



**Congratulations**



## **Congratulations! On purchasing the SCORPIO.**

The SCORPIO incorporates the best blend of luxury and sophistication offering you the comfort of a car with the thrill of a SUV.

Before you start driving the SCORPIO, we strongly suggest you to spend some time understanding it better. A good way to do this would be to read this manual while simultaneously exploring your SCORPIO physically.

Such familiarization, we reckon, will go a long way in enhancing the pleasure and experience of driving your SCORPIO.

We'll be delighted to know about your experience with the SCORPIO. We wish you happy & safe motoring in your new vehicle.





## Introduction



A WARNING indicates a situation in which serious or fatal injury could result if the warning is ignored

### CAUTION

A CAUTION indicates a hazardous situation which, if not avoided may result in minor (or) moderate injuries, damage to your vehicle or other properties.

### NOTE

A NOTE provides information and sometimes suggests how to make better use of your vehicle.

### LIMITATIONS

A LIMITATIONS indicates.....

### NOTE

In view of policy of continuously improving our products, we reserve the right to alter specifications or designs without prior notice and without liability / Obligation. Illustrations do not show the vehicle in the standard form. Please be aware that this manual applies to all models and options. As a result you may find some explanations for equipment not installed on your vehicle. All the information, illustration, and specifications in this manual are based on the latest product information available at the time of publication. Due to continuous improvements and changes in design & specifications there may be differences between your vehicle and the information on this manual.

Mahindra Authorised Dealer knows your vehicle best. So when maintenance or service is necessary, that's the place to go.

### CAUTION

Any unauthorised add-on electrical / electronic installation in your Scorpio vehicle could affect electronically controlled fuel injection system (CRDe / MPFI), ABS and other electronic and safety units. Before installing such system / equipment contact your Mahindra Authorised dealer.

' August 2009 '





### **Modification of your Scorpio**

This vehicle should not be modified with non-genuine products. Modification with non-genuine parts / products could affect performance, durability & safety of the vehicle, and may even violate governmental regulations. In addition, performance problems or damage resulting due to the unauthorised modification may not be covered under warranty.

Keep this manual in the vehicle as a reference for safe & enjoyable driving of your Scorpio. This should be given along with the vehicle to the next owner in the event of sale to the next owner.

### **Environmental Caring**

Your vehicle has been designed with the aim of caring for the environment. A number of features have been incorporated in your vehicle to ensure environmental compatibility throughout their life cycle.






















As a user, you too can contribute to protect the environment by operating your vehicle in a proactive manner. It mostly depends on your driving style and the way you maintain your vehicle. Do not dispose of parts replaced in the course of regular vehicle maintenance (like battery, oil filter, air filter, etc.) and oil containers (empty or with used oil, etc.) with house hold waste. Dispose of them through specialist organizations. In all cases, comply with state, territory and/or local bye-laws.



























## Graphic Symbols on your vehicle

Some of the following symbols are used to identify controls & display on your vehicle.

							
LIGHTS	WATER IN FUEL FILTER	HEADLIGHT LOW BEAM	PARKING LIGHTS	HAZARD WARNING FLASHER	REAR WINDOW DEFROSTER	HORN	
					AC HI	AC LO	RPAS (REVERSE PARKING ASSISTANCE SYSTEM)
WINDSCREEN WIPER	WINDSCREEN WIPER & WASHER	REAR WIPER	REAR WIPER & WASHER	VENTILATOR FAN	AC HIGH COOL	AC LOW COOL	
							
AC FACE MODE	AC FACE/FLOOR MODE	AC FLOOR MODE	AC FLOOR & DEFROSTING MODE	DEFROSTER MODE	AIR RECIRCULATION	AUTO RAIN SWITCH	AUTO LIGHT SWITCH

## Some of indicators & warning lights in instrument cluster

	Security System Status		Turn Signal Warning Light		TPMS (Tyre Pressure Monitoring System)
	Door Hazard Warning Light		Head Light Beam		
	Engine Malfunction Light		Engine Pre-heater/glow-plug Light		Parking Brake
	Seat Belt Warning Light		Check Engine Warning Light		Temperature
	Fuel		Battery Discharge Warning Light		4WD Low Indicator Light
	Low Brake Fluid		Low Engine Oil Pressure Warning Light		4WD High Indicator Light
	Rear Fog Light		Anti-lock Brake System Warning Light		TPMS telltale
	Front Fog Light		Air Bag		





<b>Service &amp; Warranty Information .....</b>	<b>1 - 14</b>
Warranty Coverage   Warranty Certificate   Record of Service Performed	
<b>Before Driving .....</b>	<b>1.1.1 - 1.22.2</b>
Identification Numbers .....	1.2.1
Keys and Door Locks .....	1.3.1 - 1.3.5
Keys   Opening the Doors from Outside   Opening the Doors from Inside   Door Locks   Central Door Locking   Child-proof Lock   Remote Keyless Entry	
Immobilizer System .....	1.4.1 - 1.4.2
Seating Adjustments .....	1.5.1 - 1.5.9
Moving the Front Seats Forward or Backward   Adjusting the Angle of the Seat-back/Reclination   Folding Second Row Seat   Folding Front Facing Third Row Seat   Folding Side Facing Third Row Seat   Correct Seating Posture/Arrangement   Seat Belts Fastening Seat Belts   Checking Seat Belt Operation   2 Point Lap Seat Belt Head Restraint   Head Restraint Removal	
Ignition Switch cum Steering Lock .....	1.6.1 - 1.6.2
Dash Board .....	1.7.1



Combination Levers .....	1.8.1 - 1.8.5
Combination Lighting Switches	
Lights Control Lever	
Front & Rear Fog Lights	
Turn Indicators	
Wiper & Washer Control Lever	
Front Wipe/Wash   Rear Wipe/Wash	
Head Light Leveling System .....	1.9.1
Guiding Lights .....	1.10.1
During Remote Unlocking   During getting In/Out of Vehicle	
Reverse Parking Assistance System .....	1.11.1 - 1.11.5
Detection Zones   Working Principles	
Micro Hybrid System.....	1.12.1-1.12.6
Instrument Cluster.....	1.13.1 - 1.13.17
Tachometer   Speedo Meter   Odometer, Trip Meter   Clock   Knob mode selection trip   Knob-Set   ABS	
Check Engine Malfunction   Rear Fog Indicator   Front Fog Indicator   Stop Start Indication   ...Battery Charging	
Warning   Car Security System Indication   Head Lamp High Beam Indication   Low Oil Pressure Warning	
Parking Brake ON & Low Brake Fluid warning   Door Open warning   Engine Coolant Temperature Gauge	
Water in Fuel Indication   Seat Belt warning   Four Wheel Drive High   Four Wheel Drive Low	
Check Engine Warning   Fuel Gauge   Turn Signal Indicator   Tyre Pressure Monitoring System	
User defined Over Speed Warning   Over Speed Warning Specification   Glow Plug   Air Bag	





## Manual Contents



Switches & Controls .....	1.14.1 - 1.14.4
Hazard Warning Switch   Horn   Rear Demist Switch   Rain and Light Sensor	
Stop Start Mode Selection Switch   Parking Brake	
Cruise Control & Audio .....	1.15.1 - 1.15.4
To Operate/Set the Cruise Control Speed   To Increase the set Cruising Speed	
To reduce the set Cruising Speed   Resume the last preset Speed   Disengaging the Cruise Control	
Override function	
Audio Control through Steering Wheel Switches	
Follow Me Home Head Light .....	1.16.1
Lead Me to Vehicle Head Light (LMV) .....	1.16.2
Battery Saver .....	1.16.3
Rear View Mirrors .....	1.17.1 - 1.17.2
External Rear View Mirrors   Mirror Folding   Electronic Exterior Mirror   Internal Rear-view Mirror	
Foot Pedals .....	1.18.1 - 1.18.4
Accelerator   Brake   Anti-Lock Brake System   ABS Warning Light   Clutch	





Steering .....	1.19.1
Power Assisted Steering   Tilt Steering Wheel	
Transmission/Gear Shift .....	1.20.1
Recommended Maximum Speed during Driving   Gear Shift	
Bonnet Release Lever   Bonnet Opening .....	1.21.1 - 1.21.2
 <b>While Driving .....</b>	 <b>2.1.1 - 2.9.5</b>
Starting and Stopping Engine .....	2.2.1 - 2.2.2
Initial Checks   Starting the Engine   Stopping the Engine   Limp Home Mode	
Driving Tips .....	2.3.1 - 2.3.4
Driving in Wet Weather/Snowy Conditions   Driving in Low Visibility   Safe Driving Tips   Precautions for OFF Road Driving	
Shifting Driving Modes .....	2.4.1 - 2.4.7
Transfer Case Shifting Guidelines   Electric Shifting   Manual Shifting   Automatic Locking Hubs   Release the Locking Hubs   Manual Locking Hubs	





## Manual Contents

Driving in the Break-in Period .....	2.5.1
Instructions for Driving in the Break-in Period	
Fuel .....	2.6.1 - 2.6.4
Recommended Fuel   Opening Fuel Lid   Fuel Economy & Money Saving Suggestions	
Window Winding.....	2.7.1 - 2.7.4
Power Assisted   Smart Power Window with Anti Pinch   Rear Window Safety Switch   Quarter Windows	
Heating, Ventilation, Air Conditioning .....	2.8.1 - 2.8.11
Blower Speed / Temperature Control Knobs   Fresh Air Selector Switch   Air Distribution Control Knob   Air Distribution   Center Vents   Side and Console Vents   Air Intake Selector   Fresh & Re-circulation Air Mode   Operating the AC   Air-Conditioning On/Off Switches   Air Conditioning   Windshield De-fogging & Defrosting   Heating   Ventilation	
Automatic Transmission.....	2.9.1 - 2.9.10
Driving   Gear Selector   Mode Switch   Gear Ratios   Towing   Do's and Dont's for Transmission	
Other Equipment and Accessories .....	2.10.1 - 2.10.5
Interior Light   12V Power Output   Smoking in the Vehicle   Cup Holder   Sun-visors   Grab Handles with Coat Hook   Glove Box   Additional Power Connection for Extra Fittings   Front and Rear Tow Hooks   Towing a Trailer   Antenna   Floor Mats	











## Manual Contents

Engine Maintenance Check.....	3.10.1
Tyre Inspection .....	3.11.1
Tyre Pressure .....	
Tyre Inspection / Rotation and Flat Tyres .....	3.12.1 - 3.12.20
Tyre Inspection   Tyre Rotation & Wheel Alignment   TPMS Sensor Installation Procedure   TPMS Sensor Removal Procedure   Tyre Rotation Procedure   Using Spare Tyre in case of Tyre Puncture   If the Vehicle has a Flat Tyre   Changing Run-Flat Tyres   Removing & Storing the Jack   Removing the Spare Tyre   Fitting Back Spare Tyre   Removing Wheel Cover   Loosening Wheel Nut   Positioning Jack   Removing the Wheel Nut & Changing the Tyres   Reinstalling & Tightening Nuts   Reinstalling Wheel Cover   Restoring Tool   Checking Air Pressure of Replace Trye   Restoring Tools   Jack & Flat Tyre .....	
Wipers, Engine Compartment Washing .....	3.13.1
Appearance Care .....	3.14.1 - 3.14.4
Care of Exteriors-Washing, Washing Tips   Waxing   Care of Interiors   Seat Belt   Windows   Corrosion Protection   Leather Upholstery Caring .....	
Maintaining the AC System .....	3.15.1
Trouble Shooting.....	3.16.1 - 3.16.6
Towing .....	3.17.1-3.17.3
<b>Other Information .....</b>	<b>4.1.1 - 4.3.1</b>
Technical Specifications .....	4.2.1 - 4.2.4
Safety.....	4.3.1
Lubrication Chart .....	4.4.1











## Contents



Warranty Coverage









## Warranty Coverage



### PRE-REQUISITES FOR WARRANTY

- The owner must ensure that the vehicle is serviced as per the manufacturer's recommended periodic maintenance schedules.

The Owner Registration Certificate must be complete when the vehicle is delivered, and must be mailed to Mahindra & Mahindra, India. If the Owner detects any fault in the vehicle during any of the phases, he / she should report it to the Mahindra Dealer and get it corrected immediately.

**Warranty Coverage:** This Mahindra vehicle represents our total commitment to high product quality and workmanship. However, should any problem occur to your vehicle during the Warranty period, the Warranty on the vehicle is subject to certain stipulations. Hence, you are advised to go through the warranty policy in detail.



## Warranty Coverage

## WARRANTY POLICY ON NEW VEHICLES

- Mahindra & Mahindra Ltd. Gateway Building, Apollo Bunder, Mumbai - 400 039. INDIA, warrant to the retail purchaser of the Motor Vehicle branded as 'Mahindra' (hereinafter referred to as 'vehicle') to be free from defects in material and workmanship under normal use as instructed in the Owner's Manual and service, under the warranty, Company's Authorised Dealer will repair or replace any part thereof, **including all equipments or trade being limited to trade accessories (except those governed by special warranty policy stipulated by respective manufacturers, like tyres and batteries etc.)** originally supplied by us subject to all other terms and conditions specified herein below found to be defective in materials or workmanship in Company / Dealer opinion within 24 months from the date of delivery of the Vehicle to the retail customer (the original Purchaser) or before such vehicle has been driven for 50,000km, whichever occurs earlier.
- For the purpose of this warranty, the Term 'Product' means and includes only new vehicles manufactured by the Company and / or sold by the Company's Authorised Dealers. This warranty is limited to the delivery to the purchaser, free at the Authorised Dealer's workshop or at any other place at the discretion of the Company, of the part or parts whether new or repaired, in exchange for those acknowledged by the Dealer to be defective and endorsed by the Company to that effect. The parts so repaired or replaced shall also be warranted for quality and

workmanship but such warranty shall be co-terminus with this warranty.

- This warranty shall not apply to and Company shall in no way be liable to for any vehicle which shall have been repaired outside an Authorised Company's Service Station or which has been altered or modified or built upon in any way. This warranty is in lieu of all other warranties express or implied, and no person, agent or representative of the Company is authorised to give any other warranties on the Company's behalf or to assume for it any other liability in connection, with the vehicle.
- The Company's responsibility is limited to the terms of this warranty and it shall not be answerable for personal injuries or consequential or resulting liability, damage or loss arising from any defects.
- The Company's Liability under this warranty is dependent upon the strict observance by the Purchaser, of the following provisions:
  - a) The purchaser shall take Pre-Delivery Inspection.
  - b) The purchaser at the time of delivery shall sign complete and return the warranty certificate printed in this booklet.
  - c) All or any of the services inclusive of Pre-Delivery Inspection service are not carried out by the company's Authorised Dealer and as per the recommendation given by the Company in this booklet.
  - d) Repairs or replacements will be performed by the Authorised Dealer of the Company, subject to the reporting of the vehicle to the nearest Authorised Dealer's workshop.



## Warranty Coverage

- e) This warranty shall not apply if the vehicle or any part thereof is repaired or altered otherwise in accordance with our standard repair procedure or by any person other than our Authorised Dealer or their Branch Dealer or their service centers in any way.
  - f) The purchaser shall at all times in the operation of vehicle use only those brands of lubricating oils, lubricants or fuel, a recommended by the company.
  - g) The judgement of the Company or its Authorised Dealers in all cases of claims shall be final and conclusive and the purchaser agrees to accept its decision on all questions as to effects and to the exchange of part or parts. The replaced parts shall be the property of the Company.
  - h) Company reserves the right at any time or times without notice to revise, modify, discontinue or change any of the models of our vehicles or any part or parts thereof and neither Company nor the Dealer will incur any liability or obligation to the Purchaser by reason of any revision, modification, discontinuance or change whatsoever.
  - i) Claims arising from this Warranty will be recognised only if they are ascertained / confirmed by the Authorised Dealer and notified to the Company without delay, after the defect has been ascertained.
- Certain limitations wherein the Warranty does not apply are listed below:
    - a) If repairs are required because of the following reasons:
      - i) The Vehicle is not operated / used as per the recommendation in the Owner's Manual, or;
      - ii) The Vehicle is subjected to accidents, or theft or fire;
      - iii) The Vehicle is subjected to abnormal use such as racing, rallying or participation in any other sports competitions.
      - iv) Abnormal wear & tear due to rough handling
    - b) Appearance items:
 

Any slight imperfections in paint, chrome and trim and other decorative parts, deterioration of exterior item, trim and other decorative part due to normal exposure or use is not covered under the terms of Warranty.
    - c) Door and windshield glass breakage and fused bulbs are not covered under Warranty.
    - d) Normal Maintenance Service Replacement Items:
 

Filters, Brake or Clutch Linings, Wiper Blades, Belts, Cables, Spring Bushing, U. Joints cross, Water pump kits, Tie Rod Ends, Bell-crank Kit, Hoses, Wheel and Master Cyl. Kits and bulbs, Spark plugs, Ignition Points, Condensor, Rotor, Distributor Cap. Please note that this list is neither exclusive nor exhaustive and the decision of the Company shall be final in this regard.



## Warranty Coverage

### e) Tyres / Batteries / Tube Warranty

The Warranty is provided by the respective Manufacturers under their warranty terms. Company's Dealer will assist purchaser in taking up the complaint with the respective manufacturers and their decision on the warranty will be final.

### f) Proprietary Items

The following are proprietary items and warranty is provided by the respective Manufacturers under their warranty terms. Any complaint on the following items, in addition to Tyres and Batteries, is to be referred to the respective manufacturers of these items / or their authorised local agents for warranty claim / repairs / replacements. In case of difficulty Company's dealer will assist purchaser to conclude the complaint satisfactorily. Their decision will be final on warranty.

1. Alternator / Generator
2. Self Starter Assy. (less Solenoid Switch)
3. Wiper Motor
4. Fuel Injection Pump
5. Nozzles

g) Company makes no Warranty nor assume any liability in respect of any defect in metal or other material in any part, device of trade accessories which would not have been discovered by ordinary factory inspection.

### h) Repairs required due to following reasons:

- i) Due to unauthorised modification to the Vehicle which in any way affects the stability or reliability of the components of the basic vehicle.
  - ii) Continued usage in spite of awareness of defect.
  - iii) Excess / heavy load beyond the carrying capacity of the vehicle affecting the basic structure of the Vehicle.
- The above Warranty is in lieu of all other Warranties, express or implied and no person, agent or representative of the Company is authorised to give any other Warranties on the Company's behalf or to assume for it any other liability in connection with the vehicle.





## Warranty Certificate



### WARRANTY CERTIFICATE

Serial Number: \_\_\_\_\_

This is to certify that the below mentioned vehicle is under WARRANTY coverage. This Contract is valid for a period of 24 months from the date of delivery to the retail customer (original purchaser) or before such vehicle has been driven for 50,000 km, whichever occurs earlier.

#### Vehicle Information:

Model	:	_____	Registration No.	:	_____
Colour	:	_____	Engine No.	:	_____
Year of Mfr.	:	_____	Chasis No.	:	_____
Date of Delivery	:	_____	Mileage at Delivery	:	_____

#### Customer Details:

Name : \_\_\_\_\_

Address : \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Tel : (0) \_\_\_\_\_ (R) \_\_\_\_\_ Mobile: \_\_\_\_\_ Fax: \_\_\_\_\_









## Warranty Certificate

The above mentioned Vehicle has been purchased by me/us, and I/We have taken delivery on \_\_\_\_\_ and I/We have read, understood and agreed to the terms and conditions of the Warranty Policy as detailed in this document.

Date:

Customer's signature

Address, Telephone No's of Service Centres:

---

---

---

---

---

---

---

---

---

---

---

---

Telephone : \_\_\_\_\_

Fax : \_\_\_\_\_

Mobile : \_\_\_\_\_

Telephone : \_\_\_\_\_

Fax : \_\_\_\_\_

Mobile : \_\_\_\_\_

Telephone : \_\_\_\_\_

Fax : \_\_\_\_\_

Mobile : \_\_\_\_\_











Record of Service Performed



**Record of service performed  
and**

**Record of maintenance and repair carried out**





Record of Service performed

Recommended Service at KM	Date	Odometer	Repair order no. Reading KM	Service Dealer's Signature with Stamp
PDI				
5000				
10000				
15000				
20000				
25000				
30000				
35000				
40000				
45000				
50000				





## Record of Service performed



Recommended Service at KM	Date	Odometer	Repair order no. Reading KM	Service Dealer's Signature with Stamp
55000				
60000				
65000				
70000				
75000				
80000				
85000				
90000				
95000				
100000				







Record of maintenance & repair carried out



Date	Odometer reading KM	Repair order no.	Particulars of repair	Service Dealer's Signature with Stamp













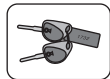
## Contents



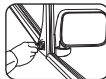
Identification Numbers



Instrument Cluster



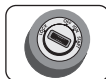
Keys and Door Locks



View Mirrors



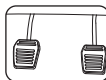
Seating Adjustments



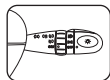
Ignition cum Steering Lock



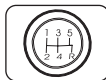
Dash Board



Pedals



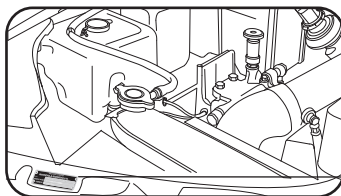
Combination Levers



Transmission/Gears

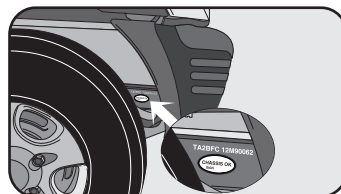
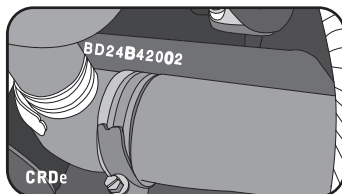
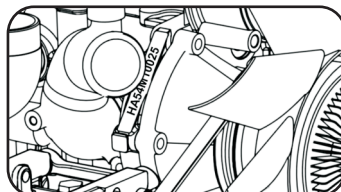
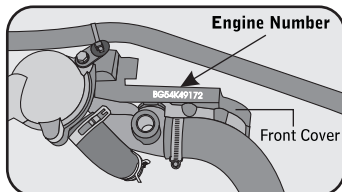


## Identification Numbers



### Vehicle Identification Number (VIN)/Vehicle Serial Number

Vehicle Identification Number (VIN) / vehicle serial number is the legal identity of your vehicle. It is used in registering the ownership. To locate the vehicle serial number and the engine number, open the bonnet. You will find both the numbers on a label near the bonnet release lever.



### Engine Number

The engine Number is punched on left hand side face of crankcase adjacent to water pump in M-Hawk Engine.

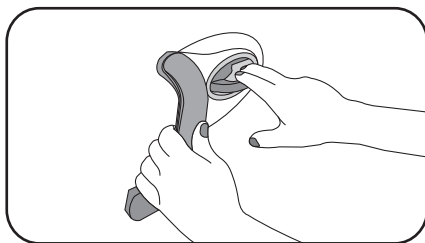
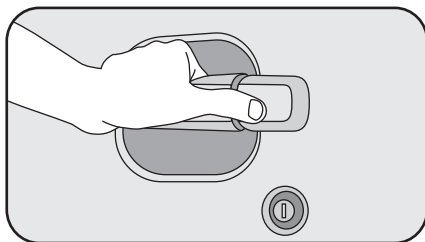
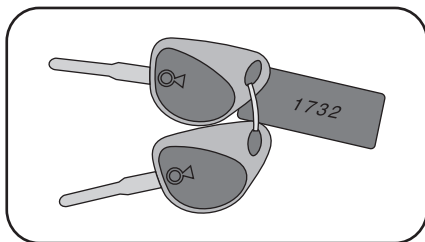
This Engine number is also punched on a number plate located near Bonnet Release Lever.

### Chassis Number

The chassis number is punched on the right side long member of the chassis close to the front right wheel, as shown in diagram given alongside.



## Keys and Door Locks



### Keys

Your Scorpio comes with a set of two identical keys. The keys operate all locks in your Scorpio including those of the doors, ignition cum steering and fuel lid. We advise you to keep one of these keys at a safe place for emergency use (but not in the vehicle).



- A new pair of keys can be acquired through Mahindra Authorised Dealer by stating the key number provided on the tag in case of loss of original keys.
- At the time of delivery of vehicle, customer should note down the Key Number provided on the Tag.



- Do not leave the ignition key in your vehicle especially when children are in the vehicle.
- Never leave children & pet animals unattended inside the vehicle.

### Opening the Doors from Outside

Unlock the door using the remote or key as applicable.

Place your hand behind the handle.

Pull the handle towards you to open the door.

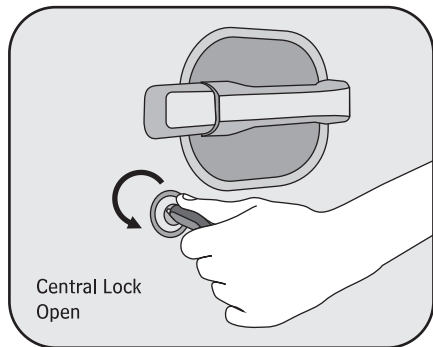
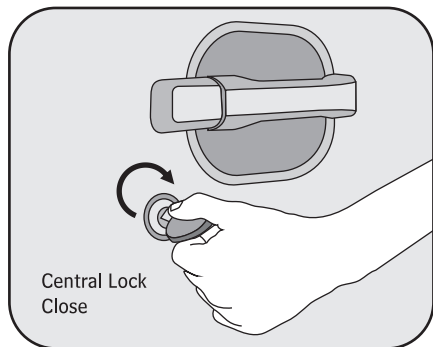
### Opening the door from inside

Pull the lever as shown in the picture & push the door.

(The rear doors do not open when the child lock function is activated.)



## Keys and Door Locks



### Door locks

Both the front doors can be locked from both inside and outside, using either the door-lock lever or the key when the door is closed. The upper door-lock levers need to be depressed individually to lock doors from inside. The driver's door can be locked only from outside with the key. This ensures you will never be stranded outside, even if the keys are left inside the vehicle.

The rear doors can be unlocked from inside only.

### Central Door Locking (If equipped)

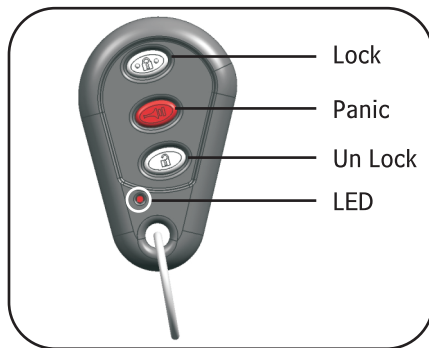
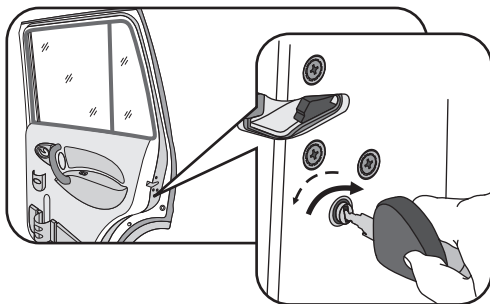
The central door locking system can be operated only from the driver's door. It can be activated from the outside with the key or from the inside with the door-locking lever. In case of failure in the vehicle's electrical system, both the front doors can be opened with the key. The driver inner door-lock lever needs to be depressed to lock all doors simultaneously, from inside.



Before opening the door, always look for and avoid oncoming traffic.



## Keys and Door Locks



### Child-Proof Lock (If equipped)

The rear doors are equipped with child-proof locks. To activate the locks, use the key and turn the red knob located on each door (close to the latch) clockwise before closing the doors. To deactivate the locks turn the red knob anti clockwise direction.

### REMOTE KEYLESS ENTRY (If equipped)

#### RKE System requires

1. Remote
2. Mahindra Body Function Module

#### General Features:

#### 1. Remote LOCKING / ARMING

This feature enables the user to LOCK / ARM the vehicle by pressing the remote LOCK button. This feature is confirmed by siren chirps and hazard lamp flashing. This feature can be activated in following modes

- i. LOCK/ARM with siren
- ii. LOCK/ARM without siren



(Figuritic representation of the lock)

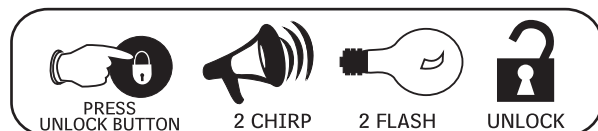


## Keys and Door Locks

### 2. Remote UNLOCK / DISARM

This feature enables the user to UNLOCK / DISARM the vehicle by pressing the remote UNLOCK button. This function is confirmed by siren chirps and indicator lamp flashing. This feature can be activated in following modes

- UNLOCK/DISARM with siren
- UNLOCK/DISARM without siren



(Schematic representation of unlock operating sequence)

### 3. Door & Bonnet open indication

When vehicle is armed by remote, and any of the doors are open, the system will warn the user by giving 5 chirps instead of one.

When vehicle is armed by remote, and bonnet is open the system will warn the user by giving 3 chirps instead of one.

### 4. Panic Alarm / Car Locator:

On pressing the panic button, after 3 seconds, system will

activate the panic alarm. The siren will chirp and the indicator lamps will flash for 30 seconds. Panic alarm is designed to bring attention to the vehicle and surrounding area, warning of an intruder (or) seek for some help.

While panic mode is ON,

- Press LOCK button to LOCK / ARM and de-activate PANIC mode
- Press UNLOCK button to UNLOCK / DISARM and de-activate PANIC mode
- Press PANIC button to only de-activate PANIC mode



(Schematic representation of panic alarm operating sequence)

### 5. MUTE LOCK / UNLOCK

- This feature will enable the user to LOCK / ARM or UNLOCK / DISARM the vehicle without making any chirps through siren in a silent zone or anywhere desired.
- Press the Panic button and press the UNLOCK button within 3 seconds, vehicle will enter into MUTE mode.



## Keys and Door Locks

- Press the Panic button and press the UNLOCK button within 3 seconds, vehicle will enter into UNMUTE mode.

### 6. Security LED flashing in instrument cluster

Red LED will flash based on the status of ARM / DISARM condition

1. ARM Condition – Slow blinking
2. DISARM Condition – Fast Blinking.
3. Ignition ON and authentication passed - LED does not glow.

### 7. RKE LED flashing

1. When the remote battery is healthy, on pressing any of the remote buttons, LED will come ON for 50ms and go OFF for 750ms till 15 seconds time out.
2. When there is Remote Low Battery condition, on pressing any of the remote buttons, LED will come ON for a period of 50 ms once.

### 8. Auto LOCK (If equipped)

Whenever the vehicle speed crosses 10kmph, system will lock all the doors automatically. If any door is open during auto lock condition, system will lock the doors first and it will unlock all doors to indicate that one of the doors is open.

### 9. Auto UNLOCK (If equipped)

Once the ignition is switched off and key is removed from the key cylinder, system will unlock all the doors automatically.

### 10. Theft Deterrent System (If equipped)

In case of any theft condition hazard lamps will be flashed and theft-deterrent siren will be ON for 90 seconds.

If any theft attempt happened on the vehicle when the vehicle was in armed state, by pressing the UNLOCK system will recognize the theft attempt and give 4 chirps and 4 times hazard lamps will flash indicating the theft attempt. When the vehicle is LOCKED / ARMED by remote, any attempt to open doors using key manually, system recognizes as intrusion.



To activate the security system, always lock the vehicle using remote.



1. In case of loss of remote, please contact the nearest authorized M&M dealer immediately.
2. In case of weak batteries or weak signal transmission, please contact the nearest authorized M&M dealer for battery replacement.



A decorative header element consisting of a row of squares. From left to right: a white square, a grey square, a dark grey square containing the text 'Immoblizer System', a grey square, a light grey square, a white square, and a grey square.

## Immoblizer System

### Immobilizer System

Immobilizer is a major security device to prevent the vehicle being operated by an unauthorized person. An electronic Immobilizer prevents the vehicle being started unless it recognizes signals from the correct coded key.

1. This prevents the vehicle being driven by anyone not in possession of vehicle coded ignition key.
2. The vehicle is automatically protected with in a few seconds after the key is removed from ignition. If the vehicle does not recognizes the ignition key code engine check lamp will be ON/blink and the engine cannot be started.
3. The vehicle will not be protected until the key has been taken out of the ignition.
4. If there is a system operating fault, Engine check lamp will continue to flash or remains continuously ON after ignition has been switched ON.

Contact Mahindra authorized dealer for any repair or service required in immobilizer system.





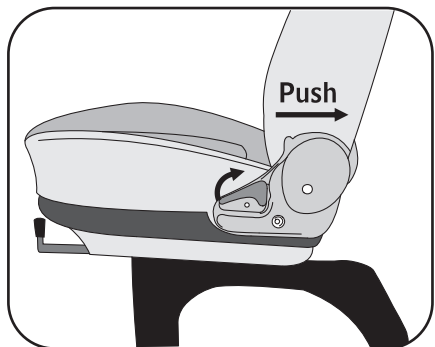
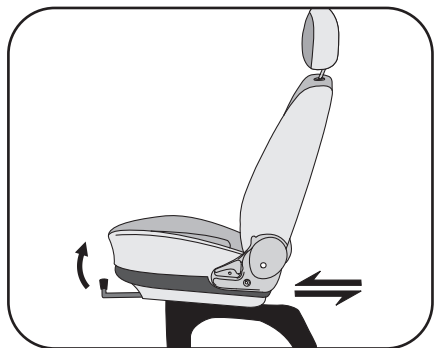
## Immobilizer System



1. Any unauthorized work carried out on the engine immobilizer could be dangerous. It is strongly recommended that any work on the immobilizer system must be carried out by Mahindra authorized dealer.
2. In case of any key lost the same to be reported at service station immediately.
3. In an unlikely event of vehicle not starting even with right key, it is recommended to switch IGN OFF for minimum of 1 minute before trying to start the engine again.



## Seating Adjustments

**Moving the Front Seats Forward or Backward**

To adjust the position of a front seat, pull up the lever underneath the front edge of the seat and slide either forward or backward. When you reach the desired position, release the lever. Rock the seat a little to ensure that its latch is secured properly.

**CAUTION** Adjustable seats and seat-backs that are not securely latched are dangerous. In a sudden stop or collision, the seat or seat-back could move causing injury. Make sure the adjustable components of the seat are locked properly.

**CAUTION** Do not drive the vehicle unless the occupants are properly seated. Persons not properly seated and/or properly restrained by seat belts can be severely injured in the case of emergency braking or a collision.

**Adjusting the Angle of the Seat-back/ Reclination**

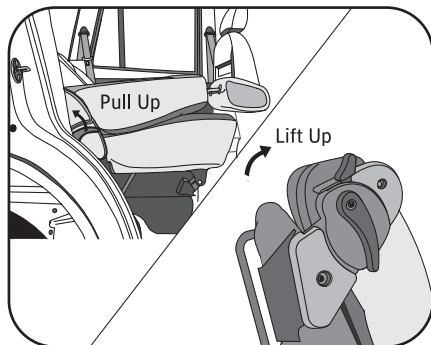
To adjust the angle of the seat-back, pull up the lever at the side of the seat and push the seat-back. When you reach the desired angle, release the lever. To return to the original position, pull up the lever and lean forward.

**CAUTION**

The belts provide maximum protection when seats are in their normal upright position. So, do not recline your seats steeply. During the sudden braking or a collision, you may slide under the lap belt if your seat is reclined to the unsafe level, and suffer serious internal injuries.



## Seating Adjustments



### CAUTION

After adjustment, gently rock the seat to make sure it is securely locked. Unlocked / improperly locked seat back is dangerous as it can eject/throw the passenger during the sudden braking or collision.



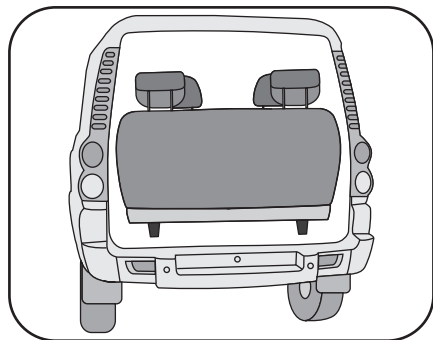
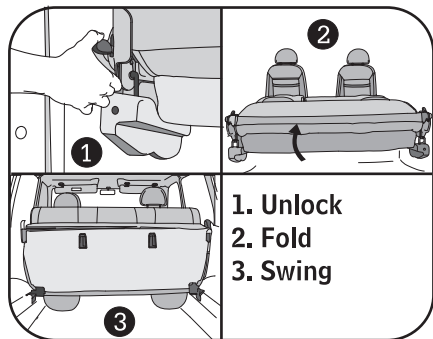
Adjusting the driver's seat while the vehicle is moving is dangerous. The driver could lose the control of the vehicle and meet with an accident. Adjust the driver's seat only when the vehicle is stopped.

### Folding Second Row Seat for Entry into Third Row (if applicable)

Unlock the second row seat-back by either pulling the lever in the side (for entry) or pushing the lever at back (for exit). The seat-back collapses forward. Now, push the small lever backward / pull the rear-strap to lift the base of the seat up forwards until it is reached in vertical position. To keep the seat-back in folded position, the strap end (which is kept in small pocket in the seat bottom) can be hooked at the head restraint rod. Unhook the strap, when the seat needs to be unfolded & put the strap in the pocket. Swing the whole seat-back and downward. Lift the seat-back until it is locked.



## Seating Adjustments

**Folding the Front Facing Third Row Seat (if applicable)**

To fold the front facing third row seat, unlock the seat-back by pushing the lever at the backside. To fold the seat-back completely, swing the seat up forwards until it is locked in vertical position against the second row seat. The seat can be removed by pulling it out from the front pivot bracket. To unfold, swing the whole seat-back and downward. Lift the seat-back until it is locked.

The folded 3rd row Front facing seat can be secured with 2nd row seat by running the Velcro strap in hook provided in the 2nd row seat.

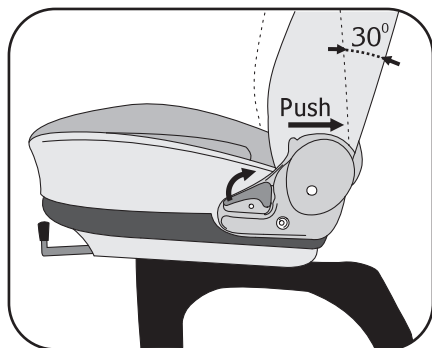
**Folding the Side Facing Third Row Seat (if applicable)**

To fold the side facing third row seat

- Fold the seat
- Swing the seat cushion fully up
- Fold the seat leg completely down
- Secure the seat by running the velcro strap through the hook provided on the back of the seat cushion and sticking the velcro.



## Seating Adjustments



### Correct Seating Posture/Arrangement

The driver should be able to hold the steering with slightly bent arms. The driver's feet should also be slightly bent so that the pedals can be pressed fully to the floor. The driver should sit with the backrest at an angle not more than 30 degrees.

