



# TOW BAR FOR VW Passat (4D/Estate), (B7)/(3C) (10/2010 - ) FITTING AND OPERATION MANUAL

Cat. No.V-144

## DESTINATION

Tow bar **V-144** is designed for towing a trailer. This ball hook has a current certification of approval authorizing the product with **e4** certification sign.

## FITTING CONDITIONS

Tow bar **V-144** 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 **V-144** has a rating plate describing correct and safe loads of the hook:

Typ: <b>V-144</b>	Tow bar catalogue number.
<b>F</b>	Tow bar class (compressing device)
<b>e4</b> <b>00-4455</b>	Tow bar certification of approval number
<b>D = 11,3 kN</b>	Theoretical related force working on a ball hook
<b>S = 90 kg</b>	Max permissible vertical load of the hook ball
<b>R = 2200 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 **V-144** is made up of the following elements:

- |                               |            |                         |            |
|-------------------------------|------------|-------------------------|------------|
| 1. Towbar mainframe           | - 1 piece  | 7. Screw M10x35         | - 4 pieces |
| 2. Tow ball (ACS-3015)        | - 1 piece  | 8. Screw M12x25         | - 3 pieces |
| 3. Tow ball socket            | - 1 piece  | 9. Screw M12x45         | - 1 piece  |
| 4. Electrical socket plate    | - 1 piece  | 10. Spring washer Ø10,2 | - 4 pieces |
| 5. Sleeve Ø17,3/Ø12,5x15      | - 1 piece  | 11. Spring washer Ø12,2 | - 4 pieces |
| 6. Special washer Ø30/Ø10,5x3 | - 4 pieces | 12. Round washer Ø13,0  | - 4 pieces |

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

1. Rear bumper removing and cutting is required.
2. Remove rear bumper of the car along with the reinforcement (the reinforcement won't be reused).

3. Insert the towbar mainframe (1) to the stringers and screw using bolts M10x35 (7) with spring washers Ø10,2 (10) and washers Ø30/Ø10,5x3 (6).
4. Fasten ball socket (3) and electrical plate (4) to the towbar mainframe (1) using bolts M12x45 (9)- 1 pc. and M12x25 (8)- 3 pcs. with round washers Ø13,0 (12) and spring washers Ø12,2 (11) and sleeve Ø17,3/Ø12,5x15 (5) (according to the schema).
5. Make the cutting on the rear bumper (~85x260 mm) according to the fig. 1.
6. Assembly the rear bumper.
7. Attach the tow ball (2) into the socket (3) according to the attached manual.

### 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 V-144 tow bar operating.**

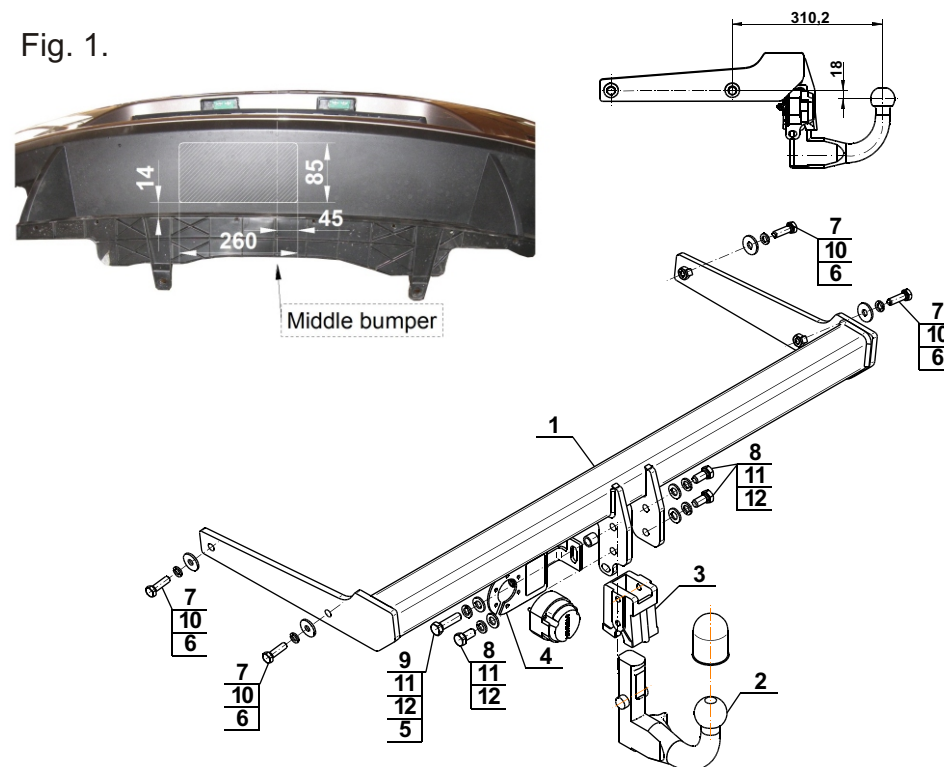
After assembling of the tow bar **V-144** you have to get entry in cars **registration book**.

### 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 :

Fig. 1.



### NOTE

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