

**INDEX INCLUDING SUBJECTS WITH ALLOTTED PERIODS****TRADE TRAINING BASIC****MTOF (MTO PART)****MID PHASE, PART- I,II AND PRE-CTTB PART-III, IV**

Ser No	Subject/Topics	Alloted Periods			Page No
		Theo	Prac	Total	
	<b>MID PHASE, PART-I (DCT-1)</b>				
1.	Introduction of MT Vehicles (Automobile)	08	10	18	01-02
2.	Ten Commandments	04		04	03-05
3.	Cab Drill	03	12	15	06-07
4.	Highway Code	04	15	19	08-19
5.	Moving off and Stopping Procedure	05	12	17	20-21
6.	Moving off and Stopping Signal	03	08	11	22
7.	Reaction Time in Driving	04	14	18	23-24
8.	Reversing of MT Vehicle	04	15	19	25-26
9.	MT Daily Servicing Schedule Trailer (Poster No-31)	03	04	07	27-28
	<b>Total=</b>	<b>38</b>	<b>90</b>	<b>128</b>	

	<b>MID PHASE, PART-II (DCT-2)</b>				
1.	MT Accident Procedure	05	08	13	29-36
2.	Lighting Regulation of MT	03	05	08	37-39
3.	Loading and Unloading of MT Vehicles and Aircraft	04	08	12	40
4.	Convoy Procedure	05	10	15	41-47
5.	MT Fire Precautions	04	08	12	48-50
6.	Marking and Identification of BAF MT Vehicles	04	03	07	51-55
7.	Types of Tyre	04	02	06	56-57
8.	Intermediate Servicing Schedule (Poster No-30)	03	04	07	58-59
9.	Road Traffic Signs and Visual Road Sign Chart	06	12	18	60-62
	<b>Total=</b>	<b>38</b>	<b>60</b>	<b>98</b>	

	<b>MID PHASE, PART-III (DCT-1)</b>				
1.	Driving Permit	03	06	09	63-70
2.	Instrument Panel	06	08	14	71-72
3.	Jacking of MT Vehicles	05	08	13	73
4.	Loading and Carrying Capacity of MT vehicle	10	12	22	74-77
5.	BAF Forms used in MT Section	04		04	78-81
6.	Daily Servicing Tasks (Poster No -33)	04	04	08	82-83
7.	MT Daily Servicing Prime Mover (Poster No-34)	04	10	14	84-86
	<b>Total=</b>	<b>36</b>	<b>48</b>	<b>84</b>	

	<b>MID PHASE, PART-IV (DCT-2)</b>				
1.	Distinguishing Flags and Star	04	07	11	87-89
2.	Safeguard of MT Vehicle	04	05	09	90-91
3.	Hiring of Service Transport on Repayment	04	04	08	92-96
4.	MT Servicing Form-656	03	04	07	97-99
5.	MT Servicing Procedure	05	06	11	100-105
6.	MT Simulator	30	40	70	106-121
7.	MT Vehicle Servicing Data Sheet (Poster No -32)	03	03	06	122
	<b>Total=</b>	<b>53</b>	<b>69</b>	<b>122</b>	

## **GENERAL ORIENTATION ON MT VEHICLE**

### **Introduction**

1. All operators are mainly concerned with the driving of MT vehicle. They must know something about the vehicles they are driving. The basic idea of an MT vehicle and its components will certainly help to improve their driving efficiency.

### **Definition of MT Vehicle**

2. MT vehicle is a self-propelled carriage to carry men and materials from one place to another place.

### **Main components of MT Vehicle**

3. MT vehicle issues divided in to three main parts:

- a. Engine
- b. Body
- c. Chassis

### **Engine**

4. It is a device which converts heat energy in to mechanical energy. In another word you can say it is a power producing device from where MT vehicle gets power to move. It is divided in to the following main parts:

- |                              |                  |
|------------------------------|------------------|
| a. Engine block              | k. Carburetor    |
| b. Cylinder head             | l. AC Fuel pump  |
| c. Piston                    | m. Sparking plug |
| d. Crank shaft               | n. Ignition coil |
| e. Cam shaft                 | p. Distributor   |
| f. Connecting road           | q. Exhaust pipe  |
| g. Big and small end bearing | r. Silencer box  |
| h. Fly wheel                 | s. Radiator      |
| j. Oil sump                  | t. Filte         |

**Body**

5. The body is made of wood or steel; its purpose is to bear the load of passenger of goods. It divided into following main parts:

- |                      |                 |
|----------------------|-----------------|
| a. Operator's cabin  | l. Bonnet cover |
| b. Foot brake        | m. Mud guards   |
| c. Hand brake        | n. Angle arm    |
| d. Clutch paddle     | p. Tail board   |
| e. Accelerator       | q. Side board   |
| f. Instrument panel  | r. Head lights  |
| g. Wind screen wiper | s. Side lights  |
| h. Wind screen       | t. Tail light   |
| j. Upper hood        | u. Indicators   |
| k. Doors             | n. Reflectors   |

**Chassis**

6. It is made of steel, where engine and body are mounted on it. It is divided in to following parts:

- |                          |                   |
|--------------------------|-------------------|
| a. Side member           | h. Towing members |
| b. Cross member          | j. Wheel drums    |
| c. front and rear axle   | k. Bumper         |
| d. Differential assembly | l. Road springs   |
| e. Propeller shaft       | m. Shock absorber |
| f. Steering assembly     | n. Reservoir tank |
| g. Gear box assembly     | p. Fuel tank      |

**BAF BASE ZAHURUL HAQUE (TRG WG)**

**(Aero Egg Trg Sqn)**

<b>Syllabus</b>	<b>:</b>	<b>Automobile and Diesel Technology</b>
<b>Course</b>	<b>:</b>	<b>MTOF Basic Trade Training</b>
<b>Subject</b>	<b>:</b>	<b>Ten Commandments</b>
<b>Aim</b>	<b>:</b>	<b>To Study Ten Commandments</b>
<b>Ref</b>	<b>:</b>	<b>Basic Précis</b>

---

---

**TEN COMMANDMENTS**

**Aim**

1. To learn the merit of Ten Commandments.

**Introduction**

2. All operators on road must know to drive their vehicles safely without doing any harm to other road users or to themselves. Safe driving is an essential quality which can be acquired by an operator through constant practice of certain commandments. Commandments can help operators to have accident free driving in all the times of their whole life.

3. The following Ten Commandments, if all the road users comply with and act accordingly will reduce the rate of road accident to minimum

- a. Never be absent minded.
- b. Never drive carelessly.
- c. Never drive too fast.
- d. Never give race on the road.
- e. Never drive when you are ill, over fatigue or intoxicated.
- f. Consider about children, old man and animals.
- g. Remember that you are responsible for passengers and goods.
- h. Be courteous to all road users.
- j. Avoid rush driving.
- k. Always think, "I am only the sensible man and others are fools playing on the road".

**Never be Absent Minded**

4. It is the main cause of road accident. All the other accidents also occur due to this. Absence of mind is absence of all. The absence of mind may cause a fatal accident losing life and property. So always be mentally present whenever you drive.

**Never Drive Carelessly**

5. It is another cause of accident. By careless driving you gain nothing but loss many things. A good operator always drives carefully and reaches his destination safely.

**Never Drive too Fast**

6. Too fast driving is a cause of accident. Remember if you drive too fast your brain and your observation also should work too fast, which is not possible all the times and that causes accident. Too fast driving always can be a cause of fatal accident. A good operator never drives too fast.

**Never Give Race on the Road**

7. Giving race on the road with other vehicle is another cause of accident. The vehicular traffic road is not the place of race field. All the road users have equal right to use the road as you have. If you give race on the road that means you are curtailing the right of others using the road and disturbing the smooth flow of traffics.

**Never Drive When you are ill over Fatigue or Intoxicated**

8. It is also a cause of accident. If you are ill your mind may not work. If your mind does not work then your mind is absent and that is also a cause of accident. Same cause happens with over fatigue also. You may have the habit of drinking alcohol which makes you unconscious; at that time your mind can not work. If your mind does not work then there is every possibility of accident.

**Consider About Children, Old Man and Animals**

9. Children, old man and animals are not sensible to traffic rules and right of the road users. They are too considered in the same category while driving a vehicle on a road. Ignoring their presence on a road can cause a serious accident. A good operator always reduces the speed of his vehicle whenever he comes across them on the road and allows them to do their activities first.

**Remember that you are Responsible for the Passenger and Goods**

10. A good operator always thinks that the life of passengers, valuable goods which are being carried by his transport are in his disposal. So he is always careful.

**Be Courteous to all Road Users**

11. Absence of courteousness is the cause of accident. Be courteous to all users using the road. Never cross them aggressively so that they are disturbed. Allow the pedestrians to cross the road first. A good operator always remains courteous to all users.

**Avoid Rush Driving**

12. Rush driving is a cause of accident. Never rush on the road. Have patience. If others are doing wrong thing let them do but don't challenge them for that. A good operator drives smoothly with cool brain.

**Always Think "I am only the Sensible Man and others are Fools playing on the Road"**

13. If an operator adopts and follows these words he will never meet an accident. His driving will be clean and safe. If he thinks himself only the sensible man he can never do a mistake and if he does not by mistake he is free of accident. A good operator always follows these words.

**BAF BASE ZAHURUL HAQUE (TRG WG)**

**(Aero Egg Trg Sqn)**

<b>Syllabus</b>	<b>:</b>	<b>Automobile and Diesel Technology</b>
<b>Course</b>	<b>:</b>	<b>MTOF Basic Trade Training</b>
<b>Subject</b>	<b>:</b>	<b>Cab Drill</b>
<b>Aim</b>	<b>:</b>	<b>To Study Cab Drill</b>
<b>Ref</b>	<b>:</b>	<b>Basic Précis</b>

---

**CAB DRILL**

**Aim**

1. To learn the checks to be carried in vehicle cabin before moving off.

**Definition of Cab Drill**

2. Definition of cab Drill is certain checks to be carried out an operator in the vehicle cabin before he proceeds on driving.

**Purpose**

3. Cab drill helps an operator/driver to get pre-hand information about the state of vehicle which he is going to drive.

**Items of Cab Drill**

4. The following items are to be checked by an operator in the vehicle cabin before driving.
  - a. **Hand brake is on.** See that hand brake is on position. If you do not check that the hand brake in op position and by any chance, if the gear is in engaged position then the movement you start the engine your vehicle will jumps forward and hit something in front. If the hand brake is on then there may not be any accident.
  - b. **Gear lever is neutral Position.** Check and be sure that gear lever is neutral position so that when you start the engine the vehicle may not jump forward.
  - c. **Seat is well Adjusted.** Check that the seat on which you are going to sit is well adjusted according to your leg length so that you can reach to the controls easily.
  - d. **Wind Screen is Clean.** See that the wind screen is properly cleaned and all around visibility is good. Visibility will be poor if wind screen is kept un-cleaned. Poor visibility may be a cause of an accident.
  - e. **Top of the Cab is Well Secure.** See the top of the vehicle cabin is well secured so that no sun rays or rain water can come in and the tarpaulin of the cabin head does not hit your head. If it does you will feel disturbed. Your mind will be diverted to these things and that may be the cause of on accident.

RESTRICTED

- f. **Fuel is Sufficient.** See that fuel quantity shown in fuel gauge is sufficient to undertake a journey as planned.
- g. **Both the Doors are Properly Closed.** Check and be sure that the doors of your vehicle cabin are properly closed so that while taking turn you and the passenger sitting by your side may not fall down.
- i. **Driving Mirror is Well Adjusted.** See that driving mirror is adjusted to the level of your sight so that by sitting on the driving seat you can be the rear view. Remember that the driving mirror is the operator's third eye by which he can see that back view of his vehicle.

**BAF BASE ZAHURUL HAQUE (TRG WG)**  
**(Aero Egg Trg Sqn)**

<b>Syllabus</b>	<b>:</b>	<b>Automobile and Diesel Technology</b>
<b>Course</b>	<b>:</b>	<b>MTOF Basic Trade Training</b>
<b>Subject</b>	<b>:</b>	<b>Highway Code</b>
<b>Aim</b>	<b>:</b>	<b>To Study Highway Code</b>
<b>Ref</b>	<b>:</b>	<b>Basic précis</b>

---

**HIGHWAY CODE**

**Aim**

1. To learn the regulations and common practices of highway driving.

**Definition**

2. The Highway Code is a set of common senses and rules for the guidance and safety of all road users.

**Purpose**

3. Giving due consideration for other road users is the Keynoted of the code. Remember you have right as well as responsibilities while driving a vehicle in a road. Highway Code is imposed to minimize the rate of accident.

**General conduct and common practices for motorist**

4. All the operators are to conduct themselves in a disciplined manner by obeying the followings while driving vehicles in highway:
  - a. Besides being careful and courteous at all times, be patient and alert and be prepared for the mistakes of other road users
  - b. When policeman is regulating the traffic, do not put questions to him.
  - c. Be alert at all times. A fraction of a second may make all the differences between safety and disaster. If you can't concentrate properly, you are risking not only your own life but the lives of others as well.
  - d. Watch the children Accidents to children are terribly frequent.
  - e. Keep well to the left unless you are about to over take or turn to right.
  - f. Be careful when passing stationery vehicles and other obstructions, pedestrian may dodge out from behind.
  - g. Take special care at crossing and bends. Give way to traffic on major road. While entering to a major road stop, look right, left and again right and then enter.
  - h. When traffic in front of you is held up, never attempt to gain a forward position by advancing on the off side.



## RESTRICTED

- i. Slow down when passing the animals, give them room first.
- j. Always light up in good time when visibility is poor. Specially on foggy days put on your lights.
- k. Before opening the door make sure that the vehicle has stopped and you will not endanger any one on the road or footpath.

### **Overtaking**

5. Overtake only when you are sure that you can do so without doing any danger to yourself and others. never accelerate while being over taken. Do not overtake:

- a. Unless you can do so without forcing the overtaken or approaching vehicle to swerve or reduce speed.
- b. At a corner or bend.
- c. At or approaching the brow of a hill or hump-back bridge.
- d. At cross road.
- e. At pedestrian crossing.
- f. Where continuous line marked on the highway.
- g. When receive no response of being overtaken from slow moving vehicle.
- h. On narrow bridge.

### **Signals**

6. Before you stop, slow down or change direction, give proper hand signal and give it in good time so that the other road users understand your intention and are not confused. You are also to take note of the followings:

- a. Do not rely on signals given by unauthorized persons.
- b. If you are using a direction indicator, see that it is cancelled as soon as your movement is completed.

### **Road traffic signs**

7. The following points are to be taken care of for watching road signs while driving:

- a. These are placed by the side of the road to warn the approaching traffic about the nature of hazard ahead.
- b. Besides these signs, operators are to keep a sharp look out for lines marked on the road. Dotted lines warn the approach of hazard on the road.

## RESTRICTED

### **Parking**

8. When you stop your vehicle, drive in as close as possible to the left side of the road. Do not park your vehicle in the following places:

- a. Near the brow of a hill or hump-back bridge.
- b. At or close to a bend or road junction.
- c. Where it obscures a pedestrian crossing or a road sign
- d. At or near a bus stop or entrance to any building
- e. Opposite to another standing vehicle.
- f. Facing the wrong way at night (on the right side of the road)

### **Reversing**

9. Before attempting to reverse, see that it is safe to do so and you will not damage vehicle or any other thing at the rear or on the side. At the time of reversing your vehicle:

- a. Make sure that no children are at the back.
- b. Keep sharp look out for other traffic approaching.
- c. Never reverse in to a major road.
- d. Do not make "U" turn on the cross road.

### **Speed limit**

10. A speed limit is imposed for the reasons of safety which may not always be obvious. To exceed it, is not only dangerous but also an offence.

### **Mirror**

11. Make habit of using the mirror so that you know what is behind you, especially when you are about to move off, turn, overtake, stop or open the door.

### **Driving of MT vehicle at night**

12. Driving of all BAF vehicle are to ensure that while driving on public roads within the municipal and cantonment limits of town and cities between the hours of dusk to dawn, they have the head lights of their vehicles dipped at all times. The beam of the lights is not to be greater than 25 feet from the head lights to the ground. In case of vehicles not fitted with a dipper switch, the top half portion of the head lamp glasses is to be painted black.

### **Lights**

13. Headlights are the eyes of your vehicle at night. Use head lights with dipper whenever necessary so that you should not create any problem for other road users. When you use head lights, remember the followings:

- a. Do not use your head lights unnecessarily in lighted areas. Dip your head lights when meeting vehicles on the road from opposite direction or when following another vehicle which you can not intend to overtake.
- b. Drive well within the limit of your lights. If you are dazzled, slow down even to a stand still.

### **Conclusion**

14. Take a pride in your driving. Realize that stopping distances increase with speed, and drive accordingly. Drive on your engine and not on your brakes. Know the breaking and deceleration of which your vehicle is capable in an emergency and always adjust your speed to the preventing road and traffic conditions. Finally take the following things into serious consideration for the safety of all road users:

- a. Do not drive in a sprite of competition with other road users, if another driver shows lack of care or good manners do not retaliate.
- b. Never exceed the speed limit Remember that it is laid down for your safety as well as the safety of other and that speeding is one of the most frequent causes of road accident.

**BAF BASE ZAHURUL HAQUE (TRG WG)**

**(Aero Egg Trg Sqn)**

<b>Syllabus</b>	<b>:</b>	<b>Automobile and Diesel Technology</b>
<b>Course</b>	<b>:</b>	<b>MTOF Basic Trade Training</b>
<b>Subject</b>	<b>:</b>	<b>Moving of &amp; Stopping Procedure &amp; Signal</b>
<b>Aim</b>	<b>:</b>	<b>To Study Moving of &amp; Stopping Procedure</b>
<b>Ref</b>	<b>:</b>	<b>Basic Precis</b>

---

**MOVING OF AND STOPPING PROCEDURE**

**Aim**

1. To learn the correct procedure of smooth moving off and stopping of vehicles.

**Purpose**

2. The basic requirement of a MT operator is to know the correct procedure of moving off and stopping of MT vehicles. Whenever they drive they should know how to move off a vehicle and should be well conversant with the controls to stop at any time they need. They can not be a good operator unless these procedures are turned into habits by them while driving an operator is always judged by his moving off and stopping of a vehicle.

**Moving off Procedure**

3. Before moving off a vehicle the following actions must be taken by all the operators:
  - a. Engage in 1 sty gear.
  - b. Hold the steering wheel by the right hand [ if it is right hand drive, if left hand drive then by left hand ]
  - c. Consult the driving mirror.
  - d. Give the hand signal of moving off.
  - e. **Three simultaneous actions:** Leave the clutch paddle, give the acceleration slowly and release the hand brake simultaneously.

**Stopping Procedure**

4. Before stopping a vehicle every operator should take the following actions:
  - a. Consult driving mirror. Be sure that no vehicle is very close at your behind; if so give him hand signal to over take you.
  - b. Give slows down signal so that if any vehicle following you should know your intention.

## RESTRICTED

- c. Bring the vehicle to extreme side of the road so that other traffic should not be disturbed.
- d. Leave the accelerator.
- e. Apply foot brake gently so that there should not be any jerking. Give the stopping signal by right hand so that rear traffic should know that you are going to stop your vehicle.
- f. When your vehicle is about to stop at that time press the clutch paddle slowly so that the engine of your vehicle remains running.
- g. When your vehicle is dead stop bring your right hand back from signal position and hold the steering.
- h. Apply the hand brake.
- j. Put the gear in neutral position.
- k. Leave the clutch paddle.
- l. At last release the foot brake. The advantage of releasing foot brake at last is the vehicle will not move forward in case clutch is released with gear is in engaged position. If the clutch is released before foot brake it may hit some one or damage some thing in front. So always remember that you are to leave the clutch first then the foot brake. If the foot brake is pressed and the clutch is released then there will not be any accident of this nature.

