SERVICE MANUAL

D150C
Tier 2
Crawler Dozer

PIN NHC106500 and above

Part number 48048569
1st edition English
April 2017

NEW HOLLAND CONSTRUCTION

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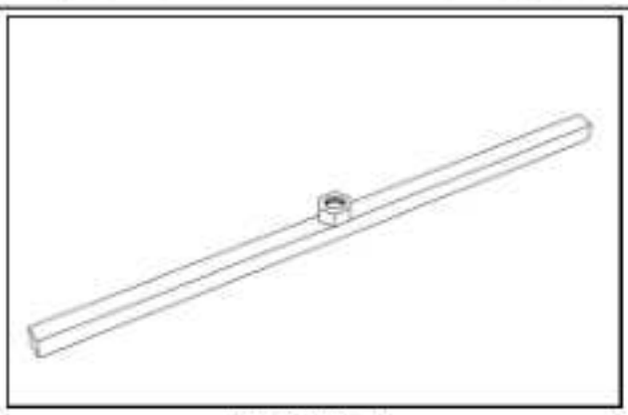
Dropbox and final drive - Capacity

Final Drive Lubricant Capacity (Each)	**15 L (4 US gal)**
Lubricant	**NEW HOLLAND AMBRA HYPOIDE 140**

Dropbox and final drive - Torque

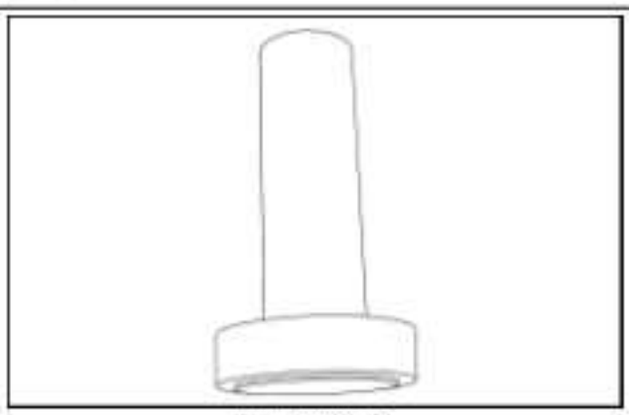
Drive Hub Rolling Torque	**8 ± 2.5 N·m (75 ± 20 lb in)**
Input Shaft Bearing Retainer Plate Mounting Bolts	**77 – 87 N·m (57 – 64 lb ft)**
Park Brake Housing Plate	**77 – 87 N·m (57 – 64 lb ft)**
Brake Housing Cover M20 X 50 12 pnt	**650 – 730 N·m (479 – 538 lb ft)**
Counter Shaft Bearing Retainer Plate Mounting Bolts	**125 – 150 N·m (92 – 111 lb ft)**
Spindle Housing	**310 – 380 N·m (229 – 280 lb ft)**
Ring Gear Retaining Plate	**310 – 380 N·m (229 – 280 lb ft)**
Sun Gear Shaft Retaining Plate	**125 – 150 N·m (92 – 111 lb ft)**
Output Gear Bearing Retainer Plate Mounting Bolts	**125 – 150 N·m (92 – 111 lb ft)**
Planetary Carrier to Drive Hub	**310 – 380 N·m (229 – 280 lb ft)**
Final Drive to Frame	**656 – 725 N·m (484 – 535 lb ft)**

Dropbox and final drive - Special tools



1

The tool shown above is used to check the rolling torque for the planetary housing. the bar is made from 3/4 inch (19 mm) square mild steel and is 22 inches (559 mm) long. The nut is welded in the center of the bar. Size of nut is optional.



2

Expansion plug installation tool **380002800** CAS-19545 driver kit CAS-1955 driver kit

A cap screw is required to remove the outer bearing cup for the input shaft from the gear housing. The cap screw is an M16-2 x 320 mm (12.5 inches).
The bolt can be acquired through common parts, part number 627-16320.

