pickup

pickup
bi-fuel pickup
bi-fuel bardo pickup

owner’s Manual

This Manual has been prepared for owner’s reference to vehicle’s performance, safety, maintenance and everyday use guidelines. Keeping the manual in your car is recommended for quick reference.

IKCO

9007051072137-07
e-code: 540701E010-07

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In The Name of God

pickup
BI-FUEL PICKUP
&
BI-FUEL BARDO PICKUP

oWNer'S MaNual

dear buYer

We're thankful for choosing Iran Khodro product and we congratulate you for this good selection. We hope this new vehicle contributes in happy moments of your life.

This manual helps you enjoy driving. Therefore to have an easy access, it would be advisable to be kept in your glove compartment. The manual is divided into some sections for your convenience, and deals with various aspects of driving or maintenance of the car.

before driving: Includes seat adjustment, Safety belts, heating and ventilation control system and also every other thing you needed to know in order to settle comfortably.

driving controls: explain functions of switches, equipment and precautions.

Maintenance: Includes information about the checks you should carry out regularly.

Note:
please refer to maintenance and guaranty services manual to know about the vehicle maintenance, regulation & condition of guaranty services and periodic services.

Technical emergencies: Help solve some of unavoidable small emergencies occurring occasionally like replacing lamps fuses or changing wheels.

Technical data: It includes some information about engine, dimensions, capacities and weights.

WarNiNG, cauTioN and **NoTe** have special meanings. These special meanings apply except when laws or regulations require that the signal words be used with a different meaning. Pay special attention to the messages highlighted by these signal words:

WarNiNG: indicates a potential hazard that could result in death or injury.

cauTioN: indicates a potential hazard that could result in vehicle damage.

NoTe: Indicates a serious damage to your vehicle in the case of not paying attention to the warning and caution signals.

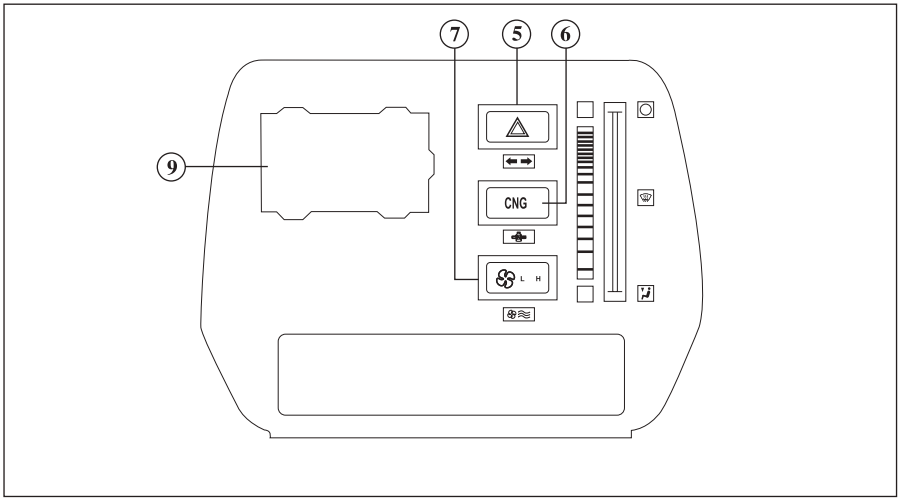
important point: The specification of each vehicle will vary according to its type. Therefore some information of this manual may not be true about your vehicle. For any more information, you can consult with IRAN KHODRO dealers.

Information about other varieties of this product have been mentioned in this manual and denoted by asterisk (*).

- Consumptive matterial must be provided through authorized agents of IKCO. (Use the brands and packages approved and offered by ISACO.)

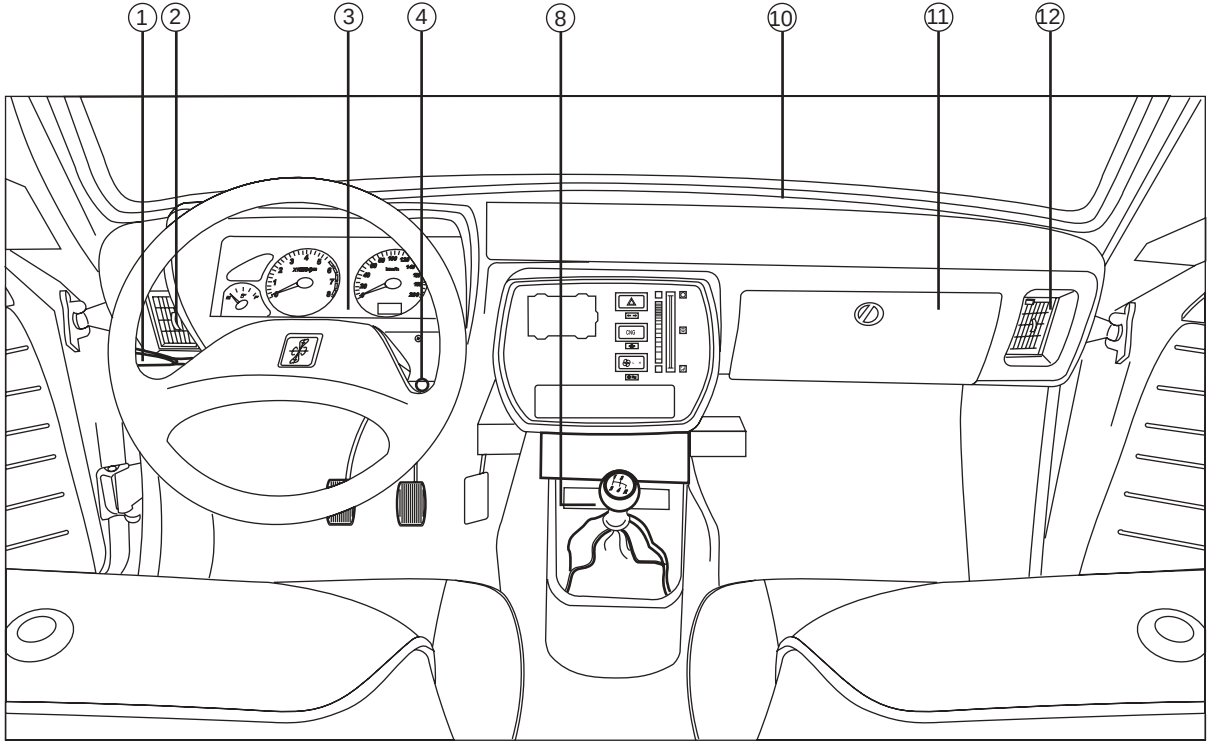
1 Your VeHicle aT a GlaNce

1



Vehicle components

1- Indicator stalk, horn & changing headlamp high/low beam
2- Ventilator
3- Instrument panel
4- Ignition switch
5- Flasher knob
6- Fuel type conversion switch*
7- Heating knob
8- Gear lever
9- Ashtray
10- Heater outlet
11- Glove box
12- Ac outlet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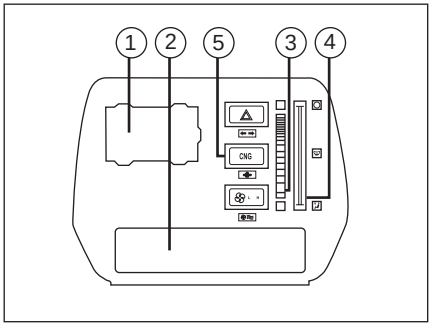
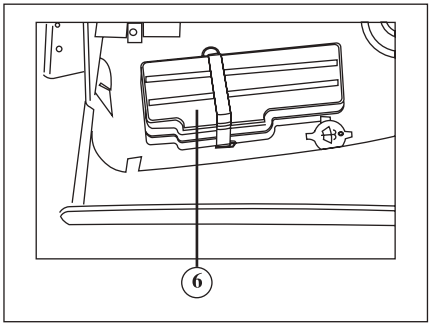
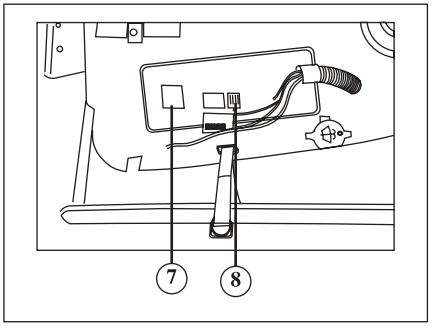


Vehicle components

1- Cigarette ashtray
2- Radio housing
3- Air temperature adjustment lever
4- Air flow adjustment lever
5- Key of fuel type selection

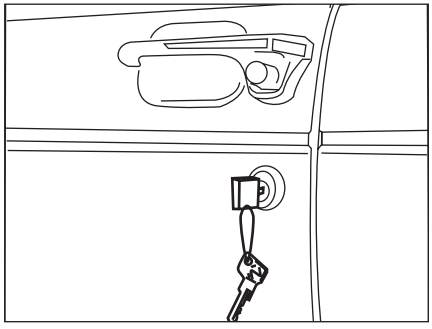


6- Electronic control unit (ECU) box



7- Electronic control unit (ECU)
8- Double relay

Warning
Ashtrays are dangerous and susceptible for firing .Hence avoid of pouring Chad or other incendiary materials in it.



keys

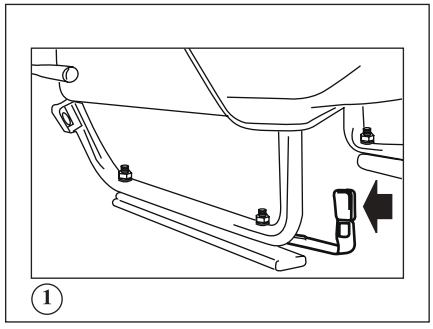
Buyer receives two sets of key.

doors

Doors can be closed or opened in two ways:

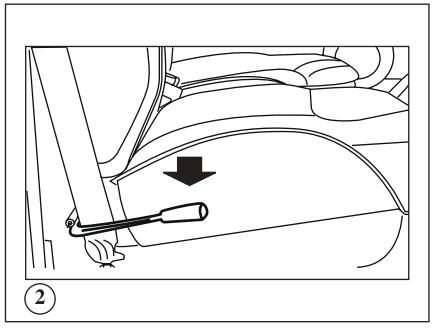
a) from outside of the car and with the key (1): Turn the key 1/4 in a clockwise direction (on driver and passenger sides)

b) from inside of the car and with the bonnet release handle (2): To lock, push the bonnet release handle toward the rear of the car.



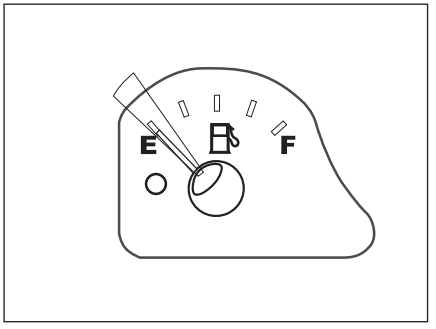
Seat

Driver's seat is equipped with the control lever for adjusting the seat regarding driver's height. To adjust the seat (1), pull the leaver towards door (driver's side) while seating on the seat. Move the seat to the favored position, and then release the lever.



rail seat

This lever is located only on the driver's seat. The point is that both backrest seats (driver and passenger) can not be adjusted.In the case of passenger seat. To remove the spare tire, the backrest seat should be fold down.



cNG parts*

Two main sets have been added to make your vehicle to run on gas fuel:
A-Kit
B-Cylinder and its accessories

The Kit is a package of various electrical and mechanical parts installed in the engine compartment. Cylinder and accessories are installed in the loading part of the van.

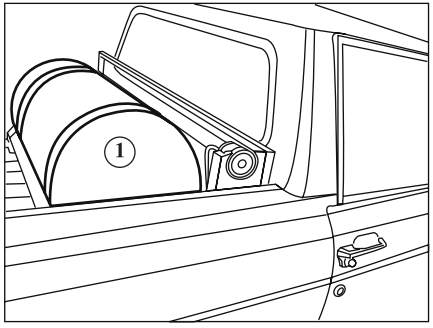
Starting on cNG mode *

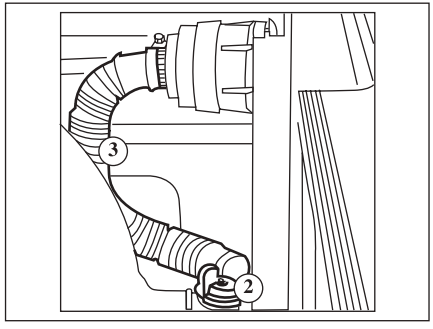
Changing the type of fuel is done by the fuel conversion key located on the front console .The vehicle will be operated on CNG fuel at the following situations.
A) Before driving (at first the vehicle starts on the gasoline then it switches on gas).
B) While driving
C) Starting the vehicle on gas mode (2).**

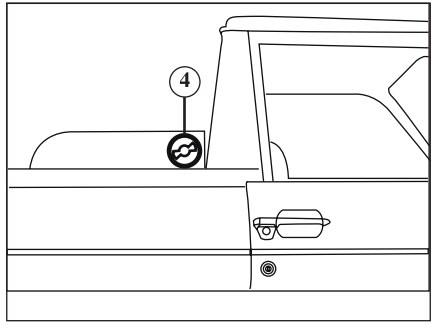
Warning

**This mode should only be used in case of emergency such as gasoline shortage in normal conditions .Due to the possible damage to the gas fuelled-components this method is not recommended.

* If equipped







cNG parts in boot

1- Gas reservoir:
The compressed natural gas is stored under maximum 200 bar pressurized

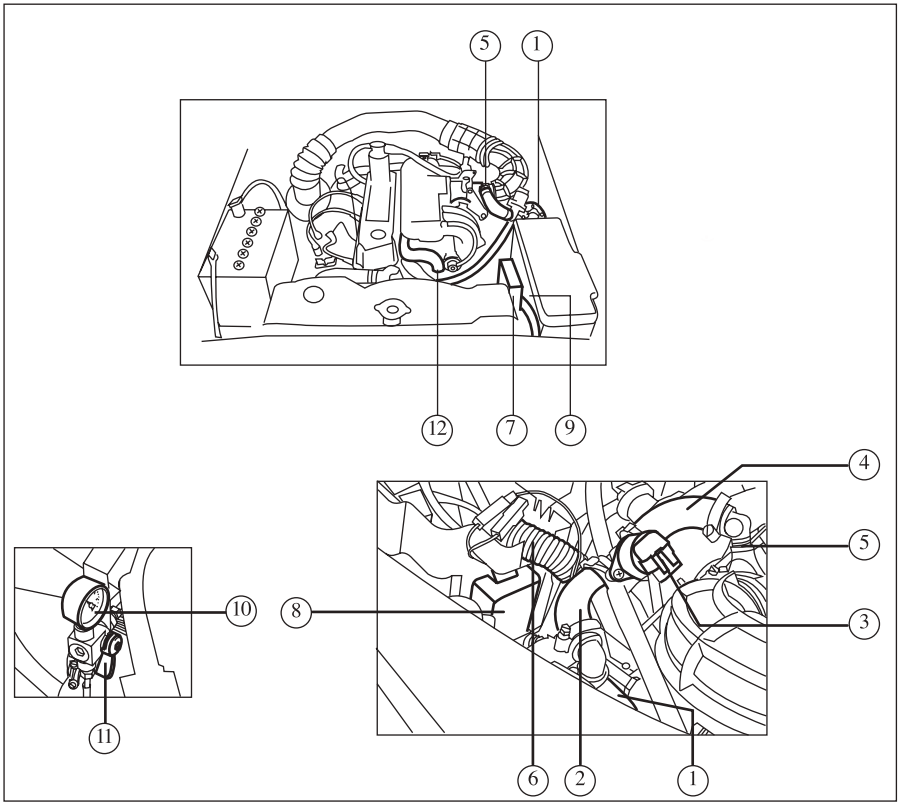
2- cNG Tank (cylinder) Valve:
This device opens or closes the gas valve and includes the equipment for safety of the system as follows:
2-1) pressure reducer Valve (prV): A valve designed to open and relieve the pressure when the pressure exceeds a predetermined level.
2-2) Thermal Safety Valves:
If the temperature exceeds the set point, it relieves the gas tank.
2-3) flow limiter Valve: If the high pressure pipe(HP pipe)is being cut off, it will limit the gas outlet from the gas tank.
3- Transmission pipe and Gas conditioning System:
In the case of any leakage in clamps, gas conditioning system will lead the gas out of the cabin.

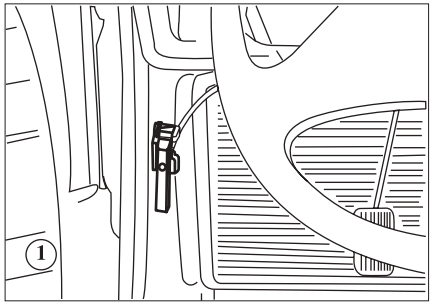
4- filler: Once the filling nozzle is properly clamped to the filler neck, the gas starts to flow into the vehicle's tank.

