

# **DIRECTORATE GENERAL BORDER ROADS**

## **GENERAL MAINTENANCE INSTRUCTION NO. 212 (REVISED)**

### **ROAD SAFETY AND MT DISCIPLINE**

#### **INTRODUCTION**

1. Road safety is an issue of prime concern in BRO. High number of fatalities is attributable to MT accidents. Fallout of this is reduced works efficiency and competitiveness. In addition, accidents also reduce our transport resources. There is therefore an urgent need to improve all aspects of road safety by our efforts by all concerned.

#### **AIM**

2. To achieve an accident free environment by educating drivers on traffic rules, safe driving practices and improved maintenance of vehicles.

#### **CAUSES OF ACCIDENTS**

3. While there are a large number of causes for accidents, it is mainly due to inadequate training, lack of driving skill and poor MT discipline. Briefly, the cause could be because of the following:-

(a) Poor aptitude and Operational Skills. These could be manifested in drivers in terms of:-

- (i) Over speeding and overtaking without due precautions.
- (ii) Non observance of traffic rules/ethics.
- (iii) Negotiating sharp bends at fast speed.
- (iv) Sudden application of brakes.
- (v) Error in judgment.
- (vi) Inclement weather/poor visibility.

(b) Careless loading of vehicle.

(c) Mental and physical state of drivers.

(d) Poor maintenance leading to mechanical failure.

(e) Driving under influence of intoxicants.

4. Some of these have been amplified in succeeding paragraphs.

#### **Poor aptitude and operating skills**

##### **Over Speeding**

5. The speed limits as prescribed below are not being strictly observed. Tendency of drivers to high speeds need to be ruthlessly curbed to avoid accidents. This especially applicable to officers/JCOs/Supvrs accompanying vehicle who must exercise control and advise and caution such drivers. Surprise checks should be carried out from time to time and drivers found over

speeding should be cautioned. Any recurrence should be severely dealt with. The maximum speed limits in Km per hour to be observed by all vehicles will be:-

Type of Veh	Hilly area/sector	Plain area/sector
Veh Marutl Gypsy/Car/Jeep	35	50-60
Veh 1 Ton/Tata 207/407/Tata Sumo	30	40-50
Veh 2 Ton and above	25	40-45

**Note:-**

(i) Speed limits of veh in Cantt and Town/City will be restricted through Station/Local orders based on density of veh cycle/pedestrian traffic and condition of roads.

(ii) Speed limits for different types of veh for various types of moves will be laid down by project / Task Force HQ concerned based on terrain condition of road, density of traffic, villages enroute, weather condition, nature of move etc.

**Overtaking**

- (a) Don't overtake unless it is necessary. Remember, at high speed the slightest collision can prove fatal.
- (b) When overtaking, only do so from the right of the vehicles you are passing. If the driver of the vehicle in front of you indicates that he is turning right, you may pass from his left. Avoid cutting of heavy vehicles as they need more space/distance to slow down and stop.
- (c) Do not overtake when you think it might endanger other traffic on the road.
- (d) Avoid overtaking in the following case:-
  - (i) If the road ahead is not clearly visible.
  - (ii) If you know that the vehicle behind you has begun to overtake you.
  - (iii) If the driver ahead of you has not yet signalled his agreement.
  - (iv) If you cannot see for more than 150 meters ahead because of a hill or curve.
  - (v) If the road is narrowing.
  - (vi) If a vehicle has stopped at a pedestrian crossing, intersection or railway crossing on bridges or flyover etc.

**Non-observance of traffic Rules**

To ensure safe driving and to minimize accidents, the following measures need to be adhered to by all drivers in this respect:-

- (a) Correct Traffic Signals/cautionary sign as displayed along the road must be followed.
- (b) The horn must be used at blind corners and sharp curves.
- (c) Parking of vehicles in slide prone areas and the middle of the road, thereby blocking the traffic must be avoided.

- (d) Road space for uphill traffic to move first be provided.
- (e) The speed while passing/crossing over bridges must be reduced.
- (f) The vehicle always be reversed with the rear of the vehicle preferably facing the hill side and NOT the valley side. Sufficient space on the road for reversing must be ensured.

