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CHAPTER 27
ROAD MAINTENANCE AND REPAIRS
SECTION 123- PRINCIPLES AND PRIORITIES

Principles

2701. The aim of maintenance and repair is to keep the road in the best condition possible a minimum of interference with traffic.

2702. The main principles are –

- a. Start maintenance work as soon as the road comes into use and continue it systematically.
- b. Continuous maintenance of the drainage system is of paramount importance.
- c. All breaks in the surface skin must be repaired promptly.
- d. Mateo repair work to the existing surface. Unduly strong patches induce additional damage to adjoining areas.
- e. Find the source of trouble before doing repairs. Renovation over a defective base or subgrade is a waste of time and labor.
- f. Forestall the effects of severe weather if possible.
- g. Minimize interference with traffic. Provide warning signs and barriers, and arrange traffic controlled by military police.

Priorities

2703. In assessing priorities, consider: -

- a. Tactical requirements.
- b. Anticipated traffic volume.
- c. Required life of road.
- d. Comparative effects of complete failure.

2704. Other things being equal, the maintenance of a good road should take priority over the repair of one which is already the worse for wear. Otherwise there will soon be two bad roads to deal with.

Earth Roads and Tracks

2705. Earth surfaces are easily disturbed and in wet weather are quickly cut up by traffic. Ruts formed in wet weather must be repaired before the soil dries out; otherwise drainage will be impaired and further rain and traffic will cause extensive damage. Although effective maintenance by men with picks, shovels and rammers is possible, more effective work can be done on long stretches by using graders or improvised drags. Compaction of soil roads can sometimes be achieved by careful direction of the traffic using them: this calls for control of speed and strict lane discipline.

The Drag

2706. In its simplest form, a drag consists of two similar flat-bottomed lengths of timber held rigidly parallel to one another about 1 m apart and in such a way that when the front length lies at an angle of about 60° with the centre line of the carriageway, the rear length is directly behind it. The overall width of the drag should not be more than half the width of the carriageway it is to serve. The main timbers can be the two halves of a hardwood log 200 to 250 mm in diameter or any other available timber that offers a good cutting edge. If the drag is likely to be required for a long time, the cutting edges should be ironshod. Figure 27.1 shows a drag designed for use on a 3.7 m carriageway, towed by a 1/4 ton truck: its weight is about 400 kg. It is provided with two towing slings adjusted in length to maintain the angle mentioned above. When the drag is moved forward the loose earth on the surface runs to the trailing edge.

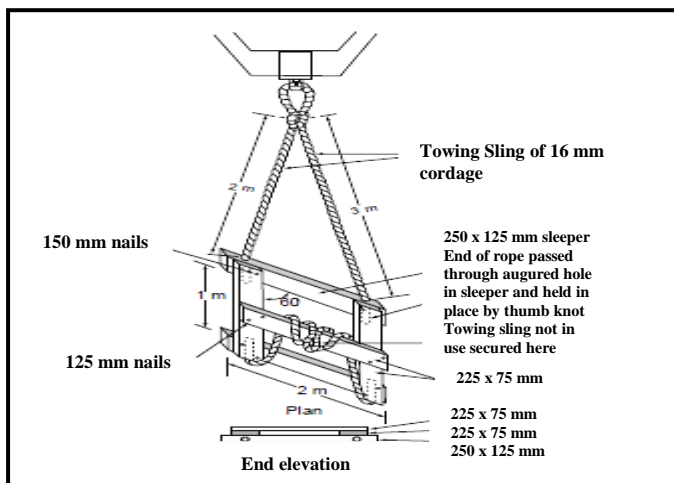


Figure 27-1(a): Improved Drag for a Single-Lane Earth Road.



Figure 27-1 (b): Improvised Drag for a Single-Lane Earth Road.



Figure 27-1 (c): Heavy Drag with Improvised Scarifier

Dragging is normally started at the edge of the carriageway, so that the soil is worked by successive passes towards the middle of the road. This is because both traffic and erosion tend to flatten the crown. At intervals, however, the soil may have to be worked from the centre to the sides if the camber is becoming excessive (*see also Figure 27.2*).

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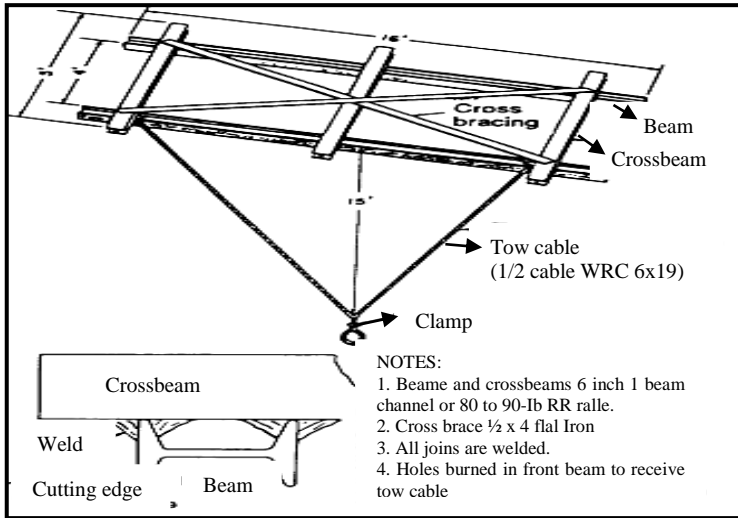


Figure 27-2(a) : Improvised Road Drags



Figure 27-2 (b): Improvised Road Drags

If the drag proves to be too light for the task, additional planks can be laid over the top to form a platform on which filled sandbags can be stacked.