

DESTINATION

Tow bar **F-116** for a **FiAT Panda II** 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 **F-116** 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 **F-116** has a rating plate describing correct and safe loads of the hook:

Typ: F-116	The tow bar for FiAT Panda II
A50-X	Tow bar class (compressing device)
e20 0144-00	Tow bar certification of approval number
D = 6,4 kN	Theoretical related force working on a ball hook
S = 60 kg	Max permissible vertical load of the hook ball
R = 1100 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 **F-116** for **FiAT Panda II** is made up of the following elements :

- | | | | |
|-----------------------------|------------|-----------------------|------------|
| 1. Tow bar mainfame | - 1 piece | 9. Bolt M12x65 | - 2 pieces |
| 2. Tow ball | - 1 piece | 10.Flat washer 10,5 | - 3 pieces |
| 3. Right support | - 1 piece | 11.Flat washer 13,0 | - 4 pieces |
| 4. Left support | - 1 piece | 12.Spring washer 10,2 | - 5 pieces |
| 5. Electrical socket holder | - 1 piece | 13.Spring washer 12,2 | - 5 pieces |
| 6. Flat bar with nut M12 | - 2 pieces | 14.Nut M10 | - 5 pieces |
| 7. Bolt M10x30 | - 5 pieces | 15.Nut M12 | - 2 pieces |
| 8. Bolt M12x65 | - 3 pieces | 16.Drivescrew M6x10 | - 1 piece |

Follow the general directions in order to fit **F-116** towbar properly:

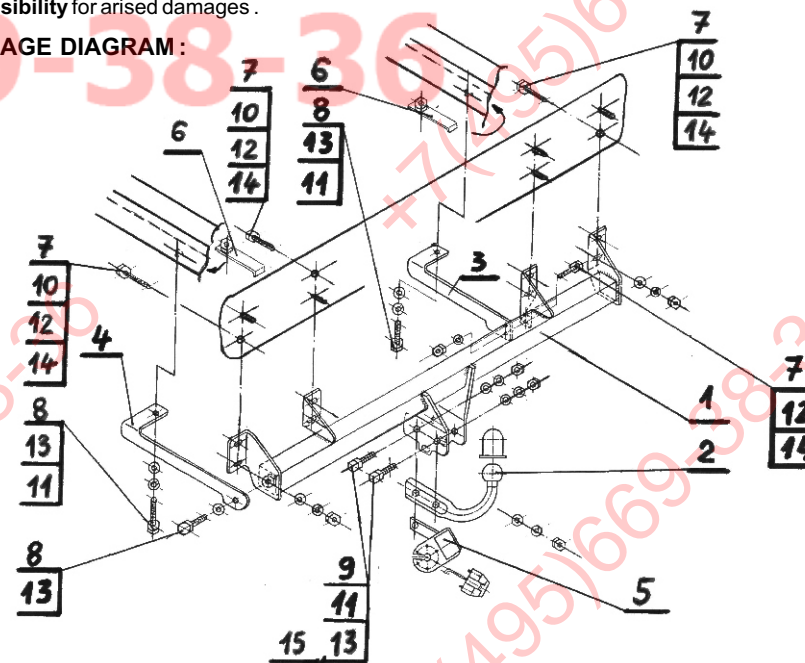
- Rear bumper cutting is not required,
- Dismantle the tow bar into kit-form elements then dismantle rear bumper from the car
- Remove the rear bumper from the car
- Place (1) to back strip (to visible screwed pins joined with bumper strengthening) then screw its using existing nuts,
- Screw (1) with back strip through remaining holes using (7), (10), (12) and (14),
- Take off the rubber plug from the bottom of chassis frame then put in (6) through existing hole in chassis frame, next place (3) and screw with this chassis frame using (8), (11), (13),
- Screw (3) down to (1) using (7), (12) and (14),
- Take off exhaust silencer supports from right chassis frame then cut off the supporting exhaust silencer cover rivet then bend this cover a bit. Take off the rubber plug to put in the (6). Place (4) to chassis frame then screw using (8), (11) and (13),
- Screw (4) with (1) down using (8) and (13),
- Install the exhaust silencer's cover using (16) (use the hole after cutting the rivet). Place exhaust silencer supports,
- Place and screw rear bumper,
- Mount (2) to (1) using (9), (11), (13) and (15) (add electrical socket holder (5) from the left side of (2) in the same time),
- Check if all fixing bolts and nuts are correctly tightened.

Obeying this instruction assures correct montage and the tow bar operating in a Fiat Panda II

After assembling of the tow bar **F-116** 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).