### **Negotiating Sharp Bends at Fast Speed**

6. This is a serious malady with drivers on hill roads. Sharp bends/blind curves should be negotiated at low speed, very cautiously and depending upon the road and weather condition. The horn must always be used at blind and sharp corners/curves.

### **Careless Loading of Load carrying vehicles**

7. Platoon Commanders and Dett in-charges will personally ensure that vehicles are not overloaded, both in terms of stores as well as Personnel. The vintage of the vehicle and its fitness state will be considered before using the vehicle for carriage of stores, Carriage of CPL /GREF personnel for work from and to the camp site will be carefully supervised and only a minimum number will be permitted to use the vehicle. A vehicle carrying more than 15 personnel/CPLs will be accompanied by the Supervisor/Incharge Dett. No person will be permitted to travel on the foot board or side/tail boards. No person will also be allowed to travel standing in running vehicles. It will also be ensured that no person is allowed to be seated in the rear of the vehicle loaded with heavy machinery or other heavy stores. Vehs will be loaded to the extent prescribed by the manufacturers and no excess capacity will be carried under any circumstances. The front cabin of the vehicle will not carry more than two persons including the driver.

### **Sudden application of Brakes**

8. Sometimes accidents occur due to the sudden application of brakes. This results in the vehicle turning turtle. Drivers should be capable of correctly judging approaching traffic or ongoing traffic in the lead, to ensure that brakes are not applied suddenly to avoid collision/accidents. This is of paramount importance, when driving vehicles on hill roads.

### **Mental and physical state of Drivers Consumption of alcohol on Duty**

9. It will be the responsibility of all platoon/Dett Commanders to ensure that MT Drivers on duty do not consume alcohol before/during the execution of their duties, till completion for the day. Any driver if found intoxicated before or during duty will be immediately suspended and disciplinary proceedings initiated against him. A record of normal but habitual drinkers will be kept by the 2IC RCC/OIC Platoons/In-charge Dets.

### **Detailment of Unit Drivers for Duties**

10. All MT Drivers must be medically examined every year including for eye fitness. Unfit MT Drivers shall be forbidden from driving the vehicles. Suitable action will be taken to improve his medical fitness or alternatively downgrade him medically and board him out. It must be remembered that any laxity in this respect will endanger the life of others.

### **Unplanned and Adhoc Detailement of Transport**

11. This leads to drivers being over worked and harassed with little or no time left for food, rest and maintenance of their vehicles. Under these conditions, drivers get frustrated, disgruntled and have a tendency to defy orders. There has been inadequate attention in this respect at various levels of Command. Though the deficiency of transport with units/sub units is well appreciated, however this can be overcome by the personal involvement by Unit/Platoons/Dett Commanders in the judicious detailment of drivers. For a whole day duty on long runs, packed meals should be provided to drivers. After lunch, each driver must be given compulsory rest for at least half an hour. Proper arrangements for rest, bath and food for drivers returning late must be made and adequate sleep in the night should be ensured. Drivers should be suitably motivated to carry out first and last vehicle parade in the mornings and evenings.

### **Fitness of Vehicle for Duty**

12. It must be ensured that before the detailment of a vehicle for duty, the vehicle must be fit for driving in all respects in consultation with the vehicle/charge mechanic attached with the Platoon/Dett and the vehicle driver. Whenever any vehicle is detailed for a long duty, a confirmation to this effect that the vehicle is fit for duty will be given by the unit MT Supervisor. No unauthorized person should be allowed to undertake repair work on the vehicle.

### **Poor Visibility caused by Fog /Heavy Rain/Snowing**

13. Only in case of an emergency or when absolutely unavoidable, vehicle should be permitted to ply in fog and during heavy rain. Specific permission in such cases will be granted only by the OIC Dett/Platoon. Precautions like serviceability of vehicle, head/tail lights and availability of fog lights and the overall good mechanical condition of the vehicle will be ensured before detailment under such conditions.

### **SNOW BOUND AREA**

13(a). All wheeled drive vehicle/eqpt/plants should be fitted with non-skid chain while plying over snow bound area during winter. All the frost precautions should also be strictly adhered as laid down in GMI No 02.

