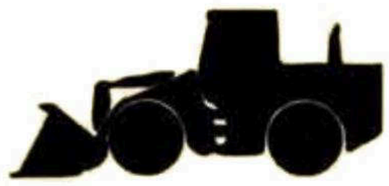
SHOP MANUAL



SMEW3200M0

MAX avance

KOMATSU®

WA320-3

WHEEL LOADER

SERIAL NUMBERS 15001 AND UP

⚠ WARNING

- This shop manual may contian attachment and optional equipment that are not available in your area.Please consult your local Komatsu distributor for those items you may require.Materials and specifcations are subjece to change without notice.
- WA320-3 mount the S6D102E engine.
  For details of the engines,see the 6D102 series Engine shop manual.

KOMATSU (CHANGZHOU) CONSTRUCTION MACHINERY CORP.

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METHOD OF USING TROUBLESHOOTING CHARTS

1. Category of troubleshooting code number

Troubleshooting code No.	Component
S-○ ○	Troubleshooting of engine system
E-○ ○	Troubleshooting of electrical system
H-○ ○	Troubleshooting of hydraulic and mechanical system

2. Method of using troubleshooting table for each troubleshooting mode

1) Troubleshooting code number and problem
The title of the troubleshooting chart gives the troubleshooting code, service code, and failure mode (problem with the machine). (See Example (1))

2) Distinguishing conditions
Even with the same failure mode (problem), the method of troubleshooting may differ according to the model, component, or problem. In such cases, the failure mode (problem) is further divided into sections marked with small letters (for example, (a)), so go to the appropriate section to carry out troubleshooting.
If the troubleshooting table is not divided into sections, start troubleshooting from the first check item in the failure mode. (See Example (2))

3) Method of following troubleshooting chart
- Check or measure the item inside ▭ , and according to the answer follow either the YES line or the NO line to go to the next ▭ . (Note: The number written at the top right corner of the ▭ is an index number; it does not indicate the order to follow.)
- Following the YES or NO lines according to the results of the check or measurement will lead finally to the Cause column. Check the cause and take the action given in the Remedy column on the right. (See Example (3))
- Below the [ ] there are the methods for inspection or measurement, and the judgement values.
  If the judgement values below the ▭ are correct or the answer to the question inside the ▭ is YES, follow the YES line; if the judgement value is not correct, or the answer to the question is NO, follow the NO line.
- Below the ▭ is given the preparatory work needed for inspection and measurement, and the judgement values. If this preparatory work is neglected, or the method of operation or handling is mistaken, there is danger that it may cause mistaken judgement, or the equipment may be damaged. Therefore, before starting inspection or measurement, always read the instructions carefully, and start the work in order from Item 1).

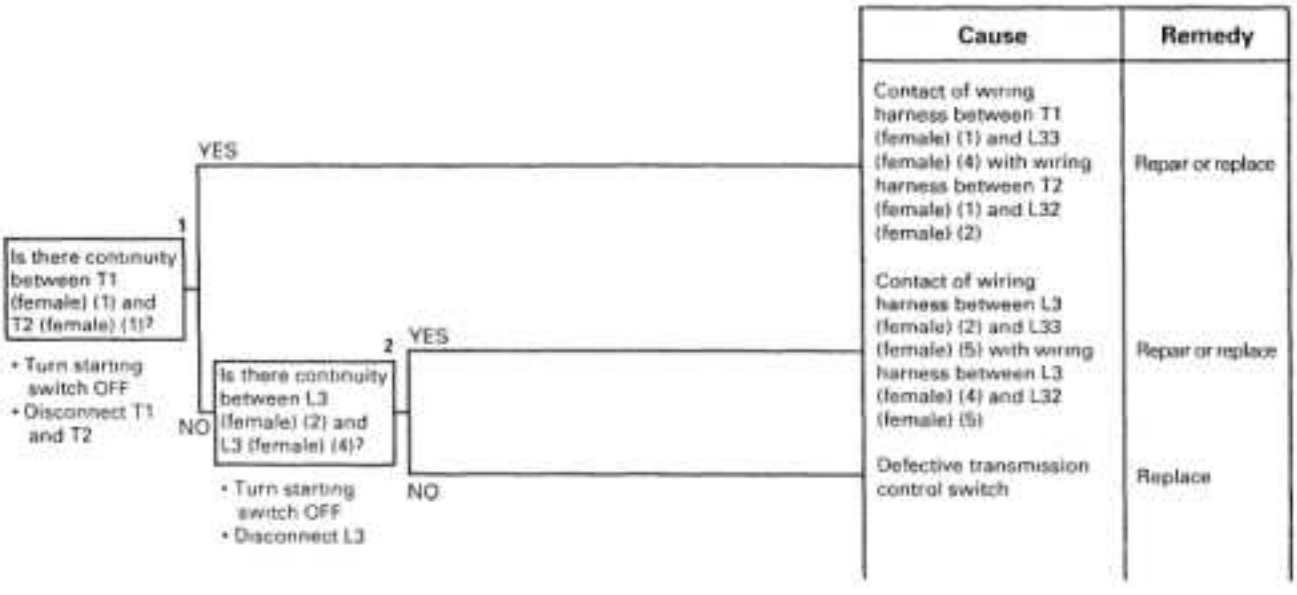
4) General precautions
When carrying out troubleshooting for the failure mode (problem), precautions that apply to all items are given at the top of the page and marked with ★. (See Example (4))
The precautions marked ★ are not given in the ▭ , but must always be followed when carrying out the check inside the ▭ .

