

nano



OWNER'S MANUAL & SERVICE BOOK

VEHICLE IDENTIFICATION & VEHICLE RECORD

Owner's Name : _____

Address: _____

Selling Dealer Code : _____

Date of Delivery : _____

Date of Registration : _____

Registration No. : _____

Chassis No. : _____

Engine No. : _____

Transaxle No. : _____

Battery Make : _____

Battery Sr. No. : _____

Battery Code : _____

CNG Regulator No. : _____

CNG Cylinder No. : _____

Cylinder Retesting Date : _____

Kms Reading : _____

Date of installation : _____

Dealer's Name : _____

Dealer Code : _____

THE WARRANTY ON THIS CAR IS VALID ONLY
WHEN ABOVE INFORMATION IS FILLED,
SIGNED & STAMPED BY THE SELLING DEALER

DEALER'S SIGNATURE & STAMP

TATA NANO



Owner's Manual & Service Book

This owner's manual should be considered as a permanent part of the vehicle and must remain with the vehicle.

TATA MOTORS

Passenger Vehicle Business Unit (PVBU)

● Mumbai ● Pune ●

Please read this Owner's Manual carefully before you start driving your car and always keep it safe in the car.

- The recommended routine maintenance servicing along with any running repairs that may be required, should be entrusted to **TATA** Authorised Workshop to ensure that only latest methods and genuine **TATA MOTORS** replacement parts are used for the continued reliability, safety and performance of the vehicle.
- Some of the items / accessories / features shown / given in this book may not be fitted on your vehicle, these may be applicable for other versions of **TATA NANO**.
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- All rights reserved. The material in this manual shall not be reproduced or copied, in whole or in part, in any form without written permission from **TATA MOTORS**.
- The information and specifications given in this book are valid as on the date of printing. **TATA MOTORS LIMITED** 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.
- 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.

While taking delivery of your new car, you are privileged to have the following :

- | | |
|-----------------------------------|---|
| 01. Owner's Manual & Service Book | 06. Spare Headlamp Bulbs |
| 02. First Aid Kit | 07. Spare Fuses |
| 03. Advance Warning Triangle | 08. Pre-delivery Inspection and Service |
| 04. Jack & Wheel Spanner | 09. Complimentary fuel in fuel tank |
| 05. Tow Hook | 10. Fire Extinguisher |

Dear Customer,

Thank you for selecting **TATA NANO**  the most exciting Bi-Fuel CNG car .

We welcome you to the world of advanced automotive engineering marvel suited to your operating conditions.

This book gives you all the information necessary for making your ownership of this car a delighting experience and help you in all situations.

To assist you in maintaining your car as per recommended service schedule, we have a widespread network of dealers and service centres. Kindly refer Service Network booklet provided alongwith the Owner's Manual.

Please do not hesitate to call on our Regional / Area offices in case you need any special assistance.

Please note that by adhering to the correct operating procedures and by availing the scheduled maintenance services at our authorised service centres, you can obtain the maximum performance from your car.

We request you to go through this book and derive many miles of motoring pleasure.

We wish you Safe and Pleasant Motoring

TATA MOTORS LIMITED

SAFETY AND VEHICLE DAMAGE WARNINGS

In this manual, you will find 'CAUTION', 'NOTICE', 'WARNING' messages and 'safety symbol' at appropriate places. The significance of these messages are explained below.

CAUTION

This is a warning which may cause injury to people if it is ignored. You are informed what you must or must not do in order to avoid or reduce the risk to yourself and other people.

NOTICE

This is a warning which may cause damage to the car or its equipment if it is ignored. You are informed what you must or must not do in order to avoid or reduce the risk of damage to your car and its equipment.

WARNING

Indicates a strong possibility of severe personal injury or death if the instructions are not followed.

SAFETY SYMBOL



In this manual, you will also see a circle with a slash. This means "Do not", "Do not do this", or "Do not let this happen".

TATA MOTORS

Rely on us... always.

Call Us : 1 800 209 7979

Mail Us : customercare@tata motors.com

Visit Us : www.customercare.tatamotors.com

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We **WARRANT** each **TATA NANO** and parts there of manufactured by us to be free from defect in material and workmanship subject to the following terms and conditions :

1. This warranty shall be for **4 Years or 60,000 kms**, whichever occurs earlier from the date of sale of the car.
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 contributing to improper operation, on the car being brought to us or to our dealers within the 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 replaced by us under the warranty shall be our property.
4. As for parts like tyres, battery, electrical equipment, fuel injection equipment etc. not manufactured by us but supplied by other OE Manufacturers, this warranty shall not apply. 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 authorized dealers, service centers or service points in any way so as, in our judgment 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 Authorized Dealers, Service Centers 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 and fluid changes, head lamp focusing, fastener retightening, wheel balancing, tyre rotation, adjustment of valve clearance, fuel timing, ignition timing and consumables like bulbs, fuel filters and oil filters etc. This

WARRANTY - TERMS & CONDITIONS

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 recognized as affecting the function or quality of the vehicle or parts such as slight noise or vibration and defects appearing only under particular or irregular operations or items considered characteristic of the vehicle.

7. This warranty shall be null and void if the vehicle is subjected to abnormal use such as rallying, racing or participation in any other competitive sports. This warranty shall not apply to any repairs or replacement 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 authorize any person to assume on our behalf, any other liability arising from the sale of the vehicle or any agreement in relation thereto.
9. The buyer should 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 vehicle, or to demand any damages or compensation for

losses, incidental or indirect, or inconvenience or consequential damages, loss of vehicle, or loss of time, or otherwise, incurred or accrued.

10. Any claim arising from this warranty shall be recognized only if it is noticed in writing to us or to our concerned Dealer without any delay soon after such defect as covered and ascertained under this warranty.
11. This warranty shall stand terminated if the vehicle 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 the design of the vehicle or its parts or to introduce any improvement therein or to incorporate in the vehicle any additional part or accessory at any time without incurring any obligation to incorporate the same in the vehicles previously sold.

TATA MOTORS LIMITED

TATA MOTORS LTD. is committed to produce vehicles using environmentally sustainable technology. Many features have been incorporated in Tata Motors passenger vehicles which have been designed to ensure environmental compatibility throughout the life cycle of the vehicle. We would like to inform you that your car meets emission norms and this is being regularly validated at the manufacturing stages.

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. We have given a few tips for your guidance.

DRIVING

- Avoid frequent and violent accelerations / rev-ups.
- Avoid overloading of the engine. Avoid using devices requiring high power consumption during slow city traffic condition.
- Monitor the car's fuel consumption regularly and if showing rising trend get the car immediately attended at the TATA Authorised Service Outlets.
- Switch off the engine during long stops at traffic jams or signals. If you need to keep

the engine running, do not unnecessarily rev-up. Avoid stopping and starting.

- Do not rev-up the engine before turning it off as it unnecessarily burns the fuel.
- Shift to higher gears as soon as it is possible without overloading the engine. Use each gear upto 2/3rd of it's maximum engine speed. A chart indicating gear shifting speeds is given in this book.

MAINTENANCE

- Ensure that recommended maintenance is carried out on the car regularly at the Authorised Service Outlets.
- As soon as you see any leakages of oil, fuel or coolant in the car we recommend to get it attended immediately.
- Use only recommended grades and specified quantity of lubricants.
- Get your car checked for emission periodically by an authorised dealer.
- Ensure periodic radiator fins cleaning.
- Ensure that fuel filter, oil filter and breather are checked periodically and replaced, if required, as recommended by Tata Motors.

- Do not pour used oils or coolants into the sewage drains, garden soil or open streams. Dispose the used filters and batteries in compliance with the current legislation.
- Do not allow unauthorised person to tamper with engine settings or to carry modifications on the car.
- Never allow the car to run out of fuel.
- Parts like brake liners, clutch discs should be vacuum cleaned. Do not use compressed air for cleaning these parts which may spread dust in the atmosphere.
- While carrying out servicing or repairs on your vehicle, you should pay keen attention to some of the important engine components which greatly affect emission. These components are:
 1. Fuel pump, Injectors and EMS (Engine Management System) parts.
 2. Air Intake and Exhaust systems (especially for leakages).
 3. Cylinder head/Valve leakages.
 4. All filters such as air, oil & fuel filter (check periodically).

5. Ignition system & Spark plug.
6. Catalytic converter.
7. Carbon Canister.

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

Your NANO comes from a family of new generation cars of TATA motors. It is the outcome of extensive research and development by Tata Motors Limited. We are happy to present the NANO to you and hope it brings the joy, pride and utility of owning a car for personal mobility.

The NANO's design and features combined with easy maneuverability and economic life cycle cost make it ideal for operating under a wide range of conditions.



Stylish, comfortable

The Tata Nano, designed with a family in mind, has a roomy passenger compartment with generous leg space and head room. Four persons can comfortably sit inside the car. Four doors with high seating position make comfortable ingress and egress.

It can effortlessly maneuver on busy roads in cities as well as in rural areas. Its mono-volume design ensure both space and maneuverability.

The car is available in Standard, Deluxe & Luxury versions. All versions offer a wide range of body colours, and other accessories so that the car can be customised to an individual's preferences and taste.



Fuel-efficient engine

The Tata Nano has a rear mounted rear-wheel drive, all-aluminum, two-cylinder, multi point fuel injection petrol engine. The lean design strategy has achieved minimum weight and maximum performance per unit of energy consumed and delivers high fuel efficiency. Performance is controlled by a specially designed electronic engine management system.

Meets all safety requirements

The Tata Nano's safety performance exceeds current regulatory requirements. With an all sheet-metal body, it has a strong passenger compartment, with safety features such as crumple zones, intrusion-resistant doors, seat belts, strong seats and anchorages, and the rear tailgate glass bonded to the body. Tubeless tyres further enhance safety.



Environment-friendly

The Tata Nano's exhaust emission performance meets present regulatory requirements. The high fuel efficiency also ensures that the car has low carbon dioxide emissions, thereby providing the twin benefits of an affordable transportation solution with a low carbon footprint.

Besides all these, TATA vehicles are backed by a well established service network with trained and skilled manpower that ensures proper maintenance.

1. INTRODUCTION TO CNG :

CNG (COMPRESSED NATURAL GAS) is principally constituted by Methane. CNG is a colorless, odorless, non-toxic but inflammable and lighter than air. CNG has following benefits.

- Due to low density it is compressed at a pressure of around 200 bars to improve the vehicle on board capacity.
- Vehicle life-span can be prolonged since there is no carbon generated during combustion and hence, engine and the oil in the engine are much cleaner.
- Due to its low hydro-carbon emissions, CNG is widely considered to be an environmentally viable alternative to petrol.

⚠ CAUTION

- In case of any symptom of CNG leakage or releasing noise or any external damage to CNG pipe/ components or during accident, DO NOT PANIC.
- Stop the vehicle, switch off the engine and open all doors for ventilation.
- Close the CNG cylinder manual shut off knob (located below the driver's seat).
- Do not run vehicle even in petrol.
- Immediately contact the nearest TATA authorized service centre for further assistance.

2. SAFETY PRECAUTION:

To get the best out of CNG fuel, the engine must be regularly serviced (both as regards to the mechanical and the electrical parts) in addition to routine maintenance required by the vehicle.

DO'S

- Never carry out any repair work on your own or from any other personnel. Always get the car repaired / serviced at TATA authorized service centre only.

⚠ CAUTION

- Before removing / repairing any of the CNG components, always contact nearest TATA authorised Service Centre only.

NOTICE

In case of gas leakage, ECU will automatically switch the fuel mode from CNG to Petrol. The ECU will not allow you to switch to CNG mode until the leakage is rectified.

- Get CNG Cylinder checked and recertified after every 5 years at Govt. approved test Agency.
- Keep the car away from any Fire source.
- Remove the CNG tank during the welding / brazing work on the Car. This has to be done by TATA authorised Service Centre only.
- Always get your vehicle serviced at specified intervals.

NOTICE

Ensure that your car has sufficient petrol in the tank as petrol is used intermittently during CNG operation for keeping both the systems in healthy condition.

- If the vehicle doesn't change over to CNG mode with switch pressed then have your vehicle checked by TATA Authorized Center only.
- Switch Off engine while fuel filling. (CNG / Petrol)

NOTICE

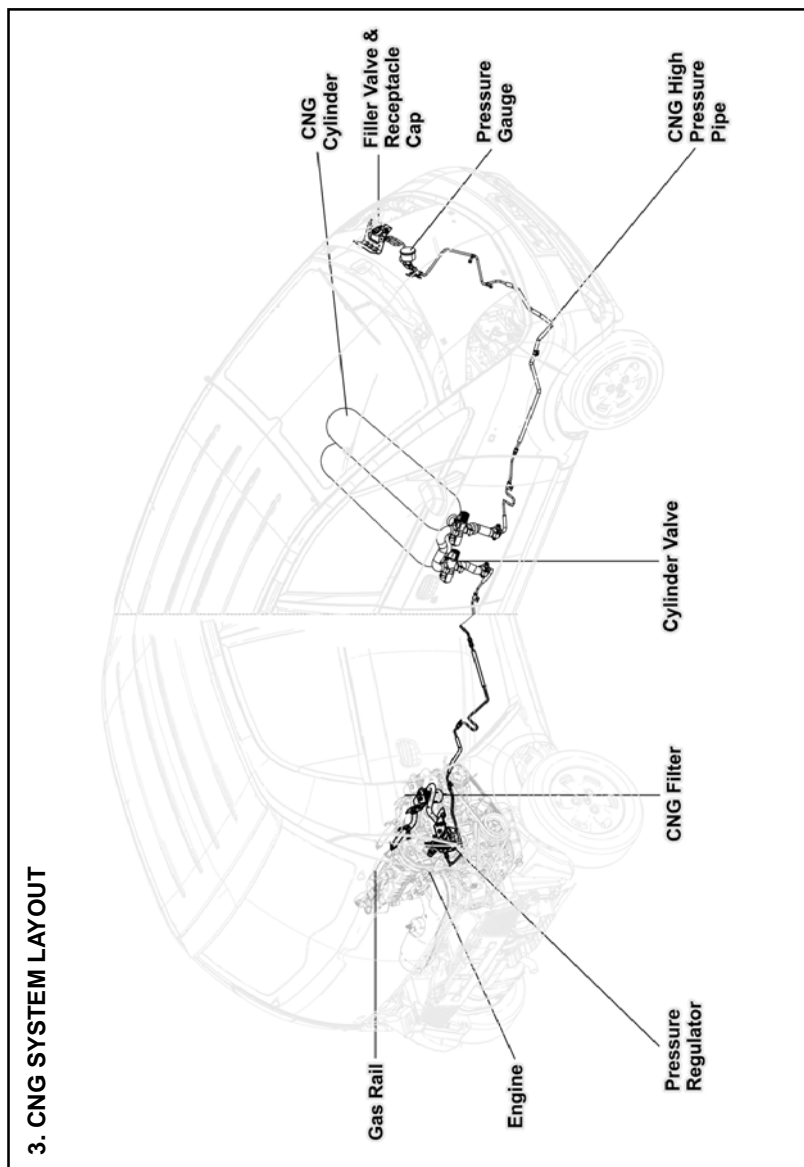
After refilling CNG, ensure that the CNG filler cap is properly tightened (Otherwise vehicle can not be started).

DON'TS

- Do not install an LPG, Propane or any other cylinder in place of CNG cylinder. It is illegal and unsafe.
- Never fill CNG cylinder with air, LPG or any fuel except CNG.
- Never alter CNG system configuration. Do not adjust / tamper CNG system settings. Never place inflammable, explosive, corrosive material and sharp objects near CNG cylinder.
- Don't smoke inside or near the CNG vehicle.
- DO NOT over fill the CNG tank beyond its capacity. Over filling the CNG cylinder can cause safety issues like gas leakage.
- Do not use high pressure washer fluid / water jets at electrical

devices & their connectors during washing. This is to prevent malfunction / failure of electrical system due to water ingress.

- Do not jump start your vehicle, in case you suspect any CNG leak.
- Do not drive your vehicle in case of CNG leakage. CNG is inflammable and highly explosive. This may lead to serious injury, if leaking gas catches fire.
- Never loosen any component when system is pressurized.
- The CNG cylinder assembly should not be repaired under any circumstance, in case of any problem contact nearest TATA Authorized Center.
- Do not change the color of the CNG cylinder.
- No flammable material should be stored in the close vicinity of the CNG cylinder.
- Never use naked flame / fire for checking gas leakage.
- Do not press the accelerator pedal while changing petrol to CNG mode.
- Do not turn 'OFF' cylinder valves in vehicle running in CNG mode. This may wrongly detect the leakage error.



4. STARTING THE ENGINE

NOTICE

Your engine can start either in gas mode or in petrol mode but it is always advisable to start in petrol mode & then switch to gas mode.

- To start, turn the ignition key to “IGN” position. Ensure that all the tell tales should glow for initial 3 seconds.
- Select the desired fuel operating mode by pressing the Fuel Selector Switch.
- Keep the clutch pedal fully pressed and crank the engine. DO not press the accelerator pedal.
- If the engine cranks but fails to start then repeat the above procedure. Release the key as soon as the engine starts. Ensure that the “MIL” and ‘SIL’ lamps are “OFF”. The CNG indicator lamp will be ON, if the car is running on CNG mode.
- Starting time in CNG will be longer than in petrol due to the physical characteristics of the fuel.
- Ensure that your car has sufficient petrol in the tank as petrol is used intermittently during operation for keeping both the systems in healthy condition.
- Your car will run automatically in petrol mode for almost 2 to 3 km after every 60-70 Kms covered in CNG mode to keep the petrol system & CNG system in good condition.

⚠ CAUTION

Do not crank the engine continuously for 10 seconds at a time .If the engine doesn't start on the first try; wait about 15 seconds before starting again.

5. FUEL MODES :

HOW TO SHIFT THE FUELLING MODES

You can switch from PETROL to CNG and vice versa by operating fuel selector switch located on right hand side of dashboard near steering wheel. See below picture.



A. PETROL to CNG mode :

You can shift to CNG fuel mode by pressing the fuel selector switch. Based on the programmed delay time the fuel mode changes to CNG mode, CNG Indicator lamp turns ‘ON’ permanently indicating that the car is running on CNG.

NOTICE

With ignition switch “ON” and engine not running, blinking of CNG Indicator Lamp in instrument

cluster indicates that CNG receptacle/filler valve is open, and vehicle will not start in this condition.

B. CNG to PETROL mode :

You can shift to petrol fuel mode by pressing the fuel selector switch. Based on the programmed delay time the fuel mode changes to petrol mode, CNG Indicator lamp turns 'OFF' permanently indicating that the car is running on petrol.