### CAUTION

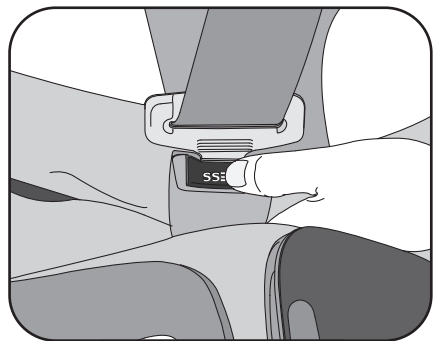
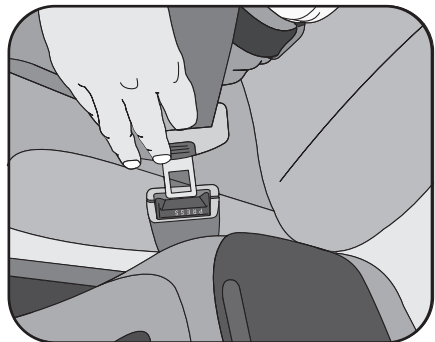
After adjustment, gently rock the seat to make sure it is securely locked. Unlocked / improperly locked seat back is dangerous as it can eject/throw the passenger during the sudden braking or collision.



Adjusting the driver's seat while the vehicle is moving is dangerous. The driver could lose the control of the vehicle and have an accident. Adjust the driver's seat only when the vehicle is stopped.



## Seating Adjustments



## Seat Belts

For your own safety, we strongly urge you to strap on your seat belts while driving. Do not use one seat belt for more than one person. Ensure that the seat belts are not slack or twisted when strapped across. Before driving off, first ensure that your driving position is correct and then adjust your seat belt to provide maximum protection.

## Fastening Seat Belts

Pull the seat belt over your shoulder and across the chest. Insert the metal tongue plate into the buckle. An audible click indicates that the belt is locked securely. Make sure that the correct buckle meant for each seat is used for every belt.

To release the belt, depress the red button on the buckle, and let the belt rewind into its reel smoothly and completely.

Always wear your seat belt while traveling in vehicle and make sure all the occupants are properly restrained. Not wearing the seat belt while driving is extremely dangerous.

- Do not use the seat with malfunctioning/improper seat belts system. it may not protect the occupant from injury. Get the seat belt problem fixed by Mahindra authorised dealer immediately. Used/damaged seat belt system cannot provide the adequate protection in the event of collision/accident. Do not use the twisted seat belts. Twisted seat belt may injure the user.



## Seating Adjustments



Seatbelts are designed to bear upon the bony structure of the body, and should be worn low across the front of the pelvis or the pelvis, chest and shoulders, as applicable; wearing the lap section of the belt across the abdominal area must be avoided.

- Seatbelts should be adjusted as firmly as possible, consistent with comfort, to provide the protection for which they have been designed. A slack belt will greatly reduce the protection afforded to the wearer.
- Care should be taken to avoid contamination of the webbing with polishes, oils and chemicals, and particularly battery acid. Cleaning may safely be carried out using mild soap and water. The belt should be replaced if webbing becomes frayed, contaminated or damaged.
- It is essential to replace the entire seat belt assembly after it has got damaged in a severe impact even if damage to the assembly is not obvious.
- Belts should not be worn with straps twisted.
- Each belt assembly must only be used by one occupant; it is dangerous to put a belt around a child being carried on the occupant's lap.



No modifications or additions should be made by the user which will either prevent the seat belt adjusting devices from operating to remove slack, or prevent the seat belt assembly from being adjusted to remove slack.

### CAUTION

Be careful not to damage the seat belt webbing or hardware. Take care that they do not get caught or pinched in the seats or doors. Never use one seat belt for more than a person at a time.

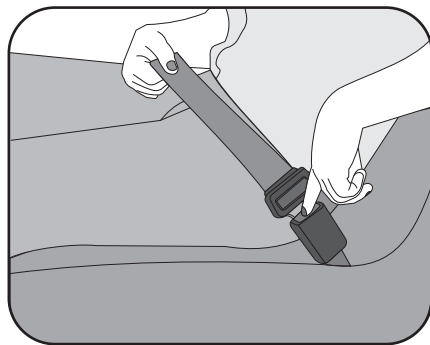
- Pull the belt from its reel steadily. It may get locked if wrenched from the reel. The belts provide maximum protection when seats are in their normal upright position. So, do not recline your seats steeply. During the sudden braking or a collision, you may slide under the lap belt, if your seat is reclined to the unsafe level, and suffer serious internal injuries.



Wear the lap seat belt snugly and as low as possible. A lap belt worn too high can be dangerous. In the event of collision/accident, this may concentrate the impact force on the abdominal area causing serious injury.



## Seating Adjustments



### Checking seat Belt operation

Your seat belt retractors are designed to lock belt movement in the following conditions

- When the belt is pulled quickly from the retractor
- When the vehicle slows down rapidly.

To check the condition of seat belt operation, grasp the shoulder belt and pull quickly forward. The retractor should lock and restrict further belt movement. If the seat belt does not lock during these checks contact Mahindra Authorised dealer.

### 2-Point Lap Seat Belts (2<sup>nd</sup> Row & 3<sup>rd</sup> Row Seats)

#### To fasten the seat belt

Insert the tongue into the buckle until it snaps

To lengthen, hold the tongue at a right angle to the belt and pull on the belt. To shorten, pull the free end of the belt away from the tongue.

Position the lap belt on the hips as low as possible.

#### To unfasten

To unfasten the belt, press the button on the buckle.





## Seating Adjustments



### CAUTION

Use a child restraint system only if the child is not big enough to properly wear the seat belts. Else, use the regular seat belt instead of the child restraint system. In models with rear seat belts - seat the child in the rear seat and use the seat belt. According to statistics, children are safer when properly restrained in the rear seat than in the front seat. Always secure a child in a proper child restraint system in accordance with age and size of the child as recommended by the child restraint system manufacturer.

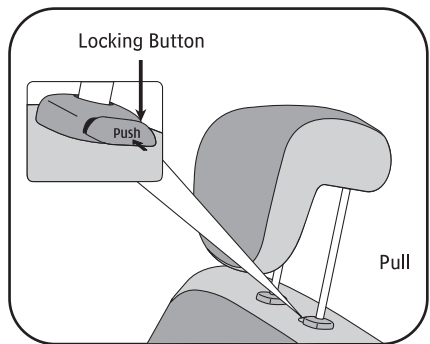
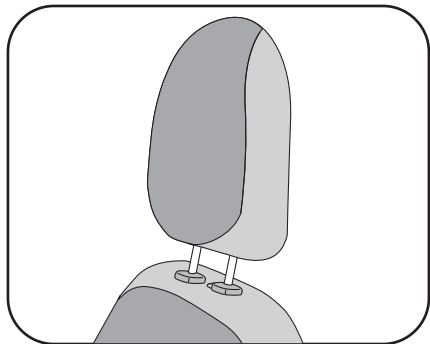


Do not allow children to stand up or kneel on either the rear or the front seats. An unrestrained child could suffer serious injuries during emergency braking or collision. Also, do not allow children to sit on your lap as it does not provide sufficient restraint.

Pregnant women and injured persons need to consult their doctor for specific instructions on how to wear the seat belt.



## Seating Adjustments



### Head Restraint

To increase height of the head restraint, pull it out to the desired position. To lower the head restraint, depress the locking button and push the restraint down. After adjustments, ensure that the head restraint is locked in place.

Adjust the head restraint so that it is at the same level as your head. Never adjust the head restraint to the level of your neck.



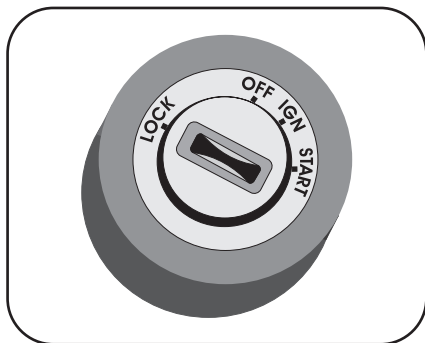
Do not adjust the head restraint while driving the vehicle. With no support behind your head, your neck could be seriously injured in a collision. Always drive with the head restraints properly inserted.

### Head Restraint Removal

The head restraint can be pulled out completely by depressing the locking button while pulling the restraint out.



## Ignition Switch cum Steering Lock



### Ignition Switch cum Steering Lock

It has the following four key positions

**LOCK** : Ignition OFF; Steering is locked after the key is removed

**OFF** : Steering unlocked; Ignition and all other main electrical circuits are disabled

**IGN** : Ignition ON; All electrical circuits enabled. Look for the illuminated warning lights before engine is started.

**START** : This is a momentary position in which the switch cranks the engine. Vehicle has a intelligent starter cut off control. Once the engine is started, system will cut off the starter motor to protect the starter and other engine components.



Preferably select this position when the vehicle is being towed.



If turning the key is difficult, jiggle the steering wheel from side to side.

- The key can be removed only in the LOCK position. When the key is removed, the steering column lock is activated and the steering wheel cannot be turned.





## Ignition Switch cum Steering Lock



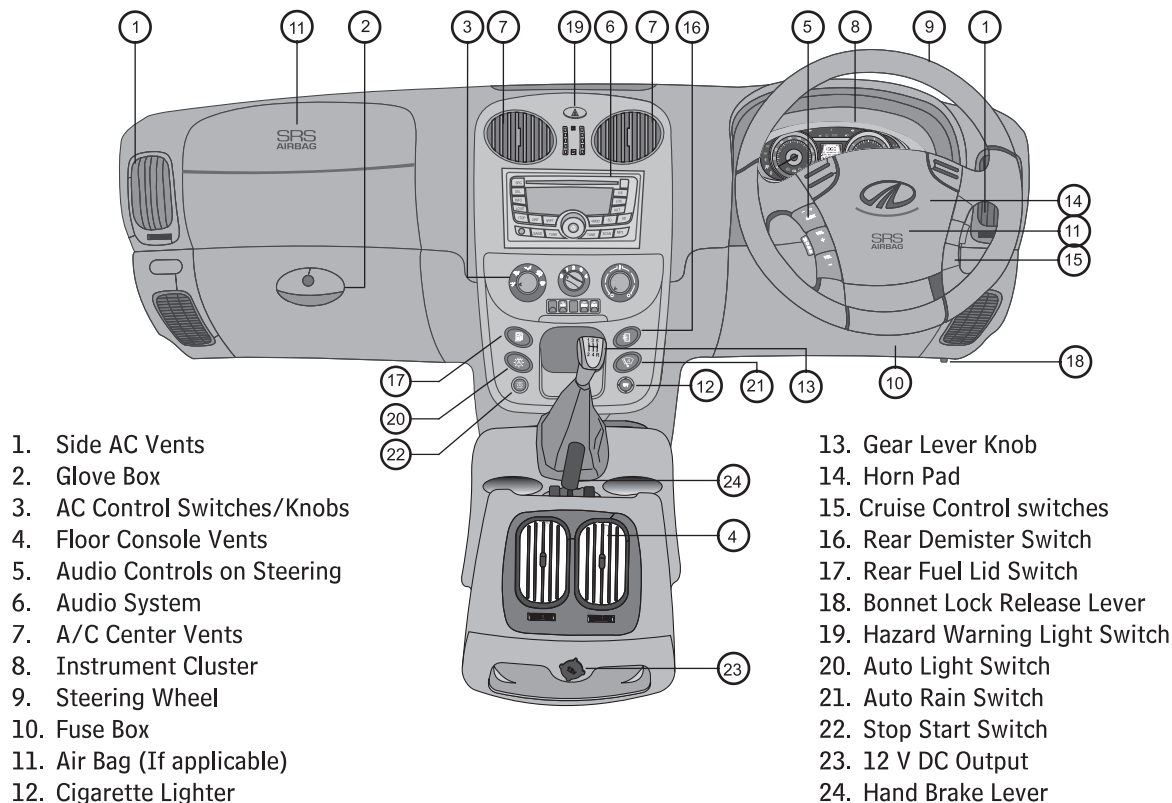
Never return the key to the LOCK position or try to remove the key, when the vehicle is in motion. Removing the key allow the steering wheel to lock. You will loose the control of the vehicle and may cause serious accident. Remove the key only when the vehicle is parked.

An illuminator ring is provided on the face of ignition-cum-lock to locate and insert the key into it during night time. The ring will illuminate the moment the driver door is opened and will remain glowing till the door is closed. Once all the doors are closed properly, the lights will start dimming and will go off after few seconds.



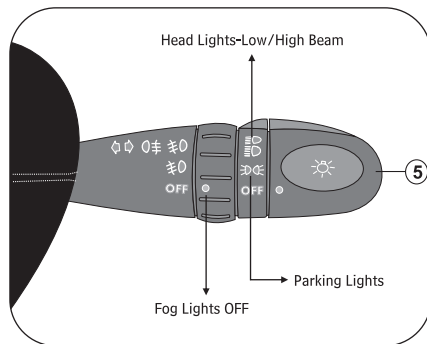
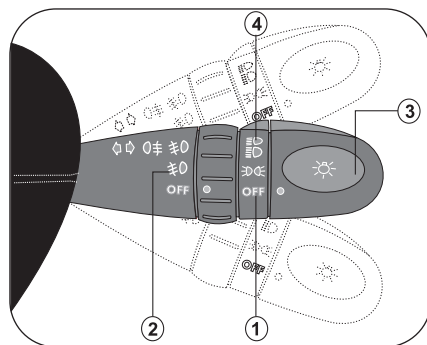


# Dash Board







## Combination Levers



## Combination Lighting Switches

## Lights Control Lever

Head lights &amp; Parking Lights

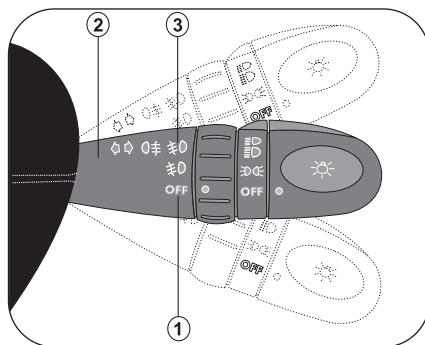
- Lights Off:** Stalk end switch **1** is in neutral position
- Parking Lights :** Turn the stalk end switch **1** upwards to the first position until the  is aligned opposite mark **1**
- Headlight Low Beam:** Turn the stalk end switch **1** upwards to the second position until the  is aligned opposite mark **1**
- Headlight High Beam:** With the stalk end switch **1** in the second position, simply push the control lever downwards. Headlight High Beam Indicator in the instrument cluster is illuminated when headlights are on high beam.
- Headlight Flash :** Pull the stalk up towards the steering wheel. Flash will work even when the headlight is not on. Headlight High Beam Indicator in the instrument cluster is illuminated when headlight flash is used.

**CAUTION**



Using bulbs with units of higher output capacity / wattage is illegal and may damage your vehicle electrical system.



## Combination Levers



## Front &amp; Rear Fog Lights (If equipped)

1. **Lights Off:** Inner rotary switch 2 is in neutral position.
2. **Front Fog Light(s):** Turn the inner rotary switch 2 upwards to the first position until the  is aligned opposite mark 2.
3. **Rear Fog light(s) :** Turn the inner rotary switch 2 upwards to the second position until the  is aligned opposite mark 2. Now both front & rear fog lights glows simultaneously.

Operation of the fog lights depends on the parking or headlights selected and an indicator will light up in the instrument cluster



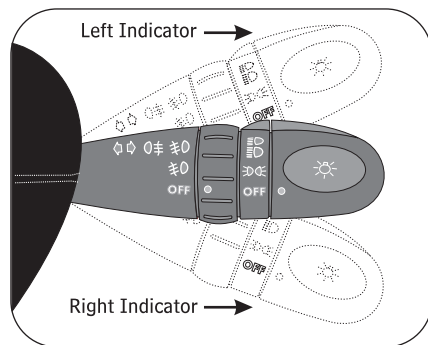
The front fog light will get switched ON only when parking / headlights are ON.

Rear fog lights will get switched ON only when park lights are ON and front fog lights are ON.

Use the fog lights only in low visibility conditions. Remember to switch off the rear fog light when it is no longer needed to avoid inconvenience to other road users.



## Combination Levers



## Turn Indicators

- **Right Direction Indicator:** Push the lighting control stalk downwards till you hear an audible click.
- **Left Direction Indicator:** Push the lighting control stalk upwards till you hear an audible click.

The stalk automatically returns to original position after you make a turn. But after lane change you may have to do it manually. If the indicator light continues to flash after a turn, manually return the stalk to its original position.

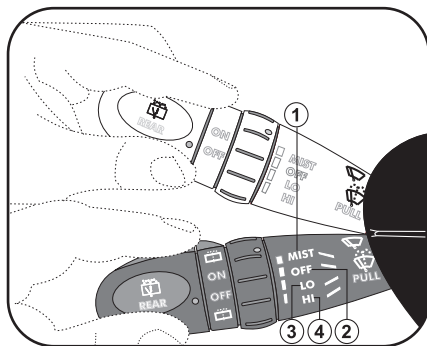
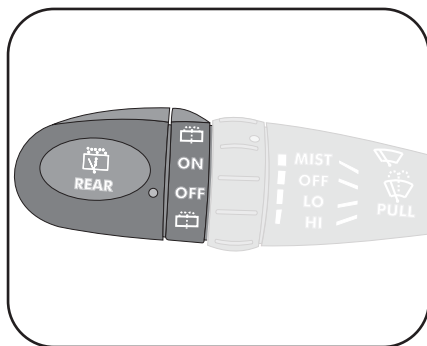


If the turn signal indicator lights in the instrument panel flashes faster than normal, it may indicate a fused indicator bulb.

To prevent the battery from being discharged, do not leave the lights ON for a long time when the engine is not running.



## Combination Levers




### Wiper & Washer Control Lever

#### Front Wipe / Wash

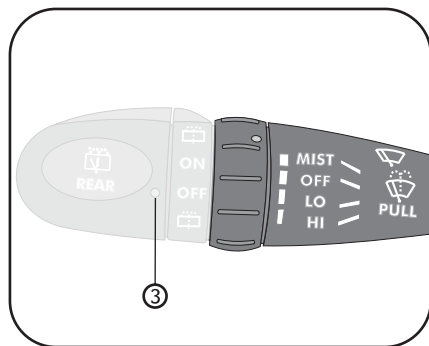
Wiper/Washer Control Lever: Wash/Wipe functions can be activated with the ignition key at the IGN position.

#### Wiper Operation Mode :

- **Wash /Wipe (PULL &  The windshield washer & wiper operates as long as the stalk is pulled towards the steering wheel. Wiping is done after few seconds of washer fluid spraying and wiping will continue for few seconds after releasing the switch. The washer will work on all positions of stalk. After few seconds of the post wipe, the wiper will operate once to dribble down the washer fluid remains.**
1. **Flick-Wipe (MIST):** Push the stalk up from the normal position for wipe only and it operates as long as stalk is in that position.
  2. **OFF:** stalk is in normal position.
  3. **Low Speed Wiping (LO):** Push the stalk further down to the second position.
  4. **High Speed Wiping (HI):** Push the stalk again down to the third position.



## Combination Levers



## Rear Wipe / Wash

**Wash / Wipe (W):** The rear windshield washer & wiper operates three to four times or as long as the stalk end is turned down from 'OFF' position, after the washer fluids spray starts. Wiping will continue for few seconds after releasing the switch.

**Off:** Stalk end switch 3 is in neutral position

**Rear Wiper (ON):** Turn the stalk end switch 3 upwards to the first position until it is aligned opposite mark 'ON'

**Wash /Wipe (W):** The washer fluid will be sprayed onto the rear window and wiper operates as long as the stalk end 3 is turned up further from 'ON' position. Wiping is done after washing and wiping will continue for few seconds after releasing the switch.

If you switch off the ignition before switching off the wind screen wiper the blades will stop at random on the wind screen. Once the ignition is turned ON again wiper will return to the park position.



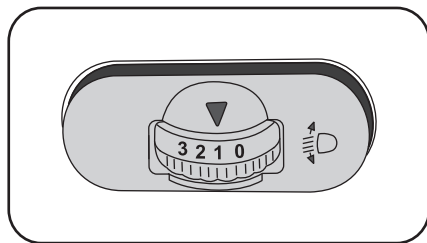
Do not operate the wipers when the wind shield is dry. It may scratch the glass.



Using wind screen washer in freezing temperatures could be dangerous. The washer fluid could freeze on the wind screen and may block your vision result in an accident. Use anti-freeze fluid and warm the wind shield before using the washer.



## Headlamp Leveling



### Headlight Leveling System (If applicable)

When Vehicle is fully or either partially loaded, it will have upward inclination disturbing the headlight aiming. To bring the low-beam back to its original position, the headlamp leveling mechanism is used. The correct headlight setting provides the best possible visibility to the driver with out dazzling other road users.

The headlights can only be adjusted when the low beam is switched on.

Headlight low beam can be adjusted from driver seat with the help of switch shown in above picture. This switch is located on driver side instrument panel just below side A/C vent. This switch has Four positions marked as 0,1,2 & 3.

Please select the suitable switch position as per following table.

Switch Position	Vehicle loading condition
0	Driver / Driver with Front passenger
1	Driver + Front passenger + Rear seat occupied
2	All seats occupied
3	All seats occupied with luggage or Driver with luggage at extreme rear side



**Guiding Lights****Guiding Lights****Side Foot Step Light, Dimming Interior light & illumination Ring on Ignition Key ring**

The guiding lights feature helps you when you try to enter or exit the vehicle. The lights are provided on the side foot steps.

Illuminator ring is provided on the face of ignition-cum-lock to locate and insert the key into it during night time.

The front interior lamp will also get activated along with the above lights during this cycle.

**During Key removal:**

once the key is removed from the key cylinder, all the lights & Illumination ring glow at full intensity for 20 seconds and the lights will start dimming and go off.

If the ignition is turned ON in between, lights will start dimming immediately and go off.

**During getting in / out of vehicle :**

All the lights & Illumination ring will glow the moment any of the doors is opened and will remain glowing till the door(s) is closed. Once all the doors are closed properly, the lights will start dimming after few seconds and then go 'OFF'.

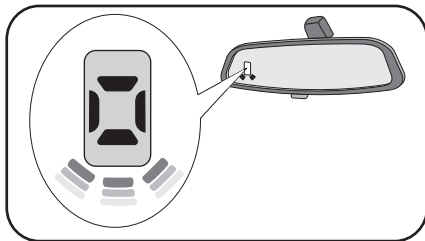
Front interior roof light will light-up when the switch is in door-mode.

This feature cannot be permanently / temporarily disabled / enabled.





## RPAS (Reverse Parking Assistance System) (If applicable)



**Note :** Obstacle at the blind zone cannot be sensed by the system.

## REVERSE PARKING ASSISTANCE SYSTEM (If applicable)

Reverse parking assistance system aids the driver while parking the vehicle at the parking speed of less than 5 kmph in the reverse.

On reversing the vehicle, system will detect the obstacle behind the vehicle within the sensing zone which cannot be viewed by internal rear view mirror and outside rear view mirror. It will indicate the driver with the distance and direction of the detected obstacle by means of lines on the rear view mirror. Along with the usual indicators, an alert sound is also generated which is proportional to the distance of the obstacle. Smaller the distance, shorter the interval between the beeps.

### Detection zones

**1st Zone :** 120 cm – 75cm, Green LED below the car image will blink in the corresponding direction with the corresponding distance of the obstacle along with the alert sound.

**2nd Zone :** 70cm – 55cm, Green and Orange LED below the car image will blink in the corresponding direction with the corresponding distance of the obstacle along with the alert sound.

**3rd Zone :** Below 50cm, Green, Orange and Red LED below the car image will be ON in the corresponding direction and the STOP indication will blink along with the continuous beep sound.





## Working Principle

- Switch on the Ignition, CAR image will appear in the IRVM and the Green, Orange and Red LED's below the car image will blink on all the three rear directions (Rear Left, Rear Right and Rear center), indicating the system is healthier and after the completion of the self check the CAR image will go OFF automatically if the gear is not engaged in Reverse.
- On engaging the gear in reverse, system will get activated automatically and the CAR image will appear in the IRVM.
- When the obstacle comes in the sensing zone, system start giving the indication based on the distance and direction of the obstacle as defined in the detecting zones.

### NOTE

- System cannot sense the wire mesh, handrail, small objects and some obstacle which are coming below the bumper level
- System cannot sense the obstacle like cotton or spongy surface which will absorb ultrasonic waves easily.
- System performance is dependent on the reflection angle of the obstacle.

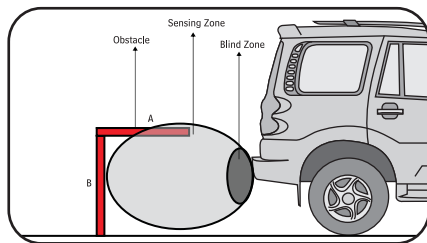
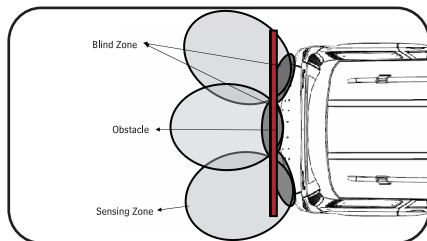
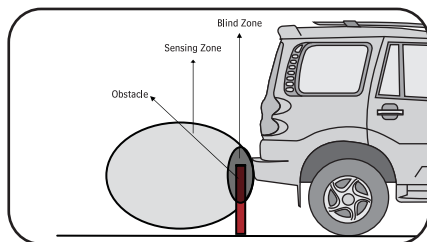
- On reversing the vehicle on grasslands and bumpy roads, System may generate wrong signal.
- System may give wrong signal while vehicle is moving from plain ground to sloppy ground or vice versa.
- System may give wrong signal by sensing the ground when the bumper is tilted more from the normal position or when the vehicle is heavily overloaded.
- System may give false alarm during the heavy rain conditions and during the snow conditions and heavy wind conditions.
- Clean the sensors regularly to make them free from ice, dust, water etc. for proper working of the system.

### CAUTION

- This system is an aiding system and it should not replace the need to drive carefully. Under no circumstances will the manufacturer accept any responsibility or can be held liable for any direct or indirect, incidental or consequential damage caused by this system
- System will not sense the pot holes or the trenches or drainages which are below the ground level.
- Please practice reverse parking using different obstacle to grasp this feature performance.



## RPAS (Reverse Parking Assistance System) (If applicable)



### Pay Attention

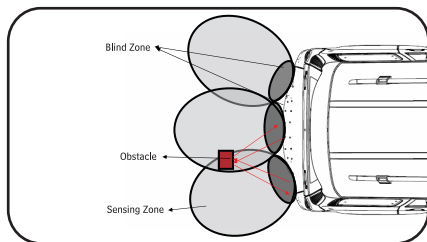
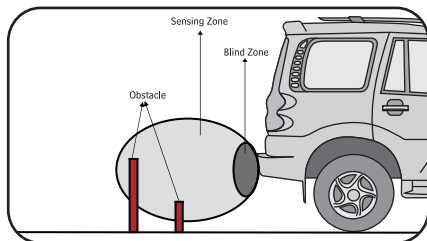
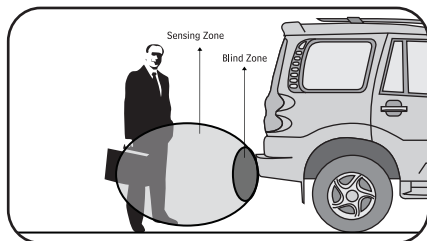
Obstacle at the blind zone cannot be sensed by the system

Please check the condition of the obstacle behind you vehicle before reversing. In some cases, the display may be not as same as the reality due to the sensor installed level, obstacle shape, reflection condition and so on. Some examples are given below.

- Point B will be detected sooner or later, but A may not be detected forever.



# RPAS (Reverse Parking Assistance System) (If applicable)

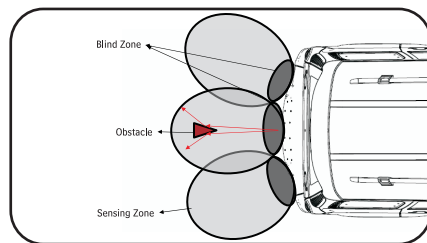


Not all the obstacles is detected from 120cm, for instance, a person is detected from 75cm because of the weak reflection or absorption of the waves of the clothes.

- The distance indication may move up and down due to different sizes of the obstacle at different positions
- Though the obstacle is in the sensing zone the obstacle may not be detected since the ultrasonic waves are not get reflected back to the sensor



# RPAS (Reverse Parking Assistance System) (If applicable)



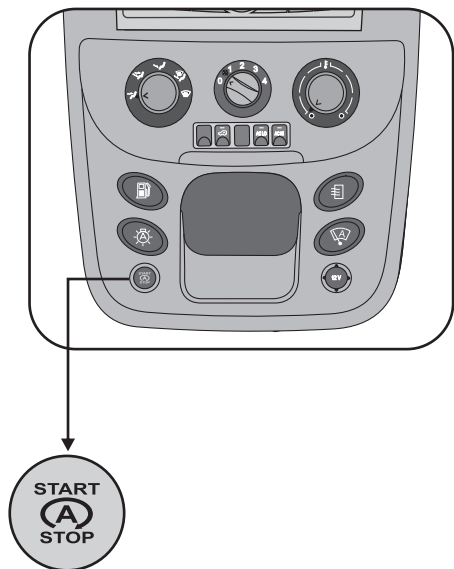
The obstacle of conical shape may not be detected, since the ultrasonic waves get reflected away.

## NOTE

Any damage or scratch to the sensor will affect the performance of the system. Due care to be taken while repairing or repainting the vehicle.



## Micro Hybrid (If applicable)




## NOTE

To activate the micro hybrid system, ensure the switch located in the left side of the instrument panel is in pressed condition.

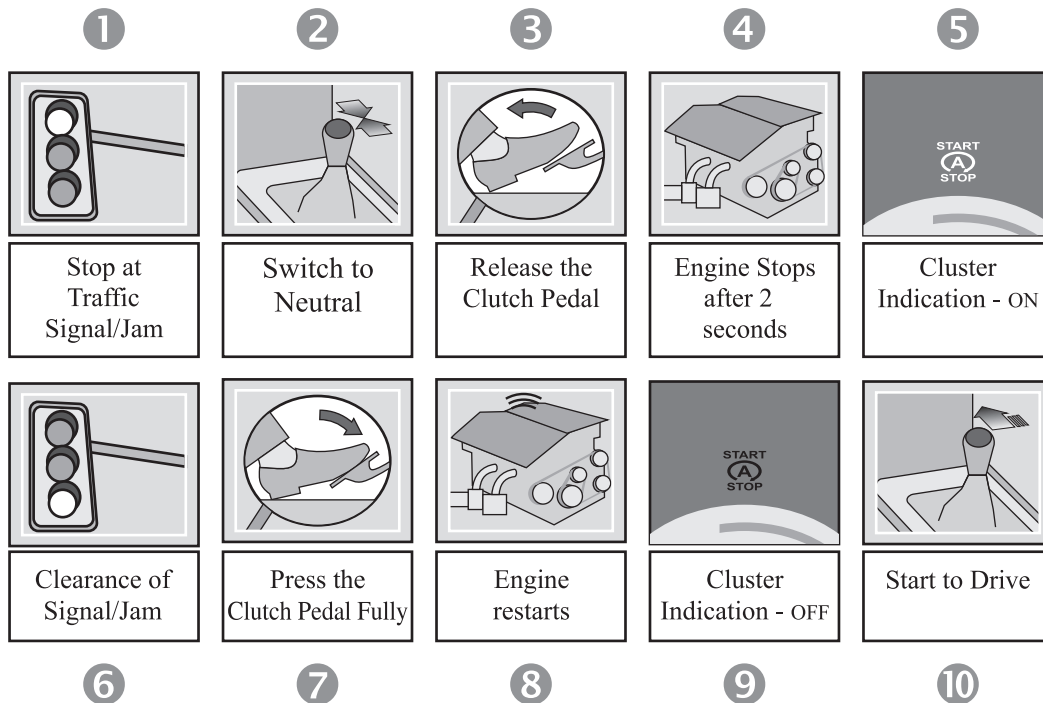
## How does the MICRO HYBRID system work?

Let's take a simple example of driving in traffic conditions within your city. Assume that your Scorpio has stopped at a traffic junction due to red signal. The following steps illustrate how the system functions.

- Vehicle has come to halt due to traffic signal / jam, vehicle is in neutral gear and the clutch pedal is fully released.
- Immediately after de-pressing the clutch pedal fully, the indicator ' 1.12.1



Micro Hybrid (If applicable)



(Schematic Representation of Stop Start System)





**For Auto stop to happen the following conditions are to be met**

- 1) Micro Hybrid system is activated using the selection switch
- 2) Bonnet is fully closed
- 3) In the current ignition cycle, the vehicle has crossed 10 Kmph at least once
- 4) Current status of the engine is idling.
- 5) Vehicle speed is zero.
- 6) Accelerator pedal and clutch pedal are fully de-pressed.
- 7) Engine is warm (Engine coolant temperature is between 25°C and 100°C). This is an extra precaution to ensure safe working of the engine.
- 8) Fuel temperature is less than 60°C
- 9) Gear in neutral

**For Auto start to happen the following conditions are to be met**

- 1) Vehicle should have been stopped by Micro Hybrid system.
- 2) Gear lever is in Neutral position
- 3) Vehicle speed is zero.
- 4) Feature selection switch is in ON state

**Customer presses clutch pedal fully to register his desire to re-start the engine / vehicle.**





## Micro Hybrid (If applicable)



### 1. What is the advantage of the system?

Micro Hybrid system aids in attaining better fuel efficiency on your Scorpio & thus reducing your running costs. Under Standard Testing Conditions 5% of improvement has been realized. However, the mileage improvement will depend upon various parameters such as prevailing traffic, driving pattern etc.

### 2. What are the other advantages of the system?

- Since the engine is switched off during traffic signals / jams, considerable amount of CO<sub>2</sub> release to the atmosphere is avoided. This reduces global warming and thus provides us with a sustainable planet to live in.
- Ability to re-start the engine by pressing the Clutch pedal.
- Reduces noise pollution at traffic signals.

### 3. Is it possible to start the engine through clutch pedal for the first time?

No, the engine should be cranked only through ignition key

for the first time. If the engine is stopped automatically by the system, then only it is possible to start the engine through clutch pedal.

### 4. Whether the system will get activated as soon as the engine is started first time through ignition key?

The System will get activated only after

- Feature selection switch is turned ON.
- Vehicle speed crosses 10 Kmph at-least once.
- Fuel temperature (Ambient) is less than 60°.
- Engine temperature has reached to optimal operating range to ensure better performance in terms of fuel economy and durability.
- Amount of charge in battery reaches to sufficient levels to enable subsequent cranks – To start the vehicle after a stop.

### 5. Are there any Safety Precautions to be followed?

Yes,

- During service operations (or) before opening of the bonnet, the Micro Hybrid (Stop Start) activation switch has to be in 'OFF' condition.







### Micro Hybrid (If applicable)

- Another piece of caution is to be exercised when the engine is turned off traffic signals/jams with heavy electrical loads like head lamp or blower switched 'ON'. If the duration of such stops are long, it is recommended to turn the engine 'ON' and keep the micro hybrid system in 'OFF' position.
- During the period when engine is in Auto Stop, brake assistance (Vacuum pump) and steering assistance (Power steering) which are directly driven by engine will not be available. So, in areas / situations where the above are required it is advisable to keep the Micro Hybrid system in OFF / engine in ON state.

#### 6. What is to be done, if I don't want the system to stop my engine at traffic signals/Jams?

The system can be turned OFF by un-pressing the Feature Selection Switch.

#### 7. Whether A/C will function, if the engine is switched off?

No, A/C will not work during the period when engine is in auto stop. However blower will be in operation when

ignition is ON.

#### 8. What will happen if I keep the clutch continuously pressed at traffic signals/jams?

The system will not stop the engine if the clutch is continuously pressed since it indicates the driver's intention of moving the vehicle immediately.

#### 9. When the battery charge is low, whether the engine will be switched off?

If the battery charge drops below a certain threshold level, the system will not stop the engine so as to preserve the battery from further draining.

#### 10. Whether I will be able to operate the engine through normal ignition key?

Normal operation through ignition key is always possible.

#### 11. Whether the vehicle will start (or) stop in gear?

The vehicle will not start or stop automatically in gear to ensure safety. It will do so only in neutral position of gear shift lever.



**Micro Hybrid (If applicable)****12.What will be the effect of frequent number of starts on Battery and Starter Motor?**

Specially designed Starter Motor and Battery are used to withstand the increased number of starts.

**13.Whether the system will stop my engine in moving traffic?**

No, the engine will be stopped only when the vehicle speed is zero continuously for two seconds.

**14.Whether audio will be switched off, when the engine gets shut down?**

No, audio will not be switched off and you can continue to enjoy the music.

**15.Whether I can retrofit the system in my existing vehicle (If my vehicle does not have the Micro Hybrid Sytem)?**

No, such provision is not available currently.

**16.Whether the engine will re-crank whenever the clutch pedal is pressed?**

No, the engine will re-crank only

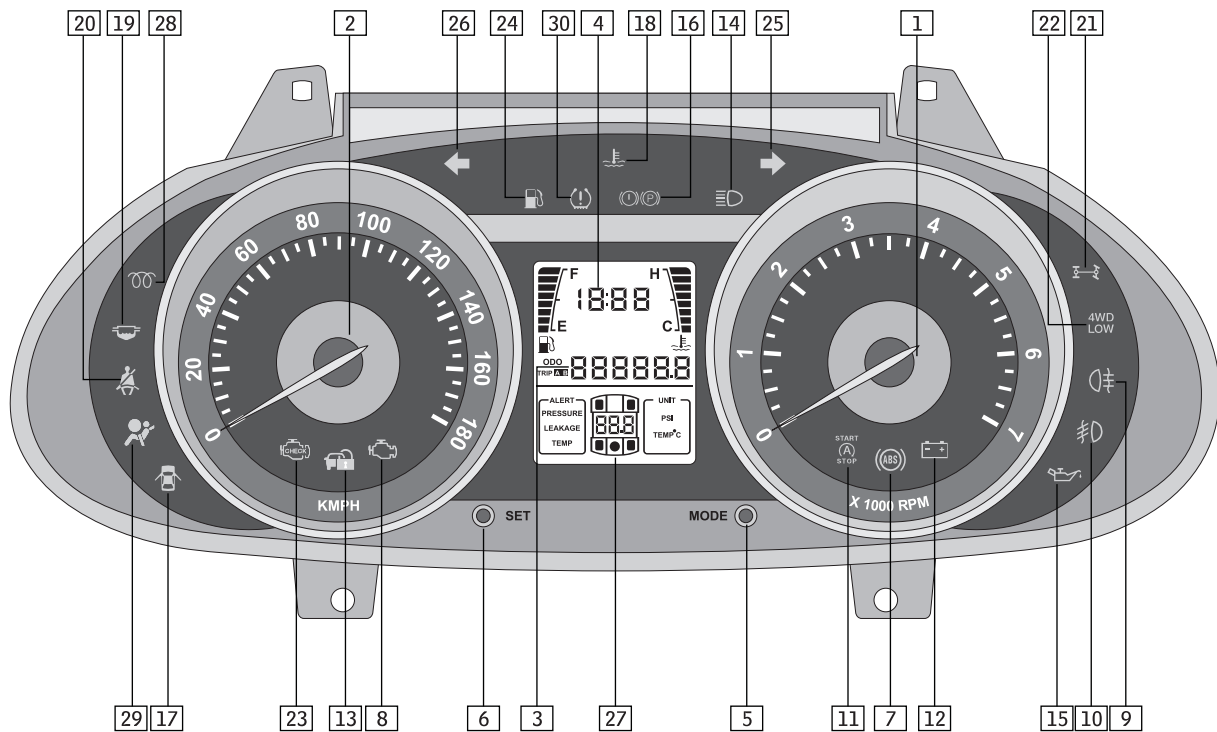
- If the vehicle was stopped by the Micro Hybrid system (auto stop).
- The vehicle and engine are fully stopped.

