Value in motion

TOURING

# User's Manual

# TS 30

## 9031-249Y

APLR5L1, APLU5L1

Dear User,

Welcome to the TEMSA family. Modern technology is combined with our best efforts to present you a safe, economical and comfortable ‘companion’.

With its uncompromising customer satisfaction principle and reliable after sales services team, TEMSA has prepared this User’s Manual.

The content of this manual provides necessary information, suggestions and notes to make sure that you will be acquainted with all the features of your vehicle necessary for the safest and most efficient way of driving.

Please read carefully.

To Win and Improve Together in All Times...

TEMSA Family

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# 01 GENERAL INFORMATION


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1.1.3 Operational Safety
1.1.4 Using Mobile Phone and Radio
1.1.5 Use of Genuine Parts & Accessories
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## 1.1 Preface

### 1.1.1 Aim of This Users Manual

This User`s Manual is prepared to use your vehicle in the safest and the most efficient way.

Safety instructions given in this User's Manuals are intended to protect persons and properties.

Therefore, before operating the vehicle or before carrying out any maintenance work, read this manual completely and carefully.

Any injury or damage arisen from non-compliance with the safety instructions given in this manual is the responsibility of the vehicle's owner.

Should the vehicle be sold, the User's Manual must be delivered to the new owner of the vehicle.

It is assumed that all the information and safety instructions given in this manual, can be understood clearly by the owner and the user of the vehicle who have sufficient occupational experience and knowledge.

Please contact authorized TEMSA Service if you have difficulty in understanding explanations in the user's manual.

In addition to the information provided within this manual, all prevailing national regulations must be observed.

This manual is intended to be used commonly for all variants of TS 30, therefore some properties of your vehicle may not comply with those indicated in this manual.

Also illustrations used in this manual are intended to be shown procedures, usage and other important subjects for the user. Therefore they may have some differences than the original views.

### 1.1.2 Intended Use of Vehicle

The vehicle is designed for transportation of passengers and their luggage only.

Passenger capacity according to seat arrangement is indicated in the passenger capacity label and registration documents of the vehicle.

The vehicle cannot be used except for its design purpose.

The owner of the vehicle will be held liable for any other use beyond this design purpose.

**WARNING**

Technical information and properties of the vehicles stated within this User's Manual are valid on the date of issue. TEMSA, reserves the right to make any necessary changes to the features of its products without giving any advance notice.

## 1.1.3 Operational Safety

Before driving, take all necessary safety and environmental aspects into consideration. Ensure that the vehicle is in technically perfect condition.

If you believe that your vehicle has a fault which could cause a crash, injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying TEMSA Global.

If NHTSA receives similar complaints, it may open an investigation, and if it discovers that a safety problem exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you and your dealer, or TEMSA Global.

To contact NHTSA, you may either call the Auto Safety Hotline toll-free at 1-(800)-424-9393 (or 366-0123 in Washington, D.C. area) or write to: NHTSA, U.S. Department of Transportation, Washington, D.C. 20590. You can also obtain other information about motor vehicle safety from the Hotline.

Observe all safety instructions and warnings displayed on the vehicle. The vehicle owner must ensure the presence and legibility of all warnings and information signs throughout the vehicle's service life.

Any alteration of the vehicle may interfere with safety features built into the vehicle and may lead to an accident resulting in serious injury or death.

Throughout this booklet, left is defined as the driver's side of the vehicle, and right as the passenger's side of the vehicle.

### Fuel Quality

The tank must not be filled with more than 95 % of tank volume. The legal capacity is displayed on the fuel filler door outside. Use only ultra low sulfur diesel (ULSD).

### California Proposition 65 Warning NOTICE!

Engine exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the State of California for causing cancer and birth defects or other reproductive harm. In addition, certain fluids contained in vehicles and certain wear components contain or emit chemicals known to the State of California for causing cancer and birth defects or other reproductive harm.

### Production

Whether in production or repair, TEMSA Global always relies on environmentally friendly technology. A waste-management system has been introduced to reduce the amount of waste while simultaneously increasing the recycling rate. Waste water leaves the TEMSA Global factory only after being appropriately treated.

Any fault messages are indicated to the driver by the "Check Engine" warning light and the on-board computer.

### Coverings

Do not affix any coverings (e.g. films or "stone guards") in the area of the headlights and air intakes. Damage due to excessive temperatures and abrasion could result.

Wear of the different components of the braking system, such as brake pads or brake discs, depends to a great extent on the individual driving style and the conditions of use and therefore cannot be expressed in actual miles on the road. The values communicated by TEMSA Global are based on normal operation adapted to traffic.

**WARNING**

- Danger of burning.
- The tailpipes of the exhaust system can become very hot.
- Do not touch this area.
- Look out for children.
- Parts of clothing can become damaged.

For more information refer to Section 7 (Engine).

**WARNING**

- There is risk of accident if you set or operate the onboard computer, radio, navigation system, telephone or other equipment when driving. This could distract you from the traffic and cause you losing control of the vehicle resulting in serious personal injury or death.
- Operate the components while driving only if the traffic situation allows you to do so safely.
- Carry out any complicated operating or setting procedures only while the vehicle is stationary.
- Take prevailing national regulations into consideration.

**WARNING**

Engine Exhaust

- Engine exhaust is dangerous if inhaled. Engine exhaust fumes have many components which you can smell. They also contain carbon monoxide (CO), which is a colourless and odorless gas. Carbon monoxide can cause unconsciousness and even death if inhaled.
- Never start or let the engine run in an enclosed, unventilated area.
- It is not recommended to sit in your vehicle for prolonged periods with the engine on and the vehicle not moving.

## National Highway Transportation & Safety Administration (NHTSA)

If you feel your new TEMSA Global has a safety issue that could cause a crash or personal injury, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) describing the problem. You should also notify TEMSA Global immediately so that they can evaluate the situation or condition.

If NHTSA receives more information of similarnature, it may open an investigation regarding this matter. If NHTSA determines there is a common safety defect in a group of buses, it may issue an orderfor a recall. NHTSA will not, however, become involved in an individual issue between the owner/operator, distributor and/or TEMSA Global.

To contact NHTSA, call the Auto Safety Hotline toll free at 1.800.424.9393 (outside the Washington, DC area). In the Washington, DC area, call 366.0123. The NHTSA may also be contacted in writing to the following address:

## NHTSA

US Department of Transportation
Washington, DC 20590

## Before Placing the Bus in Service

It is the responsibility of the bus Owner / Operator to ensure compliance with all federal, state and local regulations for school bus operation and equipment. As part of a daily pre-trip inspection, the Driver should consider it his/her responsibility to verify that the vehicle is in satisfactory working order and that all emergency equipment is in place, fully stocked (First Aid Kit), up-to-date (Fire Extinguisher), and in proper working condition.

Inspection guidelines from individual state inspection manuals (such as Commercial Driver's License pre-trip inspection procedures) take precedence over those found in this manual. Guidelines found herein are in addition to those in your state's inspection requirements.

The Driver is responsible for inspecting that the loading area is clear before stopping to load passengers. The Driver must ensure that all unloaded passengers are clear before moving the bus.

Check the service brake adjustment.
Check the park brake adjustment on units equipped with hydraulic brake systems.
Check the torque on all body "tie-down" bolts.
Check the engine oil level.
Check the transmission fluid level.
Check the engine coolant level.
Check the air pressure in all tires.
Check the torque on the driveline universal joint straps.

## 1.1.4 Using Mobile Phones and Radio

Mobile phones and radio communication devices may distract the driver during driving. Therefore it is recommended not to use such devices.

Furthermore, usage of mobile phones or other devices transmitting electromagnetic waves must comply with prevailing national regulations.

Before adding sound equipment, check with your dealer and be sure to check Federal rules covering mobile radio and telephone units.

## 1.1.5 Use of Genuine Parts and Accessories

For a safer and longer service life of the vehicle, use only TEMSA genuine spare parts, accessories or parts which have been approved and tested by TEMSA.

All genuine parts have been approved by TEMSA by means of testing their reliability, endurance and safety factors. TEMSA does not take any responsibility for any injury or damage due to use of non-approved third party products.

Any alteration of the vehicle may interfere with safety features built into the vehicle and may lead to an accident resulting in serious injury or death.

## 1.1.6 Service and Maintenance

Carry out all maintenance and service work completely and within the specified intervals as described in this manual and in the warranty and service documentation.

The service and maintenance operations should be carried out by authorized services and be in compliance with TEMSA directives.

You should keep a record with all parts receipts and list the mileage and the date of any service work you perform and/or authorized service performed.

Incomplete or improper servicing may cause problems in the operation of the vehicle. If you are in doubt about any servicing, have it done by your authorized TEMSA Global dealer. Improper maintenance during the warranty period will jeopardize your TEMSA Global warranty coverage.

## 1.1.7 Getting the Most Out of Your Vehicle

### 1 Maintenance

The state of the art engine technology means only 1-2 maintenance checks are required each year. Please review your warranty and service manual for detail.

Optimum lubrication and tuning result in a 3 % to 5 % improvement in fuel economy.

### 2 Engine

Optimum fuel economy is reached at max. tractive force range of your engine.

### 3 Axle Alignment

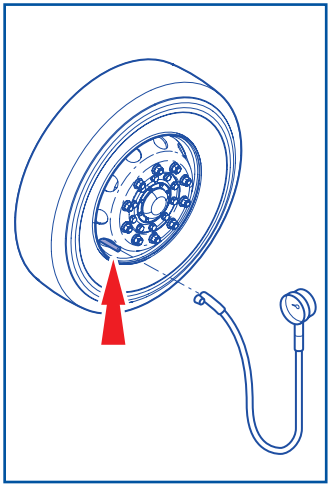
Incorrect axle alignment can impact consumption by up to 3%.

### 4 Tire Pressure

It is well known that a low tire pressure increases fuel consumption by up to 5%. If the tire pressure is 20% below the correct pressure, the rolling resistance will be about 10% higher and the fuel consumption will be about 5% higher.

Check the pressure before driving the vehicle when tires are cold. Remember as the ambient temperature changes raise/fall 10ºC / 50ºF; tire pressure changes increase/ decrease 0.2 bars / 2.9 psi.

### 5 Take a Break from Idle Time



Cutting idle time from 50% to 25% can improve fuel economy by up to 4%.

**SAVE THE ENVIRONMENT**

Excessive idling will increase the amount of particles released to the environment. Avoid excessive idling.

Limit the warm up time; Excessive idling wastes fuel, adds contaminants to the oil, and adds carbons to the combustion chamber.

Idling engines use about 0.39 gal /1.5 liters of diesel per hour. Engine idling shutdown pays off in preventing unnecessary fuel consumption of stationary vehicles.

### 6 Gearbox (Manual Operation)

Practice progressive shifting. You do not have to, but overtaking the shifting is always possible:

Change gears earlier (even lower engine speeds) Shift up as soon as you have enough rpm to grab the next higher gear.
Hold the gear (driver's assessment) No need to increase revs!

### 7 Driving Steadily

Continuous speed adjustments cost fuel. Adaptive cruise control is an effective aid to keep pace with the other traffic at minimum fuel penalty.

Use the cruise and slow down

- Electronic cruise control saves fuel, makes driving easier.
- Think twice about the cruise speed you choose.
- Every mile per hour over 55 adds almost 0.66 gal/ 2.5 liters more consumption per 62.1 miles.
- Remember, torque moves the load
- Torque moves the load; horsepower determines how fast it moves.
- Staying in the preferred torque range keeps the engine operating more efficiently and puts more profit in your pocket.

## 1.1.7 Getting the Most Out of Your Vehicle

### 8 Driving on a Slope

Hold speed at the start of the slope: Throttle up to full load gradually.

Don't change gear if your vehicle "holds its speed".

Do not be afraid to let the engine rpm pull back on a gradient. When you are pulling a long gradient, be patient.

Letting the engine rpm pull back on gradients will not hurt your engine.

### 9 Use the Energy

Let the mass work for you and make the most of momentum.

When no throttle is given, drive in the highest gear (low internal resistance). Look further ahead; avoid unnecessary braking; drive consistently.

Let momentum of your vehicle work for you to save fuel.

Coasting in gear allows all the fuel to return to the tank.

Kick out the cruise control about a couple miles before you exit, stay in gear as long as possible, and watch how far you can coast for free.

Do not overload the vehicle with energy.

Release throttle in good time (weight of your vehicle represents a lot of energy when it moves)

When throttle is released your consumption is ZERO.

Do not build up too much speed and then correct it.

### The Whole Makes the Difference

An efficient driveline alone does not guarantee the best return on fuel in everyday use. It is the total of different factors, like the overall configuration of the vehicle, the maintenance condition and the driving style that are decisive for the fuel efficiency.

In general less weight means more payload or less fuel. If aluminum wheels are fitted, the gain also includes better looks of the vehicle and lower maintenance costs.

### Rules of thumb

Remember! Max. tractive force is defined between certain rpm range for your engine in which optimum fuel economy is reached. Tractive force at lower rpm limit of this range is the same as the highest limit of this range, resulting in high driving comfort at low revs.
0.6 mph (1 km/h) faster = 1 % higher fuel consumption:

- Driving at 85 instead of 80: +5 %
- Driving at 90 instead of 85: +5 %

**SAVE THE ENVIRONMENT**
Lowering the fuel consumption will reduce the exhaust emissions and will protect the environment.

Additional energy consumers have an impact as well:

- Air conditioning: 2 %
- Extra Lights on: 1 %-3 %

### Driving Performance

3 basic rules to drive with optimum fuel economy:

- Use as little energy as possible to get the vehicle up to speed.
- Appropriate revs.
- Appropriate gears.

### Rate the energy required

Do I really need to accelerate that much in this situation?

Use the vehicle speed.

Weight of your vehicle represents a lot of energy when it move, use that energy.

### Summary

Anticipate:

- Release throttle in good time.
- Prevent unnecessary braking.
- Drive no faster than is necessary at a given time.

## 1.2 Symbols

Operating instructions in this manual include the following symbols, warning words and signs:

### OPTION
This symbol indicates that mentioned property of the vehicle is optional. (Model specifications, models specified to the country, optional equipment).

### INFORMATION
This symbol is used when important additional information is given.

### VISUAL INSPECTION
This symbol is used to inform the user that the complementary indicator lamp would be lit after carrying out the mentioned instruction.

### WARNING
This symbol is used in conditions which may cause damage or injury if necessary measures are not taken.

### AURAL INSPECTION
This symbol is used to inform the user that the complementary sound can be heard after carrying out the mentioned instruction.

### HOT SURFACES
This symbol is used to indicate the risk of burns in case of contact with hot surfaces.

### MECHANICAL MAINTENANCE
This symbol is used to indicate conditions where mentioned instruction should be carried out by a mechanic.

### ROTATING PARTS
This symbol is used to indicate conditions where the user may be hit and injured by rotating parts.

### DO IT YOURSELF
This symbol indicates that mentioned instruction can be carried out by the user.

### DOCUMENT REFERENCE
See also other manuals delivered for information.

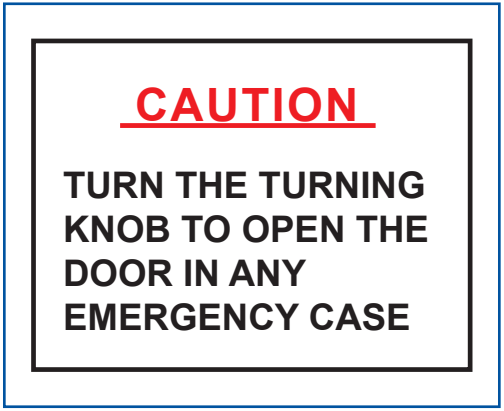
### SAFETY GLOVES
This symbol is used to indicate conditions where it is necessary to wear safety gloves against injuries due to maintenance work.

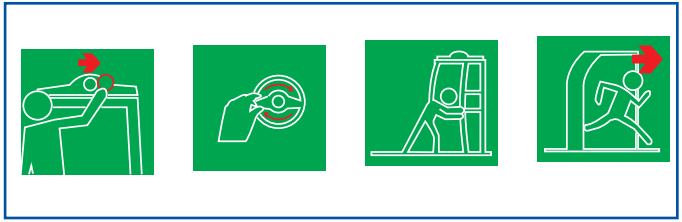
### CONSULT AUTHORIZED SERVICE
TEMSA

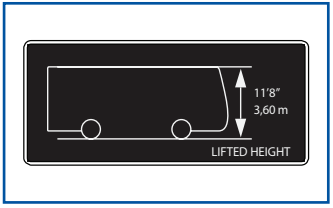
This symbol is used in conditions where authorized TEMSA Service should be consulted for described maintenance, repair and inspection work.

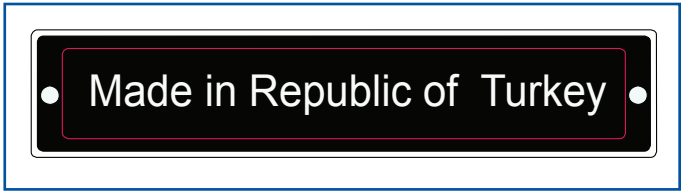
### SAVE THE ENVIRONMENT
This symbol is used to indicate the environment should be considered when conducting this task.

## 1.3 Warning Labels and Warning Signs







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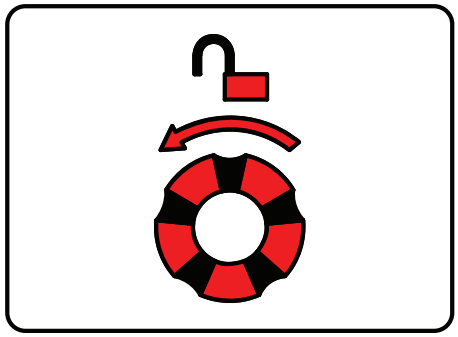

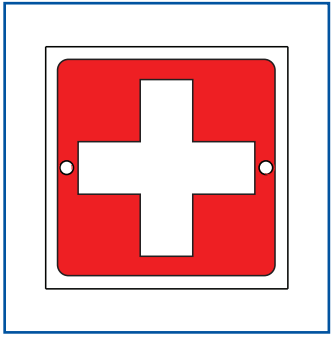

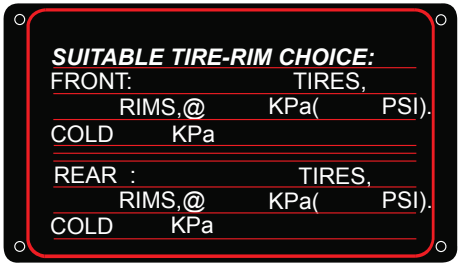


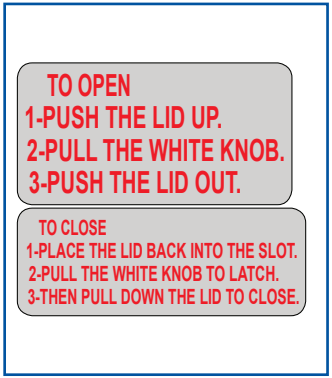

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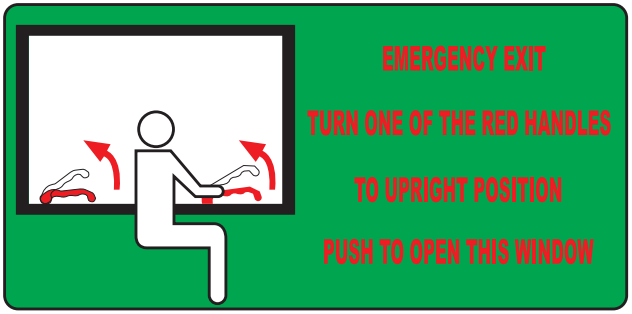
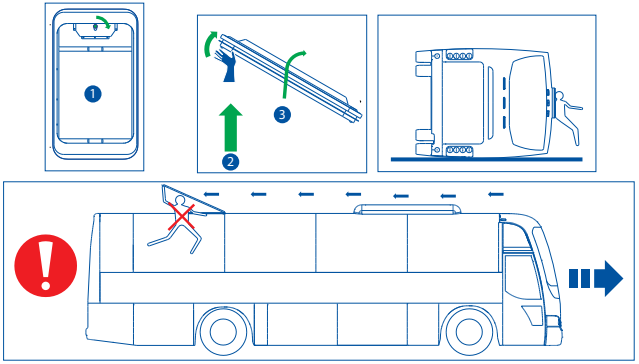
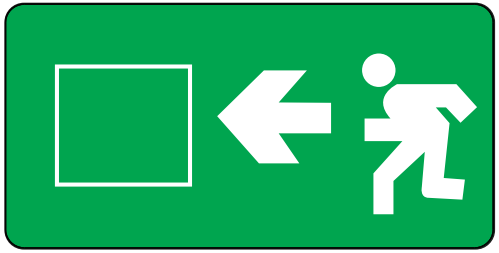
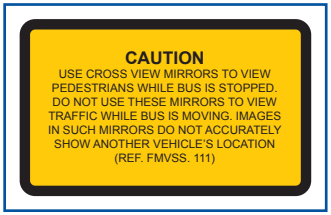


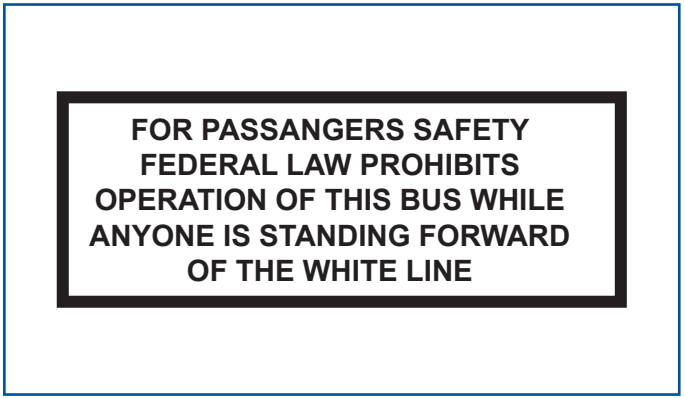



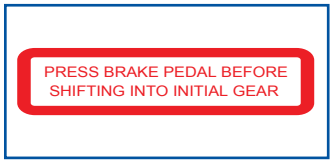



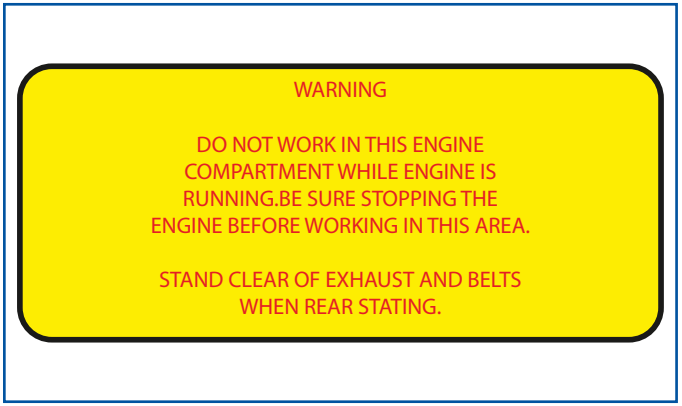
EMERGENCY EXIT

## 1.3 Warning Labels and Warning Signs







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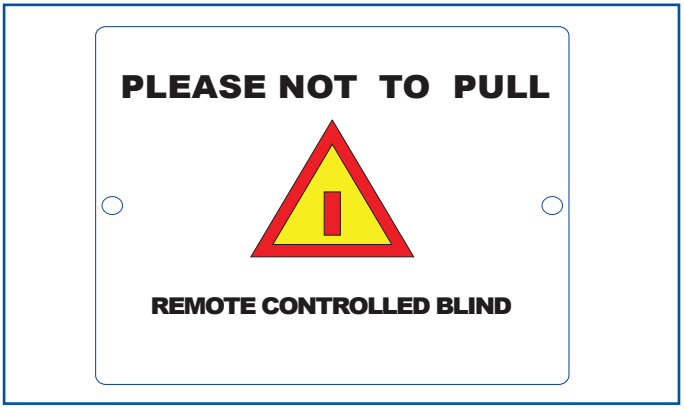
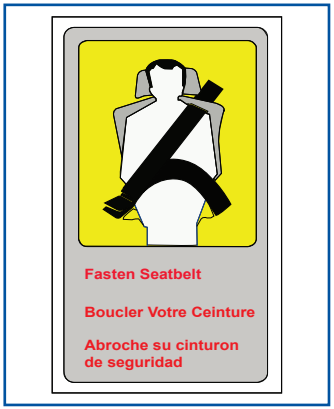
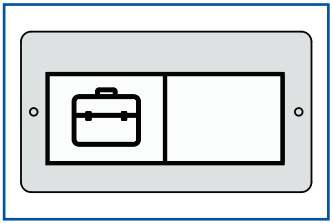
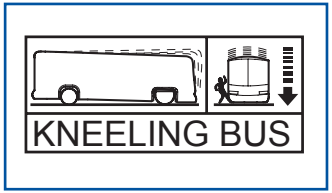




## 1.3 Warning Labels and Warning Signs

SET THE COVER TO A SUITABLE POSITION TO AVOID ANY POTENTIAL DAMAGE AS THE DRIVER GLASS IS OPERATED

WHEN YOU CLOSE THE DOOR, BE SURE DOOR TRAJECTORY IS CLEAN AND LEAVE THE DOOR SLOWLY BY HOLDING GRAB ABOVE LICENCE PLATE

○ BE SURE THAT THE LIGHTS ARE OFF ○

FOR ULTRA LOW SULFUR DIESEL (ULSD) ONLY

THE TANK CANNOT BE FILLED WITH A QUANTITY OF FUEL THAT EXCEEDS 95% OF THE TANK VOLUME. THE LEGAL CAPACITY IS GIVEN ON OUTSIDE OF FILLING DOOR OR BELOW

THE TANK MEETS ALL FMCSA REQUIREMENTS FOR NON-SIDE-MOUNTED FUEL TANKS.

## 1.3 Warning Labels and Warning Signs

WARNING

OIL FILLER CAP AND DIPSTICK MUST BE LOCKED DURING ENGINE OPERATION

CAUTION

WITH EITHER AUTOMATIC OR MANUEL TRANSMISSION THE DRIVE AXLE SHAFTS MUST BE REMOVED WHEN COACH IS BEING TOWED TO AVOID POSSIBILITY OF DAMAGE TO TRANSMISSION

CAUTION

HOT SURFACE
DO NOT
TOUCH

WARNING

HOT EXHAUST
STAY BACK 2 FT

GND -

24V +

WARNING

MOVING SHAFT
EXTREMELY
DANGEROUS

WARNING

THIS VEHICLE IS EQUIPPED WITH AN ELECTRONIC BATTERY EQUALIZER.TO AVOID REVERSE POLARITY DAMAGE WHEN DISCONNECTING BATTERY TERMINALS ALWAYS:

- REMOVE EQUALIZER GROUND TERMINAL FIRST
- REPLACE EQUALIZER GROUND TERMINAL LAST

DIESEL EXHAUST FLUID ONLY

D E F

CAUTION

DO NOT LEAVE RAGS IN ENGINE BAY

TEMSA GLOBAL SAN VE TIC. A.Ş

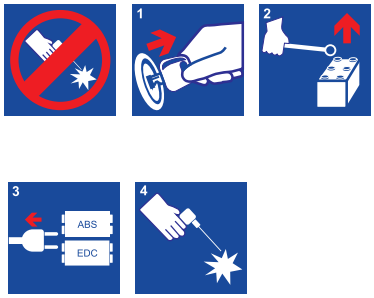
BP

| FACTORY SHIPMENT ENGINE COOLANT BP PROCOOL | |
|---|---|
| VOLUME RATIO | FREEZING POINT |
| % 55 | -40 F |

## 1.3 Warning Labels and Warning Signs

IMPORTANT

SERVICE INFORMATION
USE REFRIGERANT
R-134a ONLY
The System Contains R-134a Refrigerant
SERVICE BY CERTIFIED TECHNICIAN ONLY

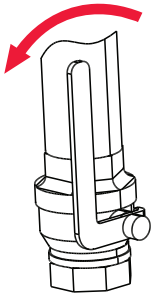



Lavatory waste must be disposed of into appropriate and approved Disposal or Dump

D Stations only.

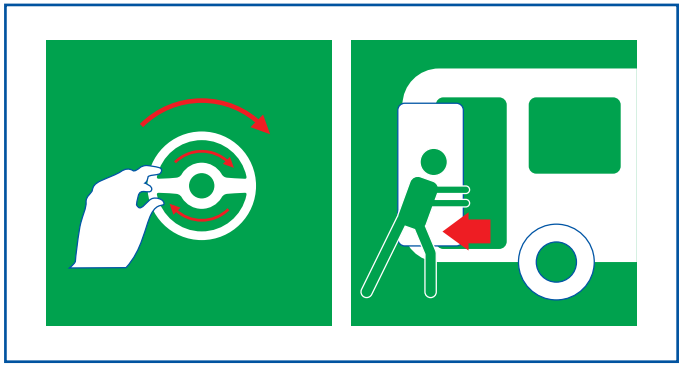
Failure to do so may result in serious criminal and/or civil fines, penalties and/or incarceration

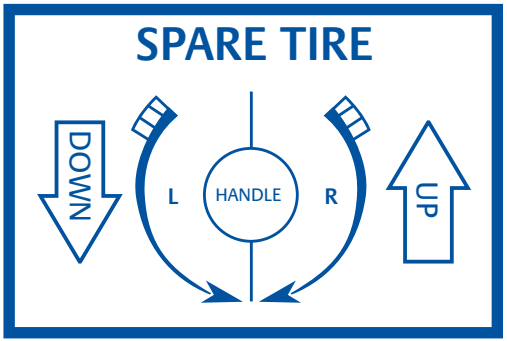
TO DRAIN THE WC PULL THE VALVE HANDLE



76 US gal.

## 1.3 Warning Labels and Warning Signs



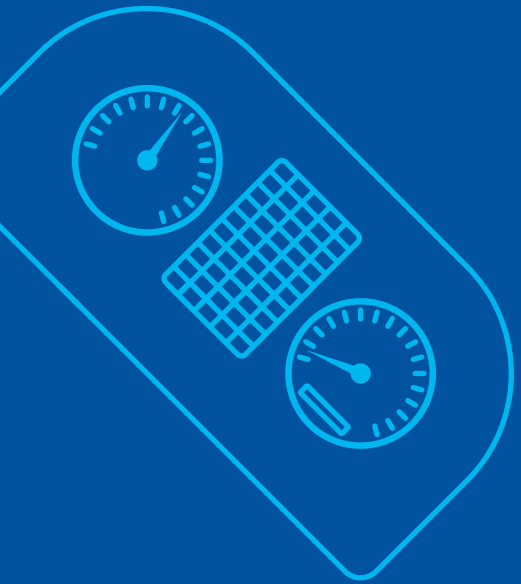


## 1.4 Usage of Heater

The heater must not be operated:

**RISK OF FIRE, EXPLOSION & ASPHYXIATION**

- At filling stations and other refueling points.
- If the heater or its exhaust outlet is in locations where inflammable vapors or dust may form (e.g. close to fuel, coal, wood dust or cereal storage facilities).
- If the heater or its exhaust outlet is located close to inflammable materials for example dry grass and leaves, cartons, paper etc.
- In enclosed areas (e.g. garages, hall without a suck off facility), not even if the digital timer or Tele Start is used.
- If the exhaust outlet of the heater is partial or fully obstructed (e.g. by soil or snow, as it may occur while move the vehicle backwards).



# 02 VEHICLE INFORMATION


2.1 Vehicle Certification Plate
2.2 Vehicle Specifications
2.3 Instrument & Control Panels
2.3.1 Left Control Panel
2.3.2 Instrument Panel
2.3.3 Steering Wheel Control Group
2.3.4 Lateral Control Panel
2.3.5 Right Control Panel
2.4 Keys

## 2.1 Vehicle Certification Plate (Location)

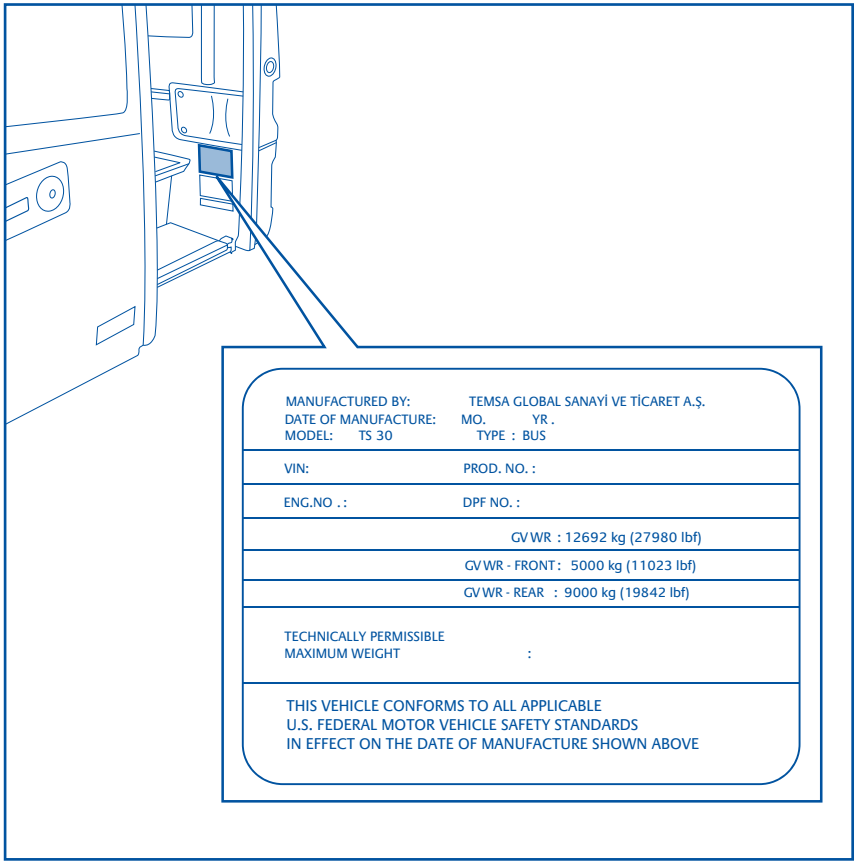
Vehicle certification plate is located on the area shown in the illustration.

**INFORMATION**

Information on the label enables faster road assistance and spare parts services.

**WARNING**

Do not remove, deface or cover the certification plate.