CNG INDICATOR LAMP:

This lamp will turn ON once the CNG fuel mode is selected.



Depending upon the status of various components of CNG system ECU activates CNG mode and the activation will be indicated by CNG Indicator lamp switched ON continuously on the instrument cluster.

This lamp will not turn ON when you select petrol fuel mode.

NOTICE

- In case of CNG refilling, the updated CNG level indication will appear, only when vehicle is running on CNG.
- When CNG Indicator lamp turn ON then, 'E' letter on fuel gauge bar graph starts blinking, it indicates the reserve CNG capacity has been reached or CNG tanks are empty or no CNG supply. Get the CNG tank refilled.

- In CNG fuel mode vehicle running condition, CNG indication lamp turns OFF, it indicates that CNG tanks are empty or no CNG supply. Get the CNG tanks refilled.
- With ignition switch turned ON, CNG indication lamp on instrument cluster will turn ON for 3 seconds then it will turn OFF.
- In CNG fuel mode, vehicle running condition CNG indicator lamp turns OFF and 'SIL' turns ON, it indicates that there is a fault in CNG system. Get your vehicle to nearest TATA authorised service center.

CNG - PETROL MODE SELECTION CONDITIONS / PARAMETERS

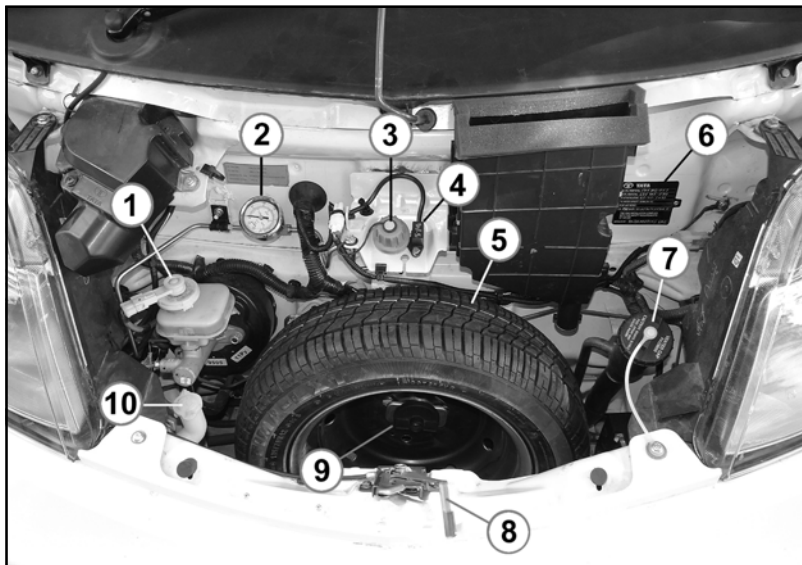
Sr. No.	Condition of fuel modes	Vehicle Response
1	When vehicle is running on CNG, CNG tank gets empty	Vehicle will switch over to petrol automatically & Petrol fuel gauge will be displayed. Later on petrol mode need to be selected manually.
2	When vehicle is running on CNG, User manually switch over to Petrol mode.	CNG lamp glowing / blinking will turn OFF and vehicle will run on petrol and fuel gauge for petrol will be displayed on cluster.
3	Vehicle running on petrol / CNG tank empty and CNG mode is selected.	Vehicle will continue to run in petrol and show petrol bar graph only. CNG lamp will be OFF.
4	At ignition ON in CNG mode and CNG tank is empty.	The cluster will display CNG indicator lamp & CNG fuel bar graph, till engine is cranked. After cranking vehicle will automatically move to petrol mode, CNG indicator lamp will be OFF and fuel bar graph of petrol is ON.
5	Both CNG and then Petrol tanks got empty.	"E" on fuel gauge should blink and engine will stop running.
6	CNG available, vehicle in petrol mode. If petrol tank got empty -	Auto switch over from petrol to CNG will take place and CNG lamp will glow on cluster. Later on CNG mode need to be selected manually.
7	In Petrol mode, user re-fills CNG after CNG tank empty condition.	Mode selection switch manually need to put in CNG mode then CNG indicator lamp will glow & corresponding CNG quantity in tank will be displayed by bar graph on cluster

Sr. No.	Condition of fuel modes	Vehicle Response
8	While running in CNG mode, if any fault occurred.	In some cases, SIL gets ON / Blink, CNG indicator lamp may OFF. Vehicle may move to petrol mode and cluster will show petrol fuel bar graph.

LAMP STATUS IN NORMAL VEHICLE RUNNING CONDITION:

Sr. No.	Vehicle mode	CNG indicator lamp	SIL	Fuel bar graph
1	Petrol	OFF	OFF	Petrol
2	CNG	ON	OFF	CNG

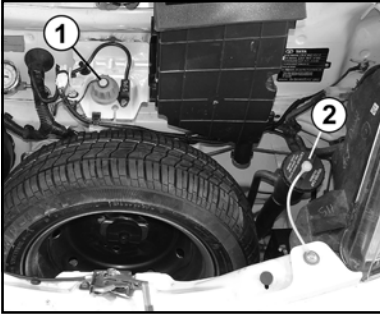
6. UNDER BONNET



1.	Brake Fluid Reservoir
2.	Pressure Gauge
3.	CNG Filler Valve & Receptacle Cap
4.	CNG Refilling Interlock Sensor
5.	Spare Wheel
6.	CNG compliance plate
7.	Petrol Filler Cap
8.	Bonnet Opening Lever
9.	Spare Wheel Locking Nut
10.	Windshield Washer Fluid Container

7. CNG FILLER VALVE :

CNG filler valve is used to fill CNG in the cylinder. It is fitted under bonnet near spare wheel. CNG should be filled by gas filling nozzle at filling station.



1. **CNG Filler Valve with receptacle cap**
2. **Petrol Filler Cap**

CNG tank capacity: (2 cylinders of 16 liters)

Total Capacity: 32 liters of water capacity.

NOTICE

- Keep the Ignition switch in "OFF" condition during CNG refilling.
- Do not use your mobile phones when you are at a Filling station.

8. CNG FILLING

For filling the CNG, follow the below procedure.

- Rotate the filler valve / receptacle cap in anticlockwise direction.



- Open the filler valve / receptacle cap.



- Now CNG can be filled by gas filling nozzle at filling station.

NOTICE

If the fuel filler valve cap is kept open, you will not be able to start the vehicle.

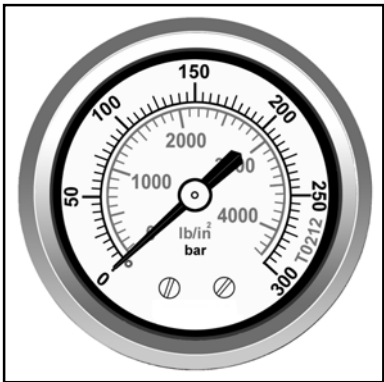
The updated CNG level indication will appear only when the vehicle is running on CNG mode.

9. CNG PRESSURE GAUGE :

CNG pressure gauge indicates the high pressure in the system. It is located under the front bonnet.



Location of CNG pressure gauge



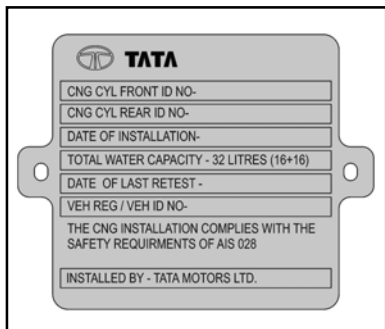
CNG pressure gauge

10. CNG COMPLIANCE PLATE / KIT IDENTIFICATION PLATE :

Compliance plate / KIT identification plate is installed near petrol filler cap, under the front bonnet.



CNG compliance plate location



CNG compliance plate

Your car's CNG cylinder needs to be recertified every five years as per CMVR (AIS 24, 25 and 26). Please ensure that it is done by a TATA Authorized Service centre and the new date is engraved on the plate.

11. CNG CYLINDER

The CNG cylinders are located below the front seats. CNG is stored in a high pressure cylinder at a pressure of 200 bar (working pressure).



CNG cylinder below front seats

The maximum storage pressure of CNG in cylinder is up to 260 bar (i.e. cylinder test pressure).

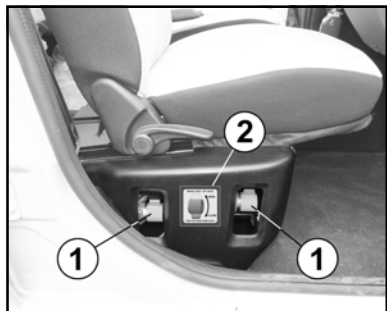
NOTICE

- As per Government regulation, CNG cylinder needs to be checked and certified every five (5) years from the date of initial testing as mentioned on the CNG compliance plate.
- Customer has to present the vehicle to a government approved testing agency.
- Failure to test the cylinder may result in denying of CNG filling by the CNG dispensing station or may result in confiscating the vehicle by enforcement authorities.

- All the expenses for CNG cylinder testing has to be borne by the customer.
- As per Government regulation, CNG cylinder has to be discarded at 20 years from the date of initial testing as mentioned on the CNG compliance plate.
- Customer has to discard the cylinder at his /her expense through government approved scrap agencies.
- No person shall refill any cylinder, which has been repaired and refilled with any gas unless a full report on the repairs and test carried out on the cylinder, accompanied by the repairer's certificate of testing are furnished to the Chief Controller and his permission is obtained for its refilling.
- Never try to clean the CNG cylinder. In case of any problem contact nearest TATA authorized service centre.

12. CYLINDER MANUAL SHUT OFF VALVE / KNOB:

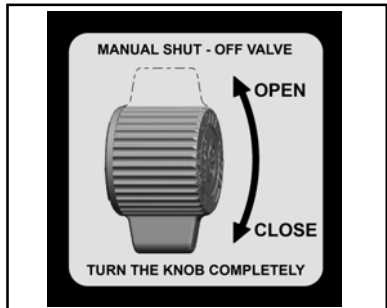
A manual shut OFF knob is fitted to cylinder valve. Cylinder valve is mounted on CNG cylinder.



1. Cylinder Valve
2. Sticker

Manual shut OFF Knob Operation:

To access manual Shut Off knob, remove the knob cover. CNG supply can be cut OFF by closing the manual shut OFF valve / knob and the instructions of knob operation is given on the sticker which is provided on the cylinder trim located below the driver's seat. For details refer the below image.



Valve Closing: Turn the knob completely in clockwise direction to close the CNG supply to Engine.

Valve Opening: Turn the knob completely in anti-clockwise direction to open the CNG supply to Engine.

NOTICE

- If the manual shut OFF valve / knob is in closed condition, it is not possible to fill CNG into the cylinder.
- If the manual shut OFF valve / knob is not opened fully, then the Engine may not run properly.

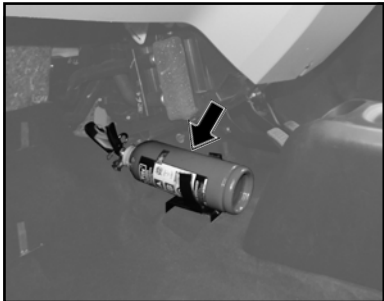
⚠ WARNING

- Never remove the cylinder valve from the cylinder assembly, for any assistance, contact authorised TATA MOTORS service centre.
- Always ensure that, once the cylinder valve is removed from the cylinders, it should not be used.
- Even if the CNG from cylinder is consumed till the engine stops, some amount of CNG will be left out in the tank under pressure.

13. CNG WARNING LABEL :

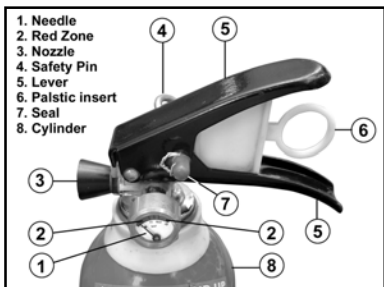
CNG warning label / safety instruction labels are provided on front windshield glass and on rear RH door.

14. FIRE EXTINGUISHER :



Location of fire extinguisher

Fire extinguisher is fitted below dashboard front of centre console.



DO'S & DON'TS

DO'S

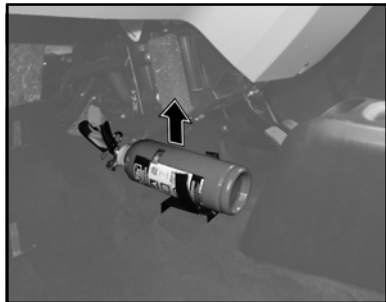
1. Check pressure gauge needle (1) periodically.
2. When pressure drops, indicator needle (1) will shift to the red zone (2). Immediately contact nearest **TATA MOTORS** Authorized dealer.
3. Ensure that the Fire extinguisher is always kept at its prescribed position in the vehicle.
4. Get the Fire extinguisher refilled immediately, after use.

DON'TS

1. Do not use water for cleaning Fire extinguisher. (Use clean cloth for removing dust)
2. Do not rely on partially used or discharged Fire extinguisher.

REMOVAL & FITMENT (FROM VEHICLE)

Removal : Hold the fire extinguisher cylinder & lever, slightly pull the fire extinguisher in the direction as shown in the image in order to remove it from clamps.



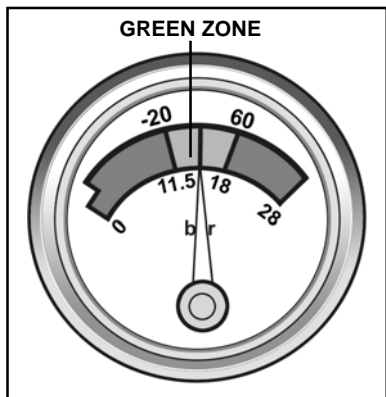
Fitment : Insert and push the body / neck of the fire extinguisher into the clamp (1) and ensure that It is properly seated on the clamp before running the vehicle.

PROCEDURE OF OPERATION

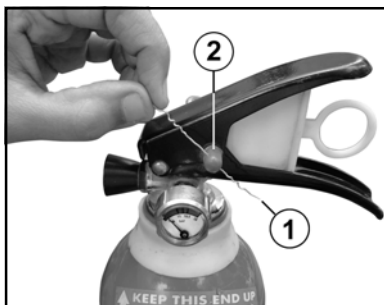
1. Remove the Fire extinguisher from the vehicle and hold it upright.



2. Check the pressure gauge needle is in green zone.



3. Break the seal by removing the wire (1) and remove the plastic seal (2) by pulling it slightly.



4. Pull-out the safety pin.



5. Remove the plastic insert.



6. Squeeze the levers in the direction as shown in the image.



4. Also check the gross weight of extinguisher periodically. If found 10% less than stamped weight, please get it refilled immediately.

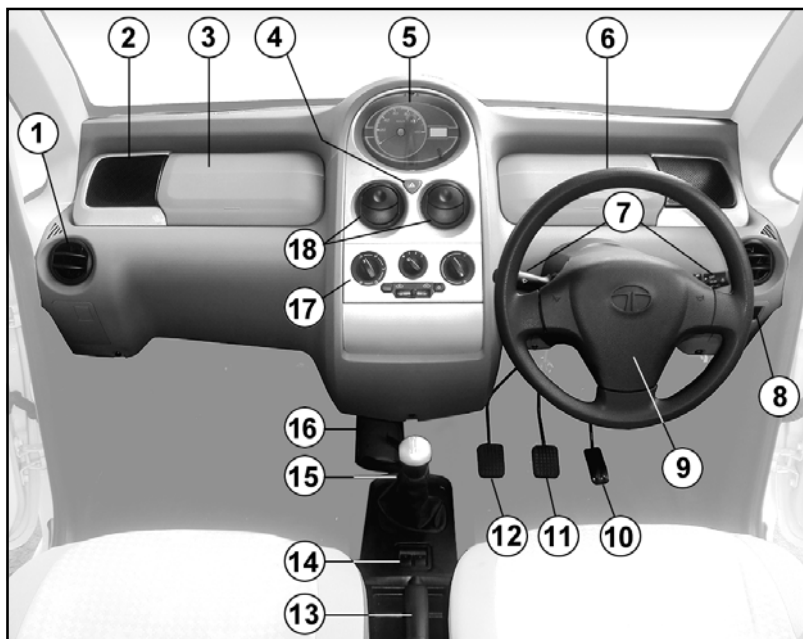
7. Direct the jet discharge from nozzle at base of flame with a rapid (fast) sweeping motion.



MAINTENANCE

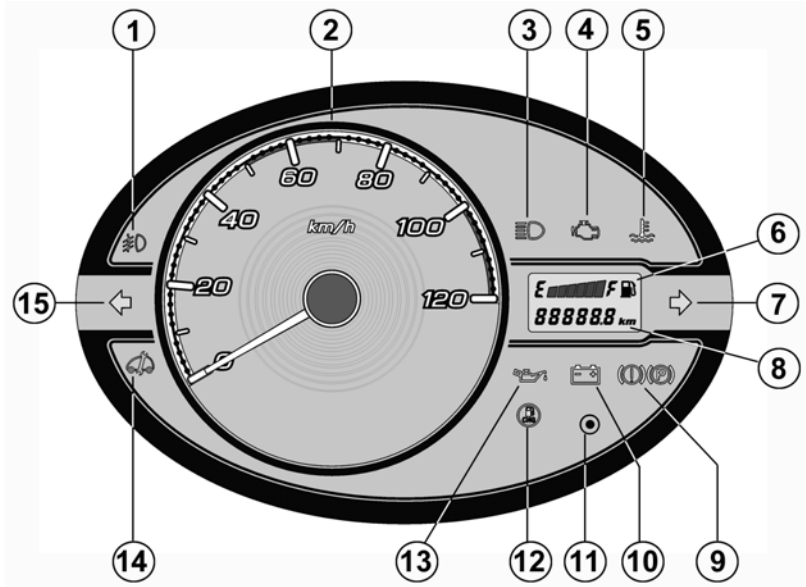
1. Refilling is necessary after every use.
2. Fire extinguisher needs refilling after every 3 years even if it is not used.
3. Check pressure on the gauge every week, the needle should remain in green zone. If it comes to red zone, please get it refilled immediately.

DRIVING CONTROLS



Note : a. HVAC or AC System is applicable to certain models.
b. Music System is part of accessories.

1. Side air vents	10. Accelerator pedal
2. Provision for Speakers on dashboard	11. Brake pedal
3. Glove Box	12. Clutch Pedal
4. Hazard warning switch	13. Parking Brake
5. Instrument Cluster	14. Window Winding Switch (if fitted)
6. Steering Wheel	15. Gear shifting lever
7. Combi switch	16. Fire Extinguisher
8. CNG ON / OFF Switch	17. HVAC / AC system controls
9. Horn Pad	18. Central Air Vents





Some Indicators shown may not be applicable to all models.

