580N
580SN WT
580SN
590SN
Tier 4B (final)
Tractor Loader Backhoe

SERVICE MANUAL

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CASE CONSTRUCTION

MidWestTech | Case 580N, 580SN WT, 580SN, 590SN Tier 4B Tractor Loader Backhoe Service Manual | Publication 47830958
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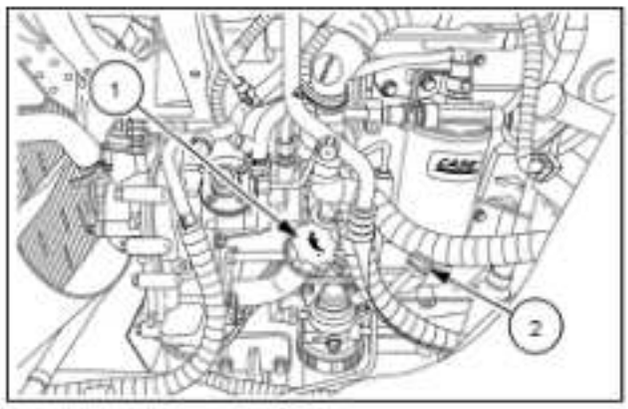
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Engine lubrication system - Filling

Engine oil specification – **8.0 L** (**8.5 US qt**) of **CASE AKCELA UNITEK NO. 1™ SBL CJ-4 SAE 10W-40** or refer to the "Engine oil viscosity" chart (**Engine lubrication system - General specification (10.304)**).

Severe Cold Weather Package (SCWP) engine oil specification – **8.0 L** (**8.5 US qt**) of **CASE AKCELA UNITEK NO. 1™ SSL CJ-4 SAE 0W-40**.

1. Clean areas around the:
   - Engine fill cap **(1)**.
   - Engine oil dipstick **(3)**.



RALTITLB300BAA 1

2. Install the drain plug for the engine oil tank.
3. Put new oil into the engine.

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Connector Number	Connector Name	Schematic Frame
X-511	Ride Control Switch	**Wiring harnesses - Electrical schematic sheet 20 Comfort steer / Ride control (55.100) Wiring harnesses - Electrical schematic sheet 20 Comfort steer / Ride control (55.100)**
X-535	Telematics Batt+ to Disconnect Switch	**Wiring harnesses - Electrical schematic sheet 33 Telematics (55.100) Wiring harnesses - Electrical schematic sheet 26 Telematics (55.100)**
X-538	Telematics Batt+ Fuse Holder	**Wiring harnesses - Electrical schematic sheet 33 Telematics (55.100) Wiring harnesses - Electrical schematic sheet 26 Telematics (55.100)**
X-820	Starter Motor	**Wiring harnesses - Electrical schematic sheet 02 Starting system (55.100) Wiring harnesses - Electrical schematic sheet 02 Starting system (55.100)**

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4033-Shifter Lever malfunction: transmission in reverse receives forward and reverse together

580N FOUR-WHEEL DRIVE (4WD) TIER 4B (FINAL)	Transmission - Powershift transmission
580N TWO-WHEEL DRIVE (2WD) TIER 4B (FINAL)	Transmission - Powershift transmission
580SN FOUR-WHEEL DRIVE (4WD) TIER 4B (FINAL)	Transmission - Powershift transmission
580SN TWO-WHEEL DRIVE (2WD) TIER 4B (FINAL)	Transmission - Powershift transmission
580SN WT TIER 4B (FINAL)	Transmission - Powershift transmission
590SN FOUR-WHEEL DRIVE (4WD) TIER 4B (FINAL)	Transmission - Powershift transmission
590SN TWO-WHEEL DRIVE (2WD) TIER 4B (FINAL)	Transmission - Powershift transmission

Context:
There is a malfunction in the shift lever. The transmission is in the reverse position, but receives a forward signal and a reverse signal together. This fault has occurred for a period greater than **5 s**.

Cause:
There is a malfunction in the shift lever. The transmission is in the reverse position, but receives a forward signal and a reverse signal together. This fault has occurred for a period greater than **5 s**. The Trax control module will log the fault code and keep the transmission in the neutral position while the fault is active.

Possible failure modes:

1. Faulty wiring or connectors from the FNR shift lever to the Trax control module.
2. A faulty FNR shift lever.
3. A faulty Trax control module.

Solution:

1. Verify that the fault code is active.

   Connect the Electronic Service Tool to the service tool connector.

