

# TOW BAR T-165 FOR TOYOTA LANDCRUISER (3D), (J125) (12/2002 - r.) FITTING AND OPERATION MANUAL.

Cat. No. T-165

## DESTINATION

Tow bar T-165 for a Toyota Landcruiser (3D), (J125) 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-165 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-165 has a rating plate describing correct and safe loads of the hook:

Typ: T-165	The tow bar for Toyota Landcruiser (3D), (J125)
A50-X	Tow bar class ( compressing device )
e4 00 - 3424	Tow bar certification of approval number
D = 16,3 kN	Theoretical related force working on a ball hook
S = 115 kg	Max permissible vertical load of the hook ball
R = 2800 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/s<sup>2</sup>)

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-165 for Toyota Landcruiser (3D), (J125) is made up of elements as follows :

- |                       |            |                       |            |
|-----------------------|------------|-----------------------|------------|
| 1. Towbar mainframe   | - 1 piece  | 6. Spring washer 16,3 | - 2 pieces |
| 2. Forged ball        | - 1 piece  | 7. Flat washer 13,0   | - 6 pieces |
| 3. Bolt M12x(1,25)x40 | - 6 pieces | 8. Flat washer 17,0   | - 2 pieces |
| 4. Bolt M16x50        | - 2 pieces | 9. Nut M16            | - 2 pieces |
| 5. Spring washer 12,2 | - 6 pieces |                       |            |

Follow the general directions in order to fit T-165 tow bar properly:

1. Rear bumper cutting is required.
2. Take the towbar to pieces.
3. Remove rear bumper and metal clumps (drawing 1 and 2).
4. On the frame find openings with bolt M12(1,25), (1) to them and then screw using (3) and (6) and (7).
5. Cut the metal clups (drawing 1) and then attach to the frame.
6. Undercut the rear bumper (drawing 2) and then attach to the car.
7. Attach (2) to (1) using (4), (8), (6) and (9).
8. Check if all bolts and nuts are correctly tightened.

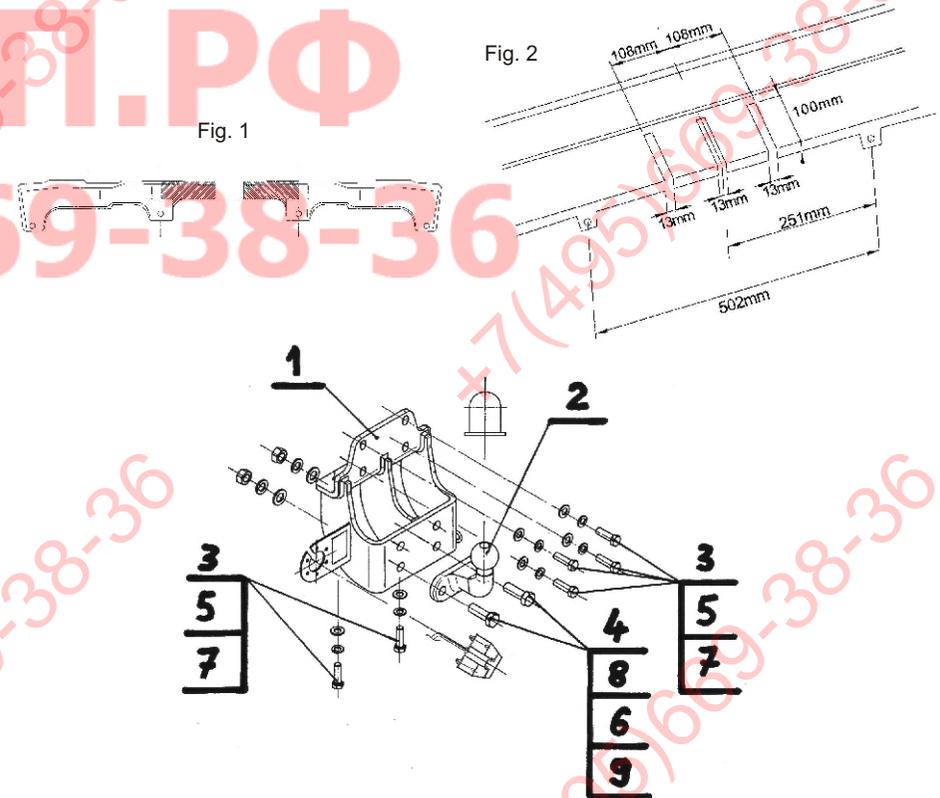
**Obeying this instruction assures correct montage and the tow bar operating in a Toyota Landcruiser (3D), (J125).**

After assembling of the tow bar T-165 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).