1.	Front fog lamp indicator
2.	Speedometer
3.	High beam indicator
4.	Malfunctioning indicator lamp (MIL)
5.	Engine coolant high temperature indicator
6.	Fuel level indicator (Petrol/CNG)
7.	Turn indicator (Right)
8.	Odometer

9.	Parking brake / Brake fluid check indicator
10.	Battery charging indicator
11.	Trip / Rest knob
12.	CNG indicator lamp
13.	Low engine oil pressure indicator
14.	Service indicator lamp (SIL)
15.	Turn indicator (Left)

Turn Signal Indicator :  

Turn signal indicators can be operated only when ignition is 'ON'. They can be operated by using the turn indicator switch on the combi-switch. The direction indicator arrow  (LHS) and  (RHS) on the instrument cluster flashes along with external indicators lights as per selection.

⚠ CAUTION

If the turn signal indicators do not blink, then there may be problem in electrical system. If the indicators "Blink rapidly", then this indicates that a side indicator bulb has failed. Get it rectified immediately.

Front Fog Lamp Indicator (If equipped) : 

Front fog lamps are provided on the front bumper to improve the visibility in foggy weather. The front fog lamp switch is provided on combi switch.

High Beam Indicator : 

The indicator light comes on when the High beam is selected or also when the headlight flasher is operated.

Service Indicator lamp: 

This symbol indicates the car's engine condition.

1. It comes ON when ignition is switched ON and once engine is cranked, it goes OFF.
2. It remains ON if there is a problem in any of the engine components.

NOTICE

If the Service lamp remains ON when the engine is running, the engine's performance deteriorates marginally & sometimes significantly. Take your car to a TATA Authorised service centre.

Malfunction Indication Lamp: 

This symbol comes ON when the ignition is turned ON and goes OFF once the engine is cranked.

⚠ CAUTION

This symbol will remain ON for any engine related fault, that may cause increase in emission levels of the car beyond the regulatory limit. Take your car to a TATA Authorised service centre.

On Board Diagnostic System-OBD

On board Diagnostics or OBD is an automotive term referring to a vehicle's self Diagnostic and reporting capability. The OBD system allows continuous diagnosis of the components of the vehicle correlated with emissions. This system warns the driver, by turning "ON" the Malfunction Indication lamp (MIL) on the instrument cluster, when a fault causes emission levels to increase.

The OBD system also has a diagnostic connector that can be interfaced with appropriate diagnostic tools, which makes it possible to read the fault codes stored in the Electronic Control Unit, together with a series of specific parameters for Engine operation and Diagnosis. This check can also be carried out by the traffic police.

To access the diagnostic connector (Fig. 1), which is located below the dashboard (Fig. 2) at the RH side of the steering wheel as shown in the below images.

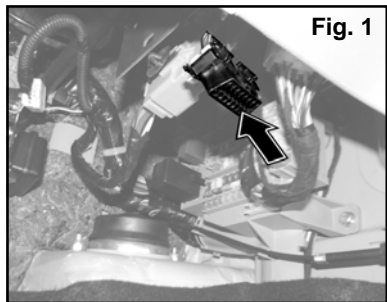


Fig. 1



Fig. 2

NOTE : In case the fault occurs and MIL on the instrument cluster comes ON, contact nearest **TATA MOTORS** authorized service center. After eliminating the inconvenience, to check the system completely, **TATA MOTORS** authorized service centers are obliged to run a bench test and if necessary, road tests which may also call for a long journey. The functioning of MIL lamp may also be checked by the traffic police using specific devices.

Low Engine Oil Pressure Indicator :



This symbol lights up when the ignition switch is turned to the 'ON' position and goes out as soon as the required oil pressure is developed after starting the engine. The light will remain 'ON' if there is insufficient oil pressure. If light comes on when driving, contact nearest Tata Authorised service outlet immediately. Check the oil level and add oil if necessary.

NOTICE

If the low oil pressure indicator does not glow or continues to remain 'ON' even with sufficient oil when the engine is running, it indicates a fault in the electrical circuit/lubrication system. Check and get the problem attended to at an Authorized Service outlet.

Driving with low oil pressure may lead to severe damage to the engine.

Parking brake Indicator cum low brake fluid warning light



This indicator has multiple functions as follows :

- It lights up when the parking brake is applied and goes off when parking brake is released.
- It also lights up when brake fluid level is low.
- When ignition key is turned to "IGN" position, this indicator lights up and goes off when engine starts in normal condition. If it is continuously 'ON' while engine is running, get the problem attended at an authorised service outlet.

**CAUTION**

Drive cautiously when the indicator remains 'ON' while driving. Get the problem attended immediately at an Authorized service Outlet. In the state of low

brake fluid level, continuous normal driving is dangerous.

Battery Charging Indicator :



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

NOTICE

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

CNG Indicator lamp:



This lamp turns 'ON' only when the vehicle is running on CNG mode.

Engine Coolant High Temperature Indicator



In case of insufficient coolant in cooling system or malfunctioning of engine due to various reasons, the engine coolant temperature can be higher than normal operating conditions. In such condition, Engine Coolant High Temperature Indicator Lamp will start blinking along with SIL lamp. **In addition the buzzer will also start to warn the driver.**

Avoid driving in this situation and contact nearest Tata Motors authorised service station for

necessary attention.

If the driver continues to drive in such situation, both lamps and buzzer (as described above) will continue and the ECU activates the engine to limp home mode thus limiting the engine speed.

Avoid driving under this condition as it may lead to severe vehicle jerk and sometimes damages.

If the driver ignores all the above warnings and still continues to drive, for safe guarding the engine and vehicle under such conditions from severe damages, the vehicle fuel supply will be cut off automatically and engine will stop.

Engine can be restarted only when engine coolant temperature drops to normal. To start the engine, first switch off the ignition to deactivate both indicators and the buzzer and then restart the engine.

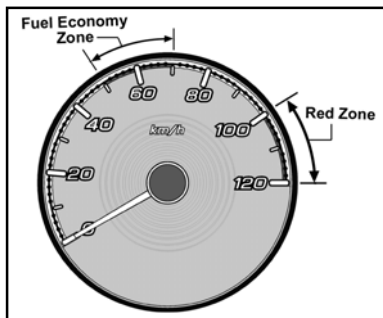
⚠ CAUTION

Never remove the radiator pressure cap from the radiator when the engine is hot. Do not restart the engine until the problem has been duly attended.

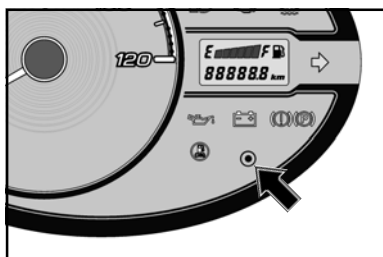
Vehicle Speed Limitation:

The vehicle is designed for a safe speed of 105 kmph. If vehicle is driven above this speed, MIL lamp starts blinking and the vehicle fuel supply will be cut off automatically to restrict the vehicle speed.

Avoid driving the vehicle at speeds above 105 kmph.

Speedometer:

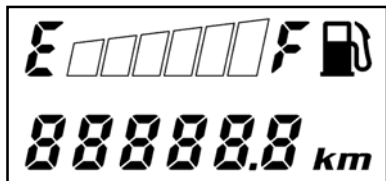
The Speedometer indicates vehicle speed in Km/h.

Odometer and Trip meter* (on LCD):**Trip Meter* & reset knob (if applicable)**

The odometer records the total distance the vehicle has been driven. The trip meter can be used

to measure the distance traveled on each trip or between fuel fillings. Trip meter reset knob is provided on instrument cluster. Keep track of the odometer reading and follow the maintenance schedule regularly for better performance.

Fuel Gauge



The Fuel bar indicates the approximate fuel level in the tank. When the engine is in Petrol mode the bar graph shows the level of petrol & when it is in CNG mode it shows the level of CNG fuel and “CNG” indicator lamp (green colored) on the instrument cluster turns ON. When “E” letter on bar graph starts blinking indicates the reserve capacity has been reached, fills CNG or Petrol as soon as possible.

NOTICE

The gauge may show slightly more or less than the actual amount. The tank temperature, filling method and ambient conditions may affect filled CNG mass.

Steering Lock cum Ignition Switch:



Key of ignition switch is common for door lock & steering lock.

The ignition switch is on the right side of the steering column. The switch has four positions.

- LOCK** - Steering Locked
- ACC** - All accessories function 'ON'.
- ON** - Vehicle ON and all electricals 'ON'
- START** - Engine crank

LOCK:

You can insert or remove the key only in this position. The steering column is locked when the key is removed.

ACC:

By turning key to ACC (key in) position, all accessories function like music system will be 'ON'.

ON:

Engine running and all electrical gadgets and accessories ON.

START:

Turn the key further clockwise to the START position (spring loaded) to start the engine. As soon as the engine starts release the ignition key to ON position. While cranking, all accessories will be momentarily 'OFF'.

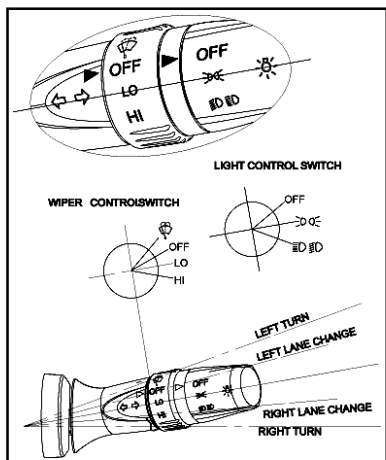
NOTICE

Do not crank the engine more than 10 seconds continuously. If the engine does not start wait for 15 seconds before cranking it again. Release the key immediately after starting the engine.

By turning the ignition key from 'ON' position to 'ACC' position, engine can be stopped.

Single Stalk Combination Switch: (if applicable)

Single Stalk Combination Switch is provided on right hand side of steering column. It has wiper control, direction indicator and light control switches.



1) Light stalk:

Outer rotary switch on the stalk is provided for selecting Position (Parking) or Head lamp. It operates with Ignition switch in "IGN" position.

a) Head / Position lamp OFF.

Head lamp, position (Parking) lamp and tail lamp will be OFF in this position.



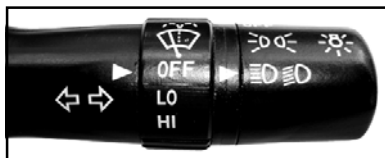
b) Position lamp ON.

Position (Parking) lamp and tail lamp will be ON in this position.



c) Head / Position lamp ON.

Head lamp, position (Parking) lamp and tail lamp will be ON in this position. Pull the lever to select high beam flash (spring loaded). Push towards dashboard to select high beam.



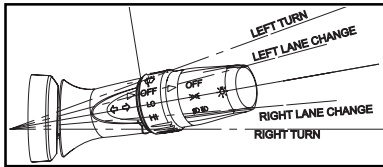
2) Wiper Rotary Switch :

Inner rotary switch on the stalk is provided for front windshield wipe & wash. The top (1st) position denotes wash (spring return). First position below "OFF" is for low speed wipe and second position is for high speed wipe.



Wipe and wash are separate functions.

3) Side Indicator :

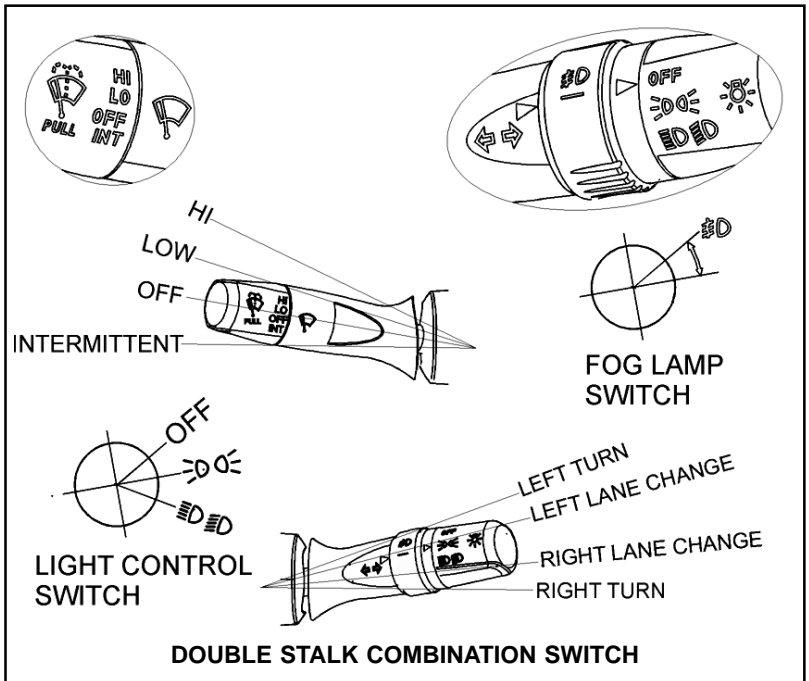


- 1) Side indicator OFF
- 2) Lane change for Left or Right Turn (Spring Return)
- 3) Lane change for Left or Right Turn (Self cancellation / Manual return type)

Push the stalk upwards for changing lane or turning to Left and downwards for changing lane or turning to Right according to requirement. It has three positions.

Double Stalk Combination Switch: (wherever applicable)

Double Stalk Combination Switch is provided on steering column.



A) RIGHT HAND STALK**1) Light stalk:**

Outer rotary switch on right hand stalk is provided for selecting Position (Parking) or Head lamp. It operates with Ignition switch in "IGN" position.

a) Head / Position lamp OFF.

Head lamp, position (Parking) lamp and tail lamp will be OFF in this position.

**b) Position lamp in ON.**

Position (Parking) lamp and tail lamp will be ON in this position.

**c) Head / Position lamp ON.**

Head lamp, position (Parking) lamp and tail lamp will be ON in this position. Pull the lever to select high beam flash (spring loaded). Push towards dashboard to select high beam.

**2) Fog Lamp Rotary Switch :**

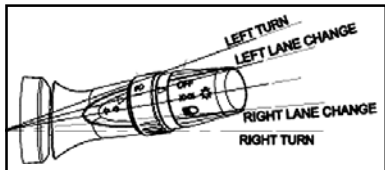
Inner rotary switch on the stalk is provided for selecting front fog lamp.

a) Front Fog Lamp

The front fog lamp can be switched ON with parking/ Head lamp ON & can be remain on till the parking lamp & Head lamp are switched OFF.

To select the front fog lamps, rotate the inner rotary switch which is spring loaded. After releasing, it returns to original position.



3) Side Indicator :

Push the stalk upwards for changing lane or turning to Left and downwards for changing lane or turning to Right according to requirement. It has three positions.

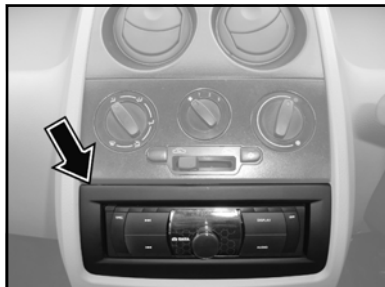
- 1) Side indicator OFF
- 2) Lane change for Left or Right Turn (Spring Return)
- 3) Lane change for Left or Right Turn (Self cancellation / Manual return type)

B) LEFT HAND STALK**1) Front Windshield - Wipe and wash :**

Push the stalk upwards to operate Low or High speed wipe. Push the stalk downward to operate intermittent wipe. Pull the stalk for wipe and wash operation.

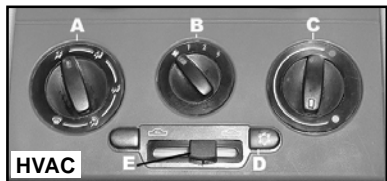
NOTICE

After wash function is activated, there will be one wipe of wiper.

Music System (if applicable) :

The music system can be fitted on the facia.

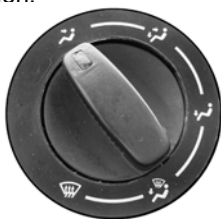
For operation and further information of music system please refer manufacturer's manual.

HVAC / A.C. : (As provided)

- A - Air direction mode selection knob
- B - Blower speed selection knob
- C - Temperature control knob
- D - AC ON/OFF switch
- E - Air recirculation / Fresh air lever

A. Air direction mode selection knob :

The air flow can be changed by turning the knob (A) to the desired direction.



- | | |
|--|--|
| | Towards face |
| | Towards face and feet |
| | Towards feet |
| | Towards feet & windshield
(Recommended for clearing mist on windshield) |
| | Towards windshield
(Recommended for clearing heavy fog.) |

B. Blower Speed selection Knob :

The HVAC system has a three speed blower. The blower speeds can be selected by operating the blower knob (B).

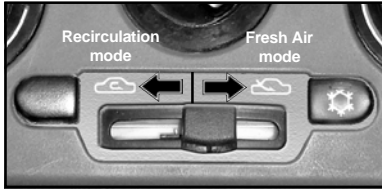
**C. Temperature-Control Knob :**

The air temperature in the vehicle can be controlled by operating the temperature control knob (C) on the control panel. The temperature can be increased by rotating the knob towards the red dot and decreased by rotating it towards the blue dot.

**D. AC ON/OFF Switch :**

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



E. Recirculation / Fresh Air knob:**HVAC****AC**

- To put air circulation mode in recirculation, slide the knob 'E' towards recirculation mode (HVAC version) / rotate the knob 'E' towards recirculation mode (AC version) and vice-versa.
- In recirculation mode, air inside the vehicle is circulated again and again. In Fresh Air 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 to fresh air circulation mode.

NOTICE

- We strongly recommend AC to be used in recirculation mode for better cooling.
- Use fresh Air mode only when discomfort is felt.
- The AC can be switched 'ON' only if the blower is 'ON' and engine is running. When AC is switched 'ON' engine idling RPM increases marginally, to adjust to the AC compressor load. When desired temperature is achieved AC trips 'OFF' automatically.
- The AC compressor is switched 'OFF' automatically when engine gets overheated. The AC is automatically switched 'ON' when the engine cools down.

Normal Heating : (Only on HVAC)

(For vehicles fitted with HVAC)

Knob 'A' - At suitable position as per requirement

Knob 'B' - Suitable blower speed

Knob 'C' - Suitable temperature position

AC - OFF

Air Circulation - Fresh mode.

Quick Heating :

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

Once vehicle is heated, switch back to fresh mode.

Never rev-up the engine in cold weather to achieve faster heating.

