Tata Indica - V2

Diesel / Diesel Turbo
(DL, DLE, DLS, DLG & DLX)

Owner's Manual & Service Book

TATA MOTORS
Passenger Car Business Unit
Mumbai Pune

This owner's manual is advised to be kept in the vehicle at all time.

CAR IDENTIFICATION AND RECORD

OWNER'S NAME _____

ADDRESS _____

SELLING DEALER CODE _____

DATE OF DELIVERY _____

DATE OF REGISTRATION _____

REGISTRATION NO. _____

CHASSIS NO. _____

ENGINE NO. _____

TRANSAXLE NO. _____

THE WARRANTY ON THIS CAR IS VALID ONLY IF THE DETAILS ARE FILLED, SIGNED AND STAMPED BY THE SELLING DEALER.

DEALER'S SIGNATURE AND STAMP

Following items are provided with your Tata Indica :

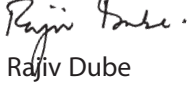
1. Owner's Manual & Service Book.
2. Battery Warranty Card.
3. First Aid Kit.
4. Advance Warning Triangle.
5. Jack and Handle.
6. Spare Headlamp bulbs - 2 Nos.
7. Spare Fuses - (Provided in fuse box)
8. Tool Kit
   a. *Wheel Spanner*
   b. *Screw Driver*
   c. *Open end spanner (8-10)*
   d. *Adjustable Plier*
9. *Manufacturer's manual for Music System (if fitted)*

Dear Indica customer,

We are privileged to have you choose the **Tata Indica V2.** The car comes backed by the trusted Tata brand and is part of the stable of offerings from Tata Motors in the passenger car range.

We would want you to be acquainted with the details in this user's manual, which will enable you to derive optimum performance from your Indica. We look forward to having you as a satisfied customer and hope to have you retain us as your first choice for any of your motoring needs.

Yours sincerely



Rajiv Dube
Vice President (Commercial)
Passenger Car Business Unit
Tata Motors Limited

- Should any question or query exit regarding any aspect of your car, please contact the nearest TATA MOTORS dealer, who will be pleased to assist wherever possible.

- The recommended routine maintenance servicing along with any running repairs that may be required, should be entrusted to TATA MOTORS dealership or to TATA Authorised Service Centres (TASCs) or TATA Authorised Service Points (TASPs) to ensure that only latest methods and genuine TATA MOTORS replacement parts are used for the continued reliability, safety and performance of the vehicle.

- In the event of the vehicle being sold, please ensure that this manual is left in the vehicle for the reference of the new owner.

This owner's manual & service book include information on the operation and maintenance of various equipment installed on the different versions of Tata Indica V2 car. Please note that this manual applies all equipment including options not installed on your car.

CONTENTS

INTRODUCTION

Congratulations on acquiring the **Tata Indica V2** and welcome to the family of **Tata Indica V2** owners.

This owner's manual has been prepared to acquaint you with the operation and maintenance of your new **Tata Indica V2** and to provide you with important safety information and tips for effective driving. Please refer to it from time to time for enjoyable, safe and troublefree driving pleasure.

This manual is an essential part of your car and should always be kept in the car.

Regular servicing of your car ensures its road worthiness and troublefree operation.

To assist you in maintaining your **Tata Indica V2** we have a network of dealers and Service Centres throughout the country. The list is included in this manual for your convenience.

Happy motoring

TATA MOTORS

Tata Indica is a safe car designed for quality performance. In order to maintain the level of performance and reliability, it is important that only Tata Motors genuine accessories are to be fitted. Any accessory without authorisation can hamper the safety and performance of the car besides depriving you of your warranty benefits.

Use of genuine parts, designed and manufactured to our exacting standards, is the best way to maintain your **Tata Indica** in peak operating condition. Please do not use substitutes. They always prove costlier in the long run.

Failure to use genuine parts can invalidate warranty claims.

The information and specifications given in this book are valid as on the date of printing. Tata Motors reserves the right to make changes in design and specifications and/ or to make additions to or improvements in this product without obligation to install them on products previously sold.

Indicates "CAUTION"

Taking care of the Environment

Tata Motors is committed to producing cars using environmental friendly technology. A number of features have been incorporated in our passenger cars which are specifically designed to ensure environmental compatibility throughout the life cycle of the car. We would like to inform you that your car meets statutory emission norms and is being regularly validated at the manufacturing stages to keep up with the stringent emission norms.

As a user you too can protect the environment by operating your car in a proactive manner. A lot depends on your driving style and the way you maintain your car. Listed below are few tips that will help you do so.

WHILE DRIVING :

- Avoid frequent and violent acceleration.
- Do not carry any unnecessary weight on the vehicle as it overloads the engine.
- Avoid using devices requiring high power consumption during slow traffic condition.
- Monitor the car's fuel consumption regularly. If it shows a rising trend get the car immediately attended to at the Company's Authorised Service Centre.
- Switch off the engine during long stops at traffic jams or signals. If you need to keep the engine running, avoid unnecessarily revving or stopping and starting.
- It is not necessary to rev up the engine before turning it off as it unnecessarily burns the fuel.
- Shift to higher gears as soon as it is possible. Use each gear upto 2/3rd of it's maximum engine speed. A chart indicating gear shifting speeds is given in this book.

MAINTENANCE OF THE CAR :

- Ensure that recommended maintenance is carried out on the car regularly at the Tata Engineering Authorised Service Outlets.
- As soon as you notice any leakages of oil or fuel in the car we recommend that you get it attended to immediately.
- Use only recommended brands and grades of lubricants & coolants and clean/uncontaminated fuels.
- Get your vehicle checked for emission periodically by our authorised dealer and regularly renew the P.U.C. Certificate.
- Ensure that fuel filter, oil filter, breathers are periodically checked and if required, replace the same using only genuine recommended brands.

- Do not pour used oils or coolants into sewage drains, garden soil or open streams. Dispose of the used filters and batteries in compliance with the current legislation.
- Do not allow any unauthorised person to tamper with the engine settings or to carry out modifications on the car.
- Parts like brake liners and clutch disc should be vacuum cleaned. Do not use compressed air for cleaning these parts which may spread the dust in the atmosphere.

While carrying out the servicing or repairs of your car, you should pay keen attention to some of the important engine aggregates which greatly affect emission. These components are :-

1. **Fuel injection pump, Injectors/Nozzles**
2. **Air intake & Exhaust system especially for leakages**
3. **Cylinder head for valve leakage**
4. **All filters such as air, oil & fuel filters (check periodically)**
5. **Catalytic converter (if fitted)**
6. **E.G.R. system**
7. **Turbocharger and Intercooler**

This Owner's Manual & Service Book contains further information on driving precautions and maintenance care leading to environment protection. Please familiarise yourself with these aspects before driving.

We WARRANT each **Tata Indica** car and parts thereof manufactured by us to be free from defect in material and workmanship subject to the following conditions -

1. This warranty shall be for 18 months from the date of sale of the car irrespective of the distance covered. However, for the cars used for commercial applications (used for hire or reward viz those operating with a yellow number plate), the warranty shall be limited to 18 months or 50,000 kms, whichever occurs earlier.
2. Our obligation under this warranty shall be limited to repairing or replacing, free of charge, such parts of the car which, in our opinion, are defective, on the car being brought to us or to our dealers within the warranty period. The parts so repaired or replaced shall also be warranted for quality and workmanship but such warranty shall be co-terminus with this original warranty.
3. Any part which is found to be defective and is replaced by us under the warranty shall be our property.
4. As for such parts as tyres, batteries, electrical equipment, fuel injection equipment,etc.not manufactured by us but supplied by other parties, this warranty shall not apply, but buyers of the car shall be entitled to, so far as permissible by law, all such rights as we may have against such parties under their warranties in respect of such parts.
5. This warranty shall not apply if the car or any part thereof is repaired or altered otherwise than in accordance with our standard repair procedure or by any person other than from our sales or service establishments, our authorised dealers, service centres or service points in any way so as, in our judgement which shall be final and binding, to affect its reliability, nor shall it apply if, in our opinion which shall be final and binding, the car is subjected to misuse, negligence, improper or inadequate maintenance or accident or loading in excess of such carrying capacity as certified by us, or such services as prescribed in our Owner's Manual and Service Book are not carried out by the buyer through our sales or service establishments, our authorised dealers, service centres or service points.
6. This warranty shall not cover normal wear and tear or any inherent normal deterioration of the car or any of its parts arising from the actual use of the car or any damage due to negligent or improper operation or storage of the car. This warranty shall not apply to normal maintenance services like oils & fluid changes, head lamps focussing, fastener

retightening, wheel balancing, tyre rotation, adjustment of valve clearance, fuel timing, ignition timing and consumables like bulbs, fuel filters & oil filters, etc. This warranty shall not apply to any damage or deterioration caused by environmental pollution or bird droppings. This warranty shall not apply to V-belts, hoses and gas leaks in case of air conditioned cars.Slight irregularities not recognised as affecting the function or quality of the vehicle or parts, such as slight noise or vibration, defects appearing only under particular or irregular operations are items considered characteristic of the vehicle.

7. This warranty shall be null and void if the car is subjected to abnormal use such as rallying, racing or participation in any other competitive sport. This warranty shall not apply to any repair or replacements as a result of accident or collision.
8. This warranty is expressly in lieu of all warranties, whether by law or otherwise, expressed or implied, and all other obligations or liabilities on our part and we neither assume, nor authorise any person to assume on our behalf, any other liability arising from the sale of the car or any agreement in relation thereto.
9. The buyer shall have no other rights except those set out above and have, in particular, no right to repudiate the sale, or any agreement or to claim any reduction in the purchase price of the car, or to demand any damages or compensation for losses, incidental or indirect, or inconvenience or consequential damages, loss of car, or loss of time, or otherwise, incurred or accrued.
10. Any claim arising from this warranty shall be recognised only if it is notified in writing to us or to our authorised dealer without any delay soon after such defects as covered and ascertained under this warranty.
11. This warranty shall stand terminated if the car is transferred or otherwise alienated by the buyer without our prior written consent.
12. We reserve our rights to make any change or modification in design of the car or its parts or to introduce any improvement therein or to incorporate in the car any additional part or accessory at any time without incurring any obligation to incorporate the same in the cars previously sold.

TATA MOTORS

ENGINE OIL UPTO DIPSTICK MAX.MARK ~ 4.0 Ltrs. (IDI)
5.5 Ltrs (TCIC)

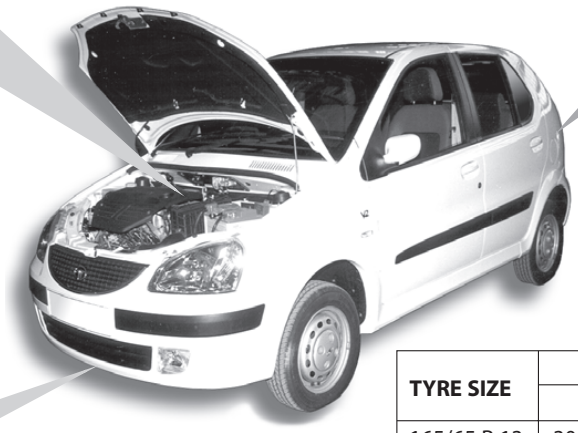
FUEL TANK CAPACITY **37 Litres**

*** Premixed ready to use Engine Coolant = 6 Litres**

Windshield Washer reservoir = 3.5 Litres for DLX, 1.5 Litres for DL, DLE, DLS, DLG.

Brake fluid = 0.265 Litres

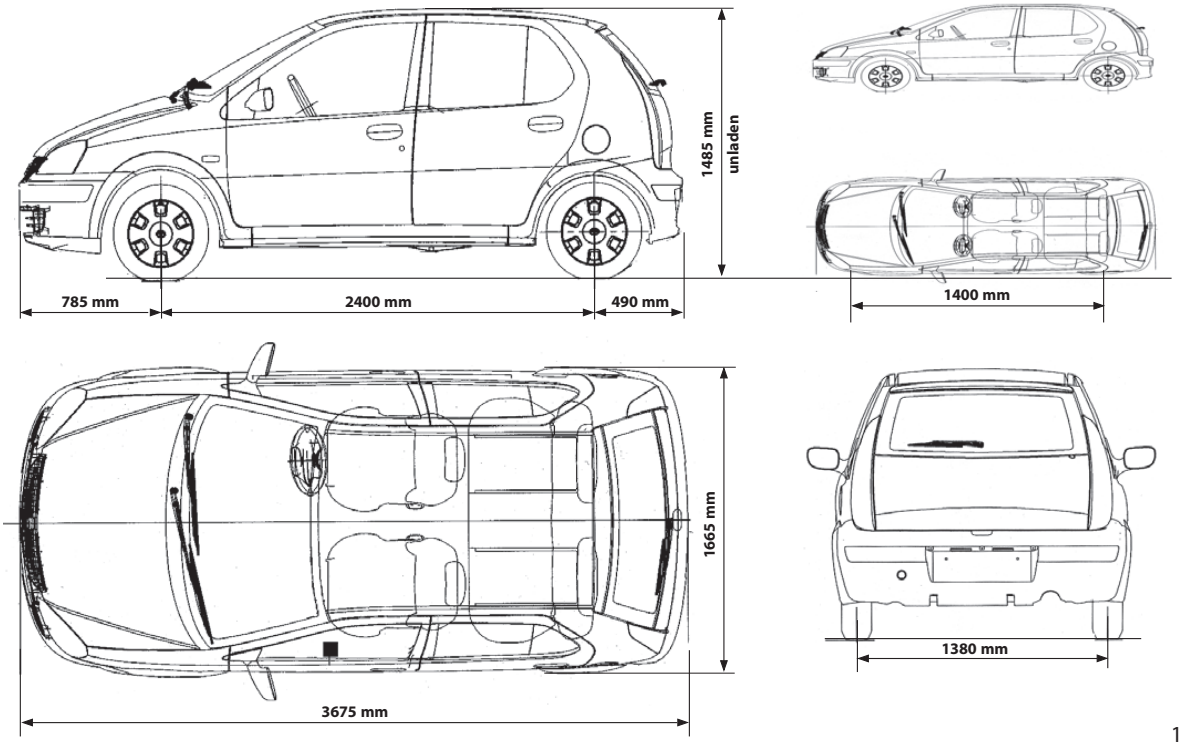
TRANSAXLE OIL **3.3 Litres**



TYRE SIZE	TYRE PRESSURE	
	FRONT	REAR
165/65 R 13	30 psi.(2.1 bar)	28 psi.(1.9 bar)
165/65 R 14	28 psi (1.9 bar)	24 psi.(1.6 bar)

IMPORTANT : For diesel car fitted with catalytic converter use diesel with sulphur contents less than 0.25%.

For recommended oil grades and change intervals, refer lubricants chart and service schedule

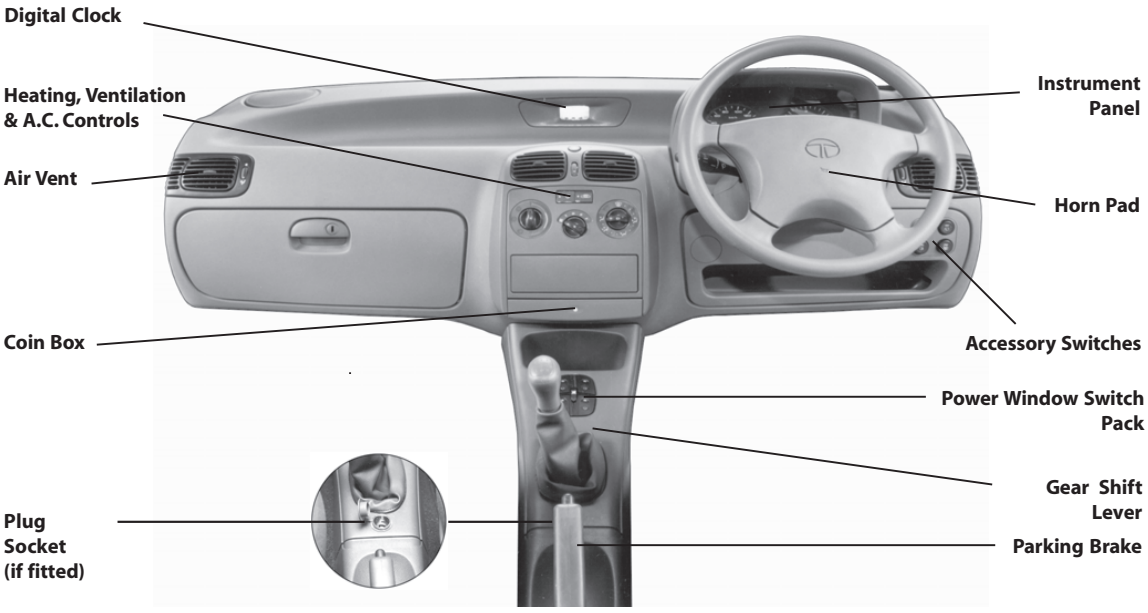


Note : Co-driver's side rear view mirrors for Deluxe & DLG version only

- **CONTROLS**
- **INSTRUMENT PANEL**
- **HEATING, VENTILATION & AIR CONDITIONING**
- **INTERIORS & ACCESSORIES**

Rear View Mirrors	Front Seat & Seat Adjustments
Sunvisors	Head Rest
Glove Box	Rear Seat
Window Winding	Seat Belt Adjustment
Power Windows	Tailgate Opening
Tray Cover with Coin Holder	Fuel Flap Opening
Plug Socket	Music System
Rear Ashtray	Electrical Accessories Fitment
Digital Clock	Load Area Lamp
Roof Mounted Interior Lights	Front Fog Lamps

CONTROLS



Keys :

Your car comes with two identical keys.

With this key, you can operate - 1. Door Locks
2. Steering Lock cum ignition switch
3. Tail gate Lock 4. Glove box

It is advisable to keep one of the keys in a safe place for use in case of an emergency.

Do not use a locally made key, but obtain a duplicate through your Tata Motors dealer.
Do not leave the key inside the car.

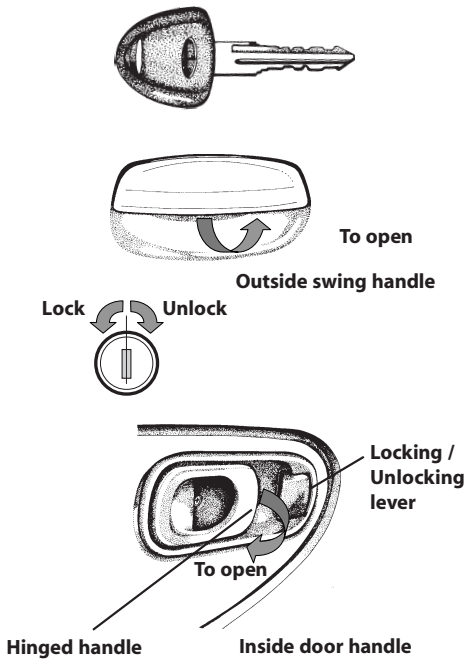
Door Locks :

The front doors can be locked and unlocked from outside with the key or from inside using the door lock lever. In your car, the driver's door & co-driver's door have separate locking facilities. To lock from inside turn the lever towards the inner hinged handle.

Where the central locking system is provided, if you lock/unlock the driver door with the key, the remaining three doors get locked/ unlocked at a time. The tail gate door is not a part of the central locking provision.

To open the door from outside use the swing handle. After unlocking the door with the key, pull the swing handle upward. The swing handles are provided on each door.

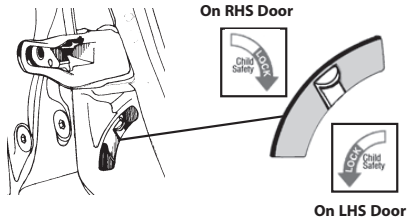
To open the door from inside pull the hinged handle outward.



Childproof Lock :

Both the rear doors of the car are provided with childproof locks. Push the lock lever located on the vertical face near the rear lock downward before closing the door. The door which has been locked can no longer be opened from inside.

It can be opened only from the outside.



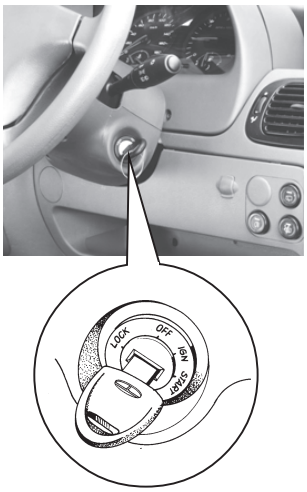
⚠ Deactivate the childproof lock when not required.

Steering lock cum ignition switch :

The steering column lock cum ignition switch has the following four positions and is operated with the key.