## **MOVING OF AND STOPPING SIGNAL**

### **Aim**

- 1. To learn the correct signals for moving off and stopping of MT vehicle.

### **Purpose**

- 2. Operator's signals as illustrated in the High-way Code are INFORMATIVE. They give notice of an intention to carry out a man oeuvre, for which the operator giving the signal must take full responsibility. The fact that a hand signal has been given or is being made does not give an operator any authority to act in accordance with that signal. The man oeuvre must only be made when it is safe to do so.

**Explanation**

3. The hand signals used by the operators for moving off and stopping of MT vehicles are explained below

- a. **Moving off:** The palm of the hand faces the front, fingers extended and closed together. The arm should remain outside the vehicle sufficiently long for the signal to be conveyed to other road users.
  
- b. **Stopping:** The palm of the hand, with fingers extended and closed together, faces the ground. The arm is lowered and raised slowly several times. This signal should be used when slowing down or stopping at zebra crossing.

**BAF BASE ZAHURUL HAQUE (TRG WG)**

**(Aero Egg Trg Sqn)**

**Syllabus : Automobile and Diesel Technology**  
**Course : MTOF Basic Trade Training**  
**Subject : Reaction Time in Driving**  
**Aim : To Study Reaction Time in Driving**  
**Ref : Basic Précis**

---

**REACTION TIME IN DRIVING**

**Aim**

1. To learn about the reaction time and its effect in driving.

**Definition**

2. Operators reaction time may be defined as the time that passes from the moment an operator feels the need for an action to be taken to the moment he takes that action.

**Action of reaction time**

3. The action may be applied to the steering, accelerating or braking or may be a combination of steering and acceleration or braking. Reaction time is of major importance when applied to braking. An operator should be capable of reacting to an emergency stop by braking in two third of a second or under normal travel within 30 feet before any braking movement actually commences. This distance is sometimes called the “Thinking **distance**” and is reoffered to as such in the Highway Code. Under normal conditions the reaction time for alert operators is 3\4 second.

**Thinking Distance**

4. The distance traveling by the vehicle in reaction time is shown as the thinking distance.
5. **The thinking distances various with the following conditions:**
  - a. With the speed of vehicle.
  - b. With the physical and mental condition of the operator.
  - c. With the degree of concentration which he is applying to the driving.

**Breaking Distance**

6. The distance traveling by the vehicle from the time the brakes are applied to the time the vehicle stops. To find the braking distance the following formula may be used:

$$\text{Speed X Thinking distance} = \text{Braking distance}$$

**Stopping distance**

7. It is the sum of thinking and braking distance.

**Thinking distance X Braking distance = Total stopping distance.**

**Table of Total Stopping Distance**

<b><u>Speed in MHP</u></b>	<b><u>Thinking Distance</u></b>	<b><u>Braking Distance</u></b>	<b><u>Total Stopping Distance</u></b>
<b>10 MPH</b>	<b>10 Feet</b>	<b>5Feet</b>	<b>15 Feet</b>
<b>20 ,,</b>	<b>20 ,,</b>	<b>20 ,,</b>	<b>40 ,,</b>
<b>30 ,,</b>	<b>30 ,,</b>	<b>45 ,,</b>	<b>75 ,,</b>
<b>40 ,,</b>	<b>40 ,,</b>	<b>80 ,,</b>	<b>120 ,,</b>

**20 MPH** @@@@\*\*\*\* = 40 feet stopping distance

**30 MPH** @@@@@@\*\*\*\*\* = 75 feet stopping distance

**40 MPH** @@@@@@\*\*\*\*\* = 120 feet stopping distance

**Legend** : One @ = 5 feet thinking distance

One # = 5 feet braking distance

8. **The following facts must be noted by an operator:**

- a. A good operator – a vehicle in perfect condition – good weather- good daylight- good dry road – under these conditions a vehicle can not stop in a distance less then those shown about.
- b. Vehicle other then private cars or small vans may need twice these distances to stop on dry roads.
- c. On wet roads; for all vehicles, allow twice the normal margin of safety.



**BAF BASE ZAHURUL HAQUE(TRG WG)**

**(Aero Egg Trg Sqn)**

<b>Syllabus</b>	<b>:</b>	<b>Automobile and Diesel Technology</b>
<b>Course</b>	<b>:</b>	<b>MTOF Basic Trade Training</b>
<b>Subject</b>	<b>:</b>	<b>Reversing of MT Vehicle</b>
<b>Aim</b>	<b>:</b>	<b>To Study Reversing of Mt Vehicle</b>
<b>Ref</b>	<b>:</b>	<b>Basic Précis</b>

---

**REVERSING OF MT VEHICLE**

**Aim**

1. To learn the correct procedure for reversing of MT vehicle in a restricted place.

**Purpose**

2. The motor vehicle which we drive is required to be parked somewhere in the shed or in the place meant for. The shed, parking garage and the place meant for usually are not a big area where any body can park the vehicle by moving it forward. As such the vehicle needs to be reversed.

**Precautions**

3. The following precautions must be taken before reversing a MT vehicle:
  - a. See that slow running of your vehicle is correct.
  - b. Be sure about the backside of your vehicle. There must not be any obstacle. Some times the children play with the tail board; animals sleep or take rest under the vehicle and passer by suddenly passes through back side.
  - c. Remove all the checks and blocks which are put for the safety precautions.
  - d. See the parking place is clear. There is nothing to dash with.
  - e. Be sure that you can see the rear view. If you cannot see then take the help of other man who can give the signal.
  - f. If there is any possibility to hit the back side wall, keep two blocks at a safe distance from the wall at the rear.

**Procedure**

4. The following procedures should be observed by all the drivers while reversing of MT vehicles:
  - a. Sit on the operator's seat start the engine, engage in reverse gear and hold the steering by left hand at 12 O' clock.
  - b. Leave the accelerator.
  - c. Look towards back side from right hand side door, open the door, keep right hand on the road, bend towards the right side, try to see the rear side right wheel, or see the rear side from the cabin of the vehicle and keep aim to the center of the tail board.

## RESTRICTED

- d. Keep the sharp look out in the front and at the rear. Try to keep front wheels straight.
- e. Leave the clutch gradually so that it helps to move the vehicle smoothly. Keep the foot on the clutch.
- f. Do not give acceleration. Let it go on slow running.
- g. If you cannot judge the distance, stop the vehicle and come out and see the surrounding.
- h. If it is too difficult to position the vehicle at the right place. Take the help of another man who can give you signal.
- i. After reversing is complete see that the front wheels are straight.
- j. Put the vehicle in the center of the parking place or garage.

**MT DAILY SERVICING SCHEDULE TRAILER (POSTER NO-31)****Aim**

1. To get familiarized with the poster No-31 and to learn the daily servicing for trailers as mentioned therein.

**Purpose**

2. A revised system of daily servicing schedule for trailers has been introduced to improve the standard of servicing in a view to increasing the life of the trailers.

**Items of daily servicing schedule: Trailers (Poster No-31)**

3. The following items are to be checked for MT daily servicing schedule trailers: -
  - a. Check F-656 for unserviceability.
  - b. Check the parking brake for correct operation.
  - c. Connect the prime mover ensuring that the draw bar eye or attachment is secured and locked.
  - d. Ensure that the adjustable steady legs or jockey wheels are raised and secured that hand or parking brake is off.
  - e. Check the level of the fluid in the hydraulic reservoir and replenish as necessary with hydraulic fluid. The correct level is one from the top of the reservoir.
  - f. Connect the servo brake line and check it for damage and security.
  - g. Drain the condensed moisture from the air reservoir tank, if fitted with air pressure brake.
  - h. With aid of an assistant check that the brake actuating arm operates correctly and that there is no leak from the reservoir. With hydraulic brakes the level of fluid will rise and fall with the brake application.
  - j. Check tyre pressure by gauge and inflact as advised in the operators' hand book/operators manual.
  - k. Connect the trailer lights and see that they are secured and serviceable.

## RESTRICTED

- l. Check the registration plate for security and cleanliness.
- m. Check that 'T' plate is secured.
- n. Ensure that the jockey wheels operating handle and steering arm are correctly stowed.
- p. Sign the servicing form 656

**Note:** This check is carried out with the prime mover engine running and its brakes are operated.

*Ref: Poster No 31 and AP 3025*

### **Questions**

- 4.
  - a. What is the title of poster No. 31?
  - b. How many checks are to be carried out on trailers as per poster No. 31?

**BAF BASE ZAHURUL HAQUE(TRG WG)**

**(Aero Egg Trg Sqn)**

**Syllabus : Automobile and Diesel Technology**  
**Course : MTOF Basic Trade Training**  
**Subject : MT Accident Procedure**  
**Aim : To Study MT Accident Procedure**  
**Ref : Basic Précis**

---

**M T ACCIDENT PROCEDURE**

**Aim**

**1: It is Intended to Learn**

- a. The common causes of accident.
- b. The documents to be kept in possession of an operator.
- c. The liability of operators.
- d. The actions to be taken by the operator, the unit where accident reported and parent unit in the event of an accident.
- e. About holding board of inquiry/investigation.
- f. Disposal of damaged vehicles.
- g. The use of accident report registers.

**Introduction**

2. Accidents involve injury or loss of life, and also the loss of valuable equipment and of labor and materials utilized in effecting repairs. Base/Unit commanders are to give this matter their personal attention and are to explore all avenues with a view to reduce the accident rate. The attention of all personnel authorized to drive BAF MT vehicle is to be drawn to the need for the exercise of constant vigilance and care in driving. All accidents, however trivial, whereby damage or injury is caused to any person, vehicle, property or an animal are to be reported and properly investigated. Disciplinary action is to be taken against the BAF operators/drivers found guilty. Officers Commanding should award due penalties for road offences. Admonition is not considered a sufficient punishment for negligence in driving causing danger to other persons or damage to property.

**Common Causes of Accident**

3. The most common causes of MT accident are listed below. These should be brought to the notice of all concerned and necessary steps be taken to remove the same.
  - a. Over speeding in general, specially in restricted and built up areas where speed limits are violated.
  - b. Over taking of other vehicular traffic at high speeds.

## RESTRICTED

- c. Over-fatigue, or a slack or negligent attitude to the job on the part of the operators.
- d. Non-compliance and disregard of rules lay down in the Highway Code.
- e. Over loading of vehicles.
- f. An operator has no responsibility for road conditions; he is certainly skidding on wet and slippery roads. These can be avoided if the operators are given proper orientation by the officers in charge of MT Sqn on the causes of skidding and the corrective technique to be employed when wet and slippery conditions are encountered on roads. Well judged driving reduces the risk of skidding to a remote possibility for, after all. Although responsible for the manner in which the vehicle is driven.
- g. A mechanically unserviceable vehicle.
- h. Poor MT discipline due to lack of supervision on the part of officers in charge of MT Sqn and MT NCOs.
- j. Detailing operators to drive a vehicle on which he is not trained or does not have sufficient experience.

### **MT Documents to be possessed by an operator**

- 4. All personnel while driving a service vehicle must ensure that they are in possession of the following documents. These should be carried in an envelop address to their officer commanding. Telephone number of unit exchange should be noted on the envelop.
  - a. A duly approved Form 658 E/793.
  - b. A current service driving permit authorizing the operator to drive the particular type of vehicle.
  - c. Identity card/security passes.
  - d. A blank Form 446A and a blank sheet of paper. Officer in charge in MT Sqn is to ensure that all persons authorized to drive service transports on the strength of his Base/Unit are familiar with F-446A, the method of completing it. The type of sketch required on the form and the action to be taken in the event of an accident.

### **Liability of Operators**

- 5. All operators of service transport are to be warned of the consequences of accidents due to their negligence or misconduct, or arising from the unauthorized driving or deviation from route, or the conveyance of unauthorized passengers, i.e. he may be held personally responsible for any damage to the vehicle or property and this may result in punishment as considered necessary by the authorities. It should be clearly explained to all operators that should the BAF refuse to support them in any civil suit

## RESTRICTED

they may be charged by the police with committing various offences under the motor vehicle act, additionally, they may be liable for compensation or damages awarded against them for injury or loss sustained by a third party. If a summon is served upon an operator, or he is warned that it will be served upon him, he; s to report the fact immediately in writing to his officer commanding. Likewise any subsequent notice of adjournment of inquest or police/civil proceedings is to be reported. A operator must not, at the time of accident, admit liability either by word or deed, or even discuss the question of blame. The operator of a vehicle involved in an accident must stop his vehicle and give his name, rank, service number, official address office unit and the identification marks the entire vehicle to any person having reasonable grounds for requiring him to do so. If for any reason he can not furnish the required particulars at the time of the accident, heist to personally report the accident to his officer in charge MT Sqn who, intern, is to report it in writing to the Air Headquarters and civil police within 24 hours. If owing to the injuries to an operator it is not possible for him to report in person, the officer in charge MT Sqn, when informed, is to report the accident.

### **Action by the operator**

6. The following action is to be taken by the operator in case of an accident:
  - a. Stop the vehicle and proceed to complete the front page of F-446A. Obtain full names and address of the other operators and witness, Particulars of the insurance company with which a civil transport is insured with are also to be obtained.
  - b. Make a sketch of the scene of the accident. All measurements, skid marks and possible details should be entered.
  - c. Made a complete note of the apparent damage to the other vehicles and a brief note of any injury to person or animals, damage to the other vehicles and a brief note of any injury to person or animals, damage to property.
  - d. Complete the accident slip at the foot of F-446A and hand over it to a police officer, (if one arrives on the scene) or to the other person involved in the accident.
  - e. If the police officer required a statement from the operator or any other service personnel present, it should, as far as possible, be given to him out of the hearing of all other civilian person. The operator must obtain the permission of the police officer before the journey is continued.
  - f. He is to carefully inspect his vehicle to ensure its serviceability. If however, there is any doubt whether the vehicle is in a fit state to continue the journey, it must not be driven until it has been inspected by a competent person.
  - g. He is to telephone the nearest BAF Base /Unit and informed the Base Adjutant/Orderly officer. When making the telephone call, the operator may ask the operator to reverse the charge.
  - h. If he is able to proceed to his destination, and is unlikely to be back at his parent unit within 48 hours, he is to post F -446A to his officer commanding in the envelope provided.
  - i. He is to safeguard his vehicle and equipment at the scene of accident.

RESTRICTED

- j. He is to submit a full report to officer in charge MT Sqn.

**Action by the unit where accident reported**

7. The following actions are to be taken immediately by the unit where an accident is reported irrespective of the fact whether it is the parent unit of the vehicle or not:

- a. Detail an officer or warrant officer along with a photographer and provost NCO to visit the scene of accident. The officer is to inspect the scene of accident, check F- 446A to ensure that it has been correctly compiled and see that the sketch is clear. The scene is also to be photograph for record and future reference.
- b. independent signed statements of the operator and any other available Air force personnel are to be recorded.
- c. APM is to be informed who, if considered necessary, will detail a competent provost NCO to visit the scene of accident immediately and liaise with civil police for investigation. In case of serious accidents, APM should visit the scene of accident personally.
- d. In case of operator's death or serious injuries the officer commanding of the unit to which the accident is first reported. Is to take such emergency steps as are possible to comply with them.
- e. The vehicle is to be safeguarded, pending collection, if it is unable to proceed, and the damage is to be recorded by a competent officer or NCO.
- f. In case of accidents resulting in fatality or serious injuries to any personnel, brief particulars are to be intimated by "PRIORITY" signal to the parent unit and Air Headquarters. Copies of signal for Air Headquarters are to be marked for distribution to Directorate of Engineering and Directorate of Personnel.
- g. when the actions as stated above have been completed by a unit other than the parent unit, F-446A duly completed and accompanied by the operators and other witnesses' statements is to be sent forthwith to the parent unit. In case a vehicle is unable to proceed to its parent unit, a detail report on the damage, spares etc required for servicing and the location of the vehicle is also to be forwarded.



**Action by parent unit**

8. The Parent Base/unit to which the vehicle belongs to is to submit an accident report to Air Headquarters without delay. The report is to be dispatched in two copies under a conversing letter signed by the Base Commander and marked for "Directorate of Engineering and provost marshal". The following documents should be attached with the report:

- a. Information as per Appendix "A" to this order.
- b. Certified true copy of F-446A.
- c. One copy each of the statements made by the operator and other witnesses, if any.
- d. Copies of photograph, if taken, of the scene of accident.
- e. A separate copy of the sketch giving measurements and position of vehicle/vehicles.
- f. CERTIFIED true copy of F-658/793.

**Board of Inquiry/Investigation**

9. Aboard of inquiry/ investigation into a MT accident must be held in the following cases:

- a. Where the officer Commanding of a Unit is satisfied that this is the only means of ascertaining the fact.
- b. Where there is any evidence of unauthorized or improper use of a BAF vehicle including deviation from the authorized route, or the driving of vehicle by any person other than the operator detailed to drive the vehicle by MT Sqn.
- c. In case of serious accident, a board of inquiry is to be constituted so as to include a MTO/MTF warrant officer as member where it is suspected that the accident occurred due to a mechanical defect in the vehicle the president or one of the members of board of inquiry should be an officer of MT engineering branch. In case of all fatal accidents, the president of the board of inquiry should be an officer of the rank of Squadron Leader.

**Disposal of Damaged Vehicles**

10. Immediately after the proceedings of a board of inquiry of investigation have been completed, the vehicle is to be inspected with a view to ascertaining whether repairs can be effected at Base/Unit level. If so, the Officer Commanding will authorize the repair. In case the damaged vehicle is beyond Base/Unit repair capacity the officer in charge MT Sqn is to initiate F- 523 action in accordance with the current procedure. The damage on account of accident is to be clearly endorsed in red ink.

**Accident Report Register**

11. This register is to be maintained in every MT Ops Flt. Detail of all accidents are to be entered on this register. A specimen of the register is given as Appendix 'B' to this order. All entries are to be signed by the officer in charge MT Sqn. The register is to be passed to the Officer Commanding Base/Unit for scrutiny and initials in the first week of every month. The register is to be produced before visiting staff officers.

**BAF BASE ZAHURUL HAQUE(TRG WG)**

**(Aero Egg Trg Sqn)**

<b>Syllabus</b>	<b>:</b>	<b>Automobile and Diesel Technology</b>
<b>Course</b>	<b>:</b>	<b>MTOF Basic Trade Training</b>
<b>Subject</b>	<b>:</b>	<b>MT Lighting System</b>
<b>Aim</b>	<b>:</b>	<b>To Study MT Lighting system</b>
<b>Ref</b>	<b>:</b>	<b>Basic Précis</b>

---

**MT LIGHTING SYSTEM**

**Aim**

1. To learn about obligatory MT lights, location of MT lights, lights for overhanging loads and rear projection load, lights on standing vehicles, and lights for night driving of MT vehicles.

**Purpose**

2. Lighting system on all BAF MT vehicles and Motor cycles driven on the public highway must be in accordance with the existing civil and military law. Strict compliance of MT lighting regulations by all concerned helps smooth traffic movement on roads at night and also reduces the accident rate to minimum.

**Obligatory Lights**

3. The following lighting system must be available with all vehicles plying on public roads:

- a. Obligatory lights consist of two white lights in the front and red lights at the rear. These lights are to be carried by every vehicle.
- b. Towing vehicle is to carry front white light in the front and the towed vehicle is to carry red rear lights and red reflectors.
- c. If the distance between any two successive vehicles is more than 5 feet, each of them must be fully lighted.
- d. If any part of the vehicle being towed or its load projects on either side more than 12 inches beyond the front fender on the side of the towing vehicle. It must self carry a front lamp complies with the ordinary requirements.
- e. Motor cycle (solo) needs to show only white light to the front and red light to the rear together. With a red reflector. No light is required when being wheeled by a person on foot as near as possible to the left hand edge of the road.

