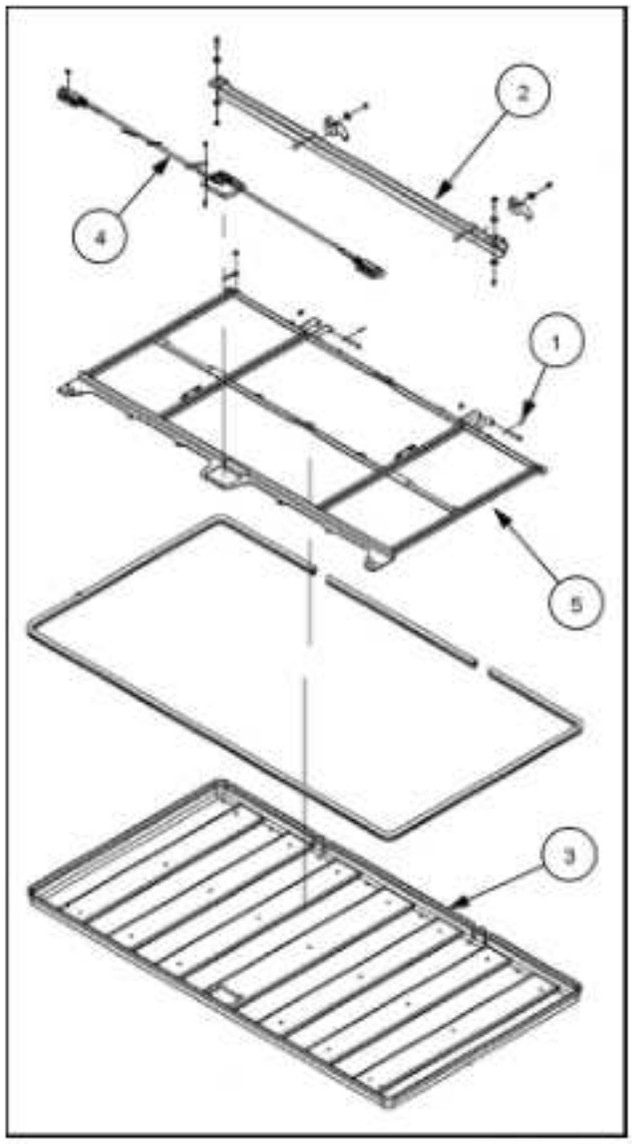
Problem	Possible cause	Possible solution
You do not get foam.	Air supply not properly connected.	Be sure the air line and liquid lines do not have a hole in them or are not pinched. Remove air and liquid tubing at each foam mixing chamber and check for flow.
	Not enough foam concentrate.	Very hard water may require a greater amount of concentrate to produce good foam. Not having enough foam concentrate may make good foam, but not make enough of it. Use a high-quality foam concentrate. Adjust foam concentrate with in-cab switch.
	In-line filter dirty or clogged.	Check and clean the in-line filter.
	Shut off valve closed.	Open shut off valve near filter.
Not enough foam.	Not enough foam concentrate.	Adjust foam concentrate with in-cab switch.
	Hole in air line. Pinched air or liquid lines.	Check air and liquid lines.
	Clogged in-line filter/foam heads.	Check and clean filter/foam heads.
Wet foam.	Not enough foam concentrate.	Adjust foam concentrate with in-cab switch.
	Dirty in-line filter/foam heads.	Check and clean filter/foam heads.
Foam does not last on the ground.	Too little concentrate being used.	Use higher quality foam concentrate or increase concentrate with in cab switch.
Blowing foam in windy weather.	Foam too light or dry. Decrease concentrate with in-cab switch	Decrease concentrate with in-cab switch.

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Bottom engine hood - Remove - Engine belly pan doors

SP.295F [YFYM00858 -] Model year 2015 after OAT coolant specification
SP.300F [YFYM00858 -] Model Year 2015 after OAT coolant specification
SP.345F [YFYM00858 -] Model year 2015 after OAT coolant specification
SP.400F [YFYM00858 -] Model year 2015 after OAT coolant specification