## 2.2 Vehicle Specifications

| Weight and Capacity | |
|---|---|
| Gross Wehicle Weight | 12692 kg / 27980 lbs |
| Fuel Tank | 300 lt / 79,25 gal |
| Urea Tank | 36 lt / 9.5 gal |
| Luggage Compartment | 141 $ft^3$ |

| Suspension | |
|---|---|
| Front | Shock Absorber |
| | 2 Air Belows |
| Rear | Shock Absorbers |
| | 4 Air Belows |

| Tires and Rims | |
|---|---|
| Model | Goodyear |
| Tires | 265/70 R19.5 |
| Rims | 7.5x19.5 inch |

| Tires and Rims | |
|---|---|
| Max. Speed | 72 mph |
| Turning Radius | 55,6 ft / 16,95 m |
| Rims | 7.5x19.5 inch |

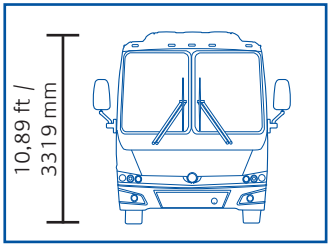
| Transmission (ALLISON) | |
|---|---|
| Model | B300 |
| Type | Automatic |

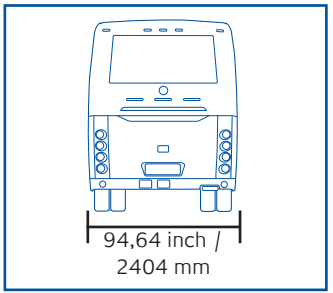
| Engine (CUMMINS) | |
|---|---|
| Model | EPA 10 250 HP ISB 6.7 L |
| Type | Diesel |
| Number of Cylinders | 6 in line |
| Maximum Power (Hp) | 250 |
| Maximum Torque (lb-ft/rpm) | 660/1600 |

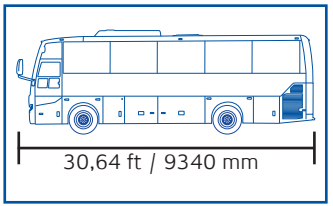
| Engine (CUMMINS) | |
|---|---|
| Model | EPA 13 250 HP ISB 6.7 L |
| Type | Diesel |
| Number of Cylinders | 6 in line |
| Maximum Power (Hp) | 250 |
| Maximum Torque (lb-ft/rpm) | 660/1600 |

## 2.2 Vehicle Specifications

| Dimensions | |
|---|---|
| Length | 30.64 ft / 9340 mm |
| Width | 94,64 inch / 2404 mm |
| Heigth | 10,89 ft / 3319 mm |
| Interior Saloon Height | 75,2 inch / 1910 mm |
| Wheelbase | 181 inch / 4600 mm |
| Front Track Width | 77,95 inch / 1980 mm |
| Rear Track Width | 77,39 inch / 1915 mm |
| Front Extension | 74,8 inch / 1900 mm |
| Rear Extension | 112 inch / 2840 mm |



## 2.3 Instrument and Control Panels

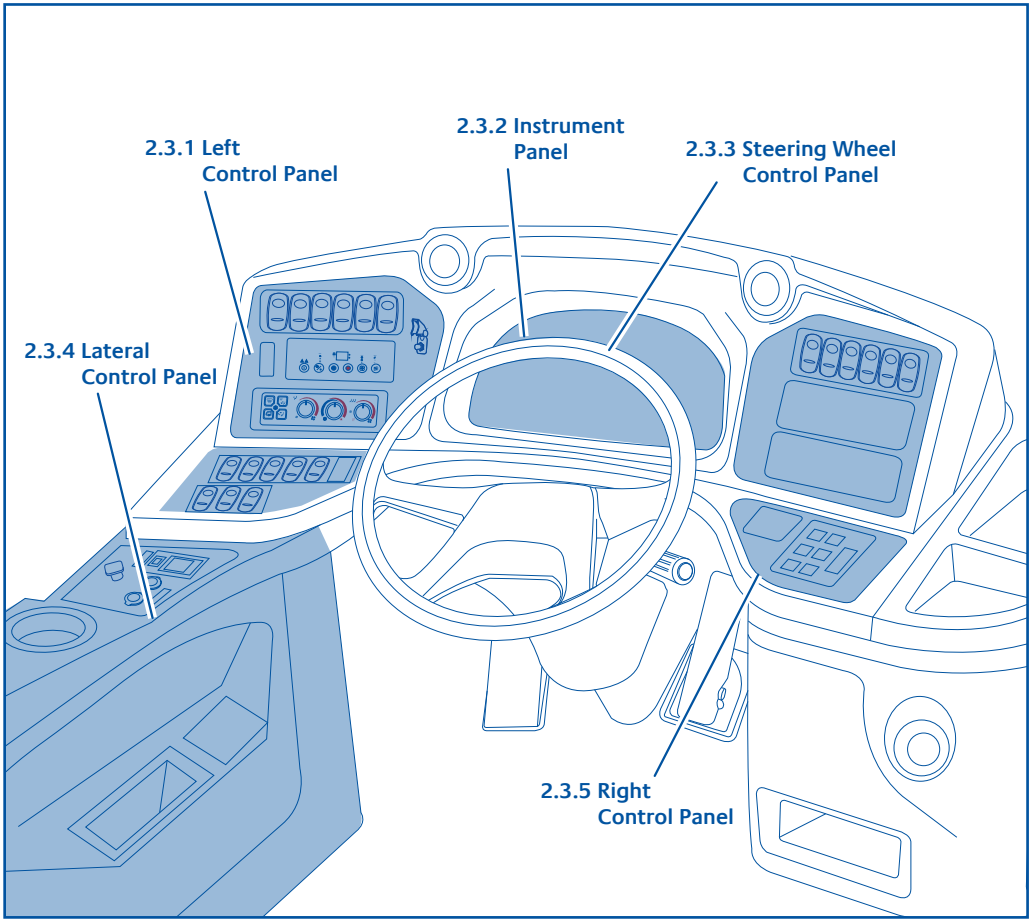

2.3.1 Left Control Panel

2.3.2 Instrument Panel

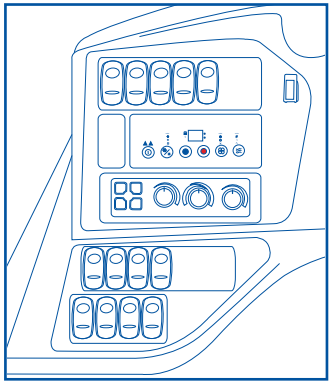
2.3.3 Steering Wheel Control Group

2.3.4 Lateral Control Panel

2.3.5 Right Control Panel

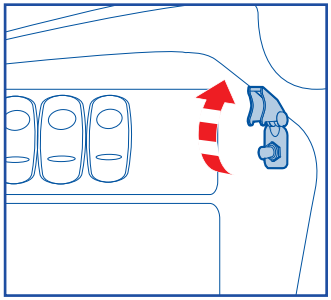



## 2.3.1 Left Control Panel



### Emergency Stop Switch

Lift up the red protection cap and activate the switch.



**WARNING**

Never use “emergency stop switch” while driving. Use only when the vehicle is stationary and parking brake is activated.

**INFORMATION**

Closing the red cover cap pushes the switch forward and holds it in position.

### Switching off the Engine by Emergency Stop Switch

When the switch is activated, the engine stops, gear is engaged into neutral automatically, hazard warning flashers start flashing and aisle illumination lamps, step lamps light on. None of the brake units apart from the foot brake, can be used till the switch is released.

Reset the switch by switching it back to its original position.

**INFORMATION**

Except for “Emergency Stop Switch”, all switches except “Central Locking Switch” and “Dimmer Switch” stated in this section have LED’s on them which indicate that function is on or off.

### Steering Control Switch

Press upper side of the switch to release steering wheel lock mechanism.

**WARNING**

- Steering wheel adjustment must only be performed when the vehicle is stationary and the parking brake is activated.
- Never drive before locking the mechanism again.

### ASR Disable Switch

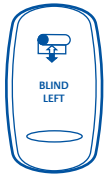
Deactivates ASR (Acceleration Slip Regulation) System.

## 2.3.1 Left Control Panel

**Kneeling Lifting Control Switch**
Press lower side of the switch to perform kneeling function.

**Engine Brake On/ Off Switch**
Press upper side of the switch to activate "Engine Brake Level" switch.

**Engine Brake Level Switch**
Switch has three levels. Press button to adjust engine brake level.

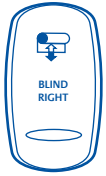



**Blind Left Switch (Optional)**
Press upper side of the switch to move the sun visor upwards. Press lower side of the switch to move it downwards.

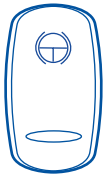
**INFORMATION**
- Front body height decreases as long as the lower side of the switch is pressed.
- Press upper side of the switch to increase front body height.

**INFORMATION**
To activate engine brake level switch, first press upper side of the engine brake switch.

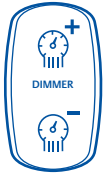
**INFORMATION**
**1st Position:** Provides maximum engine brake power.
**2nd Position:** Provides less than 1st position engine brake power.
**3rd Position:** Provides minimum engine brake power.




**Blind Right Switch (Optional)**
Press upper side of the switch to move the sun visor upwards. Press lower side of the switch to move it downwards.

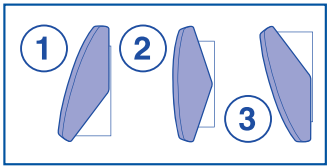


**Intarder (Optional)**
Enables the control of auxiliary brake unit (retarder) via foot pedal.




**Dimmer Switch**
Press upper side of the switch to increase illumination of instrument panel.

**INFORMATION**
To illuminate instrument panel, parking light switch must be activated.



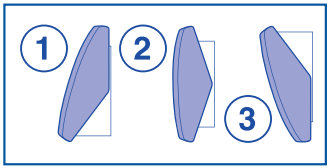

**WARNING**
Using passenger side sun visor limits the driver's view on the right rear view mirror. It may cause accidents.

## 2.3.1 Left Control Panel

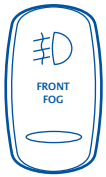
**Low Beam Clearance Switch**
Switch has three levels. Press button to turn on parking lamps and low beam headlamps.

**INFORMATION**

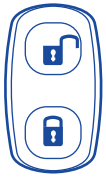
**1st Position:** Parking lamps and low beam headlamps are on.
**2nd Position:** Parking lamps are on.
**3rd Position:** Parking lamps and low beam headlamps are off.



**WC Active Switch**
Press upper side of the switch to activate toilet system. When it is activated, toilet lamps light up, toilet fan starts running and all switches inside the toilet are ready for use.




**Front Fog Lamp**
Push button to turn front fog lamps on. Press once again to turn them off.



**Central Locking Switch (Optional)**
Press lower side of the switch to lock all luggage hatches. To unlock, press upper side of the switch.

**WARNING**

- Central locking system cannot open/close luggage hatches. It is used for only locking/unlocking.
- Luggage hatches can be locked by keys. If a luggage hatch locked by key, central locking switch can not unlock the hatch. Ensure that hatch is unlocked before opening it, forcing hatch may cause breaking the locking pin.

Only luggage hatches are locked/unlocked by the central locking system. Other hatches cannot be locked/unlocked by central locking system.

**Cruise Control Switch**
Activates cruise control function. So the " cruise control level" switch can be used.

**Cruise Control**
Enables constant speed (depending on the engine and braking power) without pressing accelerator pedal.

**WARNING**

- When cruise control function is deactivated, vehicle slows down unless accelerator pedal is pressed.
- Never use cruise control on wintry road conditions, slippery roads or in heavy traffic.
- When the ignition is switched off cruise values are deleted.

## 2.3.1.1 Air Conditioner Control Panel

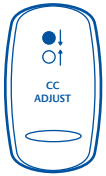
**Cruise Control Activating**
Press upper or lower side of cruise control level switch to activate cruise control.

**INFORMATION**
- Press upper side of “cruise control switch” to activate “cruise control level switch”.
- Cruise control can be activated within speed range of 20 mph and 75 mph.
- Move your foot from the accelerator pedal before pressing cruise control switch.

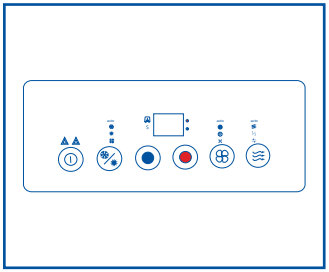
**Accelerating or Deceleration**
Press upper side of cruise control level switch to accelerate; press lower side of the switch to decelerate.

**Deactivating**
Press lower side of cruise control switch to deactivate.

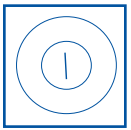
**INFORMATION**
Cruise control is deactivated when service brake is applied or engine brake is activated.




**Cruise Control Adjust Switch**
Increases or decreases set speed value.

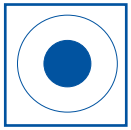


**INFORMATION**
Refer to user’s manual of air conditioner control panel delivered with the vehicle for more information.

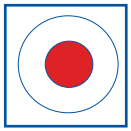


**On/Off Button**
Press button to turn on/off the air conditioner unit.

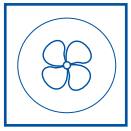
**Mode Select Button**
Press button to select A/C, heat or ventilation mode.



**Temperature Down Button**
Press button to decrease temperature setpoint.



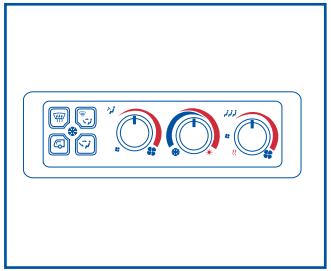
**Temperature Up Button**
Press button to increase temperature setpoint.



**Fan Speed Button**
Press button to adjust current fan speed.

**Fresh Air Selection Button**
Press button to select fresh air / recirculated air mode.

## 2.3.1.2 Defroster Control Panel

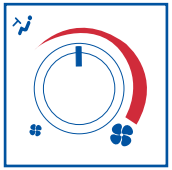


Press the button to direct the air towards the windshield for defrost

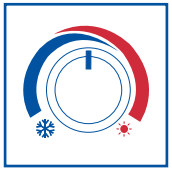
Press button to direct the air to the windows, upper side and lower side of the driver.

Press button to direct the air to the upper side and lower side of the driver.

**Recirculated Air Button**
Press button to activate recirculated air mode.

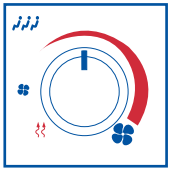


**Driver's Side Fan Speed Adjustment Button**
Rotate the knob to adjust fan speed on driver's side.



**Temperature Adjustment Button**
Rotate knob to adjust temperature.

Blue: Cold air
Red: Hot air

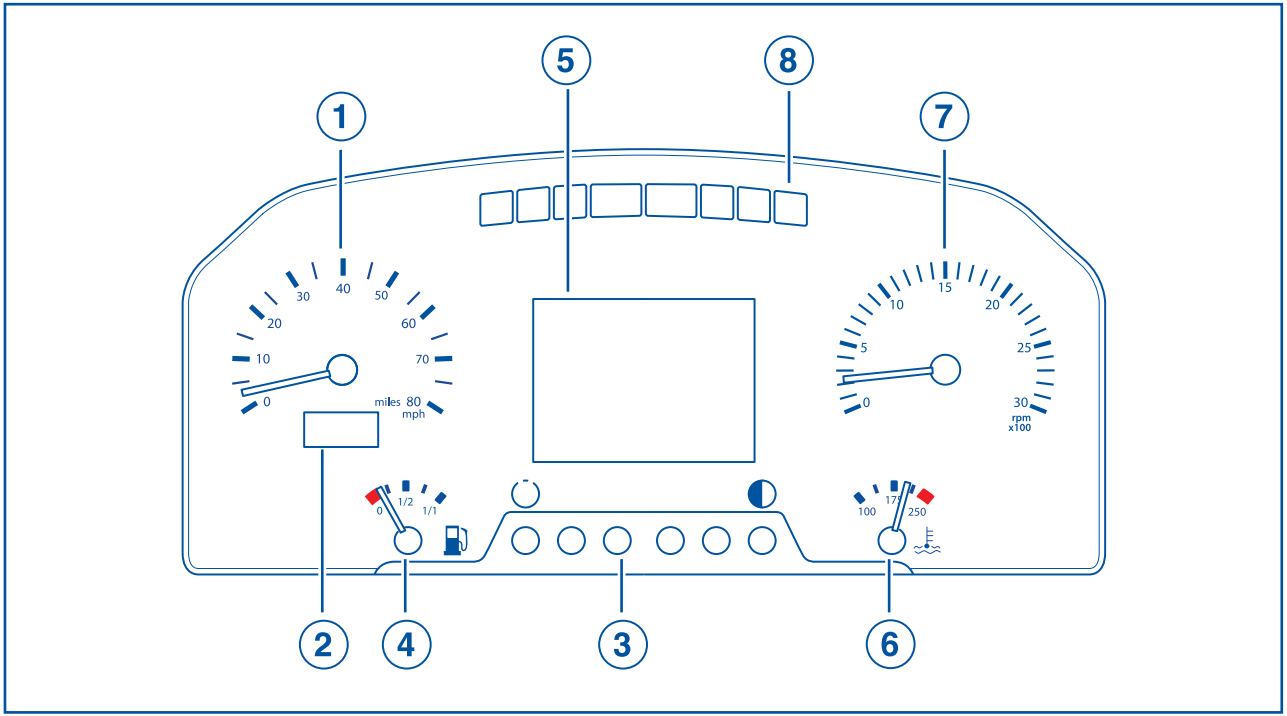


**Coach air circulation fan speed adustment knob**
Rotate the knob clockwise to increase the speed of the fan which is located in the luggage compartent. Fan speed may need to be increased when the side windows become foggy.

**INFORMATION**
Refer to user's manual of defroster control panel delivered with the vehicle for more information.

**OPTION**
Cooling function of defroster depends on customers request. It may not exist in all models of the vehicle.

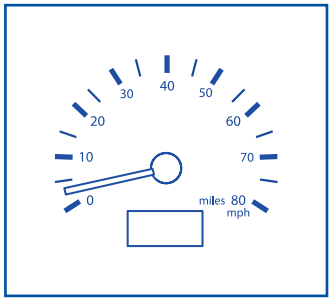
## 2.3.2 Instrument Panel




1 Speedometer
2 Odometer
3 Menu Selection Buttons
4 Fuel Indicator
5 Warning Panel
6 Temperature Indicator
7 Revolution Counter
8 Main Warning Panel

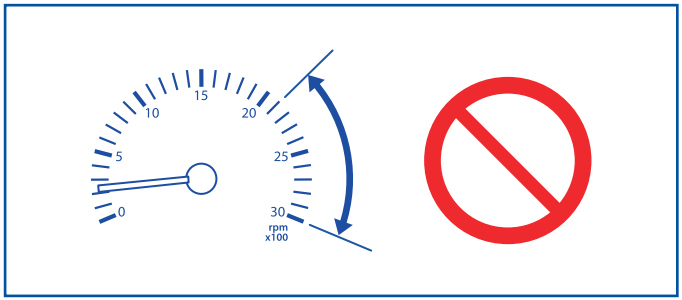
## 2.3.2 Instrument Panel

### Speedometer




Displays current speed of the vehicle.

### Revolution Counter




Indicates engine speed in thousands of revolutions per minute (rpm). Revolution counter guides you to drive optimally.

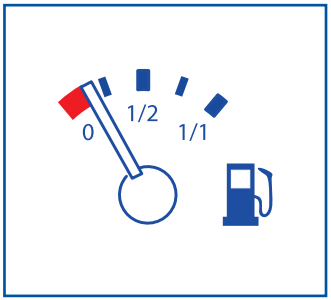
**VISUAL INSPECTION**

Check revolution counter regularly during driving. Avoid exceeding revolution value of 2300 rpm.

**VISUAL INSPECTION**

Warning lamp on the tachometer lights up when 2300 rpm value is exceeded.

### Fuel Indicator




Indicates current fuel level.

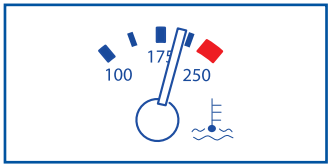
0 : Empty level
1/1: Full level

**VISUAL INSPECTION**

Check fuel level regularly during driving.

## 2.3.2 Instrument Panel

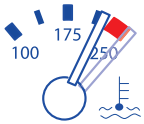
### Temperature Indicator




Indicates engine coolant temperature. Exceeding 100 °C/212 °F means engine overheating and warning lamp lights up. In such a case stop driving, park your vehicle **without** stopping the engine. On the contrary, stopping the engine when it overheats may cause a sudden rise in coolant temperature and the engine to locked up.

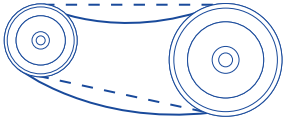
### What to do?

Shift into "NEUTRAL" without topping the engine, turn off the air conditioner, activate the parking brake and do not press the accelerator pedal until the engine coolant temperature drops.




Wait until the engine coolant temperature drops below 100 °C/212 °F.

**HOT SURFACES**
Wear protective gloves during inspection of engine compartment. Hot parts may cause severe injuries.



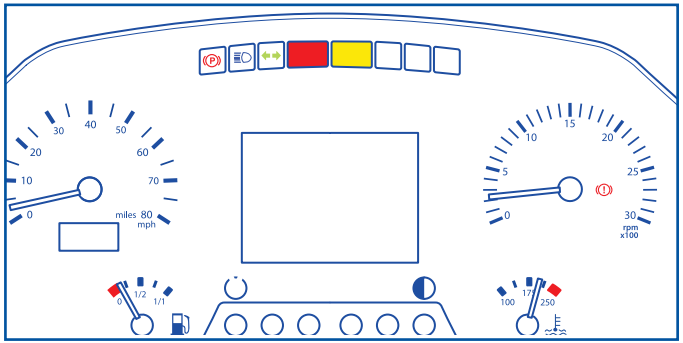
Check the condition of V-belt is not loose or damaged. Consult authorized TEMSA Service if any damage is observed.

Check that radiator fan is operating. Consult authorized TEMSA Service, before continuing to drive, in case of malfunction.

**WARNING**
Never open the radiator filler cap when engine overheats.

## 2.3.2 Instrument Panel

### Main Warning Panel



Flashes as long as left or right direction indicator is activated.

Indicates that parking brake is activated.

**INFORMATION**

Very fast flashing of left or right direction signal indicates a malfunction.

Upper beam headlamps are on.

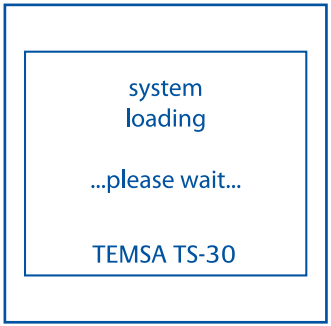
Tachometer warning lamp.

Warning lamp I
Lights up in addition to any warning lamp. Stop the vehicle immediately and consult authorized TEMSA Service.

Warning lamp II
Lights up in addition to any warning lamp. When the lamp is on, it is advised not to continue to driving.Take the necessary actions immediately for the corresponding warning lamp.

## 2.3.2 Instrument Panel

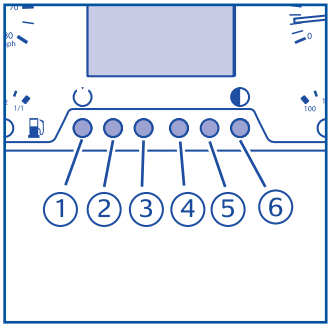
### Warning Panel




Warning panel informs driver to vehicle's operating status, malfunctions and information about the software.
Turn ignition key on position "2" to operate warning panel.

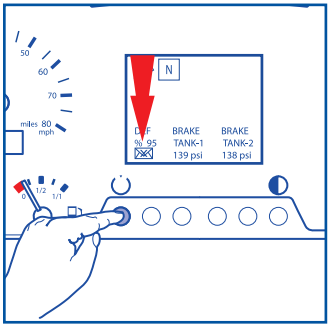
**INFORMATION**
Adjust warning panel brightness for a clear visibility by using Dimmer Switch located on left control panel. (See also page 33)

### Display




Use menu selection buttons to shifting between pages.

### Fault Message Menu




In case of malfunction, envelope icon displayed with a number that signifier how many fault message exist. Hold button "1" a few seconds to display fault message menu.

If an envelope with "x" mark displayed, this means no malfunctions.

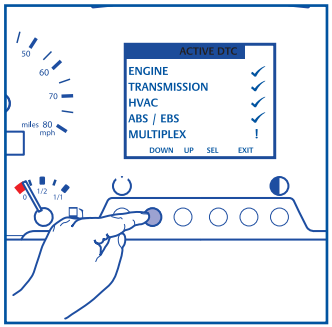
In accordance to malfunction Warning Lamp I or Warning Lamp II located on main warning panel also light up in case of a malfunction.

And an audible warning is given to driver with some malfunctions.

**CONSULT AUTHORIZED SERVICE**
If warning panel is non operational, do not drive and consult authorized TEMSA Service.

## 2.3.2 Instrument Panel

### Diagnose Menu



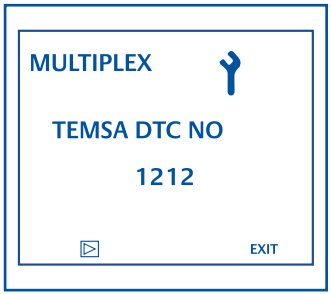

Hold button “2” a few seconds to reach diagnose screen.

Use warning panel buttons to shift between the diagnose screen content. Button functions are stated below:

Button 2: Down
Button 3: Up
Button 4: Select
Button 5: Exit

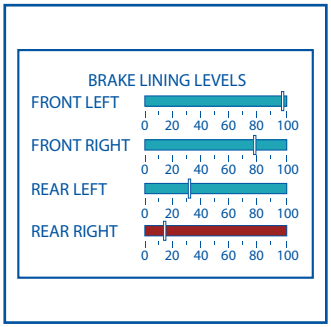
If there is a malfunction on a system an exclamation mark appears against the system name.

Use warning panel buttons and choose faulty system name to see diagnose malfunction code.




Press button 2 to shift next malfunction.

### Brake Lining Screen

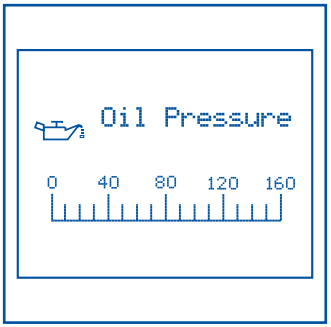



Hold button “4” a few seconds to reach diagnose screen.
Front left, front right, rear left and rear right brake lining levels displayed in this menu.

**INFORMATION**
Accuracy rating of brake lining sensor is %5.

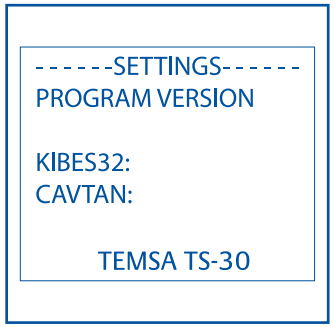
## 2.3.2 Instrument Panel

### Oil Pressure Indicator




Hold button “5” a few seconds to reach oil pressure indicator.
Displays current engine oil pressure. The current engine oil pressure is displayed in the electronic menu of the warning panel.

### Information Menu



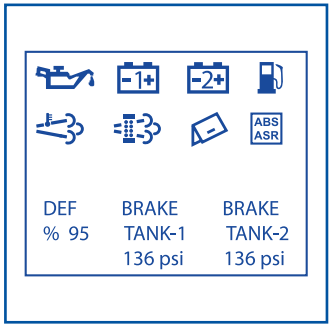

Hold button “6” to display information about the vehicle.

**VISUAL INSPECTION**

Check oil pressure regularly during driving. Stop the vehicle if the warning lamp lights up.

## 2.3.2 Instrument Panel

### Driving Menu




Vehicle's operating status, malfunction warnings, AdBlue level, Brake Tank-1 Pressure, Brake Tank-2 Pressure displayed in this menu.

Coolant temperature warning

Gearbox oil temperature warning

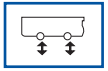
Oil pressure low

Low/High pressure in front axle tank

Low/High pressure in rear axle tank

Low cooling water level

Kneeling-lifting (Failure level control)


Kneeling-lifting active

Fire in engine room / front relay panel / luggage room / rear relay panel / fuel tank / exhaust muffler

Door Air Pressure Low

Retarder active

Engine Heater Active

Front left / fr. Right / Rear left / Rr. Right brake lining insufficient / Door air pressure low

First alternator failure

Second alternator failure

Low fuel level

ASR deactive

Front fog lamps are on (Optional)

## 2.3.2 Instrument Panel

Preheater Active (optional)

Mirror heating

Engine failure

Diesel Particulate Filter Warning

Gearbox failure

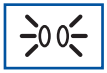
High Exhaust System Temperature

ABS active

DEF low

Central lock open

Foot Retarder Control Sensor Fault



Park Lamps are on

Engine Brake active

## 2.3.2 Instrument Panel

| Icon | Warning Text | Error Explanation | Main Warning Panel Lamp Status | Voice Status |
|---|---|---|---|---|
| | Cooling Water Hot | Engine temperature is high. Engine is overheating. | Warning Lamp I (Red) | Available |
| | Engine Compartment Lid Open | Engine lid is open. | Warning Lamp II (Yellow) | Unavailable |
| | Oil Pressure Low | Engine oil pressure is low or too low. Lubricating oil level is above or below specification. | Warning Lamp I (Red) | Available |
| | Transmission Temperature Warning | Transmission temperature is high. Transmission is overheating. | Warning Lamp II (Yellow) | Available |
| | Fault Gearbox | General gearbox error | Warning Lamp II (Yellow) | Available |
| | Engine | Serious failure on engine. | Warning Lamp I (Red) Warning Lamp II (Yellow) | Available |
| | Engine Stopped | Engine stop warning. Engine needs to be serviced at the first available opportunity. | Warning Lamp I (Red) | Unavailable |

## 2.3.2 Instrument Panel

| Icon | Warning Text | Error Explanation | Main Warning Panel Lamp Status | Voice Status |
|---|---|---|---|---|
| | Electric Drive Fault 1 Alternator Down | Alternator 1 is not charging or insufficient charging | Warning Lamp II (Yellow) | Unavailable |
| | Electric Drive Fault All Alternators Down | Alternators are not charging or insufficient charging | Warning Lamp II (Yellow) | Unavailable |
| | Fire Warning | Fire break out on vehicle. | Warning Lamp I (Red) | Available |
| | No Battery Charge Voltage Low | Battery voltage is under 23 V. | Warning Lamp I (Red) | Unavailable |
| | Cooling Water Low Check Level | Engine coolant level is low. | Warning Lamp II (Yellow) | Available |
| | Luggage Compartment | Luggage compartment lid is open. | Warning Lamp II (Yellow) | Unavailable |
| | Air Pressure Low Front Brake | Front axle pressure is low. | Warning Lamp I (Red) | Available |

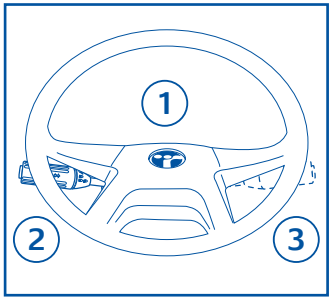
## 2.3.2 Instrument Panel

| Icon | Warning Text | Error Explanation | Main Warning Panel Lamp Status | Voice Status |
|---|---|---|---|---|
| | Air Pressure Low<br>Rear Brake | Rear axle pressure is low. | Warning Lamp I (Red) | Available |
| | Front Door<br>Air Pressure Low | Front door air pressure is low. | Warning Lamp II (Yellow) | Available |
| | Front Brake<br>Air Pressure High | Front axle pressure is high. | Warning Lamp I (Red) | Available |
| | Rear Brake<br>Air Pressure High | Rear axle pressure is high. | Warning Lamp I (Red) | Available |
| | Brake Lining Insufficient<br>Check Diagnostics | Brake linings failure. | Warning Lamp I (Red) | Available |
| | Check Diagnostics | Diagnostic failure. | Warning Lamp II (Yellow) | Unavailable |

## 2.3.2 Instrument Panel

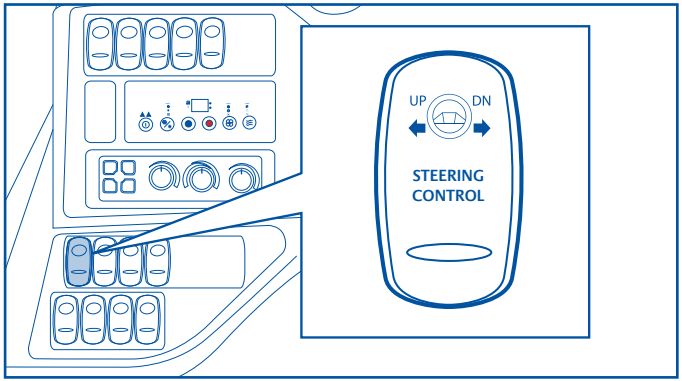
| Icon | Warning Text | Error Explanation | Main Warning Panel Lamp Status | Voice Status |
|---|---|---|---|---|
| | WC Tanks Full/Empty Check Diagnostics | Toilet clean water tank empty or lavatory waste tank is full. | Warning Lamp II (Yellow) | Unavailable |
| | WC Emergency Warning | Toilet emergency button pressed. | Warning Lamp I (Red) | Available |

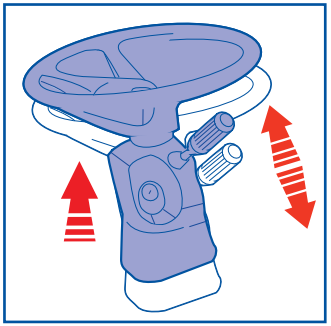
## 2.3.3 Steering Wheel Control Group

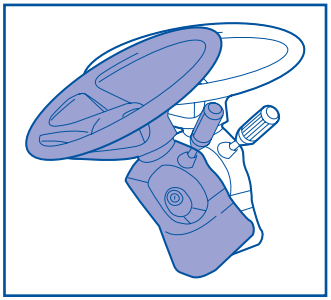



1 Steering Wheel Position Adjustment
2 Left Control Lever
3 Retarder Control Lever (Optional)

### Steering Wheel Position Adjustment





To adjust steering wheel position, press “Steering Control Switch” located on left control panel. (See also page 32)

Adjust the position of steering wheel to the desired position. Press button again to lock the mechanism.

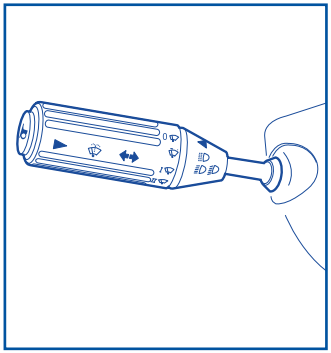
It is suggested to adjust the position of drivers seat, before adjusting the steering wheel position.

**WARNING**

- Never drive before relocking the mechanism.
- Steering wheel adjustment must be performed only when the vehicle is stationary and the parking brake is activated.

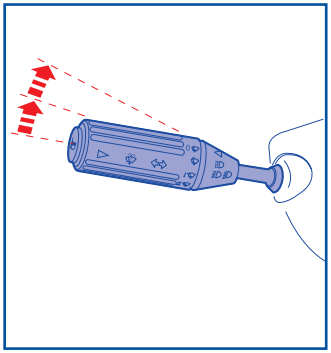
## 2.3.3 Steering Wheel Control Group

### Left Control Lever



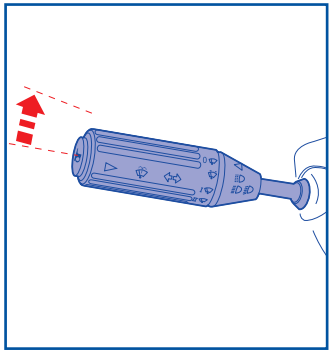
Enables the control of headlamps, upper beam headlamps, turn signals, horn and windshield wipers.

### Upper Beam Headlamps



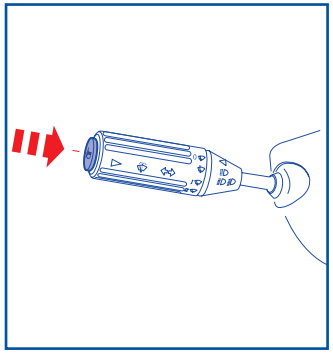
To turn on upper beam headlamps continuously push the control lever to second level.

### Headlamp Flasher



Push the control lever to the first level. The lever returns to “Off-Position” when it is released.

### Horn



Press button to activate the horn briefly.

**INFORMATION**

None of the functions can be used when the ignition key is switched off.

**VISUAL INSPECTION**

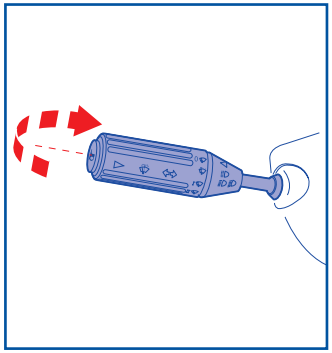
Warning lamp located on warning panel lights up as long as the upper beam headlamps are on.

**VISUAL INSPECTION**

Warning lamp located on warning panel lights up unless the lever is released.

## 2.3.3 Steering Wheel Control Group

### Right Turn Signal

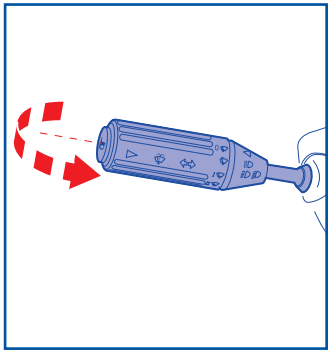


Move the control lever forward to utmost degree to activate right turn signal.

**VISUAL INSPECTION**

Corresponding warning lamp located on warning panel flashes as long as right or left turn signal lever is activated.

### Left Turn Signal

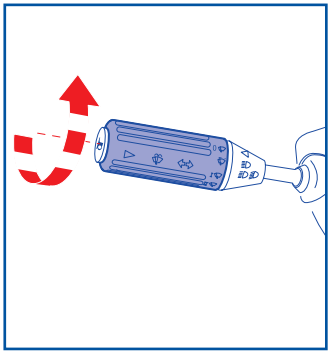


Move the control lever toward you to utmost degree to activate left turn signal.

**INFORMATION**

When the steering wheel is turned to its normal position, turn signal is switched off automatically.

### Windshield Wiper



Adjust the speed of wipers by rotating the front part of control lever in the direction of the arrow.

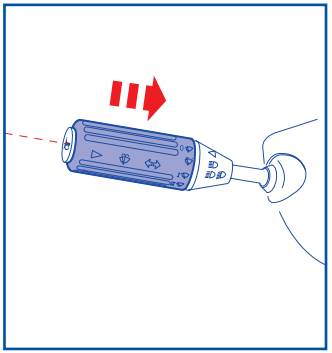
0: Windscreen wipers are off.

: Intermittent

I: Slow wiping

II: Fast wiping

### Windshield Washer



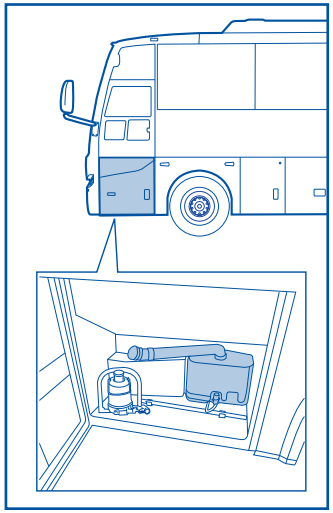
Push the lever in the direction of the arrow to spray washer fluid and activate the windshield wipers to wipe three times.

