SERVICE MANUAL

Speedrower® 200
Speedrower® 240
Tier 3
Self-Propelled Windrower

PIN YGG677501 and above

Part number 48126539
1st edition English
April 2017

MidWestTech | New Holland Speedrower 200, 240 Tier 3 Self Propelled Windrower Service Manual | Publication 48126539

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Speedrower® 200 Tier 3 [YGG677501 -]	Non draper ready - Not fitted for draper header
Speedrower® 200 Tier 3, containerized [YGG677501 -]	Non draper ready - Not fitted for draper header
Speedrower® 240 Tier 3 [YGG677501 -]	Non draper ready - Not fitted for draper header
Speedrower® 240 Tier 3, containerized [YGG677501 -]	Non draper ready - Not fitted for draper header

Ref.	Component	Ref.	Component
(1)	Hydraulic reservoir	(30)	Right-hand accumulator dump valve (RHD-1)
(2)	Right-hand lift pump	(31)	Right-hand pressure regulator valve (Y-001)
(3)	Right-hand ground drive pump	(32)	Right-hand master valve (Y-004)
(4)	Oil cooler pump	(33)	Two speed solenoid valve (Y-023)
(5)	Left-hand ground drive pump	(34)	Power down valve when equipped with two speed ground drive motors
(6)	Right-hand ground drive motor	(35)	Power down valve when equipped with three speed ground drive motors
(7)	Left-hand lift pump	(36)	Right-hand header lift relief valve (REL-R) **221 bar** (**3200 psi**)
(8)	Left-hand ground drive motor	(37)	Left-hand master valve (Y-003)
(9)	Check valve, **9 bar** (**125 psi**)	(38)	Left-hand header lift relief valve (REL-L) **221 bar** (**3200 psi**)
(10)	Hydraulic oil cooler	(39)	Right-hand header motor
(11)	Left-hand lift cylinder	(40)	Steering pump
(12)	Right-hand lift cylinder	(41)	Left-hand header motor
(13)	Left-hand lift accumulator	(42)	Steering system pressure relief valve, **138 bar** (**2000 psi**)
(14)	Left-hand accumulator charge solenoid (Y-007)	(43)	Auxiliary pump manifold
(15)	Left-hand accumulator float solenoid (Y-009)	(44)	Hydraulic oil filter
(16)	Tilt cylinder	(45)	Merger manifold
(17)	Orifice with check valve, diameter **0.813 mm** (**0.032 in**)	(46)	Auxiliary gear pump
(18)	Orifice, diameter **1.397 mm** (**0.055 in**)	(47)	Hydraulic oil filter bypass check valve, **3.44 bar** (**49.88 psi**)
(19)	Left-hand accumulator dump valve (LHD-1)	(48)	Steering valve
(20)	Right-hand lift accumulator	(49)	Blocking valve
(21)	Multi-disc parking brake	(50)	Steering motor
(22)	Left-hand lift cylinder solenoid (Y-005)	(51)	Forward and reverse control cylinder
(23)	Right-hand accumulator float solenoid (Y-010)	(52)	Forward and reverse control valve manifold
(24)	Right-hand lift cylinder solenoid (Y-006)	(53)	Charge relief manifold
(25)	Left-hand pressure regulator valve (Y-002)	(54)	Autoguidance enabling valve
(26)	Tilt cylinder control solenoid (Y-013)	(55)	Autoguidance proportional valve
(27)	Parking brake solenoid valve (Y-028)	(56)	Pressure relief valve, **22 – 24 bar** (**320 – 350 psi**) at 1500 ERPM
(28)	Right-hand accumulator charge solenoid (Y-008)	(57)	Disc header drive pump
(29)	Main lift manifold	(58)	Charge pump

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Wiring harnesses - Electrical schematic sheet 37 - Autoguidance system

Speedrower® 200 Tier 3 [YGG677501 -]	Draper ready - Factory-fitted to accept draper
Speedrower® 200 Tier 3, containerized [YGG677501 -]	Draper ready - Factory-fitted to accept draper
Speedrower® 240 .Tier 3 [YGG677501 -]	Draper ready - Factory-fitted to accept draper
Speedrower® 240 Tier 3, containerized [YGG677501 -]	Draper ready - Factory-fitted to accept draper

