

TRACTION BATTERY LOWER COVER BLIND RIVET NUTS : REMOVAL - REFITTING



Note, one or more warnings are present in this procedure



Special tooling required	
Set of trim removal levers.	Car. 1363
Tool for fitting crimped nuts.	Car. 1504

Locations and specifications (tightening torques, parts always to be replaced, etc.)([see 19E, Traction battery, Traction battery module stack assembly : Exploded view](#)) ([see 19E, Traction battery, Traction battery housing assembly : Exploded view](#)) .



WARNING

☐ To avoid all risk of damage to the systems, apply the safety and cleanliness instructions and operation recommendations before carrying out any repair:

- ([see 19E, Traction battery, Traction battery : Precautions for the repair](#)) ,
- [Vehicle: Precautions for the repair](#) .



WARNING

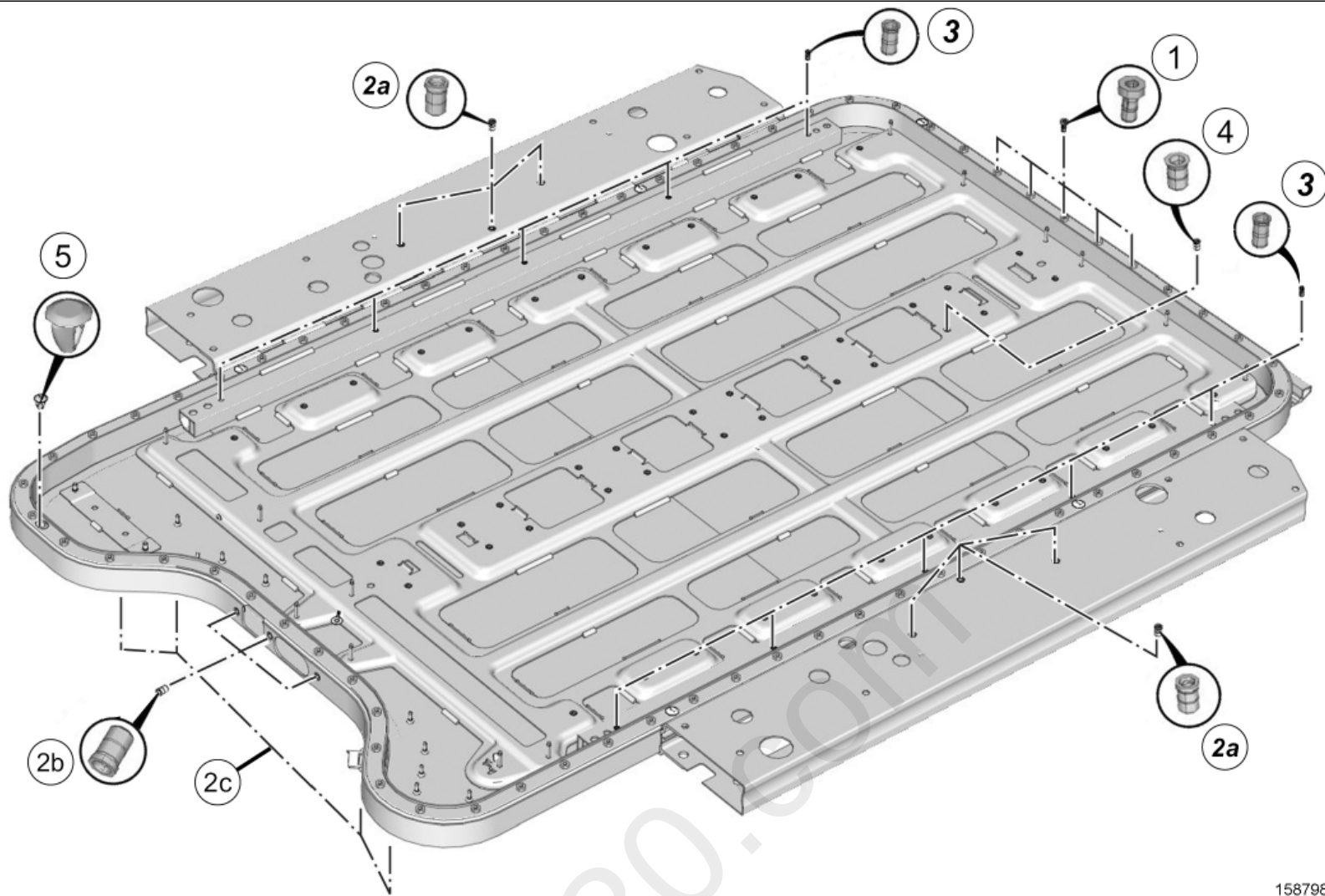
DANGER: HIGH VOLTAGE VEHICLE.

