CEBM012004

Shop Manual

GALEO

WA320-5L

WHEEL LOADER

SERIAL NUMBERS WA320-5L A32001 and up

November 2007

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POWER TRAIN OPERATION

The power of engine (1) is transmitted to HST pump (3) through drive damper (2) which is installed on the flywheel to absorbs the torsional vibration of the engines power. Engine power (1) is also transmitted to the HST pump (3) which is also connected to the steering pump (4), work equipment pump (5), brake and cooling fan pump (6), and transfer lubricating oil pump (7).

HST pump (3) is equipped with a forward-reverse shifting valve and servo piston, which changes the discharge direction and discharge rate of HST pump (3) continuously by adjusting the swash plate angle.

HST motors (9) and (10) are also attached to transfer (12) and connected to HST pump (3) by a high-pressure hose (8). The rotational speed of HST motors (9) and (10) are controlled by the hydraulic power of HST pump (3) which control the travel direction and travel speed of the machine.

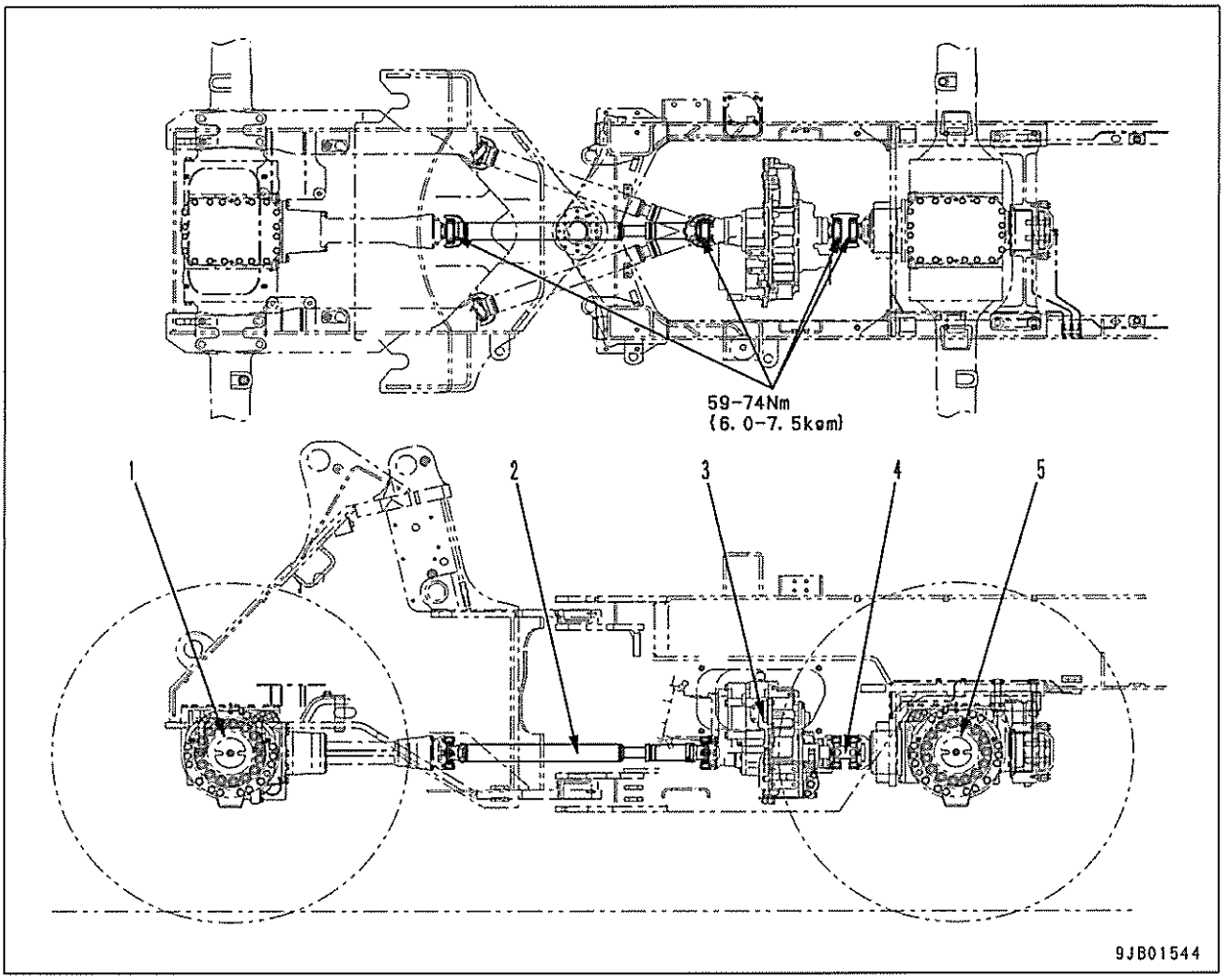
The power of HST motor 1 (9) is transmitted through the transfer clutch (13) in transfer (12) to the output shaft. HST motor 2 (10) is transmitted through the gear in transfer (12) to the output shaft.