Type	Component	Connector / Link	Description
ECU	**A-008**	**X-021 X-019**	MODULE, AUTOGUIDANCE
ECU	**A-009**	**X-026**	MODULE, GPS RECEIVER
ECU	**A-010**	**X-154**	MODULE, FRED DISPLAY
Resistor	**R-004**	**X-122**	RESISTOR, CAN TERMINATION, AG ANTENNA
Resistor	**R-005 (ALT POSITION)**	**X-150**	RESISTOR, CAN TERMINATION
Resistor	**R-008**	**X-400**	RESISTOR, CAN TERMINATION, AG FRED
Connector	X-019	**X-019**	A-008 MODULE, AUTOGUIDANCE
Connector	X-021	**X-021**	A-008 MODULE, CERES
Connector	X-026	**X-026**	A-009 MODULE, GPS RECEIVER
Connector	X-028	**X-028**	CM TO DA OPTION
Connector	X-038	**X-038**	GI TO GA PASS THRU
Connector	X-122	**X-122**	R-004 RESISTOR, CAN TERMINATION, AG ANTENNA
Connector	X-150	**X-150**	R-005 RESISTOR, CAN TERMINATION, R-005 (ALT POSITION)
Connector	X-154	**X-154**	A-010 MODULE, FRED DISPLAY
Connector	X-155A	**X-155A**	CAN TERMINATION R-005
Connector	X-400	**X-400**	R-008 RESISTOR, CAN TERMINATION, AG FRED
Connector	X-414	**X-414**	CERES DIAGNOSTIC
Connector	X-497	**X-497**	DA TO CN PASS THRU
Connector	X-499	**X-499**	CN TO GA PASS THRU

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E0508-03 - Offset Between Camshaft and Crankshaft - Shorted to high source

Control Module: ECU

Context:
Engine fault code E0508-03 indicates that the Engine Control Module A-003 has reported an error with the phase relationship between the Crankshaft Speed sensor and the Segment (Camshaft) Speed sensor B-012. The engine will alternatively use a redundant angular system which is based on the Crankshaft Speed sensor B-011. Diagnostics is active under these conditions: 1) terminal 40 (Key On) is active, 2) current engine speed is above **50 RPM**, 3) no error is reported for the Crankshaft Speed sensor and 4) sensor supply voltage (**5 volts** DC) is not defective .

Cause:
The Engine Control Module has determined that there is a phase relationship error between the Crankshaft Speed Sensor and the Segment (Camshaft) Speed sensor.

Possible failure modes:

1. Faulty Segment (Camshaft) Speed sensor B-012 or Crankshaft Speed sensor B-011.
2. Faulty electrical wiring and/or connections.
3. Faulty Engine Control Module, supply voltages or ground.

Solution:

1. Operation: Electrical and Sensor Mounting Inspection.
   Vehicle Status: Key Off Engine Off.

   Remove Segment (Camshaft) Speed Sensor connector **X-388** and Crankshaft Speed sensor connector **X-387** and inspect housing body/latch, pins and wiring harness for damage or corrosion. Also, inspect the connector portion and mechanical mounting (seating) of the Segment (Camshaft) Speed Sensor and Crankshaft Speed sensors.

   A. If damage is determined after careful inspection, repair wiring and/or replace connector parts to ensure a good and sound electrical connection. Replace Segment (Camshaft) Speed Sensor or Crankshaft Speed sensor, if damaged.

   B. If any of the sensors are not mounted correctly (loose, not seated properly, etc.), remount the sensors taking special care to make sure it is properly seated (flush with sealing surface) and fastened. Use the Iveco Tier 3 Engine Mechanical Troubleshooting and Repair Manual for a reference if necessary.

   C. If no damage is determined, proceed to step **2**.
2. Operation: Resistance Test for Segment (Camshaft) Speed sensor.
   Vehicle Status: Key Off Engine Off

   Remove Segment (Camshaft) Speed Sensor connector **X-388** and connect the test lead labeled "Coolant/Fuel Temp Sensor" from the Tier II (NEF) Diagnostic Repair Kit **380040185** to access the sensor terminals. See test table below.

