1021F
1121F
Tier 2
Wheel Loader

SERVICE MANUAL

Part number 47392461
1st edition English
July 2012

CASE CONSTRUCTION

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INTRODUCTION

Torque

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Alternator

Alternator pulley retaining nut	**95 - 109 N·m** (**70 - 80 lb ft**)
Battery terminal nut	**6 - 8 N·m** (**55 - 72 lb in**)
Indicator light terminal nut	**2 - 3 N·m** (**16 - 24 lb in**)

Axle

Planetary carrier lock screws	**200 N·m** (**148 lb ft**)
Brake spring retainer cover	**34 N·m** (**25 lb ft**)
Axle wheel end screw plug	**50 N·m** (**37 lb ft**)
Nut Securing Brake Tube to Connector	**100 N·m** (**74 lb ft**)
Brake Tube Fitting to Wheel End Fitting	**36 N·m** (**27 lb ft**)
Axle housing bolts	**560 N·m** (**413 lb ft**)
Input flange slotted nut	**1200 N·m** (**885 lb ft**)
Differential releasing housing cover bolts	**185 N·m** (**136 lb ft**)
Differential housing cover bolts	**400 N·m** (**295 lb ft**)
Wheel mounting bolts	**644 - 719 N·m** (**475 - 530 lb ft**)
Axle breather valve	**4 - 6 N·m** (**35 - 53 lb in**)
Front axle mounting bolts	**1519 - 1708 N·m** (**1120 - 1260 lb ft**)
Rear trunnion cover bolts	**103 - 115 N·m** (**76 - 85 lb ft**)
Rear trunnion spacer bolts	**285 - 319 N·m** (**210 - 235 lb ft**)
Trunnion casting mounting	**651 - 732 N·m** (**480 - 540 lb ft**)

Chassis

Cab and canopy mounting bolts	**773 - 854 N·m** (**570 - 630 lb ft**)
Counterweight mounting bolts	**1125 - 1261 N·m** (**830 - 930 lb ft**)
Lower step support bolts	**27 - 31 N·m** (**20 - 23 lb ft**)
Battery hold down bolts	**651 - 732 N·m** (**480 - 540 lb ft**)

Cooling

Cooling frame mounting	**271 - 298 N·m** (**200 - 220 lb ft**)
Fan mounting nut	**109 - 122 N·m** (**80 - 90 lb ft**)

Drivetrain

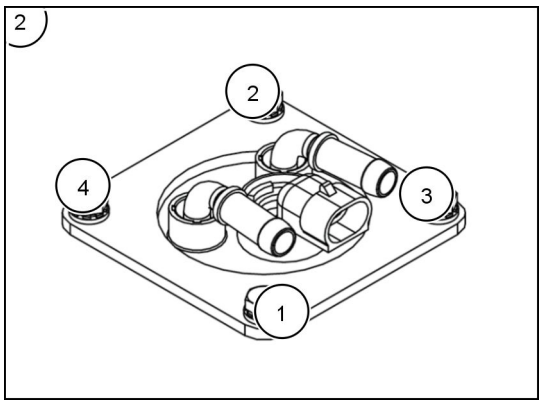
Flex plate to flywheel bolts	**33 - 41 N·m** (**24 - 30 lb ft**)
Carrier bearing bolt	**149 - 163 N·m** (**110 - 120 lb ft**)
Drive line mounting bolts	**136 - 149 N·m** (**100 - 110 lb ft**)
Transmission sight gauge mounting bolts	**3 - 5 N·m** (**24 - 48 lb in**)
Transmission shock mount nuts	**929 - 1044 N·m** (**685 - 770 lb ft**)
Transmission-to-bracket bolts	**1125 - 1275 N·m** (**830 - 940 lb ft**)
Transmission-to-flywheel housing bolts	**54 - 60 N·m** (**40 - 44 lb ft**)
Transmission fill tube bolts	**17 - 33 N·m** (**151 - 292 lb in**)
Banjo tube bolt	**160 N·m** (**118 lb ft**)
Bypass valve hose clamps	**10 - 11 N·m** (**90 - 100 lb in**)

Engine

Air intake hose clamps	**4 - 5 N·m** (**35 - 44 lb in**)
Aspirator hose clamps	**3 N·m** (**30 lb in**)
Muffler flex tube clamp	**18 - 22 N·m** (**13 - 16 lb ft**)
Muffler clamp at turbo	**5 - 6 N·m** (**44 - 53 lb in**)
Starter motor mounting bolts	**41 - 48 N·m** (**30 - 35 lb ft**)
Engine support bracket-to-rear chassis bolts	**386 - 434 N·m** (**285 - 320 lb ft**)
Engine shock mount nuts	**397 - 447 N·m** (**293 - 330 lb ft**)

Fuel tank

Tighten the fuel sender bolts in the sequence as shown in the image **(2)** to a torque of **6 - 8 N·m** (**53 - 71 lb in**).