**Location of the Light**

4. The following location with exact places on vehicle is used for fixing MT lights:
  - a. **Front Lights:** This lights are fitted on each side of the vehicle so that the center the lamps not more than 5 feet from the ground and no part of the vehicle extends 12 inches beyond the center of the lamp to the outer side.
  - b. **Rear Light (Red):** It is fixed either on the center line or on the right hand side of the vehicle. It must not be more then 5 feet and 6 inches high from the ground, unless red reflector is carried

**Light of Over Hanging Load**

5. If the load overhangs to the side of the vehicle more than 12 inches beyond the nearest obligatory lights, and additional light must be carried and the load must not extend more than 12 inches beyond the additional light. The law permits a load to project beyond the width of a vehicle by a maximum of 2 feet and 6 inches.

**Light for Rear Projection of Load**

6. If the load projects more then 3 feet 6 inches behind the red rear lights or reflectors on the vehicle, additional or substituted red lights must be carried not more then 20 inches from the hinder-most end of the load. And exception is allowed in case of a fire escape. Provided it does not obscure the stationery red lights. The extremities on all overhanging loads must be marked conspicuously in day light by the Attachment of a piece of a white cloth and in the hour of darkness by a red light. In length a projection of 6 feet is permitted at the rear.

**Color of Lights**

7. No red light may be shown to the front and no one other then a red light may be shown to the rear except lights used for internal illumination of the vehicle and for illuminating number plates, reversing lights, direction indicators.

**Lights on Standing vehicles**

8. A vehicle may be parked without lights in a place authorized for parking. For normal operation, front lamps with bulbs exceeding 7 watts in power must be extinguished on stationery vehicles except in the case of:
  - a. Enforced stoppages.
  - b. Interior lights.
  - c. Public service vehicles stopping for passengers.
  - d. Breakdown vehicles and power wagons when doing their special work
  - e. Search lights or other special lamps used for navel, military, air force, police or fire service purposes.

**Serviceability of MT Lights**

9. Under no circumstances vehicles are to be leave the MT sqn for duties at night unless all the lights are serviceable. All operators are warned that driving without a complete set of serviceable lights is an offence under the Motor vehicles Act and disciplinary action will be taken against offenders.

**MT lights for Night Driving**

10. While driving MT vehicle on public roads within the municipal and cantonment limits of towns and cities between the hours of dusk to dawn, the vehicle must be with headlights dipped at all times. The beam of the lights is not to be greater than 25 feet from the head lights to the ground. In case of the vehicles not fitted with a dipper switch, the top half position of the head lamps glasses is to be painted black.

**BAF BASE ZAHURUL HAQUE (TRG WG)**  
**(Aero Egg Trg Sqn)**

**Syllabus** : **Automobile and Diesel Technology**  
**Course** : **MTOF Basic Trade Training**  
**Subject** : **Loading & Unloading MT/ AC**  
**Aim** : **To Study Loading & Unloading MT/AC**  
**Ref** : **Basic Précis**

---

**LOADING AND UNLOADING MT/ AC**

**Aim**

1. To learn the correct procedure of loading and unloading aircraft by MT vehicle and the precautions involved therein.

**Purpose**

2. The loading and unloading an aircraft is different with different types of aircraft. It also varies with the types of vehicle or specialist vehicle employed for loading and unloading aircraft. The experience of the operators on the type of vehicle employed for loading and unloading aircraft, and the knowledge about the aircraft to be loaded and unloaded will minimize the rate of accident on ground.

**Instruction**

3. The following instructions should be strictly complied with:
- a. An experienced MT operator should be detailed to be the job. MTO Senior NCOs and the Cpl who has passed the advance course are eligible to be detailed.
  - b. He should be briefed about the loading and unloading of aircraft.
  - c. The MT vehicle which is being detailed should be 100% serviceable.
  - d. The vehicle which has naked wire in the system should not be detailed for fire hazards.
  - e. One look out man should be detailed of the rank of NCO.
  - f. Operators detailed for the job should be experienced in reversing.

**Precautions while Reversing MT Vehicle for loading and unloading MT/ AC**

4. The Following precautions must be taken before reversing a MT vehicle for loading and unloading an aircraft:
- a. Put chocks near the aircraft so that the wheel of the vehicle touches the chocks and can hit the aircraft.
  - b. Reverse the MT vehicle very slowly.
  - c. When reversing trailer extra precaution must be taken.
  - d. Make the trailer straight then reverse slowly.
  - e. After reversing put the hand brake on and put two chocks to the front wheels.

**BAF BASE ZAHURUL HAQUE(TRG WG)**  
**(Aero Egg Trg Sqn)**

<b>Syllabus</b>	<b>:</b>	<b>Automobile and Diesel Technology</b>
<b>Course</b>	<b>:</b>	<b>MTOF Basic Trade Training</b>
<b>Subject</b>	<b>:</b>	<b>Convoy Procedure</b>
<b>Aim</b>	<b>:</b>	<b>To Study Convoy Procedure</b>
<b>Ref</b>	<b>:</b>	<b>Basic Précis</b>

---

**CONVOY PROCEDURE**

**Aim**

1. To learn the definition of convoy, preparation taken for convoy, convoy Discipline, duties and responsibilities of convoy commander and other personnel of convoy and procedure for over night stay and action taken at destination.

**Definition**

2 When there are five or more vehicles moving together under the command of an officer or a MWO/WO or a SNCO is known as MT convoy:

**Composition of Convoy**

3. The following elements may constitute a road convoy:-
- Convoy commander
  - Vehicles and operators.
  - Motor cyclists.
  - Break-down party.
  - Base/Unit to issue Convoy orders
- The Officer commanding of a Base/Unit from where a convoy is to move will issue necessary road convoy movement orders. Base/Units to be informed Convoy movement orders copies are dispatched to all Base/Units where Convoy may be required to halt en-route for refueling or staying over night. In case of an Army Unit, a request for supply of fuel, accommodation etc. is to be made well advance to the Officer Commanding of the Unit.

**Detailing of Convoy Commander**

4. The rank and branch/trade of the convoy commander vary with the size of convoy as given below:
- For vehicles over five in number and up to ten, a SNCO of MTO trade is detailed as convoy commander.
  - For vehicle over ten, an officer of any branch or a MWO/WO of MTF/MTO-trade is detailed as convoy commander.
  - For vehicles over fifteen, a SNCO of MTO trade will always be additionally detailed to assist the convoy commander.

**Breakdown party**

5. The rank of in-charge break-down party also depends on the strength of the Convoy as out-lined below:-

- a. For vehicles up to five, a junior "NCO of MTF trade is detailed as in charge break-down party
- b. For vehicles more than five, a SNCO of MTF trade is detailed as in charge break-down party.
- c. Additional fitters, mechanics and one electrician may be detailed as, considered necessary

**Detailing of Operators**

6. Only experienced category 'A' operators may be detailed for convoy duties. Civilian drivers may also be detailed but 25 % out of the total number of operators on a convoy must be service personnel. Spare operators are to accompany the convoy on the basis of one operator per 15 vehicles.

**Carrying Loads on Convoy**

7. BAF stores and equipment may be convoyed on a convoy to Base/Units situated at the destination or en-route but not convoy engaged in training of Operators.

**Preparation**

8. The following preparations are" to be taken prior to proceed on in a convoy:

- a. Convoy commander is informed about date of departure, number of vehicles, particulars of personnel detailed and route to be followed.
- b. The convoy commander will ensure that the current servicing of vehicles is done.
- c. Vehicles are inspected for serviceability and particular attention is paid to the batteries, ignition and fuel systems, brakes and tyres Vehicles may be road tested if necessary.
- d. An operator is detailed for each vehicle and he will carry out daily inspection. Fuel, oil and water will be filled up and tyre pressure checked.
- e. A F-658E for each vehicle will rise. These forms are to be approved by officer commanding Base/Units. The particulars of operator will be endorsed on the F-658E.
- f. The convoy commander is to ensure that all personnel have been paid allowances etc, as per regulations arid that movement orders, and last ration certificates have been issued by the orderly room.
- g. The convoy commander will also collect the followings when vehicles are delivery to other Base/Units:
  - (1) F-813 log books and current F-656.
  - (2) F-748/1670 together with tools and accessories, listed therein. Closed vehicles with\* specialist equipment fitted will be locked and sealed.
  - (3) Vouchers for equipment and vehicles.
  - (4) Railway warrants for return journey.

## RESTRICTED

h. The following service equipment, tools and POL will be carried with Convoy. This equipment is to be properly accounted for:

- (1) Fitter's tools kits.
- (2) Adequate quantities of POL and chamois leather.
- (3i) Tow chains/bars.
- (4) Spare wheels, jacks and puncture repair outfit.
- (5) Grease guns.
- (6) Spare batteries and running spares as required.
- (7) First aid box.

J. The convoy commander will also draw one blue flag for leading Vehicle and a green flag for the last vehicle and a white background board painted in red as shown below: **"CAUTION VEHICLES IN CONVOY AHEAD"** this board will fixed on the tail board of last vehicle. The number of vehicles in a convoy will be prominently painted on the blank space.

k. The convoy commander will collect necessary arms and ammunition for guards,

l. The convoy commander will report to officer commanding for final briefing when the convoy is ready to move.

### Convoy Discipline

9. The convoy commander will brief all personnel in respect of their duties and responsibilities. He will maintain a daily log book of the convoys, movement and activities. The convoy commander will lead the convoy and should thus control all speed limits. A SNCO or airman will be at the rear of the convoy. Where civilian drivers are employed, service personnel will place at Intervals to maintain discipline. The distance to be maintained between vehicles in a convoy will be decided by the convoy commander keeping in view the road conditions and he will brief the operators accordingly. Traffic regulations, speed –limits and lighting restrictions as laid down for vehicular traffic by local authorities in built up areas must be rigidly observed, Vehicles are not to be over-speeded. The maximum speed limit is also laid down and governed, by the. Slowest Timing vehicle, which is generally 25 MPH. If a vehicle can not keep its place in the convoy, the operator is to pull out to the left side of the road, stop his vehicle and signal the vehicles behind him to over- take. The break-down party at the rear will rectify the defect. The vehicle will then proceed in front of the break-down vehicle. In case the vehicle becomes unserviceable and can not be repaired, it should be towed down to the nearest BAF Base/Units or Army for repair. If it is necessary to leave the vehicle, it should be handed over to a responsible person and receipt obtained. F-813 log book and F- 656 will be left behind with the vehicle. All tools and loose equipment will be removed and retained by the convoy commander. All POL drawn en-route must be properly accounted for. The convoy commander will ensure that fuel is filtered through chamois leather when refueling vehicles. All Repairs/inspections carried out on vehicles en-route will be entered and signed on the log book and F"o56. "



## RESTRICTED

### **Over Night Stay**

10. Where a convoy is required to stay over night at a BAF Base/Unit, the following procedure must be carried out:

- a. The convoy will be booked in at the main guard room.
- b. The convoy commander will hand over a list of all personnel in the convoy to the orderly room. He will also make suitable arrangement for the meals and accommodation of all personnel in the convoy.
- c. Convoy arriving at a base /unit after working-hours, Base/Unit duty officer is to be contacted.
- d. The convoy commander is to ensure that strict discipline is maintained by his personnel and that Base Standing Orders are adhered to.
- e. When the convoy is ready to move off, the convoy commander must report to the Base Orderly Room during working hours and inform OC Unit.
- f. Before leaving the Base/Unit the convoy is to be booked out at the main guard room.

### **Discipline at Staying Posts**

11. When the convoy is stopping at a civil staying post, the convoy commander will warn all ranks against coming into conflict with the local inhabitants. Any Occurrence will be reported at once to senior police officer and nearest Army Station staff officer. The matter will also be reported in writing to the Officer Commanding unit as soon as possible. All dwelling houses will be out of bounds to all ranks. The vehicles must be parked in line abreast. Vehicle is not to be parked Nose to tail. Parking grounds must be left in a clean condition and all litters etc. are removed. During halts at staying points or other halts during the journey, guards will be detailed to safeguard the vehicles. Civilian drivers will not be detailed for guard Duties. Convoy commander will report to the station staff officer when the convoy is to halt at an Army staying post.

### **Medical**

12. A convoy consisting of 50 to 100 men is accompanied by an experienced Medical assistant if the strength of men is more than 100, then it should be, if practicable, be accompanied by a medical officer. The medical assistant will carry first aid outfit and any other drug, equipment etc., the unit medical officer considers necessary. The first aid kit and other medical supplies will be properly accounted for, and these supplies may be replenished at BAF/Military hospital en-route. Convoy commander will arrange for a lecture on first aid to all personnel prior to having the unit. Evacuation of casualties will be done to the nearest hospital. Sterilized water is to be used for drinking and cooking. The movement of the convoy is, if possible, to be done in the cooler hours of the day. The daily distance covered will not, as a rule, exceed 100 miles and there will be one day halt. Rest after, every four days on the move. Ample supply of water and salt should be available throughout the journey.

**Report on MT Accident**

13. Normal accident reporting procedure is to be adopted on occurrence of an accident as per AFO 77-18.

**At Destination**

14 The following action is to be taken once a convoy reaches the destination:

- a. On arrival at the, Destination the convoy commander is to be informed is unit of safe arrival of the convoy.
- b. All vouchers for POL and supplies drawn en-route are to be handed over to the consignee unit.
- c. All vehicles and equipment will be checked with a representative of the consignee unit. Documents are to be handed over and receipt obtained (red copy of F-600).
- d. The convoy commander will make arrangements for himself and his personnel to return to his unit.
- e. Any difficulty experienced at the consignee unit will be reported to the Officer Commanding.
- f. On return to parent unit, the convoy commander is to submit in writing a full report to the Officer commanding and hand over the receipt to the equipment officer.

**BAF BASE ZAHURUL HAQUE (TRG WG)**

**(Aero Egg Trg Sqn)**

<b>Syllabus</b>	<b>:</b>	<b>Automobile and Diesel Technology</b>
<b>Course</b>	<b>:</b>	<b>MTOF Basic Trade Training</b>
<b>Subject</b>	<b>:</b>	<b>MT Fire Precautions</b>
<b>Aim</b>	<b>:</b>	<b>To Study MT Fire Precautions</b>
<b>Ref</b>	<b>:</b>	<b>Basic Précis</b>

---

**MT FIRE PRECAUTIONS**

**Aim**

1. To learn about the fire precautions in MT bays, of MT Refueller, while using petrol, fire extinguishers and hazards of smoking in MT vehicles.

**MT Bays**

2. The following fire precaution is to be observed at all times in MT bays or buildings in which the mechanical transports are parked /stored:
  - a. Petrol tanks of vehicle are not to be refueled inside the bays.
  - b. Repair to the tank of a vehicle is not to be carried out until the tank has been completely drained and allowed to remain in the open air to dry for a period of at least 48 hours.
  - c. Smoking is not to be allowed in any part of the bay irrespective of the fact whether a vehicle is present in the bay or not.
  - d. Not closed – in garage is to have more then one vehicle parked in it.
  - e. In open bays [i.e. the bays which have both ends open] not more then two vehicles are to be parked and the parking is to be arranged so that the vehicles are positioned tail to tail and not nose to nose or tail to nose.
  - f. Petrol and oil in any quantity is not to be stored in MT bays. Vehicle tanks which have petrol in them are to be keep with their lids tightly screwed down and before closing the bays tanks are to be checked for leaks.
  - g. Each MT bay is to be provided with on foam extinguisher, one sand bucket and one water bucket.
  - h. Each MT vehicle is to be fitted with a CTC fire extinguisher which is to be positioned in the driving cabin within the reach of the operator.
  - i. MT bays are to be kept clean and free from the oil/fuel spilt over in the floor. Rags and other waste materials must not be allowed to accumulate in or around the bays.
  - j. Vehicle parked in the open air to be provided with a gap of 3 feet between each vehicle in line and not less then 10 feet between each row of vehicles. Under no circumstances vehicles are to be parked [in the open air] one behind the other unless the 10 feet distance specified above is provided.

## **MT REFULLARS**

3. This vehicle is not to be parked along with other MT vehicles unless their main tanks are completely drained not less than 48 hours. Arrangements are to be made for the regulars to be parked in a separate place 150 yards away from any other building/structure. When regulars are parked, they are to be earthen to the ground by means of the earth pin/plate.

## **Use of petrol**

4. The following fire precautions are to be observed when dealing with petrol:

a. **Refueling of MT Vehicles by Tins:** When petrol is being filled into vehicle tanks by means of tins, the individual carrying out the refueling is to ensure that no naked light is permitted in the area. When refueling is in progress the engine of the vehicle being refilled or any other vehicle within 20 yards of the refilling place is to be switched off. At the time of refueling, vehicles are to be parked as follows:

(1) When standing side by side the distance between each vehicle is not to be less than 8 feet.

(11) When standing on behind the other the distance between rear of one vehicle and the nose of the other must not be less than 20 feet.

b. **Refueling of MT Vehicles from Petrol Pump:** It will be carried out under the same precautions as outlined in Para a. above. Personnel carrying out the refueling are to ensure that tanks of the vehicle being refueled do not over flow.

c. **For Cleaning MT Vehicles:** Petrol, sprite or other inflammable liquids are not to be used for lighting of fires, or cleaning of clothes.

d. **For Cleaning MT Vehicles** : The use of petrol [in its pure form or as a mixture with engine oil] for the cleaning of MT vehicle engines or body is strictly forbidden except when decontamination of vehicle is being carried out by an anti –gas guard.

## **Fire Extinguishers**

5. The following extinguishers are to be used for various types of fire :

a. **Carbon tetra chloride [CTC]:** It is painted black with red band round the center and it to be used on all electric fires. Great care should be exercised when operating it in a confined area as its flames are highly toxic.

b. **Methyl Bromide:** It is painted white with a red band at the center and is used on aircraft fire.

c. **Soda Acid:** It is painted red and can be used on all types of fire except liquid and electric fire.

d. **Chemical Foam** : It is paginated chocolate brown and is used only on liquid fire as on petrol, oil, sprite, facts, grease etc.

e. **Carbon Dioxide (CO2):** It is painted red with white band at the base and can used on all types of fire. Strong wind walk destroy its effect on a fire.

## RESTRICTED

- f. **Water**: This is the best fire fighting agent but can not be used for liquid fire.

### **Smoking in MT Vehicle**

6. The following precautions are to be observed for smoking inside the MT vehicles:

- a. Smoking by operators and passengers occupying front seats of BAF MT vehicle is forbidden except in the case of passengers in the front seats of a car.
- b. Smoking is forbidden on or within any BAF MT vehicle being used for any from of load carrying other than troops carrying.
- c. Smoking is forbidden on or within any BAF MT vehicle which is carrying in the body spare POL tins either empty or filled. This restriction does not apply to tins carried in luggage (Boots).

**BAF BASE ZAHURUL HAQUE(TRG WG)**

**(Aero Egg Trg Sqn)**

**Syllabus : Automobile and Diesel Technology**  
**Course : MTOF Basic Trade Training**  
**Subject : Marking and Identification**  
**Aim : To Study marking and identification**  
**Ref : Basic Précis**

---

---

**MARKING AND IDENTIFICATION OF BAF MT**

**Aim**

1. To learn the details of operational and safety markings used on BAF MT vehicles.

**Introduction**

2. All BAF MT vehicles are to carry identification marking in accordance with the provisions of this order. Markings are to be capable of being read easily and quickly. Privately owned vehicles are not to carry any operational marking. Such vehicles when employed for Air Force duties may carry a board (12" X 8") on which may be painted words "ON BAF DUTY".

**Types of Marking**

3. These are two categories of identification markings.

a. **Operational Markings:** These are for identification within the BAF and for the guidance of traffic authorities.

b. **Safety Markings:** These indicate operational restrictions and are Intended to ensure the safety of passengers and freight.