**17.If any component involved in the system fails, what will happen?**

The system has built in diagnostic module which understands the failure and immediately go to by-pass mode. In by-pass mode the engine can be turned ON and OFF by ignition key as usual.



## Instrument Cluster















## Instrument Cluster



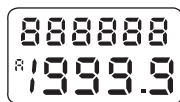
- |  |   |                                     |
|--|---|-------------------------------------|
| 1. Tachometer  | 13. Car Security System Status  | 22. Four Wheel Drive Low            |
| 2. Speedo Meter  | 14. Head Lamp High Beam Status  | 23. Check Engine Warning Lamp       |
| 3. Odometer, Trip Meter A, Trip Meter B                      | 15. Low Oil Pressure Warning light                                    | 24. Fuel Gauge                      |
| 4. Clock   | 16. Parking Brake ON & Low Brake Fluid Warning Lamp                   | 25. Right Turn Indicator            |
| 5. Knob, Mode selection - Trip Meter A, Trip Meter B & Clock | 17. Door Open Warning Light (If Equipped)                             | 26. Left Turn Indicator             |
| 6. Knob, Set - Trip Meter A, Trip Meter B & Clock            | 18. Engine Coolant Temperature Gauge & High Temperature Warning Light | 27. Tyre Pressure Monitoring System |
| 7. Anti Lock Brake System                                    | 19. Water in Fuel Indication  | 28. Glow Plug                       |
| 8. Check Engine Malfunction                                  | 20. Driver Seat Belt Warning  | 29. Air Bag (If applicable)         |
| 9. Rear Fog Lamp Indication                                  | 21. Four Wheel Drive High   | 30. TPMS telltale                   |
| 10. Front Fog Lamp Indication                                |   |                                     |
| 11. Stop Start Indication Light                              |   |                                     |
| 12. Battery Charging Warning Light                           |   |                                     |



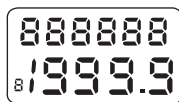


If the indicator comes on	Do this
 Brake Light	If parking brake light is off, stop immediately, and check brake fluid level / contact Mahindra Authorised Dealer
 Battery	Stop and check
 Engine Oil	Stop and check
 Engine Malfunction	Take the vehicle to Mahindra Authorised dealer
 Anti Lock Brake System	Take the vehicle to Mahindra Authorised dealer
 Door	Close the doors
 Fuel Filter Water	Drain the water - Procedure is explained on page 3.9.2
 TPMS Telltale	Stop and check the pressure and temperature





Odometer & Trip meter  
'A' Display



Odometer & Trip meter  
'B' Display



Odometer & Digital Clock  
Display

**1. Tachometer** : Indicates Engine speed in thousands of revolutions per minute (RPM).

**NOTE** Do not over rev the engine. Operating the engine at high RPM may cause severe engine damage.

**2. Speedo Meter** : Indicates speed of the vehicle.

**3. Odometer/Trip Meter** : LCD screen shows / records the distance traveled in kilometers at minimum unit of 1 km and it displays only when ignition key is on. After pressing mode button gently on same row, LCD screen shows the distance traveled, since the last time it was set to zero, either on individual journeys or between the last time it was set to zero.

**4. Clock** : With ignition on LCD will always show the clock in 12 hr format.

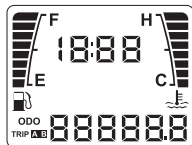
**5. Knob, Mode Selection** : Trip Meter 'A', Trip Meter 'B': With ignition ON default ODOMETER will display on LCD. The TRIP A and TRIP B display will come on the same line. By pressing Mode button gently once the display will go to TRIP A. The display from trip meter 'A' to trip meter 'B' can be changed by gently pressing the Mode Selection knob once. When Trip meter is in display, alphabetical letter 'A' (for trip meter 'A') or 'B' (for trip meter 'B') will also be displayed accordingly (as shown in the picture). The trip meters can show up to 99999.9 Trip meter resolution: 0.1km

**NOTE** If mode button is not pressed for 3 sec the display will automatically come back to ODOMETER.

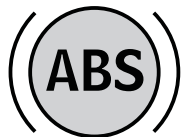


## Instrument Cluster

6)



7)



Anti Lock Brake System

8)



Check Engine Malfunction

**6. Knob, Set - Trip Meter 'A', Trip Meter 'B' & Clock :** Display Settings: Press the Set-knob for more than one second to set the zero on Trip meter 'A' & Trip meter 'B', when the particular Trip meter displayed. **Clock Setting :** When default mode is displayed, pressing the SET knob for 3 seconds will cause the displayed time to flash, means it is in clock setting mode. While the clock data is flashing, pressing and releasing the SET will toggle between minutes & hours. While the numbers are flashing, pressing the MODE switch will advance the displayed number. While the numbers are flashing, if no button is pressed for 5 seconds the current values displayed are stored and the display stops flashing.

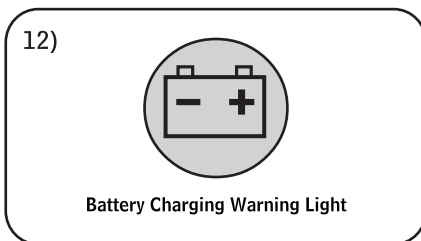
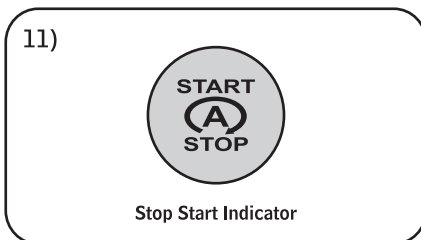
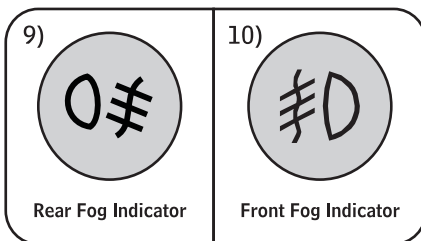
**SET MODE SEQUENCE :** With the ignition On default odometer setting will display on LCD. Pressing mode button gently the TRIP-A display will be shown on same line. Again pressing mode button the display will show TRIP-B. Similarly again pressing of mode will shift the display to TPMS single tire display mode and then to OVER SPEED WARNING SETTING.

**7. Anti-lock Brake System Warning Lamp (ABS) :** The ABS warning light comes on when the ignition key is turned to the IGN position, and goes off after a few seconds. When the ABS warning light is ON continuously (and the brake system warning light is off), contact the nearest Mahindra Authorised Dealer.

**8. Check Engine Malfunction MIL :** When the lamp lights up and glows continuously, it indicates Engine Fault (other than EMS). Arrange for checking at the nearest Mahindra Authorised Dealer immediately.



## Instrument Cluster



**9. Rear Fog Indicator :** The lamp will glow when the rear fog lamps are ON.

**10. Front Fog Indicator :** The lamp will glow when the front fog lamps are ON.

**11. Stop Start Indication :** Flashes when the vehicle / Engine is about to stop (through Micro Hybrid System) and comes on continuously when the vehicle / Engine is turned off by the Micro Hybrid System.

On restarting the vehicle again using clutch / key, the indication goes off.

**12. Battery Charging Warning Light :** Lights up when the ignition switch is in the IGN position, goes OFF as soon as the engine starts. If the light remains ON even after the engine has started, it indicates that the battery is not being charged or malfunction of alternator. In this case, park the vehicle safely at road side and check the drive belt for looseness / breakage. If drive belt is okay, switch off all unnecessary electrical equipment and contact a Mahindra Authorised Dealer immediately.



Do not continue driving if the engine drive belt is broken or loose. This will cause engine overheat & poor braking.



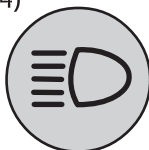
## Instrument Cluster

13)



Car Security System

14)



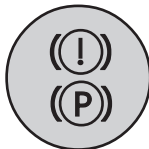
High Beam

15)



Low Engine Oil Pressure Warning Light

16)



Parking Brake ON &amp; Low Brake Fluid Warning

**13. Car Security System Indication lamp :** Will give status of the car security system on armed / unarmed / intrusion etc. by flashing at various intervals. For further details please refer the car-security system of this manual.

**14. Headlight High Beam Indication:** Is illuminated when headlights high beam is ON or when headlight flash-to-pass is used.

**15. Low Engine Oil Pressure Warning Light :** Lights up when the ignition switch is in the IGN position. Goes OFF as soon as the engine starts. If the light remains ON even after the engine has started, or comes ON while driving, stop immediately, and check the engine oil level. If oil level is low, add engine oil to the MAX level and check the light again. If still ON contact Mahindra Authorised Dealer Immediately.



Do not run the engine with low engine oil pressure warning light ON. Otherwise it may damage the engine.

**16. Parking Brake ON & Low Brake Fluid Warning Lamp :** The (P) parking light and, the low brake fluid warning (!) light, are illuminated as long as the parking brake is applied. If light (!) does not go off after releasing the parking brake, there may be problem with the vehicle braking system.



Do not drive the vehicle if the (!) light is illuminated even after releasing the hand brake or if it illuminates while driving. Add brake fluid to bring the level up to the 'MAX' mark. If the problem still persists, avoid driving and have Mahindra Authorised Dealer check/correct the braking system as soon as possible.



## Instrument Cluster

17)



Door Open Warning Light

18)



Engine Coolant Temperature

19)



Water in Fuel Filter

**17. Door Open Warning Light (If Equipped) :** Lights up when any of the doors are open and ignition key is in IGN position. The lamp goes off when all the doors are closed properly.

**18. Engine Coolant Temperature Gauge :** Indicates the temperature of the engine's coolant. At normal operating temperature 6 bars will be showing in LCD bar graph. High temperature LED will glow when the temperature reaches 110°C along with 7 bars blinking with buzzer. In such a condition, switch off the AC and observe. If still the problem persists, pull over the Vehicle, switch OFF ignition and contact the nearest Mahindra Authorized Dealer.

**CAUTION**

Do not continue driving with an overheated engine. It may cause damage to the engine. Refer the section IF THE ENGINE OVERHEATS.

**19. Water in Fuel Indication :** when water accumulated in Fuel Filter reaches the maximum permissible limit, the indicator gives warning to remove water and clean the fuel filter. (Instruction for how to drain the water given in the Self Maintenance Section or contact a Mahindra Authorised Dealer.)

**CAUTION**

Continued driving with water accumulation in the fuel filter will cause damage to the fuel pump/other fuel system components.



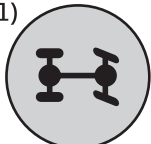
## Instrument Cluster

20)



Seat Belt Warning

21)



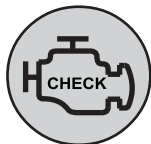
4WD High Indicator Light

22)



4WD Low Indicator Light


23)



ECU Malfunction Indicator

**20. Seat Belt Warning :** The light reminds you to fasten seat belts & it will light up when the driver has not worn the seat belt with the ignition key is IGN position/when vehicle is in motion. The lamp will remain illuminated until the seat belt is fastened properly.

**21. Four Wheel Drive High  (if installed) :** Indicates that the vehicle is driving in the 4-Wheel Drive Mode in high gear. Driving in this mode gives more traction while driving on cross-country Roads.

**22. Four Wheel Drive Low  (if installed) :** Indicates that the vehicle is running in the 4-Wheel Drive Mode in low gear. Driving in this mode gives maximum traction while driving on all adverse conditions.

**CAUTION**

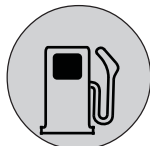
Driving the vehicle in 4WD Low / High mode on dry, hard surface may cause damage to the driveline, excessive tyre wear, poor fuel economy & unnecessary noise.

**23. Check EMS [Engine Management System] Warning Lamp:** As soon as the ignition key is switched ON, the lamp lights up and goes OFF in few seconds indicating normal status. The lamp will blink / glow continuously indicating the presence of fault in EMS. The vehicle needs attention by Mahindra Authorised Dealer immediately.



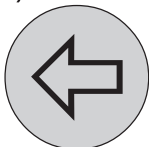
## Instrument Cluster

24)



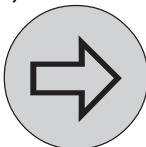
Fuel Gauge

25)



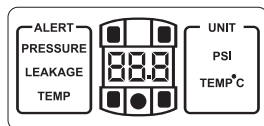
Left Turn Indicator

26)



Right Turn Indicator

27)



**24. Fuel Gauge :** Indicates the approximate level of fuel in the tank. When the tank is nearly full 8 bars will come on LCD bar graph display. When the tank is nearly empty i.e. RESERVE 1 bar will come on LCD bar graph display. When the tank is empty no bar will be ON on LCD bar graph display. Refuel as soon as 1 bar comes on LCD bar graph display, It is advisable to keep the tank over 1/4 full.

NOTE

On inclines or curves, due to movement of the fuel in tank, the fuel gauge bars on LCD display may show slightly low or high levels than usual.

**25/26. Turn Indicator :** Flashes when the indicator lamps are operated or hazard switch is turned on. A sudden increase in the rate of flashing may indicate failure of one or more of the indicator bulbs.

**27. Tyre Pressure Monitoring System (TPMS) :** TPM system measures the pressure and temperature inside the tyre and transmits it to central receiver unit inside the vehicle through radio frequency. The receiver unit receives this information, identifies the data to the corresponding tyre and gives necessary warning signals, if undesirable tyre pressure /temperature condition occurs.

TPMS indicates & monitors the recommended air pressure in such a way to have a good vehicle dynamics and better fuel efficiency.

Please note that the TPMS is not the substitute for proper tyre maintenance. It is the Driver's responsibility to maintain correct tyre pressure, even if under-inflation has not reached the level to trigger illumination of the TPMS low tyre pressure indication on alert section.





### To undertake the self test of TPMS, follow the steps:

- Turn on the ignition.
- Car symbol and the tyre location indicators will be ON along with TPMS tell tale for 2 sec.
- The system will start reading the current pressure in the tires in a Clockwise direction, i.e. front left, front right, rear right, rear left except spare wheel.
- If the pressure in all the tires found within acceptable limits then the respective tyre location indicators will be ON showing the healthiness of the tires.
- This completes the TPMS self test.

**TPMS Mode Selection :** There are three modes in the system.

1. All tires OK mode
2. Loop Display
3. Single Tyre Mode

Tyre Pressure Monitoring System: (Contd.)

Turning the ignition ON everytime, a self test is performed by the TPMS.

#### 1) All tires OK mode

On finding good healthiness of all the tires during the self test, the TPMS puts ON all tire indicator. Otherwise

during a set test if any one of the tyre pressures is below set value, deflated tyre location indicator will blink depending upon the alert condition.

#### 2) Loop Display mode

By pressing the mode button 3 times, the system will enter into TPMS menu to confirm the selection. press SET button, after pressing SET button system will start LOOP display mode starting from FL. (Rotation from FL->FR->RR->RL except Spare) with in 8seconds.

#### 3) Single tyre Display mode

During loop display mode if mode button is pressed, the system will start single tyre display mode in cyclic tyre display. Pressure and temperature of front left tyre for 1 min. after 1 min it will move to next tyre location i.e. FR and the same sequence followed (FL->FR->RR->RL except spare) .When Mode button is pressed again within 1 minute, display will move to next tyre location(FL->FR->RR->RL except spare). When Mode button is pressed again within 1 minute; display will exit from single tyre display mode to OK mode.

There are three alert modes available in the system (3,4,5).

- 1) PSI
- 2) TEMPERATURE °C
- 3) TEMPERATURE ALERT





#### 4) LEAKAGE ALERT 5) PRESSURE ALERT

- If pressure in any one of the tires reduces to less than 75% of set value (32 psi) or lower, the corresponding tyre location indicator will blink, along with the beep and TPMS tell tale in instrument cluster. Pressure alert section will be ON.
- If pressure in any one of the tire is reduced to 50% of set value (32 PSI) or lower, the corresponding tyre location indicator will blink with beep at faster rate along with the TPMS telltale, pressure alert section will be ON.
- If the temperature of any tyre is 100°C or higher, the corresponding tyre location indicator will blink along with beep and TPMS tell tale in instrument cluster. Temperature alert section will be ON.
- If the specific tyre is losing more than 3 PSI within 1 minute, the corresponding tyre location indicator will blink with beep along with TPMS tell tale. Leakage alert section will be ON.

#### Indication

The corresponding tyre location indicator will blink and beeps along with TPMS tell tale. Pressure in alert section will be ON. If driver wants to turn off the beep sound he has to push the mode button.

During this whole period, the 3-digit 7-segment LED will show the current pressure of this tyre. If vehicle continues to run at 1 PSI less nearer to the set value i.e. 75% or 50% of 32 PSI, due to temperature rise, pressure will also increase. Then alert condition may be changed. So, it is recommended to fill the air whenever user gets alert condition.

#### CAUTION

- In case of tyre damage/worn out tyre, rubber valve needs to be changed, the same sensor needs to be checked for the physical damage before installing in the new tyre at recommended service station. After installation, the tires need to be learned with system.
- If tires are rotated or a sensor is replaced, the sensor must be learned.

#### User Defined Over Speed Warning Setting Procedure (If applicable)

This feature in Scorpio will give a buzzer warning to the driver whenever the vehicle speed crosses the pre set over speed limit.

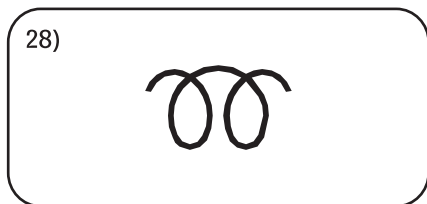
The over speed limit can be programmed by the user for any number of times. The following sequence has to be followed for setting the speed.

1. Turn on the ignition





2. Press the mode button
3. Instrument cluster will enter into TRIP A mode
4. Press the mode button again
5. Instrument cluster will enter into TRIP B mode
6. Press the mode button again
7. Instrument cluster will enter into TPMS single tyre display mode
8. Press the mode button again
9. Instrument cluster will enter into speed setting mode
10. SPEED will be displayed on the LCD digital display
11. Then press the set button for 3 seconds
12. Pointer in the Speedo will move to the default over speed value (140 kmph – Factory Setting)
13. Press the set button for increment the speed by 10 kmph
14. To decrement, press the mode button once and press the set button.



15. To toggle between increment and decrement, press the mode button.
16. To increase or decrease the speed, press the set button after setting the increment or decrement mode
17. Default will be increment mode
18. Once you move the pointer to the required value, leave it for 3 seconds. The desired over speed limit will be set. This will be your over speed limit until programmed again.
19. The over speed limit can be set from 50kmph to 170 kmph



User cannot set the over speed if engine is running i.e. RPM is available.

### Over Speed Warning Specification

- 1) Over speed warning BUZZER will be turned on when the vehicle speed exceeds preset over speed limit value and turned off after 5 seconds.
- 2) TURN ON =  $140 \pm 2$  kmph & TURN OFF =  $130 \pm 2$  kmph (factory setting)
- 3) Turned On – Continuous beep in buzzer for 5 seconds and OFF.

### 28. Glow Plug ( if applicable) :

When ON indicates that pre-heating is on. It goes out when the glow plug is warm. Do not crank the engine when glow plug is ON, to avoid excessive load on battery & ensure effective starting.



## Instrument Cluster



## 29. Supplement Restraint System (SRS) – Air Bag ( if applicable)

The SRS system consists of Driver Air Bag (DAB) located in the centre of steering wheel and a Passenger Air Bag (PAB) located above the glove box compartment. Airbag's location can be identified by 'SRS AIR BAG' embossed on the air bag module cover.

The purpose of air bag is to provide an additional restraint that is designed to work in conjunction with seat belts to reduce the severity and extent of injuries to the occupants in case of frontal collisions. The deployment of air bag depends upon the severity and direction of the frontal collisions.

### CAUTION

- The airbags in the vehicle are designed to be a **SUPPLEMENT** and not a replacement for the seat belts. For maximum protection, wear seat belts at all times.
- The front airbags are designed to prevent serious injury. Deployment occurs very quickly and with considerable force. During normal deployment and depending on variables such as seating position, one may experience abrasions, bruises, swellings, or other injuries as a result from deployment of one or both of the airbags.
- When installing any accessory equipment, make sure that the front airbag system and wiring is not damaged. Any interference in the system could cause malfunction. It is recommended that to use only Mahindra approved accessories and get them installed by Mahindra Authorised Dealer only.
- The occupant's back must be as upright as comfort allows and be against the seat back with the seat belt properly fastened.

### SRS Components and Functions (If applicable)

The SRS system consists of the following components

- Driver side Air Bag Module
- Passenger side Air Bag Module



## Instrument Cluster



- Air Bag ECU
- Air Bag Warning indicator (On Instrument Cluster)
- Wiring Harness
- Driver Seat belt Pre tensioner
- Passenger Seat belt Pre tensioner

The crash sensors in the air bag ECU continuously monitor to determine if the frontal impact is severe enough to deploy the air bags. When an impact of sufficient force occurs, the air bag ECU sends an electrical signal to the air bag modules which in turn rapidly ignites the energetic material and inflates the air bag. The inflated airbag deploys out of steering wheel and glove box cover. As the entire deployment of air bag happens in less than a second, in combination with seat belts,

it slows down the driver's or passenger's forward motion, thus reducing the risk of head or chest injury. The air bags deflate quickly thru the pores in the air bag cushion. Therefore air bag is not a substitute of seat belts. To maximize your protection always wear seat belts. The SRS can function only when the ignition key is 'ON'.

The SRS front air bags are not designed to inflate for side or rear collisions, roll over or if it is involved in low speed frontal collision.



When the airbag is deployed, there may be a loud noise and fine dust will be released through the instruments. These conditions are normal and not hazardous. However fine dust generated during air bag deployment may cause skin irritation. Be sure to wash off any residue with a lukewarm water and soap after air bag is deployed due to an accident.

Never place your arm on the air bag module, as the deploying air bag can result in serious arm fractures and other injuries.

No objects (like mobile charger, mobile phones etc.) should be placed over or near the air bag modules. Placing objects over or near the air bag may cause the objects to be propelled by the air bag onto your face or chest, causing serious injury.

Air bag components may be hot for several minutes after deployment. Do not touch the air bag





## Instrument Cluster



components immediately after deployment.

### Seat Belt Pre Tensioner & Load Limiter

Your Scorpio is equipped with a seat belt pre tensioner & load limiter system for driver and co-driver seats which works along with SRS and is also controlled by air bag ECU. The pre tensioner is located in each front seat belt retractor. Pre tensioners are triggered / ignited only when there is frontal crash severe enough to deploy the front air bags. The pre-tensioners tighten the front seat belts on the occupants' body and reduce the seat belt slack and thus helps to reduce the injury on the occupant in case of a frontal accident.

After the pre tensioner of the seat belts are activated the load limiters allows the seat belt to release webbing(if necessary) to reduce the forces against the chest, so that the occupant is cushioned by a fully inflated air bag.

### Children and Air Bags

Children must always be properly restrained. Children are safer when properly restrained in rear seating positions than in front seating positions.



Children must never be allowed in the front passenger's seat. Mahindra recommends children should be seated in the rear seats with proper child restraint seat belts.

Holding a child in your arms while sitting in a front

seat is NOT a suitable substitute for a child restraint system. In an accident, a child held in a person's arms can be crushed between the deploying airbag and the person holding the child

Never keep your child in front seats with Child restraint systems facing rear deploying Airbag may cause severe injury to the child.

### Air Bag Warning Light

The air bag ECU continuously monitors the readiness of the air bag and any malfunction in the SRS system is indicated by the air bag warning lamp on the instrument cluster. The warning lamp will illuminate for 06 seconds and go OFF when the ignition is switched ON and this is normal as the system is performing a self check.

The Warning light system monitors the following components



- Air Bag ECU
- Driver Air Bag (DAB)
- Passenger Air Bag (PAB)
- Seat Belt Retractor Pre Tensioners
- Air Bag related wiring Harness.

If any of the following conditions occurs, it indicates malfunction of air bags or seat belt retractor pre tensioners. Contact your Mahindra dealer immediately for assistance.







1. The warning light  does not come ON when the ignition key is switched ON or warning light remains ON for more than 06 seconds.
2. The warning light  comes ON while driving.

### SRS Care

The SRS components do not require any regular maintenance. However special procedure is to be followed to service / repair air bag and air bag related components.

The air bag and seat belt retractor pre tensioners are designed to inflate only once. If the air bags inflate, have the air bags and air bag related components replaced by an authorised Mahindra Dealer only.



WARNING

Never attempt to modify SRS components or wiring or steering wheel or the body structure. Modification can adversely affect the SRS performance and lead to personal injury.

Do not tie sacred cloth on the horn pad of the steering wheel. Metal wires in the cloth can short circuit the airbag system and trigger the air bags.

Only Mahindra authorized person can repair your SRS system. Any unauthorized repair or modification on electrical systems of the vehicle may result in unwanted deployment of air bags and render your vehicle unsafe. Any rework / fitment of

accessories must be carried by Mahindra trained person only. Mahindra shall not be responsible for any injury/loss or Death resulting due to tampering of the system by unauthorized person.

For cleaning the air bag pad covers, use only soft, dry cloth or the one which has been moisturized with plain water. Solvents and cleaners would adversely affect the air bag covers and may cause malfunctioning of the system.

Never switch ON the ignition if the vehicle was submerged in water. Presence of water / moisture in connectors can lead to short circuit and trigger airbags.

Always approach authorized Mahindra dealer if the SRS components must be discarded or the vehicle is to be scrapped. Failure to do so may lead to personal injury.



NOTE

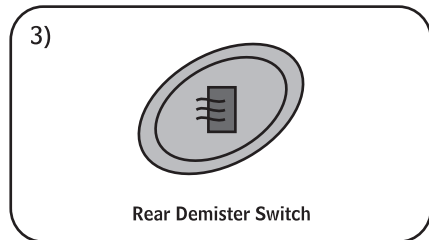
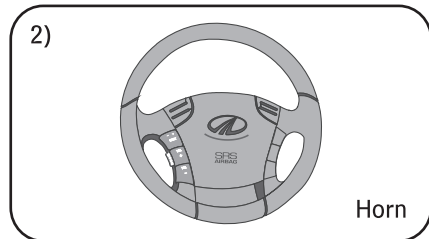
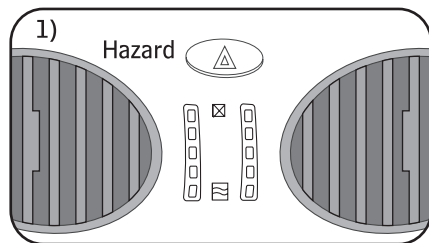
If the vehicle has met with an accident, even though the air bags are not deployed, get your SRS system checked by an authorized Mahindra dealer to ensure SRS air bags are functioning normally.

### 30. TPMS telltale:

TPMS telltale will come ON/BLINK when fault occurs in TPMS.



## Switches &amp; Controls



**1) Hazard Warning Switch :** Press the switch (located on the instrument panel) to activate all turn-indicators simultaneously. Use this only in case of an emergency to warn the traffic about any hazardous condition of your vehicle. It functions even without the ignition switch being turned ON.



The direction indicators do not work when the hazard warning is activated. Check local regulations about use of hazard warning lights while the vehicle is being towed or while being driven.

**2) Horn :** Horn can be operated independent of the ignition switch. To sound the horn, depress the pad in the center of the steering wheel.

**3) Rear Demist Switch :** Press the switch (located on the IP centre bezel) to (turns the heater ON) clear the frost from the rear door glass. Switch OFF as soon as the frost is cleared. If the switch is ON continuously, a timer switches the demister OFF automatically after 12 minutes of operation.



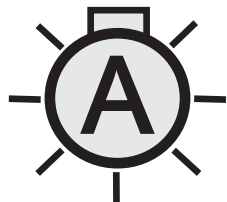
The demister is not designed for drying rain water or for melting snow. If there is an accumulation, remove the excess ice/water before switch on the demister.



When cleaning the inside of the rear glass, be careful not to scratch the heater wires or connectors.



## Switches &amp; Controls



Auto Light Switch



Auto Rain Switch

**RLS (Rain, Light sensor) (If installed)**

In adverse weather conditions, the rain sensor functions automatically controls the wiping process and also in case of dim light/ tunnel condition, headlamp will automatically get switched on.

**RLS Operation :**

1. Turn ON the Ignition
2. To activate the "AUTO LIGHT" feature, press switch with Auto light symbol The Orange LED on the switch will be continuously ON indicating that AUTO LIGHT feature is activated. To come out of the Auto Light we have to press the switch once again.
3. To activate the "AUTO RAIN" feature, press switch with Auto Rain symbol.
  - Once "AUTO RAIN" mode is activated, system will give one wipe on a Windshield and the Orange LED on the switch will be continuously ON indicating that AUTO RAIN feature is activated.
  - This feature will get deactivated either by turning off the ignition or pressing the AUTO RAIN switch.

**Precautions :**

- In case of any damages / scratches to windshield, new sensor needs to be installed/ assembled along with new windshield.



## Switches & Controls

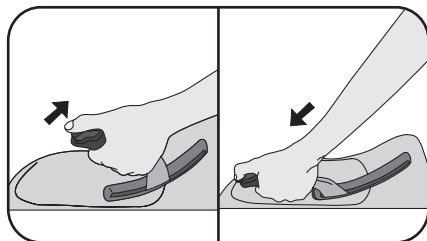
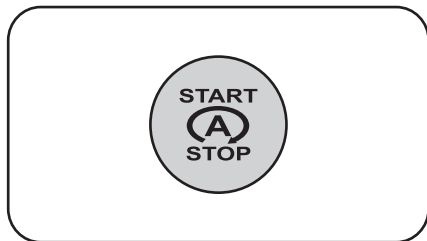
- Old sensor can not be used on the new windshield as it is calibrated for a particular windshield.
- In case of any damage to Sensor, new sensor needs to be installed/ assembled at recommended service stations because sensor is non-serviceable part.
- In Auto Light mode Head-lamps will remain "ON" until enough Light intensity is not available. Once enough light is present, after 5 Sec Head-Lamps will go OFF. This is a designed feature to avoid false Switching ON / OFF of Headlamp.
- Do not put any band/tape outside the sensor on windshield.
- Do not use any Chemical or Thinner to clean inner surface of front windshield to avoid any damage to the sensor.
- After sensing the water on windshield, wiping will start automatically. It might be possible that after wiping initiated you can not see water on windshield but still wipers will keep on wiping. This is because of the mist present on wiping. This is absolutely a normal behavior. In case customer doesn't require Wipe, customer can Switch-OFF "AUTO RAIN" mode anytime.
- Sensor can not detect difference between water & mud, ice, snow, oil etc. In these cases sensor may not behave properly. In such case, customer can Switch-OFF "AUTO RAIN" mode manually.

### LIMITATIONS

- There is a difference between Light intensity sensed by Sensor & by Human Eye. It may be possible in the evening time Head-Lamp will get on early as sensor senses it as a Low intensity. This is absolutely a normal behavior. In case customer doesn't require Light, customer can Switch-OFF "AUTO LIGHT" mode anytime.



## Switches &amp; Controls

**Stop Start mode selection switch (If installed)**

This switch helps to switch ON / OFF the Micro Hybrid System. To select the system, press the switch once and orange LED comes ON confirming that the Micro Hybrid System has been switched ON.



When servicing / inspecting vehicle - Especially when bonnet is opened (or) when under circumstances you do not require the Micro Hybrid System, it is strongly recommended to turn this system OFF.

**Parking Brake :** To activate the parking brake, pull the lever upwards fully. Warning light (Red colour) on the instrument cluster will light up when the hand brake is applied.

To release it, pull the lever upwards slightly, depress the locking button and push the lever downwards. Red warning light on the instrument cluster will light up if you are driving with an incorrectly released hand brake.



Driving with the parking brake, even if it is set partially, can overheat or damage the brakes and will result in poor braking.

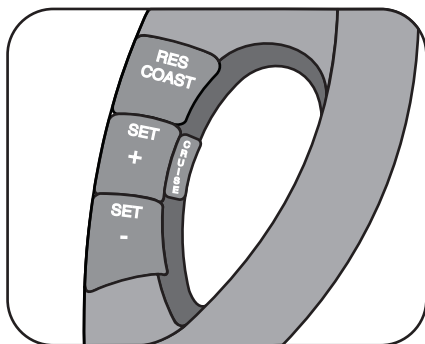
**CAUTION**

Before driving, be sure the parking brake is fully released and the brake indicator light is OFF.

Depending on the slope and/or vehicle load, it may be necessary to apply the hand brake by two additional notches and select a gear (preferably 1<sup>st</sup> or reverse) while parking.



## Cruise Controls (If installed)



### Cruise Control

The cruise control system enables the driver to maintain the constant road speed, without using the accelerator pedal, generally when driving on free/open highways. The cruise control system will operate above the speed of 40 km/h and engine RPM more than 1200.

#### CAUTION

- Cruise control will be active only in 2nd to 5th gears.
- DO NOT use cruise control on winding (or) slippery road surfaces (rainy/icy/snow-covered), up-hill / down-hill driving (or) in traffic conditions where a constant speed can not easily be maintained.
- Cruise control will be de-activated if brake pedal is not

pressed once after every ignition ON.

- Cruise control will be deactivated, if Brake / clutch pedal is pressed, during cruise driving mode.
- When the 'Set Plus' button is pressed, if the acceleration is felt to be too fast and vehicle goes beyond control, press brake or clutch immediately for safety and coming out of cruise.

### To Operate/Set the Cruise Control Speed

Cruise control system works with 4 different switches provided on steering. Those switches are...

- |              |           |
|--------------|-----------|
| 1) SET+      | 2) SET-   |
| 3) RES/COAST | 4) Cruise |

The function of each switch is as below:

#### 1) To Increase the Set Cruising Speed

Press and hold the SET (+) switch. The vehicle speed will increase in the steps of 1.5 kmph on every pressing. Release the SET (+) switch as soon as the desired cruise speed has been reached.

#### 2) To Reduce the Set Cruising Speed

Press and hold the SET (-) switch. The vehicle speed will reduce in the step of 1.5 kmph on every pressing. Release the SET (-) switch as soon as the desired cruise speed has





been reached (Do remember that the cruise control system will not operate at vehicle speeds below 40 km/h).

### 3) Resume to the Last Preset Speed

By pressing the RES / COAST switch, the last set cruise speed can be resumed, provided the ignition switch is ON and the vehicle speed is above 40 km/h.

### 4) Disengaging the Cruise Control

The cruise control will be deactivated if the brake or clutch pedal is pressed, (or) when the CRUISE switch is pulled-up.

The preset cruise speed in system memory will automatically get cancelled when the ignition switch is turned OFF.

#### Conditions:

1. Vehicle speed should be more than 40 kmph & it should be 2nd, 3rd, 4th or in 5th Gear.
2. There should be at least one braking operation before activation of cruise control function. This is very important condition & because of which system understands whether the braking system in vehicle is working ok or not. If not, system will not activate the cruise control function.
3. Clutch pedal should not be in pressed condition.

4. Brake pedal should not be in pressed condition.
5. Once the cruise is activated with the help of SET+ button, user has to remove the leg action from accelerator pedal.
6. Vehicle should follow the cruising mode.

#### Override function:

This function enables user to ramp up the cruising speed to overtake front vehicle. The cruising speed can be increased by using SET(+) button or by accelerator pedal. User has to complete this action within 20 seconds, to maintain the cruise mode. If user exceed the 20 seconds limit, cruise mode will be deactivated.

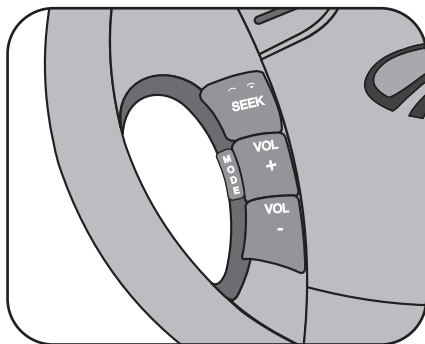
#### Recommendation:

Though the feature gives driver comfort while driving, user has to take few precautions for safe driving.

- Do not activate cruise application in traffic area.
- De-activate cruise control on slippery road surfaces (rainy/icy/snow-covered), up-hill / downhill driving.
- As the system only maintains the speed of vehicle in cruise mode, steering control should be carefully handled.



## Audio Controls (If installed)



## Audio Control Through Steering Wheel Switches

### Introduction :

Audio control through steering wheel switches helps the driver to operate the audio system without taking hand and concentration off the steering wheel.

The system has four switches which are mounted on Steering wheel.

### 1. SEEK

Press the SEEK switch once to increase Radio reception frequency by 0.05MHz.

Press the SEEK switch continuously for more than 3 Sec for AUTO Scan of Radio Station.

In CD/SD CARD/USB modes, next track can be selected by pressing the switch once.

### 2. VOLUME + (Volume control)

To increase the volume by one point press the VOL+ switch once.

### 3. VOLUME - (Volume control)

To reduce the volume by one point press the VOL- switch once.

### 4. MODE :

To switch between different modes in Audio system. There are five Audio modes available in Audio system.





When MODE switch is pulled once, next mode is chosen in the following sequence provided, the required media is connected.

- Tuner
- CD/MP3
- SD Card
- USB
- Auxiliary

In Case of absence of any mode USB/CD/SD Card, system will toggle between tuner & Auxiliary modes.

Tuner and Auxiliary modes are available by default.

In case if CD is Loaded in Audio System then sequence will be ;

Tuner → CD → AUX

If all medias are already inserted into Audio unit then sequence will be :

Tuner → CD → SD CARD → USB → AUX.



- 1) To switch ON or OFF the music system, pull the MODE button for more than 3 seconds. It can also be done by pressing the power ON/OFF button available on the face plate.
- 2) If the steering wheel audio control switches do not work, you can still control the system with the switches in the face plate or with the remote.
- 3) In case of non functioning of Audio Control through steering wheel switches, Audio can still be operated either through Face plate or Remote.





## Follow Me Home Headlight

### Follow Me Home Headlight (FMH)

This feature helps driver and passengers to easily get out of the vehicle during night time. Turn ignition OFF and open driver doors; headlamp will light up in low beam for 30 seconds unless cancelled by UNLOCK signal.

To extend FMH feature further for 30 seconds, press LOCK button. This extension can be availed within 2 minutes from the time of ignition switch OFF and driver door open.

With FMH mode ON; first LOCK signal received from RKE (Remote Key) will lock the doors and subsequent LOCK signal is used to toggle the headlamp position from ON to OFF.

With FMH mode ON, if UNLOCK signal is received from RKE, the feature gets de-activated and can not extended further. Also, doors get unlocked and vehicle disarmed.





**Lead Me to Vehicle (If installed)**

LEAD ME to the VEHICLE (LMV) is the feature that switches head lamps ON in low beam for 30 seconds so as to reach the parked vehicle comfortably at night



LMV will not be operational when the Follow Me Home (FMH) function is active.

Press UNLOCK button in the remote; system will unlock and disarm all doors, and if night time is detected by Rain & Light Sensor (RLS), head lamp low beam will switch ON for 30 seconds.



LMV can be extended by successive UNLOCK commands from RKE.

With the LMV activated; whenever any of the following events occur, LMV gets de-activated

1. at the end of 30 seconds after activation
2. when any door is opened
3. Ignition is switched ON
4. LOCK command is received from RKE.







