

SPECIFICS IN THE WORK OF THE CARDAN SHAFT OF THE TRAM BOGIES IN GROUP DRIVE OF THE WHEELSETS

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Abstract: This material refers to trams types T6M 700 u T8M 700 M, which are in use in Sofia. These trams have a group propel of the wheelsets and the movement of the traction motors to the wheelset reducers is transmitted through cardan shafts. The engines are hung on the body frame and in the curve the motor bogies are turned to the basket at an angle up to 11 degrees.

The statistics of emergency failures the chassis and powertrain in these trams for the period 2009 - 2015 year shows that out of 210 accidents for the period 68 (32.4%) are on the cardan shafts transmitting the movement of traction motors to the first in the kinematic chain wheeled reducer. Data from the depot "Banishora" showed that in the same period of repair have been given 828 long cardan shafts.

Cardan shafts transmitting the movement from the traction motors are from MAZ 503 trucks. Although in trucks the cardan shafts tolerate similar sized loads there is no evidence of such problems.

The article examines the geometric position of the cardan shaft when the train overcomes curved section of the track. Then the three parts of the cardan shaft are located in two planes: one determined by the drive and intermediate shafts; the second - the interim and drives. The two planes are at an angle to each other and the second cardan joint no longer compensates the uneven movement between the two.