### **OUT OF BOUND AREA**

13(b). No veh will undertake journey to an 'Out of Bound' area. In case passage through an 'Out of Bound' area cannot be avoided, it will be ensured that the vehs are not parked in the vicinity of an 'OUT OF BOUND AREA'.

### **COMMON FAULTS AND OMISSIONS**

14. Some of the more common faults/omissions noticed are:-

- (a) Driving fast and dangerously, exceeding safe and specified speed limits.
- (b) Not driving in one's own lane i.e on the left side of the road, particularly at corners and bends.

- (c) Not following the traffic/cautionary sign.
- (d) Not giving a timely and proper pass to vehicles wishing to overtake.
- (e) Parking the vehicle in the middle of the road, while stopping, thereby blocking the traffic. Always stop veh to left of road while giving lift to, or debussing passengers.
- (f) Being intoxicated while driving or smoking while driving which is strictly prohibited even for the co-driver or passengers.
- (g) Exhibiting an unnecessary sense of bravado on the road.
- (h) Being shabbily turned out.
- (j) Generally displaying a reckless and irresponsible attitude towards one's own driving, to other road users and to the ethics and rules of the road.
- (k) Driving of vehs without non skid chain on snow.

15. It must be realised that inculcation of discipline, road sense and etiquette is a continuous process. A continuous reminder through refresher training, supervision, correction and control is imperative to acquire and follow the needs for safe driving. This continuous control needs to be exercised at the unit and sub-unit level. OCs units should first set an example themselves by regularly checking the above aspects in their unit and by educating, guiding and motivating their officers, JCOs/Supvrs and other personnel to do the same, both as a deliberate exercise or whenever noticed, when on the road either when accompanying the vehicle or otherwise.

16. Certain other areas which require attention are:-

- (a) Move of vehicles without a co-driver. This will be avoided as far as possible. No vehicle will move unless accompanied by one responsible co-driver preferably a GREF personnel in the co-drivers seat. At no time will the drivers be the only person in the vehicle. This will prevent over speeding and consumption of liquor enroute.
- (b) Carriage of Unauthorised Personnel:- Persons other than those belonging to the GREF, Army and CPL will not be carried in Border Roads vehicles. Whenever, a lift is extended to such persons, specific permission of the TF Commanders/OC Unit will be obtained and an indemnity bond duly executed by them be kept on record, before the commencement of the journey, to avoid complications at a later stage. Any driver if found carrying unauthorized persons/civilians without any Indemnity Bond will be liable for disciplinary action.
- (c) Talking to Drivers while Driving. Talking to drivers while driving diverts their attention and often leading to accidents. All personnel must realise that a safe journey is a collective responsibility and therefore must refrain from talking to drivers while driving, except when essential. To ensure this, only senior most person will sit in the co-driver's seat and the rest of the passengers will travel in the body of the vehicle.
- (d) Driver must wear seat belt while driving the vehicles.
- (e) All vehicles plying singly after dusk should have a co-driver.
- (f) Do not use loaded Tipper/Trailer for carrying personnel.

## **SAFETY MEASURES**

17. Safety of transport at all times must be ensured. It must be kept in mind, that vehicles are meant to serve the project and they must always be looked after well. In order that the transport serves the purposes for which is provided, safety measures as laid down in the succeeding paragraphs will strictly be adhered to.

18. The safety of Mechanical transport implies the following:-
- (a) Safety of vehicles either while running or static.
  - (b) Safety of the personnel, who are required to drive it and its occupants.
19. Some of the measures which need immediate attention are as under:-
- (a) Vehicles will only be driven by authorised drivers except in case of an extreme emergency. In such cases, specific permission will be given by the unit/platoon/dett commanders.
  - (b) The best drivers and the best vehicles are detailed, when required for conveyance of personnel.
  - (c) Testing and selection of drivers for the correct type of vehicle based on his experience, aptitude, age and driving skill.
  - (d) Training of drivers.
20. Some of the above issues are amplified in the succeeding paragraphs.