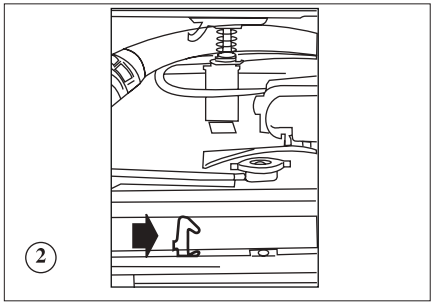
1

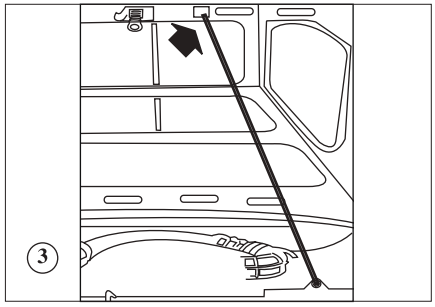
cNG parts placed in the engine compartment*

1- Regulator
2- The hose transferring gas from the regulator to gas adjusting valve
3- Gas flow adjuster
4- The hose transferring gas from adjusting valve to mixer
5- Mixer
6- Engine harness (Wires set)
7- Electrical control unit (ECU)
8- Advancer
9- Emulator
10- Gas pressure gauge
11- Manual valve or service valve
12- Warm water shunt hoses to regulator









bonnet

How to open the bonnet

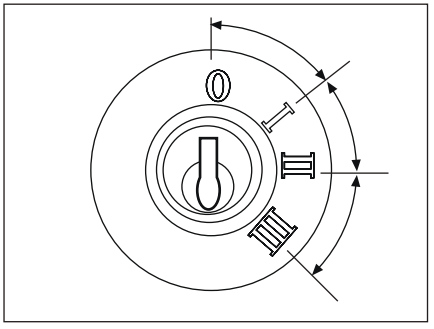
To loose the bonnet latch, pull the bonnet lever (1), under the instrument panel cluster, on the driver's side towards you.

Warning

To prevent any accident while driving, make sure the bonnet is securely latched after closing.

To open the bonnet completely, pull the latch lever towards the left, and then open the bonnet (2).

Use the bonnet stay to hold the bonnet open (3).



ignition key

There are 4 positions

O. The steering wheel lock and ignition off.

I. Supply to electrical accessories and steering wheel unlock.

II. The electrical devices on, Engine on and diagnostic lamplight up.

III. Running. Ignition on.

unlocking the steering wheel

Put the key at I position. Move the steering wheel gently while turning the key.

Starting

By turning the key to III position, release the key till located in the II position.

caution

-Never start moving while engine is cold.

-Never start engine in a confined area

-Do not alter steering wheel lock system

- Never turn off the engine while going down the hill (the brake booster will be damaged). Never remove the switch while driving (the steering wheel is locked).

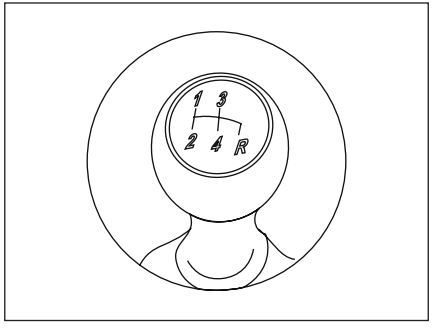
Warning

Never adjust the steering wheel while you're driving.

It will be very dangerous

Notice

To start the vehicle, put it on gasoline position.



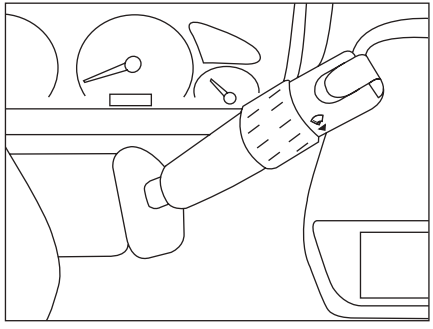
Gearbox

Gear lever

It is installed at the protuberances of the auto floor. The positions are marked on the knob.

Synchronization tool

This tool is installed for all four front gears and gear replacements can be made easily and without noise providing that do not put the clutch pedal all the way.

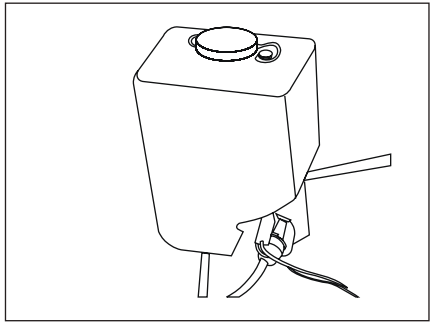


Wind screen washer

Pull the stalk towards steering wheel and keep it for a while to spray the liquid in the water reservoir.

Wind screen wiper

Wiper can start moving with different speeds; by turning of stalk in a multiple steps.



(c) Windscreen Washer fluid reservoir:

Regularly check windscreen washer fluid reservoir (inside engine). Always use liquid glass cleaner specified for windscreen in the reservoir. Always anti freeze liquid in winter.

1

left lever position (1)

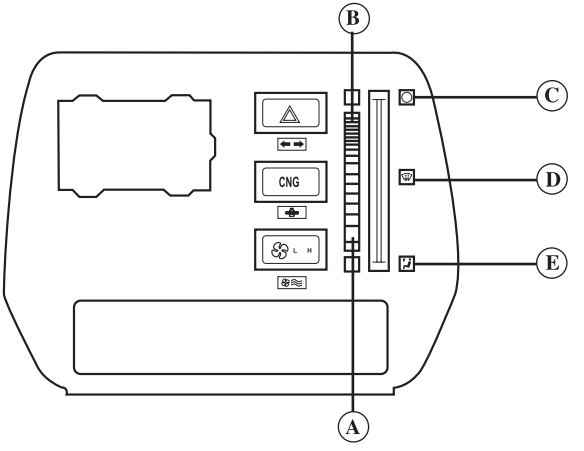
(a)Maximum Heating
(b)Minimum Cooling
By moving the shift lever between (a) and (b) positions, you can reach to the desired heating/cooling.

right lever position (1)

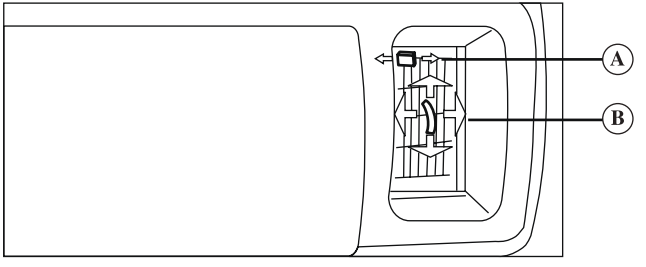
(c) Turning the Ventilation Off
(d) Moving Airflow Upward
(e) Moving Airflow Downward

air intake adjustment (2)

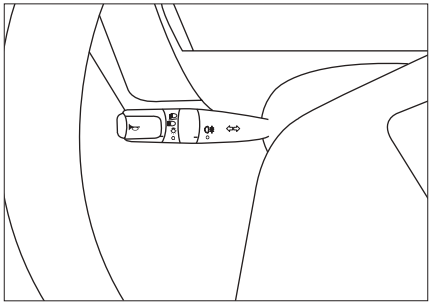
Lever (a): Adjusting Air Supplying
Lever(b): Controlling and Adjusting the Airflow



(fig.1)



(fig.2)



Warning lamps

1- Horn: Press the end of the stalk.

2- High beam indicator lamp/light: Pull the stalk towards the steering wheel.

3- indicator lights:

- Right: Pull the stalk upwards.
- Left: Pull the stalk downwards.
- Overtaking or changing lane: Move the stalk to the desired direction.
- changing lane compeletely: To turn right, move the lever all way up.

child safety

Iran Khodro has observed all safety issues when manufacturing the vehicle. However, you should be very cautious when traveling with children. To avoid any possible incident, keep following points in your mind:

1- Take care of the child hands when closing vehicle doors

2- Never leave children in a vehicle parked in the sun, with the windows closed.

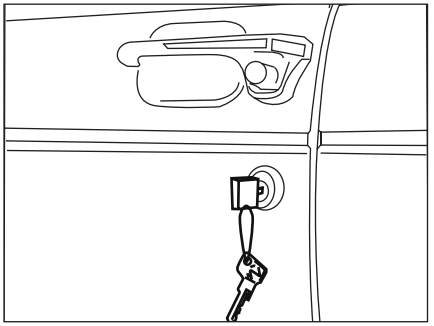
3- Never leave children under the age of 10 alone in the vehicle.

4- Never let children sit between two seats.

5- Before opening the doors, make sure it is safe to open the door.

2 before driViNG

* If equipped



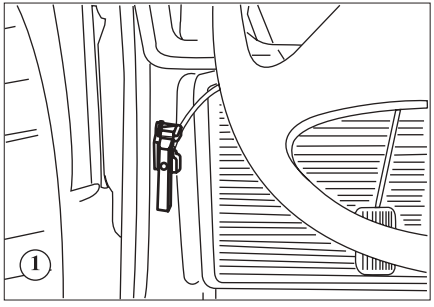
keys

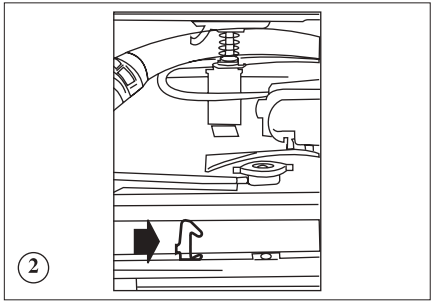
Two sets of keys are given to customer.
doors: Doors can be closed or opened in two ways:

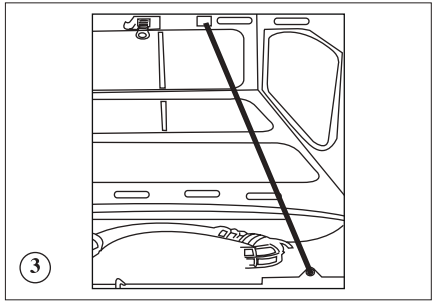
a) from outside of the car and with the key (1): Turn the key 1/4 in a clockwise direction (on driver and passenger sides)

b) from inside of the car and with the bonnet release handle (2): To lock, push the bonnet release handle toward the rear of the car. In order to open it, push the lever toward the front of the car.

caution
To lock the doors while the bonnet release lever is pushed toward the rear of the car, never push the handle; otherwise, it damages the lock and the lever.







bonnet

How to open the bonnet:

To loose the bonnet latch, pull the bonnet lever (1), under the instrument panel cluster, on the driver's side towards you.

To open the bonnet completely, pull the latch lever towards the left, and then open the bonnet (2).

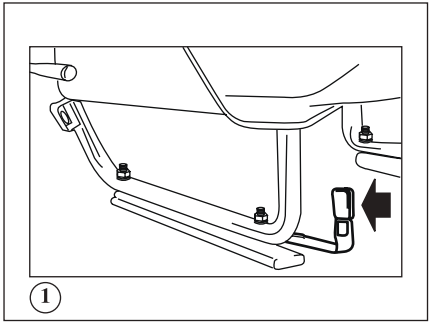
Use the bonnet stay to hold the bonnet open (3)

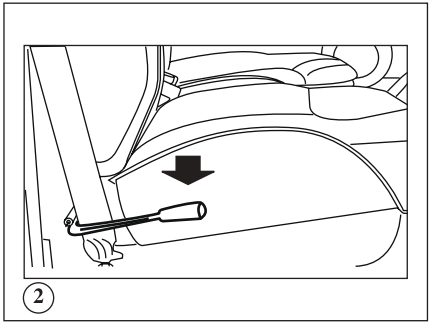
locking of bonnet

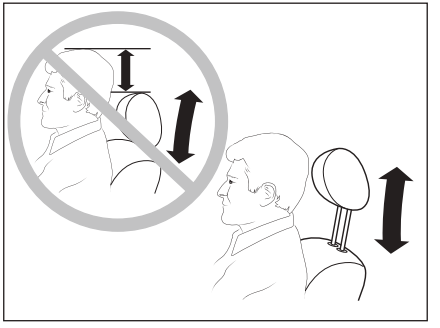
Press on the bonnet to be locked.

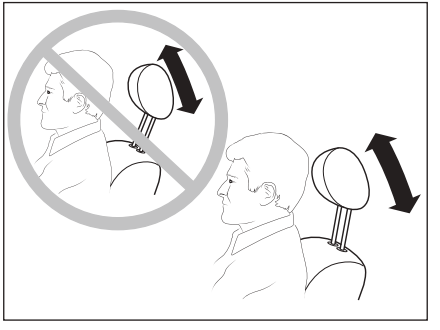
caution

To prevent any accident while driving, make sure the bonnet is securely latched after closing.









Seat

Driver's seat is equipped with the control lever for adjusting the seat regarding driver's height. To adjust the seat (1), pull the leaver towards door (driver's side) while seating on the seat. Move the seat to the favored position, and then release the lever.

rail seat

This lever is located only on the driver's seat. The point is that both backrest seats (driver and passenger) can not be adjusted.In the case of passenger seat. To remove the spare tire, the backrest seat should be fold down.

Warning

-No object should be on the vehicle floor (in front of the driver); otherwise it may slip under the pedal in the event of the sharp braking.
-Head restraints are safety devices. Make sure they are in place and adjusted correctly.
-To minimize the risk of the injury of the driver and front seat passenger, adjustment of the head restraint and position of the head aligned with it should be done as shown in the figures.
-Never adjust the Seat while you're driving.

Seat belts

Wear your seat belt at all times; it is mandatory by regulations and important for your safety.

Seat belt will keep you safe in case of any accident (even a minor one).

Adjust your seat.

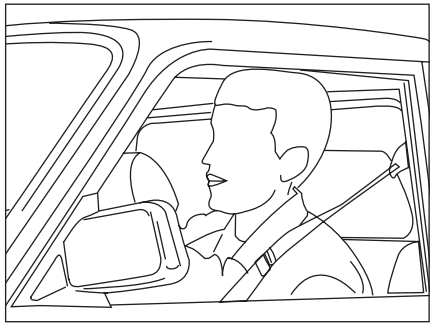
Make sure the seat belt is not twisted and has no contact with sharp edge parts.

Pull the latch plate attached to the seat belt and press it into the buckle unit and make sure that:

Upper part of the seat belt is between neck and shoulder (figure 1)

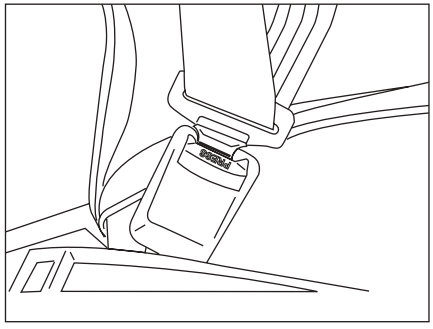
Lower part of the seat belt is low across the pelvis.

Push the red button to unfasten the seat belt (figure 2)



reel or automatic seat belt

To make sure the good performance of the seat belt, pull the belt very slowly when the vehicle is on a fairly level ground, otherwise the belt locks.



The seat belt is being locked in the following situations:

- The safety belt locks if there's a sudden stop or crash/accident.
- When driving on very steep hills, or winding roads.

Warning

-Seat belt should be across your shoulder to have optimum efficiency. Make sure the seat back is positioned correctly.

-make sure no object, especially adhesive materials, enter the buckle, otherwise buckle may function not properly.

caution

- Never use the seat belt for the children under 6 years old, till it is used with the child seat.
- Never use the seat belt for more than one person.
- The damaged seat belts should be changed.
- The seat belts anchorages should be checked regularly.
- You are not allowed to make any changes in seat belt system.

child safety

Iran Khodro has observed all safety issues when manufacturing the vehicle. However, you should be very cautious when traveling with children. To avoid any possible incident, keep following points in your mind:

1- Take care of the child hands when closing vehicle doors

2- Never leave children in a vehicle parked in the sun, with the windows closed.

3- Never leave children under the age of 10 alone in the vehicle.

4- Never let children sit between two seats. Before opening the doors, make sure it is safe to open the door.

Special cares for children

Never allow a child to travel on lap of the front passenger.

(Risk of the impact with glove box in case of an incident)

children comfort

Children become irritable during long trips. Vehicle environment should be attractive for them.

Stop several times to let them have a rest..

Prepare them entertainment which is not boring and competitive (book reading, listening to the music)

Warning

Child should never travel on the lap of the passengers.

There is the risk of sever injuries when the child is sitting on your lap.

