

INSPECTION AND LIFTING AND INSPECTION EQUIPMENT

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When performing maintenance and repair of vehicles, a significant proportion of the work (40...45%) is performed from below, for which the MTE (motor transport enterprise) must be equipped with inspection and lifting and transport equipment.

Inspection and lifting-inspection equipment includes equipment that provides convenient access to units, mechanisms and parts located below and on the side of the vehicle during its maintenance and repair. Maintenance and repair work performed from below the car can be carried out with full or partial hanging or without hanging the car.

Inspection equipment includes ditches and overpasses. Inspection ditches are the most common using universal inspection devices in MTE. Depending on the method of driving a car into a ditch and leaving it, there are different [1].

There are dead-end and direct-flow ditches (passage ditches). By width, ditches are divided into narrow (inter-track) and wide, by design - into inter-track and side, with knee bridges and with hanging wheels, trench and isolated.

The length of the ditch must be at least the length of the car, but not exceed it by more than 0.8 m. The depth (taking into account the ground clearance of the car) for passenger cars is 1.4 ... 1.5 m, and for trucks and buses - 1.2 ...1.3 m. The width of narrow inter-track ditches is usually no more than 1.1 m.

Narrow ditches are versatile and are usually used in low-power vehicles. Narrow inter-track trench ditches have a trench connecting several parallel ditches along their ends, for easy communication of the ditches with the room and with each other. At dead-end trench ditches, the trench is made open. Direct-flow ditches have a trench closed at the top, used for passage. The depth of the open trench is 1.2...1.6 m, the closed one is at least 1.8 m from the floor to the bottom of the protruding parts of the trench floor.

To enter and exit the trench, at least one ladder is made for every five ditches.

The ditch is edged with an internal reinforced concrete flange 100 mm thick or a metal one - 20...25 mm thick, no more than 150 mm high. To fix the longitudinal movement of the car, the dead-end ditches at the end have a stop for the front wheels [2, 3].

A wide ditch with a track bridge has a width exceeding the overall width of the car, with two metal or reinforced concrete narrow bridges, the distance between the axles of which is equal to the track of the car.

References.

1. Журавель Д.П. Технічний сервіс в АПК: навчально-методичний посібник до самостійної роботи / Ю.Г. Сорваніді, Д.П. Журавель, А.М. Бондар, О. Ю. Новік. Мелітополь: Видавничо-поліграфічний центр «Люкс», 2021. - 157 с.

2. Журавель Д.П. Технічний сервіс мехатронних систем: навчально-методичний посібник до самостійної роботи / А.М. Бондар, Д.П. Журавель, О. Ю. Новік, К.Г. Петренко, О.В. В'юник. - Мелітополь: Видавничо-поліграфічний центр «Люкс», 2021. - 140 с.

3. Журавель Д.П. Триботехніка: посібник до лабораторно-практичних робіт / Д.П.Журавель, О.Ю. Новік, А.М. Бондар, К.Г. Петренко. – Мелітополь: Видавничо-поліграфічний центр «Люкс», 2019. - 136 с.

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