1. LOCK POSITION - The key can be inserted or taken out only in this position. When the key is removed from the switch, the steering is locked. To unlock the steering, insert the key and also turn it to the 'OFF' (Steering unlock) position.

2. 'OFF' POSITION - In this position, the steering lock opens and the music system is powered.



3. 'IGN' POSITION - This is for switching 'ON' the power supply to the following items :

   - Blower & A/C (HVAC)
   - Engine cooling fan
   - Horn
   - Plug Socket
   - Power window (if fitted)
   - Head lamps
   - Front fog lamps (if fitted)
   - Load Area Lamp
   - Music system (if fitted)
   - Digital clock

   } Accessories supply

   - Engine ignition, fuel supply and glow plug
   - Turn signal lamps
   - Wash and wiper system
   - Reverse light
   - Instruments and gauges and tell tale warning lamps
   - Audio warning unit
   - Rear windshield demister control (if fitted)

4. 'START' POSITION - In this position, which is momentary, the switch cranks the engine. When the switch is in this position momentarily, the devices listed under "Accessories supply" above, are switched 'OFF'.

The following items are operated/powered without the key in the ignition switch :

Hazard warning system, Stop lamps, Position lamps, Registration lamps, Illumination of A.C. control panel, Odometer display (LCD) of Instrument Panel, Roof lamp, Reading lamps, Engine lamp, Load Area Lamp, Central door locking, Audio warning unit, Memory of digital clock , Music System and Rear Windshield Demister.

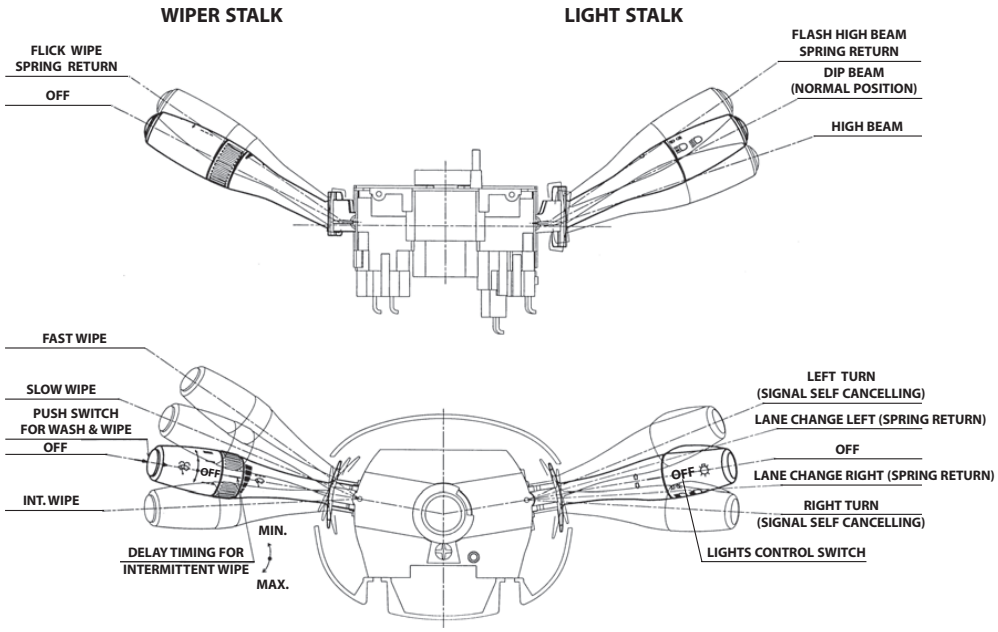
The switch symbol lamps may come 'ON' without the key in the 'IGN' position on ignition switch.

Note : When the key is returned from 'OFF' position to LOCK position, the music system continues to be powered until the key is removed from the switch. This also helps to remind the driver if the key is inadvertantly left in the vehicle when aligting from the vehicle, where this is provided.

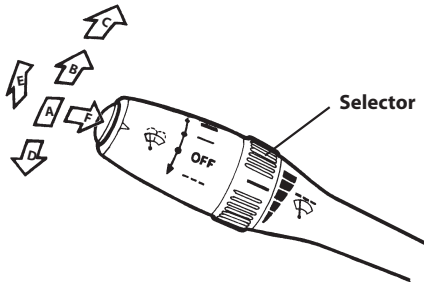
I) Do not remove the key, while the car is in motion, as the steering will get locked and the car cannot be steered.

II) While turning the key from `LOCK 'position to `OFF' position slightly rotate steering wheel to relieve pressure on steering spindle for easy operation of the key. Also ensure the key is inserted fully before turning the key.

Combi-switch



Wiper Control Combi-Switch Lever - Left

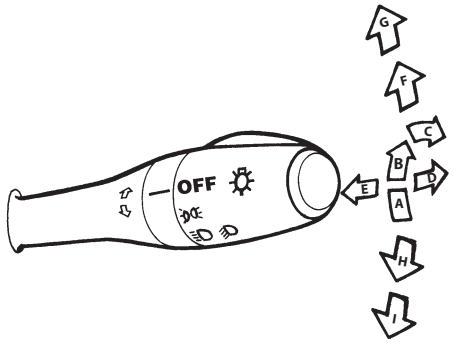


Wiper Control Combi-switch Lever - Left

- **A. Wiper 'OFF' position**
- **B. Slow Wipe**
- **C. Fast Wipe**
- **D. Intermittent wipe ***
- **E. Pull up for windshield wipe (Flick Wipe Spring Return)**
- **F. Press side knob for wash**

*** Rotate selector to set delay timing for intermittent wipe**

Lights Control Combi-Switch Lever - Right



Lights Control Combi-switch Lever - Right

- **A. Head lamp 'OFF' position**
- **B. Position lamp 'ON'**
- **C. Position lamp & head lamp 'ON'**
- **D. Push down the lever for high beam**
- **E. Pull up the lever (spring return) for high beam flash**
- **F. Lane change left (spring return)**
- **G. Side Indicator - LH**
- **H. Lane change right (spring return)**
- **I. Side Indicator - RH**

Accessory Switches : (if installed)

Accessory switches have been provided on the dash board near the steering column on the right hand side.

1. **Rear windshield demister** (unlatched switch)

The switch is pushed and released to switch 'ON' and the knob returns to the normal position.The function indicator lights up in amber indicating that the demister heater is 'ON'. The function is controlled through a timer and operates for 15 minutes (approximately) and goes 'OFF' automatically at the end of the duration. The heater can be switched 'OFF' anytime by once again pushing and releasing the switch knob.

Note : Switching 'ON' and 'OFF' can be done only with key in 'IGN' position. The demister heater remains 'ON' even after removal of ignition switch key and goes 'OFF' at the end of 15 minutes period.

2. **Rear fog lights** (Unlatched switch) **provision**

Push to switch 'ON' and push to switch 'OFF'. Rear fog lights are operative only when the head lights are switched 'ON' or front fog lamps are switched 'ON'. The function indicator on the knob lights up in amber when the lamps are 'ON'. Lamps 'ON' indication is provided in Instrument panel also. Please contact any Authorised Service Outlet/ Dealer in case of fog lights activation requirement.

3. **Rear windshield wiper** (latched switch)

Push to switch 'ON' - Push to switch 'OFF' The function indicator on the knob lights up in green when the wiper function is 'ON'.

4. **Front fog lights -** (Unlatched switch)

Push to switch 'ON' and push to switch 'OFF'. Front fog lights are operative only when the position lamps are switched 'ON'. The function indicator on the knob lights up in green when the lamps are 'ON'. Lamps 'ON' indicator is provided on instrument panel also.

Gearshift lever & Shifting pattern :

The gearshift lever is mounted on the central console between the two front seats. The gearshift pattern is shown on the gear lever knob.

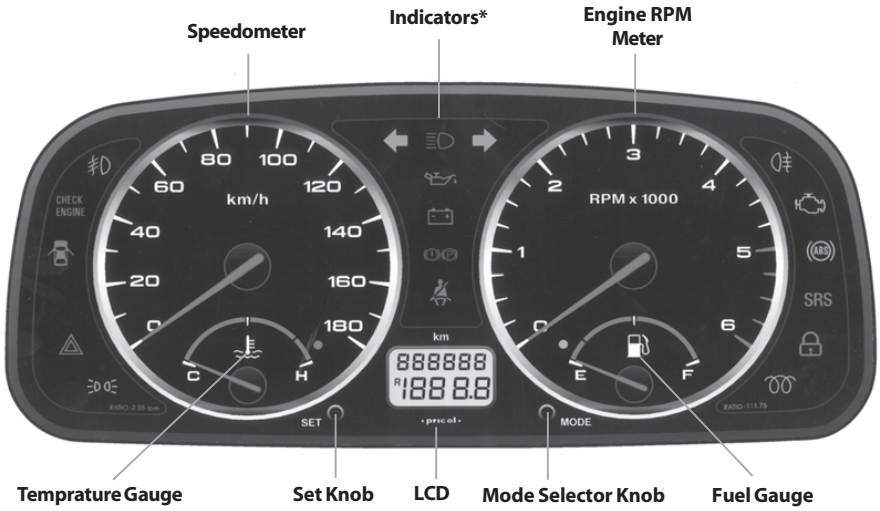
⚠ The reverse gear should be engaged only when the car is stationary. Wait for 5 seconds after declutching to ensure smooth engagement of the reverse gear.

Parking brake :

A mechanical parking brake acting only on the rear wheel is provided on your car. The parking brake lever is located behind the gearshift lever. To apply the parking brake, pull the lever up fully. The indicator light (!) (P) on the instrument panel will become `ON'. To release it, **pull the lever up slightly**, press the release button and push the lever down. The parking brake indicator (!) (P) on the instrument panel will go 'OFF' when the parking brake lever is fully released. When parking on level ground, place the gear lever in the 'Neutral' position. When parking on a downhill gradiant, place the gear lever in 'Reverse' position. When parking on uphill gradiant, place the gear lever in the '1st' position

⚠ Apply the parking brake properly before leaving the car & release it before moving. Use the parking brake for holding the car on a gradient.

INSTRUMENT PANEL



*Some indicators and Chrome ring may not be provided on certain clusters.

Turn Signal and Hazard Warning

I) Turn Signal :

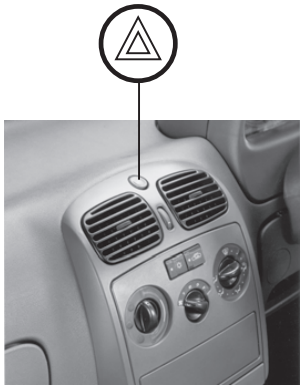
Turn signal lamps can be operated only when the ignition supply is 'ON and by using the turn indicator switch on the combiswitch.

The direction indicator ◀ (LHS) and ▶ (RHS) on the instrument cluster flashes alongwith external indicator lights as selected.

II) Hazard Warning :

This can be operated without ignition 'ON'. Press the hazard warning switch (red knob) on the centre of the dash board, all side indicator lights and indicator ⚠, LHS and RHS turn indicators provided on cluster will flash simultaneously to warn the other road users about any hazardous condition of the car. Depress the knob again to switch 'OFF' the hazard function.

Note : If light does not blink or blinks rapidly, it is an indication of problem in the blinker electrical system or the indicator bulb at front or rear has fused. Get it rectified immediately.



Hazard Warning Switch

Parking Brake Indicator cum Low Brake Fluid Warning Light

When the ignition key is turned to the 'IGN' position, the symbols light up for the following :

i) when the parking brake is applied, and/or
ii) when the brake fluid level in the container is low.

Else the indication goes 'OFF' after few seconds.

If the lamp glows while engine is running, then check the parking brake or brake fluid oil level.

⚠ Do not drive the car if this indicator remains 'ON'. Get the problem attended to immediately at an Authorised Service outlet.

High Beam Indicator :

Symbol lights up when the headlamp high beam is 'ON'.

Position Lamp Indicator :

Symbol lights up when the position lamps are switched 'ON'. Illumination lamps for AC, HVAC or ventilation panel and switch illumination lamps comes 'ON', when the position lamps are 'ON'). Position lamps can be used as parking lamps.

Instrument cluster illumination turns on with key in 'IGN' position and position lamps 'ON'.

Note : Position lamps also remain 'ON' while head lamps are 'ON'.

Low Oil Pressure Indicator :

When the ignition key is turned to the 'IGN' position, symbol lights up and goes off as soon as the required engine oil pressure is developed after starting the engine.

If the low oil pressure indicator does not glow or remains 'ON' with the 'IGN' on and engine is running, it indicates a fault in the electrical circuit/lubrication system. Check & get the problem attended to at an Authorised Service outlet.

Battery Charging Indicator :

Symbol lights up when the 'IGN' is turned 'ON' and should go 'OFF' after the engine starts.

If it remains 'ON' while the engine is running, it indicates that the battery is not being charged. Switch off all unnecessary electrical equipment and get the problem attended to at an Authorised Service outlet.

Glow Plug Indicator

Symbol lights up when the 'IGN' is switched 'ON' and goes off after a few moments automatically depending on the engine temperature, indicating readiness to start the engine.

Do not start the engine until this light goes off. The duration of 'ON' time varies with engine block temperature and it glows for a longer duration with a cold engine.

If this indicator blinks instead of glowing steadily, it indicates that the temperature sensor connection to the glow plug timer is either open or the sensor is faulty. In this condition, the engine can be started, and the car can be driven. However, the fault should be attended to at the earliest, at an Authorised Service outlet, as it affects the engine starting performance intially before the engine warms up.

Front Fog Lamp Indicator (Provision) :

This symbol lights up when the front fog lamps are switched 'ON'

Rear Fog Lamp Indicator (Provision) :

This symbol lights up when the rear fog lamps are switched 'ON'

Speedometer, Main Odometer and Tripmeter (on LCD) :

The speedometer indicates the car speed in km/hr. The odometer records the total distance the car has been driven. The tripmeter can be used to measure the distance travelled on each trip or between fuel fillings.

Keep track of the odometer reading & follow the maintenance schedule regularly for meeting service requirements.

Odometer, Tripmeter and Illumination intensity control on instrument panel (LCD) :

The instrument panel has an LCD to display the following :

Main Odometer (Non- resettable) - Counts upto 999999 kms
Tripmeter A (Resettable) - Counts upto 1999.9 kms
Tripmeter B (Resettable) - Counts upto 1999.9 kms

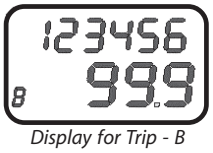
Intensity level of instrument panel illumination - selection among preset levels.

LCD has two line display.The first line displays the Odometer count.The second line displays either of Tripmeter A, Tripmeter B, Intensity level of panel illumination.

The selection and control of functions are done through 'MODE' and 'SET' push buttons (knobs) provided on either side of the LCD.

The 'MODE' knob is used to select one of Tripmeter A, Tripmeter B or Intensity level of panel illumination. Switching among the above three functions can be done by pressing the knob.

Display for Trip - A



Display for Trip - B

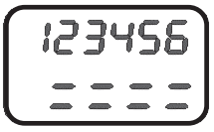
The 'SET' knob is used to control the chosen function. Pressing the knob for a few seconds resets the chosen tripmeter and varies the intensity level of instrument panel illumination.

The panel illumination intensity varies among preset levels as follows :

= Min

= = = = Max

This display returns to Tripmeter A after a few seconds of intensity level selection, if left in this mode.



Intensity Level Indicator

Note : Main odometer and tripmeter A indication will remain on display even if the ignition key is removed.

Reduced contrast in display may occur at low and high temperatures.

RPM meter :

The meter indicates engine speed in revolutions per minute (rpm)

Change gears at appropriate engine rpm and car speed to get optimum fuel economy.

The permitted engine rpm upper limit is the start of Red Zone on the dial.

Temperature gauge :

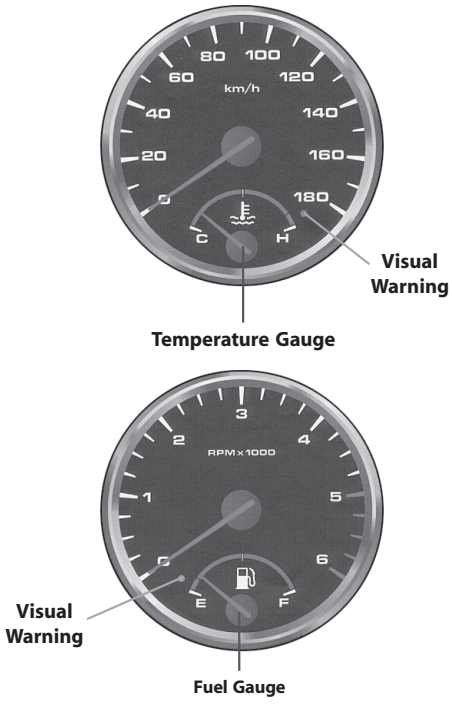
The gauges indicates the temperature level of the engine coolant. The red zone at 'H' indicates temperatures higher than normal. A visual warning indication (Red coloured) comes 'ON' indicating that when the coolant temperature is higher than normal.

Avoid driving, when the pointer is in the red zone. It indicates engine overheating, which may be due to insufficient coolant in the radiator or due to any other defect. Take the car to the nearest Authorised Service outlet for necessary attention.

⚠ Never remove the cap from the coolant reservoir when the engine is hot. Do not restart the engine until the problem has been duly attended.

Fuel Gauge :

The fuel gauge indicates the approximate fuel level in the tank. Refill the fuel tank at the earliest, when the needle touches the red band (indicating reserve capacity has been reached.), a visual warning indication (Amber coloured) comes 'ON' indicating the fuel level is low.



Audio Warning Unit

Seat Belt Reminder (Beeper) : (If installed)
When the key is in the 'IGN' position and the driver's seat belt has not been fastened, an audio warning comes 'ON'. Please fasten the seat belt. The warning goes 'OFF' automatically after a few seconds, even if the seat belt is not fastened.

'Key in' Warning Beeper : (if installed)

When the ignition is turned to 'OFF' position and the key is not removed from the switch, an audio beep comes on if driver door is open. The beeper will go "OFF' after a few seconds automatically if warning is ignored or if the key is removed/door is closed.

'Key in' warning Beeper : (if installed)

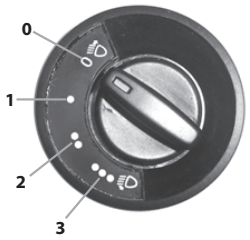
When the ignition is turned to 'OFF' position and the key is not removed from the switch, an audio beep comes on if driver door is open.The beeper wiil go 'OFF' after a few seconds automatically if warning is ignored or if the key is removed / door is closed.

Headlamp leveling switch : (if installed)

A motorised headlamp leveling arrangement with the setting knob at the dash board is provided on the LH side of steering column.
As and when required, head lamp leveling, setting is done by rotating the knob to select one of the 3 levels marked in the switch depending upon the loading of the vehicle.

Sl.No.	Loading condition	Sw.position/ Marks assigned *
1	One person in Driver seat	0
2	Driver+One passenger in front	0
3	Driver+One passenger in front+ All the seats at rear occupied	●
4	All the seats occupied	●
5	All the seats at rear occupied+ Luggage in boot space to achieve permissible load on the rear axle**	●●
6	Driver+Luggage in boot space to achieve permissible load on the corresponding axle**	●●

Audio Warning & Headlamp leveling switch



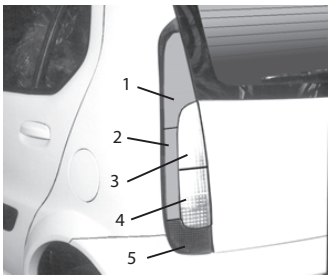
* Switch position / Marks assigned is for highest ULW.
** If the maximum permissible laden mass is obtained before the permissible load on the axle, the loading of the boot shall be limited to the figure, which enables that mass to be reached.

Lamps 'ON' Reminder (if installed)

An audio warning (beeper) is provided to inform the driver that the headlamps/position lamps are left 'ON'. This comes 'ON' when the driver removes the key and opens the door. Switch 'OFF' the lamps, before leaving the car. However the lamps can be kept 'ON' ignoring the warning, if desired.

