Link Product / Engine

Product	Market Product	Engine
AXIAL-FLOW® 7250 Tier 4B (final) [YJG238001 -]	North America	F3GFE613A*B001
AXIAL-FLOW® 8250 Tier 4B (final) [YJG238001 -]	North America	F3HFE613A*B003
AXIAL-FLOW® 9250 Tier 4B (final) [YJG238001 -]	North America	F3JFE613A*B001

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Torque - Minimum tightening torques for normal assembly

METRIC NON-FLANGED HARDWARE

NOM. SIZE	CLASS 8.8 BOLT and CLASS 8 NUT		CLASS 10.9 BOLT and CLASS 10 NUT		LOCKNUT CL.8 W/CL8.8 BOLT	LOCKNUT CL.10 W/CL10.9 BOLT
	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr		
M4	2.2 N·m (19 lb in)	2.9 N·m (26 lb in)	3.2 N·m (28 lb in)	4.2 N·m (37 lb in)	2 N·m (18 lb in)	2.9 N·m (26 lb in)
M5	4.5 N·m (40 lb in)	5.9 N·m (52 lb in)	6.4 N·m (57 lb in)	8.5 N·m (75 lb in)	4 N·m (36 lb in)	5.8 N·m (51 lb in)
M6	7.5 N·m (66 lb in)	10 N·m (89 lb in)	11 N·m (96 lb in)	15 N·m (128 lb in)	6.8 N·m (60 lb in)	10 N·m (89 lb in)
M8	18 N·m (163 lb in)	25 N·m (217 lb in)	26 N·m (234 lb in)	35 N·m (311 lb in)	17 N·m (151 lb in)	24 N·m (212 lb in)
M10	37 N·m (27 lb ft)	49 N·m (36 lb ft)	52 N·m (38 lb ft)	70 N·m (51 lb ft)	33 N·m (25 lb ft)	48 N·m (35 lb ft)
M12	64 N·m (47 lb ft)	85 N·m (63 lb ft)	91 N·m (67 lb ft)	121 N·m (90 lb ft)	58 N·m (43 lb ft)	83 N·m (61 lb ft)
M16	158 N·m (116 lb ft)	210 N·m (155 lb ft)	225 N·m (166 lb ft)	301 N·m (222 lb ft)	143 N·m (106 lb ft)	205 N·m (151 lb ft)
M20	319 N·m (235 lb ft)	425 N·m (313 lb ft)	440 N·m (325 lb ft)	587 N·m (433 lb ft)	290 N·m (214 lb ft)	400 N·m (295 lb ft)
M24	551 N·m (410 lb ft)	735 N·m (500 lb ft)	762 N·m (560 lb ft)	1016 N·m (750 lb ft)	501 N·m (370 lb ft)	693 N·m (510 lb ft)

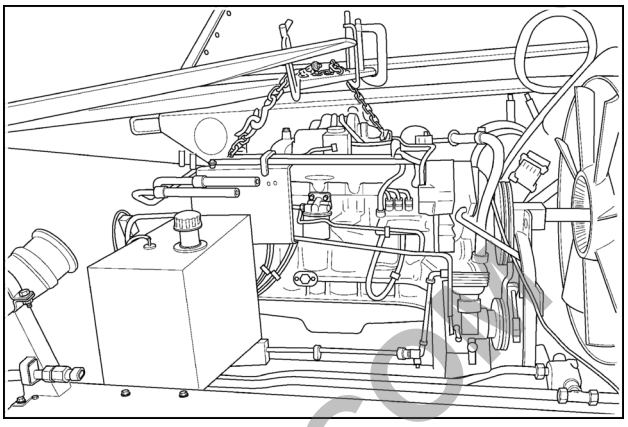
NOTE: *M4 through M8 hardware torque specifications are shown in pound-inches. M10 through M24 hardware torque specifications are shown in pound-feet.*

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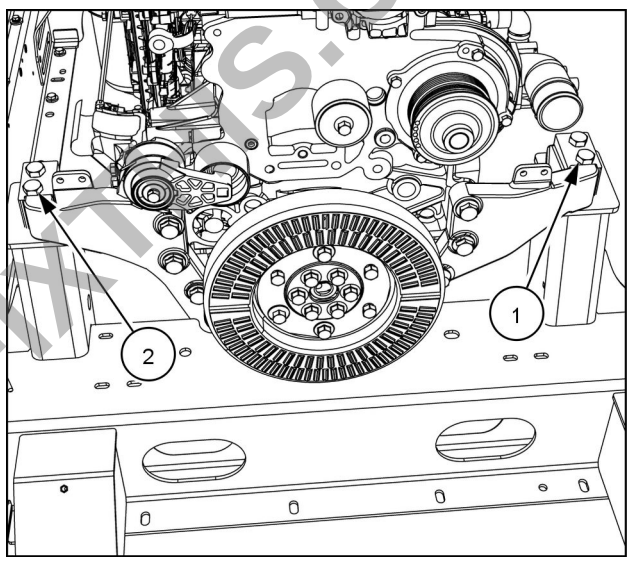
4. Connect the lift chain to a suitable lifting device.
5. Raise the lifting device enough to support the engine during removal of the engine mounting bolts.

NOTE: *The lifting device should be rated for at least* ***907.2 kg*** *(****2000 lb****). Allow enough clearance to lift the engine from the combine, approximately* ***7.0 m*** *(****23 ft****) from the floor.*



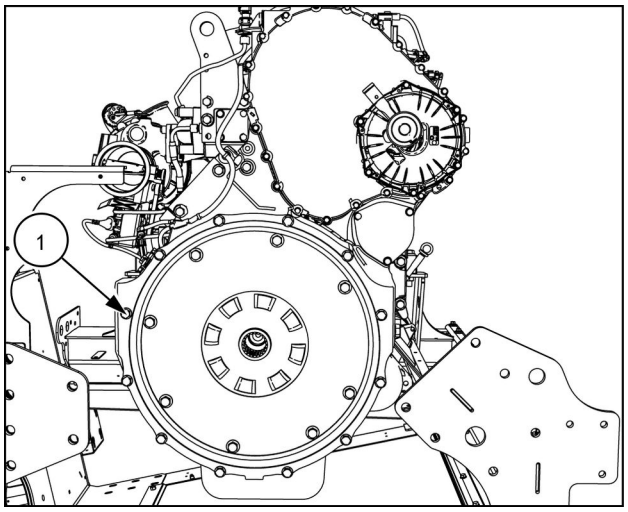
10013136 4

6. From the grain tank side of the engine, loosen the front, engine mounting bolts **(1)**. Do not remove the mounting bolts at this time.
7. From the platform side, loosen the front, engine mounting bolts **(2)**. Do not remove the mounting bolts at this time.



NHIL14AF01001AA 5

8. From the rear of the engine, loosen but do not remove all the bolts and washers **(1)** that couple the engine to the gearbox. There are twelve bolts and washers in total.
9. For safety reasons to the radiators, place a sheet of plywood, cut to size, in front of the cooler box for protection.
10. With the engine securely supported by the lifting device, remove all of the engine mounting bolts and the engine to the gearbox coupling bolts that were loosened in the previous steps.
11. Slide the engine towards the cooler box to disengage the flex plate from the gearbox input shaft.
12. Carefully lift the engine from the frame and remove from the combine.



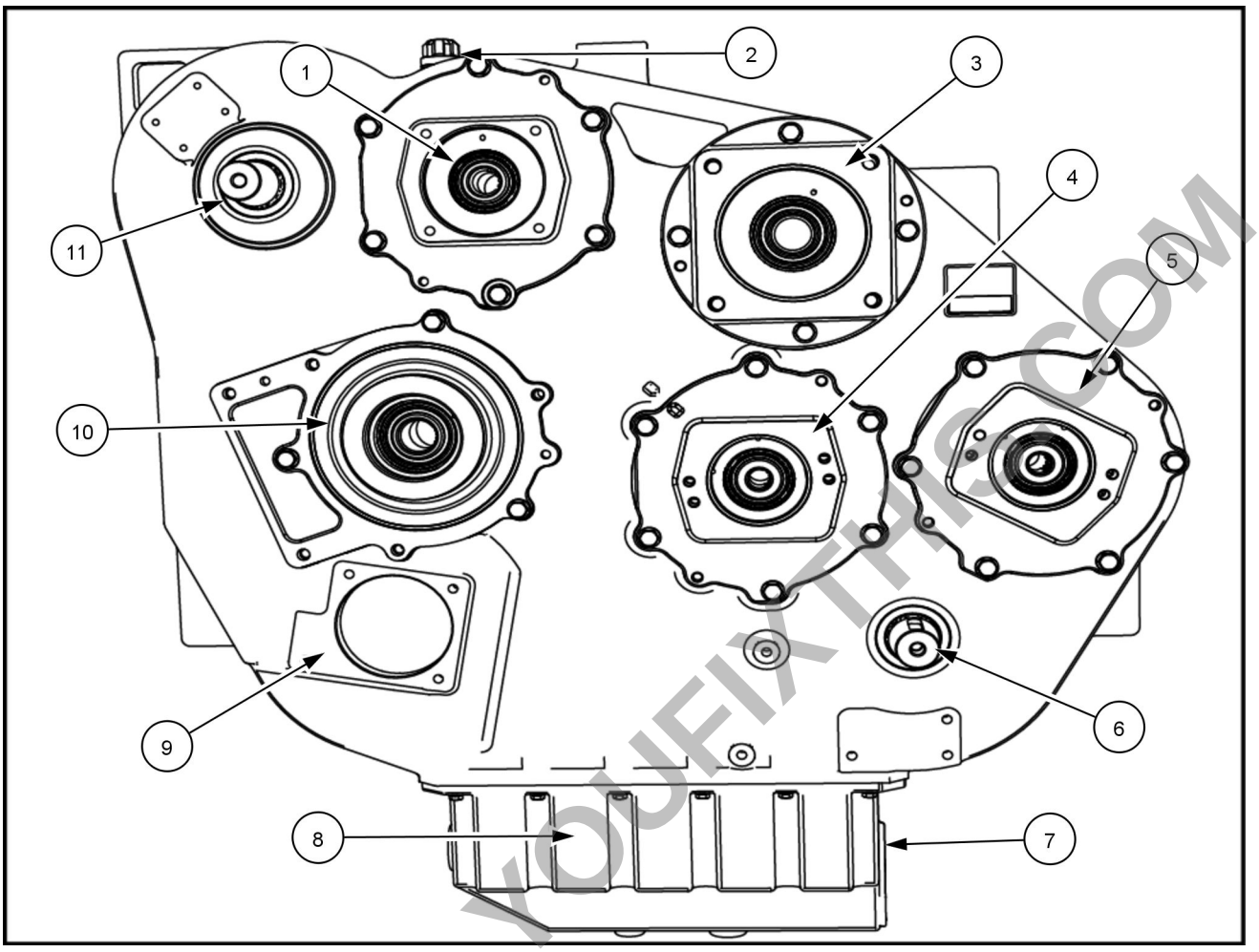
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Next operation:
Engine - Install (10.001) .

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Main gearbox and drive - Overview - PTO Gearbox Shaft Chart



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Location and Usage Chart

SHAFT	USAGE
(1)	C7 – Rotor/fee0der/header pumps, **2900 RPM** CW
(2)	PTO Gearbox Breather
(3)	C2 – Ground drive pump, **2900 RPM** CW
(4)	C3 – Triple gear pump, **2538 RPM** CCW
(5)	C9 – PFC pump drive, **2538 RPM** CCW
(6)	C4 – Chopper/beater drive, **2030 RPM** CW
(7)	Supply/Return Port
(8)	PTO Gearbox Drain
(9)	C6 – Rotor CVT drive, **2137 RPM** CW
(10)	C5 – Feeder/header drive, **2388 RPM** CW
(11)	C8 – Unload auger drive, **2030 RPM** CW
(12)	C1 – Engine input gear, **2100 RPM** CCW

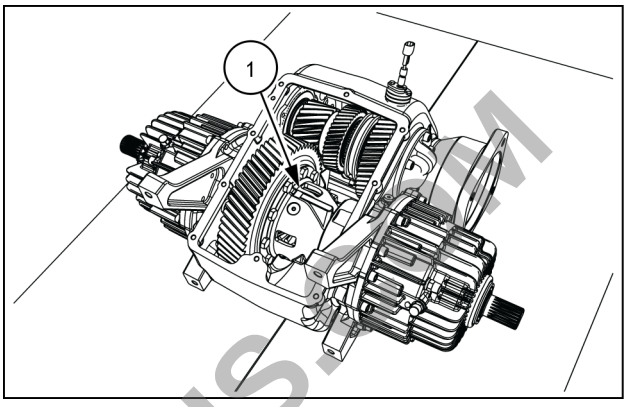
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Transmission cooling and/or lubrication pump - Remove

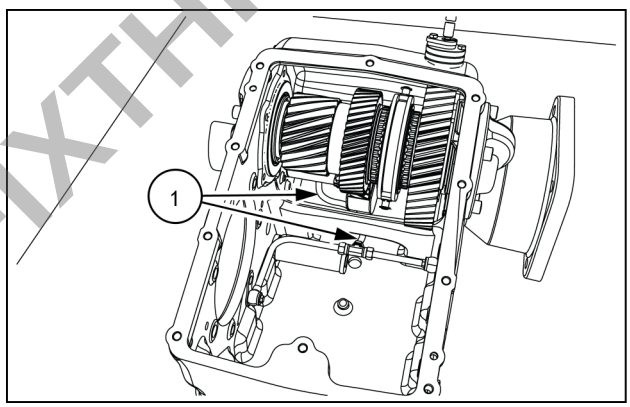
Prior operation:
Transmission housing - Remove (21.114)

1. Remove the differential **(1)** to gain access to the transmission lubrication internal lines. See **Differential - Remove (21.182)** for more information.



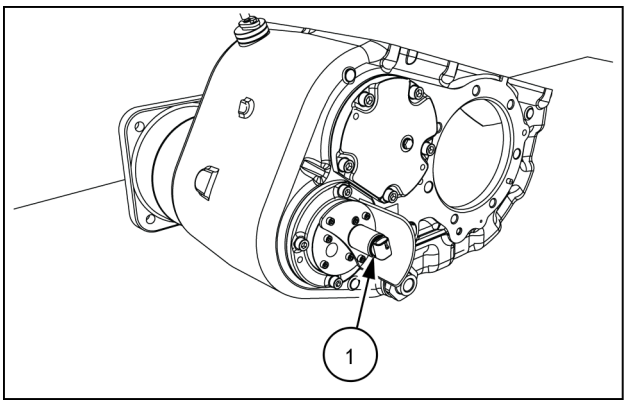
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2. Remove the brake cooling tube **(1)** from the pump. See **Transmission lubrication internal lines - Remove (21.100)** for more information.



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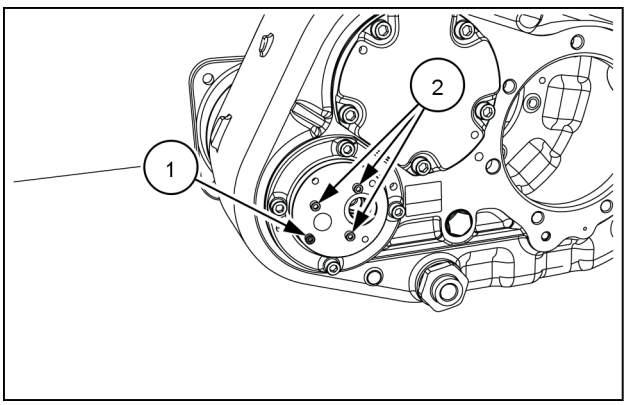
3. Remove the transmission oil external line from the right-hand side of the transmission. See **Transmission oil external line - Remove (21.100)** for more information.
4. Remove the brake cooling control solenoid **(1)** from the pump. See **Brake control solenoids - Remove (55.030)** for more information.



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5. Remove the lower rear hex socket screw **(1)** from the hydraulic pump.

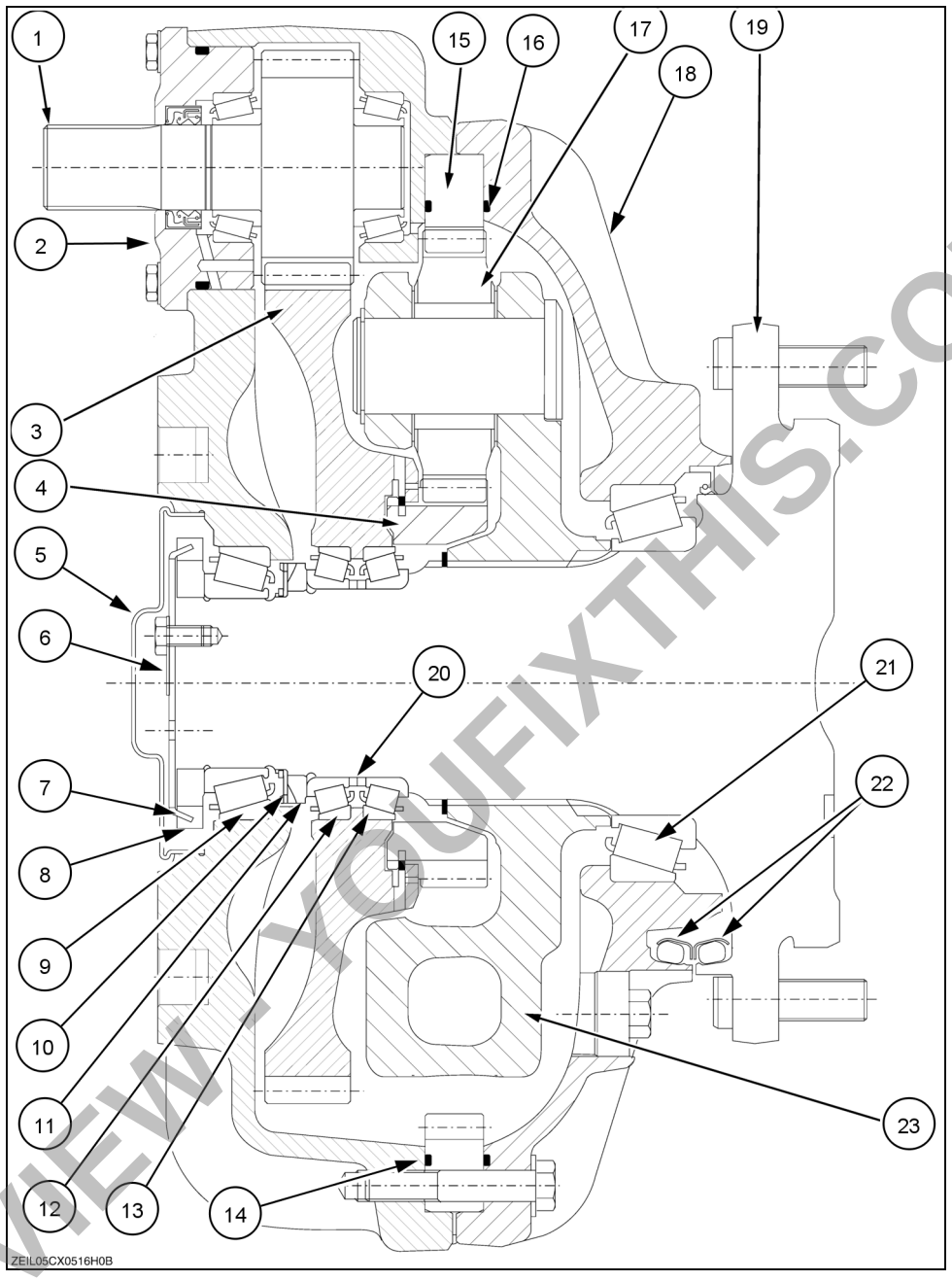
NOTE: *Leave the center three hex socket screws* ***(2)*** *installed to keep the pump assembly together.*