Parking brake (14) is installed on the rear side of transfer (12). It operates the wet multiple disc brake to stop and hold the machine according to the operation of the parking brake lever.

The power supply travels through front drive shaft (15) to front axle (16). The power for the rear side is transmitted through rear drive shaft (21) to rear axle (22).

The power supply transmitted to axles (16) and (22) is reduced by the ring and pinion gears in the differentials (17) and (23), and then transmitted through a sun and planetary gear unit. The planetary mechanisms of final drives (19) and (25), are then transmitted through the axle shaft and wheels to tires (20) and (26).

FRONT AND REAR DRIVE LINES



1. Front axle
2. Front drive shaft
3. Transfer
4. Rear drive shaft
5. Rear axle

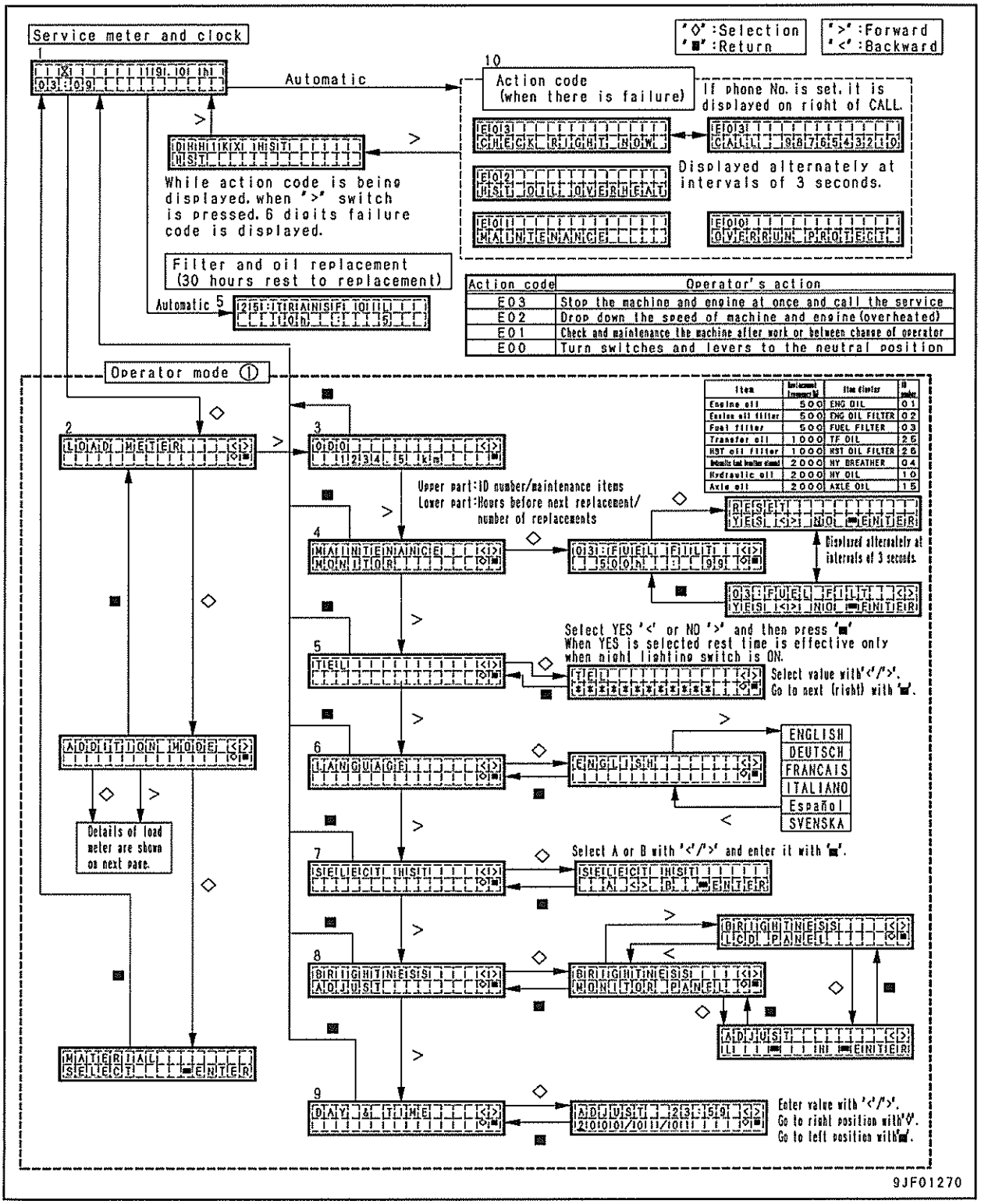
DRIVE LINE OPERATION

Power from the output shaft from the transfer is transmitted through front drive shaft (2) and rear drive shaft (4) to front axle (1) and rear axle (5).

When the machine is articulated or it receives any impact during travel or working, the operation of the transfer as well as the front and rear axles will change.

