

FIND *NEW* ROADS™



BEAT *LPG*

OWNER'S MANUAL

Operation, Safety and Maintenance

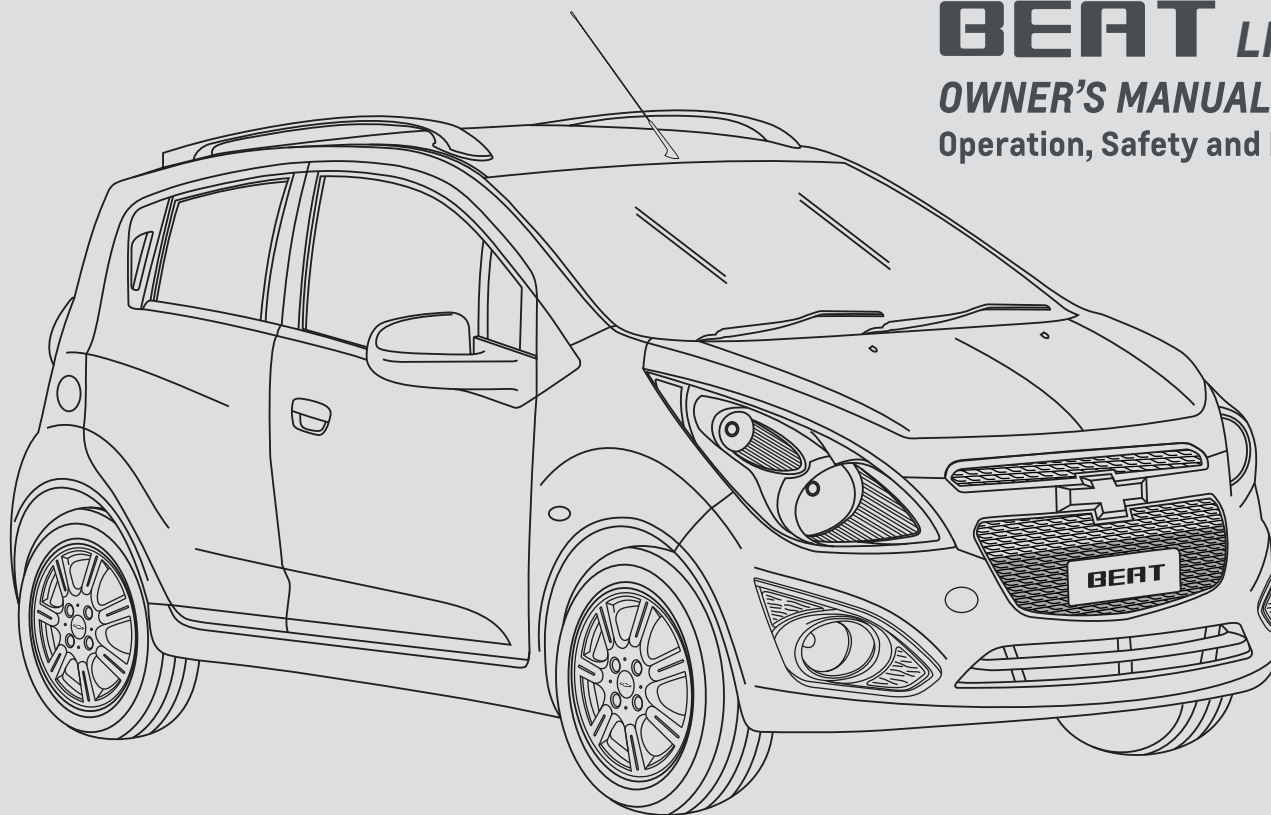
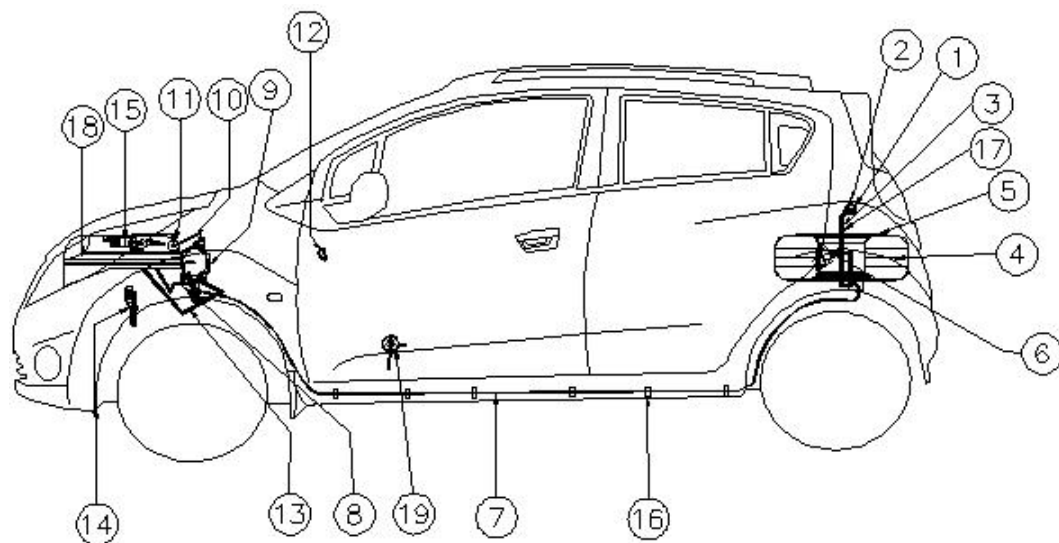


