

FOREWORD

Thank you for buying an **EICHER** Vehicle.

This owner's handbook comprises of 4 sections.

- The first section contains salient features of your **EICHER** vehicle.
- The second section contains the details of free service scheme offered by EML, warranty terms and conditions, service recommendations and inspection/maintenance schedule.
- The third section contains the procedures for correct operation and simple maintenance of the vehicle.
- The fourth section contains a list of our Authorised Representatives, Service Centres, Spare Part distributors and Satellite Service Outlet Nationwide.

To keep the vehicle in top operating condition at all times and use it for an extended period of time, make sure that this handbook is read through, carefully.

Keep this handbook as well as the 'Service Coupons' in your vehicle for ready reference.

Should any questions arise concerning the contents of the handbook, please contact our Authorised Representative for clarifications.

Note : The explanations and photographs may contain some differences from your vehicle because of change in specifications incorporated from time to time as a result of continuous innovation and research.

Pollution control - You too can help



Dear Customer,

You would be well aware that environmental pollution is one of the most serious problems facing humanity today. Air pollution owing to emissions from automobiles is a major component of the same. The emission consists of toxic gases such as Carbon monoxide, Carbon dioxide, Nitrogen oxides and Hydrocarbons. These have very bad effects on human health, such as headaches, dizziness, eye irritation, brain damages, oxygen starvation and lung diseases too.

At **EICHER MOTORS LIMITED**, our Research & Development has always aimed at bringing out significant product improvements in order to meet the user and environmental requirements. The Engine which powers your vehicle is very eco-friendly, fuel efficient and meets the present emission norms. In fact, every vehicle produced by us is checked and certified as "NON POLLUTING VEHICLE" as per norms prescribed by Government of India.

While we, at manufacturing and testing have taken due care in preventing emissions, as a vehicle owner and user, you would be required to help in addressing this social concern by maintaining the vehicle in good operating condition.

The following tips would be of immense use to you to derive the best out of your vehicle, at the same time serving a cause for the environment.

- Keep your Air Filter clean (Refer page 3-81)
- Electronic ejectors / small plays must be in good condition.
- Proper tuning of engine
- Correct fuel supply
- Use genuine parts only (page 2-8)
- Use recommended engine oils & lubricants only (page 2-10)
- Strict adherence to recommended maintenance schedule (page 2-11 to 2-15)

ALWAYS ENSURE THAT YOUR VEHICLE IS SERVICED AT OUR AUTHORISED REPRESENTATIVES ONLY.

Let us together fight pollution.

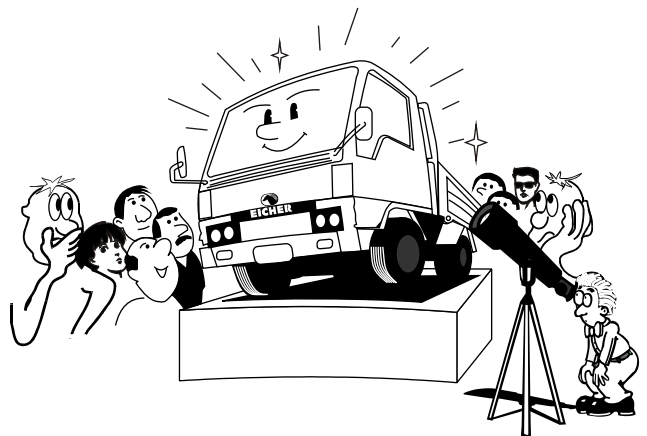
THANK YOU

SECTION - 1

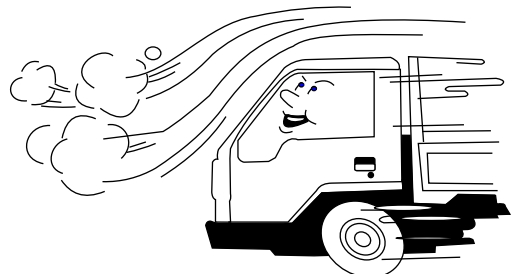
SALIENT FEATURES OF EICHER

1-1

1 Fresh, attractive new cab styling



2 Aerodynamic design resulting in sharply enhanced fuel economy

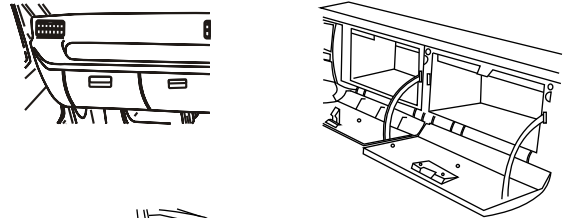


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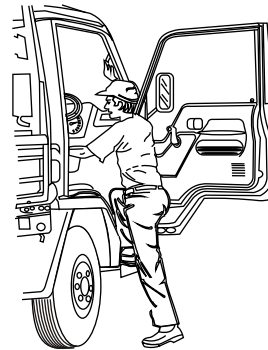
3

Spacious, conveniently appointed interior

- Large glove box, Instrument panel tray



- Easier entry and exit

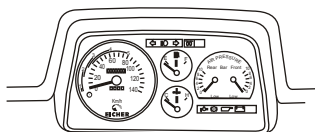


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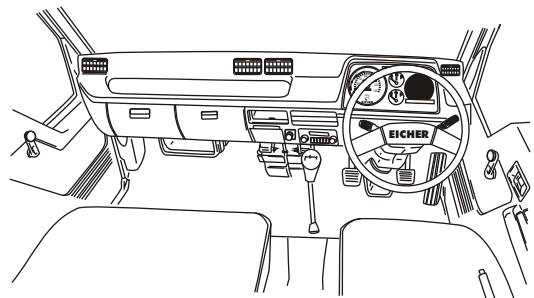
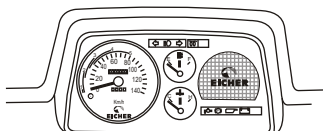
4

Ergonomic design and easy handling to prevent driver fatigue

11.10, 10.90K, 10.95



10.50, 10.59, 10.70, 10.75, 10.90



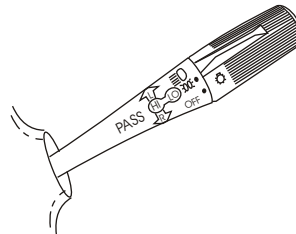
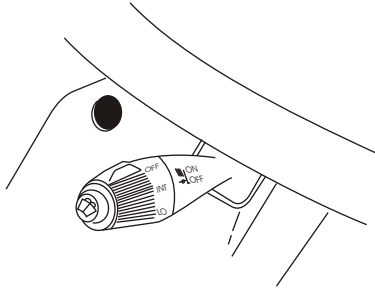
- Easy view meters
Thanks to our human engineering study, moderate bright orange - transparent illuminated instrument panel give best visibility at night and day.

- Full function checklamp system
The easy - to - read check lamp panel includes a complete range of pilot and warning lamps which permit quick checks on all vehicle operating conditions.

1-4

Ergonomic design and easy handling to prevent driver fatigue (Contd..)

- **Multi - use lever**



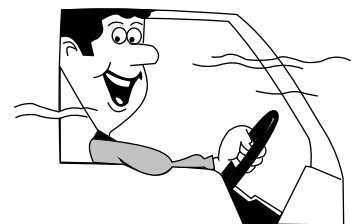
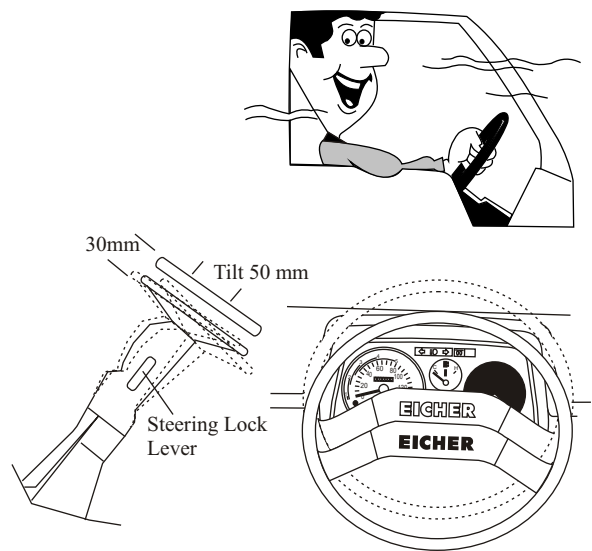
Frequently used switches (turn signals, passing lights, head lights) are all integrated into a single lever conveniently located on the steering column for fast and effortless operation.

1-5

Ergonomic design and easy handling to prevent driver fatigue (Contd..)

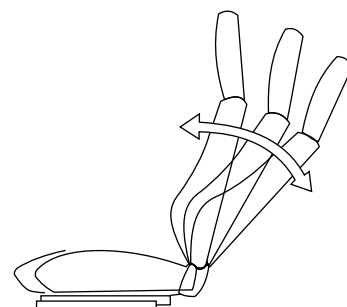
- **Tilt & telescopic steering**

The 2 spoke type steering wheel has height adjustments by Tilt and Telescopic mechanism which provides the ideal driving position for any driver.



- **Adjustable seat**

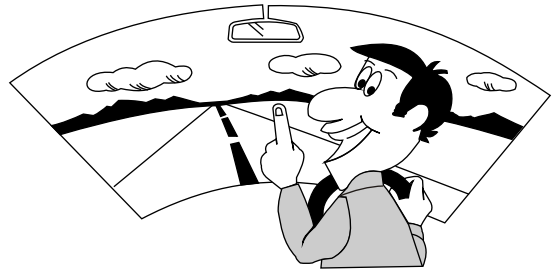
The longer 140mm fore-and-aft seat adjustment ensures the ideal driving position for the driver.



1-6

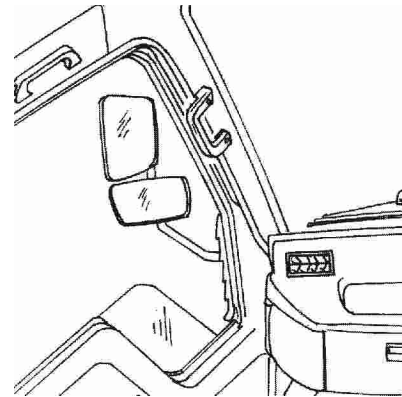
5

Panoramic visibility and full complement of safety features



- **Deep-cut safety door windows for improved visibility**

They vastly improve lateral downward visibility which prevents accidents with motorcycles, bicycles and/or pedestrians at corners and results in a brighter and more airy interior with the glasses lowered.



1-7

6

Innovative, high-performance aggregates

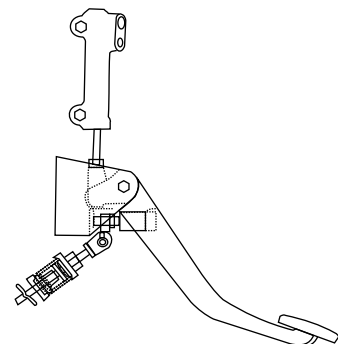
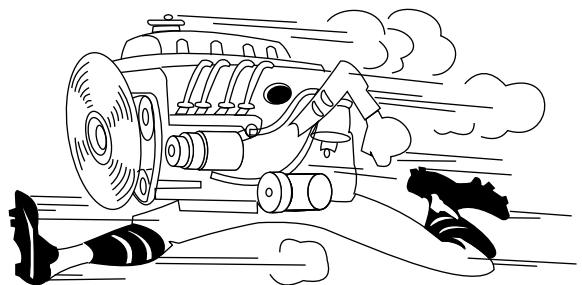
- **Engine**

The **EICHER** is Powered 61Kw at 3200 rpm with E483 NA and 70 Kw at 3200 rpm with E483 TCI and fuel efficient engine producing a maximum torque of 206 N m at 1920 rpm with E483 NA and 285 Nm at 1400 rpm with E483 TCI

- **Clutch**

The 275 x 175mm clutch disc transmits higher torque and is designed for longer life.

A special toggle spring is provided in the clutch pedal to prevent clutch wear against careless footrest pressure.

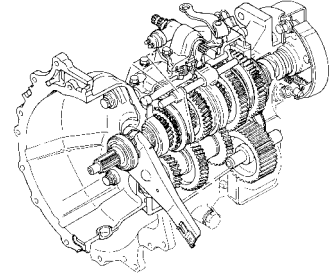


1-8

Innovative, high-performance aggregates (Contd..)

- **Gear Box**

The gear box is capable of transmitting torque of - higher than that developed by the engine which means better reliability and longer life.

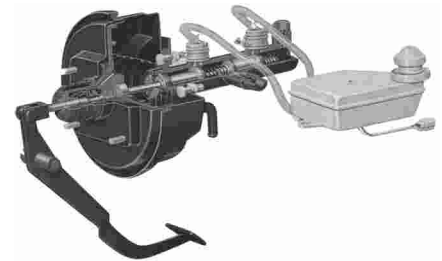


- **Brake (Hydraulic)**

A dual-circuit hydraulic brake system control the front and rear wheels independently and ensures a fail-safe brake system

A large-caliber master vac. is provided which acts with great force even with light pedal action.

A warning lamp is also provided to warn the driver of a shortage of brake fluid.

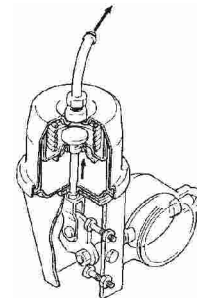


1-9

Innovative, high-performance aggregates (Contd..)

- **Exhaust Brake**

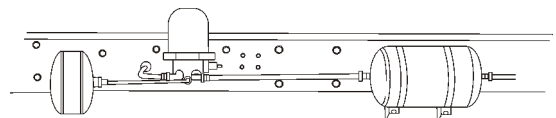
A Unique fully automatic exhaust brake system in addition to normal brake ensures safe driving and longer life of the brake liners



- **Brake (Air)**

A dual circuit full air brake system control the front and rear wheels independently and ensure a fail-safe brake system.

A compact air dryer prevents corrosion thus enhancing the life of braking components. Warning lamp and buzzer is also provided to warn the driver in case of any leakage in the system.

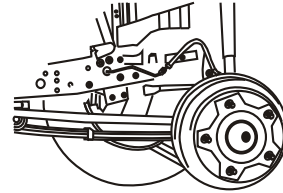


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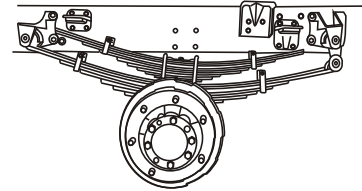
Innovative, high-performance aggregates (Contd..)

• **Suspension**

1200mm long-span leaf springs for front suspension ensure better riding comfort



High-rigidity rear suspension springs prevent rolling, increase durability and enhance the **EICHER's** ability to glide over rough roads.



• **Chassis**

The unique ladder type reinforced "C" channel chassis increases the load bearing strength while fully retaining flexibility to absorb shocks.

All Models except 11.10



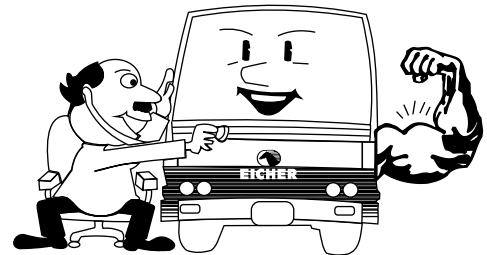
11.10



1-11

7

Enhanced durability and greater reliability for longer service life



8

Easier inspection and maintenance

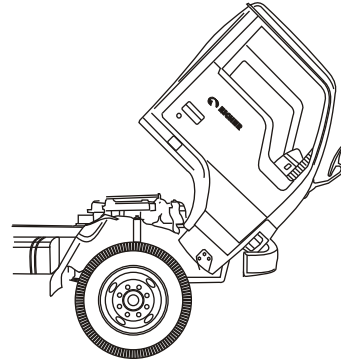


1-12

Easier inspection and maintenance (Contd..)

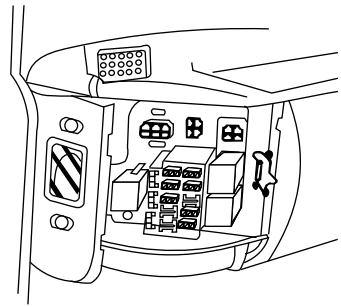
- **Tilt Cabin**

The tilt cabin makes the inspection and maintenance jobs not only easier but also safer to perform.



- **Integrated fuse and relay unit**

The fuse box and relay box are located as a single unit to the left of the glove box.

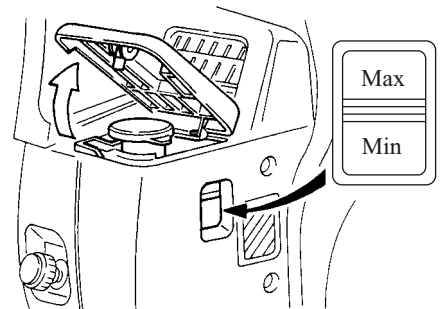


1-13

Easier inspection and maintenance (Contd..)

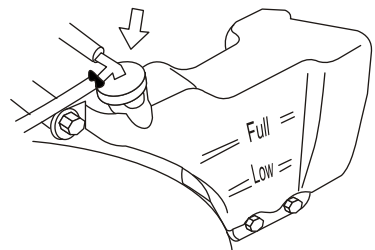
- **Brake & Clutch Fluid Reservoir tank**

The brake fluid reservoir tank is conveniently located to one side of the instrument panel - making it easier to check on the brake fluid reserve.



- **Radiator cooling condenser tank**

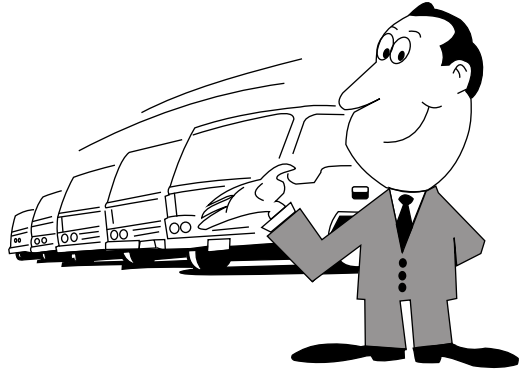
The closed loop cooling system with condenser tank enables easier checking and convenient topping up of coolant.



1-14

9

Wide range of models



1-15

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+

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SECTION - 2

INSPECTION AND MAINTENANCE SCHEDULES

2-1

**MEMORANDUM OF REGISTRATION
(FOR OWNER'S USE)**

Name : _____
 Address : _____
 Pin _____ Tel. no. _____

Chassis No. _____ Model _____
 Engine No. _____ Veh. Reg.No _____
 Alternator No. _____ Starter No. _____
 Battery make _____ Battery No. _____
 Gear box No. _____ FIP No. _____
 Front Axle No. _____ Rear Axle No. _____
 Bus body No. _____ Veh. Key No. _____

(in case of company built buses)

Date of vehicle installation _____ Cargo body No. _____

Authorised Representative :

Name _____
 Address _____
 Pin _____ Tel. no. _____
 AR's sign & seal _____

Note : AR to fill all the above details before handing over the vehicle to the customer

IMPORTANT

EICHER MOTORS LIMITED offers you a unique SERVICE SCHEME covering Labour & Material with the purchase of your **EICHER** vehicle! This scheme covers the first 55,000 kms. of your **EICHER** vehicle! (All models except 10.50 & 10.59 where Labour package available for first three Services)

EML offers THREE YEARS WARRANTY ON ENGINE & GEARBOX & ONE YEAR WARRANTY FOR REST OF THE AGGREGATES OF THE VEHICLE IRRESPECTIVE OF KILOMETERAGE!
 (Refer page 2-5 for details)

All you have to do is to take your **EICHER** vehicle to your nearest authorised Service Centre when your vehicle is due for routine service and ask for SERVICE.

Note:

1. For the vehicles supplied to defence indentors, Civil indentors and certain specific customers, the above Service scheme will not be applicable. The service scheme in such case will be governed by the terms & conditions of the respective contracts under which the vehicles are supplied.
2. Be sure to carry this booklet with you for the service

VEHICLE INSTALLATION AND WARRANTY REGISTRATION CERTIFICATE



HEAD - CUSTOMER SERVICE

EICHER MOTORS LIMITED

22/2, YESHWANT NIWAS ROAD INDORE - 452 003

| | | | |
|---|---|---|---|
| Owner's Name | AR's Name | | |
| Owner's Address | Location | | |
| Record of Vehicles Owned by Customer | | | |
| Make of Vehicle | | | |
| Model | | | |
| No. of vehicles Owned | | | |
| Chassis Number | Engine Number | Model No. | |
| | | | |
| Installation Date | | Repeat buyer | Yes No |
| ODO Reading | | | |
| Owner's Contact Address | <i>Please tick</i> | | |
| City | Route Type | Ownership Type | Funding Type |
| District | RT1 City to City <input type="checkbox"/> | OT1 Single Truck Owner <input type="checkbox"/> | F01 Centurion Bank <input type="checkbox"/> |
| State | RT2 With in City <input type="checkbox"/> | OT2 1~5 nos Truck Owner <input type="checkbox"/> | F02 Cholamandalam <input type="checkbox"/> |
| Pin Code | RT3 State to State <input type="checkbox"/> | OT3 >10 Truck Fleet Owner <input type="checkbox"/> | F03 Citicorp <input type="checkbox"/> |
| STD Code Tel. No. | Road Type | Purpose of use | F04 Cooperative Bank (Pls. Specify) <input type="checkbox"/> |
| Fax | RD1 Normal <input type="checkbox"/> | PU1 Goods Transportation <input type="checkbox"/> | F05 ICICI <input type="checkbox"/> |
| E mail | RD2 Hilly <input type="checkbox"/> | PU2 Passenger Transportation <input type="checkbox"/> | F06 Kotak Mahindra Finance <input type="checkbox"/> |
| | RD1 Kuchha <input type="checkbox"/> | PU3 Other Application <input type="checkbox"/> | F07 Nationalised Bank (Pls. Specify) <input type="checkbox"/> |
| | Customer Type | Drive Type | F09 Self Financed <input type="checkbox"/> |
| | CT1 Private <input type="checkbox"/> | DT1 Owner Driven <input type="checkbox"/> | F10 Sundaram Finance <input type="checkbox"/> |
| | CT2 Government <input type="checkbox"/> | DT2 Driver <input type="checkbox"/> | F11 Others (Pls. Specify) <input type="checkbox"/> |
| | CT3 Corporate <input type="checkbox"/> | | |

LOAD TYPE

| | | | | | | | |
|---------------------------|-----------|--------------------------|------------------------------|---------|--------------------------|----------------------------|--------------------------|
| LT1 Beverages | Coffee | <input type="checkbox"/> | LT19 Food grains | Rice | <input type="checkbox"/> | LT37 Processed Food | <input type="checkbox"/> |
| LT2 Beverages | Liquor | <input type="checkbox"/> | LT20 Food grains | Sugar | <input type="checkbox"/> | LT38 Sand | <input type="checkbox"/> |
| LT3 Beverages | Others | <input type="checkbox"/> | LT21 Food grains | Wheat | <input type="checkbox"/> | LT39 Soft Drink | <input type="checkbox"/> |
| LT4 Beverages | Tea | <input type="checkbox"/> | LT22 Logistics | | <input type="checkbox"/> | LT40 Textiles | <input type="checkbox"/> |
| LT5 Chemical | | <input type="checkbox"/> | LT23 LPG Cylinders | | <input type="checkbox"/> | LT41 Others (pls. specify) | <input type="checkbox"/> |
| LT6 Cigarettes | | <input type="checkbox"/> | LT24 Marine Products | Fish | <input type="checkbox"/> | | |
| LT7 Coal | | <input type="checkbox"/> | LT25 Marine Products | Others | <input type="checkbox"/> | | |
| LT8 Construction Material | Bricks | <input type="checkbox"/> | LT26 Market Load | | <input type="checkbox"/> | | |
| LT9 Construction Material | Cement | <input type="checkbox"/> | LT27 Metals | Iron | <input type="checkbox"/> | | |
| LT10 Courier/Parcel | | <input type="checkbox"/> | LT28 Metals | Non- | <input type="checkbox"/> | | |
| LT11 Dye Stuff | | <input type="checkbox"/> | | Ferrous | <input type="checkbox"/> | | |
| LT12 Edible Oil | | <input type="checkbox"/> | LT29 Metals | Steel | <input type="checkbox"/> | | |
| LT13 Electrical Goods | | <input type="checkbox"/> | LT30 Milk | | <input type="checkbox"/> | | |
| LT14 Farm Products | Eggs | <input type="checkbox"/> | LT31 Mineral Water | | <input type="checkbox"/> | | |
| LT15 Farm Products | Poultry | <input type="checkbox"/> | LT32 Movers & Products | | <input type="checkbox"/> | | |
| LT16 Farm Products | Vegetable | <input type="checkbox"/> | LT33 Paper Products | | <input type="checkbox"/> | | |
| | Fruits | <input type="checkbox"/> | LT34 Petrochemical Products | | <input type="checkbox"/> | | |
| LT17 Food grains | Others | <input type="checkbox"/> | LT35 Pharmaceutical Products | | <input type="checkbox"/> | | |
| LT18 Food grains | Pulses | <input type="checkbox"/> | LT36 Plastic Products | | <input type="checkbox"/> | | |

To be filled for CBC & CWC models only

Intended Application Bus / Truck / Others

I have checked the vehicle bearing above chassis and engine nos. and found it in complete and good condition to my satisfaction.

Your Authorised Representative has explained to me the following :

-Salient features of **EICHER** vehicle.

- Operation & maintenance of **EICHER** (along with demonstration)

- My responsibilities for pre operational checks and periodic maintenance.

- The terms and conditions of warranty as applicable to my **EICHER** vehicle.

I acknowledge that I have read through **EICHER's** warranty and understood the following :

(a) Terms and conditions of warranty

(b) Importance of pre operational checks and routine maintenance of **EICHER** vehicle.

(c) Completeness of vehicle.

AUTHORISED DISTRIBUTOR'S SIGNATURE & SEAL : OWNER'S SIGNATURE & DATE :

CONTENTS

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| 8. Service and Maintenance Record for Owner's Reference | 2-17 |

WARRANTY :

EICHER MOTORS LIMITED warrants each **EICHER** vehicle and its aggregates and components thereof, supplied by **EICHER MOTORS LIMITED** to be free from defects in material and workmanship under normal use subject to the following conditions :

1. Warranty shall be in force until the expiry of a period of 36 months from the date of installation for engine and gear box and 12 months from the date of installation for rest of the aggregates of the vehicle irrespective of kilometrage covered during this period. Date of installation is as entered in the Warranty Registration & Installation Certificate.
2. Warranty shall be applicable to the first registered owner only.
3. During the period of warranty, **EICHER MOTORS LIMITED's** obligation shall be limited to repairing or replacing free of charge such part or parts of the supplied **EICHER** vehicle, which, on examination shall be deemed defective in the opinion of **EICHER MOTORS LIMITED** or its Authorised Representative. Such defective part or parts which have been replaced shall become the property of **EICHER MOTORS LIMITED**.
4. Parts not manufactured by **EICHER MOTORS LIMITED** but supplied by other firms, such as tyres, tubes and batteries shall be governed by the warranty terms and conditions offered by these firms. Warranty of these items are to be referred to the respective manufacturer through our Authorised Representative.
5. Warranty shall not apply to :
 - (a) Normal ageing, deterioration or rusting of plated parts, paint coat, rubber parts, upholstery, soft trim etc.
 - (b) Parts replaced as a result of normal wear & tear such as bulbs, fuses, motor brushes, clutch facing, brake lining, fuel filter, oil filter etc.

- (c) Normal periodic replacement parts and routine maintenance services.
 - (d) Damage due to lack of proper maintenance as described in the owner's handbook. Damage due to services not carried out by authorised service centres.
 - (e) Damage due to use of parts other than **EICHER** genuine parts.
 - (f) Damage due to the use of lubricants/oils/grease, etc. other than that specified herein after or otherwise approved by **EICHER MOTORS LIMITED**.
 - (g) Damage due to unauthorised alterations on the vehicle, misuse, overloading, involvement in races, rallies and places not meant for vehicular traffic.
 - (h) Incidental or consequential damages such as loss of use of the vehicle, loss of time, inconvenience or damage to personal property, commercial loss such as loss of revenue, etc during the period when the vehicle is undergoing service/warranty repairs.
 - (i) Damage due to traffic accident, fire, floods, earthquakes, chemical pollution and other such natural calamities.
 - (j) Irregularities not recognised as affecting quality or function of the vehicle or its constituent parts such as slight noise, vibrations, oil ooze, etc.
6. This warranty is expressly in lieu of all other warranties expressed or implied and all other obligations or liabilities on its part.
 7. **EICHER MOTORS LIMITED** reserves the right to make changes in design of the vehicle without any obligation to install these changes on all previously supplied vehicles
 8. **EICHER MOTORS LIMITED's** decision on all warranty claims shall be final and binding.
 9. Please note that for availing warranty the vehicle has to be maintained at our Authorised Representative point only.
 10. For obtaining warranty services, the owner must return the vehicle to the Authorised Representative at his place of business where such services will be performed without any charge for parts or labour.

EICHER MOTORS LIMITED

2-5

SPARES WARRANTY :

EICHER MOTORS LIMITED warrants each **Eicher** Genuine spare parts by **EICHER MOTORS LIMITED** to be free from defects in material and membership under use subject to the following conditions :

- a) Warranty shall be in force until the expiry of a period of six months or 20,000km. whichever is earlier, from the date of fitment on the vehicles as entered in the job card / repair order of the vehicle.
- b) Warranty shall be applicable only for cases where parts are fitted at any of **EICHER AUTHORISED SERVICE POINT** and subsequent servicing of vehicle after fitment of any such part(s), is done at **EICHER AUTHORISED SERVICE POINT** only at regular intervals.
- c) Warranty is applicable to **EICHER GENUINE SPARE PARTS** only.
- d) Replacement of **EICHER GENUINE SPARE PARTS** as applicable under spares warranty shall be carried out on free of charge basis. Such defective parts which have been replaced shall become property of **EICHER MOTORS LIMITED**.
- e) Spares warranty shall not apply to :
 1. Normal ageing deterioration or rusting of plated parts, paint coat, rubber parts, upholstery, soft trim etc.
 2. Parts replaced as a result of normal wear such as bulbs, fuses, motor brushes, clutch facing, brake lining, fuel filter, oil filter etc.
 3. Damage due to lack of proper maintenance as described in the Operator's Manual or services not carried out at **EICHER AUTHORISED SERVICE POINT**.

4. Damage due to use of parts other than **EICHER GENUINE SPARE PARTS**.
 5. Damage due to lack lubricants/oils/grease etc. other than specified in the Operator's manual or otherwise approved by **EICHER MOTORS LIMITED**
 6. Damage due to unauthorised alterations in the vehicle, misuse, overloading, involvement in races, rallies and places not meant for vehicular traffic.
 7. Incidental or consequential damages such as loss of use of the vehicle, loss of time, inconvenience or damage to personal property, commercial loss such as loss of revenue, etc. during the period of spares warranty.
 8. Damage due to traffic accident, fire floods, earthquakes, chemical pollution and other such natural calamities.
 9. Irregularities not recognised as affecting quality of function of the vehicle or its constituent parts such as slight noise, vibrations, oil ooze etc.
 10. Proprietary parts which are not manufactured by **EICHER MOTORS LIMITED** but supplied by other firms such as tyres, tubes and batteries shall be governed by the warranty terms and conditions offered by these firms. Warranty of these items are to be referred to the respective manufacturer through our authorised representative
- f) **EICHER MOTORS LIMITED'S** decision on all warranty claims shall be final and binding.
 - g) For obtaining spares warranty services, the owner must the vehicle to any of our **EICHER's AUTHORISED SERVICE POINT** bring alongwith Operator's Manual the copy of bill through which the spares has been purchased, where such services will be performed without any charge for parts or labour.

2-6

SERVICE RECOMMENDATIONS

Pre-operational / Periodic Inspections

I. Pre-operational checks

These checks are mentioned in the maintenance schedule of this book (Pg-2-13). Make it a habit to perform these inspections daily before using your Vehicle. These simple easy checks will provide you trouble free service and ensure that the vehicle gives you the very best in performance, that it is designed for. By performing these simple daily checks your EICHER vehicle will always be in top condition all the time, as it is meant to be.

II. Periodical Inspection (New Vehicle)

New vehicle inspection is particularly important to maintain your vehicle in top condition to give you high performance, and prolongs the life of your EICHER Vehicle.

These inspection and service is a must on completion of the first 5000 Kms, of your EICHER Vehicle.

These service is available at your nearest Authorised Service Centres.

III Periodic Service

Periodic service is essential for all vehicles to ensure safety, reliability and efficiency. Further it reduces breakdowns. These services are at every 5,000 Kms interval after the new vehicle inspection and service of 5000 Kms.

Note :

All services must be availed at your nearest *Authorised Service Centres*. For detailed procedures, refer to your OPERATOR'S MANUAL.

During all services, insist on use of recommended oils and greases only.

2-7

EICHER Genuine Parts

Spare Parts

- Always use **EICHER** "GENUINE PARTS"
- All **EICHER GENUINE SPARES** come in special packaging. Please look for the following identification on the packaging for genuine spares.



Photo of Raju with Genuine Parts & Eicher Logo In Hologram is the proof of EICHER Genuine Spare. Please note.



- Every part supplied by **EICHER MOTORS LIMITED** is thoroughly tested and certified for assured quality.
- Rubber parts deteriorate with time and usually become hard and lose their effectiveness. Therefore, for safety, critical parts are required to be replaced periodically. Refer recommended parts change (p 2-9). Have these parts replaced at your nearest Authorised Service Centre.

Note : a) Any trouble arising in the vehicle due to use of parts other than **EICHER "GENUINE PARTS"** may not be warranted.

b) To guard against spurious spares, packaging is subject to change without notice.

2-8

PERIODICAL REPLACEMENT PARTS

| Parts to be replaced periodically | Time of replacement | | |
|---|---------------------|---------------|---------------|
| | Every Year | Every 2 years | Every 4 years |
| 1 Brake master cylinder piston cup and dust seal | ○ | | |
| 2 Wheel cylinder piston cup and dust seal | ○ | | |
| 3 Brake booster packing, cup and rubber parts | ○ | | |
| 4 Exhaust brake vacuum chamber diaphragm | ○ | | |
| 5 Brake hose | | ○ | |
| 6 Vacuum hose | | ○ | |
| 7 Oil hose of the engine lubricating system | | ○ | |
| 8 Fuel hose in engine compartment | | ○ | |
| 9 Brake fluid reservoir tank tube | | | ○ |
| 10 Fuel hose out of engine compartment | | | ○ |
| 11 Air brake rubber parts & hoses | | ○ | |
| 12 Air compressor inlet pipe | ○ | | |
| 13 Air compressor outlet pipe | ○ | | |
| 14 Brake chamber diaphragm kit | ○ | | |
| 15 Dual brake valve seals & 'O' rings | ○ | | |
| 16 Graduated hand control valve seals and 'O' rings | ○ | | |
| 17 Air dryer 'O' rings | ○ | | |
| 18 Spring brake actuator ram seals | ○ | | |
| 19 Coolant hose of compressor | ○ | | |
| 20 Clutch fluid reservoir tank tube | | | ○ |
| 21 Fuel hose out of engine compartment | | | ○ |

2-9

OILS & LUBRICANTS - RECOMMENDATIONS

| LUBRICANTS | ENGINE OIL | | | TRANS. | STEERING OIL | DIFFERENTIAL OIL | CLUTCH/ BRAKE FLUID | CHASSIS GREASE | WHEEL BRG GREASE |
|-------------------------------|--------------------------------------|--|------------------------------|-----------------------|------------------------------------|-------------------------|-------------------------------|----------------------------|--------------------|
| | API-CC OR MIL-L-2104B | API-CD OR MIL-L-2104C | API SG CF4 | | | | | | |
| INDIAN OIL CORPORATION | Servo Super Multigrade 20W40 | | | Servo Gear 90 | Servo gear Trans. Fluid type A | HP Servo Gear Super 140 | Servo Brake Fluid Super HD | Servo Grease MP | Servo Gem RR3 |
| BHARAT PETROLEUM | Bharat Actuma Mak Multigrade 20W40 | | | Bharat Spirol 90EP | Bharat Auto. Trans. Fluid Type A | Bharat Spirol HD140 | Bharat Heavy Duty Brake Fluid | Bharat Univex A | |
| HINDUSTAN PETROLEUM | HP Super Engine Oil Multigrade 20W40 | | | HP gear oil EP 90 | HP Auto. Trans. Fluid type A | HP Gear oil XP 140 | Hp Super Duty Brake Fluid | HP Multipurpose Grease | |
| CASTROL INDIA LTD. | Castrol CRB 20W40 | | | Castrol Hypoy C80W/90 | Castrol TQAuto Trans. Fluid Type A | Hypoy B 140 | | Castrol all Purpose Grease | Castrol AP3 Grease |
| ELF LUBRICANTS INDIA LTD. | Super HDB Ultra 20W40 | | | | | | | | |
| TIDE WATER OIL CO. INDIA LTD. | Veedol HDC 20W40 | Veedol HDC 30 | | Veedol Multigear F90 | | Veedol Multigear HD140 | | | |
| BHARAT SHELL INDIA LTD. | | EICHER Genuine Oil SHELL RIMULA D 20W 40 | | | | | | | |
| VALVOLINE CUMMINS LTD | | All fleet Multi 20W 40 | | | | | | | |
| GULF OIL INDIA LTD | Gulf XHD 40 | | | | | | | | |
| BRAKES INDIA LTD. | | | | | | | TVS Girling Brake Fluid | | |
| MEGUIN OIL INDIA | | | Meguini Diesel Special 15W40 | | | | | | |

- * 5,000 Kms in case of hilly operation. Both Main oil filter element and by pass oil filter to be replaced whenever oil is changed.
- ** In case of manual steering, only topping up required - Refer lubrication schedule (Page 2-11)
- *** Air cleaner oil should be same as engine oil & to be replaced at every 5000 Kms. In case of dusty operation, replacement interval should be 3000 kms or less
- Do not mixup different brands or grades while topping up.
- If brand or grade is to be changed flush out existing oil & clean with the type of oil to be used.
- Temperature range for use of engine oil SAE 30 is -5°C to 40°C, SAE 40 is 40°C & Above
- For Tipper, Hydraulic fluid to be used is INDAL 32 of Indian oil corporation or equivalent.