Drive shafts can change their angles and lengths by means of the universal joints and sliding spined shaft so that the power will be transmitted without damaging to any part even when the positions of the components
changes due to impact.

Load Meter Specifications (if equipped)

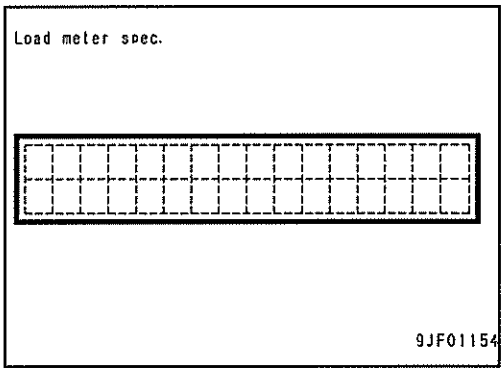


Operator Mode

★ The display is given endlessly when the [>], [<], [◊], or [■] switches are operated.
★ If a failure occurs, the screen switches automatically to the [Action code display function], regardless of the screen being displayed.
★ If the switches are not operated for more than 30 seconds, the screen switches automatically as follows regardless of the screen being displayed.
- If there is no failure, the display switches to the [Service meter (time display) function].
- If there is a failure, the display switches to the [Action code display function].

Service Mode 1

★ The switching of each function occurs endlessly when the [>], [<], [◊], or [■] switches are operated.
★ Once the ID is input, it remains effective until the ignition switch is turned OFF.