Normal Cooling :

Knob 'A' - Towards face

Knob 'B' - Desired blower speed position

Knob 'C' - Towards blue dot as required. (Not for AC version)

Knob 'D' - AC ON

Switch 'E' - suitably as explained (Not for AC version)

Quick Cooling :

Switch 'ON' the AC and keep the blower at maximum speed. Keep air direction in face mode. All vents should be opened completely. Keep the air circulation knob in the recirculation mode and temperature control switch in the maximum

cooling (Blue) position (For HVAC only). At maximum cooling, AC trips off automatically when the desired temperature is achieved.

- In case you find reduction in air flow or odor in the passenger compartment, it is recommended to contact nearest TATA authorised dealer.

If your car is left in the sun with windows closed, inside temperature increases. To achieve quick cooling effect open the windows slightly before you operate the AC, and only for short duration

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

Demisting : (Only on HVAC)

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

First start the engine and accelerate to warm up.

Knob 'A' - Towards windshield

Knob 'B' - Suitable speed

Knob 'C' -At suitable temperature

Switch 'E' - Fresh mode.

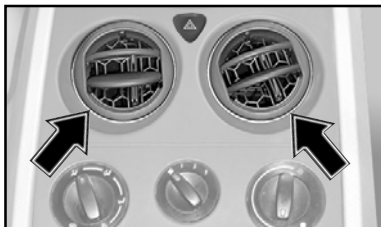
Once the windscreen has become clear, change to suitable setting.

NOTE : In case of flash / heavy foggy, the AC should be switched 'ON'.

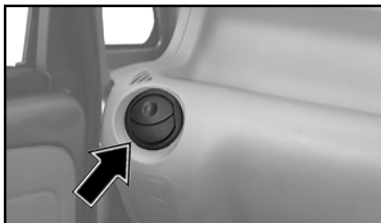
NOTICE

When mist gets cleared switch the knob "A" 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.

Ventilator :

Front Ventilators



Side Ventilators

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.

Defrosting : (Only on HVAC)

In low temperature areas, to clear frost formation outside the windshield glass, following settings are used.

First start the engine and accelerate to warm up.

Knob 'A' - Towards windshield

Knob 'B' - Maximum blower speed

Knob 'C' - Maximum hot position

Switch 'E' - Fresh mode.

Once the windscreen has become clear, change to suitable setting.

NOTICE

If AC is not giving cooling effect even when blower is ON and AC request switch is pressed, get the vehicle to the nearest authorised service outlet.

High throttle demand or rapid acceleration causes the compressor cut off for few seconds.

NOTICE

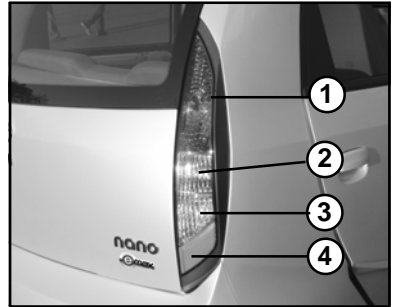
Refrigerant charged in the air conditioning circuit has been identified on the label over front body member. Use only refrigerant as given in the label for topping up or recharge, i.e. do not charge the vehicle with some other refrigerant than the existing refrigerant. Always use R134a (Non CFC) refrigerant.

Fresh air is taken from the grill opening provided on the fire wall under the front hood at base of windshield glass outside the vehicle. Keep these openings clear and free.

Head Lamp:

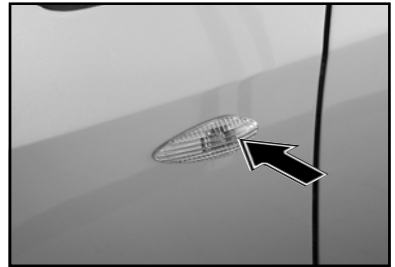
- 1 High / Low Beam
- 2 Position / Parking Lamp
- 3 Front Direction Indicator

Head lamps are clear lens type having multi focal reflector and are provided with halogen bulb with double fitment for providing straight ahead illumination of the road for the long distance or deep beam which illuminates the road immediately ahead for short distance visibility. It also has side indicator lamp and a parking lamp.

Tail Lamp:

The tail lamp assembly incorporates the following :

- 1 Tail / Brake Lamp
- 2 Turn Signal Indicator
- 3 Reverse Lamp
- 4 Reflex Reflector

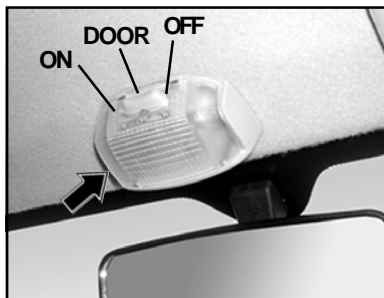
Side Repeater Indicator Lamp**Front Fog Lamp: (As Applicable)**

High Mounted Stop Lamp :

High mounted stop lamp is provided on the rear side of vehicle. It will glow along with stop lamps whenever service brake is applied.

Registration Plate Lamp :

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

Interior Lamp :

Interior lamp is provided on the roof, near the inner rear view mirror. It's switch has three positions.

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

DOOR (As applicable) In this position the lamp comes on when front doors are opened. When the door is closed, the lamp will go 'OFF'.

OFF - In this position the lamp will be always 'OFF'.

Inner Rear View Mirror :

Inner rear view mirror is provided inside the cab and fitted to windshield glass.

Nano comes with both normal and anti-glare type mirrors (wherever applicable).

It has two positions and can be selected by knob below mirror :

1. Normal position
2. Antiglare position

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

⚠ CAUTION

View in antiglare position reduces rear view clarity as compared to normal position.

Outside Rear View Mirror :

'Tip tap' type mirror is provided only on driver side in few version, where as it is provided on both sides in other versions. It is fitted on the door from the outside and can be adjusted manually. In few variants, mirror is fitted at co-driver side also.

**NOTICE**

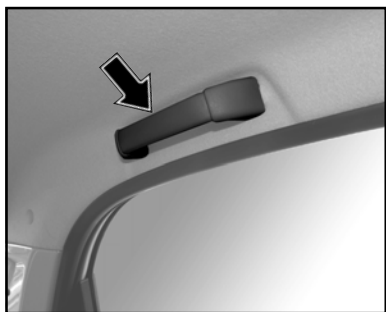
Be careful when judging the size or distances of a vehicle or other object seen in the side convex mirror. Be aware that objects look smaller and appear farther away than when seen in flat mirror.

Sun visors :

In few versions, two adjustable sun visors are provided inside the cab above the windshield to prevent sun glare, where as in other versions it is fitted only on driver side. Lower the sun visors to protect the eyes from bright sunlight. The sun visors also move sideways towards the door.

NOTICE

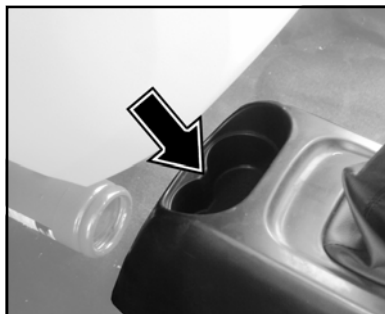
When not in use keep the sun visors in their original position otherwise they may lock the driver's vision.

Roof Grab Handle :(If fitted)

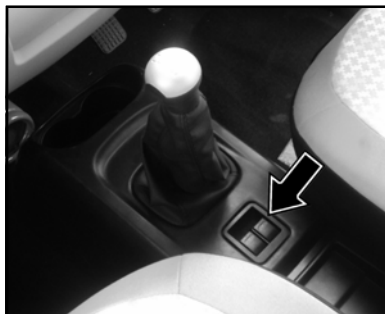
These are provided for comfortable positioning of passengers during journey.

Utility pocket / box (if applicable):

Utility pocket is provided to all the doors to keep magazines / books etc.

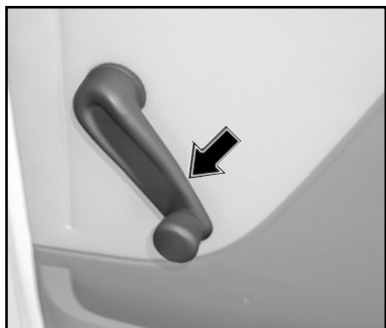
FLOOR CONSOLE :**Cup holder : (if applicable)**

Two cup holders are provided on the floor console near the gear shifting lever for your convenience.

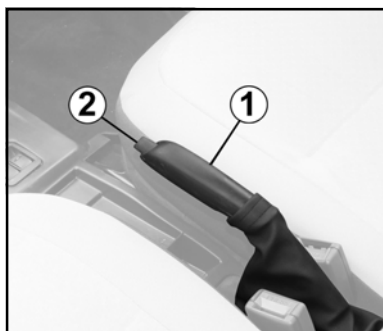
Power window switch (Front Doors) : if fitted

Window glasses on front doors can be operated by switches provided on the main control panel located on the floor console. They work only when the key is in the "ACC" position. Glasses are wound up by pulling the switch and are lowered by pressing it down.

Manual window winding is provided on rear doors.

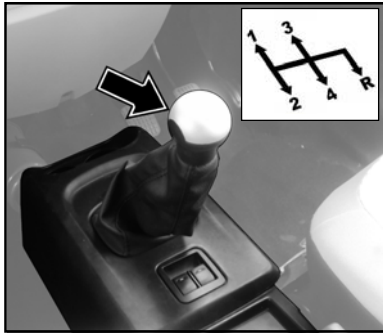
Manual window winding :

Where power windows are not provided, manually operated winder handles are provided. Use winder handle for lowering down or raising up window glasses.

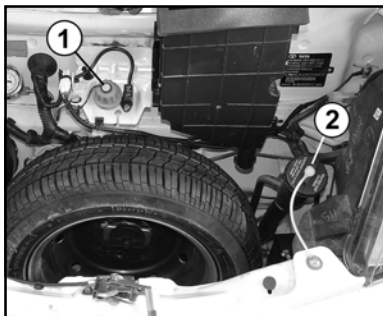
Parking Brake Lever :

- 1. Parking Brake Lever**
- 2. Release Button**

Mechanical parking brake acting only on the rear wheel is provided on your vehicle. The parking brake lever is located behind the gearshift lever. To apply the parking brake, pull the lever up fully. The indicator light 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 on the instrument panel will go 'OFF' when the parking brake lever is fully released.

Gear Shift Lever :

Gearshift lever is mounted on the central console between the two front seats. The gearshift pattern is shown on the gear shift lever knob. All forward gears being synchronized, provide easy & effortless gear shifting. Always remember to press the clutch pedal fully while shifting the gears and also to release the clutch pedal gently.

Refuelling (PETROL) :

1. CNG Filler Valve with receptacle cap
2. Petrol Filler Cap

Fuel filling cap is located inside the front hood. For refueling you need to open the front hood.

Rotate the fuel filler cap anticlockwise and open to fill the fuel. After filling the fuel close the cap by rotating clockwise till you heard clicking sound. Ensure that hood is properly locked.

⚠ WARNING

Fuel vapour is extremely hazardous. Always stop the engine before refueling and never refuel near sparks or open flames.

⚠ CAUTION

Remove the fuel filler cap slowly, and wait for any hissing to stop, then remove it. Do not bend on fuel filler cap while opening. The fuel may be under pressure and may spray out, causing injury if the cap is opened suddenly.

Always use only original specification fuel cap or an approved equivalent, available at Tata Authorised Dealers. The wrong cap can result in a serious malfunction of the fuel system and the emission control system. While filling petrol, care should be taken, so that the fuel should not spill out on the battery.

Opening the front hood :

Ensure that the vehicle is in neutral gear with the parking brake applied.

To open the hood pull the hood release lever located under the right hand corner of the dashboard inside vehicle. The hood will pop up slightly.



Location of hood release lever

Raise the hood slightly and with your finger slide the secondary lock lever located under the hood centre.



Lift the hood up. Pull the hood stay rod from its clip & insert the free end into the slot in the hood, slide stay rod outward to secure.

**Closing :**

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

⚠ CAUTION

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

Keys :

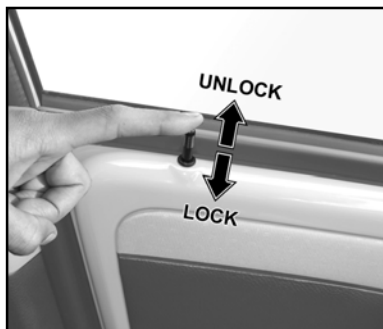
The key operates all locks and Ignition switch.



A code number is stamped on the plate attached to the key set. Detach this plate and store at safe place (Not in the vehicle). This reference number is necessary while getting duplicate keys from your Authorised Dealer. It is advisable to keep another key at safe place for use in case of emergency.

NOTICE

Do not use locally made keys, get duplicate key through your Tata authorized dealer.

Front Doors (Driver and Co-driver)**Locking / unlocking doors with key from outside :**

Front doors can be locked or unlocked from outside with key.

Insert the key and turn it anti-clockwise to open or clockwise to lock the door. Pull the Door handle to open an unlocked door.

Where central locking system is provided, if you lock/unlock the driver door with key, the remaining three doors get locked/unlocked simultaneously.

Locking without a key from inside

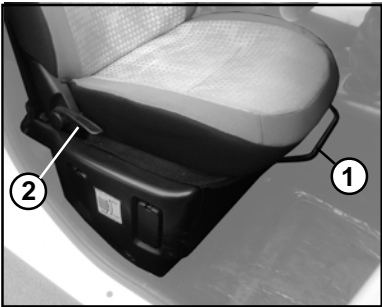
All the doors can also be locked or unlocked independently from inside by pressing or pulling the knob.

NOTICE

When locking doors this way, do not leave the key inside the vehicle.

Opening the doors from inside :**Location of door opening lever/ latch**

All doors can be opened from inside. Pull the door knob to unlock the door. pull the door opening lever / latch to open the door.

Front Seats :

1. *Lever / Slider for forward / backward movement*
2. *Recliner for adjusting the seat back rest*

Bucket type front seats are provided with a lever and recliner handle knob, to adjust seat positions.

Seat Back Recliner : (As Applicable)

To change the seat back angle, lean forward slightly and raise the lever (2). Then lean back to the position you want and release it. Make sure that lever return to its original position.

Moving the Seat Forward & Backward: (As applicable)

To adjust the seat position, lift the lever (1) under the seat cushion front, then slide the seat to the desired position and release the lever. Once the desired position is achieved release the lever to lock the seat. Make sure the seat is locked in position.

⚠ CAUTION

Only adjust the seats when the vehicle is stationary. You will otherwise be distracted and could lose control of the vehicle as a result of the seat movement.

NOTICE

Few versions are fitted with fixed seats at co-driver side.

Rear Seat



A cushion bench seat is provided for the rear passengers.

Location of storage space :

A storage space is provided behind the rear seat for ease loading or unloading, the rear seat backrest needs to be folded.

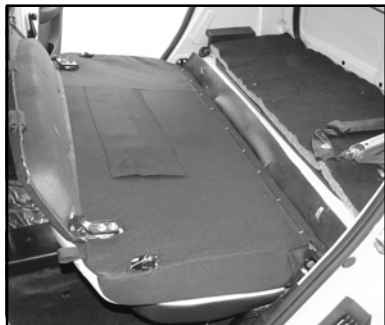
Folding of rear seat back rest

For folding the rear seat back rest:

1) Pull a strap provided on seat back rest top (LH side) to unlock the seat back rest. .



2) Fold the seat back rest, once it is unlocked.



Locking rear seat back rest

For locking the rear seat back rest, lift the seat back rest and just press it to engage in the lock.

NOTICE

The rear seat backrest needs to be folded for accessing the jack, advance warning triangle , first aid kit and tools.

SEAT BELTS :

Occupants safety is of utmost importance.

Your car is equipped with seat belts, both front and rear as a part of occupant restraint system.

Why Seat Belts

Wearing seat belts properly can protect you from being thrown against the inside of the car or against other occupants in case of an accident or sudden braking. It will reduce the chances of severe injury.

How to use seat belts

This car has three point type front seat belts and lap belts for rear seat outboard occupants (LH & RH). In normal driving, the belt lets you move freely in your seat. In case of an accident or sudden braking, inertia reel automatically tightens the belt to help restrain your body.

The anchor end of the shoulder belt is adjustable to suit the height of the passenger wearing it. The lap belt has one manually adjusted belt that fits across the hip bone.

Make sure that your seat is adjusted to a good driving position and the back of the seat is upright.

1. Pull the tongue across your body and insert it into the buckle.
2. Check and ensure that the belt is not twisted.



1. Seat Belt
2. Tongue
3. Lock Buckle

⚠ WARNING

Twisted seat belts can cause injury in a collision as the full width of the belt isn't available to absorb the impact. This puts more force on the bones beneath the belt, which could break them or cause other serious injury. Don't wear twisted seat belts.

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. Make sure that the belt goes over your collar bones and across chest.
5. To unlatch the belt, press the red button on the buckle. Guide the belt to the pillar as it retracts.

⚠ WARNING

Improper positioning of the shoulder portion of the seat belt is dangerous. An improperly positioned belt will provide little or no protection in a collision. Always make sure the shoulder portion of the seat belt is positioned across your shoulder and near your neck, but never under your arm, on your neck, or on your upper arm.

6. The belts are meant (intended) for adult occupants only.
7. Each belt should be used by one occupant only. The belt must not be put round a child, seated on passengers lap.
8. When the belt has been in use in a serious accident or shows signs of severe fraying / damage or of having been cut, replace with an approved belt kit.
9. The belt must not be altered or modified during use.

⚠ WARNING

Using one seat belt for more than one person at a time is dangerous. A seat belt used in this way cannot spread the impact forces properly and the two passengers could be crushed together and seriously injured. Never use one belt for more than one person at a time.

10. The belts if required should be replaced, by Authorised personnel only.
11. The belt should not be disassembled. If required, authorised personnel only should carry out disassembly and assembly.
12. Clean the webbing with a mild soap solution recommended for upholstery. Bleaching or dyeing the webbing may weaken it.

Lap belt

Pull the tongue to the desired length.

Insert it into the buckle until you hear a click.

Adjust the belt length. To lengthen the belt, hold the tongue at a right angle to the webbing and pull. To shorten, pull the loose end of the webbing.

To unfasten, depress the button in the buckle.

⚠ WARNING

Positioning the lap portion of the Seat Belt too high can be dangerous as in a collision, this would concentrate the impact force directly on the abdominal area, causing serious injury. Wear the lap portion of the belt snugly and as low as possible.

TATA MOTORS strongly urges that the driver and passengers in the car be properly restrained at all times with seat-belts. Failure to do so could increase the chance of injury and / or the severity of injury in accidents.

Baby or Small Child :



Use child restraint system appropriate for the child until he / she becomes big enough to properly wear the car's seat-belts. If a child is too big for a child restraint system, he / she should sit in the seat and must be restrained using the car's seat-belt.

Use the seat-belt when the child is in the rear seat also. According to accident statistics, a child is safer when properly restrained in the rear seat than in the front seat.