PRE-DELIVERY INSPECTION CHECKS TO BE CARRIED DURING PDI

CABIN EXTERIOR

- Check distortion and damage of body panels.
- Check painting, rusting and flaws on body panels
- Check all doors, hood and other parts for proper spacing at top and bottom, front and rear.
- Check for all doors and mirrors installed properly.
- Check for security of the cab mounting.

CABIN INTERIOR

- Check seats, interior trims and head lining are installed properly.
- Check seats, interior trims and head lining for damage and abrasion.
- Check painting, rusting and flaws.
- Check for drip and seepage of adhesive.

LOCK OPERATION OF REAR GATE AND SIDE GATE (TRUCK APPLICATION)

- Check to see if the rear gate and side gate hooks properly lock.

OPERATION OF DOORS, LOCKS AND WINDOWS

- Check door operation for closing and opening.
- Check operation of the door lock from both inside and outside the vehicle.
- Check the windows for ease of operation and tight fit against weather strip.

OPERATION OF LAMPS AND SWITCHES

- Check operation of all lamps and switches.
 - Headlamps
 - Turn signal and hazard warning.
 - Tail, clearance lamps, stop, backup and licence plate lamps.
 - Other warning lamps and switches.

OPERATION OF WINDSHIELD WIPER AND WASHER

- Check operation of the wiper in all ranges.
- Check the washer for operation and the nozzle for clogging.
- Check the water level in the washer tank.

OPERATION OF HORN ELECTRICAL EQUIPMENT

- Check the operation of horn.

REFLECTION OF MIRRORS

- Check the mirrors for reflection and stain.

BRAKE & CLUTCH RESERVOIR TANK FLUID LEVEL

- Check the fluid level in the reservoir tank. The fluid level should be between the Min. and Max. levels.
If the level is too low, check for fluid leaks.

ENGINE COMPARTMENT

(IN ENGINE OFF CONDITION)

RADIATOR COOLANT LEVEL

- Check the coolant level in the reservoir tank. If the level is too low, check for coolant leaks.

ENGINE OIL LEVEL

- Check the oil level. The oil should be in the specified range.

Note: when the check is made, the front wheels should be placed in straight-ahead position.

POWER STEERING OIL LEVEL (VEHICLES WITH POWER STEERING)

- Check the oil level in the oil tank

Note: when the check is made, the front wheels should be placed in straight-ahead position.

FUEL LEAKS FROM FUEL SYSTEM

- Check the fuel system for leakage from Fuel feed pump, Fuel filter, Injection pump, Injection nozzle, Piping.

AIR INTAKE LINE

- Check tightness of Turbocharger / Intercooler air hoses.
- Check tightness of Turbocharger / Intercooler air pipes.
- Check tightness of Intercooler mounting bolts.

EXHAUST MANIFOLD TIGHTNESS

- Check that the exhaust manifold is correctly tightened. If the mounting nuts are loose, tighten them to specification.
- Check the tightness of turbocharger mounting bolts
- Check for oil leakage at turbocharger in and out
- Check tightness of oil supply pipe bolts.
- Check leakage of wastegate hose.

PRE-DELIVERY INSPECTION (Contd.) CHECKS TO BE CARRIED DURING PDI

INSTALLED CONDITION OF ELECTRICAL EQUIPMENT

- Check that the starter and alternator are installed properly.
- Check the wiring connections for tightness. If the wiring is in contact with other parts, correct it by proper clamping.

DRY TYPE AIR CLEANER

- Check the indicator for choking. Clean the elements if found choked.

WET TYPE AIR CLEANER

- Check air cleaner oil level.

ENGINE COMPARTMENT

(IN ENGINE OPERATING CONDITION)

ENGINE STARTING PERFORMANCE

- Check to see if the engine starts smoothly.
- Check operation of the key switch and starter.

COOLANT, AIR AND OIL LEAKS FROM CYLINDER HEAD AND ROCKER CASE

- Check for coolant and air leaks from the cylinder head.
- Check for oil leaks from the rocker case or cylinder head cover.

OPERATION OF ACCELERATOR LINKAGE

- Check the accelerator pedal for sticking, binding and full return.
- Check for abnormal engine noise.

EXHAUST GAS CONDITION AND NOISE

- After the engine has warmed up, check that black smoking is not emitted at idling, medium and high speeds.
- Check for abnormal noise.

UNDER VEHICLE

ENGINE OIL LEAKS FROM OIL PAN AND OIL COOLER

- Check for oil leaks from the engine oil pan, oil cooler and oil filter mounting area.

ENGINE SUPPORT BOLTS TIGHTNESS

- Check that the engine mounting bolts are tightened to specifications.
- Tighten them to specifications as specified in Operators Manual.

FLUID LEAKS FROM CLUTCH & BRAKE LINES

- Check that the pipes and hoses are not in contact with other parts.

AIR LEAKS FROM BRAKE LINES

- Check the brake pipe lines for leakage
- Check the pipes and hoses are not in contact with other parts.

OIL LEVEL IN STEERING GEAR BOX, TRANSMISSION AND REAR AXLE HOUSING

- Remove the inspection plug (filler plug) and check that the oil is at the brim.
 - Steering gear box
 - Transmission
 - Axle housing

FLUID LEAKS FROM SHOCK ABSORBER

- Check the shock absorbers for fluid leaks.

FUEL LEAKS FROM FUEL TANK

- Check for fuel leaks from the drain plug of the fuel tank and the pipe connections.

SUSPENSION SHACKLE PIN LOCK BOLTS AND U-BOLT NUTS TIGHTNESS

- Check that the shackle pin lock bolts and U-bolt nuts are correctly tightened.

PROPELLER SHAFT FLANGE YOKE BOLTS TIGHTNESS

- Check the flange yoke bolts for tightness.

DIFFERENTIAL CARRIER ATTACHING BOLTS TIGHTNESS

- Check the bolts attaching differential carrier to axle housing for tightness.

ELECTRICAL CONNECTIONS AND ROUTING

- Check the battery cable and other electrical connections for tightness.

BODY MOUNTING BOLTS AND NUTS TIGHTNESS

- Check the body mounting bolts and nuts for tightness.

**PRE-DELIVERY INSPECTION (Contd.)
CHECKS TO BE CARRIED DURING PDI**

TYRE (INCLUDING SPARE TYRE)

- Check the tyre pressures while the tyres are cold.
- Check for stone, pebbles and other foreign objects caught in the tread grooves, remove them.
- Check that the spare tyre is installed properly.
- Front and Rear wheel nuts tightness
- Check the exhaust pipe and muffler installation and connection for looseness.

ROAD TEST

ENGINE STOPPING CONDITION

- Turn the starter switch to "ACC" and check stopping of engine smoothly.

SERVICE BRAKE OPERATION

- Inspect pedal play and stroke.
- Check that brake operation is smooth and positive.
- Check vacuum leakage from vacuum pipes
- Check oil leakage from supply pipe of compressor.
- Check water leakage at inlet / outlet hoses of compressor.

PARKING BRAKE OPERATION

- Inspect the operation of graduated hand control valve, braking effect, return and buzzer.
- Check for wind-off nut of spring brake actuator.
- Inspect the operation of parking brake lever, braking effect, return and indicator
- Check for parking brake lever locking operation

CLUTCH OPERATION

- Check the operation of clutch in all driving ranges.
- Check clutch pedal play.

TRANSMISSION OPERATION

- Check the operation of transmission and gearshift lever in all ranges.
- Check the control linkage for looseness.

STEERING WHEEL PLAY AND OPERATION

- Place the steering wheel in straight-ahead position and check for the play.
- Check the steering wheel for ease of operation, stability and returnability.

GAUGES AND WARNING LAMPS FUNCTION

- Inspect that all gauges and warning lamps are functioning properly. Speedometer, Air pressure gauge, Fuel gauge, Water Temperature gauge and warning lamps.

NOISE

- Check for noise in each of the brakes, clutch, engine, transmission, steering system, propeller shaft, differential and others.

FINAL STEPS

VEHICLE WASHING

- Clean the vehicle exterior and interior. Then wash the body exterior with water.
- Lubricate all greasing points.

JACK AND TOOL SET

- Verify that the jack and tool sets are on the vehicle.

INSTALLATION OF LICENCE PLATES

- Install the licence plates.

ACCESSORIES

- Head lamp bulbs – two
- Warning triangle – one (two in case of 10.90 Model)
- First Aid kit – one
- Chock - one (two in case of 10.90 Model)

Note: Ensure cabin tilt mechanism is locked after PDI.

EICHER MOTORS LIMITED

Details of 5,000 km service :

Servicing AR's Name : _____

Address : _____

Pin _____ Tel no. _____

Total running (odometer reading) _____

Coupon no. _____

Date of service _____

I hereby declare that the 5,000 km Service has been carried out to my fullest satisfaction.

AR's signature & seal Owner's signature & Date.

Job Card No. : _____

5,000 KM PERIODIC SERVICE

Chassis No. _____ Engine No. _____ Date _____

SERVICE OPERATIONS

Lubrication

- Replace engine oil
- Replace air cleaner oil
- Replace transmission oil
- Replace differential oil
- Check power steering oil level
- Lubricate propeller shaft U-joints
- Lubricate steering linkages
- Lubricate front & rear spring pins
- Lubricate Kingpins
- Lubricate front & rear slack adjuster
- Lubricate front & rear 'S' cam shaft
- Check condition of all rubber hoses (e.g. air intake, alternator, turbocharger, Intercooler, etc.)
- Check steering system
- Check front & rear suspension
- Check front & Rear suspension 'U' bolt
- Check service brake operation
- Check parking brake operation
- Check and adjust compressor V-belt tension
- Lubricate mounting plate & plunger of dual brake valve with engine oil

Inspection and Maintenance

- Replace oil filter element and bypass filter
- Replace fuel filter-Stage I
- Check and adjust V-belt tension
- Clean fuel feed pump gauze filter
- Check engine-operating condition
- Check & adjust valve clearance
- Discharge water from water separator
- Check tightness of radiator hoses
- Tighten mounting bolts of Brake actuators & Brake chambers
- Check front & rear wheel nuts
- Check wheel and tyres
- Carry out tyre rotation
- Check battery electrolyte level
- Check switch function
- Check lamp & instrument function
- Check water, oil and fuel leaks
- Clean dust & oil sludge from compressor fins.

Remarks :

AR to tear this portion and staple with Job Card for carrying out the service accordingly.
Note : Please record all values / observations on the job card.

EICHER MOTORS LIMITED

Details of 15,000 km service :

Servicing AR's Name : _____

Address : _____

Pin _____ Tel no. _____

Total running (odometer reading) _____

Coupon no. _____

Date of service _____

I hereby declare that the 15,000 km Service has been carried out to my fullest satisfaction.

AR's signature & seal Owner's signature & Date.

Job Card No. :

15,000 KM PERIODIC SERVICE

Chassis No. _____

Engine No. _____

Date _____

SERVICE OPERATIONS

Lubrication

- Replace engine oil (incase of hilly operation & if Eicher genuine oil is not used)
- Replace air cleaner oil
- Check transmission oil level
- Check differential oil level
- Check power steering oil level
- Lubricate Propeller shaft U-joints
- Lubricate Steering linkages
- Lubricate Front & Rear spring pins
- Lubricate Kingpins
- Lubricate steering shaft lubrication
- Lubricate front & rear slack adjuster
- Lubricate front & rear 'S' cam shaft
- Check clutch pedal play
- Check steering system
- Check front & rear suspension
- Tighten front & rear suspension 'U' bolt
- Check master vac. valve function
- Check service brake operation
- Check parking brake operation
- Check and adjust compressor V-belt tension
- Lubricate mounting plate & plunger of dual brake valve with engine oil
- Tighten mounting bolts of Brake actuators & Brake chambers

Inspection and Maintenance

- Replace oil filter element and bypass filter (incase of hilly operation or if Eicher Genuine oil is not used)
- Replace fuel filter-Stage I & II
- Check & adjust V-belt tension
- Check engine-operating condition
- Check & adjust valve clearance
- Discharge water from water separator
- Check radiator cap condition
- Check tightness of radiator hoses
- Check condition of all rubber hoses (e.g. air intake, alternator, turbocharger, Intercooler, etc.)
- Tighten propeller shaft bolts
- Tighten front & rear wheel nuts
- Check wheel and tyres
- Carry out tyre rotation
- Check battery electrolyte level
- Check front and rear wheel bearing play and damage
- Check switch function
- Check lamp & instrument function
- Retighten bolts of chassis and cargo body
- Check water, oil and fuel leaks
- Clean dust & oil sludge from compressor fins.

Remarks :

AR to tear this portion and staple with Job Card for carrying out the service accordingly. Note : Please record all values / observations on the job card.

EICHER MOTORS LIMITED

Details of 25,000 km service :

Servicing AR's Name : _____

Address : _____

Pin _____ Tel no. _____

Total running (odometer reading) _____

Coupon no. _____

Date of service _____

I hereby declare that the 25,000 km Service has been carried out to my fullest satisfaction.

AR's signature & seal Owner's signature & Date.

Job Card No. :

25,000 KM PERIODIC SERVICE

Chassis No. _____

Engine No. _____

Date _____

SERVICE OPERATIONS

Lubrication

- Replace engine oil
- Replace air cleaner oil
- Check transmission oil level
- Check differential oil level
- Check power steering oil level
- Replace brake fluid
- Lubricate Propeller shaft U-joints
- Lubricate Steering linkages
- Lubricate Front & Rear spring pins
- Lubricate Kingpins
- Lubricate steering shaft lubrication
- Lubricate accelerator cable ball end
- Lubricate gearshift lever pin
- Lubricate parking brake ratchet bar
- Lubricate brake shoe back plate
- Lubricate door hinge
- Lubricate door lock
- Lubricate front & rear slack adjuster
- Lubricate front & rear 'S' cam shaft
- Discharge water from water separator
- Check tightness of radiator hoses
- Check condition of all rubber hoses (e.g. air intake, alternator, turbocharger, Intercooler, etc.)
- Check steering system
- Check & adjust front wheel alignment
- Check front & rear suspension
- Tighten front & rear suspension 'U' bolt
- Check service brake operation
- Check parking brake operation
- Check and adjust compressor V-belt tension
- Lubricate mounting plate & plunger of dual brake valve with engine oil
- Tighten mounting bolts of Brake actuators & Brake chambers

Inspection and Maintenance

- Replace oil filter element and bypass filter
- Replace fuel filter Stage I
- Check V-belt tension
- Clean fuel filter pump gauze filter
- Check engine-operating condition
- Check & adjust valve clearance
- Check fuel injection pressure and spray pattern of injection nozzle
- Check fuel injection timing
- Check brake drum & lining condition
- Tighten front & rear wheel nuts
- Check wheels & tyres
- Carry out tyre rotation
- Check battery electrolyte level
- Check switch function
- Check lamp & instrument function
- Check water, oil & fuel leaks
- Clean dust & oil sludge from compressor fins.

Remarks :

AR to tear this portion and staple with Job Card for carrying out the service accordingly. Note : Please record all values / observations on the job card.

EICHER MOTORS LIMITED

Details of 35,000 km service :

Servicing AR's Name : _____

Address : _____

Pin _____ Tel no. _____

Total running (odometer reading) _____

Coupon no. _____

Date of service _____

I hereby declare that the 35,000 km Service has been carried out to my fullest satisfaction.

AR's signature & seal Owner's signature & Date.

Job Card No. :

35,000 KM PERIODIC SERVICE

Chassis No. _____

Engine No. _____

Date _____

SERVICE OPERATIONS

Lubrication

- Replace engine oil (incase of hilly operation & if Eicher genuine oil is not used)
- Replace air cleaner oil
- Change transmission oil
- Change differential oil
- Check power steering oil level
- Lubricate propeller shaft U-joints
- Lubricate steering linkages
- Lubricate front & rear spring pins
- Lubricate Kingpins
- Lubricate steering shaft
- Replace wheel-bearing grease
- Lubricate front & rear slack adjuster
- Lubricate front & rear 'S' cam shaft
- Check tightness of radiator hoses
- Check condition of all rubber hoses (e.g. air intake, alternator, turbocharger, Intercooler, etc.)
- Tighten propeller shaft bolts
- Check clutch pedal play
- Check steering system
- Check front & rear suspension
- Tighten front & rear suspension 'U' bolt
- Check master vac.valve function
- Check service brake operation
- Check parking brake operation
- Check and adjust compressor V-belt tension
- Lubricate mounting plate & plunger of dual brake valve with engine oil

Inspection and Maintenance

- Replace oil filter element & bypass filter (incase of hilly operation or if Eicher Genuine oil is not used)
- Replace fuel filter-Stage I & II
- Check & adjust V-belt tension
- Check engine-operating condition
- Retighten exhaust manifold nuts
- Check & adjust valve clearance
- Discharge water from water separator
- Check radiator cap condition
- Tighten mounting bolts of Brake actuators & Brake chambers
- Tighten front & rear wheel nuts
- Check wheels and tyres
- Carry out tyre rotation
- Check battery electrolyte level
- Check switch function
- Check lamp & instrument function
- Retighten bolts of chassis and cargo body
- Check water, oil and fuel leaks
- Clean dust & oil sludge from compressor fins.

Remarks :

AR to tear this portion and staple with Job Card for carrying out the service accordingly.

Note : Please record all values / observations on the job card.

EICHER MOTORS LIMITED

Details of 45,000 km service :

Servicing AR's Name : _____

Address : _____

Pin _____ Tel no. _____

Total running (odometer reading) _____

Coupon no. _____

Date of service _____

I hereby declare that the 45,000 km Service has been carried out to my fullest satisfaction.

AR's signature & seal Owner's signature & Date.

Job Card No. :

45,000 KM PERIODIC SERVICE

Chassis No. _____

Engine No. _____

Date _____

SERVICE OPERATIONS

Lubrication

- Engine oil replacement
- Replace air cleaner oil
- Check steering gear oil level (manual)
- Check power steering oil level
- Lubricate propeller shaft U-joints
- Lubricate steering linkages
- Lubricate front & rear spring pins
- Lubricate Kingpins
- Lubricate steering shaft lubrication
- Replace wheel-bearing grease
- Lubricate front & rear slack adjuster
- Lubricate front & rear 'S' cam shaft
- Check steering system
- Check front & rear suspension
- Tighten front & rear suspension 'U' bolt
- Check service brake operation
- Check parking brake operation
- Check and adjust compressor V-belt tension
- Lubricate mounting plate & plunger of dual brake valve with engine oil
- Tighten mounting bolts of Brake actuators & Brake chambers
- Check brake drum & lining condition
- Check & remove excessive carbon deposit from reed valves of air compressor

Inspection and Maintenance

- Replace oil filter element and bypass filter
- Replace fuel filter Stage I
- Check V-belt tension
- Check engine-operating condition
- Tighten engine support bolts
- Check & adjust valve clearance
- Check engine compression pressure
- Discharge water from water separator
- Check tightness of radiator hoses
- Check condition of all rubber hoses (e.g. air intake, alternator, turbocharger, Intercooler, etc.)
- Tighten front & rear wheel nuts
- Check wheels & tyres
- Carry out tyre rotation
- Check front & rear wheel bearing play & damage
- Check battery electrolyte level
- Check switch function
- Check lamp & instrument function
- Check water, oil & fuel leaks
- Clean dust & oil sludge from compressor fins.

Remarks :

AR to tear this portion and staple with Job Card for carrying out the service accordingly.

Note : Please record all values / observations on the job card.

EICHER MOTORS LIMITED

Details of 55,000 km service :

Servicing AR's Name : _____

Address : _____

Pin _____ Tel no. _____

Total running (odometer reading) _____

Coupon no. _____

Date of service _____

I hereby declare that the 55,000 km Service has been carried out to my fullest satisfaction.

AR's signature & seal Owner's signature & Date.

Job Card No. :

55,000 KM PERIODIC SERVICE

Chassis No.

Engine No.

Date

SERVICE OPERATIONS

Lubrication

- Replace engine oil (incase of hilly operation & if Eicher genuine oil is not used)
- Replace air cleaner oil
- Check transmission oil level
- Check differential oil level
- Replace power steering oil level
- Lubricate propeller shaft U-joints
- Lubricate steering linkages
- Lubricate front & rear spring pins
- Lubricate Kingpins
- Lubricate steering shaft
- Lubricate accelerator cable ball end
- Lubricate gearshift lever pin
- Lubricate parking brake ratchet bar
- Lubricate brake shoe back plate
- Lubricate door hinge
- Lubricate door locks
- Lubricate front & rear slack adjuster
- Lubricate front & rear 'S' cam shaft
- Check radiator cap condition
- Check tightness of radiator hoses
- Check condition of all rubber hoses (e.g. air intake, alternator, turbocharger, Intercooler, etc.)
- Tighten propeller shaft bolts
- Check clutch pedal play
- Check & adjust backlash of crown wheel & pinion and adjust pinion height
- Check steering system
- Check & adjust front wheel alignment (if not done at 50000 kms.)
- Replace power steering oil filter
- Check front & rear suspension
- Tighten front & rear suspension 'U' bolt
- Check dual brake valve function
- Check service brake operation
- Check parking brake operation
- Check and adjust compressor V-belt tension
- Lubricate mounting plate & plunger of dual brake valve with engine oil

Inspection and Maintenance

- Replace oil filter element & bypass filter (incase of hilly operation or if Eicher Genuine oil is not used)
- Replace fuel filter-Stage I & II
- Check & adjust V-belt tension
- Check engine-operating condition
- Retighten cylinder head bolts
- Check & adjust valve clearance
- Check fuel injection pressure & spray pattern of injection nozzles
- Check fuel injection timing
- Discharge water from water separator
- Replace coolant
- Tighten mounting bolts of Brake actuators & Brake chambers
- Tighten front & rear wheel nuts
- Check wheels and tyres
- Carry out tyre rotation
- Check battery electrolyte level
- Check switch function
- Check lamp & instrument function
- Retighten bolts of chassis and cargo body
- Check water, oil and fuel leaks
- Clean dust & oil sludge from compressor fins.

Remarks :

AR to tear this portion and staple with Job Card for carrying out the service accordingly.

Note : Please record all values / observations on the job card.

EICHER MOTORS LIMITED

Details of 65,000 km service :

Servicing AR's Name : _____

Address : _____

Pin _____ Tel no. _____

Total running (odometer reading) _____

Coupon no. _____

Date of service _____

I hereby declare that the 65,000 km Service has been carried out to my fullest satisfaction.

AR's signature & seal Owner's signature & Date.

Job Card No. :

65,000 KM PERIODIC SERVICE

Chassis No.

Engine No.

Date

SERVICE OPERATIONS

Lubrication

- Replace engine oil
- Replace air cleaner oil
- Replace transmission oil
- Replace differential oil
- Check power steering oil level
- Replace brake fluid (if not replaced at 60000 kms.)
- Lubricate propeller shaft U-joints
- Replace wheel-bearing grease
- Lubricate steering linkages
- Lubricate front & rear spring pins
- Lubricate Kingpins
- Lubricate front & rear slack adjuster
- Lubricate front & rear 'S' cam shaft
- Check tightness of radiator hoses
- Check condition of all rubber hoses (e.g. air intake, alternator, turbocharger, Intercooler, etc.)
- Check steering system
- Check front & rear suspension
- Tighten front & rear suspension 'U' bolt
- Check service brake operation
- Check parking brake operation
- Check and adjust compressor V-belt tension
- Lubricate mounting plate & plunger of dual brake valve with engine oil
- Tighten mounting bolts of Brake actuators & Brake chambers

Inspection and Maintenance

- Replace oil filter element & bypass filter
- Replace fuel filter Stage I
- Check V-belt tension
- Check engine-operating condition
- Check & adjust valve clearance
- Discharge water from water separator
- Tighten front & rear wheel nuts
- Check wheels & tyres
- Carry out tyre rotation
- Check battery electrolyte level
- Check switch function
- Check lamp & instrument function
- Check water, oil & fuel leaks
- Clean dust & oil sludge from compressor fins.

Remarks :

AR to tear this portion and staple with Job Card for carrying out the service accordingly.

Note : Please record all values / observations on the job card.

EICHER MOTORS LIMITED

Details of 75,000 km service :

Servicing AR's Name : _____

Address : _____

Pin _____ Tel no. _____

Total running (odometer reading)

Coupon no. _____

Date of service _____

I hereby declare that the 75,000 km Service has been carried out to my fullest satisfaction.

AR's signature & seal Owner's signature & Date.

Job Card No. :

75,000 KM PERIODIC SERVICE

Chassis No. _____

Engine No. _____

Date _____

SERVICE OPERATIONS**Lubrication**

- Replace engine oil (incase of hilly operation & if Eicher genuine oil is not used)
- Replace air cleaner oil
- Check transmission oil level
- Check differential oil level
- Replace power steering oil level
- Lubricate propeller shaft U-joints
- Lubricate steering linkages
- Lubricate front & rear spring pins
- Lubricate Kingpins
- Lubricate front & rear slack adjuster
- Lubricate front & rear 'S' cam shaft

Inspection and Maintenance

- Replace oil filter element & bypass filter (incase of hilly operation or if Eicher Genuine oil is not used)
- Replace fuel filter-Stage I & II
- Check & adjust V-belt tension
- Clean fuel feed pump gauze filter
- Check engine-operating condition
- Discharge water from water separator
- Check radiator cap condition
- Check tightness of radiator hoses

- Check condition of all rubber hoses (e.g. air intake, alternator, turbocharger, Intercooler, etc.)
- Tighten propeller shaft bolts
- Check clutch pedal play
- Check steering system
- Check & adjust front wheel alignment
- Check front & rear suspension\
- Tighten front & rear suspension 'U' bolt
- Check dual brake valve function
- Check service brake operation
- Check parking brake operation
- Check and adjust compressor V-belt tension
- Lubricate mounting plate & plunger of dual brake valve with engine oil
- Tighten mounting bolts of Brake actuators & Brake chambers
- Tighten front & rear wheel nuts
- Check wheels and tyres
- Carry out tyre rotation
- Check battery electrolyte level
- Check switch function
- Check lamp & instrument function
- Retighten bolts of chassis and cargo body
- Check water, oil and fuel leaks
- Clean dust & oil sludge from compressor fins.

Remarks :

AR to tear this portion and staple with Job Card for carrying out the service accordingly.

Note : Please record all values / observations on the job card.

EICHER MOTORS LIMITED

Details of 85,000 km service :

Servicing AR's Name : _____

Address : _____

Pin _____ Tel no. _____

Total running (odometer reading)

Coupon no. _____

Date of service _____

I hereby declare that the 85,000 km Service has been carried out to my fullest satisfaction.

AR's signature & seal Owner's signature & Date.

Job Card No. :

85,000 KM PERIODIC SERVICE

Chassis No. _____

Engine No. _____

Date _____

SERVICE OPERATIONS**Lubrication**

- Replace engine oil
- Replace air cleaner oil
- Check transmission oil level
- Check differential oil level
- Check power steering oil level
- Lubricate Propeller shaft U-joints
- Lubricate Steering linkages
- Lubricate Front & Rear spring pins
- Lubricate Kingpins
- Lubricate accelerator cable ball end
- Lubricate gearshift lever pin
- Lubricate parking brake ratchet bar
- Lubricate brake shoe back plate
- Lubricate door hinge
- Lubricate door locks
- Lubricate front & rear slack adjuster
- Lubricate front & rear 'S' cam shaft

Inspection and Maintenance

- Replace oil filter element & bypass filter
- Replace fuel filter-Stage I
- Check & adjust V-belt tension
- Check engine-operating condition
- Check & adjust valve clearance
- Check fuel injection pressure & spray pattern of injection nozzles
- Check fuel injection timing

- Discharge water from water separator
- Check tightness of radiator hoses
- Check condition of all rubber hoses (e.g. air intake, alternator, turbocharger, Intercooler, etc.)
- Check steering system
- Check front & rear suspension
- Tighten front & rear suspension 'U' bolt
- Check service brake operation
- Check parking brake operation
- Check and adjust compressor V-belt tension
- Lubricate mounting plate & plunger of dual brake valve with engine oil
- Tighten mounting bolts of Brake actuators & Brake chambers
- Check brake drum & lining
- Tighten front & rear wheel nuts
- Check wheels and tyres
- Carry out tyre rotation
- Check battery electrolyte level
- Check switch function
- Check lamp & instrument function
- Check water, oil and fuel leaks
- Clean dust & oil sludge from compressor fins.

Remarks :

AR to tear this portion and staple with Job Card for carrying out the service accordingly.

Note : Please record all values / observations on the job card.

EICHER MOTORS LIMITED

Details of 95,000 km service :

Servicing AR's Name : _____

Address : _____

Pin _____ Tel no. _____

Total running (odometer reading) _____

Coupon no. _____

Date of service _____

I hereby declare that the 95,000 km Service has been carried out to my fullest satisfaction.

AR's signature & seal Owner's signature & Date.

Job Card No. :

95,000 KM PERIODIC SERVICE

Chassis No. _____

Engine No. _____

Date _____

SERVICE OPERATIONS

Lubrication

- Replace engine oil (incase of hilly operation & if Eicher genuine oil is not used)
- Replace air cleaner oil
- Replace transmission oil
- Replace differential oil
- Check steering gear oil level (manual)
- Check power steering oil level
- Replace brake fluid (if not replaced at 90000 kms.)
- Lubricate propeller shaft U-joints
- Lubricate Steering linkages
- Replace wheel-bearing grease
- Lubricate front & rear spring pins
- Lubricate Kingpins
- Lubricate steering shaft
- Lubricate front & rear slack adjuster
- Lubricate front & rear 'S' cam shaft
- Discharge water from water separator
- Check radiator cap condition
- Check tightness of radiator hoses
- Check condition of all rubber hoses (e.g. air intake, alternator, turbocharger, Intercooler, etc.)
- Tighten propeller shaft bolts
- Check clutch pedal play
- Check steering system
- Check front & rear suspension
- Tighten front & rear suspension 'U' bolt
- Check master vac. valve function
- Check service brake operation
- Check parking brake operation
- Check and adjust compressor V-belt tension
- Lubricate mounting plate & plunger of dual brake valve with engine oil
- Tighten mounting bolts of Brake actuators & Brake chambers
- Tighten front & rear wheel nuts
- Check wheels & tyres
- Carry out tyre rotation
- Check battery electrolyte level
- Check switch function
- Check lamp & instrument function
- Retighten bolts of chassis and cargo body
- Check water, oil and fuel leaks
- Clean dust & oil sludge from compressor fins.

Inspection and Maintenance

- Replace oil filter element & bypass filter (incase of hilly operation or if Eicher Genuine oil is not used)
- Replace fuel filter-Stage I & II
- Check & adjust V-belt tension
- Check engine-operating condition
- Tighten exhaust manifold nuts
- Tighten engine support bolts
- Check & adjust valve clearance
- Check engine compression pressure

Remarks :

AR to tear this portion and staple with Job Card for carrying out the service accordingly.
Note : Please record all values / observations on the job card.

EICHER MOTORS LIMITED

Details of 1,05,000 km service :

Servicing AR's Name : _____

Address : _____

Pin _____ Tel no. _____

Total running (odometer reading) _____

Coupon no. _____

Date of service _____

I hereby declare that the 1,05,000 km Service has been carried out to my fullest satisfaction.

AR's signature & seal Owner's signature & Date.

Job Card No. :

1,05,000 KM PERIODIC SERVICE

Chassis No. _____

Engine No. _____

Date _____

SERVICE OPERATIONS

Lubrication

- Replace engine oil
- Replace air cleaner oil
- Replace transmission oil
- Replace differential oil
- Check power steering oil level
- Lubricate propeller shaft U-joints
- Lubricate steering linkages
- Lubricate front & rear spring pins
- Lubricate Kingpins
- Lubricate front & rear slack adjuster
- Lubricate front & rear 'S' cam shaft
- Check steering system
- Check & adjust front wheel alignment (if not done at 100000 kms.)
- Check front & rear suspension
- Check front & Rear suspension 'U' bolt
- Check service brake operation
- Check parking brake operation
- Check and adjust compressor V-belt tension
- Lubricate mounting plate & plunger of dual brake valve with engine oil

Inspection and Maintenance

- Replace oil filter element and bypass filter
- Replace fuel filter-Stage I
- Check and adjust V-belt tension
- Check engine-operating condition
- Check & adjust valve clearance
- Discharge water from water separator
- Check tightness of radiator hoses
- Check condition of all rubber hoses (e.g. air intake, alternator, turbocharger, Intercooler, etc.)
- Tighten mounting bolts of Brake actuators & Brake chambers
- Check front & rear wheel nuts
- Check wheel and tyres
- Carry out tyre rotation
- Check front & rear wheel bearing play and damage
- Check battery electrolyte level
- Check switch function
- Check lamp & instrument function
- Check water, oil and fuel leaks
- Clean dust & oil sludge from compressor fins.

Remarks :

AR to tear this portion and staple with Job Card for carrying out the service accordingly.
Note : Please record all values / observations on the job card.