Risks of serious burns or electric shock that may prove fatal.

Before carrying out any work on the vehicle, it is essential that you adhere to the instructions regarding vehicle voltage cut-off. This work must be carried out by an employee who is qualified and authorized to work on a high-voltage onboard network.

REMOVAL

- 1. DESCRIPTION OF THE RIVETS
- 4 TYPES OF THE RIVETS



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- (1) Upper cover fixing rivets : 68 rivets M5
- (2a) Crash box fixing rivets : 6 rivets M6
- (2b) Connectors support fixing rivets : 3 rivets M6
- (2c) Wiring protective housing fixing rivets : 4 rivets M6
- (3) Shock pillar fixing rivets : 10 rivets M5
- (4) Modules fixing rivets : 48 rivets M6
- (5) 6 Protectors for the suction dust holes

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Note:

Riveted studs and welded studs are not repairable. In case of damage, replace the traction battery lower cover.

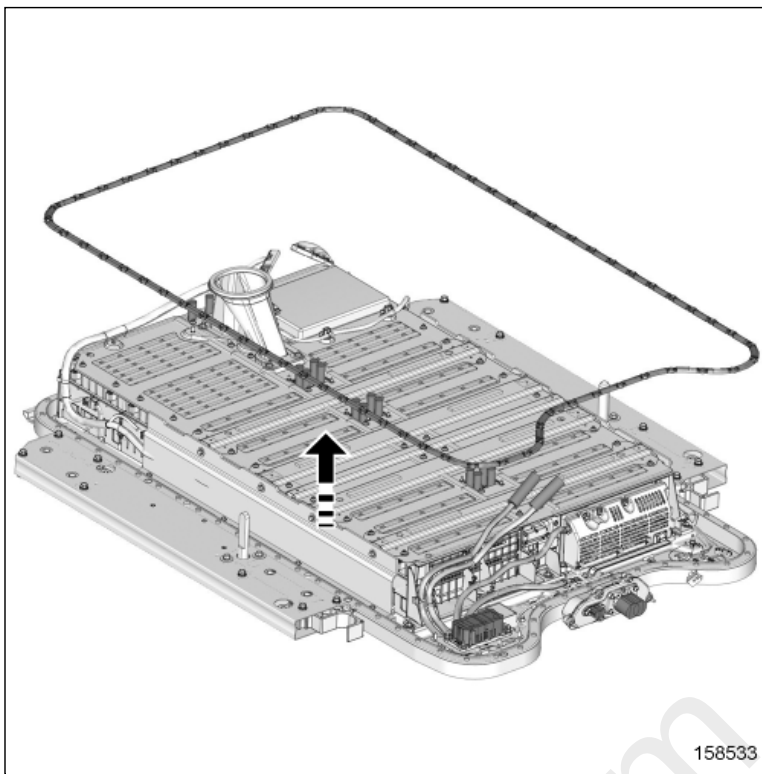
2. DRILL BITS

3 different types of drill bits :

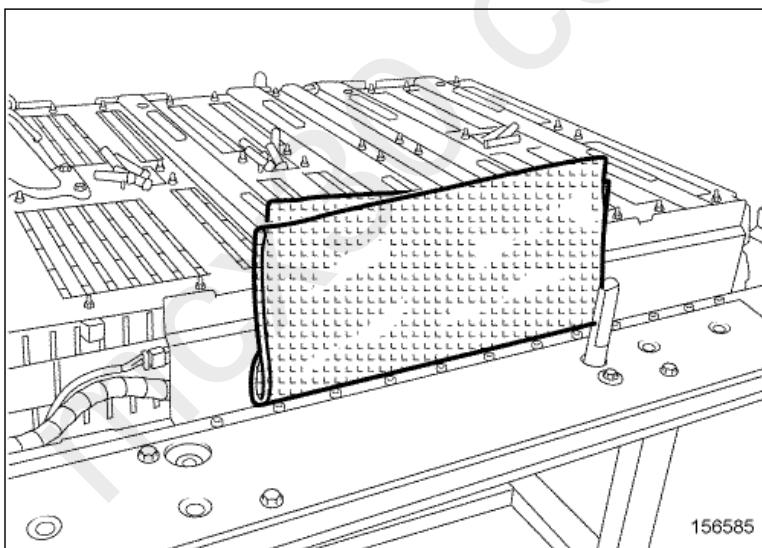
- (1) 68 rivets M5, upper cover fixing rivets : Drill bits diameter 7 mm,
- (2a) 6 rivets M6, crash box fixing rivets : Drill bits diameter 9 mm,
- (2b) 3 rivets M6, connectors support fixing rivets : Drill bits diameter 9 mm,
- (2c) 4 rivets M6, wiring protective housing fixing rivets : Drill bits diameter 9 mm,
- (3) 10 rivets M5, shock pillar fixing rivets : Drill bits diameter 7 mm,
- (4) 48 rivets M6, modules fixing rivets : Drill bits diameter 10 mm.