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Temperature sensor - Testing

D150C ANZ — APAC — LA — MEA

NOTE: *For wiring diagram refer to* ***Harnesses and connectors - Electrical schematic sheet 20 (55.100)***

Test N°1	
Test Point	**Condition** Remove thermocouple from the evaporator coil. Place the end of the thermocouple in a container with ice and water mixture. With engine OFF, key switch ON, and blower switch ON. Turn temperature control to Max. cool position. **Check** When the thermocouple has cooled to the temperature of the ice and water mixture, the thermocouple switch should turn OFF voltage to the compressor. The thermocouple switch interrupts current flow to the clutch at **0.6 – 2.8 °C** (**33 – 37 °F**) and will allow the clutch to energize at **5.6 – 21 °C** (**42 – 70 °F**) Note: the thermostat connector is X-065.
Expected Result	**Result** Compressor should turn off.
Other Result (Possible Cause)	**Action** If the voltage to compressor does not turn OFF, replace the thermocouple.

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Reconnect ECU connector X-120.

Turn the ignition switch ON.

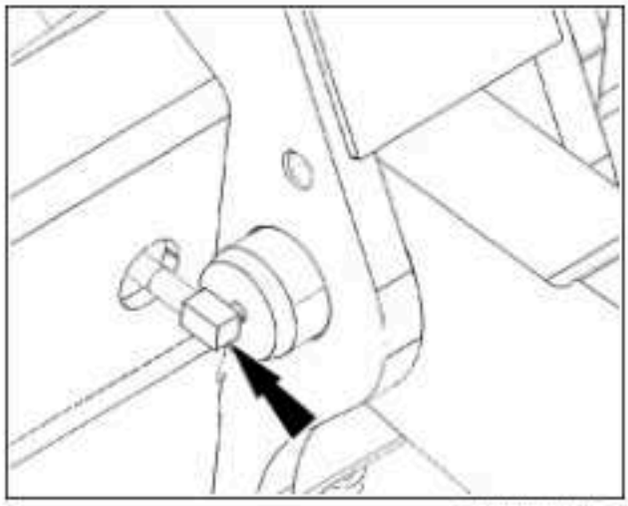
Access the fault code screen on the EST. Fault code 3558 should no longer be active. Fault code 3557 is now present and active.

A. Fault code 3558 is no longer active. Fault code 3557 is now active. There is a problem in the wiring between the humidity sensor and the ECU. Repair or replace the harness as required. Return to Step **1** to confirm elimination of the fault.

B. Fault code 3558 is still active. Fault code 3557 did not become active. There is a problem in the ECU. Temporarily replace the ECU and retest. Return to Step **1** to confirm elimination of the fault.

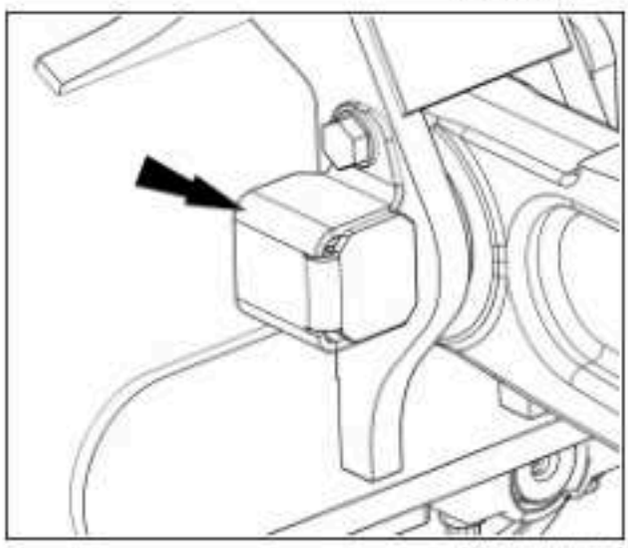
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7. Install the **90°** grease fittings onto the equalizer pin.
8. Orient the **90°** grease fitting(s) as shown.
9. Thread the male end of the equalizer beam pin grease line(s) into the **90°** fitting(s).