### Battery Saver (If installed)



Battery Saver feature prevents the battery discharge due to interior lighting and parking lamps remaining ON after ignition is switched OFF.

#### When the odometer reading is less than 250 kms

If left ON when ignition is switched OFF, Roof lamps, foot-well lamps and key ring illumination lamp will and parking lamp will go OFF after 2 minutes and parking lamp will go OFF after 5 minutes

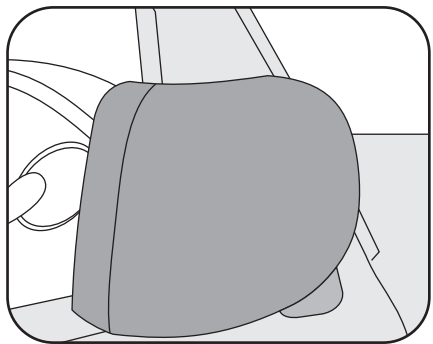
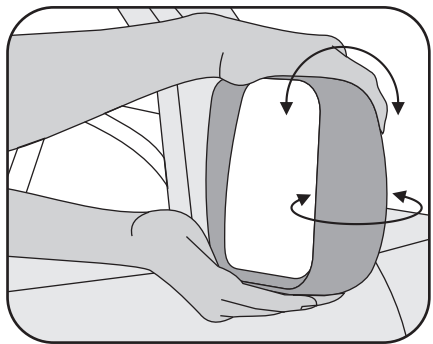
#### When the odometer reading is more than 250 kms

If left ON when ignition is switched OFF, Roof lamps, foot-well lamps and key ring illumination lamp will go OFF after 5 minutes and parking lamp will go OFF after 30 minutes





## Rear View Mirrors

**External Rear View Mirror**

integrated exterior mirror on both sides features convex mirrors to facilitate maximum rear view information to the driver.

**CAUTION**

Objects in this mirror look smaller and appear further away than they actually are. Do not overestimate the distance of the objects seen in the mirror.

**CAUTION**

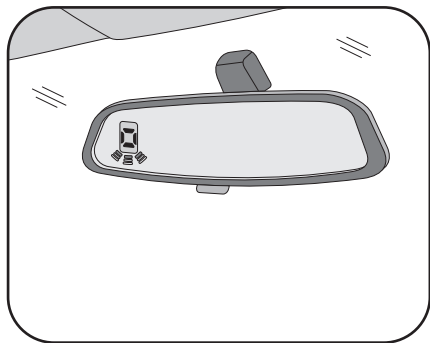
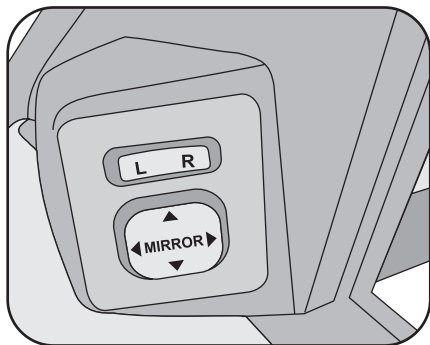
Do not adjust the mirror while the vehicle is moving. By doing so, it may cause the driver to mishandle the vehicle and may result in loss of vehicle control.

**Mirror Folding**

Exterior mirrors features full folding to avoid hindrance in narrow areas and parking slots. Make sure that you fully engage the mirror in its support, while folding and when returning it to its original position.



## Rear View Mirrors



### Electric Exterior Mirror (If installed)

On the front driver side door, electrical exterior mirror adjustment switch is located. Switch houses selection button and 4 way navigation button.

Pressing **L** selects left side exterior mirror. Pressing the navigation knob in the required direction moves the mirror to bring the rear traffic view as desired.

Pressing **R** selects right side exterior mirror. Pressing the navigation knob in the required direction moves the mirror to bring the rear traffic view as desired.

### CAUTION

Do not drive the vehicle with the outside rear view mirrors folded backward. Both the driver & the co-driver side rear view mirrors must be extended and properly adjusted before driving. Always adjust the outside mirrors to the driver's convenient position before driving the vehicle.

### Internal Rear-view Mirror

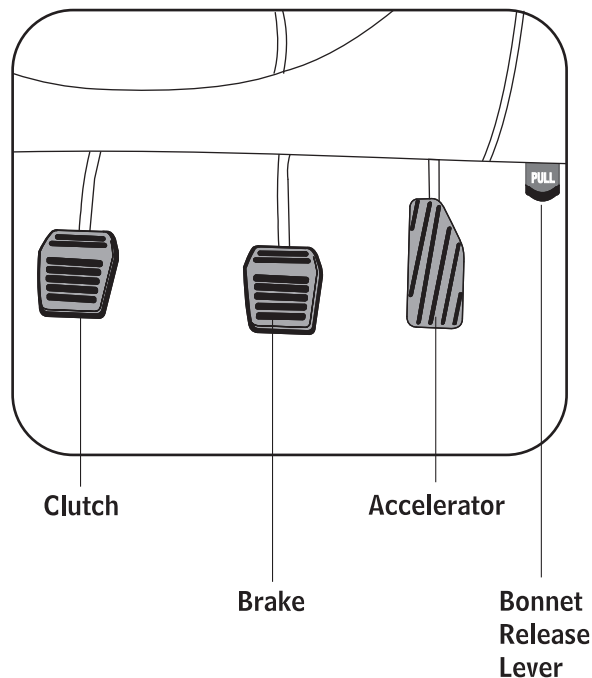
Adjust the rear view mirror, in the day position, by slightly turning or twisting it until you see the road behind clearly through the rear glass. To decrease glare/dazzle (of headlights of following vehicles) when driving in the night, pull the view mirror lever towards yourself. Push the lever away from yourself to bring back for day driving position

### CAUTION

Do not adjust the mirror while the vehicle is moving. By doing so, it may cause the driver to mishandle the vehicle and may result in loss of vehicle control.



## Foot Pedals



**Accelerator:** Pushing the accelerator pedal down increases the acceleration and releasing the pressure on it decreases the acceleration.



Sudden acceleration or deceleration can cause loss of control on slippery surfaces. Take extra care while driving on slippery surfaces.

**Brake:** Put your foot on the brake pedal only when you intend to stop or decrease the speed. Resting your foot on the pedal keeps the brakes applied lightly, causing them to build up heat and/or poor fuel efficiency. Heat, thus built up can reduce the effectiveness of the brakes. Constant application of brakes while going downhill builds up heat and reduces their effectiveness. Instead, downshift to a lower gear and take your foot off the accelerator pedal.



Driving with wet brake is dangerous. Increased stopping distance or vehicle pulling to one side when braking could cause a serious accident. Dry the brakes by driving at very slow speed and applying the brakes lightly until the brake performance become normal.

**CAUTION**

Even if the power assist is completely lost, the brakes will still work. The brake can be applied to stop the vehicle, by pressing the brake pedal much harder than normal. And the vehicle stopping / braking distance will be longer than usual.





## Foot Pedals

### CAUTION

Continuing to drive the vehicle with engine stalled or turned off is dangerous, since braking will require more effort than normal to stop the vehicle. This will cause the longer stopping distance or even an accident.

### Anti-Lock Braking System (ABS)

The anti-lock braking system (ABS) is designed to prevent wheel lock-up during an emergency/sudden braking or on hazardous/slippery road surfaces. The safety enhancement is that the brake control system prevents the wheels from locking, even if the brakes are applied too sharply, and allows the vehicle to be steered and thus its direction to be controlled.

The anti-lock brake system (ABS) will operate at all speeds. The brakes will work normally. Only at the time of wheel locking the ABS will take over and prevent wheel lock.

During the ABS operation, a slight pulsation may be felt in the brake pedal when the brakes are applied and hear a noise from engine compartment. These conditions are normal and indicate that ABS is functioning properly. In this situation, to let the ABS work for you, just hold down the brake pedal down more firmly. Do not pump the brake pedal in panic/emergency stopping. This will result in the reduced level of performance.





When the engine is started or when the vehicle begins to move, the ABS is in the self-check mode. During self-check, you may hear a noise & motor operation sound from the engine compartment. This is normal and is not a malfunction.



WARNING

Use of non recommended tyres / wheel-rims / alloy-wheel-rims other than the recommended size/specification will greatly reduce the ABS performance. All the brake related works to be attended by a Mahindra Authorised dealer only.

### CAUTION

ABS is not designed to shorten the stopping distances. ABS cannot compensate for unsafe and reckless driving.

Although this system allows you to optimize stopping distances, the ABS system does not allow you to increase the vehicle performance which is physically linked to the local conditions of tyre / road surfaces / tyre-ground adhesion. It is still important to drive with due care and maintain a moderate speed and safe distance from the vehicle in front of you, because there are limits to the vehicle stability and handling even with the anti-lock braking system is on.

Compared with the vehicles not equipped with ABS, your vehicle may require a longer stopping distance in the following cases

- Driving on rough road / gravel / snow covered surfaces
- Driving on the roads where the surface is different between the wheels or wheels are in the different levels.

### CAUTION

- The safety features of an ABS equipped vehicle should not be tested by high speed driving or cornering. This could endanger the safety of yourself or others.
- Even if the power assist is completely lost, the brakes will still work. But you will have to press the brake pedal hard, much harder than normal. And your braking distance will be longer.
- In case the engine stalls, do not pump the brake pedal. Each press on the pedal uses up your reserve vacuum.

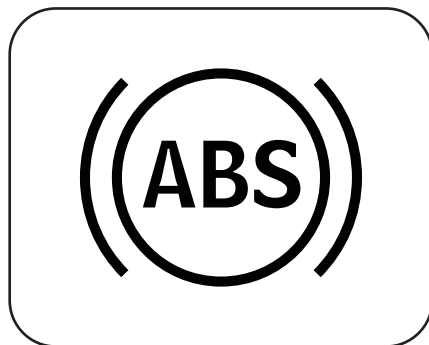


Due to ABS operation the wheels will not lock. Hence even during the panic braking, there will not be a skid marks on the road. Please do not confuse the lack of skid marks as poor braking.





## Foot Pedals



### "ABS" Warning Light

The ABS warning light will come on when the ignition key is turned to the IGN position. If the anti-lock braking system works properly, the light goes off after a few seconds. Thereafter, if the system malfunctions, the light comes on again.

When the ABS warning light is on / blinking continuously (and the brake system warning light is off), the anti-lock brake system does not operate, but the brake system still continues to operate conventionally. If ABS warning light is ON / blinking continuously, immediately contact the nearest Mahindra Authorised dealer.

**Clutch :** The clutch pedal should be pressed down fully while shifting, and then released slowly. Do not use the clutch pedal to hold the vehicle when you stop the vehicle or while driving on an uphill path. Use the parking brake instead.

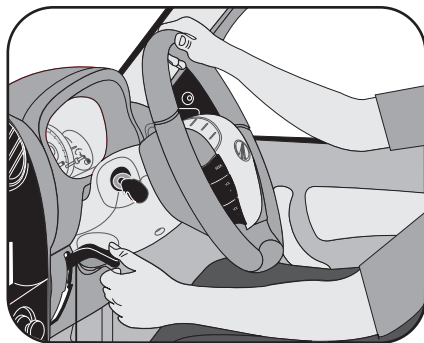
### CAUTION

Resting the foot on the clutch pedal while driving reduces the life of the clutch liner and the release bearing.

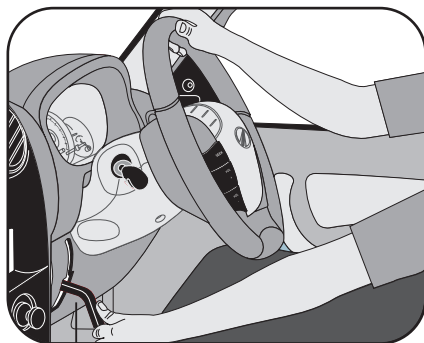




## Steering



Tilt Lever Lock Position



Tilt Lever Unlock Position

**Power Assisted Steering :**

Power assisted steering uses energy from the engine. If the engine is off or if the power assisted steering become inoperative, still the vehicle can be steered, but it will require more effort.



Never hold the steering wheel to the extreme right or left for more than five seconds with the engine running. This can cause damage to the power steering system & its components.

**Tilt Steering Wheel :**

To change the steering wheel angle (up/down), hold the steering wheel, push down the lock release lever, tilt the steering wheel to the desired angle and return the lock release lever to the original lock position.

**CAUTION**

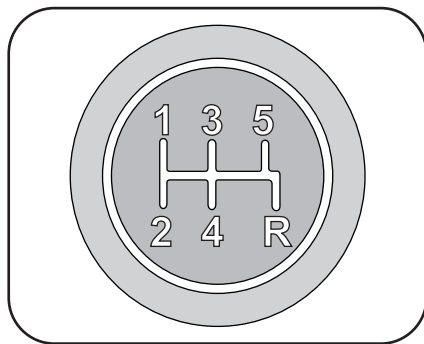
Do not adjust the steering wheel angle while the vehicle is moving. It may cause the mishandling of the vehicle and may result in an accident.

After adjusting the steering wheel, try moving it up & down to ensure it is locked properly.



## Transmission / Gear Shift

Gear	Speed (km/hr)
1	35
2	65
3	95
4	130
5	140



## Recommended Maximum Speed During Driving

If speeds shown in the table are exceeded when driving in the respective gears, the engine speed indicator needle will turn towards the Tachometer's upper limit. If this happens, you will feel the engine cut in and out. The engine will run normally again if the RPM is reduced below the Tachometer's upper limit.

The speed at which you drive, however should confirm to all federal, state, province, territory and local laws, and to the condition which will permit safe operation.

**CAUTION** Do not exceed the speed limit mentioned against each gear.

**NOTE** Do not downshift if you are going faster than the maximum allowable speed for the next lower gear.

**Gear Shift :** The gearshift pattern is shown on the gear lever knob. The clutch pedal should be pressed down fully while shifting, and then released slowly. Shift into the reverse gear only when the vehicle is stationary.

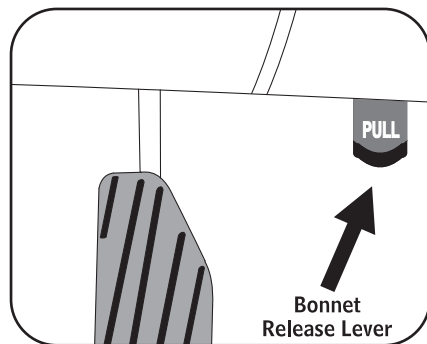
**NOTE** Revving the engine regularly to the maximum in each gear causes excessive engine wear and high fuel consumption.

Make sure the vehicle is fully stopped before shifting into reverse.

Keep your foot off the clutch pedal except when shifting gears. Also, do not use clutch pedal to hold the vehicle on an up-gradient. It can cause excessive clutch plate wear & damage.

**CAUTION** Be careful when downshifting on a slippery surface. Abrupt shifting could cause the vehicle to spin or skid.



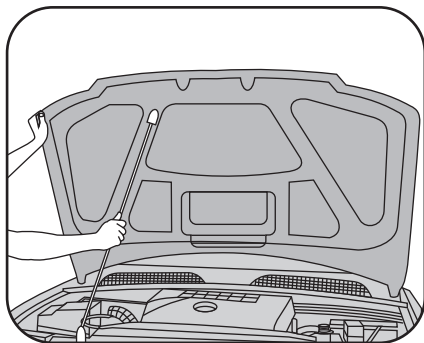
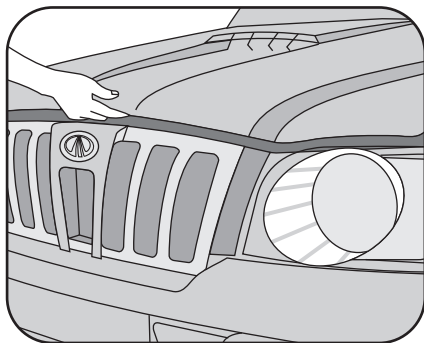
**Bonnet Release Lever****Bonnet Release Lever:**

To unlock the bonnet, pull the bonnet release lever located below and to the right of the steering wheel. Then release the lever under the bonnet by pushing it aside with finger. To do this you need to slide your finger beneath the partially opened bonnet. Lift the bonnet until it can be supported by the stay rod, whose hook must be locked in the groove provided in the inner side of the bonnet. While closing the bonnet, secure the stay rod in the clip.



Do not forget to turn OFF the Micro Hybrid System using the mode selection switch before opening the bonnet.



**Bonnet Opening****Bonnet Opening :****CAUTION**

- Make sure that the bonnet is fully closed and locked before driving. Otherwise, the bonnet may open unexpectedly while driving and an accident may occur.
- After inserting the support rod into the slot, make sure the rod supports the bonnet securely from falling down on your head or your body.





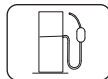




## Contents



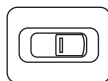
Starting and Stopping Engine



Fuel



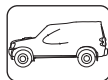
Driving Tips



Windows Winding



Shifting Driving Modes



Heating, Ventilation,  
Air Conditioning



Driving in the Break-in Period



Other Equipment



2.1.1



## Starting and Stopping Engine

### Initial Checks

- Ensure that the windshield, windows, mirrors and external lights are clean.
- Ensure that the windshield washer reservoir is full.
- Visually inspect tyres for their appearance & condition. Ensure that tyres have appropriate pressure (including spare tyre).
- Ensure that the bonnet is closed properly.
- Check underneath for leaking fuel, oil water or fluid. (water dripping from air-conditioning after use is normal).
- Check for availability of the Jack & wheel nut wrench.
- Adjust seat position, seat-back angle and head restraint height to comfort.
- Adjust internal and external rear-view mirrors.
- Lock all doors.
- Fasten seat belts.
- Turn the key to IGN position.
- Check the lights in the instrument cluster.
- Check the gauges and indicator lights in the instrument cluster.
- After starting the engine / while driving the vehicle, check for any abnormal noise.

### CAUTION

Release the key immediately after the engine starts; otherwise this may cause serious damage to the starter assembly.

### NOTE

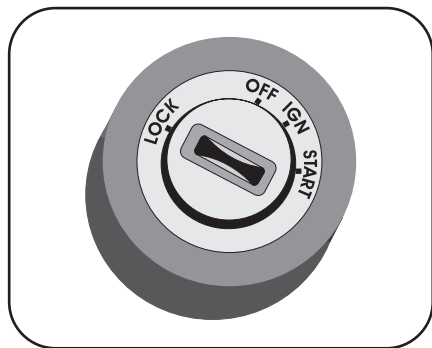
It is not recommended to press the accelerator pedal while starting the engine. Do not crank for more than 10 seconds at a time. If the engine stalls or failed to start, wait for 10 seconds before trying again. Do not race a cold engine.

### Starting the Engine

- Apply the parking brake fully
- Insert the key into the ignition switch and turn it into the IGN position.
- If the vehicle is equipped with glow plug, wait for preheat glow plug light in the instrument cluster to go OFF during cold start. The engine may be started without waiting for preheat if the engine is warm
- Check the gear lever if it is in Neutral Position
- Crank the engine by turning the key to START position till the engine starts. If the engine does not start in the first attempt, wait for few seconds and try again
- Let the engine run for at least 10 seconds before releasing the parking brake
- Start driving



## Stopping Engine / Limp Home Mode



### Stopping the Engine

Bring the vehicle to a stop and allow the engine to idle. Turn the key to OFF position.

#### CAUTION

Abruptly stopping the engine after a long high speed journey may damage the engine. Idle the engine for a few seconds before switching it OFF.

### Limp Home Mode

Limp home mode is an emergency situation declared by the EMS due to failure of one/more critical sensors / actuators. In this mode, the EMS will revert back to basic minimum requirement ( fuel quantity / injection timings) to aid the driver to bring the vehicle back to the nearest workshop / a safe place. Needless to say the drivability & fuel consumption will be greatly affected.

Driving the vehicle to the Mahindra Authorised dealer in the Limp home Mode :

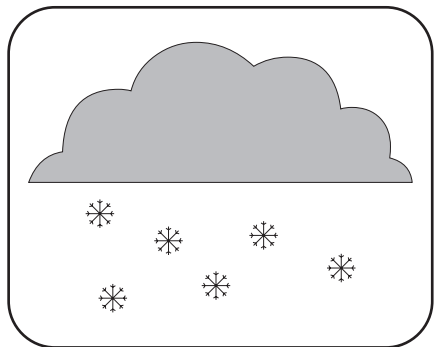
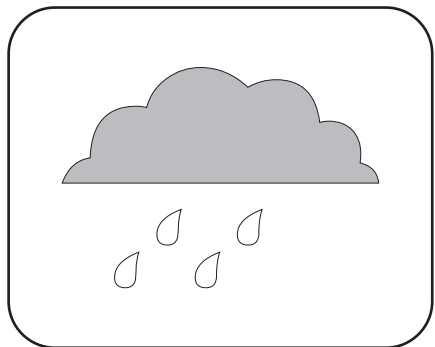
- Follow the engine starting instructions as mentioned in the previous page
- During the normal condition, the engine check lamp glows and dies down. This will take approximately 5 seconds
- If the lamp on the instrument panel blinks, it means your vehicle has shifted to the limp home mode
- In the limp home mode, the engine speed fluctuates between 1000-1200 rpm for CRDe-diesel engine and you will not be able to use the accelerator control. But this mode enables you to drive your vehicle to the nearest Mahindra Authorised Dealer
- The limp home mode can be erased, only after rectifying the problem

#### NOTE

If the engine does not start or stalls frequently, get the engine checked immediately by a Mahindra Authorised Dealer.



## Driving Tips



## Driving in Wet Weather/Snowy Conditions

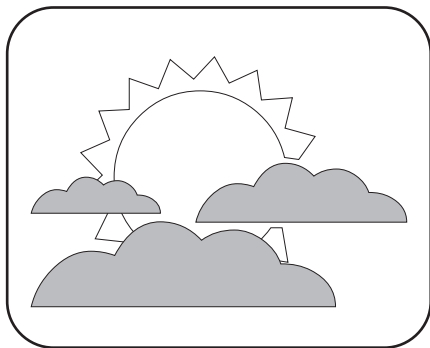
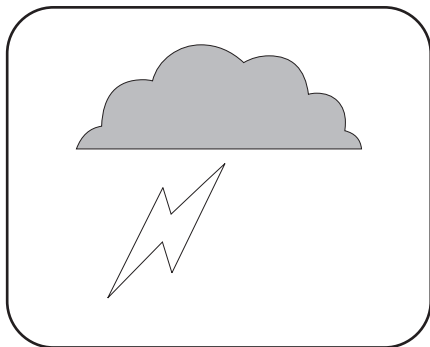
Wet weather or snow can be dangerous for driving. The following tips tell you how to avoid accidents in such conditions:

- Drive slowly: Low driving speed increases the surface of tyre tread in contact with the road and provides better traction
- Maintain safe distances from other vehicles: Wet weather results in longer stopping distances (about four times that of normal stopping distance). So, it makes sense to keep a good distance from other vehicles, people and objects on your path.
- Maintain tyres: Tyres may not provide adequate traction once the tread wears below two thirds of the tread depth. Check tyres regularly and replace them at appropriate time. Maintain the recommended tyre pressure in the tyres at all times.
- While braking, accelerating or turning, avoid jerky and abrupt movements
- Apply smooth and even pressure on all controls. Abrupt steering wheel movements or sudden, hard application of brakes can cause loss of control.





## Driving Tips



- Exercise extra caution while driving in rain after a long dry spell. After months of dry weather, the first rain brings grime to the surface of the roads, making it slippery.
- While driving on wet surfaces, downshift carefully. If the traction is low, it can lock up the drive wheels for a moment and cause a skid.
- If the battery is not fully charged during extremely cold weather conditions, the battery fluid may freeze and damage the battery. To maintain the maximum efficiency, the battery should be checked regularly.
- It is recommended that the following items to be carried in the vehicle during winter driving.
  - A shovel to dig the vehicle out of snowdrifts.
  - A sturdy, flat board to be placed under the jack to give the firm support.
  - A scraper and stiff bristled brush to remove ice & snow from the windows.



## Driving Tips

Refer the lubrication chart, (Page no. 3.3.1) for use of suitable lubricants, engine coolant, windshield washer fluid & brake/clutch fluids, for the cold winter (extreme cold atmospheric) conditions.

To avoid door lock from freezing, squirt lock de-icer or glycerin into the locks. Heated key can be used to open the frozen lock.

### CAUTION

Be careful when accelerating, up-shifting, downshifting or braking on a slippery surface. Sudden acceleration or engine braking could cause the vehicle wheels to spin or skid or loose control.

### Driving in Low Visibility

Being able to see clearly in all directions and being visible to other drivers is important in all weather conditions. This is more difficult in bad weather conditions. To be seen more clearly by other road users during daylight hours, turn the headlights ON. Inspect the windshield wipers and washers regularly. Keep the windshield washer reservoir full. If the windshield wiper blades start to streak the windshield or leave parts un-wiped, replace them. Use the defroster to avoid fogging of windshield on the inside.

### Safe Driving Tips

- Always slow down in gusty cross winds. This will allow/improve better vehicle control.
- Drive slowly when passing over speed breakers / bumps or traveling on a bumpy road. Not doing so could cause severe damage to the tires/wheels/suspension system & may result in personal injury also.
- When parking on a slope, turn the front wheels until they touch the side curb to avoid vehicle rolling. Apply the parking brake and keep the transmission in first/reverse gear. If possible, block the wheels.
- Do not drive across steep slopes. Instead drive either straight-up or straight-down the slopes.
- Driving through deep water or washing the vehicle may get the brakes wet. Wet brakes could make the stopping distance longer or even no braking or brake pulling. To dry the wet brakes, drive the vehicle cautiously, when there is no-traffic near you, while lightly applying the brake pedal with parking brake applied. If brakes are still not working safely, park the vehicle beside the road and contact the nearest Mahindra Authorised dealer.

### CAUTION

To drive down a long or steep hill, reduce your vehicle speed and downshift the gears. Excessive use of brakes may cause overheating, and resulting in poor braking or brake not working.



### Precautions for Off-Road Driving

This vehicle is not designed for cornering at the same speeds as regular passenger cars designed to perform satisfactorily under off-road conditions. Hence, avoid sharp cornering or abrupt maneuver at excessive speeds as it may cause vehicle rollover / loss of control resulting in serious injury or even death. While driving off-road or rough roads do not drive at excessive speeds. As with other vehicles of this type, failure to operate this vehicle correctly may result in loss of control or vehicle rollover.

#### CAUTION

- Avoid loading any items / objects on the roof of the vehicle, since it increases the height of the vehicle's center of gravity.
- Drive carefully when off the road.
- Do not grip the steering wheel spokes when driving off-road. A bad bump could jerk the wheel and injure your hands. Keep both hands especially your thumbs on the outside of the steering wheel rim.

#### NOTE

Usage of horn may be governed by the local law/regulations. All Mahindra vehicle owners are advised to comply to the local regulation, thereby contributing to reduction of Noise Pollution.

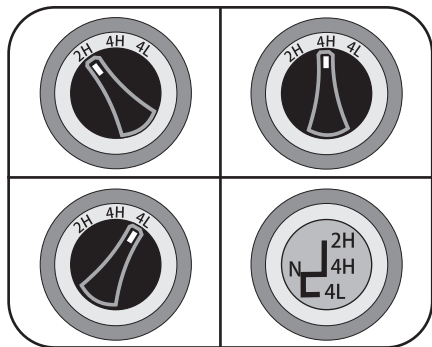
#### CAUTION

After driving through tall grass, mud, rock, rivers, etc., check that there is no grass, bush, paper rags, stone, sand, etc., trapped adhering on the underbody. Clear off any such matter from the underbody, as it could result in a breakdown or fire.

- If driving/crossing through shallow streams, first check the level of the water & bottom of the river bed for better gripping.
- Take all the necessary safety measures to make sure that no damage occurs to the engine or other components due to water entry. Otherwise water entry can cause air intake system failure resulting in engine seizure, washing away the bearing greases causing rusting and premature failure. Transmission, transfer case and differential may get damage due to water entry.
- Accumulated sand/mud in the brake drum/disc may greatly affect the braking efficiency & can damage the braking system components.
- It is necessary to carry out the maintenance inspection after each day of off-road driving, driving through rough terrain, water, sand and/or mud.



## Shifting Driving Modes



## Transfer Case Shifting Guidelines for 4WD (4-wheel Drive) Models.

**2H** - (2WD) in this mode only rear wheels are driven. Use when driving under conditions same as standard 2WD vehicles.

**4H** - (4WD, high mode) Four wheels are driven. Use when driving on roads where it is difficult to drive in 2H position (i.e., driving at normal speeds on snow covered, icy, wet, muddy or sandy road surfaces). Avoid excessive speeds, as it will cause loss of traction.

**4L** - (4WD, low mode) Four wheels are driven. Use while climbing or descending steep hills, or during hard driving in sand, mud or deep snow. The '4L' position provides maximum traction. Avoid excessive speed when driving in '4L' mode.

**N** - (Only for manual shift transfer case models) No wheels are driven. Always keep the transfer lever out of the 'N' position. Shift the lever quickly and smoothly when moving across the 'N' position with the vehicle stopped.

Need not to stop the vehicle / depress the clutch pedal, when shifting between 2H to 4H and 4H to 2H.

**CAUTION**

- Driving the vehicle in 4WD Low / High mode on dry, hard surface may cause damage to the driveline, excessive tyre, poor fuel economy & unnecessary noise, hence not recommended.
- Never select the 4WD mode if wheels are slipping. Stop the slipping or spinning before selecting the 4WD modes.





## Shifting Driving Modes









For the vehicles fitted with auto-lock free running hubs

### Electric Shifting of Driving Modes (In vehicles with Electric 4WD Switch)



The switch is normally at 2H position indicating that you are in 2WD (Two-wheel drive) mode.

TO SHIFT TRANSFER	SHIFT PROCEDURE FOR ELECTRIC T/F CASE WITH AUTO LOCK-FREE-RUNNING HUBS
From 2H to 4H	<ul style="list-style-type: none"><li>• Turn Knob of the switch into 4H position</li><li>• After 2 seconds the  indicator lamp starts glowing</li><li>• You are now in the 4WH mode</li></ul>
From 4H to 4L	<ul style="list-style-type: none"><li>• <b>Stop the vehicle</b></li><li>• Keep the engine running</li><li>• Depress the clutch pedal and turn the knob to 4L position</li><li>• The  indicator lamp will blink for six seconds and go OFF</li><li>• The  indicator lamp will start glowing</li><li>• You are now in the 4WL mode</li></ul>
From 4L to 4H	<ul style="list-style-type: none"><li>• <b>Stop the vehicle</b></li><li>• Keep the engine running</li><li>• Depress the clutch and turn the knob of the switch from 4L to 4H</li><li>• The  indicator lamp will blink for six seconds and go OFF</li><li>• The 4H  indicator lamp will start glowing</li><li>• You are now in the 4WH mode</li></ul>
From 4H to 2H	<ul style="list-style-type: none"><li>• Turn the knob from 4H position to 2H position</li><li>• The 4H  indicator lamp will go OFF</li><li>• You are now in the 2WD mode</li></ul>



To release the front wheel locking hubs please refer the procedure under the section. "To Release the Locking Hubs" on Next page.





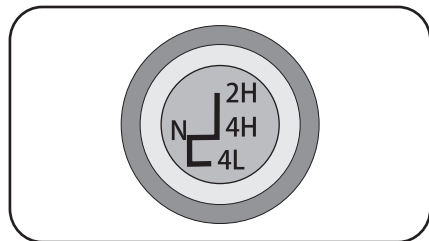
## Shifting Driving Modes

## Manual Shifting of Driving Modes (In vehicles with Manual 4WD Shift Lever)

TO SHIFT TRANSFER	SHIFT PROCEDURE FOR MANUAL T/F CASE WITH AUTO LOCK-FREE-RUNNING HUBS
From 2H to 4H or From 4H to 2H	<ul style="list-style-type: none"> <li>• Drive in a straight line up to maximum speed of 30 km/hr</li> <li>• Do not depress the clutch pedal</li> <li>• Shift the lever quickly and smoothly to position 4H</li> </ul>
From 4H to 4L or From 4L to 4H or From 2H to 4L or From 4L to 2H	<ul style="list-style-type: none"> <li>• <b>Stop the vehicle</b></li> <li>• Depress the clutch pedal and shift the lever to the desired mode</li> </ul>

## NOTE

To release the front wheel locking hubs please refer the procedure under the section "To Release the Locking Hubs" on subsequent page.



## CAUTION

Never shift lever to 4WD position if wheels are slipping. Stop the slipping or spinning before selecting the 4WD modes.

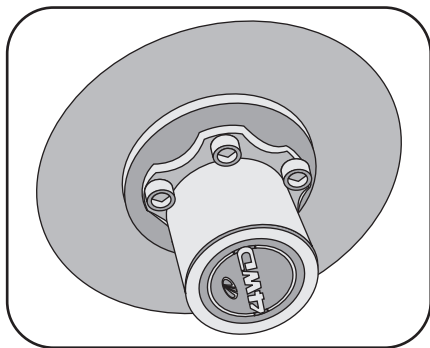
## NOTE

Driving the vehicle in 4WD Low / High mode on dry, hard surface may cause damage to the driveline, may cause excessive tyre wear/unnecessary noise and/or poor fuel economy, hence not recommended.





## Shifting Driving Modes



### Wheel Locking Hubs (Only for 4WD vehicles) (If applicable) Automatic Locking Hubs

**NOTE**

When you shift to 4WD mode, an audible 'click' will indicate that automatic locking hubs are engaged and therefore power is being transmitted to the front wheels. While changing back to the 2WD mode, the hubs need to be released.

#### To Release the locking hubs

- Shift from 4WD to 2WD
- Reverse the vehicle in a straight line for about a meter
- An audible 'click' will indicate that the hubs have been released
- Unlocking is necessarily required to be done to isolate front axle & transfer case from transmission & from front wheels

#### **CAUTION**

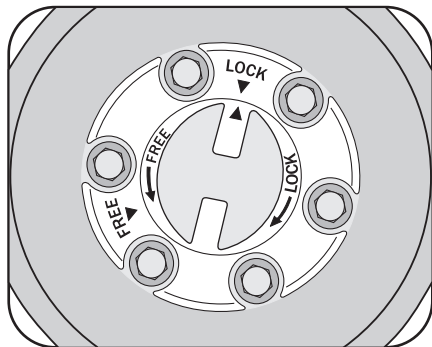
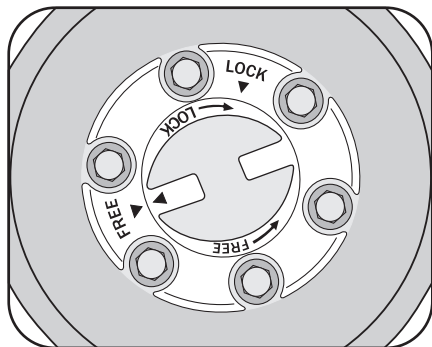
If auto-lock hubs make a clattering noise when driving in 2H mode, stop and move the vehicle about 2 to 3 meters in backward direction.

**NOTE**

When engaging & disengaging, the auto-lock hubs will make a clicking noise. It is normal.



## Shifting Driving Modes

**LOCK****FREE****Manual Locking Hubs**

Before you shift to 4WD mode, manually lock the front wheel hubs.

For engaging the free wheel locking hubs, Turn the knob of the locking hubs to "LOCK" and for disengaging turn knob to "FREE".

Make sure the triangle mark on the hub aligns with the other one that you desire to set.

Now both the hubs are engaged and therefore power is being transmitted to the front wheels. While changing back to the 2WD mode, the hubs need to be released.



Do not drive the vehicle in 2WD mode with front free wheel hubs locked



Never drive with only one hub engaged.





## Shifting Driving Modes








### For the vehicles fitted with manual-lock free running hubs (If applicable)

Electric Shifting of Driving Modes (In vehicles with Electric 4WD Switch)

#### NOTE

The switch is normally at 2H position indicating that you are in 2WD (Two-wheel drive) mode.

TO SHIFT TRANSFER	SHIFT PROCEDURE FOR ELECTRIC T/F CASE WITH MANUAL LOCK-FREE-RUNNING HUBS
From 2H to 4H	<ul style="list-style-type: none"><li>• Stop the vehicle &amp; set the free running hubs to the 'LOCK' position</li><li>• Turn the knob of the switch into 4H position</li><li>• After 2 seconds the indicator lamp starts glowing</li><li>• You are now in the 4WH mode</li></ul>
From 4H to 4L	<ul style="list-style-type: none"><li>• Stop the vehicle &amp; keep the engine running</li><li>• Depress the clutch pedal and turn the knob to 4L position</li><li>• The  indicator lamp will blink for six seconds and go OFF</li><li>• The  indicator lamp will start glowing</li><li>• You are now in the 4WL mode</li></ul>
From 4L to 4H	<ul style="list-style-type: none"><li>• Stop the vehicle &amp; keep the engine running</li><li>• Depress the clutch and turn the knob of the switch from 4L to 4H</li><li>• The  indicator lamp will blink for six seconds and go OFF</li><li>• The 4H  indicator lamp will start glowing</li><li>• You are now in the 4WH mode</li></ul>
From 4H to 2H	<ul style="list-style-type: none"><li>• Stop the vehicle &amp; turn the knob from 4H position to 2H position</li><li>• Set the free running hubs to the 'FREE' position</li><li>• The 4H  indicator lamp will go OFF</li><li>• You are now in the 2WD mode</li></ul>

#### CAUTION

Driving the vehicle in 4WD Low / High mode on dry, hard surface may cause damage to the drive line, excessive tyre, poor fuel economy & unnecessary noise, hence not recommended.

Never select the 4WD mode if wheels are slipping. Stop the slipping or spinning before select the 4WD modes.





## Shifting Driving Modes

## Manual Shifting of Driving Modes (In vehicles with Manual 4WD Shift Lever)

TO SHIFT TRANSFER	SHIFT PROCEDURE FOR MANUAL T/F CASE WITH MANUAL LOCK-FREE-RUNNING HUS
From 2H to 4H	<ul style="list-style-type: none"> <li>• Stop the vehicle</li> <li>• Set the free running hubs to the 'LOCK' position</li> <li>• Drive in a straight line up to maximum speed of 30 km/hr</li> <li>• Do not depress the clutch pedal</li> <li>• Shift the lever quickly and smoothly to position 4H</li> </ul>
From 4H to 4L	<ul style="list-style-type: none"> <li>• Stop the vehicle</li> <li>• Depress the clutch and shift the lever from 4H to 4L</li> <li>• You are now in the 4WH mode</li> </ul>
From 4L to 4H	<ul style="list-style-type: none"> <li>• Stop the vehicle</li> <li>• Keep the engine running</li> <li>• Depress the clutch and shift the lever from 4L to 4H</li> <li>• You are now in the 4WH mode</li> </ul>
From 4H to 2H	<ul style="list-style-type: none"> <li>• Stop the vehicle</li> <li>• Shift the lever from 4H position to 2H position</li> <li>• Set the free running hubs to the 'FREE' position</li> <li>• You are now in the 2WD mode</li> </ul>

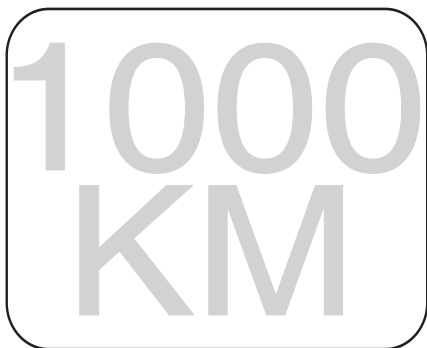
**CAUTION** Never shift lever to 4WD position if wheels are slipping. Stop the slipping or spinning before select the 4WD modes.

