Service Manual

2CX, 2DX, 210, 212 & VARIANTS

Backhoe Loader

From M/c No. 657001 TO 763230
&
481196 Onwards

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Testing - Specific Gravity

The specific gravity of the electrolyte gives an idea of the state of charge of the battery. Readings should be taken using a hydrometer, when the electrolyte temperature is 15 °C (60 °F). If the battery has recently been on charge, wait approximately one hour (or slightly discharge the battery) to dissipate the surface charge before testing.

Readings should be as tabulated and should not vary between cells by more than 0.04. A greater variation indicates an internal fault on that particular cell.

If the electrolyte temperature is other than 15 °C (60 °F) a 'correction factor' must be applied to the reading obtained. Add 0.07 per 10 °C (18 °F) if the temperature is higher than 15 °C (60 °F) and subtract the same if the temperature is lower.

Specific Gravity at 15 °C (60 °F)

	Fully Charged	Half Discharged	Fully Discharged
Ambient temperature up to 27 °C (80 °F)	1.270 - 1.290	1.190 - 1.210	1.110 - 1.130
Ambient temperature above 27 °C (80 °F)	1.240 - 1.260	1.170 - 1.190	1.090 - 1.110

Battery Testing

This test is to determine the electrical condition of the battery and to give an indication of the remaining useful 'life'.

Before testing ensure that the battery is at least 75% charged (SG of 1.23 to 1.25 for ambient temperature up to 27°C).

Ensure that the battery is completely disconnected from the vehicle.

Connect up the battery tester (part no. 993/85700) as follows:

1 Set the CHECK/LOAD switch **A** to OFF.

2 Set rocker switch **B** to the battery voltage (12V).

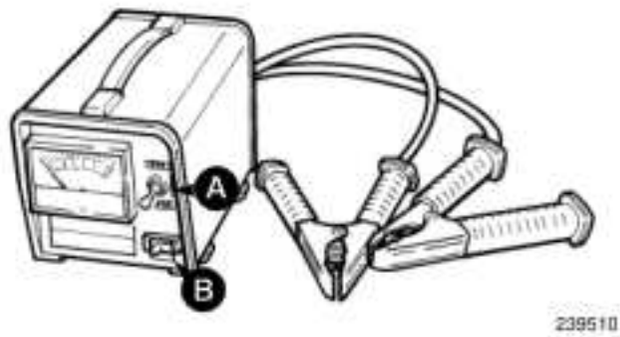
3 Connect the red flying lead to the battery positive (+) terminal and the black flying lead to the battery negative (-) terminal.

4 Set the CHECK/LOAD switch **A** to CHECK to read the battery no-load voltage which should be at least 12.4 volts.

5 Set the CHECK/LOAD switch **A** to LOAD and hold down for 5 - 10 seconds until the meter reading stabilises. The reading should be at least 9 volts.

Note: Do not hold the switch in the LOAD position for more than 10 seconds.