   To check for fault codes: Start and operate the machine.

   A. The fault code is not recorded again. OK to return the machine to service.

   B. Fault code 4033 is recorded again. Go to step **2**.
2. Verify that the wiring and the connectors are free of damage.

   Inspect the Trax control module connector X-300 and the FNR shift lever connections. All connections should be secure and free of corrosion, abrasion, and damage.

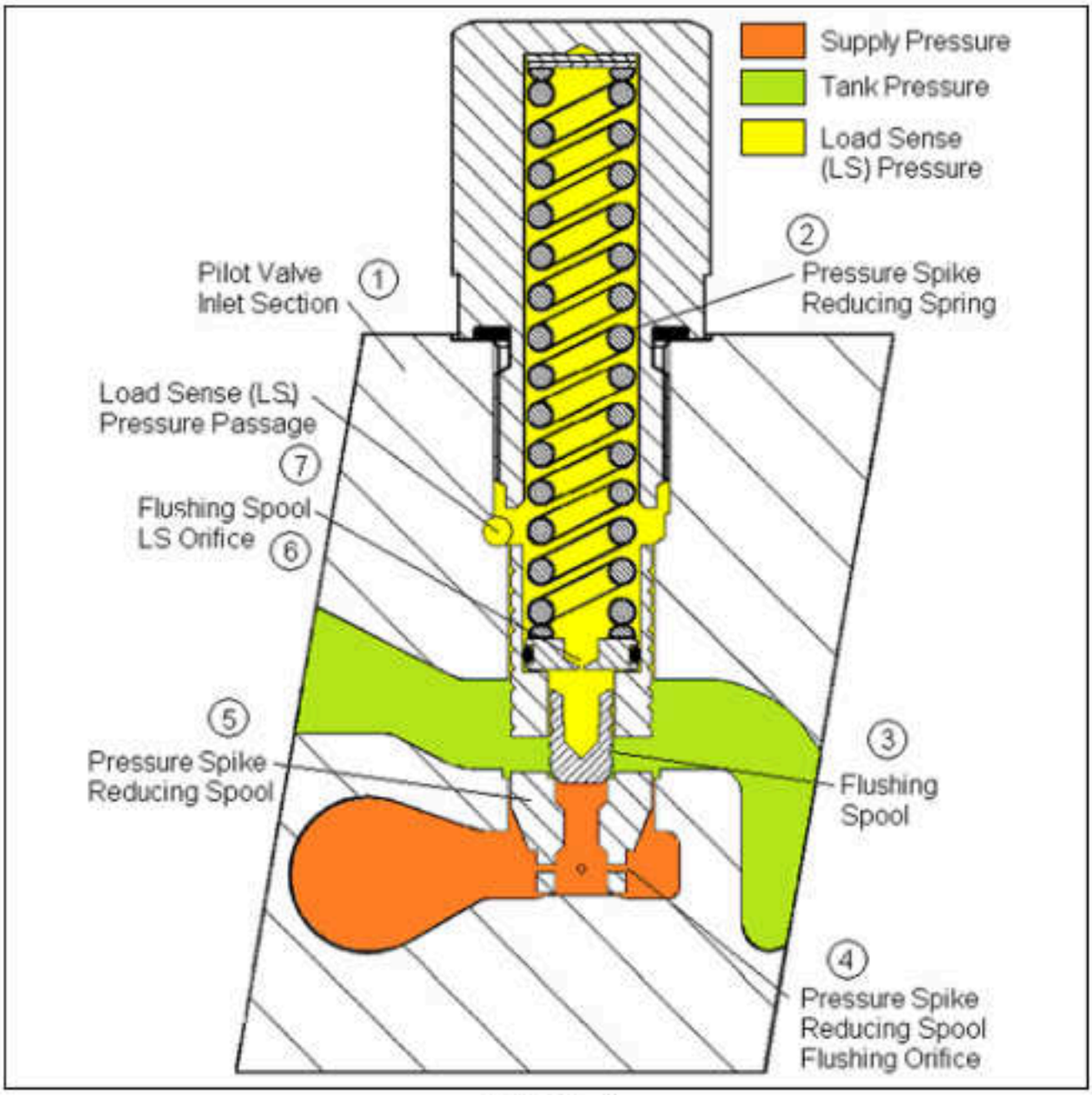
   Inspect the harness from the Trax control module to the FNR shift lever. Verify that the harness is free of damage, corrosion, abrasion, and incorrect attachment.