Never use the same seat belt for more than one occupant.

left lever position (1)

(a)Maximum Heating

(b)Minimum Cooling

By moving the shift lever between (a) and (b) positions, you can reach to the desired heating/cooling.

right lever position (1)

(c) Turning the Ventilation Off

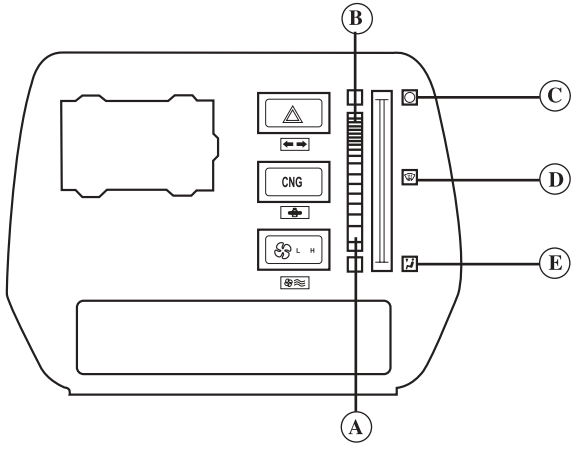
(d) Moving Airflow Upward

(e) Moving Airflow Downward

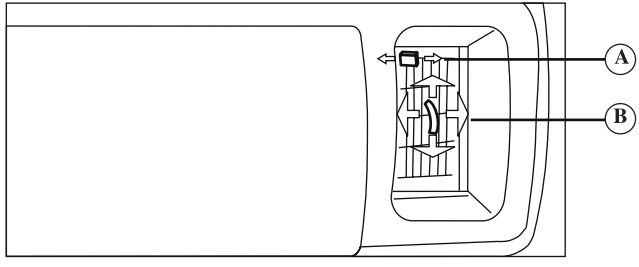
air intake adjustment (2)

Lever (a):Adjusting Air Supplying

Lever(b): Controlling and Adjusting the Airflow



(fig.1)



(fig.2)

bi-fuel vehicles features

Vehicle industry and environment researcher have focused on replacing common fuel with new fuels which can maintain the efficiency of the vehicle while having less contamination, economically more efficient and easily available.

CNG (Compressed Natural Gas) is a very suitable replacement in Iran since we have very huge natural gas sources while its price is lower. Meanwhile there is vast distribution network in the country.

Iran Khodro Industrial Group after a vast study and research has selected production of the bi-fuel vehicles as a work priority (gas-gasoline) in line with approaching the world market and pioneering in local market.

Your bi-fuel Pick up has been produced to achieve above goal.

cNG parts*

Two main sets have been added to make your vehicle to run on gas fuel:

A- Kit

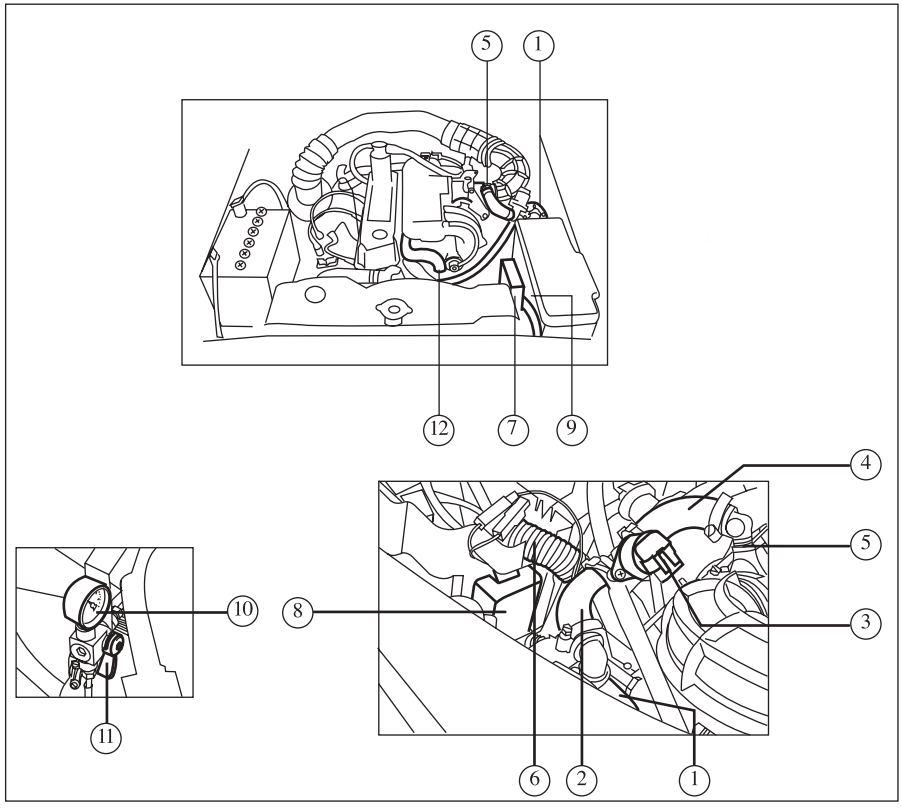
B- Cylinder and its accessories

The Kit is a package of various electrical and mechanical parts installed in the engine compartment. Cylinder and accessories are installed in the loading part of the Pick up.

* If equipped

cNG parts placed in the engine compartment*

1- Regulator
2- The hose transferring gas from the regulator to gas adjusting valve
3- Gas flow adjuster
4- The hose transferring gas from adjusting valve to mixer
5- Mixer
6- Engine harness (Wires set)
7- Electrical control unit (ECU)
8- Advancer
9- Emulator
10- Gas pressure gauge
11- Manual valve or service valve
12- Warm water shunt hoses to regulator



1. regulator:
A valve for regulating the pressure of flowing gas to maintain a constant pressure (from max.200 bar to 1 bar in three steps)

2. Gas pipe (from regulator to flow control Valve):
The gas flows from regulator to flow control valve through the gas pipe.

3. flow control Valve:
A flow control valve regulates the flow or pressure of a fluid to the mixer regarding engine condition.

4. Gas Transmission Pipe (from flow control valve to mixer)

5. Mixer:
An apparatus used to thoroughly mix outlet gases from regulator valve with proper air and leads to inlet manifold.

6. Harness:
All inlet/outlet signal transmission is done through the harness.

7. electronic control unit (ecu):
A microprocessor and memory with electronic maps, forming the central part of an engine management system or of subsystems such as a fuel injection or ignition system and controls engine performances through transmission signals to the actuators.

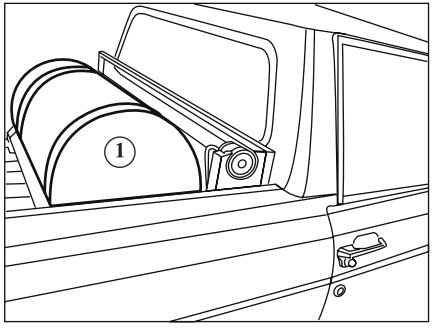
8. advancer:
A mechanism which advances the ignition sparks comparing to the gas fuel mode.

9. emulator:
By means of a partial resistance, it deactivates the petrol injectors so that there will be no error on Petrol ECU.

10. Gas pressure Gauge:
It shows the gas pressure inside the tank.

11. Manual Valve:
A device used to either open or close an opening to allow or prevent the flow of a liquid or gas from one place to another

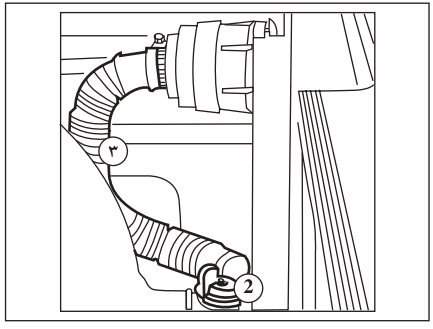
12. regulator inlet/outlet Water Hoses:
To prevent ice while running the engine and warm regulator, the hoses lead the heater water to the regulator.



cNG parts in boot*

1- Gas reservoir:

The compressed natural gas is stored under maximum 200 bar pressurized



2- cNG tank (cylinder) valve:

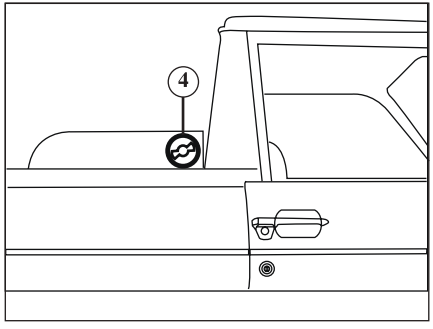
This device opens or closes the gas valve and includes the equipment for safety of the system as follows:

2-1) Pressure Reducer Valve (PRV): A valve designed to open and relieve the pressure when the pressure exceeds a predetermined level.

2-2) Thermal Safety Valves: If the temperature exceeds the set point, it relieves the gas tank.

2-3) Flow Limiter Valve: If the high pressure pipe(HP pipe)is being cut off, it will limit the gas outlet from the gas tank.

3- Transmission pipe and Gas conditioning System: In the case of any leakage in clamps, gas conditioning system will lead the gas out of the cabin.



4- filler:

Once the filling nozzle is properly clamped to the filler neck, the gas starts to flow into the vehicle's tank.

* If equipped

Warning

-Installation of the additional equipments

We strongly recommend you to use only the equipment approved by the manufacturer which are compatible with your vehicle and guaranteed, otherwise there may be some fault in the proper function of the vehicle and its safety.

-Electric and electronic equipments

Any alteration on the electric circuits of the vehicle should only be done by the one of the authorized dealers; otherwise only one wrong coupling may result to total damage of the electric system and/or equipment attached to it. Make sure all additional installed equipments are protected by fuse. Be aware of the fuse location and its max. intensity.

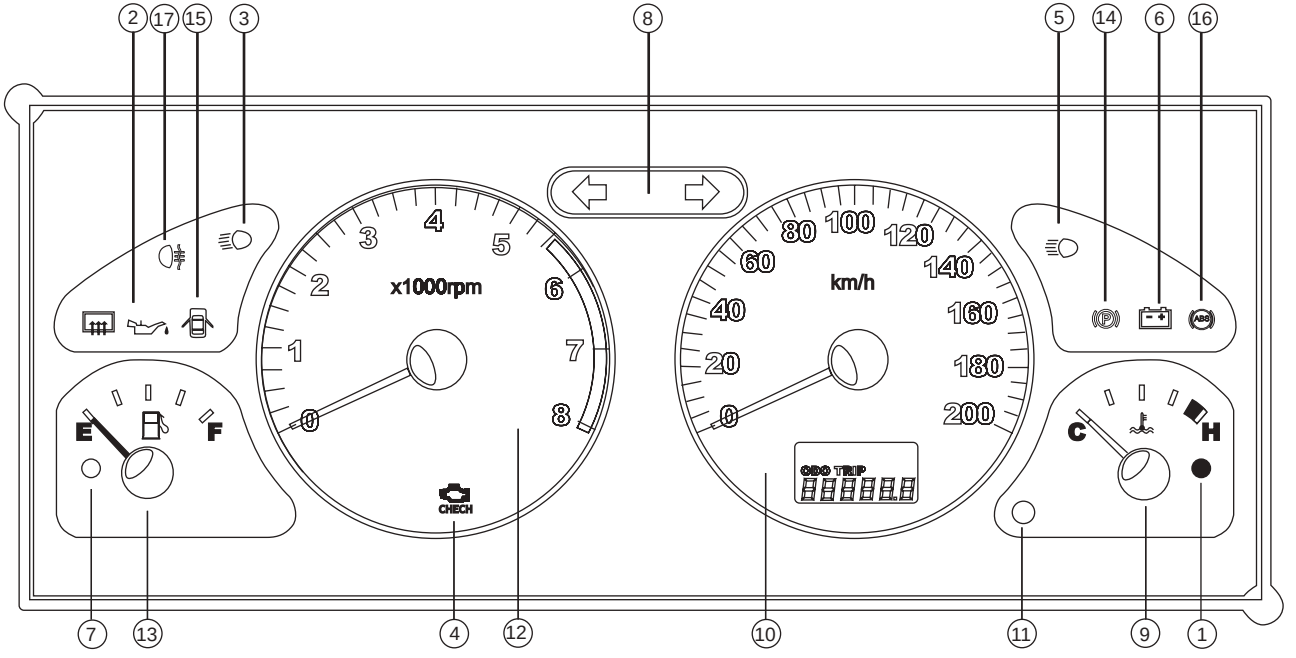
Warning

- Any alteration (modification) on the electric circuit should only be done by the one of the authorized dealer which have necessary parts available, otherwise only one wrong coupling may result to total damage of the electric system (wiring, parts and specially the alternator).

Any alteration and/or modification of the fuel feeding systems (electronic control unit, wiring, fuel circuit, injector, protection cover,) are strictly forbidden since these may cause danger for you. Only experts of the after-sale service network are authorized for doing them.

3 driViNG

3


2
17
15
3
8
5
14
6
16
x1000rpm
km/h
E
F
C
H
CHECH
ODO TRIP
7
13
4
12
10
11
9
1

Warning lights

1- High coolant tempreature (red light):
If the water temperature increases over 102-105 ˚c, the water warning light comes on. In this situation stop the vehicle, do not turn the vehicle off. By pouring water on the radiator, makes the engine cool rapidly (Never leave the radiator cap open).

2- low engine oil pressure (red):
If the light comes on, turn the engine off and fix the malfunction.

3- dipped beam & side lamps (Green):
Side lamps come on while the headlamps dipped beam turn on.

4- diagnostic function:
The lamp comes on in the case any problem with the injection system:
- Injection system malfunction
- Ignition system malfunction

5- Main beam warning lamp (blue):
The lights come on while the main beams are on.

6- battery charge (red):
The light illuminates as a bulb check when the starter switch is turned on and extinguishes as soon as the engine is running. If the light remains on, or illuminates when driving, a fault with the battery charging system is indicated. Seek qualifies assistance urgently; otherwise the battery may be discharged or coolant temperature turned high. This indicates either:
- Faulty operation of the charging circuit
- Loose battery or starter terminals
- A broken or slack alternator belt, or
- A faulty alternator

7- low fuel level warning (Yellow):
This indicates that there is less than 7 liters left in the tank.

8- direction indicators (Green):
The corresponding indicator left or right, turns on while turning left or right.

Warning
If the pointer reaches the red mark and the warning lamp illuminates, stop immediately and seek qualified assistance.

9- coolant temprature gauge:
The coolant temperature turns warm while the engine starts (If the engine is cold, the temperature gauge will not move till the coolant reaches the acceptable degree).The pointer location shows the degree of the temperature (left = cold and right=warm). When the ignition switch is in the “ON” position, this gauge indicates the engine coolant temperature. Under normal driving conditions, the indicator should stay within the normal, acceptable temperature range between “H” and “C”- the needle is in the central zone.
Always remember that in heavy traffic, the pointer goes further to the right. If the indicator approaches “H”, overheating is indicated which is caused maybe because of the gauge malfunction or any other probable fault.

10- Speedometer and odometer:
The speedometer indicates vehicle speed in km/h and/or mph.
When the ignition switch is turned to “ON”, the display shows the odometer or trip meter. The odometer records the total distance the vehicle has been driven. The trip meter can be used to measure the distance traveled on short trips or between

11- Trip recoreder zero reset:
To reset the distance traveled (zero), press the button for 5 seconds.

12- Tachometer / clock:
The tachometer indicates engine speed in revolutions per minute (RPM).

13- fuel gauge: This gauge gives an approximate indication of the amount of fuel in the fuel tank after the ignition switch turns to” ON” position. “F” stands for full and “E” stands for empty.

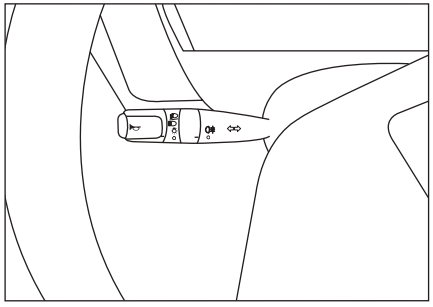
14- Handbrake on:
This indicates the handbrake is not fully released.

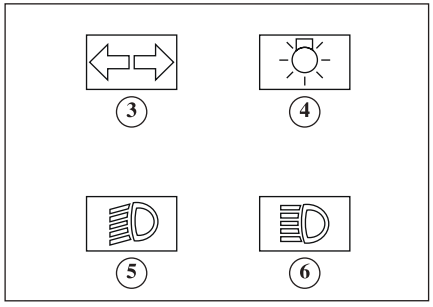
15- open door:
This light remains on until all doors are completely closed.

Warning
Never drive with the engine speed indicator in the red zone (over 5500 min.) or severe engine damage can result.

16- anti – lock brake System Warning (abS)
It lights up when starting the car and keeps on for a few seconds, and then it turns off. If it does not turn on when starting the engine or stays on after the engine starts running, it indicates that there is a problem in the anti-lock brake system. In such a condition move the car immediately and with safety considerations to the authorized workshop for inspection and repair.

17-rear fog lamp
it lights up when using rear fog lamps.





Warning lamps

1- Horn:
Press the end of the stalk.

2-High beam indicator lamp / light:
Pull the stalk towards the steering wheel.

3- indicator light:
Right: Pull the stalk upwards.
Left: Pull the stalk downwards.

Overtaking or changing lane:
Move the stalk to the desired direction.

Changing lane compeletely:
To turn right, move the lever all way up.

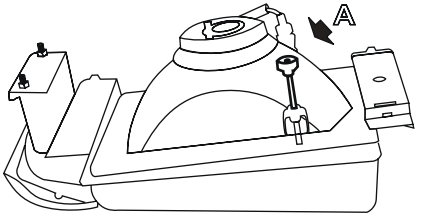
The stalk returns automatically to the first position, While the wheel is returning.

Turning on the lights:
4- The lights will get on and off by turning of indicator stalk.

5- The dipped beam headlamps get on by pulling the stalk towards the steering wheel.

6- Pull the stalk towards the steering wheel. Repeat the step, to turn to dipped beam.

7- Rear fog lamp get on and off by turning the indicator stalk.