Tail Lamp : The tail lamp assembly incorporates the following-

1. Stop cum position lamp
2. Position Lamp
3. Turn Indicator
4. Fog lamp provision on RH side. Reverse lamp on LH side.
5. Reflex reflector

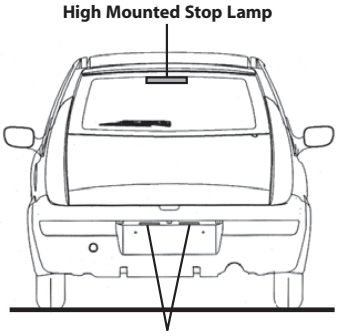


Registration Plate Lamps :

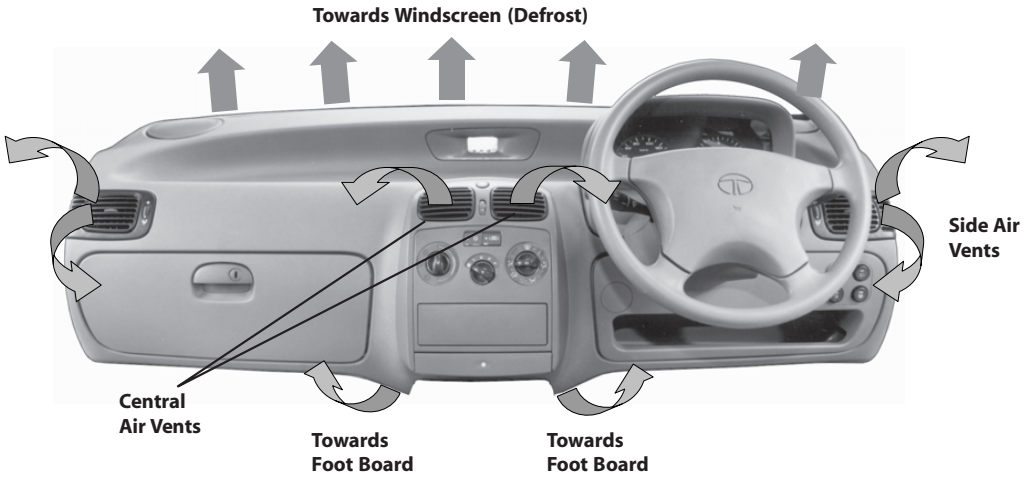
Two concealed lamps are provided for illumination of the rear registration number plate.

High Mounted Stop Lamp :

High mounted stop lamp is provided at the rear and it glows whenever service brake is applied.



Air Flow Pattern



HEATING, VENTILATION & AIR CONDITIONING
(if installed)

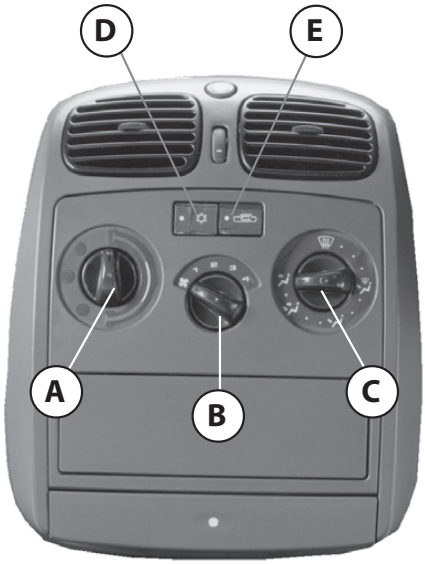
A. Temperature Control Knob :

The air temperature in the car can be controlled by operating the temperature control knob **(A)** at the left hand side of the control panel. The temperature can be increased by rotating the knob towards the red segment and decreased by rotating it towards the blue segment.

B. Blower Speed Regulation Knob :

The ventilation system has a three/four speed blower. The blower speeds can be regulated to any one of the following speeds by operating the knob **(B)** at the centre of the control panel.

LOW • MEDIUM • HIGH • VERY HIGH



H.V.A.C. CONTROLS

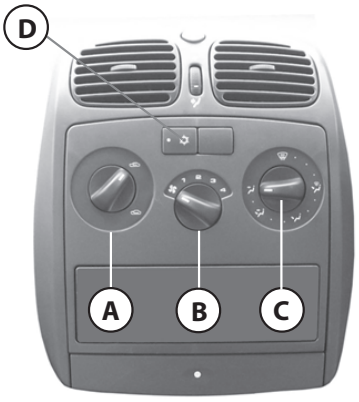
C. Air Direction Control Knob :

The air flow can be changed by turning the switch **(C)** to the desired direction.

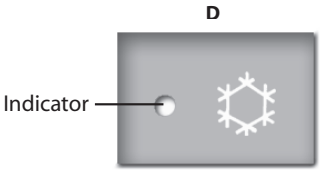
	Towards face
	Towards face and feet
	Towards feet
	Towards feet and windshield (Recommended for clearing fogging on windshield)
	Air demist / defrost windshield (Recommended for clearing heavy fog and snow)

D. A.C. ON/OFF Switch :

The A.C. can be switched 'ON' by pressing the switch **(D)** on the A.C. control panel provided the blower is `ON' and the engine is running. The indicator lamp will show that the A.C. is `ON'.



A.C. CONTROLS



A.C. ON / OFF Switch

E. Air Circulation Switch :

- In HVAC version to put air circulation mode in recirculation, press switch 'E'. The indicator lamp will show air circulation is in recirculation.

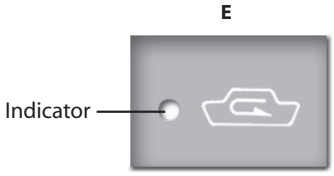
  To put vehicle in Fresh mode release switch 'E'. Indicator lamp will be 'OFF'.
- In A.C. version, air circulation mode can be selected by rotating knob 'E'.

  Fresh  Recirculation 
- In recirculation mode, air inside the vehicle is circulated again and again. In Fresh mode, air is taken from atmosphere and circulated in the vehicle.

  Recirculation mode can be used
  - While driving in dusty condition
  - To avoid traffic pollution
  - To get quick cooling/heating as required.

Whenever discomfort is felt switch air circulation mode to fresh.

Notice : The A.C. can be switched `ON' only if the blower is 'ON' and engine is running. When A.C. is switched 'ON' engine idling RPM increases marginally, to adjust to the A.C. compressor load. When desired temperature is achieved A.C. trips 'OFF' automatically.



Air Recirculation Knob

Notice : The A.C. compressor gets switched 'OFF' automatically when engine gets overheated. The A.C. is automatically switched 'ON' when the engine cools down.

Normal Cooling :

A.C. - ON

Knob 'B' - desired speed position

Knob 'C' - towards face 

Switch 'E' - suitably as explained

Quick Cooling :

If your car is left in the sun with window closed, inside temperature increases.

To achieve quick cooling effect, open the windows briefly while you operate the air conditioner, with air circulation switch is in Fresh mode, fan at higher speed and air direction towards 'FACE'. All vents to be opened completely.

Once temperature inside has come down sufficiently, close the windows and change air circulation suitably to fresh/ recirculation.

Demisting :

In rainy season or in areas of high humidity, mist formation inside windshield glass is observed. To clear mist dehumidified air is passed on the windshield glass.

The position of control knobs should be adjusted as follows :

A.C. - ON

Knob 'B' - desired speed position

Knob 'C' - towards windshield 

Knob 'A' (for vehicles fitted with HVAC) - at suitable temperature

Air circulation - at suitable position

Notice : When mist gets cleared switch the knob "C' position to Face mode.
In high humidity areas, if cold air continues to flow over windshield, it may cause sudden fogging on outside surface of windshield.

Defrosting :
(For vehicles fitted with HVAC unit)

In low temperature areas, to clear frost formation outside the windshield glass, this setting is used.

First start the engine and accelerate to warm up.

Knob 'A' - Maximum hot position

Knob 'B' - Very High

Knob 'C' - towards windshield 

Switch 'E' - Fresh air mode condition

Once the windscreen has become clear, move the fan switch to desired speed.

Notice : Electric heater coil is provided for demisting of tail gate glass for deluxe versions.

Normal Heating :
(For vehicles fitted with HVAC)

Knob 'A' - Suitable temperature position

Knob 'B' - Suitable blower speed

Knob 'C' - towards face & feet 

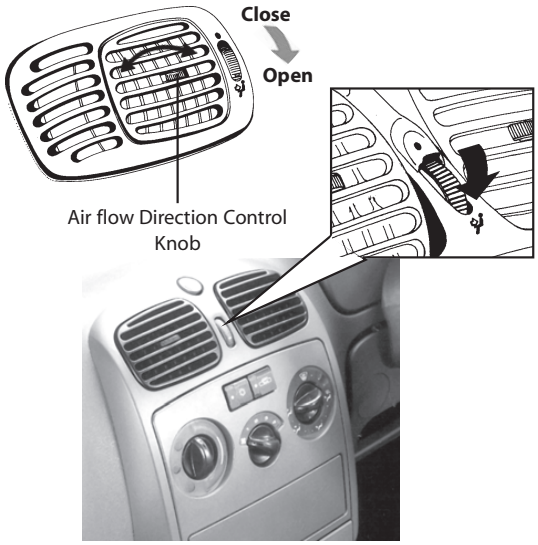
A.C. - OFF

Air Circulation- Fresh switch

Quick Heating :

All settings as explained above except air circulation switch to recirculation.

Once vehicle is heated switch back to fresh mode.



Ventilator :

The air flow can be adjusted continuously with the rotary control knob at the vents on the dash board. The air vents can be adjusted upward and downward. This is common for HVAC, AC and ventilation.

Notice : Refrigerant charged in the air conditioning circuit has been identified on the label over front body member. Use only refrigerant as given in the label for topping up or recharge, i.e. do not charge R12 (CFC) in the vehicle earlier charged with R134a (Non CFC) or vice versa.

Notice : Fresh air is taken from the grill opening provided at base of windshield glass outside the vehicle. Keep these openings clear and free from fallen leaves etc.

REAR VIEW MIRRORS

Exterior Mirrors : Driverside only (alternate) Both sides (if fitted)

The rear view mirror is fitted on the door from the outside and can be adjusted by the lever provided inside the door. In some versions the mirrors are provided on both the doors.

Inner Rear View Mirror :

Antiglare mirror
Plain mirror (Alternate)
If an antiglare mirror has been fitted inside the cab. Provision has been made for two positions :

1. Antiglare position
2. Normal position

Use antiglare position only when necessary, as it reduces rear view clarity.

Normal Mirror (if fitted)

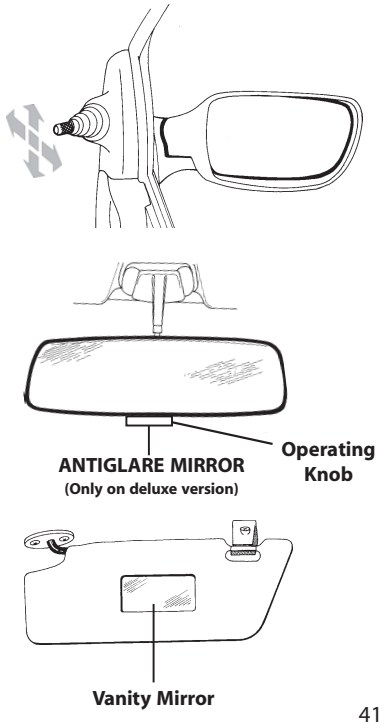
In some versions, a normal mirror has been fitted inside the cab.

Sunvisors :

Two adjustable sunvisors are provided inside the cab above the windshield to prevent sun glare.

Lower the sunvisors to protect the eyes from bright sunlight. The sunvisor also moves sideways towards the door.

A vanity mirror has been provided on the back of the co-driver's sunvisor.



When not in use keep the sunvisors in their stowed position otherwise they may block the driver's vision.

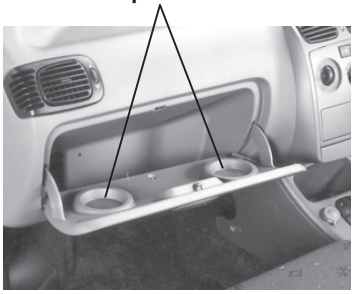
Glove Box :

The glove box is located on the dash board in front of the co-driver's seat. The glove box can be locked with the ignition key.

Cup holders are provided on the inner face of glove box flap.

Do not use the cup holder while the car is in motion.

Cup Holders

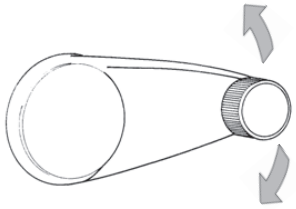


Glove Box

Window Winding :

Manually Operated Window Winding :

Window winding in the standard version is manually operated. Rotate the handle on the door pad to raise or lower the window glass.



Window Winding Lever

Power Windows : (if installed)

All the window glasses can be operated by means of switches, provided on the floor console near the gear shift lever for all the four windows.

In some version, power windows are provided only on front doors. These can be operated only when the key is in the 'IGN' position.

Press to raise the glass Press to lower the glass

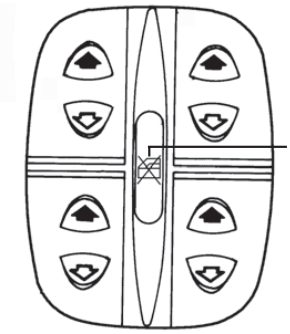
In the same switch, safety locking arrangement has also been provided using the push type switch at centre. This switch has two positions ;

LOCK - when the switch is in depressed condition
UNLOCK - when the switch is in pressed condition

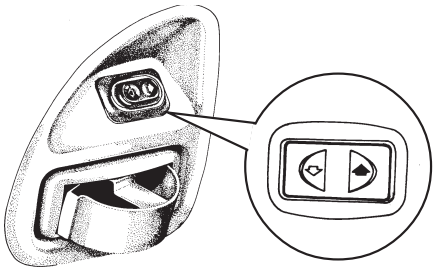
In the lock position, the rear window switches become inoperative. However the rear windows can be operated by the switches on the console. Illumination on rear window switches goes 'OFF' in locked position. Press down the lock button to unlock.

Individual window winding switches have been provided only on the rear doors.

While raising the glass take care to avoid fingers/hands getting trapped between the glass and the frame.



Window Winding Switch On floor Console



Window Winding Switch On Rear Door

Tray Cover with coin holder :

Tray cover is provided on centre cluster for the occupants of front seat. Inside tray cover coin holder is provided to place all types of coins.

To open tray cover, first push it gently at the middle and then pull out slowly.

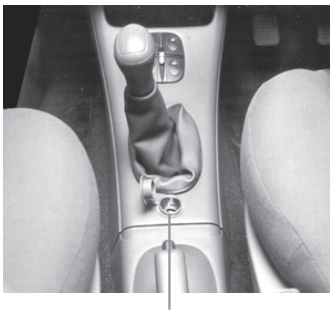
⚠ Do not pull tray cover directly. It will damage inside locking mechanism.

Tray cover with coin holder (Box)

Plug Socket :

A plug socket is provided on the floor console behind the gear shift lever . This can be used for connecting loads (upto 10A maximum) like mobile charger . To use this socket, remove the cap first.

⚠ Always keep this socket coverd with the cap when not in use.



Plug Socket

Rear Ash Tray : (if fitted)

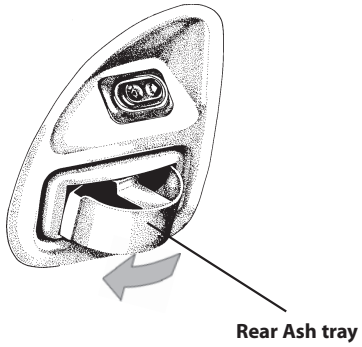
Ash trays are provided on both rear doors for the occupants at the rear.

To open the rear ash tray press the lid, it will rotate outward.

To remove the ashtray open fully and press down to disengage the top piot pin.

To refit the as tray, locate the bottom piot pin and push the top piot pin in to place.

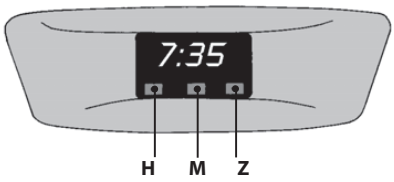
⚠ Do not forget to extinguish the cigarette butts, before putting them in the ash tray.
Do not put paper or other flammable material in the ash trays.



Digital Clock :

A digital clock is provided in the middle of the dash board. It displays the time when the steering lock cum ignition switch is in 'IGN' position.

Three push knobs **'H', 'M'** and **'Z'** are provided for setting the time and for resetting the display to zero - **'H'** for hours setting, **'M'** for minute setting and **'Z'** for accurate setting of the clock.

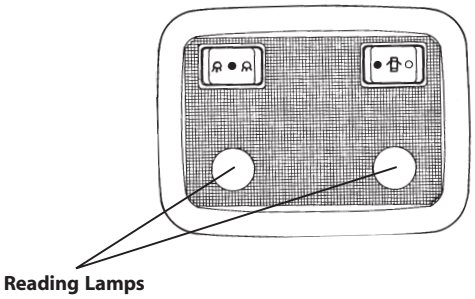


Roof Mounted Interior Light & Reading Lamps :

Interior roof lighting and reading lamps with inbuilt switches are provided on the roof near the rear view mirror.

The switch for the reading lamps, has 3 positions -

LEFT SIDE READING LAMP **OFF** **RIGHT SIDE READING LAMP**



Delayed Turn Off (for deluxe model)

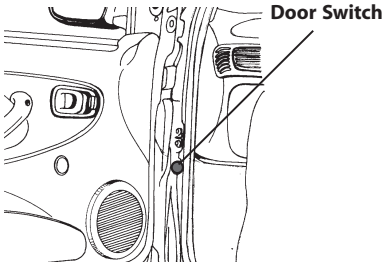
This switch has 3 positions -

OFF **DOOR** **ON**

ON - The lamp will come 'ON' as long as switch is in this position.

DOOR - In this position the lamp comes on when either of the front and rear doors are opened. When the door is closed, the lamp will not go 'OFF' immediately, but remains 'ON' for few seconds. This helps settling in the seat and inserting the key in the Ignition switch.

When the key is turned to the 'IGN' position, the lamp goes 'OFF' immediately, before the delay period.



OFF - In this position the lamp will not comes 'ON' at all.

Front Seats and Seat Adjustments :

Front Seats : Both the driver and co-driver seats are of bucket type to provide maximum riding comfort.

Moving the seats forward and backward :

To adjust the seat position, lift the lever under the seat cushion front, then move the seat to the desired position and release the lever.

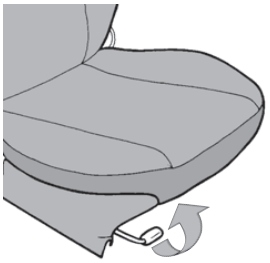
Make sure the seat is locked in position.

Adjusting the angle of the seat back :

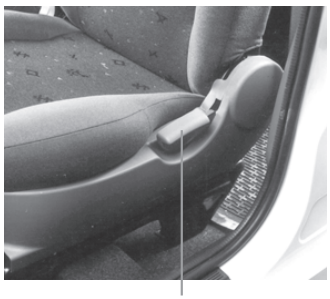
To adjust the angle of the seat back, a lever has been provided on the sides of the front seats. By lifting the lever, you can adjust the angle of the backrest.

⚠ Do not adjust the seat when the car is in motion.

Always adjust the seat back to an upright position and sit well back in the seat.



Lever for sliding (Forward/Backward)

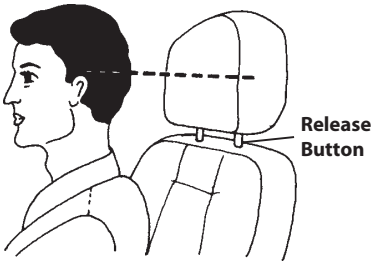


Lever for adjusting the seat back rest

Head-rest : (Adjustable on the front seat & fixed on the rear seat)

Head-rests are designed to help reduce the risk of neck injuries in case of accidents. For best protection, adjust the top of the headrest, so that it is in level with one's ears. To adjust the head-rest pull /push it to the desired position until it clicks. The head-rest can be adjusted up to 64 mm in steps of 16 mm.

If headrest is required to be removed (for cleaning fabric etc.) pull the headrest fully up, then push notch button with a thin punch while pulling the headrest up. To install proceed in reverse.



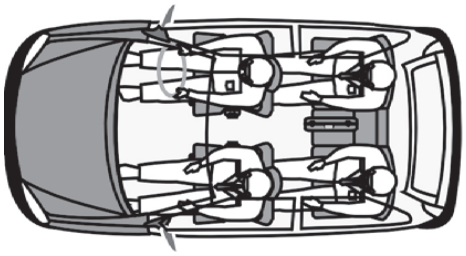
⚠ Avoid driving the car with the head-rest removed as it is a safety item. Do not attempt to adjust the head-rest while driving the car.

Rear Seat : (Split 60 : 40)

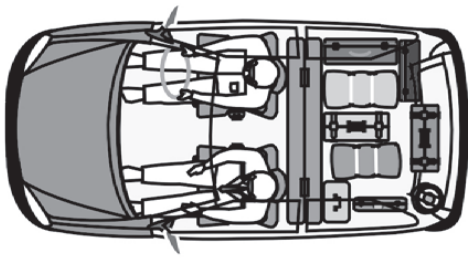
A cushion bench 60 : 40 split seat has been provided for the rear passengers. Any one of the split seat back can be folded by releasing the latch, on both the 'C' pillars simultaneously. For making more luggage space, the folded rear seat can be somersaulted further. Before summersaulting ensure that the front seats are at 3/4 the full travel towards rear.