3. UPPER COVER FIXING RIVETS REMOVAL OPERATION (68 RIVETS M5)

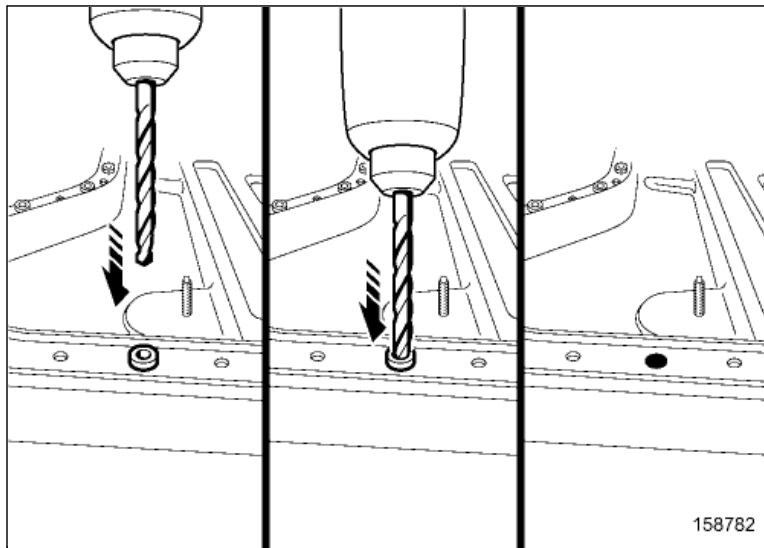
Remove the traction battery upper cover(see 19E, [Traction battery](#), [Traction battery housing assembly : Exploded view](#)) .



- Remove the seal between lower cover and upper cover using the toolSet of trim removal levers.(Car. 1363) .

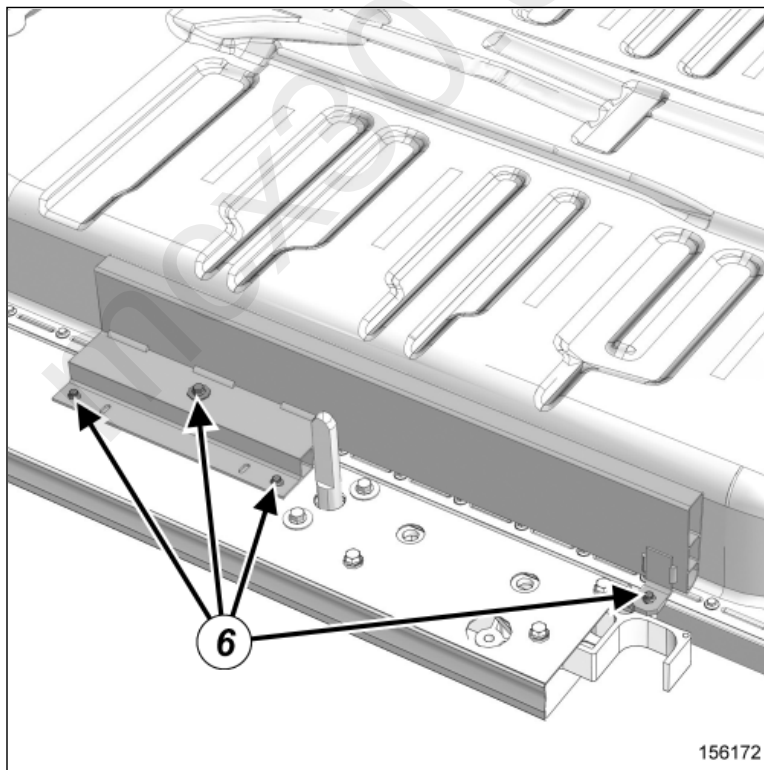


- Protect the area using an insulated coverbefore drilling.