   A. The connectors are secure and the harness is free of damage. Go to step **3**.

   B. The connectors or the harness has damage. Repair or replace the harness or the connectors as required. Return to step **1** to confirm elimination of fault.
3. Measure the voltage at the FNR shift lever.

   Use backprobes or a breakout harness (as shown below) to measure the voltage at the FNR switch.

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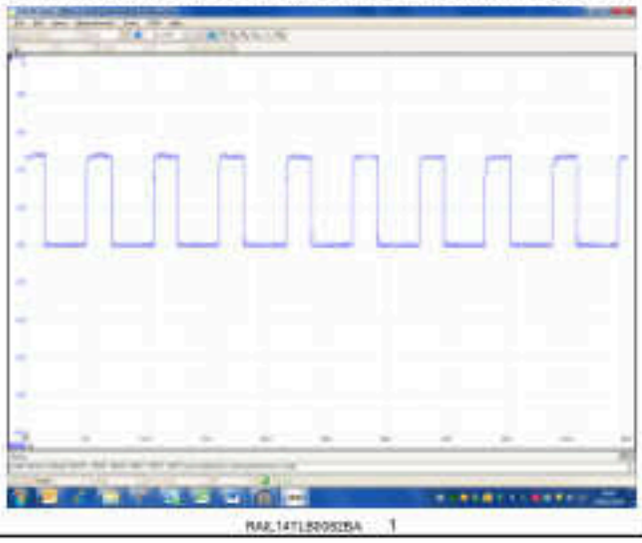
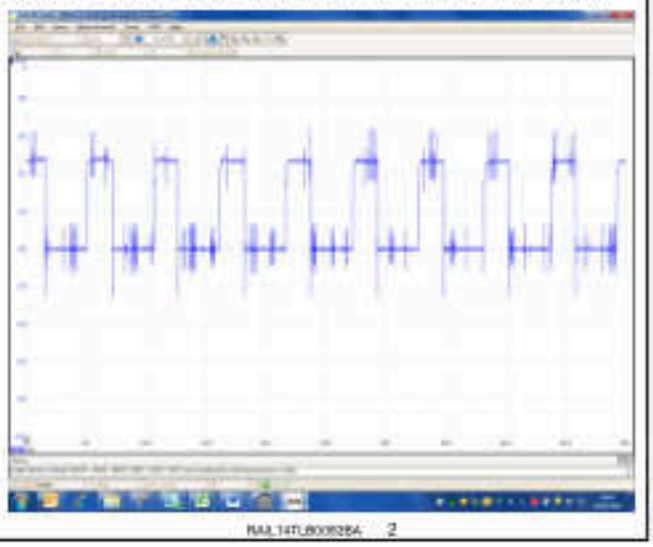
Backhoe flushing valve cutaway

1. Pilot valve inlet section	5. Pressure spike reducing spool
2. Pressure spike reducing spring	6. Flushing spool load sense (LS) orifice
3. Flushing spool	7. Load sense (LS) pressure passage
4. Pressure spike reducing flushing orifice	

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Start the engine.

Use the DATAR oscilloscope function to monitor the sensor signal.

