

# INCREASING SAFETY BY SYSTEMATICAL ORGANIZATION OF MAINTENANCE OF GAS CYLINDER VEHICLES

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**Annotation:** This article outlines ways to improve safety by performing systematic maintenance on gas cylinder vehicles. In order to clean the low-pressure reducer filter mesh of the gas cylinder, the main valve in the crossbar is closed, the ignition system is switched off using gas, the filter element is emptied, the mesh is removed and it is immersed in gasoline, acetone or other washed in some solvent, then sprayed with compressed air. In addition, taking into account the periodicity and continuity of maintenance work, the effective organization of this work will increase the safety and operational efficiency of gas-cylinder vehicles.

**Keywords:** car, gas cylinder maintenance, reducer, engine, adjustment, pressure, daily service.

**INTRODUCTION.** In recent years, a number of measures have been taken to provide vehicles with environmentally friendly fuels, including compressed natural gas, the number of gas filling stations has reached 670, and more than 50% of vehicles use alternative fuels. uses compressed natural gas as' i.

In order to regulate safety issues in this area, the Cabinet of Ministers of the Republic of Uzbekistan approved the Resolution Resolution No. 815 of 11 October 2017 “On Additional Measures” and 1010 of 22 December 2017 “On Additional Measures to Improve the Procedure for Compulsory Technical Inspection of Vehicles” The decision was made. At the same time, there are cases of violation of the

established requirements and procedures for filling gas cylinders at compressor stations, periodic testing of the density and reliability of joints of gas cylinder equipment, as well as the use of physically and mentally obsolete gas cylinders. sucks.

**REFERENCES AND METHODS.** The objective method of scientific knowledge was used in the research process. Improving safety through the systematic organization of maintenance of gas cylinders is objectively revealed. The period of formation of gas cylinders was analyzed from the point of view of history. Hamrakulov O., Magdiev Sh. Scientific article "Technical operation of cars" was studied in terms of logical sequence.

**DISCUSSION AND RESULTS.** After the independence of the Republic, the automobile industry in the country began to develop rapidly. The number of cars is growing rapidly. The growing demand for gasoline and diesel fuel, which are used as automotive fuel, requires them to use alternative fuels. Nowadays, the use of low-cost natural gas as a fuel for cars is widespread. Natural gas, which is used as an engine fuel, is much cheaper than other fuels. As a result, about 70-80% of cars in the country run on natural gas. Therefore, the installation of gas appliances in cars and the improvement of their maintenance is one of the most pressing issues today. Specific features of maintenance of vehicles equipped with gas cylinders include:

If the method of heat treatment of the car or its components is used, for example, open flame work related to welding, drying the car in the drying chambers, etc., the following work is performed:

- gases are released from the gas cylinder;
- residual gases remaining in engine and gas equipment parts are removed;
- the cylinders are ventilated with neutral gas; 4) all taps are closed; 5) Upon

completion of the repair work, the gas appliances will be fully inspected. - when repairing and maintaining electrical equipment of a car, the following shall be performed: all taps on the cylinder shall be closed; residual gases in the engine are removed and the bonnet rear cover is opened to ensure that there is no gas odor.

Other work is done on the basis of processes performed on cars.

Gas equipment maintenance for liquefied and compressed gases has much in common. Compressed gas vehicles with a cylinder pressure of 20 MPa are more difficult to maintain. Maintenance of gas cylinder equipment can be carried out by qualified plumbers who are specially trained and certified.

