

DIRECTOR GENERAL BORDER ROADS
GENERAL MAINTENANCE INSTRUCTION NO. 177
ON
TRUCK TATA MODEL 1210 S AND SE

AIM

1. This instruction is published to guide the users for regular attention to keep the vehicle in good mechanical condition and it must be strictly followed.

ACTION BY

2. **USER UNIT**

(a) Carry out regular / Weekly and other maintenance task as laid down.

(b) Enter the maintenance task in the log book.

FIELD WORKSHOP

(a) To check the record of maintenance and lubrication in the log book of vehicle during its inspection and repair if carried out as per maintenance schedule given in the instruction.

(b) Advise user unit in respect of any discrepancy / shortcoming noticed.

APPLICABILITY

3. (a) This instruction lays down the maintenance instructions for truck Tata model 1210 S and SE model during normal working conditions.

(b) Where atmospheric conditions are abnormal, holding units are required to modify the instructions as indicating in succeeding paras.

(c) In desert conditions engine oil change and air cleaner oil change / cleaning shall be regulated as per GMI-52.

(d) In case of extreme winter conditions fuel to be used is given in GMI-59.

(e) Frost precaution shall be competed with as per GMI-37.

(f) In case of water logged conditions frequency of greasing of under carriage and wheel bearing has to be increased, frequent checks of brakes also has to be carried out.

DETAILS :-

(a) Operating instructions are given as per Appx 'A' to this GMI.

(b) Care to be taken during running in period is given as Appx "B" to this instruction.

(c) Periodical maintenance and instructions are given in Appx 'C' to this GMI.

(d) For instruction regarding starting, halt and last parades as well as for weekly and monthly tasks, please refer to GMI-06.

(a) Lubricants to be used are given as Appx "D".

OPERATING INSTRUCTIONS

- (a) Before you drive ensure that your vehicle is in a road worthy condition.
- (b) Drive in the appropriate speeds in the indvl gears.
- (c) Maintain a steady speed avoiding quick accelerations and sudden braking. Fast speed driving saves your little time but increases the fuel and oil consumption. It also causes faster tyre wear and EXCESS FUEL CONSUMPTION.
- (d) Maintain the correct tyre pressure. Under inflation or over inflation of tyres will only ruin them.
- (e) The vehicle should not be driven until the air pressure guage indicates minimum pressure of 4.2 Kg/Cm².
- (f) The vehicle can be driven starting from 2nd gear with out waiting till the engine warm up.
- (g) The first gear is to be engaged if the vehicle is fully loaded or has to start on an upgradient.
- (h) For smooth gear shifting always use double clutch.
- (j) The reverse gear should only be engaged when the veh has been brought to a complete stop.
- (k) Watch the gauges on instrument panel every now and then while driving.
- (l) While driving, the foot brakes should be used only when the vehicle is to be brought to a stop or in an emergency.
- (m) Brakes should not be applied too violently on a slippery road since the vehicle will then start skidding.
- (n) The engine exhaust brake should be used while traveling on long down hill gradient.

PRECAUTIONS

- (a) Never drive the vehicle with engine switched off. This is dangerous and affects life of gear box.
- (b) Do not use clutch pedal as a foot rest when driving. This will cause premature clutch lining gear.

- (c) Never top up radiator by pouring cold water in hot engine. The cylinder head may crack.
- (d) The engine oil in sump or in air cleaner should not be over filled. This may cause engine smoking and high engine oil consumption.
- (e) Do not remove thermostatic but get defective ones replaced. It increases engine life.