**INFORMATION**

To wash and wipe the windshield continuously, hold the front part of the lever toward steering column.

## 2.3.3 Steering Wheel Control Group

### Windshield Washer Fluid



Open the access hatch. Pull the cap of the tank and pour the fluid into it.

**WARNING**

Always use clean and filtered washer fluid.

### Retarder Control Lever (Optional)

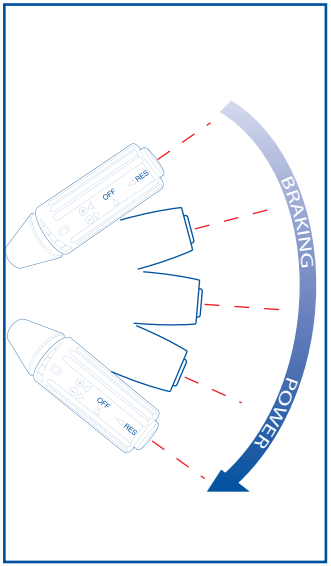
To apply retarder brake function, move the lever gradually to provide sufficient auxiliary braking (retarder) power.

**INFORMATION**

- Retarder system has five levels.
- First level of retarder system maintains a steady speed on gradients.
- Vehicle prolongs accelerating at first level of retarder system, as long as the accelerator pedal is pressed.
- Retarder cannot be applied under speed of 30 km/h. (18.64 mph).

**OPTION**

This feature depends on customers request. It may not exist in all models of the vehicle.




**CONSULT AUTHORIZED SERVICE**

TEMSA

Consult with the nearest authorized TEMSA service if retarder fault warning appears on display.

**WARNING**

- Retarder may not be sufficient for full braking power while driving at low speeds. Therefore, service brake must be applied in addition to retarder in such a case.
- Never activate retarder brake on slippery road, tires might get blocked and vehicle might sway.

## 2.3.4 Lateral Control Panel

### 2.3.4.1 Parking Brake

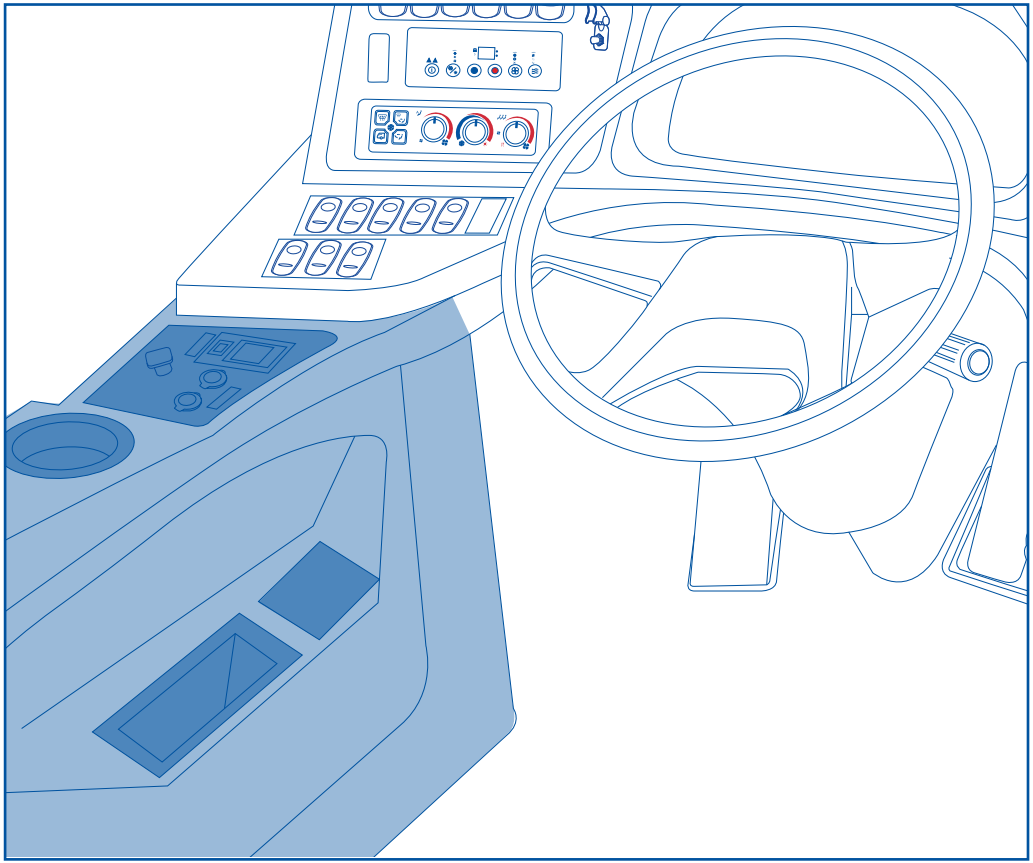
### 2.3.4.2 12V Electric Socket

### 2.3.4.3 Driver's Document Box

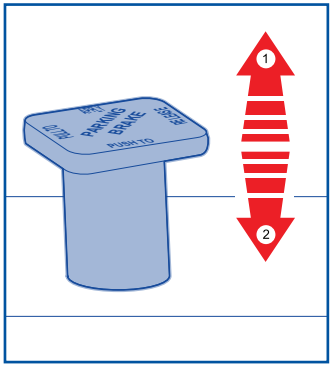
### 2.3.4.4 Cup Holder

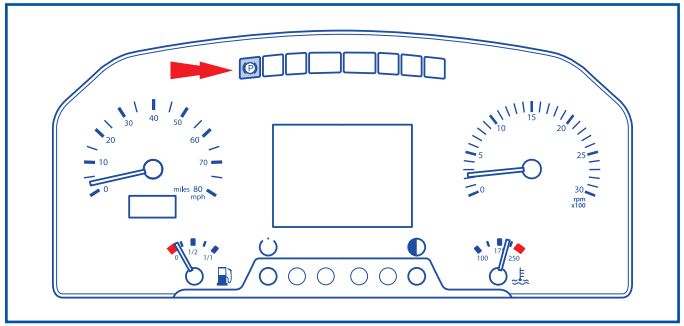
### 2.3.4.5 Mirror Heating

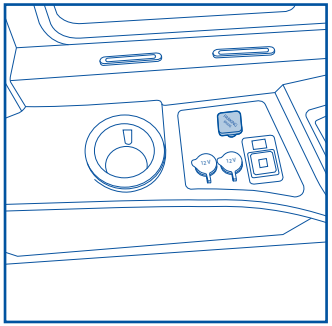
### 2.3.4.6 Rear View Mirror Control Switch



## 2.3.4.2 Parking Brake





Prevents the vehicle from sliding after it is brought to a stop.

To activate the parking brake, pull the lever upwards (1).

To release the parking brake, push the lever downwards (2).

**VISUAL INSPECTION**

"PARKING BRAKE" lamp located on indicator panel lights up when the parking brake is activated. It turns off when the parking brake is released.

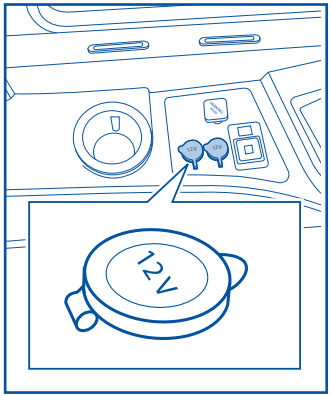
**WARNING**

Check the air pressure of the system if the warning lamp does not turn off although the parking brake is released. In such a case consult authorized TEMSA Service before continuing to drive.

**WARNING**

Never activate the parking brake while driving except in emergency situations.

## 2.3.4.2 12 V Plug

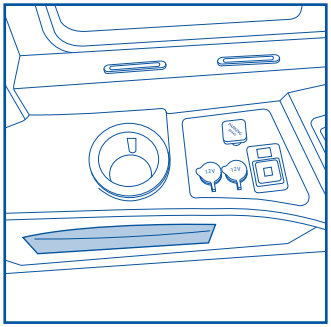



Supplies 12 V DC when the ignition key is switched to position “1” or “2”. Use only accessories such as phone charger, coolers, fans etc. Maximum available current is 10 A.

**WARNING**

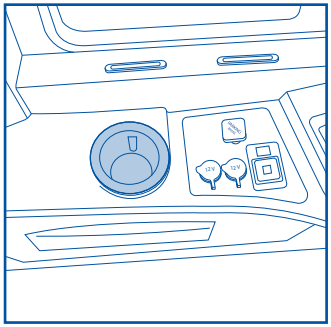
- Check the technical properties of the equipment before inserting into the socket.
- Always keep the cap of the electric socket closed after use.

## 2.3.4.3 Driver’s Document Box



Documents and other non heavy personal belongings can be stored in this box.

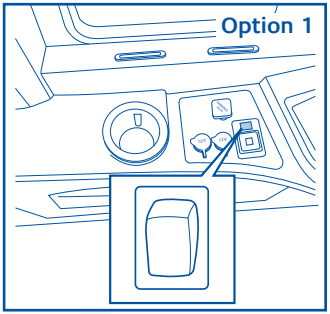
## 2.3.4.4 Cup Holder

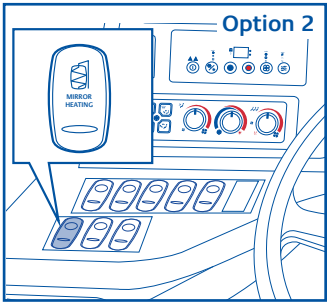


**WARNING**

- Liquid inside the cup may spill in case of sudden acceleration or braking.
- Hot liquid could cause injury and accident.

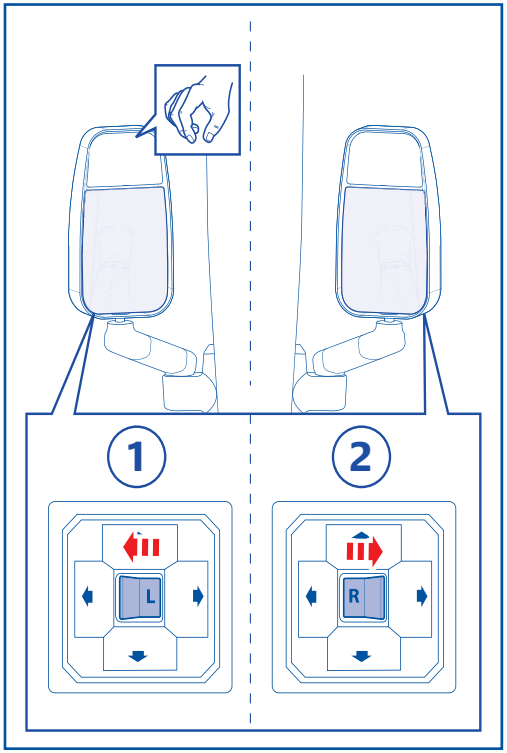
## 2.3.4.5 Mirror Heating



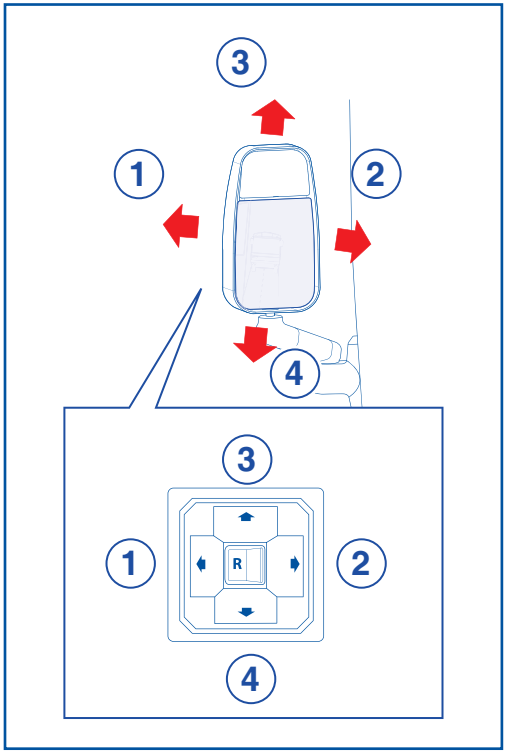




Press the switch to activate rear view mirror heater. When it is activated, the heater inside the mirror operates for only 10 minutes. Pressing again this switch within 10 minutes, deactivates the mirror heating system.

## 2.3.4.6 Rear View Mirror Control Switch (Option 1)




1 Left Rear View Mirror
2 Right Rear View Mirror



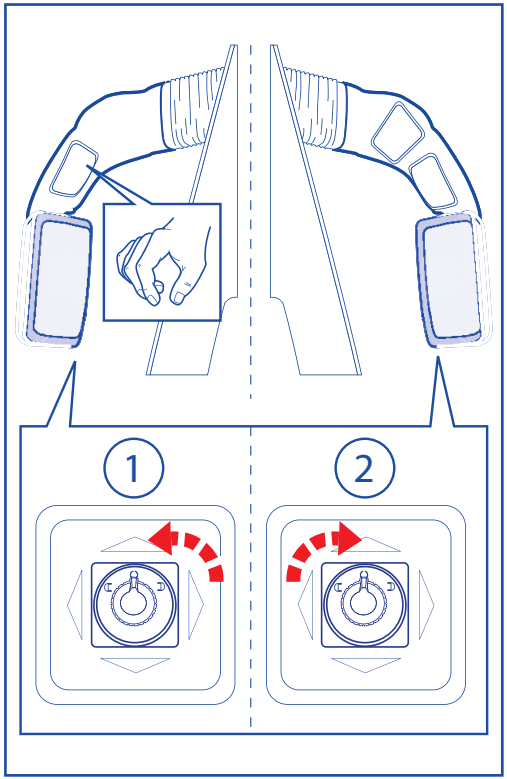

1 Left
2 Right

3 Up
4 Down

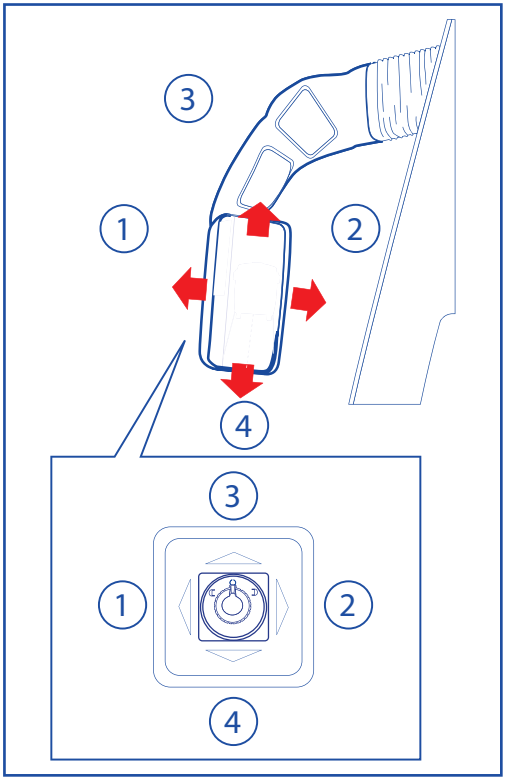
Adjust position of the bottom mirror by using the switch. Mirror moves in the same direction as the arrows on the switch.
Pull the switch to select left or right mirror. The Upper mirror can be adjusted manually.

**OPTION**
Rear view mirrors may vary according to customers request.

## 2.3.4.6 Rear View Mirror Control Switch (Option 2)




1 Left Rear View Mirror
2 Right Rear View Mirror

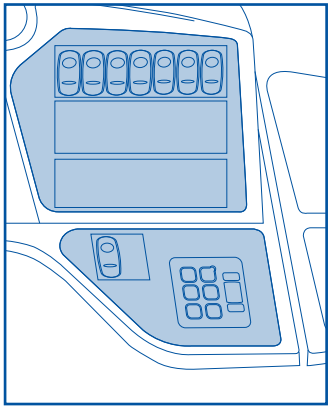


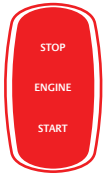

1 Left
2 Right
3 Up
4 Down

Adjust position of the bottom mirror by using the switch. Mirror moves in the same direction as the arrows on the switch. Rotate the switch to select left or right mirror. The Upper mirror can be adjusted manually.

**OPTION**
Rear view mirrors may vary according to customer's request.

## 2.3.5 Right Control Panel






**Start-Stop Switch**
Runs and stops the engine.

**Aisle Lights Switch**
Press upper side of the switch to turn aisle lights on.

**Drivers Reading Lamp Switch**
Press upper side of the switch to turn drivers reading lamp on.

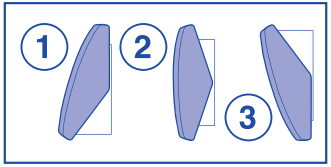
**Reading Light Switch**
Turns on passangers' reading ligts.

**Night Light Switch**
Turns on night ligts.

**Front Door Control Switch**
Opens the front door from driver's compartment.

**Interior Light Switch**
Turns on corridor lamps.

**INFORMATION**
**1st Position:** Three lamps at the right hand side and three lamps at the left hand side light on.
**2nd Position:** One lamp at the right hand side and two lamps at the left hand side light on.
**3rd Position:** Off Position



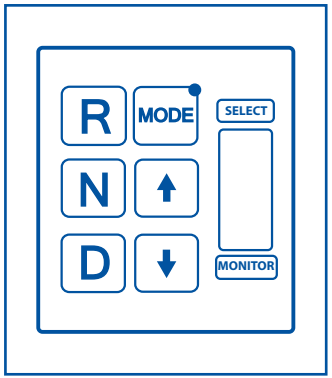
**Hazard Warning Flasher Switch**
Press upper side of the switch to activate hazard warning flashers.
When the switch is pressed, indicator led on the switch, turn signal indicators on the indicator panel and all signal lamps start flashing.
Press lower side of the hazard warning flasher switch once again to deactive flashers.

**INFORMATION**
Hazard warning flashers can be activated even if igniton key is removed.

**INFORMATION**
Hazard warning flashers are also activated when the "Emergency Stop Switch" is pressed.

## 2.3.5 Right Control Panel

### Automatic Transmission Control Panel




MODE — Economic and powerful drive mode indicator

Upshift switch

Downshift switch

D — Forward gear switch

N — Neutral gear switch

R — Reverse gear switch

Your vehicle is equipped with transmission of six forward gear and a reverse gear. For more information, see also page 138.

**OPTION**
Automatic transmission model varies according to customer requirements.

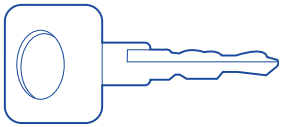
## 2.4 Keys

3 different keys are provided with the vehicle.

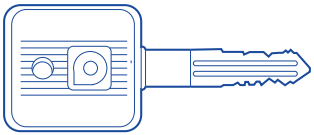
In case the keys get lost, consult authorized TEMSA Service to order.

**OPTION**
Keys of new additional equipment may be different from those indicated in user's Manual.

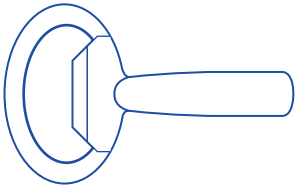
**Ignition Key**



**Fuel Tank Access, Front Door, Engine Compartment, Service Hatch Key and Glove Box Key**



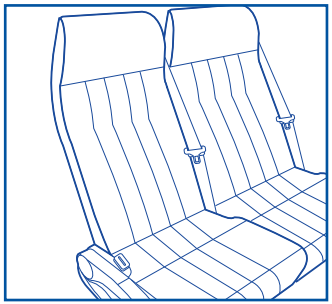
**Toilet Door Key**



# 03 VEHICLE INTERIOR

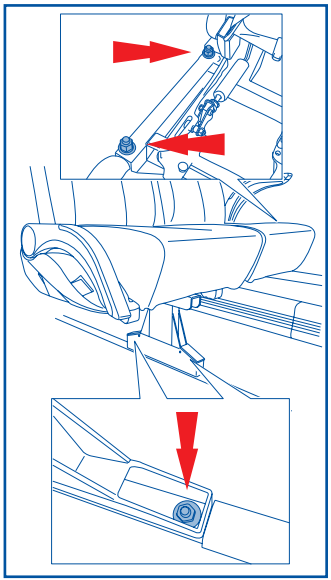

3.1 Passenger Seats
3.2 Seat Belts
3.3 Assistant's Seat
3.4 Passenger Control Group
3.5 Emergency Situation Equipment
3.6 Accessories

## 3.1 Passenger Seats



**OPTION**

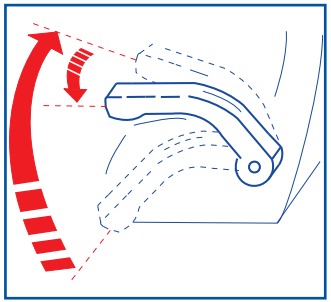
Model, type and specifications of passenger seats may differ from those stated in this User's Manual.



**WARNING**

Passenger seat bolts tightening torque must be 65 Nm. Check the torque before driving.

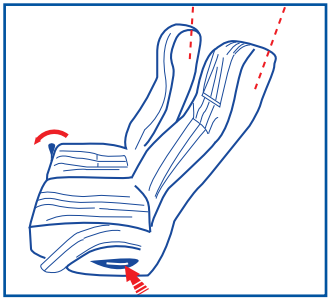
### Armrest



Pull the armrest upwards to the utmost degree to open it. Release the armrest after it is locked. Armrest would stay stationary at that position.

To close the armrest, pull the armrest to the utmost degree again and push to lowest level after it is released.

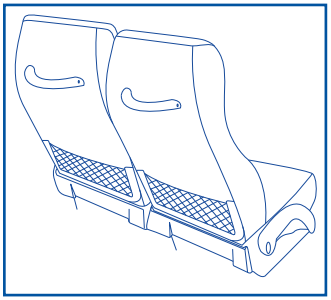
### Upright Position Adjustment Lever



Pull the lever in the direction of the arrow to adjust upright position.

## 3.2 Seat Belts

### Seat Pocket



When using the seat pocket the item in the pocket should not extrude more than 10cm/4inch above the top of the pocket and weight no more than 1kg/2.2lbs.

**OPTION**

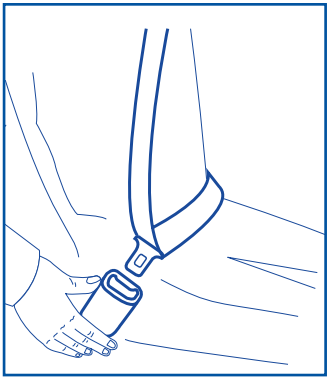
This feature is optional. It may not exist in all models of the vehicle.

Passenger seats are equipped with three-point seat belts. It is of vital importance to use seat belts during travel. Inform the passengers about wearing seat belt before driving.

**WARNING**

- Seat belts have vital importance. Therefore, use only TEMSA genuine spare parts.
- Check all the belts function properly before starting to drive. Pull the belt sharply against retractor to confirm that automatic lock mechanism is working properly. Consult with authorized TEMSA service in case of any problem related to connection and lock elements.
- No objects other than the buckle latches should be inserted into the belt buckle.
- Pull the seat belts to check all buckle latches if they are inserted into their buckles or not.
- Seat belts worn during the travel keep tense position. It is recommended for the passengers not to carry stiff objects such as pen or cell phone in their pockets. Inform the passengers on this matter.

### Use of Seat Belts For Adults



Insert the buckle latch into the belt buckle to fasten seat belt.

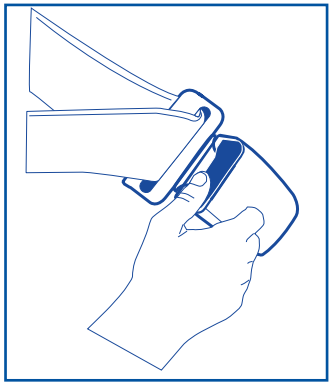
**AURAL INSPECTION**

Insert the buckle latch into the belt buckle until it engages audibly.

## 3.2 Seat Belts

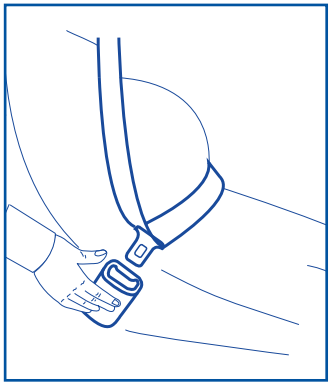
**WARNING**

Seat belts provide maximum safety when passenger seats are at upright position. When the seats are reclined at an extreme degree, sliding may occur resulting with injuries.



Press the latch on the belt buckle to release the seat belt.

### Use of Seat Belts for Pregnant



Proper usage of seatbelts during pregnancy will not affect babies or mothers adversely.

Seat belts should be fastened from the lower side of abdomen by pregnant so as to prevent compression.

Passenger seat should be kept at the upright position as much as possible to provide safer use for pregnant.

### Use of Seat Belts for Children

Passengers of ages 0-10 should be attended for the use of seat belts safely. Seat belt may not be tightened enough depending on the size of the passenger. In such a case, a cushion should be put on the seat surface so as to ensure that the seat belt is fastened at the proper tightness in order to prevent the passenger from sliding off the seat.

**WARNING**

- Passengers should not walk in the vehicle unless necessary.
- Each seat belt is allowed to be used individually. Only use one seat belt per person.
- Replace any seat belts which have been damaged, stained or teared.
- Children of ages 0-10 should by no means be permitted to wander in the vehicle if unattended by their parents.

**WARNING**

Check that lap belts are run over passengers' hips and not over their abdomen/waist. Pressure is applied on hipbone instead of abdomen in the event of an accident and prevents from severe injuries.

**INFORMATION**

Check that seat belts are correctly seated and they function properly during travel and tighten if necessary.

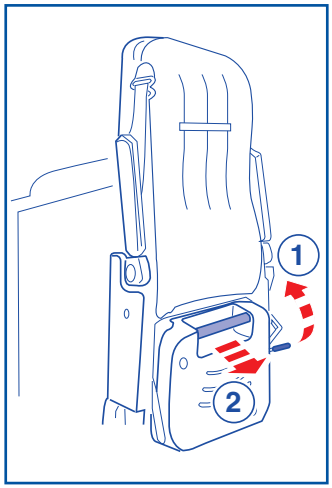
## 3.3 Assistant's Seat (Optional)

**OPTION**

This feature is optional. It may not be included in all models.

**WARNING**

- Assistant's seat and its connection parts are tested and approved.
- Usage of different types of assistant's seat may cause accidents and severe injuries.

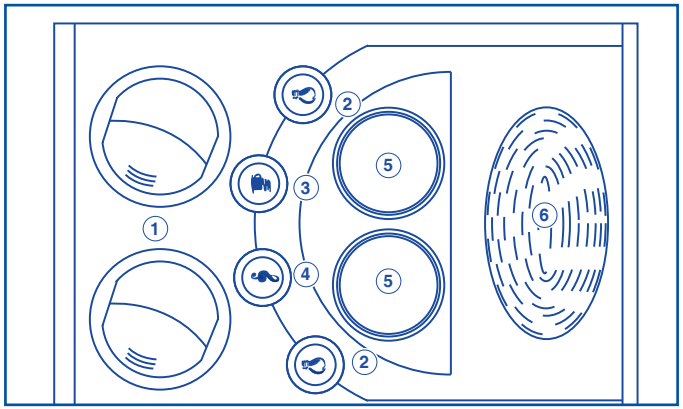



**INFORMATION**

- The assistant's seat returs to its previous position when you stand up.
- Armrests of the assistant's seat cannot be fixed as passenger seats. They return to their previous position when released.

1. Push the opening lever in the direction of the arrow
2. Pull the seat cushion to open.

## 3.4 Passenger Control Group

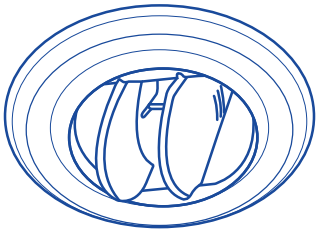



1. Air Vents
2. Reading Lamp Button
3. Assistant Call Button
4. Speaker Button
5. Reading Lamp
6. Speaker

**OPTION**
This feature is optional. It may not be included in all models.

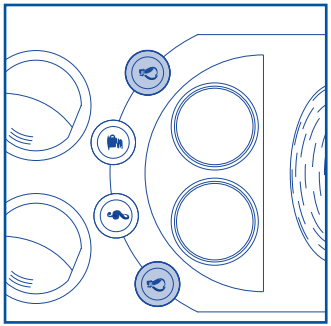
### Air Vents

Cool air transferred by the air conditioner is conducted to the passengers via air vents.



Move the air vents wings to desired location to allow the air out.

### Reading Lamp

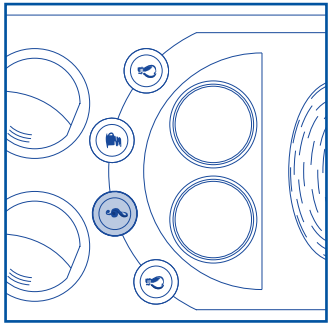


Press button to turn on reading lamps.

**INFORMATION**
Press “Reading Light Switch” located on right control panel to activate passenger reading lamp switchs. (See also page 59)

**Speaker**

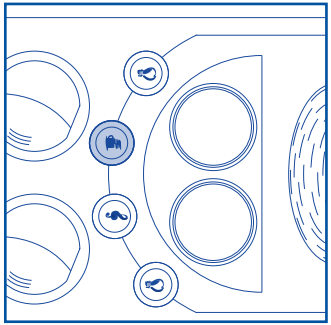
Press button to enable sound broadcasting for the passengers.



**INFORMATION**

Refer to user's manuals of sound system delivered with the vehicle for more information.

**Assistant Call Button**



**VISUAL INSPECTION**

When the button is pressed, warning lamp located on assistant's compartment lights up.

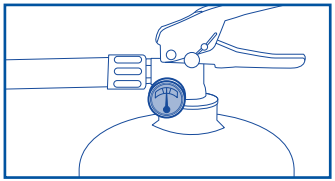
## 3.5 Emergency Situation Equipments

### Fire Extinguisher

**INFORMATION**

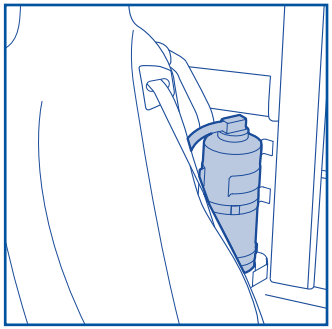
The fire extinguisher is to be used in the event of a fire to prevent the fire from spreading.

Check the pressure indicator of the fire extinguisher according to state fire laws. It is under driver's responsibility to ensure that charge level is within acceptable range.



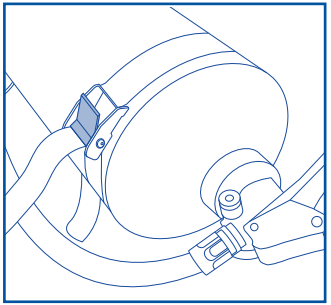
**Access**

Fire extinguisher is located behind the driver's seat and its denoted by a label.



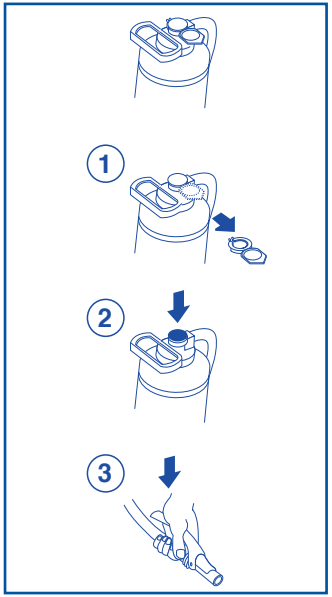
**OPTION**

Location of fire extinguishers and their volume may vary according to customers request. Location of the fire extinguisher may differ from the one indicated in this User's Manual.



Fire extinguisher is stabilized with two safety ribbons. Press both of the clips and unlock to release the extinguisher.

**Usage**




1. Pull extinguisher's safety pin.
2. Press the button on the top of the extinguisher.
3. Ensure that fire extinguisher is in a vertical position. Aim the nozzle at the base of the fire and squeeze the handle to discharge the agent.

## Fire Instructions

### Driver Duties

1. Before starting a journey, the driver must check:
- The tire pressure (visual check on a daily basis - test tires on a weekly basis).
- No liquids are leaking on pavement (visual check).

**WARNING**

Ensure that no oil exits from the muffler and that you see no excessive blue smoke (turbocharger oil consumption).

- The proper functioning of the preheating systems (engine and interior).
- The exhaust system components are free from debris.

2. When operating a vehicle, the driver needs to:
- Check the coolant temperature gauge.
- Avoid any overheating.

**WARNING**

Stop any overheating if the engine, brakes or retarder become overheated/or when sensing unusual odours or smoke, or if noticing smoke visually.

- Park in a safe and clean area.
- Avoid overloading because it increases all temperatures!
- Record in the daily operation report malfunction(s) with mileages and time.
- Check the ABS warning light.
- Check the proper functioning of the retarder (hydraulic or electric).

3. After completing a journey, the driver needs to:
- Inform the technician / next driver of a disfunction.
- Hand over to the technician or fleet manager the daily operation report (copy).
- Make a visual check of the engine compartment and surrounding equipments of the vehicle and inform the technician of any problem.

4. When returning a coach:
- Park the vehicle with the main battery switched off (if applicable). This will disconnect the batteries from the alternator, eliminating a risk of fire due to an internal electrical failure.

### Actions to Be Taken In The Event Of a Fire

1. (Try to) park the vehicle in a safe area.
2. Apply the parking brake.
3. Inform passengers to move a safe distance away from the vehicle.
4. Open door in order to let passengers get out fast.
5. Stop engine / isolate the battery by deactivating the main battery cut-off switch (See also page 168). Switch off the air-conditioning / heating.
6. Identify the source of the fire.
7. Inform the appropriate emergency services, giving as much information about the incident or accident and passengers involved as possible.
8. Where appropriate and safe to do so, use the fire extinguishers to put out fires / do not open the engine compartments if fire occurs.
9. Put on warning vest and place the self-standing warning signs as appropriate / Secure the incident area.
10. Make sure that passengers are at a safe distance from vehicle.
11. Move away from the vicinity of the accident or emergency, advise other persons to move away and follow the advice of the emergency services.
12. Report to company management about the incident.

## 3.5 Emergency Situation Equipments

### What to do

In the event of a possible fire, evacuate the passengers to a safe area. Always evacuate women and children first.

**WARNING**

- Never leave the fire area before fire is extinguished completely.
- The Fire Extinguisher should be regularly checked by professionals.

**INFORMATION**

- Take the direction of the wind into consideration, do not discharge agent against the wind.
- Aim the nozzle directly at ground level and core of the fire.
- Aim first for front parts and then lateral parts of fire.
- Treat first the areas of higher risk which may create danger from heating up.

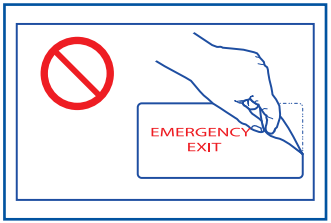
### Emergency Exit Windows

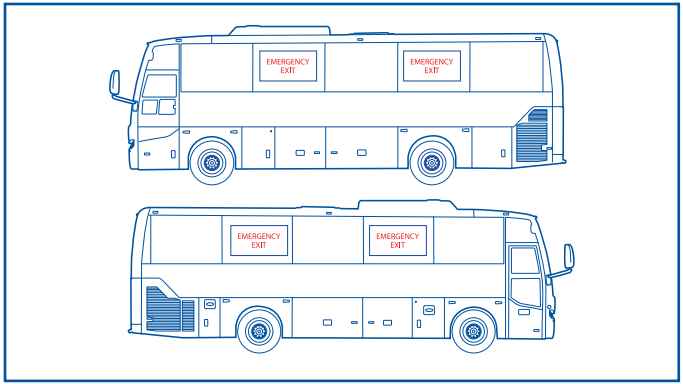
Your vehicle is equipped with emergency windows on both left and right side. Emergency windows are denoted with special labels. Check the windows are functioning properly and the labels are legible.

EMERGENCY EXIT

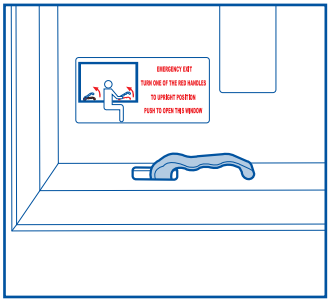
**WARNING**

Never remove the labels stuck on the emergency exit windows.