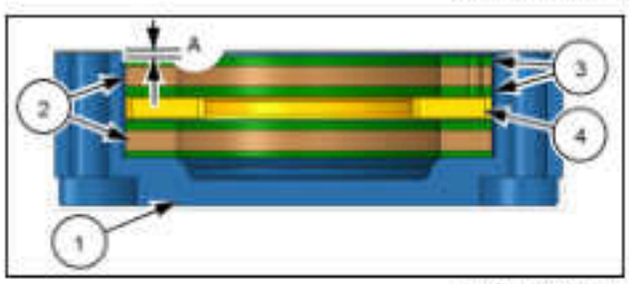
RAPH160D0207758A 3

10. Install the grease fitting cover(s) over the end of the equalizer beam pin(s) and the grease fitting using the bolt to secure.
11. Torque the bolt to **587.0 – 794.0 N·m (433.0 – 586.0 lb ft)**.



RAPH160D0207758A 4

12. Check the pivot shaft end cap shim dimensions.
    (1): End cap (blue)
    (2): Composite thrust washer (tan)
    (3): Shim (green)
    (4): Retainer (yellow)
13. Drop the entire shim pack **(3)** with the thrust washers **(2)** and the retainers **(4)** into the pivot shaft end cap **(1)**. Measure the distance **(A)** between the shim **(3)** and the surface of the end cap **(1)**. Callout **(A)** is to be **0.5 – 1.5 mm** below the surface of the end cap **(1)**.



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NOTE: *Keep one shim between the retainers and the thrust washer to prevent the thrust washer liner from tearing.*

NOTE: *The same number of shims and thrust washers will always be used.*

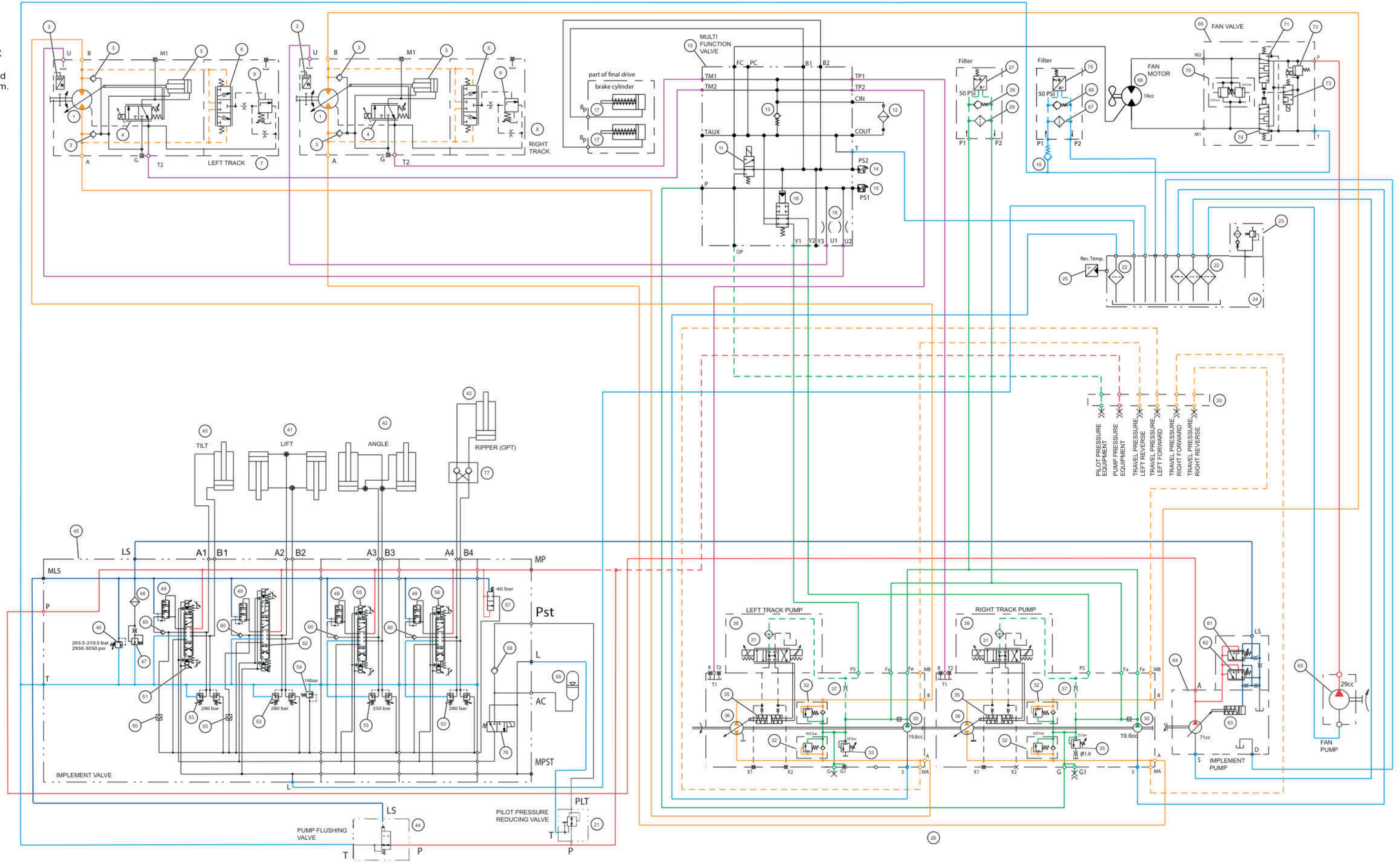
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HYDRAULIC SCHEMATIC
D150C DOZER - TIER 2
PIN BREAK: NHC106500 AND AFTER