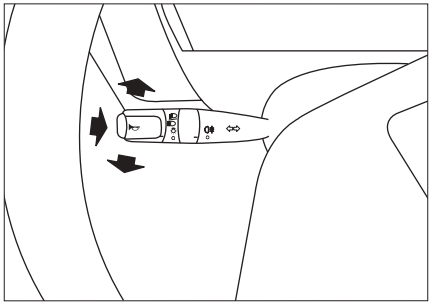


Head lamps

Each head lamp assembly consists of one 40 or 45 lamp with two connectors, one 5 watt lamp and one reflector (with the glass bulb).

adjusting head lamp main beam (1)

By turning the screw clockwise or anti-clockwise direction, you can adjust dipped beam or main beam.



adjustment

headlamp main beam, direction indicator and horn

Headlamps main beam, direction indicator and horn are adjusted by the control lever located on the left side of the steering wheel (see the picture)

Headlamp main beam:

Headlamps high beam are on in two following ways:

(a) direction indicator lever

By pulling the direction indicator towards the steering wheel, the headlamp high beams are on and then by releasing it the headlamps are off.

(b) Headlamps High beam changer

If the headlamps high beam is on, by pushing the steering wheel towards windscreen, the headlamps high/low beam changes to other position.

direction indicators

Turn to the right: Pull the lever up.

Turn to the left: Push the lever down.

In the above situations, both the direction indicators and green warning lamp flashes simultaneously. If the green waning lamp does not flash (just is on), it might be because of the damage on one of the side lamps or direction indicator automatic system.

lamps

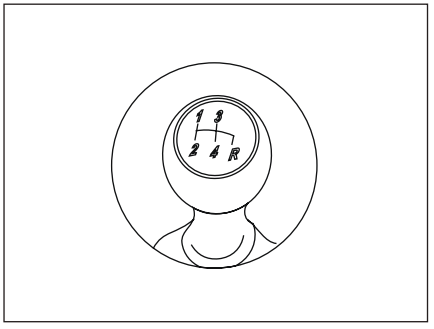
rear lamp:

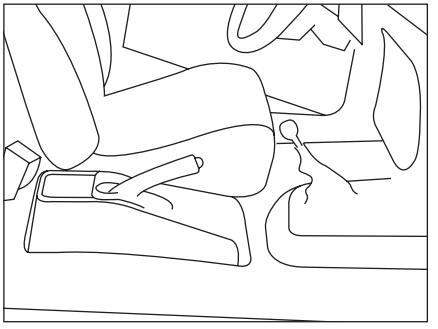
It consist of (1):

(a) Rear Direction Indicators

(b & d) Stop Lamps & Rear Lamps

(e) Reversing Lamps





Mechanical converter gearbox

Gear lever

It is installed at the protuberances of the auto floor. The positions are marked on the knob.

Synchronization tool

This tool is installed for all four front gears and gear replacements can be made easily and without noise providing that do not put the clutch pedal all the way.

Always use the first gear to start the vehicles; otherwise, the clutch will soon be abraded .To transfer the gear to the reverse gear, put the palm of the hand on the top of the gear handle and move it by a low pressure to the right side so that the spring opens up then press it down and clockwise. For the purpose of not mixing gears when transferring these gears put the spring holder at the end of the right side of the gear.

New position of brake lever

Brake lever position has been transferred from side part of the cabin to the middle part (between two chairs) .

anti-lock braking system (abS)

Anti-lock braking system is one of the car control systems preventing the wheels from locking on slippery roads, or intense braking. Therefore, it reduces the brake distance, steer ability, improves stability, and increases car safety in general.If the wheels slip, when braking, not only the brake distance increases but also the car control is endangered.Therefore, using the anti-lock braking system (ABS) system is necessary in this situation. It prevents fully locking of the wheels, and lets the driver to control the vehicle when making sudden and intense brakes. The system has a considerable effect on increase safety since it controls and adjusts the braking pressure electronically, and adapts itself to variations in road surface.In the conventional hydraulic brakes, a timely constant pressure is applied to the brake pedal, and causes to lock the wheels on braking.

New navigation and stability system such as ABS prevent wheels from locking in these situations, which may cause critical driving situations. ABS actually monitors each of the wheels, and it can adjust braking pressures so that each wheel gets the maximum possible braking force without locking of the wheel while functioning. It prevents continual locking and slipping of tires, and can provide the best braking conditions for the vehicle to remain stable and controllable especially on slippery roads.

it is possible to summarize the advantages of the anti lock braking system (abS) as follows:

1- Ability to maneuver and maintain the stability of the vehicle when braking (on direct paths and while changing direction)

2- Sustained steerability during braking (on direct paths and while changing direction)

3- Reducing the burden of responsibility regarding the driver

4- Preventing the wearing of tires due to impeding repeated locking of the brakes and slipping of tires.

Warning

This system shall not be deemed as a reason to incite you into sudden accelerating and driving with high speed. Indeed, nothing can be replaced instead of driver's responsibility and precaution while driving.This performance is an auxiliary system which manages the driver's response according to the prompt circumstances during driving in critical conditions.

3

When using a car equipped with anti lock brake system always consider the following points:

- Since the anti lock brake system is only for balancing the braking force, therefore when braking sufficiently press the brake pedal and always follow safety guidelines.
-Feeling brake pedal vibrations under the foot while braking over unstable roads or sudden braking is normal and caused by the operation of the anti brake system.
- To hear noise when braking over unstable roads or sudden braking from front and rear wheels is normal and due to the operation of the anti brake system.
- The anti brake system is equipped with an automatic defect finding system that will light the anti lock brake system warning indicator ABS EBD on the front panel display in case of a problem.
- When the car is turned on, the anti- lock brake system warning indicator ABS EBD on the front panel display is on and will turn off after a few seconds. If the warning indicator does not light when the car is turned on or remains lit, is a sign of problem in the anti lock brake system. In this situation the car should be directed to an authorized workshop with precaution.
- If the handbrake is completely released the handbrake indicator (!)(P) and anti lock brake system warning indicator ABS EBD are both lit on the front panel display, stop the car with precaution and contact an authorized workshop.

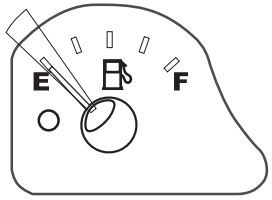
caution

The brake dragging distance will be more while you're driving on sloppy surfaces. Make sure of proper functioning of the brake after washing the vehicle or while you're passing from the puddles.

Warning

This system shall not be deemed as a reason to incite you into sudden accelerating and driving with high speed. Indeed, nothing can be replaced instead of driver's responsibility and precaution while driving.

This performance is an auxiliary system which manages the driver's response according to the prompt circumstances during driving in critical conditions.



minimum 5 liter in tank

Starting on cNG mode (1)

Changing the type of fuel is done by the fuel conversion key located on the front console .The vehicle will be operated on CNG fuel at the following situations.

A) Before driving (at first the vehicle starts on the gasoline then it switches on gas).

B) While driving

C) Starting the vehicle on gas mode (**).

Warning

- ** This mode shall only be used in emergency situation such as lack of gasoline. This mode is not recommended in normal conditions because it may damage the gas-powered parts.
- Do not park your vehicle, which is on, in places that there may be any contact of hot exhaust with flammable things such as grass or leaves.

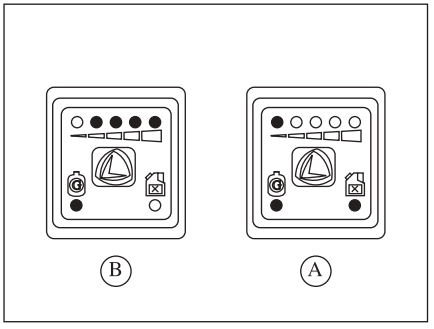
caution

There should be always at least 5 litters gasoline in fuel tank because the gasoline pump is on, even when engine is working with CNG and also gasoline is necessary for cooling the gasoline injectors.

- Use unleaded super gasoline; otherwise vehicle catalyst will be damaged.

Avoid combination of any fluid with standard fuels.

* If equipped



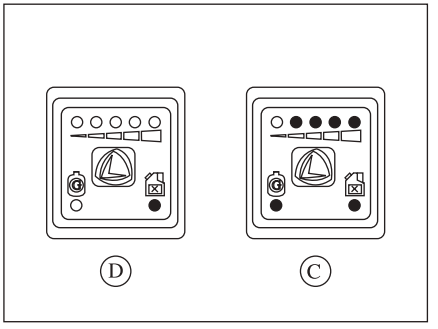
a) operating on cNG mode before starting

Start the engine then put the fuel conversion key on gas. In this mode, in addition to the light on the right side of the conversion key (yellow) being turned on, the green light on the left and the red light for saving gas on the left of the conversion key are blipping fast.

The blinking of the lights on the conversion switches show that fuel consumption has not turned yet from gasoline to gas. Therefore the fuel conversion is done and lights are frequently on and gas saving red lights and yellow ones on the right side are turned off. When the engine is turned on, the 4 green lights of the conversion key are turned on in compliance with the gas pressure inside the gas pump.

b) Selecting cNG fuel while moving

Put the fuel conversion key on gas mode (on the left) and the fuel converted to gas instantly.

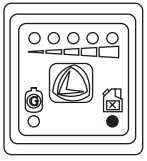


c) Turning the engine on cNG mode directly

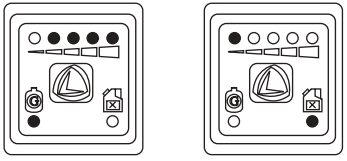
This method is used only for special situations like gasoline shortage and it's not recommended at the ordinary conditions. Fist turn on the switch and put the fuel conversion key on the gas mode. Then start the engine. If there is no technical malfunction in the gas system, the engine will start on CNG.

d) fuel conversion from gas to gasoline

Switching to gasoline is easily done in any case just by pushing the fuel conversion key on the gas mode. When the engine is started on the gasoline mode, the right light of the conversion key (yellow) is on.



Yellow light indicates using petrol (in right side)



fuel conversion keys positions of lamps

Considering the consumptive fuel type and the amount of CNG fuel in the pump, the position is as follows:

fuel conversion key

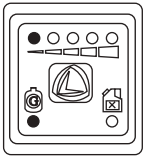
This fuel type selection key is located on the front console instead of panel key.

conversion key positions (Gasoline to gas)*

The yellow light at the right side is on and the left green light as well as red gas saving light is set on blinking mode (the blinking at the above lights show that the conversion of gasoline to gas is not yet done). Then after fuel conversion, the light of the fuel conversion key on the left side is still on and the red and yellow lights are turned off. The 4 green lights over the conversion key are turned in accordance with the gas pressure level inside the pump.

The vehicle is on gasoline, mode The yellow light shows

* If equipped

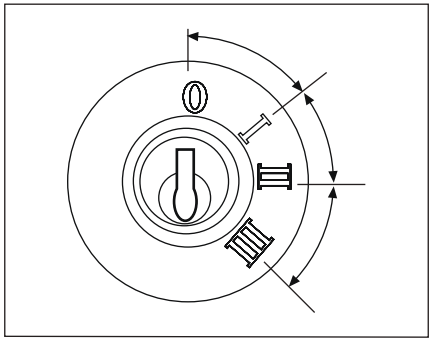


Notice
If you have trouble starting the car in gas mode, set the fuel conversion keys to gasoline position and start the vehicle. If the engine does not start again, consult with an authorized dealer.

fuel conversion keys in gas running out position*

When the gas inside the container is near termination, the four lights above the fuel conversion key (green) turn off. Then the red light above the fuel conversion key turns on. With the complete termination of gas inside the tank, the light on the left side of the fuel conversion key (green) starts to blink. The slow glimmering of green light at the left side of the conversion key does not mean depletion of fuel but it shows some errors at the gas system which causes rotor not to start on the CNG fuel and must return to the gasoline mode.

* If equipped



ignition key

There are 4 positions

O. The steering wheel lock and ignition off.
I. Supply to electrical accessories and steering wheel unlock.
II. The electrical devices on, Engine on and diagnostic lamplight up.
III. Running. Ignition on.

Please note that the key is getting in and out only in 0 position

unlocking the steering wheel

Put the key at I position.
Move the steering wheel gently while turning the key.

Starting

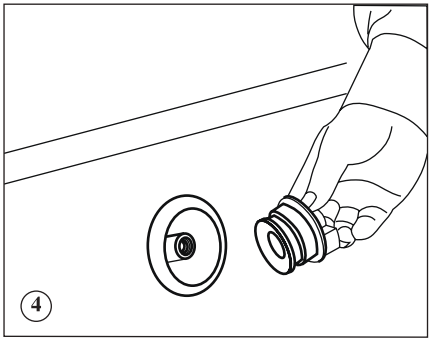
By turning the key to III position, release the key till located in the II position.

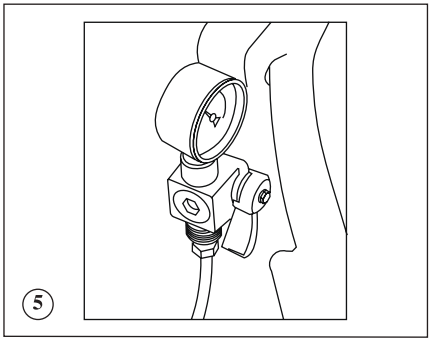
caution

Never turn off the engine while going down the hill (the brake booster will be damaged). Never remove the switch while driving (the steering wheel is locked).

Notice

To start the vehicle, put it on gasoline position.



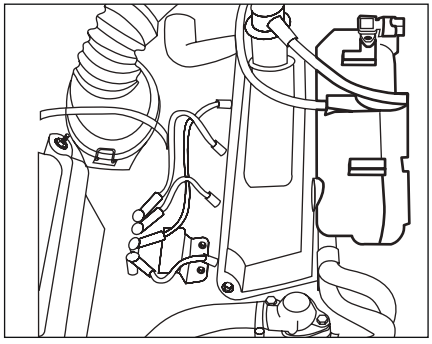


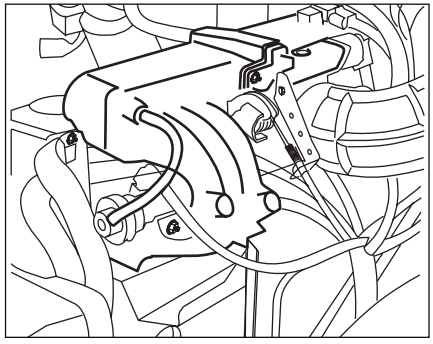
cNG fueling steps*

1) During fueling at gas stations, avoid smoking or using your cell phone.
2) After going to filling station (2), the driver should turn off the vehicle and make sure the automobile has stopped completely (pull the brake lever up). Never move the vehicle while the nozzle is connected.
3) The station operator does the fuel injection operation after controlling the fuel certificate label of automobile.
4) Make sure of closing the gas filler valve overhead after each fuel injection. (It's essential to prevent entering dust and accordingly defects into the gas system).
5) The cylinder is used to store CNG at the working pressure of 200 bars.

caution
We strictly recommend all the owners of CNG vehicles to avoid fuel injection at CNG fuel filling stations related to buses and other heavy vehicles because of its probable damage of reservoir valve and its belongings.

* If equipped





factors determine the fuel consumption:

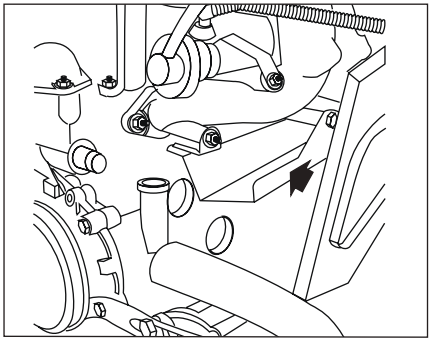
The condition of the engine:
A badly tuned engine adds fuel consumption.

ignition system:
Check the spark plugs electrode gap and adjust them if required.

fuel feeding system:
To prevent oil leakage, check the fuel injection feeding system for fuel rail, fuel filler pipes, fuel pump and fuel filter.

fuel quality:
Fuel quality does affect not only on the fuel consumption rate, but also on the mechanical condition and performance of engine in long period.

caution
Each 8000 km, have your vehicle serviced.



Heat shield of exhaust manifold

For the purpose of elimination the exhaust manifold heat radiation effect on throttle valve and intake manifold assembly, a shield plate is mounted between intake and exhaust manifolds.

fuel consumption

The fuel consumption is depended not only on the car design, but also on driving style and maintenance.

Considering the following points could reduce fuel consumption down to a reasonable limit.

a- Vehicle maintenance

Maintenance & services of car should be performed according to the recommended intervals by replacing on time oil, and regular checking of the related parts in fuel consumption.