SERVICE & MAINTENANCE RECORD

(Owners must ensure that this record is maintained & made available to EML Dealer/Service Representative, whenever asked for. **Deficiency/Non-availability may lead to rejection of warranty claims.**)

| SL. No. | Recommended Kms. | Date of Service | Actual Kms. | Serviced by (Name of Authorised) Service Centre, Location | Job No. | Remarks | Signature of Works Manager |
|---------|------------------|-----------------|-------------|---|---------|---------|----------------------------|
| 1 | | | | | | | |
| 2 | | | | | | | |
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SERVICE & MAINTENANCE RECORD

(Owners must ensure that this record is maintained & made available to EML Dealer/Service Representative, whenever asked for. **Deficiency/Non-availability may lead to rejection of warranty claims.**)

| SL. No. | Recommended Kms. | Date of Service | Actual Kms. | Serviced by (Name of Authorised) Service Centre, Location | Job No. | Remarks | Signature of Works Manager |
|---------|------------------|-----------------|-------------|---|---------|---------|----------------------------|
| 11 | | | | | | | |
| 12 | | | | | | | |
| 13 | | | | | | | |
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SERVICE & MAINTENANCE RECORD

(Owners must ensure that this record is maintained & made available to EML Dealer/Service Representative, whenever asked for. **Deficiency/Non-availability may lead to rejection of warranty claims.**)

| SL. No. | Recommended Kms. | Date of Service | Actual Kms. | Serviced by (Name of Authorised) Service Centre, Location | Job No. | Remarks | Signature of Works Manager |
|---------|------------------|-----------------|-------------|---|---------|---------|----------------------------|
| 21 | | | | | | | |
| 22 | | | | | | | |
| 23 | | | | | | | |
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SERVICE & MAINTENANCE RECORD

(Owners must ensure that this record is maintained & made available to EML Dealer/Service Representative, whenever asked for. **Deficiency/Non-availability may lead to rejection of warranty claims.**)

| SL. No. | Recommended Kms. | Date of Service | Actual Kms. | Serviced by (Name of Authorised) Service Centre, Location | Job No. | Remarks | Signature of Works Manager |
|---------|------------------|-----------------|-------------|---|---------|---------|----------------------------|
| 31 | | | | | | | |
| 32 | | | | | | | |
| 33 | | | | | | | |
| 34 | | | | | | | |
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| 40 | | | | | | | |

SERVICE & MAINTENANCE RECORD

(Owners must ensure that this record is maintained & made available to EML Dealer/Service Representative, whenever asked for. **Deficiency/Non-availability may lead to rejection of warranty claims.**)

| SL. No. | Recommended Kms. | Date of Service | Actual Kms. | Serviced by (Name of Authorised) Service Centre, Location | Job No. | Remarks | Signature of Works Manager |
|---------|------------------|-----------------|-------------|---|---------|---------|----------------------------|
| 41 | | | | | | | |
| 42 | | | | | | | |
| 43 | | | | | | | |
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| 50 | | | | | | | |

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SERVICE & MAINTENANCE RECORD

(Owners must ensure that this record is maintained & made available to EML Dealer/Service Representative, whenever asked for. **Deficiency/Non-availability may lead to rejection of warranty claims.**)

| SL. No. | Recommended Kms. | Date of Service | Actual Kms. | Serviced by (Name of Authorised) Service Centre, Location | Job No. | Remarks | Signature of Works Manager |
|---------|------------------|-----------------|-------------|---|---------|---------|----------------------------|
| 51 | | | | | | | |
| 52 | | | | | | | |
| 53 | | | | | | | |
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SECTION - 3

GETTING TO KNOW YOUR EICHER VEHICLE

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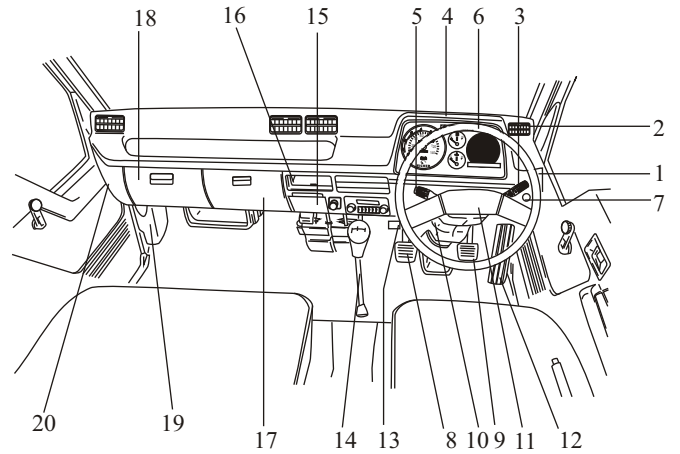
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| | |
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| - Minimum essentials for the driver | 3-4 |
| - Opening and closing of doors, cabin tilting, engine inspection port & fuel tank cap | 3-15 |
| - Before starting the engine | 3-19 |
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3-2

INSTRUMENTS AND CONTROLS

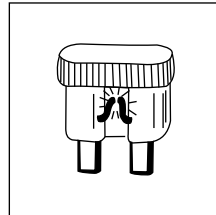
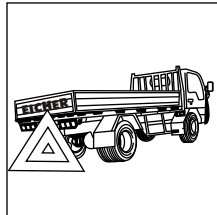
1. Brake fluid reservoir tank----- 3-59
2. Side ventilator----- 3-34
3. Lighting switch, turn signal, dimmer,
passing and lane change switch----- 3-28
4. Meter----- 3-30
5. Wiper & Washer----- 3-29
6. Steering wheel----- 3-20
7. Throttle button-----
8. Clutch pedal-----
9. Brake pedal-----
10. Telescopic tilt steering wheel
lock lever----- 3-20
11. Starter switch----- 3-20
12. Accelerator pedal-----
13. Parking brake lever----- 3-27
14. Gearshift lever----- 3-24
15. Ash tray----- 3-35
16. Pocket-----
17. Center console----- 3-36
18. Glove box----- 3-36
19. Window washer tank----- 3-36
20. Fuse box----- 3-95



3-3

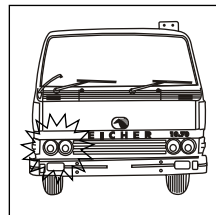
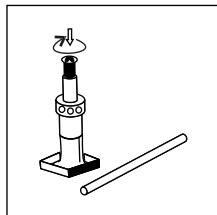
MINIMUM ESSENTIALS FOR THE DRIVER

- Quick look up (Pg 3-40)



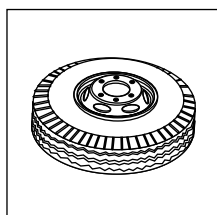
- When a fuse is blown (Pg 3-95)

- Tools and Jack (Pg 3-39)



- Replacing lamps (Pg 3-94)

- Fixing a flat tyre (Pg 3-72)

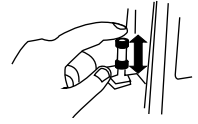


3-4

MINIMUM ESSENTIALS FOR THE DRIVER (Contd..)

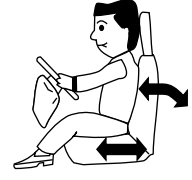
- **Doors and windows (Pg 3-15)**

Make sure your doors are locked while the vehicle is in motion



- **Adjusting the seat (Pg 3-16)**

- Are the pedals within easy reach for full depressing strokes?
- Is the steering wheel in the optimum driving position?



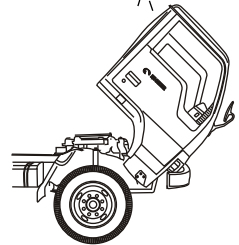
- **Fastening seat belts**

For safety it is mandatory that you as well as the co-driver fasten seat belts before driving.



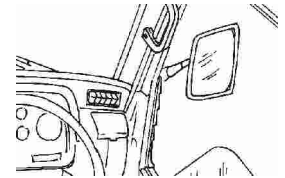
- **Tilting the cab (Pg 3-16)**

The cab can be tilted forward easily and safely. It makes your engine service job a lot easier.



- **Adjusting mirrors (Pg 3-37)**

Before getting the vehicle started, adjust rearview mirrors so that you can see into the rear and sides.



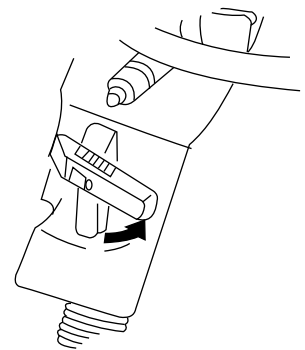
3-5

MINIMUM ESSENTIALS FOR THE DRIVER (Contd..)

- **Adjusting the steering wheel position (Pg 3-20)**

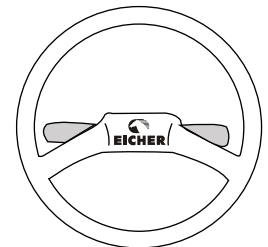
The telescopic tilt steering wheel allows you to change its position, horizontally and vertically, to suit your stature.

Adjust the wheel to the best driving position before starting the vehicle.



- **Multipurpose levers (Pg 3-28)**

The steering column is mounted with two multipurpose levers. The right lever switch control lightning and the left lever controls the wipers, washers and hazard warning lights.



- **Starting the engine (Pg 3-20)**

- Before starting the engine, be sure to apply the parking brake
- Make sure that the gearshift lever is in neutral.

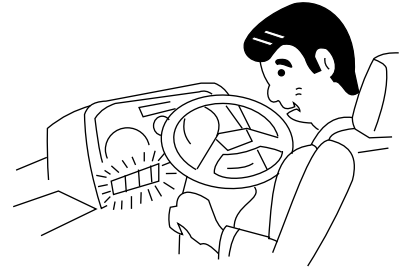


3-6

MINIMUM ESSENTIALS FOR THE DRIVER (Contd..)

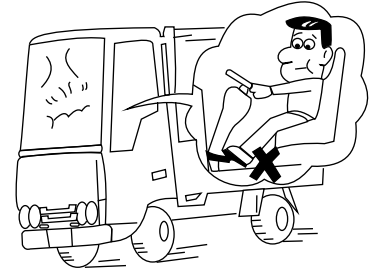
- **Check for warning lamps (Pg 3-32)**

- All warning lamps come on when the starter switch is placed in ON position before starting the engine.
- Your vehicle is in good condition if all lamps go off soon after the engine has started.
- The warning lamp for parking brake goes off when the parking brake lever is released.
- The warning lamp and buzzer for parking brake goes off when the parking brake lever is released.
- The low pressure indicators & buzzers come on only if the pressure drops beyond the specified value & goes off after the engine starts and the required pressure is built up into the system.



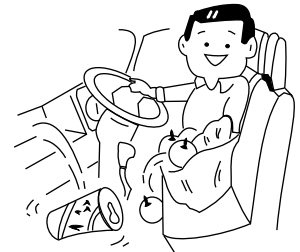
- **Do not keep your foot on clutch pedal when not operating it.**

- Use of clutch in half-engaged position will not only result in loss of power but will also reduce the life of the clutch. .
- If you feel higher resistance when you start depressing the clutch pedal it means the clutch disc has reached the limit of its service life. Have the clutch disc replaced at your nearest Eicher Authorized Service point.



- **Make sure that the cab interior is clear of obstructions.**

- Personal effects and other articles near the driver's seat can be dangerous.
- These may fall down onto the floor and get under the brake pedal thereby hindering normal operation.



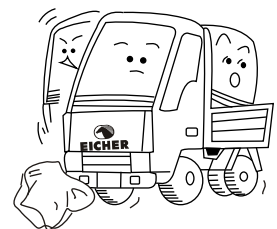
3-7

MINIMUM ESSENTIALS FOR THE DRIVER (Contd..)

- **Be sure the area around your vehicle is clear.**

Inflammable foreign material getting entangled in the exhaust pipe can be dangerous

- **Ensure that the cargo is securely loaded in position**

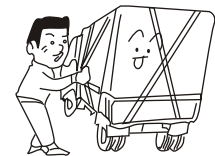


For Safe Driving

- **Warning lamps (Pg 3-32)**

Should a warning lamp come on, immediately pull your vehicle into a safe location.

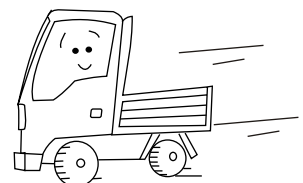
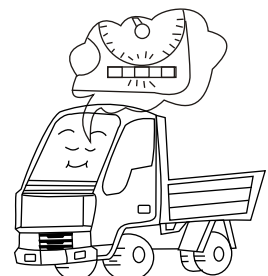
It is dangerous to keep your vehicle going with any of the warning lamps staying lit.



- **Starting switch (Pg 3-20)**

Never turn off the starter switch while the vehicle is in motion. If the starter switch is placed in the ACC or LOCK position while you are on the road,

- Extremely poor braking action will result.
- If the key is in the LOCK position, it can come off thereby locking the steering wheel & making it impossible to steer the vehicle.
- The warning lamps will become inoperative, thereby making driving extremely dangerous

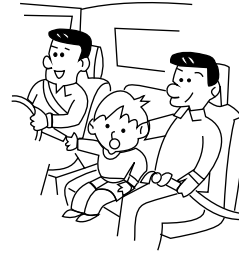


3-8

MINIMUM ESSENTIALS FOR THE DRIVER (Contd..)

- **Observe the following precautions when allowing children into your vehicle**

- Never allow them to tamper with the steering wheel, gearshift lever, controls and other switches.
- Close the door and lock it in position.
- Never let them open or close the doors.
- When you leave your vehicle, never leave them behind in the vehicle.



- **Use of cellular phones**

It is strictly prohibited use of cellular phones during driving the vehicles. Should you need to use cellular phone, pull up your vehicle to a safe location.



Some tips for better driving technique

- **On long downhill roads**

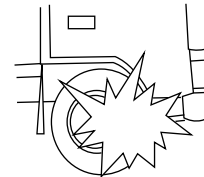
- Use the same gear which is used when coming uphill.
- Automatic exhaust brake system provides assistance in speed control. However, use service brakes properly to keep the speed within limits.
- Limit for each gear are shown on the speedometer
- Non-adherence may lead to engine over-running & severe damage. (Also refer page 3-24)



- **Flat tyre**

When you get a flat tyre while driving at high speeds grip the steering wheel and depress the brake pedal gently until your vehicle slows down.

If you brake suddenly, you will lose directional control.



3-9

MINIMUM ESSENTIALS FOR THE DRIVER (Contd..)

- **While Washing**

Be sure to switch off the engine before washing. This is essential to ensure that water is not sucked inside the engine which may lead to seizure of the engine.

- **After washing**

After washing your vehicle or moving out of puddled road, lightly depress the brake pedal to test the brake. Brakes may not be very effective after the vehicle has been washed or driven on puddled road due to entry of water into the brake assembly. In such a case, dry the brake linings by driving at slow speeds for a while with light foot pressure on brake pedal, while making sure that you are clear of vehicles ahead and behind.

- While crossing puddled road, be sure that water level does not reach the air box hole in the air cleaner. If it happens, it may lead to engine seizure (hydrostatic lock). To avoid this, remove the hose clamp & detach the hose of the air cleaner & fill it with fresh engine oil as per recommendation in wet type air cleaner & remove the hose clamp & dismantle the air cleaner & replace air cleaner element & safety cartridge dry type air cleaner. Also check the differential oil for any signs of water entry. In case the oil is found contaminated, same should be replaced with recommended grade of fresh oil immediately.

To ensure best performance for a long time

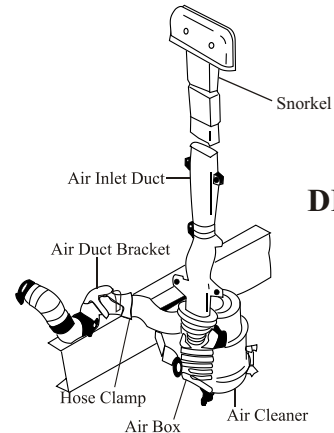
To ensure comfortable drives at all times, perform the following inspections.

- **Daily inspection (Pg 3-56)**

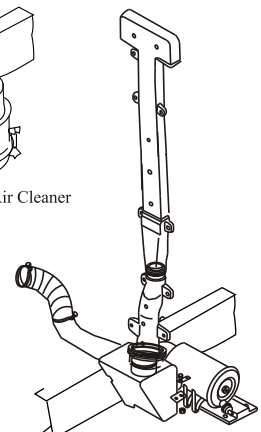
Before a day's operation, make the daily inspection to prevent troubles from developing into a serious breakdown.



WET TYPE



DRY TYPE



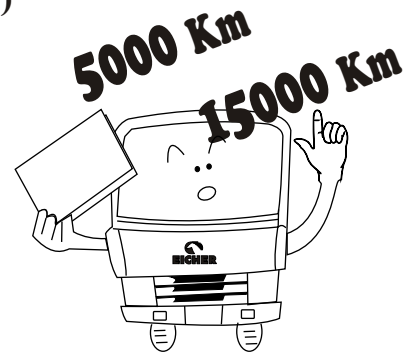
3-10

MINIMUM ESSENTIALS FOR THE DRIVER (Contd..)

- **Periodic inspection**

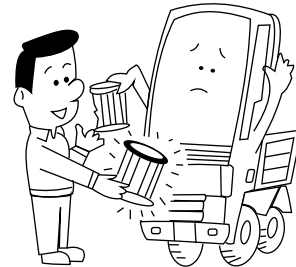
Be sure to have your vehicle inspected at regular intervals according to the instructions given in the service schedule

- Take your vehicle to your nearest authorized service station for inspection as specified in the service booklet.
- In addition, inspections must be made for lubricants and elements according to specific distances driven.



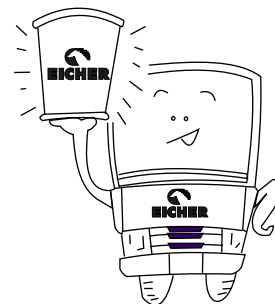
- **Parts requiring periodic replacement**

Make sure that these parts are replaced at the specified intervals for safe driving.



- **Replacement parts and accessories**

Use genuine **EICHER** parts and accessories. They are your reliable partners offering the quality guaranteed by **EICHER MOTORS LTD.** Get them at your nearest Eicher Authorised Service Station.



3-11

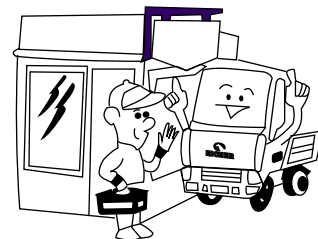
MINIMUM ESSENTIALS FOR THE DRIVER (Contd..)

Inspection and adjustments

- **For inspection and adjustment not covered in “Simple servicing” of this manual, contact your local authorized service station.**

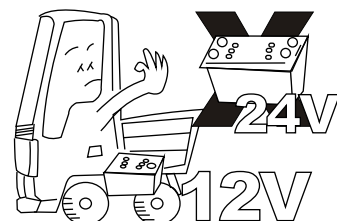
CAUTION !

Your vehicle has been factory-adjusted to the best operating performance. Never attempt to make further adjustments, or to remove or remodel parts.



- **Jump start (Pg 3-42)**

When making a jump start, make sure that the helper battery is of the same voltage rating as the discharged or weak battery. For details, see “Run-down battery” on pages 3-42.



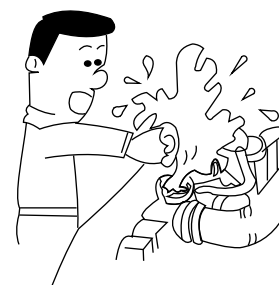
- **Vehicle jack up point (Pg 3-73)**

When using a jack, ensure that it is set properly in position. For jack up points, see Page 3-73

CAUTION !

Never under any circumstances remove the radiator cap when it is hot.

The gush of steam and coolant that will spurt out can cause serious injury to you.

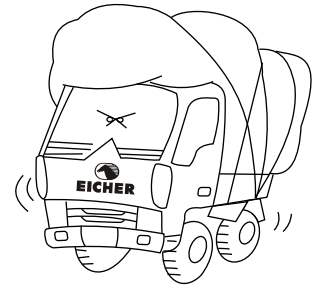


3-12

MINIMUM ESSENTIALS FOR THE DRIVER (Contd..)

- **When Loading cargo**

- Ensure that the maximum cargo carrying capacity is not exceeded
- Ensure that your cargo is evenly distributed
- When loading long objects, minimize protrusion from the rear end of the body.
- Place a sheet over the cargo and fasten ropes securely.
- Avoid loading to an excessive height.

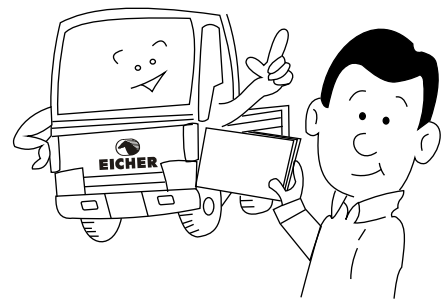


- **About warranty**

Troubles and accidents caused by careless handling or abuse of the vehicle beyond the limits of its specifications are out of the scope of warranty

Make sure that daily inspection and maintenance are not neglected.

Should trouble occur, consult your local authorised representative. For further details refer to our warranty policies in section-2 of this handbook.



3-13

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MINIMUM ESSENTIALS FOR THE DRIVER (Contd..)

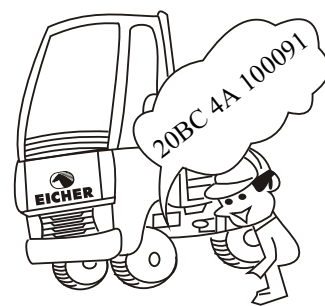
- **Chassis and engine numbers**

When ordering parts, specify these numbers to ensure correct order processing.

- **Chassis number**

Example: 20BC 4A 100091

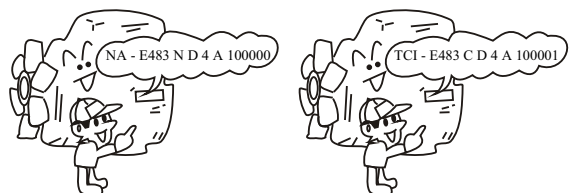
Stamped on the left side of the frame, at the position shown in illustration.



- **Engine number**

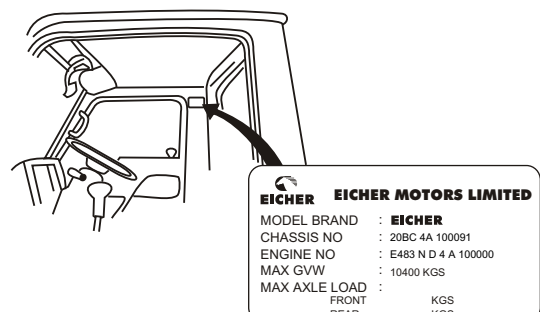
Example: E483 N D 4 A 100000

Stamped on the crankcase, at the position shown in illustration.



- **Name plate**

Attached inside the cab showing the vehicle model and chassis number.

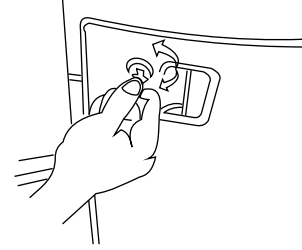


3-14

OPENING AND CLOSING OF DOORS

- **Locking, opening and closing of doors From outside.**

- Locking and unlocking with key.
Insert the key and turn towards the front of the vehicle to lock, or towards the rear to unlock.
- Locking without key.
With the lock button pushed in, and the outer handle pulled up, close the door.

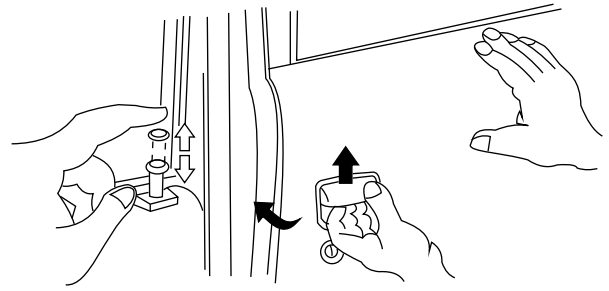


From Inside

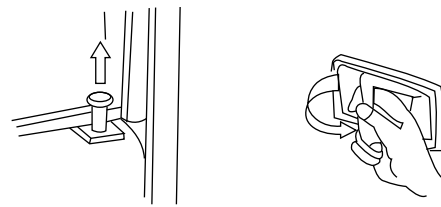
- Locking
Push the lock button in and the door is locked.
- With the lock button pulled up, pull the inner handle, and the door opens.

CAUTION!

- When you leave your vehicle, stop the engine and lock the doors.
- Before opening the door from inside, ensure that the rear area of your vehicle is clear.
- A door left slightly open is very dangerous. Ensure that the door is fully closed.



- **Make sure that you have removed the key before leaving your vehicle.**

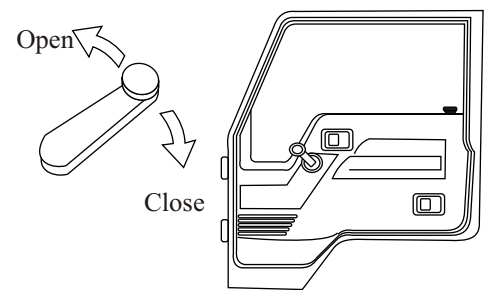


3-15

OPENING AND CLOSING OF DOORS (Contd..)

- **Opening and closing door glasses**

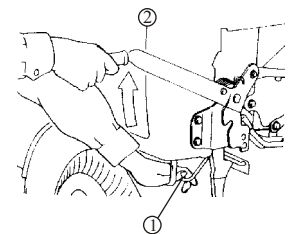
-To open or close the door glass, turn the regulator handle.



TILTING THE CAB

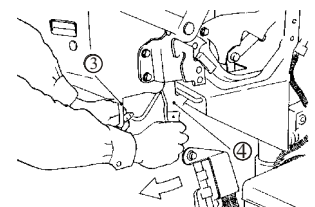
- **Raising the cab (Best done at your Authorised Service Centre)**

1. With the lever 1 pulled, raise the handle 2.
2. Hold the grip 3 and, while pressing it down, pull the hook 4. This causes the cab to go up. While holding the cab by hand to prevent abrupt motion, let it go up slowly.
3. As the cab goes up all the way, it is held in position by the cab stay 5.
4. Insert the safety pin 6.



CAUTION!

To ensure safety, make sure the safety pin is inserted.
Do not tilt the cab while holding the handle 2.



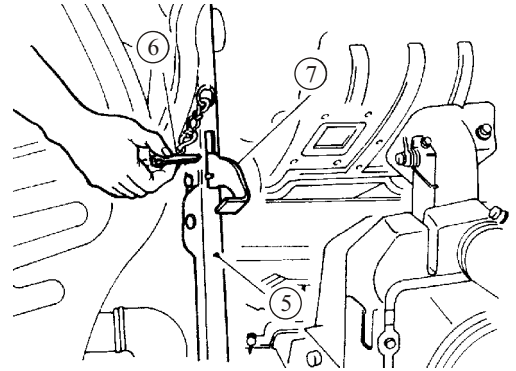
3-16

TILTING THE CAB (Contd..)

● Lowering the cab

1. With the grip held by hand and safety pin removed from the cab stay, push up the lever 7 to fold the cab stay 5 and slowly lower the cab. The hook engages as the cab is lowered in position.
2. Push the handle slowly back until it is locked in its original position, Check to ensure that it has been locked in position.

Note: If the handle is not locked, tilt back and relock the handle.



CAUTION !

PRECAUTIONS FOR TILTING THE CAB

- Select a flat, level ground.
- Apply parking brake and chock up the wheels.
- Ensure that the engine is stationary.
- Keep the gearshift lever in neutral.
- Clear personal effects and other articles from the seat and floor. They can slide & break the windshield when the cab is tilted.

3-17

TILTING THE CAB (Contd...)

- Make sure that the doors are in closed position.
- Ensure a clearance of 1 meter or more in front of the cab.
- Before lowering the cab, make sure that there is no waste cloth or tools left behind in the engine compartment.
- Unless absolutely necessary DO NOT tilt the cab. Better leave this to your Authorised Service Centre.

ENGINE INSPECTION PORT

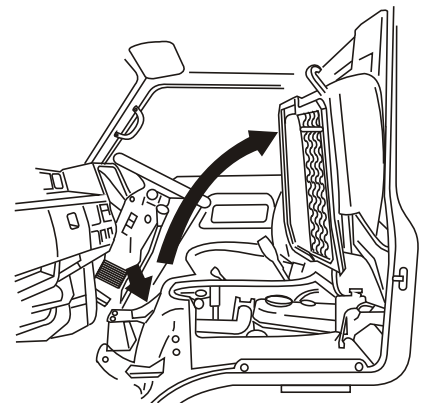
● Accessing the engine

The engine inspection port is located under the assistant's seat. To inspect the engine, release the clamp and raise the front end of the seat. Support the seat in folded position with the help of the belt provided.

To hold the raised assistant seat a support belt is provided. After swinging up the assistant's seat hold it by putting the support belt end on the clamping hook of the seat.

CAUTION !

When closing the port ensure that the clamps are engaged properly.



FUEL TANK COCK

- To remove the cap, turn it counter clockwise.



3-18

BEFORE STARTING THE ENGINE

- **Adjusting the driver's seat**

When adjusting the seat, make sure the following conditions are met to ensure best possible driving position.

- Pedals are within easy reach for their entire stroke.
- The steering wheel and controls / switches are within easy reach for sure operation.
- During adjustment, keep your back fully resting on the setback.

- **Fore-aft positions**

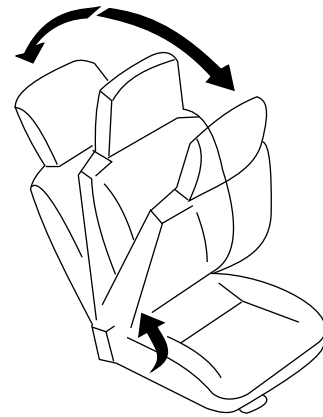
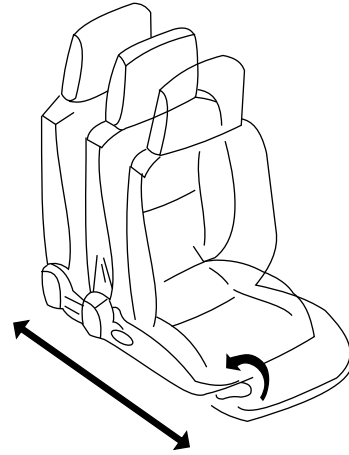
Adjust the seat to the position by operating the adjusting lever. After positioning the seat in the fore-aft-direction, gently lock the seat to ensure that it has been locked in position.

- **Reclining**

After the adjustment gently lock the seat back to ensure that it has been locked in position.

- **Folding down the seatback**

The seatback folds down to facilitate accessing the vehicle-borne tools which are placed just behind the driver's seat.



3-19

BEFORE STARTING THE ENGINE (Contd...)

- **Adjusting the telescopic tilt steering wheel**

Position the steering wheel by moving it in the up-and-down and fore-and-aft directions. Ensure the best possible driving position, together with the adjustment of the driver's seat.

Turn the lever counterclockwise (1), and the steering wheel becomes loose. After adjustment, tighten the lever securely in position (2) to prevent it from becoming loose during driving.

CAUTION!

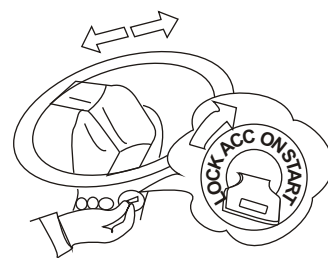
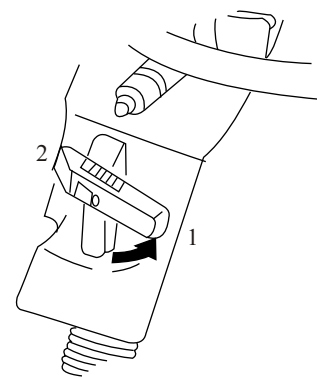
Never attempt to adjust the steering wheel while the vehicle is in motion.

STARTER SWITCH

- **Starter switch positions**

LOCK In this position the key can be inserted and removed. Remove the key and turn the steering wheel until it locks in position.

Turn the key from LOCK to ACC to unlock the steering wheel. If key is hard to turn to ACC, lightly turn the steering wheel so as to turn the key with ease.



3-20

BEFORE STARTING THE ENGINE (Contd...)

- ACC** When the key is placed to this position, the engine will shutdown. With the engine shutdown and the key in ACC position, the electrical system for accessories is switched on.
- ON** Keep the key in this position during operation.
- START** Place the key in this position to start the engine. After the engine has started, release the key and it will return to ON position on its own.



CAUTION!

Never under any circumstances place the key in any position other than ON while you are on road. If it is placed in ACC position, the engine stops and the brake booster becomes inoperative resulting in extremely poor braking performance.

In addition, with the key in ACC position, while the vehicle is in motion, all warning lamps, instruments, and exhaust brake also become inoperative, which is extremely dangerous. This can also lead to troubles in the electrical system.

If the key is moved to the LOCK position with the vehicle in motion, the steering wheel will lock and you may lose directional control.

3-21

STARTING AND STOPPING THE ENGINE

● Starting the engine

Place the gearshift lever in neutral and apply parking brake.

1. Place the starter switch in 'On' position.
2. Turn the starter switch to 'START' position to start the engine.
3. Keep the accelerator pedal depressed until the engine turns over and starts.
4. Engine should not be put under full acceleration immediately after start. It is recommended running the engine at idling speed for a short time (min. 3 minutes). Warm up the engine under medium speed.
5. If the engine does not start, wait for a while (about one minute) and start from the beginning. Do not operate the starter continuously for more than 30 seconds.
6. When attempting to start the engine after the vehicle has been parked for a long period or after the engine oil or oil filter element has been replaced, crank the engine first. See Page 3-23 for engine cranking procedure.
7. If the engine does not start, check the solenoid switch for the actuation of plunger. If plunger does not function, disassemble the switch, remove the plunger and fit back the switch ensuring proper tightening.

● Stopping the engine

After running the engine at idling speed for a while place the starter switch in the ACC position to stop the engine. If the engine does not stop when the starter switch is placed in ACC position, turn the stop lever 1 of the fuel injection pump in the direction of the arrow. Release the lever after the engine has completely stopped. An elongated cable is suspected, so take your vehicle to the nearest authorised service station for inspection and adjustment.

CAUTION!

- Do not accelerate the engine with throttle wire, always accelerate by depressing pedal.
- To ensure utmost safety, apply the parking brake lever and choke up the wheels.
- Engine should not be put under full acceleration immediately after start. It is recommended, running the engine at idling speed for a short time (min. 3 minutes). Warm up the engine under medium speed.
- Engine should not be stopped immediately after vehicle operation, it is recommended for a short idling time before switching off (min. 3 minutes).

STARTING AND STOPPING THE ENGINE (Contd...)

CAUTION!

- If the engine is slightly overheating as after ascending a slope or after high speed operation, keep the engine running at idling speed for a while to cool the engine before stopping it.
Stopping the engine while it is running at high speed could cause failure of the governor.
- Starting and stopping the engine for inspection
 1. Place the starter switch in “ON” position.
 2. Make sure that the gearshift lever is in neutral.
 3. Turn the starter switch to “START” position to start the engine.
 4. To stop the engine, place the starter switch in “ACC” position or pull the stop lever of the fuel injection pump.



CAUTION!

- Do not accelerate the engine with throttle wire, always accelerate by depressing pedal.
- To ensure utmost safety, apply the parking brake lever and choke up the wheels.
- Engine should not be put under full acceleration immediately after start. It is recommended, running the engine at idling speed for a short time (min. 3 minutes). Warm up the engine under medium speed.
- Engine should not be stopped immediately after vehicle operation, it is recommended for a short idling time before switching off (min. 3 minutes).
- Cranking the engine
After the vehicle has been parked for a long period or the engine oil and oil filter element have been replaced, use the following procedure to crank the engine before starting. Crank the engine for 15 seconds with the accelerator pedal released and starter switch in “START” position.
The engine may start but, do not depress the accelerator pedal for around 3 minutes.

3-23

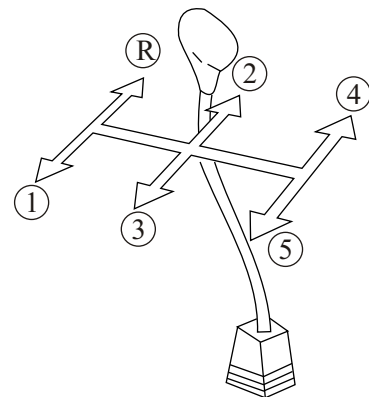
STARTING AND STOPPING THE ENGINE (Contd...)

CAUTION!

- Cranking is necessary to let the engine oil circulate through the engine parts.


BASIC DRIVING CONTROLS

- Gearshift lever
 - On uphill
Make it a rule to downshift as soon as possible before an excessive load is applied to the engine.
 - On downhill
Shift into a gear which you use for uphill and use engine braking to keep a safe speed. Take care not to overuse the foot brake.



CAUTION!

- Observe following precautions to prevent engine overrun.
- Sufficiently slow down your vehicle before shifting down through gears. Sticker as shown in the sketch is provided on the Right hand side roof rail above the driver seat.
 - The engine overrun refers to a condition of the engine when it runs at speeds higher than its maximum rpm. The engine can be severely damaged by overrunning.

| CAUTION FOR SAFETY OF ENGINE | |
|--|---|
| 1. On down hill operation never exceed speed indicated in the speed range band on speedometer. |  |
| 2. On plains never down shift gears at speeds indicated below. | |
| SPEED | GEARS |
| ABOVE 80 KMS | 5TH -X@4 TH |
| ABOVE 60 KMS | 5TH -X@3RD |
| ABOVE 50 KMS | 4TH -X@3RD |
| ABOVE 35 KMS | 4TH -X@2ND |

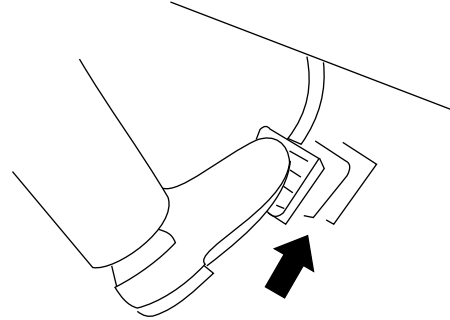
BASIC DRIVING CONTROLS

- **Using the brakes**

- To ensure stable braking performance, depress the brake pedal gently two to three times well in advance.
- On a steep or long downhill road, test the brakes in advance to ensure that you have sure braking performance.

