

### Cat. No.S-384

#### DESTINATION

Tow bar **S-384** 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-384** 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-384** has a rating plate describing correct and safe loads of the hook:

Typ: <b>S-384</b>	Tow bar catalogue number.
<b>A50-X</b>	Tow bar class (compressing device)
<b>(E20) 55R-01 3539</b>	Tow bar certification of approval number
<b>D = 6,4 kN</b>	Teoretical related force working on a ball hook
<b>S = 60 kg</b>	Max permissible vertical load of the hook ball
<b>R = 1100 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 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/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-384** is made up of the following elements:

1. Towbar mainframe	- 1 piece	13. Screw M10x30	- 1 piece
2. Tow ball (ACS-2030 / TERWA 30541)	- 1 piece	14. Screw M10x80	- 4 pieces
3. Tow ball socket	- 1 piece	15. Screw M12x25	- 4 pieces
4. Electrical socket plate	- 1 piece	16. Screw M12x30	- 1 piece
5. Right support	- 1 piece	17. Screw M12x100	- 1 piece
6. Right strengthening	- 1 piece	18. Spring washer Ø10,2	- 5 pieces
7. Left strengthening	- 1 piece	19. Spring washer Ø12,2	- 6 pieces
8. Washer (40x30x8/Ø13,0)	- 6 pieces	20. Flat washer Ø10,5	- 4 pieces
9. Special washer Ø30/Ø10,5x3	- 3 pieces	21. Flat washer Ø13,0	- 5 pieces
10. Special washer Ø30/Ø12,5x3	- 2 pieces	22. Nut M10	- 5 pieces
11. Distance sleeve Ø21,3/Ø16,7x12	- 1 piece	23. Nut M12	- 1 piece
12. Distance sleeve Ø21,3/Ø16,7x50	- 4 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 required.
2. Remove the rear bumper.
3. Fold the rear seat, remove the liner and side items in the trunk.
4. Loosen the fuel line bracket on the left side.
5. In the trunk on the left side, in factory points (A) using the drill Ø10 mm make a hole, then drill the hole till about Ø21 mm. Into the holes put distance sleeves (12).
6. On the right side in point B, on the bottom of the trunk floor make a hole using drill Ø10 mm.
7. In the trunk, put right strengthening (6) on hole B and attach bolt M10x80 (14). Then stipple in point C, take off right strengthening (6) and bolt M10x80 (14) and make a hole using drill Ø10 mm. Holes B and C enlarge to about Ø21 mm and put in it distance sleeves (12).
8. From the bottom (over the exhaust pipe) attach right support (5). From the trunk side attach right strengthening (6) and screw loosely using bolts M10x80 (14) with washers Ø30/Ø10,5x3 (9), spring washers Ø10,2 (18) and nuts M10 (22).
9. Attach the towbar mainframe (1) and screw loosely with towing eye using bolts M12x100 (17) with washers Ø30/Ø12,5x3 (10), washers (8), distance sleeve (11), spring washer Ø12,2 (19) and nuts M10 (22).
10. In the trunk attach left strengthening (7), and screw the towbar mainframe (1) in points A using bolts M10x80 (14) with round washers Ø10,5 (20), spring washers Ø10,2 (18) and nuts M10 (22).
11. Screw the towbar mainframe (1) with the right support (5) using bolt M12x30 (16) with spring washers Ø12,2 (19) and round washers Ø13,0 (21), and screw with bolt M10x30 (13) with round washers Ø10,5 (20), washer Ø30/Ø10,5x3 (9), spring washer Ø10,2 (18) and nut M10 (22).
12. Tighten all screws.
13. Spread the rear seat put in the liner and side items in the trunk (if necessary, make cutting in the side pieces)
14. Make an undercut in the bumper and install the bumper.
15. Attach the tow ball socket (3) and electrical plate (4) to the towbar mainframe (1) using bolts M12x25 (15) with round washers Ø13,0 (21), spring washers Ø12,2 (19).
16. 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.

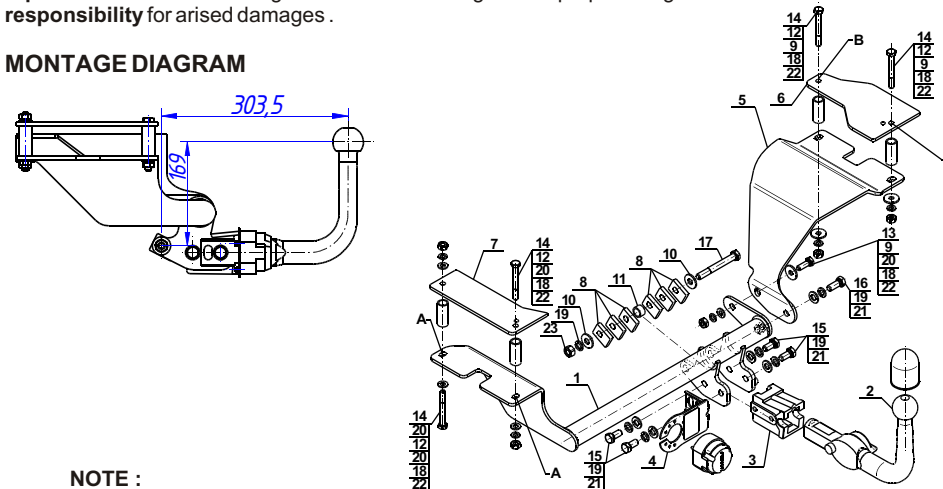
**Obeying this instruction assures correct montage and the S-384 tow bar operating.**

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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