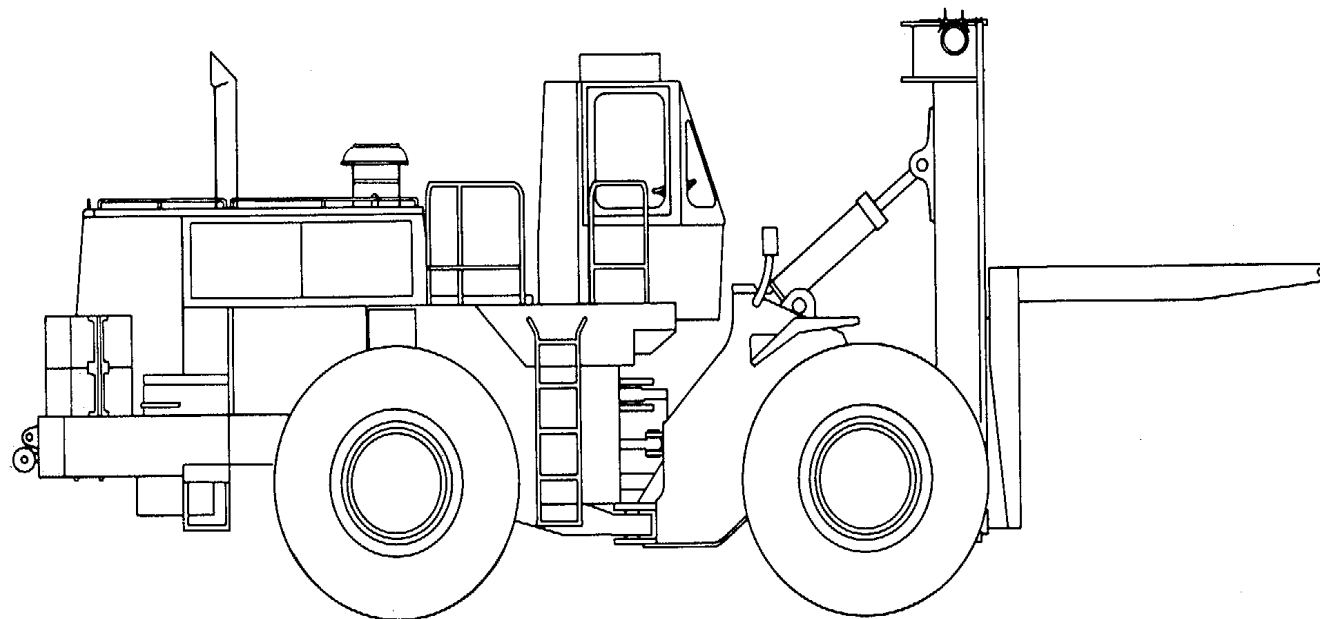


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TECHNICAL MANUAL

DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE MANUAL



TRUCK, CONTAINER HANDLER  
ROUGH TERRAIN, 50,000 LB CAPACITY  
DED, PT, NSN 3930-01-082-3758  
WITH TOPHANDLER(S)

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DEPARTMENT OF THE ARMY  
Washington, DC, 30 October 1981

DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE MANUAL  
TRUCK, CONTAINER HANDLER: ROUGH TERRAIN 50,000 LB  
CAPACITY, DED, PT, NSN 3930-01-082-3758 WITH TOPHANDLER(S)

**REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS**

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (*Recommended Changes to Publications and Blank Forms*), or DA Form 2028-2, located in the back of this manual, direct to: Commander, U.S. Army Tank-Automotive Command, ATTN: AMSTA-MB, Warren, MI 48397-5000. A reply will be furnished to you.