### **Selection of Drivers**

21. Guideline for selection of drivers are as under:-
- (a) Generally a sufficient number of drivers/operators are posted to a sub unit. A requirement of matching a vehicle/equipment with a Driver/Operator depending upon the experience, aptitude, age and driving/operating skill of the driver/operator, the type of work and the road condition is essential before deployment. As soon as any driver/operator reports on posting, he should be interviewed to ascertain his experience and aptitude. Before the allotment of transport, care must be taken to detail him on duties, which he has been performing in the past and found suitable for. A MT driver should not be permitted to drive a vehicle on the road or in a sector unless he has been properly acquainted with it by accompanying another experienced driver for at least one week. Extensive care must be taken by OC Unit while deploying MT Drivers in the forward sector, where formation and initial surfacing work is in progress keeping in view the mechanical condition of the vehicle and the capability of the MT Driver.
  - (b) It will be the responsibility of HQ BRTF to ensure that the numbers of MT Dvrs/Operators with every unit are in keeping with the number of vehicles held. Attachments/deployment can be made depending on the requirement/holding.
  - (c) Under normal circumstances, Pioneers and other feeding grades are not to be allowed to drive vehicles or operate equipment. However, in case of a large deficiency of a requirement of more drivers/operators for various administrative reasons, prior approval of the CE shall be obligatory. In such case, a driving proficiency test will be carried out by a standing Board of Officers detailed by HQ Task Force, with the OC Workshop as the Presiding officer. The terms of reference will be as per Annexure-1 attached. An approved copy of the Board proceedings will be forwarded to HQ (P) for reference and record. On approval, a Part I order will be published regarding their deployment as MT/DVRs for a specific period as approved by the Commander Task Force. Any extension of period will be granted **after** re-validation by the BOO.

(d) Each Vehicle/Eqpt/Plant will be allotted to a specific MT Dvr/Opr. A change of MT Dvr/Optr will be made only when an individual proceeds on leave, course or is admitted in hospital. The allotment of each vehicle/eqpt/plant by name to each Dvr/Optr should be published in the part I order. Thereafter any change will be notified in the Unit Part I order. A copy of the Unit Part I Order will be endorsed to HQ CE (P).

### **Training of MT Drivers**

22. Over and above the instructions issued on the selection of drivers at Para 22 above, a systematic refresher training of the MT drivers is essential. This training should be organized at the RCC level by each BRTF. One officer from the Fd Wksp and one JE (E&M) will be detailed for this purpose. This training team will function directly under the control of HQ TF. This refresher training will be carried out at least once every 3 month. A schedule will be issued by the Task Force and it will be ensured by OC RCCs that all drivers should undergo this refresher training at least once in a year. The duration and time of conduct of this refresher training in each quarter will be decided by TF Commanders. Aspects suggested to be covered are given at Annexure-2 to these instructions. Additional aspects to be covered under this refresher training could be considered based on the local requirement and the degree of proficiency of drivers attending the refresher training.

### **Medical Examination**

23. All MT Drivers will be medically tested on reporting to the unit, before being detailed on a Vehicle for driving. They will also be tested annually during the refresher training every year. Eye testing shall be arranged by the SMO of the TF, if need be in co-ordination with available Military/Civil hospitals located in the vicinity. Ground executives should ensure that only those drivers be permitted to drive veh who are found medically fit by SMO of TF. Remedial medical treatment will be initiated for rehabilitation and will be reviewed by the SMO as medically deemed. Cases where drivers are found medically unfit for driving will be immediately taken off driving and such cases intimated for medical downgradation and review of his retention in service. Appropriate remarks will be endorsed in the service documents and in the ACR of such MT Drivers each year. When such drivers are posted to other Projects/units, suitable remarks will be endorsed in red in the movement order of the individual.

### **Day to Day Safety of the Vehicles**

24. For the day to day safety of the vehicle the following will be ensured:-

- (a) Prior to starting, it must be ensured that all the mechanical systems and controls of the vehicle are functioning properly
- (b) Daily maintenance as laid down in the maintenance manuals or directives/General Maintenance Instructions is carried out meticulously.
- (c) While running, a constant watch to be kept on the controls and any unusual happenings be immediately investigated.
- (d) The moment a defect is detected, the vehicle should be stopped immediately and the defect attended to so as to avoid a minor fault developing into a major defect leading to an accident.

## **Rules of Safe Driving and preventive measures to avoid accidents in General**

25. On roads you are driving safely but your duty is also to save yourself from others who are driving dangerously.

(a) **Sign and signals:** Always follow the directions given to drivers either through police officers regulating traffic or through road signs or traffic signals. Violation of these is an offense and dangerous for you and others.