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Final drive - Sectional view



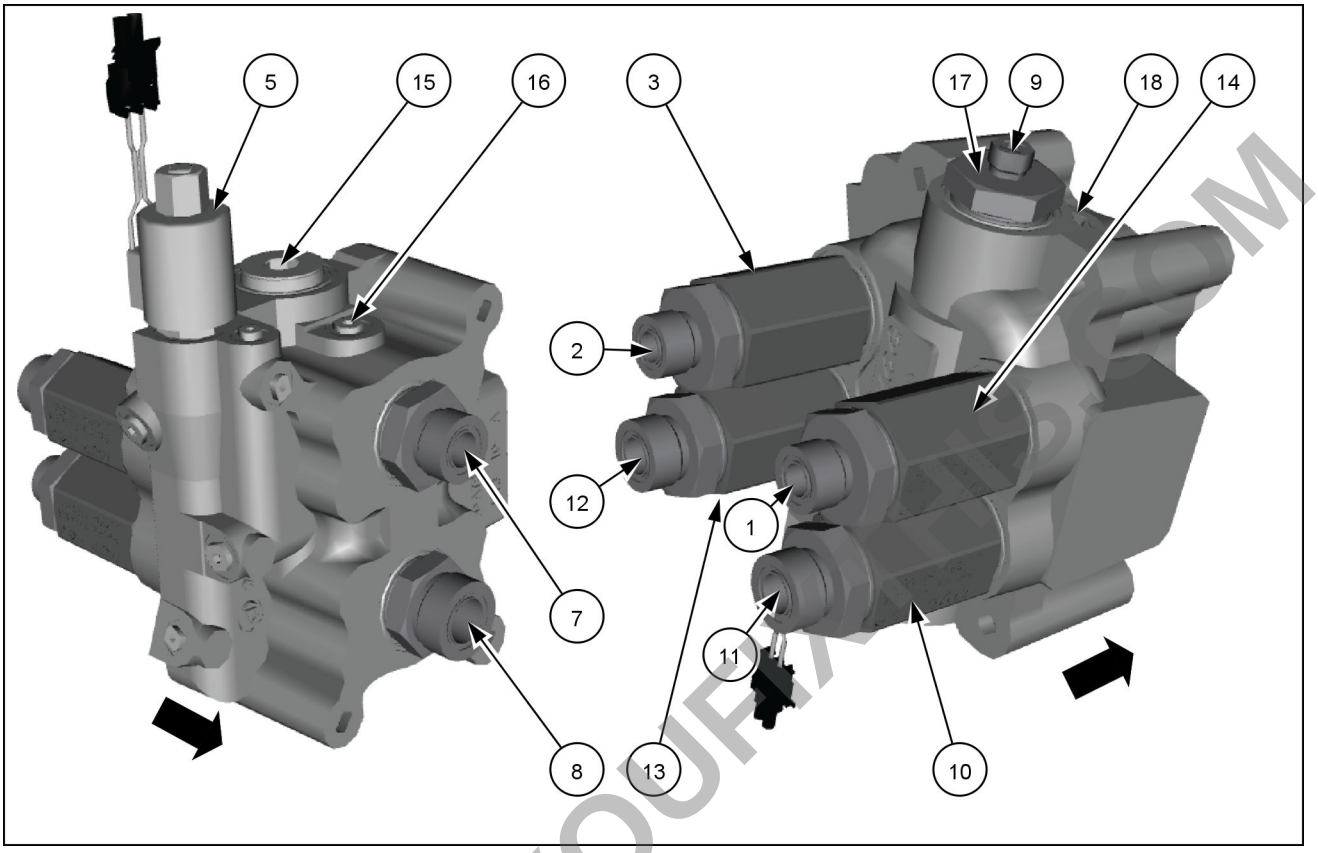
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1. Input Shaft
2. Cover, Input Shaft
3. Reducer Spur Gear
4. Sun Gear
5. Cover, Drive Shaft
6. Lock Plate, Two Bolt
7. Mounting Lock Plate
8. Locknut, (Outer) Bearing Ring
9. Bearing, Tapered Roller
10. Lock Ring
11. Locknut, (Inner) Bearing Ring
12. Bearing, Tapered Roller
13. Bearing, Tapered Roller
14. O-ring, Ring Gear
15. Ring Gear
16. O-ring, Outer Housing
17. Planet Gear
18. Outer Housing
19. Output (Wheel) Shaft
20. Spacers, Distance Ring
21. Bearing, Tapered Roller
22. Mud Seals
23. Planet Gear Carrier

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Hydrostatic drive system valves - Dynamic description - Power Guide Axle (PGA)

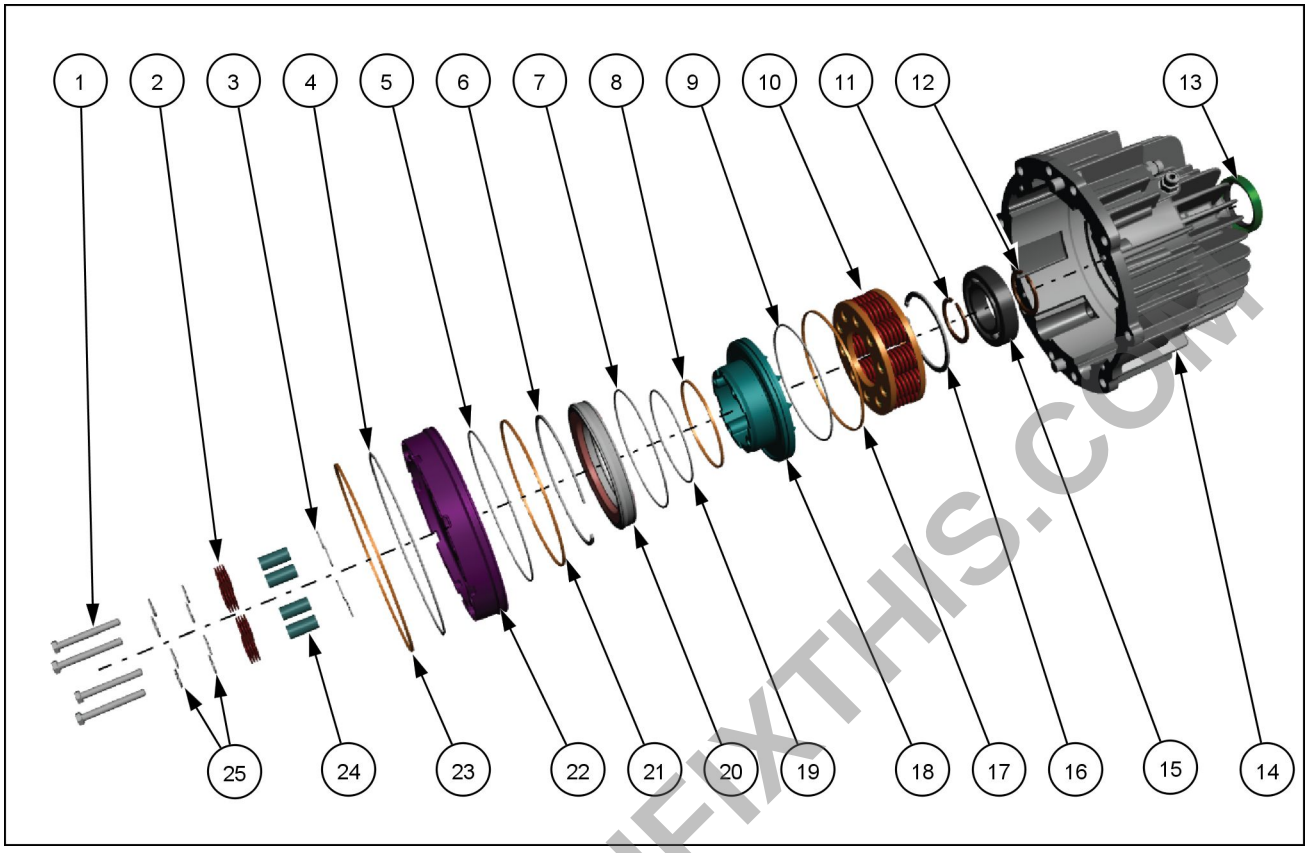


NHIL18AF02300TA 1

Item	Description	Item	Description
(1)	Forward supply to right–hand rear drive motor	**(10)**	Reverse flow limiter to right–hand rear drive motor
(2)	Forward supply to left–hand rear drive motor	**(11)**	Reverse supply to right–hand rear drive motor
(3)	Forward flow limiter to left–hand rear drive motor	**(12)**	Reverse supply to left–hand rear drive motor
(4)	PGA control spool	**(13)**	Reverse flow limiter to left–hand rear drive motor
(5)	PGA enable valve	**(14)**	Forward flow limiter to right–hand rear drive motor
(6)	Shuttle valve–charge pressure	**(15)**	Plug–pressure end PGA spool
(7)	Forward supply	**(16)**	Plug–charge pressure shuttle valve, forward
(8)	Reverse supply	**(17)**	Fitting–case drain end of PGA spool
(9)	Case drain to tank	**(18)**	Plug–charge pressure shuttle valve, reverse

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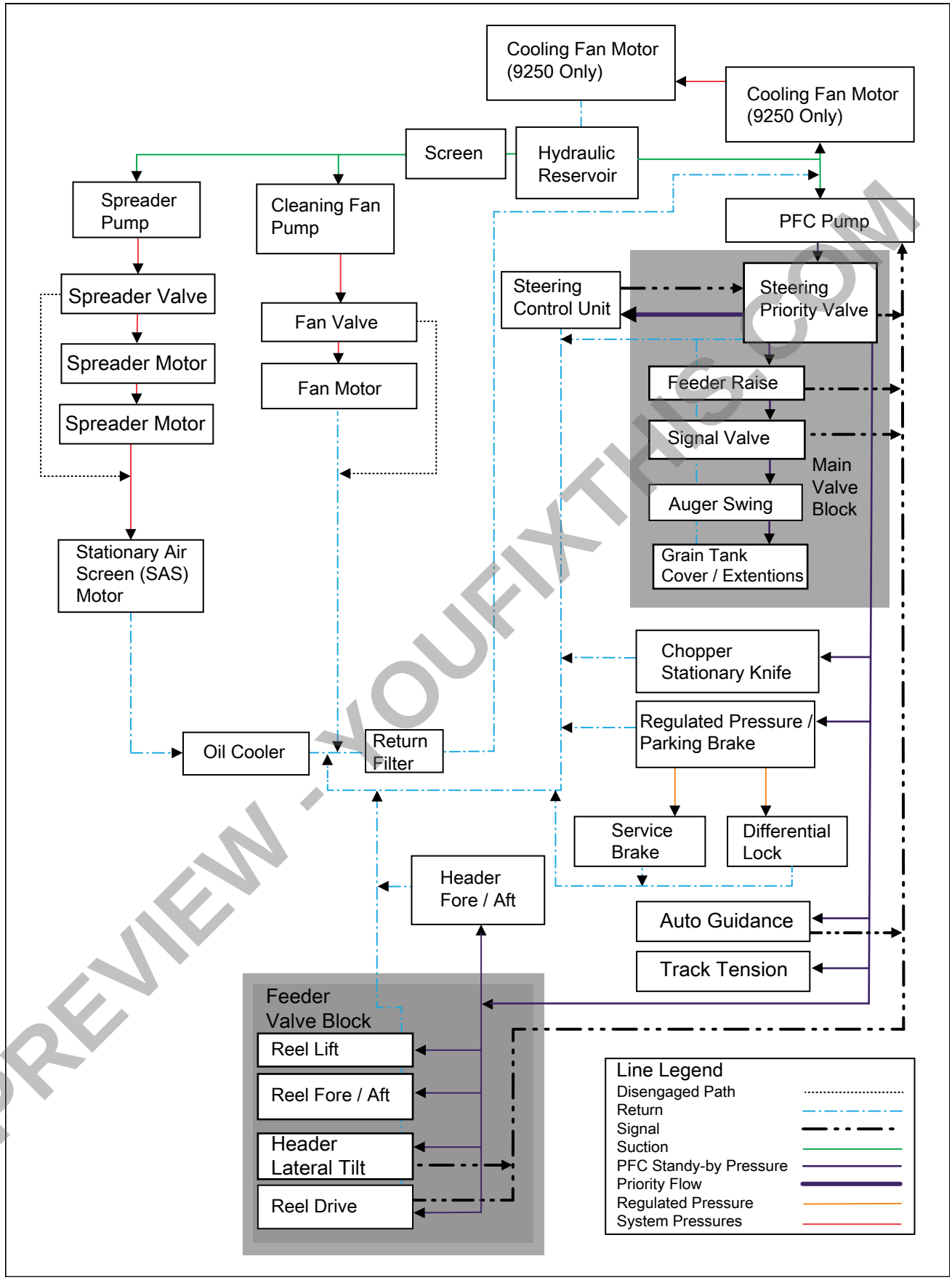


NHIL18AF02292TA 3

Item	Description	Item	Description
(1)	Bolt, M8 x 70	**(14)**	Brake housing
(2)	Washer, belleville (6 per stack, alternated)	**(15)**	Bearing, drive shaft
(3)	Snap ring, retains belleville washers on spacer	**(16)**	Snap ring, retains bearing
(4)	O–ring, service brake piston OD	**(17)**	Packing, park brake piston OD
(5)	O–ring, service brake piston ID	**(18)**	Park brake piston
(6)	Snap ring, reaction piston	**(19)**	O–ring, reaction piston ID
(7)	O–ring, reaction piston OD	**(20)**	Reaction piston
(8)	Packing, reaction piston ID	**(21)**	Packing, service brake piston ID
(9)	O–ring, park brake piston OD	**(22)**	Service brake piston
(10)	Spring pack, park brake	**(23)**	Packing, service brake piston OD
(11)	Snap ring, drive shaft	**(24)**	Spacer
(12)	Snap ring, drive shaft	**(25)**	Snap ring, retain belleville washers on spacer (2 per spacer)
(13)	Seal, drive shaft		

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Hydraulic Reservoir System

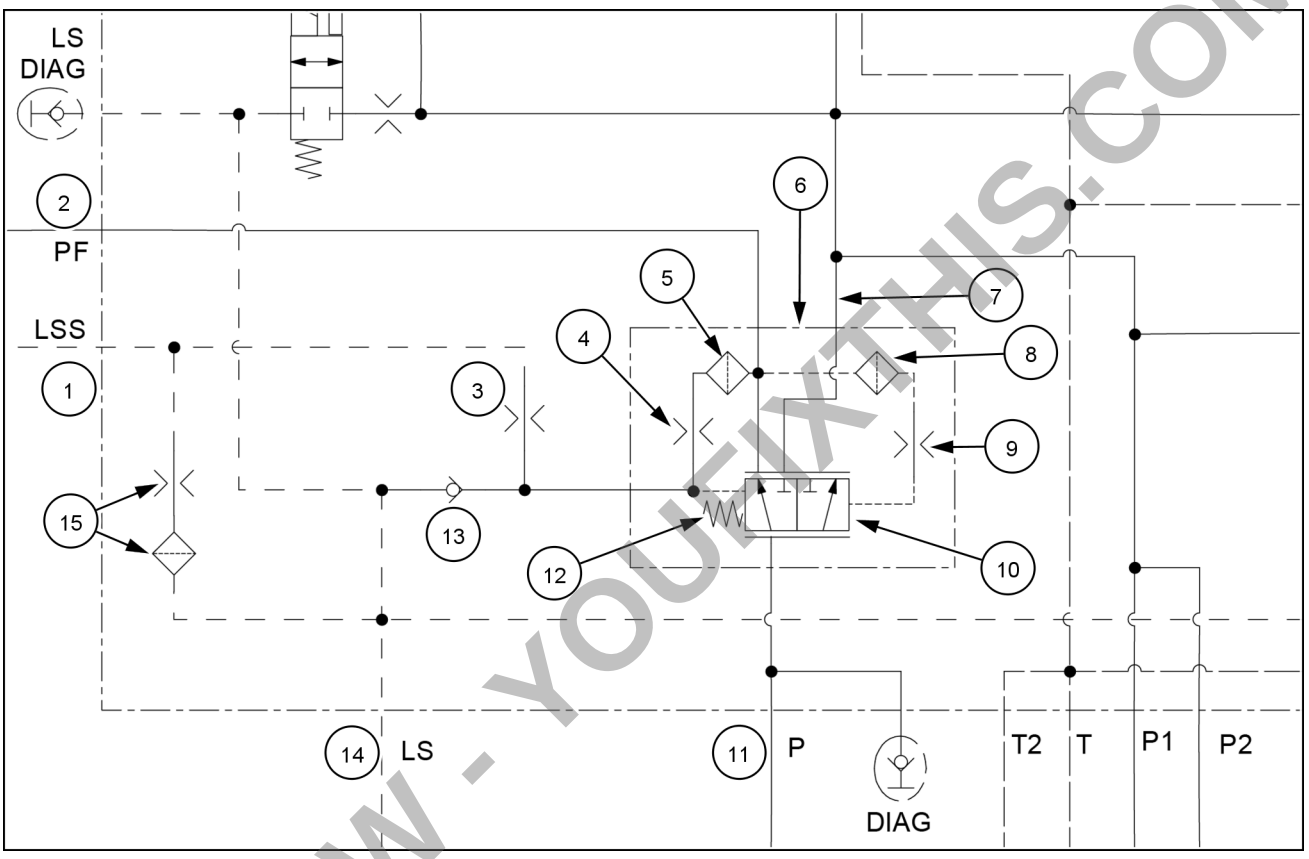
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Hydraulic steering system - Dynamic description

Steering Priority Valve

The steering priority valve **(6)** is integral with the main stack valve on the left side of the combine. The primary function of the steering priority valve is to maintain a priority flow of oil to the steering system. Oil from the PFC pump is directed to the inlet **(11)** of the steering priority valve. Inside the valve is the priority spool, which is spring-biased. The spring **(12)** will position the spool so incoming oil will to go to the steering hand pump via port **(2)** first. The spring maintains a positive **7 bar** (**100 psi**) bias directed to the steering hand pump. Passage **(7)** supplies the rest of the main control valve and continues to the feeder valve.