6 If the foregoing tests are unsatisfactory, consult Fault Diagnosis below.



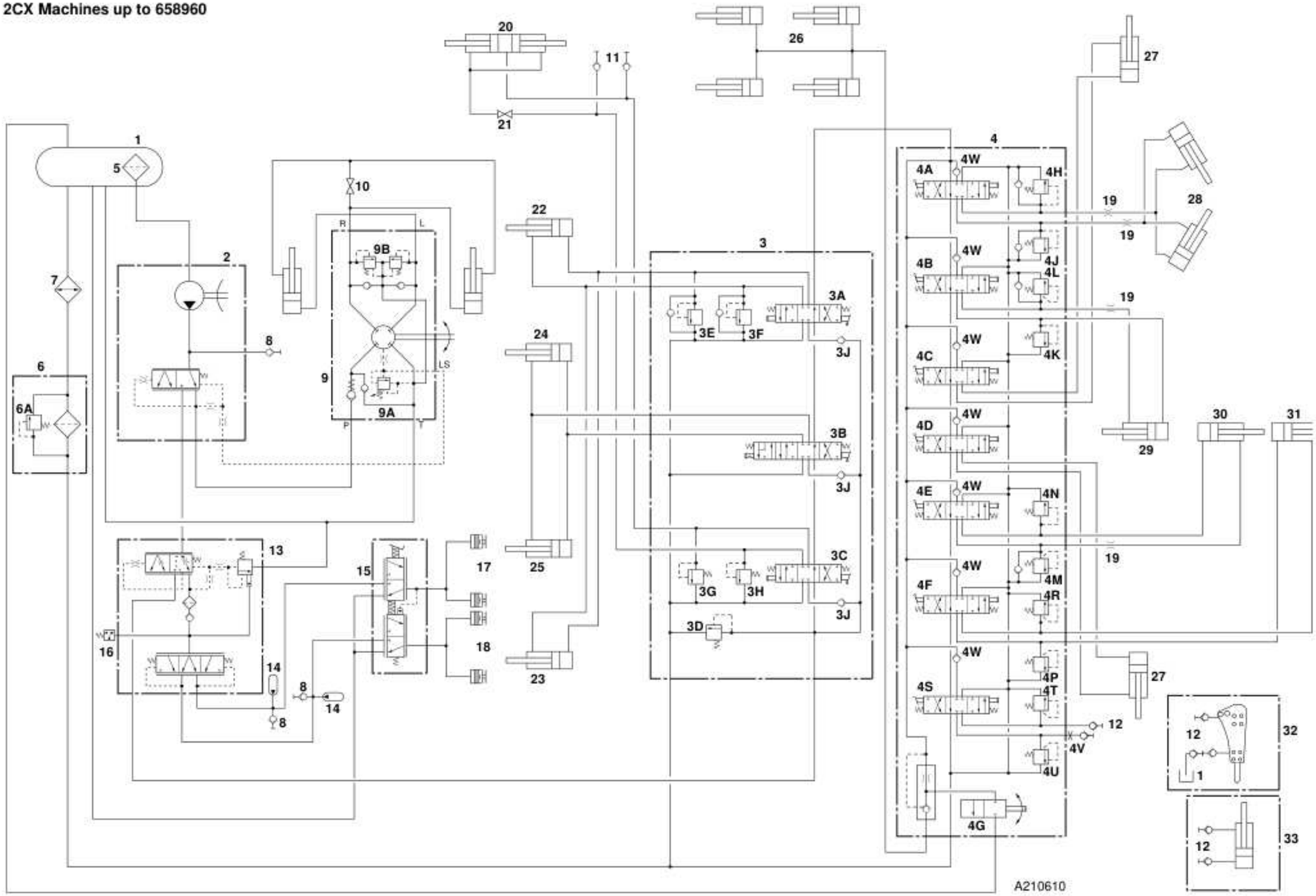
239510

Fault Diagnosis

	Battery Tester Readings	Remedy
1	CHECK: 0 - 12.6 Volts LOAD: less than 6 Volts	Renew battery
2	CHECK: 6 - 12.4 Volts LOAD: less than 9 Volts and falls steadily but remains in yellow zone.	Recharge and re-test. If tests still unsatisfactory renew battery.
3	CHECK: less than 10 Volts LOAD: less than 3 Volts	Indicates battery has been over-discharged and unlikely to recover. Renew battery.
4	CHECK: more than 11 Volts LOAD: 6 - 10 Volts steady	Charge battery which will probably recover.

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2CX Machines up to 658960



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Removal and Replacement

Removal

Remove plug **A** and drain the oil into a container.

Support the gearbox and remove the top 2 bolts **C**, remove propshaft guard, not shown.

Remove lower bolt **C** and lift the gearbox clear of the machine.

Replacement

Replacement is the reverse of the removal procedure.

Clean and grease the gearbox drive splines and driveshafts.

Align the power take off gearbox driveshaft.

