CEBM001301

SHOP MANUAL

KOMATSU®

WA250-3L

WHEEL LOADER

MACHINE MODEL	SERIAL NUMBERS
WA250-3L	A70001 and up

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TROUBLESHOOTING OF ENGINE SYSTEM
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(S-MODE)

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EMERGENCY MANUAL SPOOL

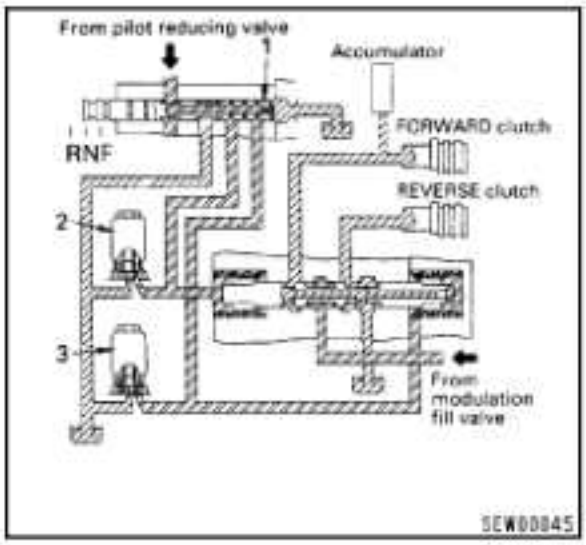
Function

- If there should be any failure in the electrical circuit and the directional solenoid valve does not work, this spool can be operated manually to engage the FORWARD or REVERSE clutch.

Operation

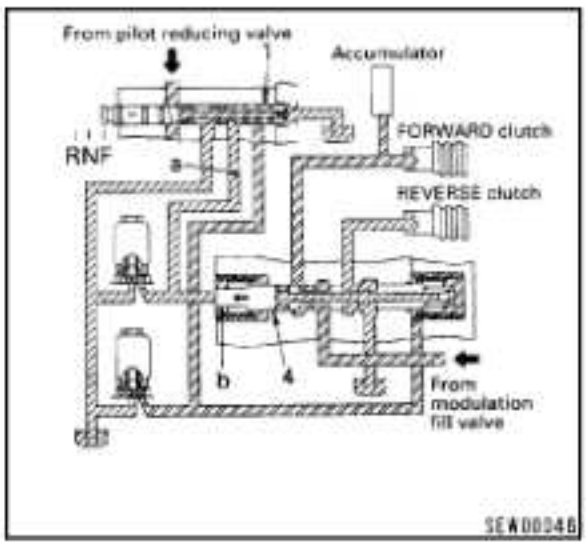
1. Emergency manual spool at neutral

- The oil from the upper valve (pilot reducing valve) passes around emergency manual spool (1), and is blocked by solenoid valves
- When the operating condition is normal, the emergency manual spool is at the neutral position.



2. Emergency manual spool actuated (FORWARD)

When emergency manual spool (1) is pushed in, port **a** and the drain port are connected, so the oil in chamber **b** is drained. As a result, directional spool (4) moves to the left in the direction of the arrow, and the oil flows to the FORWARD clutch to engage the clutch.

