

Cat. No.M-049

DESTINATION

Tow bar **M-049** 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-049** can be used and operated in a car with proper technical conditions of body elements. Those parts cannot be mechanically damaged. Remove the insulating mass of the sealing from surface mounting. 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-049** has a rating plate describing correct and safe loads of the hook :

| | |
|------------------------|---|
| Typ: M-049 | Tow bar catalogue number. |
| A50-X | Tow bar class (compressing device) |
| E20 55R-01 4236 | Tow bar certification of approval number |
| D = 8,4 kN | Teoretical related force working on a ball hook |
| S = 75 kg | Max permissible vertical load of the hook ball |
| R = 1600 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 vehicale (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-049** is made up of the following elements :

- | | | | |
|-------------------------------|------------|-------------------------|------------|
| 1. Towbar mainframe | - 1 piece | 8. Bolt M12x25 | - 4 pieces |
| 2. Tow ball (ACS-2040) | - 1 piece | 9. Spring washer Ø10,2 | -10 pieces |
| 3. Tow ball socket (ACS) | - 1 piece | 10. Spring washer Ø12,2 | - 4 pieces |
| 4. Electrical socket plate | - 1 piece | 11. Round washer Ø10,5 | - 8 pieces |
| 5. Washer | - 2 pieces | 12. Round washer Ø13,0 | - 4 pieces |
| 6. Special washer Ø35/Ø10,5x3 | - 8 pieces | 13. Nut M10 | - 6 pieces |
| 7. Bolt M10x40 | -10 pieces | | |

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

1. Installation requires removing and cutting rear bumper.
2. Remove the rear bumper.
3. Remove the covers from the stringers (it will not be reused).
4. Slide the washers (5) into the stringers.

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5. Slide the towbar mainframe (1) into the stringers and screw in point A using bolts M10x40 (7) with washers Ø35/Ø10,5x3 (6) and spring washers Ø10,2 (9).
6. Through the holes B, grill In the back belt holes Ø10.
7. Through the holes B, C screw the towbar mainframe (1) with back belt using bolts M10x40 (7) with washers Ø35/Ø10,5x5 (6), round washers Ø10,5 (11), spring washers Ø10,2 (9) and nuts M10 (13).
8. Tighten the tow ball socket (3) and electrical plate (4) to the towbar mainframe (1) using bolts M12x25 (8) with round washers Ø13,0 (12), spring washers Ø12,2 (10).
9. Make a cutting in the bumper (fig. 1) and install the bumper.
10. Plug the tow ball (2) into the socket (3) following the attached instructions.

Caution:

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

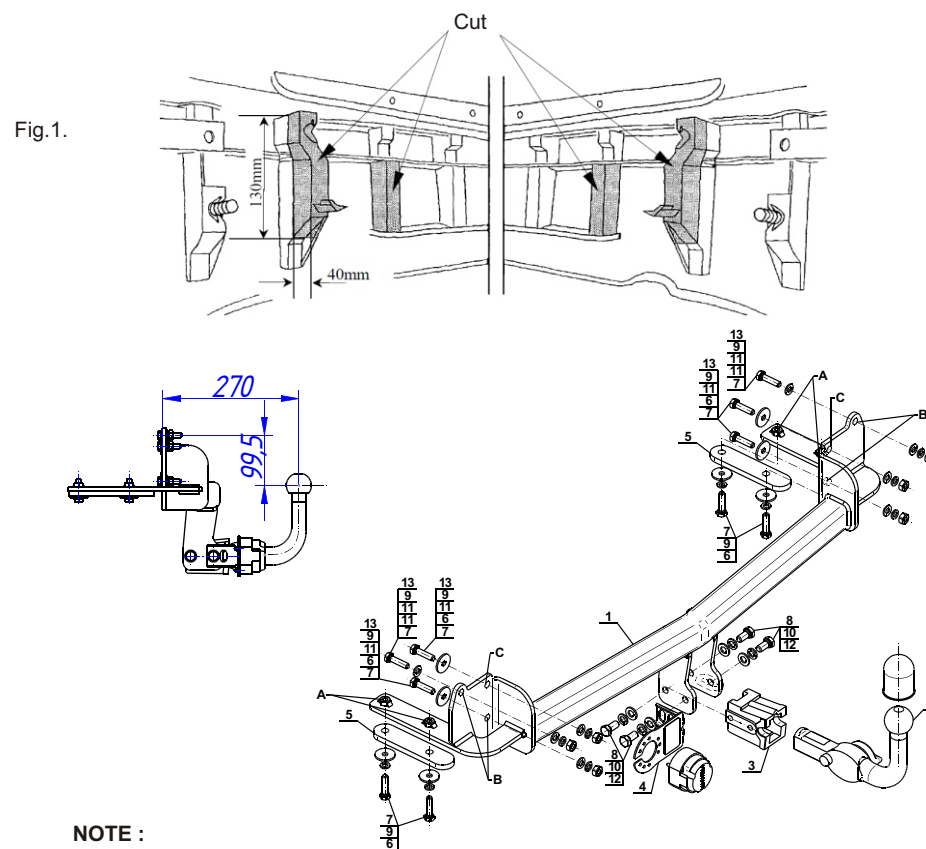
- 1.The adapted tow has its own information label with homologation number.
- 2.D and S values are equal or higher than (1) values.
- 3.Tow ball centre-point is in accordance with the drawing.

Obeying this instruction assures correct montage and the M-049 tow bar operating.

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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