

The sub groups and items numbers for special tools in this description are in reference to the special Cummins tools outlined in sub group 2.1.11.

# 1. Remove cylinder head

Drain coolant, remove vent lines at the crankcase ventilation.

Remove turbo charger lube oil line. Loosen turbo charger from the exhaust pipe, intake manifold, intake pipe and remove exhaust manifold.

Remove the plug for the cold start at the intake pipe and remove intake pipe.

Remove fuel manifold with O-rings.

Knock the coolant connecting tubes with special tool 8 - See page 2.1.11.02 in the direction of the fan drive - see fig. 1. Remove cylinder head covers.

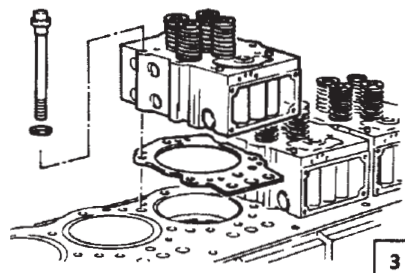
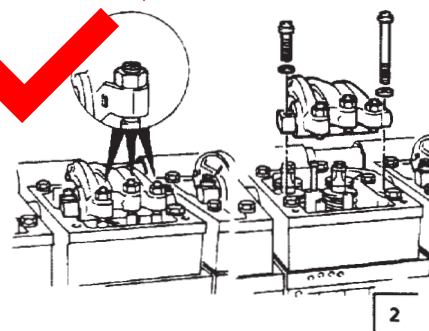
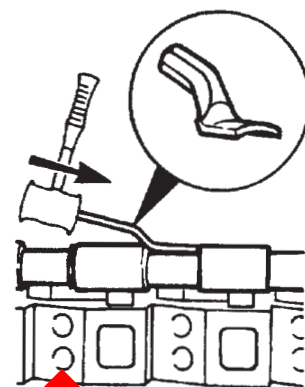
Loosen rocker arm adjustment screws and remove rocker assemblies. Pull push rods for valves and injectors from the engine block and store appropriately, see fig. 2.

Remove the screws for the rocker assembly housing in the reverse order of installation, see paragraph 2, fig. 6 on the reverse page. Remove and store housing and gasket. Remove the screws for cylinder head in the reverse order of installation, see paragraph 2, fig. 7 on the reverse side.

Carefully remove and store the cylinder head with gasket.

**Important:** Careful, do not scratch protrudes.

Remove and store cylinder head gasket and seals for oil - coolant drilling, push rods, and cylinder head screws with washers.



**LIEBHERR**

Datum Edition Date

07 89

Benennung Description Dénomination

**Replace Cylinder Head  
Gasket  
Cummins Engine**

Typ/ab Type/from Type/a partir de

**PR 751**

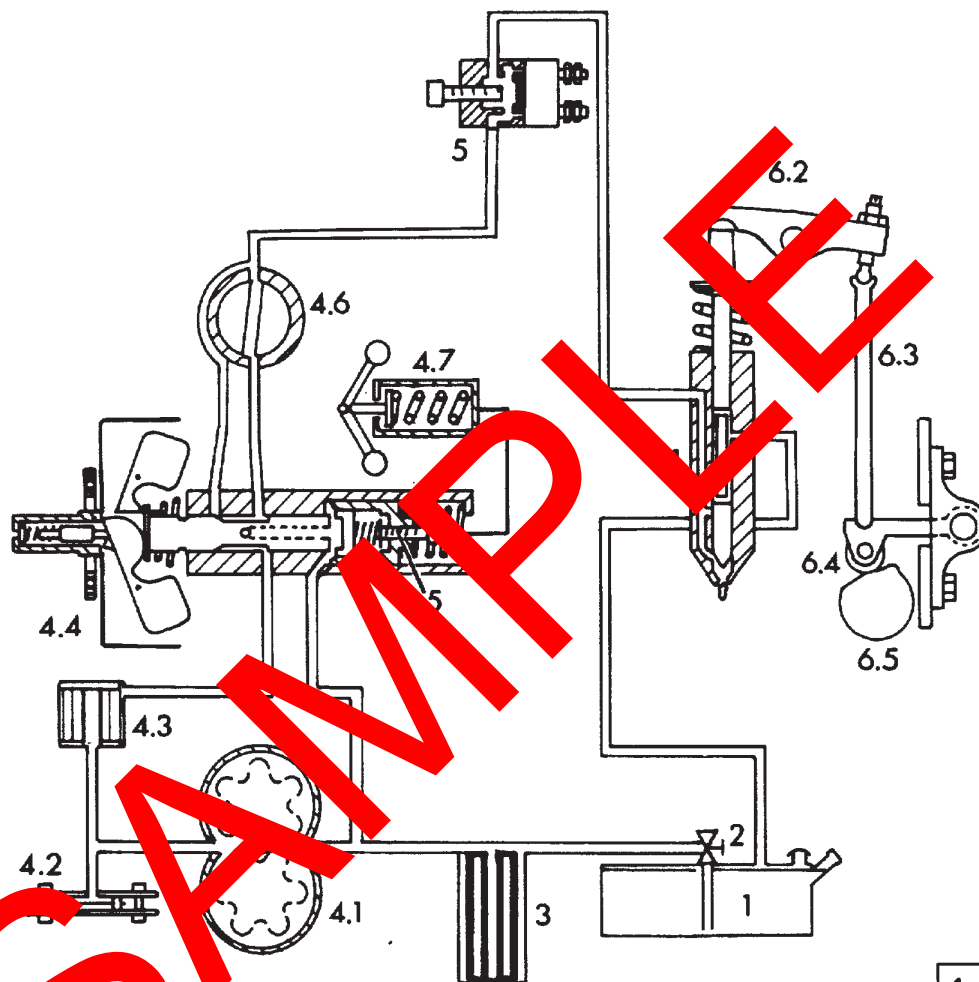
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**4.2.05.01**

The sub groups and item numbers for special tools mentioned in this description are in reference to the special Cummins tools outlined in sub group 2.1.11.

