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### DIRECTORATE GENERAL BORDER ROADS GENERAL MAINTENANCE INSTRUCTION NO. 158 ON PREVENTIVE MAINTENANCE CONCEPTS

#### INTRODUCTION

1. Border Roads Organization is holding large numbers of Veh/Eqp/Plants of different make and types, both imported and indigenous origin. The number of premature failure cases attributable to poor maintenance standards are on the increase from time to time.

#### AIM

2. Aim of these instructions is to lay emphasis on importance of periodic/Preventive maintenance tasks.

#### PREVENTIVE MAINTENANCE CONCEPTS

3. a) Preventive maintenance is a task involving inspection of wear and tear of components and replacement of Veh/Eqpts repair of components/Assys before breakdown. A little neglect may breed great damage to an equipment

b) Accomplishment of Road Construction Mission requires both men and machine and neither can achieve the target without the other.

c) Preventive maintenance is very body's job. The responsibility for maintenance is squarely on the shoulders of the men responsible for every other activity of his i.e **THE COMMANDER.**

d) Preventive maintenance should be considered as the difference between life and death, or achievement and failure.

e) We must adjust our thinking that the operator and his equipment is an integrated one ie the man-machine team.

f) The Border Roads Organization has equipment worth about 600 millions. The economy of the country cannot improve unless the expensive equipment is maintained to the best of ability and maximum life and utilization obtained.

g) Stop failures before they start.

h) Preventive maintenance is the heart and soul of the entire maintenance system. For example, slippage of fan belt, broken water pump impeller, late ignition timing, dragging of brakes, Engine oil pressure too low and engine oil too thick etc will positively result in over heating of the engine which will lead to damage to Veh/Eqpt and finally putting it off road.

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- j) An equipment will fail if it is not properly operated, cleaned, lubricated, tightened and adjusted on systematic basis. For example, incorrect spark plug gap, burnt, pitted or dirty contact breaker points, defective active ignition coil, injectors dribbling will lead to the poor performance of the vehicle/equipment.
- k) A Commander who constantly uses the equipment but neglects preventive maintenance repair will soon be left with no equipment to use. For example, if the track chain of the dozer will not be tightened at proper intervals, it will result in loosening of the track chain which further causes undue wear & tear of track rollers, uneven strain to the bearings, and chain slippage finally leading to the poor performance of the machine.
- l) Do not rotate complex items pushing and equipment to the equipment which the manufacturer did not design it for.
- n) Seldom users realise the burden on repair echelon. The attitude is "they have the repair facilities, tools, spares, and machines. We break it they fix it".
- p) Main advantages of preventive maintenance are less break-down, less overtime to complete targets, few major repairs, less maintenance and repair costs, less stand-by equipment required, better quality of job and greater safety to the operators.

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