Test Type	From	To	Results (Min)	Results (Max)
1. Resistance (Sensor impedance is approximately **900 Ω**)	Segment (Camshaft) Speed Sensor connector **X-388 pin A**	Segment (Camshaft) Speed Sensor connector **X-388 pin B**	**750 ohms**	**1000 ohms**

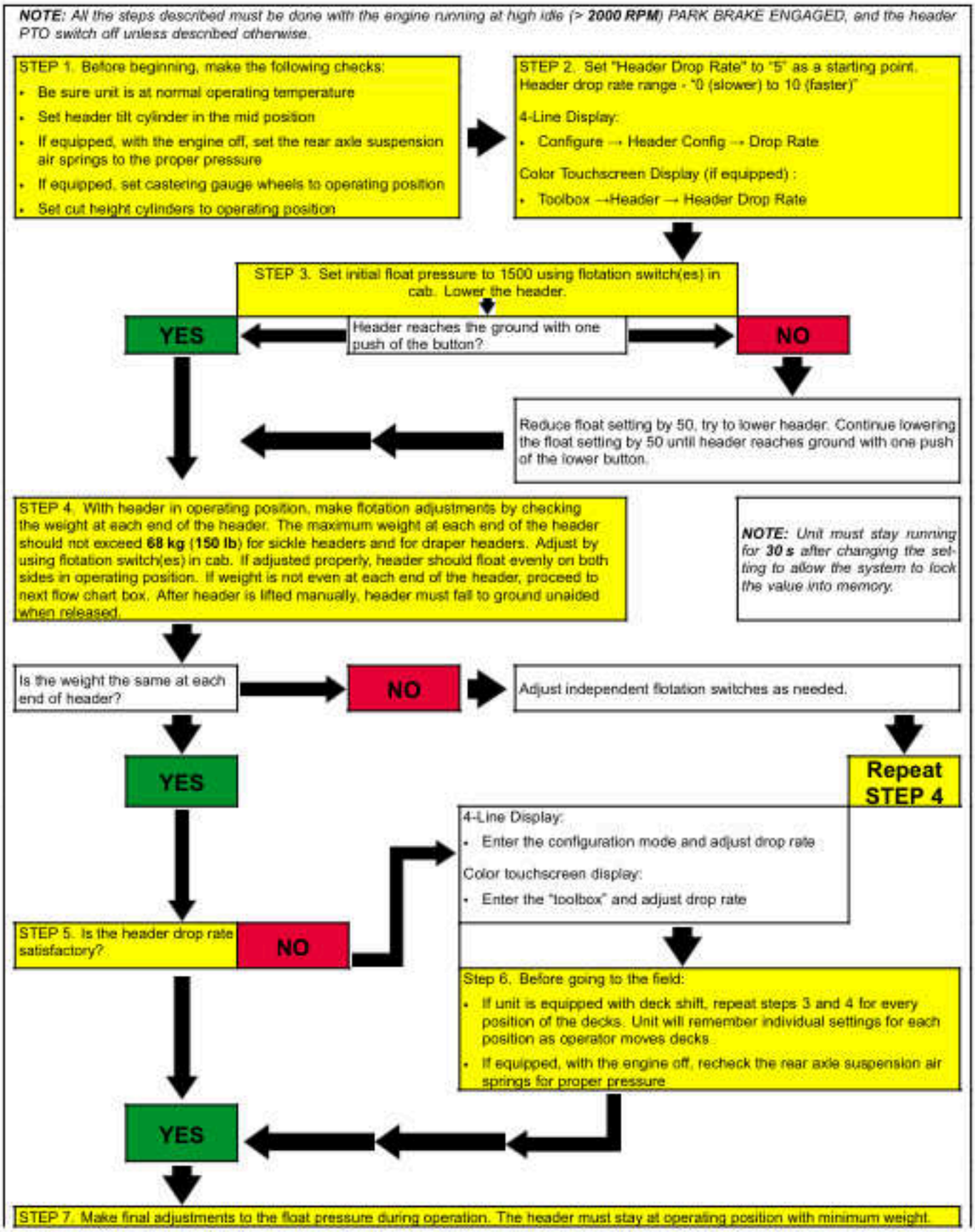
   A. If the resistance test does not fall in the specified range, replace Segment (Camshaft) Speed sensor B-012.

