

DESTINATION

Tow bar **O-222** for a **Opel Vectra C (4/5D)** 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 **O-222** 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 **O-222** has a rating plate describing correct and safe loads of the hook:

Typ: O-222	The tow bar for Opel Vectra C (4/5D)
A50-X	Tow bar class (compressing device)
e20 0153-00	Tow bar certification of approval number
D = 10,3 kN	Theoretical related force working on a ball hook
S = 78 kg	Max permissible vertical load of the hook ball
R = 1950 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 **O-222** for **Opel Vectra C (4/5D)** is made up of the following elements:

- | | | | |
|----------------------------------|------------|-----------------------|------------|
| 1. Tow bar's body | - 1 piece | 8. Bolt M12x65 | - 2 pieces |
| 2. Ball hook | - 1 piece | 9. Flat washer 10,5 | - 8 pieces |
| 3. Electrical socket holder | - 1 piece | 10.Flat washer 13,0 | - 2 pieces |
| 4. Right tin ware | - 1 piece | 11.Spring washer 10,2 | - 4 pieces |
| 5. Left tin ware | - 1 piece | 12.Spring washer 12,2 | - 2 pieces |
| 6. Distance sleeve 17,3/ 12,5x65 | - 4 pieces | 13.Nut M10 | - 4 pieces |
| 7. Bolt M10x100 | - 4 pieces | 14.Nut M12 | - 2 pieces |

Follow the general directions in order to fit **O-222** tow bar properly:

- 1.Rear bumper cutting or dismantling is **not required**.

- 2.Dismantle a tow bar into kit-form elements.
- 3.Dismantle trunk's facing.
- 4.From the inner side of the trunk on the left and right side drill two holes (12,5) through the one partition of chassis frame in special marked places.
- 5.Enlarge those two holes 17,5 through one partition from the inner side of the trunk.
- 6.Place (6) into drilled holes and place (4) and (5).
- 7.Place (1) from the bottom side of the car then screw all together downfrom the trunk's side using (7), (9), (11) and (13).
- 8.Screw (2) with (1) using (8), (10), (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.

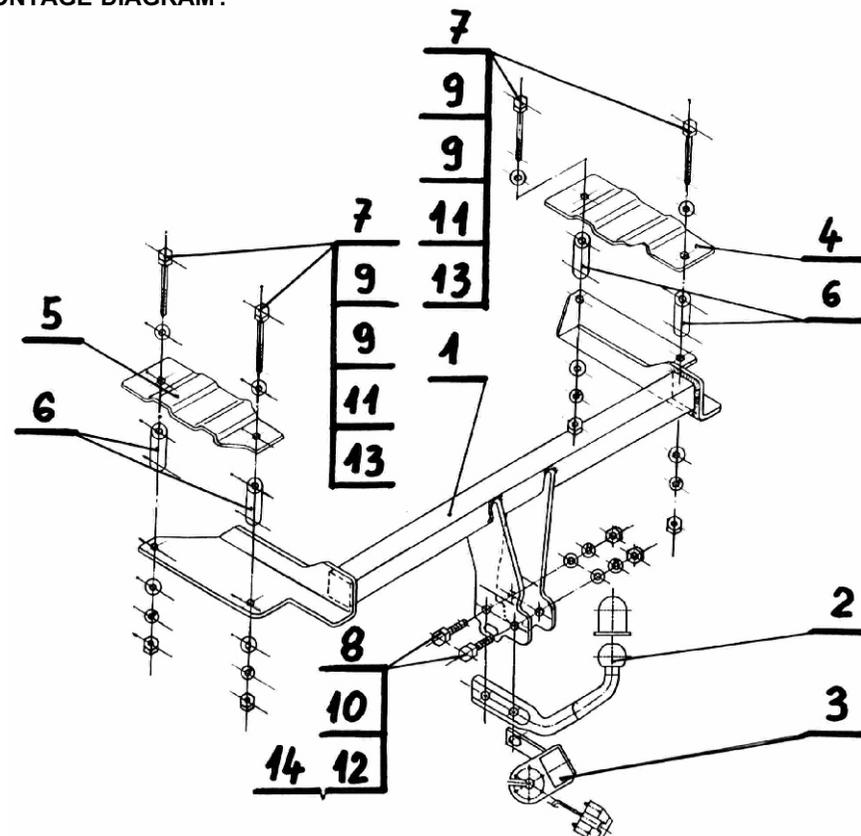
Obeying this instruction assures correct montage and the tow bar operating in a Opel Vectra C (4/5D).

After assembling of the tow bar **O-222** 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).