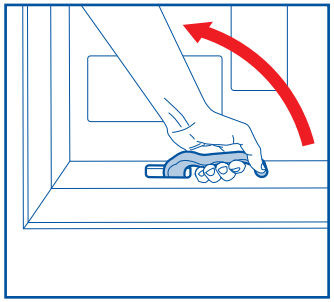



## Emergency Exit Windows

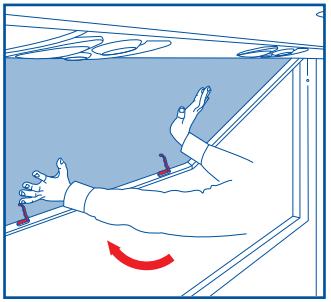


**INFORMATION**

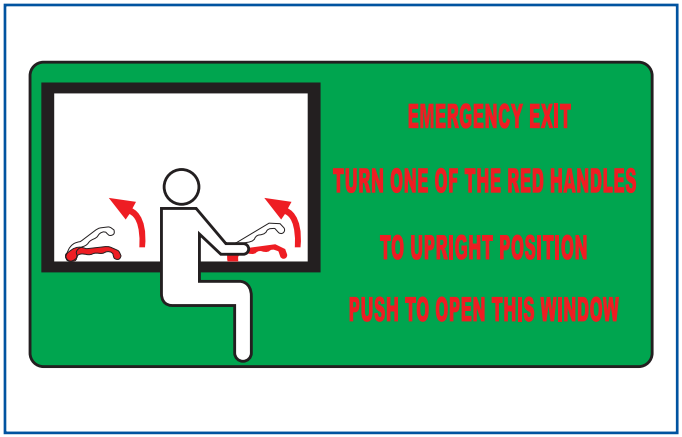
Opening handles are only installed on emergency windows.



Pull one of the red handle to upright position to release the lock mechanism.



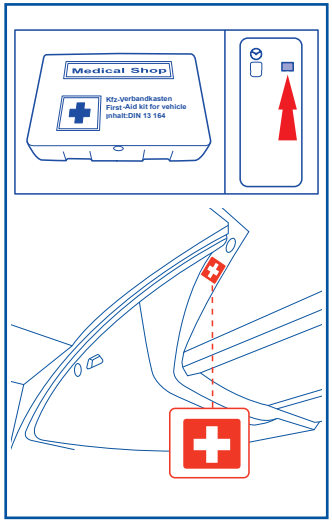
Push the emergency exit window after the lock mechanism is released.



## 3.5 Emergency Situation Equipments

### First Aid Kit

First aid kit is provided inside the vehicle. It is located in driver's overhead luggage rack and denoted with the label shown below.




**OPTION**

Location, amount and content of first aid kits may vary according to customer request. Therefore first aid kits may differ from that indicated in User's Manual.

**INFORMATION**

- First aid kit content is not meant for treatment purposes. They are provided for first aid.
- First aid content must only be used by trained people.

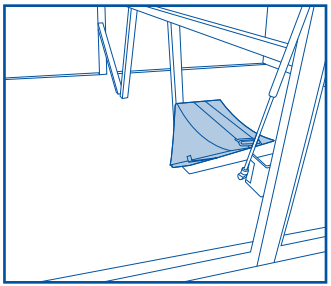
### First aid kit content is listed below:

| | |
|---|---|
| 2 | Elastic bandages (6x4) |
| 3 | Elastic bandages (8x4) |
| 2 | Triangular bandages |
| 4 | Disposable gloves |
| 1 | Scissors |
| 1 | Adhesive tape |
| 8 | Adhesive wound tapes |
| 3 | Sterile aid packages (8x10) |
| 1 | Sterile aid package (10x12) |
| 2 | Absorbent bandages (40x60) |
| 1 | Absorbent bandage (60x80) |
| 6 | Wound dressings (10x10) |

**INFORMATION**

Check that first aid kit content is present and complete. Replace used items.

### Wheel Chocks



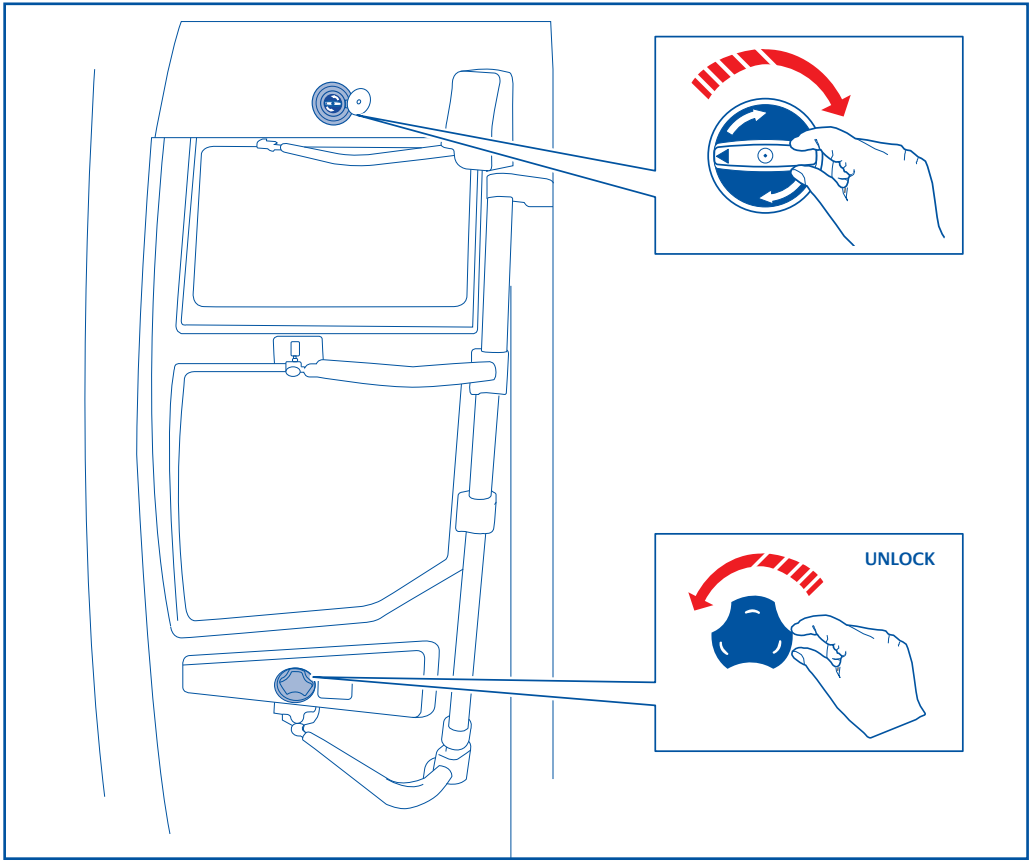
Your vehicle is equipped with wheel chock located in the luggage compartment. Wheel chock is used as a safety device to keep the vehicle from accidental movement.
Set wheel chocks and secure the vehicle when parking uphill or downhill, changing wheels or in a malfunction on brake system or if other circumstances cause it to roll on an incline. Orherwise vehicle may skid. Set wheel chock under tires in the direction of the grade. If it's uncertain which direction is the grade, the wheels should be chocked on both sides. Ensure that wheel chocks in position and available before driving. Wheel chocks must be available in the vehicle.

## Door Emergency Exits
## Front Door

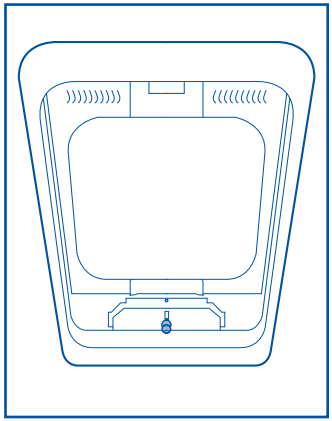
Front door can be opened independently from the driver's control panel in emergencies. Emergency exit valve is located at the top of the door.

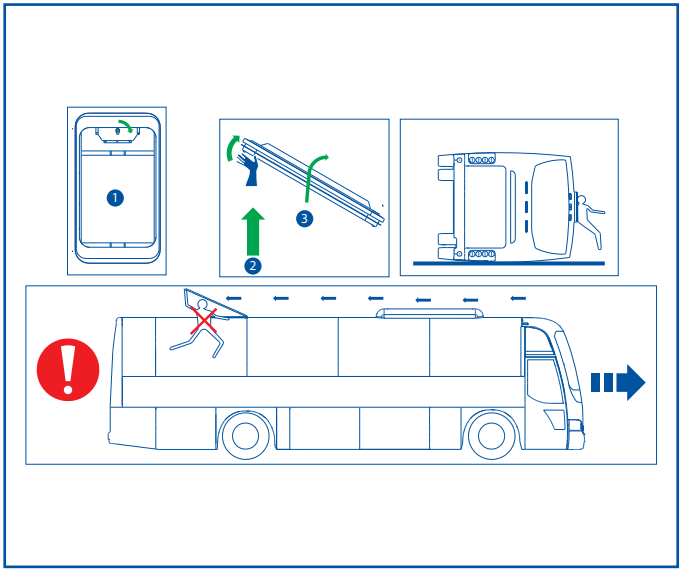
In emergency, turn the emergency exit valve clockwise and push the door outwards to open.

If the door is locked from outside, turn the lever anti-clockwise to unlock the mechanism.



## Roof Escape Hatch






In an emergency;

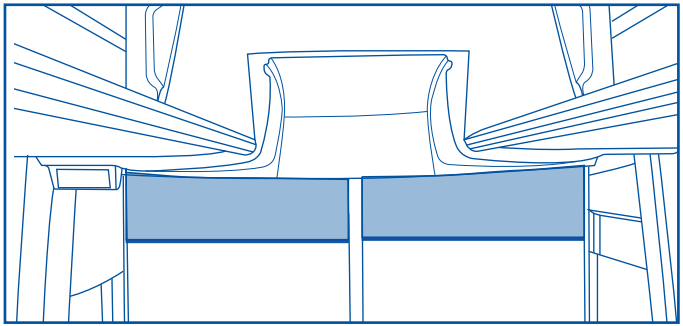
1. Push up
2. Pull the white knob
3. Open the lid

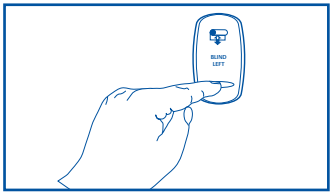
**WARNING**

- Never remove the labels stuck on the emergency exit windows.
- Never use escape hatches when the vehicle is not stationary.
- It is of vital risk to use escape hatches unnecessarily.

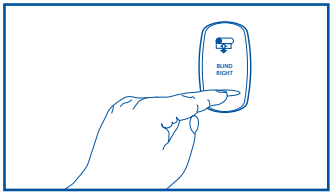
## 3.6 Accessories

### Sun Visor
### Type I





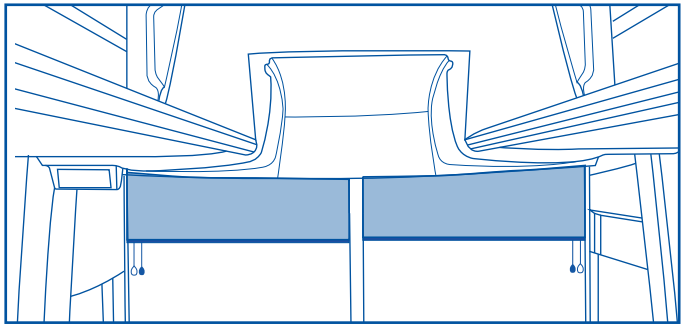

Keep lower side of the blind left switch pressed to lower driver's sun visor.




Keep lower side of the blind right switch pressed to lower assistant's sun visor.

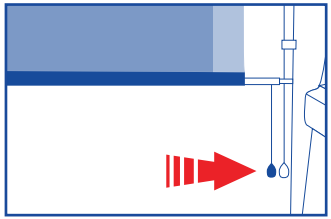
**INFORMATION**
Sun visor control buttons are located on left control panel.

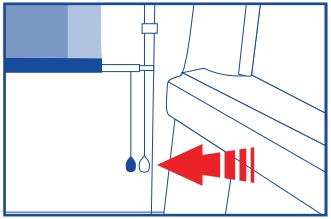
### Sun Visor
### Type II



Pull the black knob to move the sun visor downwards.

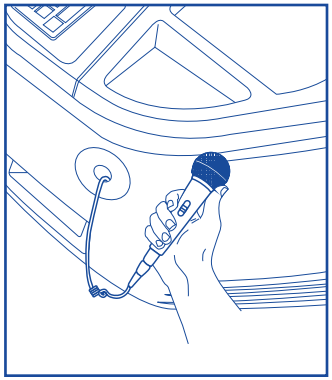
Pull and release the white knob to move the sun visor upwards.





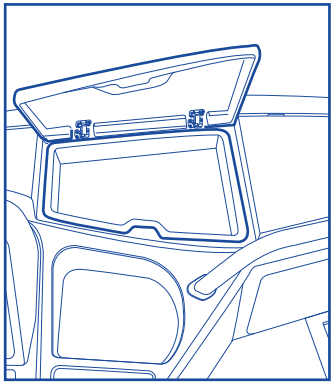
## 3.6 Accessories

### Assistant's Microphone (Optional)



OFF: Closed
ON: Open

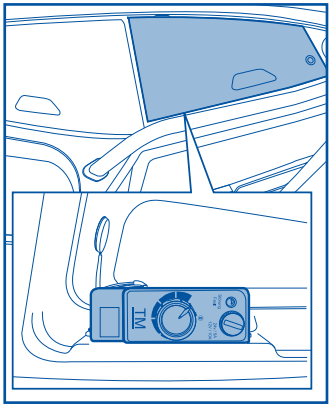
### Lateral Glove Box



Documents and personal belongings can be stored.

Pull the cover upwards to open.

### Dashboard Refrigerator



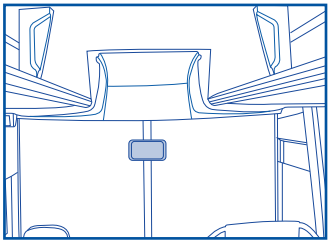
A lock is provided on the refrigerator hatch. Turn the key anti-clockwise to unlock and lift to open.

Push the hatch downwards to close and turn the key clockwise.

**INFORMATION**

Refer to user's manuals of dashborad refrigerator delivered with the vehicle for more information.

### Rear View Mirror



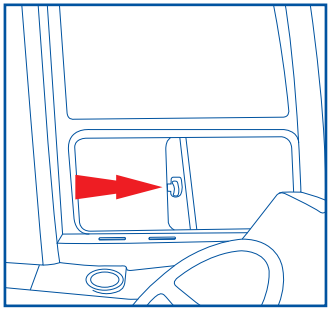
Allows the driver to see inside of the vehicle.

Adjust the rear view mirror to see inside of the vehicle and doors.

**INFORMATION**

Rear view mirror is adjusted manually.

## Driver's Side Window



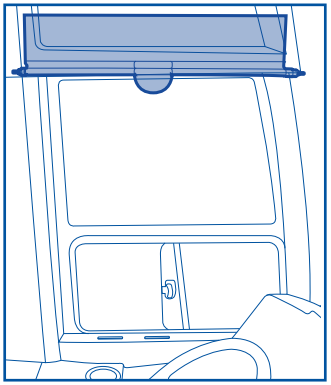
Latches are provided with the lock mechanism of the windows.

Press the latch and slide the window to the right to open.

Hold the latch and slide to the left to close the window.

**WARNING**
Always hold latches from outer parts. Otherwise your hand may get caught.

## Driver's Side Sun Visor (Optional)

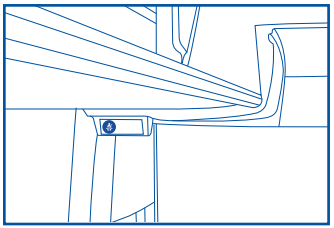


Pull the black knob to move the sun visor downwards.
Pull and release the white knob to move the sun visor upwards.

**OPTION**
This feature is optional. It may not be included in all models.

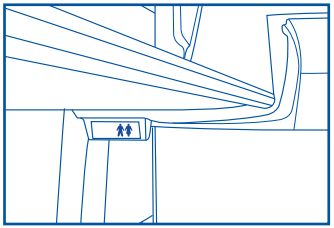
## Digital Indicators

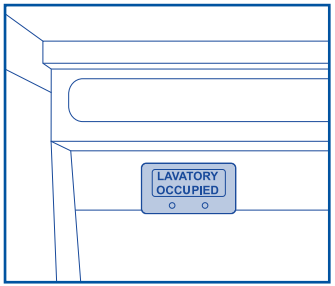
### Seat Belt Indicator



Indicates that passengers must fasten their seat belts.

### Toilet Indicator



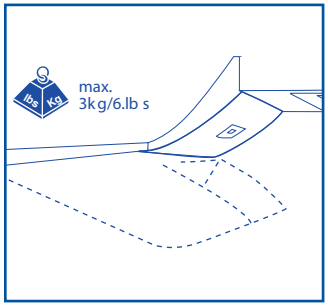



Indicates that the toilet is in use.

**INFORMATION**
Toilet indicator lamp lights up when the toilet door is locked from inside.

## 3.6 Accessories

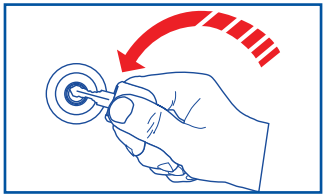
### Driver's Overhead Luggage Racks




Personal belongings can be stored inside the overhead luggage compartment located over driver's seat and above the entrance door. Maximum weight 3kg/6.6lbs.

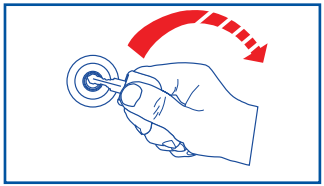
**WARNING**

Always keep the locked in order to prevent hatches from opening during travel.



Insert the key in its socket, turn counterclockwise to unlock and push the hatch to open overhead luggage rack.

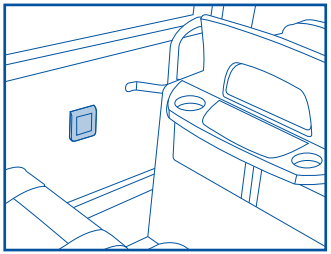
Insert the key in its socket and turn clockwise to lock the overhead luggage rack.

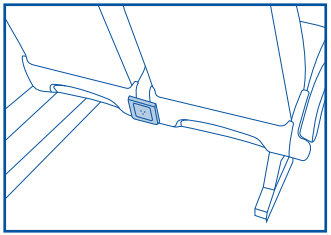


**WARNING**

- Take necessary precautions while opening and closing overhead luggage hatch. Your hand may get caught.
- Be aware that luggage may have shifted while driving and may fall out unexpectedly when opening the overhead luggage compartment.

### Electric Socket





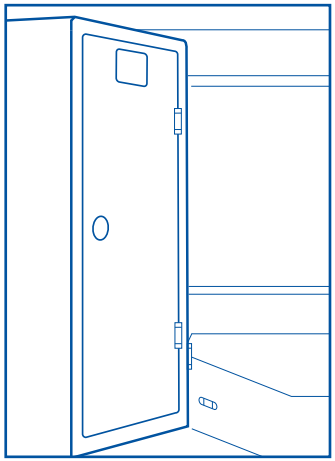
Electric socket is provided behid the passenger seats and near the passenger seats in first row.

Check the technical properties of the equipment before inserting into the socket.

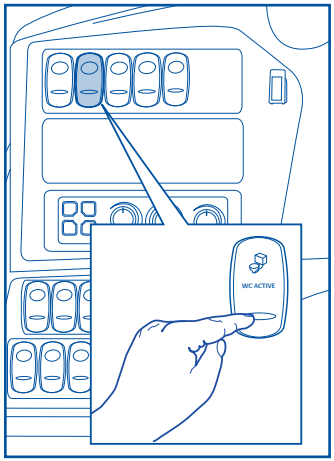
Always keep the cap of the electric socket closed after use.

## 3.6 Accessories

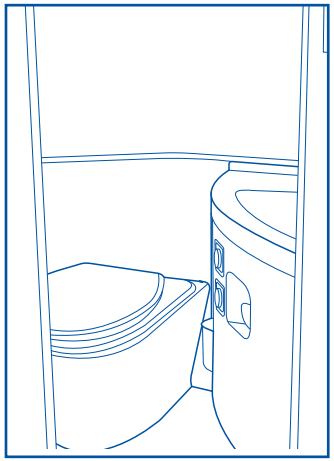
### Toilet (WC) (Opsion 1)



Your vehicle is equipped with toilet unit and denoted by label.

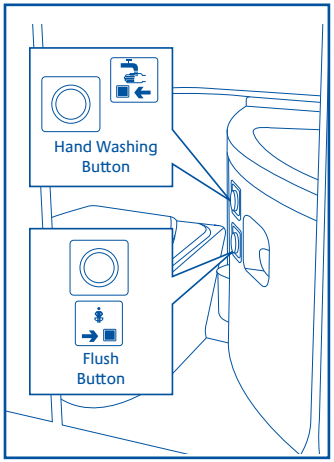



Push “WC Active” button located on the left control panel to activate toilet system.



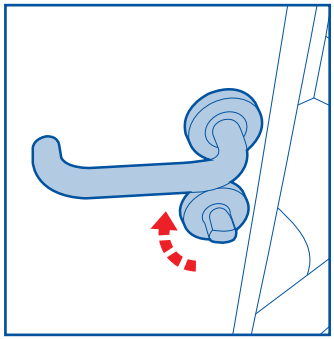
**WARNING**

Information about toilet usage is denoted by warning labels. Inform passangers before using toilet.



## 3.6 Accessories

### Toilet (WC) (Opsion 1)

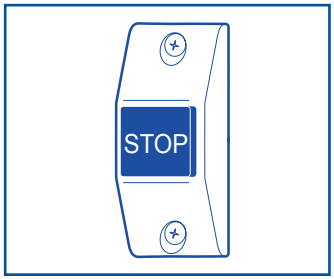


Rotate the lever clockwise to lock the toilet door from inside.

**WARNING**

When the engine is on and “WC Active” switch is pressed, the ventilation fan runs at a higher level and toilet lamps light up if the toilet door is locked from inside.

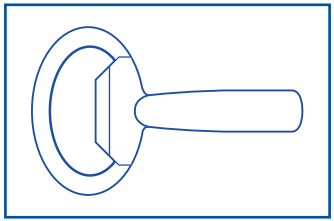
Rotate the lever counterclockwise to unlock the door and push to handle to open.




Emergency situation switch can be found inside the toilet unit.

**INFORMATION**

Corresponding warning lamp on indicator panel lights up as long as the stop switch is kept pressed and discontinuous warning buzzer sounds.

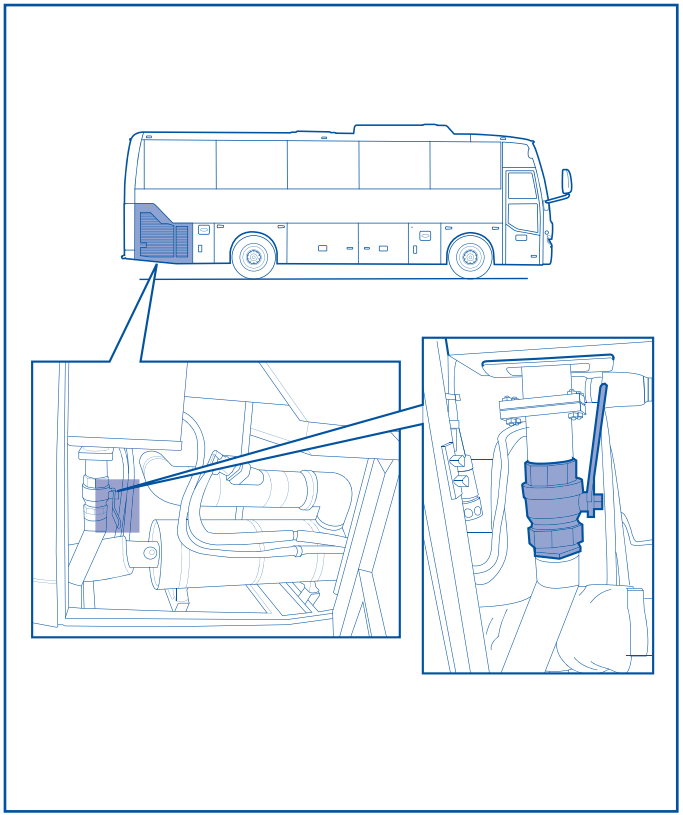


**INFORMATION**

Use “Toilet Door Key” to open toilet wastebasket and toilet door from outside in case of emergency.

## 3.6 Accessories

### Lavatory Waste Discharge (Option 1)



**WARNING**

Lavatory waste must be disposed of into appropriate and approved Disposal or Dump. Failure to do so may result in serious criminal and/or civil fines, penalties and/or incarceration.

1. Park the vehicle in a dump station and place your holding tank drain valve as close to the opening of the dump station as possible.
2. Pull the discarge valve lever down.
3. Restore the valve to its original position when discharging is finished.

**INFORMATION**

If lavatory waste tank is full, a fault message displayed on warning panel.

**WARNING**

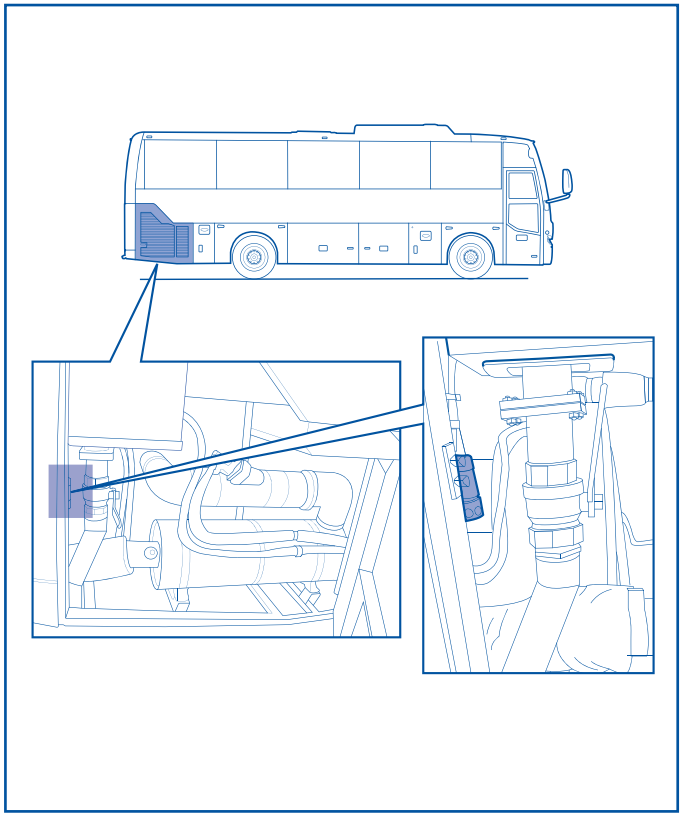
Never use toilet unit if lavatory waste tank full.

**WARNING**

If the weather is cold, (under 32°F / 0°C) water tank and water pipes may be frozen. To avoid damage, drain lavatory waste tank and clear water tank if the vehicle is to remain unused long period of time.

## 3.6 Accessories

### Clean Water Inlet (Option 1)

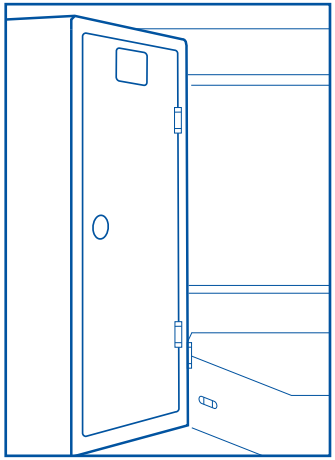


**WARNING**

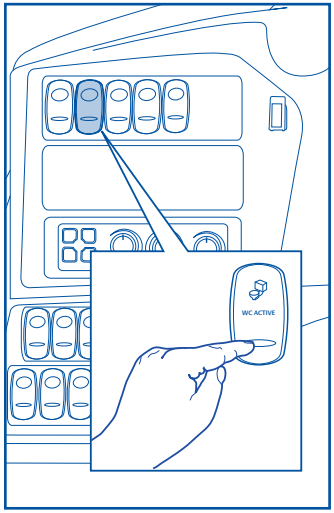
If the weather is cold, (under 32°F / 0°C) water tank and water pipes may be frozen. To avoid damage, drain lavatory waste tank and clean water tank if the vehicle is to remain unused long period of time.

## 3.6 Accessories

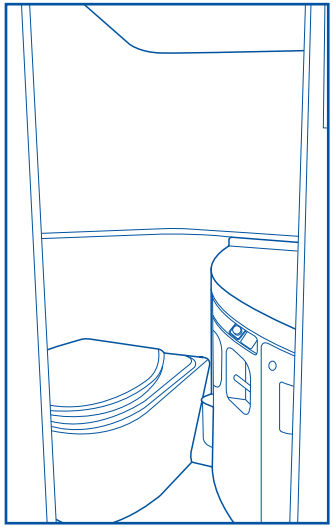
### Toilet (WC) (Opsion 2)



Your vehicle is equipped with toilet unit and denoted by label.

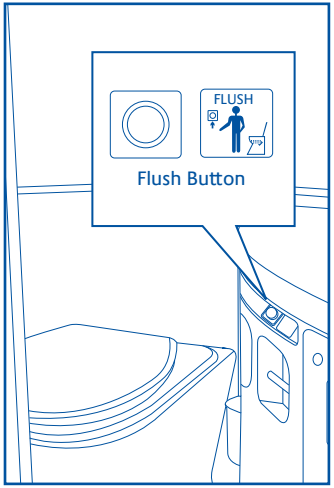



Push “WC Active” button located on the left control panel to activate toilet system.



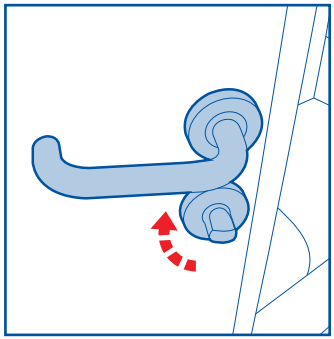
**WARNING**

Information about toilet usage is denoted by warning labels. Inform passangers before using toilet.



## 3.6 Accessories

### Toilet (WC) (Opsion 2)

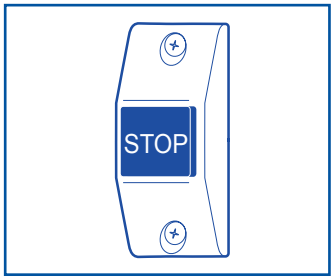


Rotate the lever clockwise to lock the toilet door from inside.

**WARNING**

When the engine is on and “WC Active” switch is pressed, the ventilation fan runs at a higher level and toilet lamps light up if the toilet door is locked from inside.

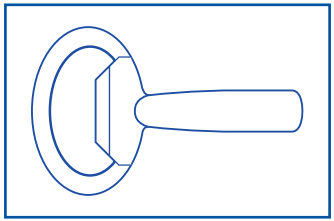
Rotate the lever counterclockwise to unlock the door and push to handle to open.




Emergency situation switch can be found inside the toilet unit.

**INFORMATION**

Corresponding warning lamp on indicator panel lights up as long as the stop switch is kept pressed and discontinuous warning buzzer sounds.

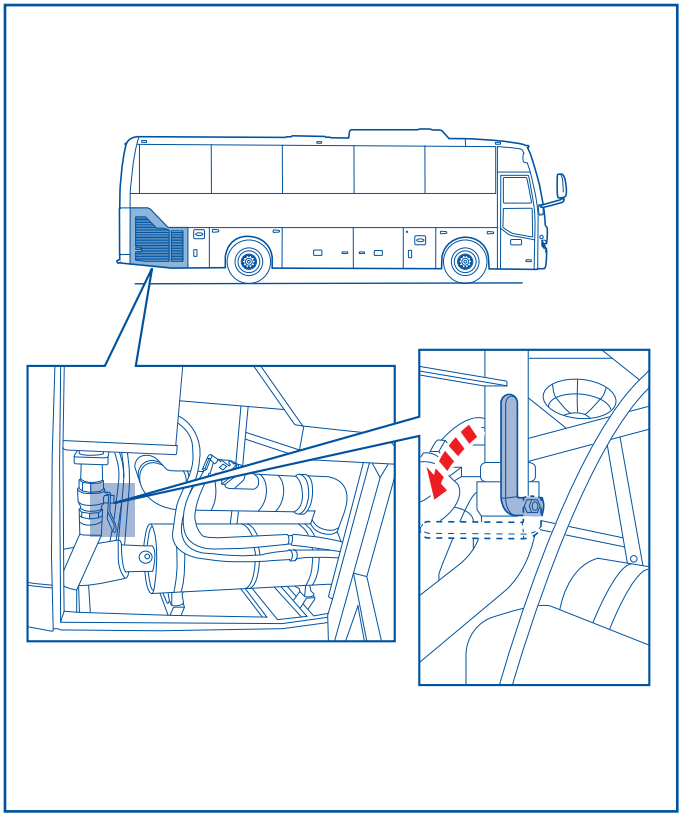


**INFORMATION**

Use “Toilet Door Key” to open toilet wastebasket and toilet door from outside in case of emergency.

## 3.6 Accessories

### Lavatory Waste Discharge (Option 2)



**WARNING**

Lavatory waste must be disposed of into appropriate and approved Disposal or Dump. Failure to do so may result in serious criminal and/or civil fines, penalties and/or incarceration.

1. Park the vehicle in a dump station and place your holding tank drain valve as close to the opening of the dump station as possible.
2. Pull the discarge valve lever down.
3. Restore the valve to its original position when discharging is finished.

**INFORMATION**

If lavatory waste tank is full, a fault message displayed on warning panel.

**WARNING**

Never use toilet unit if lavatory waste tank full.

**WARNING**

If the weather is cold, (under 32°F / 0°C) water tank and water pipes may be frozen. To avoid damage, drain lavatory waste tank if the vehicle is to remain unused long period of time.

# 04 DRIVING


4.1 Pre-Driving
4.1.1 Driver's Seat Adjustment
4.1.2 Driver's Seat Belt
4.1.3 Rear View Mirror Sight Adjustment
4.1.4 Steering Wheel Adjustment
4.1.5 Checking Control Switches
4.1.6 Checking Indicator & Warning Lamps
4.1.7 Checking Air Pressure
4.2 Driving
4.3 Emergency Situations
4.3.1 Towing the Vehicle

## 4.1 Pre-Driving

Taking necessary actions before driving prevents possible problems while driving.

To have optimal conditions for your own and passenger's safety, always check all items that may affect driving performance.

### Checking Headlights and Lamps

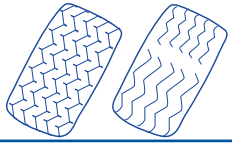
Check all headlights and external lamps before driving. Consult authorized TEMSA Service in case of any malfunctioning.

### Checking Tire Pressures

Check the tires and rims before driving.

**VISUAL INSPECTION**

Check that tires (also spare tires) are not worn, torn, damaged etc.



Perform tire pressure adjustment according to the values given by the manufacturer for different weather conditions. (See page 151)
Check that all rims are installed and fixed properly.

**WARNING**

Tire pressure increases while driving. Check tire pressure when tires are cold.

### Checking Systems for Leaks

Check fuel and lubrication systems of the vehicle for leaks before driving.

**VISUAL INSPECTION**

Consult authorized TEMSA Service in case of any leaks in the systems.

### Checking Engine Oil

Check the level and colour of the engine oil (see page 176).

**INFORMATION**

Check the engine oil level when the engine is stopped and warm, wait till the oil flows back into the sump. Park the vehicle on level ground to get an accurate oil level reading.

### Checking Coolant Level

Check the level of coolant before driving (see page 129).

**VISUAL INSPECTION**

Consult authorized TEMSA Service when coolant level is low.
Do not top up the tank before consulting the TEMSA Service. systems.

## 4.1 Pre-Driving

### Windshield Washer Fluid

Check the level of windshield washer fluid before driving. Top up the fluid if the level is low (see page 53).

**WARNING**
Hard water minerals may block the washer sprays.

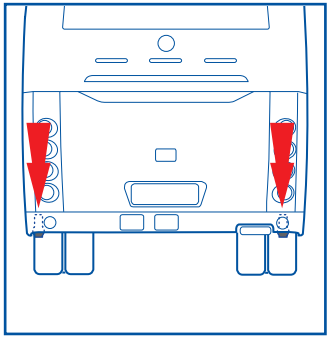
### Checking Luggage

Check that luggage in the luggage compartment is correctly fixed.

According to traffic conditions sudden acceleration and deceleration may cause luggage sliding and hitting the luggage compartment walls. Arrange the luggage in order to prevent this.

### Checking A/C Drain Off Nozzle

Check that air conditioner drain off nozzle is not blocked.



Knob at the end of the air conditioner nozzle may get blocked due to weather conditions.

The performance of the air conditioner would be inversely affected if condensate is not drained off.

### Checking Emergency Situation Equipment

Check the emergency situation equipment before driving. Check the emergency equipment is fully functional.

Jack, spare tire, bulbs, spare fuse, first aid kit, fire extinguisher, wheel nut, lug wrench, chock, auxiliary rods and tool bag must be kept ready for use.