## 1. Description

The Cummins PT fuel system (PT = pressure / time) includes two main components, the fuel pump and the 6 injectors with mechanical actuation. The fuel pump supplies Diesel fuel to the injectors at a relative low pressure. The actual injection pressure is produced by the injectors due to mechanical actuation. Excess fuel returns from the injectors to the tank.



### Fuel System Components:

- |     |                            |     |                                  |
|-----|----------------------------|-----|----------------------------------|
| 1   | Fuel tank                  | 5   | Solenoid valve - Engine shut off |
| 2   | Fuel shut off valve        | 6   | Injector group                   |
| 3   | Fuel filter (2 x)          | 6.1 | Injector                         |
| 4   | Fuel pump                  | 6.2 | Rocker lever                     |
| 4.1 | Gear pump                  | 6.3 | Push rod                         |
| 4.2 | Vibration damper           | 6.4 | Cam followers                    |
| 4.3 | Filter screen              | 6.5 | Cam shaft                        |
| 4.4 | Flyball type governor      |     |                                  |
| 4.5 | High idle adjustment screw |     |                                  |
| 4.6 | Restrictor shaft           |     |                                  |
| 4.7 | VS-Throttle control        |     |                                  |

**LIEBHERR**

Benennung Description Dénomination

Typ/ab Type/from Type/a partir de

Datum Edition Date

**07 89**

**Fuel System  
Cummins Engine**

**PR 751**

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**4.2.06.01**

The travel hydraulic on LIEBHERR dozers and loaders includes a fully hydrostatic drive with closed loop circuit.

Each side (track) has its own independent close loop circuit, whose main components consist of a variable displacement axial piston pump in swash plate design and a variable flow axial piston motor.

All travel movements of the machine are hydraulically controlled with the single lever of a servo control unit. The movements go from normal forward or reverse to counter-rotation. This type of hydraulic system assures infinitely variable travel speed in all directions, and maximum utilization of the available power at all times (speed x force = power = constant).

**main components:** Diesel engine - distributor gear- distributor gear

Two variable displacement pumps in swash plate design

two replenishing gear pumps and filters

Two variable axial piston motors per side

One gear type servo pump (mounted on the travel pump)

One gear type cooling pump (mounted on the travel pump)

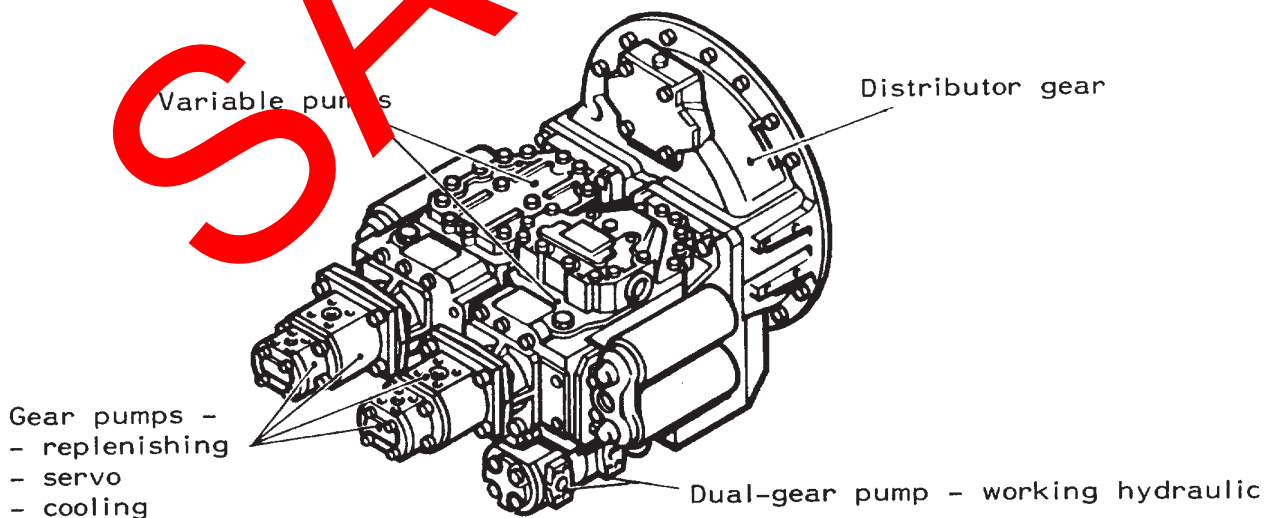
Load limit valve

Servo control unit

Hydraulic tank with return oil filter

The multi-pump unit is driven at a constant rotation via a distributor gear and centaflex coupling by a Diesel engine.

Mounted on the distributor gear are two travel pumps. Mounted on each travel pump is a gear type replenishing pump as well as a gear type pump on the right travel pump for the servo system and a gear type pump on the left travel pump to drive the oil cooler motor. Mounted below the travel pumps is a dual gear pump for the working hydraulic.



**LIEBHERR**

Datum Edition Date

07 84

Benennung Description Dénomination

**Description**  
**Travelling hydraulic**

Typ/ab Type/from Type/a partir de

**PR 751 101**

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**6.2.50.01**