CAUTION!

- Excessive use of brakes will result in overheated brake drums and linings, causing brake fading (which reduces brake effectiveness) and vapor lock in case the brake fluid vaporizes, thereby impeding normal braking action.
- When road surface is slippery with rain or snow, avoid abrupt braking, as slipping could occur.
- When a puncture or burst occurs during operation hold the steering wheel firmly and apply brakes gradually combined use of engine brake and service brake to slow down the vehicle. Sudden braking is dangerous as the vehicle will pull to one side.



3-25

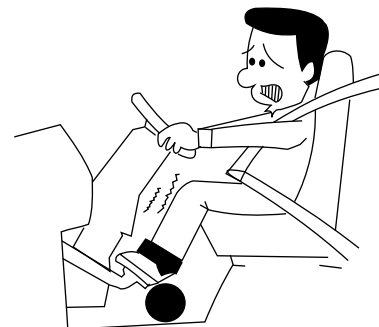
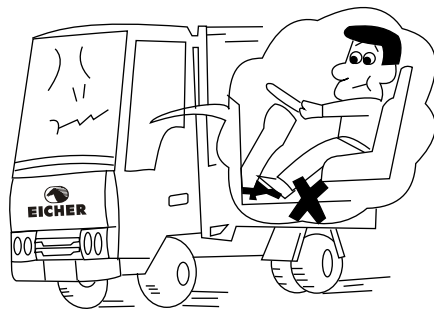
BASIC DRIVING CONTROLS (Cont'd.)

- **Using the clutch**

- When shifting gears depress the clutch pedal all the way.
- Do not keep your foot on the clutch pedal when not operating it. This puts the clutch in a half engaged position, which not only results in loss of power but also reduces the life of the clutch.
- A change in clutch pedal resistance can be sensed when the clutch disc reaches the limit of its service life. If a higher resistance than usual is sensed while beginning to depress the clutch, the clutch disc is worn to limit and calls for replacement.

CAUTION!

- A higher clutch pedal resistance will be felt only at the beginning of depression. The resistance will return to normal when the pedal is further depressed.
- Avoid engaging the clutch abruptly as this stresses the parts unduly, shortening clutch life.



3-26

BASIC DRIVING CONTROLS (Cont'd.)

- **Parking brake lever (Mechanical Brake)**

1. When you park your vehicle, pull the parking brake lever fully.
2. To release the brake, turn the lever counterclockwise and gently release it back into its original position.

- **Parking brake lever (Air Brake)**












1. When you park your vehicle, turn the parking brake lever fully to ON position.
2. To release the brake, lift the spring loaded sleeve and gently release it back to OFF position.

CAUTION!

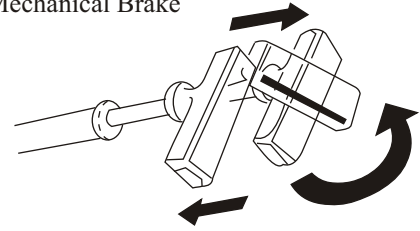
- When the lever is pulled the parking brake indicator lamp comes on. Make sure that the lever is released (lamp is off) before you move the vehicle.
- The parking brake lever must be released gently. Harsh and sudden release can result in failure of the mechanism.

- **Lighting switch**

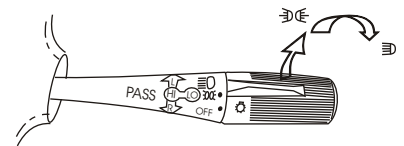
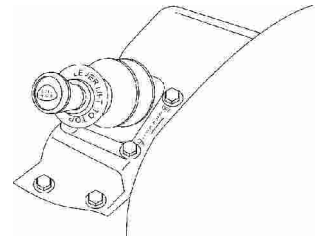
Turning the lever causes the following lamps to turn "on".

| Lamp name | Lever position | |
|--------------------|---|---|
| |  |  |
| Tail lamp |  |  |
| License lamp |  |  |
| Clearance plate |  |  |
| Meter illumination |  |  |
| Head lamps | |  |

Mechanical Brake



Air Brake



3-27

SWITCHES AND CONTROLS

CAUTION!

Lamps left ON will result in run-down battery, making it difficult to start the engine. Ensure that lights are turned OFF when not required.

- **Turn signal, dimmer, passing, and lane change switches.**

- **Turn signal switch**

Move the lever forward or backward, and the turn signal lamps will flash. With the lever in the position 2, returning the steering wheel to its normal position brings the lever automatically back to its original position. If it does not return back, say, on a mild curve, return the lever back to position by hand.

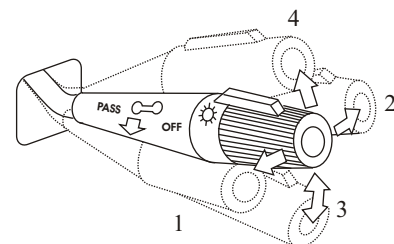
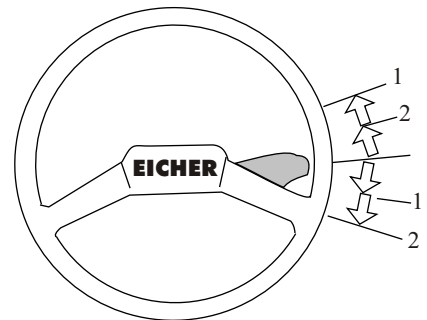
If the lever is kept in position (1) by hand, the turn signal lamps will stay flashing. Turn signal lamp switch is turned off when the lever is released. The position (1) can be used for lane changing which involves a small steering angle.

- **Dimmer Switch**

With the headlamps in ON Position, if the lever, is pushed down, the headlamps will switch to upper beam. If the lever is brought to neutral position the headlamps will be in low beam.

When the lever is taken up, the upper beam (passing) will light, regardless of the lighting switch, and will go out as soon as the lever is released.

1-Passing, 2-Upperbeam, 3-Right Turn, 4-Left Turn.



3-28

SWITCHES AND CONTROLS (Contd...)

- **Wiper & washer switch**

- **Wiper switch**

Turning the lever operates the wipers.

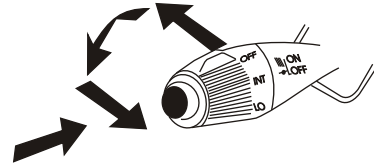
INT (turned one step) : Wipers operate once in every 4 to 6 seconds.

LO (turned two steps) : Wipers operate at low speed.

HI (turned three steps) : Wipers operate at high speed.

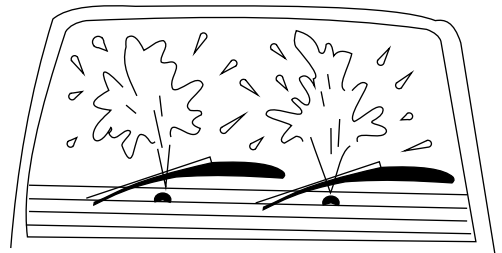
- **Washer switch**

Pushing the center of the lever causes washer fluid to spray over the windshield.



CAUTION!

1. If the wipers are operated over dry windshield which is contaminated with dust and dirt, damage to the glass could result. Make sure that the washer fluid is sprayed before operating the wipers.
2. If the washer is operated continuously for more than 60 seconds or when there is no washer fluid in the tank, the motor could burn out.
3. If wipers do not operate when the lever is turned, immediately turn off the switch and identify the cause of trouble. If the switch is left on, it could cause the motor to burn out.



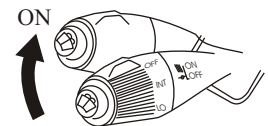
3-29

SWITCHES AND CONTROLS (Cont'd.)

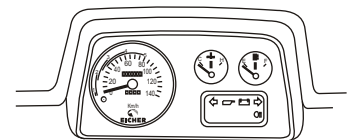
- **Hazard warning switch**

Use this switch when the vehicle is parked on the road in case of emergency.

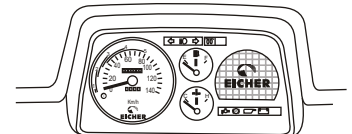
When the left hand multifunction lever is moved up, all turn signal lamps will start flashing. Lift the lever and release it to switch off the lamps.



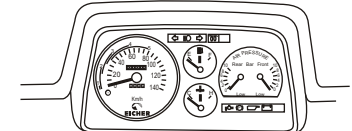
10.50/10.59



10.70/10.75/10.90



10.90 K, 10.95, 11.10



MAKING FRIENDS WITH THE DASHBOARD

Arrangements of meters and indicator lamps

- **Speedometer**

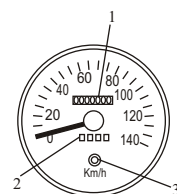
Indicates the vehicle speed.

- **Odometer (1)**

Indicates the total distance driven in kms.

- **Trip meter (2)**

Used to note the distance driven during trips or between fuel fillups. Pressing the knob (3) resets the zero position.



3-30

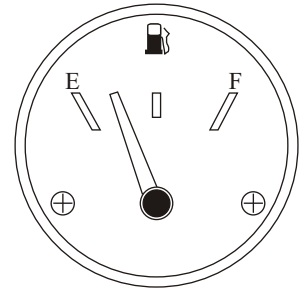
MAKING FRIENDS WITH THE DASHBOARD

- **Fuel gauge**

Indicates the fuel quantity in the fuel tank. The pointer continues indicating the fuel level even when the starter switch is placed in the OFF position.

CAUTION!

1. Develop a habit of refueling as soon as the pointer nears E.
2. Before getting your vehicle started, make sure that the fuel is sufficient for the trip you are undertaking.



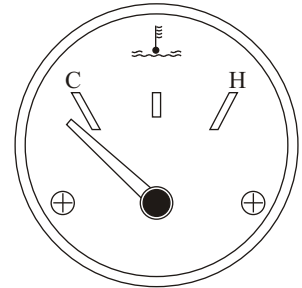
- **Water Temperature gauge**

Indicates the temperature of engine coolant.

1. It operates when the starter switch is in ON position.
2. The pointer should register below the red zone (85°C) during driving.

CAUTION!

When the pointer is in the red zone, it indicates that the engine is overheating. Immediately pull your vehicle to a safe location and take corrective action. See page 3-108 for actions to be taken in case of engine overheating.



- **Air pressure gauges**

Separate gauges provided for front & rear wheels which indicates the air pressure.

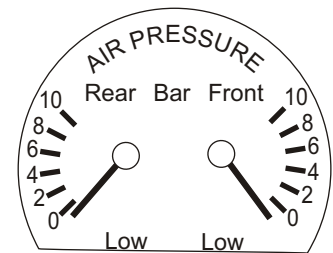
1. Available in respective circuits. It operates when the starter switch is in ON position.
2. The pointer should register between 7 & 8 bar for graduations.

CAUTION!:

Pressure gauges shows full reading when sensor connection on service air tanks are loose

Air pressure gauge needles may fluctuate if the battery is weak / loose terminals / disconnected battery cables & faulty alternators.

Low pressure indicator (Red LED) These come ON when the system / pressure drops below 4.5 bar. It operates when starter switch is in ON position.

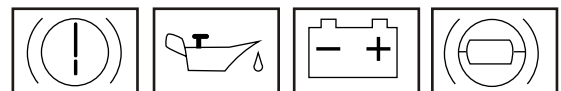


3-31

MAKING FRIENDS WITH THE DASHBOARD (Cont'd.)

- **Warning lamps**

These lamps are provided to warn the driver about any failure or unusual condition in different systems. If any warning lamp comes on while driving immediately pull your vehicle to a safe location & check for probable causes and take corrective action. Let us go through each and every lamp individually.



 - **Brake**

Lights when the parking brake lever is pulled. If it lights when the parking brake lever is released or during vehicle operation, the brake fluid level is low. Since fluid leakage is suspected, stop the vehicle immediately and take corrective action.

 - **Oil Pressure**

Lights when the engine oil pressure falls abnormally or the oil filter element is clogged. If the lamp lights during operation, stop the engine & check the engine oil level immediately. If the oil level is O.K. the oil filter element is clogged or the oil system is defective. Replace the element or have the oil system checked.

MAKING FRIENDS WITH THE DASHBOARD

(Cont'd)



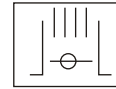
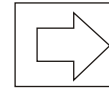
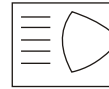
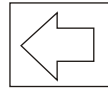
- Charge

Lights when a fault occurs in the charging system, Check for improper V-belt tension or broken belt. When engine speed is low, the lamp may light. If it goes off as the engine speed is raised the system is performing well. Otherwise, get your charging system checked thoroughly.



- Vacuum (except 10.50 & 10.59)

Lights when the vacuum pressure for the brake booster drops below the safe limit. Since it results in an extremely poor braking performance, stop the vehicle immediately and get the vehicle attended by your local authorised service station.



• Indicator lamps

- Turn



Flashes in unison with the turn signal lamps when the turn signal switch or hazard warning switch is set to ON. If it continues to light, the turn Signal lamp bulb is defective.



- Beam

Lights when the headlamps are on upper beam or when the passing switch lever is raised.

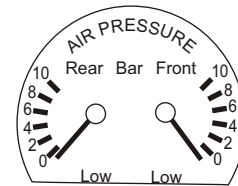
- Low pressure indicators

Low pressure indicators glows whenever system pressure goes below safe operating pressure of 4.5 bar.



- Exhaust Brake (except 10.50 & 10.59)

Lights when the exhaust brake is in action.

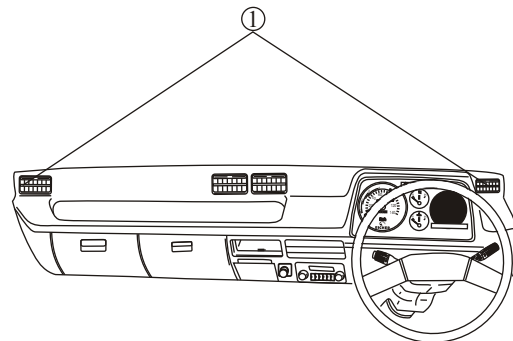


3-33

VENTILATION

• Ventilators

Fresh outside air is let in during operation by adjusting the ventilator grill. The direction of air flow can be changed by shifting the louvre (1). To shut off the air turn louvre (1) up or down.



3-34

ENJOYING THE AMENITIES

- **Ash tray**

To remove the ash tray for cleaning, push its front end down and pull the tray out.

CAUTION!

- Make sure that the cigarette light is put out so as to prevent risk of fire.
- Close the tray after use. Do not put paper or other readily inflammable material into the ash tray.

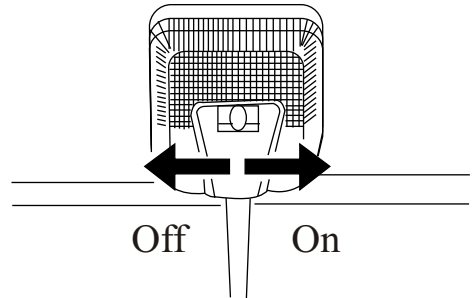
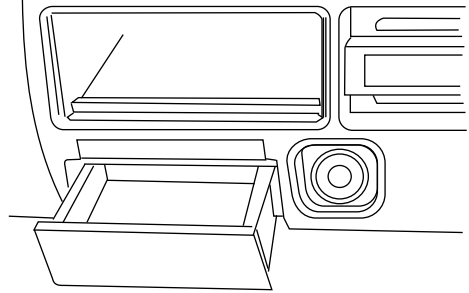
- **Room lamp**

OFF The lamp goes off

ON The lamp lights.

CAUTION!

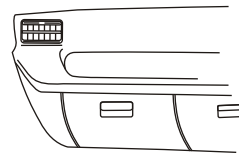
Be sure to put off your room lamp when you leave the vehicle.



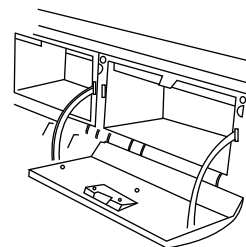
3-35

ENJOYING THE AMENITIES (Cont'd.)

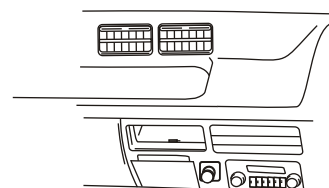
- **Glove Box**



- **Centre Console**



- **Parcel Tray**

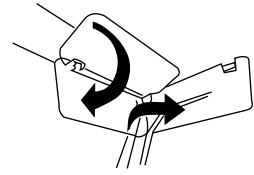


3-36

ENJOYING THE AMENITIES (Cont'd.)

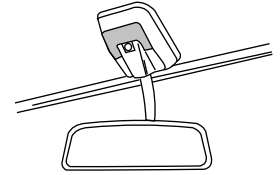
- **Sun visor**

Use the sun visor to prevent sun glare. Remove the inboard end and turn the visor to your side, and it serves as a side visor.



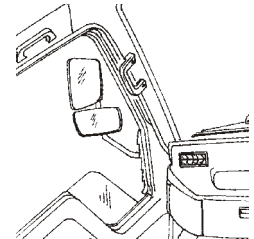
- **Inside rearview mirror**

With the seat position properly adjusted, sit in the right position and adjust the mirror so as to gain the maximum rearward visibility.



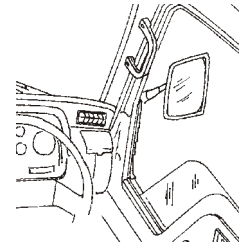
CAUTION!

From a safety viewpoint, the inside rearview mirror is designed to drop off its position upon strong impact. Use care not to give it strong shock.



- **Side view mirrors**

Adjust the seat, sit in the right position and adjust the side view mirrors for maximum visibility.



3-37

IN EMERGENCIES

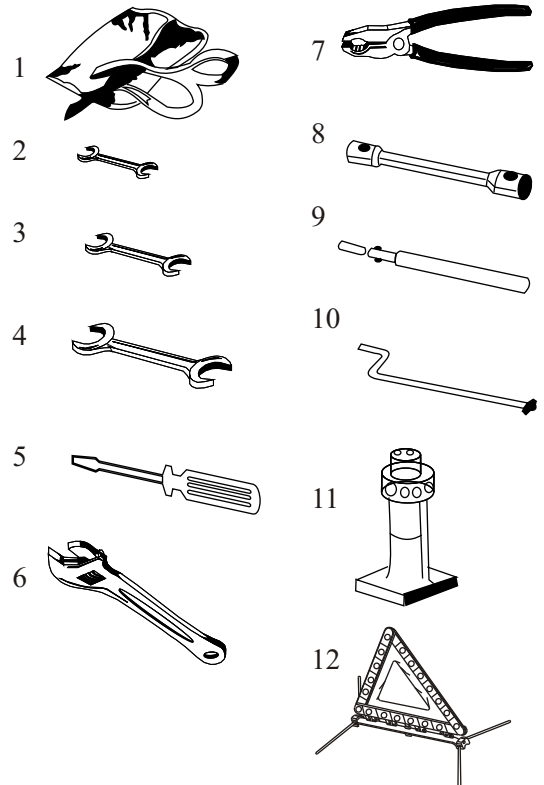
Always be prepared for emergencies. Know where the tools are and what kind of tools you have. Also check for proper operation of the jack.

| | (Pg. No) |
|--|----------|
| - Location of vehicle-borne tools | 3-40 |
| - Should trouble occur | 3-40 |
| - Engine stalls while the vehicle is in motion | 3-41 |
| - You feel a bump at the underbody | 3-41 |
| - Engine stalls and does not start | 3-42 |
| - Run-down battery | 3-42 |
| - Overheating | 3-44 |
| - Towing | 3-45 |
| - Running out of fuel | 3-46 |
| - Brake failure | 3-47 |
| - Getting stuck in mud | 3-47 |

IN EMERGENCIES

Tools supplied along with the vehicle

1. Tool Bag
2. Spanner 10 x 12 mm.
3. Spanner 14 x 17 mm
4. Spanner 19 x 22 mm.
5. Screwdriver
6. Adjustable angle wrench
7. Pliers
8. Wheel nut wrench
9. Wrench handle
10. Spare tyre cranking handle .
11. Mechanical jack.
12. Warning Triangle



3-39

IN EMERGENCIES (Cont'd.)

● Location of vehicle-borne tools

The vehicle-borne tools are stored behind the driver's seat, whereas the jack is bolted with the LH side long member of the vehicle.

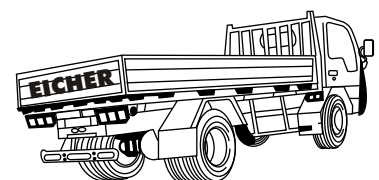
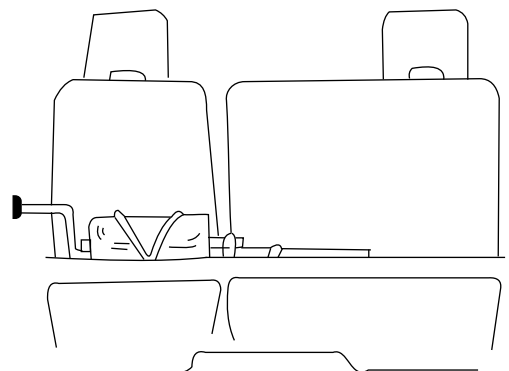
● Should trouble occur

1. Pull your vehicle to the roadside first.
2. Warn other drivers about the failure of your vehicle by using the hazard warning lamps.
3. Also apply chocks to the wheels so as to take care of any possibility of parking brake failure.

CAUTION!

If the trouble is so minor that you can fix it yourself take remedial action while paying attention to the traffic.

If the repair work involves technique beyond your capability, call the nearest authorised service station for help.



IN EMERGENCIES (Cont'd.)

- **Engine stalls while the vehicle is in motion.**

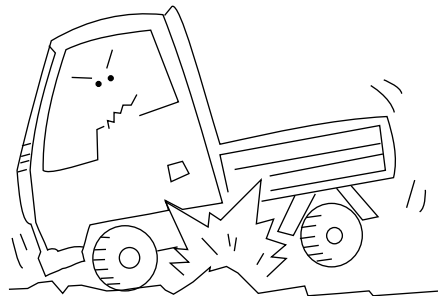
The brake booster may become inoperative due to engine stalling. Depress the brake pedal hard to bring your vehicle to a stop at a safe place.

Contact the nearest authorised service station for help.



- **You feel a bump at the underbody**

Immediately stop your vehicle and check for brake fluid leaks and damages on body. If the underbody is seriously damaged, ask the nearest authorised service station for inspection.



3-41

IN EMERGENCIES (Cont'd)

- **Engine stalls and does not start**

1. If there are people around, ask them to push your vehicle to a safe place.

2. Contact the nearest authorised service station for help.

- Check for sufficient quantity of diesel in the fuel tank.
- Check the voltage between the FIP solenoid switch terminals. It should be the same as that of the battery voltage.
- Check battery voltage.

Note :

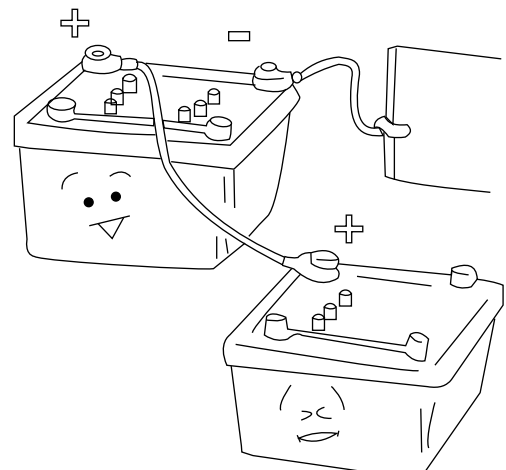
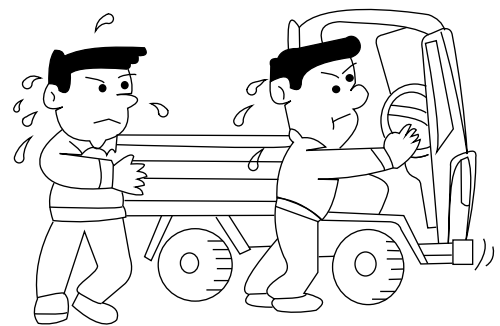
Do not crank the engine repeatedly if engine is not starting. It will damage the Fuel Injection Pump.

This is applicable only in the case of solenoid operated fuel stop mechanism.

If air is present in the fuel lines, bleed the system as per service procedure given.

- **Run-down battery**

If you have booster cables, your engine can be started by using a charged or helper battery in another vehicle.



3-42

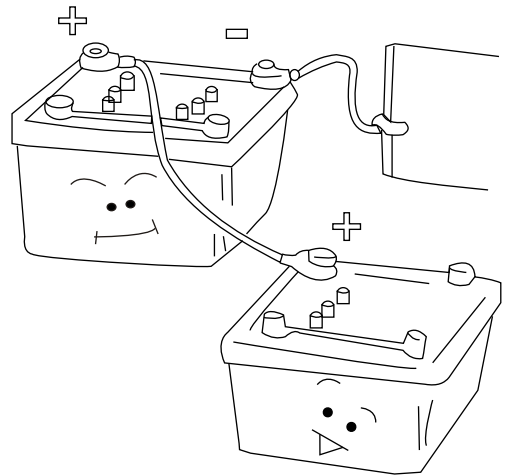
IN EMERGENCIES (Cont'd.)

Procedure.

1. Stop the engine of the helper vehicle
2. Connect the booster cables in the sequence shown. Make sure that the positive and negative terminals are connected to the right positions.
3. Ensure that the booster cables are connected securely and properly.
4. Start the helper engine and keep the speed slightly higher than idle.
5. After your engine has started, remove the booster cables by reversing the order of installation.
6. Have your battery fully charged at the nearest service station.

CAUTION!

1. Make sure that the helper battery is of the same voltage rating as the discharged or weak battery.
2. Never connect the positive to negative terminals.
3. Never disconnect cables from the battery terminals with the engine running. If disconnected, a failure in electrical system will result.
4. Avoid starting by towing or pushing wherever possible. It can be dangerous.
5. Check fan belt for looseness and damage. Adjust or replace if necessary.
6. If the battery fluid and fan belt seen intact, have your vehicle checked at the nearest authorised service station.



3-43

IN EMERGENCIES (Contd...)

• Overheating

If the water temperature gauge pointer nears the red zone, stop the vehicle as soon as possible and take the following actions:

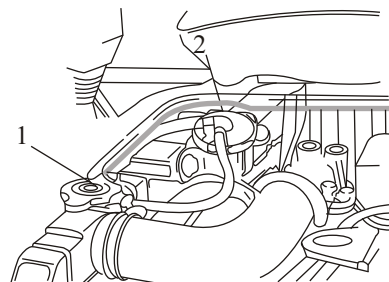
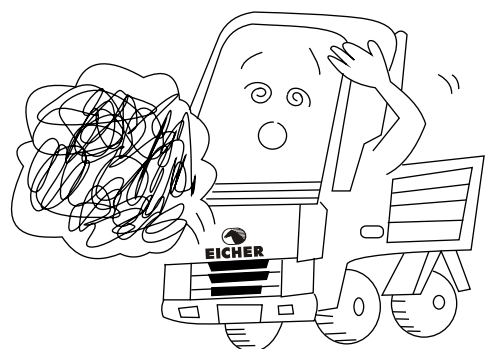
1. Pull up your vehicle to a safe location.
2. Keep engine running at idle until the engine cools down.
3. Stop the engine as the pointer nears down to the middle.
4. Allow the engine to cool down for some more time. Then, remove the radiator cap (1) and add water up to the trim.

Also pour water into the reservoir tank (2) upto the full mark. Pour water gradually.

5. Check the fan belt. If the belt is broken or worn out excessively replace it.

Precaution!

1. Run the engine while adding water in radiator if engine is hot.
2. Ensure radiator cap is fitted back properly.
3. Ensure that the radiator cap is examined by Authorised Workshop at the earliest after over-heating is noticed. It must be replaced if required.



3-44

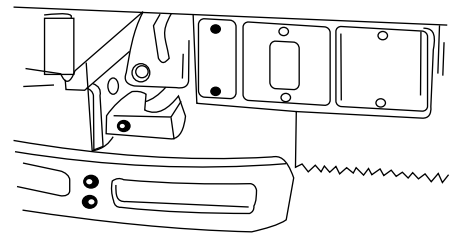
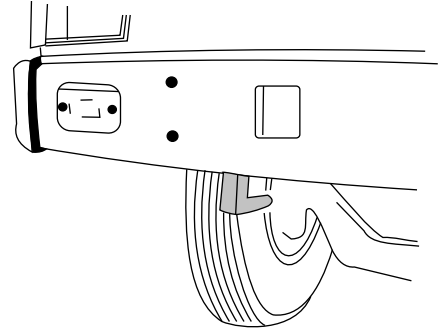
IN EMERGENCIES (Contd...)

● Towing

Towing hooks are provided in front and rear for fastening tow rope.

CAUTION !

1. When your vehicle is being towed, observe following precautions
 - Keep the gearshift lever in neutral.
 - Place the starter switch in ACC or ON position.
 - Keep your vehicle speed below 30 km/h.
 - Wherever possible keep your engine running while you are being towed. If your engine is stationary, poor braking performance will result.
2. If your trip involves a long downhill road, brakes can overheat resulting in failure. Ask for a towing van.
3. If the trouble is in transmission or differential, get a towing van to tow your vehicle with the rear wheels off the ground.
4. Never attempt to tow a failed vehicle heavier than the dead weight of your vehicle or a vehicle which has landed in a ditch on the roadside. Oblique towing should also be avoided. It can break the towrope and may also damage the hooks.



3-45

IN EMERGENCIES (Cont'd.)

● Running out of fuel

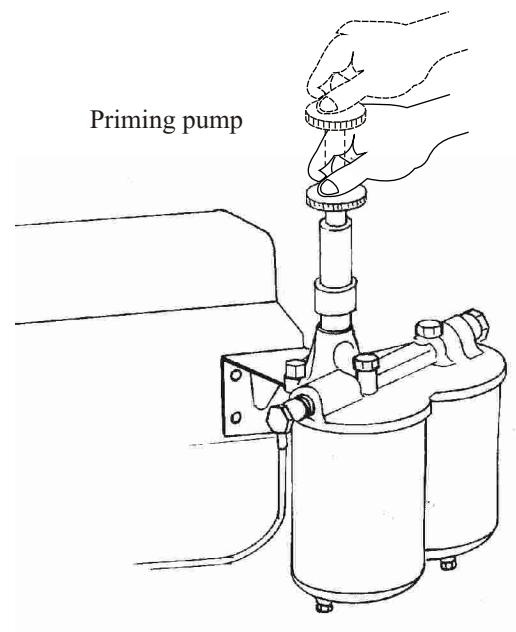
When you have run out of fuel, air enters the fuel system and you cannot start the engine simply by refueling. Bleed the system as follows:

1. Loosen the priming pump of the dual filter by turning anticlockwise.
2. Operate the priming pump up & down by hand until the hand primer becomes hard
3. When the hand primer becomes hard, with the priming pump held down, turn it clockwise until it is securely held in position. The air in the fuel injection pump will get bled automatically when the engine is started.
4. Run the engine & check for fuel leaks.

CAUTION!

Wipe/ clean if any split diesel fuel, as it could start a fire.

Do not remove any other component while bleeding the system.



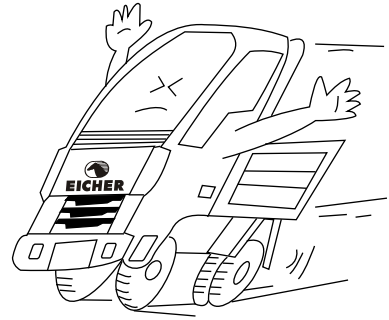
3-46

IN EMERGENCIES (Contd...)

- **Brake failure**

Should the brakes fail, shift down to 1st gear in order (5th, 4th, 3rd, 2nd, 1st) and pull the parking brake lever to bring the vehicle to a stop.

Do not pull the parking brake lever all the way during high speed operation, as there is a danger of overturning.



- **Getting stuck in mud**

If your vehicle is stuck in mud, do not accelerate excessively, as this will make the hole deeper and thereby make it harder to get out of it.

Put gravel under the wheels to prevent slipping of tires and move your vehicle back and forth by alternatively shifting gears into 1st and reverse.



3-47

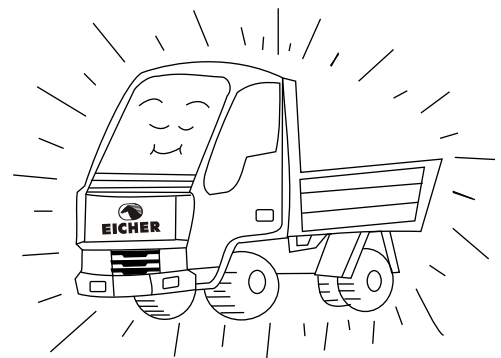
DRIVING IT ECONOMICALLY

Drive at moderate speeds and always care for your vehicle, that's the knack for economical driving.

- **Running - in period**

Running in period for the new vehicle is the first 1,000 kms. The way the vehicle is handled during this period determines its future life and overall performance. Keep moderate speeds during breaking operation by observing the following maximum speeds set for each gear position.

| | | | | |
|--------|--------|--------|--------|--------|
| 1st | 2nd | 3rd | 4th | 5th |
| 10km/h | 20km/h | 35km/h | 50km/h | 60km/h |

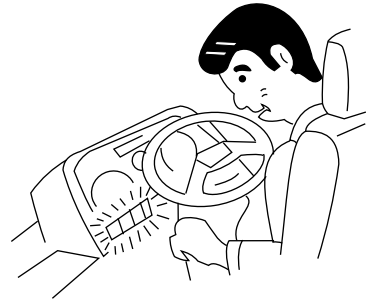


3-48

DRIVING IT ECONOMICALLY (Contd...)

- **In addition observe the following points.**

- After the first 5000 kms be sure to take your vehicle to an Authorized Service Shop for inspection.
- Continue warm-up operation until the pointer of the temperature gauge begins to move.
- Avoid racing the engine
- Avoid abrupt fast starts, sudden acceleration and brake application except when unavoidable.
- During the initial running-in period the oils and fluids are contaminated rapidly. Make sure that the engine oil, transmission fluid and the differential gear oil are replaced after first 5000 kms.



3-49

DRIVING IT ECONOMICALLY (Contd...)

- **Driving economically**

Drive your vehicle properly to extend its life and to save fuel and oil.

Make sure that the daily pre-operational checks and periodic inspections are not neglected.

For daily inspection procedure, see page 3-55

- **Do not Neglect Warm-up operation.**

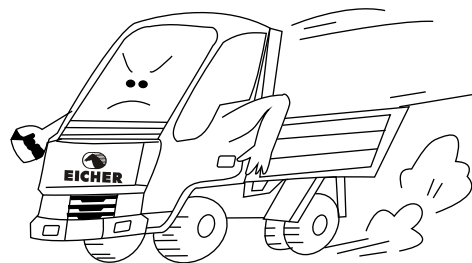
If the engine is operated before it is hot, a large amount of fuel will be consumed. Also avoid racing the engine or high speed operation before the engine is hot. Get your vehicle started as soon as the water temperature gauge starts deflecting

- **Do not race the engine**

Avoid quick starts, sudden acceleration and overloading. These not only cause consumption of a large amount of fuel, seizure of turbocharger but also adversely affects the vehicle.

NOTE:

Keep the engine in start condition for minimum 3 minutes.

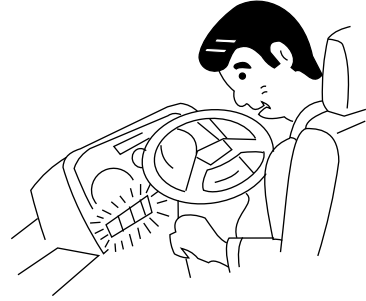


3-50

DRIVING IT ECONOMICALLY (Contd...)

- **Use the clutch effectively to extend its life.**
 1. Depress the clutch pedal fully before shifting gears. If your pedal effort is not sufficient, it could cause damage to the clutch and transmission gears.
 2. Keep your foot off the clutch pedal while the vehicle is in motion.
 3. When starting your vehicle in motion, use the 1st gear. Starting with the gearshift lever in 2nd could cause clutch slipping and thereby wear the clutch rapidly.