**Details of Operational Marking**

4. BAF MT Vehicles are to carry the following operational markings as appropriate:
- The BA Number.
  - The BAF Roundel.
  - Base/Unit code letter
  - Distinguishing star and flags.
  - BAF police parkings.
  - Red cross marking,

**Details of Safety Marking**

- 5 All MT Vehicles are to carry the following safety markings as appropriate:
- Speed limitation.
  - Carrying capacity, passengers,
  - Carrying capacity, load.
  - Tyre pressures.
  - Caution signs articulated vehicles,
  - Ground danger markings vehicles on airfield.
  - Trailer plate.
  - Bridge weight classification.
  - Type of drive marking in case of left, hand drive vehicles.

**The Roundel**

6. Specifications: Roundels are to consist of two connectors circles. The inner circle is to be red and the outer circle bottle green. The dimensions of the roundels are to be as follows:

a. **Motor Cycle**

Outer ring	3 inches diameter
Inner ring	1 ½ inches diameter

b. **All Other vehicles**

Outer ring	8 inches diameter
Inner ring	3 ½ inches diameter

**Position of Roundel**

7. The diversity of types of vehicle now in use prevents a standard positioning and fitting, but one of the following methods of display is to be adopted. Where, on account of the design of a vehicle, it is not possible to adhere to the size of the roundel, it may be reduced proportionately.

- a. On vehicles having suitable wings, the roundel is to be positioned on the left hand side front wing so as to be clearly visible from a distance in front.
- b. Where the left hand side front wing is not suitable, the roundel is to be painted on left hand side of the bonnet.
- c. On MOTOR cycles the roundel is to be painted on the front and rear mudguards so as to be clearly visible by traffic control authorities.
- d. If there is no suitable space in accordance with paras a, and b, above, the roundel is to be painted on a metal disc and fixed on permanent suitable Mounting brackets mounted on the front left hand side of the vehicle.

**Unit Code Letters**

8. Unit code letters are allocated to different Bases/Units as shown below:-

Air HQ (Unit)	ka	ka
Basher	ka	kha
Zahra	ka	ga
Métier	ka	gha
201 MU	ka	ammo
No 1 P&S (Unit)	ka	cha
No2P&S (Unit)	ka	chow

The unit code letters are to be painted white. These are to be 3 inches high, ½ inch wide or as appropriate and positioned as follows :-

- a. As in Para 6.a. & b. above: The unit code letters are to be painted on the wing above the roundel.
- b. **Motor Cycle:** On the front mudguard above the roundel.
- c. **Staff Cars:** Unit code letters are not to be painted on staff cars,
- d. **As in Para 6 d. above:** The unit code letters are to be painted on the left hand side wing, or nearest suitable position, so as to be clearly visible from the front by traffic controllers.



## RESTRICTED

e. The unit code letters are also to be displayed on the back on the vehicle, in one of the following ways:-

- (1) On the vehicles with rear panels, between the centre line and the left hand side, at a height of three feet from the ground. The letters are to be positioned so that they are clearly visible and not obscured by the spare wheel or other equipment.
- (2) On high loading tenders, trailers, articulators etc. On a plate 6 inches square mounted at the rear of the vehicle in a position which conforms with the instructions given in sub-Para (1) above.

### **BA Numbers**

9. The BA Numbers are to be painted on all BAF MT vehicles/trailers and are to be shown on front and rear number plates similar to those used on civil vehicles. The BA number will consist of numbers only, preceded by a board arrow. The BA number may be painted on the bumper of a vehicle if no number plate is mounted. Distinguishing Stars and Flags a distinguishing flag appropriate to the rank of the officer is to be flown from a central position on the radiator or bonnet of the vehicle, a flag may be flown from a mast mounted on the right front wing. Star plates as appropriate with silver white stars on Air Force blue background are to be displayed above the front and rear numbers of staff cars. Star plates and flags are only to be displayed when the entitled officer is actually present in the staff car. At all other times these are to be kept covered,

### **Red Cross Markings**

10. Ambulance is to be marked with a red cross on a white circular background painted on:-

- a. Side body panels.
- b. Roof of the body.
- c. Roof of the operators cabin.
- d. Operator's cabin doors.
- e. Door at the rear of the vehicle. Where two doors are fitted, each door is to be marked separately. The white circle is to extend to the extremities of the appropriate part of the vehicle on which it is painted. The arms of the Red Cross are to extend to the diameter of the white circle and are to be one quarter of the diameter of the circle in width. Where two doors are fitted on the rear of the vehicle, a red cross is to be painted on each door.

### **Tyre Pressures**

11. Tyre pressures recommended by manufacturers are to be painted on all MT vehicles/trailers in letters and figures inch in height in a central position on the outer rim of the mudguard e. g. "T P 30 lb./sq. in, Bridge weight Classification In order to avoid serious damage to road bridge from their use by vehicle producing greater stresses than those for which particular bridges are designed, system of classification for bridges and vehicles is in use. A vehicle may not cross bridge with a classification number lower than that of the vehicle, e. g. a vehicle o class 12 not cross a bridge marked class 9. The bridge weight classification signs are to be painted either on to right-hand front wing or on a .metal disc of 8 inches. Diameter fixed- by means of suitable mounting bracket to the right front of the vehicle. The sign is to be pattering yellow with black figures. On articulated vehicles, the tractor is to carry two figures identical m size on the classification sign. The figures are to be placed one above the other with a dividing line between the upper figure being the classification of the tractor and trailer, the lower figure the. Classification of the tractor only. In the case of a vehicle (other than an articulated vehicle) towing another vehicle, the classification will. Be the sum total of the two vehicles. A class 5 vehicles towing a class 5 vehicles will, therefore, ' has classification of 10 and is not to cross any bridge with a marking under 10. In case of newly introduced' vehicles, the MT storage unit is to ensure that bridge weight classification is painted this is to be determined from the maximum laden weight recommended by the manufacturer.

### **Marking of Fire Vehicles**

12. Crash Tenders are to be painted red on sides and deep yellow on operator's Cabin and top. The marking may be slightly varied to' suit the body design of various types' crash tender. Tenders fire domestic and tenders water fire crash are to be panted as crash tenders but are to only carry the inscription on both sides BANGLADESH AIRFORCE - FIRE SERVICES. Additional markings are to be painted on regulars seamy-trailers. All self propelled regulars are also to carry the following markings;-

- a. Fuel grade.
- b. No smoking.
- c. Inflammable.

**BAF BASE ZAHURUL HAQUE (TRG WG)**  
**(Aero Egg Trg Sqn)**

**Syllabus** : **Automobile and Diesel Technology**  
**Course** : **MTOF Basic Trade Training**  
**Subject** : **types of tyre**  
**Aim** : **To Study of tyre**  
**Ref** : **Basic Précis**

**TYPES OF TYRE**

**Aim**

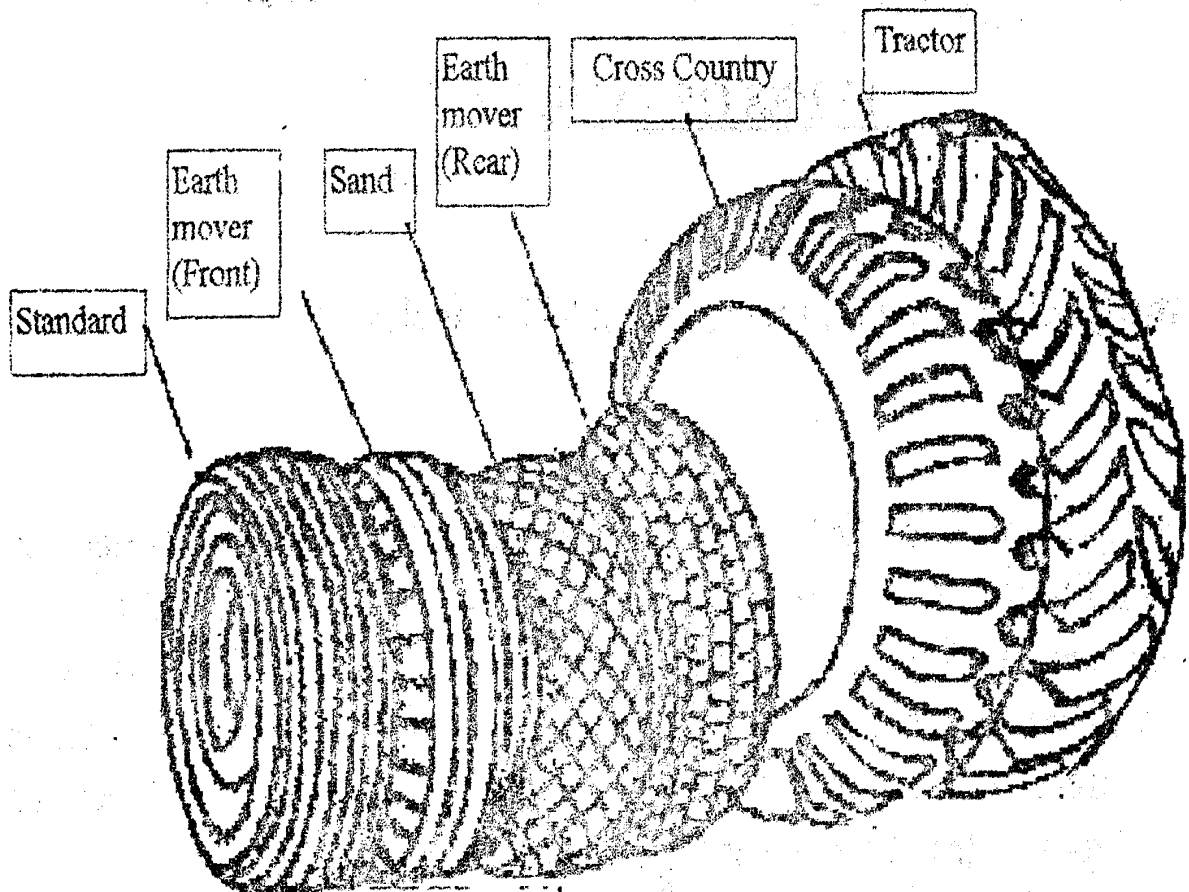
1. To learn the types of tyre and their uses on MT vehicles.

**Types**

2. The covers (tyres) used on MT vehicles are designed and made for operating under specified conditions. The covers are type classified by the tread pattern, the main factor in the design of the tread pattern being the nature of the surface on which the cover will be mainly used. Detail design of treads will differ between different manufacturers, but commonly accepted basic principles for types are observed. Various types of tread are described below:"

- a. **Standard Tread:** This is the type of tread which is normally used for the majority of both service and civil vehicles, and it is designed for general use on made-up road surfaces. The pattern is a closely spaced one which will give maximum traction and road holding on hard surface. In emergencies, this type of tread will prove satisfactory for short periods on sand, provided the pressure in the tires is reduced; but always ensure that the pressures are restored before again using the vehicle on normal road surfaces.
- b. **Sand Tread:** A cover with this type of tread looks very much like a standard cover, but the casing of the former is much flexible to permit the use of low inflation pressures. Further, the sand tread is wider and flatter so as to provide a larger contact area and, consequently, a lower loading pressure on loose and yielding surfaces. Because of its generally lighter construction and lower inflation pressure than a standard tread cover, a sand tyre is not suitable for heavy load carrying and, in some cases; the maximum permissible load is marked on the cover.
- c. **Cross-comity Tread:** Covers produced with this type of tread are intended for use on vehicles which operate on surfaces that are not made-up, although they may also be used on made-up roads. The tread pattern is in the form of deep widely spaced bars which give maximum traction and adhesion on soft ground. These covers can be fitted for rotation in other direction, but covers fitted to wheels on the same axle should be of the same make and type.

d. **Tractor Tread:** The pattern used for this type of tread consists of heavy bars which form a 'V' shape. This makes the covers directional and for maximum traction they must be fitted in one way only. These covers are usually marked with an arrow to show the direction of forward rotation when fitted to a vehicle. If the arrow has been omitted, a cover should be fitted so that the apexes of the tread Vs will contact the ground before the bases, as shown in the figure below.



e. **Earth-mover Tread:** The front and rear wheel covers fitted to the earth-moving vehicles are produced with a different tread pattern. Covers for rear wheels are very similar to the sand tread type, but those for front wheels have a tread with deep peripheral grooves.

**INTERMEDIATE SERVICING SCHEDULE (POSTER NO-30)****Aim**

1. To get familiarized with the poster No-30 and to learn the system servicing and mentioned therein.

**Purpose**

2. A revised system of servicing has been introduced to improve the standard of servicing in a view to increasing the life of MT vehicles.

**Items of Intermediate servicing schedule (Poster No-30)**

3. Intermediate servicing is to be carried out after covering of 1000 miles or a period of one month. It is done as follows: -

- a. **Engine**

- (1) Replenish air cleaner (Oil bath type).
- (2) Lubricate starting handle shaft bearings.
- (3) Lubricate fan and water pump bearings.
- (4) Lubricate hinges and catches of engine cover.
- (5) Lubricate engine control rods, joints and linkage.
- (6) Lubricate clutch withdrawal bearings.

- b. **Front Axle and Steering**

- (1) Lubricate shackle pins.
- (2) Lubricate track rod ball joints.
- (3) Lubricate swivel pins.

- c. **Rear Axles**

- (1) Lubricate rear spring shackles and pivots.
- (2) Lubricate cross spring shackles and pivots.

- d. **Propeller Shaft**

- (1) Lubricate universal joints.
- (2) Lubricate sliding splines.

## RESTRICTED

- b. **Braking System:** Replenish hydraulic brake fluid tank, lubricate: -
- (1) Hand brake ratchet, bearing and pivot.
  - (2) Brake clevis joints and all linkage.
  - (3) Foot brake paddle bearings.
  - (4) Brake cam shaft bearing.
- c. **Body and Cab: Lubricate:** -
- (1) Door hinges and catches.
  - (2) Tail board hinges.
  - (3) Spring and catch of towing hook.
  - (4) Traffic indicators.
- d. Sign the MT Servicing Form 656.

*Ref: Poster No 30 and AP 3025*

### Questions

4. a. What is the purpose of introducing poster No. 30 for MT servicing?
- b. What are the items to be checked in the engine as per poster No. 30?
- c. What are the items to be lubricated in the body and cab of a vehicle as per poster No. 30?

**ROAD TRAFFIC SIGNS AND VISUAL ROAD SIGN CHART****Aim.**

1. To learn and understand about road traffic signs while driving on highway.

**Purpose.**

2. The road traffic sign gives the pre-hand information to the road users about the nature and condition of the road lying ahead. Road traffic sign is called the language of the road.

**Types of Road Sign.**

3. There are three types of road signs:

- a. Mandatory
- b. Cautionary
- c. Informatory

a. **Mandatory:** This type of sign is placed at the point of hazard. It is a round plate encircled by a red roundel and definition plate is fitted below. Every road user must have to obey its by law. Defaulters may be prosecuted by law.

b. **Cautionary:** This type of sign is placed 90 feet ahead of the hazard. It is triangular plate having red line at the edge and white background. It is necessary to always obey this sign.

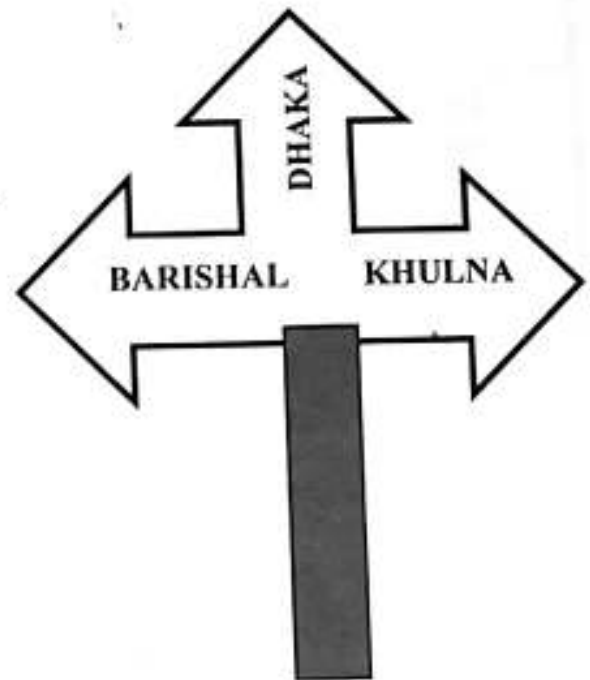
c. **Informatory:** This type of sign is placed at the side of the road indication the way to go to the desired destination. It only to give the information to the road user/about the road and place lying ahead how far and where it is gone. It has no definite shape.



MANDATORY



CAUTIONARY



INFORMATORY

*Ref: AP – 3025*

### Questions

4.
  - a. What is the purpose of road traffic signs?
  - b. What are the types of road signs?
  - c. Which are the signs to be obeyed by law?



# VISUAL ROAD SIGN CHART

These are road signs which we must abide by.



TRAFFIC LIGHT

STOP

WATCH  
CAREFULLY

GO AHEAD



ONE WAY



STOP HERE



SPEED LIMIT



CONSTRUCTION

RAILWAY CROSSING  
(Guarded)RAILWAY CROSSING  
(Un-guarded)

ZEBRA CROSSING



SCHOOL AHEAD



BUS ZONE



CYCLE ZONE

NARROW ROAD (Left)  
AHEADNARROW ROAD  
AHEADNARROW ROAD (Right)  
AHEAD

TWO-WAY TRAFFIC



AIRPORT AHEAD



ANIMAL ZONE



RIGHT ZIGZAG BEND



LEFT ZIGZAG BEND



RIGHT CURVE



LEFT CURVE



BUMPS



SPEED BREAKER



ROAD CLOSED



PARKING



NO PARKING



NO AUTOMOBILES



NO TRUCKS



NO HORN



MEN AT WORK



LEFT TURN



CROSSROADS



RIGHT TURN



ROUGH ROAD AHEAD



LANDSLIDE AHEAD



HOSPITAL AHEAD



NO LEFT TURN



NO ENTRY



NO RIGHT TURN



DRIVE SAFELY

ACCIDENT PRONE  
AREA

END OF SPEED LIMIT

OVERTAKING  
PROHIBITED

STEEP HILL



NARROW BRIDGE



U-TURN



NO U-TURN

RESTRICTED  
**MODED BY JAHID (BD/474652)**  
**MTOF( MTO): TTB, PRE-CTTB, PART- III**

Course: MTOF(MTO) TTB

Topic No-01

**DRIVING PERMIT**

**Aim**

1. To learn the regulations and procedure of issuing BAF driving permit of officer airmen and civilians.

**General**

2. All personnel, both service and civilian whose duties involve driving of BAF mechanical transport, are required to be in possession of a current BAF driving license. Driving a service vehicle without licences is an offence and will be dealt with accordingly. The appropriate driving licences must be issued to all personnel before they can be called upon to drive a BAF MT vehicle. It is to be clearly understood that a person can be authorized to drive only those types of vehicles which are endorsed on his driving license. Similarly, if a person is authorized to drive a BAF MT vehicle only in camp area is not permitted to drive on the public highway- Such restrictions are to be entered on his license in red ink.

- a. Service driving licences will only be issued after the. OIC MT Sqn of a Base/Unit is satisfied that the person is competent to drive. BAF MT. The types of vehicles which an individual is authorized to drive are to be clearly endorsed on his driving licence.
- b. Driving licence issued to all personnel other than airmen of MTO trade are only valid for driving vehicles of the base/unit from where- (light driving licence has been issued).
- c. The current driving categories of all civilian drivers and 'airmen MTOs of the rank of Flight Sergeant and below are to be endorsed on their licenses.
- d. A base/unit commander may at his discretion withdraw the driving licence of an individual for reasons of discipline and inefficiency. When this action is taken in respect of an airman MTO, a report is to be forwarded to Air Headquarters.
- e. Driving licenses issued to all BAF personnel (both airmen and civilian) are ***Not Transferable***.

