

## MAINTENANCE AND REPAIR OF CARS RUNNING ON LIQUEFIED AND COMPRESSED GAS

*Halimov Javohir Abdusamat o'g'li*

*Andijan Machine Building Institute "ETV" intern teacher*

*Nig'monov Murodhon Rustam o'g'li*

*Andijan Machine Building Institute 4th-year student of the Faculty of  
Transport and Logistics, "Automobile Service" department*

*Qo'chqorov Xurshid Shokirjonovich*

*Vocational school №2 of Oltinkol district, master of production education.*

*Phone: +998930691100*

**Abstract:** This article presents ways to improve safety through systematic maintenance of vehicles with gas cylinders. In this case, to clean the filter type of the low-pressure gas cylinder reducer, the main valve in the crosspiece is closed, the ignition system is switched off with gas, the filter element is released, the mesh is removed and washed in gasoline, acetone or some other solvent, and then sprayed with compressed air. In addition, taking into account the frequency and consistency of maintenance work, the effective organization of these works will increase the safety and operational efficiency of gas-cylinder vehicles[1-3].

**Keywords:** car, gas tank, maintenance, gearbox, engine, adjustment, pressure, daily maintenance.

Currently, approximately 70-80% of cars in our republic run on natural gas fuel. Therefore, installing gas equipment in cars and improving their technical service is one of the urgent issues of today. The specific features of technical service for cars equipped with gas cylinder equipment are as follows:

- if methods of heat exposure are applied to the car or its constituent parts, for example, open flame work related to welding, drying the car in drying chambers, etc., the following works are performed:

- 1) gases are released from the gas cylinder;
- 2) residual gases remaining in engine and gas equipment parts are removed;
- 3) cylinders are vented with neutral gas;
- 4) all windows are closed;
- 5) after completion of repair work, gas appliances are fully inspected.

- when repairing and performing technical maintenance of car electrical equipment, the following is done: all valves in the cylinder are closed;

the residual gases in the engine are removed and the back cover of the cargo compartment is opened to prevent the smell of gas[1]. Other works are carried out on the basis of processes performed on cars[4-5].

Maintenance of gas equipment for liquefied and compressed gases has many things in common. Servicing the gas devices of cars running on compressed gas with a pressure in the cylinder of 20 MPa is somewhat more complicated. Gas cylinder equipment can be serviced by qualified plumbers who have undergone special training and have a certificate.

Major faults. First of all, they depend on the violation of hermetic system and gas leakage. One of the main failures of the high-pressure reducer is the non-hermetic connection of the valve and body parts of the reducing unit. A sharp drop in pressure at the output of the reducer when the throttle valves are opened indicates that the filter is dirty[6-7].

The main failures of a low-pressure gas reducer are that it releases gas through the valves when the engine is not running, and does not transfer gas at all or not enough.

Leakage of the first stage valve can be detected by a low-pressure manometer or aurally. Leakage of the valve of the second stage makes it difficult for the engine to ignite, worsens the performance of the engine in the idle mode, and when the engine stops, gas leaks into the space under the hood.

As a result of the violation of the hermeticity of the diaphragm of the first stage, gas leakage occurs through the hole in the adjustment nut of the spring of the first stage. When the hermeticity of the diaphragm of the second stage is broken, the gas leaks through the cover of the adjustment nipple of this stage.

During daily maintenance, gas cylinder tightness and gas system tightness are visually checked. Liquid flows from the low-pressure gas reducer. Gasoline transmission joints and electromagnetic valve-filter are checked for gasoline leaks[8-11].

In addition to the work performed in maintenance 1 and daily maintenance, the operation of the high-pressure gas reducer storage valve is also checked. The grooves in the trunks of the main, filling and exhaust valves are lubricated. The filtering elements of the main and high-pressure reducer filters are removed, cleaned and installed in their place[12]. The tightness of the gas system is checked with compressed nitrogen and compressed air.

2- in addition to the maintenance and daily maintenance work, the tightness of the low and high pressure reducers is checked and, if necessary, the output pressure and the starting pressure of the storage valve are adjusted (in the case of the high pressure reducer). The pressure value of the first and second stages of the low-pressure reducer is also adjusted. The high-pressure reducer must ensure that the gas pressure at the outlet of the reducer is 1.2 MPa[13-17].

To increase the pressure during adjustment, the screw is turned clockwise. To clean the mesh of the low-pressure reducer filter, the main valve on the crossover is closed, the ignition system is turned off using gas, the filter element is emptied, the mesh is removed and washed in gasoline, acetone or some other solvent. , then sprayed with compressed air[18-19]. The reducer can be adjusted in the car, for this purpose, a plug with a tube connecting the pressure gauge is installed in the hole of the short exhaust pipe. Air compressed to a pressure of 0.22 - 0.6 MPa in the compressor is transferred to the inlet of the first stage cavity through a hose connected to the filter nozzle. The gas pressure in the cavity of the first stage should be 0.18 - 0.20 MPa. Then the opening of the second stage valve is adjusted. To do this, the cover is removed, the lock nut is loosened, and the adjusting screw is loosened until air from the second stage valve begins to bleed (detected by the rise). Tighten the adjusting screw by 1/8 - 1/4 turn, audibly stop the air coming out of the valve, then tighten the locknut. When adjusting the reducer, the second-stage valve is first checked: the check is carried out on the stem of the second-stage diaphragm[17-20]].

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