

TOW BAR FOR Mercedes Citan (W415) (Also LWB)

(2013 -)

FITTING AND OPERATION MANUAL

Cat. No.M-104

DESTINATION

Tow bar **M-104** is designed for towing a trailer. This ball hook has a current certification of approval authorizing the product with **E20** certification sign.

FITTING CONDITIONS

Tow bar **M-104** can be used and operated in a car with proper technical conditions of body elements. Those parts cannot be mechanically damaged. The ball hook has to be installed and operated in a car according to this instruction. All bolts and nuts in ball hook have to be screwed down with proper torque (Mo). Torque values are given below:

M8	-	25 (Nm)	M12	-	85 (Nm)
M10	-	50 (Nm)	M16	-	200 (Nm)

OPERATION CONDITIONS

The tow bar **M-104** has a rating plate describing correct and safe loads of the hook:

Typ: M-104	Tow bar catalogue number.
A50-X	Tow bar class (compressing device)
E20 55R-01 3608	Tow bar certification of approval number
D = 8,4 kN	Theoretical related force working on a ball hook
S = 75 kg	Max permissible vertical load of the hook ball
R = 1400 kg	Max permissible load of towing trailer

D - force is calculated using the following formula:

$$D = g \times \frac{T \times R}{T + R} \text{ kN}$$

T-technically permissible maximum mass in tonnes of the towing vehicle (also towing tractors) including, if necessary, the vertical load of a centrale axle trailer.
R-technically permissible maximum mass in tonnes of the full trailer with drawgal free to move in the vertical plane or of the semi-trailer.
g-acceleration due to gravity (assumed as 9,81 m/s²)

During operating individual elements of ball hook should be kept in a proper technical condition and protected from corrosion. The trailer must be linked with an elastic joint with proper durability (cord, chain) while towing. It is necessary to check periodically bolt joints during operating the ball hook. If screws are eased, it is necessary to screw them down.

FITTING

The tow bar **M-104** is made up of the following elements:

1. Towbar mainframe	- 1 piece	10. Bolt M10x35	- 4 pieces
2. Tow ball (ACS-2040 / TERWA 30886)	- 1 piece	11. Bolt M12x25	- 4 pieces
3. Tow ball socket	- 1 piece	12. Spring washer Ø8,2	- 2 pieces
4. Electrical socket plate	- 1 piece	13. Spring washer Ø10,2	- 10 pieces
5. Holder	- 2 pieces	14. Spring washer Ø12,2	- 4 pieces
6. Angle bar	- 2 pieces	15. Round washer Ø10,5	- 10 pieces
7. Special washer Ø24/Ø8,5x2,5	- 2 pieces	16. Round washer Ø13,0	- 4 pieces
8. Bolt M8x30	- 2 pieces	17. Nut M10	- 6 pieces
9. Bolt M10x30	- 6 pieces		

Please follow the installation fitting instruction below in order to ensure correct installation of the towbar:

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1. Rear bumper removing and cutting is not required.
2. Loosen the two handles on the underside of the bumper.
3. Remove from the stringer the handle of the silencer.
4. Attach the angle bars (6) on the underside of the stringers and screw loosely using bolts M8x30 (8) with spring washers Ø8,2 (12) and washers Ø24/Ø8,5x2,5 (7).
5. Attach the handle of the silencer to the stringer and holders (5) on the underside of the stringers and screw loosely using bolts M10x30 (9), spring washers Ø10,2 (13) and round washers Ø10,5 (15).
6. Between angle bars (6) and holders (5) slide towbar mainframe (1) and screw using bolts M10x35 (10) with round washers Ø10,5 (15), spring washers Ø10,2 (13) and nuts M10 (17).
7. Tighten all screws.
8. Install the bumper from the bottom.
9. Tighten the tow ball socket (3) and electrical plate (4) to the towbar mainframe (1) using bolts M12x25 (11) with spring washers Ø12,2 (14), round washers Ø13,0 (16).
10. Put ball (2) to the socket (3) in accordance with attached instruction.

Caution:

Different types of (2) may be attached to the (1) only if:

1. The adapted tow has its own information label with homologation number
2. D and S values are equal or higher than (1) values.
3. Tow ball centre-point is in accordance with the drawing

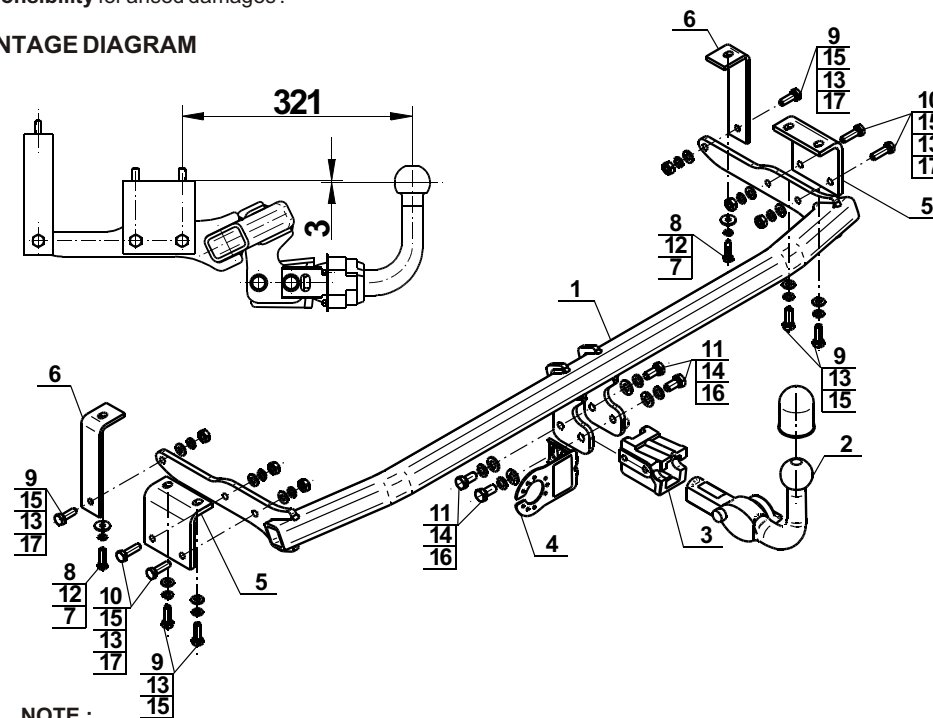
Obeying this instruction assures correct montage and the M-104 tow bar operating.

After assembling of the tow bar you have to get entry in cars **registration book**.

CAUTION :

Check if all bolts and nuts are correctly tightened after 1000km. Keep tow ball clean, grease and cased. All mechanical damages of tow bar excludes its further exploitation. Damaged ball hook **cannot be repaired**. In case of braking the rules of montage or unproper usage manufacturer **do not take responsibility** for arised damages.

MONTAGE DIAGRAM



NOTE :

Bunch of wires is not included (in total price).

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