- **When shifting to a higher speed try to make an early shift without accelerating the engine to the maximum speed.**
 - Avoid high speed operation in low speed gear. Use proper gear suitable for the operating speed.
 - After the vehicle has attained the required speed, keep the accelerator pedal at the same position as far as possible.



3-51

OPERATING IN COLD AREAS

- **Operating in Cold Areas**

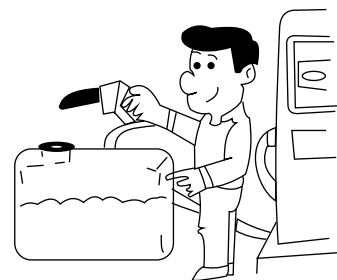
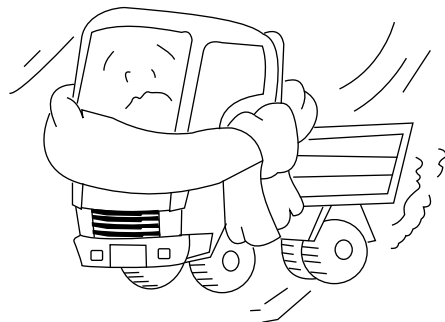
The following precautions should be taken while handling the vehicle in cold areas.

 1. Adding antifreeze to the coolant is essential. Also get your nearest authorized service shop to measure the specific gravity of coolant so as to determine whether the percentage of antifreeze in the coolant is adequate.
 2. Check the battery fluid for proper level and specific gravity*
 3. Change the engine oil with the one suitable for ambient temperature.

- **Fuel**

While operating in cold areas ensure that your fuel tank is at least half-full.
By ensuring this, possibility of fuel freezing is reduced.

* Not Required in case of "Maintenance Free" Battery

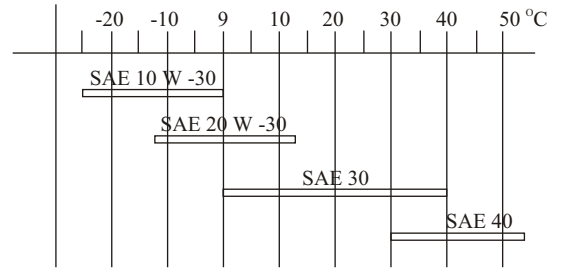


3-52

OPERATING IN COLD AREAS (Contd...)

- **Engine Oil**

Engine oils with different viscosity numbers are used with different operating conditions. Use this table showing different viscosity numbers according to outside temperatures.



- **Inspection before operation (Daily inspection)**

Add the following check items to the daily inspection in cold weather.

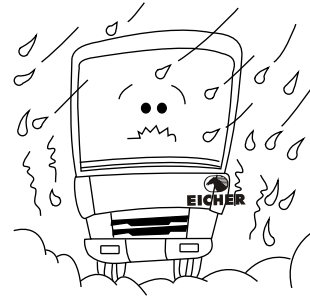
1. Remove snow and ice from wheels, inside the fenders, and underbody with care not to damage parts.
2. When starting the engine, check the accelerator pedal for smooth operation.
3. Ensure that the wiper blades are not frozen to the wind shield.



- **Special handling precautions**

- **Doors freezing up**

Incase door freezing occurs, do not try to open the doors by force, this could separate and crack rubbers around the doors. Instead, pour hot water to remove the ice. Be sure to remove water later and apply silicone oil to prevent freeze up.

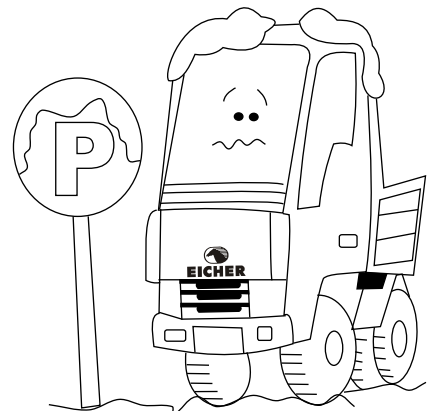


3-53

OPERATING IN COLD AREAS (Contd...)

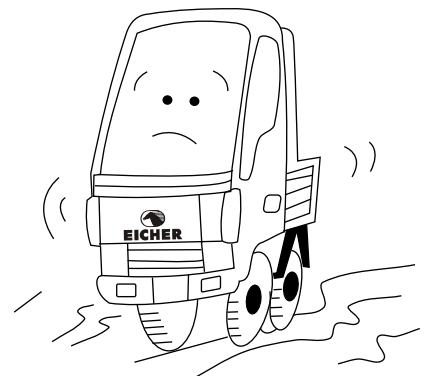
- **Parking**

If the atmospheric temperature is too low do not apply parking brake. If left applied, the brake system may freeze up. Instead, place the gearshift lever in 1st or reverse position & apply chocks to the wheels.



- **Braking performance**

With the vehicle in motion, check for braking performance by depressing the brake pedal for tests when you are clear of other traffic. If the braking performance is poor, keep low speeds and depress the pedal several times until good braking action is regained.



3-54

DAILY INSPECTION

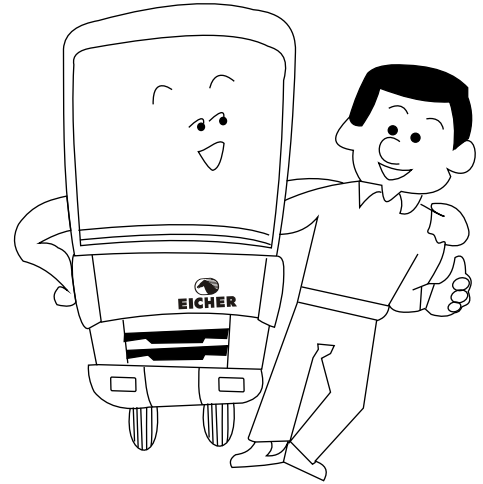
For comfortable and safe driving your vehicle must be kept in top operating condition at all times.

To ensure this, carry out the daily inspection recommended here.

These are just a series of simple inspections performed, while sitting behind the steering wheel and while walking around the vehicle before a day's operations.

If anything wrong is noticed during this inspection, call your nearest authorized service station.

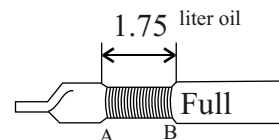
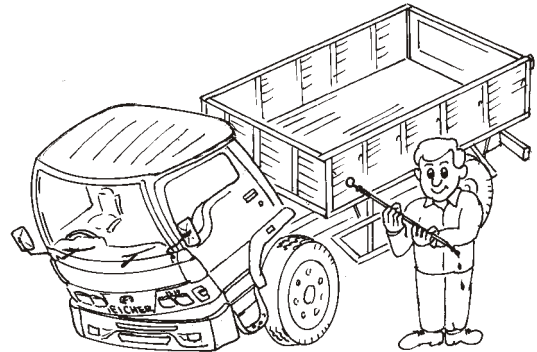
- **Behind the wheel**
 - Steering wheel play
 - Parking brake lever stroke
 - Brake fluid level
 - Brake pedal operation
 - Engine operating state
 - Operation of gauges and warning/indicator lamps
 - Rearview mirror
 - Function check of switches
 - Wiper operation
 - Door lock



3-55

DAILY INSPECTION (Contd...)

- **Looking into the engine compartment**
 - Coolant level
 - Engine oil level
 - V-belt tension
- **Color of exhaust gases**
- **Around the vehicle**
 - Checking lamps
 - Tyre inflation pressure
 - Depth of tyre treads, foreign objects, cracks
 - Broken chassis spring
 - Removing condensate from water separator
 - Licence plate and reflector stains & damage
 - Rear body cargo loading state
 - Water and oil leaks



3-56

DAILY INSPECTION

- **While driving at crawling speed**

- Steering wheel
- Brakes

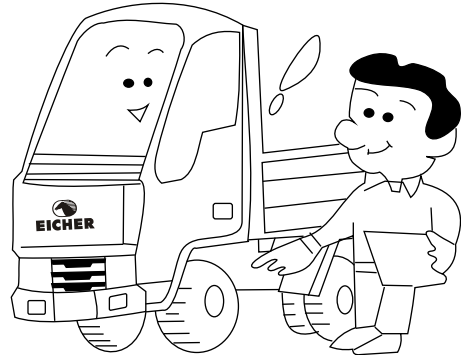
CAUTION!

When checking the engine compartment.

- Make sure that the engine is stationary.
- Use care to prevent injury by sharp body edges.
- Ensure that the engine is cool before touching, by hand.
- Make sure that no waste cloth or tools are left behind in the engine compartment when you have completed the inspection procedure.

- **Remedial actions on old problems**

Check the troubles and failures noted on the preceding day or during your previous trip. Rectify the defects.



3-57

DAILY INSPECTION (Contd...)

- **Behind the wheel**

Steering wheel play

Place the steering wheel with front wheels in straight ahead position on the wheel rim and lightly turn the wheel to check for free play. The steering wheel rim should move less than 50 mm before the front wheels begin to move.

Move the wheel up and down, fore and aft, and to the right and left to check for looseness.

If the wheel is excessively loose, adjustment or repair is required.

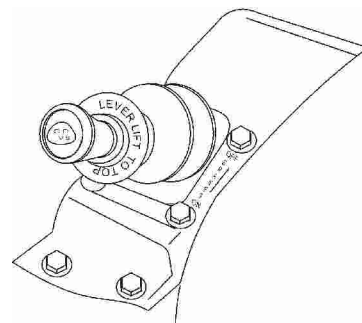
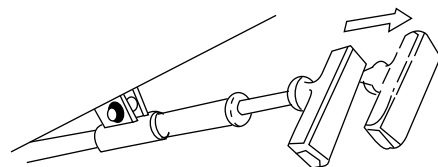
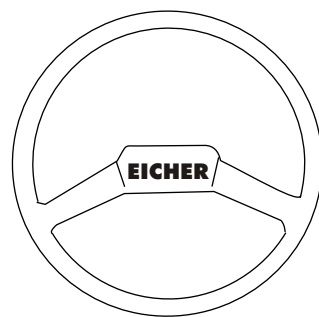
- **Parking brake lever stroke (Mechanical Brake)**

The stroke must be 80 to 120 mm when pulled with a force of 30 kg. If the stroke is out of the specification, get it adjusted at an authorised service station.

Also check to ensure that when the lever is pulled and held, the lever is securely locked in position.

- **Parking brake lever operation (Air Brake)**

Apply the parking brake & ensure smooth & complete operation of the spring brake actuator push rod.



3-58

DAILY INSPECTION (Contd...)

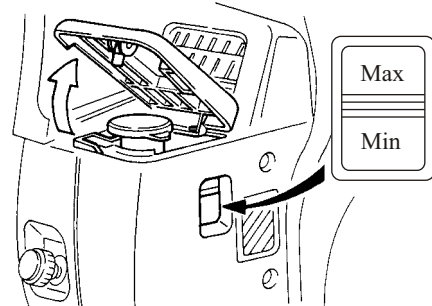
- **Brake fluid level**

The brake fluid level in the brake reservoir tank should be between MAX and MIN lines. If the level is below MIN, raise the cover and remove the cap from the tank, and add brake fluid up to the MAX line.

Make sure that the MAX line is not exceeded.

CAUTION !

- Use care not to spill the brake fluid while replenishing.
- The fluid, if spilt on body and resin parts, must be wiped off immediately so as to avoid any chances of discoloration and crack formation
- Do not use a mixture of different brands of brake fluid because mixing changes the properties of the fluid. Make sure that brake fluid under no circumstances is mixed with mineral oils such as engine oil.
- Make sure that the oil tank is protected from contamination. If there are foreign objects deposited in the tank, the tank requires inspection and cleaning.
- If the brake fluid level is excessively low, leakage is suspected. Get the vehicle inspected and repaired by an authorised service centre.



3-59

DAILY INSPECTION (Contd...)

- **Brake pedal operation**

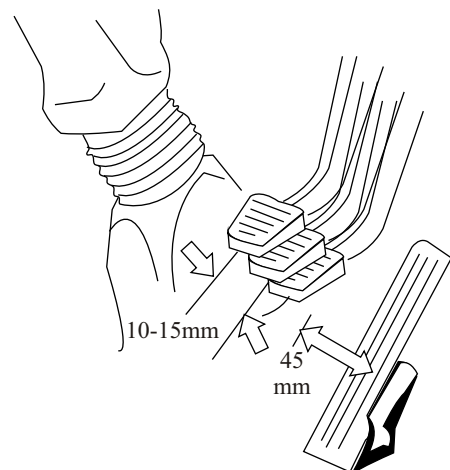
- Push the brake pedal by finger to ensure that there is a play of 10 to 15 mm. After starting the engine depress the pedal with a force of about 50 kg and check for clearance between the pedal and floor-board. This clearance should be 45 mm or more. If the clearance is smaller than that, or pedal action is spongy, chances are that the brake fluid leaks or there is air in the system. This may result in poor braking performance or vehicle pulling to one side. The system requires inspection and repair.

CAUTION !

After full application of brake pedal the angle between the pushrod and the slack adjuster should not be less than 90°. If it is less than 90° then take the vehicle to the nearest authorised service centre for necessary brake adjustment

- **Engine operating state**

Check engine start up and check for abnormal noise.



3-60

DAILY INSPECTION (Contd...)

- **Operation of gauges and warning/indicator lamps**

Does the fuel gauge register the level enough for the trip being undertaken?

Does the water temperature gauge give a rising indication as the engine warms up?

Check the warning and indicator lamp by the following procedure:

1. Check if the warning lamp comes on when the vacuum in the brake system is disturbed by depressing the brake pedal several times.
2. With the starter switch in ON position and the engine stationary check if warning lamps are lit.

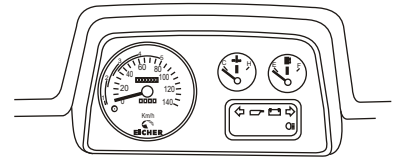
Start the engine and these lamps should go OFF

3. Other indicator lamps are operational if they come on when the respective switches and levers are operated. After inspection, set all switches and levers to OFF

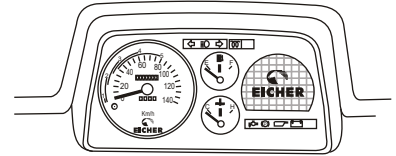
- **Rearview mirror**

Take the correct position on the driver's seat and adjust the mirror to obtain the best visibility. Wipe off dirt from the mirror surface.

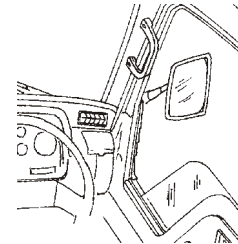
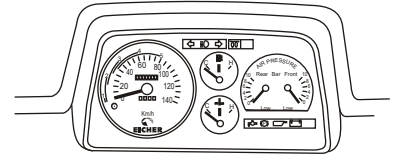
10.50/10.59



10.70/10.75/10.90



10.90 K, 10.95, 11.10

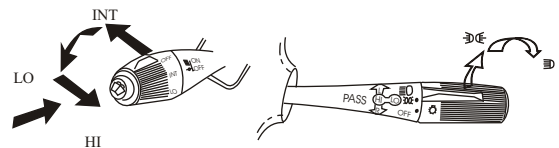


3-61

DAILY INSPECTION (Contd...)

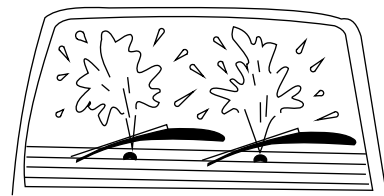
- **Functional check of switches**

Operate each switch and ensure it operates normally.



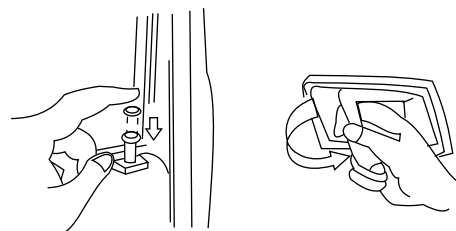
- **Wiper Operation**

- Push in the knob to check if the window washer fluid is sprayed in the correct direction.
 - Turn the lever to check wiper operation.
- Be sure to spray washer fluid before operating the wiper.



- **Door lock**

Push the inner lock knob and operate the inner handle to make sure that the door does not open.



- **Horn**

Press the horn button to make sure that the horn sounds.

3-62

DAILY INSPECTION (Contd...)

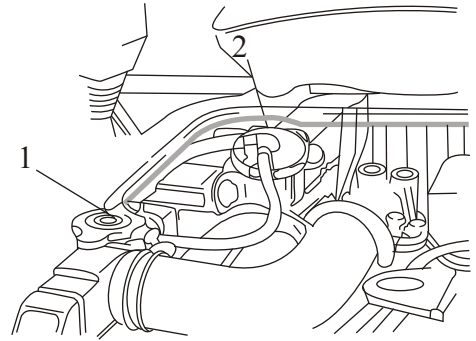
- **Looking into the engine compartment**

- **Coolant level**

The coolant level is OK if it exceeds the LOW level mark. If coolant level is lower than that, remove the cap (2) from the reservoir tank and add coolant up to the FULL level.

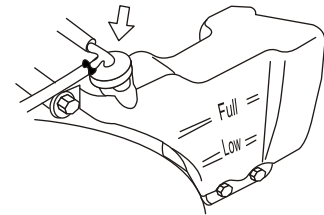
CAUTION!

Do not remove the radiator cap (1) except when replacing the coolant.
Do not use hard water from well and river, as it causes scale and adds dust.



- **Engine oil level**

Withdraw the oil level gauge (dipstick) and wipe away the oil from the tip of the gauge and reinsert it all the way. Slowly withdraw the level gauge once again and check the position of oil on the gauge. The oil level on the gauge should be within the range shown in the illustration.



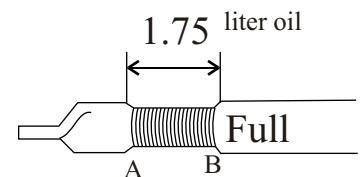
CAUTION!

- Check the oil level before starting the engine with the vehicle on a level surface.

3-63

DAILY INSPECTION (Contd...)

- When the oil level is to be checked after operation, allow more than 30 minutes after shut down.
- Clean the filler port and its vicinity to prevent entry of dust when oil is added.
- When the oil level is to be checked after addition of oil, allow more than six minutes. If the level is checked immediately after addition of oil, a wrong reading will be reflected.
- Wipe away all oil spilt at the time of addition.
- Select the proper type of oil considering the ambient temperature. This should be on the basis of the tables shown on page no 3-53.



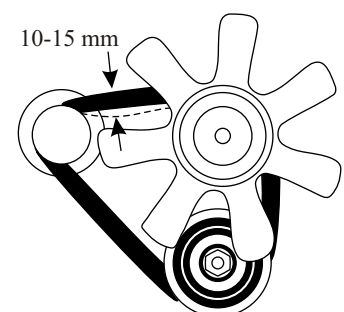
CAUTION!

Do not mix different grade oil while topping up.

- **V-belt tension and damage**

Check for the deflection of the V-belt when it is pressed at its center with a force of about 10 Kg. The V-belt should deflect by about 10 to 15 mm.

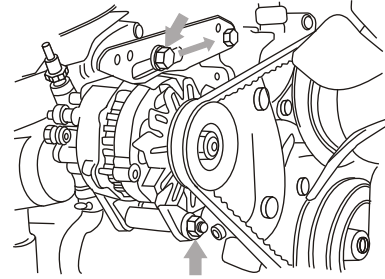
If the deflection does not lie within the specified range it calls for adjustment. Insufficient tension will result in undercharging or overheating whereas, excessive tension could cause damage to alternator or V-belt itself.



3-64

DAILY INSPECTION (Contd...)

- **Adjustment of V-belt tension by alternator**
Slightly back off the mounting bolts at the top and bottom of the alternator (indicated by arrows) and move the alternator to adjust tension. Tighten the bolts after adjustment.
- **Adjustment of V-belt tension by compressor**
Tighten or loosen the adjusting bolt of the compressor to tighten or loosen the v-belt respectively as required.



CAUTION !

To ensure safety, disconnect the negative cable from the battery before adjustment.

Colour of exhaust gases.

Check for colour of exhaust gases after the engine has been warmed up.

The colour of exhaust indicates the condition of the engine.

Colour of exhaust:

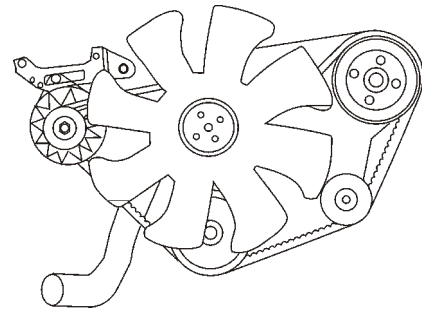
Colour less or faint blue
Black

Engine condition

Good
Wrong, indicating incomplete combustion

White

Wrong, indicating combustion of engine oil with fuel.



CAUTION !

When the atmospheric temperature is low, the exhaust gases will appear white because of the low temperature. Use care not to confuse it with white exhaust gas.

3-65

DAILY INSPECTION (Contd...)

Around the vehicle

- Checking lamps

Operate each switch to make sure that the corresponding lamp comes on or flashes :

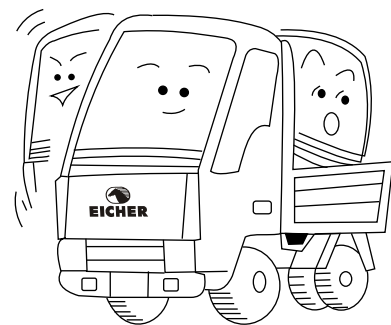
Headlamps
Parking lamps
Turn signal lamp
Clearance lamps
Tail lamps
Licence plate lamps
Meter illumination
Hazard Warning lamps
Room lamp

Note :

When the turn signal lamps flash, the indicator lamp in the meter also flashes.

Depress the brake pedal to check that the stop lamps come on. Place the gearshift lever in “R” position to ensure that the backup lamps come on.

Check lens of each lamp for contamination, damage and water entry



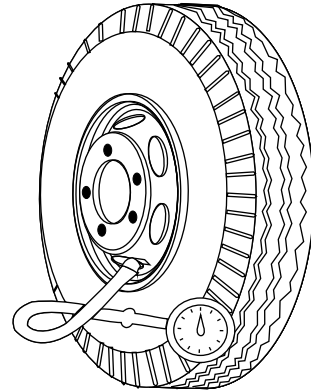
3-66

DAILY INSPECTION (Contd...)

- **Tyre inflation pressure**

Check the inflation pressure when the tyres are cold before a trip.

| Model | Front PSI (Kgf/cm ²) | Rear PSI (Kgf/cm ²) |
|---------|-------------------------------------|------------------------------------|
| 10.50 | 60 | 105 |
| 10.59 | 60 | 95 |
| 10.60 G | 60 | 60 |
| 10.70 | 75 | 75 |
| 10.75 | 60 | 100 |
| 10.90 | 110 | 110 |
| 10.95 | 70 | 85 |
| 11.10 | 85 | 100 |



CAUTION !

On rear tyres, make sure that there is no difference in inflation pressure between the inside and outside tyre. This will result in faster wear on the tyre with higher inflation pressure.

Do not use both the radial and bias-ply tyres on a vehicle.

Make sure that the air valves are capped.

DAILY INSPECTION (Contd...)

- **Depth of tyre treads, foreign objects, cracks**

Check to ensure that the tyre treads have a depth of more than 1.6 mm.

Check also for stones, nails and other foreign objects embedded in the tyres and also check for cracks and abnormal wear.

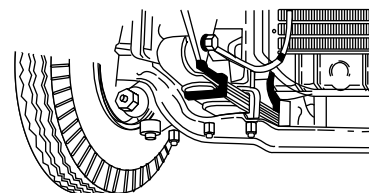
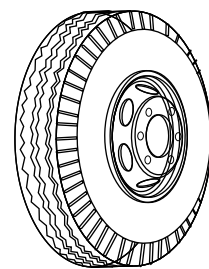
* Worn tyres could cause slipping and burst.

- **Broken chassis spring**

Check leaf springs for breakage. Check also the vehicle position for unusual tilt.

- **Removing condensate from water separator**

For the proper functioning of the fuel injection Pump and to get longlasting performance from the same, the Fuel should be free from water content. Please check the water separator daily for water content and drain if required when the water level ring reaches the mark.

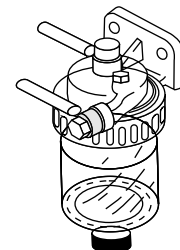


CAUTION !

- Do not disconnect the water separator from the fuel system
 - Drain water from water separator daily
- Ref Daily inspection for draining procedure

- **Spare tyre installed state**

Check the spare tyre carrier for damage and check that the spare tyre is fixed securely.



DAILY INSPECTION (Contd...)

- **Licence plate and reflector stains and damage**
Check for stains and damage and check installed state.
- **Rear Body cargo loading state**
Check that cargo is loaded uniformly and check that cargo is secured by canvas or rope when necessary.
- **Water and oil leaks**
Check the underbody for possible leaks of water and oil.
- **While driving at crawling speed**
Drive the vehicle at 20 km/h or lower speeds on a safe road to check for the following
 - **Steering wheel**
Check if you feel steering shock or loose directional control.
Check also for hard steering.
 - **Brakes**
Make sure that you have good braking performance.
Ensure also that the vehicle does not pull to one side during braking.



3-69

SIMPLE SERVICING

The following pages cover simple maintenance and servicing procedures that you can perform yourself.

After the service job, make sure that waste cloth or tools are not left behind on or around the engine. Inflammable objects left in the engine compartment could start a fire.

Observe following precautions when performing the service job.

- Select a safe location for the job.
- Remember, safety must come first.
- Use the right tools.
- Make sure that the engine is stationary.
- Take necessary measure to prevent the vehicle from moving during the work. Use parking brake lever and chocks for wheels.

SIMPLE SERVICING (Contd...)

| | Pg. No. |
|---|---------|
| 1. When a tyre blows out | |
| a) Spare tyre | 3-72 |
| b) Jack-up points | 3-73 |
| c) Replacing tyres | 3-74 |
| d) Tyre rotation | 3-78 |
| 2. Inspecting and topping up the battery | 3-79 |
| 3. Cleaning battery terminals | 3-80 |
| 4. Cleaning and replacing air cleaner element | 3-80 |
| 5. Replacing oil filter element | 3-82 |
| 6. Replacing fuel filter element | 3-83 |
| 7. Checking & replacing transmission gear oil | 3-86 |
| 8. Checking & replacing rear axle gear oil | 3-87 |
| 9. Replacing engine oil | 3-88 |
| 10. Replacing coolant | 3-90 |
| 11. Replacing lamp bulbs | 3-93 |
| 12. Blown fuse | 3-95 |
| 13. Caring for your vehicle | 3-98 |

3-71

SIMPLE SERVICING (Contd...)

● When a tyre blows out

1. Spare tyre

Remove the spare tyre upper bolt & bracket from spare tyre carrier bracket.

Insert the spare tyre cranking handle into the hole in the spare tyre carrier and turn handle counterclockwise, and the spare tyre comes down.

To install, place the tyre with the convex side of disc wheel upward, mount the hanger (1) in the disc wheel hole, and turn the cranking handle clockwise to wind up the chain. After the tyre has been brought up a little make sure that the hanger fit into the disc wheel hole and the chain is not twisted.

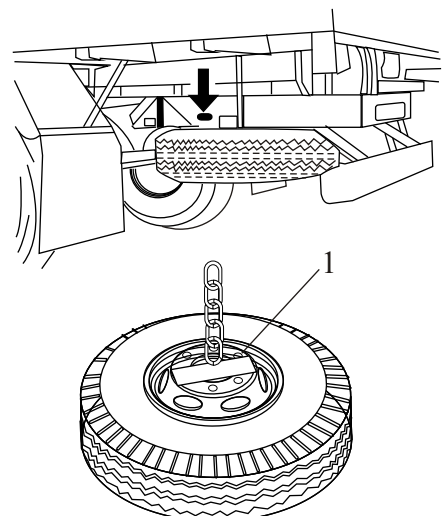
After the tyre has been fully raised, tighten by hand to about 30 kgf & remove the cranking handle taking care not to turn the handle in the reverse direction. Check to ensure that the tyre is secured in position firmly.

Fix the upper spare tyre bracket & bolt along with spare tyre carrier.

If spare tyre (LUG) has to be used in front, it should be replaced by the repaired rib tyre at the front at the earliest occasion to avoid relatively inferior steering performance.

CAUTION !

If you cannot mount the removed tyre in position (spare tyre hanger), load it on the cargo deck or in cabin and ask your nearest authorised service centre for inspection and correction



SIMPLE SERVICING (Contd...)

- **Jack-up Points**

The jack-up points are as follows:

Front wheels-Under leaf springs

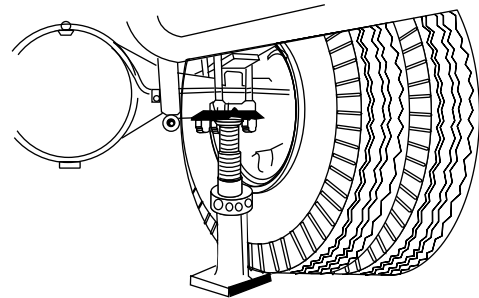
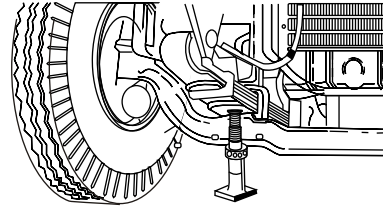
Rear wheels-Under rear axle housing

To raise

If the jack-up point is too high, extend the jack by turning the jack head counter-clockwise. Having located the jack head use the wrench handle provided for turning the jack nut by fixing the handle on the holes provided on the periphery of the jack nut.

To lower

Turn the jack nut in opposite direction with the help of wrench handle.



CAUTION!

Use only the jack provided for the vehicle

Use the jack only when replacing tyres.

3-73

SIMPLE SERVICING (Contd...)

Use the jack on a flat, solid ground, Avoid extending more than necessary.

Strictly observe the specified jack-up point. The vehicle must not be raised with the jack installed at any other position.

Apply chocks to the wheels

If the jack gets out of position, it could be extremely dangerous. When you are using the jack, never get under the vehicle or shake the vehicle when it is jacked up.

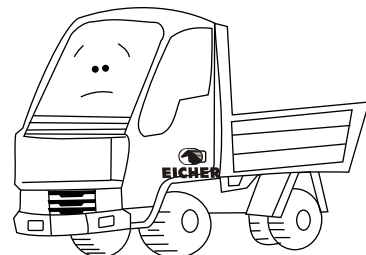
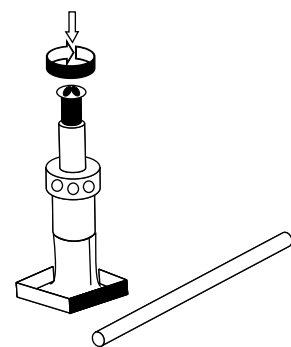
If the vehicle needs to be raised on the jack for long, use wooden blocks or square bars to support the vehicle.

- **Replacing tyres**

Preparation

1. Pull up your vehicle to road side to prevent hindrance to other traffic on road and use a red flag or hazard warning lamp to warn drivers of other vehicles behind you.
2. Pull the parking brake lever all the way.
3. Take out the tools, jack and spare tyre.
4. Apply chocks before and behind the tyre diagonally opposite to the one to be replaced.

(e.g.: Chock the left front wheel to replace the right rear tyre)



3-74

SIMPLE SERVICING (Contd...)

Jacking up

1. Set the jack at the jack-up point. See “Jack-up points”.
2. Slightly back off wheel nuts with the wheel nut wrench. Do not remove them completely.
3. Raise the vehicle on the jack until the tyre is just off ground. Ensure that the vehicle “is securely” held on the jack.

CAUTION !

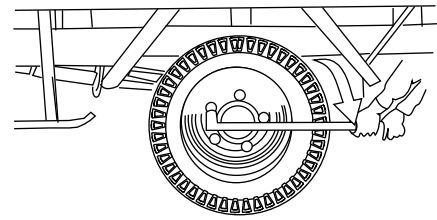
1. Ensure that the wrench handle is fully inserted into the wheel nut wrench and that the wheel nut wrench is installed on to the nut all the way so that it does not slip while working.

Double Nut Type

2. Note that the wheel nuts (2) (with marking R) on the right hand tyres have right-hand threads & wheel nuts (1) (with marking L) on the left tyres have left-hand threads. To loosen the nuts, turn counterclockwise for the right-hand side and clockwise for the left-hand side.

Single Nut Type

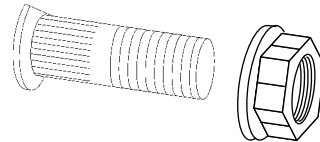
3. Loosen the nut anticlockwise direction to remove the wheel



Double Nut Type



Single Nut Type



3-75

SIMPLE SERVICING (Contd...)

● Removing the tyre

1. With the wheel nuts removed, remove the tyre.
2. On a double-tyre vehicle, first remove the outside tyre, then temporarily lower the vehicle. Using the opposite end (square hole) of the wheel nut wrench, loosen the inner wheel nuts to remove the inner in the same way.

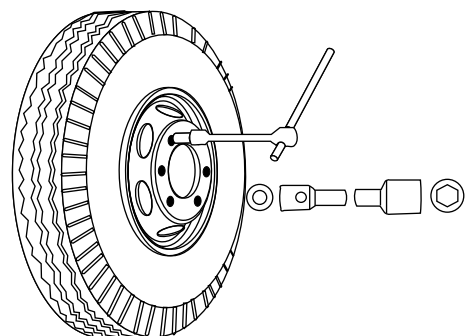
● Installing the tyre (Double Nut Type)

1. Dual tyres should be installed as follows:
After the inside tyre (1) has been completely mounted with the inner wheel nuts (3) jack up the vehicle again and install the outside tyre (2).
2. Even when only the outside tyre (2) is to be replaced, make sure that the inner wheel nuts (3) are tightened to specified torque before installation of outside tyre (2).
When the outside tyre (2) is installed make sure that the air plug is at a different position from that of the inside tyre.
3. Clean the tyre mounting surface of the brake drum and the inside of disc wheel before installation of a tyre.

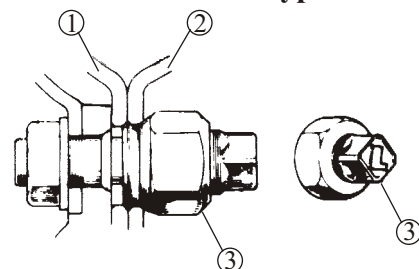
* Take care not to damage the threaded portions of wheel nuts.

● Installing the tyre (Single Nut Type)

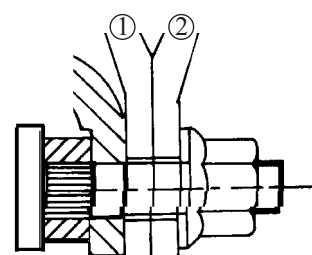
1. Dual tyres should be installed as follows:
After the inside tyre (1) has been completely mounted inner install the outside tyre (2).
2. When the outside tyre (2) is installed make sure that the air plug is at a different position from that of the inside tyre.
3. Clean the tyre mounting surface of the brake drum and the inside of disc wheel before installation of a tyre.
* Take care not to damage the threaded portions of wheel nuts.
4. Tighten the wheel nuts in clockwise direction in the specified sequence as below.



Double Nut Type



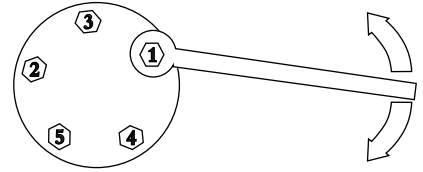
Single Nut Type



3-76

SIMPLE SERVICING (Contd...)

4. Partially tighten the wheel nuts with the taper portion facing the disc wheel. At the same time, align each bolt with the bolt hole in the disc wheel so as to prevent eccentricity.
5. Lower the jack
6. Tighten the wheel nuts in two to three stages in the sequence shown. In the final step, tighten the wheel nuts to the specified torque. (45~55Kgm)



CAUTION!

- Make sure the wheel nut wrench is inserted all the way into the wheel nuts. If the wrench does not fit deep enough it could result in accident due to slippage.
 - As an additional precaution when you apply your body weight to tighten the wheel nuts, hold on to the vehicle body for support and take care that you do not fall down.
7. Store the tools and removed tyre and remove the chocks.
 8. After a short trip, check for loose wheel nuts. Also adjust tyre inflation pressure as early as possible.

3-77

SIMPLE SERVICING (Contd...)