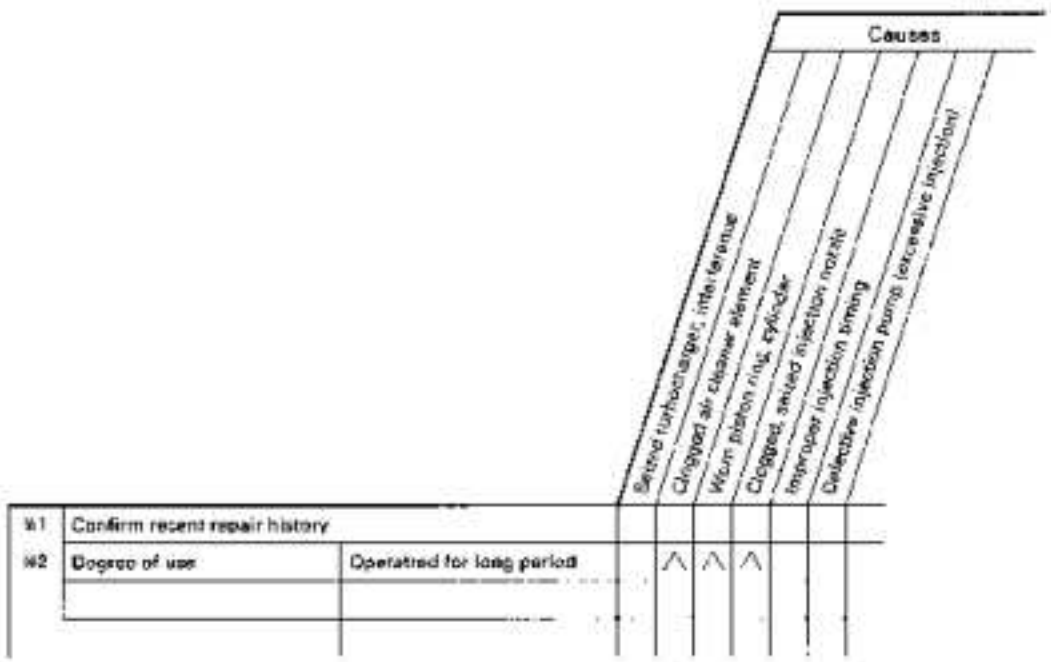


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The basic method of using the troubleshooting chart is as follows.
Items listed for **[Questions]** and **[Check Items]** that have a relationship with the Cause items are marked with F, and of these, causes that have a high probability are marked with F.

Check each of the **[Questions]** and **[Check Items]** in turn, and marke the F or F in the chart for items where the problem appeared. The vertical column (Causes) that has the highest number of points is the most probable cause, so start troubleshooting for that item to make the final confirmation of the cause.

1. For **[Confirm recent repair history]** in the Question section, ask the user, and mark the Cause column with a ˛ to use as reference for locating the cause of the failure. However, do not use this when making calculation to narrow down the causes.
2. Use the ˛ in the Cause column as reference for **[Degree of use (Operated for long period)]** in the Questions section as reference. As a rule, do not use it when calculating the points for locating the cause, but it can be included in necessary b determine the order for troubleshooting.

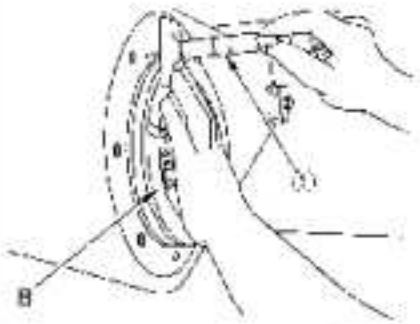


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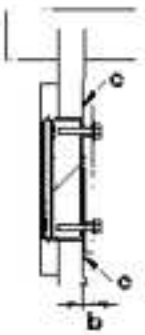
2) Assemble thrust washer (8) to rear pivot, then measure dimension **b** at 4 places on diagonally opposite sides with depth micrometer and take the average.
   Wipe the mating surface of the thrust washer and thrust plate clean before measuring.
   Wipe the contact surface of the probe clean before measuring.

! Reference value for **b:** 19.65 - 20.0 mm
   Insert **a** feeler gauge between circumference **c** and the joint of the thrust washer and the thrust plate, and check that there is no clearance.
   Measure **a - b = t** at the joint of the rear pivot and trunnion cap, and determine the number and thickness of the shim.
   Select the number and thickness of shims within the range below.
   Thickness of 1 shim = 0.2 mm
   t mm

(shim thickness)	Number of shims
0 - 0.07	1
0.08 - 0.27	2
0.28 - 0.47	3



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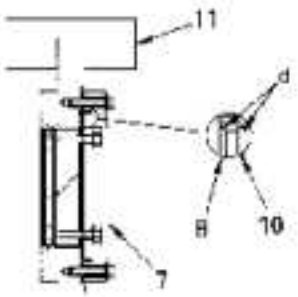
3) Assemble selected shim between rear pivot (11) and trunnion cap (7), and install mounting bolts.
   Fill the trunnion cap with grease, then install.
   Trunnion cap: **Grease (G2-L1)**

   Mounting bolt:
   12.8 ± 9.8 Nm (11.5 ± 1.0 kgm)
   Assemble so that the chamfered portion d of thrust washers (8) and (10) is on thrust cap (7) side.