NHIL19AF00163FA 1

Item	Description	Item	Description
(1)	Port–Steering load sense	**(9)**	Orifice (in spool)
(2)	Port–Priority flow to steering hand pump	**(10)**	Spool
(3)	Orifice	**(11)**	Port–Pressure in (P)
(4)	Orifice (in spool)	**(12)**	Spring
(5)	Screen (in spool)	**(13)**	Check valve
(6)	Priority valve assembly	**(14)**	Port–Load Sense to PFC pump
(7)	Secondary flow out of priority valve	**(15)**	Screened orifice (load sense bleed)
(8)	Screen (in spool)		

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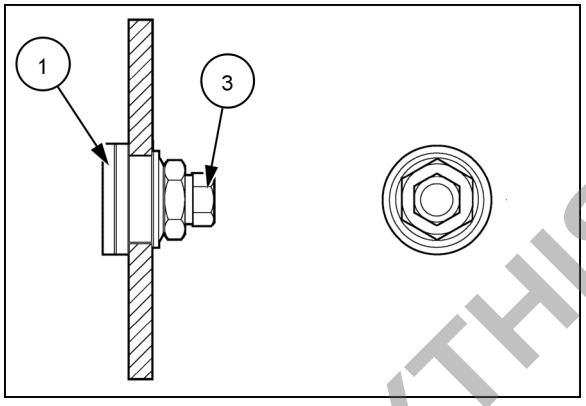
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Front wheels - Overview

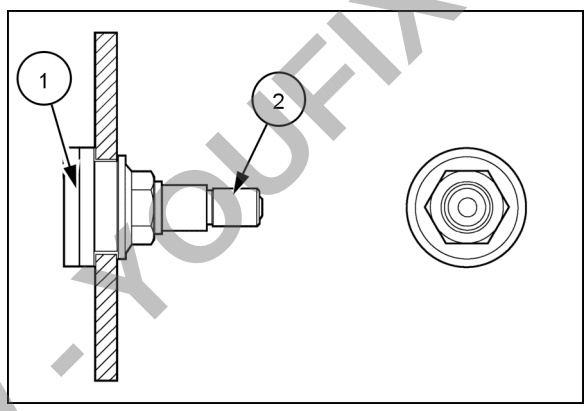
Drive wheel tire valves

To improve access to tire valve, for the following tires, valve can also be located to outside of wheel.

- IF800/70R38 CFO
- IF900/60R32 CFO
- IF900/65R32 CFO



50031284 1



50031285 2

Tire valve and valve hole plug have common spud base **(1)** so dismounting tire from wheel is not required. If wheel is mounted on combine, raise combine until tire clears ground and block up combine as required. Deflate air from tire. Unscrew core housing **(2)** from tire valve spud base, and unscrew plug **(3)** from base on other side of wheel. Reinstall core housing on outside of wheel and plug on inside of wheel. Inflate tire to correct inflation pressure. Remove blocks and jack.

See **Front wheels - Tire pressure - 6mph Harvest speed (44.511)** and **Front wheels - Tire pressure - 10mph harvest speed (44.511)** for charts concerning tire inflation.

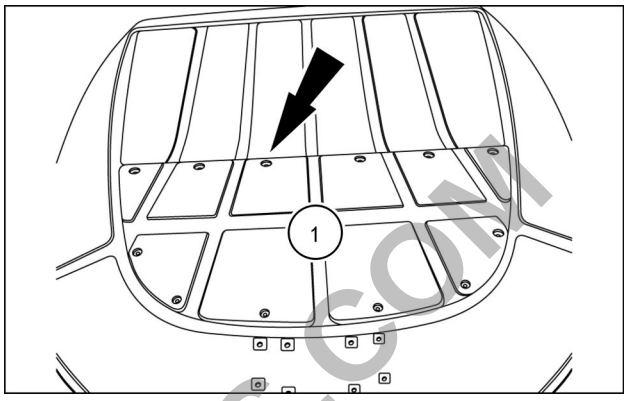
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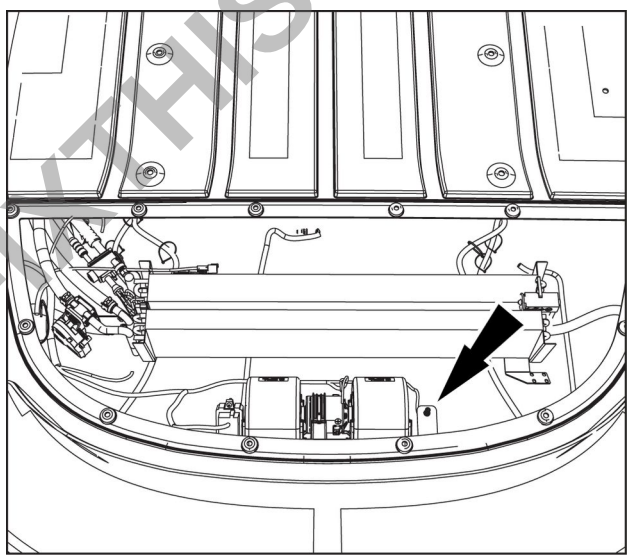
Temperature control - Replace - Temperature sensor near blower motor

1. Remove the access cover **(1)** on the cab roof by removing all hardware.

NOTE: *The temperature sensor is located on the left-hand side of the blower motor assembly, as shown in figure* ***2****.*

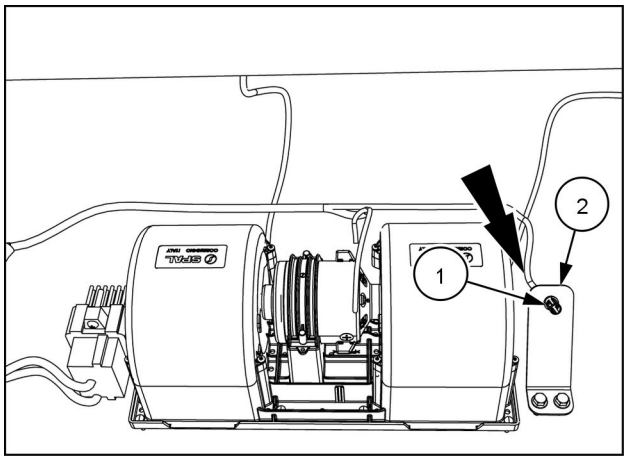


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NHVM12AF03625AA 2

2. Disconnect the connector from the temperature sensor **(1)** and turn the temperature sensor clockwise to remove from the mounting bracket **(2)**.
3. Insert the new temperature sensor in the mounting bracket and turn counter-clockwise to lock.
4. Reinstall the access cover on the cab roof and secure all hardware.

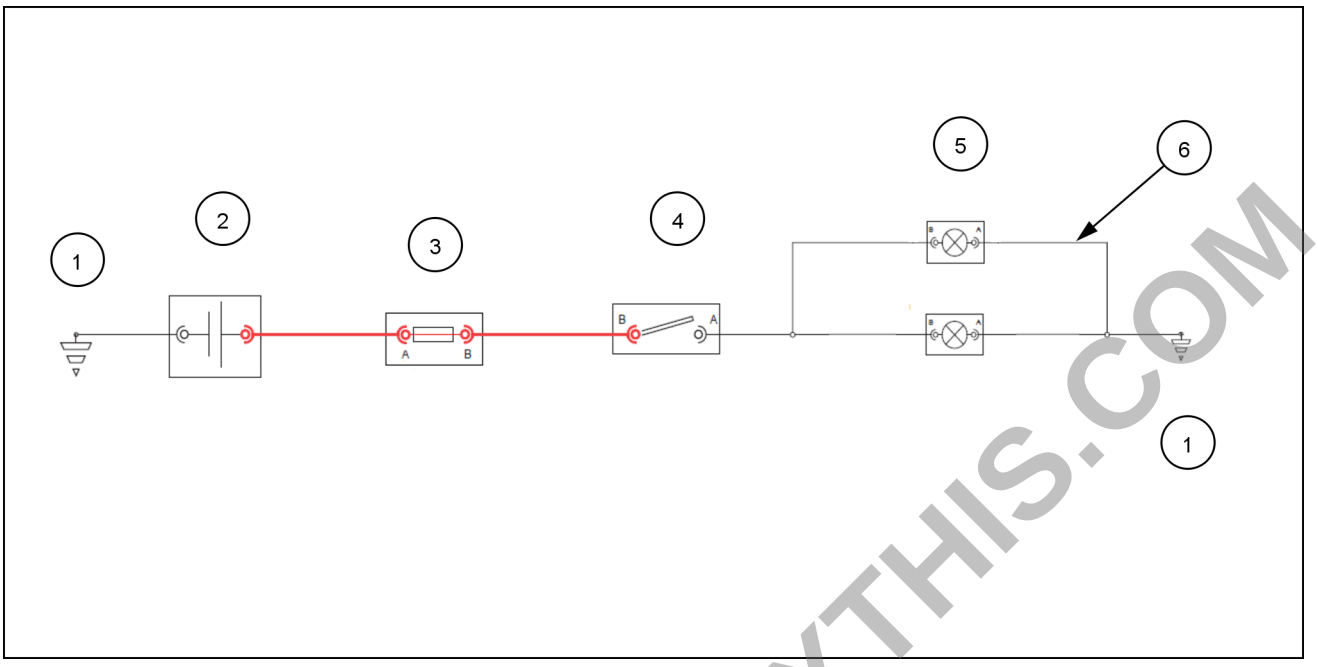


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Electrical system - Overview - Electrical circuitry



NHIL14GEN0004AA 1

An electrical circuit is comprised of these basic electrical elements.

- A ground source **(1)**, which could be connected to the battery negative terminal, frame (chassis) or electronic (internal to a control module).
- A power source **(2)** which provides the current used by the electrical circuit.
- A protective device **(3)**, such as a fuse or circuit breaker.
- A control device **(4)**, such as a switch or a relay.
- A load **(5)** which converts the electrical current into a work form such as heat, light, or an electromagnetic energy field.
- Conductors (wiring harness) **(6)** which are used to route the electrical current from the source to the load.

The device used to provide the electrical current in a direct current (DC) circuit is typically a battery. The battery uses a chemical action to create and store the needed electrical energy. An alternator which converts mechanical energy into electrical energy and is driven by an engine is used to recharge the battery. Load devices are designed to utilize the two natural products created when electrical current flows through a conductive material, that being heat and a magnetic field. Lamps heat alloyed conductive materials to a temperature that produces visible light where as heater elements use an alloyed material to produce heat. Solenoids and motors use the magnetic field produced by the current flow to attract or repel ferrous material and produce linear or rotary motion. Stranded or solid copper or copper clad wire is used to conduct the electrical current between the source and the loads. The return path to the source from the loads in battery sourced systems is often the metallic materials that are the components of the machine or what is referred to as frame or chassis ground. The negative terminal on the battery is then connected to the frame or chassis, thus completing the electrical circuit. In addition to the basic elements required in an electrical circuit, most also contain protective devices, fuses or circuit breakers, that are designed to interrupt the current flow should it exceed the amount the conductors or loads in the circuit are capable of handling without damage.

An electrical control circuit is comprised of three categories of devices.

- Input devices like switches, potentiometers and sensors.
- Logic or control devices like relays and programmed or programmable electronic modules.
- Output devices like lights, motors and solenoids.

Input devices provide information in the way of an electrical signal to the logic devices. The signal provided may be a digital signal, an on/off signal, or a high/low signal. Logic or control devices use the signals provided by the input devices to determine how the output devices should be controlled, energized or de-energized and to what level and polarity. Programmed and programmable logic devices often use the system source voltage, battery voltage, to

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Electrical components - ECU description

A-001 - ENGINE CONTROL UNIT (ECU)

Component Type	ECU
Wiring frames	**SHEET 02 - Starting and charging** **SHEET 03 - Starting and charging** **SHEET 16 - CAN bus 3** **SHEET 19 - Engine** **SHEET 20 - Engine** **SHEET 21 - Engine**
Connectors	**X-193 (Receptacle)** - ENGINE CONTROL UNIT (ECU) [A-001] (84300197)
Service Information	**Engine Control Unit (ECU) - Service instruction (55.015)**

A-002 - DISPLAY MODULE

Component Type	ECU
Wiring frames	**SHEET 14 - CAN bus 1** **SHEET 15 - CAN bus 2** **SHEET 16 - CAN bus 3** **SHEET 42 - GPS/Navigation controller** **SHEET 43 - Telematics** **SHEET 62 - Camera**
Connectors	**X-502 (Receptacle)** - DISPLAY [A-002] (82016219)
Service Information	**Electronic modules - Program - Pro 600/700 display monitor using EST (55.640)**

A-003 - PHOENIX CONTROL MODULE (PCM)

Component Type	ECU
Wiring frames	**SHEET 14 - CAN bus 1** **SHEET 15 - CAN bus 2** **SHEET 16 - CAN bus 3** **SHEET 42 - GPS/Navigation controller**
Connectors	**X-320 (Plug)** - PCM [A-003] (47739770)

A-003A - TELEMATICS(AM53-1)

Component Type	ECU
Wiring frames	**SHEET 14 - CAN bus 1** **SHEET 43 - Telematics**
Connectors	**X-324A (Receptacle)** - TELEMATICS(AM53-1) [A-003A] (87700156)

A-003B - NTRIP (AM53-2)

Component Type	ECU
Wiring frames	**SHEET 14 - CAN bus 1** **SHEET 43 - Telematics**
Connectors	**X-324B (Receptacle)** - NTRIP (AM53-2) [A-003B] (87700156)

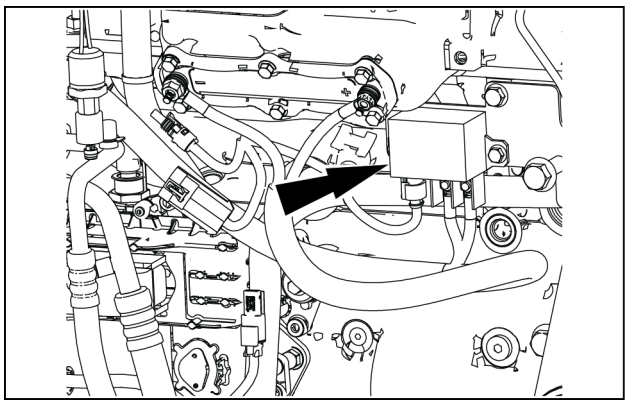
A-004 - RADIO

Component Type	ECU
Wiring frames	**SHEET 58 - Radio/Seat**
Connectors	**X-315 (Plug)** - RADIO [A-004] **X-314B (Plug)** - RADIO [A-004] **X-851 (Plug)** - RADIO [A-004] **X-852 (Plug)** - RADIO [A-004]
Functional information	**Cab radio set - Dynamic description (55.512)**
Service Information	**Cab radio set - Remove (55.512)** **Cab radio set - Install (55.512)**
Location	**Electrical components - Component localization - Cab view (55.100)**

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Cold start aid - Dynamic description



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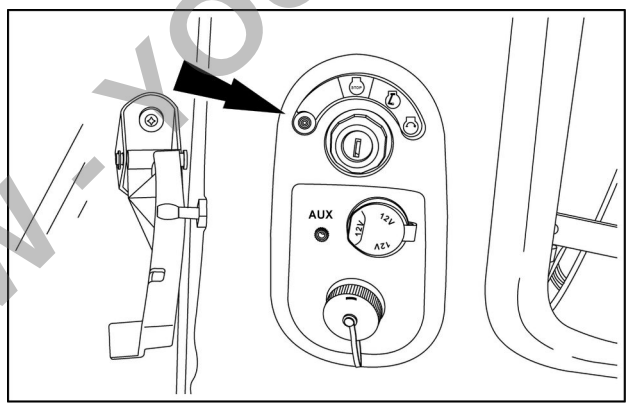
Located on the engine.

Summary of operation

The grid heater is used to help with cold weather starting. When the ignition switch is in the RUN position, the grid heater will automatically be activated when the fuel, oil, or coolant fluid temperature sensors reads less than **5 °C** (**41 °F**).

When the grid heater is working, the grid lamp indicator will receive a voltage signal from the Universal Control Module (UCM1). The voltage signal will illuminate the lamp. A grid heater lamp circuit has a resistor wired in parallel with the lamp. The purpose of the resistor is to prevent the lamp from glowing dimly when the grid heater circuit is Not activated.

NOTICE: *As long as the grid indicator is illuminated, the machine engine should Not be started.*



NHIL12AF02435AA 2

Located inside the cab.

The grid heater relay coil will receive a voltage signal and ground from the Engine Control Unit (ECU). The grid heater relay contact will receive unswitched battery power from the alternator. When the ECU energize the grid heater relay coil, the relay contact will close and deliver power to the grid heater element.

For Service information, See **Grid heater relay - Remove (55.202)** and/or **Grid heater relay - Install (55.202)**.

Power supply

The grid heater relay coil has a 2-pin connector. The grid heater relay contact has two 1-pin connectors.

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DTC 1361 - Battery voltage is higher than expected

Control Module: ECU

Context:
The Electronic Control Unit (ECU) A-9000 monitors battery voltage. If the A-9000 determines that battery voltage has exceeded **35.7 V** , this fault will occur.

Cause:
Battery voltage is greater than **35.7 V**.

Possible failure modes:

1. Faulty charging system.
2. Faulty A-9000, software.

Solution:

1. Verify fault is present and active.

   Use the Electronic Service Tool (EST) to check the status of this fault.

   A. If the fault is present and active, continue with Step **2**.

   B. If the fault is no longer present or in an inactive state, the fault may be intermittent and not currently active. Continue with Step **4**.
2. Check the battery voltage.

   The engine must be running.

   Use a multimeter to perform the following voltage check:

From	To	Value
Battery (+) terminal	Battery (–) terminal	There should be approximately **12 V**

   A. If there is not approximately **12 V**, continue to Step **3**.

   B. If there is approximately **12 V**, check the ECU A-9000 for the appropriate software and re-flash, if necessary.
3. Check the charging system for proper operation.

   A. If the charging system is not functioning properly, repair the charging system as necessary.

   B. If the charging system is functioning properly, check the ECU A-9000 for the appropriate software and re-flash, if necessary.
4. Visually inspect the relevant harnesses and connectors for damage, bent or dislocated pins, corroded terminals, or broken wires. Verify that the connectors are fully installed. Flex the harnesses involved to reveal intermittent breaks or shorts in the wiring concerned. Operate the machine while you monitor the display.