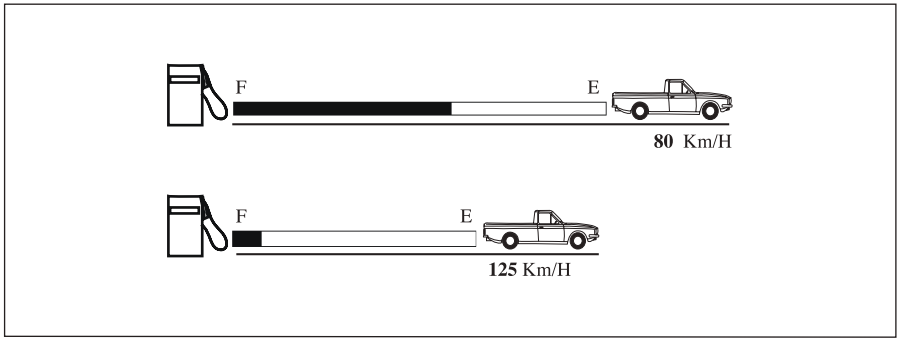
- Engine tuning up according to manufacturer's instruction
- Removing carbon deposits of spark plugs
- Air filter changing as determined in service section
- Keeping tire pressure corrects

(Underinflation of the tires can waste fuel due to increased running resistance of the tires. Keep your tires inflated to the correct pressure)

- Using standard tires.

Notice

Clogged air filter reduces the engine power. If the car is used on dusty roads, the period of services must be shorten



b-driving style

- Keep a steady cruising speed: Keep as constant a speed as road and traffic conditions permit.
- Slowly move the shift lever into the gear you wish, till the tachometer indicates appropriate engine speed in revolution per minute (rmp).
- Don't drive with high speeds. The optimum fuel consumption can be gained with speed of 80Km/h in fifth gear.
- By increasing the speed, the fuel consumption will be increased accordingly. (Fuel consumption rate in a distance of 100Km with speed of 90Km/h is about 8.3 litters).

After raising the engine coolant temperature up to normal range, drive the car quietly and avoid from extra acceleration.

Warm up the engine by slow driving in the first few kilometers

- Driving with high speed will increase fuel consumption. Drive with a slow speed.
- Avoid high acceleration in low gears (First and second) select the highest possible gear without to prevent excessive load on the engine. By keeping suitable distance from frontal vehicle minimize unnecessary stops and breaks.
- By making realistic guess about the traffic-allowing proper distances, eliminating a lot of unnecessary breakings and avoiding hard accelerations- keep pace with the traffic flow.
- Turn off the electrical equipments when they are not really in use.
- Avoid driving with open windows; it is preferable to use ventilators.
- Disassemble the roof rack after usage.
- Make an arrangement before travelling
- Don't use the car in city short trips.
- be Driving in heavy city traffic makes the highest fuel consumption rate.
- Use ring road as well as possible to avoid traffic encounters and entering into the city zones.

improving fuel economy

Periodic maintenance schedule is included in the Service and Guarantee book. To be able to enjoy common guarantee of the Iran Khodro, which is described in said book, you should do necessary periodic maintenance up to first 10000 km function, otherwise in case of any fault, it is considered as fault of the owner and manufacturer undertakings are excluded.

Intervals of the periodic maintenance are specified in the schedule. Remuneration depends on the quantity of the performed, material and the parts are excluded.

Should you use your vehicle in the harsh situation and also drive in the polluted environment, intervals of the replacing engine oil, oil filter, air filter, oil pump and other parts affected by the unfavorable environment should be less than those predicted in the maintenance schedule. It is recommended to consult with one of the Iran Khodro authorized dealer to determine the new intervals.

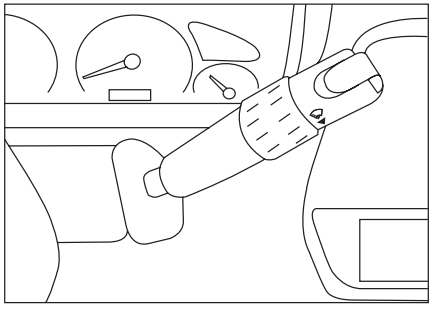
Periodic maintenance should be done only in one of the Iran Khodro authorized shops. Special place considered in the service book for each service should be sealed by that authorized shop's stamp.

Vehicle gas consumption*

Vehicle gas consumption for every 100 km. based on the ECER83/03 standard shall be as below table:

driving condition	fuel consumption 200 bar pressure
Urban	45 lit.
Suburban	28.3 lit.
Urban and suburban (combined cycle)	34.14 lit.

* If equipped

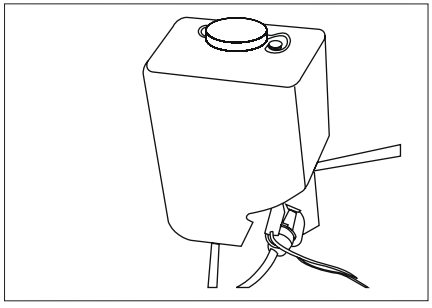


Wind screen washer

Pull the stalk towards steering wheel and keep it for a while to spray the liquid in the water reservoir.

Wind screen wiper

Wiper can start moving with different speeds; by turning of stalk in a multiple steps.



(c) Windscreen washer fluid reservoir

Regularly check windscreen washer fluid reservoir (inside engine). Always use liquid glass cleaner specified for windscreen in the reservoir.

Warning

Never use anti-freeze and water mixture in windshield washer reservoir. It can severely damage your vehicle paint.

caution

Before starting driving at night:

Make sure electrical equipments function properly and adjust vehicle lights (in case of over loading). In general, make sure the lights are not covered (by dirt, mud, snow or any other object.

Warning

Should the vehicle is going not to be used for more than 6 days, it should be started at least once and work one hour idle.

4 VeHicle MaiNTeNaNce

Handbrake

To release handbrake, pull the lever a little upward and push the button at the end of lever with your thumb, then move the lever downward. Make sure that the lever is reached to its most possible down limit.

operating your vehicle

Starting the engine:

Since exhaust gases contain carbon monoxide, a potentially lethal gas, never run the engine in a confined space .Before starting, place the gear shift lever in neutral position and pull the handbrake lever, turn ignition key. Be careful that both engine oil pressure and battery charge warning lights have been turned on before engine running. Then start the engine and after, it is better drive the car with first gear. Use low gears only for a short duration.

accelerator pedal

Always depress the accelerator pedal smooth and gradually. Rapid depressing of accelerator pedal may cause engine damage and raising fuel consumption

brake pedal

1-Two circuit brake, Teklantus in which the hydraulic clutch is used at this system and the clutch and oil reservoir is shared.

2- Azin Taneh two circuit brake that uses the cable clutch in this system and the clutch cable is regulatory.

Warning

Take care to release handbrake when driving (brake light is off); otherwise brake-band lining gets hot.

caution

- Never drive the car in slops with neutral gear, either with the engine on or off.
- Remove any extra thick cover under drivers' feet. If the cover is not standard, the clutch pedal could not be pressed while shifting gears.
-While vehicle is moving, do not switch it off or take out the switch, otherwise the vehicle steering wheel will be locked and you can not steer it anymore.
-Avoid starting engine and its working idle for a long time in the confined areas.

running-in of engine and gearbox

The running-in of a new engine, gearbox and differential are very important, which should be taken under care of driver, because only under this circumstances can be ensured that different components of vehicle will worked for long period of time, with minimum cost and most efficiency. It should be noted that the running-in process should be applied not only for engine and gearbox, but also it has special importance for other components of chassis such as wheel ball bearings and other moving parts of a car.

This process should be carried out carefully and gradually for the first 3000 km driving.

It should be considered that within running-in period, the engine must not be overloaded. In cases such as uphill driving with fourth gear in low speed, lower gears should be selected. Caring new car in the period of running-in, either in driving or engine idling, is significantly important.

In first 800Km of driving, the maximum speed must be kept in following limits:

First gear 15 Km/h
Second gear 30 Km/h
Third gear 50 Km/h
Fourth gear 65 Km/h
Fifth gear 80 Km/h

Between first 800 to 1600 Km of driving, the car speed must not be exceeded from the following values and after this duration the speed may be increased gradually:

First gear 20 Km/h
Second gear 40 Km/h
Third gear 60 Km/h
Fourth gear 90 km

After completion of first 800Km, the car must be brought to an IRANKHODRO authorized service center for free service and checking

caution

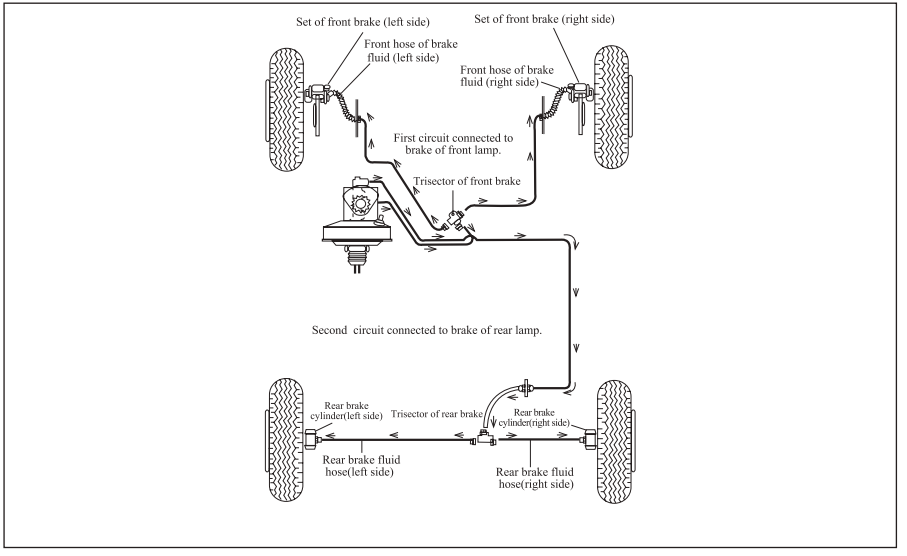
Should the vehicle is going not to be used for more than 6 days, it should be started at least once and work one hour idle.

brake pedal

Avoid sudden brake and stoppage of your vehicle. Use heavy gears, 1 or 2, while running downhill to reduce unnecessary and continuous brakes. To increase the brake safety a mechanical brake button (STOP) has been added.

After driving through a large puddle of water or a car wash, apply your brake pedal lightly until your brakes work normally. If the brakes are less effective than normal, dry them by repeatedly applying the brakes while driving slowly until the brakes have regained their normal effectiveness

Do not “ride” the brakes by applying them continuously or resting your foot on the pedal. This will result in overheating of the brakes which could cause unpredictable braking action, longer stopping distances, or permanent brake damage. In a long-distance driving or continuous braking, have the vehicle checked by an authorized dealer. For more security of the automobile and passengers, two circuit brakes is used so that if any leakage or breakdown is made at one the brake circuits, the second circuit can stop the vehicle properly.



clutch pedal

Do not drive with your foot resting on the clutch pedal. It could result in excessive clutch wear, clutch damage, or unexpected loss of engine braking.

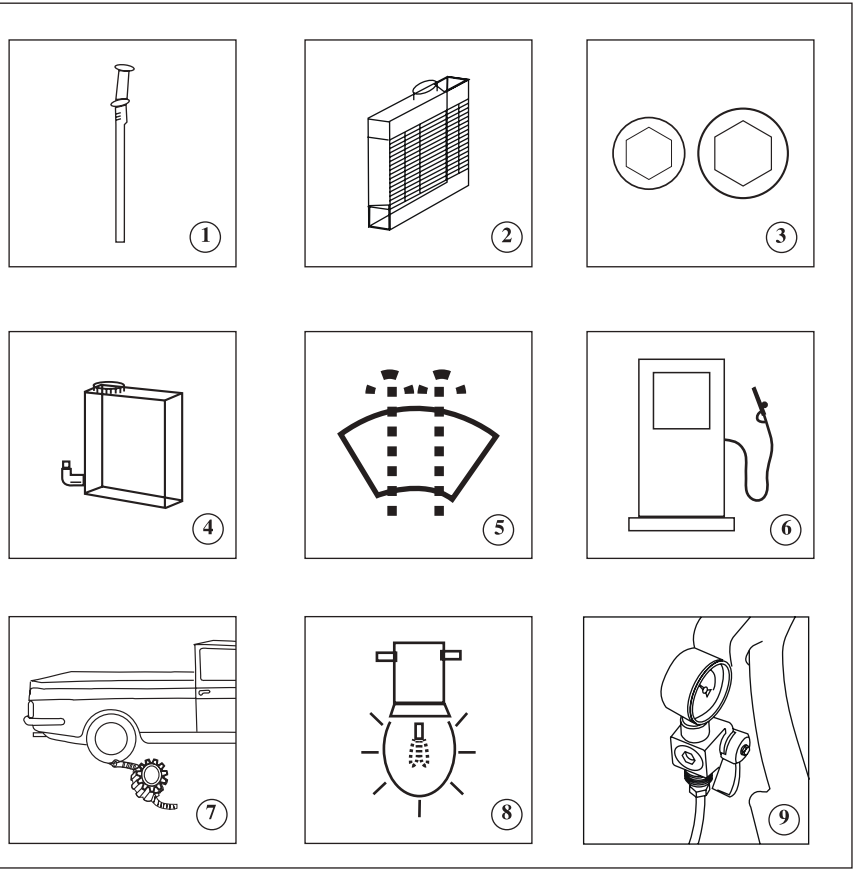
Warning

Never travel fast before engine gets warm. If the engine does not go off by the switch, press brake pedal, engage the gear and take your foot off the clutch until the engine goes off.

checks / adjustments before a journey

1- Engine Oil
2- Coolant Level
3- Clutch & Brake Fluid
4- Windscreen Washer Fluid
5- Windscreen washer/ wiper nozzles
6- Fuel Level
7- Check Tire pressures.
8- Check Front / Rear Lamps
9- Gas pressure level inside the reservoir.

caution
For critical occasions, take some lamps and fuses.



preparation for winter cooling system

The car is containing of approved anti-freeze solution. This solution retains the system down to -15 ºC (In some countries down to- 35ºC). Knowing that antifreeze solutions are containing of anti boiling and anti corrosion compounds, so it is necessary this solution remains in the cooling system for all season. Check the amount of anti freeze and fill up if required. The following table indicates the anti freeze solution density in relation of ambient temperature.

27 % anti freeze	25 % anti freeze	40 % anti freeze	46 % anti freeze	50 % anti freeze
15	20	25	30	35

Applicable anti-freeze in vehicle is Ethylene glycol.

caution

Anti-freeze is fatal if swallowed. Keep it in a closed container and out of the reach of children. If swallowed, immediately contact a physician. It is harmful if it comes in contact with skin or eyes. If it gets in eyes, flush eyes with plenty of water.

Winter tires

Two types of winter tires can be used:

1-Winter tires: Must be used on rear wheels

2-Tires with safety chains: Safety chains must be used on rear wheels.

front windscreen wiper

Before using wipers: Remove the ices on the windscreen by heater defroster.

To use the windshield wiper, press its key and note while the finger is on the key, the water pump function is automatically done. To balance the windshield wiper pump which is set on the air conditioning network at the bottom of the windshield, put some sharp metal like needle inside the windshield wiper eyes and turn it to the concerning direction. It is better wash out the washing liquid reservoir in each refilling due to avoid clogging its port by dust and particles accumulation. To prevent the rusting of dimmer head you must always use the windscreen washing liquids.

* It's recommended to use the approved brands and packages, offered by the Isaco.

Warning

-Should the screen wiper blades are stopped or move slowly due to the snow or freezing, return the key to the initial position immediately and switch off its engine to prevent its damage. Then clean snow and ice under the blades.

-Make sure the screen wiper blades are not frozen (screen wiper engine may get hot). Check the blades. Replace them, when their efficiency has decreased (approx. each year).

-Clean the windscreen regularly. If you switch off the engine before switching off the screen wiper (O position) screen wiper blades will stop at any position.

Put the screen wiper in position O after starting engine, then the blades return to stop position.

Make sure the wind screen is in position O (stop) when you open the engine cover, otherwise you may be injured.

door locks and door rubber seal

- Smear the door locks with graphite lubricants.
-Smear the door rubber seals with paraffin.

passenger air intake

Look for opening of external air spoiler (At the bottom of front windshield), which is not clogged in any way by snow, ice or leaves.