● Retightening wheel nuts (Double Nut Type)

Retighten the wheel nuts at regular intervals to the specified torque.

See page 3-77 for proper tightening procedure. Wheel nuts on dual tyre should be tightened in the following sequence.

1. Loosen the outer wheel nuts (1).
2. Tighten the inner wheel nuts (2) to the specified torque.*
3. Tighten the outer wheel nuts (1) to the specified torque.*

* Specified torque = 45~55 Kgm

● Retightening wheel nuts (Single Nut Type)

Retighten the wheel nuts at regular intervals to the specified torque.

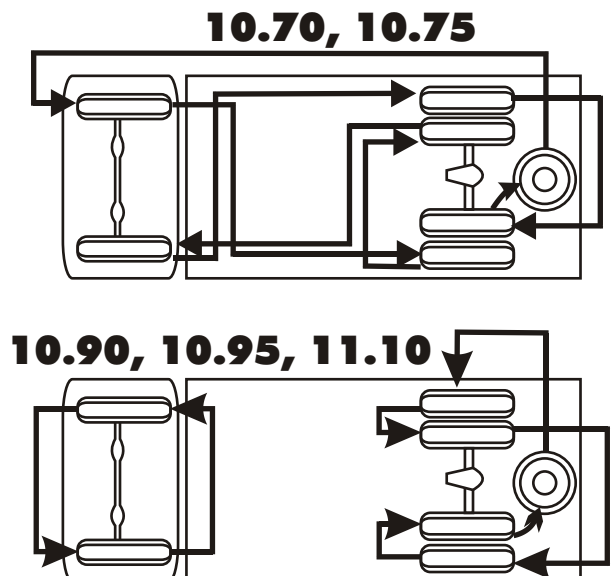
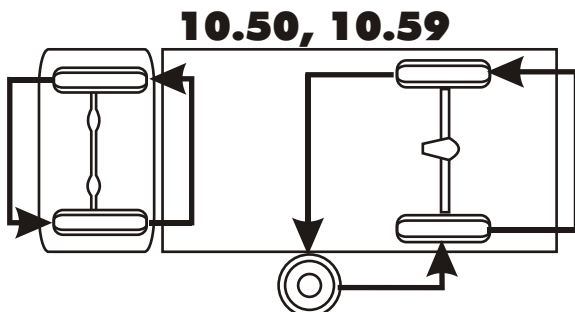
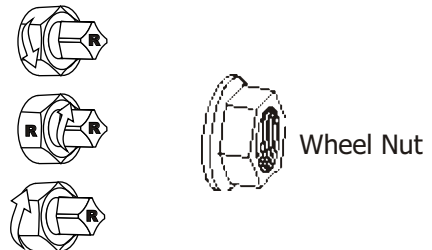
See page 3-77 for proper tightening procedure.

* Specified torque = 35~45 Kgm

● Tyre Rotation

Due to use of rib tyres in the front and higher PR lug tyres in the rear and spare wheel, tyre rotation pattern is recommended as shown on the right.

(Double Nut Type) (Single Nut Type)

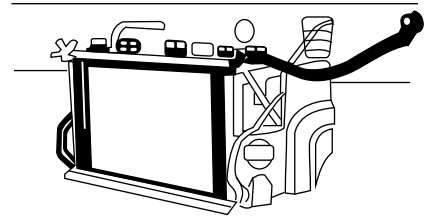


3-78

SIMPLE SERVICING (Contd...)

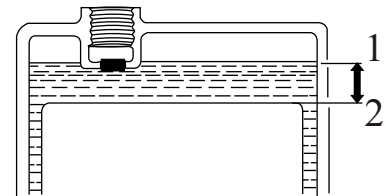
- **Inspecting and topping up the battery.**

The battery fluid level should be between the UPPER (1) and LOWER (2) levels or 10 to 15 mm above the plates. If the level is low, remove the caps and add distilled water upto the UPPER level or 15 mm above the plates. There are six caps installed on a battery.



CAUTION!

1. The battery generates hydrogen gas, therefore, any fire or sparks in the vicinity of the battery should be avoided.
2. When a metal tool is used near the battery, disconnect the cable from the (-ve) terminal before hand for the sake of safety.
3. In case of skin contact with the battery fluid, wash the fluid away, immediately. If the fluid gets in the eyes, thoroughly wash away with a large amount of clean water and get medical attention immediately.
4. After addition of distilled water, operate the vehicle to charge the battery, as there is danger of freezing when the atmospheric temperature low.
5. If there is a loose terminal, tighten it firmly. If there is white powder on the terminals, wash away with hot water and then apply a thin coat of petroleum jelly.
6. When the battery needs charging, disconnect the battery cable from the (+ ve) terminal, remove all the caps, and charge the battery in a well-ventilated place.



3-79

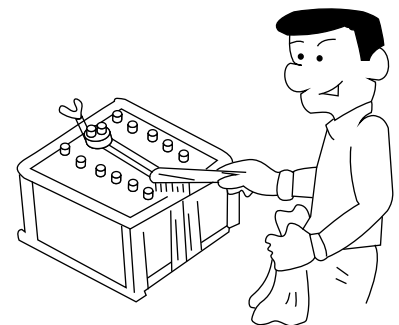
SIMPLE SERVICING (Contd...)

- **Cleaning battery terminals**

Clean battery terminals if corroded, if white powder builds up at the terminals, use hot water to wash it off. If the corrosion is very heavy, use wire brush and sand paper for cleaning.

Apply petroleum jelly to the terminals after cleaning.

* Be sure to close all filler ports while cleaning so as to prevent entry of foreign matter into the cells.



- **Cleaning of air cleaner element**

| | |
|--------------------|------------|
| Cleaning intervals | 5,000 Kms. |
|--------------------|------------|

SIMPLE SERVICING (Contd...)

Procedure for cleaning of wet type air cleaner:

1. Loosen the three wing nuts (1) and remove the oil pan (2).
2. Remove the wing nut (4) holding the element (3) and withdraw the element (3).
3. Soak the element in diesel and clean dust, oil etc.. After cleaning blow air against the steel wool to remove dust as well as oil.
The oil should be replaced and the inside of the oil pan cleaned when the element is cleaned.
4. After the oil pan has been cleaned, supply engine oil up to the level mark.
5. Install by reversing the order of removal.

CAUTION!

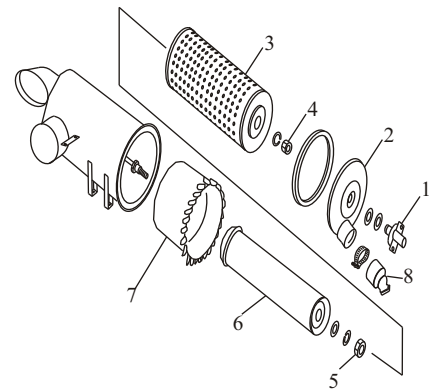
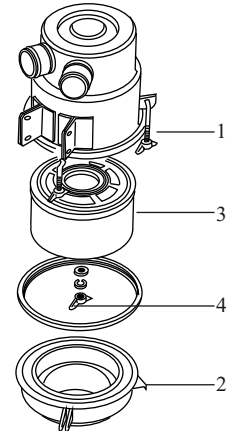
The element may be washed and reused as many times as you want but a damaged or clogged element should be immediately replaced.

Procedure for cleaning of dry type air cleaner:

1. Loosen the wing nut (1) and remove the cover (2).
2. Remove the element (3) by removing the nut (4)
3. Remove the nut (5) holding the safety cartridge (6)
4. Remove the safety cartridge (6)
5. Remove the cyclone (7)
6. Clean both air cleaner element (3) & safety cartridge (6) y blowing te air inside out
7. By squeezing and manipulating action remove dust deposit evacuator cap (8).
8. After cleaning the air cleaner assemble all the parts by reversing the order removal

CAUTION!

Both the element & safety cartridge should be cleaned when red band on restriction indicator appears. Air cleaner element (primary) should be replaced after two cleaning intervals of primary cartridge & Air cleaner safety cartridge (secondary) should be replaced after two years or at the time of 3rd replacement of primary cartridge whichever is earlier.



3-81

SIMPLE SERVICING (Contd...)

Replacing oil filter element

- **Main oil Filter** : First replacement at 5,000 then every 20,000 kms.
 - **Bypass oil Filter** : First replacement at 5,000 then every 20,000 kms.
- If the oil pressure warning lamp goes on, the oil filter element may be clogged.

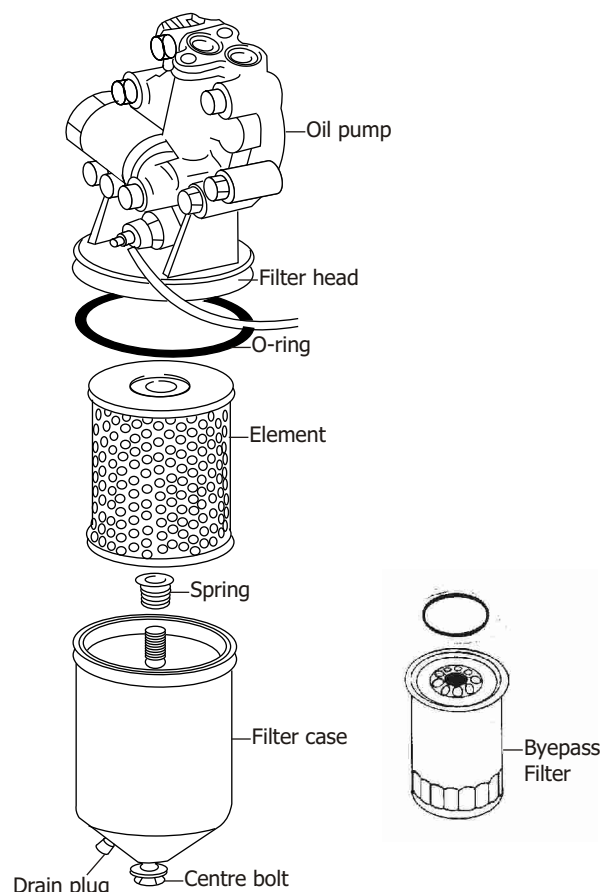
CAUTION!

The element cannot be cleaned and reused. Always replace the element with new one if it has become clogged.

Replacement procedure:

1. Place a suitable container under the drain plug and remove the plug to drain engine oil from inside the filter. After draining tighten the drain plug.
2. Loosen the Centre bolt and remove the filter case containing the element
3. Wash all the parts, except the element and reassemble the filter.
 - Replace O-rings and element with new ones. Coat O-rings with engine oil before installation. Make sure they are not twisted.
 - First insert the centre bolt on the filter case then put the spring and element on the centre bolt. Make sure that the spring is installed with its seat towards the element.
 - Install the O-ring on the filter case and secure the centre bolt to the filter head.

Tightening torque: 3.0 to 3.5 kg fm.



3-82

SIMPLE SERVICING (Contd...)

4. Replenish the engine oil.
If only the oil filter has been replaced, add oil (approx. 1.5 ... liters.).
5. Wipe any spilt oil.
6. Run the engine at idle to check for oil leaks. As a final check, check level.
7. Using filter wrench (special tool) loosen the bypass filter. Replace the bypass filter with a new one.

Replacing fuel filter element

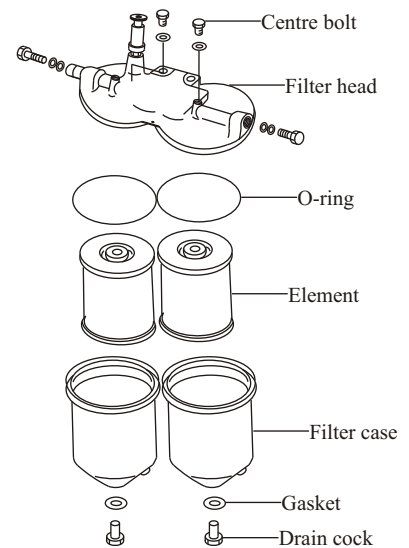
- Stage I - Every 10,000 kms.
Stage II - Every 20,000 kms.

CAUTION!

The element cannot be cleaned and reused. Be sure to replace it with a new one.

Replacement procedure:

1. Connect vinyl pipe to the drain cock and put a suitable container under it.
2. Loosen the air plug and then loosen the drain cock to drain fuel in the fuel filter. Tighten the drain cock.
3. Loosen the center bolt and remove the element together with filter case.



3-83

SIMPLE SERVICING (Contd...)

4. Other than the element, wash parts in petrol and reassemble them as they were before.
 - Replace the O-ring and gasket of the element with new ones.
When fitting the O-ring make sure it is not twisted.
 - Insert the centre bolt into the filter case and fit the spring washer and element onto the centre bolt in the order shown.
5. Operate the fuel feed pump to feed fuel. Bleed air from the fuel system using the procedure outlined on page 3-46.
6. Wipe out any spilt fuel.
7. Start the engine and check for fuel leaks.

CAUTION!

Wipe clean any spilt diesel fuel, as it could start a fire.

3-84

MAINTENANCE RECOMMENDATIONS FOR TURBOCHARGER

Turbochargers and boost pressure control valves do not require any maintenance.

Engine oil has to be changed regularly as recommended.

Regular replacement of oil filters & air filter has to be carried out as per recommendation.

Checks have to be made on the oil, air and exhaust piping, as well as, on all other connections and seals, to ensure that they are tight and no damage is seen.

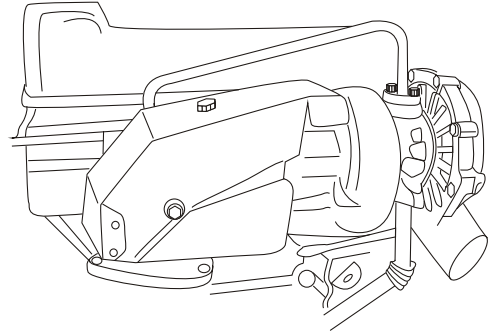
When carrying out maintenance work on the engine (e.g. adjusting engine valves), openings in pipe and turbocharger should be closed.

When fitting the turbocharger to the engine, fill the central housing with clean oil and ensure that all piping to the turbocharger is cleaned thoroughly before fitment.

DO'S AND DON'TS FOR SATISFACTORY FUNCTIONING OF TURBOCHARGER

DO'S

- Regular change of engine oil/oil filters as per recommendation.
- Regular change/cleaning of air filter element as per recommendation.
- Check for oil pressure at engine idling condition. Minimum oil pressure to be as per recommendation.
- Idle the engine for 3 minutes after starting the engine.
- Idle the engine for 3 minutes before switching off the engine.
- Regularly check all air, oil and exhaust connections for leaks and abnormal dust / oil / carbon build up.



DON'TS

- Don't run the engine with low oil pressure. switch off the engine when the oil pressure-warning lamp starts glowing. Contact nearest Eicher Authorised Service Center.
- Don't put the engine under full acceleration immediately after starting.
- Don't switch off the engine under full acceleration.
- Don't run with damaged / faulty connections from the air cleaner to the turbocharger / turbocharger to the inlet manifold.
- Don't run with damaged / faulty connections to the turbocharger turbine inlet and from turbine outlet.
- Don't lift the turbocharger by holding the waste gate actuator control rod.

3-85

SIMPLE SERVICING (Contd...)

• Checking and replacing transmission gear oil

| | |
|--------------------|--|
| Checking interval | 15,000 kms. |
| Replacing interval | After initial 5000 kms. Thereafter, every 30,000 kms. |

• Inspection and Replenishment

Remove Inspection plug and check to see that oil is full to the brim. If it is not so, top up gear oil up to the mouth of the Inspection plug hole and check for leakages.

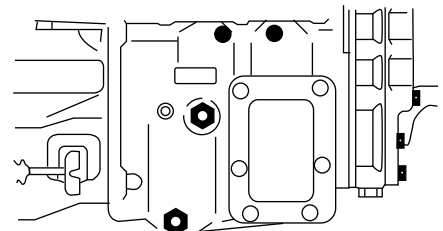
Replacement

- While the oil is still hot after driving, remove drain plug and drain the gear oil.
- The drain plug has a magnet. Fit the plug securely after removing iron particles.
- Pour gear oil until it overflows from the Inspection plug hole.

CAUTION

Do not check or replace transmission gear oil immediately after driving.

Park the vehicle on a level ground while checking oil level.



SIMPLE SERVICING (Contd...)

- **Checking and replacing Rear axle gear oil**

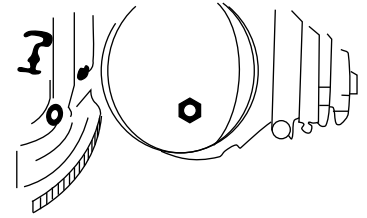
| | |
|---------------------|--|
| Checking intervals | 15,000 kms. |
| Replacing intervals | After initial 5000 kms. Thereafter, every 30,000 kms. |

- **Inspection and Replenishment**

Remove Inspection plug and check to see that oil is full to the brim. If it is not so, top up differential oil until it overflows from the Inspection plug hole.

- **Replacement**

- While the oil is still hot after driving, remove drain plug and drain the differential oil.
- After fitting the drain plug securely, remove the inspection plug and pour differential oil until it overflows from the plug hole.



CAUTION!

Do not check or replace differential oil immediately after driving.

Park the vehicle on a level ground while checking oil level.

3-87

SIMPLE SERVICING (Contd...)

- **Replacing engine oil**

Every 20,000 kms with Eicher Genuine Engine oil. Every 10000 kms with other recommended engine oils.

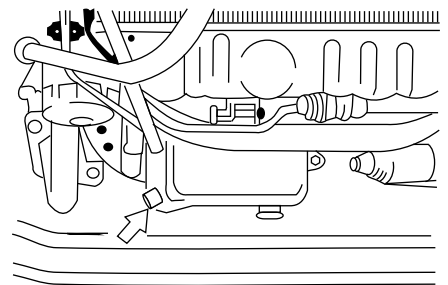
Please refer Page No 2-10 for recommended grades of oils.

Total capacity: 11 liters (This also includes oil in the oil filter).

To prolong the life of your vehicle, make sure that an oil of proper viscosity suitable to the ambient temperature is added. For details refer (Pg 3-53).

The procedure for oil change is as follows:

1. Park the vehicle on a level ground.
2. Place an oil receiver or can under the oil pan.
3. With the engine warmed up stop the engine and remove the drain plug from the oil pan to discharge the oil.
4. Securely mount the drain plug and pour in engine oil through the oil filler of the rocker cover on the top of the engine.
5. Run the engine gently for a few minutes and check for oil leaks. In about 30 minutes after the engine has been stopped, check the oil level with oil level gauge. If the oil level is checked immediately after shutdown of the engine, the level will show a lower oil level.



3-88

SIMPLE SERVICING (Contd...)

CAUTION!

- When the temperature of the engine is high take care to prevent burns.
- Make sure that all spilt oil is thoroughly cleaned.
- High speed and high load operations deteriorate engine oil faster. In such application, oil needs to be changed earlier than specified.

- **Replacing coolant**

| | |
|-----------------------|--|
| Replacement intervals | Every 75,000 kms. or one year |
| Coolant | Soft water mixed with antifreeze/ antitrust. |

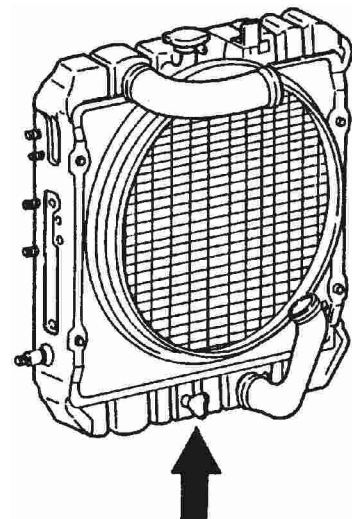
Coolant Capacity 14 litres
(including 1 litre in reservoir tank).
Recommended coolant: Golden cruiser 1200
(15 % by volume).

3-89

SIMPLE SERVICING (Contd...)

CAUTION!

- Clean the cooling system and replace the coolant at the specified intervals.
- **Procedure for replacing coolant**
 1. After the radiator cap has been removed, loosen the drain plugs at the bottom of radiator and at the engine to discharge the coolant.
 2. With drain plugs refitted, pour in soft water (preferably hot water) from the radiator filler port. Start the engine and let it run at high idle until the coolant temperature becomes 85° C or higher. Keep running the engine for another ten minutes, and then discharge the water. Repeat this procedure until the drained water runs completely clean.
 3. Pour the required amount of antifreeze/antitrust into the radiator and add soft water to the brim of the radiator cap.



3-90

SIMPLE SERVICING (Contd...)

4. With the radiator cap removed, run the engine for a while to bleed air from the cooling system.
5. Stop the engine and check for the coolant level. If the level is low, add coolant to the brim of the radiator cap.
6. Reinstall the radiator cap in position.
7. Pour the required amount of antifreeze into the reservoir tank and add soft water to the FULL mark and replace the cap in position.

CAUTION!

If the radiator gets clogged or coolant is seriously contaminated, get your vehicle inspected.

CHECKING AND REPLACING POWER STEERING OIL.

- **Inspection and replenishment**
(Applicable for vehicles fitted with power steering)

With the front wheels placed in straight ahead position, stop the engine. Remove the oil filler cap along with the oil level gauge from the reservoir. Wipe clean the oil level gauge. Reinsert the oil level gauge all the way inside the reservoir and tighten the cap. Remove the cap, slowly withdraw the oil level gauge once again. Check the oil level mark on the gauge.

3-91

+

+

+

SIMPLE SERVICING (Contd...)

The oil level should be between MAX. and MIN. level marks as, indicated on the oil level gauge. If the level is low, add Automatic Transmission Fluid (DEXRON II D/F) up to the MAX. level mark.

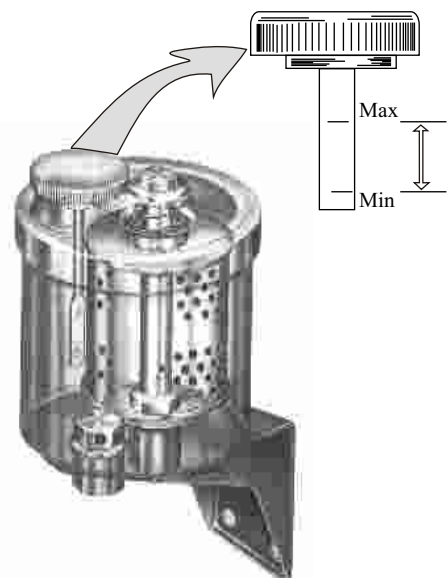
Check the oil level with the vehicle on flat, level ground.

CAUTION!

- Oil level should not go below the MIN. level mark. If the oil level is low, hard steering or unusual noise will result. For oil change, take your vehicle to the nearest Authorised Service Centre.

- **Replacement**

Ask your nearest Authorised Service Representative to replace power steering oil.



3-92

SIMPLE SERVICING (Contd...)

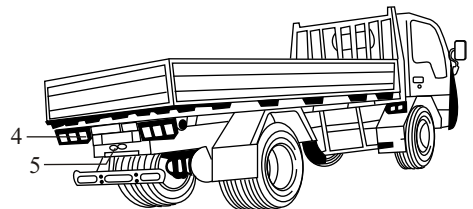
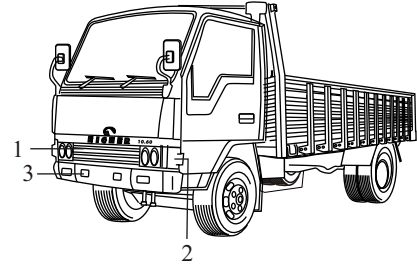
- **Replacing lamp bulbs**

Make sure that the lamp bulbs are replaced with those of the specified voltage and wattage.

Before replacement, ensure that the starter switch is in “LOCK” and all other switches are in “OFF” positions.

- **Lamp bulb details**

| | Lamp name | Bulb wattage | | | |
|----|--|------------------------|--------------|--------------|--------------|
| | | Model | 10.50, 10.59 | 10.70, 10.75 | 10.90, 10.95 |
| 1. | Head lamps | Inner type | 45/40W | 55/60W | |
| | | Outer Type | | 55/60W | |
| | | | | | |
| 2. | Front and side turn signal lamps | 21W | | | |
| 3. | Clearance lamps | 5W | | | |
| 4. | Rear turn signal, stop tail & backup lamps | Rear turn signal lamps | 21W | | |
| | | Stop & tail lamps | 21/5W | | |
| | | Back up lamps | 21W | | |
| 5. | Number Plate Lamp | 10W | | | |
| 6. | Room lamp | 8 W | | | |

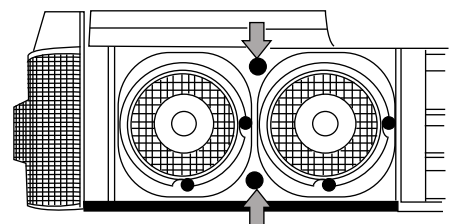


3-93

SIMPLE SERVICING (Contd...)

- **Headlamps**

1. Remove the decoration plate.
2. With the attaching screws loosened remove the lamp unit.
3. Remove the rubber cover, bulb retaining ring and bulb. Replace the bulb.
4. Reinstall lamp unit ‘TOP’ mark facing upwards.

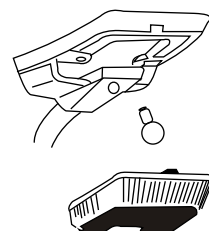
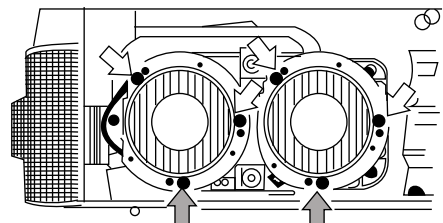


CAUTION!

If you replace headlamps yourself, take your vehicle to the nearest authorised service centre for focus setting.

- **Room lamp**

Insert a screwdriver into the groove on top of the lens and pry it to detach the lens. To remove the bulb, turn it counterclockwise while pushing it in. To reinstall, turn the bulb clockwise.



3-94

SIMPLE SERVICING (Contd...)

- **Other Lamps**

For replacement of bulbs of warning lamps, indicator lamps and other lamps, replace the bulb after removing the lens.

- **Blown fuse**

If a lamp does not come on or an electrical device is inoperative, the fuse has probably blown. Know the location of the fuse box and the names of circuits protected by each fuse so that you can fix a blown fuse yourself, page No 3-96.

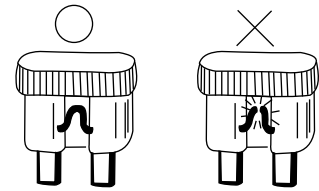
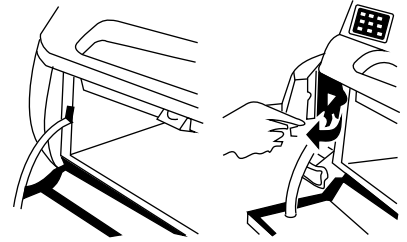
- **Replacing a blown fuse**

The fuse box is located at the left-most end of the instrument panel.

Opening the glove box will help make the removal of the fuse box cover easier.

To replace the fuse, proceed as follows:

1. Place the starter switch in LOCK position.
2. Remove the blown fuse.
3. The fuse shown in the illustration is blown. Replace it with a spare fuse.

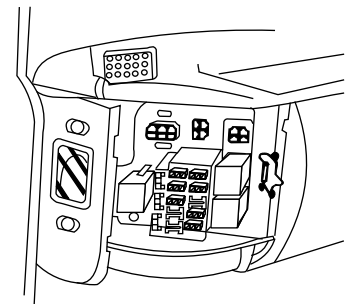


3-95

SIMPLE SERVICING (Contd...)

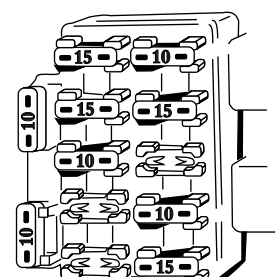
- **Fuse details**

| No. | Capacity | Devices protected |
|-----|----------|---|
| 1. | 10A | Left headlamp |
| 2. | 15A | Horn, stop lamp |
| 3. | 10A | Right headlamp |
| 4. | 15A | Tail lamp, license lamp, clearance lamp |
| 5. | 15A | Room lamp |
| 6. | 15A | Turn signal lamp, backup lamp |
| 7. | 10A | Wiper, windshield washer, exhaust brake |



CAUTION!

- Make sure that a blown fuse is replaced with a good one of the same capacity.
- When the cause of blown fuse cannot be identified or when the fuse blows frequently, get your vehicle inspected at the nearest authorised service center.



3-96

SIMPLE SERVICING (Contd...)

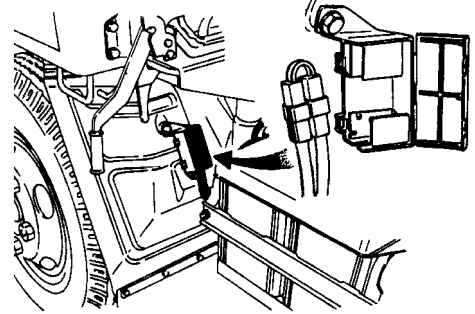
Replacing fusible link

For additional protection the vehicle has a fusible link in the power circuit that functions also as a fuse. A blown fusible link can be easily identified; its insulation cover is bubbled or burnt because of the heat. If the cover stretches when pulled between fingers, it means that the link is blown.

If the fusible link is blown, isolate and repair the cause before attempting replacement.

CAUTION!

- Before replacing a blown fusible link, make sure that the negative battery cable is disconnected from the battery so as to ensure safety.
- Use genuine fusible links for replacement.



3-97

SIMPLE SERVICING (Contd...)

● Caring for your vehicle

Be sure to wash your vehicle when :

- Your vehicle has traveled a coastal area.



- You have driven on road which are muddy



3-98

SIMPLE SERVICING (Contd...)

- Coal tar, soot, sap, and bird droppings are deposited on your vehicle.
 - Your vehicle is fouled with dust and mud.
1. Wash the underbody and the inside of the fender by increasing the pressure of water.
 2. Completely shut all portions and clean deposits with a sponge.
 3. Use car shampoo if the body is seriously dirty.
 4. After deposits and dust have been thoroughly washed away, wipe with soft cloth etc., in such a way so that no spots are left behind.



3-99

SIMPLE SERVICING (Contd...)

CAUTION!

- Take care not to splash water over the electrical parts in the engine compartment.
- When washing the underbody, be careful not to get hurt by sharp edges of metal parts.
- In cold areas, carefully wipe off moisture from doors and key slots after the vehicle has been washed. Key slots and rubbers can freeze up if there is water left on them.
- Do not wash plastic and resin parts in thinner or gasoline as discoloration or cracks will result.

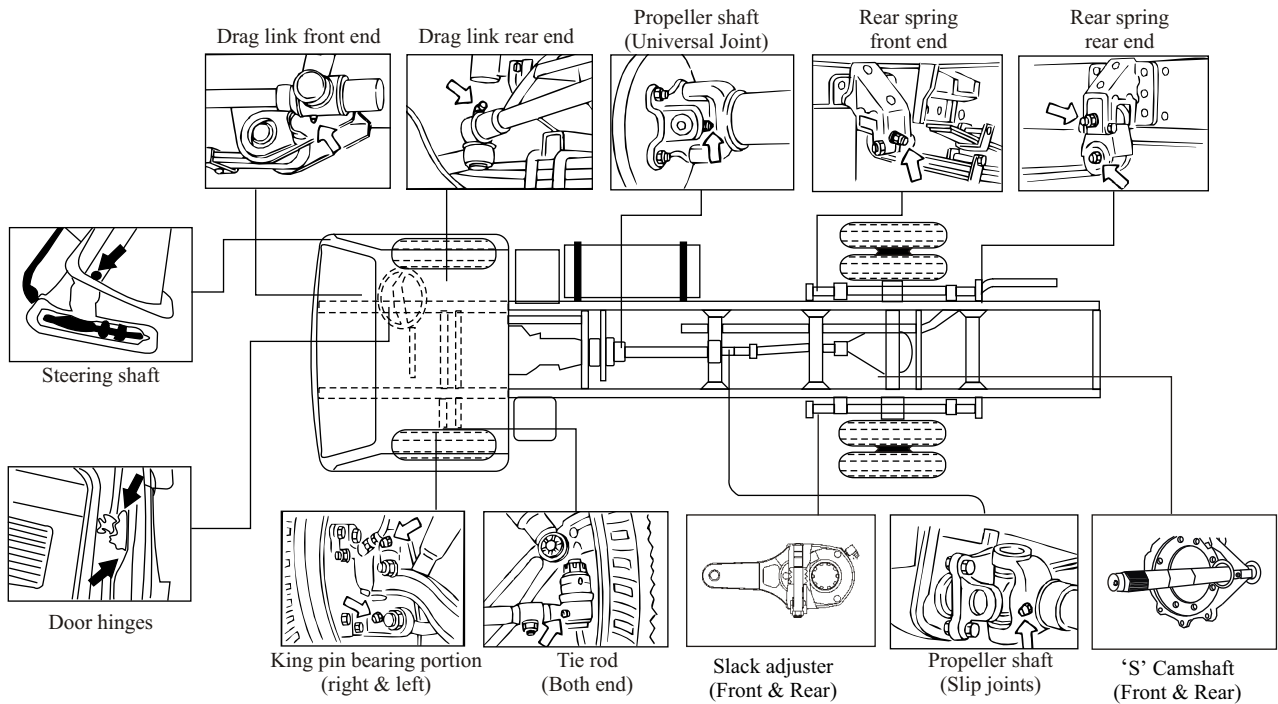
● Waxing

Wax the vehicle once a month or when the coating does not repel water well. Do the waxing in shade after the vehicle body temperature has fallen below your body temperature.



3-100

GREASING POINTS



3-101

SPECIFICATIONS

| MODEL | | 10.50 | 10.59 | 10.75 | | | | 10.90 | | | 10.95 | 11.10 | | |
|-------------------------------|---------------------|-------------|-------------|-------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Wheel base | | C | E | E | C | E | F | H | E | F | *K | F | H | B |
| Pay Load (FSD) | (Kg) | 2791 | 2691 | 3476 | 4606 | 4496 | 4146 | ↔ | 5611 | 5516 | — | 6231 | 6196 | 7000 |
| Pay Load (HSD) | (Kg) | — | 2526 | 3376 | 4431 | 4271 | 3881 | ↔ | 5386 | 5251 | — | 6031 | 5931 | -- |
| DIMENSIONS AND WEIGHTS | | | | | | | | | | | | | | |
| Overall length (FSD) | (mm) | 4875 | 5490 | ↔ | 5130 | 6030 | 6545 | 7080 | 6030 | 4545 | 8677 | 6545 | 7080 | 7090 |
| Overall width (FSD) | (mm) | 2146 | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | 2100 | ↔ | 2150 | 2266 |
| Overall Height (FSD) | (mm) | 2340 | ↔ | ↔ | ↔ | ↔ | ↔ | 3100 | 2340 | ↔ | 2850 | 2360 | 2360 | 2370 |
| Overall length (HSD) | (mm) | 4875 | 5490 | ↔ | 5130 | 6030 | 6645 | 7080 | 6030 | 6520 | — | 6520 | 7080 | |
| Overall width (HSD) | (mm) | 2146 | ↔ | 2150 | 2146 | ↔ | ↔ | ↔ | ↔ | ↔ | — | ↔ | ↔ | |
| Overall Height (HSD) | (mm) | 2678 | ↔ | ↔ | 2680 | 2678 | 2340 | 3365 | 2678 | ↔ | — | 2873 | ↔ | |
| Wheel base | (mm) | 2750 | 3350 | ↔ | 2750 | 3350 | 3760 | 4050 | 3350 | 3760 | 4800 | 3760 | 4050 | 3800 |
| Track - Hydraulic brake Front | (mm) | 1615 | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | — | — | — | |
| Track - Hydraulic brake Rear | (mm) | 1595 | ↔ | ↔ | 1495 | ↔ | ↔ | ↔ | ↔ | ↔ | — | — | — | |
| Track - Air Brakes Front | (mm) | — | — | — | 1645 | ↔ | ↔ | ↔ | ↔ | ↔ | 1645 | ↔ | ↔ | 1680 |
| Track - Air Brakes Rear | (mm) | — | — | — | 1525 | ↔ | ↔ | ↔ | ↔ | ↔ | 1525 | ↔ | ↔ | 1800 |
| Ground Clearance | (mm) | 210 | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | 230 | ↔ | 200 |
| Cargo Deck (FSD) | :Inside length (mm) | 3505 | ↔ | ↔ | 3400 | 4300 | 4935 | 5349 | 4300 | 4935 | — | 4935 | 5350 | 5245 |
| | :Inside Width (mm) | 2005 | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | — | ↔ | ↔ | 2124 |
| | :Inside Height (mm) | 585 | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | — | ↔ | ↔ | ↔ |
| Cargo Deck (HSD) | :Inside length (mm) | — | — | 3305 | 3400 | 4300 | 4935 | 5349 | 4300 | 4935 | — | 4935 | 5350 | |
| | :Inside Width (mm) | — | — | 2005 | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | — | ↔ | ↔ | |
| | :Inside Height (mm) | — | — | 1590 | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | — | ↔ | ↔ | |
| ULW (FSD) | (Kg) | 2405 | 2827 | 2570 | 2640 | 2815 | ↔ | 2340 | 2905 | 3000 | — | 3065 | 3100 | 3500 |
| ULW (HSD) | (Kg) | | 2670 | ↔ | 2815 | 2975 | 3120 | 2678 | 3130 | 3265 | — | 3265 | 3365 | |
| GVW (FSD) | (Kg) | 5400 | ↔ | 6250 | ↔ | ↔ | ↔ | ↔ | 8720 | ↔ | 8250 | 9500 | ↔ | 10400 |
| GVW (HSD) | (Kg) | 5400 | ↔ | 6250 | ↔ | ↔ | ↔ | ↔ | 8720 | ↔ | — | 9500 | ↔ | 10400 |

Note * Supply condition : Cowl & chassis. Other dimensions are for Cab and FSD
Specifications are subject to change, without notice.