   A. If you find damage or the display indicates other than normal display readings, then repair the damage discovered during the inspection or locate and repair the other than normal display condition and verify that the error has been resolved.

   B. If you do not find damage and the display indicates only normal readings, then erase the fault code and continue operation.

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Feeder conveyor chain - Install

⚠ DANGER

Crushing hazard! Always do the following before you enter the area below the header or feeder:
1. **Disengage the threshing system.**
2. **Raise the feeder until it is parallel to the ground.**
3. **Apply the parking brake.**
4. **Engage the lift cylinder lockout.**
5. **Lower the feeder until the lift cylinder contacts the lift cylinder lockout.**
6. **Stop the engine.**
7. **Remove the key.**

Failure to comply will result in death or serious injury.

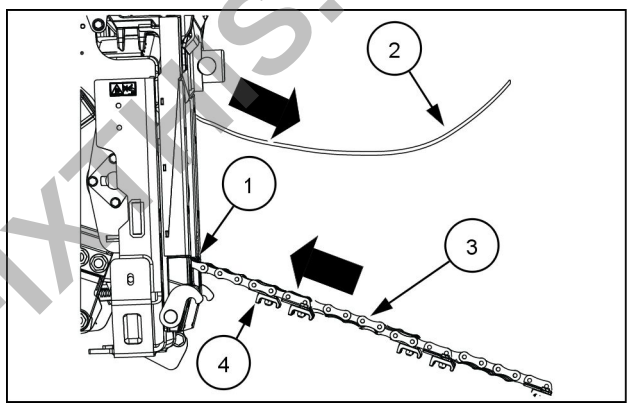
D0170A

NOTE: *This procedure assumes there is not an existing feed chain in the feeder house. If you are replacing a feed chain with a new chain see* ***Feeder conveyor chain - Remove (60.105)****.*

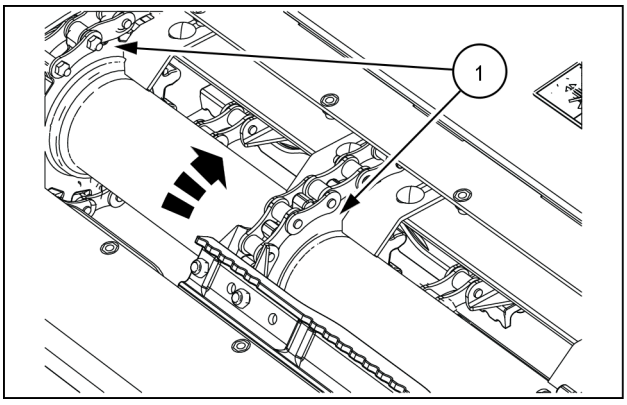
1. Tie the rope that was fed through the feeder house to the feed chain. Tie to the section of rope **(1)** that is coming from the feeder house floor.

NOTE: *If there was not a rope fed through the feeder house do so at this time. Use a fish tape to aid in feeding the rope through the feeder house.*

2. The serrated edge **(4)** of the slat should enter the feeder house first.
3. Pull the end of the rope **(2)** out of the top section of the feeder house front opening. See figure **1**.
4. At the same time guide the feed chain **(3)** in and up the feeder house floor.
5. When the feed chain reaches the top shaft, engage the feed chain on the top shaft drive sprockets **(1)**.
6. At this time have an assistant rotate the top shaft to help feed the feed chain up and around the top shaft sprockets.
7. Continue feeding the feed chain into the feeder house until all the feed chain routed correctly.

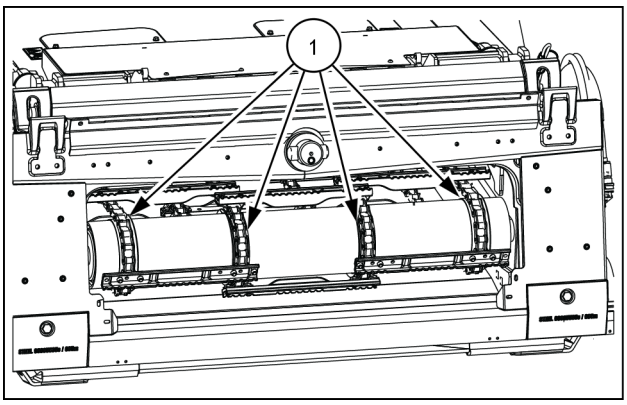


NHIL18AF01635AA 1



NHIL18AF01633AA 2

8. Connect the feed chain using new connector links.

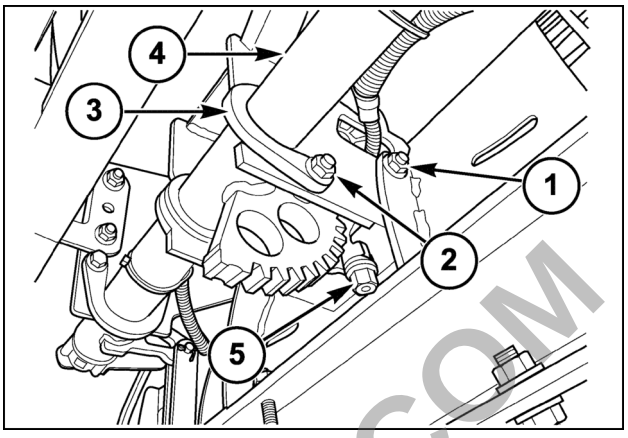


NHIL18AF01631AA 3

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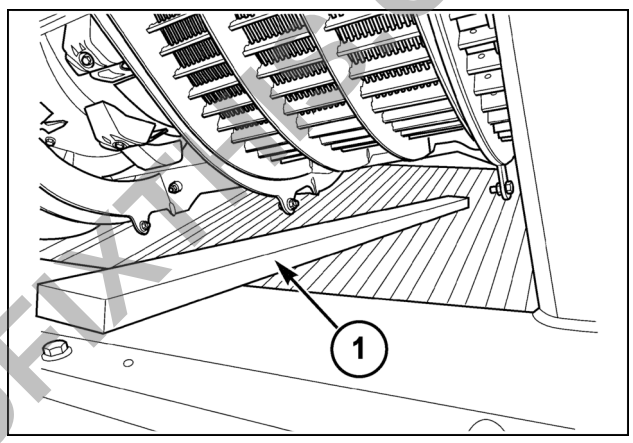
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4. Remove nut, washers and cap screw **(1)** to detach motor and worm screw bracket assembly from rotor cage.
5. Remove six nuts, lock washers and cap screws **(2)** and remove three “C” brackets **(3)**.
6. Remove the rockshaft **(4)**.
7. Remove the motor and bracket assembly **(5)**.



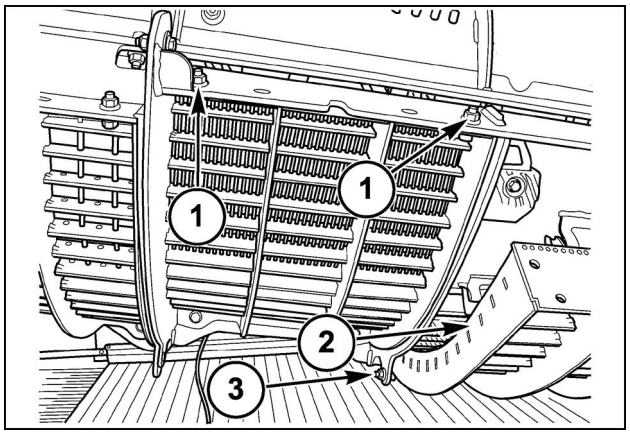
10041783A5 4

8. If concaves are to be removed, utilize a board **(1)** approximately **25 X 75 mm** (**1 X 3 in**) to **32 X 130 mm** (**1.25 X 5 in**) cross-section and **1220 – 1420 mm** (**48 – 56 in**) length to protect the grain pan and aid removal. Place under the center of concave to be removed.



10041784A5 5

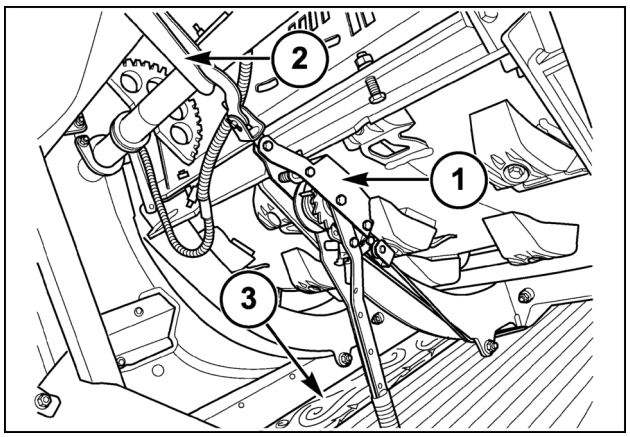
9. Remove two flange bolts and flange nuts **(1)** at the top of each concave to be removed. Lower concave **(2)** to rest on carrier bolts **(3)**. Slide concave up board and out the side opening.



NHIL18AF01458AA 6

10. If it is necessary to remove the concave support frame, support it by means of an appropriate hoist **(1)** to remove bolt 2 in Figure **1** . A sling **(2)** may be run outside main frame and over roof panel of threshing area to support hoist. Lower hoist to allow concave support frame to rest on board **(3)** placed at front of grain pan.

NOTE: *Support frame is heavy [* ***60 kg*** *(* ***132 lb****)] and caution should used in handling to prevent personal injury or damage to grain pan.*



10041786A5 7

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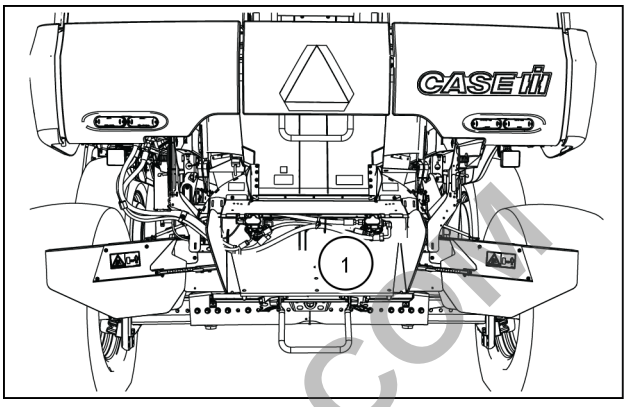
Self-leveling frame - Remove

1. **⚠ DANGER**

   Heavy objects!
   Lift and handle all heavy components using lifting equipment with adequate capacity. Always support units or parts with suitable slings or hooks. Make sure the work area is clear of all bystanders.
   Failure to comply will result in death or serious injury.

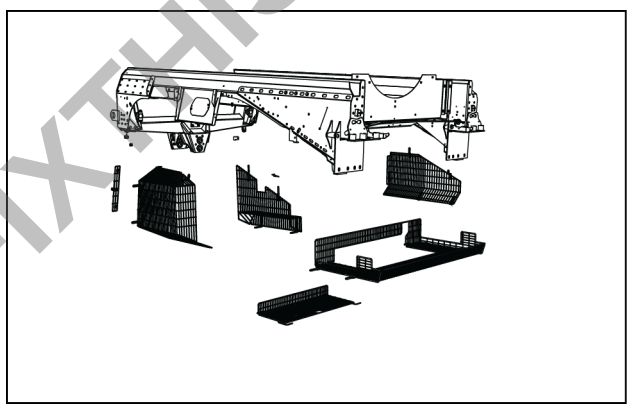
   D0076A

   Remove the spreader **(1)** from the machine using an assistant and suitable lifting device. See **Straw spreader - Remove - Vertical spreader (73.430)** and **Straw spreader - Remove - Horizontal disc spreader (73.430)** for more information.



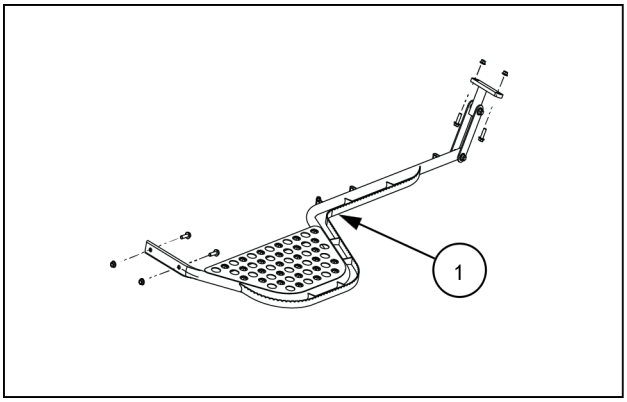
NHIL18AF03113AA 1

2. Remove the six cleaning fan shields from the machine.



NHIL18AF03004AA 2

3. Remove the right hand side step **(1)**.

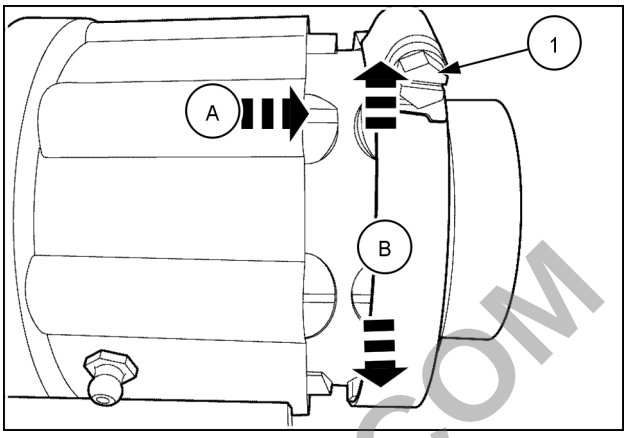


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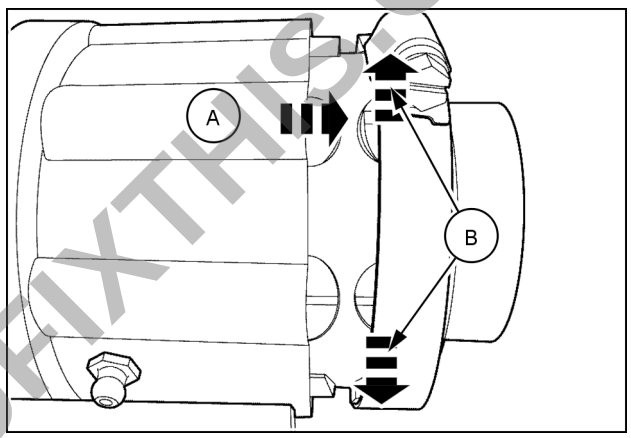
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7. Continue to slowly drive the hub outward **(A)** to fully expose the first row of the clamped pins **(B)** and half of the next row of pins.
   Fully loosen the hose clamp adjustment screw **(1)** relieving all spring pressure on the cam pins. Do not slide the clamp off the pins at this time, as those pins oriented at the underside of the hub may fall from the hub resulting in possible loss of internal spring(s) and/or inner and outer spring(s) assembly pattern.



83075001 7

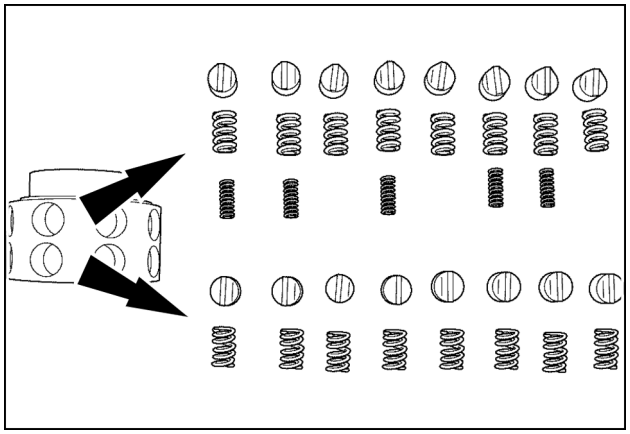
8. Determine a lengthwise starting row **(A)** and clockwise or counterclockwise direction **(B)** around the hub to be used repeatedly for the removal of each radial row of pins and springs.



83075001 8

9. Create a method, such as the sample table below, for charting the position of each pin with either an outer (single) spring or with both an outer and inner (double) spring configuration. This chart will facilitate assembly in the original pattern

NOTE: *The distribution of inner springs may follow a varied pattern. If a spring or springs may have been lost during disassembly, look for a distribution pattern to follow for replacing the lost spring(s). A balanced distribution is the goal, though occasionally a clutch may contain an odd distribution quantity of inner springs. The nominal inner spring quantity is seven (7).*
When replacing the springs it is recommended to install the same quantity of inner springs charted at disassembly but not exceed the nominal quantity of seven (7).


83075003 9

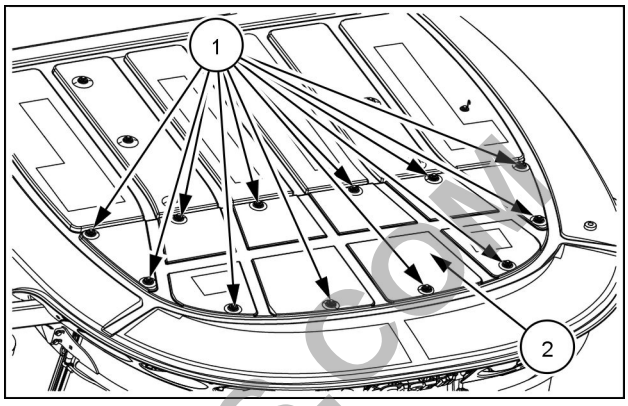
		1	2	3	4	5	6	7	8
1	Single Spring			X		X			X
	Double Spring	X	X		X		X	X	
2	Single Spring	X	X	X	X	X	X	X	X
	Double Spring								

Rotate the removal of the hose clamp as the pins and springs are individually removed.
Check the hub as each pin is removed that an inner spring is not remaining in the hub pocket.
Chart the spring distribution.

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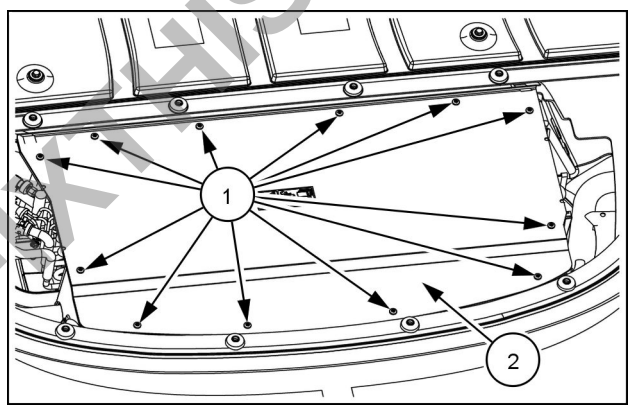
Cab roof - Remove

1. Close the grain tank covers.
2. Remove twelve M6 x 30 mm flange bolts, washers, and rubber washers **(1)** that secure the service panel **(2)**.
3. Remove the service panel **(2)** on top of the cab.