Child restraint systems are available. **TATA MOTORS** recommends the use of a type which fits your car. Before installation, always read the manufacturer's instructions.

Expectant mother:



TATA MOTORS recommends the use of a seat-belt. Kindly consult your doctor for specific recommendations. The lap belt should be worn securely and as low as possible over the hips and the waist.

Injured person :

TATA MOTORS recommends the use of a seat-belt for injured person. Depending on the injury, consult your doctor for specific recommendations.

BEFORE DRIVING**Please ensure to check (Refer maintenance)**

1. Tyre pressure and condition of tyres. Inflate to recommended tyre pressure if required.
2. Coolant level to First fill.
3. Engine oil level up to Max mark on dipstick. (Do not overfill)
4. Brake fluid level .
5. Water in windshield washer reservoir. Top up if required.
6. Battery electrolyte level.
7. Fuel level. Ensure sufficient Fuel.

Adjust

1. Check position of seat. If required adjust to your convenience.
2. Check adjustment of all rear view mirrors.

Ensure

1. Hood is fully closed.
2. All doors are properly closed and locked.
3. Check that any items you may be carrying are stored properly and fastened down securely.
4. Seat belts are fastened
5. Ensure all mirrors, windows and lamps are clean and unobstructed. Remove dust, frost, snow or ice if any, on these.
6. All switches & lamps are working

7. Check and ensure that all the gauges and indicators in the instrument cluster are working.
8. Gear shift lever is in neutral position
9. Parking brake is released.

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, this would damage the windshield.

Headlights

Keep headlight lenses clean. Check for operation of head lamps in both high/low beam condition. Check for correct focusing of head lamps. 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 the condition thus causing an accident.

Side indicators / Hazard warning

Ensure that all side indicators / hazard warning switch 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 working properly. 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 abnormality. Maintain correct tyre pressure, it is very important particularly when subjected to extreme conditions, such as high speed, bad roads and high outside temperature. Do not use worn or bald tyres specially on the front wheels.

First Aid Kit

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

Documents

Always carry vehicle registration papers, insurance, valid PUC certificate and driving licence with you.

DRIVING SAFETY

Seat Belt

Seat-belts are life saving equipment, use of seat-belt 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 seat-belt, while vehicle is in motion.

Influence of Alcohol

Do not drive under the influences of alcohol or drugs. Alcohol and drugs will severely impair your control of the vehicle and increase the risk of injury yourself and others.

Mobile phones



Do not use mobile phones while driving a vehicle. 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, sleepy. Long distance driving can tire you very much and fatigue can dull your reflexes and judgment. Take a rest and get refreshed at intervals.

FRIENDLY TIPS TO IMPROVE FUEL ECONOMY :

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

To operate your vehicle as economically as possible, adhere to following driving suggestions.

Avoid Excessive Idling :

Shut Off the engine if you have to wait for more than a minute while you are in traffic.

Avoid fast starts and 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-filter:

The amount of air supplied will reduce due to clogged air-filter, resulting in loss of power and fuel economy.

Maintain correct tyre pressures:

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

(Refer tyre maintenance section)

Proper Driving Practices :

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

NOTICE

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 :

Always adhere to following fuel economy speeds.

Gear	Speed (kmph)
1st	10
2nd	20 - 30
3rd	30 - 50
4th	50 - 70

FUEL CUT-IN/CUT-OFF STRATEGY:

The ECU has been programmed to limit the following speed of the vehicle.

Gear	Speed limit in Petrol Mode (kmph)	Speed limit in CNG Mode (kmph)	
		Petrol Above low level	Petrol Below low level
1st	35	35	30
2nd	60	60	55
3rd	90	90	75
4th	105	105	105

As a good driving practice, always shift to a higher gear before reaching the speed limit specified for that gear. In case the gear is not shifted and you continue to drive in the same gear beyond the specified speed, the ECU will activate the fuel cut-off strategy and restrict vehicle speed to the specified limit. This is to ensure optimum fuel efficiency and prolonged engine life.

Starting the Engine

Before starting

1. Apply parking brake.
2. Ensure gear lever in neutral.
- A. Insert the key in steering cum ignition lock and turn it to 'ON' position.
- B. Press the clutch pedal fully.
- C. Now crank the engine.
- D. If the engine does not start turn the key to off position and try after 2 mins.

NOTICE

After starting run the engine in idle speed for at least 30 seconds.

⚠ CAUTION

Running Engine under idle condition for long duration and also in high idle (fly-up rpm) should be avoided

Running-in Period

Avoid rapid acceleration and prolonged high speed running of the engine while using the new car for the first 1000 km of operation.

Do not exceed the following road speeds during running in period.

Gear	Km/ph
1 st	15
2 nd	25
3 rd	40
4 th	60

Stopping the Engine

Before switching off the engine, run the engine in idle condition for at least 30 seconds and then switch 'OFF'. Turn the ignition key to 'ACC' position to stop the engine.

Preparing for Drive :

- Release the parking brake.
- Check that an 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 indicators 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.

NOTICE

The engine being at the rear of the car, its sound characteristics are unique compared to the other vehicles.

Gear Shifting :

The gearshift pattern is shown on the gear shift lever knob. All forward gears being synchronized, provide 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.

NOTICE

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

Braking

The distance required to bring a car to a halt increase with the speed of the vehicle. The braking distance needed for vehicle at 60 kmph will be approximately 4 times greater than the braking distance needed at 30 kmph. Anticipate your stop, slowdown gradually and apply brake.

If water gets into the brake drums, brake performance may become poor and unpredictable. After driving through water or washing the underside of the vehicle, test the brake while driving at slow speed to see if they have maintained there normal effectiveness. If the brakes are less effective than normal, dry them by repeatedly applying the brake while driving slowly until the brakes have regained their normal effectiveness.

The non-booster type braking system may not be fitted in the Standard model, while the CX and LX models are provided with booster-assisted braking system. The booster and non-booster versions provide similar braking performance for the vehicle. However, the amount of braking effort required by the driver to activate the brakes would be lesser in the brake-booster models.

Parking

Park the car in a safe place.

Apply the parking brake.

Ensure that all window glasses are closed & all lamps are turned 'OFF'

At night, put on the parking lights if required.

⚠ WARNING

Do not leave the key inside the car.

Do not leave children unattended in the car.

Avoid parking the car over inflammable materials, such as dry leaves, grass etc., as the exhaust system is hot enough to initiate 'FIRE'.

NOTICE

When parking on a steep slope, do not rely on the parking brake alone to hold the vehicle. Leave the vehicle parked with gear box in low forward gear when facing uphill and reverse gear when facing downhill.

Driving Through Water :

Never venture to drive through water when it flows over the guard stones on a bridge.

Your car's engine may get seriously damaged if attempted to cross through deep water. If at all the situation demands that you have to drive through water then;

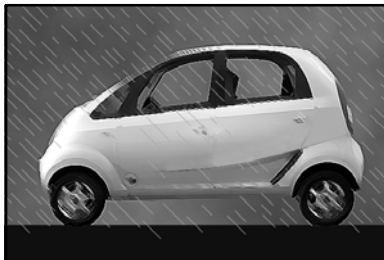
- Keep engine in fast idling and crawl the car in low gear.
- After driving through water, apply brakes several times to dry the liners and to regain original braking.

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

Tow the car to a safe place.

Take the car to nearest TATA authorised workshop to check entry of water in cylinders.

If water has entered the engine, or transaxle, the lubricants will have to be replaced. Get the starter and alternator checked.

Driving on a Rainy Day :

Check brakes, steering, windows, tyres for wear and tyre pressure. Check wiper blades for proper functioning. Avoid harsh braking and sharp turns. It may cause loss of control and lead to a skid. For slowing down, shift to lower gears and brake gently. Keep lights ON if visibility is poor.

Night Driving :

Dip the head lamp for oncoming traffic during night driving.

Maintain a speed such that you can stop within illuminated distance of head lamps.

Use head lamp main/dip beam to alert other road users on turns/cross roads etc.

Use side indicators for lane change or turning.

Switch on hazard warning switch in case of hazardous parking or if your vehicle is disabled to warn the passing traffic.

Climbing Sharp Gradients on Loose Surfaces :



Start off smoothly in any suitable gear. Apply power smoothly so that there is no loss of traction by over-revving of the engine.

Choose as smooth a slope as possible and select the appropriate gear so that gear changing in the middle of the climb is not required.

Changing gears in the middle of the climb can cause loss of momentum and engine stalling. Shifting to lower gear has to be done cautiously to avoid loss of traction.

Under no conditions should the vehicle be moved diagonally across a hill. The danger is in loss of traction and sideways slippage, possibly resulting in toppling over. If unavoidable, choose as mild an angle as possible and keep the vehicle moving.

If the wheels start to slip within few feet of the end of the climb, motion can be maintained by swinging the steered wheels left and right, thereby providing increased grip.

If the vehicle stalls or losses headway while climbing a steep hill, make a quick shift to reverse and allow the vehicle to move back with the control of engine compression.

Descending Sharp Gradients :



Depending on the severity of the gradient, shift into appropriate gear. Use engine braking judiciously without over-revving the engine.

Brake application under such situations should be done very smoothly to avoid loss of control. Select appropriate gear so that gear changing or clutch disengagement is not involved while descending the gradient.

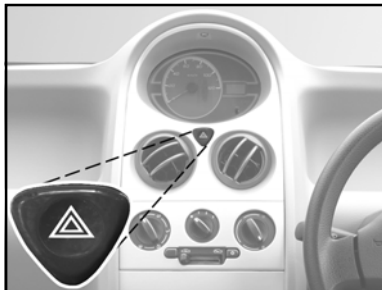
Advance Warning Triangle :



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

1. Remove advance warning triangle from it's cover and assemble.
2. Place the triangle on the road behind the vehicle where it is stranded.
3. The triangle must be at least 50 meters behind the vehicle in the same lane of traffic.
4. Increase the distance to 150 meters on a highway or if a bad/hill top obscures the view.

Hazard Warning Switch :



Use Hazard Warning lights besides advance warning triangle in case of breakdown specially during night time and vehicle has to be parked at the side of the road or vehicle is being operated in adverse condition.

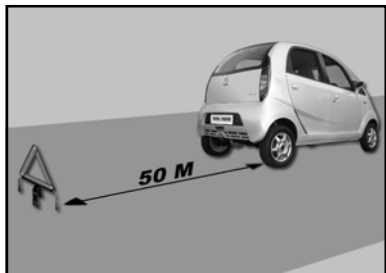
This can be operated without ignition 'ON'. Push the hazard warning switch (red knob) on the fascia (below instrument cluster) all side indicator lights will flash simultaneously to warn the other road users about any hazardous condition of the vehicle. Push the knob again to switch 'OFF' the hazard function.

⚠ CAUTION

If the turn signal indicators do not blink, then there may be problem in electrical system. If the indicators "Blink rapidly", then this indicates that a side indicator bulb has failed. Get it rectified immediately.

IF YOU HAVE A FLAT TYRE:

1. Reduce vehicle speed gradually keeping it in a straight line. Move cautiously off the road to safe place away from traffic.
2. Park the vehicle on a level and firm ground.
3. Apply parking brake and engage 1st or Reverse gear. Stop the Engine and turn on Hazard warning switch.
4. Ensure that all occupants are out of the vehicle on the side away from traffic.
5. Keep advance-warning triangle at least 50 meters behind the vehicle as an indication of breakdown.



6. Take out the Wheel spanner and jack located behind LH side of rear seat.

NOTICE

Do not continue driving with deflated tyre. Driving even the short distance can damage a tyre and wheel beyond repair.

Important information about Tyre sizes of your Car

To achieve the optimum vehicle performance, your vehicle is fitted with differential tyre.

Please note the tyre sizes:

Front : 135/70 R12

Rear : 155/65 R12

Spare : 135/70 R12

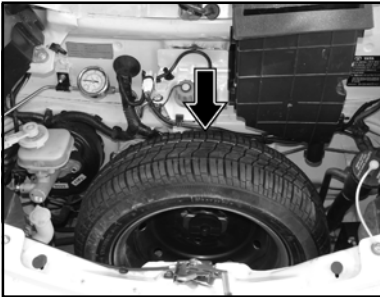
Incase of flat tyre at rear following instructions and cautions must be observed and strictly followed:

1. It is recommended to drive vehicle with spare tyre in speed limit of 40 to 60 km/hr.
2. Drive cautiously while running on spare wheel especially on sharp turn on ghat.
3. It is recommended to replace the spare tyre with standard tyre immediately at nearest service station.

CAUTION

Get the punctured tyre repaired and replace at the nearest service station.

Location and Removal of Spare wheel:

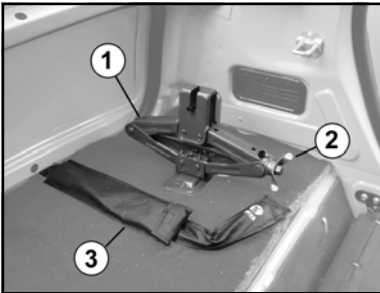


Spare Wheel Location

Spare wheel is mounted on front firewall inside the Front hood.

Open the hood (refer fuel filling section) and rotate the wheel mounting screw by hand in anticlockwise direction and remove the spare wheel.

LOCATION OF JACK & TOOLS



1. Jack 2.Wing Nut 3.Tools

Jack is located on Engine cover behind rear seat.

NOTICE

For accessing the jack, tools, warning triangle and first aid kit the rear seat backrest should be

folded. For the rear seat folding procedure, refer page no. 54.

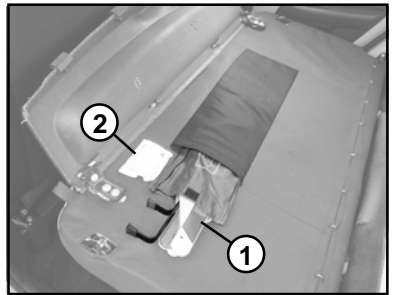
REMOVAL OF JACK

To remove jack rotate the wing bolt in anticlock wise direction to lower down. Take out the jack from it's mounting hook / bracket.

REFITMENT OF JACK

While re-fitting, first engage the jack to mounting hook, position it properly and rotate the wing bolt in clockwise direction to raise the jack till it fits securely / properly.

Advance Warning Triangle & First Aid Kit :



**1. Advance Warning Triangle
2. First Aid kit**

Advance warning triangle and First aid kit is located behind rear seat back rest below parcel shelf in a bag. Unlock the rear seat backrest and remove it when required.

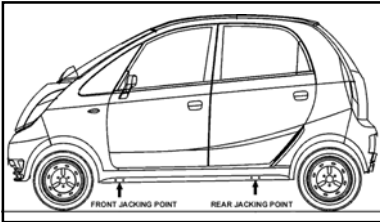
Changing the flat tyre

Block the wheel which is diagonally opposite to the flat tyre.

Take out wheel cover (If fitted) and loosen the wheel mounting bolts of

flat tyre. (Do not remove the flat tyre at this stage).

Engage the jack properly at correct jacking point (In between dimple marks provided at front & rear sides). Rotate the jack screw in clockwise direction using wheel spanner to lift the vehicle till flat tyre is free from ground.



Jacking Points



Front Jacking Point



Rear Jacking Point

Remove wheel-mounting bolts and take out flat tyre and cover (if fitted).

Roll the spare wheel into position and align the holes in the wheel with tapered bolts and tighten them as much as you can by hand.

Lower the jack completely then tighten the wheel bolts one by one using wheel spanner. Fit the wheel cover back (if fitted).

Restore all the tools and jack at it's location.

Place the flat tyre at spare wheel location as described and tighten properly.

⚠ CAUTION

Follow the jacking instructions.

Make sure to set the jack properly in the jack point. Raising the vehicle with improperly positioned will damaged the vehicle or may cause the personal injury.

Do not carry any other work or never get under the vehicle supported by jack.

Do not start or run the vehicle while supported by jack.

Block the wheel diagonally opposite to flat tyre being changed, if necessary.

Do not lift the vehicle with some one inside.

Raise the vehicle only high enough to remove and change the flat tyre.

Starting the Engine with Jump Leads :

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

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 vehicle.

⚠ CAUTION

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 rated voltage as the battery in your vehicle (12 V). Its capacity must be approximately the same as the original battery capacity. The rated voltage and capacity are given on the batteries.
- Do not disconnect the discharged battery from the vehicle.

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

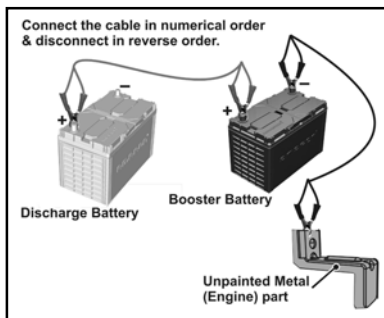
Attempts to start the engine of the vehicle with the discharged battery should be made at intervals of one minute and should not last more than 15 seconds. After starting, allow both engines to idle for approximately 3 minutes with the leads still connected.

Following order should be followed while connecting battery leads :

1. Positive (+) of Good battery to Positive (+) of discharged battery.
2. Negative (-) of Good battery to - a solid metal patch attached to engine block OR unpainted metal (Engine) part which is away from the discharged battery.
3. Crank and start the engine.
4. While disconnecting follow reverse order i.e. disconnect Negative (-) lead followed by Positive (+) lead.

Towing the Vehicle :

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



Connect Leads In The Order As Shown In Sketch.

NOTICE

Do not connect negative (-) terminal if jump start battery (Good battery) to the negative (-) terminal of discharged battery. This may lead to an explosion.

Securing the towing hook:**At Front :**

- Provision for fitment of towing hook is provided on front bumper as indicated.

*Tow Hook Location at Front***Towing Hook fitment :**

- Take the towing hook and the wheel spanner from the vehicle tool kit
- Screw in the towing hook clockwise to the stop.
- Insert the wheel spanner into the towing hook and tighten.

Removing the towing hook :

- Take the wheel spanner from the vehicle tool kit
- Insert the wheel spanner into the towing hook and turn the spanner anticlockwise.
- Unscrew the towing hook.
- Replace the cover and let it lock into place.

- Place the towing hook and wheel spanner back in the vehicle tool kit.

Transporting the vehicle :

The towing hooks can be used to pull the vehicle onto a trailer or transporter for transporting purposes.

To secure, only lash the vehicle down by the wheels or tyres. Your vehicle could otherwise be damaged,

This manual will help you to understand your vehicle. Inspection, maintenance of the vehicle should be entrusted to the professionals only.

Please be careful while personally inspecting / maintaining the vehicle as it may cause damage to the vehicle or may cause injury.

