

Cat. No.S-409

#### DESTINATION

Tow bar **S-409** 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 **S-409** 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 **S-409** has a rating plate describing correct and safe loads of the hook:

Typ: <b>S-409</b>	Tow bar catalogue number.
<b>A50-X</b>	Tow bar class (compressing device)
<b>E20 55R-01 3120</b>	Tow bar certification of approval number
<b>D = 5,4 kN</b>	Theoretical related force working on a ball hook
<b>S = 50 kg</b>	Max permissible vertical load of the hook ball
<b>R = 800 kg</b>	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/s<sup>2</sup>)

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 **S-409** is made up of the following elements:

1. Towbar mainframe	- 1 piece	10. Screw M10x30	- 4 pieces
2. Tow ball (ACS-2070)	- 1 piece	11. Screw M10x80	- 6 pieces
3. Tow ball socket (ACS)	- 1 piece	12. Screw M12x25	- 4 pieces
4. Electrical socket plate	- 1 piece	13. Spring washer Ø10,2	-10 pieces
5. Flat bar	- 2 pieces	14. Spring washer Ø12,2	- 4 pieces
6. Right holder	- 1 piece	15. Flat washer Ø10,5	-10 pieces
7. Right holder	- 1 piece	16. Flat washer Ø13,0	- 4 pieces
8. Distance sleeve Ø18/Ø11x52	- 2 pieces	17. Nut M10	-10 pieces
9. Distance sleeve Ø26,9/Ø21,7x51	- 4 pieces		

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

1. Rear bumper cutting and removing is not required.

2. Remove the rear and side panels from the trunk, remove the two fenders from the bumper. Loosen the fuel wires in points B.
3. Remove the plugs from the bottom of stringers in points A, B.
4. Drill in points A, B holes to the trunk from the bottom of stringers to size 11 mm (through both walls).
5. Enlarge the drilled holes to size Ø27 (through one wall) and put in them distance sleeves (9).
6. Cut out the parts of side panels at places in which flat bars (4) will be mounted.
7. Attach the flat bars (5) to trunk floor at points A, B then mark and drill Ø11 holes at C points (through two walls).
8. Enlarge C points in trunk (through one wall) to size Ø18mm and put in them distance sleeves (8).
9. Attach the flat bars (5) in trunk at points A, B, C and from the bottom attach towbar mainframe (1) and screw on using bolts M10x80 (11) with round washers Ø10,5 (15), spring washers Ø10,2 (13) and nuts M10 (17).
10. Put the left and right holder (6, 7) to the bottom in points C and screw on using bolts M10x80 (11) then screw on with towbar mainframe (1) using bolts M10x30 (10) with round washers Ø10,5 (15), spring washers Ø10,2 (13) and nuts M10 (17).
11. Install again elements (point 2).
12. Attach the tow ball socket (3) and electrical plate (4) to the tow bar mainframe (1) using bolts M12x25 (12) with round washers Ø13,0 (16) and spring washers Ø12,2 (14) according to the scheme.
13. Put tow ball (2) to the socket (3) in accordance with the 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

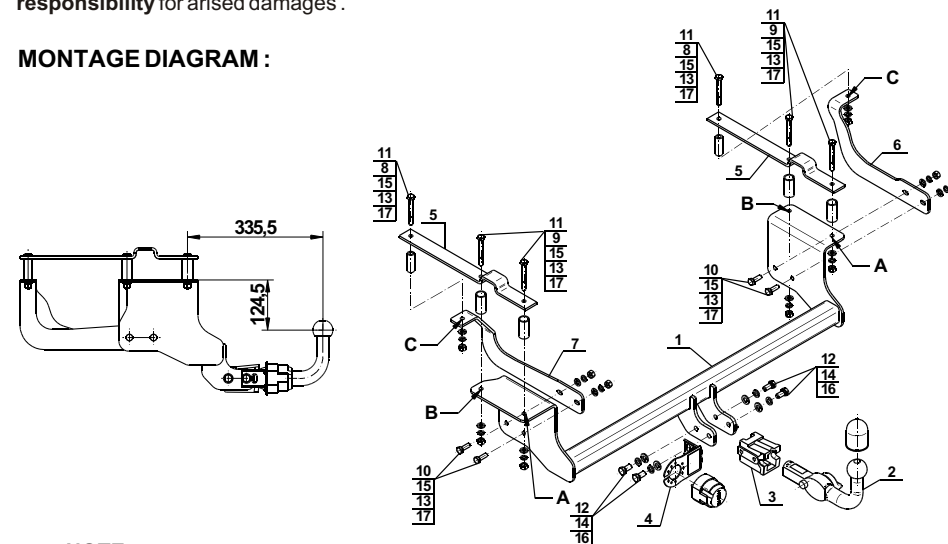
**Obeying this instruction assures correct montage and the S-409 tow bar operating.**

After assembling of the tow bar **S-409** 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).