SEBM015501

Shop Manual

KOMATSU®

WA450-3

WHEEL LOADER

SERIAL NUMBERS **WA450-3 - 53001** and up

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October 1998

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LIST OF LUBRICANT AND WATER

RESERVOIR	KIND OF FLUID	AMBIENT TEMPERATURE (-22 -4 14 32 50 68 86 104 122°F / -30 -20 -10 0 10 20 30 40 50°C)	CAPACITY Specified	CAPACITY Refill
Engine oil pan	Engine oil	SAE 30 / SAE 10W / SAE 10W-30 / SAE 15W-40	47 ℓ	38 ℓ
Transmission case	Engine oil	SAE 10W	65 ℓ	60 ℓ
Hydraulic system	Engine oil	SAE 10W	280 ℓ	192 ℓ
Axle (with standard differential) (Front and rear) (Each)	Axle oil	See Note 2	65 ℓ	65 ℓ
Axle (with limited slip differential) (Front and rear) (Each) (See Note 1)	Axle oil	SHELL DONAX TD	65 ℓ	65 ℓ
Pins	Grease	NLGI No. 2	–	–
Pins (with auto-greasing system)	Grease	★ NLGI No. 2	–	–
Fuel tank	Diesel fuel	ASTM D975 No.2 / ※	390 ℓ	–
Cooling system	Water	Add antifreeze	68 ℓ	–

※ ASTM D975 No. 1

When operating the machine at temperatures below -20°C, other equipment is needed, so please consult your Komatsu distributor.

★: NLGI No. 0
When operating a machine with the auto-greasing system at temperatures below -20°C, set the greasing time to 20 minutes. See the Operation & Maintenance Manual.

Note 1: Do not use CLASS-CD SAE30 engine oil for the limited slip differential. An abnormal noise will be generated from the differential.

Note 2: For axle oil, use only recommended oil as follows.

SHELL:	DONAX TT or TD
CALTEX:	RPM TRACTOR HYDRAULIC FLUID
CHEVRON:	TRACTOR HYDRAULIC FLUID
TEXACO:	TDH OIL
MOBIL:	MOBILAND SUPER UNIVERSAL

It is possible to substitute engine oil CLASS-CD SAE30 for axle oil.
If noise comes from the brake, it is no problem of durability.

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4. Method of using matrix troubleshooting tables

The troubleshooting tables use the same method as for other troubleshooting table (YES/NO type) to locate the causes of failures in the machine. The troubleshooting tables are divided broadly into categories for the main components, such as the steering system and work equipment hydraulic system. Follow the procedure given below and carry out troubleshooting to locate the problems accurately and swiftly.

Step 1. Questioning the operator

The questions to ask the operator are given below the failure symptom. If the answers to the questions match the information given, follow the arrow to reach the probable cause of the failure.

Consider the contents of the questions and consult the table while proceeding to Steps 2 and 3 to grasp the true cause.

Step 2. Checks before troubleshooting

Before starting the main troubleshooting and measuring the hydraulic pressure, first check the Checks before Starting items, and check for oil leakage and loose bolts. These checks may avoid time wasted on unnecessary troubleshooting.

The items given under Checks before Starting are items which must be considered particularly for that symptom before starting troubleshooting.

Step 3. Using cross-reference table

1) Operate the machine to carry out the checks in the troubleshooting item column.
   Mark the items where the results match the symptom.
   ★ It is not necessary to follow the troubleshooting checks in order; follow an order which is easiest to carry out troubleshooting.
2) Find the appropriate cause from the cause column. If the symptom appears, the ○ marks on that line indicate the possible causes. (For item No. 2 in the table on the right, the possible causes are **c** or **e**.)
   If there is only one ○:
   Carry out the other troubleshooting items (where the same cause is marked with ○), check if the symptom appears, then repair.
   If there are two ○s:
   Go on to Step 3) to narrow down the possible causes.

1. Steering does not work ← Symptom [Example]

Ask the operator about the following points. • Did the steering suddenly stop working? → Breakage in steering equipment • Had the steering gradually been becoming heavy? → Internal wear of steering equipment, defective seal

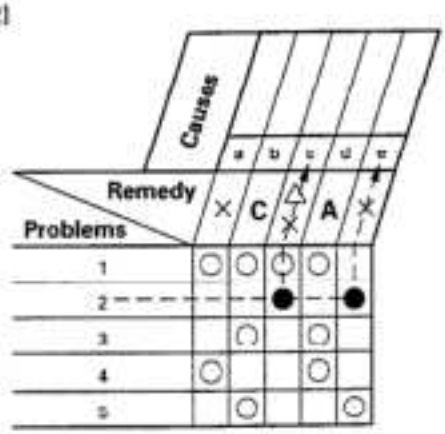
Checks before starting [Example]

• Is the oil level and type of oil in the hydraulic tank correct? • Is there any leakage of oil from the steering control valve?