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Layout of LPG System (Side View)

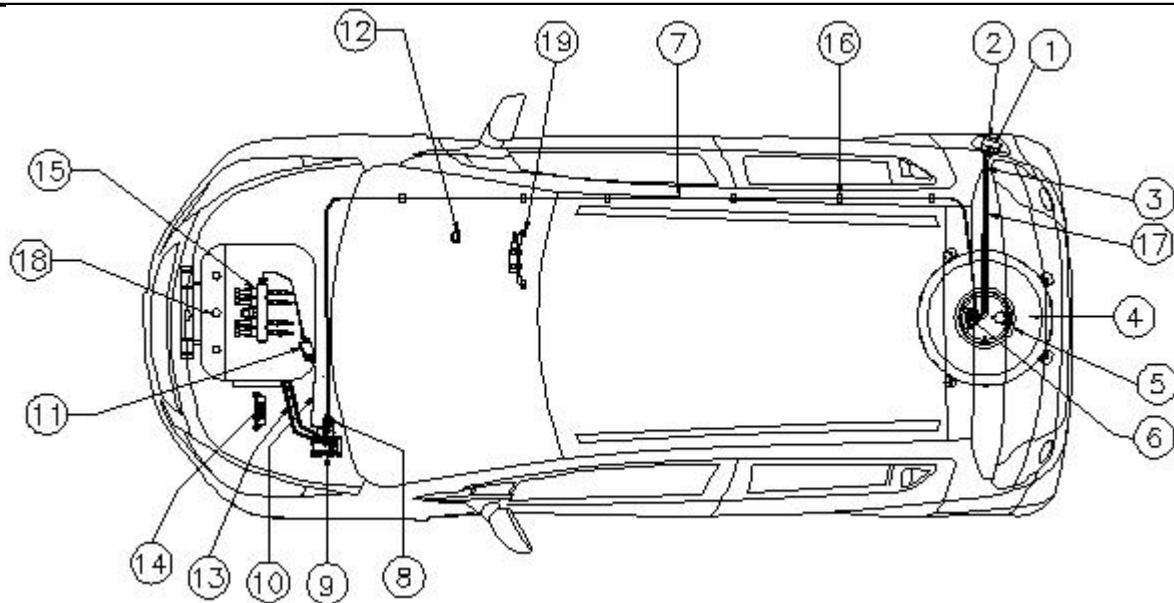


1. LPG Vent Case
2. LPG Filler Valve
3. High Pressure Pipe (8 mm)
4. LPG Tank
5. Tank Cover
6. Multivalve
7. High Pressure Pipe (6 mm)

8. Gas Solenoid
9. Reducer
10. Low Pressure Hose
11. Gaseous Phase Filter
12. Change Over Switch
13. Coolant Hose
14. ECU

15. Injector & Injector Rail
16. Line Clamp-Screw
17. Ducting Hose
18. Engine
19. Fire Extinguisher

Layout of LPG System (Top View)