(b) **Slowing down:** Slow down at junction, intersections, and pedestrian crossing and road corners. If you are entering main road where traffic is not being regulated, give way to vehicles passing on your right side.

(c) **Turning left or Right:-** When turning left, keep to the left side of the road you are leaving as well as the one you are entering. When turning right, move to the center of the road and carefully arrive near the left side of the road you are entering. Use flashers with your hands signals throughout the turnings.

(d) **Hand Signals with indicators:**

(i) Always extend your arm straight out, palm to the front. When turning right or changing to the right lane.

(ii) Always extend your arm and rotate in an anti clockwise direction when turning left or changing to the left lane.

(e) **Avoid parking at following places:-**

(i) At or near a road crossing

(ii) At the top of a hill

(iii) On a foot path

(iv) Too near a traffic light or pedestrian crossing

(v) On a main road or a road with heavy traffic

(vi) In front of opposite another parked vehicle

(vii) Near bus stop, school or a hospital entrance

(viii) On roads that have a white continuous line

(ix) Right next to a traffic sign thereby blocking it for others

(x) At the entrance of a building

(xi) Near a fire hydrant thereby blocking access to it where parking is prohibited

(xii) Whenever a veh is parked for any reason, the Driver should always apply the parking brake.

(f) **One Way Road/Two Way Road:**

(i) Do not drive on a one way road in the direction prohibited. Avoid plying of heavy veh on narrow roads in towns.

(ii) Always keep left on a two way road to allow traffic from the opposite direction to pass on your right. On one way road, allow vehicles behind you to overtake from your right.

(iii) The lanes dividing traffic like yellow line for heavy vehicles, two wheelers/cycle lane must be followed.

(iv) Do not cross the stop line painted on the road when you stop at a road junction or intersection or a pedestrian crossing.

(v) Always keep in your mind to use the horn only when essential and never in a silence zone. Do not fit loud pressure horn, multi toned or harsh and shrill sounding horns or alarms in your vehicle. Vehicles with defective silencers are also prohibited on the road.

(vi) Always maintain an adequate distance from the vehicle ahead of you to avoid collision if the vehicle ahead suddenly slows down or stops.

(vii) Drive the vehicle in low gear and keep the accelerator pressed when you drive in uphill. Do not interrupt your momentum otherwise vehicle will go backwards. Use stopper always while parking in hill roads.

(viii) Keep in your mind during downhill driving on mountains and steep roads, the vehicle driving uphill must be given the right of way by vehicles coming down hill. If the road is not sufficiently wide, stop on the side at safe place of the road and allow the driver going uphill to proceed first. Use exhaust brake at down hill, use low gear to decrease the load on brake shoes.

(ix) When road repair work is going on, slow down and drive at a speed not exceeding 25-30 Kilometers per hour.

(x) Do not drive backwards for longer distance and ensure that in doing so no other person is endangered or inconvenienced.

(xi) Do not drive on the road if you are not well, after taking medicine or influence of alcohol that is likely to impair your driving abilities. The alcohol retards your nervous actions, alertness etc.

(xii) Keep in your mind that pedestrians, cyclists, scooterists and motorcyclists do not have solid protection around them. Always keep a close watch on other road users. Children, for example, may do unexpected things. Elderly pedestrians may moves lower than you expect or may not see or hear you until you are too close. You must stop if a pedestrian is on a school crossing. This applies even if there is no crossing supervisor present, stop at the stop line until all pedestrians are off the crossing. Always give way to pedestrians if there is danger to their safety. Take extra care if they are children or elderly people. Be extra careful at shopping centers, busy intersection, school parks and residential areas.

(xiii) Never indulge in Zigzag driving, especially on two wheelers. It is dangerous for both you and others.