   B. If the resistance test does fall in the specified range, proceed to step **3**.
3. Operation: Resistance Test for Crankshaft Speed sensor.
   Vehicle Status: Key Off Engine Off

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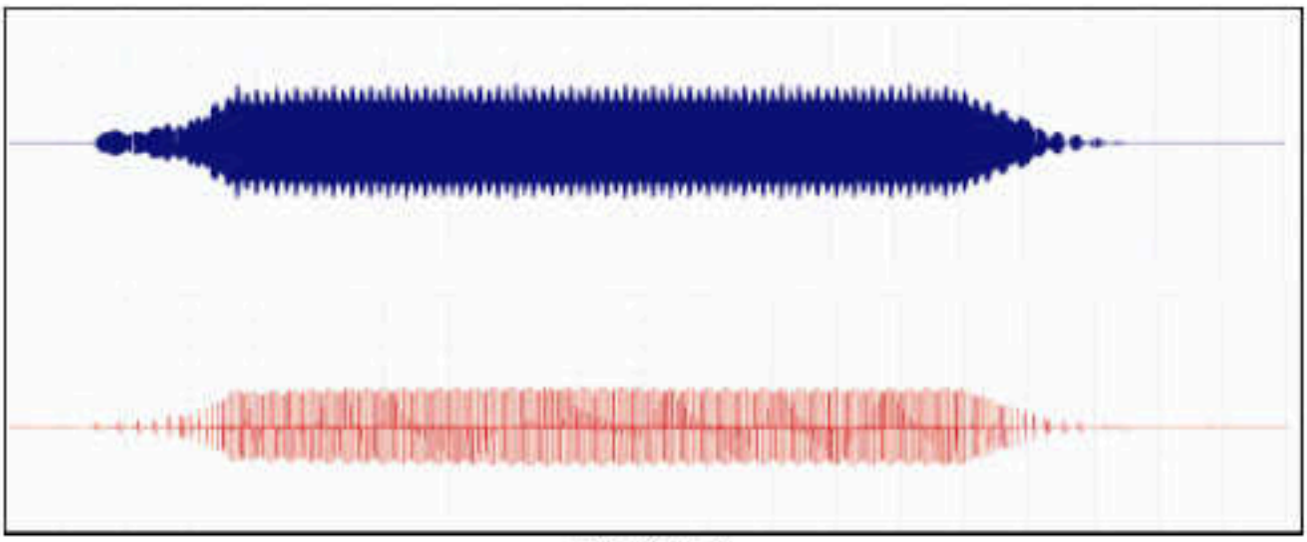
Hydraulic systems - Overview - Setting header flotation - Draper header only

Speedrower® 200	Draper ready - Factory-fitted to accept draper
Speedrower® 240	Draper ready - Factory-fitted to accept draper



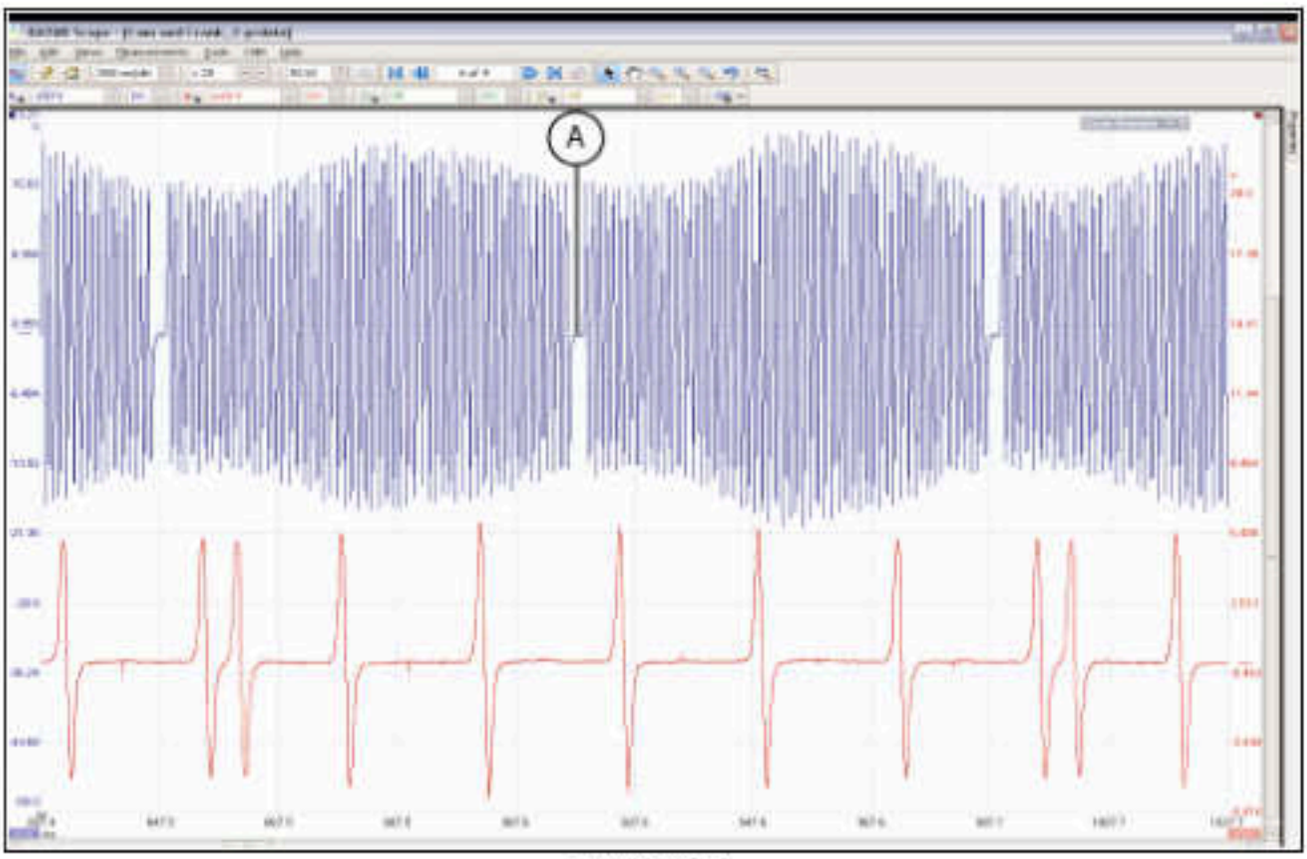
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Figure **5**
(A) = Ignition start up **(B)** = Engine begins to turn