**Issue of Driving Licence to Airmen Form-1629**

3. In addition to the airmen of MTO trade, airmen of the following trades can be issued with service driving license (F-1629) provided they have the appropriate Qualifications:

- a. MT Fitters
- b. Ground Signalers
- c. Provost
- d. GC

## RESTRICTED

- e. Electric Fitter (For driving AGE only)
- f. Driving licence (F-1629) are to be issued to airmen of MTO trade at the time of passing out from MT Driving School (MTDS). These licences are to be numbered serially and raised in duplicate; one copy is to be issued to the airman and the other copy to be retained with his documents.
- g. This licence is to be carried by the airman through- out his service career. For those airmen who are already out of MTDS and are posted at bases/units, their units are to raise duplicate copies of driving licences already held by them for retention along with the individual airman's documents.
- h. Endorsement of additional MT vehicles on which the Airman has been trained during advance and ST courses are to be made in F-1629 and signed by OIC MT Sqn.
- j. Form-1629 may be issued to airmen of MT Fitters by bases/units where, they are posted for testing of vehicles after repairs. Airmen of MT Fitter trade may also be detailed to drive MT on duty in special cases at the discretion of OIC MT Sqn.
- k. Driving licence will also be issued by the parent base/unit to those airmen of Ground Signaler, Provost and GC trades who are actually required to drive BAF MT as part of their duty.
- l. Airmen of MT Fitter, Ground Signaler, GC and Provost Trades are to return their licences to MT Sqn for cancellation on posting out. These airmen are not to be cleared from the MT Sqn unless driving licences (if issued to them) are returned, In order to enable all such airmen to obtain a driving licence at the base/unit posted to and where they may be required to drive BAF TPT, the OIC MT Sqn is to issue a certificate in accordance with annex 'A' to this order.
- m. Form-1629 is to be completed, stamped and signed by the holder in the presence of WOIC MT Ops Fit prior to issue.
- l. Any driving licence which is no longer required is to be immediately withdrawn.

### **Issue of Driving License to Civilian Drivers F- 1629B.**

- 4.
  - a. No person is to be employed as a civilian MT driver unless he is in possession of a current civilian driving licence and is medically fit. The selection committee is to satisfy itself as regards suitability of the driver by conducting practical driving test.
  - b. A Form-1629B is to be issued under the authority of Base/Unit Commander. OIC MT Sqn is to ensure that a proper record of all such issues is maintained in a register.
  - c. Every civilian MT driver employed in the BAF is to be qualified to drive at least the following types of vehicles as per his civil licence: such as light vehicle and heavy vehicle.
  - d. Civil driving licence of all civilian MT drivers is to be withdrawn and kept in custody by the OIC MT Sqn. However, these licenses are to be renewed by the individuals every year.
  - e. When a civilian driver is posted from one base/unit to another, he is to carry his driving licence with him (F-1629B).
  - f. When a civilian driver is discharged from service, his Form-1629B is to be withdrawn and destroyed and an entry is to be made in the register in this regard.

**Issue of Driving Licence to Officers, F-1839**

5. a. An officer may be authorized to drive BAF MT on account of operational duties or manning difficulties. Driving licence Form-1839 will be issued by Air Headquarters in respect of an officer holding a specific appointment.
- b. An officer must hold a current valid civil driving licence before Form-1839 is issued to him. In order to avoid complications arising out of accidents when officers are driving service transport and also to safeguard against misuse, it is essential to keep the number of Forms-1839 authorized to a minimum.
- c. Applications in accordance with annex 'B' to this order for issue of Forms- 1839 are to be made (in respect of appointment) to Air Headquarters under the signature of base/unit commanders. It is to be clearly understood that officers are not to normally drive service transport where service MTO s/MTD s are available.
- d. The under mentioned officers are eligible to drive BAF mechanical transport, if they are in possession of a civil driving licence, and permits may be issued to them on application to Air Headquarters. Senior officers who have been allotted vehicles under the terms of AFL 1/91 and AirHQ Later No 15051/Eng (MT)/volt /Fnc 89AB dt 04 Nov 98.
- e. Form- 1839 is valid only during such time as the holder remains on the strength of the issuing base/unit. On leaving the unit or on any alteration of duties which no longer require the driving of MT, the licence is to be surrendered by the holder.
- f. Before signing the clearance certificate of an officer on posting, the OIC MT Sqn is to ensure that the F- 1839 (if issued) is returned by the individual. All such forms are to be dispatched to Air Headquarters immediately for cancellation.

**Record of Issues at Bases/Units**

6. All issues of service driving licences are to be recorded in a register to be maintained by the WOIC MT Ops Ftr. Separate entries are to be made in respect of Forms 1629, 1629B and 1839. The following particulars are to be entered in respect of each issue".
- a. Particulars of the individual
- b. Serial number of the licence.
- c. Date of issue.
- d. Types of vehicle authorized to drive.
- e. Signature of the person to whom the licence is issued
- f. Signature of the OIC MT Sqn.
- g. When a driving licence is returned for cancellation, the OIC MT Sqn is to initial the entry canceling the licence.
- h. Stocks of Forms 1629, 1629B and 1839 are to be kept under lock and key together with the registers of issue.

### **Loss of Service Driving Licence**

7. Loss of a service driving licence is to be reported in writing by the individual to the issuing authority, who is to investigate the loss before issuing a duplicate. An annotation is to be made in the register of issue.

### **Civil Convictions Affecting Driving Licences**

8. Service driving licence is to be withdrawn from any person disqualified from obtaining or holding a substantive civil driving licence and the issue or reissue of service licence, is not to be permitted to any such person until the disqualification has been removed. Officers, airmen or Chileans who are authorized to drive mechanical transport and who are convicted by a civil court on a charge which entails the suspension or withdrawal of a civilian licence whether driving a BAF vehicle or a civil motor vehicle at the time of the offence are to be dealt with as follows:

- a. Officers. Service driving licence is to be withdrawn and Air Headquarters is to be notified.
- b. Airmen. Driving licence is to be withdrawn and the person is to be prohibited from driving duties. Those mustered as MTOs are to be considered for re-mustering if they disqualify from holding a licence for a period exceeding six months. After the period of disqualification has elapsed, the individual is to qualify a driving test conducted by the CTTB before being reinstated on driving duties.
- c. Civilian Drivers. In case of conviction affecting civil driving licence the service driving licence is to be withdrawn and the driver is to be discharged. No civilian who has a disqualification endorsement on his civil driving licence is to be employed in the BAF as an MT driver:

### **Detailing of Drivers**

9. WOIC MT Ops Fit is to ensure that suitably trained drivers are detailed to drive the various types of vehicles based on their driving categories. Only qualified MTO airmen of the rank of Cpl and above or experienced civilian drivers who have passed a driving test for that particular type of vehicle are to be detailed on the following:

- a. Articulated vehicles
- b. Tenders 5/6 ton and above (water tender. Fire crash tender domestic tender etc).
- c. Aircraft towing tractor when detailed for towing aircraft and Trailer                      Tractor.
- d. Coaches
- e. Cranes
- f. All vehicles when carrying explosives
- g. Regulars, Mechanical Sweeper, Wrecker, Airfield Tractor
- h. Tenders MT breakdown when towing vehicles. (Qualified MT Fitter NCOs may also be detailed).
- j. Any other specialist vehicle

**Driving Permit for Powered Aero-space Ground Equipment**

10. a. Provost personnel when detailed to drive vehicles must be experienced operators holding category 'A' or 'B'. Those holding category 'C' may be permitted to drive vehicles other than fire crash tender in the camp area only at the discretion of base/unit commander.
- b. All technicians airmen/civilians who are required to drive powered aero-space ground equipment as a part of their duty are to be issued with BAF Form-1629/1629B at the discretion of the OC Maintenance Wing of the base concerned.
- c. Before issuance of such driving permits the selected airmen' civilians of Electric and MT Fitter trade are to undergo a driving course to be arranged locally under the supervision of Trg Control Section.
- d. They shall be given driving training on the specific equipment they are to drive. It is to be ensured that before issue of driving permits, the technicians are given a driving test on specific aerospace ground equipment.
- e. List of such personnel found suitable to drive powered equipment is to be forwarded to OIC MT squadron to conduct test for issue of driving permits.
- f. The type of ground equipment that an individual is authorized to drive and the restrictions laid on driving e.g. fit to drive in the aircraft maneuvering area only etc, are to be endorsed in red ink on the permit.
- g. All personnel authorized to drive powered aerospace ground equipment are also to be categorized by CTTB annually.

**INSTRUMENT PANEL****Aim**

1. To learn about the purpose and types of different meters and gages fitted in the instrument panel.

**Explanation**

2. Instrument panel is fitted in the front of operators, in the driving cabin. Different meters gauge such as speed meter, fuel gauge are fitted on the instrument panel. It is also known as Dash Board.

**Purpose**

3. These instruments indicate the running condition of different components and systems for the correct function.

**Lay out**

4. The following meters and gauge are normally fitted in the instrument panel of MT vehicle.
  - a. Temperature gauge.
  - b. Fuel gauge
  - c. Ammeter or ignition warning light.
  - d. Air pressure gauge (vehicle fitted with air pressure brakes)
  - e. Oil; pressure gauge or oil pressure warning light.
  - f. Speeds meter.
  - g. Mileage meter.
  - h. High beam warning light.

**Operation**

5. a. **Temperature Gauge:** It shows the temperature of the engine or water in the engine up to 212 F [Fahrenheit]. The operator is to see that the needle does not cross 180 F or reach "H" mark. Normal working temperature of an engine is 145 to 180 F.

- b. **Fuel Gauge**: It shows the quantity of fuel in the fuel tank.
- c. **Ammeter or ignition warning light**: It shows the charging rate of Dynamo and discharging rate of battery.
- d. **Air pressure Gauge**: It shows the pressure of the air in the air reservoir tank in Lb per square inch.
- e. **Oil pressure Gauge or oil pressure Warning light**: It shows the pressure of the oil in Lb. per square inch being supplied to all moving parts of the engine.
- f. **Speeds Meter**: It shows the speed of the vehicle in KM\miles per hour, while the vehicle is in motion.
- g. **Mileage Meter**: It shows the up to date mileage covered by the vehicle.
- h. **High Beam Warning LIGHT**: It indicates that the head – Light beam is “ON”.



**JAKING OF MT VEHICLE****Aim**

1. To learn the precautions of jacking of MT vehicle and its operation.

**Purpose**

2. MT vehicle are required to be jacked up for wheel changing and routine maintenance. The MT operators or technicians are to exercise cautions during jacking up or down of any MT vehicle. The practice of observing the correct procedure of jacking of MT vehicle will certainly reduce the rate of ground accident.

**Precautions**

3. The following precautions are to be strictly taken:
  - a. Before using the jack, be sure that jack is 100% all round serviceable.
  - b. Place the jack in the hard and level ground. If the ground is not hard or level, put the bricks underneath of the jack by digging the ground so that both the purposes are solved.
  - c. Put the hand brake of the vehicle on.
  - d. Engage in the lower gear.
  - e. Put the blocks or chocks in the front and in the rear of all wheels.
  - f. Place the jack in the suitable place so that while jacking up no damage occurs to the vehicle.
  - g. While jacking up the vehicle, keep your head in the safe position so that in case jack got slipped no fatal accident occurs.

**Operation**

4. Operate the jack slowly and carefully. At first raise the jack a little bit up then again down the jack for testing the up and down operation of the jack and its serviceability. Now operate the jack fully .When the jack is raised up to the required position, stop the operation of the jack. Do not keep the jack long time on up position. Do your job quickly and down the jack. If circumstances compels to keep the jack up then put some blocks under the front and rear axle.

**LOADING AND CARRING CAPACITY OF MT VEHICLE****Aim**

1. To learn the responsibilities of an operator and senior service passenger and orders concerning the carrying passengers, stores and load and utilization of spare seating accommodation.

**Purpose**

2. The purpose of this subject is to define responsibilities in the loading of BAF MT vehicles and to distinguish the types of vehicle which may carry passengers.

**Responsibilities**

3. **Operator**: The operator is not to proceed on a journey until he has satisfied himself that his vehicle is not over loaded either in goods or in passengers. When a mixed load of goods and passengers is being conveyed in the same vehicle, the number of passengers is to be reduced in proportion to be ensured that packages, crates etc are properly secured. The operator is to draw the attention of the senior most service passenger to any information of these regulations. And it is the responsibility of latter to ensure that these orders are complied with.

**Senior Service Passenger**

4. It is the responsibility of the senior service passenger, when his attention has been drawn to any infringement of the regulations set down in this order, to ensure that the vehicle does not proceed until the loading is correct.

**Conveyance of Passengers**

5. The maximum number of passengers authorized to travel in various types of BAF MT vehicle is shown in appendix to this order. The following orders concerning the carrying of passengers are to be strictly enforced:

- a. Passengers are not to ride on the bodies of BAF prime mover and load carriers which are not fitted with side and tail boards. When side and tail boards are fitted passengers are not to ride or sit on them.
- b. The number of personnel including the operator carried on the front seat is never to exceed two.
- c. No passenger is to be carried on heavy or light tractors, tractors articulated float vehicles, open trailers, trailers articulated or cranes except one passenger where a seat is provided in the operator's cabin.
- d. Passengers may be carried in trailers office, trailers workshop, trailers caravan and similar trailers with enclosed super structure if they are normally employed on work carried out in these types of trailer or in the prime movers towing them provided seats are fitted.
- e. Technical vehicles are not to be used for carrying passengers other then personnel required to operate technical equipment there-in.

## RESTRICTED

- f. Passengers are not to be carried on vehicles employed on official mail duties, or on collection of ration except persons detailed for such duties.
- g. When passengers are to be conveyed on 1.5 Toner, 6 toner, Pickup and other similar type of vehicles, only vehicles with seats are to be used.
- h. When service transport is employed for conveyance of school children. One adult must proceed in the vehicle as in charge. The number of children to be conveyed on any Particular type of vehicle is to be authorized by Officers Commanding Base /Unit in writing.
- j. The maximum passenger carrying capacity as per appending is to be clearly painted both inside the operator's cabin and inside the body of all passenger carrying vehicles.
- k. Pillion riding. Or riding on the carrier of solo motor cycles is prohibited except for provost personnel when required to proceed on duty in pairs and for training purpose at BAF MT Driving School.

### **Conveyance of Stores**

- 6. The maximum dead load which may be carried is to be painted in letters one inch in height on the rear of every BAF load carrying vehicle e.g. 'MAXLOAD' 3 ton under no circumstances the indicated load is to be exceeded. The officer in charge MT sqn are to ensure that passenger carrying capacity of various types of vehicle and maximum load carrying capacity are prominently displayed on boards/charts in MT ops flt and that all operators are familiar with them.

### **Conveyance of load**

- 7. The following orders concerning the conveyance of load are to be strictly adhered to:
  - a. The operator and the individual responsible for supervising the transportation of equipment are to ensure that all loads carried on service MT vehicles
  - b. before connecting a journey, the operator must satisfy himself that the load is properly stowed. He must also check periodically during the journey that the load is well secured.
  - c. Whenever awkward and bulky loads are carried on articulated trailers, these must be tied down with ropes, and placed in such a manner that these do not extend over the maximum length and width of the trailer.
  - d. When containers of fuel, oil and lubricants are required to be conveyed on a MT vehicle, the operator is to ensure that no leaking or damaged containers are loaded on his vehicle.

**Utilization of Spare Seating Accommodation**

8. Service and civilian personnel serving at the Base to which a vehicle belongs to, and families of such personnel, may be permitted to occupy spare seats without charge on vehicles proceeding on duty or on vehicles detailed on duty authorized privilege journeys provided that :

- a. This concession does not entail deviation from the authorized route or the employment of additional or larger vehicles.
- b. The vehicle is equipped with seats and the authorized seating capacity of the vehicle is not exceeded.
- c. Persons taking advantage of this facility will do so entirely at their own risk.
- d. Accommodation is reserved for such passengers before the vehicle leaves the MT sqn.

**Loading/Unloading of vehicles on railway wagons**

9. The following precautions are to be observed while loading/unloading mechanical transport vehicles ON/OFF railway wagons :

- a. Only experienced MT operators are to be detailed for driving vehicles on/off the railway wagons.
- b. Drivers detailed are to ensure that both foot and parking brakes are serviceable.
- c. In case of heavy vehicles such as crash tenders, cranes, regulars ect, an experienced SNCO of MTO trade will be detailed to supervise the operation.

RESTRICTED

**MECHANICAL TRANSPORT CARRYING CAPACITY**

10	<b><u>TYPY OF VEHICLE</u></b>	<b><u>TOTAL CARRYING CAPACITY</u></b>
	<b><u>INCLODING</u></b>	<b><u>OPERATOR</u></b>
1.	Car Toyota Corolla	4
2.	Car Toyota Station wagon	4
3.	Jeep Toyota Land cruiser	6
4.	Jeep Nissan	6
5	Pick-up Nissan	2
6.	Pick-up Nissan With rear seat	6
7	Ambulance Daihatsu	21+1 stretcher ridden patient
8.	Ambulance Toyota	8+1 stretcher ridden patient
9.	Ambulance Nissan	10+1 stretcher ridden patient
10.	Mini bus Nissan	15
11.	Coaster Toyota	26
12.	Coach Nissan	35
13	Coaches Superior	52
14	Coach Hino	52
15	Coach Mitsubishi	52
16	6 Ton Truck	3
17	6 Ton Truck Troop carrying	27
18	Cargo Truck Mitsubishi	3

## **BAF FORMS USED IN MT SECTION**

### **Aim**

1. To get familiarized with the various forms used in MT operation and maintenance and to learn the use of these forms.

### **Purpose**

2. Various BAF forms are used for smooth running of MT administration in a Base/Unit. These forms are used for MT accounting where financial aspects are involved, dispatching returns to Air Headquarters on mileage, fuel and oil consumption, recording of MT maintenance, and issue and return of MT spares/items, and information, on other MT matters etc. All MTOs are to be able to use the correct form for any particular job to be carried out.

### **Number and Description**

3.	<b><u>Form No</u></b>	<b><u>Description</u></b>
	658	Application for mechanical transport for duty journeys.
	658E	Authority for mechanical transport for duty journeys.
	658A	Mechanical transport routine run and detachment record.
	658A1	Daily servicing schedule for crash tender (Foam).
	658A2	Daily servicing schedule for domestic fire tender.
	658C	Application for the hire of civil transport.
	658B	MT car dairy.
	658D	Indent of hire of civilian transport.
	656	MT servicing form.
	814	Record of journey of mechanical transport.
	814A	Summary of miles or hours runs.
	814B	Patrol consumption record.
	814C	Claim for over time, holiday and night duty allowance in respect of civilian drivers.
	813	Vehicle log book.

RESTRICTED

748	Inventory of equipment of MT vehicle.
793	Application for equipment of MT vehicle.
523A	Application for repair of engine of Mechanical Transport Specialist Vehicles.
10082	MT daily servicing schedule.
10083	1000 miles/monthly servicing prime mover.
10087	Trailer monthly servicing schedule.
10084	Annual servicing Trailer.
10085	300 miles/annual servicing prime mover.
10086	10,000miles/annul servicing prime mover.
10058	Register of mechanical transport on repayment.
1629	MT driving permit for airmen
1629B	MT driving permit for civilian drivers.
1839	Mt driving permit for officer.
446A	Traffic accident log card.
446B	Individual MT accident log card.
674	Internal and withdrawals form.
673	Internal exchange vouchers.
675	Internal return and receipt voucher.
361	Flight petrol book.
10044	Flight oil book.
458	Store-man's petrol/oil issue book.
440	Transfer of mechanical transport.
668	Record Card, Loan to Individuals/Unit.
108	Receipt for equipment on temporary loan.
525	Daily record of MT journeys.

RESTRICTED

347B	MT daily progressing record summary.
4115	Routine servicing work sheet prime mover.
523	Application for repair or disposal instruction for mechanical transport.
1022D	Report of failure or defect in Mechanical Transport.
600	Demand, issue and receipt voucher (External).
604	Packing note.
37	Inventory of BAF equipment.
21	Conversation voucher.
4021	Register of ground equipment.
4021A	Record of Servicing Class- I ground equipment.
1670	Inventory of specialist equipment MT vehicle.
1034	Application of driving permits for BAF officers.