The ignition and fuel systems are highly important in view of emission control and for efficient engine operation. Similarly the brake system for safety. Do not tamper with them.

All inspections and adjustments must be made by a qualified technician. We strongly recommend that all servicing related to these systems be done by an Tata Authorised Dealer / TASC.

MAINTENANCE BY OWNER :

Routine Service

We highly recommend that these items be inspected at least every week.

Engine Oil Level, Engine coolant Level, Brake Fluid Level, Windshield Washer Fluid Level, Battery, Tyre inflation pressure, Radiator fins blockage (specially in rainy season).

Do it Yourself Service

Improper or incomplete service may result in problems.

Several maintenance procedures can be done only by a qualified service technician with special tools. Improper do it ourself maintenance during the warranty period may affect warranty coverage. If you're unsure about any servicing or maintenance procedure, have it done by an TATA Authorized Dealer / TASC.

⚠ WARNING

Maintenance procedures:

Performing maintenance work on a vehicle can be dangerous. You can be seriously injured while performing some maintenance procedures. If you lack sufficient knowledge and experience or the proper tools and equipment to do the work, have it done by qualified technician.

PRELIMINARY TROUBLE SHOOTING

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

SR NO	PROBLEM OBSERVED	PROBLEM CAUSE	ACTION TO BE TAKEN
ENGINE			
1.	Engine not cranking	Dead battery, loose or improper battery/ electrical connections	Get battery checked and/ or changed.
			Jump start using another battery
			Tighten connections properly.
		Check spark plug, clean & replace if necessary	
		Receptacle cap (fuel filler valve cap) kept open.	Cap should be tightened properly with ensuring alignment on receptacle.
2.	Engine cranks but does not start - Petrol Mode	Air in the fuel system	Get it rectified Check leakages & correct
		Fuel pump /EMS fuse blown	Replace the fuse.
		No Fuel	Get the fuel filled
		Fuel filter choked	Get the fuel filter replaced
	Engine cranks but does not start - CNG Mode	No CNG	Refill CNG
		CNG filter / fuel lines Choked	Get CNG filter replaced at TATA authorised service centre
		Safety solenoid not operating	Contact TATA authorised service centre
		Error logged in ECU operating	Contact TATA authorised service centre
3.	MIL / SIL are ON / blinking continuous, even after start.	Some faults are detected by ECU	Get the vehicle checked and rectified at TATA authorised service centre.
4.	Charging indicator continuously remains ON	Battery not getting charged due to belt loose	Get the belt tension adjusted. Replace if broken
		Alternator terminal loose	Tighten the charging terminal
		Alternator not working	Get it rectified / Replace
5.	Engine overheats	Brakes binding	Get defect rectified.
		Electric fan not working	Get defect rectified.
		Radiator fins clogged	Clean it.
		Thermostat defective	Get it rectified.
		Coolant level low	Top up
6.	Poor pick up	Accelerator cable loose	Get it adjusted correctly

PRELIMINARY TROUBLE SHOOTING

SR NO	PROBLEM OBSERVED	PROBLEM CAUSE	ACTION TO BE TAKEN
ENGINE (Contd)			
		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
7.	Does not accelerate	Accelerator cable broken	Get cable replaced
		Fuel filter choked	Replace
8.	Belt squeal	Loose belt	Get belt tension adjusted
		Belt glazed	Get belt replaced
9.	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 authorized service outlet & get the fault rectified
CLUTCH			
1.	Clutch slipping	Improper pedal travel	Adjust pedal travel
		Rusted clutch cable	Replace cable
		Oil on clutch disc	Clean or replace disc at Authorized Service outlet
2.	Noisy clutch	Pressure plate & diaphragm spring rattling	Get car attended by authorized Service outlet
TRANSAXLE			
1.	Hard shifting	Inadequate lubricant	Replenish
		Inadequate clutch pedal travel	Adjust
		Distorted or broken clutch disc	Replace
		Damaged clutch pressure plate	Replace clutch cover/ disc
2.	Noise	Inadequate or insufficient lubricant	Replenish
		Damaged or worn bearing(s)	Replace
BRAKES			
1.	Poor brakes	Insufficient brake fluid	Get the brake fluid filled.
		Air in the system	Get the air removed by bleeding.
		Pedal travel excessive due to excessive shoe gap	Rectify automatic adjuster.
		Vacuum leakage	Rectify the leakage.

PRELIMINARY TROUBLE SHOOTING

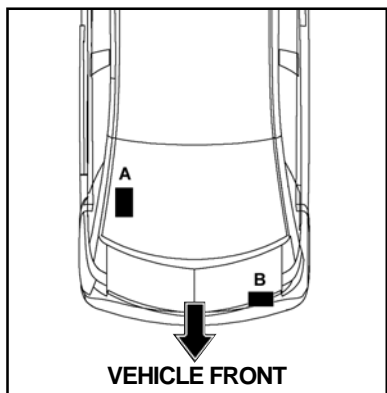
SR NO	PROBLEM OBSERVED	PROBLEM CAUSE	ACTION TO BE TAKEN
BRAKES (contd)			
		(for booster vehicle)	
		Brake oil (line) leaking	Replace the leaking line.
		Oil on the brake drum/ liners seals if leaking.	Get the liners cleaned/ replace.
		Worn brake lining	Get the liners replaced.
2.	Brake pulling to one side	Oil on the brake lining	Clean the brake lining.
		One side shoe/ pad worn on both wheels.	Get the shoe/ pad replaced
		Loose brake anchor plate	Tighten the bolts.
		One side brake pipe clogged	Get the brake line cleaned.
		One side automatic adjuster not functioning	Rectify or replace automatic adjuster.
3.	Brake squeal	Defective brake lining	Replace.
		Glazed lining	Clean or replace lining.
STEERING SYSTEM			
1.	Hard steering (Mech)	Wheel alignment disturbed	Check & adjust
		Rack & pinion need adjustment	Check & replace if necessary
		Low tyre pressure	Adjust correct value
		Grabbing of linkages	Check & rectify
2.	Poor Return ability	Grabbing of linkages	Check & rectify
		Steering gear disturbed	Check & adjust
3.	Excessive play on steering	Rack & pinion attachment loose	Get it tightened
WIPER			
1.	Narrow streaks are left on the wind shield making it hard to see.	Foreign matter has attached to the blade	Clean the edge of the blade, if streaks still appear replace the blade edge of the blade is worn out.
2.	The wiper leaves large	Rubber deformed un-wiped spots.	Replace the blade
ELECTRICAL			
1.	Battery charge & engine oil pressure lamp in cluster not operating when key in 'IGN' position	Battery terminal loose or disconnected	Check connections.
		Battery completely dead	Get the battery charged.
		LED fused in cluster	Get the cluster checked / Replaced.
		Fuse blown for cluster	Replace the fuse.
		Loose / open connections	Get the battery properly connected.

PRELIMINARY TROUBLE SHOOTING

SR NO	PROBLEM OBSERVED	PROBLEM CAUSE	ACTION TO BE TAKEN
2.	Non functioning Elect. accessories such as power windows, head lamps, fuel & temp. gauge, RPM meter, wiper and washer unit & 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.
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.
		Wobbly wheel or tyre	Replace wheel or tyre.
		Defective tyre	Replace tyre.
		Hub play not proper	Replace bearing.
		Brake grabbing	Check & rectify.
2	Abnormal noise from front end	Excessive braking	Modify driving habit.
		Damaged struts or mounting	Repair mounting or repair strut
		Worn suspension arm bushings	Replace
		Loose wheel bolts	Tighten wheel bolts
		Loose suspension bolts or nuts	Tighten suspension bolts or nuts
3.	Ride too soft/ bumpy	Excessive hub play	Replace bearing.
		Faulty struts	Replace struts
4.	Suspension bottoms	Over loaded	Check loading
		Faulty struts	Replace struts
AC / HVAC			
1	Blower motor does not operate	Blown Fuse	Replace Fuse and correct any disconnection in wiring
		Faulty connection	Secure all connections properly.
		Faulty motor	Replace motor if no conductance
		Faulty or poor connection at	Replace resistor block if found defective
		Faulty fan switch	Replace Switch
2	Motor operates but air flow is minimum	Obstruction in the evaporator inlet	Clean Evaporator
		Air Leak	Seal correctly.
3	Insufficient Heating	Air Leak	Seal correctly.
		Kinematic linkage damaged	Get the defect rectified at nearest authorized service center

Fuses and Relays :

Your car's electrical circuits have fuses to protect the wiring from short circuits or sustained overload. These are located below dash board on right hand side as shown in the sketch.

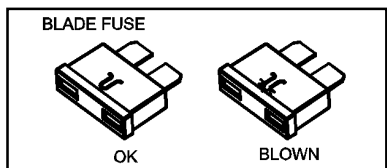


A. FUSE & RELAY BOX
B. BATTERY MOUNTED FUSE BOX

The circuit is connected through fuses and relays and the current rating of each fuse is printed on the fuse box sticker on sunvisor.

INCASE OF BLOWN FUSE

Your car's CNG system is protected against short circuit / overload by following fuses fitted in the fuse box. (Refer the fuse box details given in the table to replace a blown fuse).



Sr. No.	Fuse	Rating	Location
1	EMS main relay Fuse	15A	Main fuse box
2	EMS ECU IGN	5A	
3	Ignition Feed	15A	
4	FL - 01	40A	
5	FL - 03	60A	
6	Fuse in MTA Fuse Box	100A	Battery mounted fuse box

If any fuse out of these blows off, the vehicle will shut off and will not start again until the blown fuse is replaced by a correct amperage fuse.

Replacement of blown fuse:

- Open fuse box cover.
- Identify blown fuse from its melted wire.
- Remove the blown fuse and replace with one of similar amperage. Take your car to a TATA Authorized service centre to find out the reason for the fuse to blow & repair the problem. When the fuse blows OFF, the following may occur:

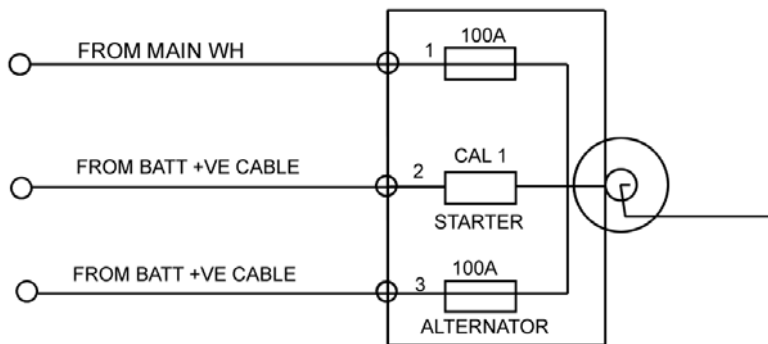
⚠ WARNING

Always replace blown fuse with a fuse of correct amperage. Never use a substitute like aluminum coil or wire to replace a blown fuse. When you replace a fuse and the new fuse also blows OFF instantly, have the car inspected at a TATA authorized service centre

CABIN FUSE BOX

RH FPW - DOWN (C/O RELAY)		CONDENSOR FAN RELAY (N/O RELAY)		SPARE		SPARE		SPARE									
LHFPW-UP (C/O RELAY)		ACC RELAY (C/O RELAY)		SPARE		SPARE		SPARE									
LHFPW-DOWN (C/O RELAY)		RH FPW - UP (C/O RELAY)		STARTER PROTECTION RELAY (N/C RELAY)		IGNITION (N/O RELAY)		RADIATOR FAN RELAY (N/O RELAY)									
FLASHER UNIT		COMPRESSOR RELAY (N/O RELAY)		FUEL PUMP RELAY (N/O RELAY)		MAIN RELAY (N/O RELAY)		FL-04 (40A)									
								FL-03 (60A)									
								FL-02 (60A)									
5A SPARE		10A SPARE		5A CRANK UP		10A STOP/BRAKE LIGHT		5A ALARM KLE (IGN)		5A IGN (LOW)		10A REVERSE VSS/RPA		5A EMS ECU (IGN)			
15A SPARE		20A SPARE		10A HORN		10A CONDENSOR FAN		20A RADIATOR FAN		5A OBD (BATT)		20A BLOWER HVAC		10A COMPRESSOR CLUTCH		15A EMS MAIN RELAY	
25A SPARE		10A HORN		25A COMBI SW HL, TURN		20A WIPER / WASHER MOTOR		10A PARK LAMP SW		10A AUDIO SYSTEM (BATT)		5A ROOF LAMP		20A HL FLASH/HAZARD		15A FRONT / REAR FOOT	
5A ILLUMINATION		5A PARK - RH		5A PARK - LH		10A HL DIP RH		10A HL DIP LH		10A HL HIGH RH		10A HL HIGH LH		25A WW-LHS		25A WW-RHS	

BATTERY MOUNTED FUSE BOX DETAILS

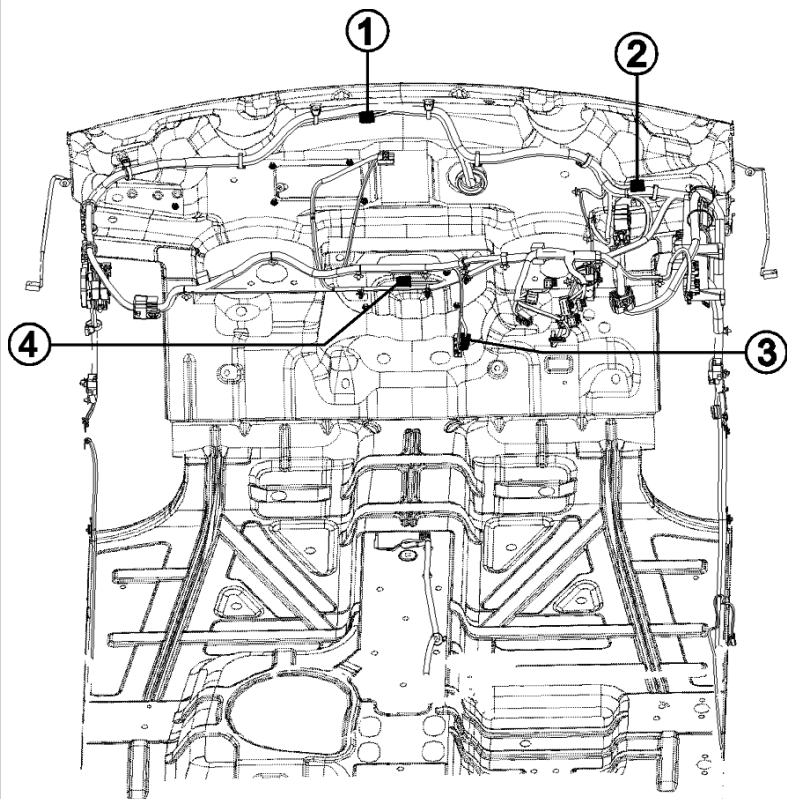


Note : Replacement of battery mounted fuse box should be done only at TATA authorised service centre

BULB SPECIFICATION

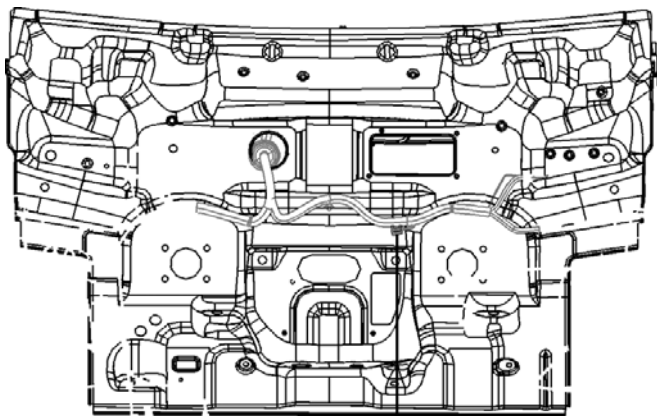
DESCRIPTION	LOCATION	CAP TYPE	SPECIFICATION	QTY
Head lamp-Halogen H4	Head lamp	P43t - 38	H4 12V,60/55 W	2
Parking Lamp	Front	W5W	12V, 5W	2
Front Fog Lamp	Front	PK22s	12V, 55W	2
Side Repeater Indicator	Side	W5W	12V, 5W	2
Rear Direction Indicator	Tail Lamp	BAU15s	12V,21W	2
Rear Stop+ Parking Lamp	Tail Lamp	BA15d	12V, 21/5W	2
Reverse Lamp	Tail Lamp	BA15s	12V,21W	2
Registration Plate Lamp	Rear	W5W	12V, 5W	2
High Mounted Stop Lamp	Rear Windscreen	2.1 X 9.5d	12V, 16W	1
Front Direction Indicator	Front Headlamp	BA15s	12V, 21W	2

ACCESSORY CONNECTOR LOCATIONS / PROVISION ON CAR



1. Connector for Fog lamp provision
2. Connector for Keyless Entry / Alarm
3. Connector for Music System
4. Connector for Music System

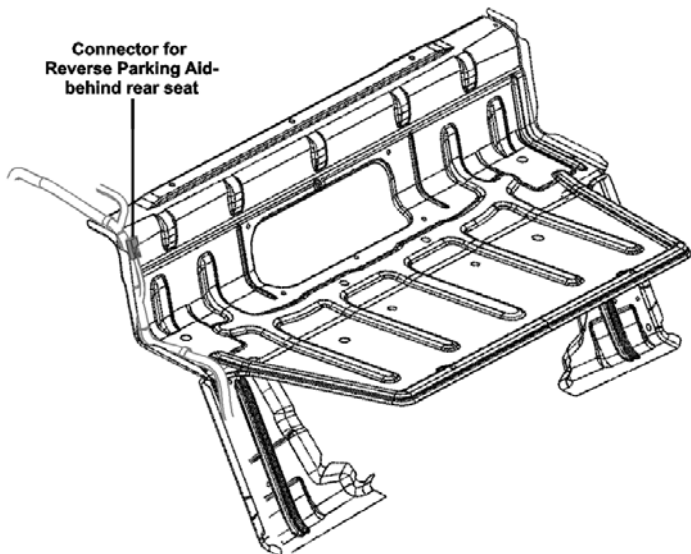
* Above accessory connectors are applicable based on the versions



Keyless entry / Alarm continued
(Bonnet switch connecto)

ACCESSORY CONNECTOR LOCATIONS / PROVISION ON CAR

Connector for
Reverse Parking Aid-
behind rear seat



CAR CARE :

Your 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 to be used.

⚠ WARNING

Do not direct high pressure washer fluid/ water jets (Pressure above 0.5 Bar) at electrical devices and connector during washing. This is to prevent malfunction / failure of electrical system due to water ingress.

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.

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. Apply it with a sponge or soft brush. Keep the carpeting as dry as possible by not adding water to the foam.

