

**Undertaking**

I \_\_\_\_\_ son/daughter/wife of Sh. \_\_\_\_\_ r/o \_\_\_\_\_ is the owner/proprietor/partner/director of M/s \_\_\_\_\_ at \_\_\_\_\_ am the authorized signatory for the above stated firm (proof enclosed). I do hereby solely affirm & declare as under:

That M/s \_\_\_\_\_ has applied for approval of CNG/LPG kit fitment workshop at above stated premises for carrying out fitment of CNG/LPG kit duly approved by kit manufacturer/supplier.

That I am in the legal possession of the said premises.

That as per the existing Master Plan provisions in force/court directions, the said activity is permitted to be carried out at the said premises located at Plot of \_\_\_\_\_.

That, I shall close the said activity as and when the same is not permitted by virtue of any subsequent amendments in the provision of Master Plan or pursuant to some court order and surrender the approval of workshop granted to me.

I \_\_\_\_\_, do hereby solemnly declare as under:-

That I/We shall issue the installation certificate as per annexure IV, AIS 024 & AIS 028 to vehicle owner.

Tthat the conversion kit will be fitted in Safe & Proper manner in compliance with code of practice of CNG/LPG.

I/We shall send a copy of Installation Certificate as per AIS 024 & AIS 028.

I/We shall maintain the record of Conversion/alteration of Vehicle carried out by me.

: 2 :

I/We shall ensure compliance to the emission norms and sub rule 2 of the Rule 115 of the CMVR 1989 and the code of practice for the use of CNG/LPG fuel in internal combustion engine Vehicle.

I/We shall instruct the owner/driver of converted vehicle to CNG/LPG about the correct way to run the gas system and control along with an owner operation manual for the gas system outlining the following.

1. Basic Gas System explanation with diagram.
2. Fuel changes over switch operation in Bi-Fuel system are fitted.
3. Starting Procedure for cold and hot starting.
4. How the vehicle is refueled.
5. In the event of Back firing check procedure.
6. In the event of Gas leak, shut off procedure.
7. Emergency or information contact number in the event of emergency.

I/We also hereby undertake that I/We shall only install authorized CNG/LPG kit, if any thing found wrong I/We will be held responsible for it.

I/We say that in the event of any action initiated by agency, party, company, firm, institute for damages or breach of any Indian laws or foreign laws, our firm shall be solely responsible. I/We further say that we shall indemnify ARAI/ICAT against any loss, damages arising out of any action stated above.

I/We say that our firm shall not dispute or raise any claim against refusal or cancellation of any test approval or cancellation of certification already issued by ARAI/ICAT, if our firm has committed breach of any law Indian as well as other countries applicable laws and the decision of ARAI/ICAT shall be final on us.

## 7 INSPECTION, TESTING AND COMMISSIONING (FOR INSTALLER)

### 7.1

#### Commissioning

Prior to initial use, an inspection of the CNG System and components shall be carried out by, or under the supervision of an Authorized Person/Installer, who shall also carry out a complete examination to ensure the system complies with all relevant sections of this standard and any other statutory requirements as specified by the Central Government.

#### 7.1.1

##### Initial inspection and installation certificate

The system shall be leak tested as detailed in 7.2 of this standard. The installation shall be inspected for compliance with this standard and all components shall be checked for operational performance. In the case of bi-fuel installations, the ability for the vehicle to operate on the optional fuel shall also be tested.

Contd....P....3

When the system conforms to this standard, an installation certificate, as per Annexure VI of AIS 024 D1, signed by authorized retrofitter/Installer shall be issued to the owner of the vehicle.

## 7.1.2 Periodic Inspection

### 7.1.2.1

The cylinder, piping and all components of the system shall be examined by an installer for corrosion, deterioration and for any modification affecting compliance with this standard at least once in a year or in case of malfunction or accident. The inspection shall include leak testing under 7.2 of this part of this standard.

### 7.1.2.2

When the system has been inspected and any defects remedied and the system conforms to this standard to the satisfaction of the installer, a checklist as per Appendix A of this standard shall be issued to the owner of the vehicle.

## 7.2 Leak Testing

### 7.2.1 Initial Test

At the time of commissioning, the complete pressure system shall be subjected to pressure test of  $20 \pm 1$  Mpa by using CNG or a gas inert to CNG such as nitrogen.

#### Procedure

- (a) With boot or cylinder compartment open and vapour sealing removed from cylinder valve area, and Cylinder valve closed slowly pressurize the system.

WARNING, the system must not be subjected to a shock loading as insecure fittings could blow out with dangerous result, and burst discs could rupture.

- (b) Leak test lines, fitting and components using a non-corrosive foaming agent and when leak free.
- (c) Open Cylinder valve, pressurize cylinder and check for leaks at valve and cylinder neck.
- (d) When the system is passed leak free seal venting area.

### 7.2.2.1

The compartment and sub-compartment shall be tested at the time of commissioning and subsequently at each periodic inspection to ensure that it is gas tight to the vehicle interior by blowing tracer gas into the compartment or sub-compartment and testing the surrounding atmosphere for gas leakage with a gas detector. Passages between the compartment and outside air, e.g. ventilation provisions, or an access hatch or door in the case of a permanently in-built compartment, should be sealed during testing. And leakage should be rectified, and testing repeated.