5) Troubleshooting tools
When carrying out the troubleshooting, prepare the necessary troubleshooting tools. For details, see TOOLS FOR TESTING, ADJUSTING, AND TROUBLESHOOTING.

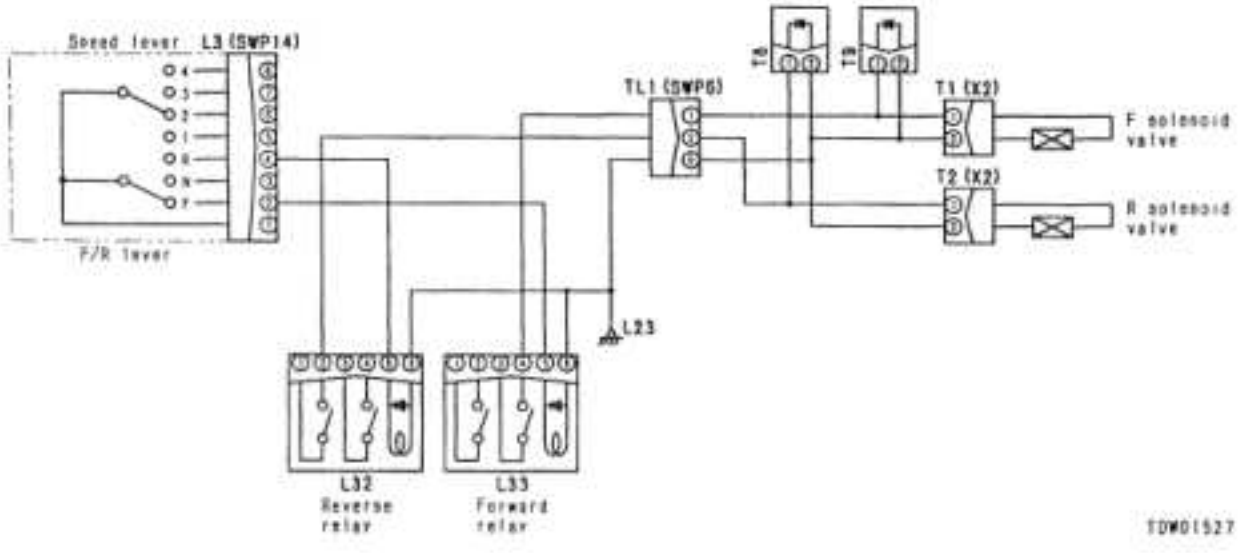
6) Installation position, pin number
A diagram or chart is given for the connector type, installation position, and connector pin number connection. When carrying out troubleshooting, see this chart for details of the connector pin number and location for inspection and measurement of the wiring connector number appearing in the troubleshooting flow chart for each failure mode (problem).