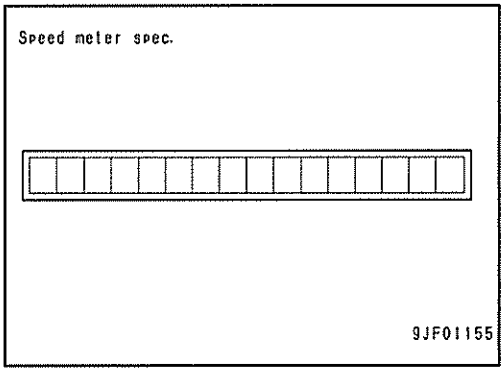


Service Mode 2

★ The switching of each function occurs endlessly when the [>], [<], [◊], or [■] switches are operated.

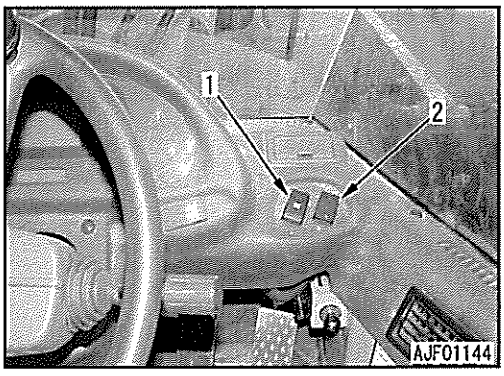
Character Display

Sixteen characters can be displayed on the character display. A combination of numerals, letters, and symbols can be used for the display.
1. Numerals: 1, 2, 3....
2. Lower case letters: a, b, c....
3. Upper case letters: A, B, C....
4. Japanese katakana:
5. Symbols: @, Y, $,...
6. Special characters



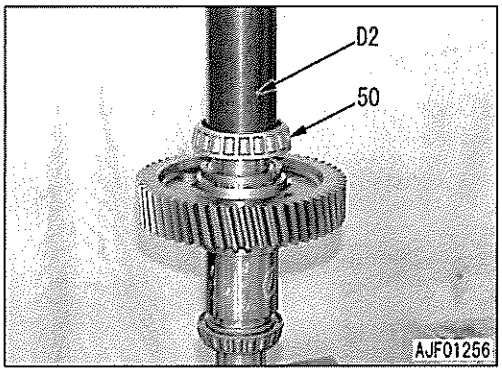
Operating Switches

The display operations on the machine monitor are all carried out with machine monitor mode selector switches (1) and (2).
The following functions are set for the switch for each switch.
1. [◊]: Execute, select
2. [■]: Cancel, enter (YES/NO screen only)
3. [>]: Right, next
4. [<]: Left, back



TROUBLESHOOTING OF HST MONITOR SYSTEM (HST MODE)

D. Using tool **D2** and the press, press fit rear bearing (50).
★ After press fitting the bearing, apply transfer oil to it and rotate it.



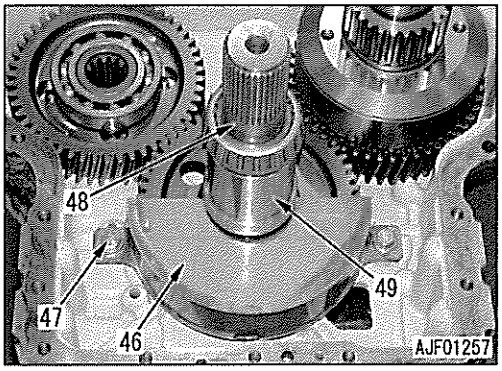
12. Installation of output shaft and gear assembly.

