

RESTRICTED

DIRECTORATE GENERAL BORDER ROADS

# GENERAL MAINTENANCE INSTRUCTIONS

No.6

## DRIVER'S MAINTENANCE FOR ALL 'B' VEHICLES

The information given in this document is not to be communicated to the press or to any person not authorised to receive it.

MARCH 1961

RESTRICTED

RESTRICTED  
1  
DIRECTORATE GENERAL BORDER ROADS  
**GENERAL MAINTENANCE INSTRUCTION**

**No.6**

**Driver's Maintenance for All 'B' Vehicles**

**General**

1. This instruction lays down the policy and procedure to be adopted by drivers for periodic maintenance of 'B' Vehicles.
2. The Maintenance is divided as follows :-
  - (a) Running maintenance :
    - (i) First parade
    - (ii) Halt parade
    - (iii) Last parade
  - (b) Weekly maintenance
  - (c) Monthly maintenance
  - (d) Maintenance based on mileage.

**Running Maintenance**

3. *First Parade* (To be done before the vehicle goes out on duty):

- (a) Check fuel, oil and water.
- (b) Clean wind screen windows and driving mirror.
- (c) Check tyre pressures and inflate if necessary.
- (d) Start engine and check lights, wind-screen wiper, trafficators and horn.
- (e) Check whether ammeter is registering and oil pressure gauge is indicating.
- (f) Check operation of brake pedal. Drain water from vacuum brake system if fitted.
- (g) Examine for oil, fuel and water leaks.
- (h) Listen for unusual knocks, rattles and uneven running of engine. Check for oil eaks from all assemblies and under chassis.

4. *Halt Parade* (To be done during halts between long runs) :

- (a) Check oil, water and fuel and replenish if necessary.
- (b) Check for oil leaks from all assemblies and under chassis.
- (c) Visually check tyres for correct pressure. Check for presence of pieces of flint/stone/glass lodged in the tread, and remove same if present.

- Last Parade* (To be done after the vehicle has returned from the day's duty):

- (a) Carry out checks shown in Halt Parade.
- (b) Examine Road springs for loose 'U' bolts and broken leaves.

- (c) If ordered, carry out frost precautions. (General Maintenance Instruction No 2 refers.)
- (d) Enter mileage, fuel and oil drawn in the logbook.
- (e) Leave the vehicle clean and ready to move off.
- (f) Record in the log book, weekly, monthly and mileage tasks carried out.
- (g) Report if engine overheats, oil pressure too high/low, charging rate too high/low and MPG low.

## Weekly Maintenance

6. This consists of four weekly tasks to be done strictly in the order shown, one each day on the first four days of the week. If for any reason a task cannot be done on the appointed day sufficient time must be given on the subsequent days to do two or more tasks, so that the maintenance cycle is completed each week.

### Task No- I

#### 7 *Body and Fittings*

- (a) Clean the interior and stowage compartments and exterior of vehicle thoroughly.
- (b) Check up all fittings for secureness and serviceability.
- (c) Inspect body, cab, seats, superstructure and hood for secureness and damage. Repair by hand stitching all minor rents.

#### 8. *Engine and Controls*

- (a) Clean engine thoroughly. Check level and cleanliness of oil.
- (b) Check if engine mountings are secure. Watch for excessive movement of engine-block when starting from cold. Remove traces of oil, if any, from rubber mounting blocks.
- (c) Check for leakages of gas, oil water, and petrol.
- (d) Check controls for looseness, damage and free operation.

#### 9. *Cooling System*

- (a) With engine running, open radiator cap and watch for circulation of water. Note cleanliness of circulating water and if oil is visible in the radiator neck, report to the officer-in-charge.
- (b) Inspect all hoses and clips for tightness.
- (c) Check tightness of radiator mounting and tighten if necessary.
- (d) Examine the fan for loose blades and bolts.
- (e) Check fan belt for tightness.

#### 10. *Fuel System*

- (a) Check if fuel tank, fuel filter, fuel pump and injector/ carburettor are secure on foundations. Tighten if necessary.
- (b) Check running of the engine by sudden and gradual acceleration. Report defects to the officer in-charge.
- (c) Check for leakage of fuel from pipes and unions. Report defects to the officer-in-charge.

(d) Check for the working of autopulseelectric fuel pumps where fitted. Report defects to the officer-in-charge.

(e) Remove drain plug from the fuel filter (where provided) and drain fuel in a clean container. Strain the fuel and put it back in the tank. If fuel is excessively dirty, report.

## Task No. 2

### 11. *Electrical System*

(a) Examine plug leads for chafing and burning, tighten terminals where necessary.

(b) Check generator and self-starter mountings.

(c) Keep the ignition system free from grease, oil and dirt.

(d) Check over all wiring and ignition and lighting systems for wear or damage to insulation and for loose terminals. Pay particular attention to places where leads are kinked or enter covered channels. Tape all exposed leads.

### 12. *Batteries*

(i) Check electrolyte level and top up if necessary with distilled water.

(ii) Ensure air vents are clear and tighten filler plugs.

(iii) Clean and dry the tops of cells.

(iv) If the pillars and terminals are corroded wipe them clean after removing connections. Smear liberally with Vaseline, Lanoline, or Mineral Jelly. If these are not available the pillars and terminals must be left clean and dry. DO NOT USE GREASE UNDER ANY CIRCUMSTANCES.