- | | | |
|------------------------------|--------------------------|------------------------------|
| 1. LPG Vent Case | 8. Gas Solenoid | 15. Injector & Injector Rail |
| 2. LPG Filler Valve | 9. Reducer | 16. Line Clamp-Screw |
| 3. High Pressure Pipe (8 mm) | 10. Low Pressure Hose | 17. Ducting Hose |
| 4. LPG Tank | 11. Gaseous Phase Filter | 18. Engine |
| 5. Tank Cover | 12. Change Over Switch | 19. Fire Extinguisher |
| 6. Multivalve | 13. Coolant Hose | |
| 7. High Pressure Pipe (6 mm) | 14. ECU | |

Specification

BEAT	
Kerb Weight	1020 Kg.
Gross Weight	1403 Kg.
Seating Capacity	5
LPG Capacity	
LPG Tank Capacity	32.8 Liters
Filling Capacity Max. 80%	26.20 Liters

Note: Specifications are subject to change without prior notice.

LPG Kit Identification	
Regulator No.	
LPG Tank No.	
Retest Date.	
Multivalve No.	
ECU ID Number.	
Vehicle Details	
Engine No.	
Chassis No.	
Date of Sale.	

Note: To be filled in by the selling dealer

Introduction of LPG / Safety Precautions

Introduction to LPG:

LPG is a clean, high octane and Eco-friendly fuel. It is basically a mixture of Butane and Propane and is obtained from Natural Gas by fractionation and Crude Oil Refining. LPG is in gaseous state at atmospheric pressure, but can be liquefied when moderate pressure is applied or when the temperature is sufficiently reduced. LPG produces less harmful exhaust gases as compared to petrol & diesel.

CAUTION

Always keep approx. 10-15 liters petrol in petrol tank, as your vehicle will always start in PETROL mode. This will prevent gumming problem in vehicle fuel system (fuel line, fuel pump, fuel injector etc.). It will also prevent rust from forming inside the petrol tank.

Safety Precautions

Do's:

- If any minor work or body repairs are to be carried out, turn the Multivalve knob to close position prior to commencement of any repair work.
- Get the LPG Tank checked periodically as per the maintenance chart.
- If the engine does not start in Changeover mode, switch over the changeover switch to petrol mode and take your vehicle to a Chevrolet authorized service outlet for inspection.
- It is always recommended to keep the Fuel Selection Switch in Changeover Mode.
- Ensure that High Pressure LPG pipes are always in good condition and secured firmly. Replace in case damage is noticed.

Don'ts:

- Never fiddle with any of the components in the LPG system.
- The Tank should not be repaired under any circumstances. In case of any problem, consult with a Chevrolet authorized service outlet.
- Do not adjust setting of LPG system.
- Do not install domestic LPG Tank or any other gas Tank in place of OE fitted Tank.
- Do not carry inflammable material near the LPG Tank.
- Do not try to fill more than 26.20 liters of auto LPG in the Tank.
- Do not use domestic LPG or any other gas in your vehicle.

CAUTION

After washing/cleaning please ensure that the LPG tank compartment is completely dry, before starting your vehicle.

Safety

In Case of Gas Leakage:

- Do not panic.
- Simply change the switch mode from changeover to Petrol mode. This will shut-off all LPG Solenoid and it stops the LPG Supply from the LPG Tank.
- As a safety precaution, close the manual shut - off valve provided on the 'Multivalve' located on the LPG tank. Ensure that the tank cover is properly fitted.
- Open all the windows and keep the doors fully open.
- Don't changeover to LPG mode until the leakage is rectified.
- Contact the nearest Chevrolet Authorized service outlet and get car repaired.

Maintenance

Check pressure on the gauge every week. The needle should remain in green zone. If it comes to red zone, please send the unit for recharging. **The Fire Extinguisher is to be refilled every three years even if it is not used.**

Fire Extinguisher:

The fire extinguisher is located below the driver seat.

Method of operation:

1. Check if the pressure gauge needle is in green zone.
2. Hold upright and pull the pin.
3. Press the lever.
4. Directly discharge at base of flame with rapid sweeping motion.
- 5. Refill the fire extinguisher after use.**



Brief Description of LPG System

Thanking you for choosing Sequential Injection Auto LPG kit. We wish to give a brief description on Sequential Injection System.

Sequential Injection System can assure higher performances without compromising the simplicity of the installation.

From the functional & performance point of view Sequential Injection System has the following advantages:

- Reduced power loss
- No mixing of air/gas
- Very small reducer
- No risk of back fire
- Reduced pollution levels

Sequential Injection is obtained by using an electronic injector for each cylinder of the engine. A high precision of gas dosage is obtained using this system.

