



DIN EN ISO 9001
Zertifikat Nr. 71 100 D 366

Cat. No. F-148

DESTINATION

Tow bar **F-148** for a **Fiat Scudo II / Citroen Jumpy II / Peugeot Expert II** 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 **F-148** 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-148** has a rating plate describing correct and safe loads of the hook:

Typ: F-148	The tow bar for Fiat Scudo II / Citroen Jumpy II / Peugeot Expert II
A50-X	Tow bar class (compressing device)
e4 00 - 3719	Tow bar certification of approval number
D = 12,0 kN	Theoretical related force working on a ball hook
S = 80 kg	Max permissible vertical load of the hook ball
R = 2000 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-148** for **Fiat Scudo II / Citroen Jumpy II / Peugeot Expert II** is made up of elements as follows:

- | | | | |
|--------------------------------|------------|------------------------------|------------|
| 1. Mainframe | - 1 piece | 11. Kage nut M10 (CH-006.02) | - 2 pieces |
| 2. Tow ball | - 1 piece | 12. Bolt M10x35 | - 2 pieces |
| 3. Electrical socket plate | - 1 piece | 13. Bolt M12x40 | - 6 pieces |
| 4. Distance insert | - 2 pieces | 14. Bolt M12x100 | - 2 pieces |
| 5. Right flat bar | - 1 piece | 15. Bolt M12x110 | - 2 pieces |
| 6. Left flat bar | - 1 piece | 16. Flat washer 13,0 | - 8 pieces |
| 7. Angle bar | - 2 pieces | 17. Spring washer 10,2 | - 2 pieces |
| 8. Distance sleeve 25/ 12,5x69 | - 2 pieces | 18. Spring washer 12,2 | - 10pieces |
| 9. Special washer 40/ 10,5x2,5 | - 2 pieces | 19. Nut M12 | - 10pieces |
| 10.Special washer 40/ 12,5x2,5 | - 2 pieces | | |

Follow the general directions in order to fit **F-148** tow bar properly:

- 1.Rear bumper cutting **is required**.
- 2.Remove the rear bumper.
- 3.Put (1) to inside chassis rails and tight using (15) with (8), (10), (18), (19).
- Attention:** Rear bumper cutting required when (1) do not fit bumper reinforcement .
- 4.Place (11) in fitting holes on down side of the frame.
- 5.Put (7) on down side of the frame and finger-tight using (11), (12), (17), (9).
- 6.Put (5 and 6) to outside (1) and (7) and tight using (13), (16), (18), (19).
- 7.Cut slots in the lower edge on the bumper (according to the drawing).
- 8.Mount rear bumper to the car.
- 9.Tighten (2) and (3) to (1) using (14) with (4), (16), (18), (19).
- 10.Tighten all bolts and nuts to the torque staked in the table.
- 11.Check if all bolts and nuts are correctly tightened.

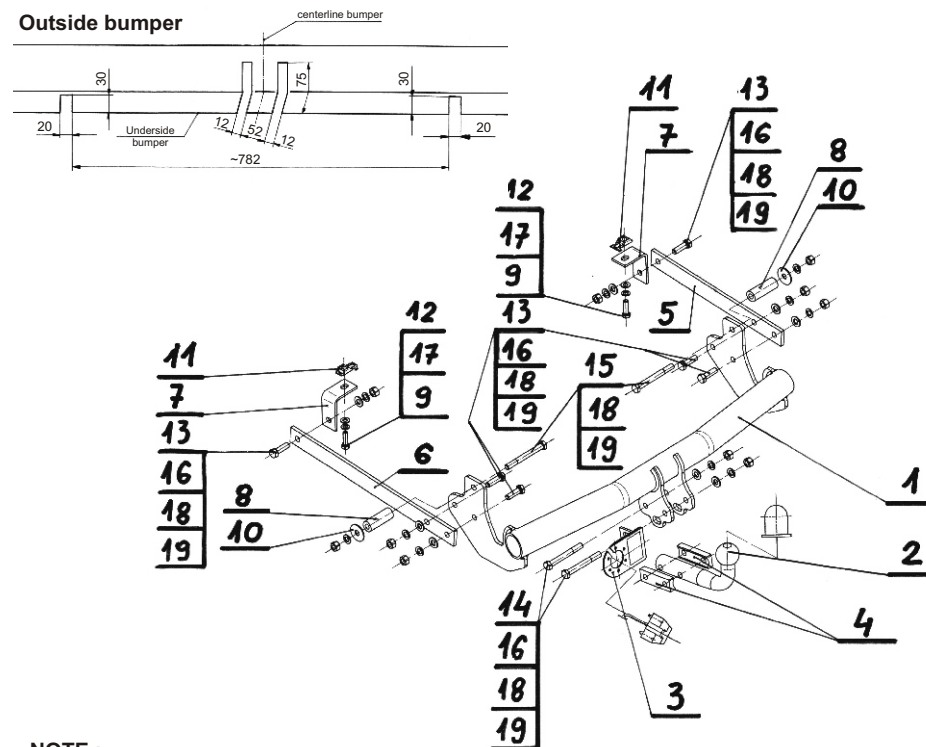
Obeying this instruction assures correct montage and the tow bar operating in a Fiat Scudo II / Citroen Jumpy II / Peugeot Expert II.

After assembling of the tow bar **F-148** 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).