Handbrake

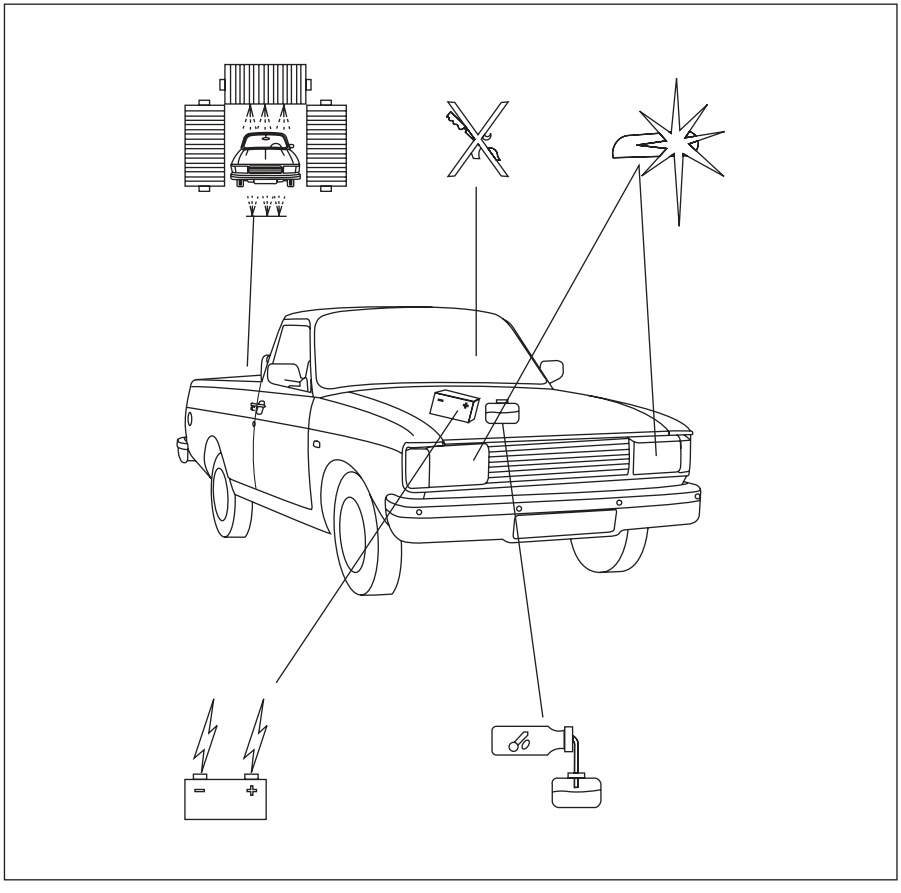
Avoid from prolonged using of handbrake for parking of the car in freezing weather. In such cases block off the wheels front with a chock or put the gear change lever in first or reverse gear.

battery

Check regularly the battery situation.
Lights and Turn Signal
Check all the external lights for cleanness and proper operation.

car body

At the end of winter wash the vehicle thoroughly and pay attention for washing of under body parts and fe



The role of tires at protecting the safety and improving the driving is vital and important.

1- Underinflated Tires

Driving with low-pressure tires causes high fuel consumption may damage the tires.

consequences: The risks of tread throwing or separation of the casing which could give rise to rapid deflation or even a blow out.

2- kerb contact

There is a risk of deformation, cuts or blisters of the casing, which is overstretched. This can lead to rapid deflation or blow-out.

- Hitting made by falling down the vehicle into a hollow space which produces dents on the ring and make damages to the tires (Pot-holes). There is a risk of deformation of the rim and/or damage to the tyre, which often takes the form of an internal, therefore often undetectable, cut; this in turn will trigger off a tear in the casing ply, causing abnormal wear concentrated on one part of the tread, which can lead to rapid deflation or a blow-out.

consequences: If abrasion appeared on some part of spokes of the tire is not discovered on time, the tire, which is exposed to these hitting falling into the hollow space, must be visited.

The advantages of the tire pressure adjustment.

Controlling the vehicle on the roads	Longer life of your tire

Total checks:

- Inspect the air pressure of the tires properly especially before long travels, when the tires are cold.
- Wheels and tires must be precisely inspected to identify the status of spokes and sidewalls of tires and wheel rings.
- Never lower the warm tire air; since it can be 0.3 bar or 4pounds power per squared inch (4) more than cold tires.
- While the air pressure at the spare tires is not specified, then drive using the low speed.
- Under no circumstances, do not use tires without inner tubes.

abrasion index

In some tires the corruption of tires is located under the spokes which appears after abrasion; in this mode we should replace the tire.

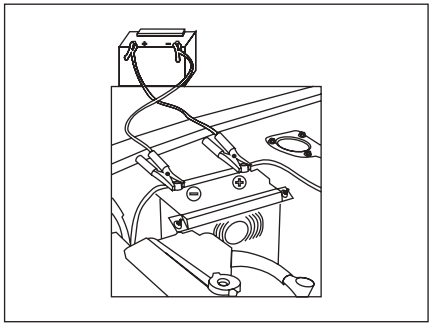
Warning

Damaged tires are dangerous! Avoid driving with damaged, worn and bald or overinflated tires.

caution

Do not drive with worn, cracked, damaged, underinflated or overinflated tires.

Underinflated tires are worn rapidly and have severe adverse effects on safety and control of the vehicle.



Spare battery

Consumption battery in this automobile is of 12 volt and 60-ampere and in case of de-charging battery; it can be charged by another vehicle of an auxiliary battery (12 volts) and begins to start. For this purpose use the following instruction:

1- Turn the ignition switch containing low battery off and use high power cables and clamps to make the connections.

2- It's better to leave the auxiliary vehicle running.

3- Connect the positive (+) terminals and negative (-) terminal of the two batteries.

4- Disconnect the low battery of the ignition switch and start.

Warning

Batteries contain sulfuric acid which is very corrosive. If it is poured on the skin, wash with water. Charged or being charged battery emit Hydrogen which is very flammable.

Never leave the batteries near the fire (risk of explosion)

- Make sure the cables are connected correctly to avoid damage to the vehicle charging system.

Maintenance of the battery

1-Check the battery terminals (poles) to be clean of the sulfated residue. Clean them with solution of the clean water and baking soda. Then clean terminals by clean water.
2-Cover the terminal by mineral (oil) grease to prevent further sulfating.
3-Use special tool to disconnect the cable from battery. First disconnect negative cable (negative connection). When connecting the cables, connect positive cables first.
Clean terminals by brush, if necessary.

Warning
Connecting the battery to an auxiliary battery or another vehicle's battery by the cable is the only approved method for starting a vehicle with discharged battery.

best maintenance for batteries

-Fasten battery firmly in its place.
-Keep top of the battery clean and dry.
-Keep terminals and their connection clean, firm and covered by grease.
-Should battery electrolyte (acid) is poured out; clean there by solution of water and baking soda.
-If the vehicle is going not to be used for a long time, disconnect the battery cables. Charge the battery every 6 weeks.
-Never have flame, cigarette or match near the battery, since Hydrogen, which is very flammable is always available in the cells. Never let the electrolyte contacts with your skin, eye or vehicle finishing.
Never keep the old batteries, especially those which have sulfuric acid and lead, together with the home appliances. They should be kept out of the reach.

caution
-Batteries emit Hydrogen which may cause serious injuries. So keep flame or spark away from engine compartment.
-Do not start engine when your vehicle battery seems to be frozen.
-Make sure the voltage of the both battery to be same (12 volt) and connection cable have insulated clamps and are suitable for 12 volt batteries.
- Do not detach the discharged battery's cable when connecting another battery to it.
- Never attach the battery's positive terminal to the negative terminal and make sure the connection cable to be away from moving parts of the engine. Be careful when working near moving parts of the engine.

Jump starting

- Do as follows:

1- Connect a cable from auxiliary battery's positive terminal to the positive terminal of the flat battery.

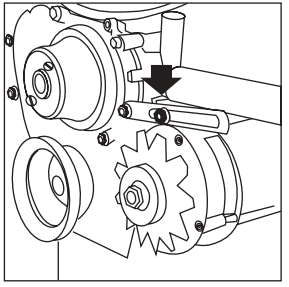
2- Connect a cable from auxiliary battery's negative terminal to a heavy metal part of the vehicle with the flat battery (such as engine handle of any un-painted part) which is away from the battery and gasoline hoses and brake.

Make sure the connection cables are away from moving parts of the both engines, then start auxiliary vehicle and leave it work for some minutes.

Warning

Should you use auxiliary battery improperly, it causes dame to the vehicle and battery. So observe followings strictly:

Vehicle start is 12 volt, so if you use a 24 volt battery or two 12 volts batteries, electrical systems of the vehicle damage. Therefore use only a 12 volt battery as auxiliary battery



4

alternator / fan belt

The alternator charges the battery through a completely closed circuit transistorized voltage regulator which no maintenance is required or possible.

As the alternator bearings are packed permanently with grease during assembly, future lubricating is not needed.

Warning

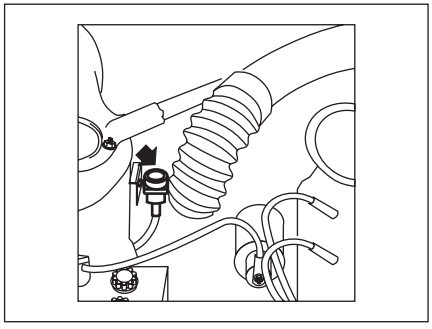
In order to be able to use more electric equipments, we have installed 65A alternator on your vehicle. Make sure to replace it only with 65A type.

fan belts tensioning adjustment

The drive belt is correctly tensioned, when a total movement of 16mm can be obtained on the largest deflection of the belt.

To adjust the tensioning of belt, first loosen the alternator mounting bolts as shown in figure and move the alternator for reaching to correct tensioning amount. Then tighten the bolts. Run the engine for few minutes due to working of belt, then shut down the engine and recheck the belt tensioning.

This function must be done in every 8000 km.



ignition system of pickup engine

Bardo engine ignition is of electronic double ignition coil type.

Due to higher voltage in electronic ignition systems, compared with common mechanical systems, always before working with the systems, always make sure of turning the ignition off or disconnecting the battery cables while:

The switch is off or battery cable is disconnected.The systems must be tested exclusively by the relative experts.

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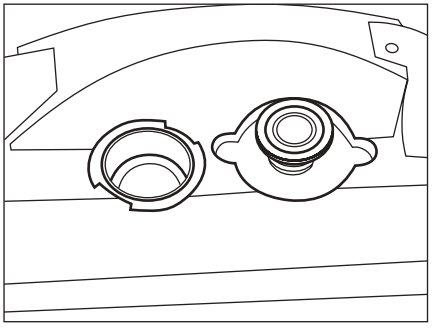
inertia / safety switch:

In Bardo fuel injection cars, due to shutting down the fuel flow in the event of a sever shock or car rolling over, a safety switch is provided in this switch. There is a globe which in case of applying a shock to a switch or rolling over, make the electric current of fuel pump cuts - off.

If, by any reasons, the switch is deactivated, it should be activated again by pushing the top of switch to return to the initial position (activated mode); otherwise the engine may not be start.



engine coolant system (radiator)

When water temperature at the radiator raise up and its pressure passes over the relief valve of the radiator head. The above mentioned valve opens and the steam goes out of the upper pipe of this valve. Obviously some water is gradually lost in this order, which must be compensated, in proper inspections. The radiator mustn't overpass the bottom line of the radiator glottis. Keep in mind that radiator overhead must be completely closed at all seasons and the packing rubber at overhead must be intact.

flowing out radiator water

At first we must remove the radiator overhead (according to figure).

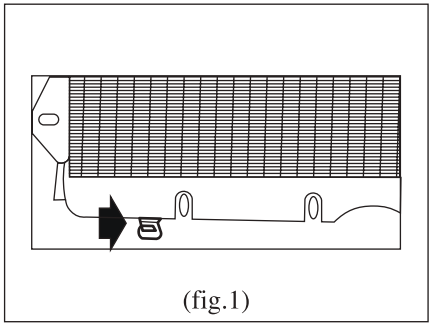
Put the control lever of heater on warm after removing the overhead then open the evacuation valve under the radiator as well as engine nearside the evacuation valve to deplete (evacuate) water (the figure on the next page).

Warning

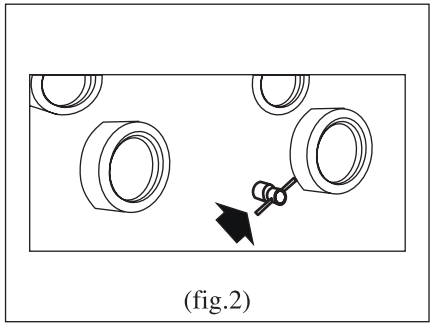
Cooling system fan is electrical and may continue working a few minutes after the engine is switched off. To help preventing personal injury, keep away from working fan while engine compartment cover is open.

Warning

If you need to check the water cooling after a long driving, keep in mind never open the radiator at once; but firstly turn it 1/4 round to the left and wait a moment till the system inside the compartment at the top of radiator is gradually depleted and lose the pressure. Turn the overhead completely to the left side and open it.



(fig.1)



(fig.2)

Re-filling the radiator

1- Put the controlling lever of heater on warm

2- Close the evacuation valve under the radiator and close to engine. (Figure 1 and 2)

3- Spill the solvent into radiator till it is full. Note that water is always clean and lacks any settled minerals if possible.

4- after filling up radiators, start the engine and let it work a few moments then visit those parts of the radiator which are not dropping or leaking water.

5- To open thermostat valve the engine must be functioning fixed and its temperature must reach 80 degrees centigrade then the confined air is released and you can control the water level again so that you can spill water again.

clean the radiator once in two years.

This is highly required when you use water including settled solvents, which contain lime materials.

To clean the radiator and its rotor please do as following:

At first evacuate the radiator water then if the radiator is cool put the water pipe inside the edges of radiator and cleanse the residues by pressing it softly then close the evacuation valves and fill up the radiator with the cleaning solvent (these types of solvents must be reliable and without materials which make damages to metal) and follow the instructions which is ordered by producers of how to use the solvents.

You must keep in mind that these types of material may make damages to the automobile paint so while using them we can give precise attention, then evacuate the cleansing solvent and wash it by tubes again and close the evacuation pumps finally and fill them up whole gear of cooling solvent (defrost and non-mineral water, according to the indices and table of page

cleansing the outer parts of the radiator

At regions and conditions in which the dust and several insects exist, the we must swipe out the radiators by pumping compressed air through the inner part of engine and every while we visit it properly and try out the plastic pipes and the related connections (settings) to prevent the corruption and dysfunction.

recommendations for washing the vehicle

1- Wash vehicle at least once per week when weather is normal.

2- Wash vehicle away from direct sunlight

3- Start washing at least 30 minutes after engine has been stopped.

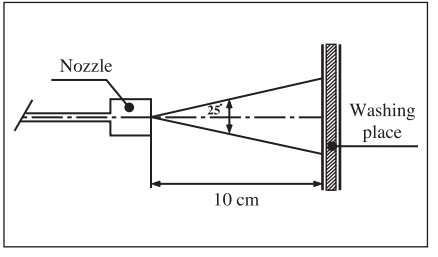
4- Do not use cloth and/or hard materials which can scratch the paint during washing/wipe off. It is recommended to wear plastic gloves during washing. Use warm or lukewarm water for washing. Never use hot water. Meanwhile it is recommended to use waxes and polishers which are not abrasive or erosive.

5- Do not stand on the door step and do not depress the vehicle's roof and body during washing/wiping. Meanwhile it is recommended to use leather or cotton cloth for wiping off and polishing to avoid scratching the paint.

6- Since the brake's dust is very corrosive, first wash the wheels, then change the cloth and the washing solution and wash other parts of the vehicle from top to bottom. Wash Aluminum wheels and Chrome metal sheets with a water and mild soap using a soft and clean cloth.

Wheels surfaces are very sensitive such as the vehicle's paint. Do not use strong chemical and/or acid substances and also abrasive and erosive materials such as chrome polishers. Chrome polishers should be used only on the Chrome metal sheets on the Aluminum wheels.

7- Max. Temperature of the water for washing the vehicle is 60˚C, Max 65 bar pressure, 10 cm distance between nozzle and washing area and 25 degree angle for spurting. This angle actually is the angles between water spurting out the nozzle in both side of the longitudinal axis (water exit direction) as following figure.



8- Suitable detergent for washing vehicle:

- Low basic (PH=7-9)
- Proper lubricant to protect the paint from scratching. Use preferably fluid detergent.
- Free from materials which affect on vehicle after drying;
- Containing polisher ingredients to maintain gloss and dry quickly.

9- Do not wash the vehicles, having metallic and two coverage paint, by automatic carwashes which use rotary brushes;

10- Foreign material such as bird droppings, tree sap, etc. may damage the finish of your vehicle. Remove these types of deposits as quickly as possible.

11- If the water permeates to the luggage compartments and interior parts of the vehicle, dry it immediately.

General hints for washing various part of the vehicle

Type of stain	leather and plastic parts	fabric upholstery
Mud	Lukewarm soap water Commercial detergents	Commercial detergents Acetic acid
Chocolate (cacao)	Lukewarm soap water Commercial detergent	Ammonia solvent 25% borax solvent then soap and water
Sugary substances, fruit juice	Lukewarm soap water Commercial detergent	Lukewarm soap water Commercial detergent
Pen ink	Industrial alcohol 90 alcohol	Industrial alcohol 90 alcohol
Blood	Lukewarm soap water Commercial detergent	Ammonia solvent 25% Lukewarm soap water
Grease or bitumen	Turpentine / gasoline	Turpentine
Engine oil	Gasoline/industrial alcohol	Gasoline/ industrial alcohol

Warning
-Never use detergents, abrasive or chemical products
-Do not wash seat belt by whitening substance.
Clean any stain on the upholstery by carpet shampoo and sponge

caution
Use only vacuum cleaner for vehicle whose floor are entirely covered by carpet. Application of the detergents may result to corrosion of the body and carpet.

General washing upholstery:

dry clean

plastic parts:

(Glove box, doors internal cover and internal part of the roof)

Use only lukewarm soap water or industrial alcohol. Consult with Iran Khodro authorized dealer if there is any problem.

Special washing

Seat belt:

Use only lukewarm soap water and avoid using any metal objects

caution
Blue straps on the lacing of the side mirror, windows, and vehicle bumper should be detached. Otherwise they may cause problem.