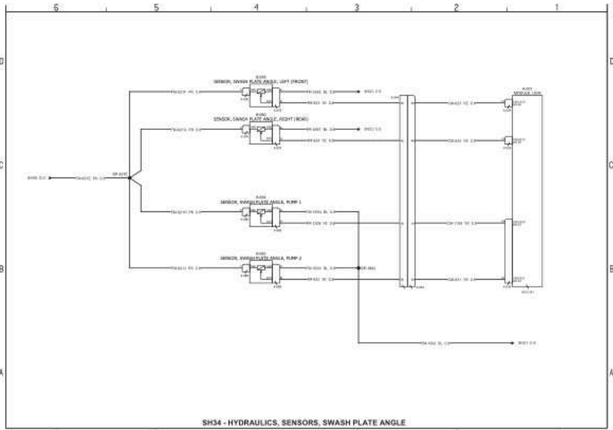
BAL10CVT354FMB 6

5. Figure **6** shows the ideal full signal of the crank and cam position from the point of when the engine is turned on , and until it is turned off.

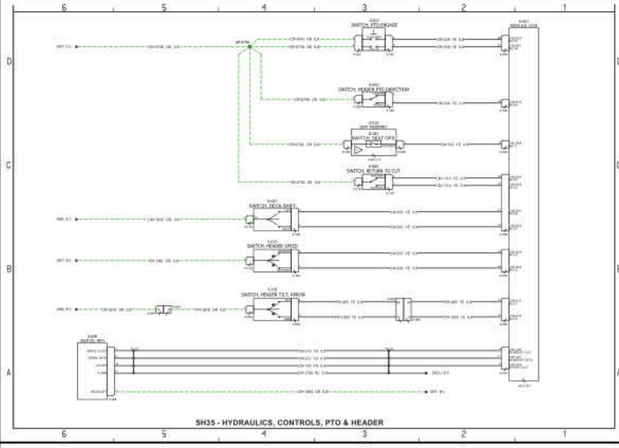


BAL11CVT057FMA 7
(A) = Sync Trigger

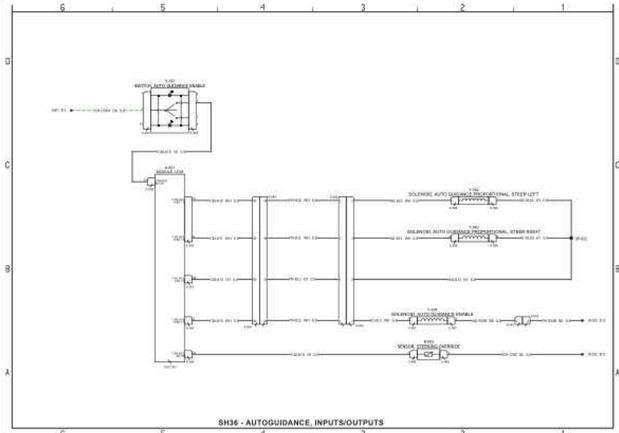
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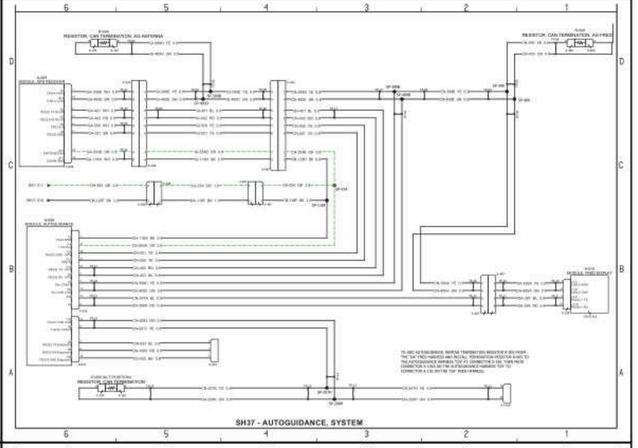
SH34 - HYDRAULICS, SENSORS, SWASH PLATE ANGLE



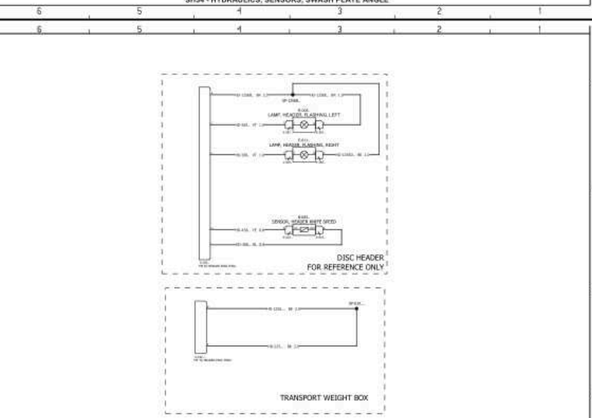
SH35 - HYDRAULICS, CONTROLS, PTO & HEADER