**Army**

F-E03	Technical inspection report - MT vehicles.
F-6	Requisition for internal repair and manufacture.
4021B	Record of servicing class- II ground equipment.



## বাংলাদেশ বিমান বাহিনী

## যান্ত্রিক পরিবহন সরকারী কার্যে ব্যবহারের জন্য আবেদন পত্র

- ১। কার্যের বর্ণনা (পূর্ণ বিবৃতি দিতে হইবে এই শব্দগুলো যেমনঃ- কাজের জন্য সরকারী কাজের জন্য লিখিতে হইবে না).....
- ২। \*যাত্রীদের নাম অথবা যে বোকার জন্য ব্যবহৃত হইবে.....
- ৩। যান্ত্রিক পরিবহন সেকশন হইতে ভ্রমণ শুরু করতঃ (সফর করিবার স্থানের নাম) ... ..
- ৪। যে তারিখের জন্য প্রয়োজন ..... উত্তোলন করিবার সময় ... .. ঘন্টা
- ৫। যে স্থানে হাজির হইতে হইবে.....
- ৬। প্রত্যগমনে গাড়ী ব্যবহৃত হইবে কি? ... ..
- ৭। কতক্ষণ সময়ের জন্য গাড়ীর প্রয়োজন.....
- ৮। ফরম ৬৫৮ লিখিবার তারিখ এবং সময়..... ঘন্টা.....

আবেদনকারীর স্বাক্ষর.....

শাখা অথবা বিভাগ..... দুরালাপনী নং.....

\*এখানে সমস্ত ব্যক্তিদেরও নাম অথবা মোট ভার যাহা বহন করিতে হইবে উল্লেখ-খ করিবে। অফিসার অথবা বিমানসেনাদের দল থাকিলে তাহাদের মধ্যে জ্যেষ্ঠ ব্যক্তির নামের সহিত দলের সহযোগীদের মোট সংখ্যা উল্লেখ-খ করিতে হইবে।

উপরে ৬৫৮-ই নম্বর..... যুক্ত করা হইল।

বি এ এফ প্রেস-কে-৩২৬৬-৫০০০ প্যাড-২৬-১২-২০১০।

**DAILY SERVICING TASKS (POSTER NO-33)****Aim**

1. To get familiarized with the poster No-33 and learn the sequence of tasks to be accomplished on MT vehicles.

**Object**

2. A sequence of daily tasks is to be done by MT operators so that they get themselves familiarized with the construction of their vehicles and are able to stimulate pride in appearance and efficiency of the vehicles. To ensure adequate supervision of the daily task, a monthly check is to be done by an experienced NCO. These tasks should be completed within one month, but where an interval of approximately days, is considered to be more suitable.

**Sequence of Tasks**

3. The following 17 tasks are to be completed in a month:-
  - a. Examine the engine and radiator for fuel, oil and coolant leaks.
  - b. Ensure that the vehicle tool kit is completed and all tools are clean and serviceable.
  - c. Examine all road lamps for security of attachment, damage and corrosion.
  - d. Check the level of the electrolyte in the batteries, and if necessary add distilled water to bring level to  $\frac{1}{4}$  inch above the plates. Remove any corrosion from the terminals and smear with "grease terminal". Ensure that the batteries are secured. Examine battery stowage (to be packed) for signs of corrosion due to acid leakage.
  - e. Examine the tyres for damage or cuts, and signs of excessive wear due to uneven braking or incorrect alignment of front wheels. Ensure that all Schrader valves are fitted with valve caps. Remove stones from outer covers.
  - f. Check the tightness of all road wheel securing nuts.
  - g. Examine the exhaust system for security of attachment and sign of leaks.

## RESTRICTED

h. Examine the body and cab externally for damage, corrosion, loose nuts, bolts and fittings, and damage to fabric tilt and /or paint work. Ensure that all doors close easily and can be secured without force.

J. Examine the body and can internally for damage, corrosion, loose nuts, bolts and fitting. Check the operation of adjustable seats, wind screens and side windows.

k. Examine the chassis towing member, towing hook and attachment for damage.

Examine:

(1) Fan belt for tension and wear.

(2) Fan belt and blades for damage and check security.

l. Examine all interior lights and panel lights for correct functioning. Ensure that all spare tyres are serviceable and secured.

(1) Repeat task No-4.

(2) Repeat task No-5.

(3) Repeat task No-6.

m. Examine the mudguards and stays for security of attachment, cracks and signs of damage.

n. Examine the spear wheel stowage for security, and ensure that the fuel tank filler caps, oil filler caps and radiator filler cap are correctly fitted and secured.

*Note:- Details of defect noted are to be entered in form 656 and reported to the NCOIC MT Ops Flt.*

**Ref: Poster No 33 and AP 3025**

**MT DAILY SERVICING PRIME MOVER (POSTER NO-34)****Aim**

1. To get familiarized with the poster No-34 and to learn the daily servicing procedure of prime mover.

**Object**

2. The daily servicing schedule is a list of operations which are to be performed by the operators before the vehicle leaves MT Sqn on the first run of the day

**Layout**

3. The following items are to be checked for prime mover:-
  - a. Check the MT servicing form 656 to ensure that items previously reported defective have been either :-
    - (1) Repaired.
    - (2) Passed as fit for service by an NCO.
  - b. Drain the condensed moisture (reduce from vapour to liquid drops of water
  - c. Check the tyre pressure by gauge.
  - d. Examine the level of oil in the sump. Replenish as required with the correct grade.
  - e. Diesel Engine: Check the level of oil in the injector pump and governor casings. Replenish as required with correct grade of oil.
  - f. Ensure that the radiator is full, replenish as necessary with water or anti- freeze. Anti- freeze is used in extreme cold weather.
  - j. Start the engine, ensure that all starting controls function correctly:-
    - (1) Check oil pressure by gauge or warning light.

## RESTRICTED

- (2) Ensure that the ignition warning light goes out when the engine speed is increased from idling and check the charging rate of dynamo (vehicle fitted with an ammeter).
- (3) Check the reading of the brake air pressure of vacuum gauge ensuring that it is above the safe minimum (vehicle fitted with air storage or vacuum tanks).
- k. Apply the hand and foot brake separate ensure that when each brake is fully applied, the paddle or level is not at the end of its travel (on vehicle fitted with vacuum or air pressure brake, the operation of the foot brake is to be checked with the engine running).
- l. Check the operation of the lighting system, horn, wind screen wiper and traffic indicators.
- m. Carry out a general survey of the vehicle, ensure that the number plates are clear and legible, the driving mirror is serviceable and secured and the fire extinguisher is full.
- n. Check the contents of the fuel tank. Refill as required, check the fuel gauge for correct operation during the refilling.
- o. Make the necessary entries and sign the MT servicing form 656.

### **Notes for Operator**

4. Besides the items of daily servicing mentioned in para 3, the following points are to be taken into consideration by the MT operators:-
- a. All information's on tyre pressure lubricants, etc. will be found on the vehicle data sheet (Poster No 32).
  - b. Batteries are to be checked for leakage and tightness and ensure that the level of electrolyte is  $\frac{1}{4}$  inch above the plates.
  - c. Your vehicle was built to stand up to hard work. It will stand up to hard work if you play your part in looking after it make it your business to learn all you can about it, and drive it as you would want someone else to drive it if belonged to you.
  - d. The following POL will be used for the vehicles:-
    - (1) Type of engine oil for winter in HD 30.
    - (2) Type of engine oil for summer in HD 50.
    - (3) Grade of petrol for Vehicles other than staff car is 74 Oct
    - (4) Grade of petrol for car is 80 Oct.

**Condition of Vehicle Report**

5. In order to prevent the accumulation of minor defects rendering a vehicle unserviceable, the operator completes the condition of the vehicle report at the end of the first run of the day. The condition of the vehicle report is detailed and recorded on Form 656 and is completed as follows:

- a. Insert a tick (✓) when the performance is satisfactory.
- b. Insert a (X) when the performance is unsatisfactory. He should also make an entry in the repair record of Form 656.

**Ref: Poster No 34 and AP 3025**

RESTRICTED  
**MTOF( MTO): TTB, PRE-CTTB, PART- IV**

Course: MTOF(MTO) TTB

Topic No-01

**DISTINGUISHING FLAGS AND STAR**

**Aim**

1. To learn and be familiar with the types, sizes and colours of car flag and plate used for the occupants commensurating to their ranks.

**Flags of staff car**

2. The following occupants of staff car will fly miniature car flag while being conveyed in a car.
- a. A miniature BAF' ensign is flown by the Chief of Air Staff on his service car
  - b. Appropriate miniature distinguishing flags of rank are to be flown on service cars by Officers holding the following appointments:
    - (1) Principal Staff Officers (PSOs) of Air Headquarters (Permanent Incumbents).
    - (2) Commandant, BAF Academy, within the bounds of his Command.
    - (3) Base Commanders of the rank of Squadron Leader and above within the bounds of their Base/Units their command. Distinguishing flags of staff cars are to be flown when 'the cars are occupied by the entitled officers.

**Size of Car Flag**

3. The size of the miniature distinguishing flags on cars are 9 inches in length and 6 inches in width.

**Colours to be used for flags**

4. The following colors are used for car flags :
- a. Bottle green
  - b. Air force Blue
  - c. White
  - d. Red

**Stars Plates on Staff Cars**

5. Star plates are to be displayed when the cars are occupied by the entitled officers. At all others times the star plates are to be kept covered with a *Blue Cloth Cover*. Stars plates are to be displayed centrally on the front and rear bumpers on the car when occupied by the officers mentioned below:

## RESTRICTED

### Ranks

### Stars

- |    |                      |             |
|----|----------------------|-------------|
| a. | Marshal of Air Force | Five Stars  |
| b. | Air Chief Marshal    | Fore Stars  |
| c. | Air Marshal          | Three Stars |
| d. | Air Vice Marshal     | Two Stars   |
| e. | Air Commodore        | One Stars   |

### Size of Star Plates

6. The standard size of star plate is as follows:

- a. Length - 18 inches
- b. Width 4 ½ inches

### Colours to be Used for Plate and Stars

7. Silvers white stars on Air Force Blue back ground are to be displayed.

### General Instructions

8. The following instructions are to be complied with whenever driving a star car with its occupant:
- a. Indiscriminate use of car flags and stars plates is to be avoided. It tends to draw attention and there are times and plates when this is not desirable. Or example, a PSO formally visiting BAF Academy is not expected to fly his flag and display stars in transit from Air Headquarters to BAF Academy. When passing through populated civil areas, an officer may not fly flag and display stars plates, unless he is proceeding to attend an official function or ceremony.
  - b. When service car are being used by the entitled officers for the purpose other than official duty, the flags and plates are not to be used.
  - c. Flags and star plates are not to be used on privet care.

### Car Termed as Staff Car

9. The car having seating capacity total 4 is usually detailed for the use of following entitled officers, is termed as staff car.

- a. COAS
- b. Commandant, BAF Academy.
- c. Base Commanders.

### Car Termed as Utility

10. The car having seating capacity total 6 and more is detailed for the use of any officer other than those mentioned in Para 9, is termed as car utility.



**SAFEGUARD OF MT VEHICLE****Aim**

1. To be aware of the instructions for safe guarding MT vehicles and to learn how to take precaution and immobilize MT vehicles in case of emergency.

**Purpose**

2. In order to ensure that Air Force vehicles are safeguarded against theft, sabotage and fire, the instructions with regards to safeguarding MT vehicle are issued time to time for strict compliance.

**Safety Precautions**

3. The following safety precautions are taken to safeguard BAF MT vehicle:
  - a. All vehicles when not in use are to be locked in MT bays or in the MT yard. The KIT yard is to be fenced in with barbed wire. There should be only one gate leading into the MT yard. This gate is to be guarded during non- working hours, No vehicle is to be leave the MT Sqn unless it has been booked out by NCO in charge MT detail or duty NCO of MT Ops Flt.
  - b. In case of vehicle like ambulances, crash tenders, staff cars etc which may be required to be parked out side MT yard, the operators are to standby with the violets and will be responsible for safeguarding them. Vehicle parked out side the camp arc not to be left unattended.
  - c. Out-station vehicles visiting a unit are to be booked-in at the Main Guard Room and parked in the MT yard.
  - d. In the event of the vehicle being detailed for a duty out side the Base/Unit technical area, this is to be booked out and booked in at Main Guard Room. The NCO booking out a vehicle at the Guard Room will F - 658 E or F - 793 for the vehicle and that the operator, leaving or entering the gate, is the individual whose particulars are endorsed on the forms.
  - e. The loss of a vehicle will be reported immediately by the Officer Commanding Base/Unit by signal to Air Headquarters, reported to the nearest APM and all BAF Base/Units giving details of vehicle make and type, PA number, chassis number and any other information which may help in tracing the vehicle. The loss will also be reported in writing to the nearest civil police station.

**Immobilizing of BAF MT**

4. The following actions are to be taken to immobilize BAF MT vehicles in case of emergency:
  - a .Remove switch key, shut all -windows, lock all doors and remove door key.

RESTRICTED

- b. If the procedure detailed in 4 a. can not be fully carried out the rotor arm must be remove from the distributor and retained by the operator.
- c. For motor cycles, remove the High Tension lead and/or the. Rotor arm or use a chain/cable and padlock.

**HIRING OF SERVICE MT ON REPAYMENT****Aim**

1. To learn the instructions laid down for hiring of service MT which includes the entitlement, hiring charges, accounting procedure and scale of rate. Entitlement

**Air Force Mechanical Transport May be Hired Out, To the Following Personnel**

2.
  - a. To parties of BAF Officers for the purpose of recreation.
  - b. To the families of airmen for the purpose of recreation.
  - c. To BAF messes and sports teams for the purpose of recreation.
  - d. To officers and families of airmen for individual use.
  - e. To military departments or military personnel provided that no military transport is available.
  - f. To civil Government departments and service employed civilian personnel provided that no civil transport is available in the town or area.

**Sanctioning Authority**

3. The authority competent to sanction the hire of service MT is the Commanding Officer of the Unit or OC Admin Wing/OC Mint Wing when authorized by Officer Commanding. Before approving F-793, the Commanding Officer will ensure that the service requirement for which the transport is established is in no way prejudiced.

**Charges**

4. The charges will be on a mile per vehicle basis calculated from garage to garage. That is, a vehicle will be considered on hire from the time it leaves the MT Sqn to the time it returns after completing the Journey.

**Meal Charges for Operator**

5. Vehicle use on repayment and being out of the Unit for a period over 3 hours or involving any meal time of the driver, and extra charge of Tk.10.00 will be collected from the hirer by the MT Officer and paid to the driver prior to the commencement of Journey.

**Condition**

6. Service transport will only be used provided that the following conditions are complied with:
- a. That there is no train or public conveyance which could normally be used as a measure of economy.
  - b. That no person who is in possession of a private motor vehicle unless his motor vehicle is unserviceable.
  - c. That the journey is over 2 miles (excluding the return journey) and not more than 20 miles (excluding the return journey).
  - d. That the vehicle is filled to its seating capacity when issued under the conditions of Para 2, sub-para a., b., c., e., and f.
  - e. That no individual will normally be allowed to avail of more than four repayment trips in the month issued under Para 2, sub-Para a., b, c, e, and f. and not more than two repayment runs in the month when issued under Para 1, sub-Para d,
  - f. That all repayment vehicles are driven by a sender driver of MTO trade who is not a member of the party, and that in all cases a vehicle with a serviceable speedometer is used.
  - g. That the most economical vehicle available for the member of passengers to be carried, is always used in order to economies in the use of service transport.
  - h. That all application for repayment journeys are made on F-793 and forwarded 24 hours in advance to MT Sqn duly completed and approved by the Commanding Officer.

**Accounting Procedure**

7. The following procedure of accounting will be carried out in respect of repayment runs issued on F-793:
- a. **Distribution of F-793:** The form having been raised by the adjutant duly completed and approved is to be forwarded as follows:
    - (1) The original copy is sent to MT Ops Flt for necessary action.
    - (2) The duplicate copy is sent to the unit accountant officer for information,
    - (3) The triplicate copy is retained in the book held by the adjutant.

## RESTRICTED

b. **Action by MT Ops Flt:** On receipt of F-793, the following action is taken by MT Ops Flt:

(1) On receipt F-793 –at the MT Ops Flt, the MT Officer or NCOIC MT Ops Flt will check the repayment register maintained in the section and ensure that the applicant or members if the party have no other repayment runs outstanding against them, if so, the F-793 is to be cancelled and returned to the adjutant with the remarks that the individuals have not cleared their last repayment runs or that they have already availed themselves of the allotted concession for the month.

(2) If on reference to the register it is observed that F-793 is covered by the instructions of this order, MT Ops Flt will take necessary action as stated under (2) below.

(3) The MT Ops Flt will take necessary action to detail a most economical and suitable vehicle and a driver to comply with the request. Care is to be taken to ensure that the following particulars are entered on F-793 by the MT Detail prior to the commencement of journey:

(a) The Driver's number, rank and name.

(b) The vehicle BA No, type and make.

(c) Vehicle speed reading out.

(d) The vehicle time out.

(4) On completion of the journey, the vehicle will be booked in and all particulars will be entered on the F-793, F-814 (in red ink) and on the repayment register, signed by the MT Officer and forwarded to the accountant Officer under signature,

(5) On receipt of payment, the accountant officer will complete the entries on the reverse of the original and duplicate copies of F-793 and return the original copy duly signed to the MT Ops Flt, who on receipt is to enter the word '*PAID*' against the entry in the payment register and fixed the F-793 in the register to verify the entry.

### **Scale of Rate**

8. **The scale of rates to be charged is as follows:**

#### **Rate**

#### **Applications**

a. **Normal Rates for**

(1) Civil Government departments.

(2) Local Authority

(3) Civil firms for carriage of goods when authorized by Air HQs

(4) Individuals paid from the Defence Services Estimates.

(5) Government Contractors when certified by the departments concerned that the goods to be carried are for the Government use.

b. **Reduced Rates:**

(1) Military departments (including military firms departments).

**RESTRICTED**

(2) Individual use by officers and Families of airmen.

(3) Use of service messes and institution.

c. **Amenity Rates:** For use by parties of officers and families of officer & airmen for recreational purpose.