Warning and information labels are provided inside the vehicle. Inform the passengers about these labels and what to do.

**INFORMATION**
- Check that first aid kit contents are complete.
- Check the fire extinguisher has been serviced.

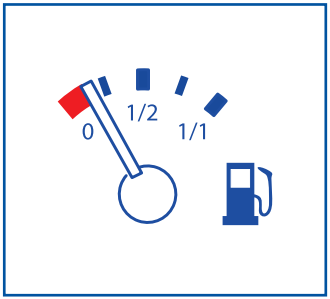
### Checking Doors and Hatches

Check that all doors and lids are closed and locked before driving. Check that doors and lids are closed properly using rear view mirrors.

### Checking Fuel Level

Check the fuel level by using the corresponding indicator located on instrument panel. Top up the tank with correct fuel if needed.

Do not wait until the fuel is completely consumed before refueling. Air remaining inside the tank may cause engine malfunction.




**INFORMATION**
Fuel level can be monitored in percentages through display.

## 4.1.1 Driver's Seat Adjustment

Driver's seat adjustment is customized to provide the optimum comfort for the driver during travel.

Driver's seat adjustment must allow easy access to service pedals, warning and operating lamps and the rear view mirrors must be fully visual.

**INFORMATION**

- Maximum weight capacity of driver's seat is 150 kg / 331 lbs and pressure of 7 bar / 102 psi.
- Driver's seat adjustment buttons are located at right side of the seat.

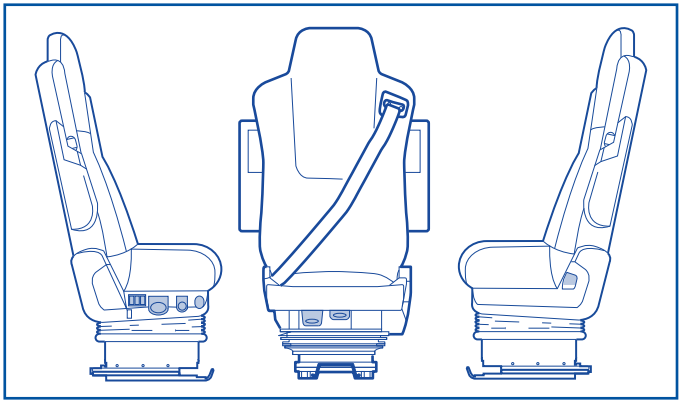
Driver's seat position can be adjusted with control buttons located on the seat.

- Height
- Suspension Hardness
- Fast Descend
- Cushion Depth
- Seat Upright Position
- Cushion Forward and Backward Slide
- Seat Forward and Backward Slide
- Lower Lumbar Support
- Upper Lumbar Support

Can be adjusted with these buttons.

**WARNING**

Adjustment must be performed when the vehicle is stationary. Adjustments performed during travel may cause accidents.



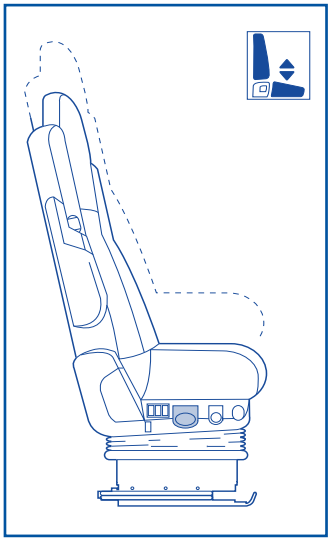
**OPTION**

Some features may differ according to customer request.

## 4.1.1 Driver's Seat Adjustment

### Height Adjustment

Adjust the height of the seat by pulling/pushing the button.

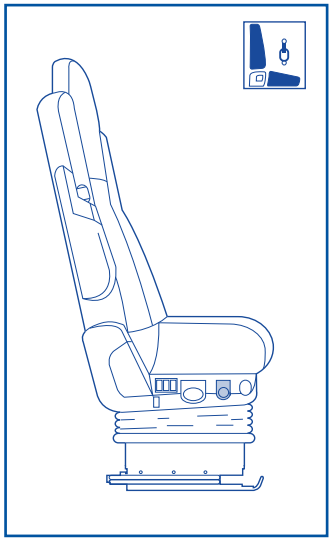


**INFORMATION**

Ensure that seat system contains air before performing height adjustment. See also "Fast Descend" to have information about how to fill air inside the seat system.

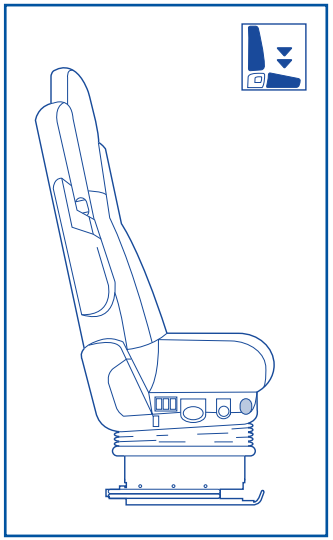
### Suspension Hardness Adjustment

Pull the button to loosen seat springs. Push forward the button to harden seat springs.



### Fast Descend

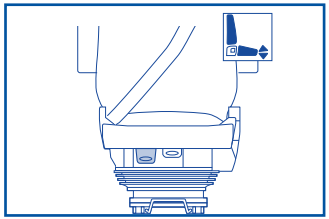
When the button is pressed, air in the system is released and height of the seat decreeases.

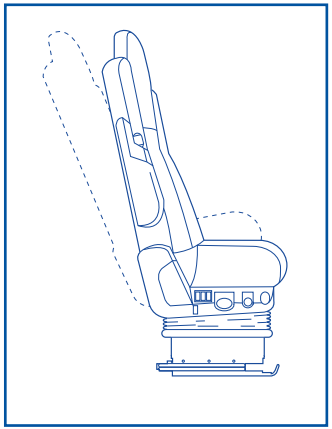


## 4.1.1 Driver's Seat Adjustment

### Cushion Depth Adjustment

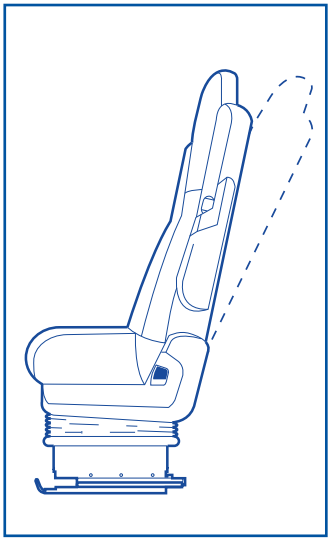
Keep the button pulled to adjust the cushion depth to desired position. Release the button to stabilize the cushion's position.





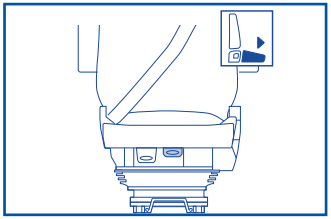
### Seat Upright Position Adjustment

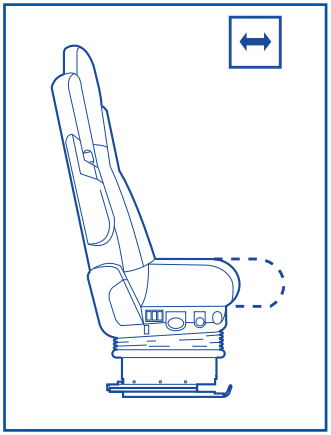
Adjustment lever is located at the left hand side of the driver. Pull the lever at utmost degree, adjust the seat to desired position and then release the lever.



### Cushion Forward and Backward Slide Adjustment

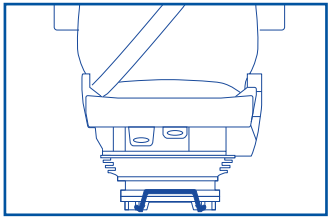
Keep the button pulled to perform cushion forward and backward slide adjustment. Release the button to stabilize the seat.

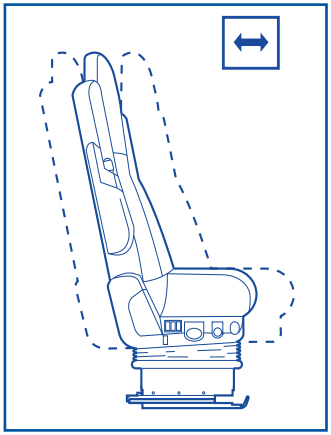




### Seat Forward and Backward Slide Adjustment

Keep the lever pulled, adjust to the desired position and then release the lever to stabilize the seat.

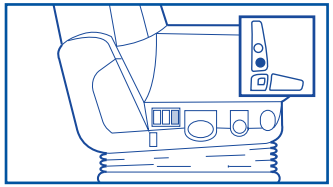


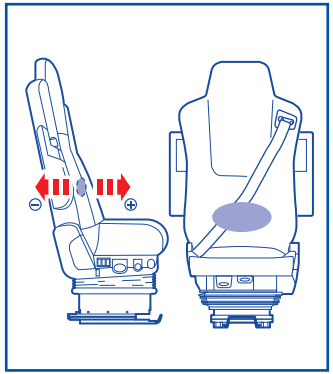


## 4.1.1 Driver's Seat Adjustment

### Lower Lumbar Support Adjustment

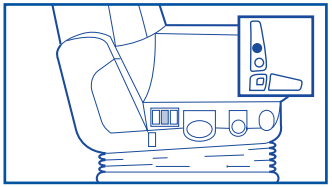
Upper lumbar support enables an optimal adaption on lower side of the backrest. Press upper side of the button to increase lower lumbar support. Press lower part of the button to decrease lower lumbar support.

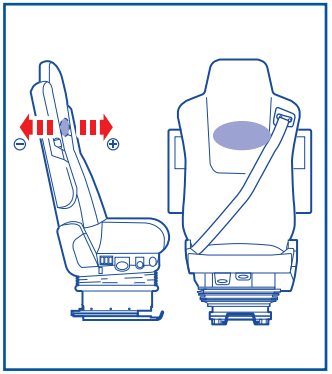




### Upper Lumbar Support Adjustment

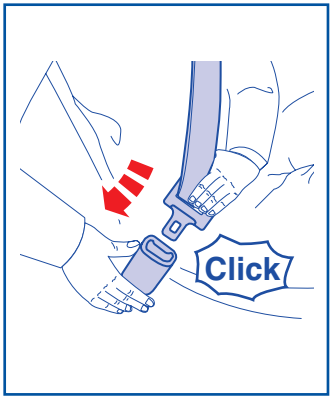
Upper lumbar support enables an optimal adaption on upper side of the backrest. Press upper side of the button to increase upper lumbar support. Press lower part of the button to decrease upper lumbar support.





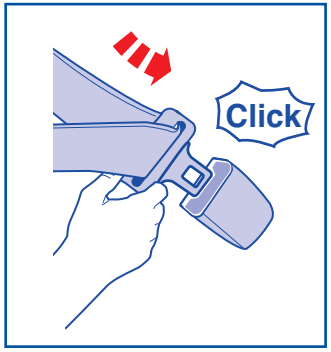
## 4.1.2 Driver's Seat Belt

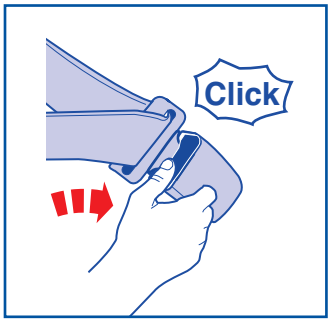
First adjust the seat, put on the seat belt and then perform other actions.




**WARNING**
Do a seat belt check once a week by pulling it while it is engaged, it should not release.

Insert the buckle latch into the belt buckle until it engages with a click. Press the red button on the belt buckle to release the belt. Belt should coil automatically.




## 4.1.3 Rear View Mirror Sight Adjustment

Adjust the positions of the rear view mirrors before driving (see page 57).

**INFORMATION**
Before driving, first adjust the seat position, put on seat belt and then adjust rear view mirrors positions. Adjust the mirrors to guarantee utmost visibility.

## 4.1.4 Steering Wheel Adjustment

Always check steering wheel position before driving (see page 50).

**INFORMATION**
Adjust the seat position first, put on seat belt and then adjust steering wheel position. Steering wheel position must not prevent full vision of indicator and fault lamps.

**WARNING**
Changing steering wheel position when driving will reduce control over the vehicle and could cause accidents.

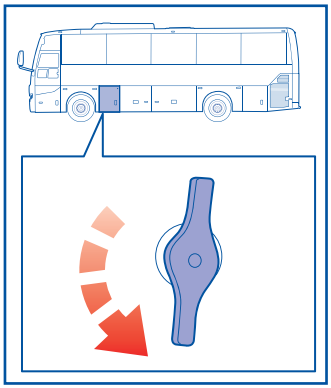
## 4.1.5 Checking Control Switches

Check that all control switches function properly before driving.

**INFORMATION**

TEMSA

All control switches function after main battery cut-off switch is switched on. Consult authorized TEMSA Service if any of the switches malfunction.



## 4.1.6 Checking Indicator and Warning Lamps

Indicator and warning lights provide all the information about the operations of the vehicle. It is of vital importance to check all of the indicator and warning lamps before driving.

**WARNING**

Warning lamps may indicate any malfunction during travel. Always find out the reasons for the malfunction. Park the vehicle in a convenient place and consult authorized TEMSA Service if you cannot detect or repair the malfunction.

## 4.1.7 Checking Air Pressure

Check that air pressure is enough to operate brake and other systems.

**WARNING**

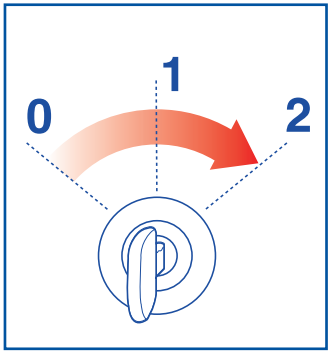
DO NOT OPERATE THE BUS WITH AN AIR PRESSURE BELOW 100 PSI

# SAFETY IS IN YOUR HANDS

## FASTEN YOUR SEATBELTS ON THE COACH

Value in motion

## 4.2 Driving




0 :Ignition key can be removed in this position after engine is stopped
1 :Engine shut down position.
2 :In this position electrical system is active although engine is stopped.

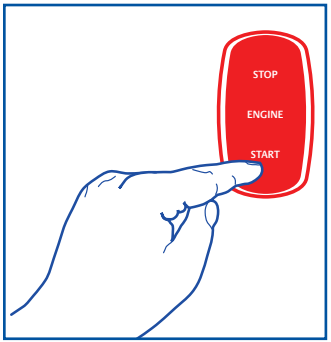
### Starting the Engine

Check that parking brake is activated before starting the engine.

Switch the key to position "2" and check all the indicators and warning lamps on the instrument panel.

After performing all controls and adjustment, bring the ignition key to position "2" and press lower part of the start-stop switch.

Only start the engine when "Neutral" gear is engaged.



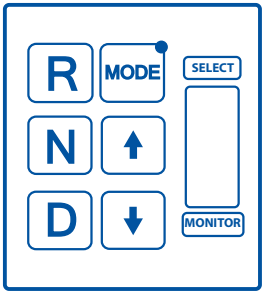

**WARNING**

Do not apply accelerator pedal while starting the engine. ECM system might be affected adversely.

**INFORMATION**

- Steering wheel will lock up if it is rotated when the ignition key is removed.
- To release the steering wheel, switch the ignition key to position "1" or "2" while rotating the steering wheel to the left and right.
- When the ignition key is on position "2", wait till the "ABS" warning lamp turns off before starting engine.

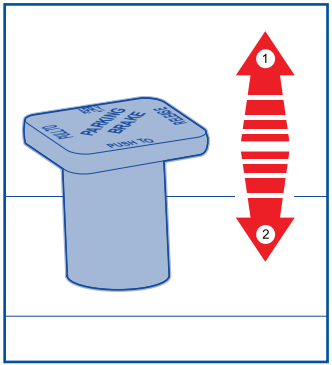
After starting the engine, apply the brake pedal and select gear according to the direction you choose to drive.




PRESS BRAKE PEDAL
BEFORE SELECTING GEAR

## 4.2 Driving

Push the brake lever downwards to release the parking brake.




Release the parking brake after starting the engine. Check that Ⓟ parking brake symbol located on instrument panel is off.

HAND BRAKE RELEASE
USE TEMPORARY ONLY
DURING BRAKE FAILURE

**INFORMATION**

Air is intended as an aid for brakes. Ⓟ The parking brake symbol does not extinguish until the required pressure of the tank is reached.

Vehicle is ready for driving. Release the service brake pedal genly. Check that brakes function properly before starting to drive.

**INFORMATION**

Your safety, engaging the gear is not allowed unless service brake pedal is applied.

### Slowing Down and Stopping

Activate retarder brake instead of applying service brake on descends to slow down.

**INFORMATION**

These auxiliary brakes allow the vehicle to be slowed smoothly and almost free of wear.

Auxiliary brake systems cannot provide sufficient braking power to stop the vehicle. Stop the vehicle by applying service brake and then shift to “Neutral”.

**INFORMATION**

Switch off the ignition when the vehicle is not used for longer periods. This will reduce fuel consumption.

**WARNING**

- Do not stop the engine immediately after stopping the vehicle. Run the engine in idle position for 3 minutes to allow the proper cooling and then stop the engine.
- Never allow unauthorized people to drive the vehicle. Remove the ignition key before leaving the vehicle.

**WARNING**

Never switch off the ignition while driving. This may cause the steering wheel to lock up.

## 4.2 Driving

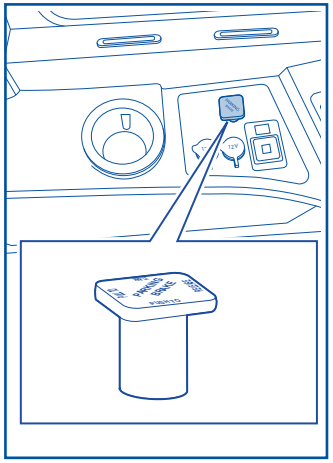
### Parking

Activate the parking brake after stopping the vehicle.

Direct the tires towards the pavement when parking downhill.

Direct the tires away from the pavement when parking uphill.

Switch the ignition key to position “0” after stopping the engine and remove the key.



**INFORMATION**

ABS system will be deactivated when the parking brake is activated.

## 4.3 Emergency Situations

Additional emergency equipment is provided with the vehicle.

It is vital importance to use and maintain the equipment properly.

Check that first aid kit and fire extinguisher are located in their correct positions.

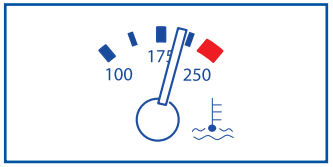
Warning and information labels are provided inside the vehicle. Inform the passengers about these labels and what to do.

### Engine Overheat

**INFORMATION**

Check the engine temperature regularly while driving. Temperature indicator is located on the instrument panel.

When the engine coolant temperature rises, stop the vehicle in an appropriate place and activate the parking brake. Turn the air conditioning off. Run the engine at idle speed until the coolant temperature drops to normal level. Open the radiator lid gently without stopping the engine.



## 4.3 Emergency Situations

### Engine Overheat

**WARNING**
Never open radiator cap when the engine is hot.

**HOT SURFACES**
Accessible parts would be hot when the engine maintenance lid is opened.

**SAFETY GLOVES**
Wear protective gloves before touching these parts.

**ROTATING PARTS**
Some parts still rotate although engine has stopped. Check that all parts are stationary before touching.

**VISUAL INSPECTION**
Sudden rise in coolant temperature may indicate damage to the belt.

**CONSULT AUTHORIZED SERVICE**
Consult authorized TEMSA Service in such a case before driving.

**CONSULT AUTHORIZED SERVICE**
Consult authorized TEMSA Service if the engine does not run despite checking all controls and applications.

### Engine Failure

Simple problems may cause failure of the engine. There are some applications that can be done before consulting the authorized TEMSA Service.

| | |
|---|---|
| Emergency Stop Switch could be pressed. | Release the Emergency Stop Switch. |
| Lack of fuel. | Refuel. |
| Empty Battery. | Check the battery charge. Replace battery. |
| DPF reaches sufficient level of soot loading. | Manual Regeneration must be perform (See page 134) |
| High Exhaust System Temperature | The HEST Lamp is a reminder to the driver that the DPF outlet temperature is more than approximately 840°F. No actions is required. |

## 4.3.1 Towing the Vehicle

**INFORMATION**

- Laws regarding towing the vehicle vary according to state laws.
- All applications must be done by taking the present state's rules into consideration.

**WARNING**

Technical knowledge is needed for towing. Only road recovery service must perform this application.

**INFORMATION**

- Maximum speed limit is 9,3 mph / 15 km/h for vehicles with brake problems.
- Maximum speed limit is 12,5 mph / 20 km/h for vehicles with no brake problems.

**WARNING**

Materials used for towing vary according to malfunction type.

- For vehicles with brake problems: Tow bar
- For vehicles without brake problems: Tow rope, Tow chain can be used.

**INFORMATION**

- Tow rope length can be 5 meters / 16,4 ft and tow bar length can be maximum 1 meter / 3,28 ft.
- Red warning signs must be attached on tow ropes longer than 2.5 meters / 8.2 ft.
- If the lighting system of the towed vehicle is malfunctioning, a 0,65x0,65ft / 20x20 cm red reflector must be placed behind the vehicle.

**WARNING**

Drive axle shaft must be removed when coach is being towed to avoid possibilty of damage to transmission.

**WARNING**

In a dangerous situation, towing without seperation of the drive train is permitted until the vehicle has left the danger area (e.g. intersection, tunnel etc.).
In such a case the following conditions apply:

- Maximum towing time: 10 minutes
- Maximum speed: 9,3 mph / 15 km/h.

In all towing applications:

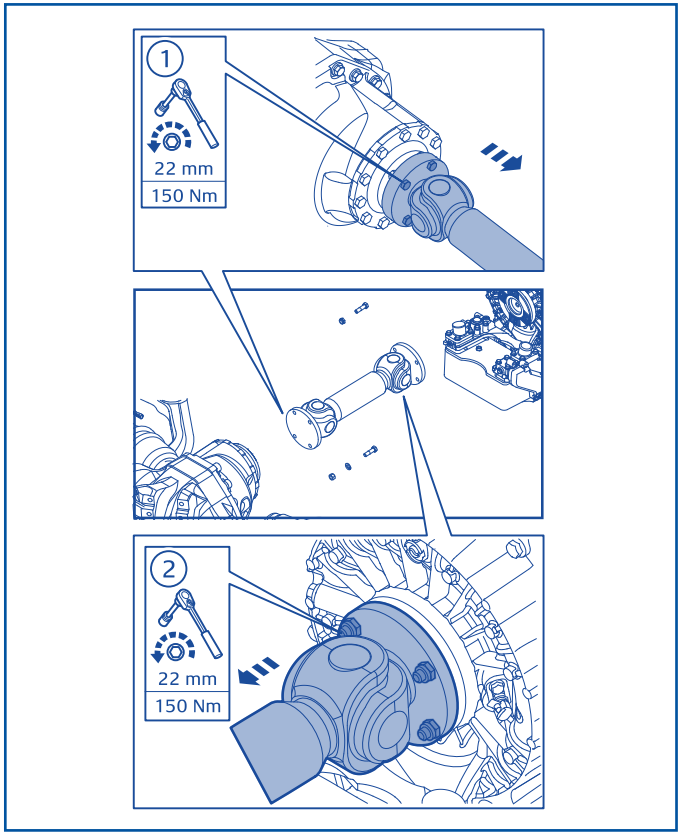
- Insert the ignition key and switch to position "2".
- Run the engine to activate hydraulic steering wheel support and braking system.
- Do not activate retarder if engine is off.
- Remove the propeller shaft and shift to "Neutral" before towing process.
- Always tow the vehicle at low speeds.
- Resolve the problem mechanically in case of system air pressure malfunctioning (see also page 162).
- Check that tow rope, chain is parallel to the road during the towing process.

**INFORMATION**

At an ambient temperature below -15°C / 5°F, the maximally permitted towing speed is 3,11 mph / 5 km/h.

## 4.3.1 Towing the Vehicle

### Removing the Propeller Shaft




1. Remove the propeller shaft, transmission connection nuts, then remove the propeller shaft from the transmission.
2. Remove the rear axle and shaft connection bolts and seperate the shaft from the rear axle

**WARNING**

Parking brake can be locked when air pressure in the system is insufficient.
If parking brake is locked, please follow instructions on page 162.
Ensure the parking brake system function again before towing.

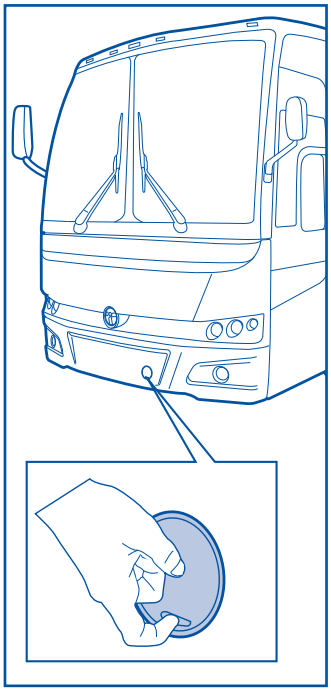
**WARNING**

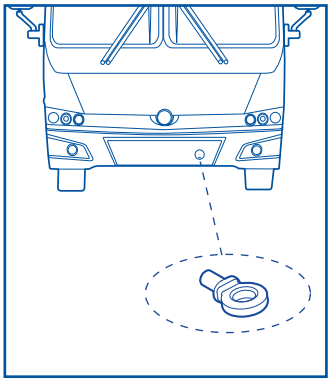
After removal of the propeller shaft, place gearbox in a neutral position.

## 4.3.1 Towing the Vehicle

### Access to Front Tow Hook

It is located at inside part of the front bumper. Pull the cover of tow located on front bumper and fix the tow hook.

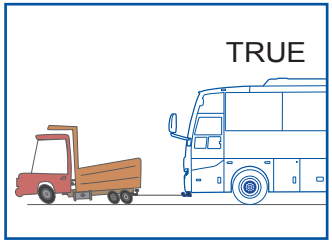


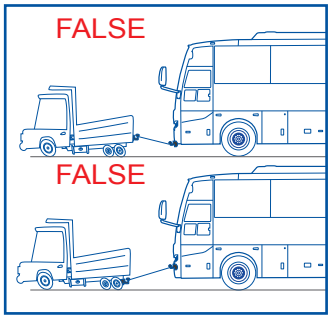


First deactivate the parking brake. Switch the ignition key to position “2” and shift into “Neutral”.

Ignition must be on position “1” or “2” during towing process. Never remove the ignition key, otherwise steering wheel will lock.

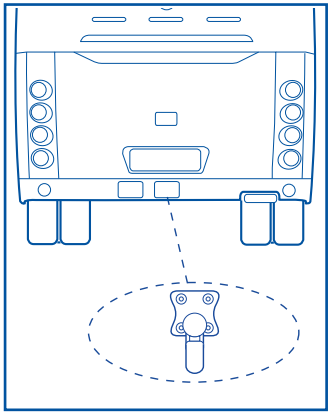
Make sure the tow rope is parallel to the road during the towing process. Otherwise it may cause serious damage to the vehicle.



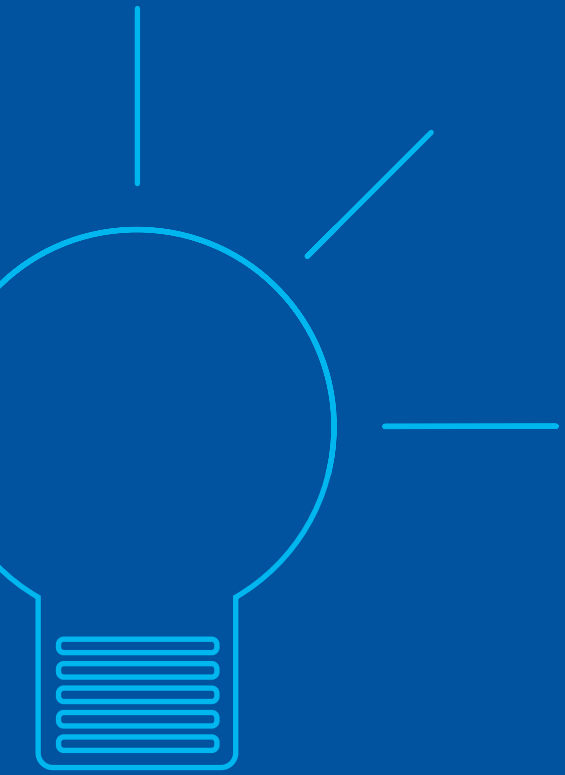




### Access to Rear Tow Hook

It is located on rear bumper.



Use rear towing hook to tow any vehicle.

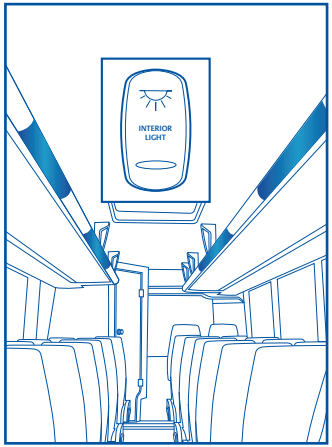


# 05 HEADLAMPS AND LAMPS


5.1 Internal Lamps
5.2 External Lamps
5.3 Illumination Lamps
5.4 Headlamps

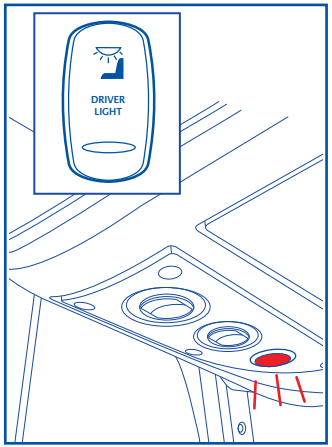
## 5.1 Internal Lamps

### Corridor Lamps




Corridor lamps are controlled by "INTERIOR LIGHT" switch located on the right control panel.

### Driver's Reading Lamp

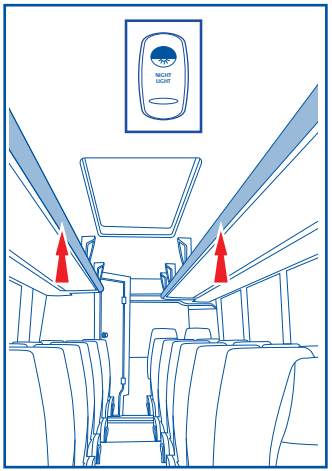



Driver's Reading lamps are controlled by "DRIVER'S READING LAMP" button located on the right control panel.

### Passengers' Reading Lamps

Passengers' Reading Lamps are controlled by the "READING LIGHT" switch located on the right control panel.

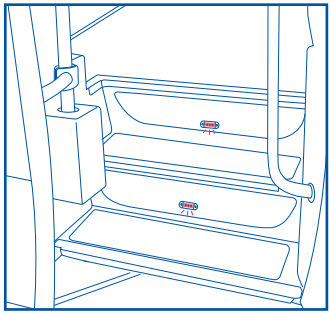
### Passengers' Night Lamps




Passengers' Night Lamps are controlled by the "NIGHT LIGHT" switch located on the right control panel.

## 5.1 Internal Lamps

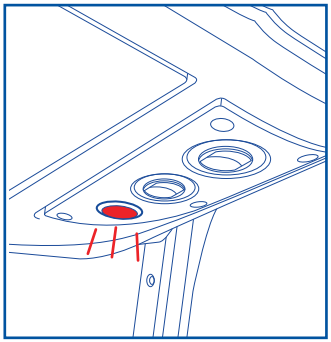
### Step Lamps



Step lamps are located on front steps. They light up automatically when the door is opened and light off when the door is closed.

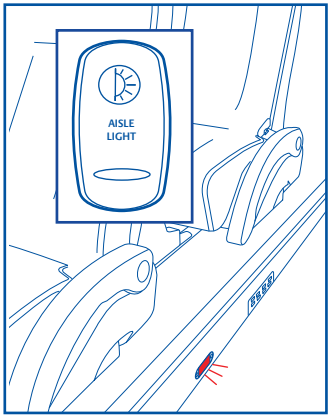
**INFORMATION**
Step lamps provide visibility when getting on and off the vehicle.

### Entrance Illumination Lamp



Entrance Illumination Lamp is located above the door. It lights up when the door is opened and turns off when the door is closed.

### Aisle Illumination Lamp

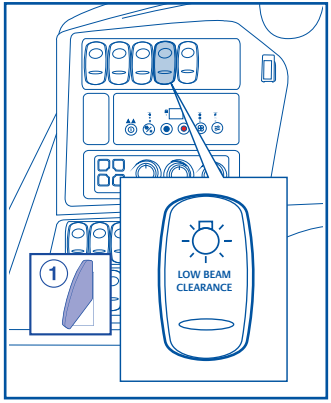



Aisle Illumination Lamps are controlled by "AISLE LIGHTS" button located on right control panel.

## 5.2 External Lamps

### Parking Lamps

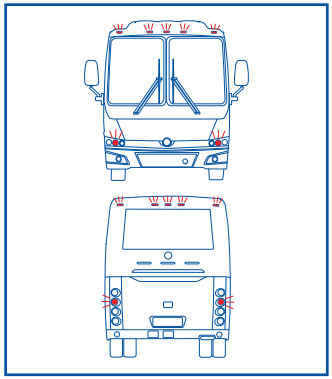
Parking lamps illuminate the exterior of the vehicle and make it visible to other drivers while parked.

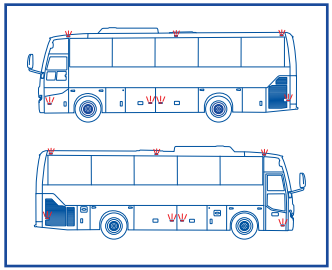



Press "PARKING LAMPS" button located on left control panel turn on parking lamps.

**INFORMATION**
Consult authorized TEMSA Service in case of parking lamp malfunction.

## 5.2 External Lamps





**WARNING**

Never cover parking lamps with paint or label etc.

### Brake Lamps

Brake lamps light up as long as the brake pedal is pressed.

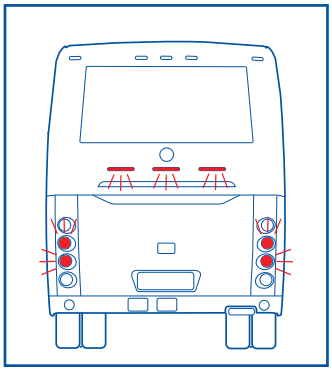
Your vehicle is equipped with seven brake lamps, four are located at rear lamp group and three are at the centre of the vehicle.

**INFORMATION**

Brake lamps also light up when the retarder brake system is activated and switched off when it is deactivated.

**WARNING**

Check that all brake lamps function properly before driving. Consult with authorized TEMSA service in case of malfunction.

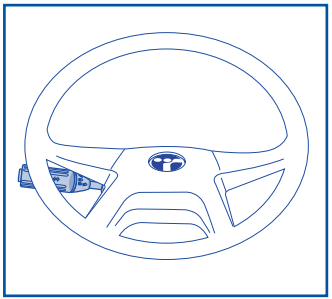


### Turn Signal/Hazard Warning Lamps

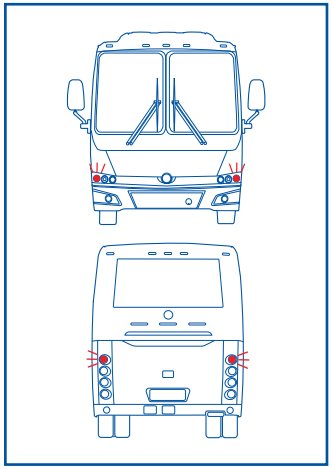
Indicates to other drivers that the driver intends a lateral change of position. They are located: 2 on front and 2 at rear, 2 on each side.

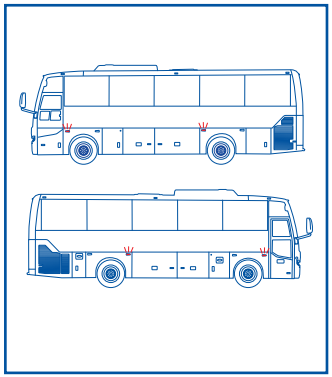
**INFORMATION**

- Indicators are controlled by left control lever located on the steering wheel control group.
- Consult authorized TEMSA Service in case of turn signal malfunction.



## 5.2 External Lamps





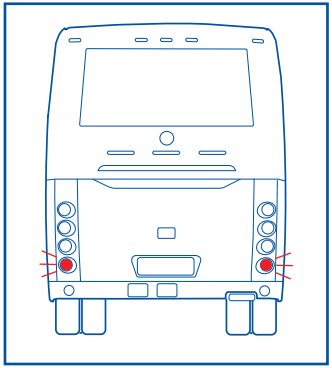
### Rear Direction Indicator Lamp

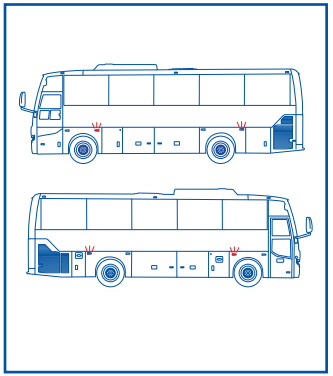
Enables visibility of the vehicle for other drivers or pedestrians while driving in reversed direction.