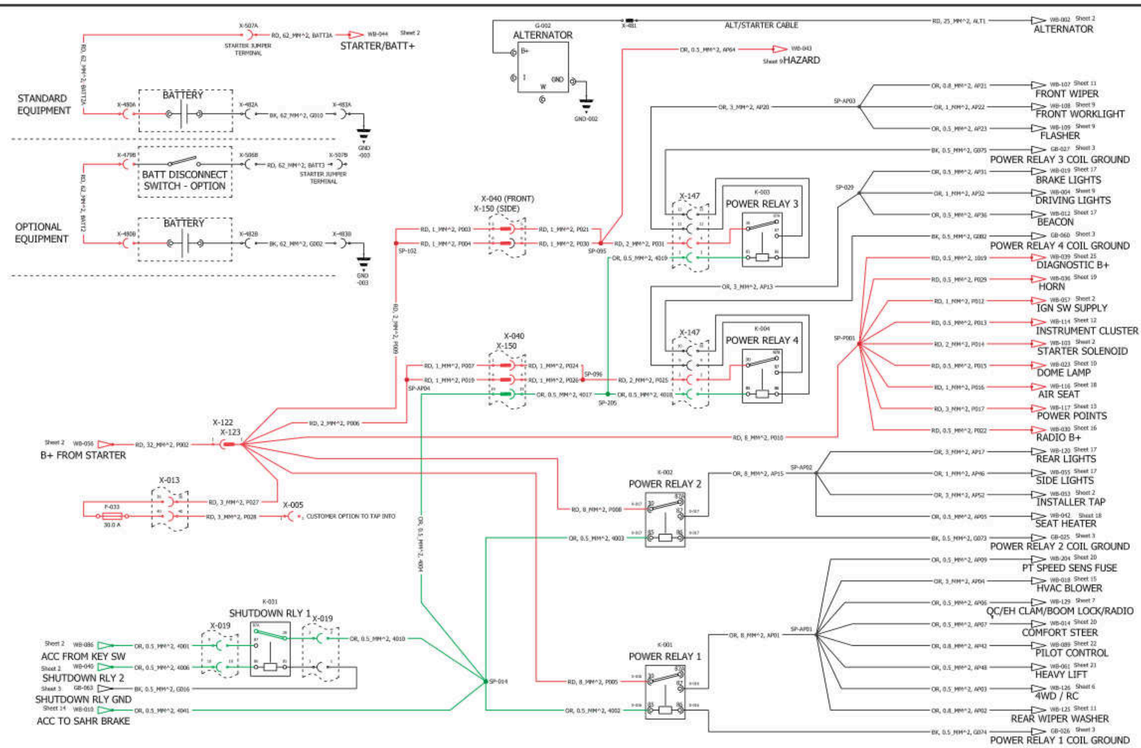
DATAR oscilloscope capture of a good sensor signal.	DATAR oscilloscope capture of a bad sensor signal.
	

A. The data capture of sensor signal is good. Install the latest software in the Trax control module. Return to step **1** to confirm elimination of the fault.

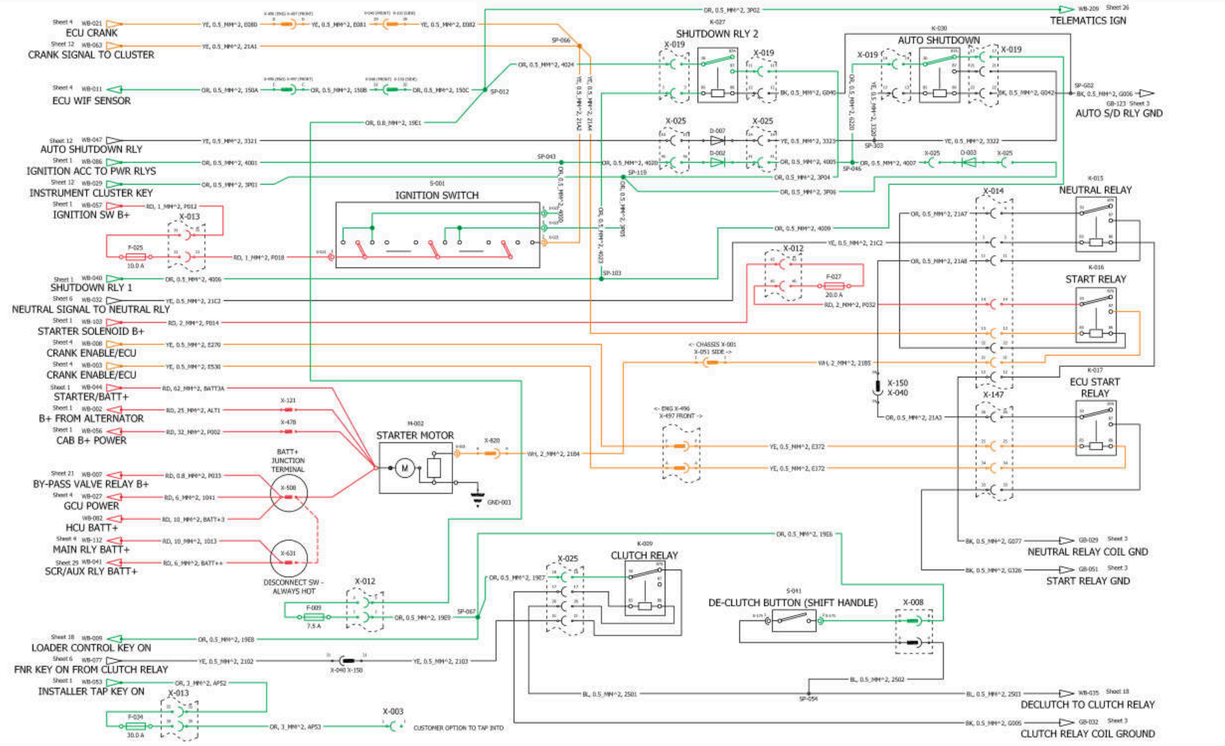
B. The data capture of the sensor signal is bad. There is a problem in the wiring to the sensor. Repair as required. Return to step **1** to confirm elimination of the fault.