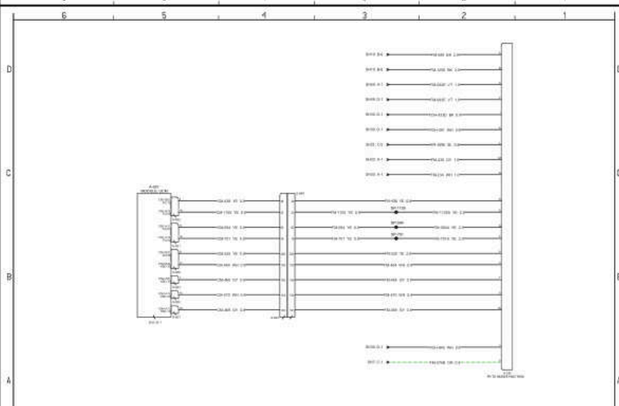
SH36 - AUTOGUIDANCE, INPUTS/OUTPUTS



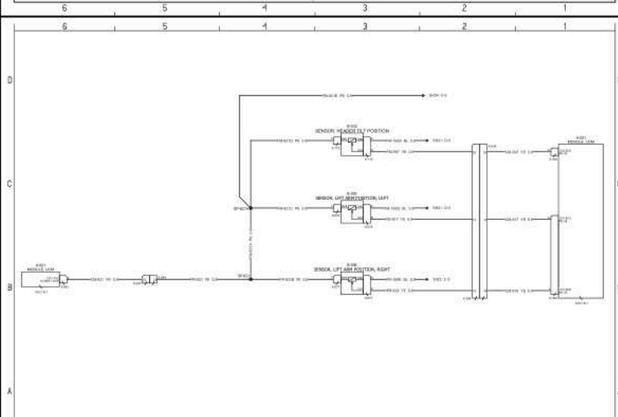
SH37 - AUTOGUIDANCE, SYSTEM



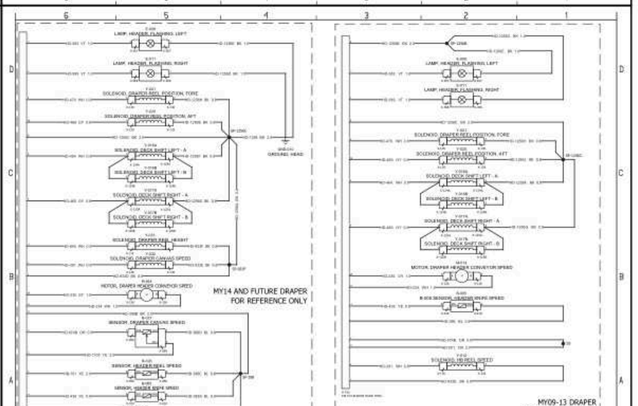
SH38 - HEADER, DISK & WEIGHT BOX



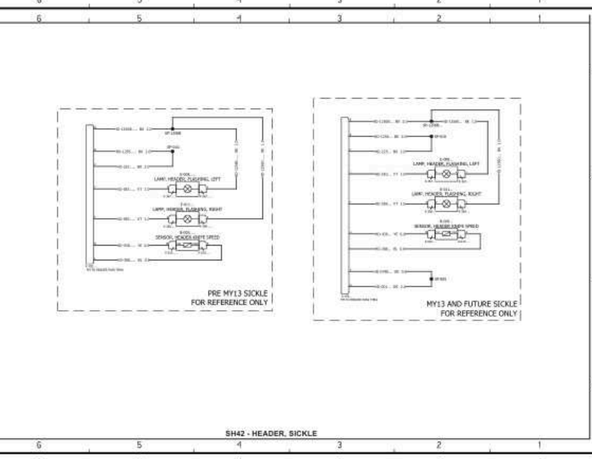
SH39 - HEADER, PASSTHROUGH CONNECTOR