**NOTE** Driving the vehicle in 4WD Low / High mode on dry, hard surface may cause damage to the drive line, may cause excessive tyre wear/unnecessary noise and/or poor fuel economy, hence not recommended.





## Driving in the Break-in Period



### Instructions for Driving in the Break-in Period

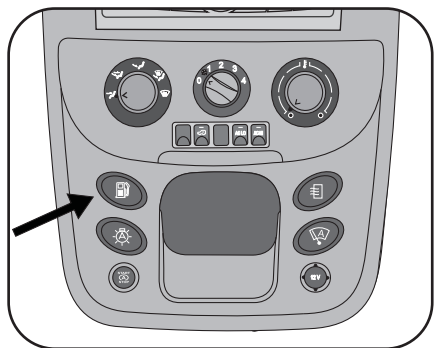
You can assure your vehicle's future reliability, economical operation and performance by paying extra attention to how you drive during the first 1,000 km (600 miles). Follow these recommendations during this period:

- After starting the engine, do not rev it up; Warm up gradually at idling speed
- Do not drive over 100 km/hr or  $\frac{3}{4}$  of the top speed.
- Avoid sudden acceleration and full throttle
- Do not drive for a long time at a single speed; either increase or decrease the speed at intervals
- Do not drive slowly with the transmission in high gear
- Avoid hard braking; new brakes need to be broken-in by moderate use for the first 300 km
- Do not tow a trailer during first 2500 kms of operation
- Avoid running the engine at high speeds at full load until it has reached its normal operating temperatures.

These recommendations should be followed when the engine is overhauled or when the brakes pads / liners replaced.



## Fuel

**CAUTION**

- Never add fuel system additives or cleaning agents. These may damage the system. Use of petrol / kerosene in diesel engines will result in engine damage and adversely affect the emission.
- Use only unleaded petrol on vehicles fitted with petrol engines. Not doing so will result in a lead deposit in the catalytic converter. Even one refueling with leaded petrol destroys the effect of the catalytic converter and oxygen sensor permanently. Later even if unleaded petrol is used, the original efficiency of the catalytic converter cannot be achieved.

**Recommended Fuel**

Diesel : BS4 diesel or higher grade for BS4 diesel engines,  
BS3 diesel or higher grade for BS3 diesel engines

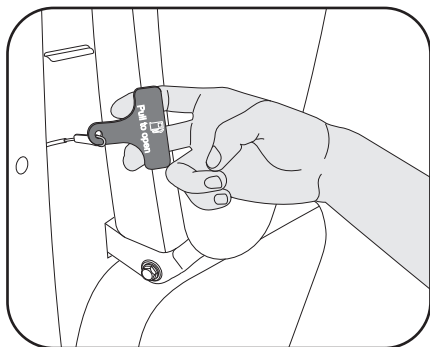
**CAUTION**

Damage caused due to the use of substandard fuel / other than specified, will not be covered under Mahindra warranty. The operation, power output and durability of the engine are affected to a great extent by the quality of the fuel.





## Fuel



**Manual over ride for electrically operated fuel lid opening**

### Opening Fuel Lid

**Remote Operated Fuel Lid :** To open the fuel lid, gently press the switch once, which is located in centre of instrument panel.

#### NOTE

In the unlikely event of fuel lid not opening by electrical actuation, the operating cable is attached to a flat handle & located near Tail Light Inspection Cover (LH side). Pull the flat handle to open the fuel lid.

Unscrew the inner cap and fill the recommended fuel. Tighten the inner cap and push the outer lid until you hear an audible click.

#### CAUTION

Make sure the cap is tightened properly to prevent fuel spillage in case of an accident.



Fuel spray is dangerous. Fuel can burn skin & eyes and cause illness when ingested. Fuel spray happens when there is pressure inside the tank & fuel cap is removed too fast. While removing the fuel cap, loosen the cap slightly and wait for any hissing noise to stop, before removing it.



Before refueling stop the engine. Always keep sparks or open flames away from the filler neck. Do not smoke while refueling.





**CAUTION**

Always use only a designated Mahindra fuel cap. The wrong cap can result in a serious malfunction of your vehicle fuel system and/or the emission control system.

**NOTE**

If fuel is spilled on the vehicle body, flush it away with water to avoid paint damage.

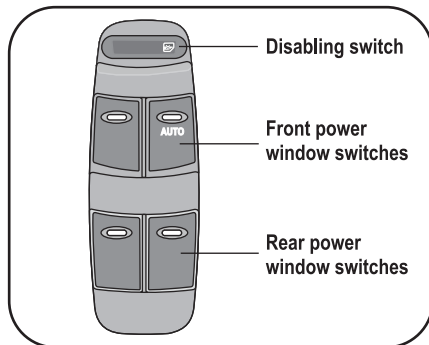
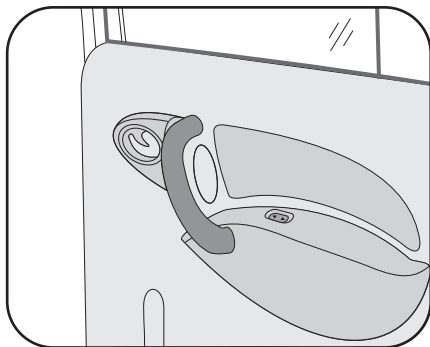
**NOTE**

For your own safety avoid using mobile/cell phone while refueling.





## Window Winding



### Power Assisted (If applicable)

The power windows system functions only when the ignition switch is in the IGN position. All windows can be operated by means of switches located on the center console. Rear windows can be wound or unwound individually using separate switches provided on the rear door trim pads.

- Push the switch to open the window

### Smart Power Window With Anti Pinch (applicable for driver and co-driver) (If applicable)

Smart power window is one of the significant safety features with anti-pinch function, which automatically reverses the direction of glass if obstruction is detected during express up mode.

This feature consists of three functions:

- Auto UP
- Auto DOWN
- Anti Pinch during Auto UP





## Window Winding

### Functions:

#### Auto UP :

- Turn ON the Ignition.
- Pull the Driver door switch button more than 0.5 Sec. Glass will start moving in Upward direction. No need to hold the switch now.

#### AUTO DOWN:

Push the driver door switch button more than 0.5 sec, glass will start move in downward direction. No need to hold the switch now.

#### ANTIPINCH during Auto UP

During Auto up if any obstacle is detected with the force value ranging between 70~100 Newton, controller will sense the load and will reverse the direction of glass in down ward direction for almost full stroke length.

However if the force against the glass is less than the specified value then this function does not operate.

These all functions like Auto Up / down, Anti-pinch during Auto UP will get deactivated in case of removal of Vehicle Battery Positive or Negative terminal.

With de-activation of this feature, normal power windows will still function.

### Smart Power Window Learning Procedure

- 1) Take the window glass to extreme bottom most position by continuously pressing the switch.
- 2) Start taking the glass up by pressing UP switch, hold the switch for two seconds after reaching to top most position, it will understand extreme top position of glass.
- 3) Start taking the glass down wards by pressing down switch, hold the switch for two seconds after reaching bottom most position, it will understand extreme bottom position of the glass.

With the above action, system will understand the complete one cycle and controller is learnt for that stroke length. Afterwards we can press the Up switch >0.5 Sec. Glass will start moving UP automatically. The same way is applicable for express down.

During express up, if movement of glass is obstructed by 70N force or more, the glass will start moving in down ward direction for almost full stroke length.





## Window Winding



### LIMITATIONS

- 1) In case of vehicle Battery terminal removal (Positive & negative ) the express up/express down/ Anti pinch during express up will get disabled. However, the system will function like a normal power window.

To initialise the function we have to learn the system for one complete cycle.

- 2) In case of hard whether strip condition in express Up mode, glass will treat it as an obstacle and glass will start moving down. This needs to be checked at recommended service stations.
- 3) Incase of anti-pinching 5 times continuously at the same point , controller will loose memory, so relearning of power window is required.

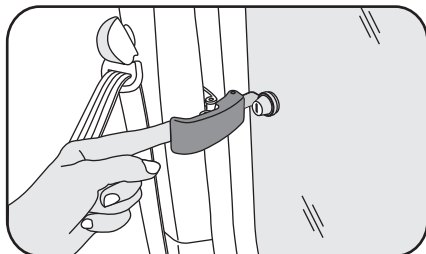
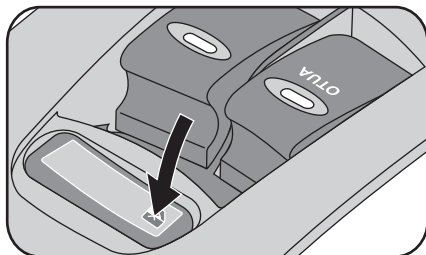
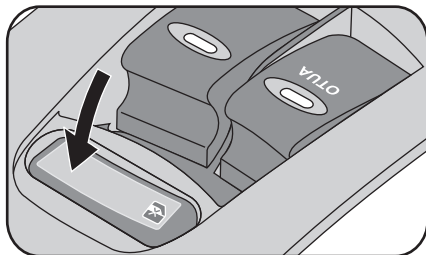
### Rear Window Safety Switch

An additional switch in the center console disables the switches on the rear windows. When disabled, power windows in the rear can not be operated. We advise you to use this switch when there are children in the back seat.





## Window Winding



- Press the switch to the left - To enable the operation of the rear power windows
- Press the switch to the Right - To disable the operation of the rear power windows

### CAUTION

Always remove the ignition key when leaving children alone in the vehicle, to avoid risk of injuries due to unintended operation of power windows.



Make sure window opening is clear before closing the windows. It may be a dangerous, if someone's hand / head / neck could get caught in a closing window, and may resulting in serious injuries.

## Quarter Windows

### Sliding Windows

To open the window, depress the lever and slide it backwards. When closing the window, make sure to push it forward fully until you hear a click.

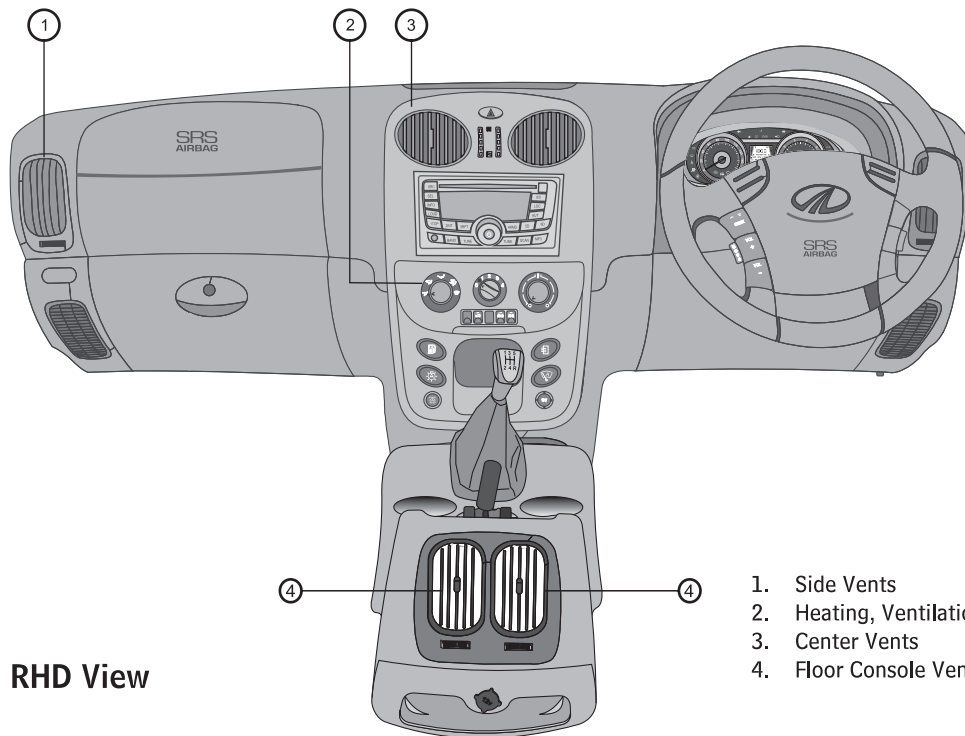
### Flip Type Window

To open the quarter window, pull the latch handle towards you and swing it fully-out. When closing the window, make sure it is completely closed.





## Heating, Ventilation, Air Conditioning



**RHD View**

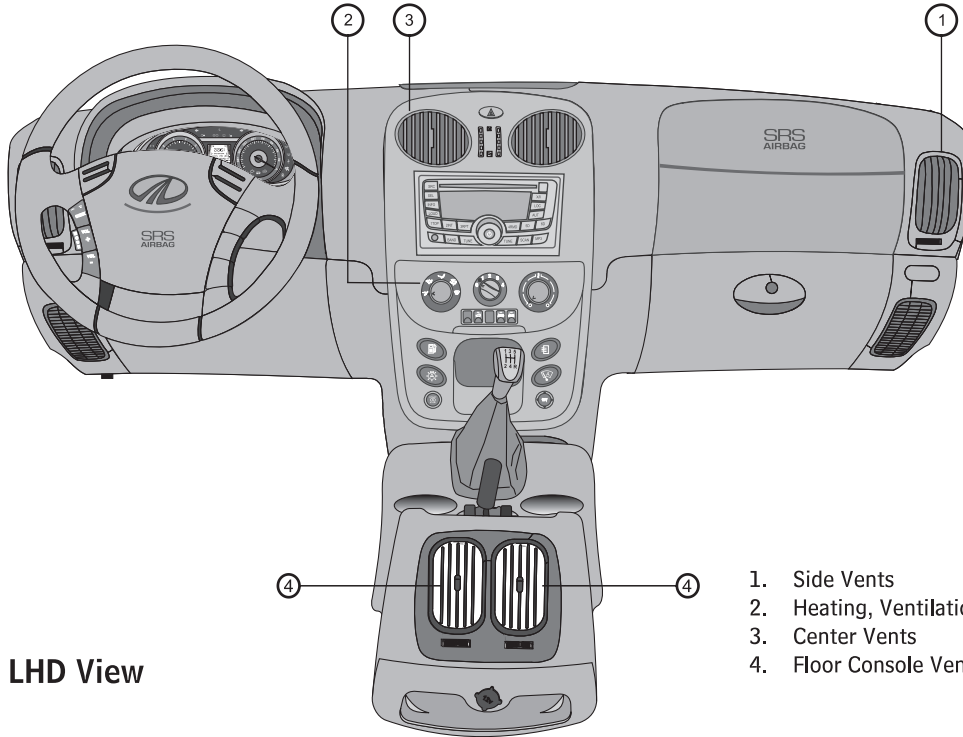
1. Side Vents
2. Heating, Ventilation & AC Switches
3. Center Vents
4. Floor Console Vents



2.8.1



Heating, Ventilation, Air Conditioning

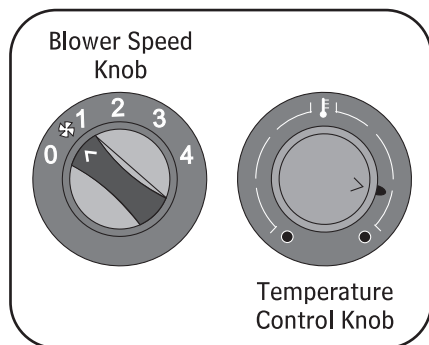


LHD View

1. Side Vents
2. Heating, Ventilation & AC Switches
3. Center Vents
4. Floor Console Vents



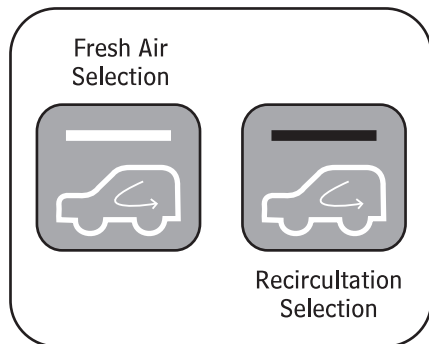
## Heating, Ventilation, Air Conditioning



**Blower Speed Control Knob:** Blower speed can be regulated by turning the blower speed control knob.

- |                   |              |
|-------------------|--------------|
| 0 Blower Off      | 1 Low Speed  |
| 2 Medium Speed    | 3 High Speed |
| 4 Very High Speed |              |

**Temperature Control Knob:** Air temperature can be controlled by turning the temperature control knob to blue (anti-clockwise) for cold or red (clockwise) for warm.



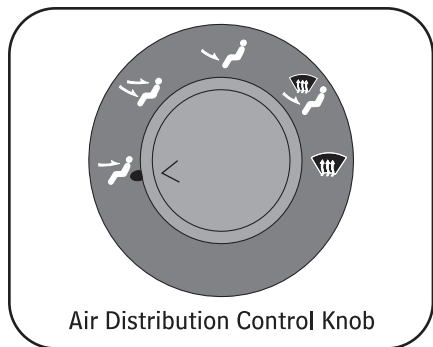
### Fresh / Recirculation Air Selector Switch:

Fresh Air Mode: When light is OFF.

Recirculation mode when light is ON.



## Heating, Ventilation, Air Conditioning



**Air Distribution Control Knob:** The knob can be used in the following modes to change the direction of the airflow. Operation is as follows:



**Face Mode:** Air stream flows primarily to the face level and console vents. A minor flow of air is directed to the windshield and the foot-well area.



**Face/Foot-well Mode:** Air stream flows to face vents, foot-well areas and to console vents.



**Foot-well Mode:** Air stream flows primarily to foot-well area and to the console vents. A minor portion is also directed to the side and center vents and to the windshield.



**Foot-well/Defroster Mode:** Air stream flows primarily to the foot-well area, the windshield vents and to the console vents. (Fresh air intake mode is preferable with this distribution)



**Defroster Mode:** Air stream is directed to the windshield. ( Fresh air intake mode is preferable with this distribution).

**Air Distribution:** Airflow and direction can be regulated in the centre / side / floor console vents with the rotary controls and centre knobs.

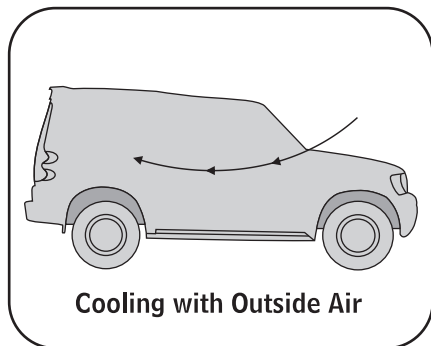
**Center Vents:** Airflow can be adjusted with rotary controls located between the centre vents. The airflow can be directed with knob at the centre of the vents.

**Side and Console Vents:** Airflow can be adjusted with rotary controls underneath the vents. The airflow can be directed with lever at the centre of the vent by swiveling up or down and from side to side.

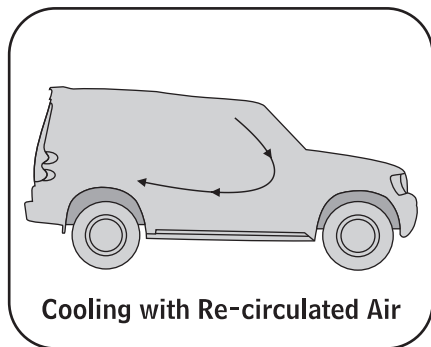




## Heating, Ventilation, Air Conditioning




**Cooling with Outside Air**



**Cooling with Re-circulated Air**

### Air Intake Selector


This switch is used to select the fresh outside air or re-circulating inside air. To change the air intake mode, ( Fresh or re-circulation mode) press the  switch.

**Fresh Air Mode :** The indicator light on the switch goes off when the air intake selector is in fresh air (outside air) mode.

**Re-circulation Air Mode :** The indicator light on the switch is illuminated when the air intake selector is in re-circulation mode.

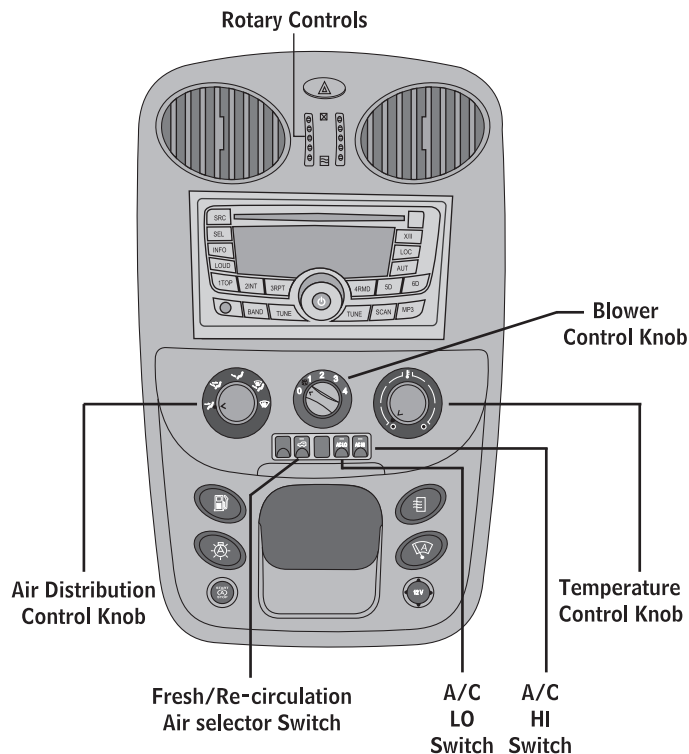
With the **Fresh** air mode selected, air enters the vehicle through filter from outside and is cooled / heated according to the function selected.

With the **Re-circulation** air mode selected, the air from within the compartment will be drawn through filter and is cooled / heated according to the function selected.

 **NOTE** Do not use the re-circulation mode for long periods as it may cause the interior air to become stale and windows to mist up.



## Heating, Ventilation, Air Conditioning



### Operating the Air Conditioner

The air conditioner operates only when the engine is running with blower on and when the temperature is over  $+4^{\circ}\text{C}$ . To switch on the air conditioner, press the A/C HI or A/C LO switch.

### Air Conditioner ON/OFF Switches :

**A/C LO Switch :** To turn ON the air-conditioner, press the A/C LO switch, and the indicator lamp will come on. Air conditioner starts to operate. To turn off the A/C LO, press the switch again.

**A/C HI Switch :** If you need higher cooling, turn ON the air-conditioner by pressing A/C HI switch and the A/C HI indicator lamp will come on. To turn off the A/C HI, press the switch again.

If the A/C HI switch is pressed when A/C LO is on, it will switch on high cooling and the A/C LO will be switched off automatically and vice versa.

We recommend to operate in A/C LO mode for better fuel economy.



**NOTE**

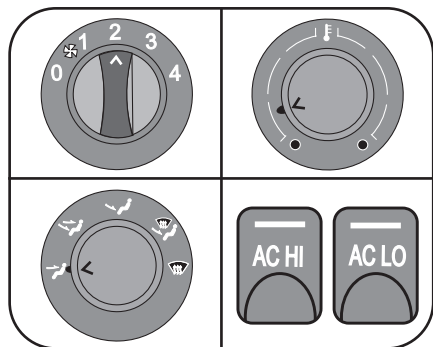
If your vehicle has been parked in the hot sun with the windows closed, drive with windows open for few minutes. This will help to vent hot air out and allowing the air conditioner to cool the interior quickly.

- Air conditioner extracts humidity from cooled air. Therefore it is completely normal if a small pool of water forms underneath your parked vehicle.
- Make sure that the air intake grills in the windshield areas are not blocked (with leaves, ice/snow etc)
- On humid days, do not blow cold air on the wind shield & side window glass, because the difference between the outside & inside temperature could make the fogging worse.
- When driving the vehicle in dusty conditions, it is recommended to select the air intake to Re-circulation mode temporarily, to avoid the outside dust entering the vehicle.
- The air conditioner should be operated for a few minutes at least once in a week. This helps prevent damage to the system due to lack of lubrication.

**Shutting Unpleasant Odors from Outside:** To shut out unpleasant odors, set the blower to re-circulated air.



## Heating, Ventilation, Air Conditioning

**Air conditioning**

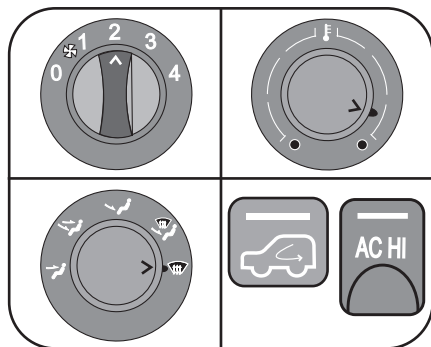
For cooling the vehicle interior,

- Switch on the engine
- Set the blower to any speed except OFF
- Set the temperature control knob to cold (blue)
- Set the air distribution control knob to face mode
- Press the A/C HI or A/C LO switch.

(For fast cooling, select the re-circulation mode)



## Heating, Ventilation, Air Conditioning



### Windshield Defogging

#### To defog inside of the windshield

- Switch on the engine
- Set the blower to any speed except OFF
- Set the temperature control knob to cold (blue) / hot (red)
- Select the fresh air intake mode
- Set the air distribution control knob to defroster mode
- Press the A/C HI or A/C LO switch

**NOTE** On humid days, do not blow cold air on the wind shield & side window glass, because the difference between the outside & inside temperature could make the fogging worse.

### Windshield Defrosting

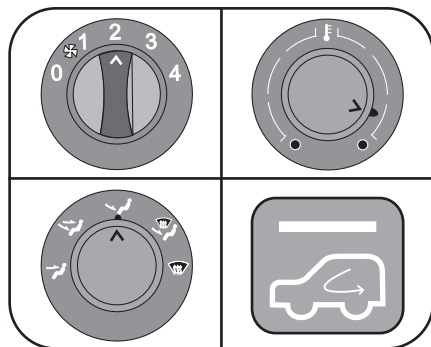
#### To defrost outside of the windshield

- Switch on the engine
- Set the blower to any speed except OFF
- Set the temperature control knob to hot (red)
- Select the fresh air intake mode
- Set the air distribution control knob to defroster mode
- Put the air conditioner off

For heating the vehicle interior while windshield defrosting, select the Foot-well / Defroster mode, if required.



## Heating, Ventilation, Air Conditioning



### HEATING

#### Rapid Heating of Vehicle Interior:

- Switch on the engine
- Set the blower to any speed except OFF
- Set the temperature control knob to hot (red)
- Select the fresh air intake mode.
- Set the air distribution control knob to Foot-well mode
- Put the air conditioner off

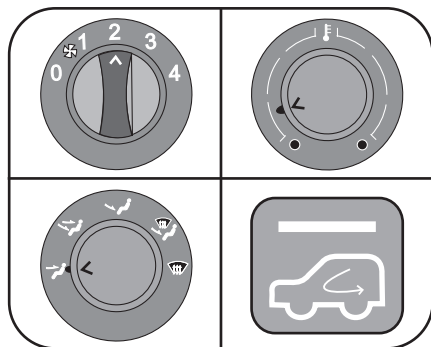
For fast heating the vehicle interior, select the recirculation air intake mode for a few minutes. To keep the windows clean from fogging, select the Fresh air intake mode, once the vehicle interior is warm.

For heating the vehicle interior while windshield defrosting, select the Foot-well / Defroster mode, if required.

Switch on the A/C HI or A/C LO for dehumidified heating.



## Heating, Ventilation, Air Conditioning



### VENTILATION

#### For better ventilation :

- Set the blower to any speed except OFF
- Set the temperature control knob to cold (blue)
- Select the fresh air intake mode
- Set the air distribution control knob to Face mode
- Put the air conditioner off

#### NOTE

Your vehicle HVAC system is fitted with filter in air intake. Do not run the blower with filter removed condition. Running the blower with filter removed may result in blower motor malfunction. Have the filter cleaned / replaced by a Mahindra Authorised dealer as recommended / when required. Filter to be cleaned by tapping gently only, and not by blowing compressed air or any other method.





## Driving

### Driving

Your Scorpio is equipped with 6 speed automatic transmission having electronic controls with an Adaptive Transmission Control Strategy. This Adaptive Transmission Control Strategy offers the optimal transmission operation and shift quality in different driving conditions. The transmission is equipped with a transmission control unit (TCU) located under the driver's seat.

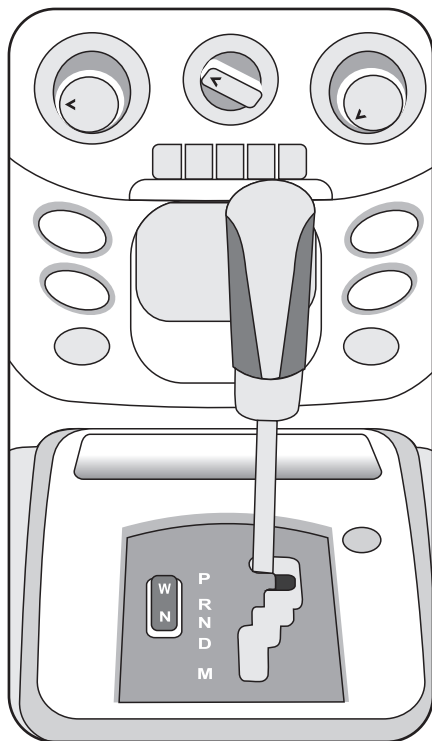
### Starting and Driving

- 1) Always start the engine while the gear selector is in position "P" and the brake pedal is depressed. It is safe to avoid starting the engine with gear selector position in "N". However, if it is necessary to start the engine with gear selector position in "N", it is recommended to engage the manual parking brake.
- 2) Ensure the engine is in idle speed. Keep the brake pedal depressed and shift to "D" or "R".
- 3) To move the vehicle, release the brake pedal and press the accelerator pedal gradually.





## Gear Selector



### Gear Selector lever in Automatic Transmission

- P- Park
- R- Reverse
- N- Neutral
- D- Driving (1-6 Gear Shifting)
- M- Manual

### Mode Switch

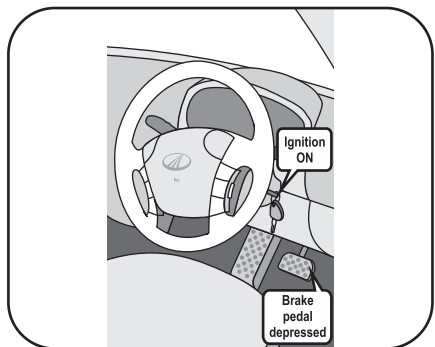
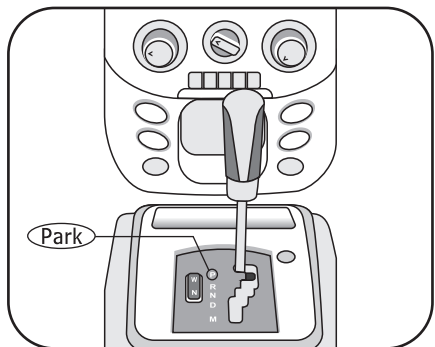
- W- Winter Mode
- N- Normal Mode

### Creep Feature

The vehicle is provided with creep speed feature which allows the vehicle to move slowly on level road without pressing the accelerator pedal as soon as you release the brake pedal with lever in 'D' or 'R' position.



## Gear Selector



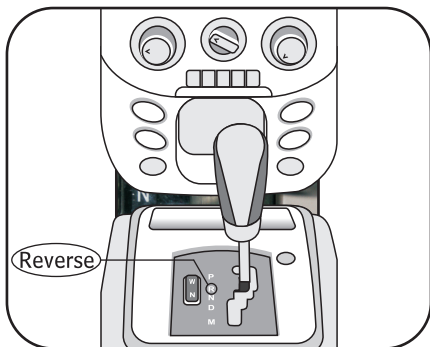
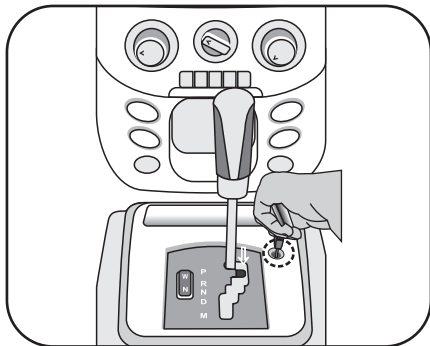
## Gear Selector Lever Positions

**Park(P)** – This selection mechanically locks the transmission, restricting the vehicle from moving in any direction. Your Scorpio is a rear wheel drive vehicle. Although gear selector lever in "P" position restricts the vehicle from moving in any direction, as an additional safety, you can engage the manual parking brake that physically locks the rear wheels. A vehicle should be allowed to come to complete stop before setting the transmission into park to prevent damage.

Always keep the ignition in ON and brake pedal depressed to release the Gear shift lever out of "P".



## Gear Selector



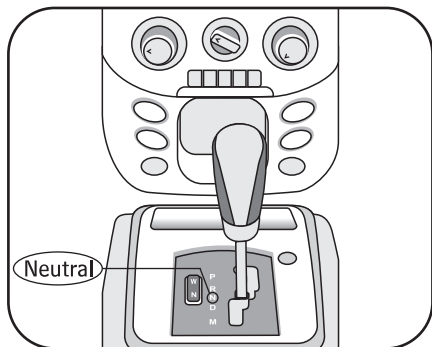
In case lever does not come out of "P" position with ignition ON and brake pedal depressed, follow the procedure given below.

1. Apply manual parking brake, turn ignition key to LOCK position, then remove the key.
2. Remove the small round cover plug (that covers access hole for lock lever located below the central console) on the top cover of the central console as shown in figure.
3. With manual parking brake engaged, depress the lock lever to take the gear shift lever out from P (park).
4. Refit the cover plug on the console access hole. And, please contact Mahindra Authorised dealer immediately to fix the problem.

**Reverse (R)** – Automatic transmission in your Scorpio is provided with "Reverse Lock-out" which would restrict gear changing to reverse while in forward motion, till the vehicle speed is lower than 10 kmph, the accelerator pedal is in low idle position and engine speed less than 1400 rpm. This feature ensures that there is no transmission damage even if reverse gear is engaged accidentally while not meeting these conditions. However, it is recommended to shift to reverse gear only after the vehicle comes to a stand still.



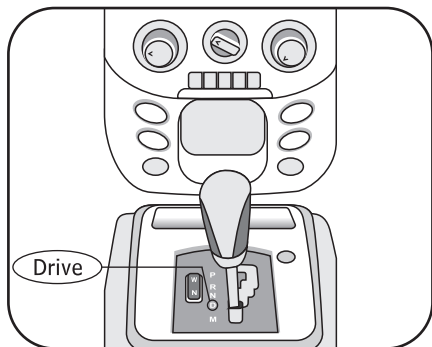
## Gear Selector



**Neutral/No gear (N)** – This gear should be selected when starting the engine or when idling. No power is transmitted to the drive wheels.

**CAUTION**

To start the engine with gear lever position in "N", always apply foot brake or manual parking brake.



**Drive (D)** – This allows the vehicle to move forward and accelerate through its range of gears.

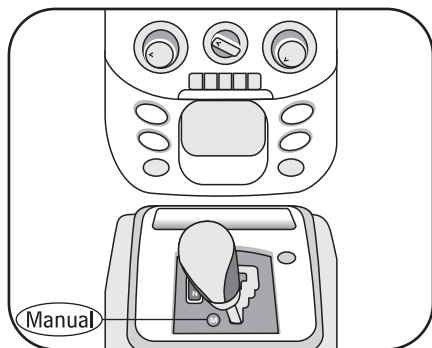
**Drive Lockout**

Drive will not get engaged if the accelerator pedal is moved from low idle position & engine speed is more than 2000 rpm.



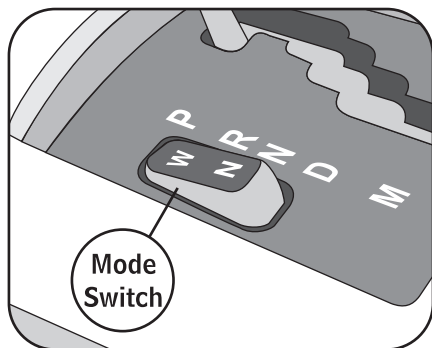


## Mode Switch



### Manual (M)

This mode can be used while going extreme uphill or downhill. It provides better drive ability and torque during uphill drive and better engine braking and vehicle control during downhill drive.



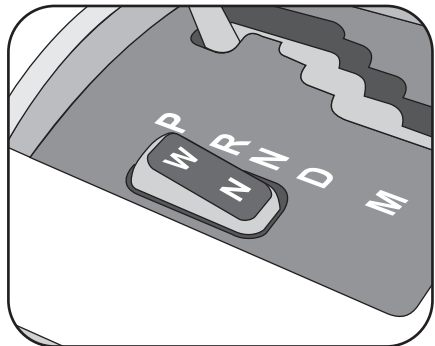
### Mode Switch:

#### W Mode

This mode limits the transmission to start from second gear instead of first gear. This feature can be used when driving in snow covered roads, slippery and muddy roads to get better traction and vehicle controls.



## Mode Switch

**N Mode**

This mode is used for normal driving conditions. Always vehicle should be driven in “N” mode but for driving conditions requiring “W” mode usage.





## Gear Ratios



### Gear Ratios

First	3.54	Fifth	0.87
Second	2.14	Sixth	0.68
Third	1.48	Reverse	3.09
Fourth	1.16		







## Towing

### Towing of the Vehicle

Whenever the vehicle is not in a driveable condition NEVER tow the vehicle without disconnecting the propeller shaft from the transmission.

#### CAUTION

Before towing the vehicle- disconnect the propellor shaft. Failure to do so may result in major damage of the transmission.

Always park the vehicle with the gear shift lever in "P" position.





## DO's and DON'T's for Transmission



### DO's:

- 1) Always depress brake pedal with ignition in ON position before taking lever out of "P" position.
- 2) Keep the lever in park position while vehicle is stopped.
- 3) Engage the lever in park only when vehicle comes to complete stop.
- 4) Use Normal mode while driving in normal conditions.
- 5) Keep the lever in "M" position while traveling extreme uphill or downhill in order to have better driveability and control on vehicle.
- 6) Tow the vehicle only after disconnecting the propeller shaft in case the vehicle gets inoperable.
- 7) Approach the nearest Mahindra authorized dealer or service centre in case of transmission fluid leakages or malfunctioning.

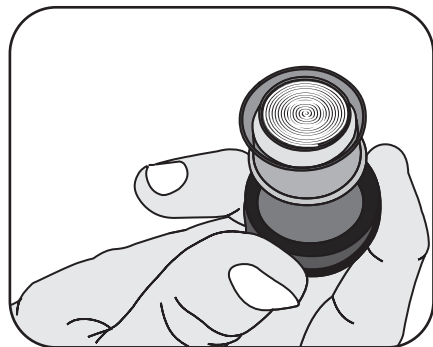
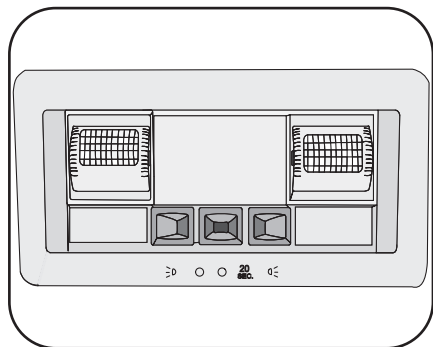
### DON'T's:

- 1) Do not pull the lever out of Park without switching ON ignition and depressing the brake pedal.
- 2) Do not engage the lever in park before vehicle stops completely.
- 3) Do not stop the vehicle for long time with lever in "D", "M" or "R" position and the brake pedal depressed.
- 4) Do not try to push/pull start the vehicle.
- 5) Do not fill the transmission with any fluid in case of transmission leakage. Contact Mahindra authorized dealer or service centre in case of a leakage.