NOTICE

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

Cleaning of Windows, Front and Rear Glasses :

RFID TAG is pasted on front windshield from inside. It enables Electronic toll collection.



DO NOT TRY TO PEEL OFF RFID TAG

TML PART NO. 2816 5420 99 05
VENUS WINDSHIELD MOUNT AVI TAG

NOTICE

Do not attempt to rip or tamper the tag. It will disable the functionality of the tag.

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.

Non use maintenance :

Park the Car in covered, dry and if possible well-ventilated premises. Engage a gear.

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

Make sure the hand brake 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 lift them off the glass.

Slightly open the windows.

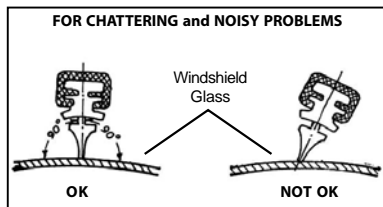
Cover the Car with a cloth or perforated plastic sheet. Do not use sheets of imperforated plastic as they do not allow moisture on the Car body to evaporate.

Inflate the tyres to 0.5 kg/cm² 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° i.e. perpendicular.

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

FOLLOWING GUIDELINES WILL HELP YOU TO PROTECT YOUR CAR FROM CORROSION EFFECTIVELY.

PROPER CLEANING :

In order to protect your car from corrosion it is recommended that you wash your car 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 and 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 car, the following precautions need to be taken.

PERIODIC INSPECTION :

1. Regularly inspect your car for any damage in the paint film such as deep scratches and immediately get them repaired from an authorised service outlet, 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 car 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 car.

WASHING YOUR CAR :

HAND WASH :

1. Always wash your car in shade and 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. Dry wiping your car may lead to the formation of scratches and hence always use a soft cloth and clean water while wiping your car.
3. To avoid scratches, please wear soft gloves . Remove finger rings, wrist watch while washing.
4. To remove stubborn stains and contaminants like tar, use turpentine or cleaners like 'Stain remover' which are safe for paint surfaces.
5. Avoid substances like petrol, diesel, kerosene, benzene or other solvents that cause damage to paint.
6. Dry your car thoroughly to prevent any damp spots.

NOTICE

Do not direct high pressure washer fluid/ water jets at electrical devices and their connectors during washing. This is to prevent malfunction / failure of electrical system due to water ingress.

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 car.
2. Re-wax your car when the water does not slip off the surface and collects over the surface in patches.

Further tips for the care of your new car finish :

If your car is washed in an automatic car wash, please remember that the paint can be scratched by type of brushes, unfiltered washing water or the washing process itself. Scratching reduces paint durability and gloss, especially on darker colours. It is suggested to wash the car 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 keep your car parked in a well ventilated shade. Exposure to heat with entrapped moisture promotes corrosion.
2. 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 and clean them.

3. External contamination in the form of sap or industrial fall-out may mar or develop spots on a new finish. Hence avoid parking your car near trees, which are known to drop sap, or near factories, which give out heavy smoke.
4. The acid content in bird droppings may damage the newly painted finish and hence any bird dropping must be immediately washed off.
5. 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 as far as possible, however if wiping is required, ensure that you wipe the area gently with soft cotton cloth.
6. Avoid using sharp objects to scrap off tar or mud from a painted surface as it may develop scratches or may develop scratches or damage the paint finish.

Various Environmental Hazards affecting paints :

- Environmental hazards destroy your car's finish.

The enemy :

Ultraviolet Rays, Pollution, Tree Sap, Bird Droppings, Car Wash Chemicals, Road Salt, Acid Rain.

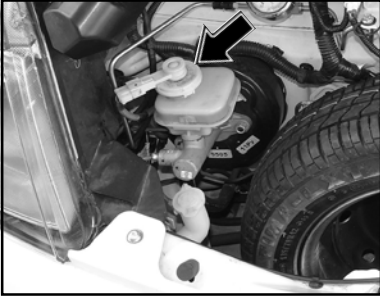
Benefits of Car Exterior Enrichment :

- Removal of medium scratches, orange peel, oxidation , dust nibs etc and swirl marks from painted surface.
- Restoration of original gloss levels UV protection after gloss is restored.
- Cleaning and dressing of tyres, Bumpers and all exterior plastic moldings/trims.

TATA MOTORS has tied up with **M/s Opulent (Waxoyl brand)** and **M/s 3M** for this world class treatment at affordable prices. This treatment is available in all authorized workshops. The Dealer Service Marketing Executive will explain to you the benefits and terms and conditions of this treatment.

Open the front hood for Checking / Topping up brake fluid & windshield washer fluid, (Refer page no. 37 for opening & closing of front hood.)

BRAKE FLUID LEVEL :



Brake fluid reservoir

The level of the brake fluid must be between the min. and 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 and lubricants)

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

⚠ CAUTION

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.

WINDSHIELD WASHER :



Windshield washer reservoir

Windshield washer fluid container is located inside hood. Check the washer fluid level and top up with recommended windshield washer fluid as required.

NOTICE

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

Open the rear engine inspection compartment cover / lid for Checking / Topping up engine oil, coolant level & Air filter element cleaning.

OPENING ENGINE COMPARTMENT COVER :

For opening engine compartment cover -



a) Fold the rear seat back rest

For folding the rear seat back rest:

- 1) Pull the strap provided on seat back rest top LH side to unlock the seat back rest .
- 2) Fold the seat back rest, once it is unlocked.

b) Removal of engine compartment cover

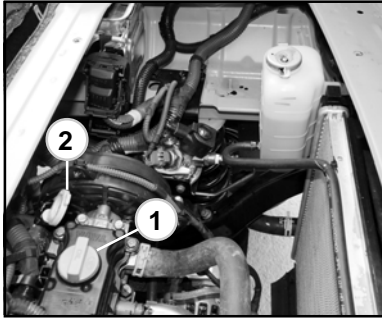
- 1) Engine compartment cover is mounted behind rear seat back rest.
- 2) Remove the jack and tool bag.
- 3) Remove the mat fitted over the cover
- 4) Remove the mounting wing bolt and take out engine compartment cover.

REFITTING OF ENGINE COMPARTMENT COVER



- 1) Place the cover & tighten the wing bolts.
- 2) Place the mat over the covers.
- 3) Fix the jack and place tool bag.
- 4) Tighten the cover with the help of wing nuts.
- 5) Lock the rear seat back rest.

For locking the rear seat back rest, lift the seat back rest and press it to engage in the lock:

ENGINE OIL LEVEL

1. Engine Filling Cap 2. Dip Stick

Engine oil level should be checked when engine is cold. Allow at least 30 mins. for engine oil to settle before checking oil level.

1. For checking engine oil level, pull out the dipstick from the engine oil case, wipe it clean with a 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. If the oil level is below the mid point of min. and max. marks, top up using recommended grade of oil.

NOTICE

Oil level should not exceed the max. Mark. Always check the oil level when the car is on a level ground and the engine in cold condition.

Check the engine oil level if "low oil pressure" warning comes 'ON' while driving. Failure to check the

oil level regularly could lead to serious trouble due to insufficient oil.

ENGINE OIL TOP-UP

Remove the oil filler cap and pour oil slowly through the filler hole to bring the oil level to the upper limit on the dipstick. Be careful not to overfill. Too much oil is almost as bad as too little oil. After refilling, start the engine and allow it to idle for about a minute. Stop the engine; let the oil settle and check oil level again.

ENGINE COOLANT LEVEL

The coolant level in the coolant no-loss tank should be between max. & min. marks. This can be viewed through a translucent reservoir. If less, add coolant up to the max. mark and refit the cap properly.

NOTICE

Check coolant level in the radiator, by opening the pressure cap (ensure vehicle is in cold condition). If coolant level is seen below filler neck top, then add specified pre-mixed coolant (50:50).

Check coolant level in 'No-Loss (Reservoir) tank, if lower than the MAX level, then add specific premixed coolant (50:50) upto refill level.

NOTICE

Check radiator fins for dirt/dust accumulation. Get it cleaned from authorised Tata Service Dealer if required.

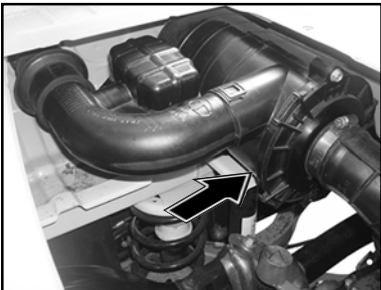
NOTICE

If 'No loss' tank is found completely empty, top up coolant through radiator as well as auxiliary tank cap.

⚠ CAUTION

Never remove the filler cap when the engine is hot. Use only branded premixed ready to use coolant. In case of emergency use normal water only. When a proper coolant mixture is available, the entire system should be flushed & filled with the same at the earliest.

AIR FILTER :



The air filter element should be periodically cleaned.

Always use a genuine air filter element.

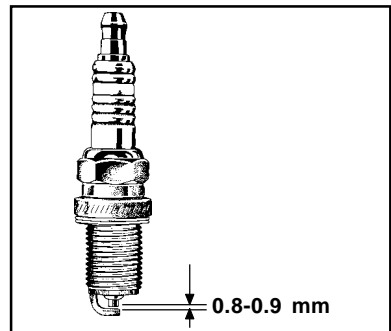
The air filter is located on the LH side of the engine compartment.

- a) When a vehicle is driven under dusty conditions, frequent cleaning and replacement of the air-cleaner element is necessary.
- 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.

SPARK PLUG :

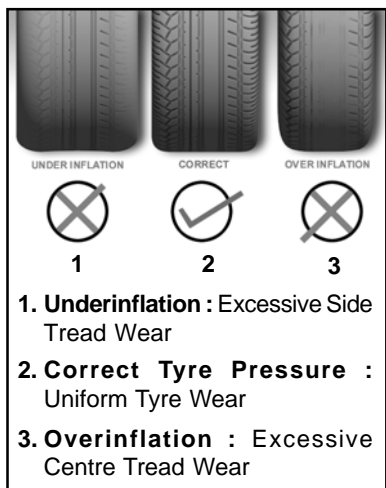
Make : Champion RC8YC
Champion RC 10 YC

Electrode Gap : 0.8 to 0.9 mm



Tyres

Check for inflation and condition of your car tyres periodically.



Inflation :

Check the pressure in the tyres when they are cold.

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 comfort, handling, tyre life and better fuel efficiency.

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.

⚠ CAUTION

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

Recommended Tyre Pressures

Tyres size :	
Front	135/70R12
Rear	155/65R12
Spare	135/70R12
Tyre pressure :	
Front	26-28 psi / 1.8-1.9 kg/cm ²
Rear	28-30 psi / 1.9-2.0 kg/cm ²
Spare	28-30 psi / 1.9-2.0 kg/cm ²

NOTICE

Lower air pressure (Front - 26 & Rear - 28 psi) is recommended if you prefer riding comfort

⚠ CAUTION

Replace the tyre if you find either of these conditions.

- Bumps or bulges in the tread or the side of the tyre.
- 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.

Repairing a Tyre :

Mark the tyre position (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 if required.

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

NOTICE

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

Special care for tubeless tyres

1. While removing tyre from wheel rim and mounting it back on wheel rim, take precautions not to damage tyre bead. Use tyre removal and assembly machines. Damage or cut on tyre bead may cause gradual loss of air and deflation of tyre.
2. Do not scratch inside of tubeless tyre with metallic or sharp object. Tubeless tyres are coated with impermeable layer of rubber from inside which holds the air

inside the tyre. Removal of this layer due to scratching may cause gradual loss of air and deflation.

3. If wheel rim gets damaged in service, get the wheel rim repaired/replaced immediately. Running the vehicle with damaged rim may cause deflation of tyre and subsequent dislodging of tyre from rim.
4. Maintain recommended inflation pressure. Over-inflation, in particular, may cause puncture or bursting of tyre.

NOTICE

Life and wear pattern of tyres depends on various parameters like tyre pressure, wheel alignment, wheel balancing, tyre rotation, etc. It also largely depends on vehicle speed, load carried, usage, driving habits, road conditions, tyre quality, etc. In case fault is suspected to be due to poor quality of tyres, the same may be taken up with concerned tyre manufacturer.

Wheel alignment :

Incorrect wheel alignment causes excessive and uneven tyre wear. Check wheel alignment at specified intervals from our authorised dealers.

Wheel Balancing :

Wheels of your vehicle are balanced for better ride comfort and longer tyre life. Balancing needs to be done whenever tyre is removed from rim.

Wheel Alignment Data :**Front Wheel Alignment Values (Unladen Condition) :**

Camber Angle : 1.0° (+ve)

Castor Angle : 7.4°

Toe-In (Nominal / sum) : 12 mm

Wheel Lock Angle (Outer) : 37°

LH / RH Variation in Castor : $45'$

Rear Wheel Alignment Values (Unladen Condition) :

Camber Angle : 0.75° (+ve)

Toe-out : $9'$

CARE FOR 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 only unleaded regular grade petrol.

Use of any other petrol or adulterated fuel can increase the pollutants and may permanently damage the catalytic converter..

⚠ CAUTION

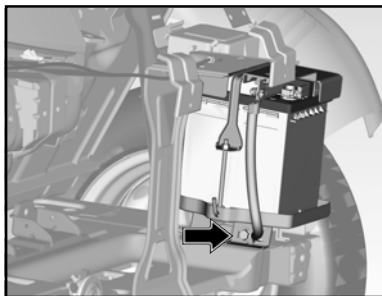
Avoid parking the vehicle over inflammable materials, such as dry leaves, grass etc., as the exhaust system is hot enough to initiate 'FIRE'

Battery :

Battery is located under front bonnet.



Battery location



Battery negative terminal (Above image is for reference only)

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

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.
3. When this stops wash it off with plain water. Dry off the battery with a cloth or paper towel.
4. 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. Ensure that battery is securely mounted, by it's top cover.

For changing the battery, take your vehicle to TATA Authorised Service Station.

NOTICE

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.

Always ensure to get the specific gravity of the battery checked as per the maintenance schedule.

PLEASE USE ONLY FOLLOWING GENUINE OILS, COOLANTS , LUBRICANTS , ANTI RUST & SOUND DEADENING COATS, WINDSCREEN SEALANT, BRANDED BY TATA MOTORS FOR OPTIMUM PERFORMANCE OF YOUR CAR...

ITEM	SPECIFICATION	COMPANY & BRAND	QTY
ENGINE OIL	Multigrade SAE 15W40 API SJ	CASTROL-Castrol GTX Compact 15W40 EXXON Mobil - Mobil Super 1000X2 15W40 HPCL 15W40 HP Cruise TGO	2.2 Ltrs
COOLANT (50:50)	50:50 ratio premixed Confirming to -JIS K 2234 Class	SCCI - Golden Cruiser Premium 1400 NA HPCL - Thanda Raja P TGO CASTROL - Radicool	2.4 Ltrs (W/O Heater) 4.0 Ltrs (With Heater)
TRANSAXLE	EP 80	CASTROL - Extreme Pressure 80 EP HPCL - Gear Oil EP 80 TGO	1.4 Ltrs
BRAKE FLUID	DOT- 4	HPCL - Super Duty Brake Fluid DOT - 4 CASTROL - Universal Brake Fluid DOT- 4 SCCI -Golden Cruiser TGBF DOT- 4	As required
ANTI RUST TREATMENT and SOUND DEADENING		DINITROL - Dinitrol WUERTH - Wuerth 3M - 3M	— — —
WIND SCREEN SEALANT		WUERTH - Wuerth 3M - 3M Car System - Car System	— — —

FUEL :

Vehicles with catalytic converter :

Unleaded regular grade petrol confirming to IS 2796/DIN 51607 (or equivalent) and octane rating not less than 91 RON for BS-III & BS-IV is recommended as fuel (RON stand for Research Octane Number).

CAUTION

Do not use leaded petrol in the car fitted with catalytic converter. Even single fill of leaded petrol will seriously damage the catalytic converter.

LUBRICANTS :

Engine Oil :

Recommended grade of engine oil confirming to Multigrade SAE 15W40 API-SJ 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° & above	Multigrade SAE 15W40 API - SJ

Transaxle :

Use recommended brand of EP 80 grade oil.

Grease for steering rack :

EP 2 Servo Gem.

Brake Fluid : IS 8654(2001)/ DOT- 4

COOLANTS :

Presence of dirt in coolant chokes up passages in radiator, cylinder head and crankcase, thereby causing overheating of engine.

To prevent rust formation and freezing of coolant inside the passages of radiator, crankcase and cylinder head use premixed coolant as recommended.

It is recommended that the entire cooling system should be drained and filled with fresh premixed coolant.

Engine coolant antifreeze coolant as per JIS K2234, Class 2.

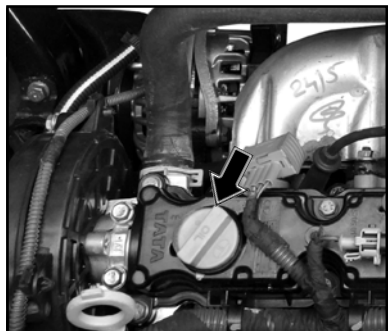
Windscreen Washer Antifrost

- Make - Antifrost- K
- Concentration - 1 : 5 For 0°C
- 1 : 1 For 10°C
- 2 : 5 For 16°C
- 1 : 0 For 37°C

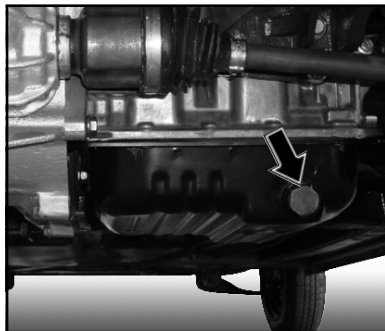
NOTICE

We strongly recommend to refill engine coolant only at a TATA Authorised service centre.