For fixing the seat back upright, just push back the seat in position. It will get locked by itself.

SOMERSAULT POSITION



Lugguage space before summersault operation



Lugguage space after summersault operation

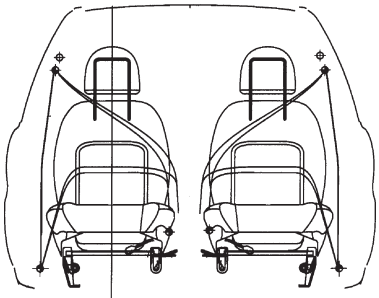
Seat Belt

Seat belts have been provided on the front seats (with micro swtich on driver's side for the deluxe model)

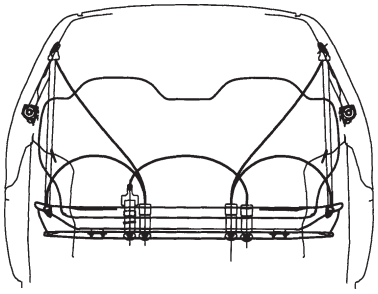
⚠ Always wear seat belts, while driving.

Seat belt adjustment :

1. Pull the tongue across your body and insert it into the buckle.
2. Check and ensure that the belt is not twisted.
3. Position the lap portion of the belt as low as possible across your hip bone.
4. Pull up the shoulder part of the belt to remove the slack.
5. Make sure that the belt goes over your collar bone and across the chest.
6. To unlatch the belt, press the red button on the buckle. Guide the belt to the pillar as it retracts.
7. Each belt should be used by one occupant only (such as front LH/RH, Rear outboard passenger LH/RH & Rear lap belt-location as per sketch). The belt must not be put round a child, seated on passenger's lap.
8. When the belt has been use in a serious accident or shows signs of severe fraying or of having been cut, replace the belt kit.
9. The belt must not be altered or modified during use.



Front seat seat-belts arrangement



Rear seat seat-belts arrangement viewed from rear

10. The belts are meant (intended) for adult occupants only.
11. The belts if required should be repaired, by authorised personnel only.
12. The belts should not be disassembled, if required, authorised personnel only should carry out disassembly and assembly.

⚠ Do not wear your seat belt over hard or breakable objects in pockets or on your clothing. If an accident occurs, objects such as glasses, pens, etc. under the seat belt can cause injury.

Tailgate opening :

A tailgate opening lever is provided on the floor between the driver's seat and door.

Pull the lever up to unlock the tailgate.

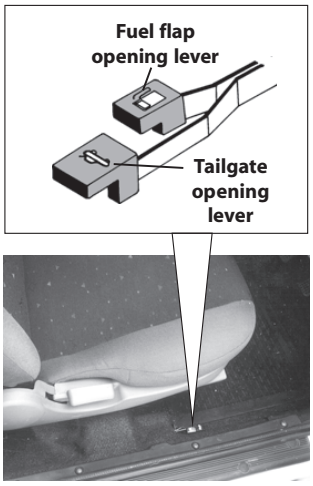
Lift the tail gate by hand using the recess in the centre, near the bumper. The two telescopic balancers will open the door automatically.

To close and lock the tailgate push it down.

The tailgate can also be opened with the key.

While tailgate opening the parcel shelf also gets lifted up by the lifting cords and parcel shelf closes back while closing the tailgate.

⚠ Ensure proper closing of parcel shelf while closing the tailgate.



Fuel flap opening :

The fuel flap is located on the left rear side of the car. The fuel flap can be opened by pulling the opening lever located near the tailgate opening lever and can be locked by simply closing the flap.

Music System :

A provision has been made for fitment of music system.

An internal antenna comes fitted on the front windshield glass on the inner side near the rear view mirror. Provision for the installation of speakers is made on the dash board on both the sides and on each of the front doors.

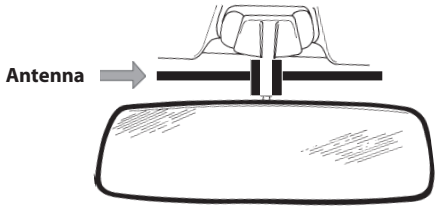
If the music system is originally provided in your vehicle, please refer manufacturer's manual for operation of the music system.

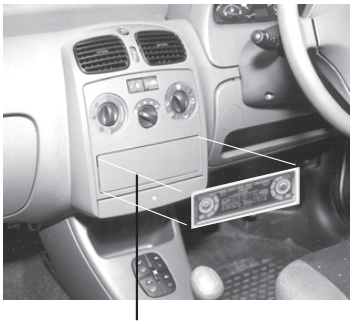
Electrical Accessory fitment :

Provision has been made in your car wiring to fit the following electrical accessories :

1. Engine Compartment Lamp
2. Front Fog lamp
3. Additional Horn (on LH side)
4. Reversing buzzer
5. Music System
6. Speakers
7. Immobilizer for vehicle security

For details of fitment please contact our nearest authorised service outlet.

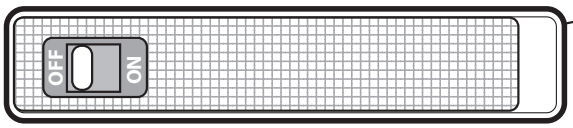




Provision for Music System

Load Area Lamp (if installed)

A lamp is fitted in the luggage compartment to illuminate the luggage area, when required. To operate this lamp, a simple ON/OFF switch is provided along with this lamp. For the lamp to come 'ON' with the opening of tailgate, the switch should be in 'ON' position.



Load Area Lamp

Front Fog Lamps (if installed)

The Front fog lamps are provided with halogen lamps of H3 type to provide adequate light in the vehicle front. This enables to drive the vehicle during rains, fog, etc.

Fog Lamp

- **CHECK LIST**
- **STARTING & STOPPING**
- **PREPARING TO DRIVE**
- **FUEL ECONOMY**
- **DRIVING IN ADVERSE CONDITIONS**
- **DRIVING DIESEL CARS**
- **DRIVING SAFETY**

OPENING & CLOSING THE BONNET

Opening :

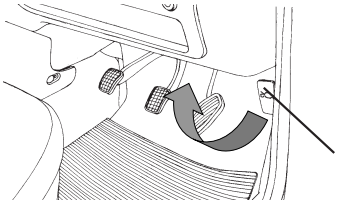
1. Ensure that the car is in neutral gear with the parking brake applied.
2. Pull the bonnet release lever located under the right hand corner of the dash board. The bonnet will pop up slightly.
3. Raise the bonnet slightly and with your finger lift the secondary lock lever located under the bonnet centre.
4. Lift the bonnet up. Pull the bonnet stay rod from its clip and insert the free end into the slot in the bonnet, slide stay rod outward to secure.

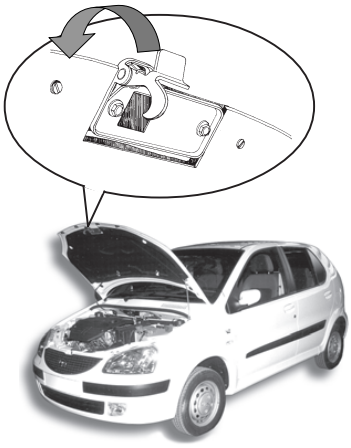
Closing :

1. To close the bonnet disengage the stay rod & clamp it properly.
2. Lower the bonnet and drop it from a short height to shut.

⚠ Ensure that the bonnet is properly locked before driving. Do not press the bonnet onto the bonnet lock.

⚠ Do not leave the engine running in a closed garage.





Check	Adjust	Ensure
1. Tyre pressure	1. Front seat	1. Bonnet is fully closed
2. Coolant level	2. Rear view mirrors	2. All doors are properly closed
3. Engine oil level		3. Seat belts are fastened
4. Brake fluid level		4. All switches & lamps are working
5. Water in windshield washer reservoir		5. Gear shift lever is in neutral position
6. Power steering oil level (if installed)		6. Parking brake is released
7. Battery electrolyte level		
8. Fuel level		

Fuel Level :

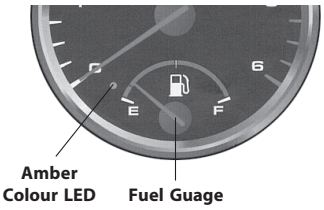
Check fuel level on the gauge in the instrument panel. If the pointer is in the red zone and/or visual low fuel level warning indicator (Amber colour LED) glows, please ensure fuel filling at the earliest. Avoid driving with fuel at minimum level.

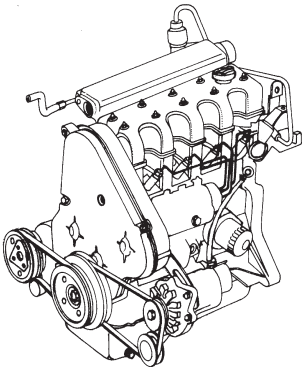
Engine Oil Level :

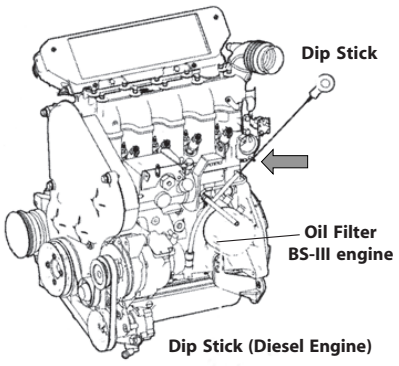
1. Open the bonnet. Pull out the dipstick and wipe it with a clean cloth or a paper napkin.
2. Insert it again to its original position.
3. Pull out the dipstick again and observe the oil level on the dipstick.
4. Top up oil if the oil level is below the mid point of min. and max. marks.

Note : Oil level should not exceed the max. mark. Always check the oil level when the car is on level ground and the engine is cold.

⚠ Check the engine oil level if low oil pressure warning comes 'ON' while driving.







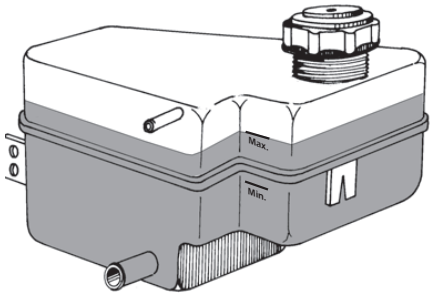
Dip Stick (Diesel Engine)

Engine Coolant Level :

The coolant level is visible through the translucent reservoir. It should be between max. & min. marks. If it seems less, add premixed coolant into the auxiliary tank upto the max. mark. Put the cap back properly.

⚠ Never remove the filler cap when the engine is hot.

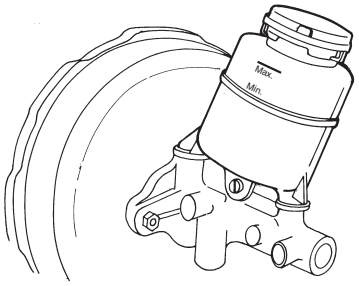
In case of an emergency, normal water can be used, but the system should be flushed & filled with proper coolant mixture at the earliest.



Brake Fluid Level :

The level of the brake fluid must be between the min. & max. marks on the side of the brake fluid container. If the level falls below the min. mark, add recommended brake fluid. (Refer chapter - Fuels, coolants & lubricants)

In case of spongy or hard pedal or low brake efficiency, please contact the nearest Authorised Service outlet.



⚠
1. Do not allow brake fluid to make contact with the skin or eyes.
2. Do not allow brake fluid to splash or spill on the paint surface as it will damage the paint. In case of spillage, wipe it off immediately.

STARTING THE ENGINE

Before starting the engine :

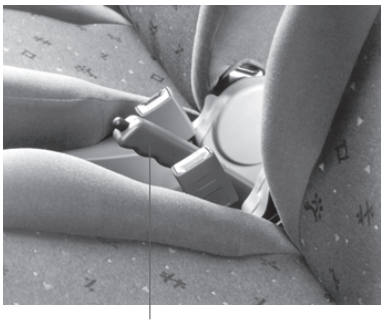
- Apply the parking brake fully.
- Ensure that the gear lever is in neutral position.

Starting the Engine :

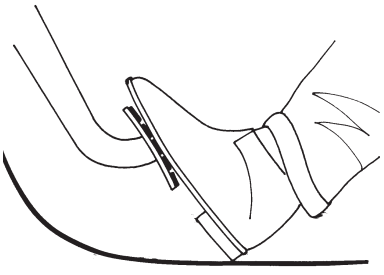
- Insert the key into the switch and turn it to 'IGN' position.
- The glow plug indicator light on the instrument panel will glow.
- **Wait till the glow plug indicator light goes off.**
- Press the clutch pedal fully and crank the engine. If the engine does not start, turn the key to 'OFF' position & try again after 30 sec.
- After starting the engine, keep the engine in idling for atleast 30 sec. Do not accelerate the engine immediately after starting to avoid damage to turbocharger(in case of Indica Turbo)
- After starting the engine, ensure the "CHECK ENGINE" lamp is "OFF", This is a normal phenomenon of "CHECK ENGINE" lamp (only in Indica Turbo & BS-III)

NOTICE

Do not crank the engine for more than 10 sec continuously. If the engine does not start, wait for 30 sec. before cranking it again. Release the key immediately after starting the engine, otherwise the starter motor fly wheel ring gear may get damaged.



Parking Brake



Stopping the Engine :

- Let the car come to a stop and engine to idle.
- Before switching 'OFF' the engine , run the engine 'idle' for at least 20 sec. and then switch 'OFF'. This allow the engine oil to lubricate the turbocharger till its speed is fully reduced and will allow the unit to cool down (Only on Indica Turbo).
- This precaution will ensure satisfactory life and performance from the turbocharger.(Only on Indica Turbo).
- Turn the key to 'OFF' position.

Parking :

- Park the car in a safe place. Switch on the indicator signal before turning to park.
- Apply the parking brake.
- Ensure that all window glasses are closed and all lamps are turned 'OFF'.
- At night, put on the parking lights if required.
- Remove the key from the ignition switch.
- Place wheel chocks at the wheels if parked on a slope.

Do not leave the key inside the car.

Do not leave children unsupervised in the car.

When parking on level ground, place the gear lever in the 'Neutral' position. When parking on a downhill gradiant, place the gear lever in 'Reverse' position. When parking on uphill gradiant, place the gear lever in the '1st' position.

Preparing to Drive :

The following checks and adjustments should be carried out before you start driving the car.

- Ensure that the windshield, all mirrors, windows and outside lights are clean. Check & adjust rear view mirrors.
- Ensure that the windshield washer reservoir is full.
- Ensure that the bonnet is properly closed.

⚠ Do not put excessive pressure on top of bonnet to avoid damage.

- Release the parking brake.
- Check that any items that you may be carrying inside, are fully secured.
- Check & adjust seat.
- Ensure that all doors are locked properly.
- Fasten seat belt properly.
- Ensure that all gauges and indicator lights are working.
- Check for blind areas being unobstructed in front and rear of the car.
- Before driving off check in the rear view mirror, for oncoming traffic. Switch on side indicator signal when getting into main stream of traffic.

Running-in instructions :

During running-in period i.e. first 1000 km. follow the running-in instructions given below :

A. 1. After starting the engine do not rev it up. Warm up gradually at idling speed.
   2. Avoid sudden acceleration and full throttle.
   3. It is always preferred not to rev up a cold engine lest engine bearings get affected.

B. Recommended car speeds during running-in period for diesel and petrol versions :

Gear	Speed (kmph)
1st	20
2nd	40
3rd	60
4th	80
5th	90

Gear Shifting :

All forward gears being synchronised, provide for easy and effortless gear shifting. Always remember to press the clutch pedal fully while shifting the gears and also to release the clutch pedal gently.

Avoid sudden clutching i.e. abrupt release of depressed clutch pedal.

Do not shift into reverse gear when the car is moving forward or when the engine is not at idling r.p.m. A 5 second pause after declutching will ensure smooth engagement of the reverse gear. Change gears at appropriate gear change speeds.

Note : There is an interlock provided between fifth and reverse gear to prevent accidental shift from 5th gear to reverse gear. (Shifting from reverse gear to 5th gear is possible)

Gear Shifting

Appropriate gear change speeds for good pick-up

Speed (kmph) Upshift			Speed (kmph) Downshift		
1st to 2nd	-	30	2nd to 1st	-	20
2nd to 3rd	-	50	3rd to 2nd	-	35
3rd to 4th	-	75	4th to 3rd	-	50
4th to 5th	-	105	5th to 4th	-	75

Recommended maximum speed, during normal operation.

Gear	Speed (kmph)
1	35
2	65
3	95
4	130
5	140

INSTRUCTIONS TO IMPROVE FUEL ECONOMY :

Your car's fuel economy is mainly dependent on your style of driving.

To operate your car as economically as possible, use the following driving suggestions.

Avoid Excessive Idling :

Stop the engine and start it again, if you have to wait for more than a minute while you are stopped.

Avoid fast starts & unnecessary stops :

Start off slowly from traffic lights or stop signs to prevent increased fuel consumption and shortening of engine life. Avoid unnecessary deceleration (stopping or slowing down) and then acceleration which uses more fuel.

Always maintain clean air-cleaner :

The amount of air supplied will reduce due to clogged air-cleaner, resulting in waste of fuel due to incomplete combustion.

Avoid incorrect tyre pressures :

Under-inflated tyres result in increased running resistance of the tyres, leading to wastage of fuel.

Always have the engine tuned correctly through recommended maintenance at an Authorised Service outlet.

Proper Driving Practices :

Keep a safe distance from other vehicles to avoid braking suddenly.

Do not rest your foot on the clutch pedal. It does not allow full engine power to be transmitted to the vehicle and reduces clutch life.

Fuel economy speeds :

	Diesel
Gear	**Speed (kmph)**
1st	15
2nd	25
3rd	40
4th	60
5th	65

Driving Through Water :

- Never venture to drive through water when it flows above the stone guard or above the tyre centre line.
- The engine may get seriously damaged if attempts are made to cross through deep water.
- If at all the situation demands that you have to drive through water even at great risk then,
- Keep the engine in fast idling and 'crawl' in low gear.
- After driving through water apply the brakes several times to dry the liners and to regain original braking.
- Check the engine and transaxle for any water ingress.

Do not attempt to start the engine if the car gets flooded due to water.

- Tow the car to a safe place.
- Take the car to the nearest Authorised Service outlet to check for entry of water in the engine.
- Lubricants in the engine and transaxle need to be changed in case of water entry.

Driving on a Rainy Day :

- Check wiper blades for proper functioning.
- Check brakes, steering and windows.
- Check tyres for wear and tyre pressure. Worn out tyres are unsafe on wet roads.
- Avoid harsh braking and sharp turns. It may cause loss of steering control and lead to the car skidding.
- For slowing down, shift to lower gears and apply brakes gently.
- Keep lights on if visibility is poor.
- Use heater and demister if required to clear off mist on the windshield.

Night Driving :

- Dip the head lamp for oncoming traffic during night driving.
- Maintain a speed such that you can stop within illuminated distance of the head lamps.
- Use head lamp main/dip beam to alert other users on turns/ cross roads, etc.
- Use side indicators to indicate lane change or turning.
- Put on the hazard warning switch in case of hazardous parking or if your car is disabled to warn passing traffic.

Towing the Vehicle :

- For towing a car, the best way is to use a wrecker.
- Alternatively use a rigid tow bar.
- Avoid using a flexible cable or rope as your car may crash into the car towing your car when it stops suddenly.
- Switch 'ON' the hazard warning signals of both the cars to warn other road users.
- Where possible, keep the engine idling so that power steering assistance and brake vacuum are available.
- Limit the speed to 20-30 kmph.
- In case of brake failure, use the parking brake to control the car.

DRIVING DIESEL & PETROL CARS :

The combustion systems of the petrol engine & diesel engine are totally different. While the former makes use of the spark ignition, the latter uses compression ignition type. Due to the difference in compression ratios, cylinder pressure and combustion cycle the performance characteristics of both the engines differ greatly, even if the final power out put is the same.

Therefore, if the diesel car is driven in the same fashion as the petrol car the response of the car will be entirely different for equal capacity engines.

Towing hook front

Towing hook rear

DRIVING SAFETY

Seat-Belt

Seat-belts are life saving equipment and their use reduces the chance of injury and severity of injury in case of an accident. It is strongly recommended that all the car occupants should always wear the seat-belt, while car is in motion.