(v) Check security of battery in the carrier or cradle.

### 13. *Important Notes*

(i) On no account will the terminal be forced on to the battery pillar by use of a hammer or other heavy implement.

(ii) When removing terminals they will be moved a little from side to side to loosen them and be lifted off. On no account will they be levered off with a screw-driver using the battery case as a fulcrum.]

(iii) Never test the battery by shorting the terminals with a screw-driver or any other metal implement.

## Task No .3

### 14. *Suspension, transmission and steering*

(a) Inspect road springs and spring centre bolts for breakage. Examine 'U' bolts and tighten, if necessary.

(b) Inspect carefully all steering-linkages for looseness.

(c) Check security of steering wheel, column and box and tighten where necessary.

(d) Check transmission for :

- (i) Loose bolts on propeller shaft.
- (ii) Check breather 011 rear axle for cleanliness.
- (iii) Leakages of oil.
- (iv) Crack in gearbox, transfer case or differential.

#### Task No. 4

15 *Chassis, wheels and brakes*

- (a) Check wheel nuts for tightness by application of wheel wrench.
- (b) Jack up wheels turn by turn and
  - (i) depress brake pedal and release-check whether wheels are free and not binding-if binding, report to the officer-in-charge.
  - (ii) check hand brakes;
  - (iii) examine brake drums externally-if oil is coming out of brake drums, report to the officer-in-charge;
  - (iv) check tyres for cuts, and other injuries.
- (c) Inspect mud guards and brackets for looseness or damage.
- (d) Ensure the exhaust system is secure in its brackets.

#### Monthly Tasks

16. The following tasks will be carried out in strict rotation, one task being done each week and after completion of the cycle of weekly tasks.

#### Task No 5

17. *Tools and Equipment*

- (a) Clean and lightly oil tools and check all tools and equipment against Report deficiencies and defects *if any*, to the officer-in-charge.
- (b) Check up to see if any mileage task is due. If due, carry out the task.

#### Task No. 6

18. *Lubrication*

- (a) Clean all nipples and lubricate with the approved lubricant (General Maintenance Instruction 5) refers Report all deficient or damaged nipples. The location of grease nipples is given In the lubrication diagram for each vehicle.
- (b) Check up the various oil levels and top up where necessary with the correct grade of oil as laid down in General Maintenance Instruction No.5
- (c) Check to see if any mileage task IS due, and if so, carry ft out.

*General check for tightness***Task No. 7**19 *Lubrication II*

(a) Lubricate the following:-

Brake servo (a few drops only)  
Engine and hand throttle control joints  
Clutch pedal bearings.  
Brake pedal bearings.  
Hand brake pivot rod joints.  
Hand brake lever pivot rod joints.

(b) Oil all hinges and locks.

(c) Check to see if any mileage task is due, and if so, carry it out.

**Task No 8**

20. General check for tightness:-

(a) Check for tightness all bolts and nuts (except cylinder head nuts and split pinned nuts) on chassis, engine and superstructure and tighten where necessary.

(b) Check to see if any mileage task is due or outstanding, if so, carry it out.

**Maintenance Based on Mileage**

21. The following tasks will be carried out as they become due on a mileage basis or when a replacement engine is fitted. Where the tasks specify a change of oil, the correct type of oil as specified in General Maintenance Instruction No.5 will be used.

(a) New and reconditioned engines-Change of oil on completion of first 500 miles running.

(b) Every 1000 miles.

(i) Check contact brokers gap. Clean and adjust as necessary  
(Workshops Technicians only)

(ii) Remove and clean sparking plugs. Adjust gap if necessary  
(Workshops Technicians only)

(ii.) Change engine oil

(iv) Clean air cleaner.

(v) Check and if necessary top up oil in steering box.

(c) Every 2000 miles.

(i) Lubricate distributor.

(ii) Change tyres round as detailed in General Maintenance Instruction No 4.

(iii) Lubricate dynamo (Grease No 3).

(d) Every 3000 miles.

(i) Clean filters in the fuel line, i.e, pump and carburetor (Workshops Technicians only).

(ii) Examine Dynamo brushes, clean and adjust as necessary (Workshops technicians only).

(e) Every 5000 miles.

(J) Change gearbox oil.

(ii) Change rear differential oil, Clean breather where fitted.

(iii) Change transfer case oil.

(iv) Change front differential oil. Clean breather where fitted.

(v) Drain moisture from servo cylinder.

(vi) Re-pack front and rear hubs (Workshops Technicians only).

(vii) Clean Sump oil strainer (Workshops Technicians only).

(viii) Replace external oil filter, if replaceable type (Workshops Technicians only).

(ix) Flush out cooling system.

(x) Remove the speedometer cable from the casing and after thorough cleaning, smear it. lightly with a good quality graphite grease. (Workshops Technicians only).

## Conclusion

22. It is only by the strictest attention to the principles of maintenance as embodied in the procedure detailed above that the utmost efficiency in the operation of vehicles can be maintained, the necessity for costly repairs and replacements avoided and the maximum number of vehicles kept on the road in first class running order.

Efficient Maintenance necessitates concentration on the simpler tasks and handing over the more advanced repair, work to the more skilled personnel provided to the Task Force Workshops as soon as repairs are necessitated.