

DESTINATION

Tow bar **T-097** for a 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 **T-097** 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-097** has a rating plate describing correct and safe loads of the hook :

Typ: T-097	The tow bar for Toyota Avensis (4D)
A50-X	Tow bar class (compressing device)
e20	Tow bar certification of approval number
00 - 1123	Teoretical related force working on a ball hook
D = 10,0 kN	Max permissible vertical load of the hook ball
S = 80 kg	Max permissible load of towing trailer
R = 1800 kg	

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 vehicale (also towing tractors) including, if neccessary, 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-097** is made up of the following elements :

1. Towbar mainframe	- 1 piece	10. Bolt M12x25	- 3 pieces
2. Tow ball (ACS-3012)	- 1 piece	11. Bolt M12x30	- 1 piece
3. Tow ball holder (ACS)	- 1 piece	12. Bolt M12x35	- 4 pieces
4. Right support	- 1 piece	13. Bolt M12x(1,25)x50	- 6 pieces
5. Left support	- 1 piece	14. Flat washer Ø13,0	- 8 pieces
6. Electrical socket plate	- 1 piece	15. Spring washer Ø6,2	- 1 piece
7. Special washer Ø34/Ø12,5x5	- 6 pieces	16. Spring washer Ø12,2	-14 pieces
8. Special washer Ø24/Ø8,5x2,5	- 1 piece	17. Nut M12	- 4 pieces
9. Bolt M6x25	- 1 piece		

Follow the general directions in order to fit **T-097** tow bar properly:

- For Toyota Avensis 4D (T27): Installation does not require cutting of the rear bumper of the car while require its removal (cut only the underside of the cover).

- Toyota Auris Touring Sports: Rear bumper removing and cutting is not required (cut only the underside of the cover)
- Toyota Corolla 4D (E15): Rear bumper removing and cutting is required.
- Toyota Avensis 4D (T27) and Toyota Corolla 4D (E15): Remove the bumper and the bottom cover.
- Toyota Auris Touring Sports: Remove the bottom cover.
- Toyota Corolla 4D (E15): unscrew the beam from the strengthen of the bumper.
- Dismantle the towing eye from the stringer.
- Lower the silencer with hanger and remove the heat shield (when the cover are in mounting places)
- Toyota Corolla 4D (E15):
 - cut in the bumper beam of the strengthen according to the fig. 1.
 - beheading in brackets of the reinforcement of the bumper according to the fig. 2.
- Attach the right support (4) to the right side of the stringers and screw loosely using bolts M12x1,25x50 (13) with spring washers Ø12,2 (16), special washers Ø34/Ø12,5x5 (7).
- Attach the left support (5) to the left side of the stringers with towing eye and screw loosely using bolts M12x1,25x50 (13) with spring washers Ø12,2 (16) and special washers Ø34/Ø12,5x5 (7).
- Between supports (4, 5), sidle the towbar mainframe (1) and screw using bolts M12x35 (12) with spring washers Ø12,2 (16), round washers Ø13,0 (14) and nuts M12 (17).
- Tighten all screws.
- Install the heat shield using factory bolts and bolt M6x25 (9) with spring washers Ø6,2 (15) and special washers Ø24/Ø8,5x2,5 (8) and hang on the silencer.
- Toyota Corolla 4D (E15)- Reinstall the beam of the reinforcement.
- Tighten the stow ball socket (3) and electrical plate (6) to the towbar mainframe (1) using bolts M12x30 (11)- 1 pcs. and M12x25 (10)- 3 pcs. with spring washers Ø12,2 (16), round washers Ø13,0 (14).
- Perform undercut of the bottom cover according to the attached fig.4.
- Toyota Corolla 4D (E15): Make an undercut in the bumper according to the fig 3. Then Install the bumper and the bottom cover.
- Toyota Avensis 4D (T27): Install the bumper and the bottom cover.
- Toyota Auris Touring Sports : Cut the handle of the bumper in the place of electrical plate (6) and install the bottom cover.
- Attach (2) to the (3) in accordance with tow ball operation manual.

Caution:

To different types of (2) may be attached to the (towing bracket) (1) only if:

- The adapted tow has its own information label with homologation number
- D and S values are equal or higher than (1) value.
- Tow ball centre-point is in accordance with the drawing.

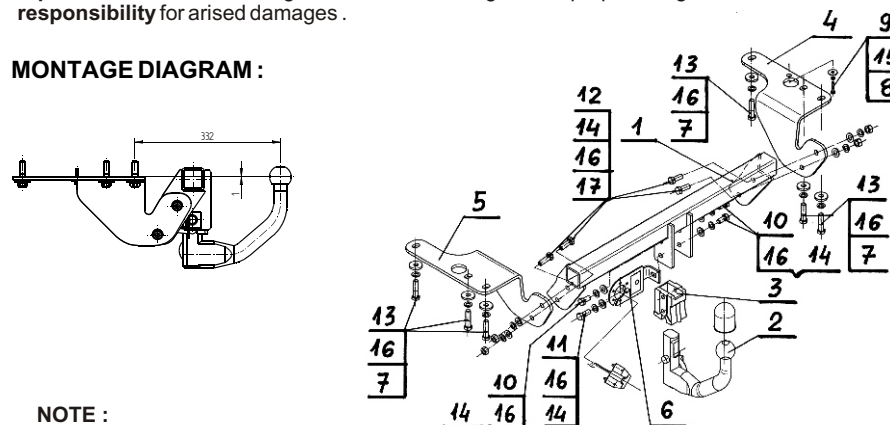
Obeying this instruction assures correct montage and the tow bar operating in a Toyota Avensis (4D).

After assembling of the tow bar **T-097** you have to get entry in cars registration book.