Influence of Alcohol

Avoid driving under the influence of alcohol or drugs. Alcohol and drugs will severely impair your control on the vehicle and increase the risk of injury to yourself and others.

Mobile phones

Avoid using mobile phones while driving. This could divert your attention from the road and result in an accident.

Fatigue 'Rest Revive Survive'

Do not attempt driving when you feel tired or sleepy. Long distance driving can tire you very much and fatigue can dull your reflexes and judgment. Take a break and get refreshed at intervals.

CAR SAFETY CHECKS

Windshield/wiper/windshield washer

Always keep windshield glass clean to avoid any distraction in visibility. Ensure proper working of wipers and condition of wiper blade. Ensure that windshield washer reservoir is full. Do not operate wiper alone when the windshield glass is dry, which would damage the windshield.

Headlights

Keep headlight lenses clean. Check for operation of headlamp in both high/low beam conditions. Check for correct focusing of headlamps. Use only recommended type of bulbs. Do not use the high beam unless it is inevitable. Its dazzle may glare the driver of the oncoming car thus causing an accident.

Side indicators / Hazard warning

Ensure that all side indicators/hazard warning lights are always in working condition and they are used when required.

Horn

Ensure the horn is working properly. Horn provides safety to other road users by alerting your presence.

Brakes

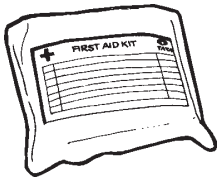
Ensure brakes are in working condition. Check brake fluid level in reservoir. Do not drive the car when brake warning lamp is 'ON'.

Tyres

Check the condition of tyres for any abnormalities. Maintain correct tyre pressure, it is very important particularly when subjected to extreme conditions, such as high speed, high load and high outside temperature. Do not use worn or bald tyres on the front wheels.

First Aid Kit :

First aid kit is provided in your car. This is for use in case of minor injuries. It is to be regularly checked for any disintegration and should be updated regularly.



Advance Warning Triangle :

There is an advance warning triangle provided along with your vehicle. In case there is a breakdown and the vehicle is parked at the side of road, then the triangle is to be kept as per instructions given below :

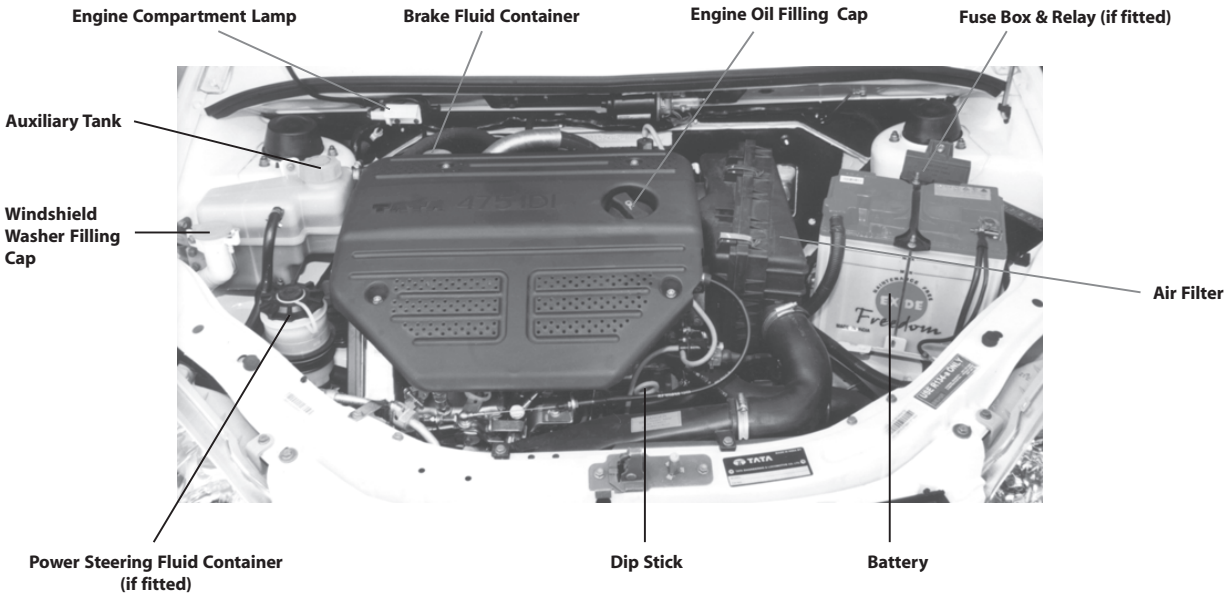
Remove advance warning triangle from case and assemble.

Place the triangle on the road behind the vehicle when it stranded on the road. The triangle must be at least 50 meters behind the vehicle in the same lane of traffic.

Increase the distance to 150 meters on a highway or if a bad/hill top obscures the vi

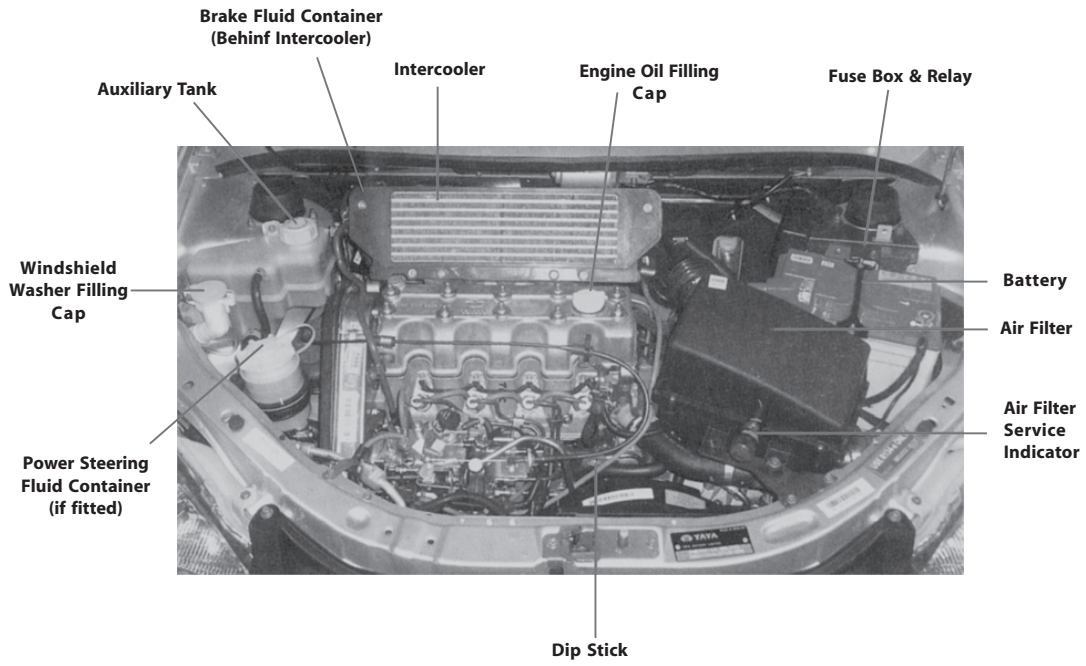
- **Engine Compartment**
- **Engine Compartment Lamp**
- **Windshield Washer**
- **Air Filter**
- **Engine Cooling System**
- **Engine Oil & Oil Filter**
- **Engine Belt Tension**
- **Fuel Filter**
- **Transaxle Oil**
- **Fuel Filling Cap**
- **Clutch & Brakes**
- **Power Steering**
- **Battery**
- **Catalytic Converter**
- **EGR System**
- **Starting with Jump Leads**
- **Wheels & Tyres**
- **Electricals**
- **Car Care**

Engine Compartment



MAINTENANCE POINTS — Engine Compartment

475 IDI (TCIC) Diesel Engine (BS-III)



ENGINE COMPARTMENT LAMP : (if fitted)

Engine compartment lamp is provided to illuminate the engine compartment.

A push - pull type switch is provided to operate the lamp.

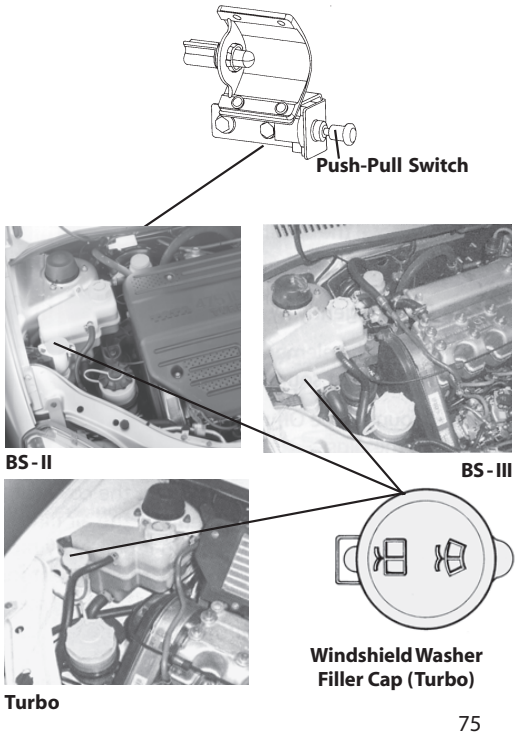
⚠ Do not forget to switch 'OFF' the engine compartment lamp before closing the bonnet.

A provision has been made for installation of engine compartment lamp in standard version.

Windshield Washer :

Windshield washer fluid container is located behind the front right hand side panel and its filler neck is provided near auxiliary tank in the engine compartment.

⚠ Do not add detergent or any solvent in the windshield washing water.



AIR FILTER :

The air filter element should be periodically cleaned. Replace the air filter element with a new one, if necessary.
Always use a genuine air filter element.
The air filter is located on the LH side of the engine compartment.

Replacement of Air Filter Element :

a) Remove the cover of the air filter, by loosening the clips.

b) Remove the air filter element.

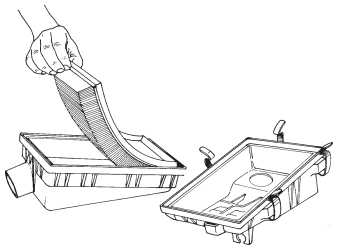
c) Clean it gently by tapping. Clean air filter cover and air ducting.

d) Check the element for puncture or pin holes by holding against a bright light source.

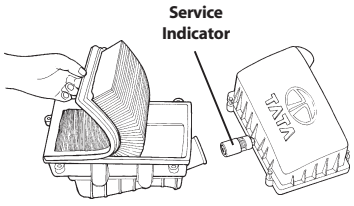
e) If found to be OK, reinstall the filter element. Fit the cover and plug on the clips.

⚠ a) When a car is driven under dusty conditions, frequent replacement of the air-cleaner element is necessitated.

b) Clogged air-cleaners lead to greater intake resistance and result in increased fuel consumption. Using low pressure compressed air, blow off dust on the air cleaner element. If the air cleaner element appears to be choked, replace it with a new one.



Air Filter (Diesel)



Air Filter (Diesel Turbo)

ENGINE COOLING SYSTEM :

If engine overheating occurs, there could be a fault in the cooling system which may be due to :

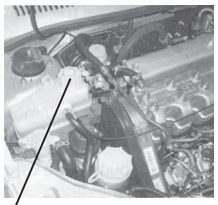
1. Insufficient coolant in the cooling system or dirt/scales having accumulated inside the cooling water passages especially in the radiator core.
2. Choking or damage of radiator passages.
3. Defective thermostat.
4. Non operation of electrically operated fan. (40 Amp. fuse blown)
5. Coolant leakage.
6. Auxiliary tank cap not sealing properly.
7. A.C. condenser fan not working.
8. Excessive refrigerant charging in the A.C. system.
9. Improper bleeding of the cooling system.

Prevention of Rust Formation :

To prevent rust formation use the branded premixed engine coolant in the radiator.

This is sufficient to operate the car upto -40^{0}C.

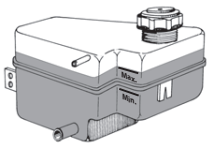
BS II



BS III

Engine Coolant Container

Turbo



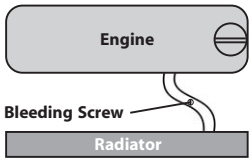
Bleeding procedure for Cooling System :
(For new filling or during reconditioning after complete draining)

a) Fill coolant from the auxiliary tank (Branded premixed engine coolant) after ensuring all hoses are secured and leak proof.

b) During filling, keep the bleeding screw on the hose from cylinder head to radiator loose.

c) During coolant filling ensure that the air in the system is removed from this bleeding screw and only then tighten the screw, using a screw driver.

d) Start the engine and slowly raise the engine speed and wait for the temperature to reach 85°C-90°C to allow the thermostat to open up. Engine running at idling speed, open the bleeding screw which is fitted on the hose between the cylinder head and radiator, by using a screwdriver to allow any trapped air in the system to escape. Tighten the bleeding screw and top up with coolant to max. level.



Replacing Engine Coolant :

The cooling system should be completely drained and refilled with new coolant at the specified intervals.

1. Touch the engine and radiator only after ensuring that they are cold.
2. Remove the auxiliary tank cap.
3. Loosen the drain plug at the bottom of the radiator.
4. Remove the auxiliary tank from its holder, drain the coolant and refit it.
5. Flush the radiator by using reverse flow i.e. radiator drain plug to auxiliary tank with clean water and close the drain plugs.
6. Pour the premixed ready to use engine coolant into the radiator until it is full.
7. Fill the auxiliary tank upto the 'MAX' mark and fit the cap.
8. Ensure that there is no leakage in the system.
9. Bleed the system as per procedure given in this book.

Changing of Engine Oil and Oil Filter :

Change the oil and oil filter cartridge at specified intervals (Engine oil and oil filter cartridge may be changed earlier if the car is operating in sandy/dusty conditions). Changing of oil and oil filter requires access from underneath the body. The car should be raised on a hoist at a service station or should be parked on a service pit.

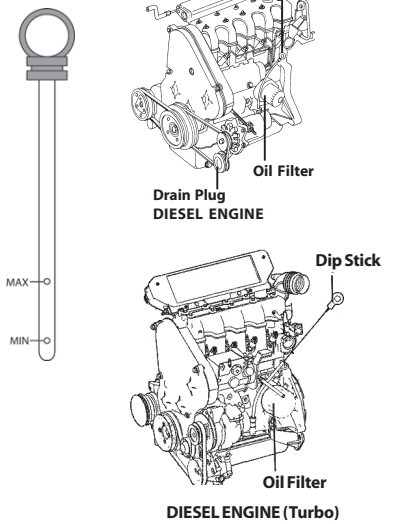
1. Run the engine until it reaches normal operating temperature. Then shut it off.
2. Open the bonnet and remove the engine oil filler cap. Remove the drain plug of the oil sump from the bottom of the engine. Drain the oil into an appropriate container. Take proper care as the engine oil will be hot.
3. Remove the oil filter with the help of a special wrench. Destroy the filter to avoid reusage of the same.
4. Smear a little fresh engine oil on the rubber gasket of the new engine oil filter. Hand tighten the engine oil filter and give a further three fourth turn with the special tool.

   Do not over tighten engine oil filter as this may damage oil filter and oil may leak out.
5. Before filling in fresh oil in the engine, clean the drain plug and threads on the sump. Apply Maxifix sealant on the threads.
6. Refit the drain plug using a new sealing washer.

   Tighten the drain plug to 3.5 mkg. torque.

7. Fill recommended quantity of fresh engine oil in the crank case and secure the oil filler cap in its place.
8. Start the engine and run for a few minutes. Do not heat up the engine. The engine oil pressure lamp should go 'OFF'. after starting the engine.
9. Check for engine oil leakages, rectify if any.
10. Stop the engine and recheck the engine oil level after a few minutes. If necessary add oil to bring the level to the upper mark on the dip stick.

Note : Use of reclaimed oil is not recommended.



Belt Tension :

Check the condition of belts on the engine. Examine the edges of the belt for cracks or fraying.

Check the tension of the belt by pushing on it with your thumb midway between the pulleys for the alternator belt, power steering pump belt and A.C. compressor belt. If the belt tension is not proper i.e. it gets deflected more than specified, get it attended to at the nearest Authorised Service outlet.

Fuel System Maintenance

The fuel filters are located behind the radiator.

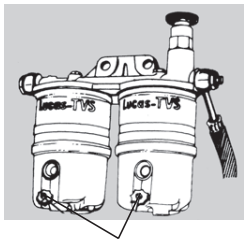
For draining the fuel filters, place the car on a pit or two pole hoists, loosen drain plugs by 1-2 turn and drain out water and other sediments at every 5000 kms or earlier depending on operating conditions to ensure that no water is allowed to enter the fuel system.

Changing Fuel Filter Element :

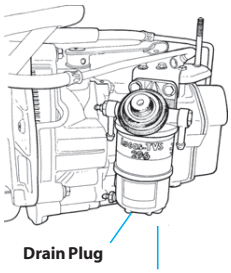
Unscrew the drain plug and drain the fuel from the fuel filter bowls. Remove the fuel filter with top cover from the mounting bracket.

Unscrew the fuel filter bowl mounting bolt and remove the bowl with element.

Clean the bowl and replace the fuel filter element at specified intervals



On Diesel Car



Drain Plug

Fuel filter mounted on Transaxle (On Diesel Turbo Car)

Transaxle Oil :

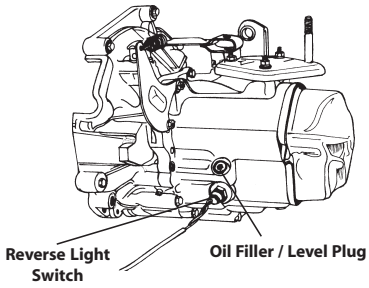
Checking of Oil Level :

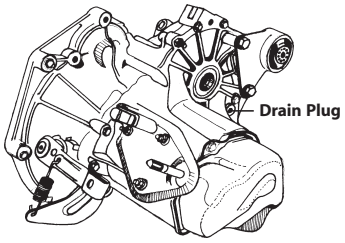
1. Clean the oil level plug and the surrounding area.
2. Remove the oil level plug and check whether oil is dripping out.The oil level must not be below the filler plug.

   Add oil to bring it to the required level.
3. Tighten the oil level plug to 3 - 4 mkg. torque.

Changing Oil in Transaxle :

1. Let the engine idle for about 5 min. in neutral gear, so that the Transaxle is warmed up.
2. Clean the oil level plug, drain plug and surrounding area.
3. Place a container under the transaxle to collect the oil.
4. Remove the oil level plug.
5. Remove the drain plug and let the oil drain out fully.
6. Refit the drain plug with a new sealing washer.Tighten the oil drain plug and fill new recommended oil through the oil level plug. Tighten both the oil drain plug and oil level plug (with new sealing washer) to 3 - 4 mkg. torque.





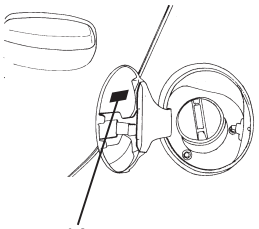
FUEL FILLING CAP :

The fuel filler cap is located on the left rear side of the car.The fuel filler lid can be unlocked by pulling the opening lever located on the outboard side of the driver's seat and locked by simply closing the lid.

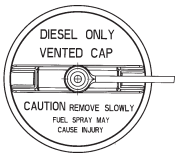
⚠ Remove the fuel filler cap slowly. The fuel may be under pressure & may spray out, causing injury if the cap is opened suddenly.

⚠ The fuel cap for the petrol version is of the non vented type while in the diesel version it is vented. They should not be interchanged during replacement.

- To remove the fuel filler cap turn the cap anti-clockwise. Turn the cap slowly to allow any residual pressure to escape.
- To install turn the cap clockwise till a click sound is heard.



Sticker
DIESEL ONLY



Diesel

CLUTCH :

The **Tata Indica** is provided with a 190 mm dia single plate dry friction diaphragm type, pre-loaded release bearing clutch which is mechanically actuated by a cable connecting the clutch pedal & the clutch release lever.

There is no free play in the system and hence no clutch pedal free play adjustment is required although the clutch pedal height from the floor has to be adjusted as clutch lining wears. The clutch pedal height from the floor keeps on increasing as the clutch lining wears.

However, ensure that clutch pedal has free movement when lifted upward.

⚠ Do not ride the clutch. It will cause premature clutch wear.
Do not release the clutch suddenly.

BRAKES :

Dual circuit, diagonal split hydraulic brakes through tandem master cylinder have been provided. The front brakes are disc brakes with floating type calipers while the rear brakes are drum brakes with automatic adjustment.

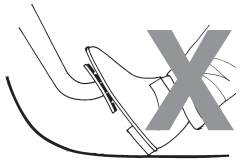
No adjustments are required for front & rear brakes.