#### 7.2.2.2

Should the compartment or sub-compartment fail the above tests, corrective action shall be taken and tests repeated until they comply with the test requirements?

NOTE – It may be permissible to check such a compartment or sub-compartment before installation of the fuel system. Provided that nothing in the subsequent installation, procedure will negate the validity of the test.

#### 7.2.3

Where CNG is used for testing the following precautions shall be observed:

- (a) Testing shall be carried out under adequately vented conditions.
- (b) Testing shall be carried out at least 5 m from any open flame or other source of agent.

#### 7.2.4

The operation of the equipment and control shall be tested with CNG under normal working conditions to prove satisfactory performance of the entire system and a further leak test shall be carried out using a non-corrosive foaming agent.

#### 7.2.5

ABCF fire extinguisher and dry powder fire extinguisher to meet IS:2171 and each of 2 kg shall be kept ready within a safe distance, if ignition occurs the service valve should be closed and the extinguisher (s) used to quell any fire which may continue.

### 8. GARAGING AND REPAIR (FOR INSTALLER)

#### 8.1

Garaging and repairing of CNG fueled vehicles

### 8.1.1

Vehicles fueled with CNG may be stored or serviced and repaired inside garages provided that the following conditions are observed:-

- (a) There shall be no leaks in the fuel system.
- (b) Such vehicles shall not be parked within 3 m of any sources of ignition.
- (c) CNG fueled vehicles being repaired in garages, unless the fuel is required for engine operation, shall have the cylinder shut-off valve closed and the CNG fuel in the service line exhausted by running the engine or depressurizing the line in a well-ventilated area.
- (d) Vehicles undergoing repairs, involving welding or the application of heat, to any part within 1 m of the cylinder, shall have the cylinder removed or shielded from the source of heat.

## 8.2

### Repair Operation

#### 8.2.1

Repair operation involving heat shall be carried out with due regard to fire safety.

#### 8.2.2

Damaged fuel lines shall not be repaired; in all cases they shall be replaced.

#### 8.2.3.

Welding, brazing and the application of heat shall not be carried out on any part of the cylinder subsequent to manufacture.

#### 8.2.4.

When a vehicle is involved in an accident causing damage to part of all of the CNG fuel system or where any part of the system necessitates removal to allow for the repair of the vehicle the system shall, after re-assemble or repair, be tested in accordance with 7.2 and a checklist as per Appendix A of this standard be issued. If applicable the requirement of 8.3.2 shall also be met.

8.3

Scrapping

8.3.1

A vehicle, which is about to be scrapped, shall have its cylinder removed prior to disposal.

8.3.2

Where the cylinder has been subjected to impact or fire damaged the cylinder shall be inspected and re-tested by the owner of the vehicle as per Gas Cylinder Rules, 1981 as amended from time to time.

**SAFETY AND PROCEDURAL REQUIREMENTS**

NOTE - There will always be combustible gas in the cylinder until it has been cleared of all traces of flammable vapors or gas.

Periodic Checks/Maintenances

- \* Adhere strictly to the Chassis Manufacture's recommendations for general Maintenance of the vehicle.
- \* Change engine oil at every 10000 kms.
- \* Check spark plugs, clean and adjust gap at every 10000 kms and replace after 15000 kms.
- \* Replace spark plug cables at every 30000 kms.



**VERIFICATION:**

Verified at New Delhi on this day \_\_\_/\_\_\_/2017 that content of the above undertaking is true to my knowledge and belief and nothing has been concealed there from.

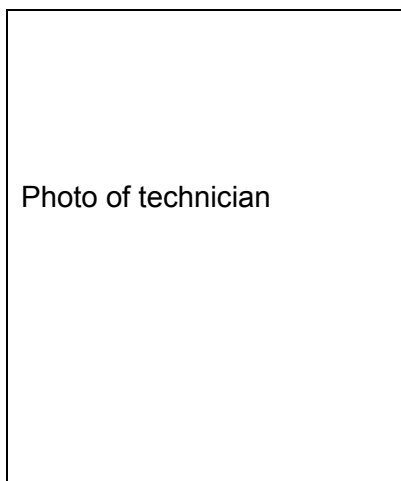
Signatures: \_\_\_\_\_

Name \_\_\_\_\_

**Undertaking from technician.**

I, \_\_\_\_\_ son of Shri \_\_\_\_\_, resident of \_\_\_\_\_, do hereby solemnly affirm and declare as under:-

- 1) That I am regular employee of M/s \_\_\_\_\_ at \_\_\_\_\_.
- 2) That my date of joining in this organization is \_\_\_\_\_.
- 3) That I am not working anywhere except mentioned above.
- 4) That I have been working in the field of CNG kit fitment for more than two years.
- 4) That it is my true and correct statement and I will be liable and responsible for the same if my statement is found fake or false.



**VERIFICATION:**

Verified at New Delhi on this day \_\_\_/\_\_\_/2017 that content of the above undertaking is true to my knowledge and belief and nothing has been concealed there from.

Signatures: \_\_\_\_\_

Name \_\_\_\_\_

Applicant