6

Clean the mating surface of the thrust washer and thrust plate.
Assemble so that the chamfered portion of the thrust washer is on the thrust plate side.
Outside circumference of pivot mount:
Grease (G2-L1)
Mounting bolt: **Thread tightener (LT-2)**

Mounting bolt:
112.8 ± 9.8 Nm (11.5 ± 1.0 kgm)

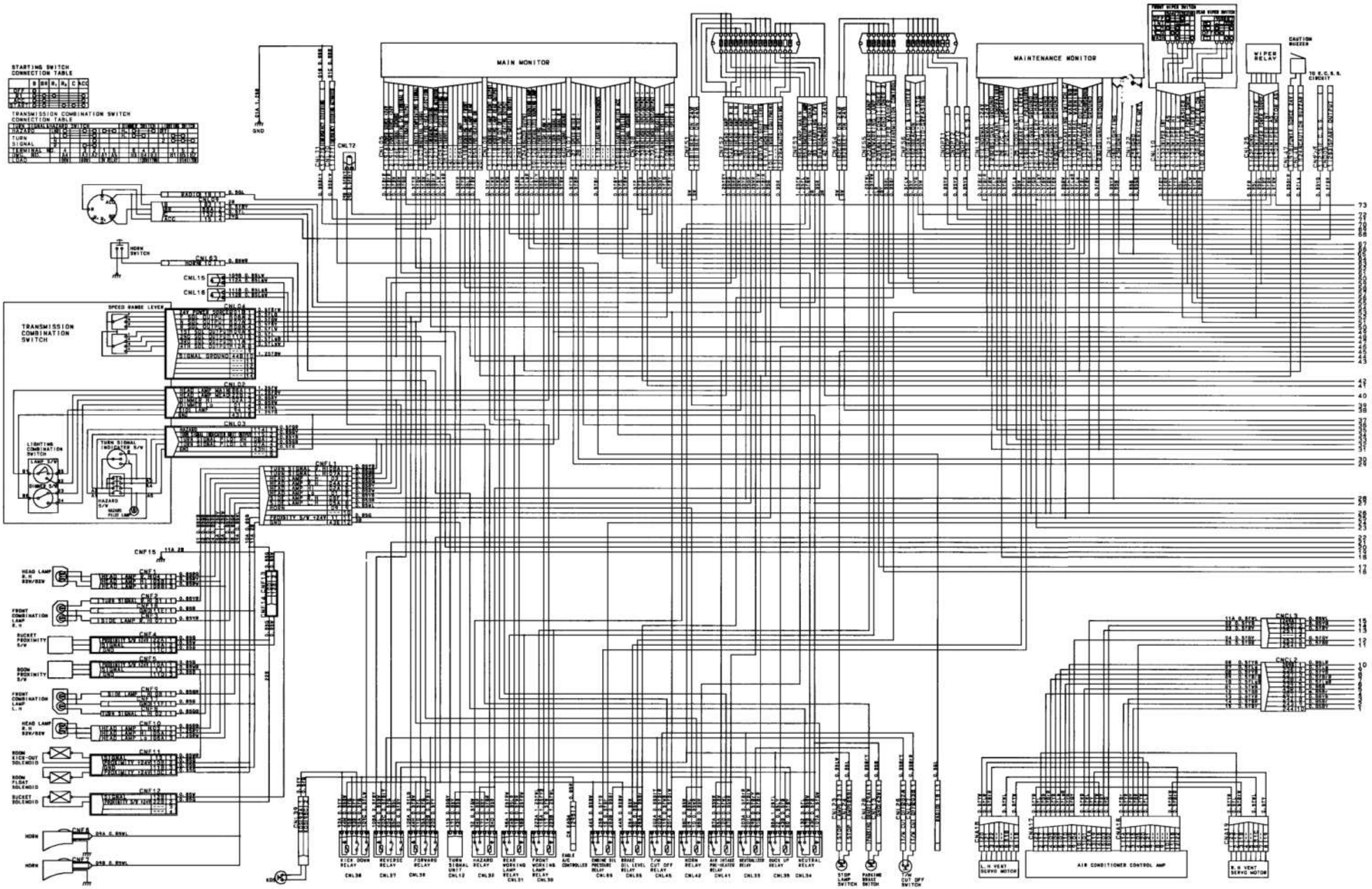


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ELECTRICAL WIRING DIAGRAM (1/2)



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