**INFORMATION**

- Consult authorized TEMSA Service in case of rear direction indicator lamp malfunction.
- When the reverse gear is shifted, hazard warning flashers start flashing and buzzer sounds.

## 5.3 Illumination Lamps



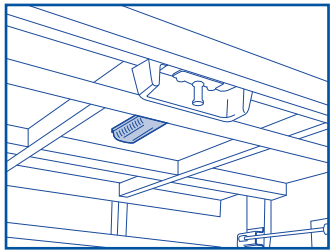


### Luggage Compartment Lamps

Luggage Compartment Lamps turn on when the luggage compartment lids are opened. They turn off when the lids are closed.

**INFORMATION**

Ignition key must be on position "2" to light up luggage compartment lamps.

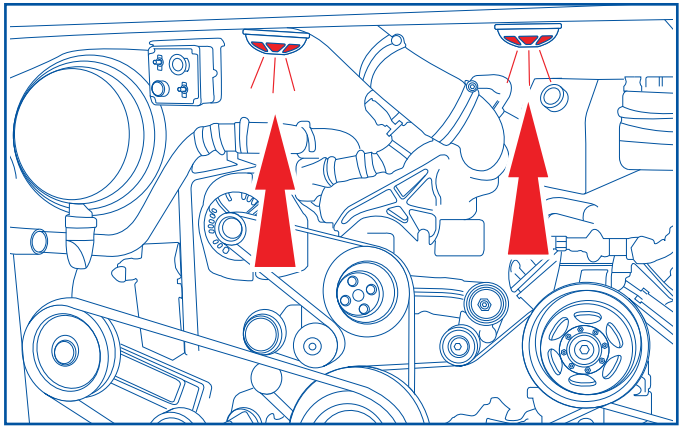


## 5.3 Illumination Lamps

### Engine Inspection Lamps

Two lamps light up when the engine maintenance main compartment lid is opened. They turn off when the lid is closed.

**INFORMATION**
Ignition key must be on position "2" to light up engine inspection lamps.

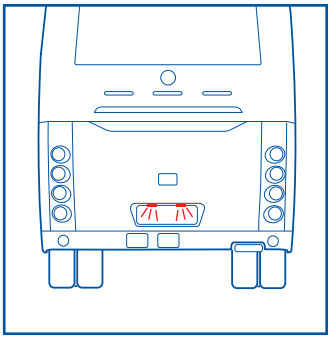


### License Plate Lamps

License plate lamps, light up when parking lamps are activated. They turn off when parking lamps are deactivated.

License plate lamps enable visibility of rear plate when driving in darkness.

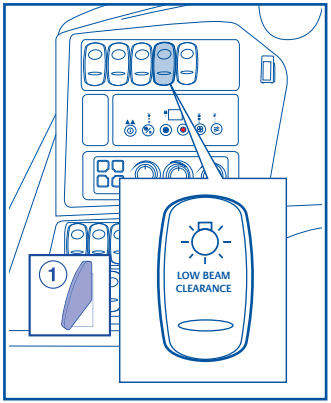
**INFORMATION**
Consult authorized TEMSA Service in case of license plate lamp malfunction.



## 5.4 Headlamps

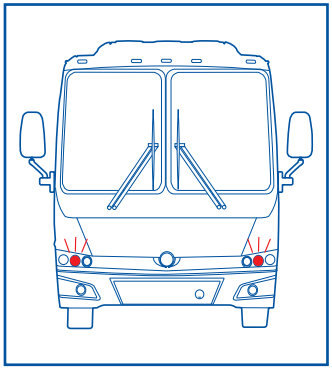
### Lower Beam Headlamps

Lower Beam Headlamps provide medium visibility during driving.



## 5.4 Headlamps

### Upper Beam Headlamps



Provide long range visibility during travel. See also page 51 to activate upper beam headlamps.

**INFORMATION**

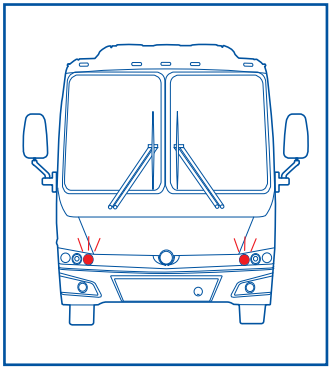
Upper beams are used when the lower beams are insufficient to provide high visibility.

**INFORMATION**

- Position the "PARKING LAMP AND LOW BEAM SWITCH" located on the left control panel to the second level to turn on the lower beam headlamps.
- Consult authorized TEMSA Service in case of low beam headlights malfunction.

**WARNING**

Upper beams will adversely affect the visibility of the driver on the opposite side. Never use the upper beams if not necessary.



**VISUAL INSPECTION**

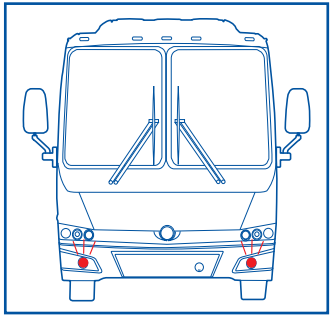
Warning lamp located on warning panel lights up as long as the upper beam headlamps are on.

### Front Fog Lamps (Optional)

Enables higher visibility of the front part of the vehicle in wintry conditions. Press "FRONT FOG LAMP" button located on left control panel to turn the fog lamps on.

**INFORMATION**

- Turn the fog lamps on only when required by weather conditions. Unnecessary use of fog lamps may cause accidents.
- Abide to country laws.



# 06 DOORS AND LIDS

6.1 Front Door
6.2 Lids

## 6.1 Front Door

The locking mechanism is dedicated to open or close the doors from outside when engine is in ON or OFF position. Push the cap to the right to open. Insert the key to the socket, turn clockwise and then turn the locking lever clockwise.

**WARNING**

Never use door opening switches if the door is locked. This could result in damage to the locking mechanism.

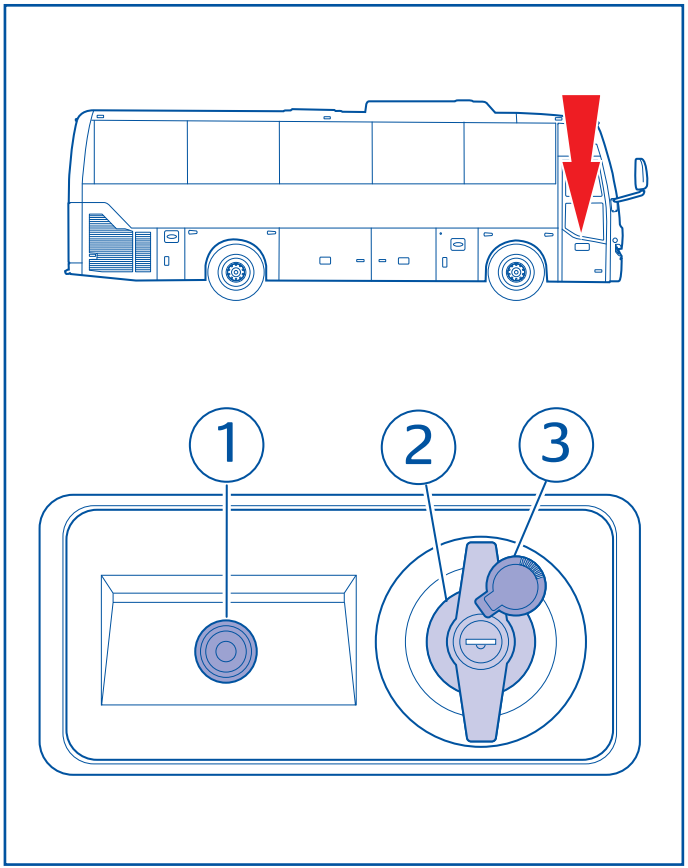
Press On/Off switch to open the door. Press switch to close the door from outside.

1. On/Off Switch
2. Locking Lever
3. Lock Protection Cap

**INFORMATION**

Lock protection cap prevents dust, oil, etc. from contaminating the lock mechanism. Always keep the cap closed after use.

To lock the mechanism from outside, at first, rotate the lever anticlockwise and release. Then insert the key in its socket and turn anticlockwise.



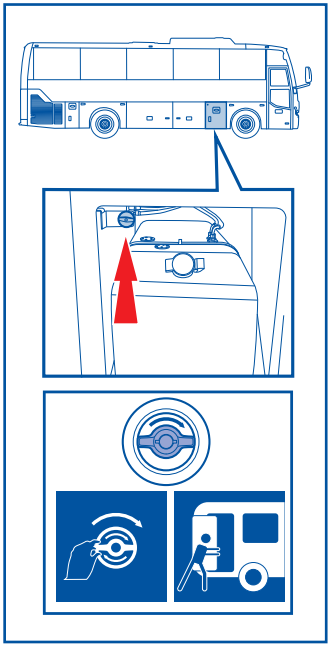
## 6.1 Front Door

### Manually Opening, Closing

The air release mechanism is dedicated to open or close the door from outside.
The switch located on the fuel tank maintenance hatch. Rotate the lever clockwise to release.

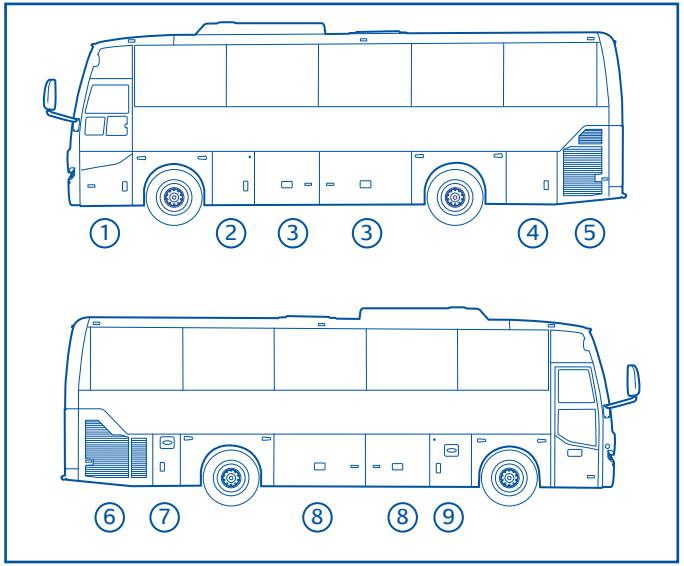
**WARNING**
Never use door opening switches if the door is locked. This could result in damage to the locking mechanism.

**INFORMATION**
Lock protection cap prevents dust, oil, etc. from contaminating the lock mechanism. Always keep the cap closed after use.



**INFORMATION**
The number of air release mechanisms may vary according to the vehicle type.

## 6.2 Lids




1. Emergency Situation Equipment Lid
2. Battery Maintenance Lid
3. Left Side Luggage Lids
4. Test Point and Air Dryer Maintenance Lid
5. Radiator Maintenance Lid
6. Engine Maintenance Right Lid
7. AdBlue and DPF Maintenance Lid
8. Right Luggage Lids
9. Fuel Tank Maintenance Lid

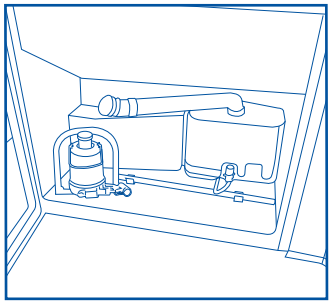
**WARNING**
Ensure that all lids are locked, before driving.

## 6.2 Lids

### Emergency Situation Equipment Lid

The locking mechanism is dedicated to locking or unlocking the lid.

Insert the key in its lock and turn anti-clockwise. To open the lid pull it until it stops, press the latch to release the locking mechanism and continue to pull sideways movement.



Push the lid and turn the key clockwise to lock the mechanism.

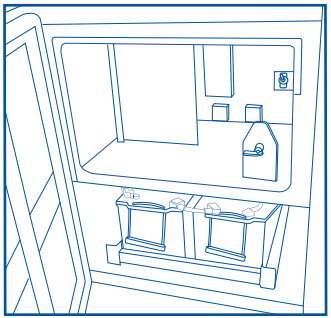
**WARNING**

- Always hold the handle while opening and closing the lid. Never hold edges and inner parts of the lid. Your hand may get caught.
- Do not use this area for storage.

### Battery Maintenance Lid

The locking mechanism is dedicated to locking or unlocking the lid.

Insert the key in its lock and turn anti-clockwise. To open the lid pull it until it stops, press the latch to release the locking mechanism and continue to pull sideways movement.



Push the lid and turn the key clockwise to lock the mechanism.

**WARNING**

- Always hold the handle while opening and closing the lid. Never hold edges and inner parts of the lid. Your hand may get caught.
- Do not use this area for storage.

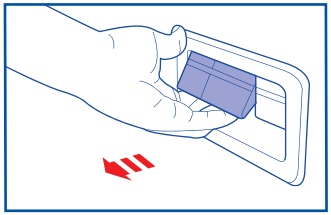
## 6.2 Lids

### Left Side Luggage Lids

The locking mechanism is dedicated to locking or unlocking the lid.

Insert the key in its lock and turn anti-clockwise. Pull the handle as shown in the figure and lift the lid.

Push the lid downwards and turn the key clockwise to lock the mechanism.



**WARNING**

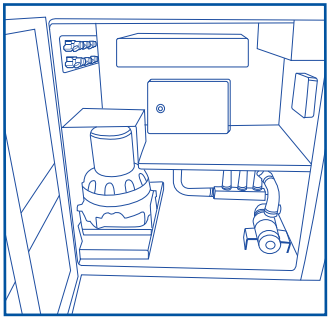
Always hold the handle while opening and closing the lid. Never hold edges and inner parts of the lid. Your hand may get caught.

### Test Point and Air Dryer Maintenance Lid

The locking mechanism is dedicated to locking or unlocking the lid.

Insert the key in its lock and turn anti-clockwise and pull the lid sideways.

Push the lid and turn the key clockwise to lock the mechanism.



**WARNING**

- Always hold the handle while opening and closing the lid. Never hold edges and inner parts of the lid. Your hand may get caught.
- Do not use this area for storage.

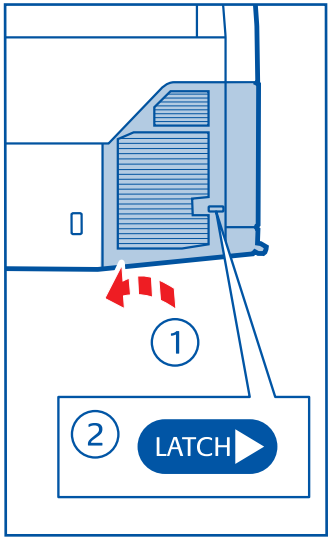
## 6.2 Lids

### Radiator Maintenance Lid

The locking mechanism is dedicated to locking or unlocking the lid. To open the lid pull it up until it stops, press the latch to release the locking mechanism and continue to pull sideways movement.

**HOT SURFACES**
When opening the engine maintenance lid beware of hot surfaces.

**WARNING**
Never hold edges or inner parts of the lid while closing. Your hands may get caught.

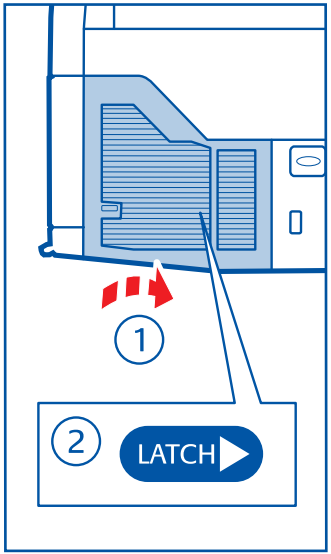



### Engine Maintenance Right Lid

The locking mechanism is dedicated to locking or unlocking the lid. To open the lid pull it up until it stops, press the latch to release the locking mechanism and continue to pull sideways movement.

**HOT SURFACES**
When opening the engine maintenance lid beware of hot surfaces.

**WARNING**
Never hold edges or inner parts of the lid while closing. Your hands may get caught.



## 6.2 Lids

### AdBlue and DPF Maintenance Lid

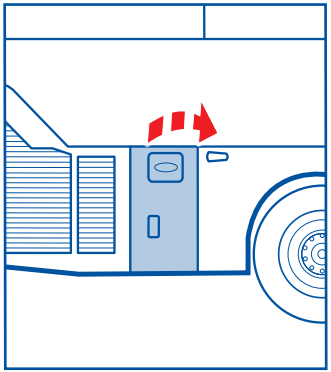
The locking mechanism is dedicated to locking or unlocking the lid.

Insert the key in its lock and turn anti-clockwise. To open the lid pull it until it stops, press the latch to release the locking mechanism and continue to pull sideways movement.

**WARNING**

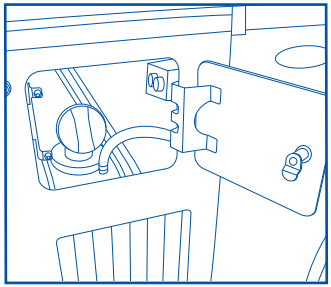
- Always hold the handle while opening and closing the lid. Never hold edges and inner parts of the lid. Your hand may get caught.
- Do not use this area for storage.

Push the lid and turn the key clockwise to lock the mechanism.



### AdBlue Outer Lid

The locking mechanism is dedicated to locking or unlocking the lid. To open the lid turn the key anti-clockwise and pull upwards, to close push and turn the key clockwise.



**WARNING**

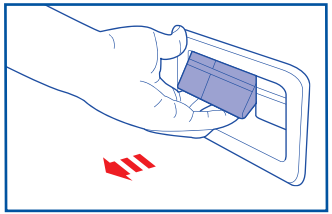
- Always hold the handle while opening and closing the lid. Never hold edges and inner parts of the lid. Your hand may get caught.
- Do not use this area for storage.

## 6.2 Lids

### Right Luggage Lids

The locking mechanism is dedicated to locking or unlocking the lid.

Insert the key in its lock and turn anti-clockwise. Pull the handle as shown in the figure and lift the lid.



Push the lid downwards and turn the key clockwise to lock the mechanism.

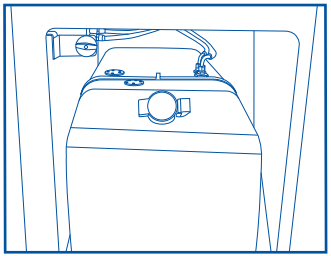
**WARNING**

Always hold the handle while opening and closing the lid. Never hold edges and inner parts of the lid. Your hand may get caught.

### Fuel Tank Maintenance Lid

The locking mechanism is dedicated to locking or unlocking the lid.

Insert the key in its lock and turn anti-clockwise. To open the lid pull it until it stops, press the latch to release the locking mechanism and continue to pull sideways movement.



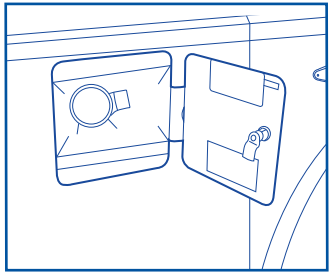
Push the lid and turn the key clockwise to lock the mechanism.

**WARNING**

- Always hold the handle while opening and closing the lid. Never hold edges and inner parts of the lid. Your hand may get caught.
- Do not use this area for storage.

## Fuel Tank Outer Lid

The locking mechanism is dedicated to locking or unlocking the lid. To open the lid turn the key anti-clockwise and pull upwards, to close push and turn the key clockwise.

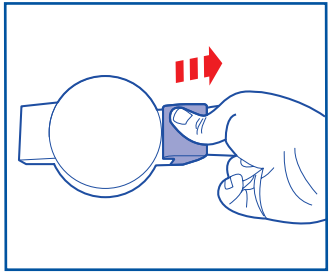


**INFORMATION**

Fuel tank outer lid is located at outer part of the fuel tank maintenance lid.

## Fuel Tank Cap

Push the handle to the right to open fuel tank cap.



**WARNING**

Spring mechanism is provided on the cap. When the handle is pushed, cap is released automatically.

## 6.2 Lids

### Engine Maintenance Lid

The locking mechanism is dedicated to locking or unlocking the lid.

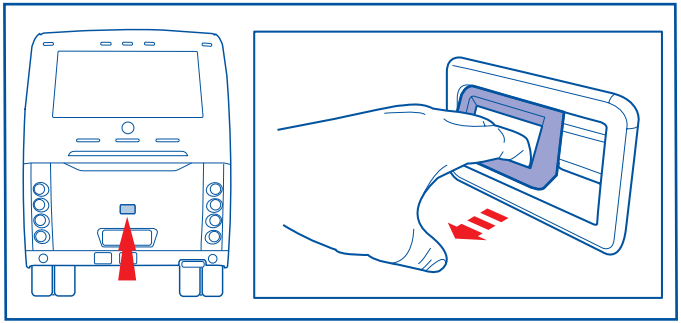
To open the lid turn the key clockwise and pull the handle to open, to close push and turn the key anti-clockwise.

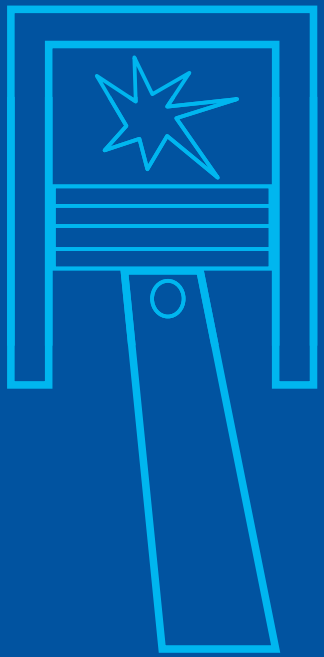
**HOT SURFACES**

When opening the engine maintenance lid beware of hot surfaces.

**WARNING**

- Always hold the handle while opening and closing the lid. Never hold edges and inner parts of the lid. Your hand may get caught.
- Do not use this area for storage.





# 07 ENGINE


7.1 General Information
7.2 Expansion Tank
7.3 Drive Belts
7.4 Engine Oil Dipstick
7.5 Air Filter
7.6 Steering Wheel Hydraulic Oil Tank
7.7 Engine Control Panel
7.8 DPF Regeneration
7.9 Engine Compartment Automatic Extinguisher System

## 7.1 General Information

Your vehicle is equipped with diesel technology which is designed to provide a safe, economical and efficient driving experience.

### Safety Warnings

Check that general safety rules, all warning signs and information are taken into consideration before performing any work in the engine compartment.

**WARNING**

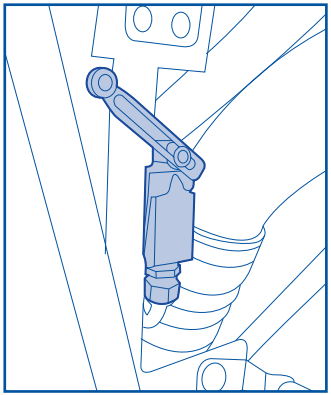
Occupational knowledge and experience is required for replacing drive belts and adjusting belt tension. Information given in this section is intended for people with technical knowledge and competence at required level. Please consult authorized TEMSA Service for all matters regarding drive belts and engine compartment.

**WARNING**

- Never allow unauthorized people to drive the vehicle. Remove the ignition key before operating on the engine compartment.
- Always stop the engine and wait until it's cold before performing any work in the engine compartment.
- Performing work when the engine is **hot** may cause burning or injury.

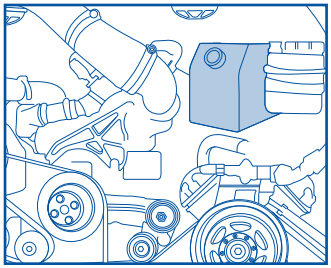
### Safety Switch

Prevents the start up of the engine and avoids possible accidents when the maintenance lid is opened.



## 7.2 Expansion Tank

High temperature formed during the operation of the engine is decreased by engine coolant.



Open the engine maintenance lid to access the expansion tank.

High temperature formed in engine compartment decreases whereas the engine coolant temperature increases. Engine coolant expands due to temperature differences.

Expanding coolant will form steam inside the system. Over-pressurized steam is released automatically through expansion safety exits located on the top of the tank.

**WARNING**

- Check the engine coolant temperature from the instrument panel before performing any operations on the expansion tank. Never loosen or remove the expansion tank cap if the engine temperature is hot. Pressurized steam may escape from tank.
- Never remove the expansion tank cap completely at once. Turn the cap slowly to release the pressurized steam. Then remove the cap completely.

Engine coolant level is checked by sensor inside the expansion tank. “Cooling water low” warning lamp lights up in case of insufficient coolant level.

**INFORMATION**

Check the coolant level when the engine is cold. Coolant level must not be below “MINIMUM” sign on the tank.

**WARNING**

Coolant level increases as its temperature rises. Over-filled tank may overflow.

Includes distilled water, antifreeze and corrosion inhibitor. Distilled water and anti-freeze mixing ratio varies according to weather conditions. Less antifreeze is needed in warm conditions than for cold conditions, use table as reference. The water used as coolant must be soft and well filtered.

**WARNING**

Engine coolant must be replaced periodically only by authorized TEMSA Service.

**Freeze Protection Temperatures for Anti-freeze Concentrations (1)**

| Protection to: | Concentration |
|---|---|
| -24˚C (-12˚F) | 40% glycol, 60% water |
| -37˚C (-34˚F) | 50% glycol, 50% water |
| -52˚C (-62˚F) | 60% glycol, 40% water |

(1) Ethylene glycol-based antifreeze

**INFORMATION**

- Using antifreeze is crucial for the performance of the vehicle.
- Using antifreeze in summer would reduce corrosion and sedimentation inside the engine.
- Never fill up the tank only with antifreeze.
- In addition to this, antifreeze protects the engine against overheating as it increases the boiling point of water.

**WARNING**

- Addition or replacement processes of engine coolant must only be performed by authorized TEMSA Service.
- Contact with engine coolant may cause irritation on skin and eyes. If this occurs seek medical help.

## 7.3 Drive Belts

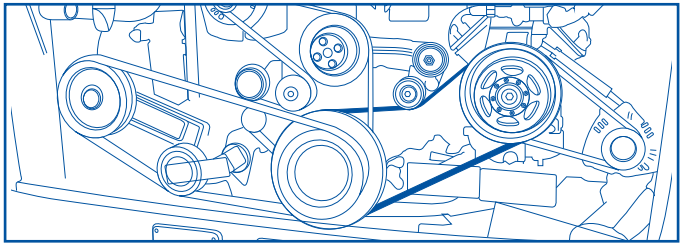
Drive belts must only be removed and replaced by authorized service personnel. All operations explained in this section must be carried out when the engine is stopped. Engine compartment temperature increases as long as the engine runs. Therefore wait till the engine temperature drops to room temperature before performing any operations in this compartment.

Three main drive belts are located on the engine:

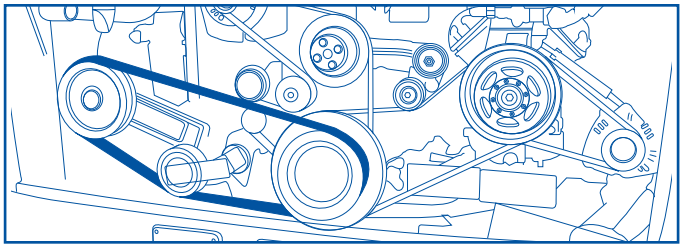
1. Air Condition Compressor Drive Belt
2. Fan Drive Belt
3. Alternator Drive Belt

Occupational knowledge and experience is required for replacing drive belts and adjusting belt tension. Information given in this section is intended for people with technical knowledge and competence at the required level. Please consult authorized TEMSA Service for all matters regarding drive belts and engine compartment.

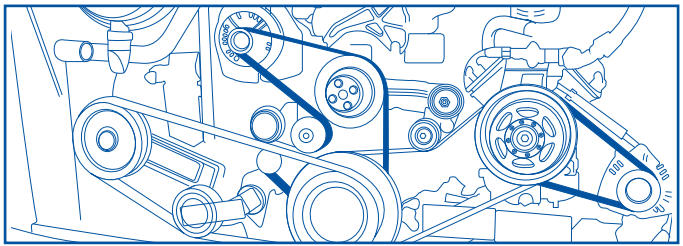
### Air Conditioner Conpressor Drive Belt



### Fan Drive Belt

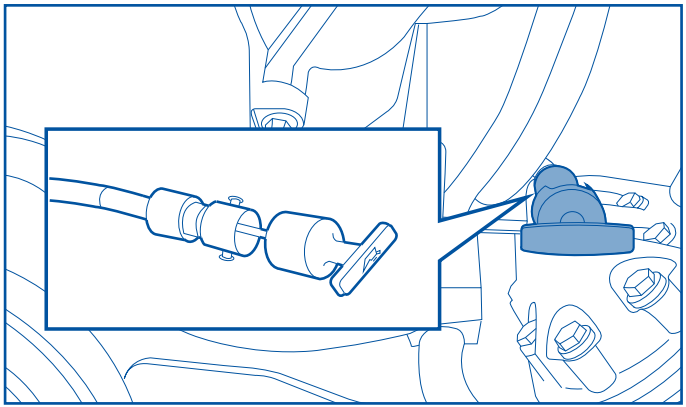


### Alternator Drive Belt



## 7.4 Engine Oil Dipstick

Oil dipstick is located on the engine. Open the engine maintenance lid to access the stick.

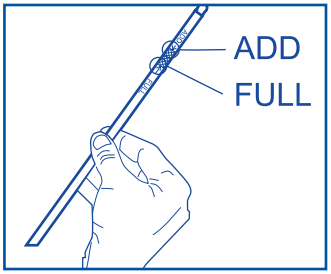


**VISUAL INSPECTION**

Torn or cracked cylinders may cause leaks resulting in water and oil mixing.

**INFORMATION**

Always wait for at least 15-30 minutes after stopping the engine.




Rotate the stick clockwise and pull out after it is released. Maximum and minimum markings are located at the end of the stick. Oil level is determined by the lines.

**SAVE THE ENVIRONMENT**

- Disposal of engine oil should be done according to the hazardous waste disposal regulations.
- Take necessary precaution to avoid oil overflow while adding engine oil to the system.

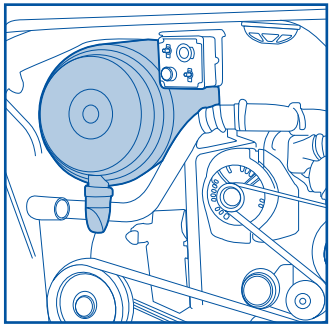
Park the vehicle on level ground to get an accurate oil level reading. Stop the engine. Wait until cooles down so that the oil can flow back in to the oil sump. Pull out the dipstick and clean with a clean cloth. Insert the stick into its socket. Pull out the dipstick again. Check whether the oil level is between the ADD and FULL markings. Check the engine oil level regularly.

## 7.5 Air Filter

Air filter is located in the engine compartment.

**INFORMATION**

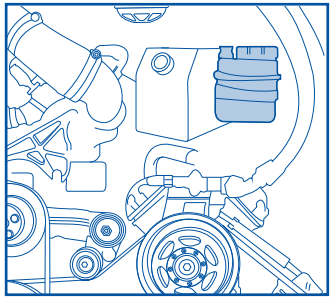
For more information about air filter maintenance and replacement (see page 178).



Air filter is formed of three sections:

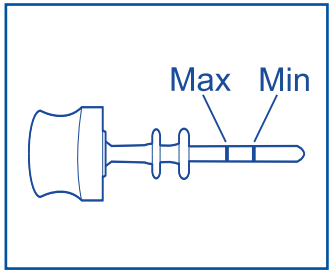
**Body:** Air filter is located inside this chamber.
**Cap:** Separates the filter from the surrounding.
**Filter:** Removes solid particles and foreign substances from the air.

## 7.6 Steering Wheel Hydraulic Oil Tank



The oil dipstick and oil filler cap are located on the steering wheel hydraulic oil tank.

### Oil Dipstick




Oil level inside the steering hydraulic system must be between two indication markings. Lower marking indicates minimum level and upper one indicates maximum level.

MAX: Highest level allowed.
MIN: Lowest level allowed.

**SAVE THE ENVIRONMENT**

- Disposal of steering oil should be done according to the hazardous waste disposal regulations.
- Take necessary precaution to avoid oil overflow while adding steering oil to the system.

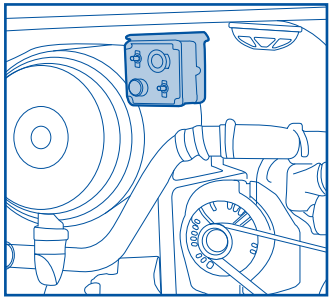
### Oil Filler Cap

Turn the cap anti-clockwise to remove and fill oil.
Turn the cap anti-clockwise to remove and have access to replace steering hydraulic tank filter.

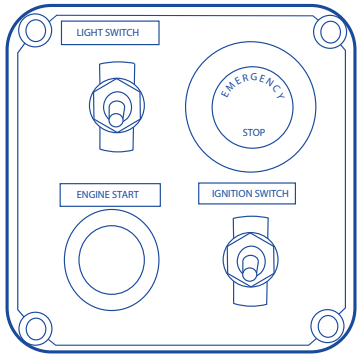
**WARNING**
To reinstall the cap, turn clockwise.

**INFORMATION**
Check the steering hydraulic oil level periodically.

## 7.7 Engine Control Panel

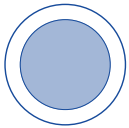


Your vehicle is equipped with a control panel to run the engine during maintenance work.




**To start the engine from rear:**

Turn "Ignition Switch" to "ON" position.



Start engine by pressing "Engine Start" button.

**To stop the engine:**

Press "Emergency Stop" button to stop the engine.

**WARNING**
Rotate "Emergency Stop" button clockwise to bring it into first position and turn "Ignition Switch" to "OFF" position after stopping the engine.

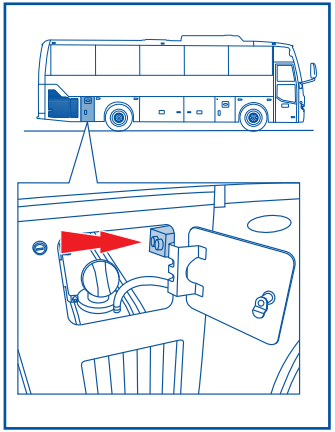
## 7.8 DPF Regeneration

The vehicles are equipped with Automatic DPF Regeneration. If for any reason an automatic regeneration has not happened and DPF soot loading reaches a specified limit, the DPF lamp start to flash and the “Check Engine Lamp” lights up. At this point, engine requires a manual regeneration.

### Manual Regeneration

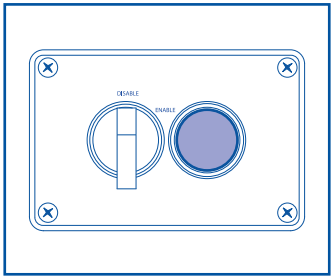
- Select an appropriate location to park the vehicle (such as clean concrete or gravel, not grass or asphalt)
- Park the vehicle away from anything that can burn, melt or explode.
- Park the vehicle securely. Place the transmission in park, if provided, otherwise in neutral. Set wheel chocks at front and rear of at least one tire.
- Keep a fire extinguisher nearby.
- Check the exhaust system surfaces. Confirm that nothing is on or near the exhaust system surfaces (such as tools, rags, grease, or debris).
- Verify the following conditions are met in the vehicle:

- The brake pedal is released.
- The transmission is in neutral or park.
- The vehicle speed is 0 MPH.
- The throttle pedal is released.



DPF Regeneration switch is located on AdBlue tank maintenance lid. The Regeneration switch must be pressed for four seconds Black switch has to be stay always in OFF position.
Monitor the vehicle and surrounding area during the manual regeneration. If any unsafe condition occurs, shut off the engine immediately.

**WARNING**
If the DPF Lamp and Check Engine Lamp do not turn off after a complete manual regeneration, contact your authorized TEMSA Service.



## 7.9 Engine Compartment Automatic Extinguisher System

Your vehicle is equipped with an automatic extinguisher system which is activated automatically in case of a fire.

Extinguisher system contains detector tube and extinguisher cylinder. To Prevent a possible fire, extinguisher system is activated automatically and extinguishant is sprayed in engine compartment room.

**OPTION**

This feature is optional. It may not be included in all models.

**WARNING**

A regular program of systematic maintenance must be established for continuous, proper operation of all extinguisher system units, and to avoid violating the warranty.