Wiring harnesses - Electrical schematic sheet 23 Combo / Aux / Uni hydraulics (55.100.DP-C.20.E.23)
Wiring harnesses - Electrical schematic sheet 22 Pilot control inputs (55.100.DP-C.20.E.22)

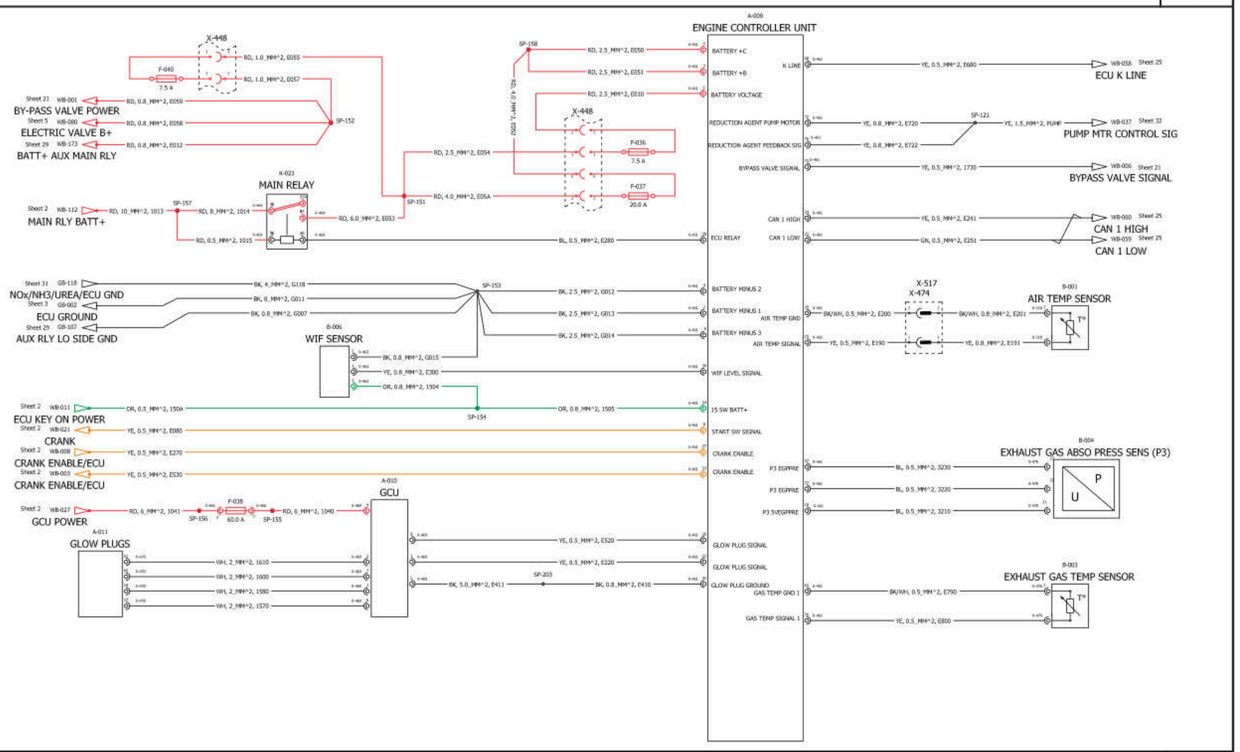
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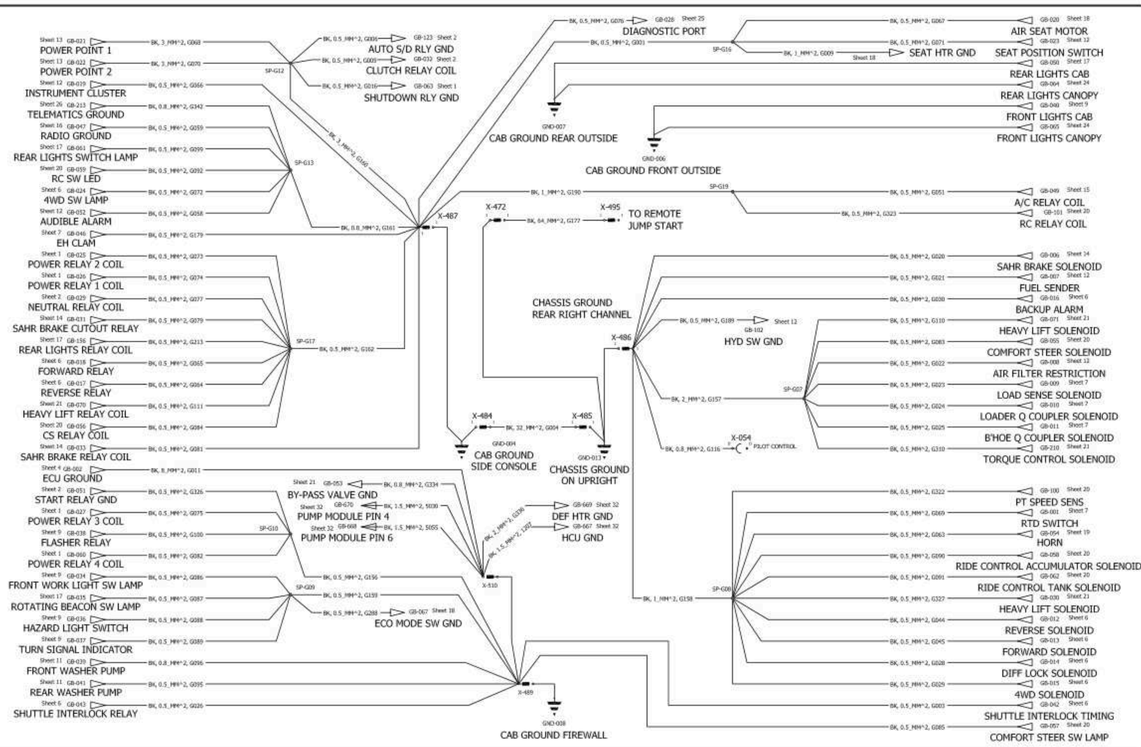
POWER DISTRIBUTION - CHARGING | 1