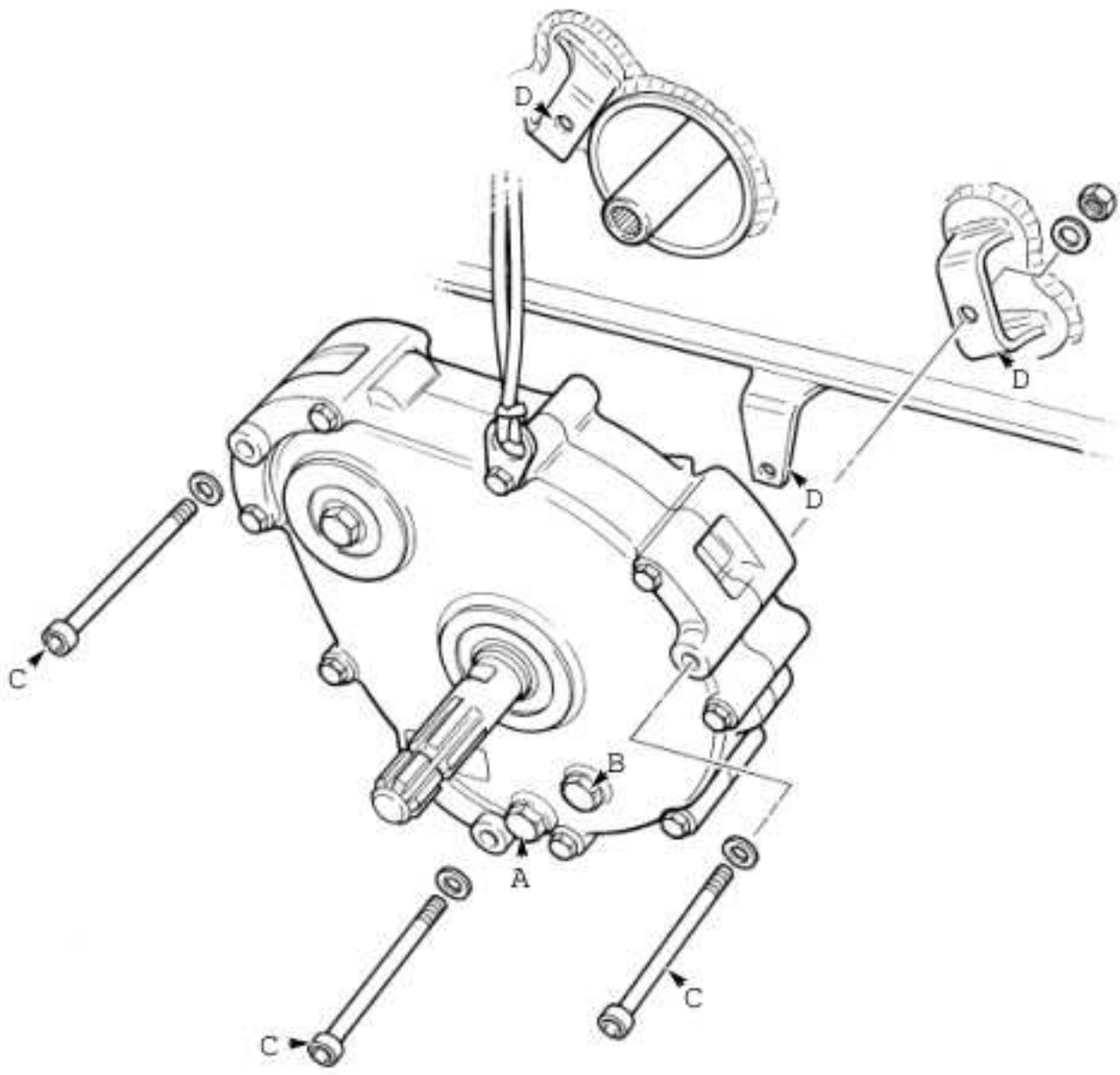
* Make sure the gearbox fits flush and makes contact with mounting brackets **D**, use shim/washers as required.

Make sure the WARNING label on the PTO guard is in good condition and is legible.