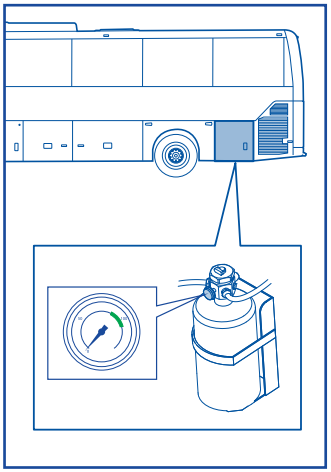
In case of fire break out on engine compartment room, warning lamp lights up on instrument panel and fire alarm sounds.

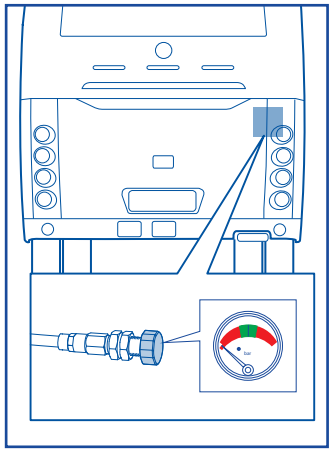
See page 71 for more information about actions to be taken in the event of a fire.

**WARNING**

TEMSA

Detector tube and extinguisher cylinder have manometers. The pressure can be read off on manometer and shall be within the green sector. Manometers should be controlled regularly. Consult authorized TEMSA Service to control engine compartment extinguisher system.





**WARNING**

Please contact authorized service for all matters regarding Engine Compartment Automatic Extinguisher System. Fire extinguisher with high pressure will drain out. It may cause serious injury.

**INFORMATION**

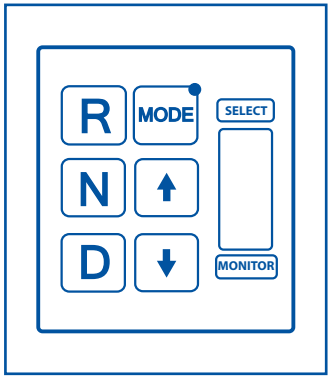
Engine compartment automatic extinguisher system should be controlled monthly. See also Warranty and Maintenance manual for more information about Engine Compartment Automatic Extinguisher System maintenance.

# 08 TRANSMISSION

8.1 Automatic Transmission

## 8.1 Automatic Transmission

When initially selecting positions Upshift, Downshift, D or R, press firmly on the brake pedal to ensure that the vehicle is stationary with the engine idling.
The gear selector should not be downshifted to 1 and 2 at speeds above 49,7 mph (80 km/h).




**Reverse Gear Button**
Press button to reverse the vehicle. Continue braking when the vehicle is stationary and neutral gear is engaged. Press reverse gear button. Move your foot gently off the brake pedal and move the vehicle backwards.

**WARNING**
Never select R while the vehicle is in forward motion.

**Neutral Gear Button**
Press button to disconnect the transmission from the wheels so the vehicle can move freely under its own weight. Parking brakes can be used when neutral gear is shifted.

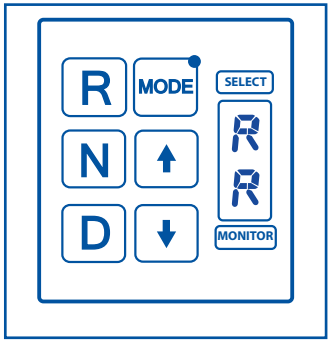
**INFORMATION**
When ambient temperature is below -15 °C/5°F keep the engine running in idle speed until the engine temperature reaches 40 °C/104°F.

**Forward Gear Button**
Press button to allow the vehicle to move forward and accelerate through its range of gears. D is the normal driving position and should be used as often as possible to help improve fuel economy.

**Gear Display**
Actual gear is displayed on the right hand side and desired gear is displayed on the screen.

**INFORMATION**
Push D for forward or R for reverse to shift the transmission into a desired range or gear temperature reaches 40 °C/104°F.

**INFORMATION**
The transmission will not shift into a range from Neutral or between D and R if the engine's RPM is over 1000 rpm.




When the transmission shifts into reverse gear, the display will have an R in both locations. There is only one reverse gear.

**Upshift Button**
To select the gear manually press Upshift Button.

**Downshift Button**
To select the gear manually press Downshift Button.

**Economic Drive Mode**
This mode is used for normal driving. The gearbox changes gear automatically at a lower engine speed to achieve the lowest possible fuel consumption.

**INFORMATION**
Driving mode can be selected at any time.

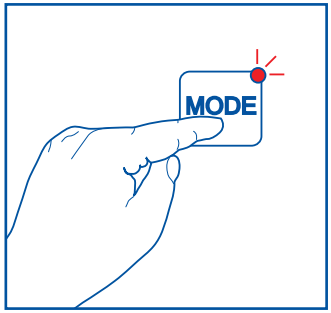
**Powerful Drive Mode**
The mode is used when powerful driving is required.
The vehicle performs at maximum power when it is activated.

**INFORMATION**
Fuel consumption increases when powerful drive mode is activated.

**OPTION**
Drive mode selection system is optional. It may not exist in all models of the vehicle.

**Drive Mode Selection**
When ignition key is switched on, economic drive mode is activated automatically.

By pressing the Mode Button the Power mode is selected and the red LED on the right top corner will light up to show the mode is selected.



## 8.1 Automatic Transmission

### Load-Based Shift Scheduling (LBSS)

Your vehicle is equipped with LBSS (Load-Based Shift Scheduling) system. The LBSS system provides the transition between economic and powerful drive mode automatically.

The controls will automatically select the Economy shift strategy when an unloaded state of the vehicle is detected (based on capability of the vehicle to accelerate quickly), then automatically switch to the Performance shift strategy when the vehicle is loaded and its ability to accelerate is reduced. The resulting operation can continuously modify transmission shifting to keep the engine near its more efficient speed range. This can produce improved overall vehicle fuel economy while still enabling high productivity when the vehicle is loaded.

The red LED on the right top corner will light up when economic drive mode is selected.

**CONSULT AUTHORIZED SERVICE**

If LBSS drive mode is not activated automatically even your vehicle is fully loaded, consult authorized TEMSA Service.

### LBSS Drive Mode

The mode is used when powerful driving is required.

The vehicle performs at maximum power when it is activated.

**INFORMATION**

Press MODE button while LBSS Drive Mode activated to switch economic drive mode. If your vehicle is fully loaded, LBSS Drive Mode activated again automatically.

### Economic Drive Mode

This mode is used for normal driving. The gearbox changes gears automatically at a lower engine speed to achieve the lowest possible fuel consumption.

**INFORMATION**

Fuel consumption increases when powerful drive mode is activated.

**OPTION**

LBSS system is optional. It may not exist in all models of the vehicle.

### Stop and Change Direction

The vehicle must be stopped before reversing. Keep the brake pedal pressed before shifting between Forward and Reverse gear modes.

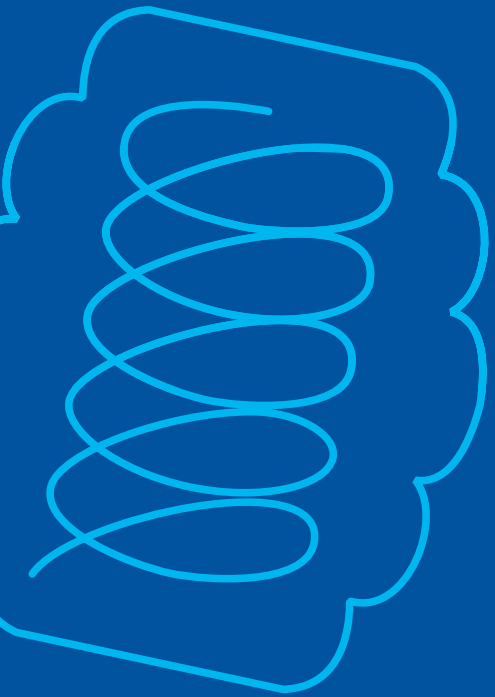
- Move your foot off the accelerator pedal.
- Apply service brake till the vehicle stops.

**INFORMATION**

For short term stopping use the service brake, for longer stops shift into neutral gear and use service brake.

**WARNING**

If the driver should leave the driver compartment with the engine running. Neutral (N) gear must be engaged and parking brake must be activated.



# 09 SUSPENSION

9.1 Kneeling-Lifting
9.1.1 Front Kneeling
9.1.2 Lifting

## 9. Suspension

The suspension system of your vehicle is composed of:

At the front:
2 Air Bellows,
2 Suspensions,
1 Stabilizer.

At the Back:
4 Air bellows,
4 Suspensions.

Air bellows and suspensions provide comfortable driving and additional safety when cornering.

### Stabilizer

**INFORMATION**

- Stabilizers preserve vehicle stability on sharp curves and during sudden maneuvers.
- Stabilizers minimize vehicle swaying and lurching on sharp curves.
- Stabilizers restrict the vehicle from swerving during sudden breaking.
- Stabilizers disable the wheels to sway in different directions when the axles of the vehicle are damaged during driving.

### Air Bellows

**INFORMATION**

Air bellows provide stability for the vehicle.

Air compression value on the air bellows other than recommended by authorized TEMSA Service may damage the air bellows.

**WARNING**

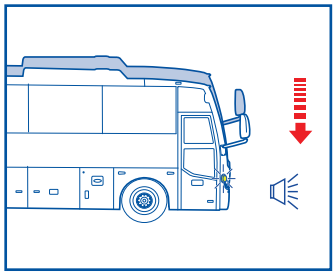
Prevent any contact with substances which may damage the air bellows, such as oil, diesel, dirt etc.

**CONSULT AUTHORIZED SERVICE**

Stop the engine and consult authorized TEMSA Service in case of air bellow malfunction.

## 9.1 Kneeling-Lifting

Air bellow compression can be changed in order to adjust the vehicle body height from the ground.



**INFORMATION**

The bus is equipped with kneeling system that consist of an outside warning lamp at the frame of front door and a buzzer. Kneeling lamp flashes and beeps during the kneeling system is active.

**WARNING**

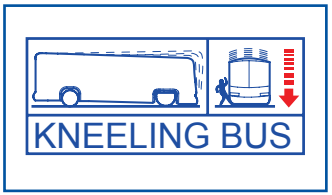
- Do not continue driving if you encounter a problem with the KNEELING-LIFTING system.
- Before jacking up the vehicle, deactivate the KNEELING - LIFTING system.

**CONSULT AUTHORIZED SERVICE**

Consult authorized TEMSA Service in case of kneeling-lifting malfunction.

## 9.1.1 Front Kneeling

Your vehicle is equipped with a Front Kneeling System to ease the entering and exiting of passengers.



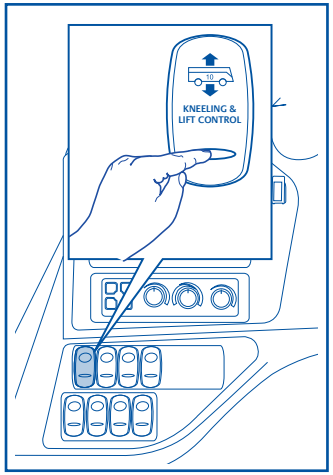

**INFORMATION**

Body height can be decreased by maximum 80 mm/3,14 inch.

**INFORMATION**

If Kneeling system was activated, transmission won't engage.

Kneeling Lifting button enables adjustment of body leveling. The warning lamp on the button lights up as long as the kneeling-lifting operation is being performed. Press lower side of KNEELING-LIFTING button located on the left control panel to decrease the body height.



## 9.1.2 Lifting

Your vehicle is equipped with a Lifting System.

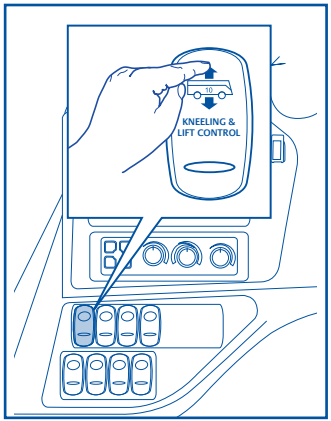
Enables adjustment of body leveling. The warning lamp on the button lights up as long as the kneeling-lifting operation is being performed. Press upper side of KNEELING-LIFTING button located on the left control panel to increase the body height.

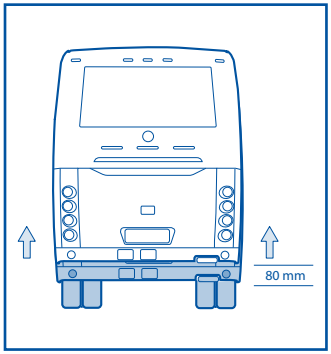
Lifting function is restricted to 12.5 mph.

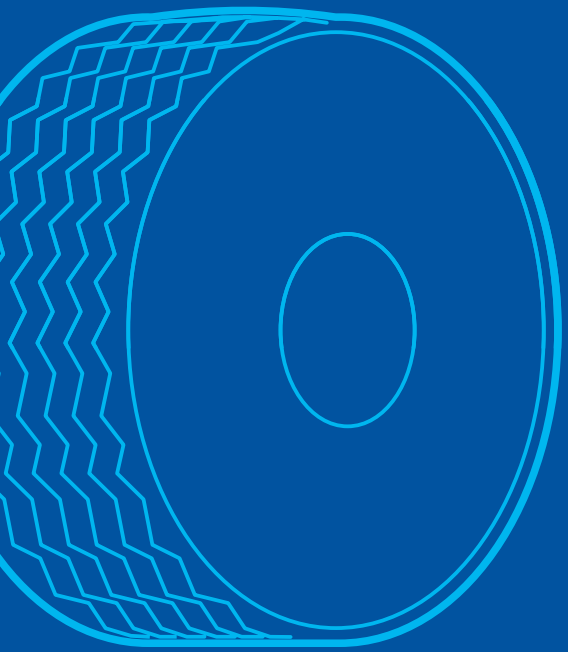
The vehicle will automatically return to normal driving conditions when the vehicle speed exceeds this speed ratings.

**INFORMATION**

Body height can be increased by maximum 80 mm/3,14 inch.





# 10 TIRES


10.1 Tires
10.2 Tire Pressure
10.3 Checking Tire Pressure
10.4 Snow Tires
10.5 Snow Chains
10.6 Changing Tires
10.7 Shifting Tires

## 10.1 Tires

Tire specifications are coded with a letter system AAA/BB/C/D.

AAA: Tire width in millimeters.
BB: Tire aspect ratio in percent.
C: Tire type.
D: Rim dimension in inches.

Tire code of the vehicle is:
265/70-R 19.5'

Thus, 265 millimeter width, 50% aspect ratio, radial type and rims of 19.5 inches tires are used.

**WARNING**

- Exceeding tire load capacity or the maximum speed specified for the vehicle may cause tire damage.
- In such a case control of the vehicle would be reduced or completely lost.
- Check dimensions, type, capacity and speed values of tires specified for the vehicle.

### Tire Specifications

TPC Spec (Tire Performance Criteria Specification) for your vehicle is E13 0010833.

DOT (Department of Transportation) ensures that tire complies with U.S. department of Transportation motor vehicle safety standards. DOT code for your vehicle is PA87 AA2W.

TIN (Tire Identification Number) indicates plant code, tire size and manufacture date of the tire. Tire Identification Number for your vehicle is 562742.

Tire Ply Material: Indicates type cord and number of plies in the sidewall and under the tread. Tire ply material code for your vehicle is LR H.

Maximum Cold Inflation Cold Limit: 112,4 psi

**WARNING**

Never use tires which do not have TPC spec number.

### Front

Single Tire Maximum Load indicates maximum pressure for maximum load capacity of a single tire. Single Tire Maximum Load for your vehicle is 3550 kg (7830 lbs) at 775 kPa (112,4 psi) cold.

### Rear

Dual Tire Maximum Load indicates maximum pressure for maximum load capacity of a tire in a dual configuration. Dual Tire Maximum Load for your vehicle is 3150 kg (6940 lbs) at 775 kPa (12,4 psi) cold.

**INFORMATION**

According to FMCSA 393.75 standart:
Any tire on the front wheels of a bus shall have a tread groove pattern depth of at least 4/32 of an inch when measured at any point on a major tread groove. The measurements shall not be made where tie bars, humps or filters located.

## 10.2 Tire Pressure

Tire pressure directly affects the road handling, so it is of vital importance to apply correct tire pressure.

Specified (cold) tire pressure is 112,4 psi (775 kPa).

**WARNING**

Tire pressure increases while driving. Check tire pressure when tires are cold.

**SAVE THE ENVIRONMENT**

Proper tire pressure reduces the fuel consumption and exhaust emissions.

## 10.3 Checking Tire Pressure

Check the tire pressures before prolonged driving.

Check the tire pressures once a week when they are cold.

Always check the tire pressures with a pressure gauge. Appearance of the tire can be misleading.

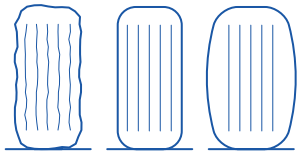
The wrong tire pressure will have an effect on safety.

**WARNING**

Pressures of tires on the same axle must be equal to maintain the brake stability. Having different pressure values may cause inaccurate and instable braking power.

**VISUAL INSPECTION**

Check the tires visually and ensure that they are in good conditions.




**WARNING**

- Extremely high tire pressure increases wear of tires, braking distance and reduces road handling.
- Tire pressure rises after prolonged driving especially in hot conditions. Do not deflate the tires when they are hot. Pressure adjusted in hot conditions might be insufficient in cold conditions.
- Objects such as nails, gravel etc. inside the tire treads may cause continuous deflation of tire pressure. Check the tires regularly.

**WARNING**

- Extremely Low Tire Pressure causes tire overheating, increases fuel consumption and reduces road handling.
- Overloaded tires with extremely low pressure have a high risk of inflation.
- Extremely low tire pressure can deteriorate the tire condition and could cause the tire to release from the rim fixation.

## 10.4 Snow Tires

It is suggested to use snow tires to provide better traction on snow and ice.

## 10.5 Snow Chains

When the road conditions demand it, this increase safety and handling of the vehicle.
Fit snow chains to tires as tight as possible. When using snow chains, avoid driving in hilly terrains.

**WARNING**
Snow chains may adversely affect control of the vehicle. Avoid sudden acceleration and deceleration when snow chains are used.

Check snow chain tensions regularly after driving. Readjust tightness if necessary.

**WARNING**
Use of snow chains must comply with prevailing national regulations.

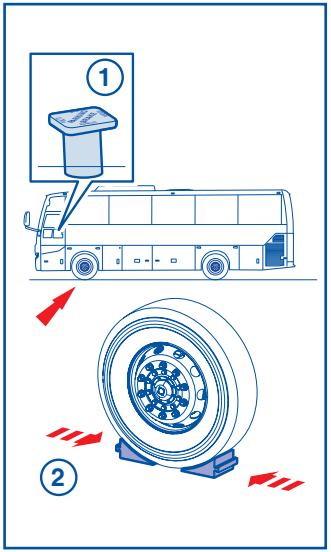
**WARNING**
- Read the mounting instructions of the chain manufacturer. Ensure that snow chains are fitted correctly. Do not use the vehicle with snow chains at high speeds.
- Fit snow chains to snow tires if necessary.
- Remove rim covers before fitting snow chains. Chains may cause rim cover damage.

## 10.6 Changing Tires

Park the vehicle appropriately and take all necessary actions before changing a wheel.

Vehicle jack, wheel chock and auxiliary equipments required for tire replacement are provided inside the emergency equipment compartment.

**WARNING**
- Check that vehicle is immobilized before replacing tires.
- Use gloves during removal or installation of wheels to prevent injury to your hands.

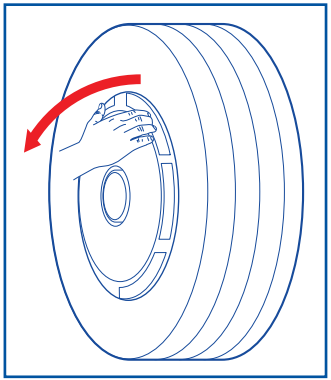



Apply parking brake and secure the vehicle with wheel chocks by positioning them under the whells that are not to be changed.

## 10.6 Changing Tires

### Remove the rim covers

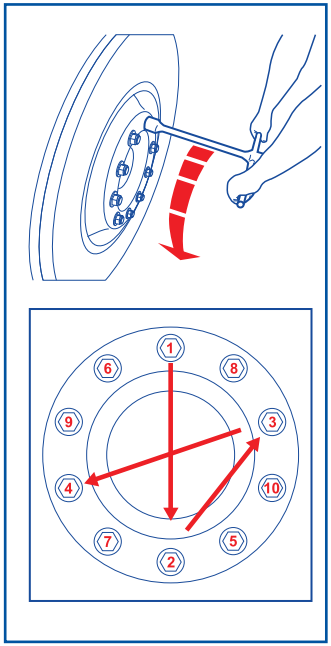
First ensure the vehicle is secure and then remove the rim cover of the wheel to be changed.



Hold the safety spring behind the hub cap and pull it outwards. Remove the hub cap.

### Loosen the wheel nuts

Loosen all the wheel nuts with a lug wrench in a crosswise pattern.

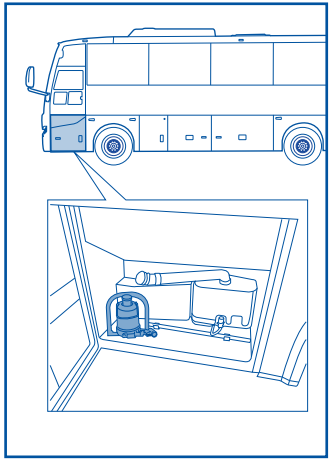



**INFORMATION**

Lug wrench is located inside the tool box in the emergency equipment compartment.

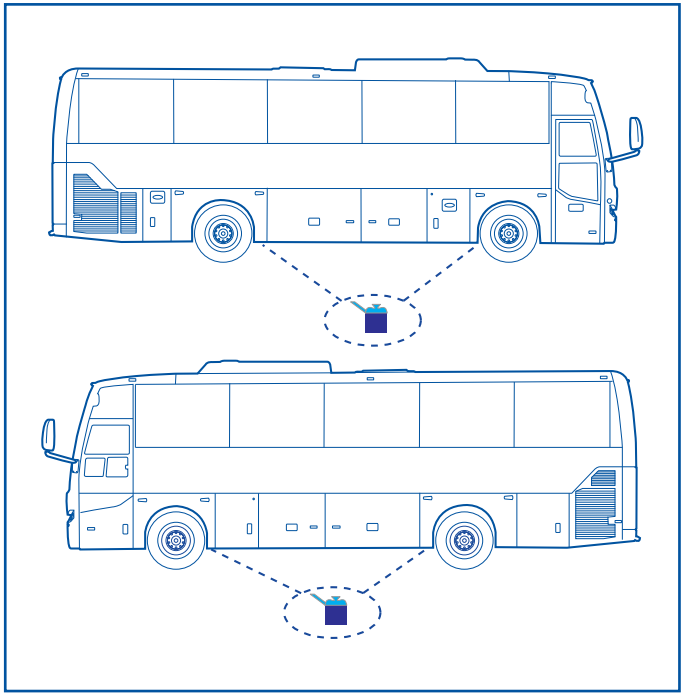
### Use of jack

Rotate the screw anti-clockwise and push the jack piston downwards to release the jack.



## 10.6 Changing Tires

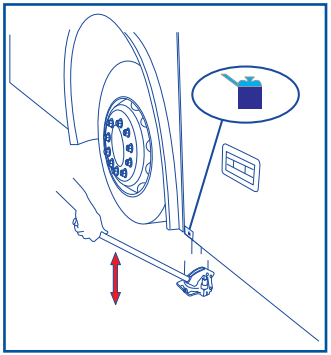
### Jacking up the vehicle



**WARNING**

- Never jack up the vehicle before checking that the jack screw is tightened well. Otherwise, this may cause severe injuries.
- After removing the jack, rotate the screw clockwise to tighten by using jack lever.

Always jack up the vehicle at jack up points indicated with markings.



Jack up the vehicle until the wheel to be changed rises to an unconstrained position.

**WARNING**

- Applying the jack on points other than specified as jack up points may damage the vehicle body.
- Ensure that maintenance of the jack is carried out annually and always comply with its user's manual.
- Check that all the passengers are evacuated before the vehicle is jacked up.

**WARNING**

Never remove the wheel nuts before the vehicle is jacked up.

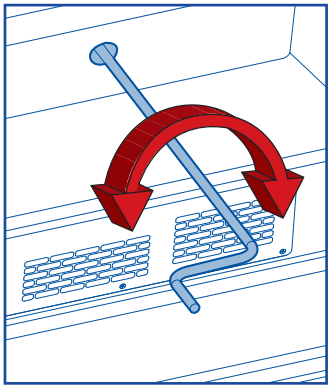
## 10.6 Changing Tires

### Access to spare tire

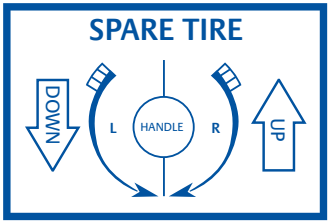
Spare tire landing mechanism is located at the second step of front door.
Place the auxiliary lever and rotate clockwise to land the spare tire as illustrated above.

**WARNING**
Check the wheel nuts regularly to ensure that they are correctly seated. Retighten the nuts if necessary. It is essential to retighten the wheel nuts of a changed wheel after 50 km.

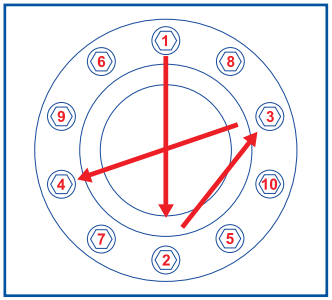
**INFORMATION**
Tightening torque for the wheel nuts : 440 ± 40 Nm.



The mechanism moves upwards as the lever is rotated counterclockwise.




### Remove the wheel nuts.




Remove the wheel nuts in a crosswise pattern using a socket wrench and take off the wheel. Take care not to damage the wheel stud threads.

Fit the new tire and tighten all the wheel nuts gently in crosswise sequence. Then retighten the wheel nuts in order shown in the illustration according to appropriate torque value.

**WARNING**
Check the wheel nuts regularly to ensure that they are correctly seated. Retighten the nuts if necessary. It is essential to retighten the wheel nuts of a changed wheel after 50 km/31miles.

**WARNING**
Always fit new tires on the front of the vehicle.

## 10.7 Shifting Tires

Tires may wear down after a certain driving period depending on the location and the load strain of the tire.

**WARNING**

Never use snow tires and normal tires together on your vehicle. Tires with different specifications and properties reduce road handling.

# 11 BRAKES


11.1 ABS
11.2 Parking Brake
11.3 Retarder
11.4 ASR
11.5 Intarder
11.6 Engine Brake

## 11. Brakes

Your vehicle is equipped with the following systems for safer driving:

- ABS
- ASR
- Retarder (Optional)
- Intarder (Optional)
- Engine Brake (Optional)

Auxiliary brake systems are intended to increase the braking power.

Instant maneuvers at high speeds may cause loss of control of the vehicle. In such a case auxiliary brake systems cannot prevent loss of control of the vehicle even if they are functioning properly.

For better braking power avoid instant maneuvers on wet and slippery roads. Braking distance is longer than regular road conditions.

**INFORMATION**

When auxiliary brake systems malfunctions the service brake functioning prolongs.

**WARNING**

- Never shift into neutral while driving. The auxiliary brake system does not function when gear is in "NEUTRAL" position.
- Fitting tires of different sizes and features prevents auxiliary brake systems from functioning properly.
- Sizes and features of all tires must be the same.

**INFORMATION**

According to FMCSA 393.47 standard, a commercial motor vehicle shall not be operated if the brake lining/pad thickness is less than 3.2 mm (1/8 inch).

**WARNING**

- Clean and observe disk brake pads properly.
- Do not use any type of surfactant.
- Treatment on the brake system can be done by only authorised services.

## 11.1 ABS

ABS (Anti-locking Braking System) prevents the wheels from locking while braking.

When the engine is started, ABS warning lamp switches on. It switches off after five seconds.

**WARNING**

When the ABS is activated the brake pedal starts vibrating. In such a case never move your foot off the brake pedal and never pump the brake pedal.

**DOCUMENT REFERENCE**

See also service manual delivered with the vehicle for road assistance phone numbers.

## 11.2 Parking Brake

ABS warning lamp does not switch off in case of ABS malfunction during travel. In such a case consult authorized TEMSA Service.

**WARNING**

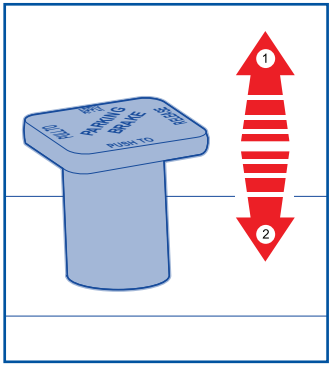
- Braking function is adversely affected in case of any problem with ABS system. Park the vehicle in an appropriate place if ABS warning lamp lights up.
- Service brake and other auxiliary brakes continue functioning even if ABS does not function the result is the wheels may get locked and braking distance may increase.

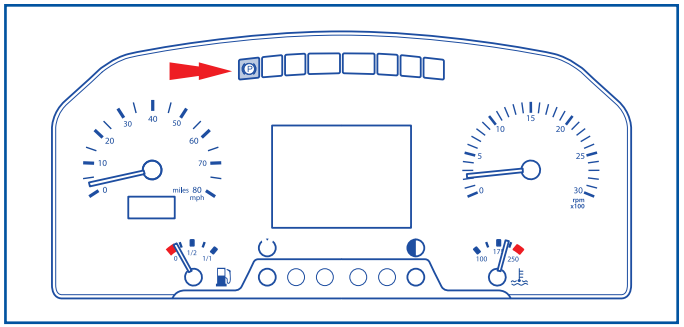
**CONSULT AUTHORIZED SERVICE**

Consult authorized TEMSA Service before continuing to drive.

Parking brake prevents the vehicle from moving after it has stopped.

1. Pull the lever upwards to activate the parking brake.
2. Push the lever downwards to deactivate the parking brake.



"PARKING BRAKE" warning lamp located on warning panel lights up when the parking brake is activated. It switches off when the parking brake is released.

Release the parking brake before driving and check that the "PARKING BRAKE" warning lamp is off.

**WARNING**

Never use the parking brake during travel except for emergencies.

**WARNING**

Consult authorized TEMSA Service if the "PARKING BRAKE" warning lamp does not switch off although air pressure in the system is sufficient.

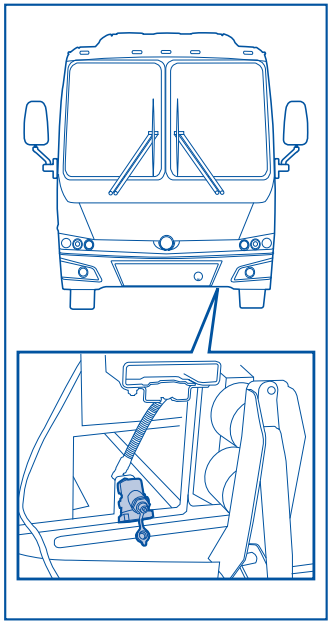
## 11.2 Parking Brake

### Unlocking Parking Brake

Parking brake can be locked when air pressure in the system is insufficient. In such a case the "PARKING BRAKE" lamp Ⓟ located on the warning panel lights up.

**MECHANICAL MAINTENANCE**

- Supply filtered and pressurized air for the air tanks to ensure the parking brake system function again.
- Stop the vehicle in an appropriate place and evacuate the passengers before performing this operation.
- Connect the pressurized air pipe to the air tank. Continue filling pressurized air until the warning lamp switches off.



**WARNING**

Check the "PARKING BRAKE" warning lamp after releasing the parking brake.

**CONSULT AUTHORIZED SERVICE**

Consult authorized TEMSA Service if the parking brake lamp is still on.

**WARNING**

Vehicle may roll away if the parking brake is not locked. In such a case secure the vehicle with wheel chocks.

**INFORMATION**

Supplied air pressure must be 8-9 bar.

## 11.3 Retarder

**OPTION**
This feature is provided optionally. It may not be included in all models.

Using the service brake for a long duration causes overheating and wear of brake pads and tires.

Using the retarder brake system while driving increases the life span of the brake pads.

Retarder brake has five levels, the appropriate level can be applied according to the speed of the vehicle and road conditions. First level provides lowest braking power while the third level provides the highest braking power.

**WARNING**
Warning lamp flashes when using retarder if the coolant temperature is high. Also retarder braking power decreases in order to prevent overheating. Warning lamp stops flashing and lights continuously when coolant temperature decreases. If warning lamp keeps flashing there may be a failure in the system. Consult authorized TEMSA Service before driving.

**WARNING**
Except for emergencies never activate the retarder lever to the highest or lowest level abruptly.

**INFORMATION**
When the retarder system is activated, the retarder warning lamp located on the warning panel lights up.

## 11.4 ASR (Acceleration Slip Regulation)

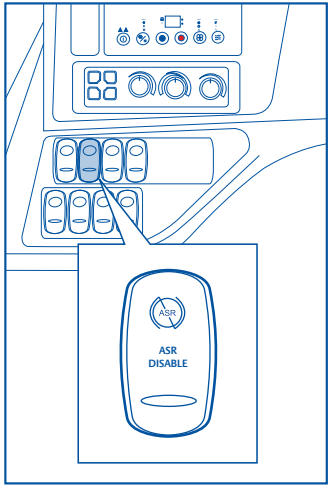
ASR system regulates the drive torque of the driven wheels depending on the current driving situation. If one of the wheels rotates faster than the others, it would be recognized by the ASR system. Rotation speed is controlled to prevent wheel slip of the wheel which rotates faster.

ASR system regulates the drive torque and the wheels are spinning independently from each other.

ASR system prevents wheel slip and provides safer driving in difficult driving conditions.

**WARNING**

- Deactivate ASR system while using snow chains.
- Wheels may spin and the vehicle may sway when the ASR system is deactivated.
- The ASR warning lamp may switch on during driving on slippery roads, if so, reduce speed.




Press “ASR Disable” switch located on left control panel to deactivate ASR system.

## 11.5 Intarder

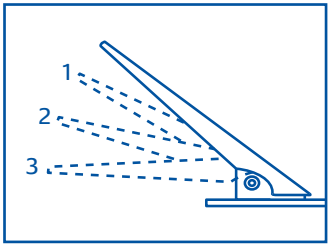
**OPTION**

This feature is optional. It may not be included in all models.

Intarder, enables the control of auxiliary brake (retarder) via service brake pedal.

The effect of the service brake increases and life span of the brake pads increases.

Intarder brake system is activated or deactivated by the “INTARDER” button located on the left control panel.



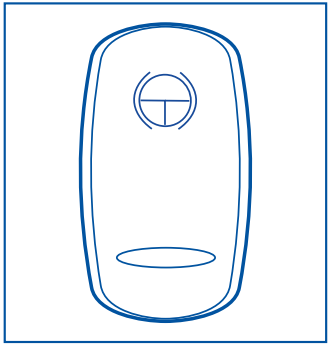

There are three control positions of the service brake for the intarder system.

**1st Level:** Low intarder braking power
**2nd Level:** Full intarder braking power
**3rd Level:** Service brake

**VISUAL INSPECTION**

Check “STOP” warning lamp and temperature indicator regularly while using the intarder system.

## 11.6 Engine Brake



If the coolant temperature is too high:

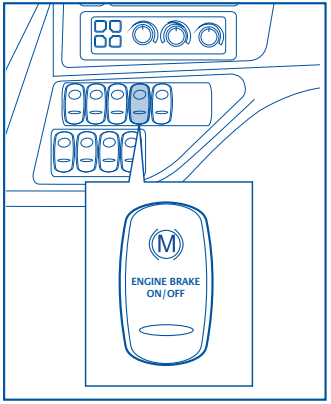
- Press intarder button on the left control panel to deactivate the system.
- Stop the vehicle by using service brake.
- Activate the parking brake and shift into neutral.
- Run the engine at idle position until the coolant temperature decreases below 100ºC / 212ºF and STOP lamp switches off.

Enables auxiliary brake power by throttling the exhaust discharge.
Engine brake can be used instead of the service brake when the coach is not overloaded and when driving on mild slopes.
Engine brake power is insufficient to bring the vehicle to a full stop.

Press "ENGINE BRAKE" switch on the left control panel to activate the engine brake.
Engine brake is active as long as the "ENGINE BRAKE" switch is kept pressed.

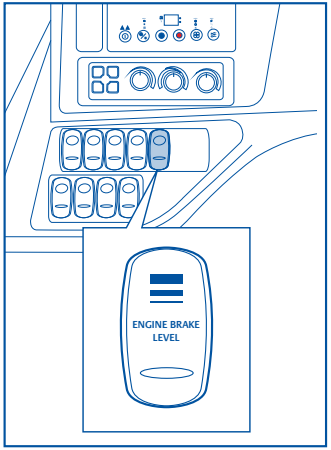
**INFORMATION**
Engine brake is activated when you move your foot off the accelerator pedal.