Auto-Diagnosis on ECU inlet/outlet is protected against short circuit.

BEAT LPG Vehicle comes fitted with bi-fuel option and can be driven on auto LPG or Petrol. An auto LPG storage tank has been installed in the trunk compartment and can store up to a maximum of 26.20 Liters of auto LPG.

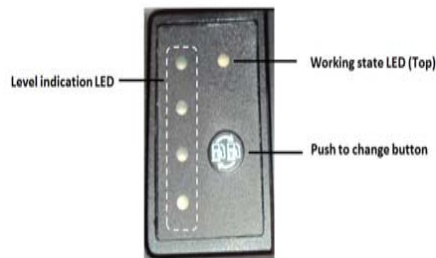
An auto LPG manual shut off valve is available on the multivalve in the LPG Tank, in case gas supply to the engine needs to be cut off.

A selection switch is provided on the HLD-Headlamp Leveling Device Switch. This switch helps in selecting the fuel mode for the vehicle.

Changeover switch also indicates the amount of LPG in the LPG tank. A separate indicator is also provided on the tank itself. In case, the LPG tank is empty, the vehicle will switch over to petrol mode automatically without stopping. Fuel mode can be changed without stopping the vehicle.

Fuel Selection Switch

Changeover switch



Selection of Fuel mode can be done by selecting various mode of the changeover switch. You can select either LPG or petrol to drive.

Petrol Mode

When the switch is in petrol mode the top LED is RED and the level gauge LEDs will not glow. This mode will enable the vehicle to drive constantly on Petrol.

- Turn on the Ignition Key.
- Press the Push to change button until beep noise come and LED of fuel selection switch glow RED.
- The fuel mode LED on fuel selection switch glows RED at the same time the Green LED of level indicator is not Glowing.
- Now crank the engine by turning your ignition key and the vehicle will start in Petrol mode.

CAUTION

Forced Starting in LPG mode can be used for only 5 times. After using this feature for 5 times the vehicle needs to be carried to a Chevrolet authorized service outlet to reset the program which enables the owner to reuse this feature for another 5 times.

Forced LPG Mode (Not Recommended)

In the event that there is no petrol available in the petrol tank, the vehicle can be started in LPG mode. However, starting in LPG mode is not recommended for daily use.

For starting the vehicle in LPG mode, kindly adhere to the following procedure:

- Turn on the Ignition Key.
- The fuel mode LED on fuel selection switch glows RED.
- Press and hold fuel selection switch for 5 seconds until fuel mode LED changes to GREEN.
- Now crank the engine by turning your ignition key and the vehicle will start in LPG mode.

CAUTION

Using direct start in LPG mode is not recommended for daily use.

Changeover Mode

When the switch is in changeover mode the top LED is RED and the level gauge LED's glow for indicating the level of LPG in the tank.

In this mode the vehicle always starts on petrol mode and fuel mode LED will be RED. After achieving the several requirements of program the vehicle will automatically change over on LPG mode from petrol mode.

The program conditions are following:

- 1) In cold start [below 40°C coolant temperature] the system will run the engine on petrol mode minimum for 90 seconds and will wait to reach the coolant temperature at 40°C to get changeover on LPG.
- 2) If coolant temperature is between 40°C and 65°C then system waits for 90 sec for changeover on LPG mode.
- 3) If coolant temp is above 65° C system waits for 8 seconds to changeover on LPG.

During the transition from Petrol to LPG the LED on top turns AMBER before turning **GREEN**.



CAUTION

Please ensure that the gear shift is in Neutral position before starting the engine in either mode.

Indicatons of LED and Beeper



The LED's on the fuel selection switch indicates the level of gas in the Tank. There are six different types of indication of LED,

Sl. No.	Quantity of LPG in Tank (%)	LED indication on Fuel selection switch
1.	100% (Full tank) (26.2 L)	4 LED's BLINKING
2.	80% (21 L)	4 LED'S GLOWING
3.	63% (16.5 L)	3 LED'S GLOWING
4.	48% (12.5 L)	2 LED'S GLOWING
5.	32% (8.5 L)	1 LED GLOWING
6.	15% (4 L) Reserve	1 LED BLINKING

Beeper indication

Your vehicle is also installed with a beeper which is integrated part of Fuel selection switch. This beeper has two different sound patterns which indicate as follows:

1. AUTOMATIC CHANGEOVER ON PETROL [FROM LPG MODE] WHILE THE LPG GETS EMPTY

When the auto LPG is over - the fuel mode will automatically change over to petrol. A buzzer will begin to beep every 1 second to indicate this automatic changeover to petrol mode. The driver needs to acknowledge this by pressing the fuel selection switch and buzzer will stop beeping.