[Example 1]

No.	Problems \ Remedy
1	Steering does not work to the left or right
2	Same as item 1, but abnormality in actuation of work equipment
3	Steering can only be operated to one side.
4	Steering wheel is heavy and cannot be turned.

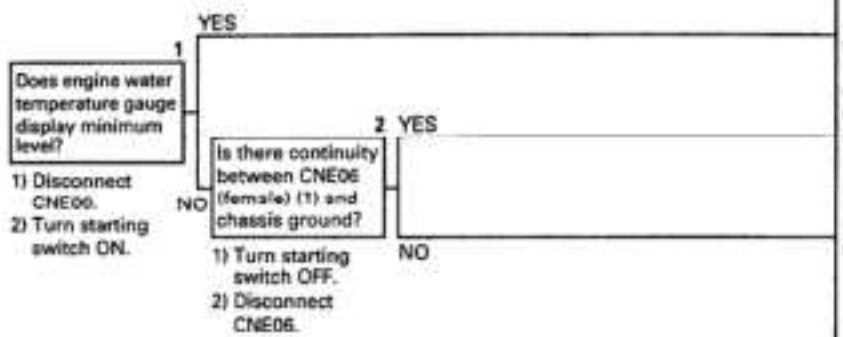
[Example 2]



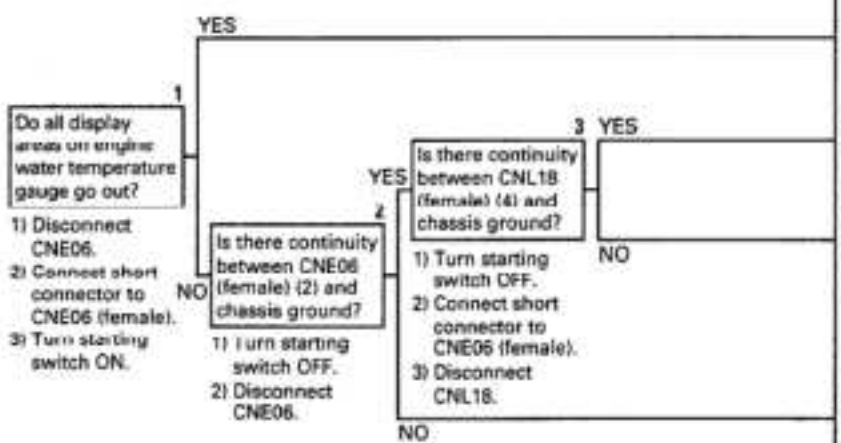
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(b) Abnormality in engine water temperature gauge

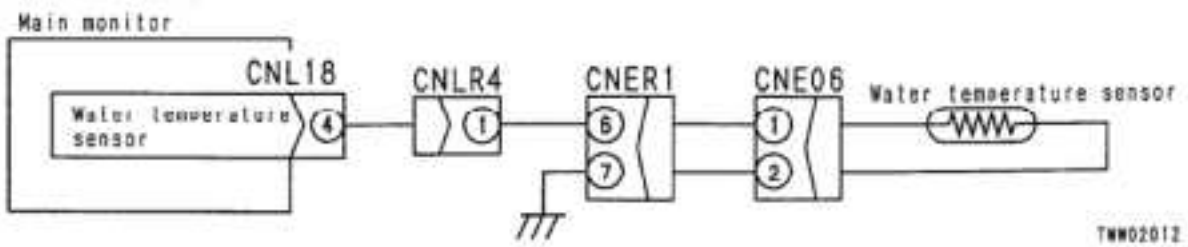
(1) Nothing is displayed in the display area