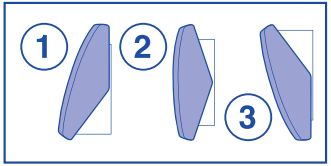
**INFORMATION**
When the engine brake is activated, the engine brake warning lamp located on the warning panel lights up.




**WARNING**
- Do not use the engine brake to adjust the follow up distance, use service brake.
- Engine brake may be insufficient to adjust the follow up distance in time.

**OPTION**
This feature is optional. It may not be included in all models.



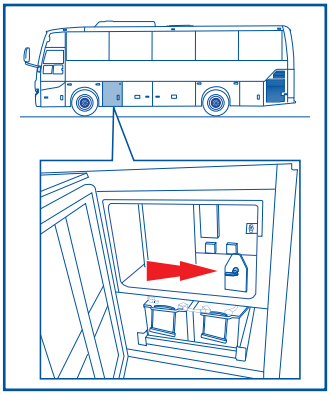

Use the engine brake level adjustment switch to adjust the braking power. Switch has 3 levels:
1st level: High braking power.
2nd level: Medium braking power.
3rd level: Low braking power.

# 12 ELECTRICAL SYSTEMS


12.1 Main Battery Cut-Off Switch
12.2 Battery
12.3 Jump Start
12.4 Relay Panel
12.5 Fuse Box
12.6 ECM
12.7 Circuit Braker Reset

## 12.1 Main Battery Cut-Off Switch

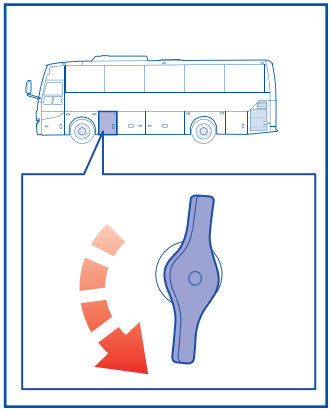
Activate the main battery cut-off switch to disconnect the electrical system from the battery if the vehicle is to remain unused for a long period of time or before repair work.



**WARNING**

After turning off the ignition switch, wait for at least 2 minutes before switching off the main switch.Otherwise, some of the systems in your vehicle could be damaged.

Turn the switch in the direction of the arrow to disconnect the system from the battery.

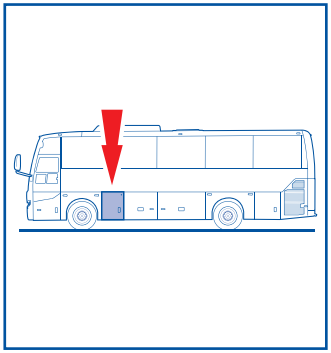


**WARNING**

Never activate the main battery cut-off switch while the engine, preheater, air conditioner or any electric system is running. In such a case electric or control systems and alternator may be damaged.

## 12.2 Battery

The Batteries are located on the left-hand side of the vehicle.



**SAVE THE ENVIRONMENT**

Battery disposal should be done according to the hazardous waste disposal regulations.

The following instructions will increase the service life of your battery.

- Battery main switch should be turned off if the vehicle is going to be parked for a long term.
- While starting the engine, do not apply contact key more that 10 (ten) seconds. Wait for at least 12 seconds before the next start (between two starts).
- All electrical accessories should be off while starting the engine.

## 12.3 Jump Start

If batteries are discharged or the engine cannot be started, they can be recharged by using the battery of another vehicle.

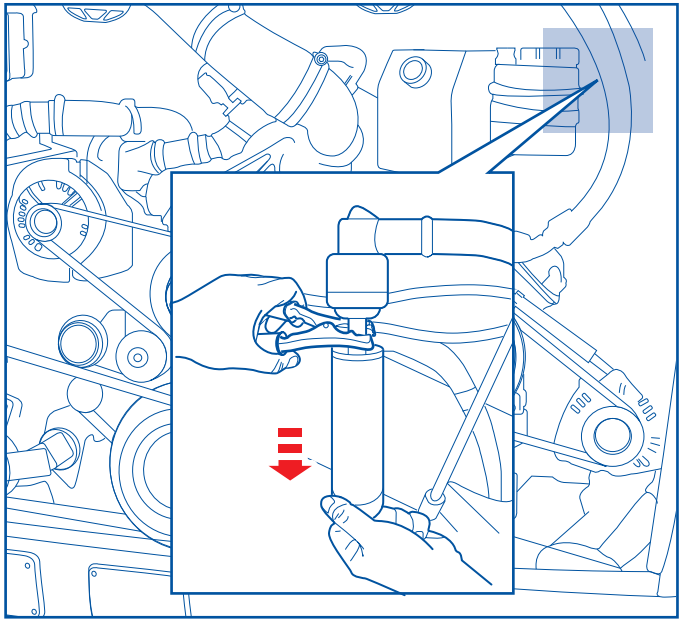
Park the vehicles close to each other without contact between them and activate the parking brakes. Check that both vehicles operate at the same operating voltage and the poles of the batteries are not corroded.

**WARNING**

- Stop the engine and shift into “Neutral” before performing jump start.
- Deactivate the main battery cut-off switch before connecting the jumper cables to prevent the electric or control systems being damaged.
- If vehicles operating different voltage, both vehicles can be damaged.

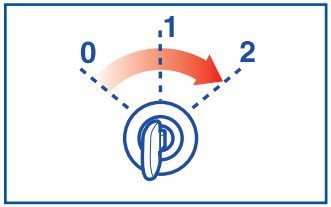
First connect the terminal clamp of the **red cable** to the jump start as shown in the illustration and connect the other clamp of the **red cable** to the positive (+) terminal of the donor battery.

Secondly connect the terminal clamp of the **black cable** to the jump start negative (-) terminal of the donor battery and connect the other clamp of the **black cable** to the chassis of your vehicle.



**WARNING**

Avoid short circuits caused by polarity reversal and by contact of worn jumper cables.




Activate the main battery cut-off switch. Start the engine of the donor vehicle. Switch the ignition key of the receiver vehicle to position "2".

Stop the donor vehicle when the receiver vehicle starts operating properly.

Remove the terminal clamps in reverse order.

**WARNING**

- Highly explosive hydrogen gas is produced while charging batteries. Check that batteries are charged in a well ventilated area.
- Keep fire, sparks, naked flames and cigarette away from the battery.
- Connect the jumper cables to the battery terminals only. Never connect them to the starter or frame.
- It may not be a simple battery fault if the engine does not run. Stop the engine of the donor vehicle. Otherwise donor battery may discharge.

## 12.4 Relay Panel

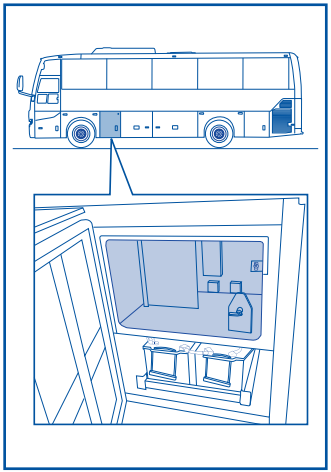
Relay panel is located in battery maintenance compartment.
Replace the damaged fuse with a spare one if a malfunction occurs.

**WARNING**

Always check the ampere value on the spare fuse and use a fuse that complies with the amperes written on the fuse label.

**CONSULT AUTHORIZED SERVICE**

Consult authorized TEMSA Service for relay malfunctions.



## 12.5 Fuse Box

**INFORMATION**

An illumination lamp is located at switch panel compartment. When the compartment hatch is opened, illumination lamp lights up automatically and lights off when the hatch is closed. When the igntition is off, illumination lamp lights up for an hour if the hatch is kept open. Close the hatch and then open or switch the igniton to “ON” to illuminate the switch panel again.

Fuse box is located at battery maintenance compartment.

After recognizing any malfunction related to the fuses, determine the location of the corresponding fuse by checking the fuse charts provided in the wiring diagram documentation.

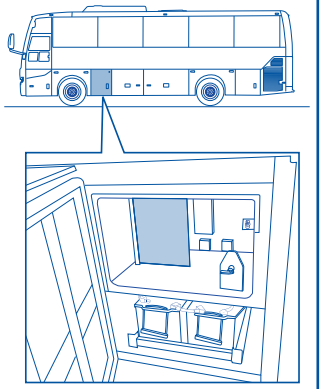
Before replacing fuses make sure the corresponding electric systems are switched off.

**INFORMATION**

Remove the screws on cover to access to the fuse box.

**WARNING**

- Take the ampere values into consideration before replacing fuses.
- Both faulty and replaced spare fuses must have the same ampere values.



**INFORMATION**

Fuse panels vary depending on the customer requirements. Therefore, fuse panels supplied on the vehicle may differ from those indicated in User’s Manual.

**WARNING**

The systems may not function if faulty fuses are replaced with those of different ampere value.

**CONSULT AUTHORIZED SERVICE**

Consult authorized TEMSA Service for spare fuse ordering.

## 12.6 ECM

ECM is a processor which checks and controls different information and related systems such as fuel injection timing, determining the amount of fuel required and the idle speed.

The ECM system is located on the engine.

The ECM system helps to provide anoptimum regulation of momentary fuel injection. It controls amount and timing according to the engine operating conditions and provides optimum level of fuel injection, sound and exhaust emissions.

The ECM system controls data and determines the related system malfunctions.

**WARNING**

The "ECM" warning lamp switches on together with "STOP" warning lamp. The warning lamp indicates a malfunction recognized by the ECM system. In such a case stop the vehicle immediately and consult authorized TEMSA Service.

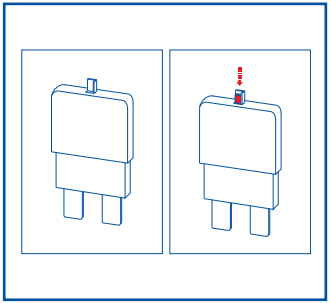
**WARNING**

- Never make a reverse connection of the terminals when replacing batteries or during jump starting otherwise the ECM system will be damaged. First connect the positive (+) and then the negative (-) battery terminals. Reverse connection of the terminals may damage the electronic system completely.
- Consult authorized TEMSA Service for requirements of supply. The ECM system may be entirely damaged when necessary actions are not taken.

## 12.7 Circuit Braker Reset

Every electrical accessory in your vehicle has a fuse to protect it. When a fuse blows, it breaks the connection, and you have to reset it.

To do this, you need to find the tripped breaker.It will have a small button in the center, and the button will be popped out. The button on a breaker that is not tripped will be almost flush with the surface. A tripped button will stick out about a quarter of an inch.



Push the button in until it clicks into place.

# 13 MAINTENANCE


13.1 Checking Engine Oil Level
13.2 Checking Condition of Engine Oil
13.3 Checking Condition of Transmission Oil
13.4 Air Filter Maintenance
13.5 Replacing Air Filter
13.6 Fuel Filter Maintenance
13.7 Expansion Tank Maintenance
13.8 Addition of Distilled Water
13.9 Usage of Antifreeze
13.10 Radiator Maintenance
13.11 Air Conditioner Maintenance
13.12 Cleaning the Filters
13.13 Checking Drive Belt Tension
13.14 Cleaning Vehicle Exterior
13.15 Cleaning Vehicle Interior
13.16 Lavatory Waste Tank Maintenance
13.17 Corrosion Protection

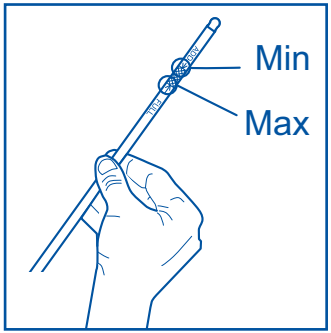
## 13.1 Checking Engine Oil Level

**DO IT YOURSELF**
Check the engine oil level each time when refueling.

Check the engine oil level when the engine is stopped and warm, wait till the oil flows back into the sump. Park the vehicle on level ground to get an accurate oil level reading.

Pull out the dipstick and wipe it with a clean piece of cloth. Insert the dipstick to its socket and pull it out again. Check the oil level with the markings.

**SAVE THE ENVIRONMENT**
- Disposal of engine oil should be done according to the hazardous waste disposal regulations.
- Take necessary precaution to avoid oil overflow while adding engine oil to the system.




**INFORMATION**
Oil level must be between two markings on the dipstick:
ADD : Minimum oil level allowed
FULL: Maximum oil level allowed

**DOCUMENT REFERENCE**
See also service manual delivered with the vehicle for oil change intervals.

**WARNING**
If the engine oil level is not between the indicator markings “ADD” and “FULL”, the amount of engine oil is insufficient or excessive.

**HOT SURFACES**
Engine oil dipstick is located in the same compartment as heating parts. Take care not to touch hot parts while checking oil level.

**CONSULT AUTHORIZED SERVICE**
In this case, do not continue to drive and consult authorized TEMSA service.

## 13.2 Checking Condition of Engine Oil

### Viscosity of Engine Oil

Check the viscosity of the oil on the oil dipstick. The oil on the dipstick must not be dry like tar or fluid like water.

**WARNING**
If the condition of the oil is too dry or too fluid it should be replaced.

**CONSULT AUTHORIZED SERVICE**
In this case, do not continue to drive and consult authorized TEMSA service.

### Dark Engine Oil

One task of the engine oil is to clean. Oil contains additive products like solvents and detergents. Engine oil prevents fragments making contact with metal surfaces and protects the engine. Engine oil gets dirty as long as the engine runs.

**WARNING**
If oil colour is dark or black, consult authorized TEMSA service immediately.

### Deterioration of Engine Oil

Manual or visual inspection of the engine oil might be misleading to decide whether it is deteriorated or not. Particles bigger than 2 mm in the oil indicate that the oil has deteriorated. For exact results, the oil must be subject to physical and chemical analysis at the laboratory.

**WARNING**
TEMSA
Oil replacement must always be performed by authorized TEMSA Service, if the engine oil loses its properties or it is depleted.

## 13.3 Checking Condition of Transmission Oil

**DO IT YOURSELF**
Regularly check the automatic transmission oil.

Check the automatic transmission oil by using transmission control panel.

### Electric Oil Level Sensor (OLS)

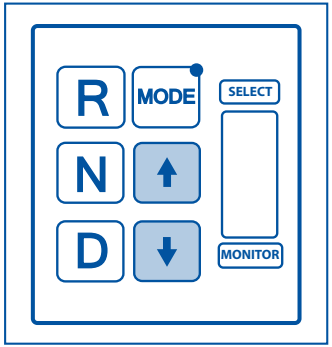
Oil level can only be measured only if;

- Vehicle is on a surface level,
- Engine at idle,
- Neutral gear selected
- Zero output speed
- Transmission sump oil must be within an operating temperature band: 62ºC - 104ºC (140ºF - 220ºF)

once the first four conditions are met, and a 2 minute “waiting” period has passed (to facilitate consistent oil drain back), oil level measurement will be displayed.

## 13.3 Checking Condition of Transmission Oil

Press the UPSHIFT and DOWNSHIFT buttons together to enter OLS read-out mode (after meeting the conditions noted above).




If the five conditions noted above are present, the display will immediately enter the reading mode.

If the “waiting” period has not elapsed, a flashing numeral counting down from 8 to 1 is displayed until the waiting period is complete.

If any condition preventing the fluid level to be checked is observed,a fault message is displayed.

**CONSULT AUTHORIZED SERVICE**

TEMSA

In such a case, do not continue to drive and consult authorized TEMSA service.

**Display Messages;**

| Message | Meaning |
|---|---|
| oL - oK | Oil Level is OK |
| oL-Lo-1 | Oil Level is LOW 1 quart (approx. 0,5 lt) |
| oL-HI-2 | Oil Level is HIGH 2 quart (approx. 1 Lt.) |

**Fault Messages;**

| Message | Meaning |
|---|---|
| oL - OX | Setting time too short |
| oL - EL | Engine rpm too low |
| oL - EH | Engine rpm too high |
| oL - SN | N (Neutral) must be selected |
| oL - TL | Sump fluid temperature too low |
| oL - TH | Sump fluid temperature too high |
| oL - SH | Output shaft rotation |
| oL - FL | Sensor failure |

## 13.4 Air Filter Maintenance

**DO IT YOURSELF**

Regularly check the air filter.

**WARNING**

Ensure that engine is stopped before checking the air filter.

**DOCUMENT REFERENCE**

See also service manual for air filter maintenance.

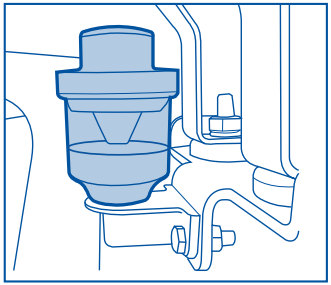
## 13.4 Air Filter Maintenance

If the air filter is clogged, it is recommended to change the filter before its periodic maintenance interval.

**WARNING**

- Ensure that the engine is stopped and the ignition key is removed or in "OFF" position before removal of the air filter for maintenance and cleaning.
- Never start the engine until the air filter is reinstalled.

Reset the dust indicator after air filter maintenance work. Check the indicator by running the engine.

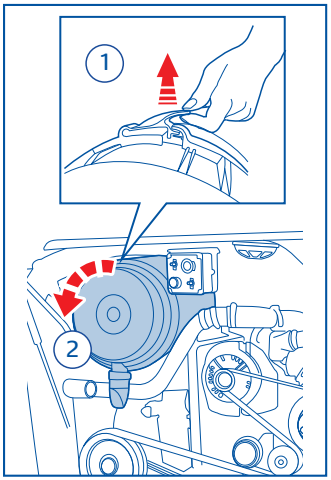


**WARNING**

Check that filter and its elements are installed correctly after maintenance work.

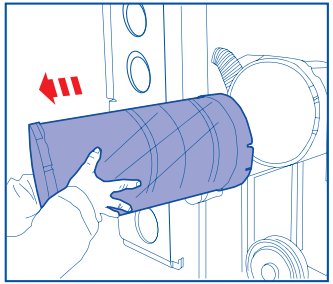
Pull the clips upwards and rotate air filter cap counterclockwise to release.

Pull out the cap and remove it completly from air filter.

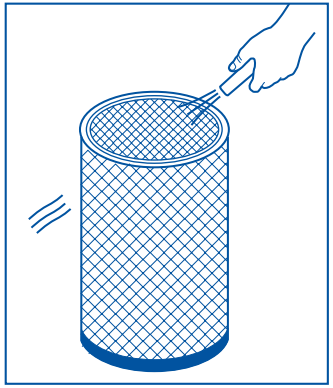



**VISUAL INSPECTION**

Replace the air filter if too much soot or oil has accumulated on it.



Pull the filter gently towards you and remove.



Apply pressurized air to the inner parts of the filter.

## 13.5 Replacing Air Filter

**CONSULT AUTHORIZED SERVICE**

Consult authorized TEMSA service to replace air filter.

**WARNING**

Always use genuine TEMSA spare parts and accessories. Use of none genuine spare parts will adversely effect the performance and jeopardize the warranty of your vehicle.

## 13.6 Fuel Filter Maintenance

Performance of the vehicle and fuel consumption depend on the cleanliness of the fuel filter. Clogged fuel filter reduces the performance of the vehicle and increases fuel consumption.

**DO IT YOURSELF**

Check the fuel consumption regularly. The reason of sudden increase in the fuel consumption may be a clogged fuel filter.

**CONSULT AUTHORIZED SERVICE**

In such a case consult authorized TEMSA service before periodical replacement interval.

**WARNING**

- No maintenance work is applied for the fuel filter. Fuel filters must be replaced by authorized TEMSA Service at required intervals or if damaged. This information can be obtained from TEMSA Service.
- Always use the type of fuel recommended by authorized TEMSA Service.

**DOCUMENT REFERENCE**

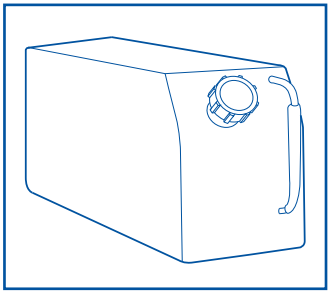
See also service manual for fuel filter replacement.

## 13.7 Expansion Tank Maintenance

Ensure that engine is stopped before checking coolant level. Park the vehicle on level ground before checking coolant level.

**DO IT YOURSELF**

Regularly check the coolant level.



## 13.8 Addition of Distilled Water

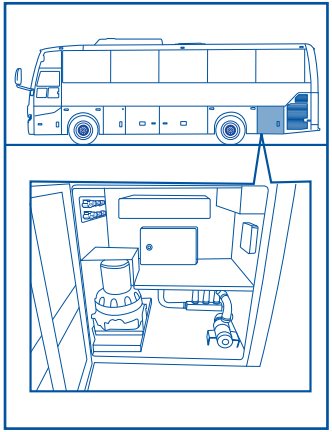
Add distilled water to the tank if coolant level indicates “MINIMUM” on the expansion tank (see page 128).

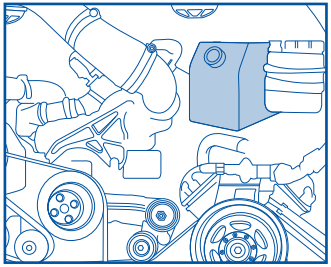
**WARNING**

- Never completely fill the expansion tank. Add fluid until low cooling water level warning lamp switches off.
- Antifreeze ratio changes when distilled water is added to the tank. Antifreeze addition or replacement of antifreeze must only be performed by authorized TEMSA service. Consult authorized TEMSA service before continuing to drive in order to avoid cooling system damage.

**Radiator filling instructions:**

| Step | Definition |
|---|---|
| 1 | All manual valves are opened. |
| 2 | Reserse tank is filled up to full level. |
| 3 | Engine is started and works at idle speed. |
| 4 | Coolant is added slowly by observing reduction. |
| 5 | Engine works app. 10 mins. |
| 6 | Electrical valves and water pump is opened. |
| 7 | Coolant is added as it reduces within the level observed. |
| 8 | Engine works for 10 to 15 mins. |
| 9 | Then, engine works at full throttle. |
| 10 | Add necessary coolant. |
| 11 | Wait until thermostat opens. |
| 12 | Add coolant if needed. |
| 13 | Finally, vehicle is sent to test shop and rework dept. |
| 14 | In this period if coolant is observed to be reduced, then added. |





## 13.9 Usage of Antifreeze

**WARNING**

- Coolant includes ethylene glycol. Avoid contact with ethylene glycol and never mix it with other substances.
- Never add antifreeze to the system before periodical maintenance interval.

**INFORMATION**

Consult authorized TEMSA Service for replacement of the coolant.

**DOCUMENT REFERENCE**

See also service manual for replacement of the coolant.

**SAVE THE ENVIRONMENT**

- Disposal of antifreeze should be done according to the hazardous waste disposal regulations.
- Take necessary precaution to avoid antifreeze overflow while adding antifreeze to the system.

## 13.10 Radiator Maintenance

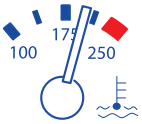
Contaminants on the radiator fins obstruct the function of the cooling cycle process.

**DOCUMENT REFERENCE**

See also service manual for radiator maintenance.

**VISUAL INSPECTION**

Check temperature indicator regularly during driving.




**WARNING**

All running parts located in the same compartment as the radiator, heat up.

**HOT SURFACES**

Contact with hot parts may cause severe injuries.

**SAFETY GLOVES**

Always wear protective gloves during maintenance of hot parts.

**WARNING**

Vapor inside the radiator may cause severe burns. Never open or loosen radiator cap when the fluid is hot.

Always use a soft brush to clean the radiator. Never apply pressurized air or water directly on the radiator.

**ROTATING PARTS**

Always perform radiator maintenance when the engine is stopped. Check that all parts are stationary before starting to clean the radiator.

## 13.11 Air Conditioner Maintenance

Run the air conditioner regularly for at least half an hour to increase the service life of the gasket.

**INFORMATION**

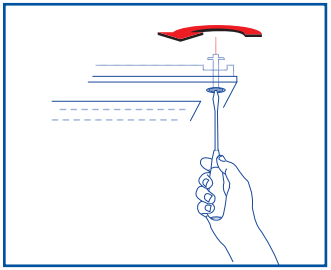
Do not deactivate air conditioner immediately after long use. Run the air conditioner in the fan position to allow the humidity to escape from the system.

## 13.12 Cleaning the Filters

Check that all filters are cleaned regularly to improve performance of heating and cooling elements. Clogged filters will reduce the performance of the air conditioning system.

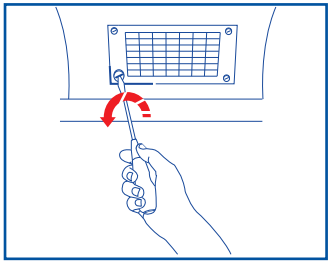
**WARNING**

Do not run the air conditioner during filter cleaning.



Remove the screws located on the vent to clean the air conditioner filters. Use water to clean the pores that are clogged.

Remove the vents to clean them. Use warm water and soap to clean air conditioner vents. Dry in well ventilated area. Clean vents regularly.



**SAVE THE ENVIRONMENT**

Vehicles in good conditions releases less amount of particles to the environment. The periodic maintenance achieves an improvement of the vehicle conditions and protects the enviroment.

## 13.13 Checking the Drive Belt Tension

Check drive belts regularly before driving.

**DOCUMENT REFERENCE**

See also service manual for drive belt replacement.

**WARNING**

Belts and hoops rotate as long as the engine runs. Check the belts when the engine is stopped.

**VISUAL INSPECTION**

- Open the engine maintenance lid and check the physical condition of drive belts.
- Drive belts that are damaged must be replaced immediately.

**CONSULT AUTHORIZED SERVICE**

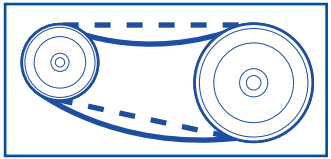
In this case do not drive and consult authorized TEMSA Service.

**WARNING**

Damaged belts may cause accidents and severe injuries.

**INFORMATION**

- Insufficient tension may cause engine over heating or charging problems of the battery.
- Excessive tension may damage the belt itself.



## 13.14 Cleaning Vehicle Exterior

Wash the vehicle frequently to protect painted and protective surfaces.

**WARNING**

It is recommended to clean vehicle manually and not use automatic cleaning machines.

**INFORMATION**

Wash exterior of the vehicle as well as interior of the fenders with plenty of water and cleaning agents recommended by authorized TEMSA service.

**WARNING**

- Never use hard brushes or spatula to clean resin, bird droppings and other acidic substances on the vehicle.
- Check that the engine is stopped and allow the transmission system to cool down before cleaning the vehicle. Never wash the vehicle with the engine running.
- Cleaning of engine compartment and isolation materials of engine compartment must only be performed by authorized TEMSA service.
- Never use solvents that react with plastic substances for cleaning plastic surfaces.
- Cleaning of headlamps must only be performed by authorized TEMSA service.

## 13.15 Cleaning Vehicle Interior

**INFORMATION**

Clean vehicle interior with cleaning agents recommended by authorized TEMSA service.

**INFORMATION**

Use a cleaning agent recommended by authorized TEMSA Service for soiling that is hard to remove.

**WARNING**

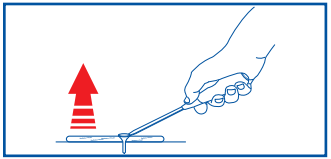
- Never use corrosive substances or solvents such as paint thinner for cleaning non-metal surfaces.
- Cleaning of electronic parts must only be performed by authorized TEMSA Service.
- Never use corrosive substances or solvents such as paint thinner or detergent for cleaning electronic instruments panel and control switches.
- Upholstery, cloth and floor mats can be cleaned by brushing and using vacuum cleaner or with soapy warm water depending on the level of contamination.

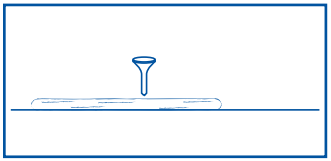
**WARNING**

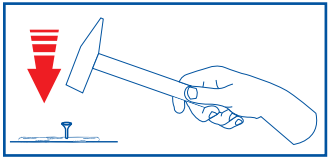
- Use only water and soap to clean seat belts. Never use chemicals to clean seat belts.
- Never stick any materials on seat belts. Avoid cutting, painting or bending the seat belt buckles.

### Mats

Spiked mats are provided with the vehicle. Mats can easily be removed and cleaned. Removal and mounting of the mats is shown in the figure.







**WARNING**

Always keep the spikes of the mat. Consult with TEMSA Service to order.

## 13.16 Lavatory Waste Tank Maintenance

Discharge lavatory waste tank regularly.
Late discharging may cause overflow. (See also page 87)

**WARNING**
Do not use toilet unit if lavatory waste tank is full.

**CONSULT AUTHORIZED SERVICE**
In such a case do not drive and consult authorized TEMSA Service.

## 13.17 Corrosion Protection

Corrosion can form on the exterior surface of the vehicle, on connection elements and mechanical parts.

**INFORMATION**
Corrosion check must be conducted every 15.000 km / 9321 miles.

### How to detect corrosion?

Wear and change of colour on the external surface of the metal indicate corrosion. On metal parts the colour of corrosion is brown and it is white on aluminum and zinc parts.

**INFORMATION**
Regular maintenance and repairs carried out by authorized TEMSA Service reduces the corrosion risk on all surfaces of the vehicle.

### Factors that cause corrosion are:

### Weather Conditions

Different weather conditions such as humidity, snow and mud accumulated on the surface of the vehicle must be cleaned regularly to prevent painted and preservative surfaces corroding.

### External Factors

Air pollution, dust carried by the wind, gravel and dirt may damage the preservative surface of the vehicle.

Dirt, snow and other external substances remaining on the surface for a long time may damage the body surface.

### Usage Conditions

Body surface may crack if the vehicle is washed in extremely hot or cold weather. Cracks may lead to corrosion.

### Maintenance Preventive Corrosion Procedure:

We would like to remind you of some maintenance precautions to help protect your vehicle from aging and corrosion.

### Cleaning of the Vehicle

Cleaning and maintenance of the vehicle in regular intervals as recommended by authorized TEMSA Service reduces corrosion risk and increases service life.

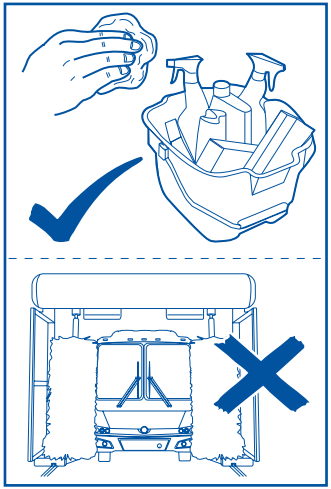
Use suitable washing agent and warm water for hand washing, max. 50 °C.

**WARNING**
Do not use household detergents, soaps or strong chemicals which remove wax and other protective finishes from the surface of the paint to wash your vehicle. After all sections have been washed, rinse the entire vehicle once again before drying. Do not let residues stay on the surface of the vehicle. Use only gentle washing agents approved by TEMSA.

## Washing New Vehicles

**WARNING**

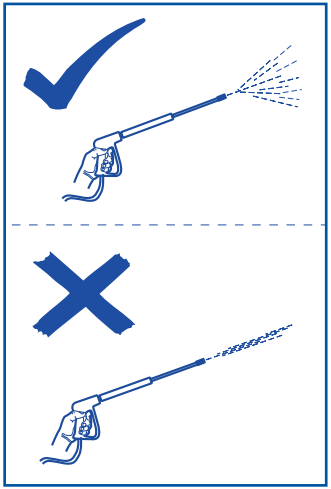
- New paintwork is not fully hardened during the first months. Therefore, instead of washing the vehicle in an automatic wash system prefer hand wash during the first 2 months.
- Always wash the vehicle starting from top to bottom.



## Pressurized Washing

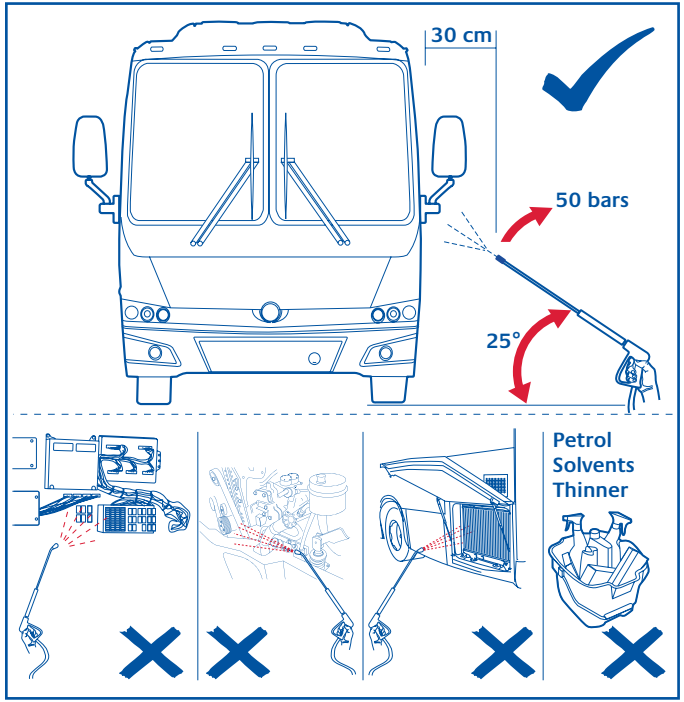
**WARNING**

Do not use high pressure round jet nozzles and power nozzles. Only use flat jet nozzles for pressure washing. Always keep the nozzle moving instead of pointing. The average operating pressure for pressure washing should be 50 bars.



Pressure washing can be done on vehicle older than 2 months. Running water and gentle washing agents approved by Temsa can be used for this process.

Use cold or warm water for pressure washing. Depending on the manufacturer, you can add 1 to 5 % washing agent to the water.



## Pressurized Washing

**WARNING**

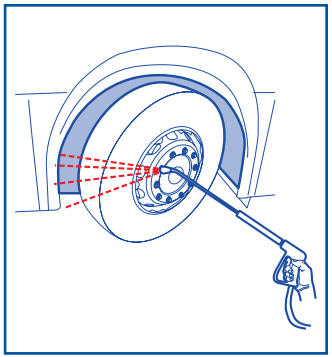
- Never use additives or cleaning agents comprising petrol, thinner or any other hydrocarbon based solvents.
- Do not point the water directly to any electrical equipment.
- Do not point the pressurized water directly in the engine compartment, air suction zones, draining holes of axle and transmission system.
- Do not point the pressurized water directly at the bearings and joints.

## Underbody Maintenance

Salting icy roads during the winter helps vehicle tires to maintain traction. On the other hand, accumulation of road salt in the fenders, luggage compartments and under body zone of the vehicle causes corrosion.

Components of the vehicle such as chasis, side panels, exhaust system, brake and oil lines can be affected by the corrosion if accumulated road salt is not cleaned well.

To protect the under body components, wash and clean the road salt accumulation zones at least once a month.



## Paintwork Maintenance

Repair any observed scratches and paintwork damages immediately. Uncoated surfaces cause corrosion.

### Surface Protection

With a recommended bright polishing agent, apply wax sealing.

After every third to fifth wash, apply hot wax sealing to your vehicle.

Applying hot wax and using regrasing substances prevents dirts from adhering to surface of the vehicle. This makes washing the vehicle easier.

### Paste Wax

Paste wax is used for coating the body surface to remove the scratches and it reduces the damage on paint caused by environmental factors.

### Wax

Apply wax to the vehicle to improve smooth dripping on the painted surface or when rain no longer forms drops.

## Winter Conditions

Prepare the vehicle for winter conditions as recommended by authorized TEMSA Service.

Corrosive factors as dirt, snow and other external substances remaining on the surface for a long time may damage the body surface and are much more aggressive during winter period.

**WARNING**

- Apply waxed-based protectives to superstructure, underbody and chasis.
- Repeat this application of preservative on particularly damaged zones.
- Wash and clean the road salt accumulation zones at periodic intervals.
- Grease the chassis, brake system yokes and joints regualrly.
- Add approved antifreeze to the heating and cooling system in the correct quantities.
- Change the engine oil on its recommended time according to the specified SAE classes.

## Winter Conditions

**INFORMATION**

Conducting necessary maintenance on the mechanical parts required for winter conditions as recommended by authorized TEMSA service reduces the risk of corrosion.

**WARNING**

See also maintenance manual delivered with the vehicle for more information on maintenance and checks not indicated in this section.

## Repairing

The damage caused by accidents eg. scrathes, dents etc. increase the risk of corrosion unless repaired.

**INFORMATION**

Consult authorized TEMSA service to carry out necessary repairs after accident.

When chemical substance spills over body surface clean the contaminated area with cleaning agents recommended by TEMSA service. Cleaning process protects painted surface against corrosion.

**INFORMATION**

Wash the vehicle with plenty of water after cleaning process.

Drive slowly on gravel roads to prevent the body surface from being scratched.

When paint work is needed, use materials according to the procedures recommended by TEMSA Service to protect the body against corrosion.

Clean corrosion stains formed on the rim joints and apply wax-based preservatives recommended by authorized TEMSA service.

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