## Other Equipment



## Interior Lights

The lamps function in three modes

- ON - Switch to this mode to keep the lights ON always
- OFF - Switch to this mode to turn the lights OFF
- DOOR - The  $\text{Q} \leq$  lights come ON when any of the side doors or the back door is opened. The lights go OFF when all the doors are closed.

The  $\text{Q} \leq$  lights can be swivelled in the desired direction.



Do not use the interior lights for extended periods of time with the engine stopped.

## 12 V Power Output

This 12V power supply socket is provided for power take off for other electrical instruments like mobile phone charger etc. on the instrument panel. And an additional 12V power output socket provided on the rear side of the floor console for the rear passenger use.



The Cigarette Lighter can be used on 12 power output socket. Press the lighter in to heat it up. When it reaches the correct temperature, the lighter will eject automatically and can then be withdrawn for use.

If the engine is off, the ignition key must be in the ON position for the lighter to operate.



Hold the lighter by the handle

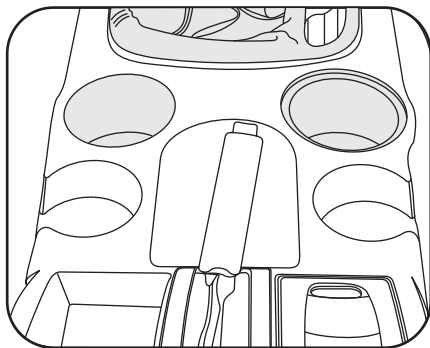


If the lighter does not pop out within 30 seconds, remove it to prevent overheating. Do not keep it pressed for a long period unnecessarily, as it will overheat.





## Other Equipment



### Smoking in the Vehicle

Avoid smoking inside the vehicle. Smoking in the vehicle spoils the ambience and the interiors of the vehicle.

- Do not toss a cigarette out of the window. It may land on somebody or may result in a fire hazard.
- Take care not to drop the cigarette on the seats. It may burn holes in the upholstery.

### CAUTION

#### Cup Holder (Floor Console)

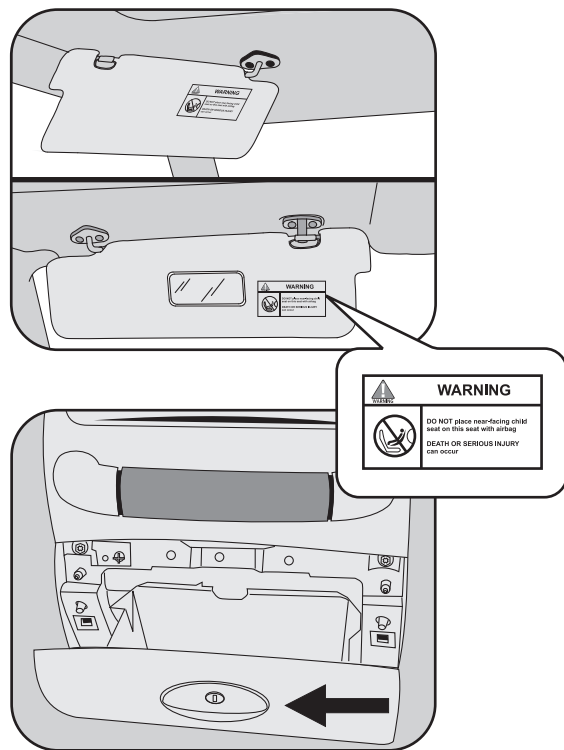
Cup holders are designed for holding cup or drink-cans securely

Do not place anything else other than cups or drink-cans in the cup holders. If doing so, cause the object thrown in the compartment and possibly injure people in the vehicle during sudden braking or in an accident. Using the cup holder to hold hot liquids when the vehicle is moving is dangerous. The contents may spill on the occupants causing scald.





## Other Equipment



**Sun-Visors:** Sun-visors protect the eyes from bright light. They can be lowered, released from the retention clips and swivelled sideways towards the door. The sun-visor on the co-driver's side has a vanity mirror on its backside.

**Grab Handles with Coat Hook:** Grab handles with coat hooks are located above the passenger door and the rear doors. A grab handle is also provided for pulling the door from inside.

**Glove Box:** To open, lift the handle on the glove box. Always keep the Owner's Manual in the glove box for ready reference.

Always keep the glove box closed after use.

**CAUTION**

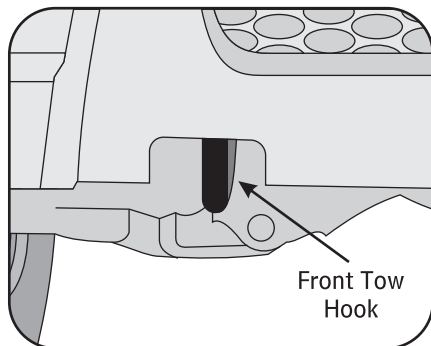
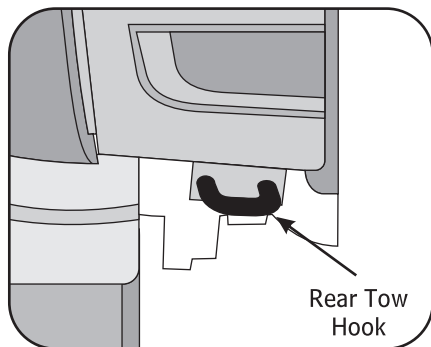
Take care when placing sharp edged objects in the glove box as they may scratch or damage the inner surface of the compartment.

**Additional power connection for extra fittings:** Use the 12V 10 Amps extra fitting connection point (where ever provided) for taking out supply for additional accessories (like LCD screen), provided inside the roof liner.





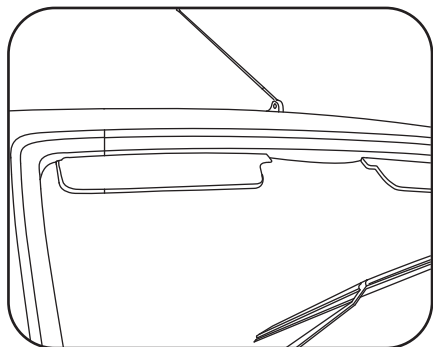
## Other Equipment



**Front and Rear Tow Hooks:** Your Scorpio comes with two towing eyelets. The front tow hook should be used when the vehicle needs towing, and the rear tow hook should be used when your vehicle is utilised for towing other vehicles.



## Other Equipment

**Antenna**

Lift the antenna to improve the reception of the tuner. This manually adjusted antenna must be lifted and lowered by hand.

**NOTE**

To prevent damaging the antenna, lower it before entering a car wash facility or passing beneath a low overhead clearance.

**Floor Mat****CAUTION**

Make sure the floor mat is properly secured on the floor carpet. If the floor mat slips and interferes with the movement of the pedals during driving, it may cause an accident.

Addition of multiple floor mats other than the one provided originally with the vehicle may limit the travel of clutch pedal in your Scorpio and may create hindrances during clutch start after an automatic stop by Micro Hybrid System.





## Contents



→ Maintenance Schedule



→ Owner Maintenance Checks



→ Engine Oil Check



→ Battery Check



→ Appearance Care



→ Troubleshooting





## Maintenance Schedule Chart

REFER  
MAINTENANCE  
SCHEDULE  
CHART



Installation of non-genuine parts or accessories could be dangerous. Non-genuine & non-approved parts / accessories may fit into your vehicle, but they could seriously affect your vehicle performance or safety system which could cause a serious accident.

### Maintenance Schedule

To make sure that your vehicle runs efficiently all the time, follow the maintenance schedule. The service interval for the scheduled maintenance is determined by the odometer reading or by time interval, whichever comes earlier. Take your vehicle to a Mahindra Authorised Service Station only.

Trained technicians & genuine Mahindra parts at Mahindra Authorised Service Stations are best for your vehicle & they will perform all the scheduled maintenance jobs reliably and economically. Inadequate, incomplete & insufficient servicing may result in problems. This may even cause an accident.

The owner should retain records/documents that proper maintenance has been performed as prescribed.

### Help Your Technician in Identifying Problems Quickly

A majority of the time taken in servicing goes in identifying problems. You can help your technician reduce this time by telling him about the conditions you experienced in your vehicle.

- When experiencing a problem, try to listen to any unusual noises made by the vehicle
- Engine coolant temperature continuously higher than the normal.
- Note if the vehicle is sluggish or feels different than normal
- Tell the technician about the circumstances prior to the moment you experienced the problem

The recommended service schedule is listed in the chart attached.



## Maintenance Schedule Chart

<div> <div>Maintenance Schedule</div> <div>Work Nature</div> </div>	Distance Covered (in Kms) / Months in service whichever is earlier											
	PDI 500	5000/3m	10000/6m	20000/12m	30000/18m	40000/24m	50000/30m	60000/36m	70000/42m	80000/48m	90000/54m	100000/60m
<b>Engine &amp; Cooling System</b>												
Check Radiator coolant level and coolant hose & heater hose connections for leaks.	√	√	√	√	√	√	√	√	√	√	√	√
Check & Replace accessory Drive belt tension (all type of engines)	√	√	√	√	√	√	√	√	√	R	√	√
Check & Replace idler/tensioner pulley/gear bearing assy		√	√	√	√	√	R	√	√	√	√	R
Change Engine coolant						R				R		
Check Fluid Reservoirs levels	√		√	√	√	√	√	√	√	√	√	√
Check Engine oil level and leakage	√											
Adjust intake and Exhaust valve clearance				√		√		√		√		√
Check the drive belts for cracks, fraying, wear & tension	√	√	√	√	√	√	√	√	√	√	√	√
Change Engine oil & oil filter		R	R	R	R	R	R	R	R	R	R	R
Check Vacuum pipe oil hoses connection	√	√		√		√		√		√		√
Check Diesel smoke (or) as per local regulation						√				√		
Check injection nozzle opening pressure and spray characteristics						√				√		
<b>Air, Fuel &amp; Exhaust</b>												
Replacement of air cleaner foam element (or when service indicator shows red band, whichever is earlier)						R				R		
Rectify fuel leakage if any / Check fuel lines (Every 20,000 till 80,000 and then every 10,000 Kms)	√			√		√		√		√		√
Remove drain plug fuel tank and drain off sediments.										√		
Check & drain water from Fuel filter			√	√	√	√	√	√	√	√	√	
Replace fuel filter element. Primary filter (at every 10000 kms /6months) & Secondary filter (at every 20000kms/12months)			R	R	R	R	R	R	R	R	R	R
Exhaust pipes and mountings, Check and if necessary replace	√			√		√		√		√		√



## Maintenance Schedule Chart

Maintenance Schedule  Work Nature	Distance Covered (in Kms) / Months in service whichever is earlier											
	PDI 500	5000/3m	10000/6m	20000/12m	30000/18m	40000/24m	50000/30m	60000/36m	70000/42m	80000/48m	90000/54m	100000/60m
<b>H V A C</b>												
Tighten the bolts on brackets and compressor	√		√	√	√	√	√	√	√	√	√	√
Change the HVAC filter element				R		R		R		R		R
Clean the evaporator (Every 40,000 Kms. or every 9 months in normal condition & 4 months in dusty condition)						√				√		
<b>Clutch &amp; Transmission &amp; Transfer Case</b>												
Clutch fluid. Check & Top up	√		√	√	√	R	√	√	√	R	√	√
Replace Transmission oil ( <b>GL 4 Rating Synchro Oil</b> )	√	R	√	R	√	R	√	R	√	R	√	R
Replace Transfer Case Oil (For 4WD Models only)	√	R	√	R	√	R	√	R	√	R	√	R
Clean & refit breather						√				√		
<b>Steering</b>												
Check All stg rods & Arms ( Loose , damage , wear ) + tighten intermediate shaft bolts	√		√	√	√	√	√	√	√	√	√	√
Check stg ball joint and dust covers			√	√	√	√	√	√	√	√	√	√
Check Steering wheel linkage & gear box oil	√			√		√		√		√		√
Check Power steering reservoir fluid level and hose connections for leaks	√		√	√	√	√	√	√	√	√	√	√
<b>Front Axle</b>												
Change grease in front wheel hub							R					R
Adjust bearing play ( 0.0254 mm - 0.1016 mm )							√					√
Check Front Axle Drive shafts ( Bent or boot damage )				√		√		√		√		√
Check, top-up if required & replace Front Axle differential gear oil (4WD Variants)	√	R	√	R	√	R	√	R	√	R	√	R



## Maintenance Schedule Chart

<div>Maintenance Schedule</div> <div>Work Nature</div>	Distance Covered (in Kms) / Months in service whichever is earlier											
	PDI 500	5000/3m	10000/6m	20000/12m	30000/18m	40000/24m	50000/30m	60000/36m	70000/42m	80000/48m	90000/54m	100000/60m
Rear Axle												
Check & change Rear Axle wheel bearing grease and check for Smooth rotation							R					R
Check, top-up if required & replace Rear Axle differential gear oil	√	R	√	R	√	R	√	R	√	R	√	R
Brake												
Check front brake pads, disc & other brake components for wear, deterioration & leaks			√	√	√	√	√	√	√	√	√	√
Check rear brake lining, drums & other brake components for wear, deterioration & leaks			√	√	√	√	√	√	√	√	√	√
Check Brake pedal operation	√	√	√	√	√	√	√	√	√	√	√	√
Check and adjust parking brakes	√	√	√	√	√	√	√	√	√	√	√	√
Check or Change Brake fluid @@	√	√	√	√	√	R	√	√	√	R	√	√
Pedals & Controls												
Check foot brake, parking brake & clutch for free play stroke & operation	√			√		√		√		√		√
Suspension												
Check Wheel alignment & rotate the wheels as per manual			√	√	√	√	√	√	√	√	√	√
Check shock absorber & its bushes (for oil leakages / damages), Replace if necessary				√		√		√		√		√
Check condition of bushes, rubber links in anti-roll bar Replace if necessary. @@					√			√			√	
Check the condition of rubber bushes in lower link of front suspension. Replace if necessary. @@					√			√			√	

@@ - or once in a year, whichever is earlier



## Maintenance Schedule Chart

<div>Maintenance Schedule</div> <div>Work Nature</div>	Distance Covered (in Kms) / Months in service whichever is earlier											
	PDI 500	5000/3m	10000/6m	20000/12m	30000/18m	40000/24m	50000/30m	60000/36m	70000/42m	80000/48m	90000/54m	100000/60m
Check condition of pivot bushes in top wishbone. Replace if necessary    @@					√			√			√	
Check and tight the suspension arm mounting bolts and ball joint mounting bolts to the specified torque			√	√	√	√	√	√	√	√	√	√
Electrical												
Check the Operation of all instruments, gauges, lights and accessories.	√		√	√	√	√	√	√	√	√	√	√
Check Battery fluid level, specific gravity and conditions of battery terminals (or once in six months)	√		√	√	√	√	√	√	√	√	√	√
Check Operation of Horn(s) wiper and washer	√		√	√	√	√	√	√	√	√	√	√
Check Operation of headlights ( High & Low beam ) & leveling mechanism	√		√	√	√	√	√	√	√	√	√	√
Check Operation of warning lights	√		√	√	√	√	√	√	√	√	√	√
Check & grease the wiper motor linkages (or Once in a year before monsoon)						√				√		
Interiors & Mechanisms												
Check Front and rear seats, and seat belts for operation.	√											
Check All moldings, trims and fittings for fit and alignment	√											
Check seat belts, buckles, retractors & adjuster	√			√		√		√		√		√
Check All windows for operation & alignment	√											
Check Hood, NVH covers, door panels for fit and alignment	√											
Check & lubricate Latches, Keys and locks for operation	√		√	√	√	√	√	√	√	√	√	√
Check & apply grease Door lock striker, Check arm, Bonnet opening lever & lock plate.	√		√	√	√	√	√	√	√	√	√	√

@@ - or once in a year, whichever is earlier



## Maintenance Schedule Chart

<div> <div>Maintenance Schedule</div> <div>Work Nature</div> </div>	Distance Covered (in Kms) / Months in service whichever is earlier											
	PDI 500	5000/3m	10000/6m	20000/12m	30000/18m	40000/24m	50000/30m	60000/36m	70000/42m	80000/48m	90000/54m	100000/60m
<b>Wheels &amp; Tyres</b>												
Tires rotation & Inflation pressure (Including Spare tyre )			√	√	√	√	√	√	√	√	√	√
Check & Grease Propeller shaft & sliding yoke	√		√	√	√	√	√	√	√	√	√	√
<b>Under Body Inspection</b>												
Check oil level & leak on Transmission, transfercase and differential propeller shafts, drive shafts, engine & body mounting bolts.	√		√	√	√	√	√	√	√	√	√	√
Lubricate locks, hinges & latch Tighten bolt and nuts of steering linkage, gear box, suspension,			√	√	√	√	√	√	√	√	√	√
<b>Road Test</b>												
Check clutch operation, parking brake operation, steering control & returnability, Engine performance, Squeaks & rattles, Body & Chassis noise, operation of service / parking brakes, gear shifting, instrument cluster, operation of HVAC	√	√	√	√	√	√	√	√	√	√	√	√



## Recommended Lubricants Chart

TEMPERATURE WISE LUBRICANT RECOMMENDATION FOR M&M EXPORT MODELS							
	PERFORMANCE SPECIFICATION		VISCOSITY CLASS SAE				
OIL TYPE	Petrol Engines	Diesel Engines	50° to 0°C	0° to -10° C	-10° to -20° C	-20° to - 25 ° C	Quantity
ENGINE OIL	API SJ	API CH4, MB 228.3, VDS-2, DHD-1	15W-40	15W-40	5W-40	5W-40 / 0W-30	Petrol Engine - 4.5 lit Diesel Engine (NEF) - 6 lit
TRANSMISSION OIL	GL4 <sup>#</sup>		80W-90	75W-90	75W-90	75W-90 / 70W-90	1.9 lit
AXLE OIL (Front / Rear)	GL5 / MIL-2105D <sup>#</sup>		90 / 80W-90	75W-90	75W-90	75W-90 / 70W-90	Rear axle - 1.8 lit Front axle - 1.2 lit
MANUAL TRANSFER CASE OIL	GL4		80W-90	75W-90	75W-90	75W-90 / 70W-90	1.6 lit
AUTOMATIC TRANSFER CASE OIL	ATF MEETING THE SPEC. OF DEXTRON II D & above						1.2
POWER STEERING OIL	CALTEX MAKE "TEXAMATIC" 1888 AT Fluid						0.8 lit approx
BRAKE & CLUTCH FLUID	DOT 3 TYPE Brake Fluid Meeting SAE J 1703 FMVSS No.116 or IS 8654 specifications						Scorpio - 0.8 lit Bolero - 0.65 lit
ENGINE RADIATOR COOLANT	* BASF MAKE "GLYSANTIN" 48-24 or 45-23 for Diesel vehicle& TOTAL FINA ELF MAKE "GLACELF SUPRA / BASF GLYSANTIN 33" For Petrol Vehicle						Coolant-Water Mixture Petrol - 8 lit Diesel - 10 lit
WHEEL HUB & CHASSIS LUBRICATION POINTS	Specification	Manufacturer	50 ° to 0°C	+0° to -10°C	-10° to -25°C		As required
	NLGI 2 Lithium Complex	BalmerLawrie	----	Cryotec 2	Cryotec 2		
		Castrol	LCG 2	LCG 2	--		
		Exxon-Mobil	XHP 222	XHP 222	SHC 220		
		Shell	Retinax LX2	Retinax LX2	Retinax EP2		

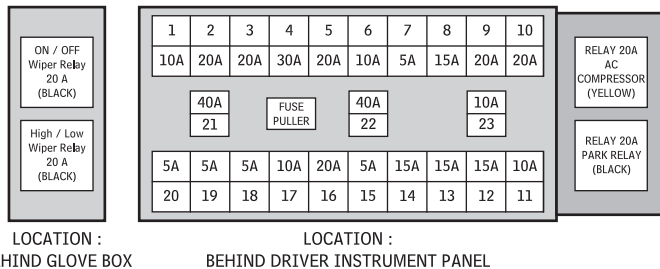
\* Mix coolant and clean water externally and fill up to the max level  
 Ratio : 30% Coolant + 70% Clean Water for temperatures down to 610  
 Below -10°C use 50% Coolant + 50% Clean water

# Seek approval for the specific brand  
 from R&D before recommending

All specifications are minimum  
 requirement



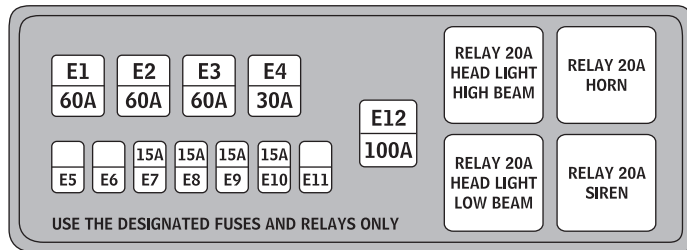
## Fuse & Relay Identification



Sl. No.	FUSE RATINGS	COLOUR CODING	PROTECTED COMPONENT
1	10A	RED	INTERIOR LAMPS
2	20A	YELLOW	FUEL LID / DRIVER DOOR PW
3	20A	YELLOW	4WD ECU
4	30A	GREEN	CONDENSER FAN
5	20A	YELLOW	HAZARD POWER
6	10A	RED	PARK
7	5A	BROWN	CRDe DIAGNOSTIC / ICU
8	15A	BLUE	REAR DE FOGGER
9	20A	YELLOW	BCM POWER
10	20A	YELLOW	CENTRAL DOOR LOCKING (CDL-1)
11	10A	RED	REAR WIPER MOTOR
12	15A	BLUE	FRONT WIPER MOTOR
13	15A	BLUE	AIR CONDITIONING SYSTEM
14	15A	BLUE	CIGAR/ MBFM
15	5A	BROWN	OUTSIDE REAR VIEW MIRROR
16	20A	YELLOW	K28/MBFM/IMMO
17	10A	RED	REVERSE / CLUSTER
18	5A	BROWN	ABS / IGNITION
19	5A	BROWN	AIR BAG
20	5A	BROWN	AUTO TRANSMISSION
21	40A	GREEN	POWER WINDOW
22	40A	GREEN	AC BLOWER
23	10A	ORANGE	AUDIO KEY IN

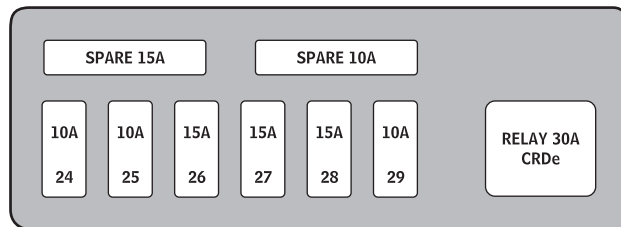


## Fuse & Relay Identification



LOCATION :  
ENGINE COMPARTMENT

Sl. No.	FUSE RATINGS	FUSE TYPE	COLOUR CODING	PROTECTED COMPONENT
E1	60A	MAXI FUSE	YELLOW	Maxi Fuse 1
E2	60A	MAXI FUSE	YELLOW	Maxi Fuse 2
E3	60A	MAXI FUSE	YELLOW	GLOW PLUG / ABS
E4	30A	MAXI FUSE	PINK	CRDe ECU
E7	15A	BLADE TYPE	BLUE	SIREN
E8	15A	BLADE TYPE	BLUE	HEAD LAMP HI BEAM
E9	15A	BLADE TYPE	BLUE	HEAD LAMP LOW BEAM
E10	15A	BLADE TYPE	BLUE	HORN & HAZARD
E12	100A	MAXI FUSE	BLUE	CHARGING SYSTEM

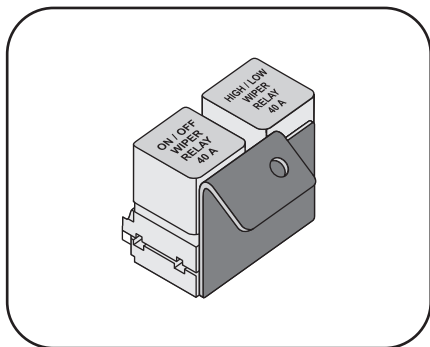


LOCATION :  
BEHIND GLOVE BOX

Sl. No.	FUSE RATINGS	FUSE TYPE	COLOUR CODING	PROTECTED COMPONENT
24	10A	BLADE TYPE	RED	A/C REQUEST
25	10A	BLADE TYPE	RED	HFM SENSOR
26	15A	BLADE TYPE	BLUE	EGR & BRAKE SWITCH & BOOST PRESSURE
27	15A	BLADE TYPE	BLUE	CRDe ECU SUPPLY - K05
28	15A	BLADE TYPE	BLUE	CLUSTER LAMP
29	10A	BLADE TYPE	RED	CRDe ECU SUPPLY - K01



## Fuse & Relay Identification



### Fuses

Your vehicle electrical system is protected by fuses. If any lights accessories or controls do not work, check the appropriate circuit fuse. If the inside element is melted indicates that the fuse is blown. Fuse box is provided inside the IP-driver panel and in the engine compartment.

#### To replace the blown fuse

- Turn off the ignition switch and other controls / switches.
- Open the IP-driver panel.
- Pull the fuse straight out with help of fuse puller provided on the fuse panel.

- Inspect it and replace if it is blown.
- Take a new fuse of the same rating from the spare fuses provided and fit it tightly in the appropriate fuse slot.

If you have no spare fuses, borrow one of the same ratings from a circuit not essential to vehicle operation. Get the spare fuses replenished at a Mahindra Authorised dealer.

#### CAUTION

Always replace a fuse with one of the same rating. Otherwise it will damage the vehicle electrical system.

If the engine is not starting or headlights do not work and the fuses in the instrument panel are okay, check the (high current) fuses in the engine compartment. If the fuses are blown, it must be replaced by Mahindra Authorised dealer or by a qualified technician.

#### To replace the heavy fuses

- Turn off the ignition switch and other controls / switches.
- Open the bonnet & secure it with stay rod
- Remove the negative battery terminal
- Open the fuse cover
- If fuse is blown, replace with a new one of the same rating.
- Install the fuse cover



## Light / Bulb Specifications

### Replacing The Lights Bulb

When replacing a bulb, make sure the ignition switch and light switch are off. Use only the correct wattage rating bulbs (refer the table for rating).

**TABLE ON LIGHT BULB & UNITS, WATTAGE AND TYPE**

LIGHT BULB	WATTAGE	CAP TYPE	NO. OF BULBS / Veh
Headlights	60/55W	H4 - P43T	2
Front turn signal lights	21W Amber	BAU15D	2
Front parking lights	5W	W5W	2
Side turn signal lights (Fender)	5W	W5W	2
High mount stop light (tail door type1)	5W	W5W	3
High mount stop light (tail door type2)	21W	BAS15D	1
High mount stop light (rear spoiler)	2.3W	W2.3W	9
Brake / tail lights	21/5 W	BAY15D	2
Rear Turn-signal lights	21W	BAS15D	2
Reverse lights	21W	BAS15D	2
Rear Fog Light	21W	BAS15D	1
Front Fog Light	35W	BAS15D	2
Rear License plate lights	5W	W5W	2
Interior lights bulb type 1 #	10W	C10W	1
Interior lights bulb type 2 #	10W	C10W	1
Side foot step lights *	5W	W5W	4
Glove box light *	3W	W3W	1

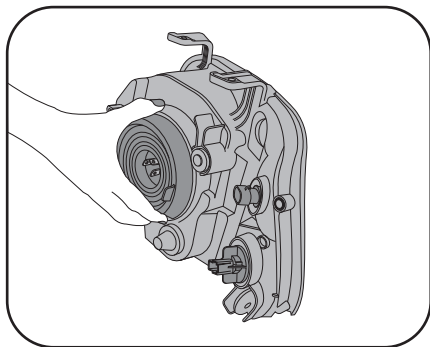
\* - on selected models # - model specific

### CAUTION

Using bulbs with units of higher output capacity/wattage is illegal and may damage your vehicle electrical system.



## Self Maintenance Checks



### CAUTION

To avoid burning yourself, do not replace the light bulbs when they are hot. Halogen bulbs have pressurized gas inside and are to be handled with special care. Mishandling, may cause the bulb to burst or shatter. Hold the bulb with its metal / plastic and do not touch the glass part with bare hands.

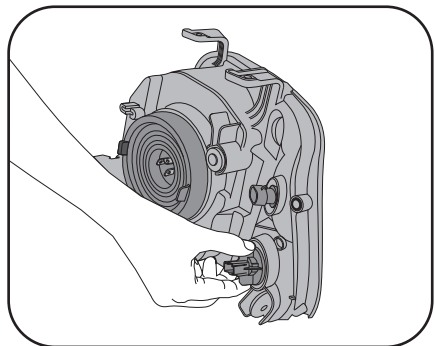
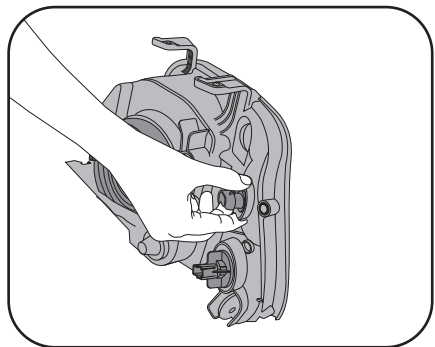
### Headlight Bulb

The headlight bulb can be replaced without removing the headlight assembly from vehicle. To replace the headlight bulb;

- Disconnect the negative terminal from the battery.
- Remove the rear dust cover from the headlight.
- Remove the bulb assy with connector from the headlight by unlocking the wire clamp.
- Detach the bulb assy from the wiring connector near to the headlight.
- Insert the connector in to the new bulb assy (of the same wattage), and follow the reverse procedure to assemble the bulb assy in the headlight assy.
- Clamp the bulb assy by wire clamp properly.



## Self Maintenance Checks



## Front Parking &amp; turn-signal light bulbs

## Parking Light

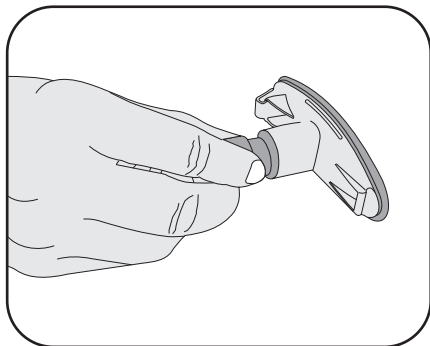
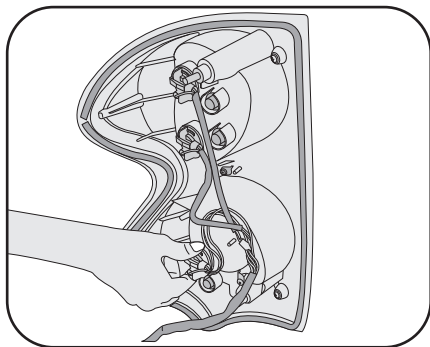
- Disconnect the negative terminal from the battery
- Remove the (upper) wiring connector
- Turn the bulb assy in anti-clockwise direction to remove it from the head light assy
- Insert the new bulb assy and turn clock wise direction to fit it properly
- Re-connect the wiring connector

## Turn Indicator

- Turn the bulb holder in the anticlockwise direction in order to remove the bulb holder
- Pull out the bulb holder from head light assy
- Replace the burned bulb with new bulb of the same wattage
- Assemble back the bulb & holder assy in to the head lamp
- Turn the bulb holder clockwise to lock it



## Self Maintenance Checks



### Rear Parking, turn-signal & tail light bulbs

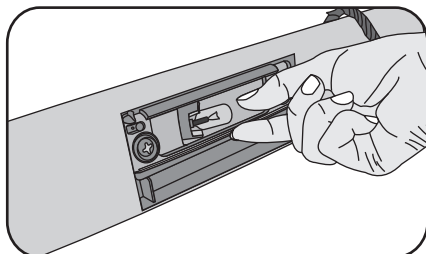
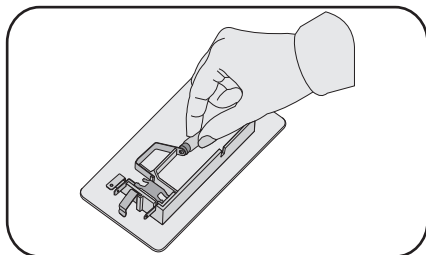
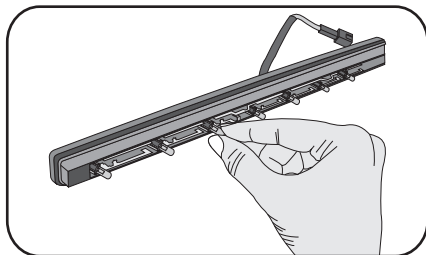
- Disconnect the negative terminal from the battery
- Remove the inspection cover from the inside the passenger compartment
- Turn the respective bulb holder assy in anti-clock wise direction to remove it from light assy
- Replace the bulb in the holder
- Re-assemble the bulb & holder assy back to the light assembly in the respective slot
- Turn the bulb holder clockwise to lock it
- Fit back the inspection cover

### Fender Side turn-signal light bulbs

- Use a small flat head screw driver as tool at the front side of light assy to remove it from the vehicle body panel
- Pull out the bulb holder from the lens
- Replace the burned bulb with new one
- Insert the bulb holder back to lens
- Keep the hook at rear side first and press the front side of the lens, to assemble it back on the vehicle body



## Self Maintenance Checks

**High mounted (rear spoiler) light bulbs - (on selected models only)**

- Take out the light (HMST) assy by loosening the mounting screws located on the top of the rear spoiler
- Dismantle the light assy & take off the bulb holder strip by loosening the screws on the back of the light assy
- Replace the bulbs of the same rating
- Re-assemble the light assy and follow the reverse procedure to fit the light back on the rear spoiler

**High mounted (inner roof) light bulbs**

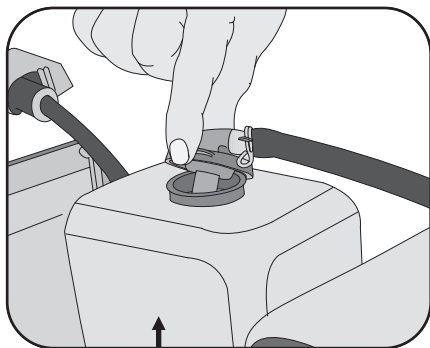
- Remove the light assy from the tail door by loosening the mounting screws
- Dismantle the lamp lens, outer cover & reflector by loosening the screws
- Replace the bulb with the same rating & type
- Re-assemble the light assy and follow the reverse procedure to fit the light back to the tail door

**Rear registration plate light bulbs**

- Remove the light lens & gasket by loosening the screws
- Pull out the burned bulbs and replace with new bulb of the same rating
- Fit back the lens & gasket by tightening the screws (Replace the gasket, if it is damaged)



## Self Maintenance Checks



Radiator Coolant - Reserve Tank

Maintenance of your vehicle is best performed at a Mahindra Authorised Service Station. However, for your vehicle to function in peak condition, it is necessary that you do a little maintenance yourself. This section provides maintenance instructions that are relatively easy to perform. Take maximum care when working on the vehicle to prevent accidental injury.

Check the following at regular intervals.

- **Lights :** Make sure that headlights, stop lights, tail lights, turn signal lights and other lights are working properly. And also check the headlight aim.
- **Engine coolant level:** Check the radiator reserve tank every time you fill the fuel tank
- **Windshield Wipers:** Check the wiper condition every month; Check for wear, cracks or other damage

### CAUTION

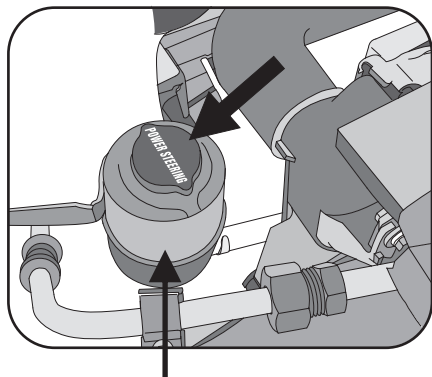
Working near the engine when it is running is dangerous. When the engine is running, keep hands, loose cloths, neckties, scarves & tools away from the moving fan and engine drive belts.

### CAUTION

If the engine is hot, do not remove / loosen the radiator cap to prevent burning yourself.



## Self Maintenance Checks



Power Steering Fluid Reservoir

**Brakes :** Check the brake fluid level regularly, if the level is low add the brake fluid until it reaches Max level. It should be kept at max level.



WARNING

Low brake fluid level could be dangerous. Low level could signal brake lining wear or brake system leak, which may leads to system failure and cause a serious accident. If you find fluid level low, have the brake system checked at Mahindra Authorised dealer.

If brake fluid spills in your eyes, they could be seriously injured. If this happens, immediately flush your eyes with water and get medical attention.

**CAUTION**

Brake fluid will damage the painted surface & interior /exterior trims. If brake fluid gets on these surfaces, wipe it off immediately.

**Power steering:** Check the oil level regularly when engine is off, if the level is low add the recommended power steering oil until it reaches Max level. It should be kept between Max & Min level.

- **Brake pedal:** Check the brake pedal for smooth operation
- **Clutch pedal:** Check the clutch pedal for smooth operation
- **Parking brake:** Check the parking brake lever for smooth operation
- **Tyres:** Check the tyres for air pressure; Check tread every month for wear and foreign objects
- **Battery:** Check battery and terminals for corrosion



### CAUTION

Be extremely cautious when working on the battery. It contains corrosive & poisonous sulphuric acid.

**Air conditioner:** Check its operation for effective cooling every week; Note any drop in cooling efficiency

**Windshield washer fluid :** Check that there is adequate fluid in the tank.

**Windscreen defroster :** Check the fan, heater and air conditioner every month

**Doors :** Check all doors including the tail door for smooth opening/closing and secure locking

**Seat Belts :** Check all the parts of seat belt system working properly and smoothly. Check belt webbing for cuts, fraying wear or damage.

### ADDING WIND SHIELD WASHER FLUID

If washer does not work, the washer tank may be empty. Add washer fluid.

Use recommended washer fluid or plain water (in case of non-availability of fluid). For the vehicles operated in cold area where the temperature is below freezing point, use the recommended washer fluid which contains antifreeze.

### NOTE

Do not use the engine antifreeze or any other fluids which are not suitable, because it may damage your vehicle's paint & exterior.

Regular cleaning and polishing of your vehicle helps keep it looking new.

### Windscreen Wiper Blades

When the wipers no longer clean well, the blades are probably worn or cracked. Replace them.

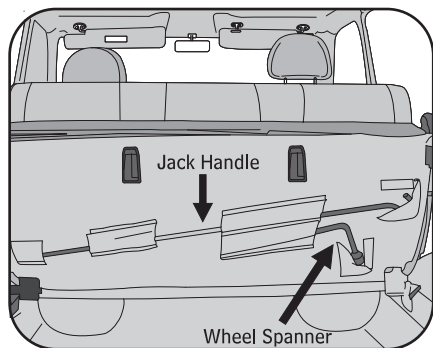
### CAUTION

To prevent damage to the wiper arms and other components, do not move the wipers by hand.

- Do not operate the wipers on a dry screen
- In freezing or very hot conditions, ensure that the blades are not frozen or stuck to the glass
- In winter, remove any snow or ice from around the arms and blades, including the wiped area of the windscreen.