2. DIAGNOSTIC ERRORS

Whenever there is a diagnostic error the buzzer will make 3 beeps every 20 seconds. At this point please press the fuel selection switch to change over to petrol mode. **Please check/repair your vehicle at your nearest Chevrolet authorized service outlet.**

Note
Level indication of LPG fuel in tank is for basic reference only. It does not show exact quantity of LPG.

Note
<ul style="list-style-type: none">❖ Domestic LPG filling or use in vehicle is illegal.❖ Use of Domestic LPG will void the warranty of vehicle.❖ Use of Domestic LPG is dangerous, it maybe damage multivalve safety device (e.g. 80% cutoff, PRV etc.).❖ The use of Domestic LPG in vehicle will damage all LPG components and engine also.

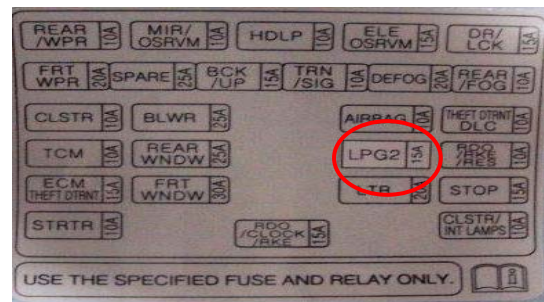
LPG Electrical Fuse

The LPG system is protected against short circuit / overload by fuses fitted as shown in the figure. The Changing of fuses should be done only at an authorized outlet of CHEVROLET.

Engine Junction Box (LPG Fuse (LPG1)-10 Amp Mini fuse



IP Smart Junction Box (LPG Fuse (LPG2)-15 Amp Mini fuse



Location of 10 Amp LPG Minifuse in Engine Junction Box.



Location of 15 Amp LPG Minifuse in IP Junction Box.

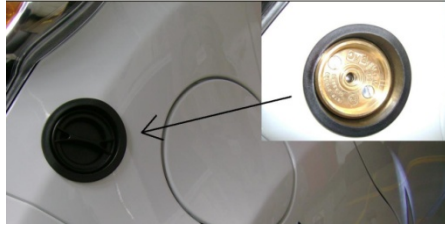


⚠ CAUTION

Always be sure to replace blown fuse with fuse of correct amperage. Never use a substitute such as aluminum foil or wire to replace a blown fuse. Have your vehicle inspected immediately by Chevrolet Authorized Service Outlet.

LPG Filler Valve / LPG Tank / LPG Multivalve

LPG Filler valve



Auto LPG Refueling valve is located on RH side body side outer panel, near Gasoline fuel filling point. Plastic cap on the Filler Valve should be closed completely after refueling. Filling is stopped automatically once the tank is filled up to 80% of the capacity. As a safety precaution partial filling should be avoided as far as possible. When filling an empty tank it is advisable to fill 26.20 liters of LPG in the tank of your vehicle. The tank fitted in your vehicle is of 32.8 liters.

LPG Tank



The LPG Tank is installed in the luggage compartment. Regularly inspect for loosening of mounting bolts of Tank Mounting.

Note

Filling capacity 26.20 liters means it is in idle condition. It may vary $\pm 10\%$ depend on ambient temperature, filling pressure, etc.