(xiv) Do not take a u-Turn where it is specially prohibited. But when you are taking a U-Turn, signals by hand the way you would for a right turn, observing the traffic behind you in your view mirror seeing distance, thereby causing accidents. The high beam is useful for extra seeing distance. However, you must dip your headlights to low beam when an approaching vehicle is within 200 meter, or the other vehicles headlights dip, whichever is sooner. Also dip your headlights when driving 200 meter or less behind another vehicle. Remember not to use high beam in foggy condition as your light reflect back, reducing visibility. Also remember to sue your dipper at night. If oncoming traffic does not dip its high beam, look to the left side of the road and drive towards the left of your lane. If overtaking is being done from on coming, for safety you may stop also. If the lights of an oncoming car temporarily impair your vision, slow down or even stop until your eyes recover.

(g) **Right of Way:** At some cross roads, there are no traveling in the intersection on your right. You must also give way to the right at intersections where the lights have failed.

- (i) If you and an oncoming vehicle are turning right at an intersection both cars should pass in front.
- (ii) If the other drivers do not give way to you, do not commit the same mistake they are making.
- (iii) Give way to fire engines and ambulances by driving your vehicle to side of the road.
- (iv) Give way to pedestrians at crossings that are not regulated.
- (v) Give way to traffic already in the lane you are moving into.

(h) **T-Intersection:-** At T-Intersections, the vehicle traveling on the road continuous ends must be given way. (Unless otherwise sign-posted). The give-way-to-the-right rule does not apply to T-Intersections.

(j) **Roundabouts:** An intersection with a central traffic island is called a roundabout. Give way to vehicles already on the road. If you are turning, as you approach or exit the roundabout, you must use your indicator and hand signal to show where you are going. Always slow down and prepare to give way at a roundabout. Please follow lane markings on the road leading to the roundabout. If there are no lane demarcations, do not overtake from the left. Enter the round about when there is a safe gap in the traffic. When turning left, stay on the left. When going straight, from whichever lane you enter, drive in the same position through the roundabout, when turning right, drive close to the center of the roundabout. Take care while changing position on the roundabout, particularly when exiting and gradually come to left.

(k) **Turning:** Remember to give way to pedestrians when turning to the left. When turning right, use the correct hand or indicator signals. Move as close to the center line as possible and turn only when there is no oncoming vehicle.

(l) **Medical facilities:**

- (i) First AID Kits should be available with all road side Camps/Detts.
- (ii) Ambulance facilities must be available at Projects and Task Forces for transportation of injured personnel.

(m) **Behavior Studies**

- (i) Drivers should always coordinate their judgment with their fellow drivers on road, while passing/ crossing their vehicles.
- (ii) Drivers/operators should be made well conversant with the new vehicle/eqpt by imparting suitable training and refresher course at Project level.



### **Security of Transport and Equipment:**

26. It is the basic responsibility of MT Dvrs on whose charge the vehicle is held. Key of the veh be deposited in key box with locking arrangements, at a specific location in a MT area as fixed by each unit/PI. As far as possible, no Dvr should be permitted to hold the key of his vehicle at the end of the day's work. While in transit, the veh key must be in possession of the concerned Dvr and under no circumstances should it be left in the vehicle of at any other place unattended.

27. Parking places in the unit lines and at the work site must be suitably selected and notified by the OC Unit. At the work site, the responsibility for proper parking of any veh/eqpt will be that of the concerned Dvr, as well as the OIC PI.

28. Sunday will be observed as a maintenance day vehicles will be checked by the Wksp/RCC rep for mechanical fitness and a record will be maintained.

29. Move of vehicles on Sunday will be restricted and it will be kept to the barest minimum and that too with the written permission of OIC Platoon. A record will also be kept of such moves. In emergent cases, I/C Detachment can detail vehicles, but he will accompany the vehicle.

### **DOCUMENTATION**

#### **Driving License**

30. Each Driver will be in possession of a GREF Driving License issued by the respective TFs/Units. A license register is also to be maintained giving the following particulars:-

- (a) Name of the individual and GS Number
- (b) Trade
- (c) Height, Weight and identification marks
- (d) Whether the individual is holding a civil License or not
- (e) Date of renewal and likely expiring date of the GREF License

#### **Documents**

31. Each Driver while on duty must have the following documents in his possession:-

- (a) GREF and Civil License
- (b) Accident form
- (c) Pay Book
- (d) Car Diary/duty slips duly filled for duty
- (e) A proper movement order in case of move over long distances
- (f) Identity Card