## Self Maintenance Checks



## Toolkit

**Jack:** The jack is located under the co-driver's seat.

**Wheel spanner & jack handle:** In double cab models, the tools can be found strapped on to the bottom of the 2<sup>nd</sup> row seat.

**Toolkit bag:** Located under the co-driver's seat

## Identifying Vehicle Problems

To identify the problems with your vehicle, pay close attention to the following:

**Fluid leaks:** If you frequently find puddles underneath the vehicle, you may be able to identify the origin from the color/odor of the fluid.

- Coolant is usually bright green
- Oil is brown
- Power steering fluid is generally red
- Brake fluid is either tan or clear
- Fuel (diesel/petrol) has a distinct odor
- If the fluid is plain water, touch it. If the water is cold, then it may be the condensation from your air conditioning system and there is nothing to worry about.

**Warning Lights:** Warning lights on your dash board give important information about your vehicle. Go through the section on the instrument panel to learn about warning lights.



Never try to work on injection system with engine running. There may be high-pressure in pump, rail, injectors and high pressure pipes. The high pressure spray produced by fuel leaks may cause serious injuries.

## BREAK DOWN WARNING

The hazard lamps will flash for 10 minutes when all of the following conditions are met:

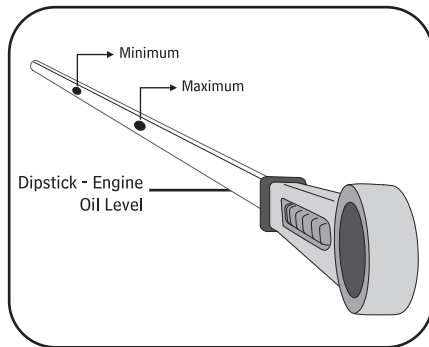
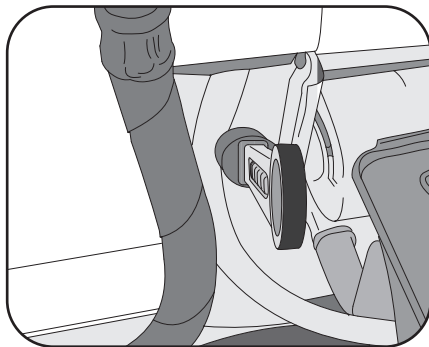
- (a) Bonnet switch is open
- (b) Current value of odometer reading is greater than or equal to 250 km



When the break-down warning is active, transition of hazard switch from ON to OFF shall deactivate this feature.



## Engine Oil Check



### Engine Oil Check

Engine oil has the primary functions of lubricating and cooling the inside of the engine. It plays a major role in maintaining the engine in proper working order. Therefore, it is essential to check the engine oil regularly.

#### Engine oil consumption:

It is normal for engines to consume some engine oil during operation. Causes of consumption in a normal engine are as follows:

Oil is used to lubricate pistons, piston rings and cylinders. Thin films of oil, left over when pistons move in cylinders, are sucked into the combustion chamber due to high negative pressure generated when the vehicle is decelerating. This oil gets burnt in the combustion chamber.

Oil is also used to lubricate the stems of intake valves. Some of this oil is sucked into the combustion chamber together with the intake air and is burnt there.

Engine oil consumption depends upon the viscosity and quality of the oil, and upon the conditions in which the vehicle is driven. Oil consumption will be more due to high speed driving and frequent acceleration and deceleration. A new engine may consume more oil since its pistons, piston rings and cylinder walls are not conditioned.



WARNING

If the oil pressure warning light glows continuously, check the engine oil level and add the recommended grade of oil, if necessary.



## Engine Oil Check

### Checking the Engine Oil

- Be sure, the vehicle is on a level surface.
- Warm up the engine to normal temperature
- Turn it off and wait for 10~15 minutes for the oil to return to the sump. Pull out the dipstick and Wipe the dipstick with a clean cloth or paper towel
- Insert it all the way back in its tube
- Remove the dipstick again and check the level. It should be between the maximum and minimum marks. If the level is close to the minimum mark, add oil.

#### CAUTION

A hot engine is dangerous. If the engine has been running, parts of engine / engine compartment can become very hot. You could get burnt / injured. Avoid working when engine is hot.

### Changing the Engine Oil

- Remove the drain plug in the sump
- Drain the engine oil
- Put the plug back in place
- Fill with recommended engine oil (Refer lubrication chart given on the start of this chapter)

#### NOTE

Change the engine oil every time you replace the oil filter. Mahindra recommends the use of correct grade of engine oil according to the temperature range the vehicle is being operated. Changing the engine oil and the coolant should be done by Mahindra Authorised dealer.

The drain plug has a magnet that attracts metallic particles. Hence, clean the drain plug every time engine oil is changed.

Failure to check the engine oil level regularly may lead to engine trouble / poor performance due to insufficient oil.

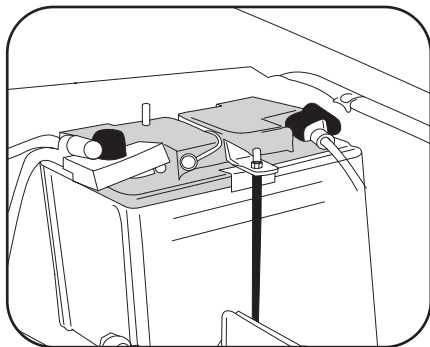
#### CAUTION

- Do not add engine oil over maximum mark.
- Used engine oil contains harmful contaminants which may cause skin disorders. Avoid prolonged / repeated direct contact with used engine oil. Wash your skin thoroughly with soap & water.
- Do not leave used engine oil within the reach of children.
- Dispose used oil & filter only in safe & acceptable manner as per local law. Do not dispose in sewage or household trash.

**Oil Filters :** Replace the oil filters at recommended intervals.



## Battery Check



### Checking Battery Condition

#### Battery Exterior

Check the battery exterior for corroded or loose terminal connections, cracks or loose hold-down clamp. First remove the ground cable from the negative ('-') terminal. After checking, the cable to the negative terminal should be installed last. If the battery terminal is corroded, wash it with a solution of warm water and baking soda.

#### CAUTION

Prevent further corrosion by applying petroleum jelly to the outside of the terminals. If the terminal connections are loose, tighten their clamp nuts, but do not tighten excessively. Tighten the hold-down clamp only enough to keep the battery firmly in place. Tightening excessively may damage the battery's case.

- Be sure the engine and all accessories are turned OFF before performing maintenance.
- When washing, ensure that the washing solution does not get into the battery.
- Do not remove the battery connection while engine is in running. This may cause serious damage to fuel system-ECU and to other electronic equipments.



**Battery Check**

- Always disconnect the negative terminal cable first from the battery. But when reconnecting, always connect the cable to the positive terminal first.

**Checking Electrolyte Level**

Check the electrolyte level and specific gravity at intervals of three months. Check **all** the six cells for proper electrolyte level. If the level is below the lower marker, add distilled water until the level reaches the upper marker.

**Adding Distilled Water**

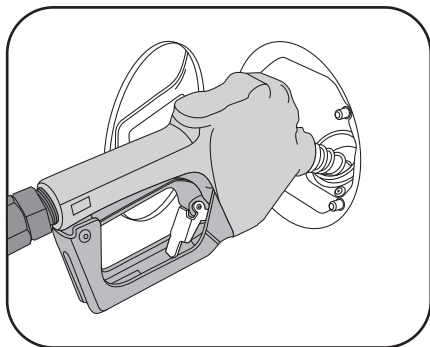
- Remove the vent plugs
- Add distilled water to **all** the cells that require the fluid
- Secure the plugs properly

**CAUTION**

Do not fill distilled water beyond the upper mark level. Excessive electrolyte could squirt out of the battery during heavy charging, causing corrosion or damage.





**CAUTION**

Do not use leaded fuel, kerosene etc. Instead use unleaded petrol / gasoline in case of petrol engine. In case of diesel engine use only BS3 diesel on BS3 vehicles and BS2 or higher grade of diesel on BS2 vehicles.

**Catalytic Converter**

The catalytic converter is an emission control equipment fitted in the exhaust system, that reduces pollutants by converting poisonous exhaust emissions from the engine into less environment polluting gases. It converts harmful un-burnt hydrocarbons, carbon monoxide and oxides of nitrogen into harmless carbon dioxide, water vapor and nitrogen.

Care and maintenance to minimize the possibility of damage to the catalytic converter

- Maintain the engine in the proper operating conditions
- Consult a Mahindra Authorised Dealer/Service Center at the earliest in the event of irregular running of engine following a cold start, misfiring, a significant loss of vehicle drivability or other unusual malfunctions which may indicate a fault in the ignition system.

**CAUTION**

- Avoid jump starting of the engine by pushing or towing the vehicle, or by coasting downhill.
- Use Euro IV diesel or higher grade for Euro IV diesel engines, and Euro III diesel or higher grade for Euro III diesel engines.
- Avoid frequent cold starts.



## Catalytic Converter/Fuel



Even if the emission control system is operating properly, under certain engine operating conditions there may be an unusual exhaust smell from the vehicle.



High temperature in catalytic converters (in very unfavorable conditions) may cause fire if it comes in contact with inflammable materials. Therefore the vehicle should be parked in such a way that the catalytic converter does not come in contact with inflammable materials such as grass, leaves, paper or rags.

## CAUTION

- Avoid inhaling the engine exhaust.
- Do not run the engine in a closed area / garage except for time needed to take the vehicle in & out. The exhaust gas reduces the oxygen content in the air and can cause unconsciousness or even death.
- If the exhaust smells / fumes are detected inside the vehicle, drive the vehicle with windows fully open and have the cause immediately rectified.

## Draining water from fuel Filter

The fuel filter warning light on indicates that the water from the fuel filter has to be removed immediately.

- Place a small open container / tray under the drain plug cum sensor to collect the water.
- Turn the drain plug cum sensor about 2 to 2½ turns in the anti clockwise direction
- Operate the priming pump until fuel begins to flow clean & clear.
- After draining, retighten the drain plug cum sensor, carefully by hand. Use the priming pump to inspect for leaks.



### CAUTION

Never drive the vehicle if the fuel tank is nearing empty (in vehicle fitted with catalytic converter). This can cause irregular fuel supply leading to misfiring. Misfiring allows unburned fuel into the exhaust system which can cause overheating and damage the catalytic converter.

Misfiring can cause a loss of power and engine running may also be rough. This may be due to fault in the ignition system. Reduce your speed immediately and have the fault rectified. Remember your Mahindra dealer knows best about your vehicle and its emission control system.

### NOTE

Even if the emission control system is operating properly, under certain engine operating conditions there may be an unusual exhaust smell from the petrol vehicle. This may be due to the sulphur content in the fuel. This can usually be corrected by selecting another brand or filling up higher grade than RON93 unleaded petrol.

- Do not switch off the engine or interrupt the ignition when the gearbox is engaged and the vehicle is in motion.
- Do not idle the vehicle for prolonged periods if idling seems rough or indicates any other malfunctions.
- Do not empty the fuel tank totally.
- Do not switch off the ignition when the vehicle is coasting down a slope.
- Do not park or operate the vehicle near combustible materials such as dry grass and leaves as this may lead to fire hazard.
- Avoid driving on roads flooded with water.
- Do not operate the engine in confined areas such as garages.
- Check for exhaust system leaks and any other damages:
  - Each time your vehicle is raised up for an oil change.
  - Whenever you notice a change in the noise of the exhaust system.
  - Whenever the tail pipe end of the exhaust system is found rusty.



## Tyre Inspection

The recommended tyre pressures for front and rear tyres (Laden/Partial Laden), in cold condition, are as under :

P235 / 70 R16 & P235 / 75 R15		
	Laden	Partial Laden
<b>FRONT</b> in Kg/cm <sup>2</sup> (PSI)	2.2 (32)	2.2 ( 32 )
<b>REAR</b> in Kg/cm <sup>2</sup> (PSI)	2.2 (32)	2.2 (32)

\* Laden - Fully loaded vehicle

# Partial Laden - Up to 5 persons + 40 kg luggage

## Tyre Pressures

For reasons of proper performance, safety, and better fuel economy, always maintain the recommended tyre pressure and stay within the recommended load limits and proper weight distribution.

**CAUTION**

- Driving your vehicle with different types of tyres is dangerous. It could cause poor handling and poor braking resulting in loss of control.
- Using any other tyre size than what is specified for your Scorpio is dangerous. It could seriously affect ride, handling, ground clearance, tyre clearance and speedometer calibration. This could cause serious accident. Use only tyres that are correct size specified for your vehicle.

**NOTE**

Warm tyres normally exceed recommended pressures. Do not release air from warm tyre to adjust the pressure.



Driving on tyres with over-inflation or under-inflation is dangerous. It will affect the vehicle handling and may result in an accident. Always inflate the tyres to the correct pressure.





## Tyre Inspection



### Tyre Inspection

Inspect your vehicle's tyres periodically by performing the following checks :

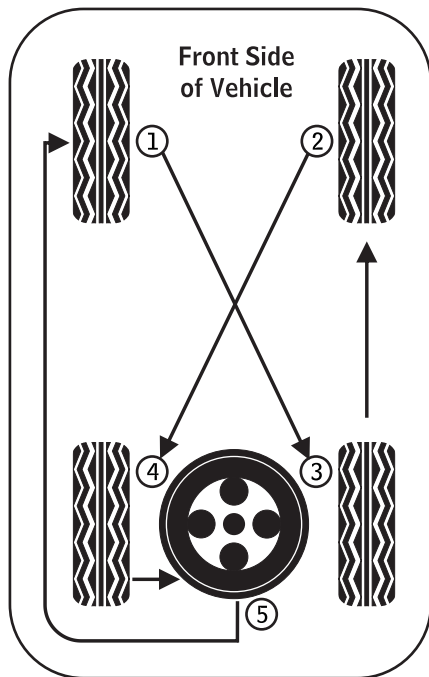
- Measure the air pressure with a tyre gauge only when the tyres are cold. Adjust the pressure if necessary.
- Check for abnormal wear, cracks and damage. If any tyre shows abnormal wear, have it inspected by your Mahindra Authorised Dealer and replace it if necessary.
- Check for loose wheel nuts.
- Check for stones, nails and other objects that may be stuck in the tread.

Plug method (mushroom type) is preferred over filler method, for repairing the punctured tubeless tyres. And avoid the patch method, for tyre repairing. Use proper tools for mounting tubeless tyres on & de-mounting from the wheel rim, to avoid the tyre bead / wheel rim damage.





## Tyre Inspection / Rotation &amp; Flat Tyre

**CAUTION**

- Air pressures should be checked when the tyres are cold. Otherwise, you may get inaccurate results. Never under-inflate or over-inflate tyres. Under-inflation may cause the rim to slip on the tyre bead, resulting in an accident or damage to the tyre or rim. Over-inflation may cause the tyre to burst.
- Do not mix different ply-type-ratings and/or different brands, construction or tread patterns of tyres on your Mahindra vehicle and do not use tyres other than the manufactures recommended size. DO not use the alloy wheels / rims other than the recommended. Doing so may cause dangerous handling characteristics resulting in loss of control.



Driving with worn tyres is dangerous.

**Tyre Rotation & Wheel Alignment**

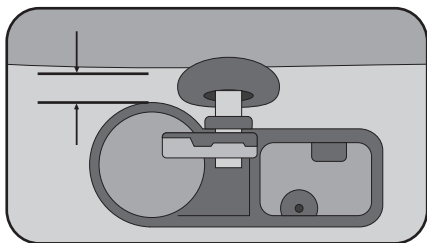
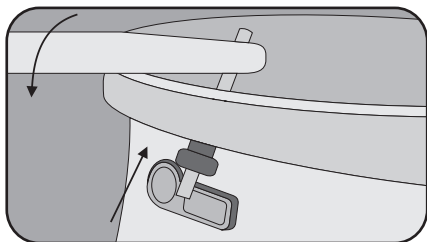
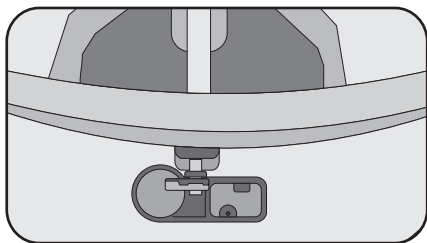
To avoid uneven wear of the tyres and to prolong their lives, rotate the tyres as shown alongside. Tyres should be rotated every 10,000 km, as recommended in the periodic maintenance schedule. After rotation, adjust front and rear tyre pressures to recommended levels.



- For best results rotate tyres every 5,000 km
- Wheel balancing must be done every 20,000 km or whenever your vehicle has a flat tyre.

However, the most appropriate time to do the tyre rotation may vary according to your driving habits and road surface conditions.





### TPMS Sensor Installation Procedure (If installed)

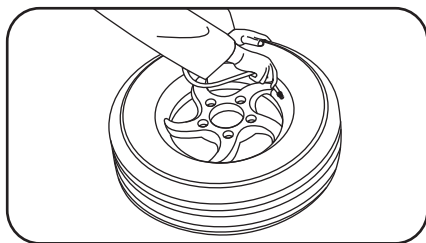
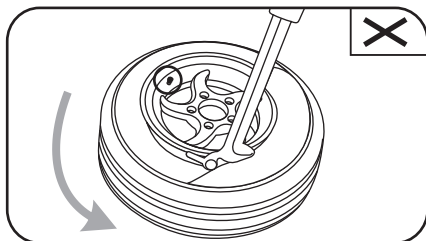
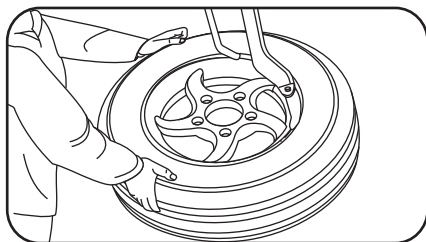
1. Line up sensor with rim hole and attach TTV insertion tool to end of valve ready for pull in.
2. Ensure TTV insertion tool is positioned to correct notch and that the sensor is pulled through in a direction parallel to the valve whole axis and NOT at an angle to it.
3. The picture below shows a correctly fitted sensor. Note the rubber bulb of valve resting against rim and the front face of the enclosure is NOT touching the rim. Apply tyre soap solution to rubber portion of valve stem and top of enclosure.



Start-off mounting the tyre completely opposite to the valve location.



## Tyre Inspection / Rotation &amp; Flat Tyre



4. Place inner tyre bead over the rim.
5. Place outer tyre bead over the rim.
6. Starting of mounting the tyre from the valve location is a wrong fitment. Fixing tool / stem may hit the sensor and damage it.
7. Inflate all tyres to prescribed pressure, check valve area for leakage and re-balance the wheels prior to installing back on the vehicle.

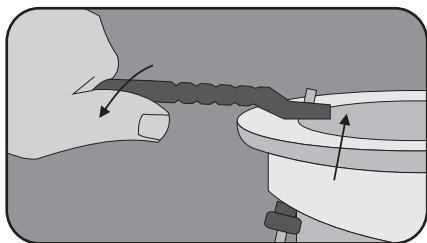
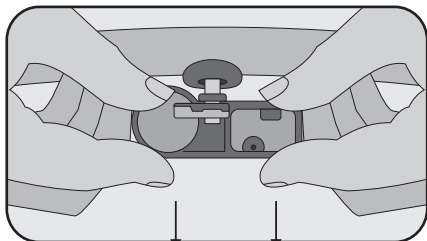
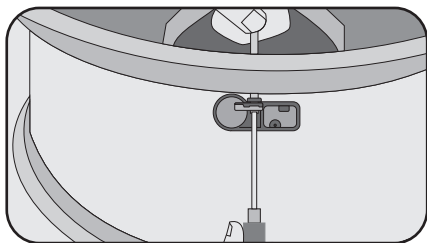
## NOTE

Placard tyre pressures 32 psi at 30° C.





## Tyre Inspection / Rotation & Flat Tyre



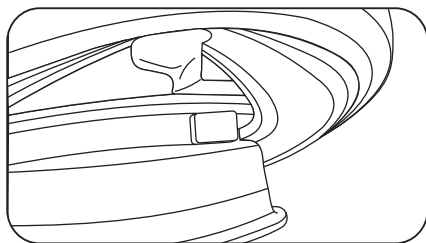
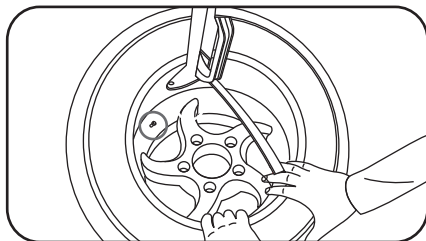
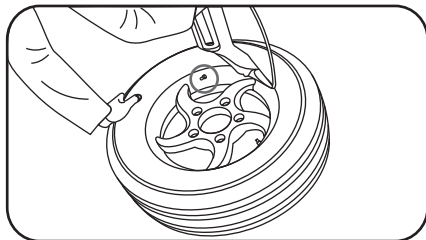
### TPMS Sensor Removal Procedure

1. Remove the tire from the Rim.
2. To remove sensor, firstly remove the screw using a T10 TORX screwdriver.
3. Carefully & firmly pull the enclosure straight back off the valve.
4. Cut the rubber bulb and attach the TTV tool to the valve. Remove the valve from the rim by pulling through the rim, or simply pull through without cutting the bulb.





## Tyre Inspection / Rotation &amp; Flat Tyre



5. Lift outer tyre bead over the rim using a tyre tool.



Valve must be positioned to the left of the start position to avoid sensor damage. Do not touch sensor with tyre tool.

6. Lift inner tyre bead over the rim using a tyre tool.

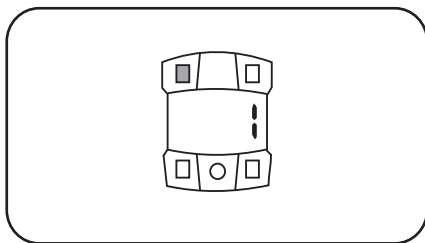
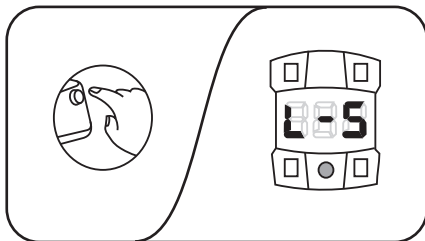
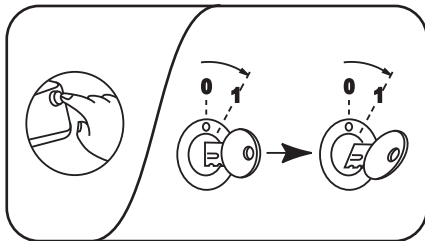


Valve must be positioned to the left of the start position to avoid sensor damage. Do not touch sensor with tyre tool.

7. Lift inner tyre bead over the rim and remove existing valve stem.



## Tyre Inspection / Rotation & Flat Tyre



### Tyre Rotation Procedure:

After tyre rotation or sensor replacement receiver must be learnt, otherwise the system will show tyre pressure to the wrong location.

### Learning:

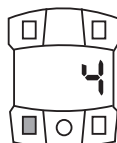
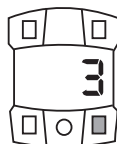
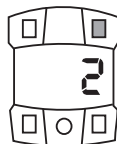
The receiver should learn sensor locations. Every sensor has its own identification. By learning procedure, the concerned location of the sensor will be informed to the receiver.

### Procedure :

1. Press and hold Mode button.
2. Turn on ignition.
3. Release mode button when Display Shows L5 and 2 horn chirp indicates learning is initiated.
4. Deflate Front Left tyre till 1 horn chirps comes, indicates learning of the particular tyre is over, and automatically next tyre (FR) will start blinking. Same time display will show 1. If activation of the sensor is not done in 1 minute it will come out from the learning mode.
5. After FL tyre programming the FR tyre will start blinking . Deflate FR tyre till 1 horn chirp comes indicates learning of the particular tyre is over, and automatically next tyre (RR) will start blinking. Same time display will show 2.
6. After FR tyre programming the RR tyre will start blinking . Deflate RR tyre till 1 horn chirp comes indicates learning of the particular



## Tyre Inspection / Rotation &amp; Flat Tyre



tyre is over, and automatically next tyre (RL) will start blinking. Same time display will show 3.

7. After RR tyre programming the RL tyre will start blinking . Deflate RL tyre till 1 horn chirp comes indicates learning of the particular tyre is over, and automatically next tyre (SP) will start blinking. Same time display will show 4.
8. After RL tyre programming the spare tyre will start blinking . Deflate spare tyre till 3 horn chirp comes indicates learning of the all tyres is over.
9. Switch OFF ignition system will give all tyre pressure (except spare)

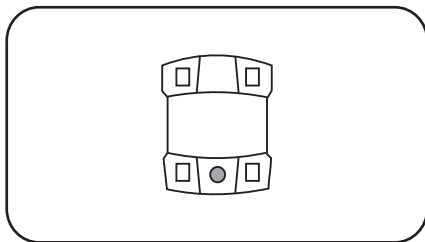
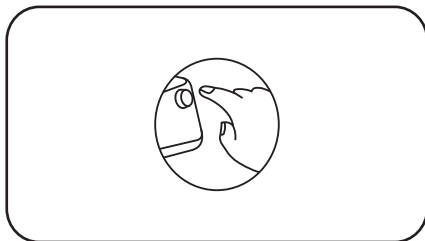
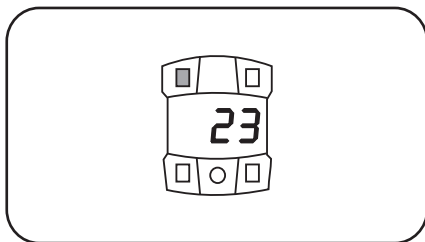
**LIMITATIONS**

- TPMS does not monitor other conditions such as tyre wear but monitor only tyre pressure and temperature.
- TPMS does not detect an instant tyre burst or other defect and inform the driver in advance.
- There may be the possibility of getting all tyre location indicator on TPMS display Blinking along with the TPMS telltale, on passing environment area prone to heavy power lines and RF signal.
- But automatically it will come back to normal condition whenever interference gets cleared.





## Tyre Inspection / Rotation & Flat Tyre



### Using spare tyre in case of tyre puncture :

#### Procedure :

1. Complete the physical process of swapping the tyres and drive the vehicle.
2. Once the vehicle is driven with spare tyre on the deflated tyre location and deflated tyre on the spare tyre location, TPMS controller itself will understand that one of the tyres is swapped with the spare.
3. It will blink both spare tire location indicator and the tyre which is swapped with spare.
4. To acknowledge spare tyre swapped, press mode button 2 times when spare and the tyre which is swapped with spare is blinking.
5. TPMS acknowledges the changes in tyre position and if tyre (which was swapped with spare) was having the fault it will be indicated at spare position.

For example, if FL tyre is punctured then TPMS will give fault at FL location and after physically swapping the tyre with spare, vehicle will be driven. System will understand that spare is swapped with FL, it will indicate by blinking both FL and spare tyre location, at the time of blinking, user has to acknowledge the swapped, after acknowledgement spare will start blinking indication that faulty tyre is there at spare position.







## Tyre Inspection / Rotation & Flat Tyre



6. After rectifying the puncture from spare wheel, user has to acknowledge this to TPMS controller.
7. To acknowledge the rectified spare tyre press the mode button 4 times, on TPMS pressure Display spare tyre will appear, press SET button to confirm.
8. Now the spare tyre location indicator will stop blinking and the TPMS system will work normally. Fault at spare position will be displayed after swapping or if spare it self is having the fault, if spare tyre rectified is acknowledged with out rectifying the fault system can not detect it. It is user responsibility to check spare tyre before starting the vehicle.







## Tyre Inspection / Rotation & Flat Tyre



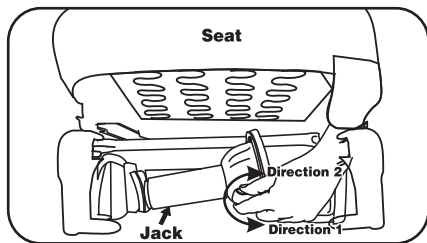
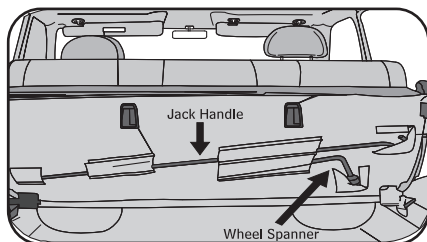
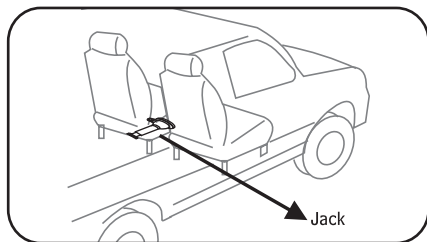
### Important Points :

1. It is recommended to fill the pressure to 32 psi at digital gauge station only.
2. Every 15 days, owner has to inflate all the tyres up to 32 psi and inflation should be done at cold condition / ambient temperature.
3. Pressure deviation B/W TPMS Display and gauge will be depending upon the following factors :
  - Atmospheric pressure
  - Error in pressure filling gauge (not calibrated)
  - Air leakage during inflation / deflation
4. TPMS measures the absolute pressure of the tyre not relative pressure (gauge pressure).
5. Pressure deviation is defined for 0.5 psi (min) and 3 psi (max).
6. TPMS sensor has inbuilt battery which needs to be replaced with use.
7. If vehicle battery / fuse is first disconnected and then connected, it will update the pressure after vehicle is driven or sensor is activated.
8. While inflating tyre, updating pressure depending on the rate of the deflation.
9. It should be noted that if tyres are rotated or replaced the sensor on your vehicle, **MUST** be re-programed with the receiver unit inside, otherwise the receiver will consider the sensor on a different wheel location.
10. At a time, only one tyre can be swapped with spare wheel and then follow the learning procedure.
11. If more than one tyre needs to be learned, learn all 5 tyre as per manual learning procedure.
12. TPMS is only a warning / indicating device and pressure / temperature values displayed by the system is for indication only. This system should not be seen as a measuring device.
13. During winter or in cold conditions, there may be chances of getting a pressure alert with the corresponding tyre location indicator in the display, if the tyre pressure is near the thresholds level. i.e. between 28 psi to 24 psi. However, this alert will get cleared after driving a few kilometers depending upon the climatic condition.





## Tyre Inspection / Rotation &amp; Flat Tyre



## If the vehicle has a run-flat tyre

- Slow down and move cautiously off the road. Park in a place away from the traffic. Avoid stopping in the center of a road
- Turn off the engine & turn on the hazard lights
- Activate the parking brake and set the transmission to reverse
- Place hazard warning triangle, supplied in the toolkit, 10 meters behind your vehicle facing on-coming traffic.

**NOTE** If the following occurs while driving, it could indicate a run-flat tyre.

- Steering becomes difficult / Vehicle pulls in one direction.
- The vehicle begins to vibrate excessively / abnormally.

**CAUTION** Do not drive with a deflated tyre. Doing so can damage the wheel and tyre.

## Changing Run-Flat Tyres

To change a run-flat tyre you will require the following:

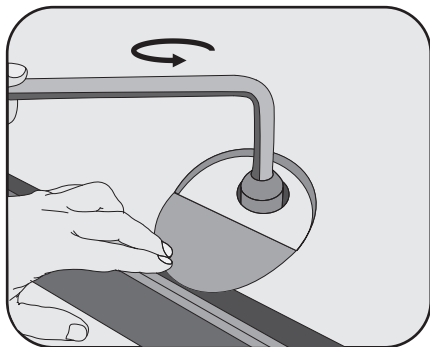
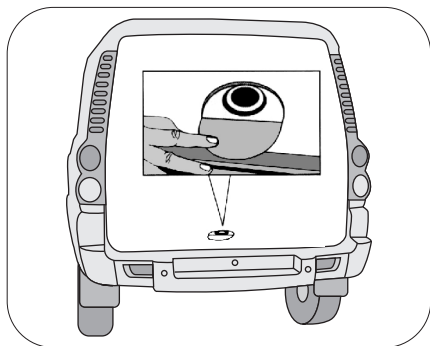
Jack, Jack Handle, Tool Kit & Spare Tyre Getting acquainted with the locations of each of the tools mentioned above and learning to use them will help you in emergencies.

## Removing &amp; Storing the Jack

- To remove the jack from the brackets, turn the joint in direction 1 (as shown in the diagram).
- To store the jack, place it between the brackets and turn the joint in direction 2 (as shown in the diagram).

**CAUTION** Secure the jack properly in its location to prevent it from flying forward during collision or sudden braking.



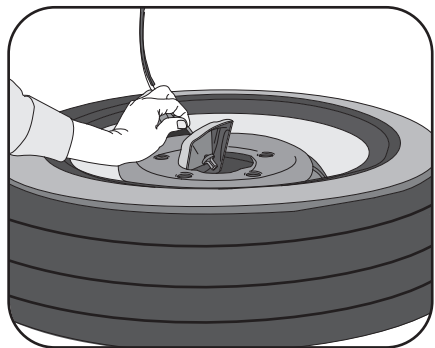
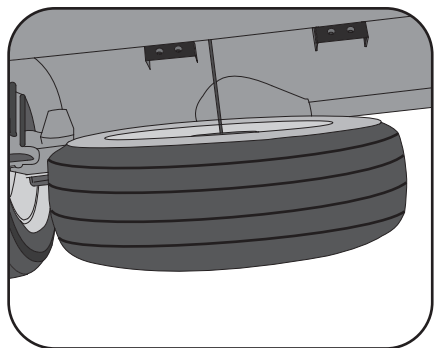


### Removing the Spare Tyre

- Open the tail door
- Lift the carpet covering as shown
- Remove the rubber plug
- Insert the end of the wheel spanner into the lowering screw
- Turn the wheel spanner in the clockwise direction (the tyre lowers with each turn)



## Tyre Inspection / Rotation &amp; Flat Tyre



## When fitting back the spare wheel

- Put it in place with the outer side of the wheel facing up.
- Place the retaining plate in the center of the spare wheel.
- Then secure the spare wheel properly by tightening the tyre winch screw extension.
- Check the spare wheel from the side of the vehicle to ensure the spare wheel secured properly.

## NOTE

If the tyre is not stored securely, spare wheel winch will not lock properly. Even though it may lock temporarily, the spare wheel may fall out while the vehicle is moving.

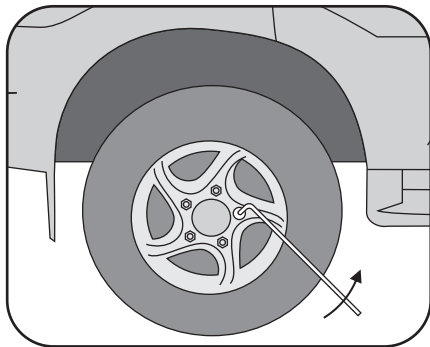
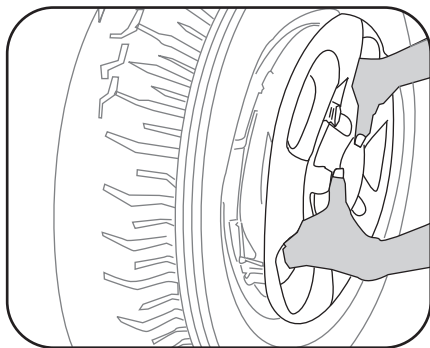
## CAUTION

To prevent the vehicle from rolling when it is jacked up, block the wheel which is diagonally opposite the flat tyre.





## Tyre Inspection / Rotation & Flat Tyre



### Removing the Wheel Cover (If Applicable)

Pry off the wheel cover, using a screw driver and then pull it out with hands. Wrap the tip of the screw driver with cloth, then insert it near the lugs of the wheel cover and pry the cover away from the wheel.

#### CAUTION

Do not try to pry off the wheel cover by hand. Take due care in handling the wheel cover to avoid unexpected personal injury.

### Loosening all the Wheel Nuts

Always loosen the wheel nuts before raising the vehicle.

Turn the wheel nuts anti-clockwise to loosen them. To get maximum leverage, fit the wheel spanner to the nut so that the handle is on your right, as shown. Grab the wheel spanner near the end of the handle and pull up on the handle. Be careful that the spanner does not slip off the nut. Do not remove the nuts yet. Just unscrew them about one-half turn.



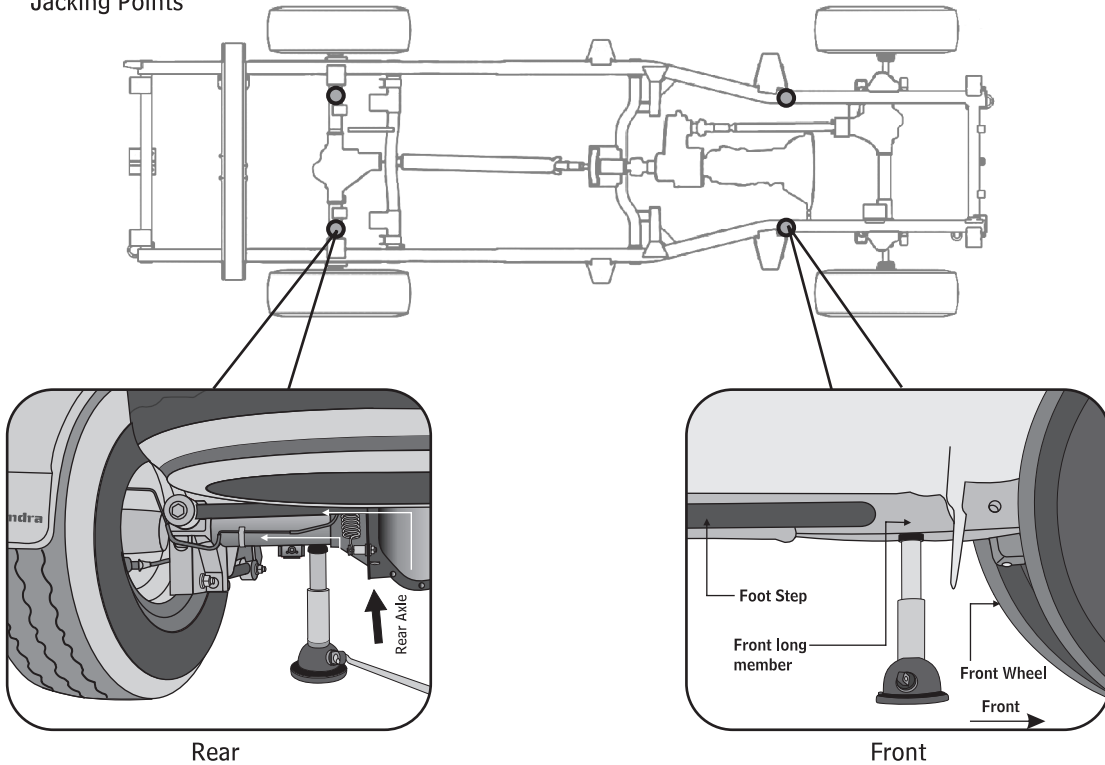
On 4WD models with manual shifting transfer-case, the transfer shift lever should not be kept in 'N' position, to prevent from vehicle rolling.





