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DIRECTORATE GENERAL BORDER ROADS

GENERAL MAINTENANCE INSTRUCTIONS

No.4

MAINTENANCE, INSPECTION AND REPAIR OF TYRES AND TUBES

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1
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Maintenance, Inspection and Repair of Tyres and Tubes

General

1. This instruction lays down the policy and procedures to be adopted for the maintenance, inspection and repair of tyres and tubes.

2. All spare wheels will be fitted with tyres and tubes, and maintained so as to form a reserve for immediate replacement in case of punctures, or blow-outs. In addition a reserve of tyres and tubes will be maintained in Base Workshops Stores Sections, and demanded by Field Workshops, as any other spare part. Spare tyres and tubes, will not however be kept in stock by Field Workshops or Units.

Maintenance

Storage

3. As Base Workshops Stores Sections are the only holders of spare tyres and tubes they will the Army principles regarding storage and preservation of these with special regard to :-

- (a) Ventilation.
- (b) Coolness of store-rooms.
- (c) Hanging or stocking of such stores so as not produce distortion.
- (d) Application of preservatives such as talc (french chalk).

Fitment and Operation

4. Care and maintenance of tyres and tubes while in use on vehicles will be carried out as in the Army, the salient points of which are as under :-

- (a) During fitting
 - (i) Paint wheel rims with Tyre and Rim paint.
 - (ii) Coat tube and inside of tyre with talc (french chalk).
 - (iii) Ensure during insertion of tube within tyre, that tyre bead is not damaged by tyre lever, and that nozzle protrudes erect through rim.
 - (iv) Ensure that tube is not "pinched" within tyre. (To do this fill a very little air in tyre, then depress bead all round, to ease tube uniformly).

(b) During use-

- (i) Ensure correct tyre pressure as recommended in the operator's manual (Reduce 12% for, country operation). Rear dual tyres should be inflated so that the inner tyre has 10% lower pressure than the outer.

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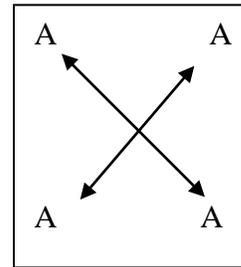
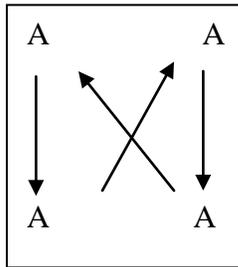
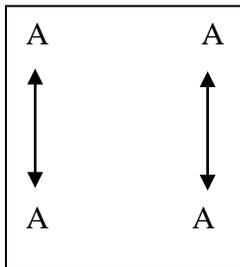
(ii) Remove stones, nails etc. during -maintenance tasks.

(iii) Wash tyres with soap and water fortnightly.

(iv) If vehicles are stored in the sun, cov tyres with hessian flaps.

(v) Oil and grease swell and weaken rubber-ensure that if these are in contact, that they are immediately washed off with soap and water.

(Vi) Interchange tyres every 2000 miles adopting one of the methods illustrated below, which do not require removal of tyre from wheel :-



If however the inside or outside of a tyre width is excessively worn, then remove tyre and replace inside for outside.

Inspection

Unit Inspection

6. During unit inspections examine tyres for-

- (a). Excessive wear of tread. ,
- (b) Cuts, chipping and breaks.
- (c) Tread and ply separation.

Report to workshops in case of doubt, by sending tyres to workshops and using spare wheel in place.

Workshop Inspection

7. In addition to the above examine tread and side wall wear for the following:-

(a) Over-inflation

Centre of tread width worn excessively compared to outer edges. Circumferential cracks inside wall.

(b) Under-inflation

Opposite effect of wear edges of tyre width worn excessively compared to centre of width.

(c) Tread and ply separation.

Excessive loads and under inflation-or, blow-outs.

(d) Radial cracks

Over loading and probable exposure to sun.

(e) Normal wear

Uniform wear of tread. When wear reaches 1/64" of remaining tread, condemn tyre for re-treading.

(f) Irregular tread wear

If front tyres are worn excessively on the inside of width or outside of width, suspect incorrect camber, toe-in, or frame distortion, and check vehicle for the same. If irregular patches of wear, check for brake grab and vibration.

Unfair wear and tear

8. Before sentencing tyres and tubes as "unfair wear and tear" Workshops will take into consideration the conditions of operation, and terrain, and have good reasons to suspect neglect, before so sentencing equipment.

Repair

9. Repair to tyres and tubes within OTRPs scope of repair will be undertaken by workshops, and tyres for retreading will be sent to Base Workshops Stores Section and replacements demanded.

10. Completely unserviceable tyres and tubes, will be condemned as such, and treated as salvage.

Retreading

11. Tyres whose treads are worn down to 1/64" will be removed and dispatched for retreading. In-ase of un-uniform wear, tread may be completely worn in parts, but in no case should fabric be visible.

12. The following types of damaged tyres, will not be sent for retreading:-

- (a) Carcase failures due to blow outs and concussion.
- (b) Badly damaged side walls.
- (c) Broken or badly distorted beading.
- (d) Exposed or damaged plies visible inside the tyre.