

DIRECTORATE GENERAL BORDER ROADS  
GENERAL MAINTENANCE INSTRUCTION NO- 26  
ON  
CARE AND MAINTENANCE OF DIESEL ENGINE

1. The past statistics reveal that the mileage obtained from diesel engines has been below the expected engine life. The main criterions which ensure prolonged life of engines are:-

- a) Clean Fuel
- b) Clean Engine Oil
- c) Maintenance of FIP and Injection

Fuel System

2. The fuel injection equipment fitted in diesel engines have fine mating surfaces, where the tolerances are very low. Any dust particles or dirt in the fuel system damage the fuel injection pump and injectors, resulting in loss of power high fuel injection pump and injectors, resulting in loss of power high fuel consumption, over-heating and results in damage to engine if run for long periods under those conditions. The tasks for ensuring clean fuel in the fuel system can be enforced easily. They are:-

- a) The method of fueling of fuel in vehicles tank ensuring that no dust/dirt particles find their way to the tank.
- b) The fuel tank cap sits properly and is not loose in the petrol tank neck. The petrol tank cap washer be replaced whenever it is worn out.
- c) The fuel filters be cleaned and replaced at intervals laid down.
- d) Clean fuel tanks once a year.

Lubrication System

3. Ensure that all changes are carried out at the laid down periods and while doing the oil changes it is to be ensured that oil filters are cleaner/replaced. It is essential that the oil filters and filter bowl are cleaned at every oil changes. The filter element should be replaced at mileages laid down. The engine pump should be cleaned at least once in a year and while cleaning the pump, oil strainer leading to the oil pump be also cleaned. This would ensure proper lubrication and result in an increased engine life.

## FIP & Injectors

4. The fuel Injector should be serviced every 8,000 Kms. The fuel injector should be removed from the engine and functioning tests be carried out. Those defective be repaired. It is difficult for a Driver to notice any mal adjustment in the functioning of Injector in a running vehicle. Heavenly can guess whenever he notices any abnormal pronounced noises or when the edhaust is smoking very badly. A 'dribbling' injector can cause engine knock, damage to pistons and liner and in some cases even cause breakage of the cylinder block. All Field Repair Workshops are equipped with Hand Operated Injector Test equipment and arrangements should be made to ensure that all the Injectors maintained by the Workshops are serviced at the periodicity laid down. The repairs to the FIP should be arranged under a deposit repair work order with GREF Base Workshop. These may also be repaired under local repair contracts with local firms, if necessary.