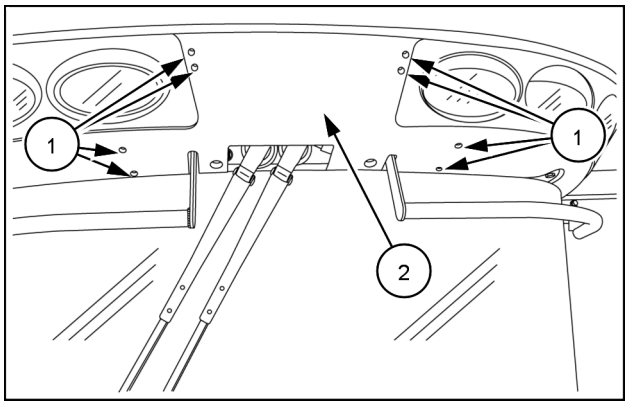
NHIL14AF01061AA 1

4. Remove twelve M6 x 20 mm screws **(1)** that secure the steel plate **(2)**.
5. Remove the steel plate **(2)** that covers the Heating, Ventilation, and Air Cooling (HVAC) cores.



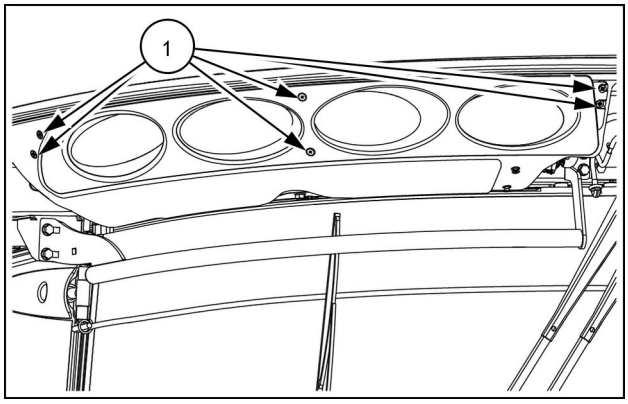
NHIL14AF00662AA 2

6. Remove six M6 x 25 mm screws **(1)** that secure the wiper motor cover **(2)**.
7. Remove the wiper motor cover **(2)**.



NHIL12AF02489AB 3

8. Remove six M6 x 25 mm flat head screws **(1)** from the left-hand light bezel.



NHIL14AF00663AA 4

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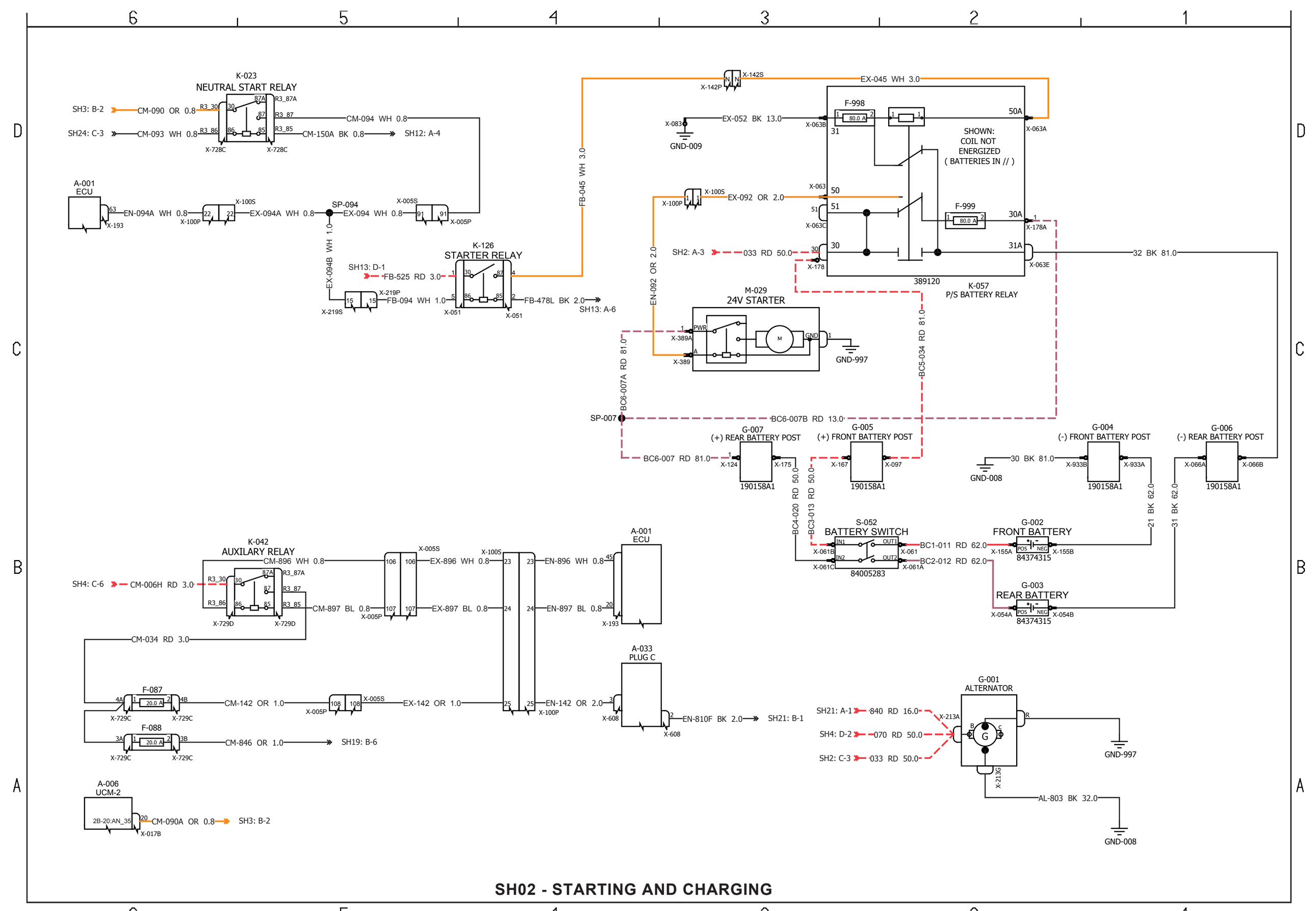
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SPECIAL TOOL INDEX

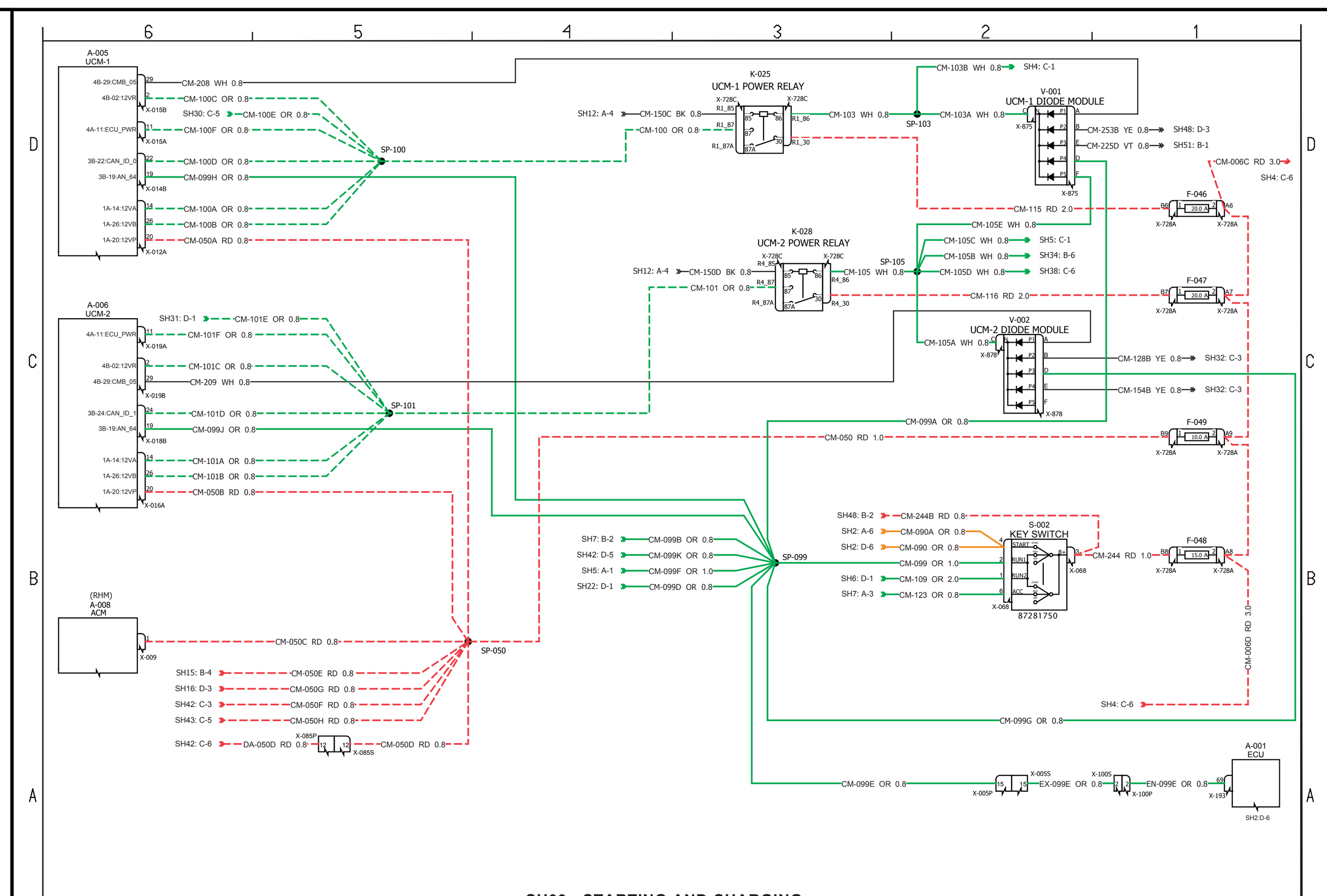
Genuine	Reference	PAGE
380000155 [Brackets Fixing The Engine To Rotary Stand 380000361]	Engine - Place on stand	10.1 / 17
380000361 [Rotary Telescopic Stand (Range 2000 daN, Torque 375 daNm)]	Engine - Place on stand	10.1 / 17
380001670 [Adapter Bracket]	Main gearbox and drive - Special tools	14.1 / 3
380001699 [Handle]	Main gearbox and drive - Special tools	14.1 / 3
380001699 [Handle]	Main gearbox and drive - Special tools	14.1 / 3
CAS2428 [Bearing PreLoad Press Tool]	Main gearbox and drive - Special tools	14.1 / 4
CAS1992 [Spring Compressor]	Main gearbox and drive - Special tools	14.1 / 4
380001786 [Seal Protector/Expander]	Main gearbox and drive - Special tools	14.1 / 4
380001798 [Special Seal Protector/Expander]	Main gearbox and drive - Special tools	14.1 / 4
380001797 [Seal Protector/Expander]	Main gearbox and drive - Special tools	14.1 / 5
CAS2327 [Expanding Seal pusher]	Main gearbox and drive - Special tools	14.1 / 5
CAS2005-4 [Seal Compressor]	Main gearbox and drive - Special tools	14.1 / 5
CAS2428 [Bearing PreLoad Press Tool]	Main clutch - Install - Chopper or beater drive clutch	14.1 / 14
CAS1992 [Spring Compressor]	Main clutch - Install - Chopper or beater drive clutch	14.1 / 15
CAS2428 [Bearing PreLoad Press Tool]	Main clutch - Install - Chopper or beater drive clutch	14.1 / 17
CAS1992 [Spring Compressor]	Main clutch - Install - Chopper or beater drive clutch	14.1 / 17
380001797 [Seal Protector/Expander]	Main clutch - Install - Chopper or beater drive clutch	14.1 / 17
CAS2327 [Expanding Seal pusher]	Main clutch - Install - Chopper or beater drive clutch	14.1 / 17
CAS2005-4 [Seal Compressor]	Main clutch - Install - Chopper or beater drive clutch	14.1 / 17
CAS2428 [Bearing PreLoad Press Tool]	Main clutch - Disassemble Clutch Shaft	14.1 / 24
CAS2428 [Bearing PreLoad Press Tool]	Main clutch - Disassemble Clutch Shaft	14.1 / 24
CAS1992 [Spring Compressor]	Main clutch - Disassemble Clutch Shaft	14.1 / 26
380001798 [Special Seal Protector/Expander]	Main clutch - Assemble Clutch Shaft	14.1 / 27
CAS1992 [Spring Compressor]	Main clutch - Assemble Clutch Shaft	14.1 / 27
CAS2428 [Bearing PreLoad Press Tool]	Main clutch - Assemble Clutch Shaft	14.1 / 30
CAS1992 [Spring Compressor]	Main clutch - Assemble Clutch Shaft	14.1 / 30
380001797 [Seal Protector/Expander]	Main clutch - Assemble Clutch Shaft	14.1 / 31
CAS2327 [Expanding Seal pusher]	Main clutch - Assemble Clutch Shaft	14.1 / 31
CAS2005-4 [Seal Compressor]	Main clutch - Assemble Clutch Shaft	14.1 / 31

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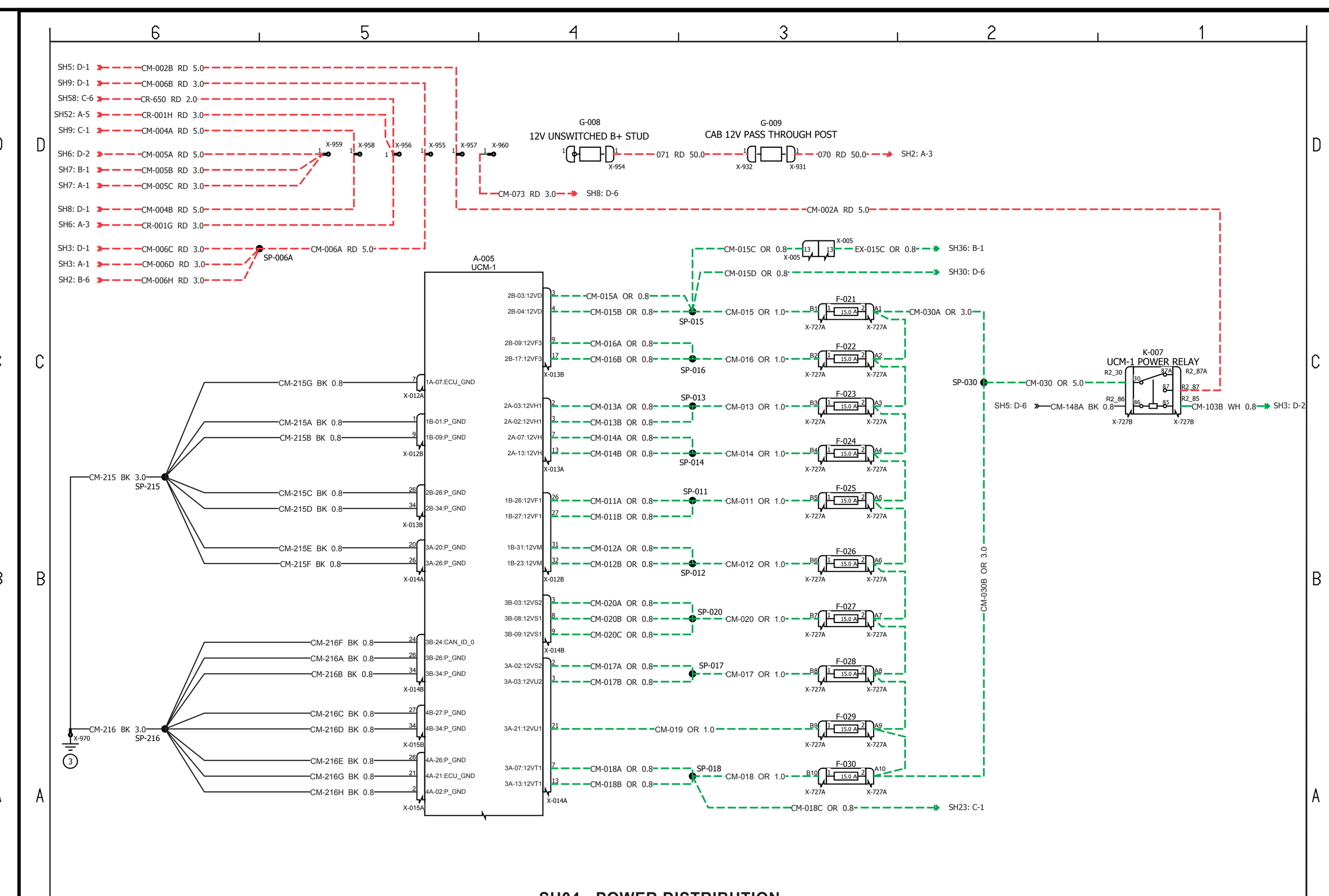
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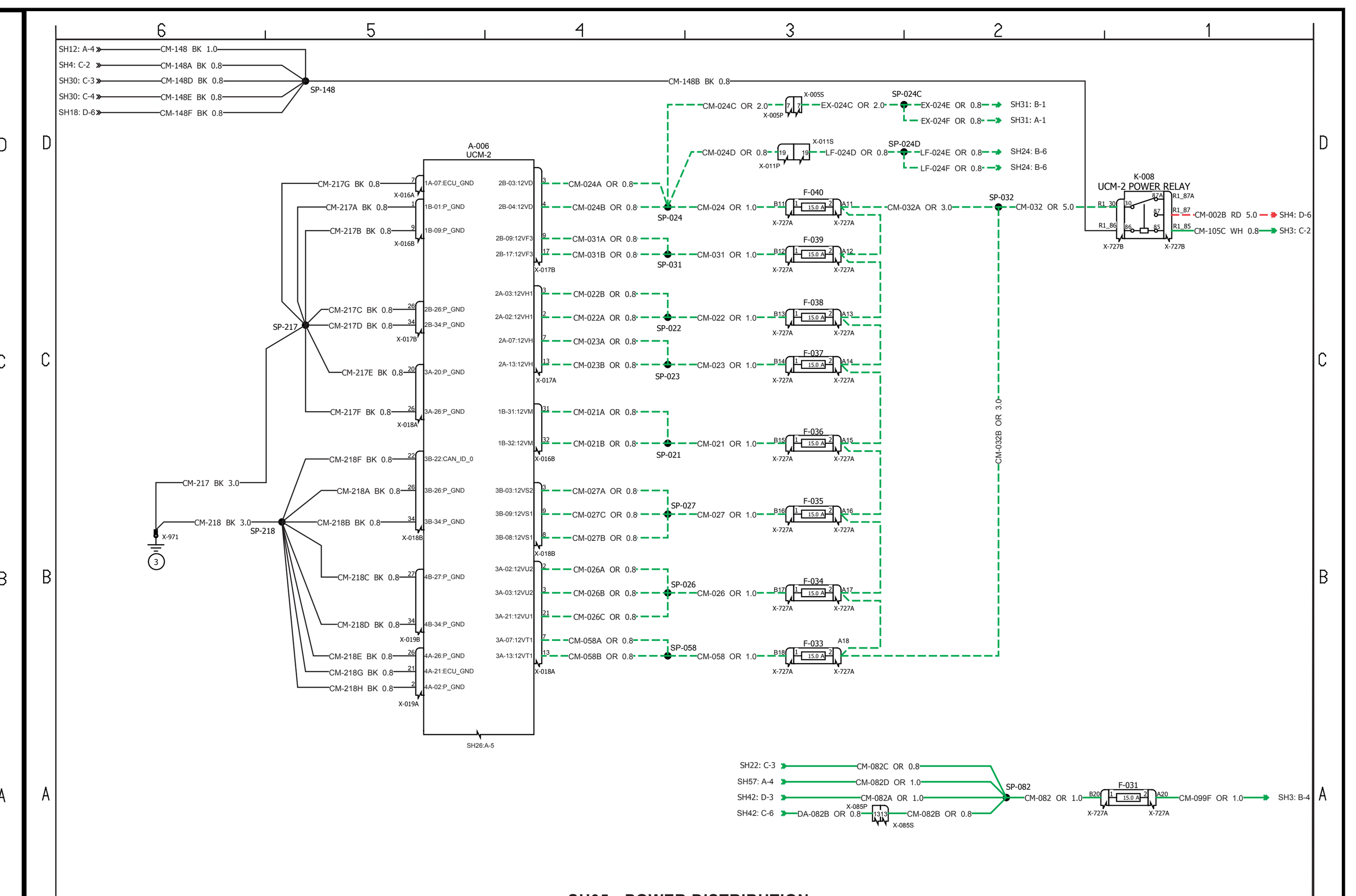
SH02 - STARTING AND CHARGING