3-102

SPECIFICATIONS (Contd...)

| MODEL | 10.50 | | 10.59 | 10.75 | | | | 10.90 | | | 10.95 | | 11.10 |
|--------------------------------|-----------------|---|--------------------------------|-------|---|---|----|-------|---|----|-------|---|-------|
| Wheel base | C | E | E | C | E | F | H | E | F | K | F | H | |
| PERFORMANCE | | | | | | | | | | | | | |
| Max. Gradiability E483 NA (%) | 28.5 | ↔ | 21.5 | 18 | ↔ | ↔ | ↔ | 15.4 | ↔ | ↔ | — | — | 13 |
| Max. Gradiability E483 TCI (%) | 34.6 | ↔ | 28.4 | 24 | ↔ | ↔ | 28 | 15.4 | ↔ | 22 | — | — | |
| ENGINE | | | | | | | | | | | | | |
| Model | BS I | | E483 NA | | | | | | | | | | |
| Type | BS I | | Diesel 4 cyl. Direct Injection | | | | | | | | | | |
| Cooling system | BS I | | Water cooled | | | | | | | | | | |
| Displacement (cc) | BS I (mm) | | 3298 | | | | | | | | | | |
| Max Power Kw/ rpm(DIN) | BS I | | 61/3200 | | | | | | | | | | |
| Max Torque Nm/rpm (DIN) | BS I | | 206/1920 | | | | | | | | | | |
| Model | BS I I | | E483 TCI | | | | | | | | | | |
| Type | BS I I | | Diesel 4 cyl. Direct Injection | | | | | | | | | | |
| Cooling system | BS I I | | Water cooled | | | | | | | | | | |
| Displacement | BS I I | | 3298 | | | | | | | | | | |
| Max Power Kw/ rpm(DIN) | BS I I | | 70/3200 | | | | | | | | | | |
| Max Torque Nm/rpm (DIN) | BS I I | | 285/1400 | | | | | | | | | | |
| ELECTRIC SYSTEM | | | | | | | | | | | | | |
| Battery | 12V - 70 Amp hr | | | | | | | | | | | | |
| Alternator | 12v - 50A | | | | | | | | | | | | |

Note: Specifications are subject to change.

3-103

SPECIFICATIONS (Contd...)

| LUBRICANT & COOLANT CAPACITY | | | |
|---|--|------------------------------|------------|
| Engine | 11 litres | | |
| Transmission | 3.4 litres | | |
| Differential | 4 litres | | |
| Steering gear | Overhang type | 4.5 litres | |
| | Straddle Mtg. type | 0.8 litres | |
| | Manual steering | 2.0 litres | |
| Air Cleaner | 1.5 litres (E483 NA) | | |
| Fuel tank | 10.50 / 10.59 | : | 60 litres |
| | 10.90 / 10.95 / 11.10 | : | 100 litres |
| Coolant Recommended coolant : | 14 litres | | |
| Golden Cruiser 1200 (15 % by volume) | | | |
| Brake oil (Dry filling) | 0.5 litres | | |
| Hub greasing | Front | 340 gms (each hub) | |
| | Rear | 270 gms (each hub) | |
| DRIVE TRAIN | | | |
| Clutch | Single dry plate dia Telragm hydraulic assisted | | |
| Transmission | 5 forward synchromesh; 1 Reverse | | |
| Final drive | Hypoid gears | | |
| CHASSIS & SUSPENSION | | | |
| Frame | LCV | Ladder type 'C' Channel | |
| | MCV | Ladder type straight chassis | |
| Suspension (Front) | Semi elliptical leaf spring with double acting shock absorbers. | | |
| Suspension (Rear) | Semi elliptical leaf spring & helper leaf spring with double acting shock absorbers. | | |

Note: Specifications are subject to change.

3-104

SPECIFICATIONS (Contd...)

| STEERING | | |
|-----------------|----------------|---|
| Type | Manual | Recirculating ball nut Variable gear ratio 26.5-30.5 |
| | Power Steering | Integral ball & nut Gear ratio 18.8:1 |
| BRAKES | | |
| System | | Dual circuit hydraulic vacuum assisted Front - 2 leading, Rear- Dual 2 leading shoes 10.90 : Double Diaphragm Master V ac Dia : 9” 10.50, 10.70, 10.75 : Single Diaphragm Master V ac Dia : 10.5” 10.75, 10.90, 10.95, 11.10 : Dual circuit full air brakes Front - 2 leading, Rear (For air brakes vehicle) |

Note : Specifications are subject to change without notice.

3-105

SERVICE DATA

| Inspection Item | | Specification |
|---|---|---|
| Steering wheel play (with front wheels in straight ahead position, on the wheel rim) | | 0 to 50 mm |
| Brake pedal | Play | 10 to 50 mm |
| | Stroke margin | 45mm or more (aprox.50-kg pedal pressure) |
| Clutch pedal | Play | 10 to 15 mm |
| | Clearance from floorboard when depressed | 35mm or more |
| Parking brake lever stroke | | 80 to 120mm (30-kg operating force) |
| Depth of tread groove | | 1.6 mm or more |
| Battery fluid level * | | Approx. 10mm above plates |
| Engine idle speed | | 600 to 650rpm |
| Fan belt tension (deflection when depressed with a 10-kg force at the center) | | 10 to 15mm |
| Coolant | | 14 lit |

* Not required for “Maintenance Free” battery

3-106

TROUBLE SHOOTING AND CORRECTION

Should trouble occur, take corrective action according to the following table. If it is not possible for you to correct the defect, take your vehicle to the nearest authorised service centre for inspection and repair.

| Defect | Probable Cause | Corrective action |
|--|--|--|
| 1. Engine does not start when starting switch is turned on | - Run down battery | Recharge or replace |
| - Starter does not rotate or rotates at slow speed | - Disconnected, loose or corroded battery terminal - Disconnected earth - High engine oil viscosity | Clean the terminals and securely mount them Connect securely Replace oil with proper viscosity |
| - Starter turns but engine does not start | - Low/no fuel - Water in fuel - Air in the fuel system - Diesel filter clogged - Air cleaner element clogged - No current / Defective solenoid switch | Replenish Replace Bleed the system Replace Clean Rectify / Replace |

3-107

TROUBLE SHOOTING AND CORRECTION (Contd...)

| Defect | Probable Cause | Corrective action |
|--|--|---|
| 2. Engine Stalls when speed is reduced | - Idling speed too low - Engine too cold - Diesel filter clogged - Air cleaner element clogged | Adjust by throttle button Allow engine to warm up fully Replace Clean |
| 3. Engine does not stop | - Defective starting switch or cable | Stop the engine by operating the fuel injection pumps stop lever. Replace defective parts |
| 4. Loss of power | - Parking brake not released - Diesel filter clogged - Air cleaner element clogged | Release Replace Clean |
| 5. Black exhaust smoke | - Improper fuel - Air cleaner element clogged - Overload | Replace Clean Avoid overloading |
| 6. Engine overheating | - Low coolant level - Defective radiator cap - Broken or loose fan belt - Rust or scale in radiator | Replenish, Check for water leaks and proper installation of radiator cap. Replace Correct Clean radiator and replace coolant |
| 7. Excess fuel consumption | - Fuel leaks - Air cleaner element clogged - Improper tyre inflation pressure | Correct Clean Correct |
| 8. Excess engine oil consumption | - Improper engine oil - High oil level - Oil leaks - Insufficient warm up | Replace Correct Correct Allow engine to warm up fully |

3-108

TROUBLE SHOOTING AND CORRECTION (Contd...)

| Defect | Probable Cause | Corrective action |
|--|---|--|
| TURBO CHARGER 9. Engine lacks power | <ul style="list-style-type: none"> - Valve defective - Dirty air cleaner - Restricted air duct from compressor to intake manifold - Restricted air duct from air cleaner to Turbocharger - Air leak in feed from compressor to intake manifold - Air leak between intake manifold and engine - Foreign object in exhaust manifold (from engine) - Restricted exhaust system exhaust brake valve operation. - Exhaust manifold cracked, gaskets blown or missing - Gas leak at turbine inlet / exhaust manifold joint - Fuel system / injection feed system defective or incorrectly adjusted - Engine valve timing incorrect Adjust - Worn engine piston rings or liners | <ul style="list-style-type: none"> Check & Replace Clean Rectify Rectify Check and replace hoses if puncture Tighten clamps.Check Turbocharger for leakage Retighten manifold nuts Clean Check muffler for choking. Check Replace Retighten mounting nuts Repair Rectify |

3-109

TROUBLE SHOOTING AND CORRECTION (Contd...)

| Defect | Probable Cause | Corrective action |
|-------------|---|---|
| | <ul style="list-style-type: none"> - Burnt valves and / or pistons - Excessive dirt build up on compressor wheel and / or diffuser vanes - Boost pressure control swing valve / poppet valve doesn't close - Pipe assembly to swing valve / poppet valve defective - Turbocharger bearing defective - Foreign body damage on compressor or turbine - Turbine housing / flap damaged - Insufficient oil supply of turbocharger | <ul style="list-style-type: none"> Replace Overhaul at Authorised Service Center Overhaul at Authorised Service Center Overhaul at Authorised Service Center Overhaul at Authorised Service Center Find out the cause of entry of foreign particles & rectify the same Overhaul the Turbocharger at Authorised Service Center Find out the cause of entry of foreign particles & rectify the same Overhaul the Turbocharger at Authorised Service Center. Clean |
| Black smoke | <ul style="list-style-type: none"> - Dirty air cleaner - Restricted air duct from compressor to intake manifold - Restricted air duct from air cleaner to Turbocharger - Air leak in feed from compressor to intake manifold | <ul style="list-style-type: none"> Clean Rectify Rectify Check and replace hoses if punctured . Tighten clamps . Check Turbocharger for leakage |

3-110

TROUBLE SHOOTING AND CORRECTION (Contd...)

| Defect | Probable Cause | Corrective action |
|--------|---|--|
| | <ul style="list-style-type: none"> - Air leak between intake manifold and engine - Foreign object in exhaust manifold (from engine) - Restricted exhaust system - Exhaust manifold cracked, gaskets blown or missing - Gas leak at turbine inlet / exhaust manifold joint - Fuel system / injection feed system defective or incorrectly adjusted - Engine valve timing incorrect - Worn engine piston rings or liners - Burnt valves and / or pistons - Excessive dirt build up on compressor wheel and / or diffuser vanes - Boost pressure control swing valve / poppet valve doesn't close - Turbocharger bearing defective - Foreign body damage on compressor or turbine | <ul style="list-style-type: none"> Retighten manifold nuts Clean Check muffler for choking. Check exhaust brake valve Operation Replace Retighten mounting nuts Repair Adjust Rectify Repaire Overhaul at Authorised Service Center Overhaul the Turbocharger at Authorised Service Center Overhaul the Turbocharger at Authorised Service Center Find out the cause of entry of forgein particles & rectify the same Overhaul the Turbocharger a Authorised Service Center |

3-111

TROUBLE SHOOTING AND CORRECTION (Contd...)

| Defect | Probable Cause | Corrective action |
|------------|--|---|
| | <ul style="list-style-type: none"> - Turbine housing / flap damaged -Insufficient oil supply of turbocharger | <ul style="list-style-type: none"> Find out the cause of entry of foreign particles & rectify the same Overhaul the Turbocharger at Authorised Service Center Check & rectify |
| Blue smoke | <ul style="list-style-type: none"> - Dirty air cleaner - Restricted compressor intake duct - Air leak in feed from compressor to intake manifold - Air leak between intake manifold and engine - Foreign object in exhaust manifold (from engine) - Restricted turbocharger oil drain line - Restricted engine crankcase breather / leaking or distorted - Turbocharger bearing housing sludged or coked - Worn engine piston rings or liners - Burnt valves and / or pistons - Excessive dirt build up on compressor wheel and / or diffuser vanes - Turbocharger Piston ring sealing defective - Turbocharger bearing defective | <ul style="list-style-type: none"> Clean Rectify Check and replace hoses if punctured . Tighten claps. Check Turbocharger for leakage Clean Rectify. Check quality of oil & Rectify Rectify Overhaul Turbochager at Authorised Service Center Rectify Replace Overhaul Turbocharger at Authorised Service Center Overhaul Turbocharger at Authorised Service Center Overhaul Turbocharger at Authorised Service Center |

3-112

TROUBLE SHOOTING AND CORRECTION (Contd...)

| Defect | Probable Cause | Corrective action |
|--------------------|---|---|
| Turbocharger noisy | <ul style="list-style-type: none"> - Restricted compressor intake duct - Restricted air duct from compressor to intake manifold - Restricted air duct from compressor to intake manifold - Air leak in feed from air cleaner to compressor - Air leak in feed from compressor to intake manifold - Air leak between intake manifold and engine - Foreign object in exhaust manifold (from engine) - Exhaust manifold cracked, gaskets blown or missing - Gas leak at turbine inlet / exhaust manifold joint - Excessive dirt build up on compressor wheel and / or diffuser vanes - Turbocharger bearing defective - Foreign body damage on compressor or turbine - Turbine housing / flap damaged | <ul style="list-style-type: none"> Rectify Rectify Rectify Rectify Check and replace hoses if punctured . Tighten clamp Check Turbocharger for leakage Retighten manifold nuts Clean Replace Rectify Overhaul Turbocharger at at Authorised Service Center Overhaul Turbocharger at Authorised Service Center Overhaul Turbocharger at Authorised Service Center Find out the cause of entry |

3-113

TROUBLE SHOOTING AND CORRECTION (Contd...)

| Defect | Probable Cause | Corrective action |
|-------------------------------|--|--|
| | | of foreign particles & rectify the same .Overhaul Turbocharger at Authorised Service Center |
| | - Insufficient oil supply of turbocharger | Check & rectify |
| Oil leak from turbine seal | <ul style="list-style-type: none"> - Restricted turbocharger oil drain line of oil & rectify - Restricted engine crankcase breather / leaking or distorted - Turbocharger bearing housing sludged or coked - Worn engine piston rings or liners - Burnt valves and / or pistons - Excessive dirt build up on compressor wheel and / or diffuser vanes - Piston ring sealing defective - Turbocharger bearing defective | <ul style="list-style-type: none"> Rectify Check quality Check & rectify Overhaul Turbocharger at Authorised Service Center Rectify Replace Overhaul Turbocharger at Authorised Service Center Overhaul Turbocharger at Authorised Service Center Overhaul Turbocharger at Authorised Service Center |
| Oil leak from compressor seal | <ul style="list-style-type: none"> - Dirty air cleaner - Restricted compressor intake duct - Foreign object in exhaust manifold (from engine) - Restricted turbocharger oil drain line - Restricted engine crankcase breather | <ul style="list-style-type: none"> Clean Rectify Clean Check reason for chocking & rectify Check & rectify |

3-114

TROUBLE SHOOTING AND CORRECTION (Contd...)

| Defect | Probable Cause | Corrective action |
|-----------------------------|--|--|
| | <ul style="list-style-type: none"> - Turbocharger bearing housing sludged or coked - Worn engine piston rings or liners - Burnt valves and / or pistons - Excessive dirt build up on compressor wheel and / or diffuser vanes - Piston ring sealing defective - Turbocharger bearing defective | Overhaul Turbocharger at Authorised Service Center Rectify Replace Overhaul at Authorised Service Center Overhaul at Authorised Service Center Overhaul at Authorised Service Center |
| High engine oil consumption | <ul style="list-style-type: none"> - Dirty air cleaner - Restricted compressor intake duct - Air leak in feed from compressor to intake manifold - Air leak between intake manifold and engine - Foreign object in exhaust manifold (from engine) - Restricted turbocharger oil drain line - Restricted engine crankcase breather / leaking or distorted - Turbocharger bearing housing sludged or coked | Clean air cleaner element & cartridge at every 5000Km. Rectify Check and replace hoses if punctured . Tighten clamps. Check Turbocharger for leakage Retighten manifold nuts Retighten manifold nuts Clean Check reason for choking & rectify Overhaul Turbocharger at Authorised Service Center |

3-115

TROUBLE SHOOTING AND CORRECTION (Contd...)

| Defect | Probable Cause | Corrective action |
|--------------------------------------|---|--|
| | <ul style="list-style-type: none"> - Burnt valves and / or pistons - Excessive dirt build up on compressor wheel and / or diffuser vanes - Piston ring sealing defective - Turbocharger bearing defective | Rectify Replace Overhaul Turbocharger at Authorised Service Center Overhaul Turbocharger at Authorised Service Center |
| 10. Vehicle vibrate during operation | <ul style="list-style-type: none"> - Badly worn tyres - Loose wheel nuts - Vibration occurs immediately after operation | Replace Retighten Flat spot phenomenon which returns to normal when tyres warm up. |
| 11. Clutch hard to disengage | <ul style="list-style-type: none"> - Low clutch fluid | Replenish |
| 12. Hard steering | <ul style="list-style-type: none"> - Worn tyres - Flat or burst tyre - Low tyre inflation pressure - Lack of grease in kingpin and steering linkage | Replace Replace/Repair Correct Lubricate |
| 13. Steering wheel shimmy | <ul style="list-style-type: none"> - Loose wheel nuts - Unequal tyre inflation pressure - Unequal worn tyres | Retighten Adjust Replace |
| 14. Vehicle pulls to one side while | <ul style="list-style-type: none"> - Left and right tyres of different size - Steering - Unequal tyre inflation pressure - Loose wheelnuts - Load on one side - Broken spring leaf | Correct Adjust Retighten Correct Replace |

3-116

TROUBLE SHOOTING AND CORRECTION (Contd...)

| Defect | Probable Cause | Corrective action |
|--|---|--|
| 15. Excessive noise | <ul style="list-style-type: none"> - Foreign substance embedded in tyres - Unevenly worn tyres - Lack of lubrication in moving parts - Loose wheel nuts - Loose or worn 'V' belt - Broken chasis spring | <ul style="list-style-type: none"> Remove Replace Lubricate Retighten Correct/replace Replace |
| 16. Poor braking action | <ul style="list-style-type: none"> - Over inflated tyre - Ingress of water into brake assembly - Excessive use of brakes | <ul style="list-style-type: none"> Correct Dry the brakes Stop the vehicle and apply brake |
| 17. Vehicle pulls to one side when braking | <ul style="list-style-type: none"> - Unequal tyre inflation pressure - Wear on one side of tyre - Loose wheelnuts - Load on one side | <ul style="list-style-type: none"> Adjust Replace Retighten Correct |
| 18. Battery runs down frequently | <ul style="list-style-type: none"> - Disconnected, loose or corroded terminal. - Low battery fluid level - Loose or slipping 'V' belt - Battery out of life - Lamps or switches left in ON position | <ul style="list-style-type: none"> Correct Correct Correct Replace Switch off wherever not required |
| 18. Lamps do not light | <ul style="list-style-type: none"> - Defective bulb - Fuse blown out - Incomplete earthing | <ul style="list-style-type: none"> Replace Replace if defect repeats, get the vehicle examined by the Authorised service center Correct |

3-117

SECTION - 4
LIST OF AUTHORISED REPRESENTATIVE & SERVICE CENTERS

(PLEASE CONTACT REGIONAL OFFICES FOR UPDATED LIST)

AUTHORISED REPRESENTATIVES & SERVICE CENTERS

| City | Dealership Name/ Address | Contact person | Phone |
|-----------------------|--|--|--|
| ANDHRA PRADESH | | | |
| Ananthpur EASC | M/s Sri Sai Lakshmi Agencies 8/7, M.R.S.M. Complex, N.H. 7, By-Pass Road, Ananthapur-1 | Mr. B. Partha Saradhi Mr. J. Damodar Naidu Mr. Srinivas (W) | M 9849021333 M 9440285096 08554-271009 |
| Chittoor AR | M/s Hitech Motors Bangalore By pass Road, Near Iruvaram Post, Chittoor - 517128, E-mail: hitechmotors_tpt@rediffmail.com | Mr. Chandrea Sekhar Mr. Tulasi Ram (W) | 9849492620 9849492623 |
| Cuddapah EASC | M/s Standard Automotives Plot No.14, Beside Sri Durga Devi Temple N.H.18 Road, Cuddapah E-mail: standardautomotives@rediffmail.com | Mr Md. Farhatullah Mr. Syed F. Bhasha (W) | M 98491-26276 M 94402 80745 08562-274728 |
| Hyderabad AR | M/s Talwar Auto Garages Pvt. Ltd. 6 - 3 - 658, Concorde Apartment Opp. Eram Manzil, Somajigudda, Hyderabad - 500482 E mail: eichertalwar@rediffmail.com | Mr. Sunil Talwar | 040 - 23312337, 55669605 / 3743 23310339 |
| Work Shop | C-5/1, APIE, Balanagar, Opp. IDPL Research Balanagar, Hyderabad, Dt. Rangareddy E-mail : tag_workshop@rediffmail.com | Col. Arun Kumar Jyothi | Fax : 040 - 23302264 M 98481 35272 040-23774318 / 0210 Fax : 040-23773478 |
| Karimangar AR BR | M/s Talwar Auto Garages (P) Ltd. 8-5-379, Survey No. 416, Kothi Rampur Locality Hyderabad Road, Karimanagar | Mr. Vipin (W) | M 98481 85511 08782260777 |
| Kurnool EASC | M/s Shivani Automobiles Plot No.127, Nehru Auto Nagar, N.H.7 Kurnool - 3 E-mail : shivaniautomobiles@rediffmail.com | Mr. K. Veerabhadrapa | M 98854 67369 08518 - 252729, 250145 (R) |
| Mehdipatnam AR BR | M/s Talwar Auto Garages Pvt. Ltd Mehdipatnam, Hyderabad - 9-4-81 Nanal Nagar, Langar House Road, Adjacent to Andhra Floor Mills Mehdipatnam, Hyderabad, Dt. Rangareddy - 500 008 | Mr. MVS N Murthy | M 98481 70730 040 - 23526605 / 27110559 (R) Fax : 23522543 |
| Nellore AR | M/s Sai Krishna Motors Eicher Motors Showroom, G N T Road, Chemudugunta Road, Dt. Nellore - 524320 | Mr. Niranjan Reddy | M 9440278176 2324113 (R) 0861 - 2348282 |

4-2

AUTHORISED REPRESENTATIVES & SERVICE CENTERS

| City | Dealership Name/ Address | Contact person | Phone |
|---------------------|--|---|--|
| Ongole EASC | M/s Shankar Auto Stores SBT Building, Throvagunta Company, N.H.5 Road, Ongole, Dt. Prakasam | Mr Shiva Mohana Reddy Mr. Shiv Shankar (W) | M 98481 25025 M 98483 04271 08592 246655 - 56 |
| Rajahmundry AR | M/s Srinivasa Automobile 41-2-196, Tadihota, Rajahmundry - 533103 E-mail: rmy_srnvsrjy@sancharnet.in | Mr. B Pullam Raju Mr. Mr. Shankar (W) | M 98481 69292 0883 - 2438162 M 9849463553 2468848, 2366777 (R) Fax: 2467117 |
| Srikakulam EASC | M/s Jeelani Automobiles Kotha Road Junction, Near Telephone Tower, N.H.5 Road, Srikakulam | Mr A.K.M. Jeelani | M 9848274432 08942 - 278917 0891-3102352 |
| Tirupati AR BR | M/s Hitech Motors Near Vertha, Renigunta Road, Tirupati Dt. Chittoor - 517506 | Mr Jagannath Reddy Mr. Nirajan Mr. Madhu (W) | M 9849492619 M 9849492618 0877-2239616 M 9849492625 |
| Vijaywada AR | M/s The Mithra Agencies Opp. AIR Station, Bunder Road, P B No. 257, Vijaywada, Dt. Krishna - 520010 | Mr. Madhoosudan Sharma | M 98490 84134 0866 - 2484134 5511818 |
| Work Shop | Plot No.7, Jawahar Auto Nagar Vijaywada, E-mail: matho000@hotmail.com | Mr. Ramakrishna | 0866-2543726 |
| Vishakapatnam AR | M/s Srinivasa Automobiles (Vishaka) Pvt. Ltd. A - 6, APIE, Autonagar, Gajuawaka, Dt. Vishakapatnam - 530001 E-mail: gvravraju@rediffmail.com | Mr. G.V.R.V. Raju Mr. R.C.V.R. Krishna (W) | M 9849592727 0891 -2511839/ 2515676-7,2504024 (R) Fax: 0891 - 2511182 M 9849563773 |
| Warrangal AR BR | M/s Talwar Auto Garages Pvt Limited 1-1-1/1, Chaitanyapuri, Opposite R.E.C. Petrol Pump, Hanamkonda, Dt. Warrangal | Mr. Sirish Reddy | 0870-2431043 M 98490 27372 Fax : 0870 - 2446401 |

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AUTHORISED REPRESENTATIVES & SERVICE CENTERS

| City | Dealership Name/ Address | Contact person | Phone |
|---------------------|---|---|--|
| ASSAM | | | |
| Guwahati AR | M/s Goodwill Motors 1 KKB, Road, Chenikutni, Dt. Guwahati - 781 003 Email : goodwill_motors@rediffmail.com | Mr. S.K. Barua Mr. Sanjoy Barua | M 98640 10047 M 98640 95801 0361-2544219/2663044 2543897 (R) Fax : 2639115/2669073 0361-2302822 |
| Work Shop | Heliped Road, Beltola NH-37 Bypass, Guwahati 781 003 | Mr. Arun Barua | |
| Rangpara EASC | M/s Sahil Automobiles G.N.B. Road, Rangpara, Dt. Sonitpur, Assam. Email : sahilauto@rediff.com | Mr. Rajesh Patodia | 03714-222236/222067 Fax : 222067 03714 - 222200 (R) |
| BHUTAN | | | |
| Phuentsholing AR | M/s State Trading Corp. Of Bhutan P.O.Box No-76, Phuentsholing, Bhutan Email : stobl@druknet.bt | Mr. Dorjee Namgyea Mr. Sanghey Rabten (W) Mr. Tenzing Norgay | 009755-252745 252514 / 253616 009755-252286(R) Fax : 009755-252619 |
| EASC | M/s Rabten Engg.workshop P.o. Box No-258 Phuentsholing, Email : rew2@druknet.bt | Mr. Sonam Tobgay Mr. B. Das (W) Mr. Damber Shrestha (W) | 009755-252238/252669 Fax : 009755-252908 009755-252047(R) |
| Thimpu EASC | M/s. Kuenga Automobiles P.O.Box No.-219 Thimpu, Bhutan | Mr. Kuenga Norbu | M 00975-17600316 00975-324456 Fax : 00975-321129 |
| EASC | M/s Sonam Automobile Changzamtan P.O. Box No426 Thimpu, Bhutan | Mr. Penjor Dukpa Mr. Thinleg (W) | 00975-222549/2322549 Fax : 00975-322549 |
| BIHAR | | | |
| Patna EASC | M/s. United Motors World Lohiya Marg, Jagdapath, Near Nitibag Colony Baily Road, Patna-14 | Mr. S.K. Rai | 0612-2590507 2522575 (R) M 98352 75728 |

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AUTHORISED REPRESENTATIVES & SERVICE CENTERS

| City | Dealership Name/ Address | Contact person | Phone |
|---------------------|--|--|--|
| CHANDIGARH | | | |
| Chandigarh AR | M/s Modern Motors 122, Industrial Area Phase 1, Chandigarh-124001 | Mr. Madhu Sudan Vij Mr. Grover Mr. Manuj (W) | M 98140 88400 0172-2656633 2740000 (R) Fax : 2653444 |
| CHHATTISGARH | | | |
| Raipur AR | M/s Dynamic Motors Near MP Dhaba, GE Road, Tatibandh, Raipur Email : dynmotors@yahoo.com | Mr. Manoj K. Pandey(W) Mr. Anant Agrawal Mr. Vidyabhushan Singh | M: 98271 07928 M 94252-36028 M 94252-37028 0771-5076096 3090874 (W) |
| DELHI | | | |
| Delhi AR | M/s R.S. Ajit Singh & Co. Automotives Pvt. Ltd. C-91/10, Wazirpur Industrial Area , Ring Road, Delhi - 52 Email: rsas@nda.vsnl.net.in | Mr B.S.Khurana | 011-27375188 / 3341 27372187 / 4700 Fax - 011-27371916 M 98110 51063 M 98110 94035 011-27639402 / 542 27638483 |
| Work Shop | 93, Sarai Peepalthalla, Near Azadpur Fruit Mandi, G.T. Karnal Road, New Delhi-110 033 | Mr. Yogesh Tomar (W) | |
| AR | M/s Sincere Marketing (P) Ltd. 5 Masjid Moth, Outer Ring Road, Greater Kailash - 3, New Delhi - 48, Email - sincere@vsnl.com | Mr Anil Dhingra | M 9810117191 011-26440347 (R) 011-29222799 / 467 Fax 011- 29212347 011-30911561 M 33111923 M 98116 34763 011-30911561 |
| Work Shop | K - 628, Rangpuri, Near Radisson Hotel, New Delhi Email : sincere@indiatimes.com | Mr. Sunderashan (W) Mr. Gulshan Dhal (W) | |
| GOA | | | |
| Panjim AR | M/s Dempo Mktg. Co. Pvt. Ltd. Dempo House, Automobile Divn. Campal, Panjim Goa - 403 001, Email : dmkt@ho.demos.com | Mr. Subhash V. Dempo Mr.Dhilip Mondkar | 0832-2226281-86 M 9822129012 |
| Work Shop | NH-17, Parxet, Gurim, Bardez, Goa | Mr. Thomas Fernandes | 0832 - 2260771/ Telefax : 2260855 M 9822104552 |

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AUTHORISED REPRESENTATIVES & SERVICE CENTERS

| City | Dealership Name/ Address | Contact person | Phone |
|------------------------------|---|--|---|
| GUJARAT | | | |
| Ahmedabad AR Work Shop | M/s Aarohi Motors Pvt. Ltd. Laxmi Estate, N.h. No. 8, Narol, Ahmedabad-382 405 Email : aarohi@icenet.net.in Tulshi Avenue, Behind Tulshi Hotel Aslali, Ahmedabad | Mr. V.C. Shah Mr. M.Raju | M 9824310140 079 - 57103098 079 - 57100836 M 079-31004230 079-3862913 3861895 |
| EASC Work Shop | M/s Apco Motors India Pvt. Ltd. House, 1st Floor, Opp. Dinbal Tower, Mirzapur, Dt. Ahmedabad. Block No. 451, Near Kenal Sarkhej Bawla Road, Po Sanathal, Sanand, Dt. Ahmedabad | Mr. Mehul Dholakiya Mr Majbut Singh | 5506868 / 5509246 6730161 (R) M 98240 23890 M 31004260 Fax : 02717-251462-63 02717-250946 02717-251462-63 |
| Anand AR | M/s Aarohi Motors Pvt. Ltd. N.h. 08, Opp. J.k. Park, Near Gin Compound, Vaghashi Dt. Anand 388011, Email : aarohianand@icenet.net | Mr. Shashank Shah Mr. Hitesh Bhai | 02692 - 255349/ 255530/269162 Fax : 255689 |
| Ankleshwar AR BR | M/s V. G . Automobiles Opp. Varsha Hotel, Rajpipla Chowkdi, Nh 8, Ankleshwar | Mr. Piyush Patel Mr. Daval Shah | 02646-233456 M 98250-32468 |
| Baroda AR | M/s V.G. Automobiles Opp. SRP Group No. 9, Makarpura Road, Baroda 390010, Email : vgauto@eth.net. | Mr. Piyush Patel Mr. Pradip Chakraborty | 0265-2353016 (R) M 98240 10952 0265-2642432/2647654 |
| Rajkot AR | M/s Navnit Motors Pvt. Ltd. Gondal-Ahmedabad Bye Pass Circle, Gondal road National Highway No 8-B, Vavadi, Rajkot-360004 E-mail nmplrajkot@navnitmotors.com | Mr. Shailesh Kachalia Mr. Manoj Narga Mr. M.V.V Patel (W) | 0281-2375313-16 Fax- 0281-2375311 M 9825220630 M 9824329072 |
| Surat AR | M/s Trishul Motors Opp. Sadhna Society, Varachha Road, Surat 395 006. Email : trishulmoto@sify.com | Mr. Bharat K. Patel Mr. Surendran (W) | 0261-2547961/2545703 Fax : 0261-2552884 M 98241 14447 0261-2551504 M - 98241-75069 |

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AUTHORISED REPRESENTATIVES & SERVICE CENTERS

| City | Dealership Name/ Address | Contact person | Phone |
|----------------------------------|--|--|---|
| HARYANA | | | |
| Ambala AR BR | M/s Modern Automobiles Adjoining Model Town Crossing, Near Hotel Amarpali, GT Road, Ambala, Haryana. Email : modernamb@glide.net.in | Mr. Madhu Sudan Vij Mr. Satish K. Vij (W) | M 9814088400 0171-2521881 Fax : 2520255 |
| Faridabad AR Work Shop | M/s Shree Motors Pvt. Ltd. 1A-240-243, Neelam Bata Road, N.I.T. Faridabad. Haryana -121001. Email : shreemotorsltd@rediffmail.com Plot No. 1, Northern India Complex, 20 / 3, Mathura Road, Faridabad, Haryana Email : shreeworkshop@rediffmail.com | Mr.S.B.Mittal Mr. Ashish Mittal Mr. Vimal Singh (W) | 0129-5029547/48 M. 9810744169 Fax : 0129-5029547 M. 9811267624 0129 - 5066678 |
| Gurgaon AR | M/s Sincere Marketing Service Pvt Ltd. 38 Km Stone, Village - Khandsa, Delhi Jaipur Highway Gurgaon. Email - sincere@vsnl.com | Mr. Anil Dhingra Mr. Gyan P. Saxena (W) | M 9810117191 0124-2372852 2215620 Fax. 011- 26472467 |
| Hisar AR | M/s Mohan Tractors Pvt. Ltd. 9th Km Milestone, Delhi - Hisar Road, Near Janak Tubes Haryana, Email : mohantrucks@rediffmail.com | Mr. Gopal Mittal Major D. P. Kadyan (W) | M 9811064515 M 9896352013 01662 - 322449 |
| Karnal AR Work Shop | M/s Bansal Motors G.T. Road, Near Namaste Chowk, Karnal - 132 001, Email : bansalmotors@sify.com 21/3, HIDC, G.T. Road, Karnal - 132 001 | Mr. R.L. Bansal Mr. Vikas Bansal Mr. Prem Singh | M 9896328130 M 9896314130 0184-2221400 / 1200 0184-2205450 (R) |
| Rohtak AR Work Shop | M/s P. L. Agencies Pvt. Ltd. 51, Shamlal Motor Market, Hissar Road, Rohtak-124001 Email : plagen_pvt_ltd@indiatimes.com 21, J.P. Nagar, Shamlal Motor Market, Hisar Road Rohtak 124 001, Email : plagen@rediffmail.com | Mr. Ravin Kumar Jain Mr. Sandeep (W) | M 94160 10777 01262-248005 01262-310745 01262-269123 (R) 01262-248005 |