**The Hire Rates will be as Follows**

9.	<b><u>Type of Vehicle</u></b>	<b><u>Normal Rate</u></b>	<b><u>Reduced Rate</u></b>	<b><u>Amenity Rate</u></b>
		<b><u>Per Mile</u></b>	<b><u>per Mile</u></b>	<b><u>per Mile</u></b>
	Car passenger (4+2)	Tk 0.94	Tk 0.56	Tk 0.31
	Car passenger (4+2)	Tk 0.87	Tk 0.50	Tk 0.25
	Car passenger (4 X 4)	Tk 0.94	Tk.056	Tk 0.31
	Tender 10 Cwt to 14 Cwt	Tk 1.00	Tk 0.59	T k0.37
	Tender 15 Cwt to 29 Cwt	Tk 1.00	Tk 0.62	Tk 0.41
	Tender 30 Cwt to 2 <sup>1</sup> / <sub>2</sub> Ton	Tk 1.00	Tk 0.66	Tk0.44
	Tender 3 Ton to 5 Ton	Tk 1.12	Tk 0.69	Tk 0.47
	Tender 6 Ton to 10 Ton	Tk 1.37	Tk 1.00	Tk 0.62

	<b><u>Type of Vehicle</u></b>	<b><u>Normal Rate</u></b>	<b><u>Reduced Rate</u></b>	<b><u>Amenity Rate</u></b>
		<b><u>Per Mile</u></b>	<b><u>per Mile</u></b>	<b><u>per Mile</u></b>
	Tender 10 Ton and over	Tk 3.56	Tk 2.75	Tk 1.00
	Coaches 11 to 19 setter	Tk 1.12	Tk 1.00	TK 0.87
	Coaches 30 to 35 setter	Tk 1.75	Tk 1.50	Tk 1.00
	Micro Bus	Tk 1.00	Tk 0.81	Tk 0.62
	Pick-up	Tk 1.00	Tk 0.65	Tk 0.44
	Tractor Heavy *	Tk 0.37plus	Tk 0.37 plus	
		Tk 3.87 per hrs	Tk 2.50 per hrs	
	Tractor light	Tk.0.37 plus	Tk. 0.37 plus	
		Tk.3.00 per hrs	Tk 2.00 per hrs	
	Crane up to 2 Tons	Tk0.50 plus	Tk 0.50 plus	
		Tk 6.75 per hrs	Tk3.37 per hrs	
	Fire Crash Tender	Tk.0.50 plus	Tk.0.50 plus	

RESTRICTED

Tk.3.75 per hrs      Tk.2.62 per hrs

Fire Tender (Domestic)      Tk0.37 plus      Tk0.37plus

Tk. 3.00 Per hrs      Tk. 1.50 per hrs

**Note:**

- (1) *Only vehicles shown in the above scale are to be issued on repayment.*
- (2) *These types of vehicle are not to be hired out on amenity rates.*
- (3) *Journeys exceeding the 20 miles limit as out-lined in Para 6 c. above and for which there is no written authority or the journey in excess; the charges of hire for the complete journey will be made at normal rates as shown in Para 7 a. above.*

**MT SERVICING (FORM-656)****Aim**

1. To get familiarized with F-656 and to learn how to record the required information's pertaining to MT operation and maintenance.

**Purpose**

2. It is used to log daily mileage covered by the transport and to record fuel and oil consumption and MPG attained. This is also used to reflect the schedule inspections due dates and the state of the vehicle before and after the use.

**General**

3. This form is maintained by the MT Ops Flt (NCOIC MT Yard ).Whenever any operator is detailed on driving duties, it is his first and foremost duty is to check the F-656 for unserviceability entry given by the previous operator. If there is any entry, he will ensure that the rectification is carried out and entry to this effect is made on the form. If there is no entry, he will carry out the daily inspection on the transport. During the time of DI if any defect is detected, he will make necessary entry on the F-656 and inform the NCOIC yard. After completion of the first run of the vehicle he is to give tick (✓) mark on serviceable condition and ' X ' mark if the vehicle is unserviceable on the opposite side on the form.

**Division of the Form**

4. This form is divided into four main parts as follows:
  - a. **Part 1**: The title of the form is written on the top of the paper in block capitals. This part consists of following entries:
    - (1) **Unit**: Name of the unit to which the vehicle is allotted.
    - (2) **Month**: Name of the month in which the form is used.
    - (3) **Serial Number**: The serial number of F-656 is to be maintained on the right hand top corner of the form.



## RESTRICTED

- (4) **Vehicle Type:** What type of vehicle it is.
- (5) **Vehicle Make:** The vehicle make number is to be stated.
- (6) **Register Number:** Vehicle BA Number is to be written.
- (7) **Table of Inspection and Partial Overhauls:** If a vehicle runs 1000 miles or one month is completed after any schedule inspection is carried out (whichever is earlier), the next due date of inspection is to be stated. This is called intermediate inspection. If a vehicle runs 3000 miles or completes 3months, it is due for minor inspection and the due of minor inspection is to be given. Annual inspection is carried out at 12000 miles or after a year. The date for annual inspection is also to be reflected in this column.
- (8) **Engine oil Changed at ....Miles.** The total mileage at which the engine oil is changed is to be endorsed or the type of inspection carried out is to be written.
- (9) **Task number and Date.** The task number and date are to be written in the specified places.
- (10) **Operator Initial.** After completion of the specified task and D I, the operator is to put his signature in this column.

b. **Part-2** The daily log consists of the following columns.

- (1) **Speedometer Reading** the speed meter reading at the time of D I is to be record hears.
- (2) **Miles or Hours Runs Daily.** The total miles or hours or both covered by the vehicle in a day is to be mentioned.
- (3) **To Date** after adding the daily mileage, the total accumulated mileage till that date is to be stated.
- (4) **Issue of Petrol** The quantity of petrol is drawn by the vehicle during the day.
- (5) **Issue of Engine Oil** The quantity of engine oil in pint is drawn during the day.
- (6) **Other Oil** The quantity of other oil is drawn by the vehicle during the day.
- (7) **Daily Inspection and Sign of Operator** after completion of DI, the operator is to sign in this column.
- (8) **Checked By** NCOIC MT ops Flt / Yard are to check that all the entries of this form are endorsed properly and signed by the operator.
- (9) **Totals** The total miles or hours are covered during the month
- (10) **Petrol Used During the Month** Total quantity of petrol used by the vehicle during the month is to be stated.
- (11) **Average Mileage or Hours Per Gallon** The average mileage or an hour per gallon found during the month is to be mentioned.

RESTRICTED

- (12) **MTOs Signature.** MTO is to sign in this place after being satisfied that all the entries and columns are correctly filled up

c. **Part 3** all the records of repair, service modification, special technical instructions carried out are to be endorsed in this place. This part is to be filled up by the MT and I Flt and is divided into ten columns:

- (1) **Date and Initial** the date of the defect entered in this form and initial by the operator or by NCOIC MT Yard.

- (2) **Defect, Servicing, Modification, Act.** In this column the defects or modifications are to be entered.

- (3) **Detailed of Works Done.** The detail of works or rectifications done on the defects or modification is to be entered in this column.

- (4) **Date Completed.** The date of completion is to be entered here.

- (5-6) **Done By and Check By** In this column the mechanic or the fitter, who has done the job, supervised the job and finally checked the jobs are to sign in the specified places.

- (7-8) **Done by and Checked By Electrician.** In these columns the electricians who have done the job, supervised and checked it are to sign in the specified places.

- (9) **Passed Service, Serviceable By.** In this column the in charge of the fitters is to sign after road test of the vehicle is carried out.

- (10) **Serial Numbers MT R&I Record.** In this column the serial numbers of the job card is to be entered by the MT R&I Flt.

d. **Part 4.**

(1) The state of the vehicle at the end of the first run of the day is to be entered in this column by the operator himself. There are two signs to indicate the state of the working components or systems of the vehicle:

(a) one tic mark (✓) which indicates that the vehicle is serviceable

(b) Another tic mark (✓) which indicates that the vehicle is unserviceable.

(2) There are 17 components or items in the vehicle which are to be checked by the operator during the first run of the day and he is to put the applicable sign on the specified.

## **MT SERVICING PROCEDURE**

### **Aim**

1. To learn the MT servicing procedure.

### **Servicing of MT**

2. In order to improve the first and second line servicing and to permit the extension of period between overhauls of MT vehicle, the following system of MT servicing is introduced.

- a. A standard servicing schedule common to all types of prime mover is to be employed and routing servicing to be done on mileage/calendar basis. A similar schedule, on calendar basis, is provided for all types of trailer. Specific information on the servicing requirements of the particular make of vehicle is to be obtained from the vehicle and book / maintenance manual.

- b. A sequence of daily tasks is to be done by MT operator to make them familiar with the construction of their vehicle adequate supervision of the daily task, a monthly check is to be done by an experienced NCO.

- c. "condition of the vehicle" report is to be filled in by the operator on return from the first run of the day on F-656. The provided a brief daily test report and is intended to eliminate the development and accumulation of minor faults.

- d. Servicing poster no 32 is to be completed and displayed in a prominent position in him MT Ops Flight. This will provide data, such as types of lubricant etc, needed for normal day to day servicing. Required information in for this poster is too being obtained from applicable TOs, operator's hand book or maintenance manual.

### **Servicing Cycle**

3. The servicing cycle is divided in to the following four phases:

- a. Daily servicing.
- b. Intermediate servicing – 1,000 miles or monthly, whichever occurs earlier.
- c. Minor servicing – 3,000 miles or 3 monthly, whichever occurs earlier.
- d. Major servicing – 12,000 miles or annual, whichever occurs earlier.

**Responsibilities of MT servicing**

4. Responsibilities of MT servicing is appended bellow:

- a. Specified periods are not laid down for which operations as decarburizing and valve grinding; the need for them is to be determined as a result of running experience and the functional test which from part of the minor and major servicing.
- b. Daily servicing is to be done in the MT Ops flight by the operators. The programmed of NCOs monthly check is to be detailed by the officer-in-charge of the MT Sqn who is responsible that these are done efficiently.
- c. Intermediate inspections are to be done in MT R&I flight by the operators, supervised by a competent MT fitter.
- d. Minor and major servicing are to be done in the MT R&I Flt. Officer or NCO-in-charge of MT R&I Flt will be responsible for the quality of servicing and repair work done in his flight.
- c. Where necessary the operator is to accompany his vehicle and assist fitter/mechanics during defect rectification or running servicing.
- e. After servicing/repairs or whenever a major assembly is replaced, the vehicle is to be road tested by warrant officer/NCOIC MT R&I Flt.
- f. Fuel consumed in workshops during servicing/repairs or road test should not exceed quantities authorized for various types of vehicle vide AFI 52/51, as amended by AFI 109/ 55.
- g. When it is necessary to convert stationery engine running time to vehicle mileage, one hour running is to be regarded as the equivalent of ten miles. The various documents to be used in servicing MT are listed as appendix 'A' to this order (Para 5).
- h. Those which are issued as posters are for wall display in MT R&I Flt and MT Ops Flt. All major defect rectification, minor and major inspection and replacement of new component entries are to be recorded in the repair log of F-813 and signed by warrant officer/NCOIC MT R&I Flt.
- j. MT R&I Flits of the Base/Unit are equipped and manned to undertake first and second line servicing and repairs by replacement of components, major repairs requiring specialist tools and equipment are therefore not to be undertaken at Base/Unit MT R&I Flits.
- k. Whenever a vehicle requires replacement of an engine, the Base/Unit holding the vehicle on charge is to approach Air Headquarters (Dte Egg) giving details of defects and mileage done by the original engine for prior approval.

**MT Storage Procedure**

5. The measures necessary for the full protection of MT vehicles/trailers in storage are as follows:

a. **Initial Servicing**

- (1) Road test the vehicle and rectify defects, if an, Drain and flush out coolant system.
- (2) Drain the engine sump, clean the oil filter and refill with fresh oil.

## RESTRICTED

- (3) Inhibit the engine.
- (4) Drain the fuel tanks completely, clean the filters and spray the inside of the tanks with sufficient protective to ensure that the surfaces are completely covered.
- (5) Check and fill to correct level with oil, as applicable, gear boxes, steering box, axles and master cylinders.
- (6) Remove batteries, label and return to electrical section for storage.
- (7) Take tyre pressures and inflate to correct pressure. Check wheel nuts tightness.
- (8) Lubricate the complete chassis at all points including springs.
- (9) Whenever possible, through the clutch inspection aperture, spray clutch level toggles, pins and shaft with protective. The clutch paddle is to be operated during the operation.
- (10) Lubricate other moving parts not fitted with lubricators, e.g. door catches, striker plates and linkages. Treat steering spherical joints liberally with grease after vehicle is placed on site.
- (11) Spray underneath chassis frame, road springs and axle assemblies, etc. with protective.
- (12) Examine paint work, remove all traces of corrosion from the affected metal surfaces and retreat with appropriate primer and finisher paint if necessary, the complete vehicle may be repainted.
- (13) Clean all plated metal parts, remove traces of incipient corrosion. and apply protective.

## RESTRICTED

(14) Check up the vehicle, with the wheels clear of the ground, on suitable blocks. Where this is impracticable, the wheels are to be positioned on the hard ground and rotated monthly so that a different portion of the tyre is in contact. If the vehicle is sighted on a grass plot, the grass is to be kept short underneath the vehicle.

b. **Monthly Servicing**

(1) Check tyre pressures and correct as necessary. If vehicle is not checked clear of ground, jack up and partially rotate each wheel.

(2) Operator foot brake paddle at least ten times to ensure freedom of movement of rubber cups in cylinders. Refill hydraulic fluid container as necessary.

(3) Inspect chassis and body work for corrosion and deterioration of paint work. Clean and retreat as necessary.

(4) Check clutch mechanism for freedom of movement.

c. **Six Monthly Servicing**

(1) All items listed under monthly servicing.

(2) The engine of the prime and auxiliary engine if fitted is to be turned 20/30 times. Engine to be re-inhibited as for initial servicing. External treatment may be omitted, if un-warranted.

d. **Twelve Monthly Servicing**

(1) Vehicle be taken out of storage and road tested through all ranges of gears, main and auxiliary. Carry out rectification and /or repairs, revealed as a result of the test.

(2) All items listed under monthly and six monthly servicing.

(3) Vehicle are not to be retreated as for initial servicing and prepared for storage, pretreatment of the parts unaffected by the run may be omitted at the discretion of the office in-charge.

e. **Road Test** A vehicle is to be road tested at the time of initial servicing, twelve monthly servicing and record sheet as shown in appendix 'B' to this order is to be completed filed with the history sheet of the vehicle.

f. **Documentation**

(1) Storage servicing records are to be maintained and kept in a folder (History Sheet) for each vehicle. The history sheet is to indicate name of the unit/section, BA number, Type of vehicle, Chassis number, Date of receipt, Allotment number and signature of officer -in-charge.

(2) After the vehicle leaves unit on allotment out, history sheet is to be closed, the allotment out authority and date of dispatcher to be endorsed. The history sheet is to be held for period of 12 months after the closing date

(3) Initial. Six monthly and pre-allotment servicing/inspections are also to be on F-813.

**List of Servicing Documents (Appendix 'A' to AFO-77-29)**

6. The following MT servicing documents/posters is used by the Mt Ops and MT R&I Flits for servicing/inspections of MT vehicle:

## RESTRICTED

**Poster/Form No****Description**

- |    |              |  |
|----|--------------|--|
| a. | Poster no 31 | Daily servicing schedule (Trailers)    |
| b. | Poster no 32 | Vehicle servicing data sheet.          |
| c. | Poster no 33 | Daily servicing task.                  |
| d. | Poster no 34 | Daily svc schedule (prime mover)       |
| e. | Form 1083    | Job card.                              |
| f. | Form 656     | MT servicing form.                     |
| g. | Form 813     | MT vehicle log book.                   |
| h. | Form 4115    | MT routing svc worksheet (prime mover) |
| j. | Form 4021A   | Ground Engine.                         |



## **MT SIMULATOR**

### **General Technical Information**

#### **Warning Notice.**

1. a. **High Voltage Electrical System.**

(1) Voltages in excess of 30v (ram's.) or 50v D.C. can be extremely dangerous and in certain circumstances, lethal. Personnel should therefore ensure that the electrical system is electrical safe before any servicing is attempted.

(2) Where it is essential for tests or adjustments to be made with the electrical power switched on, the greatest care must be exercised. Safety notices must be affixed wherever necessary and a second person should be in attendance.

b. **Safety Precautions.**

(1) **General.** It must be noted that the operative mechanical equipment of the trainer is associated with electrical signals or power supplies derived from amplifications and relay systems and thus does not have an inherent fail-safe characteristic. In the interests of personal safety it is therefore imperative that the stated safety precautions are observed.

(2) **Electrical Power.** In addition to the normal precautions taken in servicing high voltage equipment, no electrical plugs / sockets should be removed with power on.

### **Technical Specification**

2. a. **Controls and Indicators:** A glass fiber shell, of overall dimensions 2450 x 1480 x 1330<sup>mm</sup>, houses the controls, instruments and indicators of the operator's area together with the display screen, computer and associated equipment to simulate vehicle operation.

(1) **Steering.** Turning the steering wheel compresses a coil spring shock absorber unit to produce steering loads and provide a self centering action. An adjustable friction unit may be set as required to provide the correct feel at the steering wheel. The rotational displacement of the steering wheel is detected electrically and fed into the computer.

(2). **Direction Indicator Switch.** The direction indicator switch is located on the left hand side of the steering column. The direction indicators, when operated, produce a flashing indication and sound effect on the operator's instrument panel.

(3) **Ignition and Starter Switch.** This is a three position switch located at the side of the steering column. Turning the switch one position clockwise to the "IGN ON" position will light the "no Charge" AND LOW OIL Pressure indicator lights. Two positions clockwise will start the

## RESTRICTED

engine and extinguish the two warning lights. In this position a noise is generated to represent operation of the starter motor. When the key is released it will return to the ignition on position.

(4) **Chock Control.** The chock control perditions engine starting when cold (instructor's COLD START facility is selected "ON").when the control is pulled out a warning lamp is lit on the operator's instrument panel.

(5) **Speedometer.** The speedometer indicates the computed road speed in accordance with the selected gear and throttle position.

(6) **Fuel Gauge.** The fuel quantity indicated on the gauge is set by a control on the instructor's control panel

(7) **Oil Pressure.** Starting the engine will extinguish the oil pressure warning. Light. The instructor has the ability to fail the oil pressure, when the warning lamp is again activated.

(8) **Water Temperature.** A pre-set "normal" temperature reading is indicated with the ignition on. The instructor is able to introduce a "high" reading by operation of his FAIL COOLANT faults switch.

(9) **Generator Warning Lam.** This lamp is normally lit when the ignition switch is selected "ON" and is extinguished after the engine has started. It may also be lit by the instructor to simulate a charging fault.

(10) **Gear Change.**The gear change system has four forward and one reverse positions manually selected by a floor-mounted lever. Magnetic reed switches are operated at each of the selected lever positions. These switches are connected to the computer which is configured to generate an appropriate road speed to accord with the gear selected.

(11) **Hand Brake.** The hand brake lever is mounted on the gearbox/computer unit and operates a potentiometer. When the brake is applied, an indicator lamp is lit on the operator's instrument panel and a drag signal is fed to the computer. A loading system is incorporated to produce the correct feel.

(12) **Foot Brake.** A car foot brake assembly is used and consists of pedal and spring-loaded linkage to ensure the correct feel at the pedal. An electrical pick-off is controlled by the action of the foot brake pedal and the positional signal is fed to the computer. Braking effect is thus proportional to the distance traveled by the pedal

(13) **Clutch.** The clutch pedal is loaded to produce the correct feel. An electrical position pick-off feeds a signal to the computer. If a gear change is made or attempted without the clutch being operated a noise is generated to simulate gear grating.

(14) **Accelerator.** The accelerator pedal is spring-loaded to provide the correct feel. A positional pick-off is attached to the pedal linkage to provide the computer with a continuous signal representing accelerator pedal position.

### **Instructor's Control Box**

3. a. **Visual Switch.** The visual switch is a latching press switch with integral opal indicator lamp which, when operated turns "off" the projection lamp and visual drive motors.

b. **Road Edge Switch.** A latching press switches with integral green indicator lamp switches on the road edge detector.