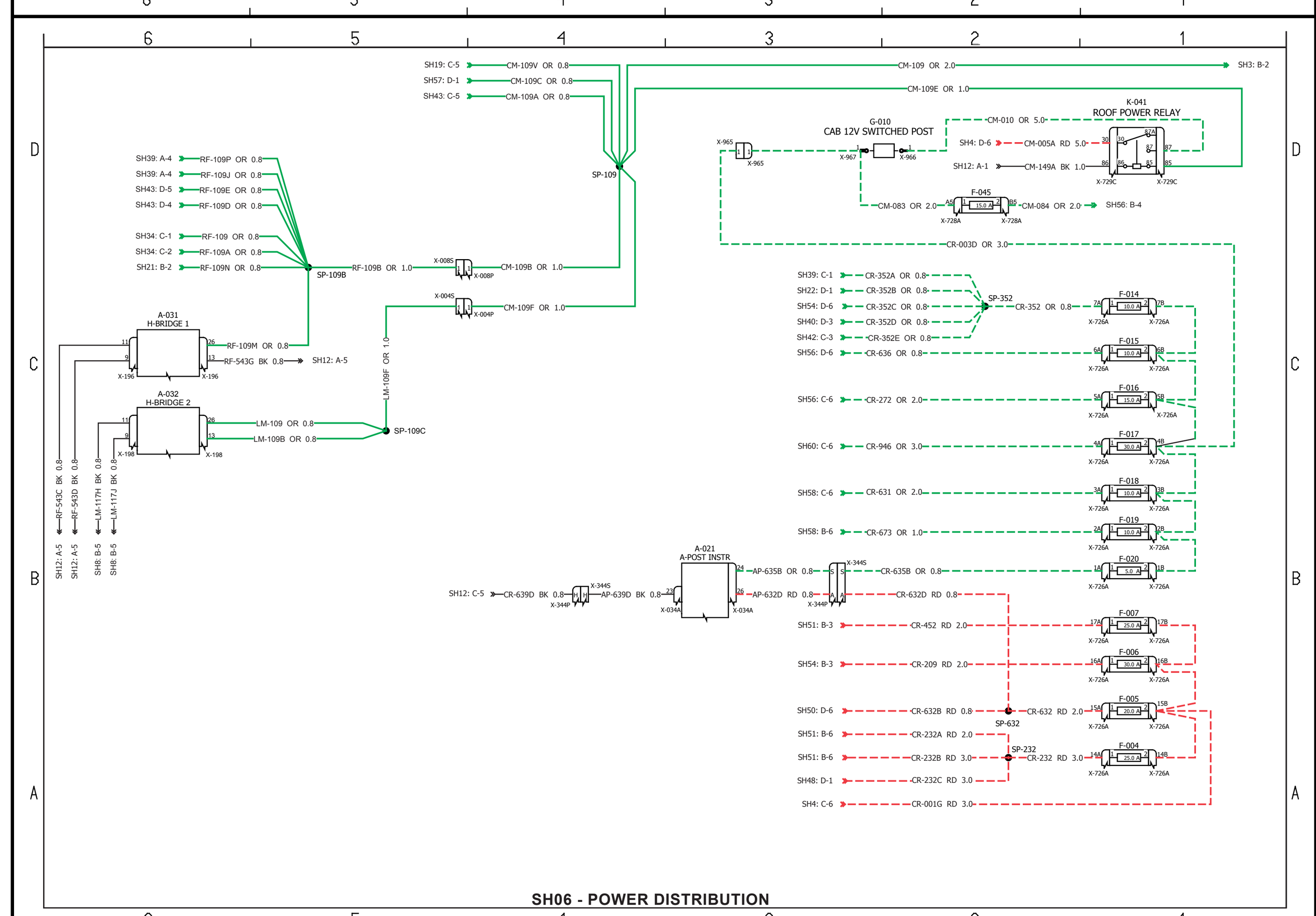
SH03 - STARTING AND CHARGING



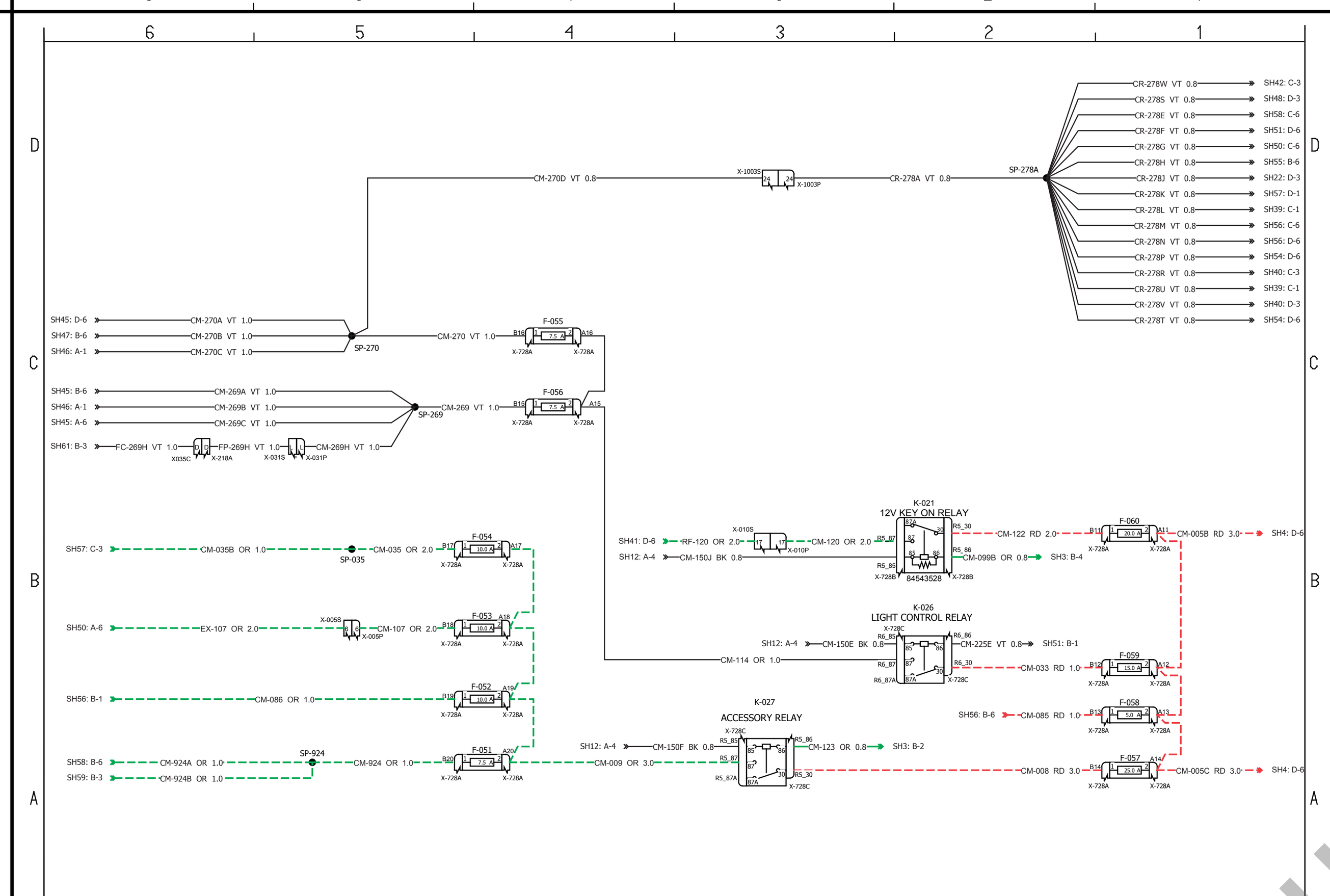
SH04 - POWER DISTRIBUTION



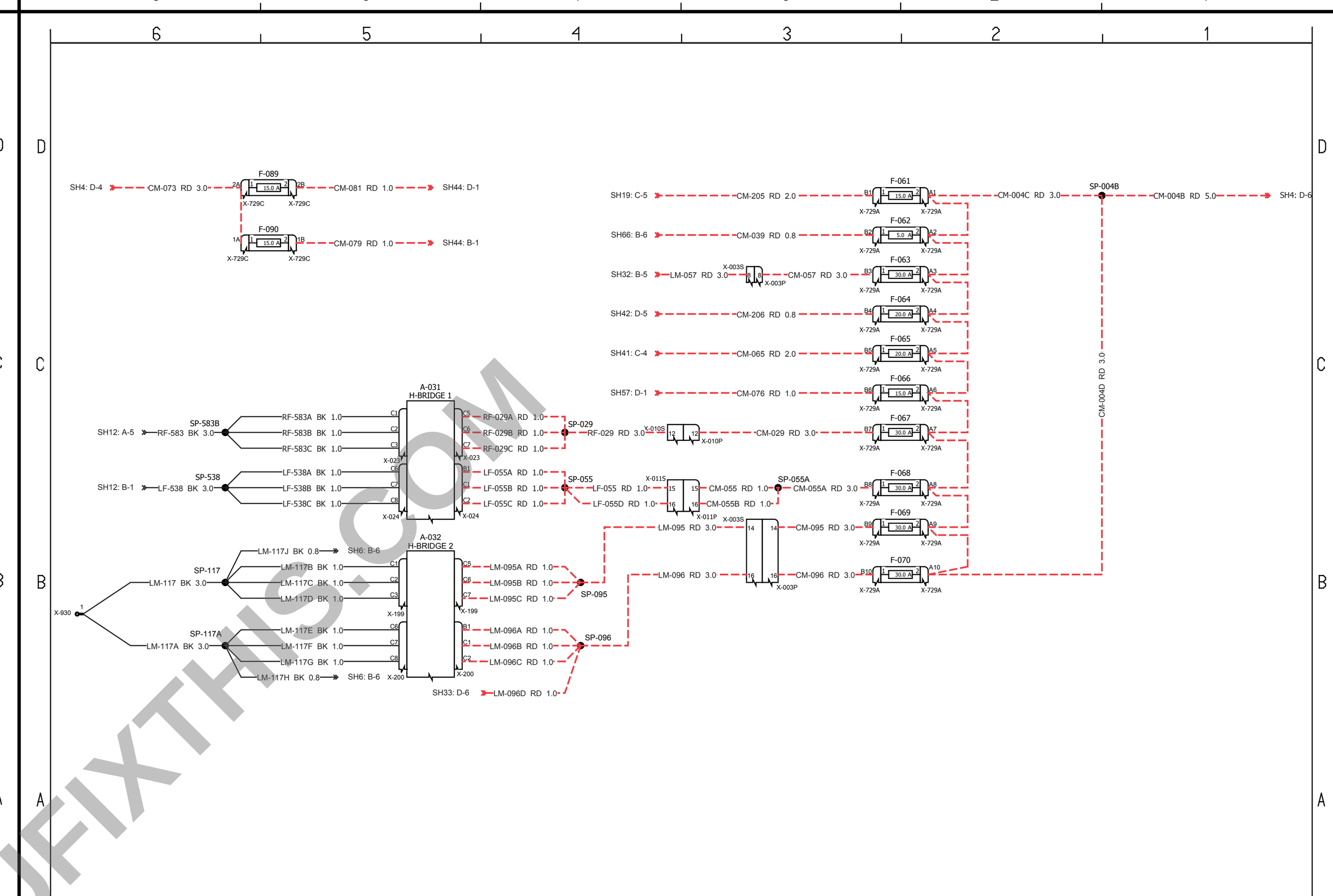
SH05 - POWER DISTRIBUTION



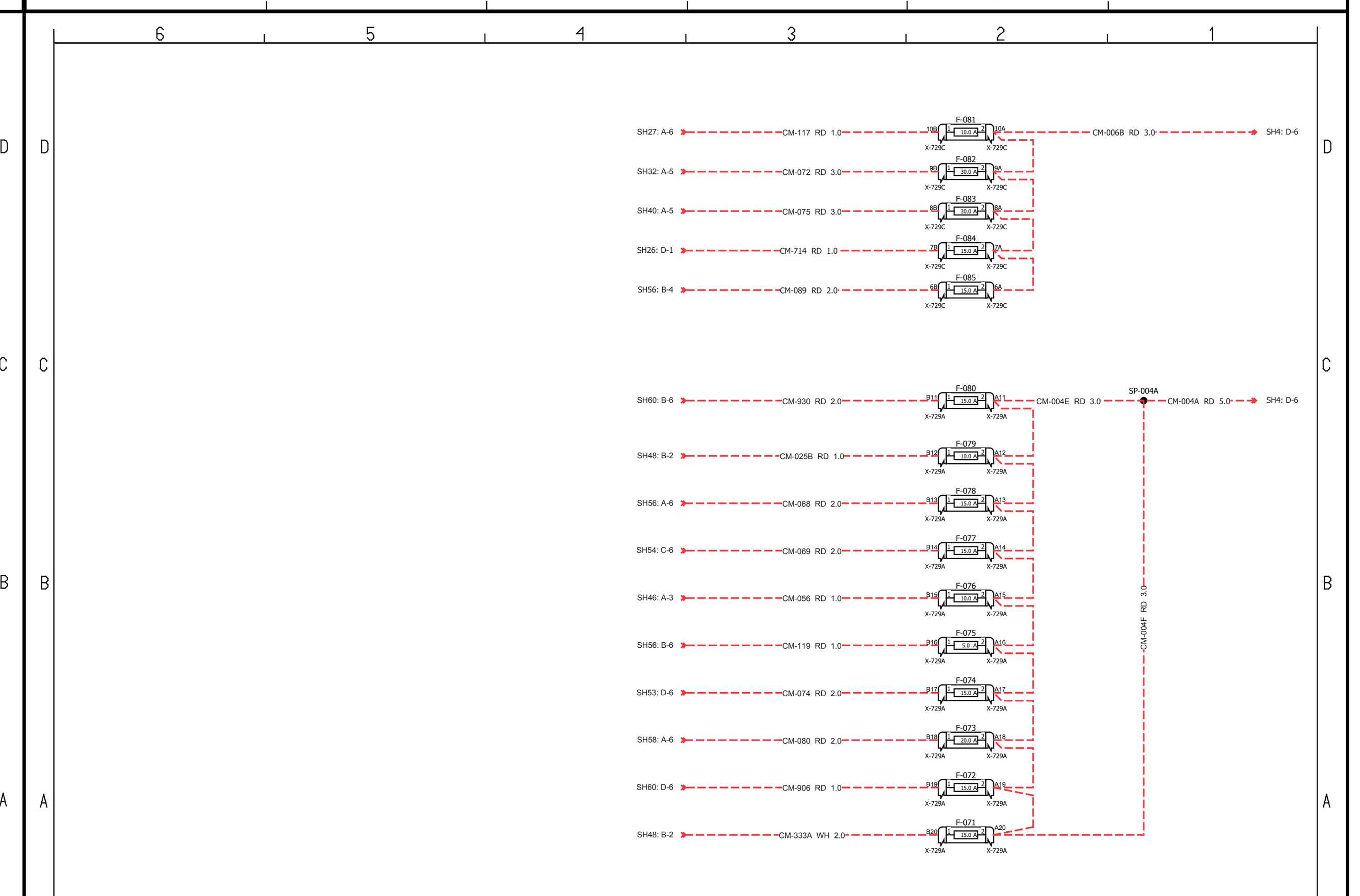
SH06 - POWER DISTRIBUTION



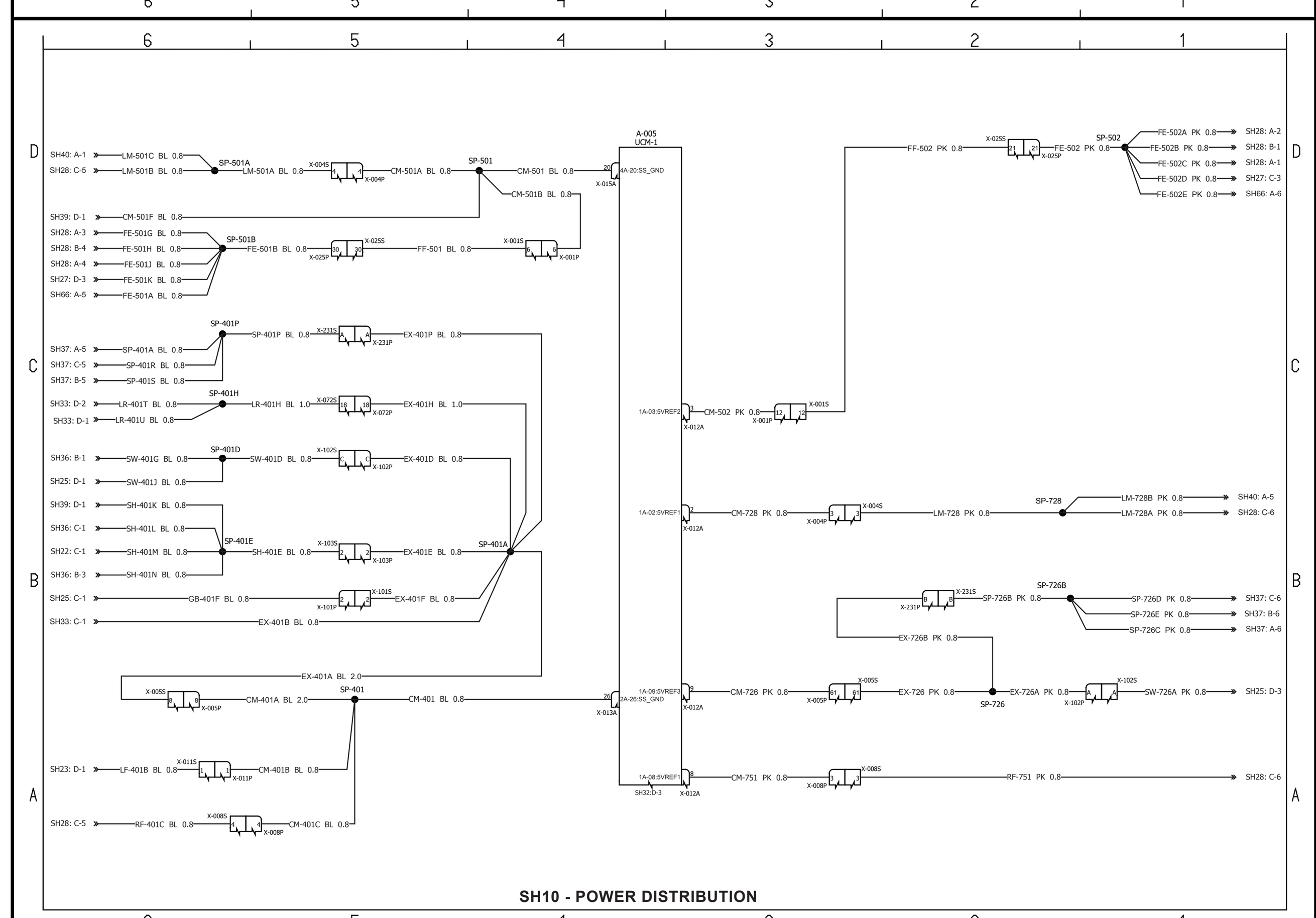
SH07 - POWER DISTRIBUTION



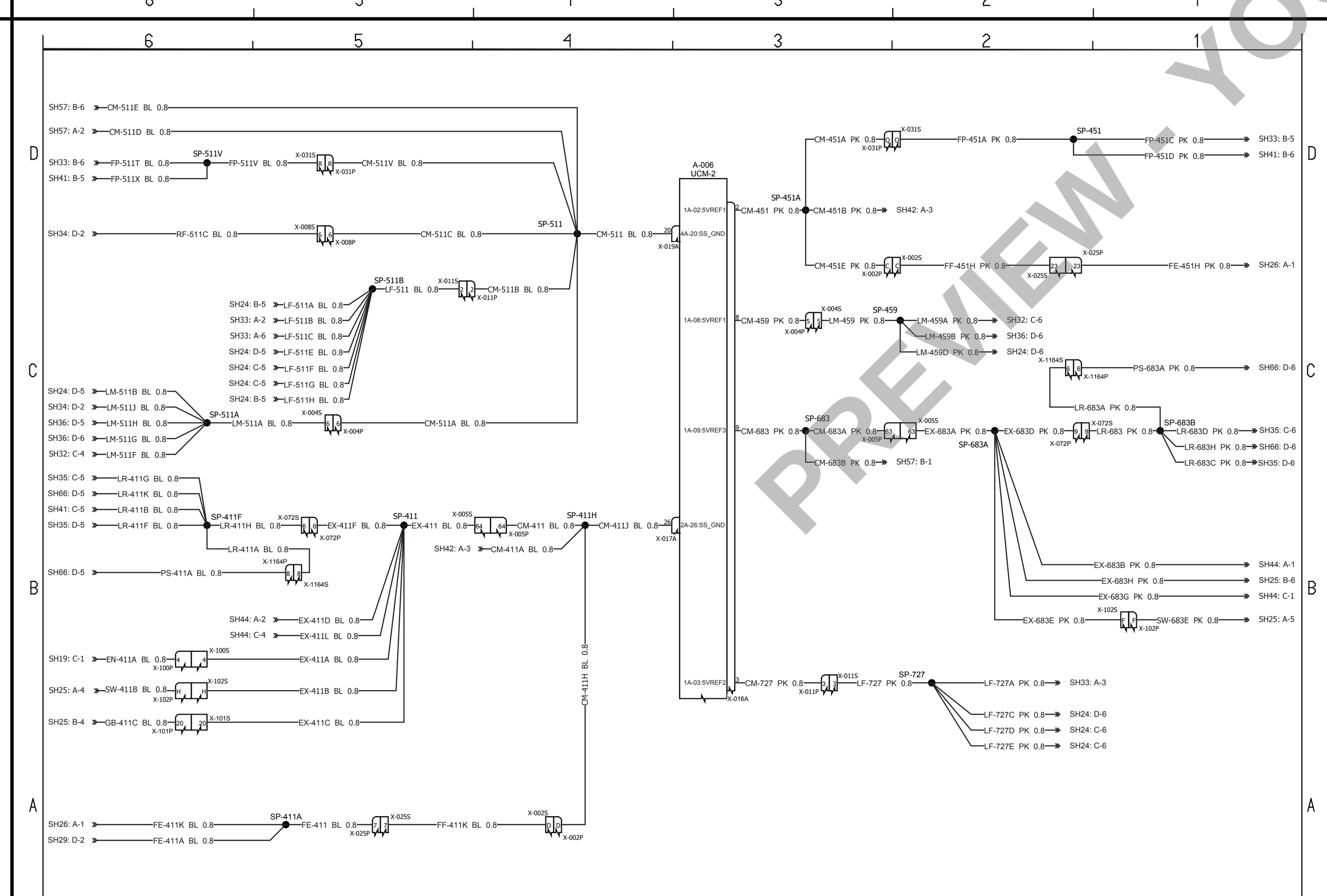
SH08 - POWER DISTRIBUTION



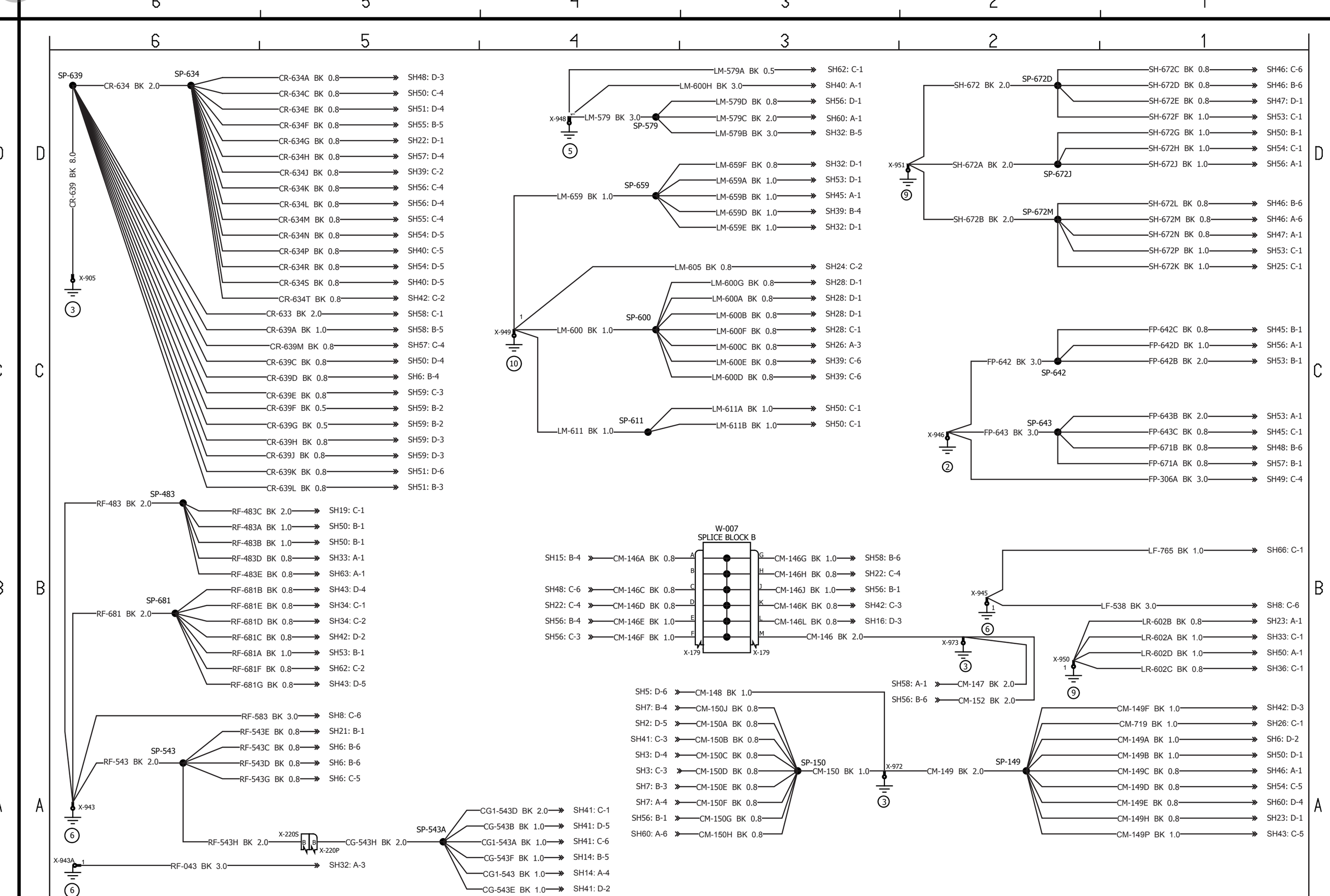
SH09 - POWER DISTRIBUTION



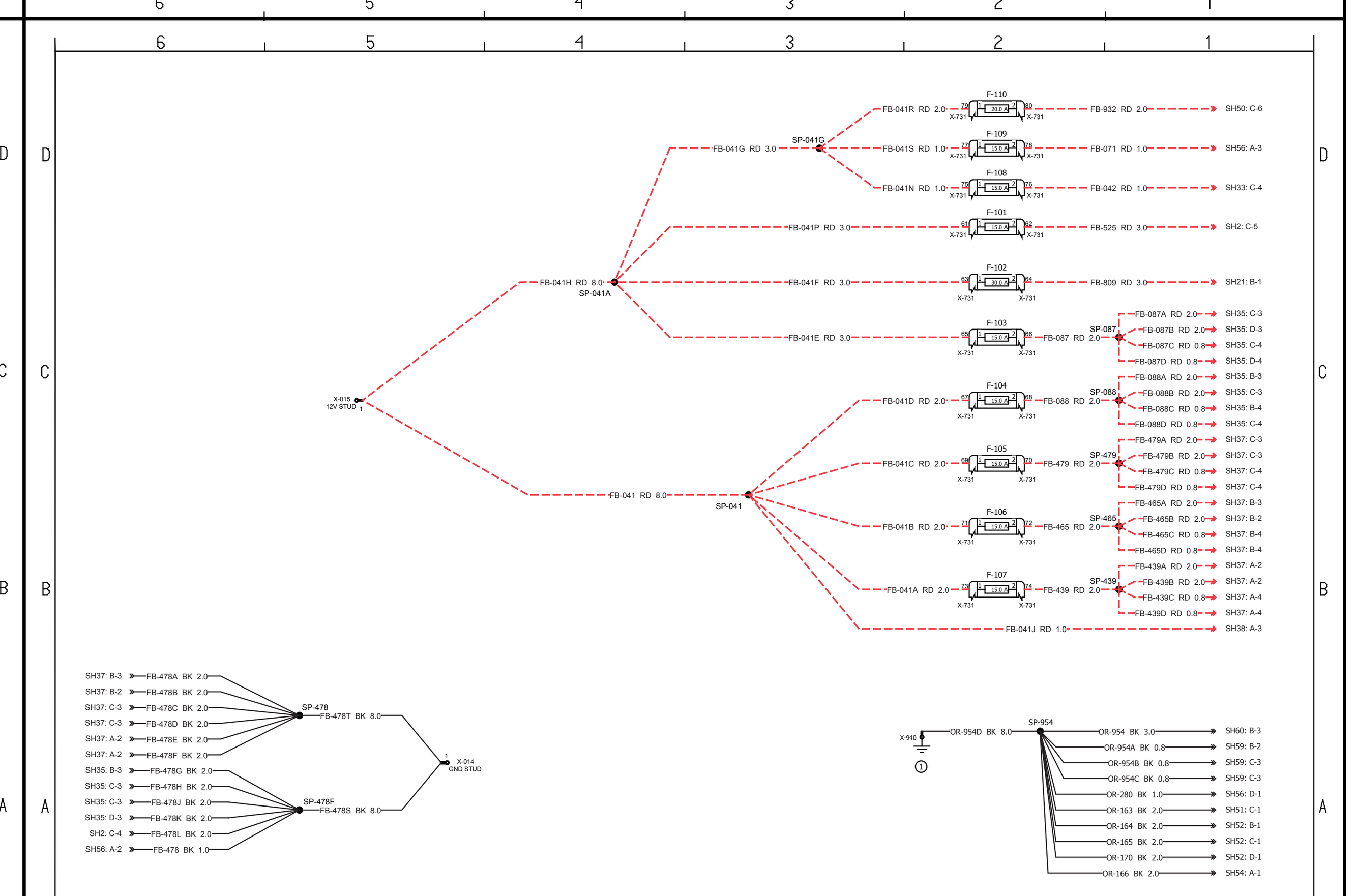
SH10 - POWER DISTRIBUTION



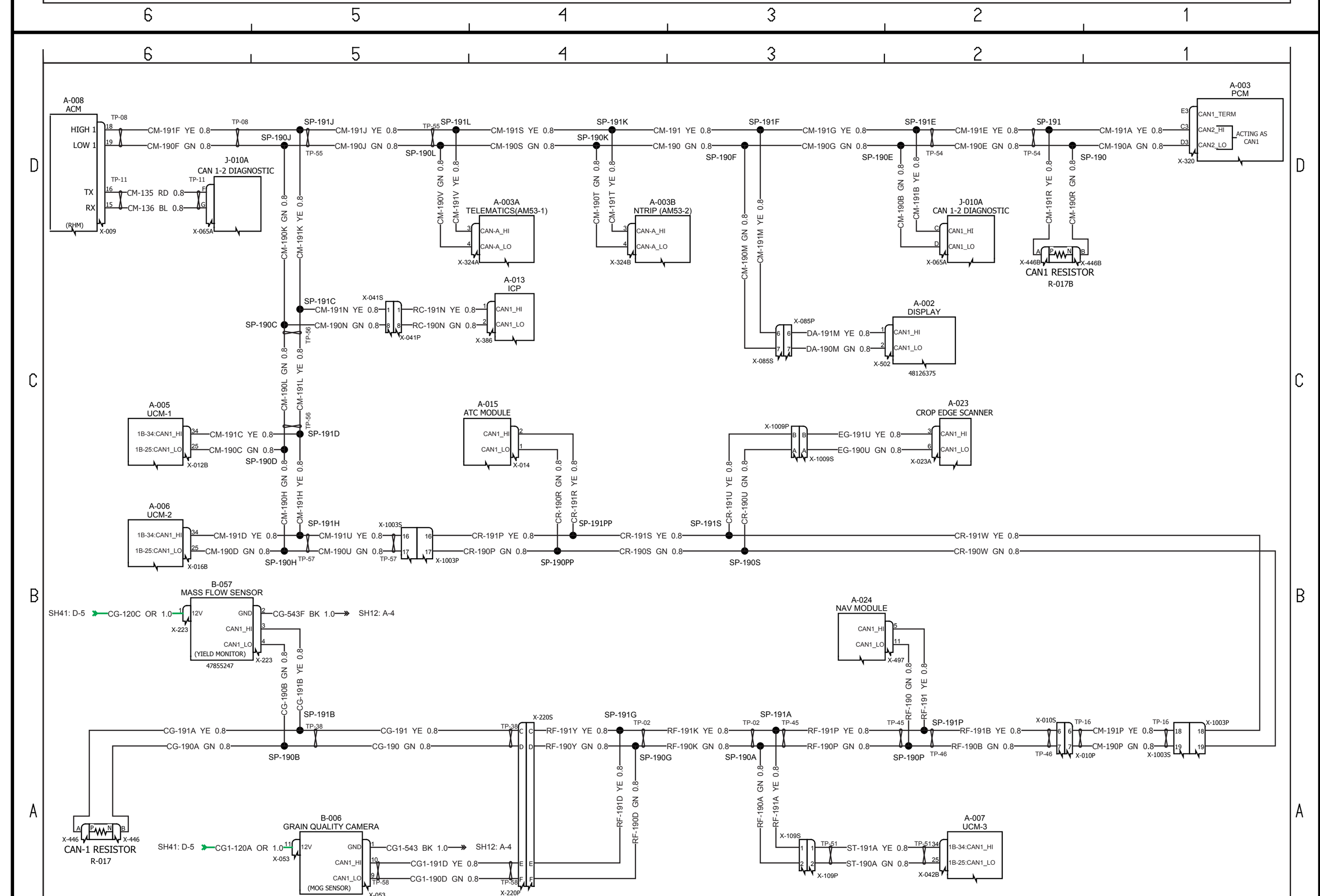
SH11 - POWER DISTRIBUTION



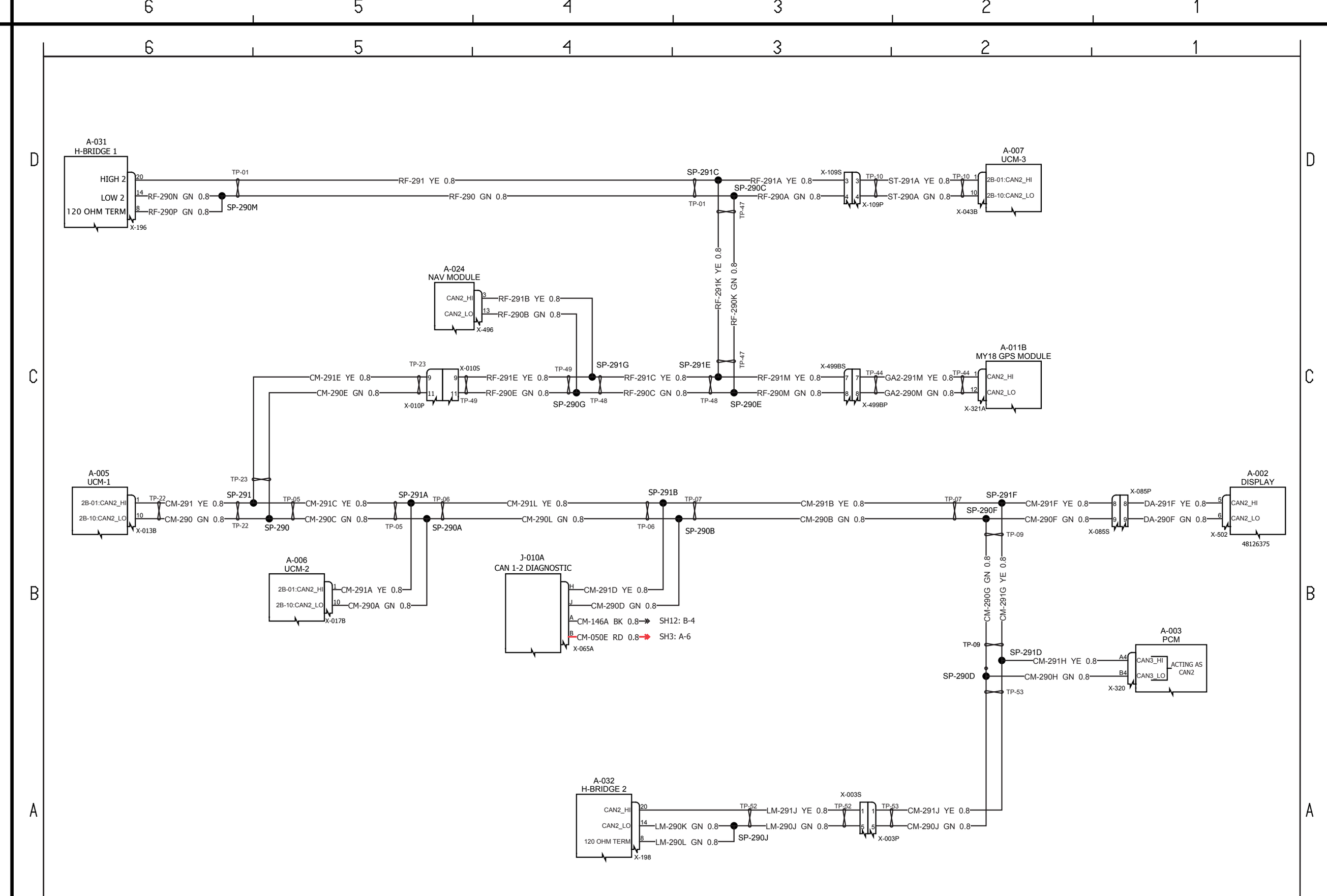
SH12 - GROUNDING



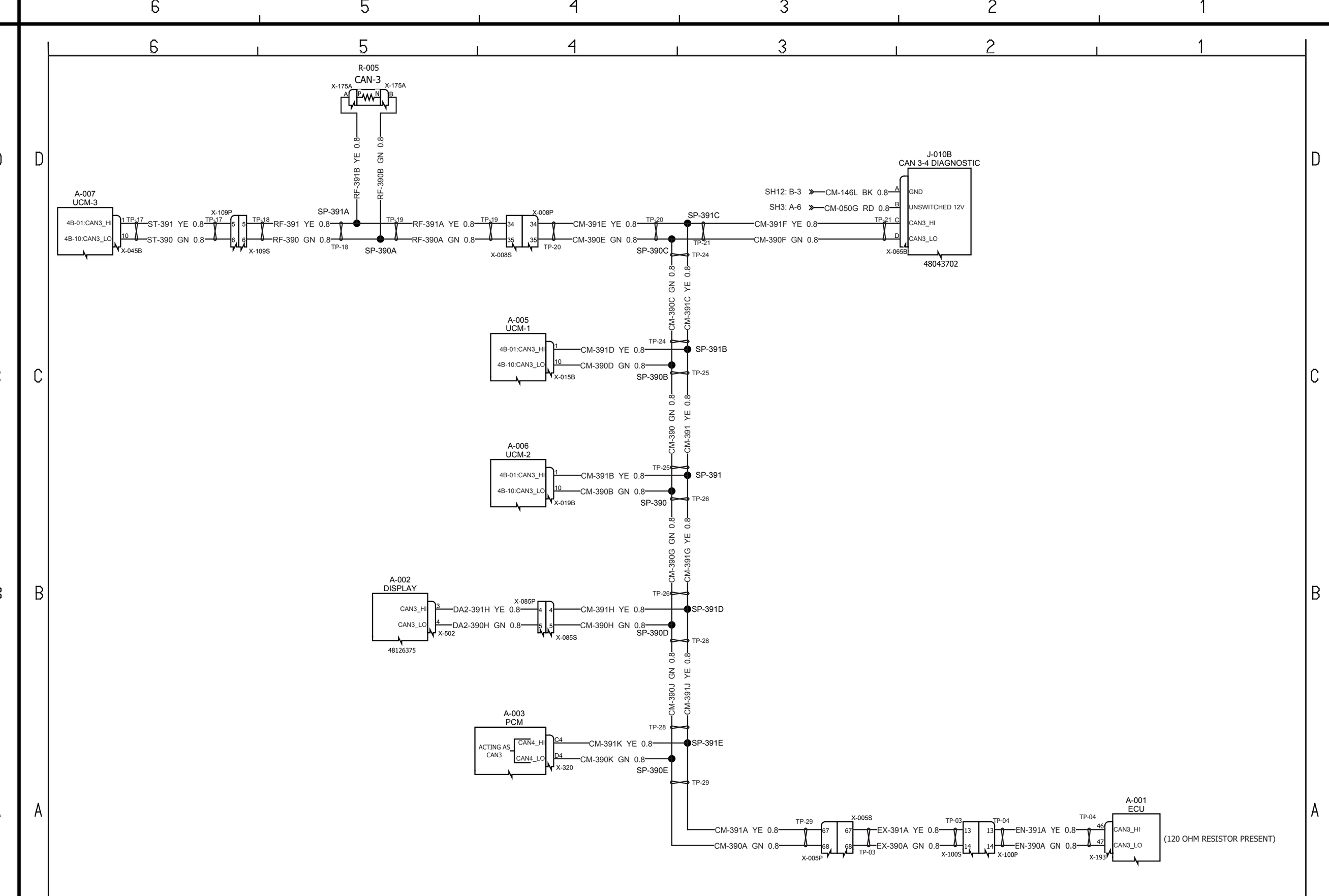
SH13 - GROUNDING



SH14 - CAN BUS 1



SH15 - CAN BUS 2

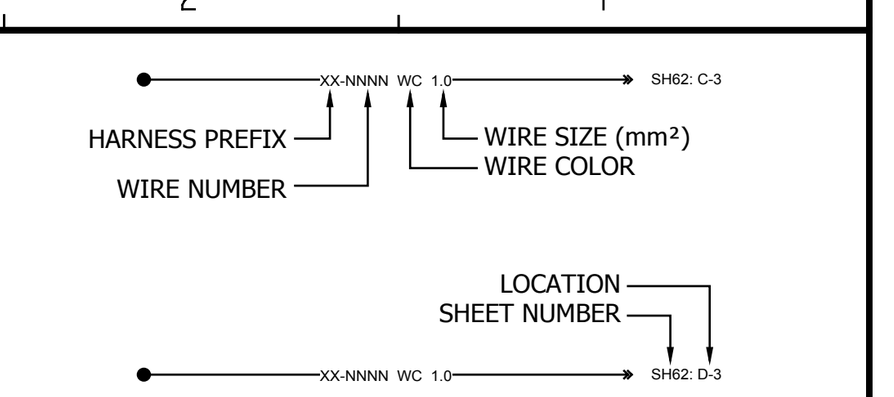


SH16 - CAN BUS 3

AXIAL-FLOW® 7250, AXIAL-FLOW® 8250 and AXIAL-FLOW® 9250 COMBINES

51446765

ELECTRICAL SCHEMATIC, PIN: YJG238001 and above



SCHEMATIC SHEET INDEX

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3	STARTING AND CHARGING	36	RESIDUE
4	POWER DISTRIBUTION	37	RESIDUE
5	POWER DISTRIBUTION	38	CHOP TO SWATH
6	POWER DISTRIBUTION	39	UNLOADING
7	POWER DISTRIBUTION	40	UNLOADING
8	POWER DISTRIBUTION	41	PRECISION FARMING
9	POWER DISTRIBUTION	42	GPS/NAV CONTROLLER
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12	GROUND DISTRIBUTION	45	EXTERIOR LIGHTING
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19	ENGINE	52	LIGHTING
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21	ENGINE	54	LIGHTING
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23	DRIVES	56	WIPER/OUTLETS
24	DRIVES	57	AUTO GUIDANCE
25	DRIVES	58	RADIO/SEAT
26	HEADER	59	HVAC
27	HEADER	60	HVAC
28	HEADER	61	FLIP UP CORN LIGHTS
29	HEADER	62	CAMERA
30	FEEDER DRIVE	63	SUSPENDED TRACKS
31	THRESHER	64	SUSPENDED TRACKS
32	THRESHER	65	SUSPENDED TRACKS
33	CLEANING	66	CGD

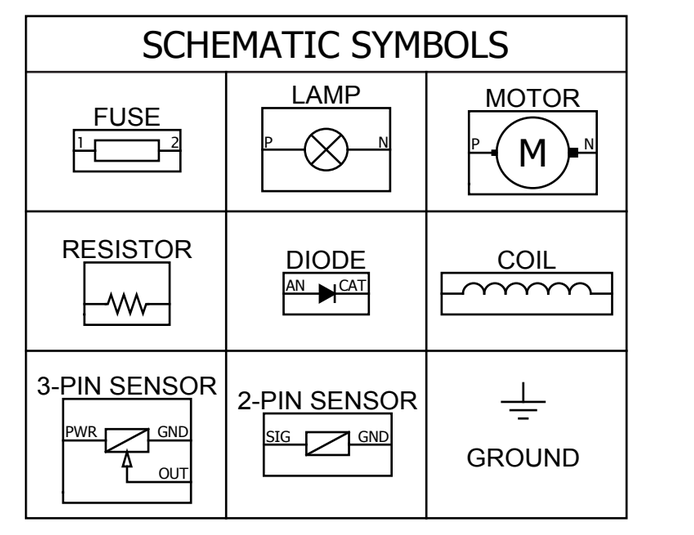
COMPONENT CODES

CODE	DESCRIPTION
A-	CONTROL MODULE
B-	SENSOR, MACHINE CONTROLLED SWITCH
E-	LAMP/LIGHT
F-	FUSE
G-	POWER SOURCE (ALTERNATOR, BATTERY)
GND-	GROUND LOCATION
H-	AUDIBLE DEVICE
J-	POWER POINT/OUTLET/SOCKET
K-	RELAY
M-	MOTOR/ACTUATOR
R-	RESISTOR
S-	OPERATOR CONTROLLED SWITCH
SP-	SPLICE
V-	DIODE
