

Technical Maintenance and Analysis of Frames and Suspensions in the Traveling Part of Motor Vehicles

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Abstract:

The running part consists of frames, axles and wheel suspensions, and their failure causes unconscious conditions such as noise, vibration, and humming in the movement of the car.

Keywords: frames, axles and wheel suspensions, GAZ cars.

Introduction: As a result, the fatigue of the driver and passengers and the storability of the cargo transported in the car decreases [1]. Failures in the elements of the running track mainly occur when the vehicle is used with an overload from the highest maximum load capacity, as well as when it is used in severe conditions of uneven roads [2]. The frame bends with residual deformation, cracks appear in it, riveted joints loosen, the engine transmission units are misaligned [3].

The main failures of the front axle include bending of the beam, wear of the pivot and pivot bushings, failure of the places where the wheel bearings are located, violation of the wheel mounting angles, etc. [4]. Violation of the mounting angles As a result, the handling of the car deteriorates and tire wear increases. Spring breakage or suspension spring collapse, as well as damage to shock absorbers, ultimately lead to rapid tire wear [5]. The indicated malfunctions of the running part occur due to the car sliding to the right or left from a straight line, the effect of the front steering wheels when driving at high speed, tilting the car to one side, knocks and vibrations around the suspension during movement. comes [6]. Malfunctions in the aggregates and nodes of the running part are partially detected during the inspection. The scope of work of the 1-txk includes checking the shock absorbers, the condition and fastening of the front and rear suspensions, measuring the clearances in the bearings of the wheel hubs and pivot pins, as well as evaluating the

condition of the frame and the front axle beam [7]. In accordance with the lubrication map, the hinged supports or bearings of the pivoting spindles are lubricated according to the schedule [8].

The condition of the tires and the air pressure in them are checked, if necessary, they are brought to the norm. In addition to the above-mentioned work at the 2nd test drive, the correct installation of the front and rear axles, the mounting angles of the front wheels are checked and, if necessary, adjusted, the fingers of the front and rear springs. It is checked whether the engines and transverse beams are bent, the spring and shock absorber brackets are fixed to the frame [11]. Checking the geometric shape of the frame can be done by measuring the width of the frame along the outer plane of the spars from the front and back [12]. The difference in frame width is 4mm for GAZ cars should not exceed. It is possible to determine the displacement of the frame struts relative to the initial position, by measuring the diagonals between the transverse beams in the frame in some sections [13]. Diagonals in each plot should be the same length. Minimum deviations are 5mm. it is allowed not to exceed. The mutual situation of the bridges, the distance between the axles of the front and rear bridges is determined by measuring from the right and left sides [14].

The measured distances are not allowed to differ from each other. If the inspection of the condition of the frame reveals serious defects in its construction or deviations from the permissible values in the basic dimensions, then the car is sent for major repair [15].

The condition of the suspensions is checked during maintenance, and their tightness is checked by force. After inspecting the spring, broken or cracked sheets are identified [16]. Springs should not have any noticeable longitudinal displacement. Such a situation may occur due to the cutting of the central bolt [17]. When checking the reliable fastening of the springs, it is necessary to pay special attention to the tightening of the extension nuts and the presence of wear in the bushings that fix the spring with a hinge. If one end of the spring is attached to rubber pads, then the integrity of the pads and their correct location on the support are checked [18]. The nuts on the extension rods and clamps of the spring are evenly tightened, first the front ones according to the movement of the car, and the next ones.

The elasticity of the springs is checked by their arc shape in the free state. This indicator can be determined by pulling the thread between the ends of the spring and measuring the vertical distance from the thread to the center of the bent core sheet. Springs in car suspensions are 10mm apart in arc. should not differ much from .

When the car moves, if the springs make noises, as well as rust on the plates, they should be cleaned of dirt, washed in kerosene, and lubricated with graphite. Maintenance of shock absorbers consists of checking their tightness and timely replacement of worn rubber bushings. Focuses on controlling hermeticity. If the shock absorber has lost its properties and liquid has leaked on its surface, then the shock absorber is repaired, tested, and then installed in the car .

Conclusion: An example is the violation of the tension of the pivot bearings, the bending of the bridge beam and the pivoting arms, the corrosion of the pivot mounting hole, the pivot and its bushing, and the corrosion of the pivot shaft bearing mounting hole . Corrosion of the front axle details leads to distortion of the mounting angles of the wheels, one-sided corrosion of the tires and difficulty in driving the car.

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