

DIRECTORATE GENERAL OF BORDER ROADS
GENERAL MAINTENANCE INSTRUCTION NO.105
ON
EMERGENCY STARTING PRECAUTIONS (HINDUSTAN TRUCKS)

Summary

1. Whenever a vehicle with 'flat' batteries has to be started, it is generally started by towing with another vehicle. However the surge forward when engine start could cause collision with the tow vehicles. Therefore, it is not advisable to start vehicle by towing.

Aim

2. To lay down the procedure for starting the vehicle with 'flat' batteries with the help of another vehicle.

Action by

3. **User Units/Field Workshops (GREF)** : To follow the procedure laid down to start vehicle with 'flat' batteries.

Details

4. **To start the vehicle when battery is discharged.** Use an auxiliary battery of the same nominal voltage as the discharged battery together with suitable jumper cables.

- Caution :-
- (a) Never expose battery to open flame or electric spark.
 - (b) Battery action generates hydrogen gas which is flammable and explosive.
 - (c) Do not allow battery fluid to contact skin, eyes, fabrics or printed surfaces.
 - (d) Battery fluid is a sulphuric acid solution which could cause serious personal injury or property damage.
 - (e) Wear protection when working with battery.

5. Use of Booster Batteries and jumper Cables. Both booster and discharged battery should be treated carefully when using jumper cables. Follow exactly the procedure outlined below being careful not to cause sparks :-

- (a) Set parking broke and engage neutral. Turn off lights, heater and other electrical loads.

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(b) Remove vent caps from both the booster and the discharged batteries. Lay cloth over the open vent well of each battery. These two actions help reduce the explosion hazard always present in either battery when connecting 'live' booster batteries to 'dead' batteries.

(c) Attach one end of a jumper cable to the positive terminal of the booster battery (identified by a '+' on the battery case, post or clamp) and the other end of the same cable to the positive terminal of the discharged battery. Do not permit vehicles to touch each other, as this could establish a ground connection and counteract the benefits of this procedure.

(d) Attach one end of the remaining negative cable to the negative terminal of the booster battery.

(e) Connect the other end of the negative cable to the engine ground strap as close to side rail or frame as possible. Do not lean over the battery when making this connection.

(f) Reverse this sequence exactly when removing the jumper cables. Re-install vent caps and throw cloths away the cloths may have corrosive acid on it.

Warning :- The use of conventional jumper load clamps, when starting truck engines, is not recommended as severe damage to the ground strap could occur during the passage of the starting current which can reach as high as 1200 amps. Special clamps with flat jaws having an area of about 1 in square are required in place of clamps designed to fit the battery terminals.

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