A. Place cover (46) over the gear and install output shaft and gear assembly (49) to the rear case.

B. Secure cover (46) with bolts (47).
★ Check that cover (46) does not interfere with the inside of the gear.

Mounting bolt: **98 - 123 N·m (72 - 97 ft/lbs)**

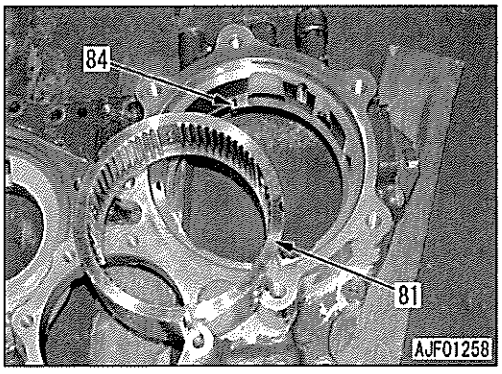
Mounting bolt: **Adhesive (LT-2)**



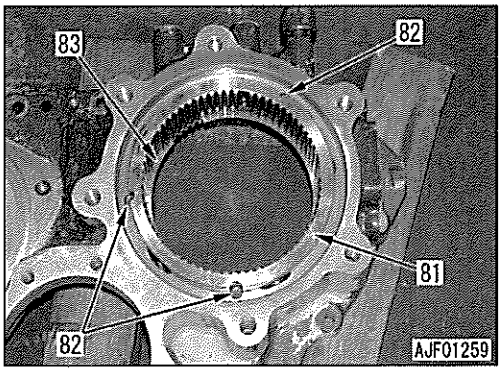
13. Clutch housing

A. Install snap ring (84) to the front case.

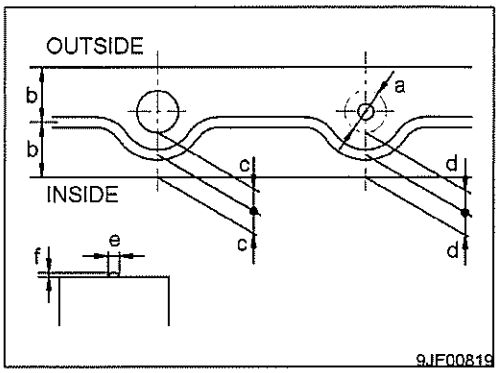
B. Install clutch housing (81) and 3 pins (82).



C. Install snap ring (83).



14. Front case
    - Use the front case and rear case as an assembly.
    - When installing the cases, match the match marks on their tops to each other.

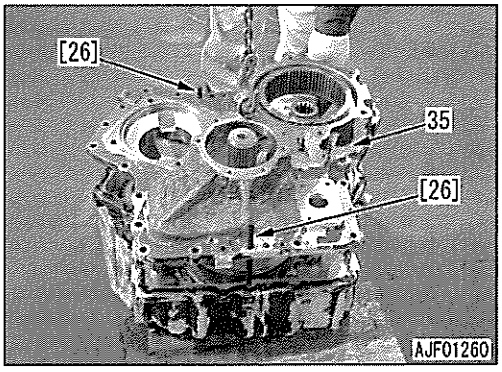


A. Apply gasket sealant to the rear case according to the following procedure.
    - Apply the gasket sealant to forcing screw contact part (a), similarly to the dimensions for each bolt hole.
    - Apply the gasket sealant so that dimensions (b) and (c) will be the same respectively.
    - Apply the gasket sealant so that dimension (e) x dimension (f) will be 2 - 5mm (0.08 - 0.2in).

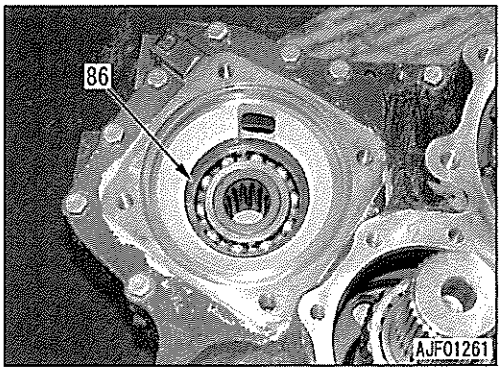
Gasket sealant: **Three Bond 1207B or equivalent**

B. Install guide pin [26] and install front case (35).

Mounting bolt: **98 - 123 N·m (72 - 97 ft/lbs)**



C. Install snap ring (86) on the HST motor 2 side.



D. Install spacer (34) of the output shaft.