CAUTION :

Check if all bolts and nuts are correctly tightened after 1000km. Keep tow ball clean, grease and cased. 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).

T-097

Toyota Avensis (4D) (T27) (2009 -)

Toyota Corolla (4D) (E15) (2007 - 2010)

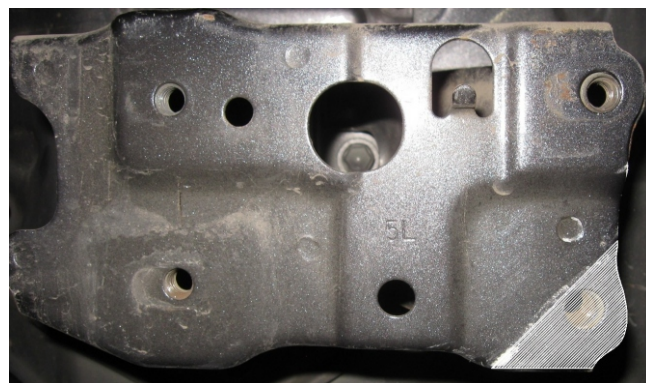
Toyota Auris Touring Sports (2013 -)

Toyota Corolla (4D) (E15)

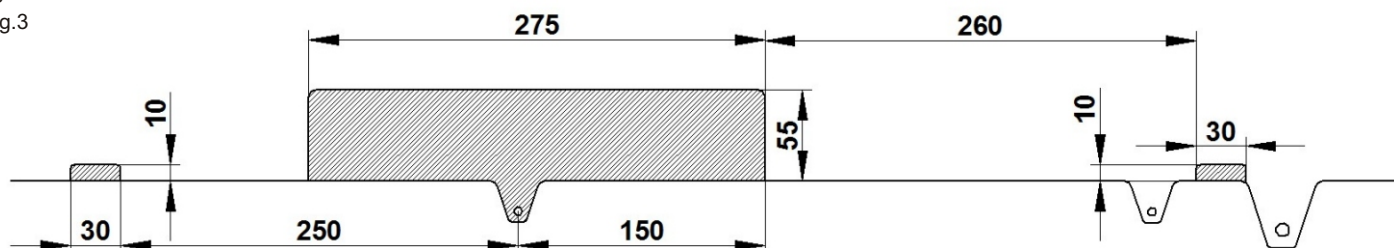
Rys.1
Fig.1



Rys.2
Fig.2

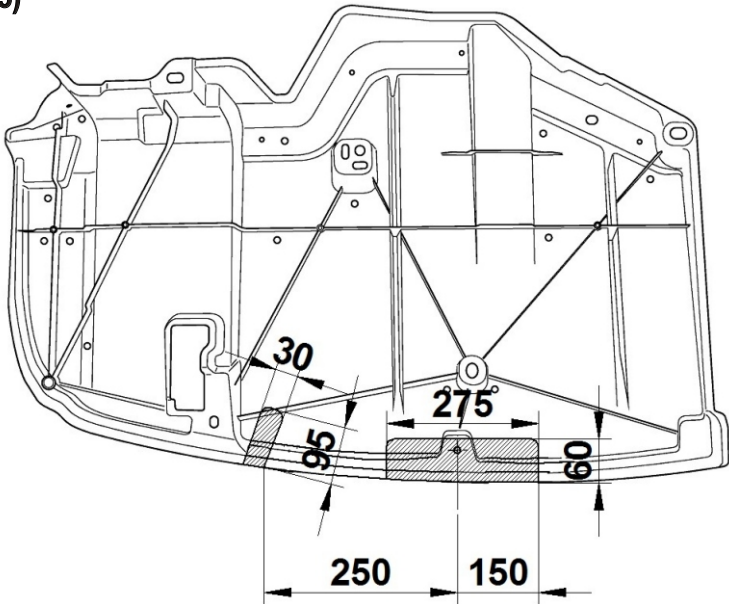


Rys.3
Fig.3

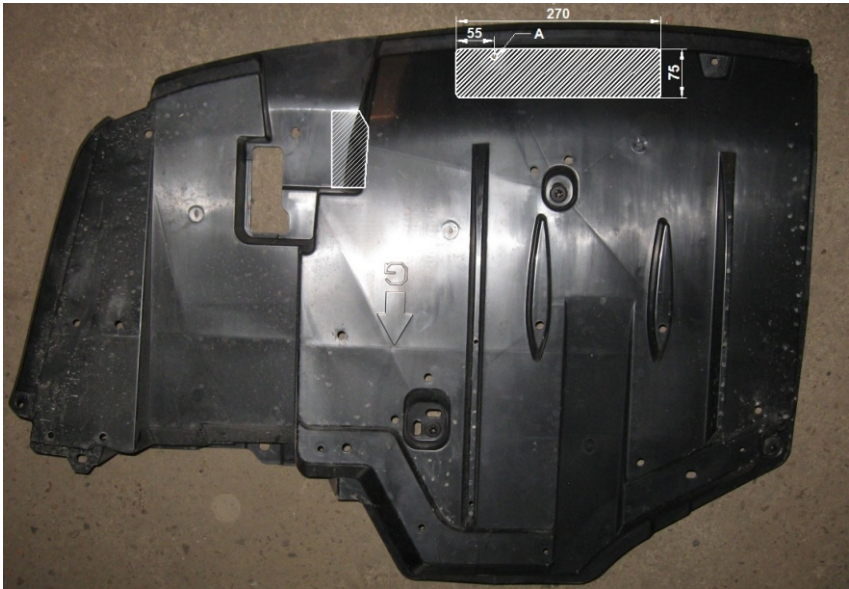


Toyota Corolla (4D) (E15)

Rys.4
Fig.4



Toyota Auris Touring Sports



Toyota Avensis (4D) (T27)