LPG Multivalve



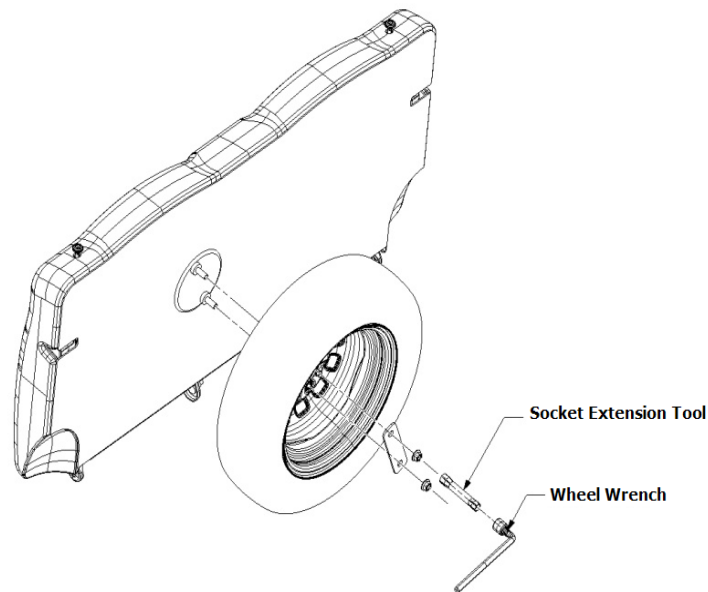
The Manual Shut Off valve is located on the Multivalve of the Auto LPG Tank. Tank Cover should be placed always on the LPG tank to avoid gas entry into the compartment. The knobs of the Tank cover should be hand tightened completely.

**Manual
Shut-Off
Valve**



Spare Wheel Assembly

For your BEAT LPG vehicle - the Spare wheel is assembled to the back of the rear seat in the luggage compartment. In the tool kit you will find a socket extension tool along with your other regular tools. This extension tool needs to be attached to your wheel wrench when assembling or disassembling the spare wheel from your luggage compartment. The adjacent figure illustrates the spare wheel assembly operation.



Compliance to Motor Vehicle rules

The LPG tank needs to be recertified every five years as per CMVR (AIS 24, 25 and 26).

Please ensure that it is done by a Chevrolet Authorized Service Outlet and the new date is engraved on the plate.



LPG COMPLIANCE PLATE	
LPG CYLINDER No.	
INSTALL DATE	
WATER CAPACITY(L)	
LAST RETEST DATE	
CHASSIS No.	
THE LPG INSTALLATION COMPLIES WITH SAFETY REQUIREMENTS OF AIS 026	
INSTALLED BY	

Periodic Inspection & Maintenance Schedule

MAINTENANCE INTERVAL MAINTENANCE ITEM	Kilometers or time in months, whichever comes first													
	6 months / 7500	1 Year / 15000	1.5 Years / 22500	2 Years / 30000	2.5 Years / 37500	3 Years / 45000	3.5 Years / 52500	4 Years / 60000	4.5 Years / 67500	5 Years / 75000	5.5 Years / 82500	6 Years / 90000	6.5 Years / 97500	7 Years / 105000
Mounting Of LPG Tank & Kit	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Leak Checking At All Points	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Gaseous Filter				R				R				R		
Gas Solenoid Filter		R		O		R		O		R		O		R
Diaphragm Set Of Pressure Regulator				R				O				R		
Solenoid Of Multivalve								O						
Wiring Harness Clamping	I	I	I	I	I	I	I	I	I	I	I	I	I	I
LPG Tank **+	Replace Tank After Every 15 Years													

Chart Symbols:

I - Inspect these items and their related parts. If necessary, correct, clean, replenish, adjust, rotate or replace.

R - Replace or change

O - Overhauling

** Testing of LPG Cylinder is due after 5 Years from the date of Manufacturing, which is available in the Marking Plate on the Tank.

+ Statutory Test for cylinder to be done as per IS-8869-1988.

Warranty Card

Rohan BRC Gas Equipment Pvt. Ltd., a private limited company incorporated under the Companies Act, 1956 and having its office at 5, Ashwamegh Industrial Estate, Changodar, Tal. Sanand, Dist. Ahmedabad – 382 213 warrants that the new LPG kit fitted on your vehicle is free from any material and/or workmanship defects, subject to your compliance with the terms and conditions mentioned hereunder and other kit maintenance norms as suggested in the service manual.

Under the warranty period only a Chevrolet authorized service outlet as mentioned in the booklet will carry out all necessary repairs, using new, re-conditioned or re-manufactured parts with a view to correcting any defect covered by this warranty.

1. Warranty Terms:

The LPG Kit fitted on your vehicle has a warranty of 3 years or 1,00,000 Kms. whichever is earlier.

2. Warranty Obligation:

Our obligation under this warranty shall be limited to repairing or replacing, free of charge, such parts of the LPG system which are found defective in our inspection, on the car being brought to Chevrolet authorized service outlet within the warranty period. The parts so repaired or replaced shall also be warranted for quality and workmanship till the vehicle warranty.