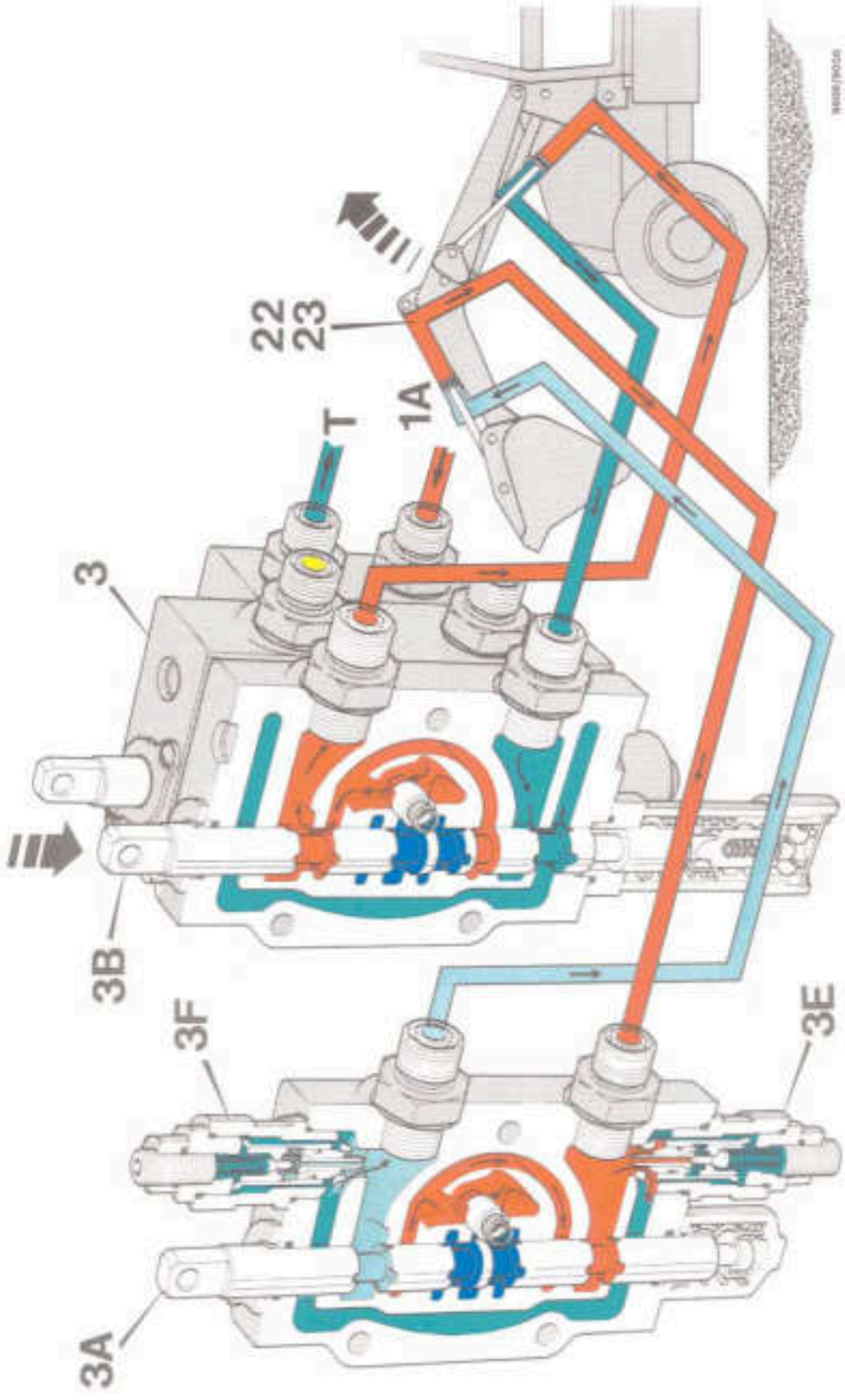
Fit drain plug **A**, use a new seal.