32. **HOW TO MAKE SAFE AND VALUABLE/ECONOMICAL DRIVING**

(a) **Tips for safe driving:-**

- (i) To avoid quick accelerations start from rest with the accelerator pedal fully down can damage the engine. It also generates a dangerous traffic situation to others also.
- (ii) Do not race suddenly an engine by pressing the accelerator pedal it waste ten times while the vehicle is stationary will waste 40 cc of fuel.
- (iii) Always drive your vehicles steadily with a moderate speed it obtained maximum fuel economy. Fuel is wasted whenever you suddenly accelerate or brake the vehicle. Depressing the accelerator pedal to increase speed of veh quickly when at slow speed also wastes more fuel. If the pedal is pressed to the floor 10 times 110 cc of fuel is wasted.
- (iv) Do not make yours habit as foot resting on the clutch pedal. This will cause clutch slippage resulting in more fuel consumption and premature clutch wear or damage and less pick up. Keep check/adjust clutch pedal play time to time, no play of clutch pedal will result clutch slippage.
- (v) Avoid needless idling, while waiting for somebody, while loading or unloading, or while stopped by congested traffic, if the engine idles for 10 minutes, it will waste 100 cc of fuel.
- (vi) Maintain drive at economical speed on ordinary roads a speed of 50 to 60 Km/hr in top gear. It is the most fuel efficiency way to drive. It consumes the least fuel.
- (vii) Fuel economy can be achieved as much as 50% by skillful driving and avoid unnecessary gear changing and braking. Look ahead and judge the speed of other vehicles and timings of traffic lights. By doing this, unnecessary stopping and starting can be avoided and steady speed can be maintained. Thus, shifting down from higher gear to lower gear may be avoided which means less driving in lower gears.
- (viii) Choke should be used only for cold start. The use of choke provided the mixture i.e. more of fuel and less of air. After starting the engine position the choke knob by pushing it back that the engine run moderately.
- (ix) If you forget your way, 10 minutes driving wrong will cost you 470 cc of fuel.
- (x) To avoid driving on low gears increase fuel consumption. High speed engines consume comparatively more fuel at low gears as compared to conventional engines. Hence the lower speed gear should only be used to get the car into motion.
- (xi) The higher gear should be shifted into as soon as the speed of the vehicle would allow smooth operation of the engines in that particular ratio.
- (xii) Check for Petrol/Diesel tank, pipe lines, pump or carburetor so no fuel spilling or evaporating only.

33. **DO IT YOURSELF OR REMEMBER ALWAYS TO CARRY OUT RUNNING/ PREVENTIVE MAINTENANCE OF VEH**

- (a) Tune Engine, Periodically:- The engine tuning like ignition timing, tappet clearance, fuel filter replacement, nozzle pressures adjustment at prescribed time or kilometer run.
- (b) Check Spark Plugs:- Use only the recommended spark plugs. Use of spark plug of different heat rating will increase your fuel consumption. Maintain cleaned and correct gap of its tips.

- (c) Air Clearer Element:- When the air cleaner is dirty, air-flow is restricted, fuel consumption will be increased. Clean the air cleaner as soon as it is slightly dirty by compressed air. Few air filters can also be washed.
- (d) Clutch:- To check clutch on 2<sup>nd</sup> or 3<sup>rd</sup> gear at stationary position accelerate pedal if vehicle pickup quickly the clutch is performing well, if picking up sluggishly then clutch disc is slipping. A slipping clutch will cause considerable fuel waste. If such symptoms occur, have checked the clutch immediately, otherwise the total system will generate the defects. Maintain clutch pedal play as per owner manual.
- (e) Battery Electrolyte:- Check the electrolyte level, the specific gravity, and the battery terminals for cleanliness. If a battery is defective in any of this area, the life of battery will be reduced.
- (f) Tyres: Low tyre pressure has the same adverse effect on a motor vehicle as a heavy load. Drag is increased with a result there is increase in fuel consumption. Check the tyre pressure regularly and set it to the specifications in the owner's manual.
- (g) Brakes:- Immediately after stopping your vehicle, touch the wheel rims with your hand. If a wheel rim is hot that brake is probably dragging. Brake drag not only wastes fuel, but can cause a serious accident if brake oil boils. If the wheel rim is hot, immediately correct the brakes.
- (h) Engine oil:- Dirty engine oil will increase friction between various parts of the engine, and reduce combustion efficiency. Regularly check the engine oil for contamination. Check the oil level at the same time and use the recommended grade of oil.
- (j) Brake Fluid Level: If the level is found below the low limit mark, replenish the specified brake fluid. Change the brake fluid after two year irrespective of kilometers run because oil get deteriorated after span of time. Never mix old or new or different companies brake fluid.
- (k) Apart from the above, it should also be ensured that all instructions/procedure to be adopted for periodic maintenance of vehicles as laid down in following General Maintenance Instructions (GMI):-
- (i) GMI No. 06 : Driver's Maintenance for all 'B' Vehicles
  - (ii) GMI No. 18 : General Maintenance Instructions for Vehicles/Equipments