3. Warranty Limitation:

- 3.1. Any part which is found to be defective and be replaced by us under the warranty shall be our property.
- 3.2. Liability of ROHAN BRC under the warranty is limited to the value of the service, repair/replacement of parts found to be defective within the warranty period.
- 3.3. Free service will be provided to the kit during warranty period, only within the limits where GMI/ROHAN BRC has its service network.
- 3.4. Necessary care and caution has been taken during fitment of kit on the vehicle; however ROHAN BRC shall not be liable for any loss or damage caused to any article, property, death or disability caused to any human life arising out of fire,

electric fault, short circuit, accidental handling or negligent use of vehicle. The maximum liability in monetary terms shall be restricted to the value of the defective parts and/or value of services rendered only.

- 3.5. This warranty shall be null and void if the car is subject to abnormal use, such as rallying, racing or participation in other competitive sports. This warranty shall not apply to any repair or replacements as a result of accident or collision.
- 3.6. This warranty is expressly in lieu of all warranties, whether by law or otherwise, express or implied and other obligations or liabilities on our part and we neither assume, nor authorize any person to assume on our behalf, any other liability arising from sale of the kit or any agreement in relation thereto.
- 3.7. Any claim arising from this warranty shall be recognized only if it is notified in writing to us without any delay soon after such defects as covered and ascertained under this warranty.
- 3.8. The decision taken by ROHAN BRC will be final and binding on all matters arising out of the new kit Warranty.
- 3.9. The owner should preserve with them the original Invoice for the necessary verification and produce the same as and when required.
- 3.10. This warranty is issued at Changodar, Tal. Sanand, Dist. Ahmedabad, Gujarat and competent court shall have exclusive Jurisdiction of courts of Ahmedabad alone to the exclusion of all other courts.
- 3.11. Warranty shall be null or void if any vehicle on which parts or accessories not approved by ROHAN BRC has been used, any vehicle which has been adjusted/repaired by other than a GMI/ROHAN BRC Dealer or Service Engineer, Installation or usage of domestic LPG or LPG Tank.
- 3.12. Failure to have regular periodic inspection and service of the kit, Improper or wrong maintenance and in deviation with the guidelines given in service booklets, any modification, alteration made in the Vehicle, thereby affecting the Functioning of the kit fitted on the vehicle.
- 3.13. Failure to use genuine parts, fluids (oil, coolant, Auto LPG) and or other accessories, consumables, recommended or approved by GMI/ROHAN BRC. Damage caused by driving the vehicle under severe conditions such as un-pliable or water-logged roads, in race or rallies. Damaged caused by natural disasters like earthquake, floods, fire, etc..
- 3.14. Damage due to water or other foreign matters in the fuel system and /or illegal use of domestic LPG, damage to the kit while driving the vehicle in water logged conditions or entry of water into the kit fitment area.

- 3.15. No warranty repair shall be made if it is found that the vehicle identification number like chassis, engine, Odometer, LPG Reducer, LPG fuel tank, Multifunction valve, LPG I D plate, or the warranty and service booklet, have been tampered with.

4. Warranty responsibilities of the Owner:

- 4.1. Use the LPG system as per specification given in Owner's manual.
- 4.2. Ensure inspection & Service of LPG system time to time as recommended.
- 4.3. Keep the Warranty card, Service booklet of LPG system in safe place to present to the GMI/ROHAN BRC dealer during your regular maintenance visit and when repair work is needed.
- 4.4. Warranty goes into effect only after GMI authorized dealer fills the appropriate information about the vehicle and place their seal in the warranty and service booklet.
- 4.5. Present the Warranty and Service booklet to have warranty work carried out.

5. Disclaimer of consequential Damage:

ROHAN BRC assumes no responsibility for loss of vehicle, loss of time, inconvenience or any other indirect incidental or consequential damage resulting from the vehicle not been available to the owner because of any defect covered by this warranty.

6. Change of Ownership:

Change of ownership must be duly intimated to GMI dealer, if the vehicle is sold within warranty period.