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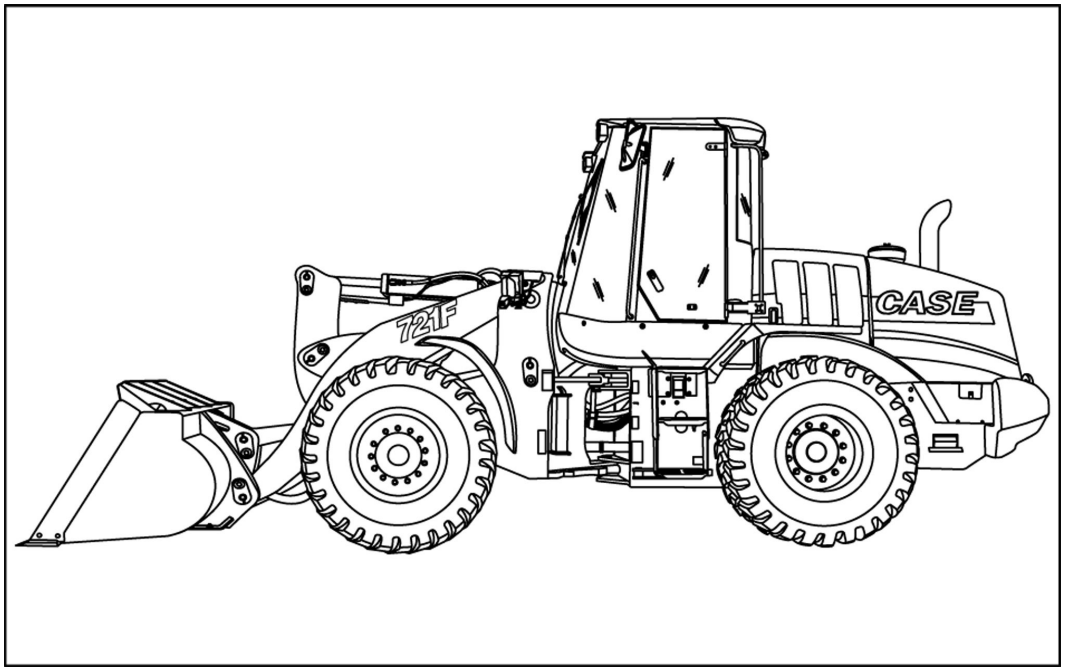
Fuel sender mounting bolts	**6 - 8 N·m** (**53 - 71 lb in**)
Fuel tank skid plate bolts (bolts and nuts are to be torqued only one time. Replace as necessary)	**122 - 164 N·m** (**90 - 121 lb ft**)
Fuel tank mounting bolts (bolts and nuts are to be torqued only one time. Replace as necessary)	**301 - 407 N·m** (**222 - 300 lb ft**)

Hydraulics

Priority valve mounting bolts	**85 - 102 N·m** (**63 - 75 lb ft**)
Main hydraulic pump elbow	**85 - 102 N·m** (**63 - 75 lb ft**)
Hydraulic tank sight gauge mounting	**3 - 6 N·m** (**27 - 53 lb in**)
Surge tank hose clamp mounting	**48 N·m** (**35 lb ft**)
Brake pump mounting bolts	**149 - 170 N·m** (**110 - 125 lb ft**)
Hydraulic oil tank suction hose clamps	**10 - 11 N·m** (**90 - 100 lb in**)
Split, half clamp flange bolts (hydraulic tank-to-pumps and priority valve-to-pump)	**73 - 90 N·m** (**54 - 67 lb ft**)
Split, half clamp flange bolts (priority valve-to-loader valve)	**198 - 242 N·m** (**146 - 179 lb ft**)
Pump mounting bolts	**149 - 170 N·m** (**110 - 125 lb ft**)