X-	CONNECTOR
Y-	SOLENOID

WIRE COLORS

ABBREVIATION	DESCRIPTION
BK	BLACK
BL	BLUE
BR	BROWN
GN	GREEN
GY	GRAY
LB	LIGHT BLUE
LG	LIGHT GREEN
OR	ORANGE
PK	PINK
RD	RED
TN	TAN
VT	VIOLET
WH	WHITE
YE	YELLOW

SCHEMATIC SYMBOLS



CIRCUIT COLOR INDEX

- 12V UNSWITCHED POWER
- 12V UNSWITCHED POWER - AFTER 12V BATTERY DISCONNECT
- IGNITION KEY ON
- IGNITION KEY ON - AFTER CAB POWER RELAY
- CRANKING
- CRANKING - AFTER START RELAY
- 24V UNSWITCHED POWER
- 24V UNSWITCHED POWER - AFTER BATTERY DISCONNECT

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ROTOR DRIVE MOTOR
CLASS 7 ONLY
45.6 cc/rev (2.78 in³/rev) FIXED DISP.
CLASS 8 & 9
56.1 cc/rev (3.42 in³/rev) FIXED DISP.
RV @ 16 +/-1 bar (230 +/-15 psi)

ROTOR DRIVE PUMP
CLASS 7:
2X HIGH PRESSURE RV 430 bar (6235 psi) DIFFERENTIAL
CLASS 8 & 9:
2X HIGH PRESSURE RV 420 bar (6100 psi) DIFFERENTIAL
71.1 cc/rev (4.33 in³/rev) VARIABLE DISPLACEMENT
2900 rpm CCW ROTATION FROM C7 PTO GEAR
FORWARD - FLOW OUT OF PORT B

CROSS AUGER DUAL DRIVE CLUTCH (OPTION)
HYDRAULIC MANIFOLD 4-WAY
ORIFICE CHECK VALVE
CLUTCH CYLINDER
1.0 in BORE x 0.5 in ROD
48.0 mm (1.89 in) STROKE

HYDRO CONTROL AND PTO LUBE
PRESSURE REGULATOR VALVE
MAIN COOLER RELIEF VALVE @
20.0 +/- 1.38 BAR (290 +/- 20 psi)
PTO LUBE PRESSURE REGULATING VALVE @
3.54 +/- 0.35 bar (50 +/- 5 psi)
PTO CONTROL PRESSURE REDUCING VALVE @
22.0 +/- 1.05 BAR (320 +/- 15 psi)

VARIABLE SPEED FEEDER/HEADER

HEADER/FEEDER DRIVE MOTOR
40.6 cc/rev (OPTION)
50 cc/rev (HD OPTION)
FIXED DISPLACEMENT
SHUTTLE VALVE
FLUSHING RV @ 16.2 +/-1 BAR (235 +/-15 PSI)
MOTOR OUTPUT:
2500 MAX RPM MOTORING
3300 MAX RPM PUMPING

HEADER/FEEDER DRIVE PUMP
VARIABLE DISPLACEMENT
40.6 cc/rev (OPTION)
2X RV @ 210 ±7 bar
49.0 cc/rev (HD OPTION)
2X RV @ 350 ±7 bar
2900 RPM CCW ROTATION FROM
ROTOR PUMP TANDEM DRIVE
FORWARD FLOW OUT LOWER A PORT
REVERSE FLOW OUT UPPER B PORT

GROUND DRIVE MOTOR
170cc/rev
215cc/rev
280cc/rev
VARIABLE DISPLACEMENT
FLUSHING VALVE: 50 LPM (13.2 gpm) @ 10 bar (145 psi)
TEMPERATURE SENSOR
ALARM ACTIVATED AT TEMPERATURE > 108°C FOR 10 SEC
ALARM RESET AT TEMPERATURE < 100°C FOR 3 SEC

280cc/rev CONFIGURATION

GROUND DRIVE HYDROSTATIC PUMP
145cc/rev
175cc/rev
VARIABLE DIPLACEMENT
FLOW OUT OF B PORT - FORWARD
FLOW OUT OF A PORT - REVERSE