Rohan BRC Gas Equipment Pvt. Ltd. Branches / Dealer's List

Sr. no	Zone	State	City/Town	Branch Address	Name of Dealer	Dealer's Address	Contact Person	Contact No.
1	East	WEST BENGAL	Kolkata	Rohan BRC Gas Equipment Pvt. Ltd., EN61, Sector – 5, Salt Lake, Kolkata – 91			Mr. Somen Duta	9830210421
2	North	DELHI	Delhi	Rohan BRC Gas Equipment Pvt. Ltd., 127, DDA Sheds, Okhla Industrial Area, Phase – I, New Delhi			Mr. Raju Singh	9868850081
3	North	PUNJAB	Ludhiana		M/s. Prince Motors	Agar Nagar Road, Firozpur Road, Opp. Toor Restaurant, Ludhiana	Mr. Taranjit Singh	9815020203
4	North	U. P.	Kanpur		M/s. The Next Generation	122/735. Shastri Nagar, Chain Factory Compound, Kanpur	Mr. Chandan Tandan	9918801055
5	North	RAJASTHAN	Bhilwara	Rohan BRC Gas Equipment Pvt. Ltd., Opp. Ashoka Hotel, Sabun Marg, Bhilwara – 311 011			Mr. Parivesh Dad	9829047894

6	South	TAMILNADU	Chennai	Rohan BRC Gas Equipment Pvt. Ltd., No. 11,R.O.B Main Road, Near TVS Petrol Bunk, Whites Road, Royapetta, Chennai – 600 014			Mr. Rakesh Shah	9884028186
7	South	A. P.	Secunderabad	Rohan BRC Gas Equipment Pvt. Ltd., 4-7-1121/19/ 1&2 Putli bowli, Hyderabad – 95			Mr. .Mahesh Kotak	9885019832
8	South	KERALA	Thrissur	Rohan BRC Gas Equipment Pvt. Ltd. Door No: 18/303/1,Anjangadi North Aranattukara Poothole P.O. Thrissur-4			Mr. Jose	9846032927 9847033260
9	South	KARNATAKA	Bangalore		Mr.Syed Sulthan	#16 New Mission Compound, Opp. Purnima Theatre, Bangalore	Mr.Syed Sulthan	9620835088 / 9900521131
10	West	GOA	Bardez		M/s. Prithvi Auto Service	406/143 Nova Cidade, Near Vista – Dorio Resort, Provorim, Bardez, Goa	Mr. Dilip Manwani	9326101419
11	West	M. P.	Indore	Rohan BRC Gas Equipment Pvt. Ltd., 4/A, Victory Chambers, Ratlam Kothi, Near Gita Bhavan Square, Madhya Pradesh.			Mr. Ajay Mehta	9826030899

12	West	MAHARASHTRA	Mumbai	Rohan BRC Gas Equipment Pvt. Ltd., 151, Brick Factory Compound, Opp. Dreamland Bungalows, Shastrinagar, Mulund (W), Mumbai – 400 052			Mr. Gaurang Parikh	9870041616
13	West	MAHARASHTRA	Pune	Rohan BRC Gas Equipment Pvt. Ltd., 7, Parvati Industrial Estate, Opp. Adinath Society, Pune- Satara Road, Pune – 411 009			Mr. Parag Shah	9822064101
14	West	GUJARAT	Ahmedabad	Parvatinagar, 3/A, Shyamal Row Houses, Satellite Road, Ahmedabad – 380 015			Mr. Hemal Shah	9879788280

EMERGENCY CONTACT DETAILS:

Police - 100

Fire - 101

Ambulance - 102

EMERGENCY RESPONSE SERVICE: 108

Rohan BRC Gas Equipment Pvt. Ltd. (Head office)

5, Ashwamegh Industrial Estate,
Changodar, Taluka- Sanand
Dist - Ahmedabad -382213
Ph- 02717 251900
www.rohanbrc.com

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General Motors India Pvt. Ltd.

All information, illustrations and specifications contained in this Owner's Manual are based on the latest production information available at the time of publication. The right is reserved to make changes at any time without notice.

Regd. Office : Chandrapura Industrial Estate, Halol - 389 351

Dist. Panchmahals, Gujarat, India. Phone : 91 2676 221000

Customer Assistance Center : Plot No. 15, Echelon Institutional Area,

Sector 32, Gurgaon - 122 001, Haryana, India. Tel.: 91 124 3080000

Works : A-16, MIDC Talegaon Industrial Area (Phase-II),

Near Floriculture Park, Talegaon Navlakh Umbhre Village Road, Tehsil-Maval,

Pune - 410 507, Maharashtra, India. Tel: 91 2114 663939

24 Hr. Helpline at 1800 3000 8080

Part No.: 28286827

Revision No. 00

Revision Date

01/2014