SERVICE MANUAL

Engine



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Engine - Remove

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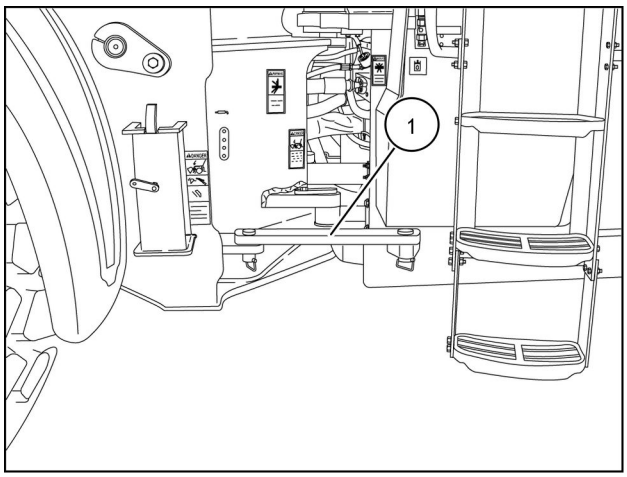
Prior operation:
Engine hood - Remove (90.105)

NOTE: *Put caps on the fittings and plugs in the hoses to prevent foreign material from entering the system when disconnecting fuel lines or hydraulic hoses.*

1. Park the machine on a level surface and lower the bucket to the ground. Put the articulation lock **(1)** in the locked position.



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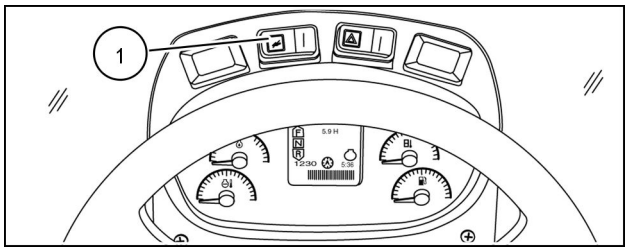
2. Key in the run position, engine off, place the pilot control switch **(1)** in the normal operation position.



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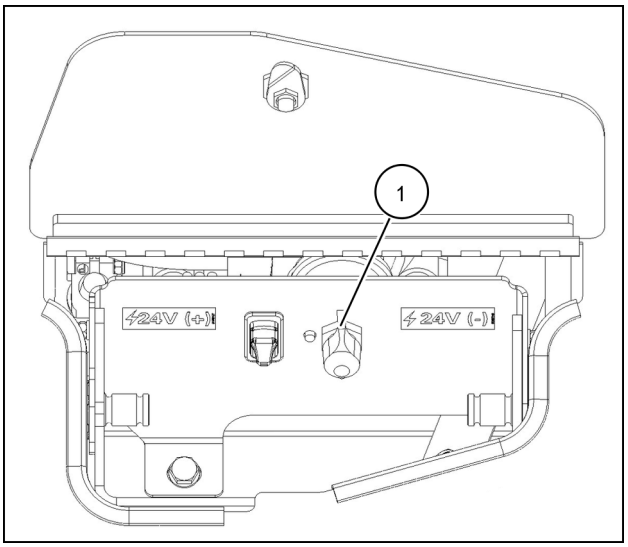
3. Move the loader hydraulic control handle to the raise and lower position in order to release any hydraulic pressure in the lift circuit.
4. Move the loader control handle in and out of the tilt position several times, this will relieve any pressure in the pilot accumulator.
5. Release the pressure in the ride control accumulator with the bleeder valve in the valve load travel stabilizer.
6. Depress the brake pedal several times to discharge brake accumulators.
7. Slowly loosen the filler cap on the hydraulic oil tank to release air pressure.

8. Put the master disconnect switch **(1)** in the off position.



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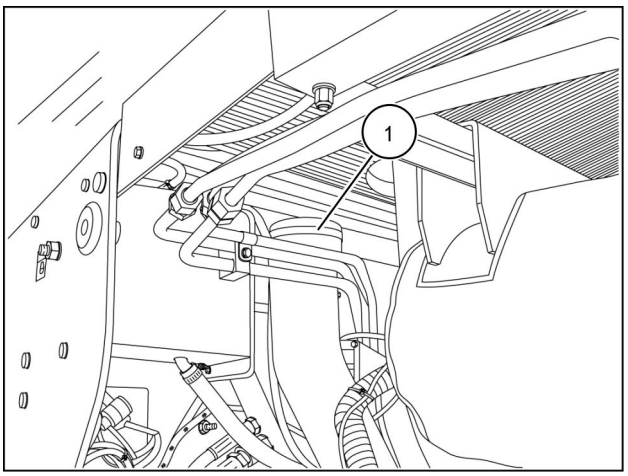
9. Drain the engine radiator coolant.
10. Drain the engine oil.
11. Loosen the hose clamp **(1)** on the air intake hose under the air inlet hood.