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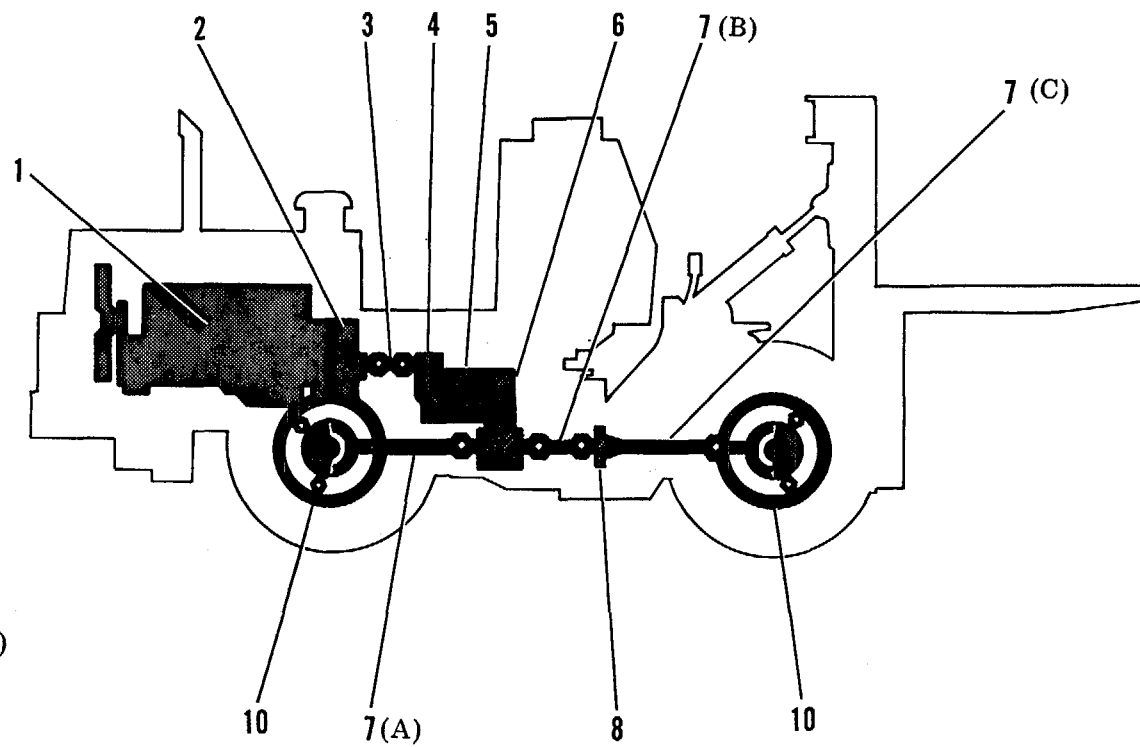
## Section I. GENERAL

## DRIVE SYSTEM DESCRIPTION

(Sheet 1 of 2)

1. DIESEL ENGINE. All power for the various components of the drive system originates from the engine. The engine, an eight cylinder V four cycle, is liquid cooled. The electrical system is a 24 volt negative ground with an alternator for recharging. Lubrication is supplied from a camshaft driven oil pump. Engine power is transferred from the engine flywheel to the torque converter.
2. TORQUE CONVERTER. The torque converter hydraulically increases the torque from the engine. The converter transfers the engine power to the drive train through a hydraulically activated clutch.
3. UPPER DRIVE SHAFT. Transmits the power from the torque converter to the input transfer gears. A universal joint is used at both ends of a short shaft. These universal joints enable slight movements between the torque converter and the input transfer gears.
4. INPUT TRANSFER GEARS. A system of gears between torque converter and transmission. The output gear of the transfer gears turns the input shaft of the transmission.
5. TRANSMISSION. A hydraulically activated (semi-automatic) type. The transmission has four speed ranges FORWARD and four speed ranges in REVERSE. Both speed and direction are manually selected. The transmission output shaft drives the input shaft of the output transfer gears.
6. OUTPUT TRANSFER GEARS. A system of gears at the output side of the transmission which transmits power from the transmission to the drive shafts. Two universal joints connect the output transfer gears to the front and rear drive shafts.
7. DRIVE SHAFTS. Three are used as a way of transmitting power from the:
  - A. Output transfer gears to the rear differential.
  - B. Output transfer gears to the bearing cage.
  - C. Bearing cage to the front differential.

Shafts A and B have universals attached on both ends. Shaft B has one universal on the end that goes to the front differential. On the end towards the bearing cage is a splined slip joint.
8. BEARING CAGE. Provides support where the two forward drive shafts are joined together. The universal joint of one shaft and the splined slip joint of the other shaft are joined and supported here. While this connection transmits the power between the drive shafts it is also required for the vehicles articulated steering system.
9. DIFFERENTIAL. A gear arrangement which changes the direction of power 90°. Transferring the power from the drive shafts to the axle shafts it can divide the power between the left and the right shafts. Dividing the power enables the outside wheel to turn faster than the inside wheel while making a turn. This vehicle is equipped with a front and rear differential, both functioning in the same way.
10. FINAL DRIVE. A final gear arrangement causing speed reduction and torque increase in the drive train. The power from the axle shaft is changed in the final drive through the use of three planetary gears revolving around a centered drive gear, then transmitted to the road wheel. The vehicle has four final drives, one in each wheel.