Fill the gearbox with the recommended oil through the fill/level plug **B**.

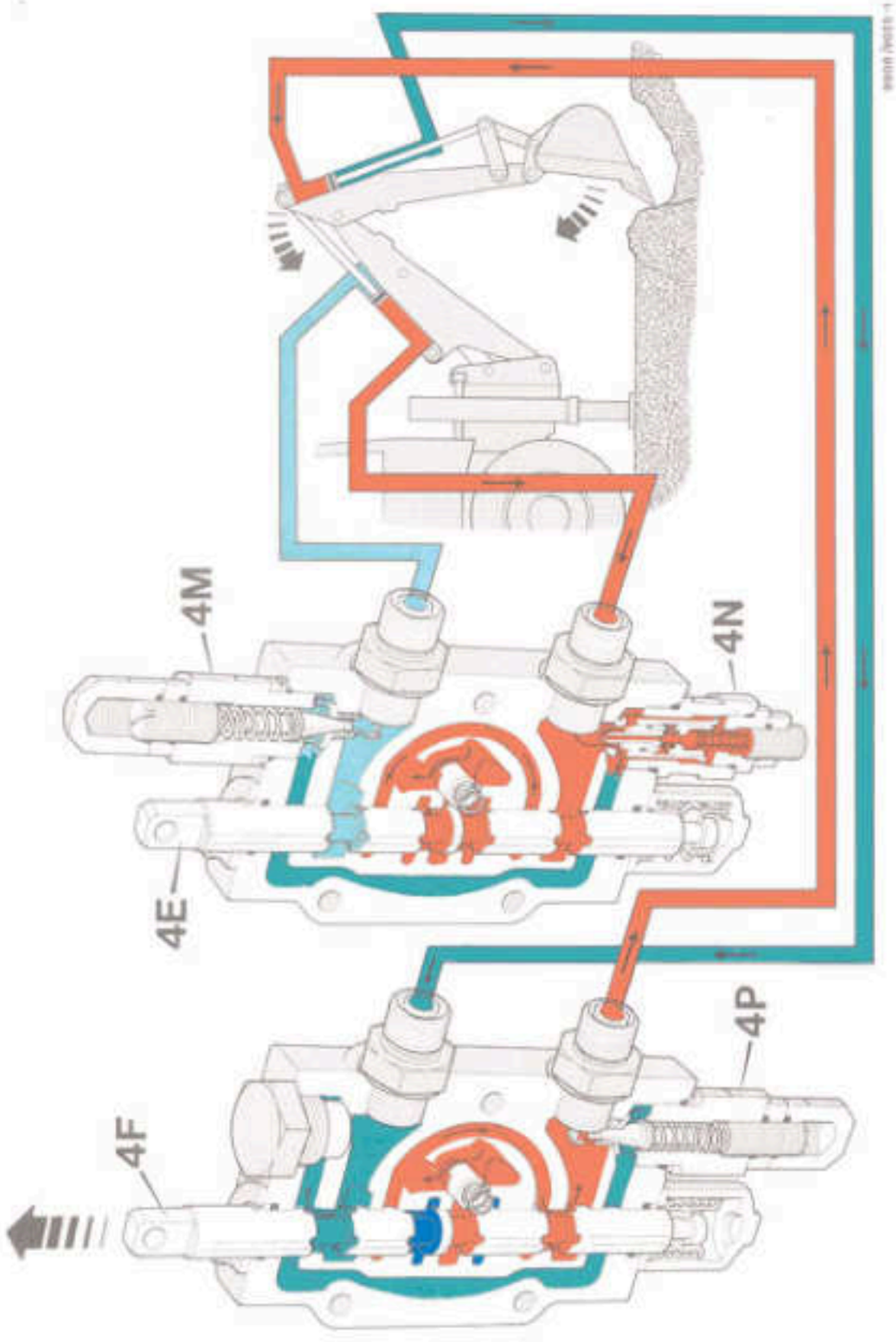
Item	Nm	lbf ft	kgf m
A/B	102	75	10.4



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