

DESTINATION

Tow bar **H-053** 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 **H-053** 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 **H-053** has a rating plate describing correct and safe loads of the hook:

Typ: H-053	Tow bar catalogue number.
A50-X	Tow bar class (compressing device)
E20 55R-01 4451	Tow bar certification of approval number
D = 6,9 kN	Theoretical related force working on a ball hook
S = 50 kg	Max permissible vertical load of the hook ball
R = 1200 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 **H-053** is made up of the following elements:

1. Towbar mainframe	- 1 piece	11. Bolt M10x35	- 12 pieces
2. Tow ball (ACS-2040)	- 1 piece	12. Bolt M12x25	- 4 pieces
3. Tow ball socket (ACS)	- 1 piece	13. Bolt M12x40	- 4 pieces
4. Electrical socket plate	- 1 piece	14. Spring washer Ø10,2	- 12 pieces
5. Right support	- 1 piece	15. Spring washer Ø12,2	- 8 pieces
6. Left support	- 1 piece	16. Round washer Ø10,5	- 12 pieces
7. Right holder	- 1 piece	17. Round washer Ø13,0	- 8 pieces
8. Left holder	- 1 piece	18. Nut M10	- 12 pieces
9. Strengthening	- 2 pieces	19. Nut M12	- 2 pieces
10. Washer	- 2 pieces		

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

1. Installation **requires removing and cutting of the rear bumper.**
2. Remove the silencer and the rear bumper of the car with strengthening (it will not be re-used).

3. Empty the floor of the bumper and unscrew the side shields inside of the bumper.
4. Into the protruding pins put the holders right (7) and left (8) and screw it using factory nuts M8 and bolts M10x35 (11) with round washers Ø10,5 (16), spring washers Ø10,2 (14) and nuts M10 (18).
5. Between installed holders (7, 8) slide the supports right (5) and left (6) with towbar mainframe (1) and screw it using bolts M12x40 (13) with round washers Ø13,0 (17), spring washers Ø12,2 (15) and nuts M12 (19).
6. Through the A holes of supports (5, 6) drill through holes using drill Ø11.
7. Put strengthenings (9) into the bumper so as holes of strengthenings (9) overlap with previously drilled holes and screw it with supports (5, 6) using bolts M10x35 (11) with round washers Ø10,5 (16), spring washers Ø10,2 (14) and nuts M10 (18).
8. Through the B holes in strengthenings (9) drill through the holes using drill Ø11 and screw it using bolts M10x35 (11) with washers (10) and round washers Ø10,5 (16), spring washers Ø10,2 (14) and nuts M10 (18).
9. Make a cut in bottom part of the bumper according to the figure 1.
10. Install the silencer and rear bumper.
11. Screw the side shields inside of the bumper.
12. Attach the tow ball socket (3) and electrical socket plate (4) to the towbar mainframe (1) using bolts M12x25 (12) with spring washers Ø12,2 (15) and round washers Ø13,0 (17).
13. 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.

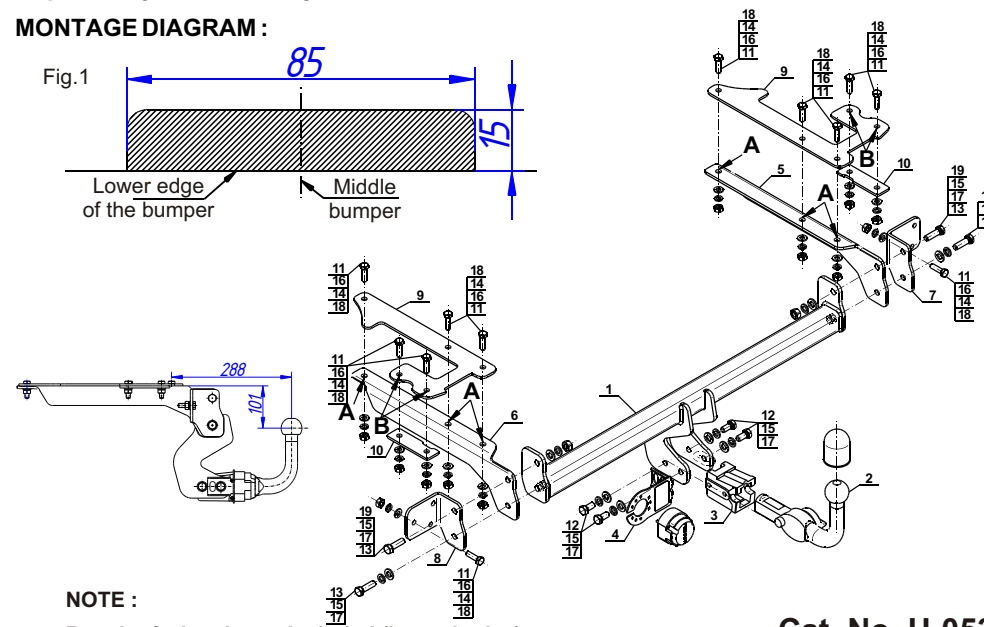
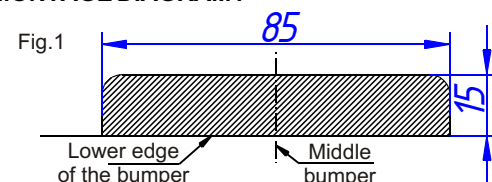
Obeying this instruction assures correct montage and the H-053 tow bar operating.

After assembling of the tow bar **H-053** 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 improper usage manufacturer **do not take responsibility** for arised damages.

MONTAGE DIAGRAM:



NOTE:

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