HIMACHAL PRADESH

| | | | |
|-------------|---|---|---|
| Mandi AR | M/s Behl Motors Sauli Khad, Mandi 175 001. Email : bmotor@rediffmail.com | Mr. Somnath Behl Mr. Deepak Dhawan Mr. Vimalkant (W) | 01905 - 235102 M 98160 75919 Fax : 235175 |
|-------------|---|---|---|

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AUTHORISED REPRESENTATIVES & SERVICE CENTERS

| City | Dealership Name/ Address | Contact person | Phone |
|--------------------------|---|--|--|
| Shimla AR | M/s Behl Motors Himachal Filling Station, Sanjauli Dhalli Road, Shimla Email : bmotor@rediffmail.com | Mr. Sanjeev Behl | M. 98170 64300 0177-2841930 2640164 (R) Fax : 2647610 |
| Solan AR BR | M/s Behl Motors Village Kailer, PO Saproon, Sabghu Road, Solan, Himachal Pradesh. Email : bmotors@hotmail.com | Mr. Sanjeev Behl Mr. Vikas Handa (W) | M. 98170 64300 0177-240164 (R) 01792 - 227435 |
| JAMMU | | | |
| Jammu AR Work Shop | M/s Nav Bharat Motors 8 Palace Road, Jammu Sidara Bye Pass Road, Jammu | Mr. Ashok Sharma Mr. Subhash Gandotra Mr. Motilal (W) | M 94191-87381 M 94191-97373 0191-2544148 2532219/ 2544623 (R) 0191-2662007 |
| JHARKHAND | | | |
| Jamshedpur AR BR | M/s Apee Automobile (P) Ltd Near Dharma Kanta, Dimna Chowk Dt - Singbhum (East) Jamshedpur | Mr. Bapi | 0657-3114247 0657-3092008 |
| Ranchi AR | M/s Apee Automobile (P) Ltd Near State Bank Indrapuri Branch Ratu Road, Ranchi, Jharkhand - 834001 Email : apee91@yahoo.co.in Email : ornate91@hotmail.com | Mr. Sharad Poddar Mr. K.K. Mishra (W) | M 943115969 0651-2280284/2284785 Fax : 0651-2284785 M 0651 3100326 |
| KARNATAKA | | | |
| Bangalore AR | M/s Bangalore Mopeds Sales & Service Pvt. Ltd. 130, Lalbagh Road, Bangalore - 5600027, District : Bangalore, Karnataka Email : canter@bgl.vsnl.net.in | Mr. Ravi Reddy | M 98450 14414 080 - 22220056 51146403/04 Fax. 080 - 2290213 |
| Work Shop | M/s Canter Automobile Service Pvt. Ltd. No. 53/2, 53/3, 9th Mile, MBT Compound, Hosur Road, Bommanahalli, Bangalore 560 068 E-mail : canterblr@yahoo.com | Mr. Vivek M. Reddy | M 98450 08806 080-25720588 51108287 |

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AUTHORISED REPRESENTATIVES & SERVICE CENTERS

| City | Dealership Name/ Address | Contact person | Phone |
|----------------------|---|---|---|
| Bangalore EASC | M/s Sri Lakshmi Motors Service (P) Ltd. No.21, 2nd Stage, Industrial Suburb, Yeshwantpur Opp. CMTI Tumkur Road, Bangalore 560 022 Email : slm_eicher@vsnl.net | Mr. M. Shankar Mr. Nagaraj (Sup.) | M 98440 07641 080 23574450 / 51 / 52 Fax : 23574350 M 080 36970260 |
| Belgaum AR | M/s Bharat Auto Enterprises 371/1-2B, PB Road, Belgaum 560 016 | Mr. Dilip M. Patil | M 9845470326 0831-3090725 Fax : 2489535 2482007 (R) M 98455 35153 0831-3090726 |
| Workshop | Plot No. 16, Kamkaratti Village, P.B. Rd., Belgaum | Mr. Deepak (W) | |
| Bijapur EASC | M/s Maruthi Automobiles Plot No. 4-6, KSSIDC, Opp. IOC Depot, NH 13, Bijapur 586 101 | Mr. J.M. Badiger | M 94482 45535 08352-244137 08352-212221 |
| Davangere AR BR | M/s Vijaya Motors Sales & Service No. 1947/1,2,3, PB Road, Opp. Pooja, International Hotel, Davangere 577006 Email : vijayadg@sancharnet.in | Mr. K. Venkatesh Mr. Hosa Gowder (W) | M 94480 70098 M 94483 52848 08192-270098 08192-232848 (R) |
| Hassan AR BR | M/s Ballal Motors Sales & Service Behind Venkateshwar Garage, Thanirhalla, Hassan | Mr. Shivakumar | 08172-256715 M 98454 58247 |
| Hospet EASC | M/s Nandi Automotives T M A E Polytechnic Society's Compound Bellary Road, Hospet - 583201 Email : nandieicher@hotmail.com | Mr. Gurumurthy Mr. Mallinath Mr. Surya Prakash (W) | 08394-465270 381864 M 9448006422 |
| Hubli EASC | M/s Manjunath Motors Plot No. 120/1-2, Hubli Dharwad, Bypass Road Near Toll Naka, NH4, Gabbar, Hubli 580 028 | Mr. Mallikarjun | M 98457 34582 0836-2243005 272356 |
| Kundapur AR BR | M/s Ballal Motor Sales & Service D. No. KGP 2/40, Halady Road, Koteshwara Kundapur - 576 222 | Mr. Anand | 9845544907 |
| Kushalnagar AR BR | M/s Ballal Motor Sales & Service Opp. Somashwara Temple, Somawar Pet Road Kushal Nagar, Coorg | Mr. Shouri | 08276-272539 |

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AUTHORISED REPRESENTATIVES & SERVICE CENTERS

| City | Dealership Name/ Address | Contact person | Phone |
|-----------------|---|--|--|
| Mangalore AR | M/s Ballal Motors Sales & Service BMS Garage Building, Kadri, Mangalore-575002 Email : ballamr@vsnl.net.in | Mr. Dilip Ballal Mr. Janardhan (W) | M 98451 96177 M 98452 47477 0824-2215777 Fax : 2217667 |
| Mysore AR | M/s Rashica Motors 1500/61, Madhavachar Road, KR Vanam, Mysore - 570008 Email : rashica@sancharnet.in | R.Viswas Mr. Davegowda (W) | 9880023636 M 98452 71045 0821-2487766 2481462, 2482931 |
| Shimoga AR | M/s Vijaya Motors Sales & Service Old Thirthahali Road, Shimoga 577 202 Email : vijayams@sancharnet.in | Mr. Umesh Shenoy Mr. Radhakrishna (W) | M 94481 28577 08182- 240534/242727 228577 (R) Fax : 242727 M 94481 41077 08182 220111 |

KERALA

| | | | |
|------------------|--|---|---|
| Alleppy AR BR | M/s P S N Automobiles P. Ltd 4/743,Near KTDC motel, A S Road, Arattuvazhi (PO) Alleppy - 688 007, Email : psnalpy@eth.net | Mr. Nazeer | M : 98473 34377 0477 - 2243298 |
| Calicut AR | M/s Automotive Marketing P Ltd 39/1405-A, Kannur Road, NH17, Pavangad, Puthiangadi (PO), Calicut - 637 021 Email:ampl@eth.net Web site : www.psnmotors.com | Mr. Ananthanarayanan Mr. Sangameswaran Mr. Madhu Mr. Santosh Mr. Jaikish (W) Mr. Sankarankutty (W) | M : 98460 31146 M : 98470 30656 M : 98470 21220 M : 98470 20713 M : 98473 00178 M : 98473 40888 Fax : 0495 - 2390025 |
| Ernakulam AR | M/s P S N Automobiles P. Ltd P O Box : 2270, 35 / 18 9, Palarivattom, NH - 47, Ernakulam - 682 025 Email : psnsales@asianetindia.com Website : www.psnmotors.com | Mr. Ananthanarayanan Mr. Madhu Mr. Girish | M : 98460 31146 M : 98470 21220 M : 98470 30111 0484 - 2348299 2340277/2368/3661 2349520 / 2534641 Fax : 0484 - 2340898 |
| Work Shop | 32 / 203, Sree Parvathi, Pookattupadi Road, Edapally Cochin - 682 024 E-mail : psn@eth.net | Mr. Jimmy K Jose Mr. Sankarankutty | M : 98470 20888 M : 98473 40888 0484-2576527/41 2577072 |

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AUTHORISED REPRESENTATIVES & SERVICE CENTERS

| City | Dealership Name/ Address | Contact person | Phone |
|---------------------------------|---|---|---|
| Kannur AR BR | M/s Automotive Marketing P Ltd, Melechowa, N H - 17, Chowa (PO), Kannur-670006, Email : automotiveknr@eth.net | Mr. Arun Mr. Charles (W) Mr. Madhu (W) | M 98470 11899 0497 -2727053 2729896 |
| Kollam AR BR | M/s Grand Motors Sales Corporation Leyland Buildings,Kadapakkada Kollam - 691 008, Email : grandklm@sify.com | Mr. Stanly Mr. Jaleel (W) | 0474 - 2740848 M 94470 62274 |
| Kottayam AR | M/s AVG Vehicles Sales & Service P. Ltd Post Box No : 1, Ancheril Buildings Baker Junction, Kottayam - 686 011, Email : avgvehicle@sify.com | Mr: George Idiculla | M : 98952 11141 0481 - 2560471/3291 2562184, Fax: 2564658 |
| Work Shop | EICHER Workshop Gandhinagar, Kottayam - 686 006 Email : avgeicherws@sify.com | Mr. Ramesh Babu | M: 98950 60471 0481 - 2594734 |
| Manjeri AR BR | M/s Automotive Marketing P Ltd A 232 / 14, Malapuram Public Road Near Co-operative college, Manjeri 676 121, Email : amplmanjeri@eth.net | Mr. Cliffy Mr. Sujith (W) | M 9847413001 04983 - 2764940 |
| Palakkad AR BR | M/s P S N Automobiles P. Ltd NH - 47, Kadankode, Kunnathurmedu (PO) Opp : Palakkad Cosmopolitan Club Palakkad - 678 013, Email : psnplkd@eth.net | Mr. Ramanathan Mr. Bhavadas Mr. Krishna Kumar (W) Mr. Sasi Kumar (W) | M : 98460 45321 M : 98472 88110 0491 - 2515530 2880888 M : 98472 74714 |
| Thrissur AR BR | M/s P S N Automobiles P. Ltd T C - 22 / 1034 / 1, NH - 47 - Bye Pass Nadathara, Thrissur Email : psnautomobiles@eth.net | Mr. Sangameswaran Mr. Rajesh Mr. Jayan (W) | M : 98470 30656 M : 98473 30888 0487 - 2371174/ 2375894 |
| Tiruvalla AR BR Work Shop | M/s Grand Motors Sales Corporation Renjith Buildings,Near R T O Office, M C Road, Tiruvalla, Thukalasserry Email : grandtvla@sify.com | Mr. Suresh Mr Kuriakose | M : 94470 62270 0469 - 2602941 M : 94470 62274 |
| Trivandrum AR | M/s Grand Motors Sales Corporation Saraswathy Buildings, Karamana, P O Box : 608 Trivandrum : 695 002 Email : 123grand@satyam.net.in | Mr. Ashok Kumar Mr. Anil Kumar | M : 98470 62266 M : 98461 56416 0471 - 2342266 2342971 / 2340346 Fax : 0471 - 2342971 |

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AUTHORISED REPRESENTATIVES & SERVICE CENTERS

| City | Dealership Name/ Address | Contact person | Phone |
|----------------|--|-----------------------------|---|
| Work Shop | Plot No : 72 / 84, Idaveli, Opp: Kochuveli railway station, Trivandrum Email : grandmotors@sify.com | Mr. Narayanan Kutty | M 94470 62283 0471 - 2501660 2507651 / 52 |
| Wynad AR BR | M/s Automotive Marketing P Ltd, Dottappankulam, Calicut road, Sulthan Bathery Wynad, Email : amplbathery@eth.net | Mr. Razi Mr. Brajesh (W) | 04936 - 2623030 |

MADHYA PRADESH

| | | | |
|--------------------|---|---|--|
| Bhopal AR | M/s Jeewan Motors Pvt. Ltd. 8 Industrial Estate, Govindpura, Bhopal, Email : jewanmotos@rediffmail.com | Mr Pawandeep Singh Chhatwal Mr. Mukesh Dixit (W) | M : 98260 47581 0755 - 5284540 (R) 0755 - 5261268 / 2600930(W) M 98260 99260 |
| Chhindwada EASC | M/s Vasant Works Civil Lines, Nagpur Road, Chhindwada, Email : vasantworks@hotmail.com | Mr Vasant Chawak Mr. Sandeep Chawak Mr. Amit Shukla (W) | M : 98270 94144 M : 07162 203263 07162-225350-51 |
| Gwalior AR | M/s Velocity Automobiles Pvt. Ltd. Shivaji Marg, Near Chhapperwala pul, Gwalior Email : velocityautomobiles@rediffmail.com | Mr Abhijeet Atray | M : 98270 63643 2330923 (R) (0751) 2322116 2331015, 2369177(W) |
| Work Shop | 2 A, Industrial Area, Maharajpur, Gwalior Email : velocityauto@sify.com | Mr B. K. Bose (W) | M : 98262 36918 |
| Indore AR | M/s Patel Motors (Indore) Pvt. Ltd. 13/19 Pipliya Kumar Chouraha, Ring Road, Indore - 452010 Email : patelmotors@mantrafreenet.com | Mr Arvind Patel Mr.K.D.Nair | M : 98930 31399 2432955 / 2539360 (R) (W) 5033347 M;98262 97197 |
| Jabalpur AR | M/s Dynamech Automobiles 29A, Industrial Area, Richhai, Jabalpur Email : dynamech_automobiles@rediffmail.com | Mr. Alok Gupta Mr. Mahesh Dharmarajan(W) | M 0761-3113688/1237 0761-2332927 5012924 M 98931 61013 |
| Julwania EASC | M/s Swastic Sales Agencies A.B.Road, Julwania, Dt. Barwani | Mr Arun Sahu Mr Vijay Devde | M 94250 89309 07284 - 266235 / 266435, 266326 (R) |

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AUTHORISED REPRESENTATIVES & SERVICE CENTERS

| City | Dealership Name/ Address | Contact person | Phone |
|------------------|---|---|---|
| Rau EASC | M/s Triya Motors Opposite Ram - Rahim Colony, Station Road, Rau, Dist.- Indore 453331 Email : triyamotors2000@rediffmail.com | Mr Naresh Das Mr. Shailendra singh (W) | M : 98262 82058 2482701 (R) 0731- 2856116 2857363 M : 98263 47551 |
| Aurangabad AR | M/s Kailash Agencies Pvt. Ltd. PB No. 7, Jalna Road, Opp. Akashwani Aurangabad 431 005. Email : kapalabad@bom.vsnl.net.in | Mr. Prakash Bafna Mr. Kailash Bafna | 2352051 / 2350091 2324692 / 98232-97981 2482877/ 2482314 (R) Fax : 0240 - 2333270 2482770 / 2482529 |
| Work Shop | C/o Sandeep Metal Works, Plot A1/A2, MIDC Industrial Area, Near Lupin, Chikalthana, Aurangabad | Mr. Prashant Sahakare | M 9893229001 |
| Jalgaon EASC | M/s Prabha Motors &Service Industry M202 - A, MIDC Area, Near Godavari Engineering College, NH 6, Jalgaon - 425 003 Email : prabhamotors@yahoo.com | Mr.Kiran Kasar | 0257 - 2272470 M 98231 61167 |
| Kolhapur AR | M/s S.S. Mirje & Co. 1243/56, Udyam Chambers, Rajaram Road, Kolhapur 8 Email : klp_ssmiraje@sancharnet.in | Mr. Deepak Mirje Mr. Rahul Mirje | 0231- 2550221/222 M 9823163099 Fax : 0231 -2657214 |
| Work Shop | 11B/1, Nagaonphata, Pune-Bangalore Highway, NH 4, Opp. Kolhapur Steel, Shirol, Tal-Hatkanagale, Kolhapur-416 122 | Mr. Abhijeet Joshi Mr. Nikhil Mirje | 0231 - 2550223 M 98230-21699 |
| Latur EASC | M/s Gajraj Motors Babhalgaon Naka, Ring Road, Latur - 413512 | Mr.Gajanan Madhukar Rondhe | 02382 - 251477/248955 M 94226 - 26880 |
| Mumbai AR | M/s Navnit Motors Ltd. Dhan Laxmi Service, Indl. Estate, Gokul Nagar, AB Road, Majiwada, Thane 400 602. Email : navnitmi@eth.net | Mr. Navnit L. Kachalia Mr. Jayendra L. Kachalia Mr. Vijay L. Kachalia | 022 - 25340213-14-15/ 25341803/25415391/92 25135075/25123214/ 25153664 Fax : 022-25342903 M 98219 11237 25413118 / 55972285 |
| Work Shop | Electro Metal Indl. Compound, Next to Texsons Ltd. Kolshet Road, Thane 400 067 | Mr. Arjunan | M 98219 11237 25413118 / 55972285 |

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AUTHORISED REPRESENTATIVES & SERVICE CENTERS

| City | Dealership Name/ Address | Contact person | Phone |
|------------------|--|---|--|
| Mumbai AR | M/s Ratan Motors 60-A, Fateh Manzil, J.S.S, Road, Opera House, Mumbai 400 004 Email : ratanmotor@eth.net | Mr. B. S. Chandok | 022 - 23611292 / 23698736, 26403866 (R) |
| Work Shop | Govandi Station road, Behind Lakme, Deonar Mumbai-400 088 | Mr. Santosh Padhye | Fax : 022 - 23636393 M 9820902627 55975301-4, 25555365 022- 25559243 |
| Nasik AR | M/s Pawar Automobiles Plot No. 4, Hanuman Nagar, Opp. Rasbihari School, Mumbai - Agra Highway, Adgaon Naka, Nasik. Email : pawarautom@sify.com | Mr. Mohan Pawar Mr. Devendra Aherrao (W) | M 9823074094 0253-2621831/2511799 0253-3111744 |
| Pune AR | M/s Excel Motors 43, Mohit Plaza, Sahani Sujan Park, Lulla Nagar, Off Khondwa Road, Pune 411 040. Email : excel@pn2.vsnl.net.in | Mr. S.G. Asnani | 020 - 6835385 2683260 Fax : 6833259 M 98230 56830 |
| Work Shop | Gate No. 33, Opp. Kondhwa, BK Exchange Khondwa, Pune - 48 | Capt.Vilas Kumar Sarang | 9823206387 020 6932429/4001831 |
| AR | M/s Ratan Motors 55/1/1, Opp Mayuri Hotel Pune Satara Road, Katrej , Pune - 411046 | Mr.Sarobhjit Mr.Arvind Patil | M 9821880383 020 - 31091357 020 - 26959114 |
| EASC | M/s Shree Automobiles Survey No.81/8,Tathawade, Near Shirole Petrol Pump Tal.Mulshi, Dist.Pune - 411 033 Email : sache@pn3.vsnl.net.in | Mr. A.V. Chalke Mr. Kasuhik Datta | 020 - 22933488 22934060 / 22934010 M 98230 57191 Fax : 020 - 22934010 |
| Latur EASC | M/s Gajraj Motors Babhalgaon Naka, Ring Road, Latur - 413512 | G. M. Rondhe R. M. Rondhe | 02382-2511477 M 94226-26880 |
| ORISSA | | | |
| Balasure EASC | M/s Amarjit Automobiles Nuasahi Chhak, Balia, Balasure 756 001 Email : amarjिताutomobiles@rediffmail.com | Mr. N. C. Dhal Mr. S. C. Dhal (W) | M 94370 69684 06782 - 263438 261261/241312 Fax : 240615 06782-269684 (R) |

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AUTHORISED REPRESENTATIVES & SERVICE CENTERS

| City | Dealership Name/ Address | Contact person | Phone |
|--------------------|--|---|---|
| Bhubaneshwar AR | M/s Oricon Equipments Pvt. Ltd. Plot No 6C/6D, Sec. A, Zone B, Mancheswar Industrial Estate, Bhubanehswar 750010. Email : oriconequipments@sancharnet.in | Mr. Tutul Das Mr. K. N. Syamlal (W) | M 98610 27777 0674 - 2530844/82657 Fax : 2530999 M 0674-3102429 Fax : 2585740 |
| PUNJAB | | | |
| Jalandhar AR BR | M/s Gagan Automobiles Guru Complex, Lamba Pind Chowk, Pathankot Amritsar Road, Jalandhar Email : gagan_jaal1@rediffmail.com | Mr. Deepak Lyallpuri Mr. S.S. Barar (W) | M 0181-25199091 0181-2421901 0181-899091 (R) Fax : 2420902 |
| Ludhiana AR | M/s Uttam Sales & Service Ambala Bye Pass Road, Opp. Transport Nagar, Ludhiana. | Mr. Gurmeet Singh Mr. Mahinderpaul (W) | M 98141 53125 0161-2667011 Fax : 2669116 |
| Work Shop | Opp. Airport, G.T. Road, Ludhiana | | |
| Nawashahr AR | M/s Parmar Enterprises Bonga Road, Nawashahr | Mr. Harjasbir S. Parmar Mr. Tekchand (W) | M 9815709254 01823-225454 M 9417194192 Fax: 01823-225454 0160-2640701 (R) |
| Pathankot AR | M/s Gagan Automobiles Jalandhar- Jammu Bye Pass Road, Pathankot, Email : gagandeep@rediffmail.com | Mr. C.S Lyallpuri Mr. Vijay Kumar (W) | M 9814053053 0186-2241239 Fax : 2241239 M 98140 53053 |
| RAJASTHAN | | | |
| Alwar AR | M/s Shri Krishna Motor Company Near Jhankar Hotel, Delhi Road, Alwar-301001 Email : skmalw@jpi.net.in | Mr. Pramod Agarwal Mr. Jitendra (W) | M 98290 96610 0144 - 2372090 |
| Bhilwara AR | M/s Ruchi Motors Sharda Complex, Shahpura Chouraha, Ajmer-Bhilwara Rd., Mandal, Distt. - Bhilwara | Mr. Vikas Sharda Mr. Nitesh Joshi (W) | M 9829246232 M 9828141270 01482 - 309270 Fax: 01486 - 266870 |

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AUTHORISED REPRESENTATIVES & SERVICE CENTERS

| City | Dealership Name/ Address | Contact person | Phone |
|---------------------------|---|---|---|
| Jaipur AR | M/s Tambi Motors Tambi Tower, Sansar Chandra Road, Jaipur 302 001. Email : tambimotors@rediffmail.com | Mr. Satish Tambi | M 98290 52492 2202492 (R) 2370189 / 2204208 |
| Work Shop | B-145, Road No. 9, Vishvakarma Industrial Area, Jaipur | Mr. Aditya Banerjee (W) | M 5175316, 5072121 |
| Jodhpur AR Workshop | M/s Chandra Singh & Sons 28-29, Pratap Nagar, Jodhpur 04. A-40, II Phase, Basni Industrial Area, Jodhpur E-mail : chandra_jod@hotmail.com | Mr. Lal S. Kachhwaha | M 98290 23989 0291-2745919/5120549 2545591(R) |
| Kota EASC | M/s Medatwal Motors Chawani Chauraha, Jhalawar Road, Kota-324007 Email : medatwalmotors@yahoo.com | Mr. D. Gupta | M 9414188877 0744-2364092 F 0744-2364897 (PP) 0744-2427719 (R) |
| Udaipur AR | M/s Modern Automobiles & Mechanical Engineers Opp. Suraj Pole, Udaipur 313 001 Email : modautoudr@yahoo.com | Mr. M.P.S. Lekhari | M 98290 44125 0294-3090899 2410125 (R) Fax : 2421901 |
| Work Shop | Madri Eklingpura Road, NH-8, Manwakhera, Udaipur | Mr. Narayan | M 9414167425 0294-3090762 |
| TAMIL NADU | | | |
| Chennai AR | M/s Hex Mobiles Pvt. Ltd. 192, Mount Road, Saidapet, Mount Road Chennai-600015 | Mr. Franklin Mr. R. Ramachandran | M 98841 00200 M 98841 00210 044 - 22351825 / 81 Fax : 044 - 22351870 |
| Work Shop | 61/4A, Goparasanallur, Poonamallee Chennai - 600 056 E-mail:mobiles@vsnl.com | Mr. Samuel Mr. Chandrakumar Mr. Shankar | M 98841 00220 M 98841 00202 M 98841 00201 044 - 26272776 26274776/ 26491400 Fax : 044 - 26273776 |
| EASC | M/s Shree Motors No.1, D.R.R. Avenue, Audco Nagar Kattupakkam, Chennai - 600056 E-mail:shreemotors@eth.net | Mr.Sundaramurthy Mr. Hrishikesh Mr. Ramesh | M : 31047725 M : 94440 44050 M : 94440 54050 M 94440 64050 044 - 24764204 - 5 |

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AUTHORISED REPRESENTATIVES & SERVICE CENTERS

| City | Dealership Name/ Address | Contact person | Phone |
|-----------------------------|--|--|--|
| Chennai EASC | M/s Shree Motors (Unit II) No.55, Thandalkazhari, Village, G.N.T. Rd, Pozhal, Chennai | Mr.Sundaramurthy Mr. Hrishikesh Mr. Subramani (W) | M : 94440 44050 M : 94440 54050 M : 94440 74050 |
| Coimbatore AR | M/s Anamallais Agencies (Stadium) Krishha Swamy Tower, 172 Dr. Rajendra Prasad Rd., Tata Bad, Coimbatore - 641 012 Email : arc@md3.vsnl.net.in | Mr.G.S.Prasad Mr. Rajan | M : 98422 34300 M : 98422 26300 0422 - 2529700 / 2525610 Fax : 0422 - 2526800 |
| Work Shop | SF No.634, Pollachi Main Road, Eachanari PO. Coimbatore - 641 021 Email : aaworkshop@eth.net | Mr.R.Rajamani Mr.Arumugam | M : 98422 51600 M 94424 44100 2675500 Fax : 2676600 |
| Erode AR BR Work Shop | M/s Anamallais Agencies (Stadium) 315/3, Chinnakadu Thottam, Veerappampalayam Bye pass Road Perundurai Road, Erode - 638 009 | Mr. Sivakumar | 0424 - 2271040, 2277260 / 70, 2272360 |
| Karur AR Work Shop | M/s Jailaxmi Auto Works & Agencies Venna Malai, Andavar Nagar Karur Salem Bypass Road, Karur Karur Salem Bypass Road Vennamalai Post, Karur E-mail : jailaxmikarur@eth.net | Mr.A. Subramani Mr.Swaminathan Mr. Anandhan | M : 98430 27470 M : 98430 95814 04324 - 225814 M: 98430 57470 04324 - 222083 Fax : 225814 (W) |
| Madurai AR | M/s Susee Cars & Trucks P Ltd. 117/3, Theni Road, Madurai - 625 002 (Next to Susee Petrol Bunk) Email : mdu_suseecar@sancharnet.in | Mr.S.Rajasekaran Mr. G.J. Raghavan (W) | M : 98421 22144 M : 98423 06102 0452 - 2382811/1011 2380438 Fax :2380919 |
| Nagercoil AR BR | M/s Susee Motors 90/A,Ethamoozhi Road, Nagercoil-629 002 | Mr. Harry | M : 98421 30865 04652 - 241793 (W) |
| Salem AR | M/s Jailaxmi Auto Works & Agencies Pvt. Limited Pinangukar Thottam Salem Attur Bypass Road Seelanaikanpati, Salem - 636 202 Email : jailaxmisalem@eth.net | Mr.A. Subramani Mr Sivakumar Mr.Saravanan (W) | M : 98430 27470 M : 98430 67470 M : 98430 77470 0427 - 2280504 / 805 Fax: 2280805 |

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AUTHORISED REPRESENTATIVES & SERVICE CENTERS

| City | Dealership Name/ Address | Contact person | Phone |
|-------------------|---|---|---|
| Tirunelveli AR | M/s Susee Motors 119/4, South Bypass Road Vannarpettai Tirunelveli - 627 003 Email : susee@eicher.com | Mr.R.Purushothaman Mr. Padmanaban Mr. Dhaklan | M : 98430 58100 M : 98421 58244 M : 98421 24244 0462 - 2500791 / 543 Fax : 2500856 |
| Trichy AR | M/s Aarthi Motors Limited 2/15-C, 1st floor, Classic Towers Chennai Bypass Road, Senthineerapuram, Trichy-620 004 Email : amltry@eth.net | Mr.Jeyapandian Mr.K.Pasupathy (W) | M : 98424 71970 M : 98424 54188 0431 : 2300889 / 2301238-9, 2300688 Fax : 0431- 2301239 |
| Vellore AR | M/s Susee Motors 27, Chittoor High Road, Katpadi Vellore - 632 007 Email : vir_suseetrades@sanchar | Mr .S. Manivannan Mr.Sekar Mr.R.Saravanan (W) | M : 98430 87184 M : 9842326184 M : 9842328184 Fax : 2242219 0416-2243396/2245229 |
| Villupuram AR | M/s Sri Safari Motors S.F. No., 27/4, Chennai Main Rd., Opp to Warehouse Villupuram - 605602 | Mr. M. Saravanan Mr. Samson (W) Mr. Govindrajulu | M 0413 3150159 M 04146 339433 M 98423 35577 |

UTTARANCHAL

| | | | |
|----------------|--|--|--|
| Haldwani AR | M/s Bhargava Motors Industrial Estate, Bareilly Road, Haldwani | O.P. Bhargava Mukesh Thakur | 05946 - 245133/245340 M 98370 45366 M 9837318909 |
| Kotdwar AR | M/s Sanjeev Motors Naziabad Road, Kotdwar | Bajrang Lal Garg | 01382 - 222400 M 9412181301 |

UTTAR PRADESH

| | | | |
|-------------------------|--|--|--|
| Agra AR Work Shop | M/s. Prem Auto Enterprises Nangla Jawahar, Agra-Mathura Bye-Pass Road, Agra. 4, Neeraj Nagar, (Near Asopa Hospital), Gailana Road | Mr. Harsh Agrawal Mr. Paras Agrawal Mr. Dinesh Chahar | 0562-2522824 2350612 / 2324264 2603906 (W) |
|-------------------------|--|--|--|

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AUTHORISED REPRESENTATIVES & SERVICE CENTERS

| City | Dealership Name/ Address | Contact person | Phone |
|------------------------------|--|---|--|
| Allahabad AR | M/s. Khurana Auto Pvt. Ltd. 23, P.D. Tandon Marg, Kanpur Road, Allahbad. | Mr. Harish Khurana Mr. Rajeev Tiwari (W) | M 94152 35882 0532 - 2662972 M 94153 51240 0532 - 2420589 (W) |
| Bareilly AR BR | M/s. Bhargava Motors Swaleh Nagar, Rampur Road, Bareilly | Mr. O.P. Bhargava Mr. Rakesh Ku. (W) | 0581 - 2480579 2561074/ 9837016608 |
| Faizabad AR BR | M/s. Narvada Motors Pvt. Ltd. Janana Hospital Road, Rekabgunj Faizabad. | Mr. Amal Gupta Mr. Tirth Ram Yadav | M 9415020824 05272-225251 05278 - 224837 M 9839091564 |
| Gorakhpur AR Work Shop | M/s. Green Field Auto Pvt. Ltd. Golghar, Gorakhpur Opp. Govt. Garden, Kasia Road, Gorakhpur | Mr. Suresh Singh Mr. S. Roy | 0551 -2200118 M 9415210650 0551-3115502 |
| Kanpur AR | M/s. Shunty Bunty Motors Pvt. Ltd. 123/474 (737), Kalpi Road, Fajalgunj, Kanpur. | Mr. H.K. Oberoi Mr. Anil Chug | 0512 - 32223774 2217946 / 2223744 2220342 0512 - 3113570 |
| Lucknow EASC | M/s. B.K. Motors B-8, Industrial Area, Nadargunj, Amousi, Lucknow | Mr. B. Mehdiratta Mr. Narendara (W) | 0522-2438115 M 9839016191 2436040 M 9839448697 |
| AR Work Shop | M/s. Narvada Motors Pvt. Ltd. 13th, K.M., Near Sewa Hospital, Sitapur Rd. Lucknow. | Mr. Vishal Gupta Mr. Narender Singh (W) | M 94150 20823 0522-2365222/2360744 |
| Meerut AR Work Shop | M/s. Punjab Motors Works Delhi Road, Old Chungi, Meerut. Email : punjabmotor@cjnet4u.com 31, Hirara Godown, Baghpet Rd. Meerut | Mr. Rupinder Singh Mr. S.S. Tomar | 0121 - 2511481 2518112 M 94121 04888 2520948 |
| Noida AR | M/s Ajit Auto Pvt. Ltd. D-24, Sector 2, Gautam Buddh Nagar, Noida 201301. | Mr. Sanjai Mehra Mr. Sanjai Mehra (W) | 0120 - 2548593 2554769 M 9818318898 |

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AUTHORISED REPRESENTATIVES & SERVICE CENTERS

| City | Dealership Name/ Address | Contact person | Phone |
|--------------------|--|--|--|
| Varanasi AR | M/s. M.R. Airwheels Pvt. Ltd. Plot No. 4, Haritionpur, Rohania, Varanasi | Mr. Ranjeet Jaiswal | M 0542 3104207 0542-2372635 (W) |
| VIDARBHA | | | |
| Akola AR | M/s Vidarbha Tractors Murtizapur Road, Akola - 444 001 C/o. Mahavir Commercial Comple, Akola Naka, Wasim 444 505 E mail : vidarbha_tractors@hotmail.com | Mr. Ajay Khemka Mr. Shiv Shankar Khemka | M - 098225 31390 M - 098230 38477 0724-2458308,2459443 2459874, 2459476 07252-234530 |
| Workshop | M-49, Akola Growth Centre, MIDC, Phase - IV, Akola | Mr. Hemant Kasera | M 098503 88252 |
| Nagpur AR | M/s R.I. Works National Insurance Building, Kingsway, Nagpur 440001 | Mr. Rajneesh Naidu | M 98222 28902 0712-2528902,2533408 2534838 |
| Work Shop | P.K. Salve Direct Road, Mohan Nagar, Nagpur 440001 Email : riworks@satyam.net.in | Mr. Chandan Chakraborty | M 98222 03707 0712-2533562 |
| WEST BENGAL | | | |
| Durgapur AR | M/s Jayshree Automobiles P-38 Recol Park, City Center, Durgapur-713216 E-mail : jayshreeautomobiles@yahoo.co.uk | Mr. Utpal Basu | M 94340 02677 0343-2547903/2547951 Fax : 0343-2547951 |
| Workshop | Andal More P.O. Andal, Dt - Burdwan Email : jayshreeauto@sancharnet.net.in | Mr Ashok Das (W) | 0341-2373122 Fax : 0341-2373122 |
| Howrah EASC | M/s Bakultala Body Builders 15A, Andal Road Howrah - 711309 | Mr.Gurjeet Singh | 26586065/ 26684632 M 9831185824 033-26684633 (R) |
| Kolkata AR | M/s Crystal Automobiles 121, Chittaranjan Avenue Kolkata - 700073 Email : crystalcal@vsnl.com | Mr. Naresh Aggrawal Mr. Ragesh Aggarwal | 033-22217727/ 28 22351768 Fax : 033-22153770 M 9831020330 M 9831040277 |
| Workshop | Alampur More, New Kolarah Nh 6, Howrah - 711302 | Mr. Prabir Bhattacharya | M 033-32552136 M 98312 88595 033-26691909 |

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AUTHORISED REPRESENTATIVES & SERVICE CENTERS

| City | Dealership Name/ Address | Contact person | Phone |
|-----------------|---|---|--|
| Kolkata AR | M/s Monaco Sales Pvt Ltd 25/1, Chetla Central Rd. Kolkatta - 700027 Email : monaco@cl2.vsnl.net.in | Mr. K.L.Dewan Mr. Monish Dewan | M 9830057514 M 9837003584 24795992/24484361/62 Fax : 033-24795992 |
| Malda AR BR | M/s Monaco Sales Pvt Ltd NH 34, South Jodupur, Near State Bank, Kamalabari PO, Malda 732103 | Mr. Monish Dewan | M 98320 36960 M 98310 03584 03512 220277 |
| Silliguri AR | M/s Allied Automotive Industries Sevoke Road, 2nd Mile, Silliguri - 734401 Email : alliedauto@sify.com | Mr.A.S.Mahalanobish Mr. Manojit Mondal (W) | 0353-2545227/3392/4120 Fax : 0353-2543358 M 9832024812 0353-2540710 (R) |

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