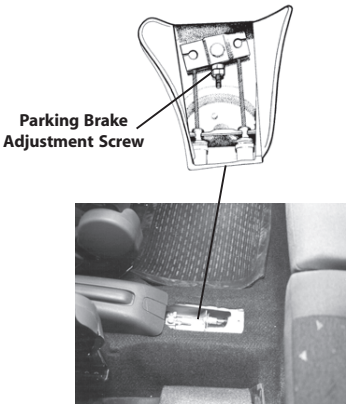
The parking brake is a mechanical lever type, console mounted, cable operated, acting on rear wheels.

To operate, pull up.

To release pull up, press the button, lower handle then release the button & handle.

Pressure reducing valves are provided on both circuits for the rear brakes to avoid locking of wheels & skidding of the car.



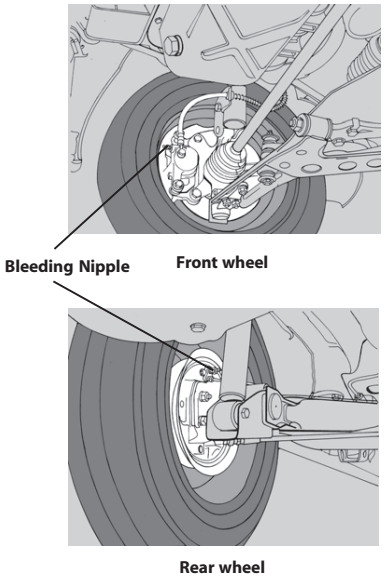


NOTE : **Vacuum Assistance :** The hydraulic brake system of Tata Indica is assisted by a vacuum booster which reduced the effort of driver during braking. In the unlikely event of disruption in supply of vacuum to the booster (e.g. stoppage of engine, or failure of vacuum hose) this assistance will still be available but only for one or two brake applications to bring the vehicle to a stop. Beyond this, vacuum assistance will not be felt by the driver and brakes will appear to be hard/ineffective. In order to stop the vehicle effectively the driver will have to apply a much higher force on the brake pedal (roughly 5 times the normal effort)

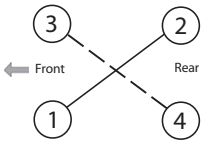
⚠ Never drive the vehicle in engine switched "OFF" condition.

BLEEDING PROCEDURE FOR BRAKE SYSTEM :

1. Clean all dirt from around reservoir filler cap.
2. Fill reservoir with fresh brake fluid to lower edge of filler neck.
3. Attach bleed tube to left front caliper bleed screw and dip the other end in jar of fresh brake fluid.
4. Start engine and open the bleed screw by 1/2 to 3/4 of turn.
5. Depress foot pedal slowly and fully. After tightening the bleed screw, allow it to return slowly.
6. Wait for 3-4 seconds before next stroke.
7. Repeat until bubbles stop emanating from bleed tube.
8. Close bleed screw immediately after the last downward stroke of pedal and hold pedal.



9. Tighten bleed screw and remove tube.
10. Replace dust cap on bleed screw.
11. Repeat same procedure on rear right, front right and then rear left.
12. If bleeding continues without success it means air is being drawn in past the bleed screw threads.
13. Close bleed screw at the end of each downward stroke of pedal.
14. Allow pedal to return fully and slowly.
15. Tighten bleed screw finally after last downward stroke of pedal .
16. Replace the dust cap on the bleed screw.
17. Apply brake pedal hard and check for any leaks.



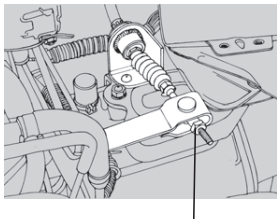
Brake and clutch pedal adjustment :

1. Ensure that clutch pedal height is the same as the brake pedal height.
2. Connect the front end of the clutch cable to the clutch release lever and adjust the cable by setting the nut by hand so as to get clutch pedal height same as brake pedal height, and cable is tight.
3. Due to wear of the clutch disc, the pedal lever will lift up. Readjust the pedal height again, using clutch cable.

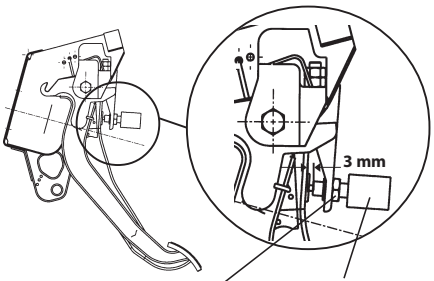
Note : Brake pedal height adjustment is required only in case of component removal, etc. Adjustment is not required during normal maintenance.

4. Adjust brake light switch, gap of 3 mm to be maintained as shown in the fig. after loosening the lock nut on the switch. Tighten the nut after adjustment. This should be done with brake pedal in complete released condition.

⚠ Do not apply tightening force over the switch body/terminal block as it may damage the switch. Electrical supply for brake lights is 'ON' without ignition switch. Under normal condition the switch shall be 'OFF' and the lights are not glowing.
Any improper adjustment may result in either brake grabbing unneccessarily or spongy brakes.



Clutch Adjustment Nut



Brake Fluid :

Check the level of brake fluid in the brake fluid container.

It should be between the Min. and Max. marks.

If not, then add brake fluid. Clean the area surrounding the cap before opening the cap. Always use fresh brake fluid and tighten the cap fully, otherwise moisture from the atmosphere will be absorbed by the brake fluid, making it unserviceable.

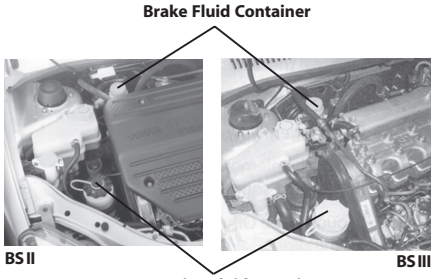
In case of spongy or hard pedal or low brake efficiency, please contact the nearest Authorised Service outlet and get the defect rectified.

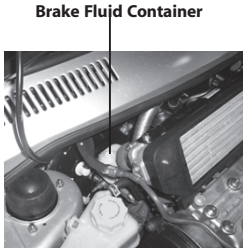
POWER STEERING (if installed)

Power steering is fitted for lighter steering effort and easy manoeuverability, during driving and also help absorb the road shocks. The system consists of steering gear box, hydraulic pump and hydraulic tank. Pump drive is through the poly 'V' belt from the engine. Power assistance is available during normal operating conditions. In case of failure in the hydraulic system, the steering can be operated mechanically with increased steering effort for bringing the car to an Authorised Service outlet.

Drive slowly as vacuum assistance for brake would not be available.

⚠ Report any external leakage to the nearest Authorised Service outlet.





Turbo

Procedure for Oil Filling and Bleeding of Power Steering

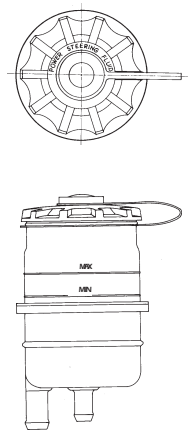
(Ensure that the Power Steering fluid reservoir is clean before starting any work)

1. Fill the reservoir till it is nearly full, when the system is newly installed otherwise fill up to 'Max' mark on reservoir. Crank the engine for 10 seconds without allowing it to start (if possible). If engine does start, shut the engine immediately.

   Check & refill the reservoir. Repeat at least three times, each time checking & refilling the reservoir.
2. Check for any leakage in the system and if noticed take corrective action.
3. Start the engine & steer the car from full left to full right turn 3-4 times.
4. Add fluid if necessary to maintain the level upto 'Max' mark on reservoir.

⚠ Do not force the wheel in lock position either to the extreme left or right. The power steering pump may get damaged. Hold it gently.

5. When the engine is at steady speed, check for bubbles or foaming in the oil. If present it indicates that air is getting sucked into the system. Check the suction line/fittings and correct if necessary.



Power Steering Fluid Container

6. Once the system is bled properly and free from foaming, there should not be any appreciable change in the oil level in the reservoir, when the engine is started or stopped repeatedly.
7. Now the car is ready to be driven.

Final oil level should be upto 'Max' mark of reservoir.

⚠ Do not allow fluid level to drop significantly or run out of the reservoir during the above operation. This may induce air into the system.
Severe damage could occur to the power steering pump due to dry running (Running without sufficient oil and due to severe cavitation on account of air entry due to low oil level). This could lead to loss of power assistance, damage and failure of the power steering system.

Do not start the engine without oil in the power steering system. This will result in serious damage to the pump. In case of an emergency, disconnect the pump drive belt and then start the engine or drive slowly as vacuum assistance for brake would not be available.

Always use recommended oil from sealed containers. Any contaminated oil poured in the system will result in damage to the pump and gear box.

Avoid mixing of different brands of oils.

BATTERY :

Check the battery for proper electrolyte level and corrosion on the terminals.

⚠ During normal operation the battery generates gas which is explosive in nature, a spark or open flame can cause the battery to explode causing very serious injuries.
Keep all sparks & open flames and smoking materials away from the battery.
Getting electrolyte in your eyes or on the skin can cause severe burns. Wear protective clothing and a face shield or have a skilled technician to do the battery maintenance.
The battery contains sulphuric acid (electrolyte) which is poisonous and highly corrosive in nature.

1. Check the battery for electrolyte level against the marking on the battery outer case.
2. Check the battery terminals for corrosion (a white or yellowish powder). To remove it, cover the terminals with a solution of baking soda. It will bubble up and turn brown.

   When this stops wash it off with plain water. Dry off the battery with a cloth or paper towel.

   Coat the terminal with petroleum jelly to prevent future corrosion.

Use a proper wrench to loosen and remove cables from the terminals. **Always disconnect the negative (-ve) cable first and reconnect it last.**

Clean the battery terminals with a terminal cleaning tool or wire brush.

Reconnect and tighten the cables, coat the terminals with petroleum jelly.

If you need to connect the battery to a charger, disconnect both cables to prevent damage to the vehicle's electrical system.

Note : Charging the battery with the cables connected can seriously damage your vehicle's electrical/electronic equipment.

Detach the battery cables before connecting the battery to a charger.

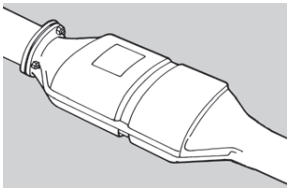
⚠ Swallowing electrolyte can cause fatal injury if immediate action is not taken.

Do not reverse the battery connection on the vehicle as it may damage the vehicle electricals.

Note : -ve terminal is connected to the body/cab.

Catalytic Converter : (if fitted)

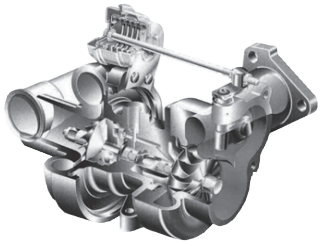
To reduce exhaust pollution, the vehicle is fitted with Diesel Oxidation Catalytic Converter. The two way Catalytic Converter has coating of precious metals which enables conversion of pollutants.



Care of the catalytic Converter

The catalytic Converter does not require any special maintenance however, following precaution should be taken for the effective functioning of the converter and to avoid damage to the Converter.

- It is mandatory to use Diesel fuel with sulphur content less than 0.25%. Use of any other diesel fuel can increase the pollutants.
- Avoid parking the vehicle over inflammable materials, such as dry leaves, grass etc., as the exhaust system is hot enough to initiate "FIRE".



Turbocharger

Your car is fitted with a turbocharger. Turbocharger is an efficient supercharging device used in our engine. It makes use of thermal energy of engine exhaust gases to run a turbine which in turn drives a compressor to force air under pressure into the inlet manifold.

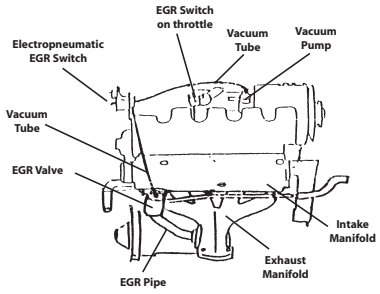
EGR System (if installed) :

To reduce exhaust pollution from your car, the engine is provided with exhaust gas recirculation (EGR) system.

The engine is fitted with EGR pipe, vacuum tubes, EGR electropneumatic switch, EGR switch on FIP throttle lever and associated electical circuitary. With this, controlled amount of exhaust gas is mixed with intake air of the engine, in part load and part speed conditions. This helps in reducing harmful pollutants.

In addition to EGR System your car is also fitted with diesel oxydation catalytic convertor to reduce exhaust pollution.

⚠ Use diesel fuel with sulphur content less than 0.25%. Use of any other diesel fuel can increase the pollutants.



Starting the Engine with Jump Leads :

The engine of a car with a discharged battery may be started by transferring electrical power from a battery in another car.

This may be dangerous as any deviation from the following instructions could lead to personal injury resulting from any battery explosion, as well as damage to the electrical systems in both cars.

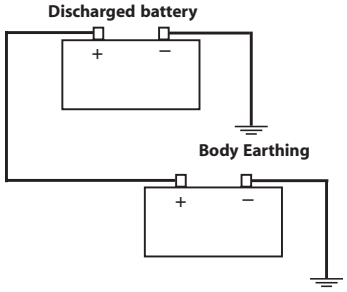
⚠ Do not allow battery electrolyte to come in contact with eyes, skin, fabrics or painted surfaces. The fluid contains sulphuric acid which can cause injury and severe damage. Wear rubber gloves, to avoid risk of contact.

- To lessen the risk of injury, wear eye protection when working near any battery.
- Make sure that the battery providing the jump start has the same voltage as the battery in your car (12 V). Its capacity must be approximately the same as the original battery capacity. The voltage and capacity are given on the batteries.
- Do not disconnect the discharged battery from the car.
- Switch off all unnecessary electrical loads.
- Do not lean over the battery during jump starting.
- Do not allow the terminals of one lead to touch those of the other lead.
- Apply the hand brake. Keep the gearshift lever in neutral.

Connect leads in the order as shown in the sketch :

- Do not connect the lead to the negative terminal of the discharged battery.
- The connection of the -ve lead point should be as far away from the discharged battery as possible and close to the starter motor on engine/transaxle.
- Route the leads so that they cannot get caught by the rotating parts in the engine compartment.
- The engine of the car providing the jump start can be allowed to run during starting.

Attempts to start the engine of the car with the discharged battery should be made at intervals of one minute and should not last more than 15 seconds. After starting, allow both engines to idle for approximately 3 minutes with the leads still connected.



Another Car Battery (Jump Start battery)

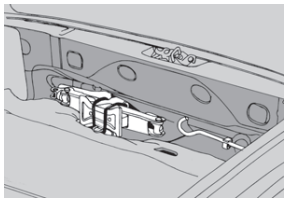
WHEELS & TYRES :

Always use only the recommended size of wheel rims & tyres. Use of non-recommended rims and tyres may have an adverse effect on car safety and furthermore could infringe on car regulations.

Wheel Change :

When changing wheels, use the jack provided with the car. The jack with handle is located on tailgate inner sill.

- Park the car on a safe level ground. Engage 1st gear and also apply the parking brake. Place wheel chocks behind the rear wheels and in front of the front wheels.



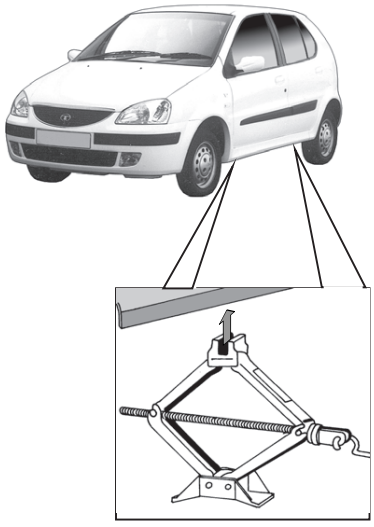
Location of Jack & Handle

- Loosen the wheel pins of the wheel to be changed slightly. Keep the spare wheel to be fitted nearby.
- Jack up the car by placing the jack at the appropriate location.
- Remove the wheel pins, the wheel rim cover and the wheel.
- Fit the new wheel, wheel rim cover and tighten the wheel pins.
- Lower the jack and tighten the wheel pins to 8 mkg. torque.

Note : The jack should never be supported on any of the body sheet metal components. This can cause damage to the body.
Do not apply oil on the wheel pins. Wipe off the oil if present.

- The jack should be placed below the body sill behind the front wheel tyre for front wheel changing and before the rear wheel tyre for rear wheel changing. Please refer to the sticker (Jack location) fixed on the jack.

⚠ Do not work under the jacked up car without proper support.



Jacking Points

Wheel Alignment :

Correct wheel alignment helps to ensure uniform tyre wear. You should get your car's wheel alignment checked regularly as per recommendation.

In case uneven tyre wear is observed, the vehicle's wheel alignment should be checked as soon as possible.

Wheel Balancing :

Wheels are balanced at the factory. They may need to be rebalanced at some time.

The wheels should be checked for balance if a tyre or tube is repaired.

Whenever a tyre or wheel rim is changed, the tyre needs to be balanced.

1. Permissible imbalance for tyre with rim = 125 gm. cm. (max.)
2. Total balance weight should be within 80 gm on each side.
3. Relocate the tyre on the wheel rim if the weight required to balance is more than 80 gm.
4. Balance weights are available from 5 gm to 80 gm, in steps of 5 gm.
5. Do not use more than one balance weight on one side.

Tyres :

Check for inflation and condition of your car tyres periodically.

Inflation :

Check the pressure in the tyres when they are cold.

Refer to the tyre information label fitted on the driver side doorpost for correct cold tyre pressure.

Recommended Tyre Pressures : (with cold tyres)

Front/Rear	**30 PSI (2.1 bar) / 28 PSI (1.9 bar) -165/65 R 13**
Front/Rear	**28 PSI (1.9 bar) / 24 PSI (1.6 bar) - 165/65 R 14**

You should have your own tyre pressure gauge and use it at all times. This makes it easier for you to tell if pressure loss is caused by a tyre problem and not by variation between gauges.

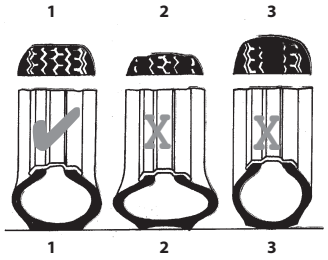
Keeping the tyres properly inflated gives you the best combination of riding comfort, handling and tyre life.

Over inflation of tyres makes the car ride bumpy and harsh. Tyres are more prone to uneven wear and damage from road hazards.

Under inflated tyres reduce your comfort in car handling and are prone to failures due to high temperature. They also cause uneven wear and more fuel consumption.

Inspection :

⚠ Every time you check inflation pressure, you should also examine tyres for leakage, damage, foreign objects & wear.



1. **Correct Tyre Pressure**
2. **Underinflation**
3. **Overinflation**

1. **Uniform Tyre Wear**
2. **Excessive Side Tread Wear**
3. **Excessive Centre Tread Wear**

You should look for :

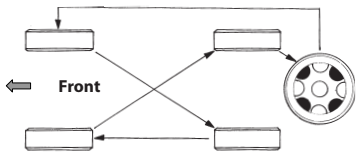
- Bumps or bulges in the tread or the side of the tyre. Replace the tyre if you find either of these conditions.
- Cuts, splits or cracks in the side of the tyre. Replace the tyre if you notice this on the fabric or cord.
- Excessive tread wear or non uniform tyre wear.

Tyre Rotation :

To help increase tyre life and distribute wear more evenly you should have tyres rotated at specified intervals or earlier depending on the operation of car and tyre wear pattern.

The illustration shows how to rotate tyres when a normal spare wheel is included in tyre rotation.

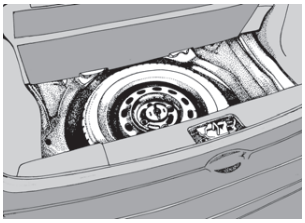
Tyre Rotation



Spare Wheel :

It is located in the luggage compartment.

- To take out the spare wheel, first fold in and lift up the floor cover.
- Unscrew and remove retaining bolt, at the centre.
- Lift and take out the spare wheel.



Repairing a Tyre/Tube :

Mark the tyre position suitably (if original colour dot mark is not visible) with respect to valve stem hole to ensure that the tyre is refitted in the original location on the wheel rim.

Ensure that balancing weights are not disturbed during removal of tyres.

Check the balance weight prior to the removal of the tyre. If found loose, mark its location on the rim & refit properly.

Balance the wheel after every dismantling and assembly of tyre on the wheel rim.

While fitting wheels on the car ensure that wheel pins are free from dust, scratches, dirt, dents, etc.

Ensure the tube being replaced has the correct valve.

Do not apply any oil on the wheel pins. Wipe off the oil if present.