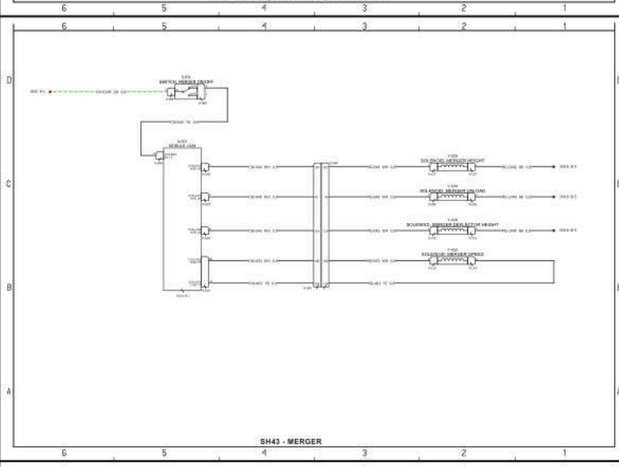
SH40 - HEADER, SENSORS, LIFT ARMS



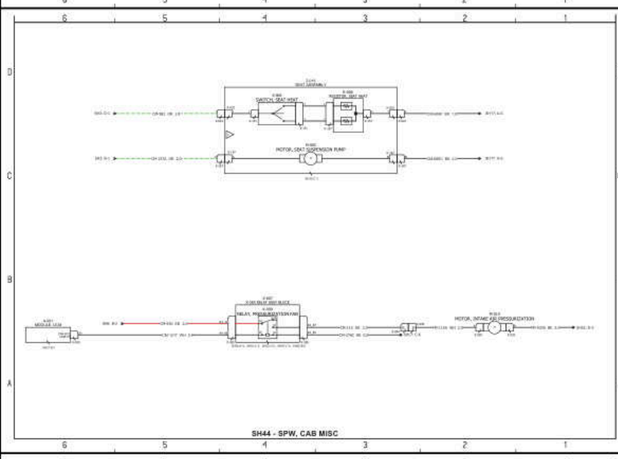
SH41 - HEADER, DRAPER



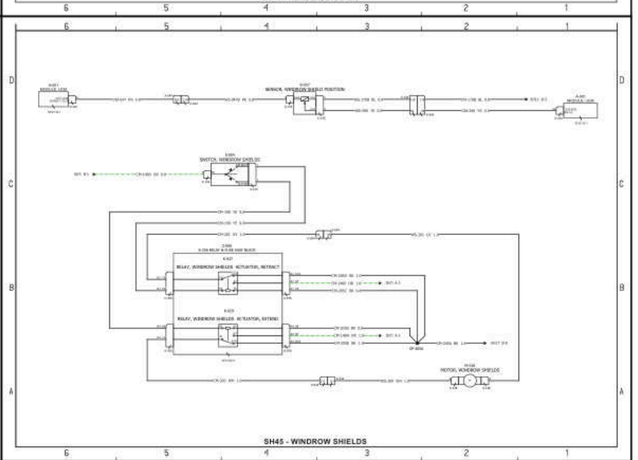
SH42 - HEADER, SICKLE



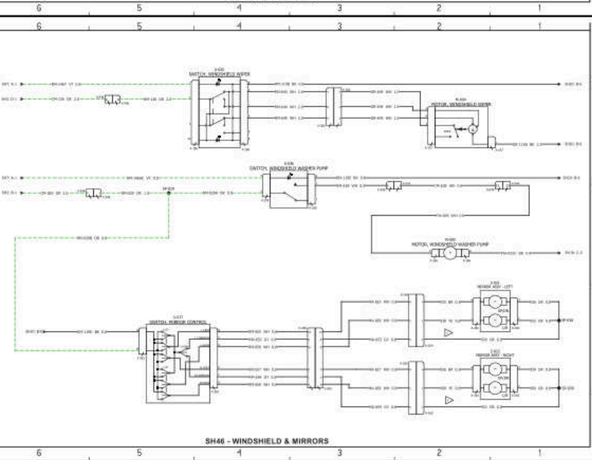
SH43 - MERGER



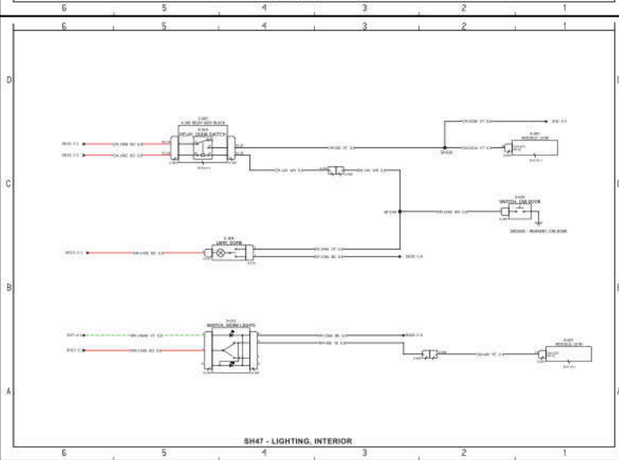
SH44 - SPW, CAB MISC