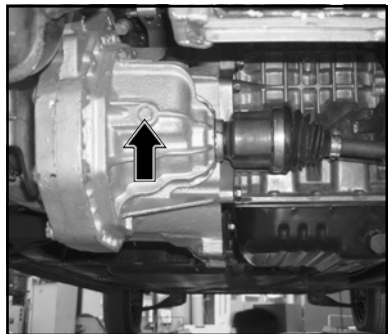
Engine Oil Filling Cap :



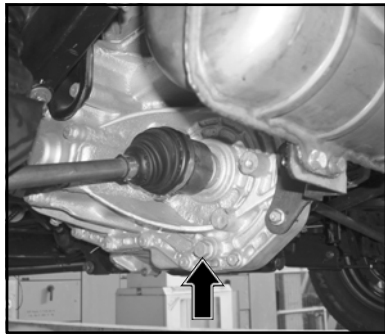
Engine Oil Drain Plug :



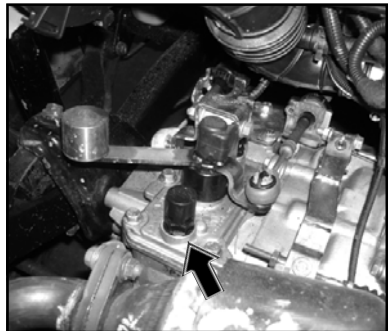
Transaxle Oil Level Plug :



Transaxle Oil Drain Plug :



Transaxle Oil Filling Plug :



1. ENGINE

Model	: TATA 273 MPFI Bi-fuel (Gasoline/CNG)
Type	: 4 Stroke, water cooled, multipoint fuel injection system, SOCH
No. of Cylinders	: 2, Inline
Bore / Stroke	: 73.5 mm x 73.5 mm.
Capacity	: 624 cc,
Max. Power	: 38 Ps @ 5500 rpm (GASOLINE) 33 Ps @ 5500 rpm (CNG)
Max. Torque	: 51Nm @ 4000 rpm (GASOLINE) 45 Nm @ 3500 rpm (CNG)
Firing Order	: 1-2
Engine Oil Capacity	: 2.2 Liters (Drain & Refill) / 2.5 Litres (Engine Overhaul)
Compression Raio	: 10.3 : 1

2. CLUTCH

Type	: Single plate dry friction diaphragm type Outside diameter of clutch lining : 160 mm
Friction Area	: 212 cm ²

3. TRANSAXLE

Type	: Synchronesh on all forward gears, sliding mesh for reverse gear.
No. of gears	: 4 forward & 1 reverse
Gear ratios	: 1st - 3.45 4th - 0.838 2nd - 1.94 REV. - 3.07 3rd - 1.26
Final drive ratio	: 4.5
Model	: TA 59 - 4/3.45 (4 Speed).

4. SUSPENSION

Front	: Independent, Lower wishbone, McPherson Strut type, with anti-roll bar. (For CX & LX versions)
Rear	: Independent, Semi-trailing arm with coil spring and hydraulic shock absorbers.

5. STEERING

Type	: Mechanical Rack & Pinion steering gear with steering column.
Steering Wheel	: 350 mm dia. (For STD) 360 mm dia. (For CX & LX)
Ratio	: 16 : 1

6. BRAKES

Type	: Dual circuit, Vertical split type split hydraulic brake.
Front Brakes	: 180 mm dia. drum brake
Rear Brakes	: 180 mm dia. drum brake
Parking Brakes	: Lever type, Cable operated mechanical linkages acting on rear wheels.

7. WHEELS AND TYRES

Tyres	: Front :135/70R12 (Radial Tubeless)
Rear	:155/65R12 (Radial Tubeless)
Spare	:135/70R12 (Radial Tubeless)
Wheel Rims	: 4B X 12
No. of Wheels	: Front - 2, Rear - 2, Spare Wheel - 1

8. FUEL TANK

Capacity	: 15 litres (Gasoline) 2 cylinders of 16 litres Total 32 Liters of water capacity (CNG)
----------	--

9. BODY

: Semi-mono Volume, Mini size, 4 door, steel monocoque body.

10 ELECTRICAL SYSTEMS

System Voltage	: 12 Volts -ve earth
Battery	: 12V, 27Ah
Alternator	: 12V, 70A

11. PERFORMANCE

Max. speed : 105 kmph
 Max. Gradiability @ rated GVW : 30%

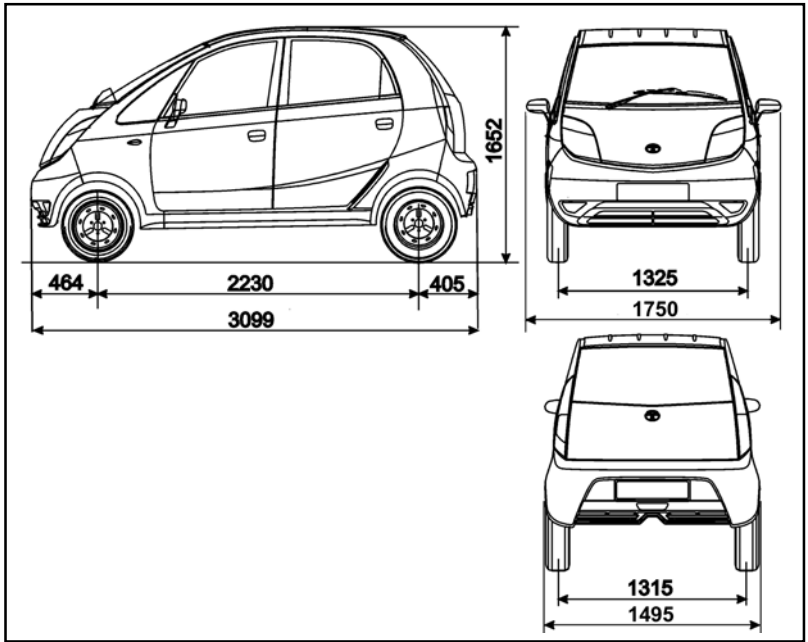
12. WEIGHTS (kg) (TOLERANCE AS PER EEC 92/21)

Complete vehicle kerb weight : 700 (STD)
 as per ISO:1176 (with spare wheel & tools) : 735 (CX)
 : 745 (LX)
 Gross Vehicle Weight : 1000 (STD)
 : 1035 (CX)
 : 1045 (LX)
 Payload : 300

13. PASSENGER CAPACITY : 2 front + 2 rear

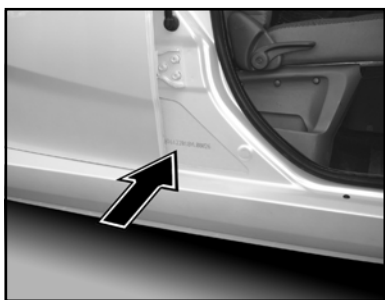
14. LUGGAGE SPACE

Net inside loading space : 0.15 Cubic Meter Upto rear seat back rest; 0.5 Cubic Meter Upto \ front seat back rest when rear seats folded.



MAIN CHASSIS DIMENSIONS (IN mm)

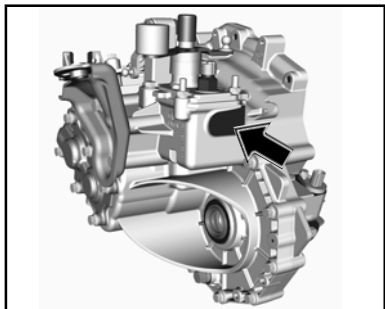
Wheel Base	: 2230
Track Front	: 1325
Track Rear	: 1315
Front Overhang	: 464
Rear Overhang	: 405
Overall Length	: 3099
Max. Width	: 1495 - Over body 1750 - Over ORVM
Overall Height (Unladen / laden)	: 1652 / 1613
Minimum Turning Circle Dia.	: 8.0 m
Minimum Turning Clearance Circle Dia.	: 8.3 m
Ground Clearance	: 180 - Unladen



Chassis Number Punching on
RH Front door 'B' Pillar



Chassis Number Plate mounted
on front cross member, below
bonnet



Transaxle Number Location



Engine Number Location

SERVICE MAINTENANCE SCHEDULE

	OPERATION	FREQUENCY (Km)	1000 - 1500	10000 - 10500	20000 - 20500	30000 - 30500	40000 - 40500	50000 - 50500	60000 - 60500	70000 - 70500	80000 - 80500	90000 - 95500	100000-100500
	GENERAL												
1	Wash the vehicle & clean condenser fins	Every Service	•	•									
2	Check & top up fluids (if required) : Engineoil, Coolant, Brake fluid, Wind screen washer fluid. Adjust wind screen washer nozzles if required.	Every Service	•	•	•	•	•	•	•	•	•	•	•
3	Check fuel lines & transaxle housing for leakages	10000		•	•	•	•	•	•	•	•	•	•
4	Check rubber boots & bushes for damage	20000			•		•		•		•		•
5	All standard checks as per job card (As applicable)	Every Service	•	•	•	•	•	•	•	•	•	•	•
	ENGINE												
1	Clean air filter element (More frequently for dusty operating condition)	10000		•	•	•	•	•	•	•	•	•	•
2	Replace air filter element (Dusty operating contion)	20000			•		•		•		•		•
	Replace air filter element (Normal operating contion)	30000			•				•			•	
3	Change engine oil and oil filter	10000 or 1 Year		•	•	•	•	•	•	•	•	•	•
4	Replace spark plugs	30000				•		•				•	
5	Check tappet clearance and adjust if necessary	80000									•		
6	Check timing belt and tensioner (Adjust if required)	40000					•				•		
7	Replace timing belt and tensioner	100000 or 2 Year											•
8	Check alternator and AC compressor drive belts (Adjust if required)	First 1000 and thereafter every 10000	•	•	•	•	•	•	•	•	•	•	•
9	Replace alternator belt	40000 or 2 Yrs				•					•		
10	Replace AC Compressor belt	100000											•
11	Check & tighten exhaust & intake manifold mounting and ABC arm bolts (if required)	Every service	•	•	•	•	•	•	•	•	•	•	•
12	Check for noise, leakage and other defects of exhaust system (Replace if required)	Every service	•	•	•	•	•	•	•	•	•	•	•
13	Check hoses connections and leakages of crankcase of ventilation system (Replace if required)	Every service	•	•	•	•	•	•	•	•	•	•	•
14	Replace catalytic converter	80000										•	
15	Replace hoses of crankcase ventilation system	3 Years											
16	Replace coolant hoses, connections and clip joints	3 Years											
17	Replace coolant.	40000 OR 2 yrs					•				•		
18	Clean radiator core from outside for dust and mud	10000		•	•	•	•	•	•	•	•	•	•
	CNG FUEL SYSTEM												
1	Check CNG Pipe joints (Leakage)	Every service	•	•	•	•	•	•	•	•	•	•	•
2	Check Solenoid Valve On Cylinder Valve & Pressure regulator	Every service	•	•	•	•	•	•	•	•	•	•	•
3	Check Mountings of filler valve, sensor, Pressure gauge, Regulator assembly, Cylinder Cradle	Every service	•	•	•	•	•	•	•	•	•	•	•
4	Check all joints in low pressure line, CNG rail hoses for leakage.	Every service	•	•	•	•	•	•	•	•	•	•	•

SERVICE MAINTENANCE SCHEDULE

	OPERATION	FREQUENCY (Km)	1000 - 1500	10000 - 10500	20000 - 20500	30000 - 30500	40000 - 40500	50000 - 50500	60000 - 60500	70000 - 70500	80000 - 80500	90000 - 90500	100000-100500
5	Replace the low pressure filter cartridge with 'O' ring	50000						•					
6	Check Pressure gauge working	Every service	•	•	•	•	•	•	•	•	•	•	•
7	Replace the pressure regulator's filter , O-ring and diaphragm.	50000						•					•
8	Recertification of tank	Every 3 Years											
9	Replace the filler valve - wiremesh filter & outer 'O' ring	50000						•					•
10	Drain the oil from low pressure filter and replace 'O' ring of drain plug.	10000	•	•	•	•	•	•	•	•	•	•	•
11	Vent hose condition inspection	10000	•	•	•	•	•	•	•	•	•	•	•
TRANSAXLE													
1	Change Transaxle oil and clean drain plug.	20000			•	•	•	•	•	•	•	•	•
2	Check & Adjust free play of Clutch release cable	Every service	•	•	•	•	•	•	•	•	•	•	•
BRAKES													
1	Check front and rear brake linings. Clean or Replace, if necessary.	20000			•	•	•	•	•	•	•	•	•
2	Clean the brake drums with air	10000	•	•	•	•	•	•	•	•	•	•	•
3	Replace brake fluid and check brake system components for leakages	40000 OR 2 yrs Whichever is earlier					•				•		
WHEELS & TYRES													
1	Tyre Swapping with balancing (Front with Front & Rear with Rear)	10000	•	•	•	•	•	•	•	•	•	•	•
FRONT & REAR SUSPENSION													
1	Check and adjust wheel alignment	10000	•	•	•	•	•	•	•	•	•	•	•
ELECTRICAL													
1	Check specific gravity and level of battery electrolyte (10000 km OR Every 1 year)	10000	•	•	•	•	•	•	•	•	•	•	•
2	Check headlamp focusing	30000				•		•				•	
AC SYSTEM													
1	Check AC / HVAC system for satisfactory performance	Every Service	•	•	•	•	•	•	•	•	•	•	•
2	Clean HVAC / AC Unit air filter	Every Service	•	•	•	•	•	•	•	•	•	•	•
3	Replace HVAC / AC Unit air filter	30,000				•		•				•	
DIAGNOSTIC													
1	Check for the DTC in the 'Engine Control Unit'using diagnostic tool. Take corrective action if necessary Clear the DTCs	Every Service	•	•	•	•	•	•	•	•	•	•	•

Service Instructions :

The **Tata Nano** 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 Three 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.

- | | |
|-------------------------|--|
| 1st free service | - At 1000-1500 km. OR 3 month whichever is earlier |
| 2nd free service | - At 10000-10500 km. OR 12 months whichever is earlier |
| 3rd free service | - At 20000-20500 km. OR 24 months whichever is earlier |

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.

LIST OF APPROVED CNG CYLINDER TESTING STATION

M/S UTTAM SPECIAL GASES PVT. LTD.
F-90/5 OKHALA INDUSTRIAL AREA,
PHASE-1, NEW DELHI - 110020

M/S ASCO INDUSTRIAL CORPORATION
7A, INDUSTRIAL ESTATE,
SONIPAT - 131001 (HARYANA)

M/S GAS AUTHORITY OF INDIA LTD.
BHIKAJI CAMA PLACE, R K PURAM,
NEW DELHI - 110066

M/S BHARAT PUMP & COMPRESSORS LTD.
NAINI, ALLAHABAD (U.P.)

M/S TEESTA CONSTRUCTION PVT. LTD.
687 (G), SECTOR - 28,
GAUTAM BUD NAGAR, NOIDA - 201303
(U.P.)

M/S MARUTI KOATSU CYLINDER PVT. LTD.
1402, GIDC, INDUSTRIAL ESTATE,
DIST : PANCHMAHAL, HALOL -389351
(GUJARAT)

M/S ASLATIC OXYGEN AND GASES LTD.
POKHRAN ROAD, THANE

M/S S.V. TANKS AND VESSELS LTD.
PLOT NO. C/100, MIDC INDUSTRIAL
AREA, TURBHE, NEW MUMBAI - 400613

M/S JARAKAHI AUTOMOBILE PVT. LTD.
SAMRAT SILK MILL COMPOUND,
LBS MARG, VIKROLI (W),
MUMBAI -400079

M/S GREEN GLOBE TECHNICAL SERVICE
PLOT. NO. 151,
BRICK FACTORY COMPOUND,
SHASTRI NAGAR, MULUND COLONY,
MULUND (W), MUMBAI -400082

M/S METRO CYLINDER TESTING CO. LTD.

72-10, 26 KM STONE, ROHTAK ROAD,
MUNDKA UDHYOG NAGAR,
GHEVRA EXTN., NEW DELHI-110041

M/S HI-TECH CNG CYLINDER TEST HOUSE
30, NETAJI SUBHASH MARG,
NEW DELHI-110002

M/S JIOLAT AUTO GAS INDUSTRIES
2094/G-5, GALI NO. PREM NAGAR
(ZAKHIRA), NEW DELHI - 110008

M/S JBM INDUSTRIES LTD.
PLOT NO. 269, SECTOR-24,
FARIDABAD - 121005

M/S MARUTI KOATSU CYLINDER PVT. LTD.
1402, GIDC, INDUSTRIAL AREAR, HALOL
- 389350 (GUJARAT)

M/S SATYAM CNG CYLINDER TEST HOUSE
KHASARA NO. 21/1,
JHARODA MAJRA BURARI,
DELHI-10084

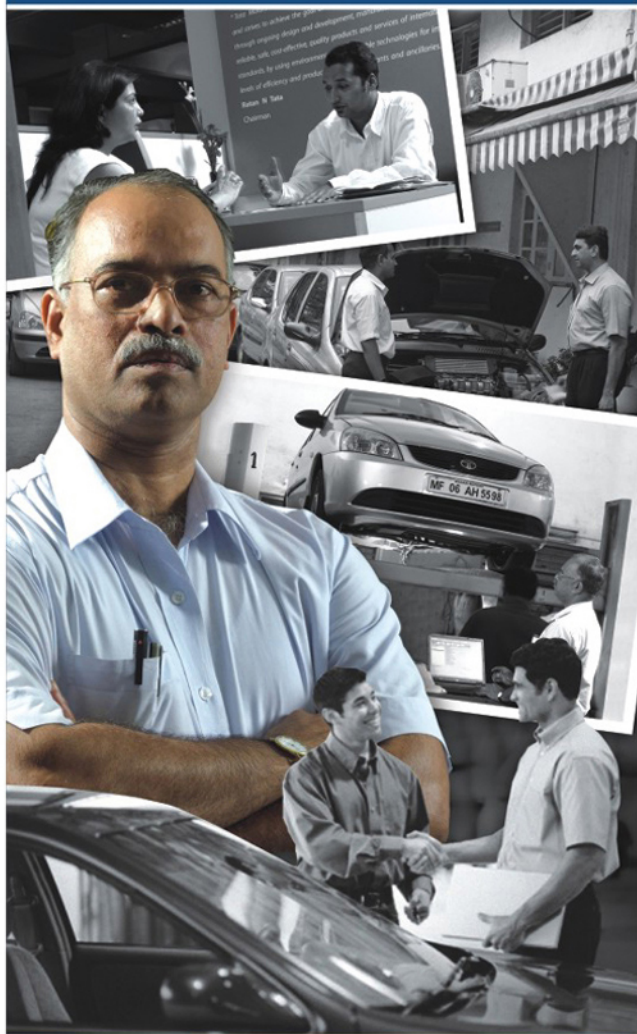
RECORD OF SERVICE PERFORMED

Recommended Service	Date	Odometer Reading KMs.	Repair Order No.	Servicing Dealer's Sign. & Stamp
At km				
PDI				
1000				
10,000				
20,000				
30,000				
40,000				
50,000				
60,000				
70,000				
80,000				
90,000				
1,00,000				
1,10,000				
1,20,000				
1,30,000				
1,40,000				
1,50,000				
1,60,000				
1,70,000				

RECORD OF REPAIRS CARRIED OUT

Chassis No.:

DATE	Odometer Reading KMs	Repair Order No.	PARTICULARS OF REPAIR	SERVICING DEALER'S SIGNATURE & STAMP



Rely on us... always.

To meet our commitments & match your expectations



2834 5840 99 05

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