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m) Problem in common circuit for FORWARD and REVERSE

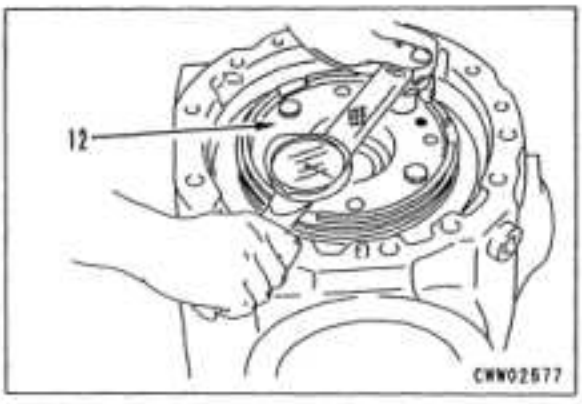


E-5 m) Related electrical circuit diagram

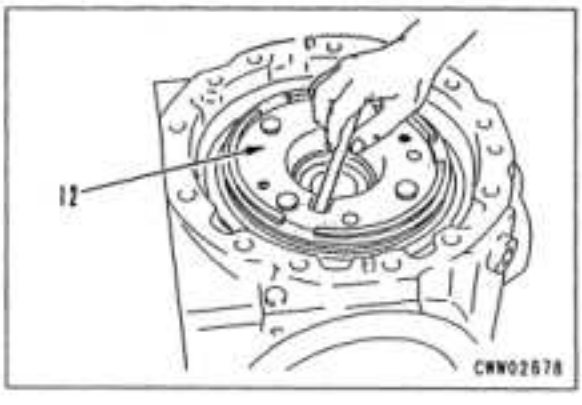


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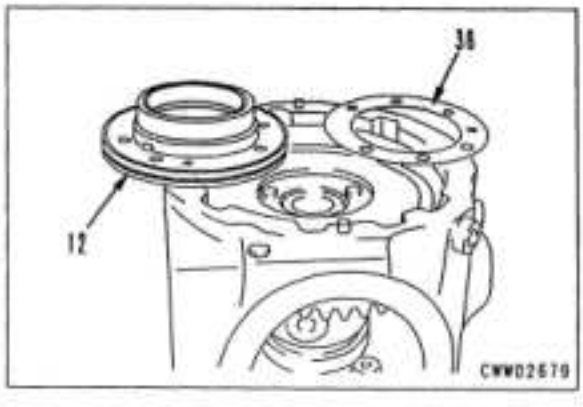
3) Tighten 4 mounting bolts of carrier (12) at bevel gear end.
   ★ Rotate the bevel gear and coat the bearing with oil.
   Bearing: **Oil (axle oil)**
   ★ To settle all the parts,rotate the bevel gear when tightening.
   Mounting bolts: **11.8Nm (1.2kgm)**

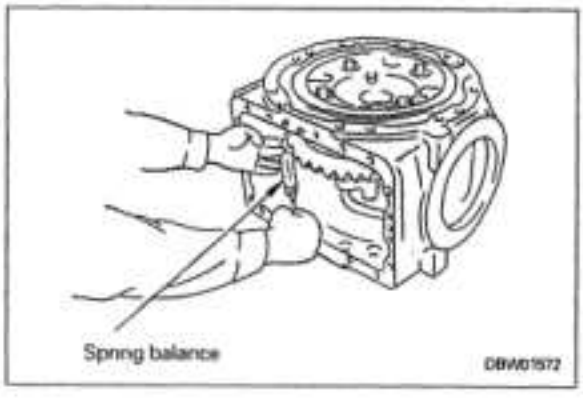


4) Loosen 4 mounting bolts at bevel gear end until there is axial play at bearing.
5) Tighten 4 mounting bolts uniformly again.
   Mounting bolts: **3.9Nm (0.4kgm)**
   ★ When doing this, check that there is axial play at the bearing, and rotate the bevel gear when tightening.