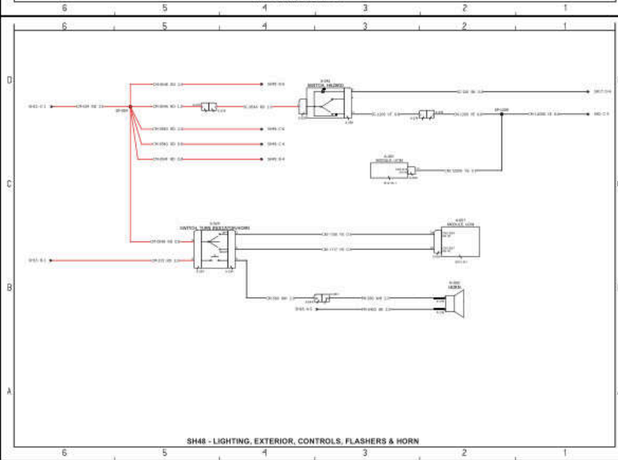
SH45 - WINDROW SHIELDS



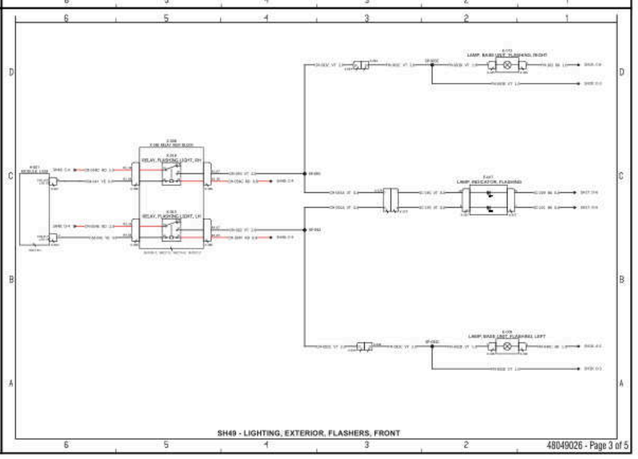
SH46 - WINDSHIELD & MIRRORS



SH47 - LIGHTING, INTERIOR



SH48 - LIGHTING, EXTERIOR, CONTROLS, FLASHERS & HORN



SH49 - LIGHTING, EXTERIOR, FLASHERS, FRONT

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