STARTING SYSTEM | 2



ENGINE CONTROL | 4



GROUNDING | 3

SHEET	DESCRIPTION	SHEET	DESCRIPTION	SHEET	DESCRIPTION	SHEET	DESCRIPTION
1	POWER DISTRIBUTION - CHARGING	9	FRONT EXTERIOR LIGHTS	17	REAR LIGHTS EXTERIOR	25	CAN BUS - DIAGNOSTIC
2	STARTING SYSTEM	10	INTERIOR LIGHTS	18	OPTIONS & NEW FEATURES	26	TELEMATICS
3	GROUNDING	11	WIPERS AND WASHERS	19	HORN	27	2WD RIDE CONTROL JUMPER
4	ENGINE CONTROL	12	INSTRUMENT CLUSTER	20	COMFORT STEER - RIDE CONTROL	28	ACCESSORY JUMPERS
5	ENGINE CONTROL	13	POWER SOCKETS	21	HYDRAULIC OPTIONS	29	POWER DISTRIBUTION AND START
6	DRIVES	14	SAHR PARK BRAKE	22	PILOT CONTROL INPUTS	30	ADDITIONAL ECU CIRCUITS
7	HYDRAULICS	15	HVAC	23	COMBO - AUX - UNI HYDRAULICS	31	EXHAUST SYSTEM AND CAN BUS 2
8	PILOT CONTROLS	16	AUDIO	24	CANOPY EXTERIOR LIGHTS	32	PRE - START

LEGEND

- INDICATES CONSTANT POWER 12V
- INDICATES POWER WHEN KEY SWITCH IS ON
- INDICATES POWER WHEN KEY SWITCH IS IN START POSITION
- INDICATES 5V SECONDARY POWER SUPPLY FROM MODULE

COLOR ABBREVIATIONS

ABBREVIATION	COLOR
BK	BLACK
BK\WH	BLACK\WHITE
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

TRACTOR LOADER BACKHOE
CASE 580N/580SN/580SN WT/590SN
-Standard transmission with options
ELECTRICAL SCHEMATIC

SHEET 1 SIDE 1

Additional copies of this schematic can be ordered through Technical Publications Distribution System. Part # RAC 47775435

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