Maintaining the body

Never:

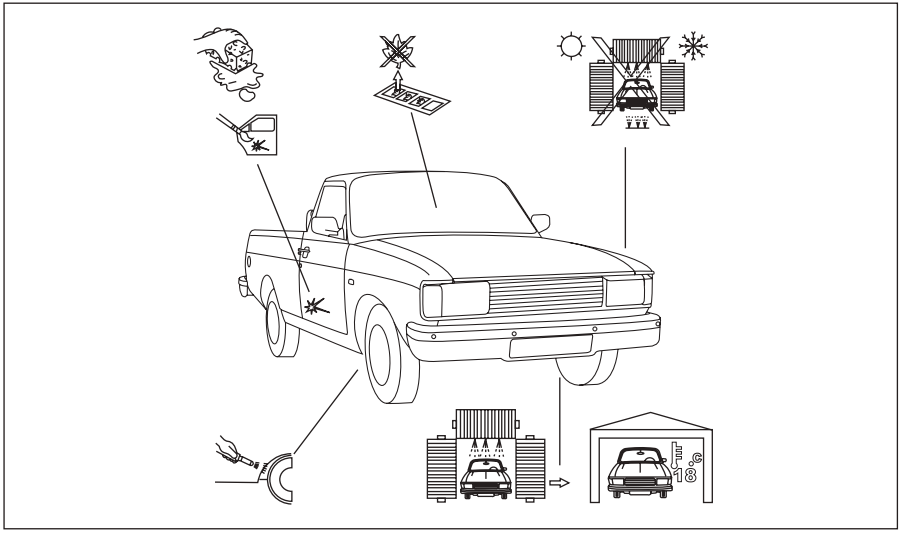
park wet vehicle in a very warm (more than 18 Celsius degree) and confined area.

- Do not forget washing the vehicle after driving on the snow and salty mud (especially under the body and mud apron.
- Never let the rust of the damaged parts (scratches,) comes up to vehicle body.
- Do not wash vehicle under sun or freezing weather.
- First rinse the body, and then clean it.
- Do not let the foreign material (oil or birds dropping) remain on your vehicle.
- Do not clean bitumen stain by gasoline or unsuitable solvents which damage your vehicle finish or plastic parts.

always:

- Drive slowly and maintain your distance from front vehicle (small stones damage vehicle finish or bottom parts of the vehicle.

Wash vehicle frequently, especially when you have been driving on the salty roads.



- Do not park under trees and/or polluted areas.
- Clean salt sediments and mud under the vehicle body and mud apron by high pressure water. These sediments cause corrosion of the vehicle.
- Stain the wanness of the vehicle.

Do not hesitate to consult with Iran Khodro authorized dealers.

Warning

Water penetrates through doors and windows sealing in some water washing systems and damages the locks. Do not take high pressure water directly on the sensitive parts.

Spotting out

Any damages to the vehicle paint shall be cleaned out to prevent corrosion of the vehicle.

Body color number has been indicated on the identification plate (refer to the dimension section).

Necessary tools for spotting out:

Paint scraper , Anti-rust , Small brush

if the damage is sever and the body metal is noticeable

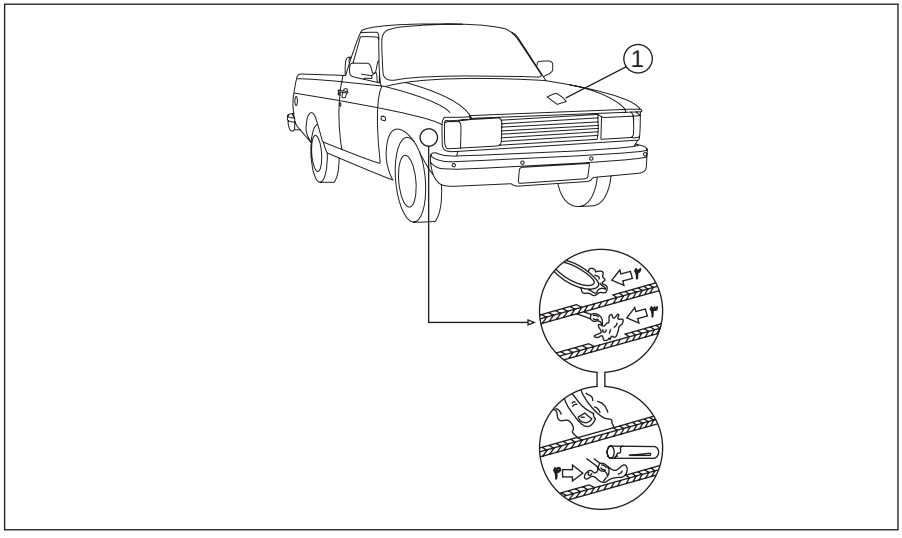
1- Scrap damaged part by paint scraper to level the paint borders

2- Apply anti-rust and allow it to dry, then abrade by a very fine abrasive

3- “touch up” the damaged spots lightly using the small brush (repeat several times). Allow the paint to dry each time

4- If vehicle paint has polisher, use polisher after spotting out to have monotonous paint.

Rusting always threaten Vehicle body. You can slow it process by employing certain procedures. Iran Khodro has employ some approaches such as proper lining and paint and also injection of the foam within vehicle body.



following factors accelerate rusting:

- Driving on the salting icy roads in winter
- Pollution
- Humid weather or near the seas

Lubricate followings:

- Engine cover hinges
- Engine cover lock
- Doors hinges
- Door loops

oil types

The frequency and routine change of oils in different parts of car is essential factor for improving durability and long-lived. Therefore oil service should be taken into account carefully before traveling. Otherwise it creates heavy damages on your vehicle. With consideration of different weather and temperature conditions, recommended lubricant is shown in next page.

Notice

-The oil must be checked every 400 kilometer. To make sure, please inspect with the specific indicator.

- Using of non-recommended brake fluid, will damage the rubber seals of break system. Brake fluid damages the body painting. Correct and authorized usage of oil is recommended.

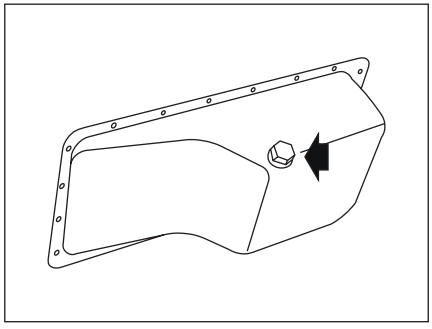
component	oil type *	capacity
Engine	10 W 40 - 20 W 50	4.5 litter with filter 3.97 litter without filter
Gearbox (4 speed)	85 W 90	2 litter
Differential	85 W 90	1.2 litter
Steering Box	85 W 90	0.32 litter
Brakes & Clutch	DOT 3 - DOT 4	0.568 litter

*It's recommended to use the approved brands and packages, offered by the Isaco.

component	oil Types
Battery Clamps	Multi Purpose Grease (Grade2)
Hinges, Handles & Locks	Engine Oil
Front Wheel Hubs	Multi Purpose Grease (Grade2)
Handbrake Spring	Multi Purpose Grease (Grade2)

Warning

- If you drive vehicle with high speed for a long time, check its engine oil level frequently.
- In case of any sudden or significant decrease of the vehicle's fluids and/or uneven worn of tire, refer as soon as possible to authorized dealer.



changing engine oil

The amount of engine oil consumed depends on the viscosity the oil, the quality of the oil and the conditions* the vehicle is driven under. In normal condition the oil should be changed within 6000 km and in the conditioned as mentioned below (*) it should be changed within 4000 km.

Gearbox oil

The existing oil in gearbox should be checked according to the regular checks and services table.

iran khodro 4 speed gear box oil must be changed after each 2-stage of oil change (per 8000 kilometer)

Warning

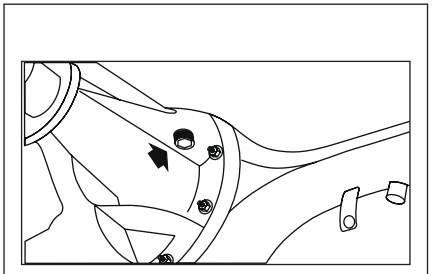
- When working on the engine, be careful. Engine of the radiator fan may start working anytime and cause injury.
- Adding- when adding oil, be careful not to pour it on the other parts. There is the risk of firing. Do not forget closing the cap, otherwise there may be risk of the firing due to the oil spattering on the hot parts of the engine.
- Changing engine oil: if you change engine oil while engine is still hot, be careful, you may be burned due to the spattering of the oil.
- Do not start engine in a confined area. Exhaust gasses are poisonous.

4

* **Hard condition:** Short and repeatedly stoppage during driving, driving in heavy traffic conditions, towing a trailer, high speed prolonged driving, under high loads, frequent acceleration and deceleration, short trips with cold engine in low temperature, hot weather generally over 30 centigrade, cold weather generally below 15 centigrade, in dusty weather, usage of low quality oil / fuel.

caution

Never mix the oil with additives. This may cause serious damage to the engine.



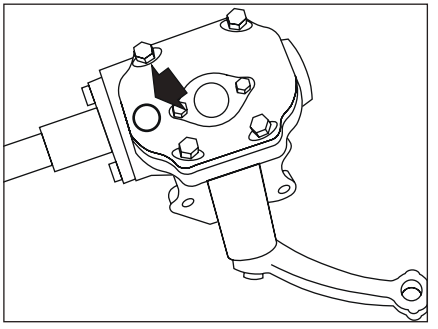
(fig.1)

differential oil

When delivering car, the differential box has been filled with oil. The oil should be checked in every step of periodical services. Check the oil level with the vehicle on a level surface. Clean thoroughly all around of the filling plug, then remove the oil filler plug and finally check the oil level. Top up the oil level to the plug thread (1).

checking the hydraulic steering wheel fluid

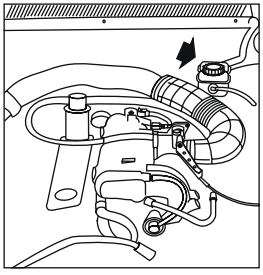
Checking the hydraulic steering fluid every 4000 km. The best way to balance the fluid in the system is when the level is a little under the oil passage outlet.



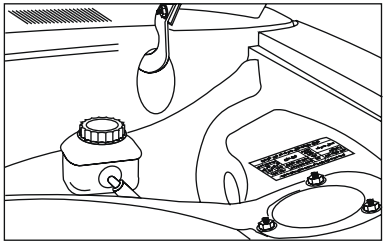
This track is blocked by the rubber lead above the steering Reservoir. Always use the certified oils and pay attention to cleanse the lead and outlet edges while pouring oil and after that the said lead must be completely closed (2).

inspection for front wheels lubrication

After passing from 8000 kilometers driving, front wheels hub must be greased again. For this purpose remove the wheel hubcap and clean it thoroughly. Then check the roller bearing and fill up with grease.



Brake reservoir AP



Two circuit brake reservoir of teclantos

Brake fluid check

Pour brake fluid in a reservoir witch is placed in the front of car and in the engine compartment near the steering rod. Check the brake fluid in the reservoir after within 1600 kilometers driving and fill up it. Top up the brake fluid reservoir till 12 mm to the brim if required.

Brake oil should be changed only after prolonged distance. If there is a significant drop in the brake fluid level – the level of the brake fluid must never fall below the minimum mark of the reservoir- check for the leakage in the brake system and have your brake fluid fixed if necessary. Make sure the air intake on the brake fluid is clean and not clogged; otherwise your brake systems may not work well, or they

caution: Each 4000 km, have the brake oil changed.

Warning

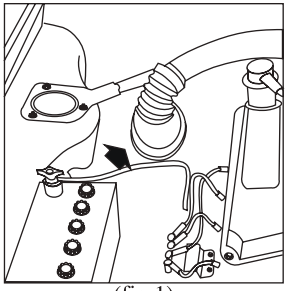
-Brake fluid is very poisonous and should be kept in a closed container out of reach of children. If it is swallowed please refer immediately to a doctor.

-Avoid contacting of the brake fluid with skin and eye. Should it pours on the skin; wash it by plenty of water. It is get contact with eye refer to a doctor after washing the eye with water.

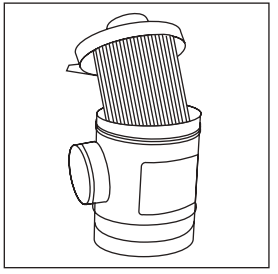
-Be careful the brake fluid shall not be poured on the warm engine, otherwise there may be firing.

caution

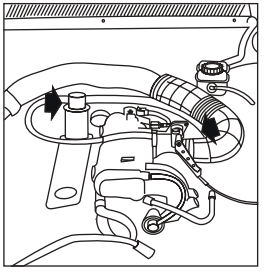
Brake fluid damages the painted surfaces. First clean the surface by a clean cloth and then wash it with special shampoo and water.



(fig.1)



(fig.2)



(fig.3)

Change of air filter (Picture 1 and 2)

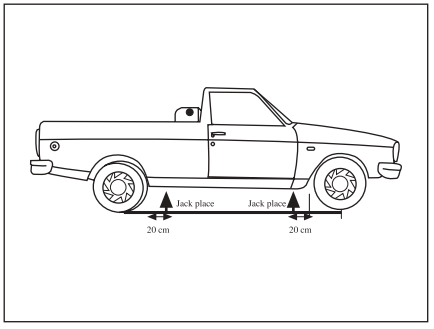
To change air filter easily, the filter housing has been fixed on the car body. To remove filter, just open the two clamps on the filter.

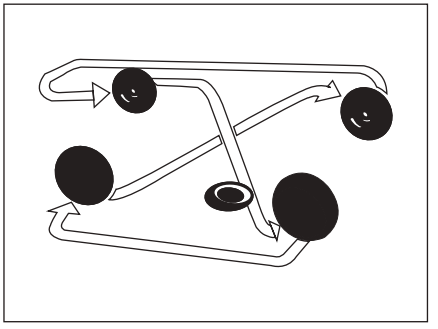
The oil vapor conditioner and penetrating gases of carter reservoir

To remit the penetrated gases inside the carter sump, a three-way and two plastic passages are plugged to the air inflow pipe and to the gas rectum and by a dimmer to air manifold. (Figure 3)

5 TecHNical eMerGeNcieS

* If equipped





5

Wheels replacement

- Put the vehicle at the flat level, after pulling the handbrake put the automobile at gear one or reverse gear
- The hazard warning triangle is placed under the seat (according to announced space on the caution box) to procure the safety issues while replacing the wheel (2 on previous page)
- Remove jack and the wheel brace
- Open the spare wheel strap and remove the spare wheel
- Loose the wheel nuts and remove the wheel trim(wheel cover)by using wheel brace
- Put the Jack at a special place (1) and raise the vehicle by turning the jack in clockwise direction
- Unscrew the wheel nuts and remove the wheel
- Replace the spare wheel
- Tighten the nuts a little
- Lower and remove the jack
- Tighten all nuts completely
- Replace the wheel trims(wheel cover)
- Put the punctured tires in the place of spare wheel and tighten the strap
- Replace the tires, according to the (2)for each 8000 kilometers.

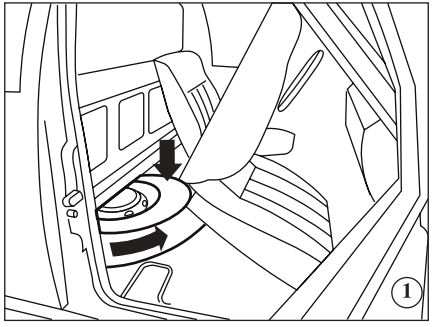
caution

- The wheels must be balanced.
- Never use jack to repair while going under the vehicle
- To regulate the safety issues, check the air pressure of the wheels, including spare wheel, while the tires are cold.

Warning

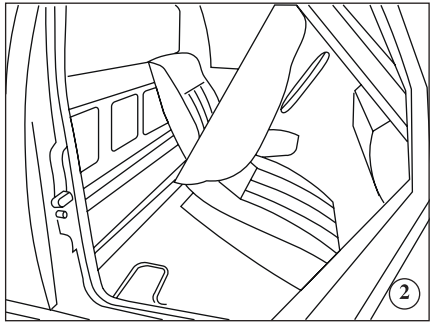
Do not get under your vehicle if it is supported only with jack. Jack is only for changing wheels.

- Check the tire pressure after changing wheels and make sure the wheel nuts are tightened
- Replace the wheel as soon as it is deflated.
- Deflated tire should be inspected (and repaired if necessary) by an expert.
- Park the vehicle on level, stable and non-slippery ground (for example avoid parking on the ceramic surface), (use a bulkhead under jack shoe if necessary), turn on the flasher blinker light. Apply hand brake and engage first or reverse gear or position P for automatic gearbox. All occupants should be go out of the vehicle to a place far from vehicle traffic.



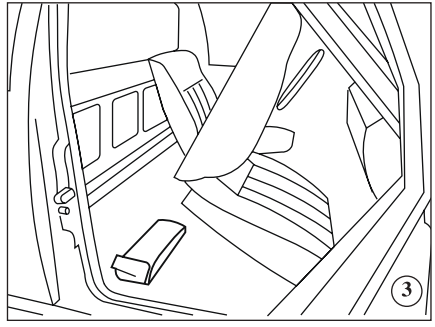
Spare wheel

It is located under the passenger's side seats. Open it by a finger press (1). Replace the wheels, according to the pictures. Then put the hook on the holder section of the wheel and press it to the wheel side. Turning the screw counter- clockwise (to the left) tighten it. Always make sure of not over-tightening it.