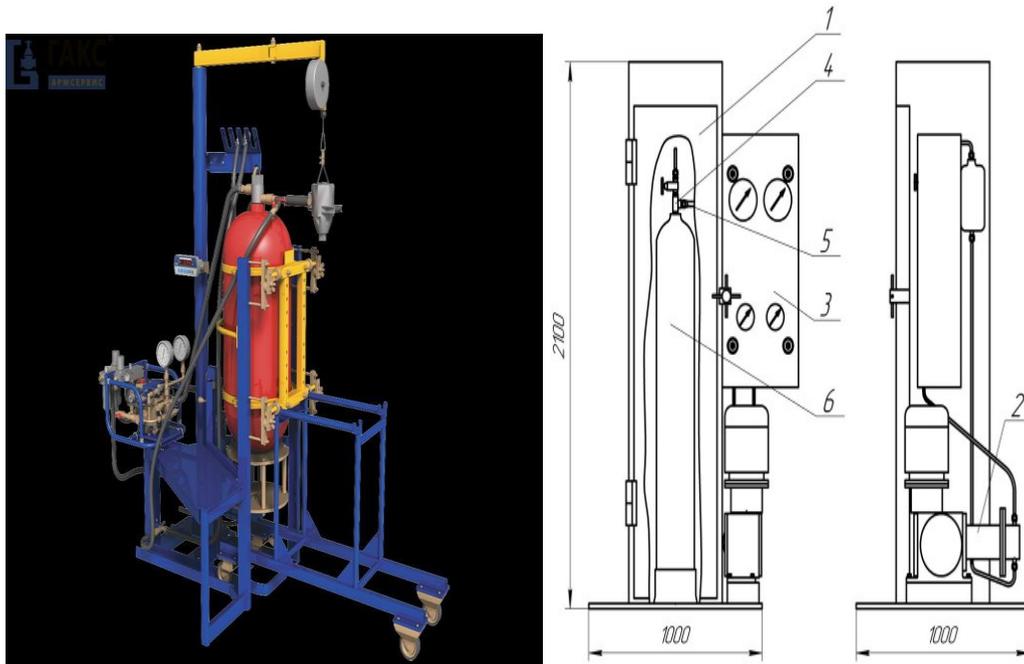


Figure 1 Gas cylinder stent for hydraulic tests

Stent for hydraulic testing of gas cylinder. Measuring image. 1- armored cabinets, 2-pump unit 3-control panel. 4-adapter. 5 metal hose 6 test cylinder.

Major faults. They are primarily due to leaks in the system and gas leaks. One of the main drawbacks of a high pressure reducer is that the valve of the reducing unit and the joints of the body parts are not hermetic. A sudden drop in pressure at the reducer outlet when the throttle valves are opened indicates that the filter is contaminated.

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

The non-hermeticity of the first stage valve can be determined by a low pressure manometer or a hearing aid. The non-hermetic nature of the second-stage

valve makes it difficult for the engine to ignite, worsens engine performance in idle mode, and leaks gas into the hood when the engine is stopped.

Violation of the tightness of the first stage diaphragm results in gas leakage through the hole in the adjusting nut of the first stage spring. When the tightness of the second stage diaphragm is broken, the gas leaks through the cover of the nipple adjusting this stage.

During daily maintenance, the tightness of the gas cylinders and the tightness of all connections in the gas system are checked visually. The low-pressure gas reducer spills sand. Check the gas lines and the solenoid valve for droplets of gasoline.

In addition to the work to be carried out at CHP-1, the operation of the storage valve of the high-pressure gas reducer is also checked. The threads on the shafts of the main, filling and discharge valves are lubricated. The filter elements of the main and high pressure reducer filters are removed, cleaned and replaced. The tightness of the gas system is checked with compressed nitrogen and compressed air.

In addition to the work to be carried out in TCC 2 and TCC 1, the tightness of the low and high pressure reducers is checked and, if necessary, the outlet pressure and the start-up pressure of the storage valve are adjusted (in the high pressure reducer). The pressure values in the first and second stages of the low pressure reducer are also adjusted.

Figure 2 below shows the procedure for eliminating leaks in gas pipelines and connections.

Damaged rubber hoses are replaced Figure 1. Procedure for eliminating non-hermetic compounds. The high-pressure reducer must ensure that the gas pressure at the outlet of the reducer is 1.2 MPa. The screw is rotated clockwise to increase the pressure during adjustment.

To clean the net of the low-pressure reducer filter, the main valve in the krestovina is closed, the ignition system is turned off using gas, the filter element is emptied, the net is removed and it is washed in gasoline, acetone or some other solvent. , then sprayed with compressed air.

The gearbox can be adjusted in the car by inserting a plug with a tube connecting the pesometer into the hole of the short discharge pipe. Compressed air at a pressure of 0.22-0.6 MPa is supplied to the compressor through a hose connected to the filter nozzle at the inlet of the first stage. The gas pressure in the first stage cavity should be 0.18 - 0.20 MPa.

The second stage valve is then adjusted to open. To do this, remove the cover, loosen the screw, and loosen the adjusting screw until air begins to escape from the second stage valve (determined by hearing). The adjusting screw is tightened by turning it 1/8 - 1/4 times, detecting the air flow through the valve to be stopped, and then tightening the screw.

When adjusting the gearbox, first check the second stage valve: the test is performed on the stem of the second stage diaphragm

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