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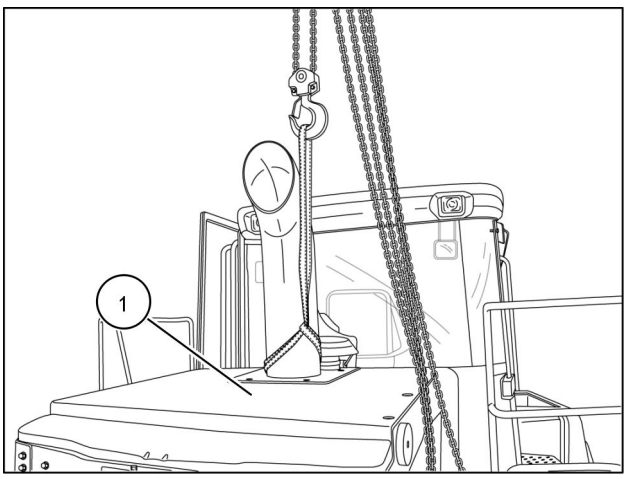
12. Remove the mounting bolts on the exhaust stack hood. Attach lifting equipment to the exhaust stack. Remove the exhaust stack hood **(1)**.



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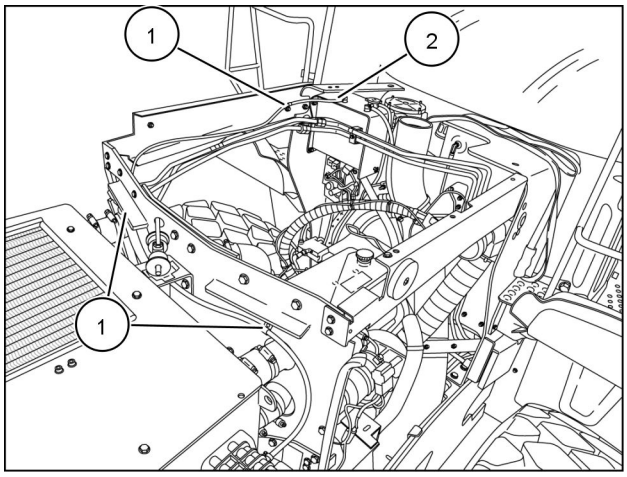
13. Remove the muffler assembly.

14. Disconnect the deaeration tank overflow hose **(2)**.
15. Remove the P-clamps **(1)** that secure the overflow hose to the wall and brackets. Position the overflow hose away from the engine and engine wall.



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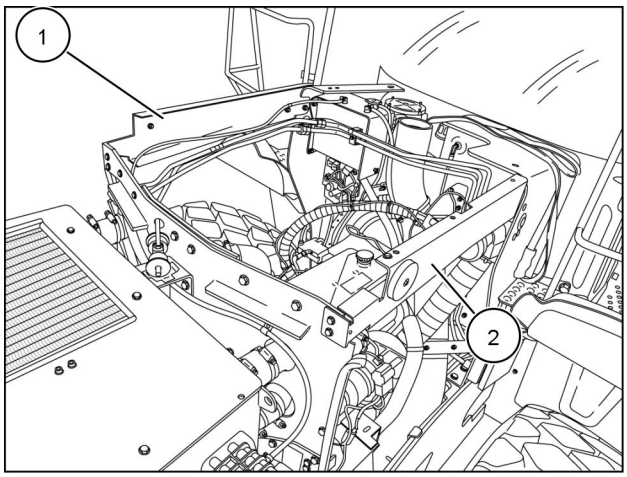
16. Remove the left bracket **(1)** and right bracket **(2)**.



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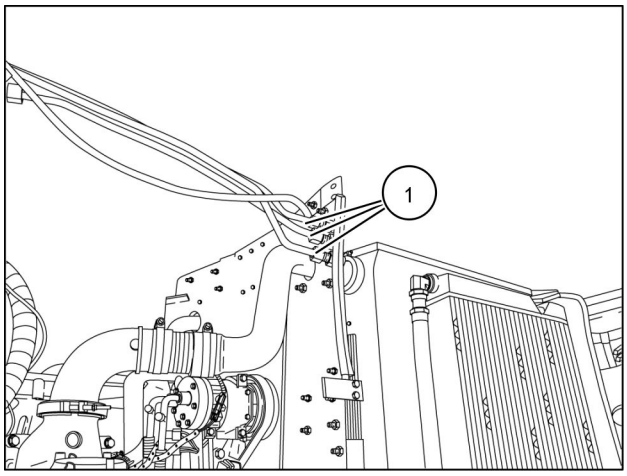
17. Remove the hydraulic oil lines **(1)**.



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