2900 rpm CCW ROTATION FROM C2 PTO GEAR
39 cc/rev (2.38 in³/rev) FIXED DISPLACEMENT CHARGE PUMP
FOR LUBE OIL TO PTO GEARBOX
A PORT MAIN RV @ 420 BAR DIFFERENTIAL (6090 psi)
B PORT MAIN RV @ 470 BAR DIFFERENTIAL (6815 psi)
CHARGE RV (SET WITH NO CLUTCHES ENGAGED)
30 +/-1.7 bar (435 +/- 25 psi) AT Fa PORT
2X PRESSURE TRANSDUCER
(Ma AND Mb PORTS)
FOR LUBE OIL TO PTO GEARBOX

GROUND DRIVE MOTOR (FLUSHING)
280cc/rev CONFIGURATION

OPTIONAL POWER GUIDE AXLE

PGA GROUND DRIVE MOTORS (2-SPEED)
LOW SPD 2099 cc/rev (128.0 in³/rev)
HIGH SPD 1049 cc/rev (64.0 in³/rev)

PRA MOTOR VALVE

PGA VALVE (OPTION)

SCREEN
MAIN COOLER
PTO LUBE FILTER
29 gpm

DIAG COUPLER
OUT
IN

CHARGE PRESSURE FILTER
ELECTRICAL BYPASS INDICATOR
CLOSING PRESSURE 2.75 +/-0.28 bar (40 +/-4 psid)
RESET PRESSURE 2.07 bar (30 psid) MIN
BYPASS VALVE SETTING 3.45 +/- 0.34 bar (50 +/- 5 psid)

39.0 gpm

TRIPLE GEAR PUMP
2538 rpm CCW ROTATION
G1 - CHARGE PRESSURE
61.3 CC/REV (3.74 in³/rev)
G2 - SPREADER / AUX COOLER
SEE SHEET 2, ZONE M5
G3 - CLEANING FAN
SEE SHEET 2, ZONE M5
C3 PTO GEAR (ZONE F4)

UNLOAD AUGER CLUTCH VALVE
ROTOR CLUTCH VALVE
ON/OFF CLUTCH (ROTOR START-UP)
HEADER / FEEDER CLUTCH VALVE
FEEDER/HEADER CVT
CHOPPER/BEATER CLUTCH VALVE

C8 UNLOAD AUGER DRIVE 2030 RPM CCW
C7 ROTOR/FDR/HDR PUMPS 2900 RPM CW
C2 GROUND DRIVE PUMP 2900 RPM CW
C1 ENGINE INPUT GEAR 2100 RPM CCW
C5 FEEDER/HEADER CVT DRIVE 2388 RPM CW
C3 TRIPLE GEAR PUMP DRIVE 2538 RPM CW
C9 PFC PUMP DRIVE 2538 RPM CW
C6 ROTOR CVT DRIVE 2137 RPM CCW
C4 CHOPPER/BEATER DRIVE 2030 RPM CCW

PTO GEARBOX
RESERVOIR FOR CHARGE
AND LUBE OIL SYSTEMS

SUCTION SCREEN A
2 SCREENS, 100 MESH
DRAIN VALVE
PN 87485712
FROM HYDRAULIC OIL RESERVOIR DRAIN (SHEET 1, ZONE E11)
DRAIN FROM ROTOR GEARBOX
DRAIN FROM ENGINE OIL PAN
COMMON DRAIN HOSE

NOTES:

1. FLOW RATES ARE FOR REFERENCE ONLY
2. U.O.S. ALL PUMP FLOW RATES AND RPM VALUES ARE BASED ON 2100 ENGINE RPM.
3. OPEN PORTS ON THIS FACE OF VALVE CONNECT DIRECTLY TO PTO HOUSING WITH NO EXTERAL LINES (3 PLACES)
4. PLUG THIS PORT ON HYDRAULIC RESERVOIR FOR CLASS 7 & 8 (SEE SHEET 2)

AXIAL-FLOW® 7250, AXIAL-FLOW® 8250
and AXIAL-FLOW® 9250 COMBINES
51586253
HYDRAULIC/HYDROSTATIC SCHEMATIC
PIN: YJG238001 and above
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