For replacement of the decorative wheel cover, remove only 3 wheel pins. The 4th wheel pin, where the hole on the cover is larger need not be removed to remove the cover.

Fuses & Relays :

The electrical circuits in your car have fuses to protect the wiring from accidental short circuit or sustained overload. Fuses and relays are located at 3 locations in your car as shown in the sketch.

Circuit connected through fuses and relays and the amperage of the fuse is printed on the fuse box covers.

Checking and replacing fuses :

If any electrical unit in your car has stopped functioning, the fuses should be checked first.

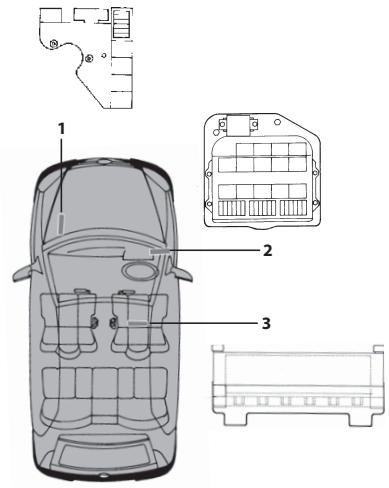
- Turn the ignition key to 'LOCK' position.
- Remove the fuse box cover, locate the fuse for the function.
- Remove the fuse & look for the fuse element inside the fuse. If it is damaged replace it with a fuse of same rating and type. Push the fuse firmly into the holder.
- Check that all other fuses are firmly in position and fix the cover back in position. Spare fuses are provided in the fuse box in the cabin.

If the replaced fuse of the correct rating burns out in short time, there is probably a serious electrical problem in your car. Get the car attended to at the nearest our Authorised Service outlet.

If any of the function relays is found defective, replace it by a genuine relay.

⚠ Never use a fuse of higher rating than specified.
Always ensure that spare fuses are replenished.

LOCATION OF FUSE BOX & RELAYS



1. Engine compartment (if fitted).
2. Cabin compartment under dashboard.
3. Cabin compartment under driver's seat (if installed).

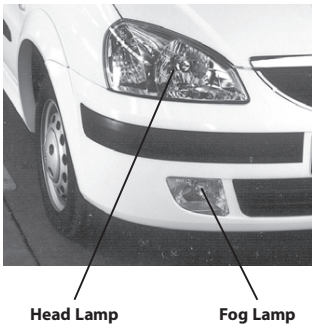
Head Lamps :

The head lamps are provided with halogen lamps of H4 type with double filament for providing straight ahead illumination of the road for long distance or a dip beam which illuminates the road immediately ahead for short distance visibility. Use dip beam to avoid inconvenience / blinding the drivers of oncoming vehicles.

The head lamps must be properly aligned in order to obtain maximum road illumination and reduced glare for oncoming traffic. It is recommended to check alignment of head lamp beams periodically.

Focusing of Head Lamps & Front Fog Lamps :

Provision is made for focusing of headlamps and front fog lamps. This should be done at the authorised service outlets.



Head Lamp Bulb Replacement :

- Switch 'OFF' the head lamps & ensure that the bulb is not hot.
- Open the bonnet and remove the lamp connector from the head lamp bulb.
- Remove rubber cap. Unlock the locking clip and take out the bulb from the holder. This should be done carefully, otherwise it may lead to breakage of the bulb holder / holding clip.
- Note the instructions on the bulb carton.
  Replace the bulb with a new one of the same type with right orientation in the holder.
- Lock the clip, fit the rubber cap and fix the connector.
- Switch 'ON' the head lamps and check the lighting.

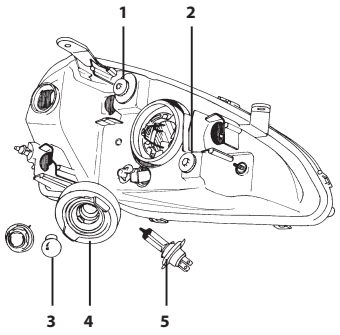
⚠ Do not clean or touch the head lamp reflector as it will damage the mirror finish of the surface.

The horizontal and vertical adjustment screws are located on the back of the reflector.

Precise adjustment can be carried out only in the authorised workshops.

When replacing the head lamp bulb, handle it by gripping the cap. Protect the glass from contact with your skin or hard object. If you touch the glass, clean it with spirit and a clean cloth. After replacement of the bulb in any emergency get the head lamp adjustment done at an Authorised Service outlet at the earliest.

⚠ Halogen head lamp bulbs get very hot when illuminated. Oil, perspiration or a scratch on the glass can cause the bulb to break due to the heat.



1. Head Lamp Adjustment Screw
2. Head Lamp Adjustment Screw
3. Side Indicator Bulb
4. Rubber Cap
5. Head Lamp Bulb

CAR CARE :

The car is subjected to many external influences such as climate, road conditions, industrial pollution and proximity to the sea. These conditions demand regular care of the car body. Dirt, insects, bird droppings, oil, grease, fuel and stone chippings should be removed as soon as possible.

Washing :

Do not wash the car in direct sunlight, wash in shade. Spray the car thoroughly with a cold water jet (car on a washing pit or hoist). Mix car shampoo in the wash water. No solvent (fuel, thinners) need be used.

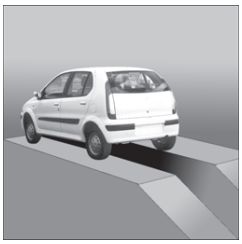
NOTICE

Avoid wiping of painted surface in dry condition as it may leave scratches on the painted surface.

Use a soft bristle brush, sponge or soft cloth and rinse it frequently while washing. When you have washed the whole exterior, dry it with a chamois or soft cloth. After drying the car, inspect it for chips and scratches that could allow corrosion to start. Apply touch up paint where necessary.

Polishes :

Polishes and cleaners can restore shine to the painted surface that has oxidised and become dull. They normally contain mild abrasives and solvents that remove the top layer of the finish coat. Polish your car if the finish does not regain its original shine after using wax.



Car on Washing Pit

Cleaning of Carpets :

Vacuum clean the carpet regularly to remove dirt. Dirt will make the carpet wear out faster. Periodically shampoo the carpet to keep it looking new.

Use carpet cleaners (preferably foam type). Follow the instructions that come with the cleaner, applying it with a sponge or soft brush. Keep the carpeting as dry as possible by not adding water to the foam.

Cleaning of Windows, Front & Rear Glasses :

Clean the windows inside and outside with commercially available glass cleaners.

This will remove the haze that builds up on the inside of windows. Use a soft cloth or paper towels to clean all glass and plastic surfaces.

Maintaining the car when not in extended use :

Park the car in covered, dry and if possible well-ventilated premises.

Engage a gear.

Remove the cables from the battery terminals (first remove the cable from the negative terminal).

Make sure the handbrake is not engaged.

Clean and protect the painted parts using protective wax.

Clean and protect the shiny metal parts using commercially available special compounds.

Sprinkle talcum powder on the rubber windscreen wiper and rear window wiper blades and lift them off the glass.

Slightly open the windows.

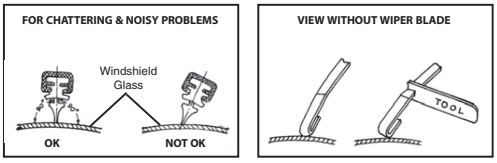
Cover the car with a cloth or perforated plastic sheet. Do not use sheets of imperforated plastic as they do not allow moisture on the car body to evaporate.

Inflate the tyres to 0.5 bar above the normal specified pressure and check it at regular intervals.

Check the battery charge every six weeks.

Do not drain the engine cooling system.

Wiper Care :



Wiper blade attack angle on windshield glass should be 90^0 i.e. perpendicular.

Remove wiper blade and root wiper arm on windshield glass in the centre position. Check the gap between arm strip and glass.

Adjust by twisting wiper arm as shown in the figure.

FOLLOWING GUIDELINES WILL HELP YOU TO BETTER PROTECT YOUR INDICA FROM CORROSION

PROPER CLEANING :

In order to protect your Indica from corrosion it is recommended that you wash your Indica thoroughly and frequently in case :

1. There is an heavy accumulation of dirt and mud especially on the underbody.
2. It is driven in areas having high atmosphere pollution due to smoke, soot, dust, iron dust & other chemical pollutants.
3. It is driven in coastal areas.
4. The underbody must be thoroughly pressure washed after every three months.

In addition to regularly washing your Indica, the following precautions need to be taken.

PERIODIC INSPECTION :

1. Regularly inspect your Indica for any damage in the paint film such as deep scratches and immediately get them repaired from an authorised service center, as these defects tend to accelerate corrosion.
2. Inspect mud liners for damages.
3. Keep all drain holes clear from clogging.

PROPER PARKING :

Always park your vehicle in shade to protect it from harsh sunlight or in a well-ventilated garage so that there is no dampness on any part of the vehicle.

WASHING YOUR INDICA :

Follow these tips while washing your Indica.

HAND WASH :

1. Always wash your Indica in shade and when the surface is at room temperature.
2. Wash with mild car wash soap like "Car Shampoo" and use a soft 100% cotton cloth to avoid scratches. Please take help of your dealer to buy the right products.
3. Please be sure that you remove your wristwatch and wear soft gloves to avoid scratches due to finger rings or nails.
4. To remove stubborn stains and contaminants like tar, use turpentine or cleaners like "Stain Remover" which is safe for painted surfaces. Again your dealer can help you in selecting the right product.
5. Avoid substances like petrol, diesel, kerosene, benzene or other solvents that cause damage to paint.
6. Dry your vehicle thoroughly to prevent any damp spots.
7. Rinse all surfaces thoroughly to prevent any traces of soap and other cleaners as this may lead to the formation of stains on the painted surface later.

WAXING :

Waxing and polishing is recommended to maintain the gloss and wet-look appearance of your paint finish.

1. Use a good quality polish and wax for your Indica.
2. Re-wax your Indica when the water does not slip off the surface and collects over the surface in patches.

Further tips for the care of your new INDICA finish :

We recommend that you do not use an automatic car wash as the stiff brushes or sponges could mar the finish and damage the surface of your Indica. Wash the vehicle by hand with cool and clean water using a soft cloth or sponge. Please do not use soap but a car shampoo recommended by your dealer.

Please take the following precautions :

1. Always wash your car in shade, avoiding direct exposure to sunlight during washing.
2. Dry wiping your Indica may lead to the formation of scratches and hence always use a soft cloth and clean water while wiping your Indica.
3. Always keep your Indica parked in a well ventilated shade. Exposure to heat with entrapped moisture promotes corrosion.
4. Avoid driving on gravel roads, as the possibility of paint chip off due to the impact of stones is high. If you are driving on freshly tarred road, check immediately afterwards for any stains & clean them.
5. External contamination in the form of sap or industrial fall-out may mar or develop spots on a new finish. Hence avoid parking your Indica near trees, which are known to drop sap, or near factories, which give out heavy smoke.
6. The acid content in bird droppings may damage the newly painted finish and hence any bird dropping must be immediately washed off.
7. The paint finish is susceptible to damage in case petrol, brake fluid, liquid from car battery, oil, antifreeze, transmission fluid or windshield solvent spills onto the painted surface. In case of such a spillage immediately rinse the affected area with water. Avoid wiping the area far as possible, however if wiping is required, ensure that you wipe the area gently with soft cotton cloth.
8. Avoid using sharp objects to scrap off tar or mud from a painted surface as it may develop scratches or may peel off the paint.

EMERGENCY SERVICE TIPS

- **ENGINE**
- **CLUTCH**
- **TRANSAXLE**
- **BRAKES**
- **STEERING SYSTEM**
- **ELECTRICAL**
- **SUSPENSION**

These tips are given for your guidance. These preliminary jobs are to be carried out in an emergency. In normal cases the problems should be attended to in an **Authorised Service outlet** by following the repair procedures given in the Workshop Manual.

SR. NO.	PROBLEM OBSERVED	PROBABLE CAUSE	ACTION TO BE TAKEN
ENGINE (Diesel)			
1.	Engine not cranking	Dead battery, loose or improper battery/electrical connections	• Get battery checked and/or changed • Jump start using another battery • Clean & tighten connections
2.	Engine cranks but does not start	Air in the fuel system	• Get the air removed by bleeding • Check leakages & correct
		Engine stop solenoid fuse blown	• Replace the fuse
3.	Engine overheats	Coolant level low, coolant leakages	• Check and correct leakages Top up coolant
		Hose collapsed/torn	• Get the hose replaced
		Low engine oil level	• Add oil
		Cap not sealing properly	• Fit the auxiliary water tank cap correctly
		A.C. condenser fan not working	• Get defect rectified
		Brakes binding	• Get defect rectified
		Electric fan not working	• Get defect rectified
		High delivery pressure in A.C. refrigerant circuit	• Get defect rectified
		Radiator fins clogged	• Clean it
		Radiator water passage clogged	• Get it rectified
		Thermostat defective	• Get it rectified

SR. NO.	PROBLEM OBSERVED	PROBABLE CAUSE	ACTION TO BE TAKEN
4.	Poor pickup	Accelerator cable loose	• Get it adjusted correctly
		Air in the fuel system	• Remove the air
		Clogged fuel filter	• Clean / Replace the element
		Clogged air filter	• Clean / Replace the element
		Clutch slipping/out of adjustment	• Get it rectified
		Brakes grabbing	• Get it rectified
5.	Does not accelerate	Accelerator cable broken	• Get cable replaced
		Fuel filter choked	• Replace
6.	Belt squeal	Loose belt	• Get belt tension adjusted
		Belt glazed	• Get belt replaced
7.	Low engine oil pressure indicator 'ON' when engine is running even though engine oil level is within maximum/minimum marking	Pressure transducer faulty, and/or oil pump faulty	• Do not run the engine extensively. Take the car to the nearest Authorised Service outlet & get the fault rectified
8.	'Check Engine' lamp continue to glow evenafter start	Some fault are detected by the ECU control system	• Get the vehicle checked and rectified at authorised service outlets.

SR. NO.	PROBLEM OBSERVED	PROBABLE CAUSE	ACTION TO BE TAKEN
CLUTCH			
1.	Clutch slipping	Improper pedal travel	• Adjust pedal travel
		Rusted clutch cable	• Replace cable
		Oil on clutch disc	• Clean or replace disc at Authorised Service outlet
2.	Noisy clutch	Pressure plate & diaphragm spring rattling	• Get car attended to by Authorised Service outlet
		Release bearing broken/worn out	• Replace
		Broken damper spring of clutch disc	• Replace
TRANSAXLE			
1.	Gears slipping out of mesh	Worn/damaged grooves on shifter shaft	• Replace
		Worn shift fork or synchroniser sleeve	• Replace
		Weak or damaged detent springs	• Replace
		Worn bearings on input shaft or layshaft	• Replace
		Worn dog teeth on sleeve and gear	• Replace sleeve and gear
2.	Hard shifting	Inadequate lubricant	• Replenish
		Inadequate clutch pedal travel	• Adjust
		Distorted or broken clutch disc	• Replace

SR. NO.	PROBLEM OBSERVED	PROBABLE CAUSE	ACTION TO BE TAKEN
		Damaged clutch pressure plate	• Replace clutch cover/disc
		Worn synchrocones	• Replace
		Worn dog teeth on sleeve or gear	• Replace sleeve or gear
		Distorted shift shaft/Linkages	• Replace
3.	Noise	Inadequate or insufficient lubricant	• Replenish
		Damaged or worn bearing(s)	• Replace
		Damaged or worn gear(s)	• Replace
		Damaged or worn synchroniser parts	• Replace
BRAKES			
1.	Poor brakes	Insufficient brake fluid	• Get the brake fluid filled
		Air in the system	• Get the air removed
		Pedal travel excessive due to excessive shoe gap	• Rectify automatic adjuster
		Vacuum leakage	• Rectify the leakage
		Brake oil (line) leaking	• Replace the leaking line
		Oil on the drum/liners	• Get the liners cleaned/ Replace seals if leaking
		Worn brake lining	• Get the liners replaced
		Defective/worn parts	• Get them replaced
2.	Brake pulling to one side	Oil on the brake lining	• Clean the brake lining
		One side shoe/pad worn	• Get the shoe/pad replaced
		Loose brake anchor plate	• Tighten the bolts

SR. NO.	PROBLEM OBSERVED	PROBABLE CAUSE	ACTION TO BE TAKEN
		One side brake pipe clogged	• Get the brake line cleaned
		Defective tandem master cylinder	• Rectify/Replace tandem master cylinder
3.	Brake Squeal	Defective brake lining	• Replace
		Glazed lining	• Clean or replace lining
		Loose rivets.	• Install rivets properly
		Wrong lining	• Install correct lining
		Shoe return spring broken	• Replace
		Front pads rubbing on the disc	• Get it corrected
STEERING SYSTEM			
1.	Hard steering (Mechanical)	Wheel alignment disturbed	• Check & adjust
		Rack & pinion need adjustment	• Check & replace if necessary
		Low tyre pressure	• Adjust to correct value
		Grabbing of linkages	• Check & rectify
2.	Poor Returnability	Grabbing of linkages	• Check & rectify
		Steering gear disturbed	• Check & adjust
3.	Excessive play in steering	Rack & pinion attachment loose	• Get it tightened
4.	Hard steering (For power steering)	Less fluid in the power steering tank	• Get the fluid topped up to the correct level
		Air in the system	• Get the air removed by bleeding the system
		Loose pump belt	• Get the belt correctly adjusted
		Low tyre pressure	• Adjust to correct value

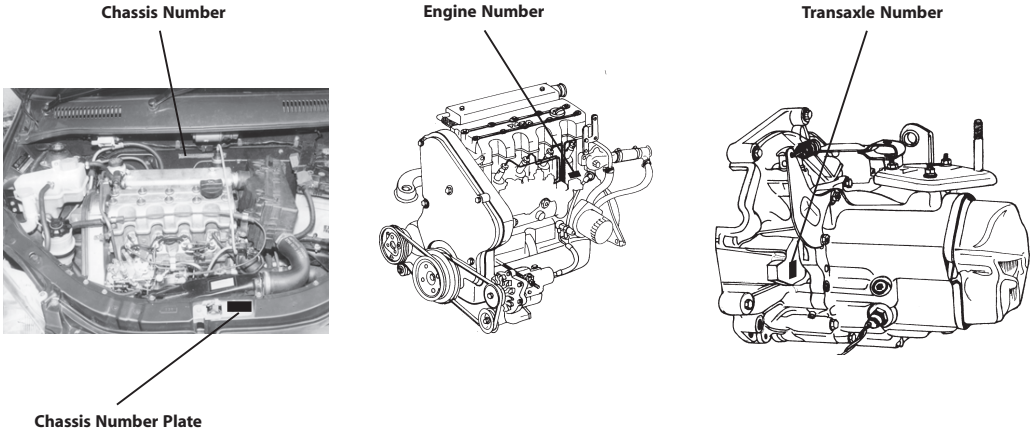
SR. NO.	PROBLEM OBSERVED	PROBABLE CAUSE	ACTION TO BE TAKEN
ELECTRICAL			
1.	Battery charge & engine oil pressure lamp in cluster not operating when key is in 'IGN' position	Battery terminal loose or disconnected	• Check connections
		Battery completely dead	• Get the battery properly connected
		Fuse blown	• Get the battery charged
		Loose/open connections	• Get the alternator & charging circuit checked
2.	Non functioning electrical accessories such as power windows, head lamps, fuel & temperature gauge, RPM meter, wiper & washer unit and all lamps etc.	Fuse blown in the circuit	• Replace the fuse if blown
		Loose connectors.	• Get the connection properly tightened/Fixed
		Circuit relay/controllers loose in the base	• Fix the relay firmly
		Defective components	• Get the defective components replaced at an Authorised Service outlet
SUSPENSION			
1.	Abnormal or excessive tyre wear	Tyre out of balance	• Check balance and/or adjust if required
		Steering geometry disturbed	• Adjust steering geometry
		Tyres not adequately inflated	• Adjust tyre pressure

SR. NO.	PROBLEM OBSERVED	PROBABLE CAUSE	ACTION TO BE TAKEN
		Wobbly wheel or tyre	• Replace wheel or tyre
		Defective tyre	• Replace tyre
		Hub play not proper	• Adjust hub play
		Brake grabbing	• Check and rectify
		Excessive braking	• Modify driving habit
2.	Abnormal noise from front end	Worn, sticky or loose tie rod ends, lower ball joints, tie rod in side ball joints or drive shaft joints	• Replace tie rod end, suspension arm, tie rod or drive shaft joints
		Warning noise for pad wear	• Replace pad
		Damaged struts or mounting	• Repair mounting or replace struts
		Worn suspension arm bushings	• Replace
		Loose wheel nuts	• Tighten wheel nuts
		Loose suspension bolts or nuts	• Tighten suspension bolts or nuts
		Broken or damaged wheel bearing	• Replace
		Poorly lubricated or worn strut bearings	• Lubricate or replace strut bearings
		Excessive hub play	• Adjust
		Loose caliper housing bolts	• Check & tighten
3.	Ride too soft / bumpy	Faulty struts	• Replace strut
4.	Suspension bottoms	Over loaded	• Check loading
		Faulty struts	• Replace struts

IMPORTANT INFORAMTION

- **AGGREGATE NUMBERS**
- **FUEL, COOLANTS & LUBRICANTS**
- **TECHNICAL SPECIFICATIONS**
- **SERVICE SCHEDULE**
- **CAR RECORD SHEET**

LOCATION OF AGGREGATE NUMBERS



Fuel :

High speed diesel conforming to IS 1460 or DIN 51601 or equivalent is recommended to be used as fuel.