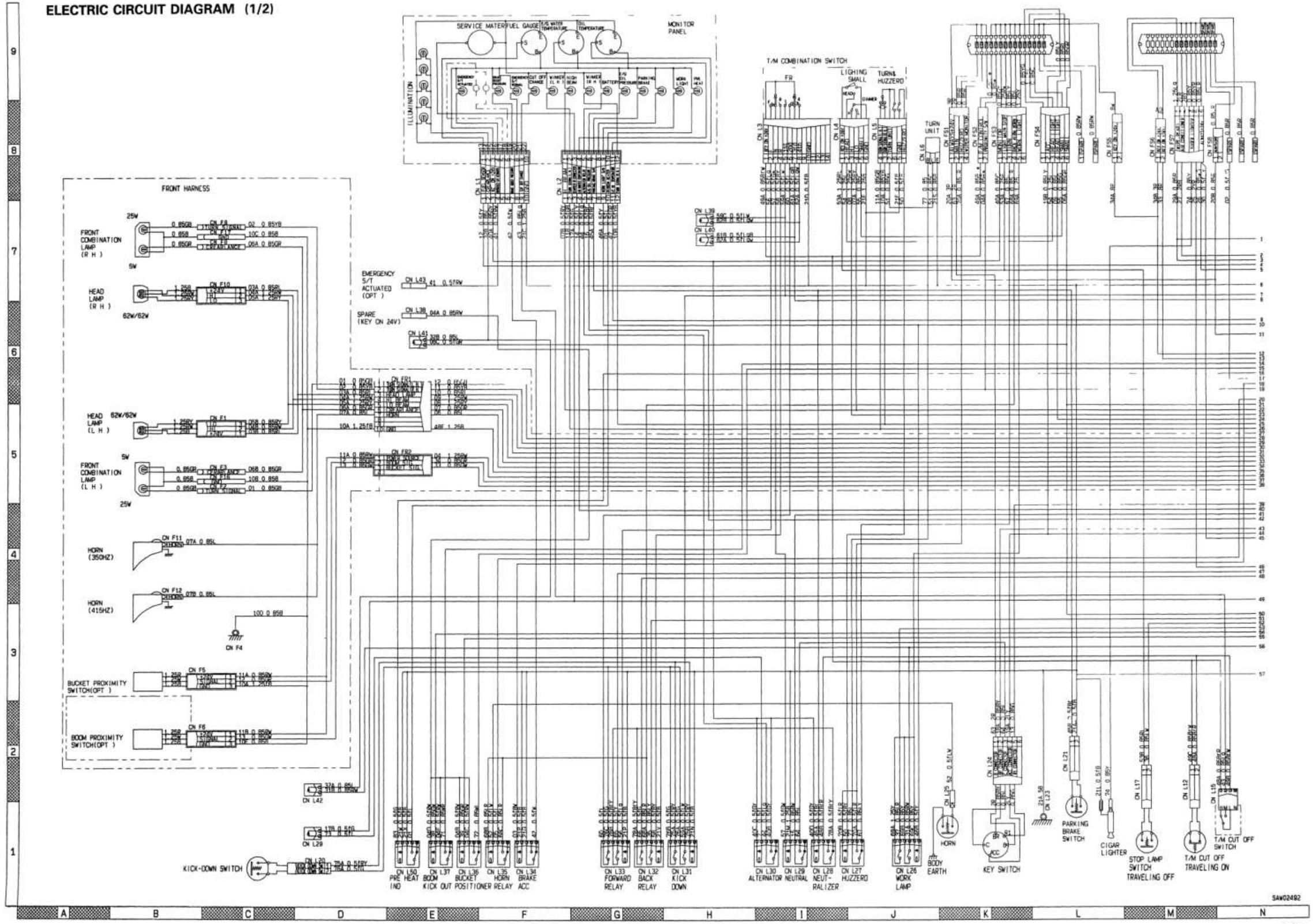
6) Using a feeler gauge at 2 places in groove of bearing carrier (12) at bevel gear end, measure clearances **T1** and **T2**.
7) Selecting shims
   Shim thickness = (**T1** + **T2**)/2±0.035mm
   ★ Combine the following shims to give the necessary shim thickness.
   0.07mm, 0.20mm, 0.30mm, 0.80mm
8) Remove left and right bearing carriers (12), and assemble selected shims (38).
   ★ Rotate the bevelgear and tighten the mounting bolts of the bearing carrier uniformly.
   Mounting bolts:
   112.8±9.8Nm (11.5±1.0kgm)
9) Using a spring balance, measure preload of bevel gear and check that it is within specified range.
   ★ Preload: 6.9 - 19.6N (0.7 - 2.0kg)
   ★ If the preload is not within the specified range, change the shim thickness to adjust.
   ★ After adjusting, set the shim thickness to a range of 0.3 - 1.25mm on one side.





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ELECTRIC CIRCUIT DIAGRAM (1/2)



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