## **CONCLUSION**

34. These detailed instructions on MT Discipline have been issued to educate and lay down specific guidelines for the effective and efficient control and management of Mechanical Transport and to inculcate a sense of discipline in this area of concern.

35. It should be the endeavor of CEs, Commanders and OC Units at all levels to disseminate these instructions down to the Platoon level and ensure and implementation in letter and sprit.

36. Culture of high standards of safety of men and equipments needs to be vigorously pursued by emphasizing conformity to guidelines and continues process of training and evaluation. This needs coordinated organizational efforts and cooperation from all member of the force. This requires proper motivation to develop required awareness. Above all it is in the interest of the organization and every member of the force to achieve zero tolerance for violation, of safety norms.

(YP Mishra)  
SE (E&M) FS  
Director (Tech)  
For Dir Gen Border Roads

**RECRUITMENT OF PIONEERS AS MT DRIVERS**

1. The following action will be taken for recruitment of Pioneers as MT Dvrs:-
  - (a) Testing for proficiency in driving by a BOO constituted by the TF with the OC Wksp as the Presiding Officer.
  - (b) Possession of a valid civilian driving license.
  - (c) Surety of the Pioneer by GREF personnel not below the rank of a JE (Civ) or JE (E&M).
  - (d) Publication of a proper DO II in support of notification of recruitment.
2. No pioneers will be recruited without obtaining prior approval of Project HQrs.
3. They will only be recruited under special circumstances, duly justified.
4. CPL as a rule should not be allowed to drive vehicles even though they may possess a valid license as they cannot be punished for accidents. However, under exceptional circumstance this could be permitted on the discretion of CE (P) / TF Commander after conducting trade test/proficiency test for driving capability at their dependent Fd Wksps.
5. In addition to above, points given in BRDB letter No F.232(46)/BRDB/BWA/90 dated 28 Mar 1990 circulated vide DGBR/EG-2 letter No 12401/Gen/DGBR/EG-2 (Rtg) dated 10 Apr 90 be strictly followed.

**TRAINING AND DEPLOYMENT OF DRIVERS**

1. The aspects which should be covered for the training and development of drivers, as refresher course are given below:-

- (a) Duties and responsibility of drivers.
- (b) Knowledge of Road Signs and Do's and Dont's in Hill Areas including night driving and in poor visibility conditions.
- (c) Operation of controls and their use
- (d) Importance of a serviceable mechanical condition of the vehicle covering the following:-
  - (i) Seat adjustment
  - (ii) Play in clutch, brakes and steering
  - (iii) Gear level operation
  - (iv) Functioning of instruments, horns, heads/fog/tail/side brake lights and dipper.
  - (v) Driving of veh during winter in snow bound area.
- (e) Importance of servicing and greasing of the vehicles and Daily/Weekly/Monthly maintenance tasks.
- (f) Preventive maintenance and its importance and simple rectification/adjustments.
- (g) Accidents & their causes and remedies with reference to:-
  - (i) Speed at bends, curves, zigs, bridges and populated areas including school locations
  - (ii) Crossing
  - (iii) Negotiating
  - (iv) Breaking distance

2. This should be followed by a driving test of a minimum of 15 minutes duration in a hilly terrain. Corrections/advice on improvement/rectification in driving skills to be applied and recorded in each case.

3. Any additional aspects, time permitting could be included by the OIC conducting the refresher training program.

4. The refresher course should be interactive and developmental.