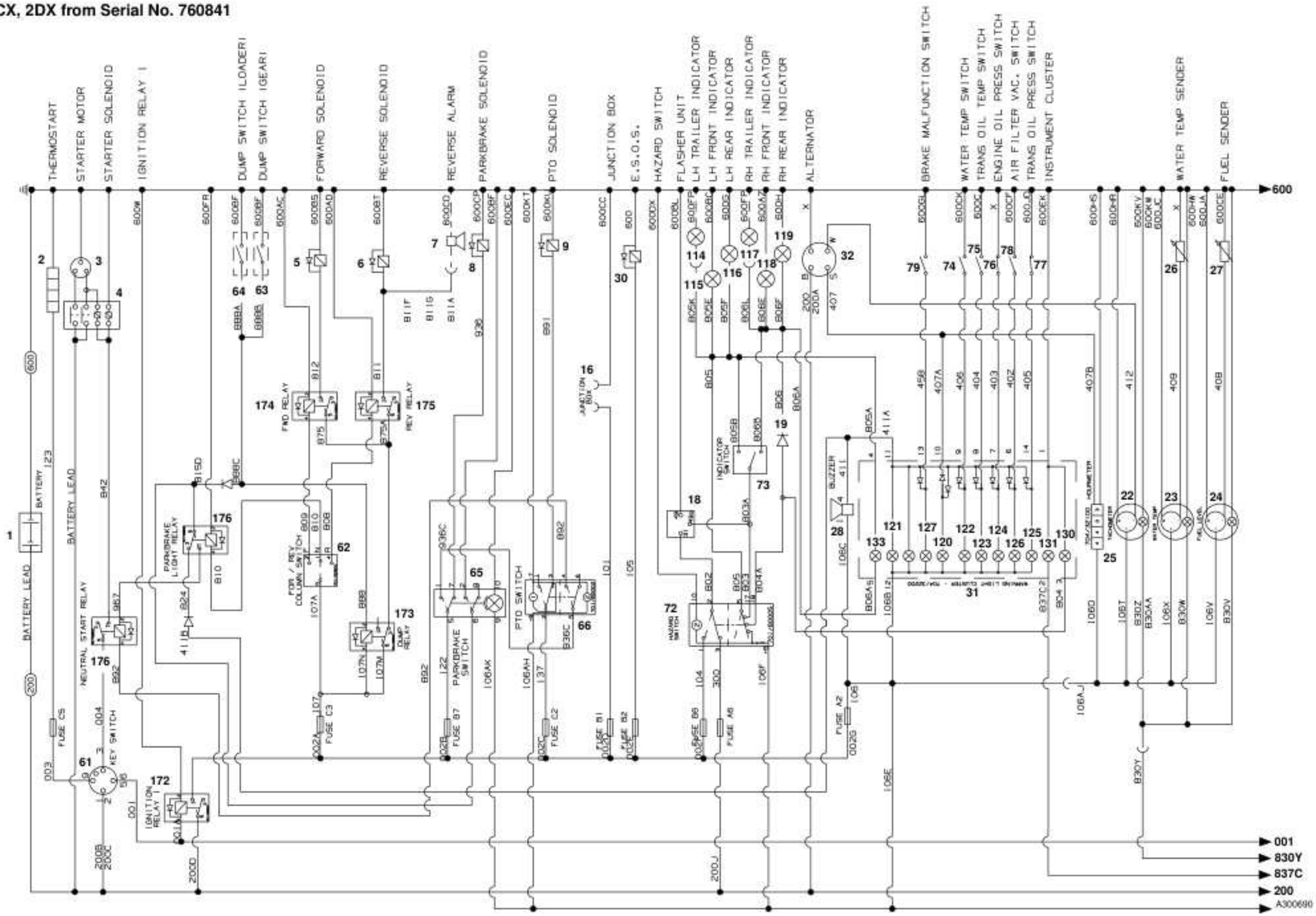


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2CX, 2DX from Serial No. 760841



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