## RESTRICTED

- c. **Volume Control.** The volume control varies the put-put of the audio system to adjust the level of engine noise.
- d. **Gradient Control.** The GRADIENT control applies a variable positive gradient input to the computer. This produces all the drag and roll-back effects of being on a hill.
- e. **Fuel Level Control.** The FUEL LEVEL control permits the setting of a specific indication on the operator's fuel gauge.
- f. **System Failure Controls.** Four latching press switches, with integral red indicator lamps, provide for the insertion of failures into the various vehicle systems.
- (1) Engine Failure - Stops engine and prevents re-starting.
  - (2) Generator Failure – Lights the red charge warning lamp on the operator's instrument panel.
  - (3) Low Oil Pressure – Lights the red low oil pressure warning lamp on the operator's instrument panel.
  - (4) Loss of Coolant – Causes a high reading to be given on the operator's coolant temperature gauge.
- g. **Cold start.** A latching press switch, with integral blue indicator lamp, inhibits engine start unless the operator's chock control is operated. The coolant temperature gauge will read cold until the switch is released.
- h. **Brake Reaction Test Switch.** The brake reaction timer is started when the TEST/RESET switch is depressed and reset when released. The switch is of the latching type and has an integral orange indicator lamp.
- j. **Brake Reaction Test.** When the TEST/RESET switch is pressed to TEST (integral lamp lit) a red lamp behind the projection screen is lit. This indicates to the operator that he must stop the vehicle rapidly as in an emergency. The digital TIME display in dates the elapsed time in increments of one- thousandth of a second until the operator's brake pedal is depressed. The recorded reaction time remains on the display until the switch is pressed again to unlatch (RESET, lamp extinguished).
- k. **Visual System.** A projection screen is positioned at the operator's windshield. A back-projection system is mounted at the rear of this screen and throws an image of a scenic road layout model onto the screen. The image thus produced represents a view of the road markings and background scenery as seen from the operator's position. As the vehicle is driven signals from the computer are fed to the visual system such as to move the model relative to the operator's viewpoint. The projected scene is completely un programmed and follows closely the actions of the operator.
- l. **Road Edge Detector System.** Two sensors are positioned behind the projection screen to represent the width of a car on the road. As the edge of the road crosses one or other of the sensors an audible indication is given. This system any be turned "ON" or "OFF" from the instruction's control box.
- m. **Audio System.** An electrical signal representing engine speed is fed in to a noise generator with then produces a similar sound to that of an automobile engine. Starter motor noise is also represented as the key switch is turned. A simulated gear "crash" noise is introduced if the gear shift and clutch operation are not synchronized.

## RESTRICTED

n. **Road Speed Computation.** After a successful engine start a signal representing engine R.P.M. is computed from the accelerator position. This signal is fed via the clutch position pick-off into the gear computation. When first gear is selected the maximum speed indicated is low and the simulated drag effect in slowing the auto tutor is apparent. When a higher gear is selected the speed available is increased and the drag effect is reduced. Applying the foot brake or hand brake inputs a high drag signal into the computation. The gradient control feeds a signal of opposite polarity to that of forward speed into the computation, if therefore this signal becomes the greater, a rolling backwards state will be apparent. The engine will stall if the R.P.M.

### **Operating Instructions**

4. **Introduction.** This chapter deals only with the controls and techniques that are peculiar to the trainer. The functions and operation of the vehicle controls and instruments are not discussed, except insofar as they affect the starting of the trainer.

a. **Preparation for Training.** Switch on the trainer mains power. The switch is key operated and is located on the rear outside face of the gearbox/computer unit. The trainer mains fuse is also located on this panel. Check that all faults selection switches and the visual switch on the instructor's panel are "OFF" (integral lamps not lit). The screen should now be lit by the projection lamp. Refer to chapter 4 if not lit. The ignition switch is located to the right of the steering column and operates as on a conventional car. It has three positions, positive OFF and ON and spring-loaded START. With the ignition key inserted and set to ON the oil pressure and generator warning lamps are lit. When the key is turned to the START position the noise of the simulated starter motor will be heard followed by engine noise. The oil and generator warning lamps will be extinguished. The trainer may now be driven in the same manner as a conventional car, using the controls in the same way. The road scene on the screen will then change according to the operation of the controls, that is it will vary with steering and road speed.

b. **Simulated System Faults.** Provision is made for the introduction of typical vehicle system failures into the training sequences. These failures are selected at the instructor's control panel and may be used in dividedly or in combination. The following list outlines the various controls and indicators and their function.

<b><u>Control</u></b>	<b><u>Function</u></b>
<b><u>Failures Switches</u></b>	
Engine	Stops the engine and prevents a re-start until the switch is released
Generator	Lights the generator warning lamp on the operator's Instrument panel.
Oil Pressure	Lights the low oil pressure warning lamp on the operator's instrument panel.
Coolant	Causes a high coolant temperature to be indicated on the operator's gauge.

<b><u>Miscellaneous Controls</u></b>	
<b><u>Control</u></b>	<b><u>Function</u></b>
Cold Start Switch	Prevents engine start unless the operator's choke control is used. The coolant temperature gauge will indicate 'cold'.
<b><u>Miscellaneous Controls</u></b>	
<b><u>Control</u></b>	<b><u>Function</u></b>
Road Edge Switch	When 'ON' an audible indication is given as the road edge sensor is crossed by the white edge of the road. The sensitivity of each sensor is adjustable. The basic disc is not suitable for operation with road edge detector switched 'ON'.
Visual switch	On the first lesson it is useful to be able to Practice the operation of the car controls without the visual operating. The visual switch when 'ON' inhibits the Visual and turns 'OFF' the projection lamp. Ensure there is no speed indicated before releasing the visual switch. Switch 'ON' the visual switch when changing the visual disc or projection lamp.

<b><u>Miscellaneous Controls</u></b>	
<b><u>Control</u></b>	<b><u>Function</u></b>
Test/Reset switch (Brake reaction)	When the switch is pressed to test (integral lamp lit) a red lamp behind the projection screen is lit. This Indicates to the operator that he must stop the Vehicle rapidly as in an emergency. The digital TIME display indicates the elapsed time increment of one thousandth of a second until the operator's brake pedal is depressed. The recorded reaction time remains on the display until the switch is pressed again to unlatch RESET, lam extinguished. The TIMER will stop after 9.999 seconds if the foot brake has not been operated. Table 1 shows The distances this would be traveled relative to various speeds and reaction times.
Gradient control	A hill start facility is provided by the GRADIENT Control. With the control knob set fully counter clockwise the road gradient is zero (level), with the slope increasing as the control is advanced clock wise. The gradient is always against the forward direction of the trainer. if no forward drive is engaged, there fore, or if the hand brake is not set on, the vehicle will run backwards down the gradient. This motion will be effective whether the engine is running or not. The trainer should therefore be 'parked' using the hand brake as with a conventional vehicle. The control must be set in the 'Level' position when use of the facility is not required.
Volume control	Adjust the output of the trainer audio system to the desired level.
Fuel control	The fuel quantity indicated on the gauge is regulating between empty and full by turning the control clock wise.

### **To locate and Name Drivers Controls**

5. a. **Requirement.** To locate and name drivers controls

(1) **Test Controls.**

- (a) On Auto tutor
- (b) In Simulator Classroom or room
- (c) Without assistance

(2) **Test Standards.**

- (a) Seat and Adjustment
- (b) Safety Belt
- (c) Steering Wheel
- (d) Clutch pedal
- (e) Brake pedal
- (f) Accelerator pedal
- (g) Speedometer
- (h) Ignition light
- (j) Oil light
- (k) Temperature light
- (l) Indicator switch and light
- (m) Gear level and positions
- (n) Hand brake
- (p) Mirrors
- (q) Any other dashboard equipment that may be on auto tutor.

(3) **Learning Points.** The student should be taught each above in the sequence given and understand their function for driving.

(4) **Instructors Notes.** The Auto tutor in the classroom to check and working.

**Cab Drill**

6. a. **Requirement:** Enter Auto tutor and adopt correct driving position.

(1) **Test Condition.**

- (a) On Auto tutor
- (b) In simulator classroom
- (c) Without assistance

(2) **Test Standards.**

- (a) Get into auto tutor without using steering wheel as hand grip
- (b) Check handbrake on and gear in neutral
- (c) Adjust seat so all controls can be reached easily

## RESTRICTED

- (d) Adjust safety belt
- (e) Adjust mirrors if fitted and check all round vision
- (f) Locate position of warning controls, horn, lights, and indicators.
- (g) Hold steering wheel at '10 to 2' position.
- (h) Position of feet, right foot lightly on accelerator and left foot to left of clutch paddle
- (3) **Learning Points.**
  - (a) Seat belt adjustment. Check on buckles and position of straps
  - (b) Steering wheel. Thumbs are to be on upper surface.
- (4) **Instructors Notes.** Explain the safety factors when wearing a seat belt correctly adjusted.

### **Indicators and Arm Signals**

7. a. **Requirements.** Students to be able to carry out arm signals whilst driving auto tutor.

(1) **Test Conditions.**

- (a) Carried out whilst sitting in auto tutor
- (b) In the simulator classroom
- (c) Under the supervision of the instructor

(2) **Test Standards.**

- (a) I intent to move out to the right/or turn tight
  - (b) I intent to move in to the left/or turn left
  - (c) I intent to slow down or stop
  - (d) I wish to go straight on
  - (e) I wish to turn left on
  - (f) I wish to turn right
- } To be used to persons  
controlling traffic

(3) **Instructors Notes.**

- (a) To be practiced until instructor is satisfied with student's performance
- (b) Ensure student always has one hand on the steering wheel
- (c) Ensure student adjusts mirrors
- (d) Ensure student's co-ordination of feet, hands, and eyes is up to standard



- (e) Ensure student does not ride clutch.

### **Moving off Procedure**

- 8. a. **Requirement.** Move off from rest straight ahead.

- (1). **Test Conditions.**

- (a) On an auto tutor
- (b) In the simulator classroom
- (c) Under the supervision of an instructor

- (2). **Test Standards.**

- (a) Student to show awareness of potential hazards by use of mirrors, signals and looking behind.
- (b) Engage first gear smoothly.
- (c) Move off smoothly.
- (d) Move off without stalling.
- (e) Move off without over revving the engine.

- (f) All above to be carried out to the satisfaction of instructor and without help from him.

- (3) **Instructors Notices.**

- (a) To be practiced on auto tutor in the simulator classroom.
- (b) This objective to be carried out
- (c) Check students correct seating position and ability to reach control.
- (d) Check students correct seating position and ability to reach control.
- (e) Start engine, ensure handbrake is applied, and ensure gear lever is in neutral
- (f) Switch on and see that ignition and oil warning light appear in Instrument panel
- (g) Operate starter
- (h) Release starter key as soon as a engine fires
- (j) Depress clutch pedal with left foot and hold down
- (k) Engage its, gear with left hand. Do not force

## RESTRICTED

- (l) Repeat (IV) and (v) gear will not engage.
- (m) Check mirrors; look out of side and behind ensuring all are clear.
- (n) Allow clutch pedal to come up slowly and smoothly. Depress accelerator slightly with right foot. At the same time until drive just engages. Hold in this position.
- (o) Check mirror again and glance over right shoulder to ensure finally that road behind is clear.
- (p) Release handbrake, return hand to steering wheel at '10to2' position
- (q) Depress accelerator slightly more so that engine note audibly increases; very slowly release lift foot so that vehicle begins to vehicle keep right foot in same position and left foot on floor beside clutch pedal.
- (r) Increase pressure on accelerator pedal to increase vehicle speed.
- (s) Cancel signal.

### **Stopping Procedure**

9. **Requirement.** For the student to carry out a normal halt

a. **Test Condition.**

- (1) On the Auto tutor
- (2) In the Simulator Classroom
- (3) Under the supervision of an Instructor

b. **Test Standards.**

- (1) To bring the Auto tutor to a smooth controlled halt on correct side of the road
- (2) To give the correct signals.
- (3) To carry out the correct use of hand and foot controls, to the instructors satisfaction.
- (4) With complete safety and not a hazard to other road users or own vehicle.
- (5) To stop with front wheels on (or level) indicated by the instructor.

c. **Learning Points.**

- (1) Not to be confused with emergency drill. Operation is always same
- (2) Student must judge distance from side of road.
- (3) Student to understand pressure on brake pedal to be smooth, even and progressive.
- (4) Student decides by advance warning where to halt.
- (5) Check mirror

## RESTRICTED

- (6) Give slowing down signal or indicator signal as far in advance as possible
- (7) Remove foot from accelerator (braking effect of engine to be explained by instructor)
- (8) Move right foot to break pedal, apply pressure lightly at first and then gradually harder.
- (9) Depress clutch pedal just before finally halting when vehicle has finally halted, apply handbrake (not against ratchet) release footbrake.

### **Steering Control**

10. **Requirement.** To steer the vehicle in a straight line;

a. **Test Condition.**

- (1) On the Auto tutor
- (2) In the simulator classroom
- (3) Under the supervision of an Instructor.

b. **Test Standards.**

- (1) Exercise to be carried out on basic disc
- (2) To keep parallel with left hand edge of road
- (3) Without jerky or over-compensatory movements of the Steering wheel.
- (4) With safety and without danger or inconvenience to other road users
- (5) Must be able to steer with either hand.

c. **Learning Points.**

- (1) Explain how the steering wheel moves the front wheels of vehicle.
- (2) Starting up procedure
- (3) Moving off straight ahead
- (4) Students grasp of steering wheel to be firm but not rigid and hand in position of '10 to 2'.
- (5) Students use of mirrors.
- (6) Student to look ahead of own vehicle and not at nose of own vehicle.
- (7) Students use of steering wheel to be pull and push action and not jerky movement, not to release one hand when turning
- (8) Student to be able to carry out steering with either hand.

d. **Instructors Notes.**

- (1) This student's objective can normally be achieved very quickly. There is no reason why this objective should not be joined
- (2) Speed should still be kept to 15 M.P.H. (24 k.p.h.) whilst on the basic disc.

**Use of Gear**

11. **Requirement.** The use of the gears

a. **Test Conditions.**

- (1) On the Auto tutor
- (2) In the Simulator Classroom
- (3) Under the supervision of an Instructor.

b. **Test Standards.**

- (1) The student to select the gear required to road traffic conditions. The engine not to labor.
- (2) Gear changing to be smooth and progressive with no jerks or noise
- (3) Maintain complete control of the vehicle and steady course whilst changing gear.
- (4) Co-ordinate feet/hands/ears.
- (5) Student to change up and down in box of each of the gears in turn.

c. **Learning Points.**

- (1) The reason for changing gear.
- (2) Matching engine power to speed of the vehicle and load
- (3) Ability to time changing correctly
- (4) Aid to slowing or speeding up. The braking effect
- (5) Gear positions for the vehicle
- (6) Give a brief explanation of synchromesh
- (7) Method of holding gear lever by cupped hand method (see drawing attached)
- (8) Changing up.

**Negotiating a Round about, Bend and Corners**

12. **Requirement.** To steer the vehicle round bends and corners

a. **Test Conducts.**

- (1) On the Auto tutor
- (2) In the Simulator Classroom
- (3) Without assistance

b. **Test Standards.**

- (1) Student to decelerate before the bend. Brake as required maintain power to driver wheels throughout exercise.
- (2) Correct use of mirrors.
- (3) Student to anticipate bend or angle and position vehicle wit without cutting corners or swinging wide.
- (4) Student to use hands correctly
- (5) Student to carry exercise in complete safety

c. **Learning Points.**

- (1) Anticipation of bend/corner angles and final positioning of vehicle
- (2) Use of mirrors.
- (3) Deceleration before the bend, brake and change down as necessary
- (4) Grasp on to the steering wheel
- (5) Pull and push principle of hands on steering wheel e.g. for left hand corner, the left hand pulls down and the right hand tends to push in an upward plane.
- (6) When negotiating bends use of left hand mirror.
- (7) Accelerate out of bends.
- (8) Regaining correct position

d. **Instructors Notes:** *To be carried out at speeds up to 20 M.P.H. (32 k.p.h.)*

**Emergency Halt**

13. **Requirement.** To carry out an emergency halt

a. **Test Conditions.**

- (1) On an Auto tutor.
- (2) In a Simulator Classroom
- (3) Without assistance
- (4) Under supervision of an Instructor.

b. **Test Standards.**

- (1) Come to a halt as quickly as possible and under complete control.
  - (a) Without steering and swerving
  - (b) Without locking the wheels or skidding.
  - (c) Without danger to other road users.

c. **Learning Points.**

- (1) Possible hazards which give rise to an emergency e.g. a child suddenly running across the road.
- (2) Instant reaction with footbrake, use of horn if time and conditions permit.
- (3) Steering maintaining a straight course.
- (4) Avoid locking the wheels
- (5) No signals to be given so avoiding unnecessary distraction.

d. **Anticipation.**

- (1) Student to think and look ahead and observation of stop lights.
- (2) Anticipation of other road users including pedestrians.
- (3) Special care in built up areas
- (4) Use of rear view mirrors, student's awareness of what traffic is behind.
- (5) Distance between own vehicle and one in front.

**To Carryout Hazard Drill**

14. **Requirement.** To carry out hazard drill

a. **Test Conditions.**

- (1) On an Auto tutor
- (2) In a Simulator Class room
- (3) Under Supervision.

b. **Test Standards.**

- (1) The Student to reach by using correct driving procedures when the Following constitute a hazard on the route. Entry road from left and right unexpected action of other motorists Changes in road surface, weather etc.
- (2) With safety, without danger or inconvenience to other road users.
- (3) To the entire satisfaction of the Instructor

c. **Learning Points.**

- (1) Mirror-Signal-Maneuver. This routine must be fully understood by the student and grasped as part of his driving a vehicle without losing control.
- (2) Anticipation and road positioning.
- (3) Types of hazards.

d. **Action on Approach.**

- (1) Consider proposed course of vehicle. Mirrors.
- (2i) Signal intention of turning left or right
- (3) Mirrors again. Adjust speed of vehicle by use of brakes and/or gear as necessary.
- (4) Take up course. Confirm signal
- (5) Continue to observe ahead and to sides in mirror.
- (6) Negotiate hazard in correct gear and show awareness of all  
Possible danger.
- (7) Cancel signal.

**Moving off From Rest Uphill**

15. **Requirement.** To move off from rest uphill

a. **Test Condition.**

- (1) On an Auto Tutor
- (2) In a simulator Classrooms
- (3) Under supervision

b. **Test Standards.**

- (1) Co-ordinate use of clutch, handbrake and accelerator to avoid wheel spin or stalling.
- (2) Without rolling back, demonstrate steady forward movement to the satisfaction of the instructor.
- (3) Show awareness of potential traffic hazards by use of mirrors and signals and by glancing behind with safety and no danger of inconvenience to other road users.

c. **Learning Points.**

(1) **Technique.**

- (a) Use of clutch, accelerator and brake together as one movement.
- (b) Rearward observation and warning signal to show pulling out.

(2) **Sequence**

- (a) Engine running; gear lever in neutral; hand brake applied.
- (b) Do press clutch to fullest extent and hold down.
- (c) Engage first gear.
- (d) Depress accelerator (further than normal as engine has to Work harder when climbing a hill).
- (e) Check mirror and signal pulling out
- (f) Allow Clutch to come up slowly until it bites (Engine note will change)
- (g) Hold clutch quit still in this position
- (h) Grasp handbrake, release from ratchet but hold ratchet button/catch down and make ready to ease handbrake forward.



**MT SERVICING SHEET (POSTER NO-32)****Aim**

1. To get familiarized with the poster No 32 and to learn the type of lubricates, fuel and tyre pressure to be used in MT vehicles as out lined therein.

**Purpose**

2. It is used to familiarize the MT Operators with the type of lubricate, fuel and the tyre pressure to be used in MT vehicle.

**Layout**

3. The specimen of the poster no-32 is laid down as follows:-

Type of Vehicle	Engine Oil		Tyre Pressure		Fuel
	Type	Capacity	Front	Rear	
Jeep CJ3A	30/50 HD	3 Pints	26 PSI	28 PSI	74 Oct
Jeep CJ5	-,,-	3 Pints	26 PSI	28 PSI	-,,-
Ford 3 Ton (4X2)	-,,-	6 Pints	35 PSI	69 PSI	-,,-
Ford 3 Ton (4X4)	-,,-	-"-	55 PSI	70 PSI	-,,-
Triumph M/Cycle	-,,-	4 Pints	18 PSI	20 PSI	-,,-
Coaches Austin	-,,-	16 Pints	55 PSI	70 PSI	-,,-
Ford car	-,,-	10 Pints	23 PSI	26 PSI	80 Oct

**Note:** NCOIC MT Ops Flt is to prepare this poster for various types of vehicle on charge and display it to a prominent place for the guidance of MT Operators.

**Ref: Poster No- 32 and AP 3025**