(9) Differentials (not shown)

End  
4-3

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**TRANSMISSION OIL SYSTEM DESCRIPTION**

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**(Sheet 1 of 2)**

Transmission oil system consists of:

1. Oil reservoir
2. Oil filter
3. Filter bypass switch
4. Magnetic screen
5. Oil pump
6. Oil cooler
7. Connecting lines

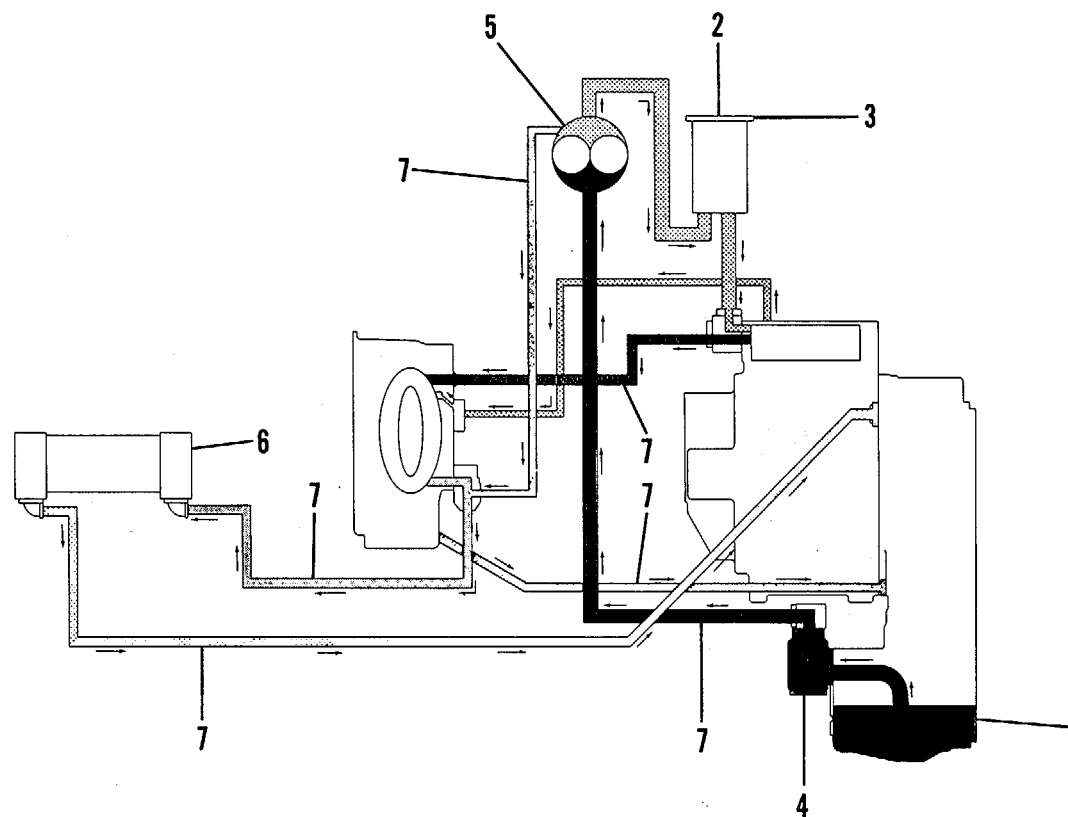
1. **OIL RESERVOIR.** The lower portion of the output transfer gear case. A drain plug is located in the bottom of the case for draining transmission system oil.
2. **OIL FILTER.** The filter is located in the compartment behind the cab. It removes debris from the hydraulic oil. A bypass valve allows oil to flow if the filter becomes obstructed.

3. **FILTER BYPASS SWITCH.** Activates a warning light informing the operator the filter is obstructed.
4. **MAGNETIC SCREEN.** Removes metal particles and other debris before the oil goes to the oil pump. The screen is fastened to the output transfer gear case.
5. **OIL PUMP.** A gear-type pump, driven by the engine. Oil is pulled from the reservoir, through the magnetic screen and pumped to the oil filter.
6. **OIL COOLER.** Removes heat from the transmission system oil. High temperature oil comes from the torque converter and passes through the oil cooler. The heat of the oil is transferred to the engine cooling system, and the cooled oil returns to the transmission.
7. **CONNECTING LINES.** Carry oil to and from the oil filter and oil cooler.

**Go on to Sheet 2**

## TRANSMISSION OIL SYSTEM DESCRIPTION (CONT)

(Sheet 2 of 2)



1. Oil reservoir
2. Oil filter
3. Filter bypass switch
4. Magnetic screen
5. Oil pump
6. Oil cooler
7. Connecting lines

End  
4-5

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Section II. TORQUE CONVERTER

TORQUE CONVERTER MAINTENANCE

This section covers maintenance of the torque converter for direct support and general support maintenance personnel:

- a. Torque converter

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