(2) Display shows lowest level and does not move

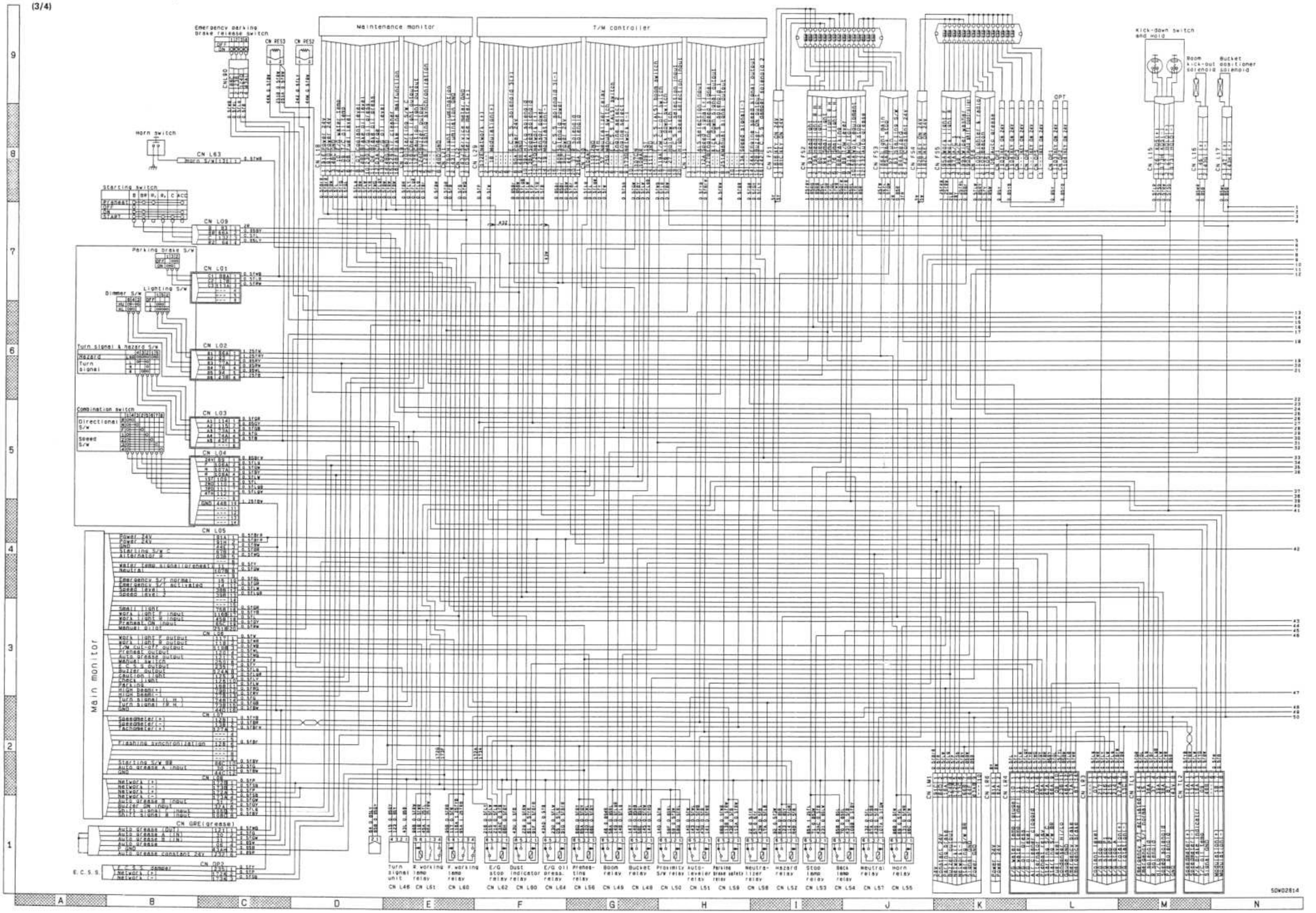


Cause	Remedy
Defective engine water temperature sensor	Replace
Contact of chassis ground with wiring harness between CNE06 (female) (1) – CNER1 (6) – CNLR4 (1) – CNL18 (female) (4)	Repair wiring harness or replace
Defective maintenance monitor module	Replace
Defective engine water temperature sensor	Replace
Defective maintenance monitor module	Replace
Defective contact, or disconnection in wiring harness between CNE06 (female) (1) – CNER1 (6) – CNLR4 (1) – CNL18 (female) (4)	Repair wiring harness or replace
Defective contact, or disconnection in wiring harness between CNE06 (female) (2) – CNER1 (7) – chassis ground	Repair wiring harness or replace



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(With auto-shift transmission)
(3/4)



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