Tools located under the seat (passanger side)

1- Jack and Spare Tire
2- Jack Wrench and wheel Brace
3- Toolbox and Hazard Warning Triangle

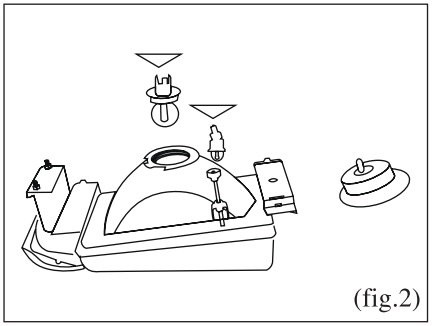


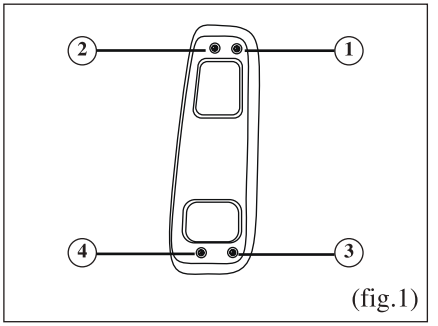
Tool bag contains

1- Ignition wrench
2- Open end wrench 7.16 and 3.8
3- Open end wrench 9.16 and 1.2
4- Double end screwdriver
5- Crosshead screwdriver
6- Pliers

Warning

- Low pressure of tires causes fatigue, abnormal heating of tires and the following consequences:
- Malfunctioning in roads.
- Explosion of tire and fatigue of jags.
- The tire pressure must be set according to the weight and speed of the vehicle.
- Fasten valve of the tire properly, so that there won't be any decrease of pressure from it.


(fig.2)



(fig.1)

5

replacing headlamp (2)

- Open the grill
- Remove the bayonets around the lamps
- Loose the main beam headlamp assembly
- Detach the socket
- Separate the spring at the back of the lamp
- Replace the lamp

changing lamps

Unscrew 1, 2, 3 and 4 screws (1) and remove the cover. Push the used lamp inside, turn it and then remove it. To put the new lamp, push it towards inside and then turn it in an anticlockwise direction. Replace the bulb.

replacing instrument panel warning lamps

All the warning lamps could be accessible simply from the back of the panel. Just remove the related lamp and replace it.

caution

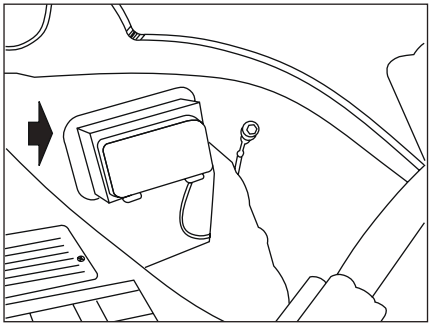
To lift a new bulb, never touch it with your hands. It is recommended to take it with a piece of cloth.

Warning

Lamps are under vacuum condition. They may break during replacing and cause injury.

Lamp specifications table			
lamp location	**Watt**	**Volt**	**contacts**
Front / Rear Direction Indicator	21 watt	12 Volt	
Head lamp	40 and 45 Watt	12 Volt	Main/Dipped Headlamp
Brake lamp	21watt (front) and 5 watt (Rear)	12 Volt	Main/Dipped Headlamp
License Plate Lamp	5 watt	12 Volt	
Cluster back light	2.2 watt	12 Volt	
Reverse lamp	21 watt	12 Volt	
Side lamp	5 watt	12 Volt	

Warning
Check function of the all external lamps before driving To avoid short circuit, switch off the lamp key when replacing a lamp.



Fuses Color

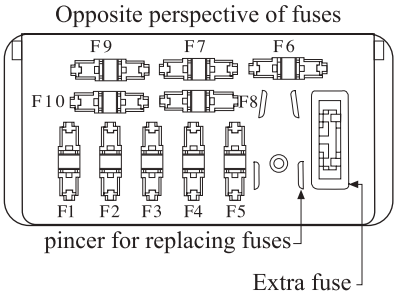
green: 30 ampere

Yellow:20 ampere

Blue: 15 ampere

Red: 10 ampere

White: 8 ampere



5

fuse box

Ten fuses are set up in the fuse box of the vehicle. These fuses are placed at the plastic box engine parts. In case one of the fuses break-down, after the replacement do not take a step in repairing or placing fuse with more resistances and refer to Iran Khodro dealer.

Warning

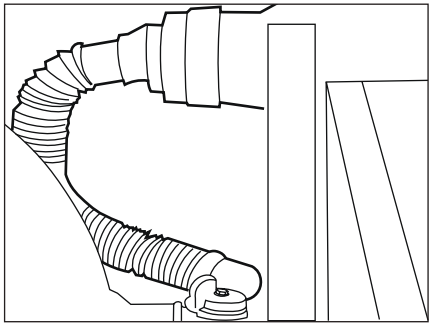
When one the fuses is blown and blows again after replacing with new one, do not replace with a more resistant fuse. Refer as soon as possible to the Iran Khodro authorized (van) dealer. There may be the risk of firing.

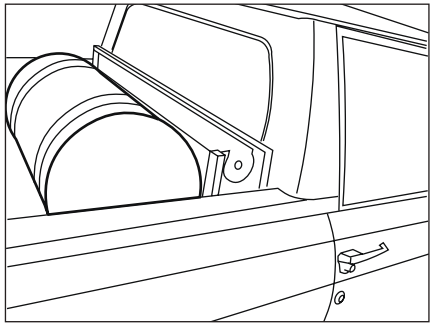
caution

Any alteration (modification) on the electric circuit should only be done by the any of the authorized dealer which has necessary parts available, otherwise only one wrong coupling may result to total damage of the electric system (wiring, parts and specially the alternator).

electrical parts for each fuses (1).

fuses No.	fuse type	electrical parts related to every fuse
F1	F1 Capacity 30	Main Beam Headlamps, Flasher, Digital Clock
F2	F2 Capacity 20	Start switch Supply, Electronic Control Unit(ECU)
F3	F3 Capacity 15	Cigarette Lighter, Radio Broadcast Memory
F4	F4 Capacity 15	Front Lamps, High Beams (right and left)
F5	F5 Capacity 15	Front Lamps, Low Beams (right and left)
F6	F6 Capacity 30	Side Lamps, Digital Clock Dimmer and Cigarette Lighter
F7	F7 Capacity 15	Digital Clock Dimmer, Direction Indicators, Horn
F8	F8 Capacity 15	Windscreen Wiper, Windscreen Wiper Pump. Injection System
F9	F9 Capacity 15	Injection System
F10	F10 Capacity 15	Injection System





Tackling method in case of happening any type of gas leakage

Despite considering many safety points at the gas system its necessary to keep informed of the following issues:

- every day inspect the automobile to make sure of leaking the gas
- Any type of gas leakage at the high pressure pipe installations at the drivers' cabin or at the load section is transmitted out of the cabin by means of conditioning muzzle pipe.

If park the car at the closed places which lack conditioning system, you recommend you to turn off the head sump valve.

- In case of happening any leakage and smelling gas from trunk compartment or inside the room. Put the fuel selection key in gasoline mode, turn off the head sump valve and refer to the certified agency for tackling the error.

Notice

- any manipulation and doing repairs and maintenance of the gas system by unauthorized people.
- It spoils the guaranty conditions and possible damages and losses. Repairing shop personnel only does so all the repairs.
-any repair at sumps such as replacement or repairing the sump head valve or repair and servicing regulators is merely done by the trained people and authorized by the producer companies and at the certified agencies. Also while the sump and regulator is part of the detectible tools, any repair and replacement must be posted at the repairing identity ca

* If equipped

do you know...

That main function of the vehicle's gasoline filter is refinement and filtering the impurities in the gasoline and improving the fuel combustion in the vehicle's engine cylinder.

Special paper, with very small pores, is used in the internal structure of the Gasoline filter. These pores are gradually closed by the impurities in the gasoline.

Blockage of the filter's pores causes reduction of its efficiency, disturbance in the engine combustion process and increase of the fuel consumption. Therefore, considering following conditions

environmental and road conditions

Better combustion of the fuel in engine Un-necessary pressure on the oil pump

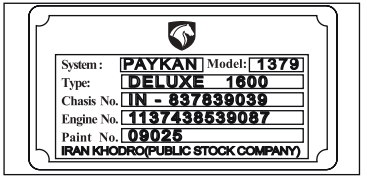
decrease of the fuel consumption

Replace your van gasoline filter by standard filter latest after each 20000 km driving.

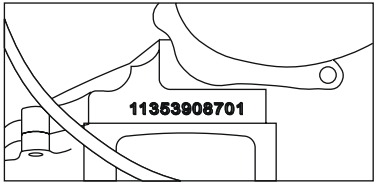
You should use only standard filters and approved by Iran Khodro Industrial Group. It is mandatory.

It is recommended to avoid change of oil filter in the unauthorized service stations which may not be familiar with opening and closing Connector Quick attached to the oil filter. Iran Khodro Authorized dealers and service stations enjoy special tools and trained personnel. Please refer to them.

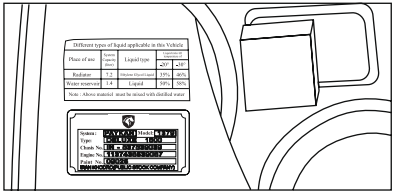
6 TecHNical iNforMaTioN



(fig.1)



(fig.2)



(fig.3)

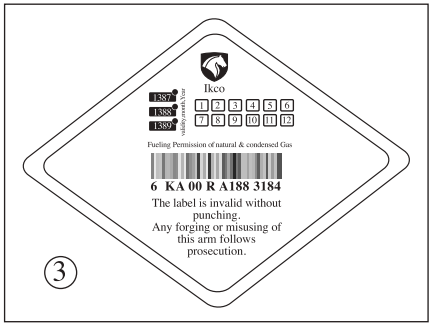
Vehicle identification number

When you open the engine door, there is a metal plaque on the inside surfaces of the fender (figure 1) which shows the engine number, interim (trunk) number IN, paint number, model code and product date even there is small plaque on the front lock trace which shows the Interim Number (IN) and the Interim Number is started with INP on the trunk of Van 1600.

While corresponding to organization after sales services or other orgs, possibly stipulate you identify. By means the engine number every automobile is engraved on the cylinder layer. (fig.2)

Specifications label

To get the access to some vital information and tested for different types of oils. Consumptive liquids, types of rings tire and amounts of tire air pressure. the mentioned identification is labeled on the specified places (in figure 2 and on the figs of next pages.)



How to change the fueling label

The validation period of this label is 12 months and you are not authorized to inject fuel of your automobile without it. So at least 1 month before completion of the validity limit of this label, refer to CNG automobile certified centers.

caution

We strictly recommend all the owners of CNG vehicles to avoid fuel injection at CNG fuel filling stations related to buses and other heavy vehicles because of its probable damage of reservoir valve and its belongings.

cNG fuel consumption

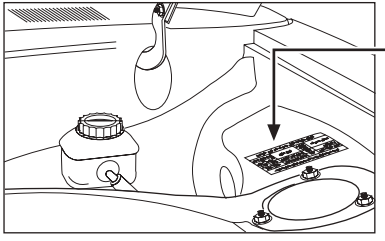
The consumption is in 100 Km based on ECE R83/03 standard; and according to the following table:

driving condition	fuel consumption with pressure of 200 bar
Urban	45 lit
Suburban	28.3 lit
Average consumption (urban & suburban)	34.14

			Pickup
Ring and Tire	Ring Size		4.5 J* 13
	Tire Size		590*13
	Tire pressure	Up to 2 seats	Front* 27psi 24psi Rear* 27psi 24psi
		In high speed and long distance	Front* 31psi 28psi Rear* 31psi 28psi

liquids / applicable in this vehicle**				
Consumption Area	System's Capacity (in liter)	Type of Liquid	The Relationship between Solvent and Temperature	
			20 °C	-30 °C
Radiator	7/2	Ethylene Glycol Solvent**	46 %	35 %
Windshield Wiper supply	1/4	Isopropanol Solvent**	58 %	50 %
Note: the above materials must be mixed with non-mineral water.				

component	oil type **	capacity
Engine	20 W 50 or 10 W 40	4.5 litter with filter 3.97 litter without filter
Gearbox (4 speed)	85 W 90	2 litter
Differential	85 W 90	1.2 litter
Steering Box	85 W 90	0.32 litter
Brakes & Clutch	DOT 3 DOT 4	0.568 litter



*Related to bi-fuel vehicles.
**It's recommended to use the approved brands and packages, offered by the Isaco.

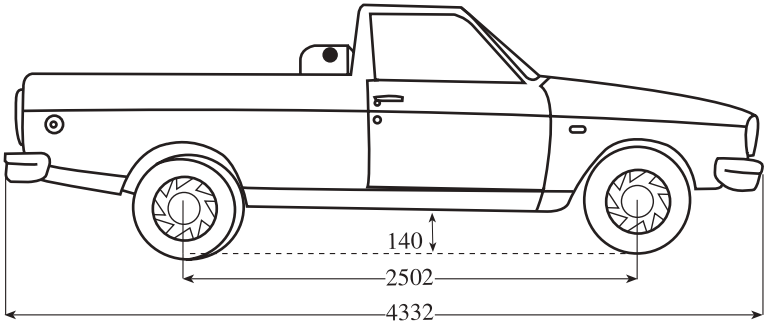
Weight (kg)	General specifications		
960 kg	Gas		Net weight
1210 kg	Gasoline		
500 kg	Gas	Max. Cargo load	
415 kg	Gasoline		
1625 kg	Max. Weight allowed *		
1210 kg	Vehicle net weight (without extra accessories) *		
General specifications			
Hydraulic – Disk type	Front brake		Brakes
Hydraulic –Drum type	Rear brake		
Coil Spring with Telescopic Shock Absorber	Front spring		Springs
Leaf spring	Rear Spring		
Telescopic	Rear shock absorber		

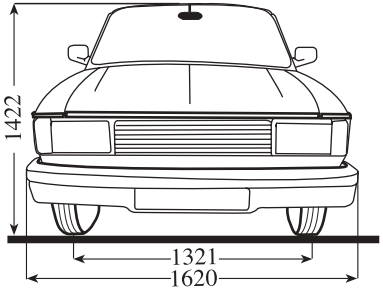
*Related to bi-fuel vehicles.
** Weights are different from other tank capacity.

General specifications		bardo pickup
Gearbox	Final drive reduction ratio	3.89:1
	Gearbox - Manual	4-Speeds + Reverse
	Max. Speed in 1st gear	39 Km/h
	Max. Speed in 2nd gear	60 Km/h
	Max. Speed in 3rd gear	95 Km/h
	Max. Speed in 4th gear	137 Km/h
	Max. Speed in reverse gear	37 Km/h
Differential	Differential type	Hypoid
	Pinion / crown wheel gear ratio	9:35
Electrical system	Battery type	12 volt, 60Amph, 9 plate
	Alternator type	65Amperes lucas tondar rasht
	Start type	35 m j Lucas tondar rasht
Cooling system	Radiator type	blades three - 40spa
	Thermostat opening Temperature	80~84 Degree centigrade
	Type of blade	5-Plastic blades

General Specifications		pickup 2
engine	Engine type (Capacity)	Four Cylinder, Four Stroke, Internal Combustion 1598CC
	Number of main bearings	5
	Cylinder bore	87.3 mm
	Cylinder type	Equipped with valve seat bush
	Piston stroke	66.7 mm
	Max. engine torque	133 Nm at 3000 RPM
	Max. engine output power	59 Kw at 5000 RPM
	Max. engine output power in CNG mode*	24.48
	Max. torque in CNG mode	114 Nm in engine RPM of 3000
	Max. engine out put power in CNG mode	24.48 hp
	Compression ratio	7.8:1
	Firing arrangement	1-3-4-2
	Oil pressure (Warm engine)	3.447~4.136 bar (50-60 Psi) in Driving at 80Km/h
	Fueling system	Injection (MPFI)
	Fuel type	Leaded with an octane number of 87-95
ignition System devices	Sparking system	Electronic Ignition(Full Sequential)
	Ignition coil type	SIEMENS 5 WY2820 A
	Spark plug type	EYQUEM RFN 58LZ or equivalent
	Spark plug gap	0.9mm
Valves clearance	Exhaust valve clearance	0.30 mm (0.12 inch)
	Intake valve clearance	0.15 mm (0.006 inch)

*Related to bi-fuel vehicles.





dimension in mm	Length(bumper to bumper)	4232
	Length bet. Rear and front tires	2505
	Length bet. Two front tires	1321
	Length bet. Two rear tires	1321
	Width of the vehicle	1620
	Vehicle height, Net weight	1422
	Vehicle height from the earth	140

Engine oils (without filter)	3.97 lit.
Oil filter	0.56 lit.
Gear box oil	2 lit.
Differential oil	1.1 lit
Braking fluid	0.568 lit.
Gasoline tank	45.45 lit.
Cooling system with heater	7.2 lit.
Capacity of the screen wiper	1.4 lit.
Steering box oil	0.32 lit.

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