CARE DURING RUNNING IN PERIOD

(a) When operating a new vehicle or old vehicle with a new or reconditioned engine for the first time, take utmost care during the running in period of the 2000 Kms. The care taken during the running this period has considerable effect on the life of the engine. During this period vehicle must be operated with a load not exceeding 2/3 of its maximum permissible. The speed of vehicle should not exceed 50 Km/Hr on top gear and should slide down proportionately for lower gears. Driving should be smooth. Engine, gear box and differential should not be allowed to over heat. The driver should watch for abnormal sounds. The vehicle should be halted at short intervals, say at every 50 Kms and check for overheating of gear box, differential and brakes etc. The consumption of lubrication oil and fuel recommended by the manufacturer is as under :-

- (i) Oil = 0.2 to 0.3 ltr per 100 Kms
- (ii) Fuel = The normal fuel consumption at 11.5 Tons gross vehicle weight should be 23 to 24.5 Ltr per 100 Kms. During running in period any abnormality of consumption if noticed should be promptly attended to greasing points after the run in period.
- (iii) The vehicle after completion of the running in period should be sent to the field workshop for draining out oil of engine and other assemblies viz gear box, differential and steering gear box and to see if any traces of metal are found due to excessive wear. There after periodic change of oil will be made as per appendix 'C' to this GMI. Units will not drain out oils themselves in the units lines. The field workshop will carry out repairs and adjustment. The tappet clearance will be adjusted and bolts or cylinder head and manifold will be tightened. Working plays of all operating levers and pedals will be adjusted.

MAINTENANCE AND LUBRICATION OF 1210 S/1210 SE

Proper lubrication and maintenance assure trouble free operation and long vehicle life. Time and money spent for scheduled periodic maintenance will be sufficiently compensated by prolonged machine operation and reduced operation cost. Before starting the engine and using the vehicle, carefully read the instructions or and do not allow in experienced drivers to handle the vehicle until they are thoroughly conversant with its operation.

DAILY MAINTENANCE

1. Check fuel, oil and water level in fuel tank, engine, sump and radiator.
2. Clean wind screen, windows and driving mirror.
3. Check that the tyres pressure in front and rear is 6 Kg/Cm² or 85 P.S.I. and inflate if necessary.
4. Start the engine and check lights, wind screen wiper trafficators and horn.
5. Check all instruments, ie Ammeter and oil pressure guage are functioning properly. Engine oil pressure for new and old engine should be a minimum - 1.4 Kg/Cm²(new) 0.6 Kg/Cm² (old) at idling speed and at maximum speed 8 0.5 Kg/Cm² (new) 2.5 Kg/Cm² (Old).
6. Check the operation of brake pedal. Adjust brake pedal free play as 10 to 20 mm if found incorrect.
7. Examine the vehicle for oil, fuel and water leaks.
8. Check the sound of the engine for knocks, rattles and uneven running of engine.
9. Check fan belt tension. Adjust tension. The centre of the vertical part of the belt should yield about 20 mm under thumb pressure.
10. Check electrolyte level in the battery. The electrolyte level should be 10 mm above the surface of the plates.
11. Check oil level in air cleaner.
12. Check steering wheel for free movement and free play. Free play of steering wheel with front wheels in straight ahead position should be 20-30 mm.

**CARRY OUT FOLLOWING MAINTENANCE AT 500 KMS AND
SUBSEQUENTLY
AT EVERY 100 KMS**

1. Change engine oil in sump immediately after first 500 Kms. Subsequently at first 2000 Kms run and thereafter at the interval given in HQ DGBR letter No. 67591/Lub/ITI/DGBR/E4 Tech /260 dt 27 Oct 1980 and 67591/Lub/V/DGBR/E4 Tech dt 28 Oct 1982.
2. Grease with grease gun, accelerator pedal bushing, king pins, tie rod ends drag link ends, front spring pins, rear spring pins and apply grease on helper spring brackets.
3. Grease with grease gun brake pedal, hand brake lever mounting brackets, intermediate lever shaft, intermediate brake levers, hand brake shaft and linkages of foot and hand brakes.
4. Drain off condensed water from
 - (a) Compressed air container
 - (b) Tyre inflating bottle.
5. Check level of electrolyte and add distilled water if necessary.
6. Check battery mountings and clean battery posts and terminals, tighten terminals and smear vaseline petroleum jelly.