Tyre Inspection / Rotation / Flat Tyre

Jacking Points





### Positioning the jack at the correct location

- Front jack up point - below chassis side long member just behind the front wheels (refer to diagram)
- Rear jack up point under rear axle (refer to diagram)
- Ensure that the jack is on solid and level ground
- Insert the jack handle into the jack and turn clockwise
- Ensure that the handle remains firmly fitted
- When the jack touches the vehicle, check once more to see that it is properly positioned under the vehicle
- Raise it high enough to remove the flat tyre and install the spare one

#### CAUTION

- Ensure that the vehicle is on firm and level ground
- Block the wheel diagonally opposite the flat tyre
- The jack supplied is only designed for your model. Under no circumstances, attempt to lift heavier vehicles or other loads.
- Apply the hand brake before jacking up the car. Never start the engine when the car is jacked up for the risk of accident.
- If it is necessary to carry out work underneath the vehicle, ensure that it is supported on suitable stands.
- Never position the jack under the rear suspension leaf springs at any circumstances.

Position the jack properly under the vehicle. Raising the vehicle with an improperly positioned jack may damage the vehicle or cause personal injury.

- Do not put any object on or under the jack
- Raise the vehicle only high enough to remove the flat tyre and install the spare one.

When the vehicle is supported by the jack:



Do not put any part of your body under the vehicle (personal injury may occur in case the jack gives in or slips off).

Do not start or run the engine.



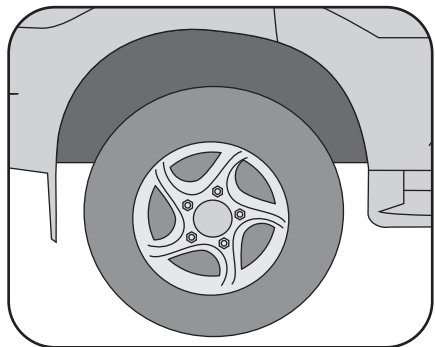
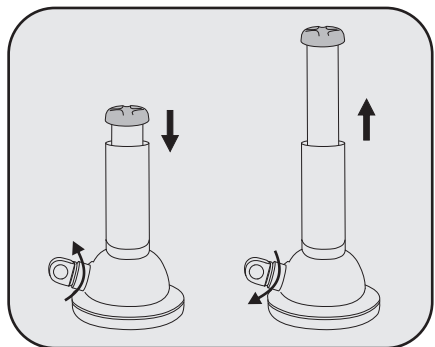
Attempting to jack the vehicle in position other than recommended in this manual is dangerous. The vehicle could slip off the jack and seriously injure. Use the location as recommended in this manual.

#### CAUTION (4WD only)

- Do not position the jack under the torsion bar when jacking the front wheel.
- On 4WD models with manual shifting transfer-case, the transfer shift lever should not be kept in 'N' position, to prevent from vehicle rolling.



## Tyre Inspection / Rotation &amp; Flat Tyre



## Removing the Wheel Nuts and Changing the Tyres

- When the wheel is off the ground, remove the wheel nuts completely
- Lift the flat tyre off the bolts and set it aside
- Clean the bolts with a wire brush to remove corrosion (lack of good metal to metal contact on the mounting surfaces may loosen the nuts and cause the wheel to come off when driving)
- Position the spare so that the holes in the wheel align with the bolts
- Press the tyre over the bolts till it is secured properly (you may need to wiggle the tyre a little)

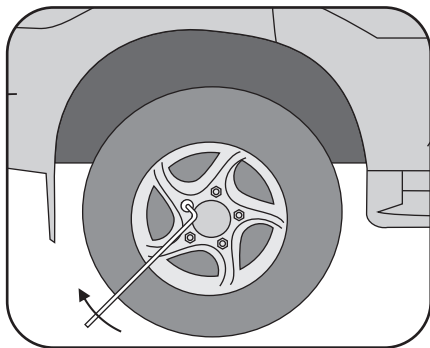
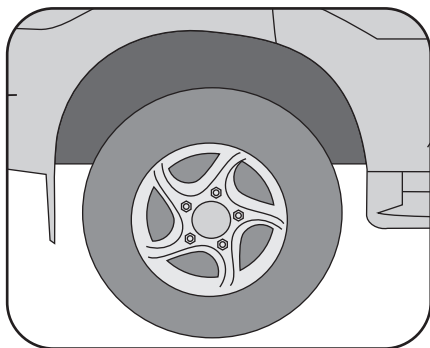
**CAUTION**

Check to see if the wheel nuts are tight after the first 1600 km.





## Tyre Inspection / Rotation & Flat Tyre



### Reinstalling the Wheel Nuts

Reinstall all the wheel nuts and tighten them as much as possible using your fingers. Press the tyre to see if it can be pushed in further. Tighten the nuts a little more using your finger, if possible

### Tightening the nuts

Lower the vehicle by turning the jack handle anti-clockwise. Tighten the nuts one by one, a little each time, until all the nuts are fully tight. Use only the wheel nut wrench and turn it clockwise to tighten the nuts. Do not use other tools or any additional leverage other than your hands, such as hammer, pipe or your foot.

Never apply oil or grease on the bolts or nuts. Doing so may result in over-tightening or slip while tightening.



Improperly or loosely tightened wheel nuts are dangerous. The wheel could wobble or come off. This could result in loss of vehicle control and cause a serious accident. Always make sure all the wheel nuts are properly / securely tightened to the specified torque.



When lowering the vehicle, do not put any part of your body under the vehicle.

### CAUTION

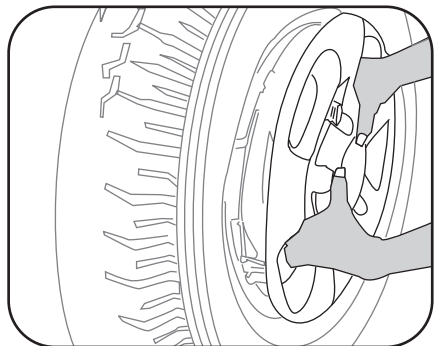
Never use oil or grease on the bolts or nuts. The nuts may loose and the wheels may fall off, which may leads to an accident.



3.12.19



## Tyre Inspection / Rotation & Flat Tyre



### Reinstalling the Wheel Cover (If Applicable)

Position the wheel cover so that it aligns with the valve stem. Tap the outer edge of the wheel cover with the heel of the hand to snap it into place.

#### CAUTION

Be careful in handling the wheel cover to avoid personal injury.

### Checking the Air Pressure of the Replaced Tyre

Check the air pressure of the replaced tyre. If it is lower than the specified level, go to the nearest service station and fill air.

#### CAUTION

Driving on tyres with over-inflation or under-inflation is dangerous. It will affect the vehicle handling and result in a serious accident. Always inflate the tyres to the correct pressure.

### Restoring the Tools, Jack and Flat Tyre

After changing the wheels, tighten the wheel nuts to the torque to specifications, as soon as possible. Replace the tools and jack in their respective locations properly, to avoid rattling. Get the flat tyre repaired by a technician and replace it.

#### NOTE

Follow the same procedure for changing or rotating the tyres.

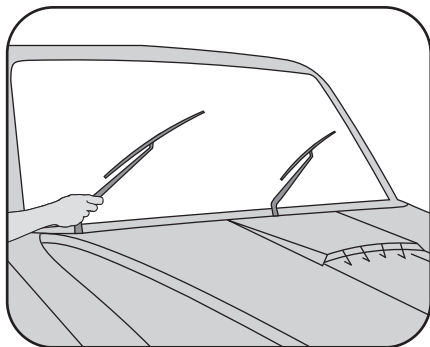
#### CAUTION

Store the spare tyre with its outer side facing upwards. Ensure that the tyre is secure to prevent it from flying during collision or sudden braking.





## Wipers



### Wipers

- Do not operate the wipers on a dry screen.
- In freezing or very hot conditions, ensure that the blades are not frozen or stuck to the glass.
- In winter, remove any snow or ice from around the arms and blades, including the wiped area of the windscreen.

### Engine Compartment Washing

Ignition must be switched off before washing. It is recommended to cover other electrical / electronic items (such as ECU, alternator, fuses, ignition coil, wiring harness connectors etc) before washing the engine compartment.

#### CAUTION

Even though all the electrical and electronic sensors / actuators, etc. are water resistant / sealed, care must be taken to avoid direct water jet on these items during car wash.

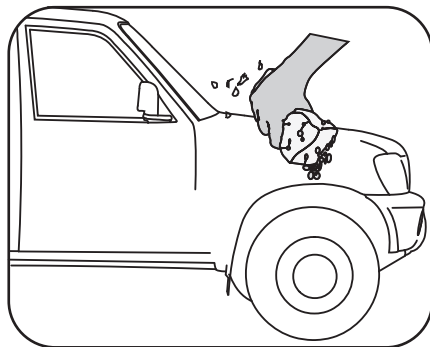
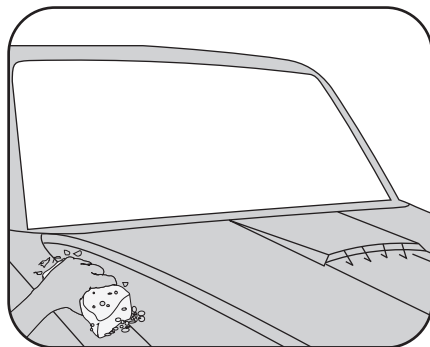
High pressure washing of engine compartment is forbidden otherwise it can lead to short circuit / malfunction of electrical / electronic system. After washing all the electrical / electronic units and wiring connectors should be dried by blowing moderate compressed air all around.

Mahindra recommends to carry out engine compartment wash at Mahindra authorised workshops.





## Appearance Care



## Care of Exterior

## Washing

- Letting dirt collect on the vehicle can cause scratches on the paint. Leaving bird droppings unwashed can cause permanent damage to the paint finish. However, you can preserve the vehicle's looks by washing it regularly.
- Wash the vehicle in shade and not in direct sunlight or in freezing temperatures. If the vehicle is exposed to the sun, move the vehicle into shade and let the exterior cool off before you start washing.

**CAUTION**

Avoid using chemical solvents and strong cleaners that can damage the paint and metal of the vehicle.

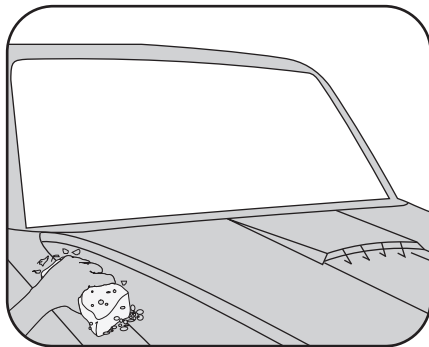
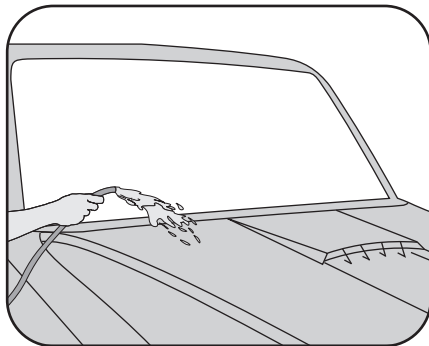
## Washing Tips

- Rinse the vehicle thoroughly to remove loose dirt.
- Make a solution of a detergent, made especially for vehicle washing, and cool water.
- Use a soft bristle brush, sponge or soft cloth with the detergent solution to wash the vehicle.
- Rinse frequently.





## Appearance Care



Check the body for road tar, tree sap, etc. Remove these stains with tar remover or turpentine. Rinse it off immediately so that it does not harm the finish. Remember to re-wax these areas, even if the rest of the vehicle does not need re-waxing.

When the exterior is washed and rinsed, dry it with a soft towel or chamois. Letting it dry in the air will cause dulling and leave water spots on the surface.

As you dry the vehicle, inspect for chips and scratches that could start corrosion. Repair them with the recommended touch-up paint.



Observe local regulations.

**Aluminum wheels:** Use only a mild soap or neutral detergent

**Plastic Bumpers:** Wash carefully, do not scrub with abrasive cleaners.



Mahindra is not responsible for scratches caused by automatic car washes or improper washing. Scratches are more noticeable on vehicles with darker paint finishes. Avoid washing your vehicle in an automatic car washer that uses high-speed / hard brushes.





## Appearance Care



Driving with wet brake is dangerous. Increased stopping distance or vehicle pulling to one side when braking could cause a serious accident. Dry the brakes by driving at very slow speed and applying the brakes lightly until the brake performance becomes normal.

### Waxing (only for vehicles without metallic paint)

Always wash and dry the complete vehicle before waxing it. The vehicle should be waxed whenever you see water on the surface in large patches. Apply the wax according to directions on the container. In general, there are two types of products -

- **Waxes:** A wax coats the finish and protects it from damage due to sunlight, air pollution etc.
- **Polishes:** Polishes restore shine to paint that is oxidized or has lost some of its shine. They typically contain mild solvents and abrasives that remove the top layer of the finish. Use a polish if your vehicle does not have the original shine after using wax.

Removing tar, dead insects etc. from your vehicle using removers, wears off the wax. Re-wax these areas even if you are not re-waxing the rest of the vehicle.

### Care for Interiors

#### Seat Belts:

Check to see if dirt has accumulated in the loops (this

usually results in the slowing down of the retraction mechanism).

Check for cuts and frayed spots in the belt material

Check to see if the locking and unlocking mechanism is smooth.

### CAUTION

If you encounter any faults, get them repaired only at Mahindra Authorised Service Station. Get the damaged parts replaced immediately. It is essential to replace the entire assembly after it has got damaged in a severe impact even if damage to the assembly is not obvious.

**Washing the seat belts:** Care should be taken to avoid contamination of the webbing with polishes, oils and chemicals, and particularly battery acid. Cleaning may safely be carried out using mild soap and water. The belt should be replaced if webbing becomes frayed, contaminated or damaged. Use a soft cloth with the solution to clean the seat belts. You may also use isopropyl alcohol to wipe the loops of the seat belt anchors. Use a soft-bristle brush with the same solution for places that are difficult to reach.

### CAUTION

Avoid using solvents, such as bleach, that tend to damage the belt material.





## Appearance Care



**Windows :** Windows need to be cleaned regularly and completely, both from the inside and the outside. Make a solution of vinegar and water in the ratio 1:10 (you can use a commercially available glass cleaner instead). Use a soft cloth or tissue paper with this solution to clean the windows.

### Corrosion Protection

Typically, corrosion in vehicles is caused due to two principal factors:

- Collection of damp-dirt and road salt on the underside of the vehicle.
- Loss of paint and protective coatings from the exterior and underside of the vehicle.

Corrosion can be prevented through simple periodic maintenance :

- Repair chips and scratches in the paint as soon as you find them.
- Inspect and clean drain holes at the bottom of doors and body.
- Check the floor covering for dampness. Carpeting and floor mats may remain damp for a long time especially in winter. Dry the areas immediately.

- Use a high-pressure spray to clean the underside of the vehicle.
- Get the corrosion-preventive coatings on the underside of the vehicle checked periodically.



Do not scrape or scratch the inside of the rear glass. You may damage the rear window defroster grid.

### Leather upholstery caring : (if applicable)

Leather should be treated from time to time in accordance with the instructions below, depending on the amount of use. Use the slightly moisten cotton / woolen cloth with water for normal cleaning of leather. Severe dirt can be cleaned with mild soap solution. The leather should never get moistened through at any point of time. No water should get through the stitches. Never try to use solvents, wax, shoe-cream, stain remover or similar products to treat the leather. It is recommended to contact the your Scorpio dealer for treating leather.





## Maintaining the AC System

### Maintaining the Air-Conditioning System

Your vehicle's air-conditioning is a sealed system. Any major maintenance, such as recharging should be done by a qualified technician. However, you can do a few things by yourself to make sure the air-conditioning works efficiently.

Run the air-conditioning system at least once a week, even during the cold weather months.

Run it for at least ten minutes with the engine running at normal operating temperature. This circulates the lubricating oil contained in the refrigerant.



The condenser and radiator fins of the air conditioning system bend easily. Use only a low-pressure spray or soft-bristle brush to clean them.

#### CAUTION

Whenever you get the air-conditioning system serviced, make sure the service facility uses a refrigerant recycling system. This system captures the refrigerant for reuse. Releasing the refrigerant into the atmosphere may cause damage to the environment.

### Air Fresheners

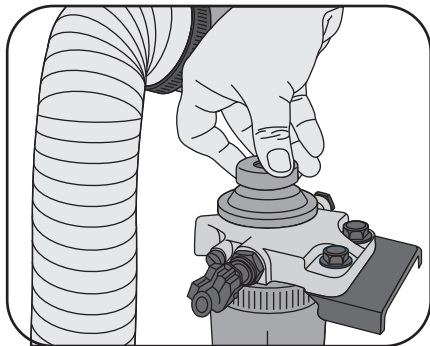
It is better to use a solid type air freshener/deodorizer instead of a liquid type. Some liquid air fresheners contain chemicals that may cause parts of the interior trim and fabric to crack or discolor.

#### CAUTION

If you use a liquid air freshener, make sure you fasten it securely so that it does not spill as you drive.



## Trouble Shooting



Bleeding fuel pump

### If the Engine does not start

Determining why your vehicle won't start falls into two areas, depending on what you hear when you turn the key to IGN:

Case 1: You hear nothing, or almost nothing. The engine's starter motor does not operate at all, or operates very slowly.

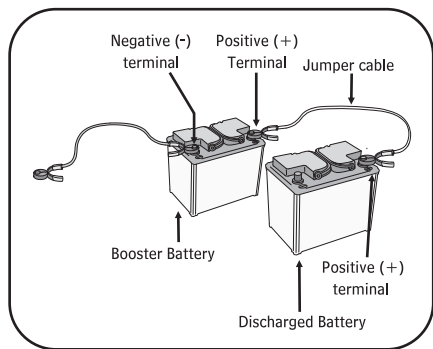
Case 2: You can hear the starter motor operating normally, or the starter motor sounds like it is spinning faster than normal, but the engine does not start up and run.

In either case, do the following:

- Turn the ignition switch to IGN. Turn on the headlights and check their brightness. If the headlights are very dim or don't light at all, the battery might have been discharged. You will need to 'Jump Start' the vehicle.
- If the headlights don't dim, there may be something wrong with the electrical circuit. Meet a qualified technician to rectify it.
- Turn the ignition switch to IGN position and check the fuel gauge for fuel.
- If you are starting the engine after adding fuel to an empty fuel tank, you may have to bleed the fuel system by operating the priming pump several times until you feel more resistance. Your engine may take longer to start.



## Trouble Shooting



### Jump Starting

If your vehicle's battery has run down, you may be able to start the engine by using a booster battery. Although this seems like a simple procedure, you should take several precautions while you are at it:

Open the bonnet and check the physical condition of the battery. If the weather is very cold, check the condition of the electrolyte. If it seems slushy or like ice, do not attempt jump-starting until it thaws.

Connect one jumper cable to the positive (+) terminal on the booster battery. Connect the other end of the cable to the positive terminal of your vehicle's battery.

Connect the second jumper cable to the negative (-) terminal on the booster battery. Connect the other end to the grounding strap. Do not connect this jumper cable to any other part of the engine.

#### CAUTION

Connect the negative lead to a point away from the battery. Connect the jumper cable leads away from moving parts. Otherwise it may be dangerous, the lead could get tangled when the engine starts and cause serious injury.

If the booster battery is in another vehicle, set an assistant to start the vehicle and run it at a fast idle.

Start your vehicle. If the starter motor still operates slowly, check the jumper cable connections to make sure they have good metal-to-metal contact.



## Trouble Shooting

- Once your vehicle is running, disconnect the negative cable from your vehicle, and then from the booster battery. Next, disconnect the positive cable from your vehicle and then from the booster battery.



WARNING

A battery may explode if you do not follow the correct jump starting procedure, seriously injuring anyone nearby. Keep all sparks, open flames, and smoking materials away from the battery.



WARNING

Attempting to jump-start when the electrolyte is frozen or slushy can cause the battery to rupture / explode causing serious injury.

- Turn off all electrical accessories such as lights, stereo system, A/C etc. Put the transmission in neutral and set the parking brake.
- Batteries contain sulphuric acid, which is highly corrosive. Wear protective safety glasses when jump starting, and avoid spilling acid on to yourself, your clothing or your vehicle.
- If acid gets into your eyes or spills on to your body accidentally, wash the area with water until the burning sensation subsides. Get immediate medical attention. Continue application of water en route to the medical institute.

- The gas normally produced by a battery will explode if a flame or spark is close enough. So use only standardized jumper cables and do not light a match or smoke while jump starting.



NOTE

The battery used for boosting should be a 12 V type. Jump start only with the correct type of booster battery.



NOTE

If the battery is low, the glow plug would not operate (in extreme cold climatic conditions) and the engine won't start.



WARNING

Towing a vehicle to start it could be dangerous. The vehicle being towed could surge forward when its engine starts, causing the tow vehicles to collide & injuring the occupants.



## Trouble Shooting

### If the Engine is Overheated

If the engine is overheated, the pointer turns to the upper limit of temperature gauges and the engine overheating warning light comes ON.

The pointer of the temperature gauge should stay in the midrange under most conditions. It is normal for temperature to go higher if you are driving up along steep hill. In all other cases it is necessary that you determine the reason for the increase in temperature.

The engine may overheat for several reasons, such as lack of coolant, or mechanical problems.

#### CAUTION

- Driving with the pointer of the temperature gauge in the extreme right or with the engine overheating warning light ON, may cause serious damage to the engine.
- Do not drive for prolonged periods at very low speeds or very high speeds or in low gear.

### If the engine is over heated follow this procedure....

- Get the vehicle to a side of road safely, apply the parking brake.
- Do not stop the engine.
- Switch off the air-conditioner if it is being used. Open all the windows, move the temperature control knob to the maximum hot position and put the fan at max speed.
- If the coolant or steam boiling out of the radiator / reservoir, stop the engine. Wait until steam subsides before opening the bonnet hood. If there is no coolant boiling over or steam, leave the engine running.
- Visually check to see if the engine fan drive belt is broken or slipping. Check for coolant leaks from the radiator, hoses and underneath the vehicle. But do not misunderstand with air-conditioning water dripping and is normal if it is being used. If the fan belt is broken / coolant leak, stop the engine, contact the nearest Mahindra Authorised dealer for assistance.





## Trouble Shooting



- If the fan belt is okay and no coolant leak, then you may have to cool down the engine by running it at about 1500 rpm for a few minutes.
- If the coolant reservoir is dry or with low level, add coolant to the reservoir while the engine is running. Fill it up to the maximum level mark.
- After the engine coolant temperature has come to normal, again check the coolant level in the reservoir, if required, add the coolant to the maximum mark. Heavy coolant loss indicates a leak in the system. Have the vehicle checked at a Mahindra Authorised dealer at the earliest.

If the temperature gauge stays at the extreme right end, turn off the engine. Wait until you see no more signs of steam or spray, and then open the bonnet. Let the engine cool down until the pointer reaches the middle of the temperature gauge, or lower, before checking the radiator. Using gloves or a heavy cloth, turn the radiator cap anti-clockwise, without pushing down, to the first stop. This releases any remaining pressure in the cooling system. After the pressure is released, push down on the cap and turn it until it comes off.

### CAUTION

Do not attempt to remove the radiator cap when the engine and radiator are hot. Serious injury could result from scalding hot fluid & steam blown out under pressure.





## Trouble Shooting

Start the engine. Add coolant to the radiator up to the base of the filler neck. If you do not have the proper coolant mixture available, you may add plain water. Remember to have the cooling system drained and refilled with the proper mixture as soon as you can. Put the radiator cap back on tightly. Run the engine and watch the temperature gauge. If it goes back to the red mark, the engine needs servicing.

If the temperature stays normal, check the coolant level in the radiator and reserve tank. If it has gone down, add coolant up to the MAX mark in the reserve tank. Put the cap back on tightly.

### CAUTION

Wherever the engine is overheated, safely pull to the side of the road. Put the transmission in neutral and apply the parking brake. Turn off the air-conditioning system and all other accessories. Turn on the hazard warning indicators.

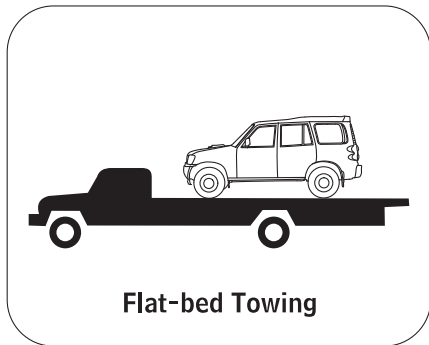
## Low Oil Pressure

- If the low oil pressure indicator stays ON when the engine is running, it shows that the engine has lost oil pressure.
- Running the engine with low oil pressure can cause serious mechanical damage almost immediately.
- Safely pull off the road and shut off the engine. Turn on the hazard warning indicators.
- Let the vehicle 'sit' for a minute. Open the bonnet and check the oil level. Although oil level and oil pressure are not directly connected, an engine that is very low on oil may lose pressure during cornering and other maintenance maneuvers. If necessary, add oil to bring the level back to the FULL mark on the dipstick.
- Start the engine and have a look at the oil pressure indicator. If the light does not go out within 10 seconds, it means that there is a mechanical problem that needs to be addressed before you can continue driving.





## Towing



### Towing Equipment

Towing equipments are of three types.

- Flat-bed equipment: Your vehicle is loaded on the back of a truck. This is the safest and best way of towing.
- Wheel-lift equipment: The tow truck uses two pivoting arms that go under the tyres (front or rear) and lift them off the ground. The other two tyres remain on the ground.

Sling-type equipment: The tow truck uses metal cables with hooks on both ends. These hooks go around parts of the frame or suspension and lift the end of the vehicle off the ground. This is not a good method of towing as it may damage the vehicle's suspension and body. Avoid tow with sling type equipment

If your vehicle cannot be transported by flat-bed equipment, it should be towed by wheel-lift equipment with the front wheels off the ground.



Improper towing procedure will damage the transmission. Follow the above instructions precisely. When towing with the front wheels off the ground, it is best to tow no more than 80 kms. Also keep the towing speed below 55 kmph.







## Towing



### Towing A Trailer

Your new vehicle was designed to be used primarily for carrying passenger and luggage.

Remember, towing a trailer will place additional loads on engine, drive-train, steering, braking and other systems of your vehicle. Also towing a trailer may greatly affect your vehicle's handling & suspension characteristics. Your vehicle cannot be driven as normal with a trailer attached.

### Towing your vehicle

If your vehicle needs to be towed, call a professional towing service.







## Towing



### Towing your vehicle during Emergency

If a towing service is unavailable in an emergency, your vehicle may be temporarily towed by a cable or chain secured to the emergency towing eyelet under the front bumper of the vehicle.

Use only the eyelet provided, for towing in an emergency. Otherwise the vehicle may be damaged.

#### CAUTION

- A driver must be in the vehicle being towed to steer and operate the brakes. Towing in this manner must be done only on hard-surfaced roads for short distances and at low speeds. Also, the wheels, axles, drive train, steering and brakes must all be in good condition.
- Avoid sudden starts or erratic driving maneuvers, which would place excessive stress on the towing eyelet and towing cable or chain, and result in breaking of the eyelet or the chain.
- If the engine is not running, the power assist for the steering & brakes will not work and it will be much harder than usual.



Use only a cable or chain specifically intended for use in towing vehicles. Securely fasten the cable or chain to the towing eyelets provided.



Do not tow with sling type truck, either from the front or rear. Doing so may cause body damage.

### For your vehicle safety

When leaving your vehicle unoccupied

- Always remove the ignition key even when you park vehicle in your own garage.
- Close all the windows completely & lock all the doors.
- Always park your vehicle in where it can be seen. At night, park in a well lighted area.
- If you have an alarm, use it even for short period.
- Do not leave any valuables in your vehicle. If you must leave something in your vehicle secure it properly by locking the doors / by hiding them.
- Do not leave the vehicle documents in your vehicle. In the unfortunate event of your vehicle being stolen the documents will only help a thief to sell the vehicle.
- Do not leave the spare key or a note of your vehicle key number in the vehicle. Keep the spare key in a safe place in your home.











## Contents

**SPECS**

.....→ Technical Specifications



.....→ Safety



4.1.1



## Technical Specifications

ENGINE	M-Hawk 2.2 (SUV)	SZ 2.6 CRDe (SUV)	NEF 2.49 CRDe (SUV)
Type	4 Stroke, Turbo charged with intercooler, DI Engine	4 stroke, Turbo charged with intercooler, CRDe Engine	4 stroke, Turbo charged with intercooler, CRDe Engine
Bore/Stroke, mm	85 x 96	94 x 94	94 x 90
No. of Cylinders	4	4	4
No. of Valves	16	8	8
Displacement, CC	2179	2609	2498
Compression Ratio	18.5:1	18.5:1	17.8:1
Max. Net Engine Output, RPM	86.7 kW @ 4000 RPM	80.6 kW (108 HP) ± 2% @ 3800 RPM	79 kW @ 3800 RPM
Max. Net Torque, RPM	280 Nm @ 1800 – 2800 RPM	270 N-m ( 27.5 kg-m.) ± 4% @ 1800 RPM	247 Nm @ 1800-2200 RPM
<b>AIR CLEANER</b>	Foam type	Foam type	Foam type
<b>Oil Filter</b>	Full flow, Paper type	Full flow, Paper type	Full flow, Paper type
<b>Fuel Filter</b>	Dual, paper type	Single with water in fuel indicator	Single with water in fuel indicator
<b>CLUTCH</b>	Hydraulically operated, Single plate, dry type, 240 dia	Hydraulically operated, single plate, dry type, Dia. 240 X 160, Valeo F 810	Hydraulically operated, single plate, dry type, Dia. 240 X 160, Valeo F 810
<b>TRANSMISSION</b>	5 speed, Manual	5 speed, Manual	5 speed, Manual
Type	Synchromesh in all forward gears	Synchromesh in all forward gears	Synchromesh in all forward gears
No. of gears	5 Forward, 1 Reverse	5 forward, 1 reverse	5 forward, 1 reverse
<b>Gear Ratios</b>			
I	3.78 : 1	3.78 : 1	3.78 : 1
II	2.09 : 1	2.09 : 1	2.09 : 1
III	1.38 : 1	1.38 : 1	1.38 : 1
IV	1.00 : 1	1.00 : 1	1.00 : 1
V	0.79 : 1	0.79 : 1	0.79 : 1
Reverse	3.53 : 1	3.53 : 1	3.53 : 1
<b>TRANSFER CASE (for 4X4 version only)</b>			
Type	Electric shift or Manual shift & mounted on transmission	Electric shift or Manual shift & mounted on transmission	Electric shift or Manual shift & mounted on transmission
Ratio : High	1 : 1	1 : 1	1 : 1
Low	1 : 2.48	1 : 2.48	1 : 2.48



## Technical Specifications

	M-Hawk 2.2 (SUV)	SZ 2.6 CRDe (SUV)	NEF 2.49 CRDe (SUV)
<b>AXLES</b>			
Front	2WD : Non-drive, Stub Axle 4WD : Full floating, Drive axle, 4.3 : 1	2WD:Non-drive, Stub axle 4WD:Full floating, Drive axle, 4.3:1	2WD:Non-drive, Stub axle 4WD:Full floating, Drive axle, 4.3:1
Rear	Single reduction semi floating hypoid type 2WD 4.3 : 1, 4WD 4.3 : 1	Single reduction, Semi floating Hypoid type, 4.3:1	Single reduction, Semi floating Hypoid type, 4.3:1
<b>TYRES &amp; WHEELS</b>			
Rim	6.5J x 16	6J x 16	6J x 16
Tyres	P235 / 70 R16	P235/70R16	P235/70R16
No. of Wheels	5 (Inclusive of Spare Wheel)	5 (inclusive of Spare wheel)	5 (inclusive of Spare wheel)
<b>STEERING</b>			
Type	Power Assisted, Rack & Pinion	Power assisted, Rack & Pinion	Power assisted, Rack & Pinion
Steering Column	Tilt Mechanism – Optional	Tilt mechanism - optional	Tilt mechanism - optional
Steering Wheel Turn Lock-to-Lock	3.75 (Approx)	3.5 (Approx)	3.5 (Approx)
Turning Circle Diameter, Meters	11.2 for 2WD 11.4 for 4WD	11.2 for 2WD, 11.4 for 4WD	11.2 for 2WD, 11.4 for 4WD
<b>FRAME</b>	Tabular ('C' in 'C') Ladder Type	Tubular ('C' in 'C') Ladder type	Tubular ('C' in 'C') Ladder type
<b>SUSPENSION</b>			
Front	Independent front with coil spring & double wishbone for 2WD, Torsion bar for 4WD	Independent Front with coil spring & Double wishbone for 2WD, Torsion bar for 4WD	Independent Front with coil spring & Double wishbone for 2WD, Torsion bar for 4WD
Rear	Multi Link (5) with coil spring	Multi Link (5) with coil spring	Multi Link (5) with coil spring
Anti Roll Bar	Provided in Front & Rear	Provided in Front & Rear	Provided in Front & Rear
Shock Absorbers	Hydraulic, Double Acting, Telescopic	Hydraulic, Double Acting, Telescopic	Hydraulic, Double Acting, Telescopic
<b>BRAKES</b>			
Service Brakes	Tandem Master Cylinder, Vacuum Assisted Servo, with ABS	Tandem Master Cylinder, Vacuum assisted servo, with LSPV & BV	Tandem Master Cylinder, Vacuum assisted servo, with LSPV & BV
Front	Ventilated Disc and Caliper type	Ventilated Disc and caliper type	Ventilated Disc and caliper type
Rear mm x mm	Drum type	Drum type	Drum type
Parking Brake	Internal expanding with auto adjuster on rear wheels, hand lever and cable type	Internal expanding with auto adjuster on rear wheels, hand lever and cable type	Internal expanding with auto adjuster on rear wheels, hand lever and cable type



## Technical Specifications

	M-Hawk 2.2 (SUV)	SZ 2.6 CRDe (SUV)	NEF 2.49 CRDe (SUV)
Fuel Tank Capacity, in Liters	60 Liters	56 Liters	56 Liters
<b>ELECTRICAL SYSTEM</b>			
System Voltage, V	12V	12 V	12 V
Battery, V, Amp-Hr	12V, 72 Ah	12 V, 65 Ah	12 V, 65 Ah
Alternator (Max. Output), Amp	90A	90 A	90 A
Wiper Motor	2 Speed with adjustable intermittent, link type	2 speed with adjustable intermittent, link type	2 speed with adjustable intermittent, link type
<b>CLIMATE CONTROL</b>			
Options	HVAC	HVAC	HVAC
Seats			
Front Seat	Bucket Seats with front to rear & backrest adjustments; Adjustable head restraint & with seat belt.	Bucket seats with front to rear & backrest adjustments, Adjustable head restraint & with seat belt.	Bucket seats with front to rear & backrest adjustments, Adjustable head restraint & with seat belt.
2nd Row Seat	60 : 40 or single seats with front to rear & backrest adjustments, Adjustable head restraint, with seat belt & lap belt for middle occupant.	60:40 or single seats with front to rear & backrest adjustments, Adjustable head restraint, with seat belt & lap belt for middle occupant.	60:40 or single seats with front to rear & backrest adjustments, Adjustable head restraint, with seat belt & lap belt for middle occupant.
3rd Row Seat	Removable front facing with 2 position adjuster with seat belt & lap belt for middle occupant or Foldable side facing seats	Removable front facing with 2 position adjuster with seat belt & lap belt for middle occupant or Foldable side facing seats	Removable front facing with 2 position adjuster with seat belt & lap belt for middle occupant or Foldable side facing seats
<b>DIMENSION</b>			
Wheel Bass, mm	2680	2680	2680
Overall Length, mm	4495 (Foot step in open condition)	4482	4482
Overall Width, mm	1817 (Excluding outside mirrors)	1755	1755
Overall Height, mm Unladen	1916 / 1975 (with Ski rack)	1916	1916
Front Track, mm	1450	1450	1450
Rear Track, mm	1450	1450	1450
Minimum Ground Clearance, mm	180 (Below Axle Differential)	180 (below axle differential)	180 (below axle differential)





## Technical Specifications



	M-Hawk 2.2 (SUV)	SZ 2.6 CRDe (SUV)	NEF 2.49 CRDe (SUV)
<b>WEIGHTS</b>			
Kerb Weight, Kg	2WD : 1850, 4WD : 1920	2WD:1880 Kg, 4WD: 1980 Kg	2WD:1880 Kg, 4WD: 1980 Kg
Maximum GVW, Kg	2WD : 2510, 4WD : 2610	2WD: 2480 Kg, 4WD: 2580 Kg	2WD: 2480 Kg, 4WD: 2580 Kg
Maximum Gradeability in 1st gear,(Deg.)	2WD : 15°, 4WD : 30°	2WD: 15 deg, 4WD: 30 deg	2WD: 15 deg, 4WD: 30 deg





## Safety

### Drinking and Driving Don't Go Together

Driving, anytime, anywhere, under the influence of alcohol or drugs, is dangerous to you, to your family, the passengers, and to everyone else on the road. Alcohol or drugs reduce your alertness and lead to accidents.

### Driving Long Distances

When you are driving over long distances, follow these tips so that you have a safe journey:

- Avoid driving more than 150 kms at a time. Switch drivers even if you are not tired.
- Lack of sleep or fatigue may impact your ability to drive safely.
- Exercise your eyes by shifting the focus of your eyes to different parts of the road.
- Use stimulating beverages such as coffee or tea.
- Relax and stay calm.

### Anti-theft Precautions

- Ensure that the windows are closed.
- Avoid leaving packages, valuables etc., inside an unattended vehicle.
- Lock the doors.
- The Antitheft is activated only when vehicle is in arm condition (when locked by remote only) It is deactivated when vehicle is in disarm condition (when unlocked by remote only).

### Use of Seat Belts

- In the interest of safety to the driver and passengers in vehicle, it is recommended that the seat belts are worn while driving.
- Do not use Mobile Phones while Driving.
- Using a mobile phone while driving constitutes nuisance or danger to the public and may be prohibited as per law of land.





## Technical Specifications



Item	Grades / Ratings, Filling capacities, Specified values	Frequency
<b>Engine oil &amp; Engine oil filter replacement</b>	SAE 15W40; API CH4, ACEA B3/E3 ( Upto ambients -10 degrees celcius ) - 6 Ltrs	At 5000 km, 10000 km and there after at every 10000 km
<b>Diesel filter replacement</b>		At every 20000 km
<b>Air filter replacement</b>		Every 40000 km
<b>Engine coolant change</b>	BASF GLYSANTIN G45-23; Mix of Coolant 30% & water 70%; System capacity - 10 Ltrs	Every 40000 km
<b>Valve clearance adjustment</b>	Inlet valves - 0.30 mm; Exhaust valves - 0.45 mm	Every 20000 km
<b>Transmission oil replacement</b>	SAE 80W90 Synchro Oil, API GL4, (Upto ambients - 5 degree celcius) SAE 75W90 Synchro Oil, API GL4, (Upto ambients - 5~15 degree celcius)	At 5000 km, 20000 km and there after at every 20000 km
<b>Transfer case oil replacement</b>	ATF Fluid, meeting the specifications of DEXTRON II D & above	
<b>Front &amp; Rear differential oil</b>	SAE 80W90, API GL5, (Upto ambients - 10 degree celcius) SAE 75W90, API GL5, (Upto ambients - 10~15 degree celcius)	
<b>Check front brake pads, disc, rear brake drums &amp; linings</b>		At every 10000 km
<b>Wleel alignment &amp; Tyre rotation</b>		At every 10000 km
<b>Tyre pressures</b>	On front - 206 Kpa; On rear - 245 Kpa	Atleast weekly once



