

**DESTINATION**

Tow bar **K-025** for a **Kia Sportage 5D (4WD)** 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 **K-025** 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 **K-025** has a rating plate describing correct and safe loads of the hook:

Typ: <b>K-025</b>	The tow bar for <b>Kia Sportage 5D (4WD)</b>
<b>A50-X</b>	Tow bar class (compressing device)
<b>e20</b> <b>0112-00</b>	Tow bar certification of approval number
<b>D = 9,9 kN</b>	Theoretical related force working on a ball hook
<b>S = 70 kg</b>	Max permissible vertical load of the hook ball
<b>R = 2000 kg</b>	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 **K-025** for **Kia Sportage 5D (4WD)** is made up of the following elements:

- |                                  |            |                        |             |
|----------------------------------|------------|------------------------|-------------|
| 1. Tow bar mainfame              | - 1 piece  | 11. Bolt M12x35        | - 4 pieces  |
| 2. Tow ball                      | - 1 piece  | 12. Bolt M12x40        | - 1 piece   |
| 3. Electrical socket plate       | - 1 piece  | 11. Bolt M12x65        | - 2 pieces  |
| 4. Right support                 | - 1 piece  | 12. Bolt M12x90        | - 4 pieces  |
| 5. Left support                  | - 1 piece  | 13. Flat washer 10,5   | - 1 piece   |
| 6. Distance sleeve 17,3/ 12,5x53 | - 4 pieces | 14. Flat washer 13,0   | - 11 pieces |
| 7. Special washer 40/ 10,5x2,5   | - 1 piece  | 17. Spring washer 10,2 | - 1 piece   |
| 8. Special washer 40/ 12,5x2,5   | - 4 pieces | 18. Spring washer 12,2 | - 11 piece  |
| 9. Special washer - bended       | - 1 piece  | 19. Nut M10            | - 1 piece   |
| 10. Bolt M10x100                 | - 1 piece  | 20. Nut M12            | - 10 pieces |

Follow the general directions in order to fit **K-025** tow bar properly:

1. Rear bumper cutting and dismantling is not required.
  2. Cut a form and put it to the internal frame side. The form should be placed in such way so the openings fit the form holes and the pipe that connects both frames. After form fitting mark three holes as the form shows.
  3. Drill the pointed places using the drill 12,5, than drill next two holes on the chassis side member on internal frame side, drill 17,5, for (6).
  4. Put (6) into those holes, place (14) and (8).
  5. Put (4) and (5) to the external frame sides and screw lightly using (20), (16) and (18).
  6. Put (1) between mounted supports and screw using (11), (20), (16) and (18).
  7. Through the third hole in (5) screw it with plate using (12), (16), (18) and (20).
  8. Through the hole in the (5) drill a hole in the pipe connecting frames using drill 10,5, and next screw it with (10), (7), (9), (15), (17), (19).
- NOTE: Put (7) and from the top put (9) between (5) and pipe.**
9. Screw (2) to (1) with (3) using (13), (16), (18) and (20).
  10. Check if all bolts and nuts are correctly tightened.

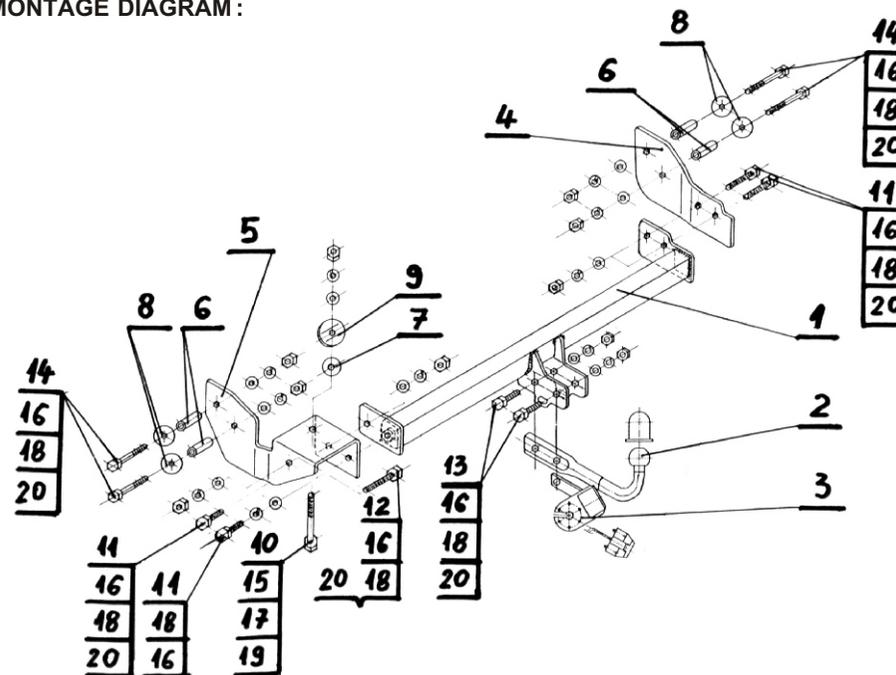
**Obeying this instruction assures correct montage and the tow bar operating in a Kia Sportage 5D (4WD)).**

After assembling of the tow bar **K-025** 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).