

TOW BAR T-145 FOR Toyota Hilux (1998 - 2005 r.) FITTING AND OPERATION MANUAL.

Cat. No. T-145

DESTINATION

Tow bar **T-145** for a **Toyota Hilux** 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 **T-145** 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 **T-145** has a rating plate describing correct and safe loads of the hook:

Typ: T-145	The tow bar for Toyota Hilux
A50-X	Tow bar class (compressing device)
e4 00 - 3420	Tow bar certification of approval number
D = 12,2 kN	Theoretical related force working on a ball hook
S = 90 kg	Max permissible vertical load of the hook ball
R = 2450 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 **T-145** for **Toyota Hilux** is made up of elements as follows:

- | | | | |
|----------------------------------|------------|------------------------|-------------|
| 1. Tow bar mainframe | - 1 piece | 9. Bolt M16x50 | - 2 pieces |
| 2. Forged tow ball | - 1 piece | 10. Flat washer 13,0 | - 10 pieces |
| 3. Suport | - 2 pieces | 11. Flat washer 17,0 | - 2 pieces |
| 4. Distance sleeve 17,3/ 12,5x60 | - 2 pieces | 12. Spring washer 12,2 | - 16 pieces |
| 5. Special washer 40/ 12,5x2,5 | - 2 pieces | 13. Spring washer 16,3 | - 2 pieces |
| 6. Bolt M12x35 | - 6 pieces | 14. Nut M12 | - 6 pieces |
| 7. Bolt M12x(1,25)x40 | - 8 pieces | 15. Nut M16 | - 2 pieces |
| 8. Bolt M12x100 | - 2 pieces | | |

Follow the general directions in order to fit **T-145** tow bar properly:

1. Rear bumper cutting is not required.
2. Dismantle the bumper with the side supports (the factory-made supports will not be fitted again).
3. Take the tow bar to pieces.
4. Put (4) in the farthest holes located in the chassis rails (the farthest from the back strip). Put (3) and then attach using (8), (5), (10), (12), (14).
5. Attach (3) to the factory-made nuts welded to the chassis frame members using (7), (10), (12).
6. Insert (1) between (3) and attach all together using (6), (12), (14).
7. Attach the bumper to (3), (10) and (12) using (7).
8. Attach (2) to (1) using (9), (11), (13), (15).
9. Check if all fixing bolts and nuts are correctly tightened.

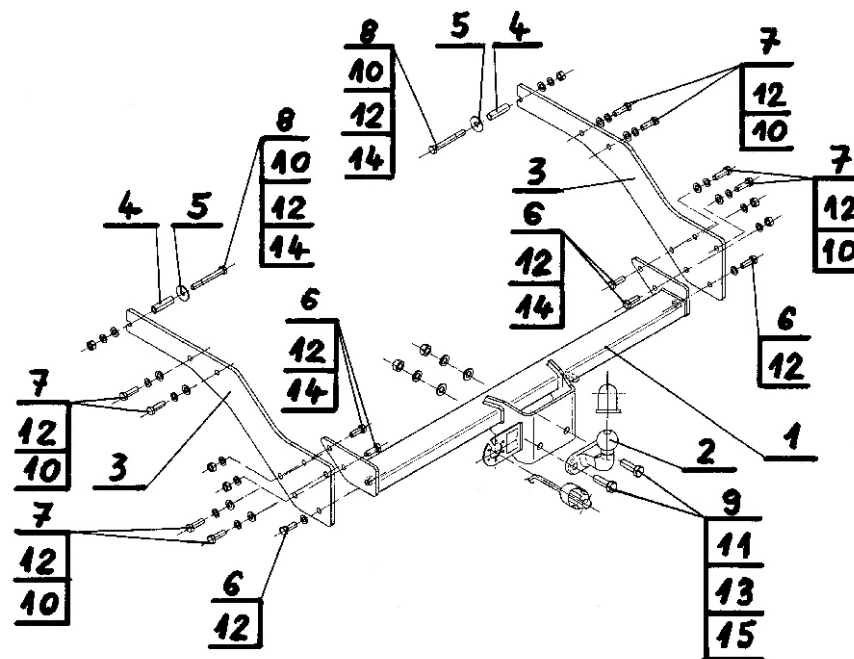
Obeying this instruction assures correct montage and the tow bar operating in a Toyota Hilux.

After assembling of the tow bar **T-145** 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 improper usage manufacturer **do not take responsibility** for arised damages.

MONTAGE DIAGRAM:



NOTE:

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