

CHAPTER 4 - GUIDE TO VEHICLE INSPECTION

SECTION 1 - INTRODUCTION TO COMMANDER'S FUNCTIONAL TEST

AIM

1. The aim of the test is to enable commanders at all levels to know the general state of the vehicle with particular attention to the following aspects:-

- (1) **Safety** - Correct functioning and condition of those systems and devices which, if defective, could constitute a danger to crew and others, eg:
 - (a) Brakes and steering.
 - (b) Wheels and tyres.
 - (c) Fire fighting equipment.
 - (d) Fuel and lubrication systems (leaks).
- (2) **Performance** - Vehicle and equipment to be fit for combat. This will include testing the engine, turret traverse (if fitted), the radio and fire control equipment.
- (3) **Condition of components** - General condition such that normal performance may be expected in the future, or that observation or repair is necessary.
- (4) **Appearance** - Paintwork. Absence of rust.

2. The test will be carried out, on those months when no REME inspection is due, by the Squadron Leader, Squadron Second in Command, or any Troop Leader with a minimum of one year's experience in command of a troop. Technical advice should be obtained from REME, if needed.

3. The following is included for the guidance of AFV commanders:-

- (1) Advance notice of the test will not normally be given.
- (2) The Squadron Leader will detail the vehicle to be tested.
- (3) The testing time for a vehicle in average condition will be approximately one hour.

RECORDING

4. On completion of the test, the commander will record the date of the test and details of faults in the appropriate Commander's Check Report form. He will ensure that the squadron fitters and LAD are informed of all faults that require REME action.

SECTION 2 - COMMANDER'S FUNCTIONAL TEST

DETAIL CREW

1. (1) Open up and tune both radios.
- (2) Carry out 'In Use' Daily Task 'A'.

ON THE GROUND

2. (1) Check under vehicle for signs of leaks. Check levels only if leaks are discovered.
- (2) Walk around vehicle, checking lights, bins, stowage, fittings and external extinguishers. Order unserviceable lamps to be replaced at once. Check inside of bins, hinges, and that padlock keys fit.
- (3) Raise, inspect and lower flotation screen (Mk 3, 4 and 5 vehicles).

IN THE VEHICLE

3. (1) Check IC with the driver. Check spare head sets, extension leads, remote control, antennae and bases.
- (2) Check CO₂ system.
- (3) Check turret traverse, hatches and MG mounting.
- (4) Order driver to move off on test run.

ON TEST RUN

4. (1) Test brakes and steering as soon as safe after moving off and at 30 mile/h.
- (2) Test all radio sets on the move. Tune to another station to operate two-way traffic. Listen for suppression faults.
- (3) Note general performance of the vehicle - listen for unusual noises, check for slip in transmission, note overheating and burning smells.
- (4) Check idling speed (300-400 rev/min).
- (5) Check operation of 2-speed generator.
- (6) Test operation of governor when halted or in low gear. Should operate at approximately 3,750 rev/min.

ON RETURN - DETAIL CREW

5. (1) Run engine at 1,000 rev/min to cool. Switch off.
- (2) Remove battery covers and filler plugs for close inspection of batteries.

IN THE ENGINE COMPARTMENT

6. (1) Check engine oil and coolant levels. Beware of scalding when removing coolant filler cap.
- (2) Check for leaks, damage and security. Inspect all accessible joints and unions of the lubrication, cooling and fuel systems. Check tightness, if suspect.
- (3) Check drive belts for tension and condition.
- (4) Check portable extinguisher (Mk 3, 4 and 5 Vehicles).

IN THE FIGHTING COMPARTMENT

7. (1) Check internal lights - order unserviceable lamps to be replaced at once.
- (2) Check stowage and bins for cleanliness, security and serviceability.
- (3) Examine MG (if fitted) mounting and sight.
- (4) Check seats for condition, security and lubrication.
- (5) Check batteries for level, corrosion, security, breather clear, washers. Replace filler plugs. Check correct fitting of lid.
- (6) Check fuel filter connections for leaks.
- (7) Check operation of bilge pump and warning light (Mk 3, 4 and 5 Vehicles).
- (8) Check radio installation for security and damage.
- (9) Check operation of escape hatches and rear observation visors.
- (10) Check the fitting and condition of the glass screens to the side observation slits (Mk 1 and 2 Vehicles).
- (11) Check internal fire extinguisher.

IN THE DRIVER'S SEAT

8. (1) Check operation of seat, forward hatch, side visors and periscopes. Check fitting of windscreen and operation of windscreen wiper.
- (2) Check driver's controls as follows:-
 - (a) GCP free movement ($\frac{1}{2}$ inch with lowest gear engaged).
 - (b) Check that there is a clearance between the hull plate and GCP in all gears.
 - (c) Check footbrake pedal free travel.

- (d) Check that movement of the handbrake lever is not excessive.
- (e) Check the steering linkage for security and leaks.
- (f) Check compartment for security of components. Check switches, control panels, stowage. Note odometer reading.

ON THE GROUND

- 9. (1) Check suspension for security and damage.
- (2) Examine external steering linkage for condition. Driver to lightly turn steering wheel in both directions to reveal the amount of movement in joints and pivots. If in doubt, inform REME.
- (3) Inspect tyres for cuts, stones, scrubbing.
- (4) Check security of road wheel nuts, check hubs for leaks.
- (5) Check brake pad indicator pin protrusion (Mk 3, 4 and 5 Vehicles).

DOCUMENTATION AND ACTION

- 10. (1) Check if any servicing outstanding. Pay attention to time alternative where applicable.
- (2) Enter details of commander's test in 'Faults' column of Section 6 of the AB 413 or on the back of the Monthly Log Sheet.
- (3) Notify REME of any work requiring their attention.