Additional copies of this Schematic can be ordered through Technical Publications Distribution System. Part # RAC 48049001 (replaces RAC 47907886)

LEGEND

- HYDRAULIC PRESSURE
- CHARGE PUMP PRESSURE
- RETURN TO TANK/ PUMP INLET
- TRACK DRIVE
- TRACK DRIVE CASE DRAIN
- LOAD SENSE



1	Track Drive Motor	13	Oil Cooler Bypass	25	Reservoir Temperature Sensor	37	Pump Speed Control Orifice	49	Flow Compensator Spool	61	Flow Control Spool	73	Fan Reverse Solenoid
2	Track Drive Motor Speed Sensor	14	Brake Release Pressure Switch	26	Charge Filter Bypass Valve	38	Left Track Pump Assembly	50	Regeneration Check Valve	62	High Pressure Cut-Off Spool	74	Forward Pilot Control Valve
3	Motor Control Check Valve	15	Charge Pressure Switch	27	Charge Filter Pressure Switch	39	Right Track Pump Assembly	51	Tilt Spool	63	Destroke Pistons	75	Hydraulic Filter Pressure Switch
4	Motor Control Solenoid Valve	16	Neutral Override Valve	28	Tandem Pump Assembly	40	Tilt Cylinder	52	Lift Spool	64	Equipment Hydraulic Pump	76	Pilot On/Off Solenoid Valve
5	Motor Speed Control Piston	17	Park Brake Release Piston	29	Charge Filter	41	Lift Cylinders	53	Circuit Relief w/ Anticavitation	65	Fan Drive Pump	77	Ripper Lock Check Valve
6	Motor Flushing Valve	18	Motor Cooling Orifice	30	Charge Pump	42	Angle Cylinders	54	Regeneration Relief Valve	66	Filter Bypass Valve		
7	Left Track Drive Motor Assembly	19	Backpressure Check Valve	31	Pump Control Solenoid Valve	43	Ripper Cylinder	55	Angle Spool	67	Hydraulic Filter		
8	Right Track Drive Motor Assembly	20	Hydraulic Test Points	32	High Pressure Relief/Check Valve	44	Pump Flushing Valve	56	Ripper Spool	68	Fan Drive Motor		
9	Motor Flushing Valve Flow Control	21	Pilot Pressure Reducing Valve	33	Charge Pressure Relief	45	Equipment Valve	57	Pressure Spike Clipper	69	Fan Reverse Valve		
10	Brake Release (Multi-function) Valve	22	Reservoir Suction Screen	34		46	Load Sense Relief Valve	58	Pilot Pressure Check Valve	70	Fan Reversing Pressure Relief		
11	Park Brake Release Solenoid	23	Reservoir Pressure Cap	35	Pump Control Piston	47	Signal Bleed Down Orifice	59	Pilot Accumulator	71	Reverse Pilot Control Valve		
12	Oil Cooler	24	Hydraulic Reservoir	36	Track Drive Pumps	48	Screen	60	Load Check Valve	72	Fan Speed Control Solenoid		

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