At very low temperatures fluidity of diesel may become insufficient due to paraffin separation. It is therefore, necessary to mix supplementary fuel with summer or winter grade diesel. The supplementary fuel to be used is kerosene or aviation turbine fuel.

Ratios for mixing of supplementary fuel and diesel are shown in the table :

Ambient temperature upto Deg C.	Percentage	
	Summer Grade diesel	Suppl. fuel
upto 0	100	0
0 to -10	70	30
-10 to -15	50	50

Ambient temperature upto Deg C.	Percentage	
	Winter Grade diesel	Suppl. fuel
upto -15	100	0
-15 to -20	70	30
-20 and below	50	50

Care should be taken that diesel and supplementary fuel are thoroughly mixed before filling.

Note : where catalytic converter is fitted, it is mandatory to use Diesel fuel with sulphur contents less than 0.25%. Use of any other diesel fuel can increase the pollutants.

Lubricants : (Diesel)

Engine Oil : Recommended grade of engine oil conforming to API CF4+ specification and range of ambient temperature at which these can be used are given in the table below.

Ambient temp. in deg. C	Engine oil grade
-10 deg. & above	SAE 15W/40 or SAE 15W/50
-20 deg. to 30 deg.	SAE 10W/30
Below -10 deg.	SAE 5W/20 or SAE 5w/30

Transaxle : Use recommended brand of EP 80 gear oil.

Grease for axle bearings : Lithium base grease

Brake fluid : IS 8654/DOT 3

Power Steering : ATF Type A, Suffix A

Coolants :

Presence of dirt in the coolant chokes up passages in the radiator, cylinder head and cylinder block, thereby causing insufficient cooling of engine.

To prevent rust formation and freezing of coolant inside the passages of radiator, cylinder block and cylinder head, use branded premixed coolant (ready to use).

5.5 Ltrs

PLEASE USE ONLY GENUINE ENGINE OILS, COOLANTS, LUBRICANTS, ANTI RUST & SOUND DEADENING COATS, WINDSCREEN SEALANT, ADHESIVES & FUEL ADDITIVES BRANDED BY TATA MOTORS FOR OPTIMUM PERFORMANCE OF YOUR TATA INDICA DIESEL...

ITEM	COMPANY	BRAND	QTY
ENGINE OIL	CASTROL HPCL	Castrol GTD 15 W/40 HP Milcy 15 W/40	5.5 Litres TCIC 4.0 Litres ICI
COOLANT	SUNSTAR ANCHEMCO HPCL	Golden Cruiser 1400 M Frostox SFD 12 HP Thanda Raja P	6 Litres
TRANSMISSION OIL	HPCL CASTROL	Gear Oil EP 80 Castrol Extreme Pressure 80 EP	3.3 Litres
STEERING OIL	HPCL CASTROL	HP ATF Castrol Transpower TQ	1.2 Litres
BRAKE FLUID	HPCL CASTROL	Super Duty Brake Fluid DOT-3 Castrol Universal Brake Fluid DOT-3	0.270 Litres
HUB GREASE	CASTROL	Castrol Grease AP2	
ANTI RUST TREATMENT & SOUND DEADENING	DINITROL WUERTH	Dinitrol Wuerth	— —
WIND SCREEN SEALANT	ANCHEMCO	Terostat 8590 Kit Form	—
METAL & PLASTIC ADHESIVE	ANCHEMCO	Terostat 930	310 ml Cartridge
DIESEL ADDITIVE	IFTEX	Iftex Clean System D	250 ml pack*

* Add to Diesel as per the dosage recommended by M/s IFTEX.

1. ENGINE :

Model	:	Tata 475 IDI (for BS-II) Tata 475 IDI 03 NA (for BS-III) Tata 475 IDT 15 TCIC
Type	:	Water cooled, Indirect injection Diesel Engine with Exhaust Gas Recirculation system & oxydation catalyst (BS-II and BS-III) and Turbocharger and intercooler.(TCIC)
No of cylinders	:	4 inline
Bore/Stroke	:	75 mm x 79.5 mm
Capacity	:	1405 cc
Max. engine output	:	53.5 PS at 5000 rpm 68PS at 4500 rpm (Turbo)
Max. Torque	:	85 Nm at 2500 rpm 130 Nm at 2500 rpm (Turbo)
Compression ratio	:	22 : 1 21:1 (Turbo)
Firing order	:	1-3-4-2

2. CLUTCH

Type	:	Single plate dry friction diaphragm type
Outside diameter of clutch lining	:	190 mm 200 mm (Turbo)
Friction area	:	285 sq.cm. 289 sq.cm. (Turbo)

3. TRANSAXLE : Front wheel drive through constant velocity joints.

Model	:	TA65-5 with overdrive
Type	:	Synchromesh on all forward gears. Sliding mesh for reverse gear.
No. of gears	:	5 Forward 1 Reverse

					TURBO
Gear ratios	:	1st	-	3.64	3.64
		2nd	-	1.95	1.95
		3rd	-	1.27	1.13
		4th	-	0.88	0.78
		5th	-	0.64	0.636
		Rev.	-	3.58	3.58
Final drive ratio				4.4	4.4
Gear Shift		Floor mounted with International "H" pattern, with Fifth and Reverse inline. with interlock to prevent accidental engagement from 5th to reverse			

4. REAR AXLE : Non driven axle Independently suspended

5. SUSPENSION

Front	:	Independent, Lower wishbone, McPherson Strut type.
Rear	:	Independent, Semi-trailing arm with coil spring mounted on hydraulic shock absorbers.
Antiroll bar	:	At front

6. STEERING

DL & DLE with A/c Version	:	1) Manual Rack & Pinion Steering Gear with collapsible steering column
DLS, DLG , DLX & Turbo Version	:	2) Hydraulic Power assisted Rack & Pinion Steering Gear with collapsible steering column
Steering Wheel	:	380 mm dia

7. BRAKES

Service brakes	:	Dual circuit, diagonal split hydraulic brakes through tandem master cylinder. ABS : optional in Turbo version
Front	:	231 mm dia disc brake
Rear	:	180 mm dia drum brake
Parking brake	:	Lever type, Console mounted, Cable operated mechanical linkages acting on rear wheels

8. WHEELS & TYRES

Tyres	:	165/65 R13(BSII & BSIII) 165/65 R14 (Turbo)
Wheel rims	:	4.50 J x 13 stylised steel rims 5 J X1A stylised steel rims (Turbo)
No. of wheels	:	Front - 2 Rear - 2 Spare - 1

9. FUEL TANK

Capacity	:	37 litres

10. BODY : Semi-mono Volume, Mini size 5 door hatch-back, steel monocoque body.

11. ELECTRICAL SYSTEM

System Voltage	:	12 Volts -ve earth
Battery	:	12V, MF 50 Z
Alternator	:	12V 75 Amps (BS-II) 90 Amps (BS-III & Turbo)

12. PERFORMANCE

	(kmph)
Max. speed at rated GVW	140(BS II & BS III) 160 (Turbo)

13. MAIN CHASSIS DIMENSIONS AS PER ISO:612 IN MM (Nominal) TOLERANCES AS PER INTEREUROPE STVZO

Wheel base	:	2400
Track front	:	1400
Track rear	:	1380
Front Overhang	:	785
Rear Overhang	:	490
Overall length	:	3675
Max. Width :		
Over body	:	1665
Over outer rear view mirrors in open condition:	:	1915
Overall height - unladen	:	1485
Min. turning circle dia	:	9.8 m
Min. turning clearance circle dia	:	10.2 m
Ground clearance - unladen	:	166

14. WEIGHT (kg) (TOLERANCE AS PER EEC 92/21)

	DL	DLE	DLS/DLG	DLX	TURBO
Complete car kerb weight as per ISO:1176 (with spare wheel & tools)	980	995	1000	1005	1050
Gross Vehicle Weight	1380	1395	1400	1405	1450
Payload	400	400	400	400	400

15. PASSENGER CAPACITY : 2 front + 3 rear

16. LUGGAGE SPACE

Net inside loading space : 0.22 cubic metre upto rear seat backrest
0.61 cubic metre upto front seat backrest when rear seat folded

Service Instructions

The Tata Indica has been manufactured to give you economical and trouble free performance. To achieve this please follow the instructions as stated.

Your Car is entitled to four free services (labour only). The free service coupons are attached to the sales invoice. Please present these coupons to the servicing dealer while availing free services. The free services should be availed of, at the following km. range within 18 months.

1st free service	-	At 5000-5500 km.
2nd free service	-	At 10000-10500 km.
3rd free service	-	At 15000-15500 km.
4th free service	-	At 20000-20500 km.

All services other than free services are chargeable.

Servicing of the car can be done at any Tata Motors Authorised Dealer Workshop, Tata Motors Authorised Service Centre (TASC) or Tata Motors Authorised Service Point (TASP). The details of their locations are given in this manual.

Warranty claims can be settled by any Tata Motors Authorised Dealer for all failures, while all warranty claims excluding the consideration on the replacement of major aggregates, can be settled by any TASC which is authorised for handling warranty claims. TASPs will not handle warranty repairs.

SR. NO.	OPERATION	FREQUENCY IN KM	5000-5500	10000-10500	15000-15500	20000-20500	25000-25500	30000-30500	35000-35500	40000-40500	45000-45500	50000-50500	55000-55500	60000-60500	65000-65500	70000-70500	75000-75500	80000-80500	85000-85500	90000-90500	95000-95500	100000-100500
	Wash and clean the car	At every service	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	DIESEL ENGINE (475IDI)																					
1	Clean air filter	5000	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
2	Replace air filter element	40000								x								x				
3	Change coolant (Change at 40,000 kms or two years whichever is earlier)	40000								x								x				
4	Change engine oil (Change at every 10,000 kms or 6 months whichever earlier)475IDI	10000		x		x		x		x		x		x		x		x		x		x
	(Change at every 7500 kms or 6 months whichever earlier.) 475IDITC	7500																				
5	Change engine oil filter (Change at every 10,000 kms or 6 months whichever earlier)	10000		x		x		x		x		x		x		x		x		x		x
6	Change fuel filter element (primary) Add TCIC	10000		x				x				x				x				x		
7	Change both fuel filter elements	20000				x				x				x				x				x
8	Check timing belt, adjust tension if necessary, replace if defective	10000		x		x		x		x		x		x		x		x		x		x
9	Replace timing belt	100000																				x
10	Check alternator belt tension, adjust if necessary	10000		x		x		x		x		x		x		x		x		x		x
11	Check injector nozzles for opening pressure & spray pattern	Check if any problem noticed																				
12	Check / adjust engine idle speed, accelerator pedal and cable	10000		x		x		x		x		x		x		x		x		x		x
13	Check exhaust system for noise, leakages or defects , rectify if necessary	10000		x		x		x		x		x		x		x		x		x		x
14	Check / adjust AC compressor belt tension	10000		x		x		x		x		x		x		x		x		x		x
15	Check exhaust smoke level and correct if necessary	5000	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
16	Check engine mounting for looseness and damage to mounting	10000		x		x		x		x		x		x		x		x		x		x
17	Check & tighten engine bolts (cylinder head cover, oil sump, starter motor, alternator, fuel filter)	10000		x		x		x		x		x		x		x		x		x		x
18	Drain water from fuel fiters	5000	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	BRAKES																					
1	Check brake fluid level and leakage if any	10000		x		x		x		x		x		x		x		x		x		x
2	Check brake pedal (pedal to wall clearance) and brake operation	10000		x		x		x		x		x		x		x		x		x		x
3	Replace brake fluid (Change at 40000 kms or two years whichever is earlier)	40000								x								x				
4	Check parking brakes and cable for play/ damage, adjust / replace if necessary	10000		x		x		x		x		x		x		x		x		x		x
5	Check brake discs and pads for wear, replace if necessary	10000		x		x		x		x		x		x		x		x		x		x

SR. NO.	OPERATION	FREQUENCY IN KM	5000-5500	10000-10500	15000-15500	20000-20500	25000-25500	30000-30500	35000-35500	40000-40500	45000-45500	50000-50500	55000-55500	60000-60500	65000-65500	70000-70500	75000-75500	80000-80500	85000-85500	90000-90500	95000-95500	100000-100500
6	Check brake drums and shoes wear, anchor plate mounting bracket	10000		x		x		x		x		x		x		x		x		x		x
7	Check brake master cylinder, wheel cylinder, mounting bolts, caliper & PCRV for proper operation / condition, repair if necessary	30000						x						x						x		
8	Check brake hoses and pipes for leakage / damage & replace if necessary	10000		x		x		x		x		x		x		x		x		x		x
	WHEELS & TYRES																					
1	Inspect wheel rims and tyres (tyre pressure and damage)	Frequently																				
2	Rotate tyres	10000		x		x		x		x		x		x		x		x		x		x
3	Check front wheel bearings for looseness/damage, tighten / replace if necessary	30000						x						x						x		
4	Check rear wheel bearings for looseness/damage, tighten / replace if necessary	20000				x				x				x				x				x
5	Check free rotation of wheels	15000			x			x			x			x			x			x		
	FRONT AND REAR SUSPENSION																					
1	Check suspension strut for oil leakage / damage, replace if necessary	10000		x		x		x		x		x		x		x		x		x		x
2	Check suspension arms & steering knuckle supports for looseness/damage , tighten if required	10000		x		x		x		x		x		x		x		x		x		x
3	Check rear coil spring for damage, replace if necessary	10000		x		x		x		x		x		x		x		x		x		x
4	Check shock absorbers for oil leakage / damage, replace if necessary	10000		x		x		x		x		x		x		x		x		x		x
5	Tighten all bolts and nuts to specified torque	10000		x		x		x		x		x		x		x		x		x		x
6	Check suspension front lower link, ball joints & rear semi trailing arms for looseness of bolts tighten if necessary	10000		x		x		x		x		x		x		x		x		x		x
7	Check suspension bushes and silencer hangers for damage, replace if necessary	10000		x		x		x		x		x		x		x		x		x		x
8	Check wheel alignment	15000			x			x			x			x			x			x		
	STEERING																					
1	Check steering wheel (play, looseness)	10000		x		x		x		x		x		x		x		x		x		x
2	Check steering gear for looseness / leakages, pipelines, hoses	10000		x		x		x		x		x		x		x		x		x		x
3	Check tie rods ends (looseness, damage, wear)	10000		x		x		x		x		x		x		x		x		x		x
4	Replace power steering system oil and oil filter element	80000																x				

SR. NO.	OPERATION	FREQUENCY IN KM	5000-5500	10000-10500	15000-15500	20000-20500	25000-25500	30000-30500	35000-35500	40000-40500	45000-45500	50000-50500	55000-55500	60000-60500	65000-65500	70000-70500	75000-75500	80000-80500	85000-85500	90000-90500	95000-95500	100000-100500
	ELECTRICAL																					
1	Check battery electrolyte (level, leakage & charging)	**5000**	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
2	Check wiring harness. Relay, fuses connections & functioning of electrical equipment (looseness, damage)	**10000**		x		x		x		x		x		x		x		x		x		x
3	Check functioning of lights, signals, indicators, guages, window winders, horn and central locking, etc.	**10000**		x		x		x		x		x		x		x		x		x		x
	TRANSAXLE & CLUTCH																					
1	Check oil level and top up if necessary (First at 5000 to 5500 kms & every 10,000 kms thereafter)	**10000**	x		x		x		x		x		x		x		x		x		x	
2	Change oil	**20000**				x				x				x				x				x
3	Check and tighten mounting bolts (First at 5000 to 5500 kms and every 10,000 kms thereafter)	**10000**	x		x		x		x		x		x		x		x		x		x	
4	Inspection of drive shaft (C.V. joints) / boot damage	**20000**				x				x				x				x				x
5	Inspection of clutch pedal height and cable (First at 5000 to 5500 kms and every 10,000 kms thereafter)	**10000**	x		x		x		x		x		x		x		x		x		x	
6	Inspection of clutch slippage / drag and gear shifting (First at 5000 to 5500 kms and every 10,000 kms thereafter)	**10000**	x		x		x		x		x		x		x		x		x		x	
	A. C. System																					
1.	Clean the fins of condenser with pressurized air and then with water (Ensure that the fins don't get damaged)	**Every Service**	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
2.	Check A.C. belt tension, A.C. leakages, blower speeds & functioning of all control knobs	**10000**		x		x		x		x		x		x		x		x		x		x
3.	Clean the fins of evaporator with pressurized air and then with water (Ensure that the fins don't get damaged)	**30000**						x						x								
	Body																					
1	Check body and chassis for unusual noise	**Frequently**																				

Date	Km. reading	Fuel filled	Fuel consumption	Remarks / Complaints

Date	Km. reading	Fuel filled	Fuel consumption	Remarks / Complaints

Recommended Service At km.	Date	Odometer reading km.	Repair Order No.	Servicing Dealer's Signature & Stamp
PDI Free Labour				
5,000 *				
10,000 *				
15,000 *				
20,000 *				
25,000				
30,000				
35,000				
40,000				
45,000				

Recommended Service At km.	Date	Odometer reading km.	Repair Order No.	Servicing Dealer's Signature & Stamp
50,000				
55,000				
60,000				
65,000				
70,000				
75,000				
80,000				
85,000				
90,000				
95,000				

*** Labour free, material chargeable**

Recommended Service	Date	Odometer reading km.	Repair Order No.	Servicing Dealer's Signature & Stamp
At km.				
1,00,000				
1,05,000				
1,10,000				
1,15,000				
1,20,000				
1,25,000				
1,30,000				
1,35,000				
1,40,000				
1,45,000				

Recommended Service	Date	Odometer reading km.	Repair Order No.	Servicing Dealer's Signature & Stamp
At km.				
1,50,000				
1,55,000				
1,60,000				
1,65,000				
1,70,000				
1,75,000				
1,80,000				

Record of warranty repairs carried out **Chassis No.**_____

Date	Odometer reading (km)	Repair Order No.	Particulars of Repair	Servicing Dealer's Signature & Stamp

Record of warranty repairs carried out **Chassis No.**_____

Date	Odometer reading (km)	Repair Order No.	Particulars of Repair	Servicing Dealer's Signature & Stamp

ABBREVIATIONS

AC	Air Conditioning
ACC	Accessories
Amp	Ampere
Br	Branch
Brg	Bearing
cc	Cubic Centimeters
Cm	Centimeter
Dia	Diagonal
EGR	Exhaust Gas Recirculation
FAW	Front Axle Weight
Fig	Figure
FIP	Fuel Injection Pump
gm	Gram
GVW	Gross Vehicle Weight
IGN	Ignition
Kg	Kilogram
Km	Kilometer
Km/h	Kilometer per hour
LH	Left Hand
Max	Maximum
MD	Main Dealer
Min	Minimum
mkg	Meter per Kilogram
mm	Millimeter
Mtg	Mounting
No	Number
PCBU	Passenger Car Business Unit
PDI	Pre-delivery Inspection
PSI	Pounds per Square Inch
PUC	Pollution Under Control
RAW	Rear Axle Weight
RCSM	Regional Customer Support Manager
RH	Right Hand
RM	Regional Manager
RPM	Revolution Per Minute
Sec	Seconds
Sq.cm.	Square Centimeter
TASC	Tata Motors Authorised Service Centre
TASP	Tata Motors Authorised Service Point
V	Volts
W	Watts
Wt	Weight

ALPHABETICAL INDEX

ALPHABETICAL INDEX

CUSTOMER SUPPORT NETWORK

- **Tata Motors Offices**
- **Names & Addresses of Tata Motors**
  - **Main Dealerships (MD)**
  - **Tata Motors Authorised Service Centres (TASCs)**
  - **Tata Motors Authorised Service Points (TASPs)**

CUSTOMER CARE CENTRE TOLL FREE NO.

1800 209 6688

* This list is dated 31st August, 2004 and subject to amendments. Updated list will be available at dealerships and Regional offices