

TOW BAR V-117 FOR
VW Sharan (05/2000 -) /
Seat Alhambra (05/2000 -) /
Ford Galaxy (05/2000 - 2006)
FITTING AND OPERATION MANUAL
Cat. No.V-117

DESTINATION

Tow bar **V-117** for a **VW Sharan / Seat Alhambra / Ford Galaxy** 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 **V-117** 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-117** has a rating plate describing correct and safe loads of the hook:

Typ: V-117 A50-X 0041-00 D = 11,2 kN S = 85 kg R = 2100 kg	The tow bar for VW Sharan / Seat Alhambra / Ford Galaxy Tow bar class (compressing device) Tow bar certification of approval number Theoretical related force working on a ball hook Max permissible vertical load of the hook ball Max permissible load of towing trailer
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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 **V-117** for **VW Sharan / Seat Alhambra / Ford Galaxy** is made up of the following elements:

- | | | | |
|------------------------------------|------------|------------------------|------------|
| 1. Tow bar's body | - 1 piece | 8. Flat washer Ø6,4 | - 4 pieces |
| 2. Ball hook | - 1 piece | 9. Spring washer Ø6,2 | - 2 pieces |
| 3. Electrical socket holder | - 1 piece | 10.Spring washer Ø10,2 | - 6 pieces |
| 4. Special washer
Ø40/Ø10,5x2,5 | - 6 pieces | 11.Flat washer Ø13,0 | - 2 pieces |
| 5. Bolt M6x20 | - 2 pieces | 12.Spring washer Ø12,2 | - 2 pieces |
| 6. Bolt M10x40 | - 6 pieces | 13.Nut M6 | - 2 pieces |
| 7. Bolt M12x65 | - 2 pieces | 14.Nut M12 | - 2 pieces |

- 1.Mounting tow ball require cutting rear bumper (in the bottom parts of rear bumper).
- 2.Remove rear bumper and dismantle rear bumper strenghtening (it won't be mounted again).
- 3.Dismantle a tow bar into kit-form elements.
- 4.Place (1) into chassis frame and screw all together down using (6), (4) and (10).
- 5.Put the rear bumper to the car, mark place and size of cutting bottom part of rear bumper and do the cutting.
6. Mount the rear bumper to the car.
- 7.Also screw rear bumper with the holders placed on (1) using (5), (8), (9) and (13).
- 8.Mount (2) into (1) using (7),(11), (12) and (14), screwing (3) on the left side of (2) at the same time.
- 9.Check if all fixing bolts and nuts are screwed hard enough.

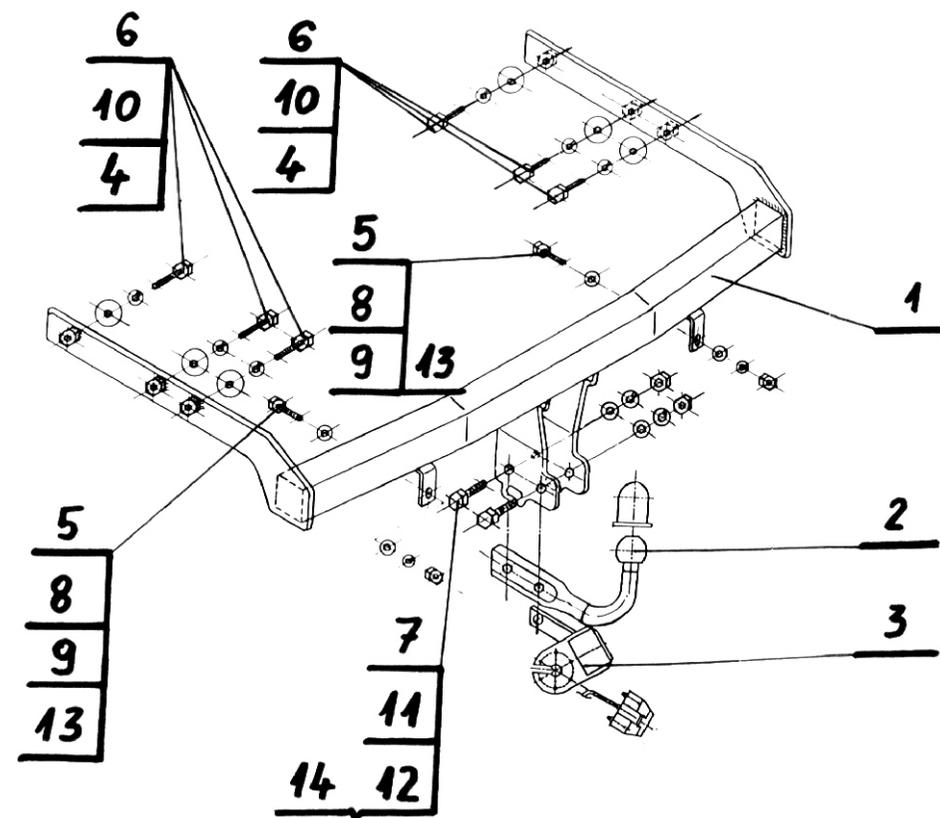
Obeying this instruction assures correct montage and the tow bar operating in a VW Sharan / Seat Alhambra / Ford Galaxy

After assembling of the tow bar **V-117** you have to get entry in cars **registration book** in a quality control station.

CAUTION :

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).