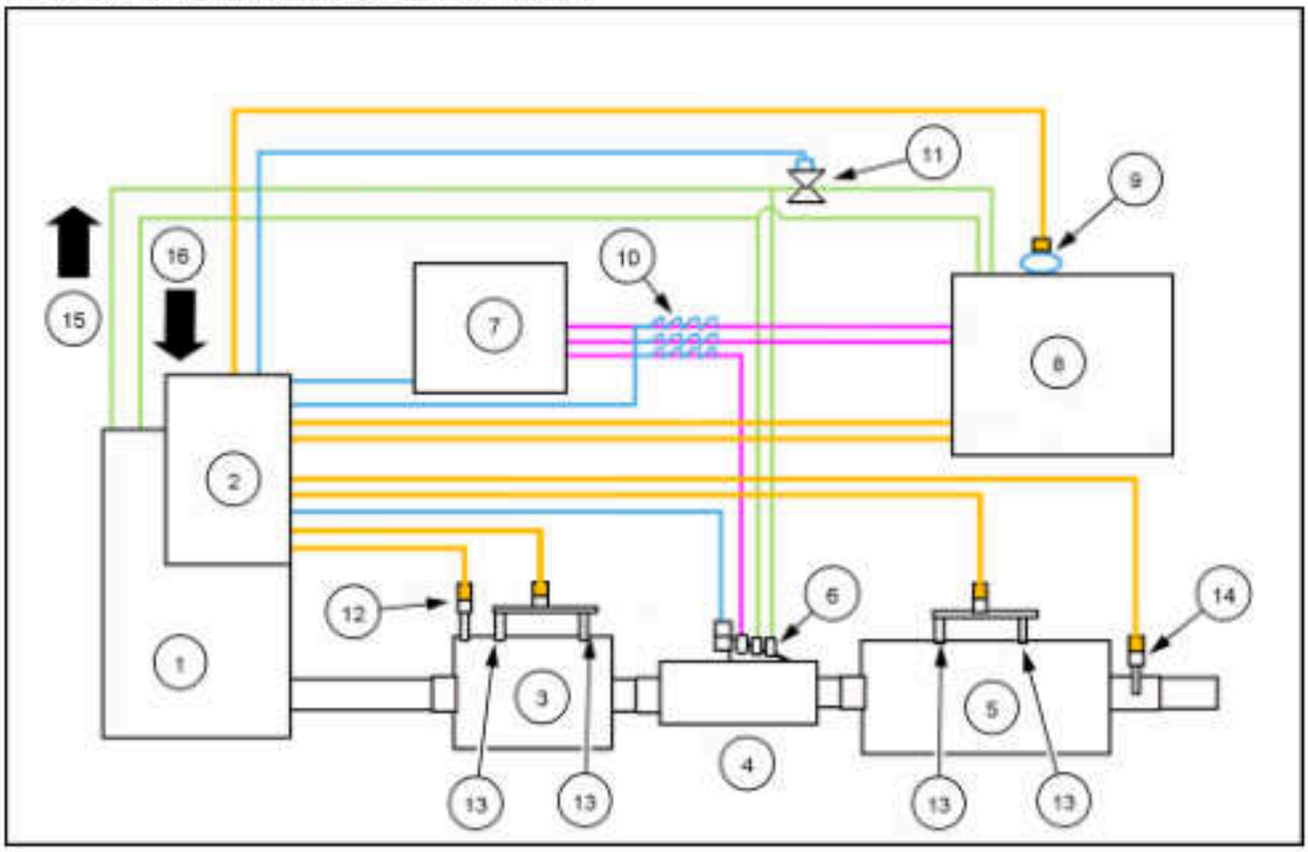
1. Open the engine belly doors and allow the doors to hang freely.
2. Remove the engine belly door by removing the cotter pins and flat washers from the clevis pins **(1)** which attach the doors to the belly door mounting bracket **(2)**.
3. Disassemble the engine belly door by removing the hardware that attaches the door panel **(3)** and the latching mechanism **(4)** to the door frame **(5)**.
4. Repeat the removal and disassemble for the second engine belly pan door.



RAL165P00095CA 1

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During engine operation, the exhaust gasses from the engine enter the DOC where the exhaust gas hydrocarbons are oxidized to carbon dioxide. The exhaust gasses then travel through the DRT where Diesel Exhaust Fluid is sprayed into the chamber. The exhaust gasses and DEF mixture pass through a mixer plate and the mixture turns into an ammonia and iso-cyanic acid. This mixture then passes into the SCR chamber and through the SCR catalyst. The exhaust gasses then exit the exhaust pipe as nitrogen and water vapor.
The following figure shows the system components.



Item	Description
1	Engine
2	Engine control module
3	Diesel Oxidation Catalyst (DOC)
4	Decomposition Reactor Tube (DRT)
5	Selective Catalyst Reduction (SCR)
6	Diesel Exhaust Fluid (DEF) Dosing Module
7	DEF Supply Module
8	DEF Tank
9	DEF quality sensor
10	DEF line heaters
11	Coolant flow control valve
12	NOx Sensor — Engine exhaust gasses out
13	Temperature sensor
14	NOx Sensor — System exhaust gasses out
15	Engine coolant supply line
16	Engine coolant return line
	Analog signal/Wiring harness
	Diesel Exhaust Fluid (DEF) lines
	Analog signal/Wiring harness
	Engine coolant lines

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SEE ARMREST PAGE 2

SEE CAB HARNESSES PAGE 3

SEE BOOM HARNESSESSES PAGE 4

SEE SUPER NODE HARNESS ON PAGE 4

SEE 4WLS PAGE 4

SEE ENGINE HARNESS ON PAGE 2

GUARDIAN SP.295F, SP.300F, SP.345F, SP.400F
PIN YEYM00812 AND AFTER
ELECTRICAL SCHEMATIC
RAC 47756531

SHEET 1 SIDE 1

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