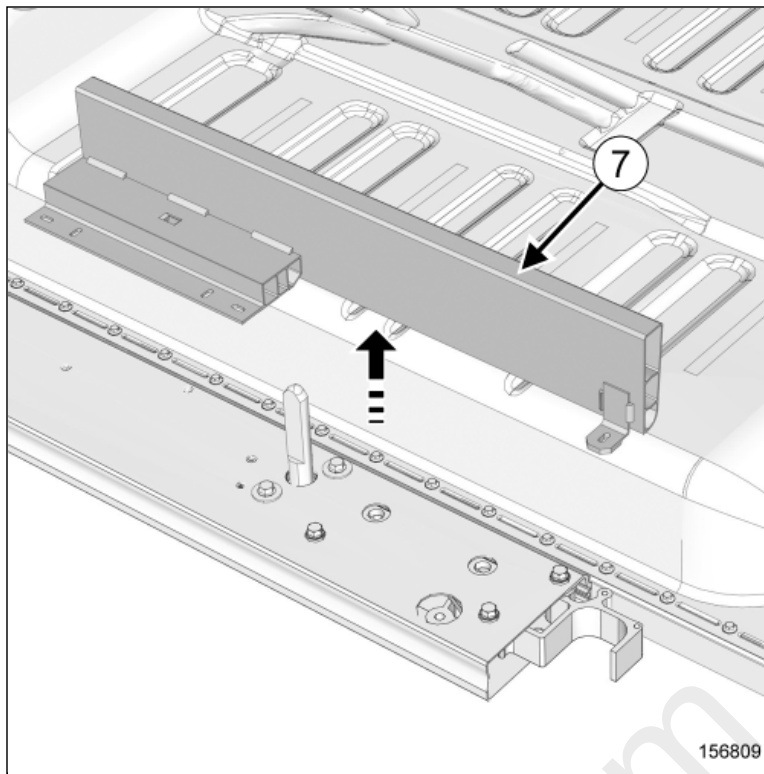


- ❑ Drill the defective rivet using a magnet and a drill equipped with a drill bit of 7 mm diameter.
- ❑ Clean the area, using a vacuum cleaner equipped with a plastic nozzle.
- ❑ Remove the protective cap closest to the repair area ([see 19E, Traction battery, Traction battery housing assembly : Exploded view](#)).
- ❑ Clean the inside of the lower cover tube using a magnet and a vacuum cleaner equipped with a plastic nozzle.
- ❑ Refit the protective cap.

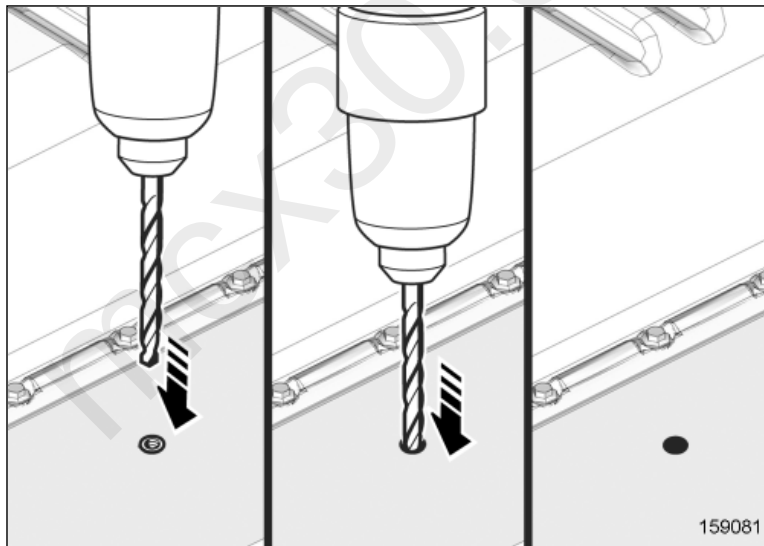
4. CRASH BOX FIXING RIVETS REMOVAL OPERATION (6 RIVETS M6)



- ❑ Remove the retaining shock pillars screws (6) using an insulated magnetic socket ([see 19E, Traction battery, Traction battery housing assembly : Exploded view](#)).



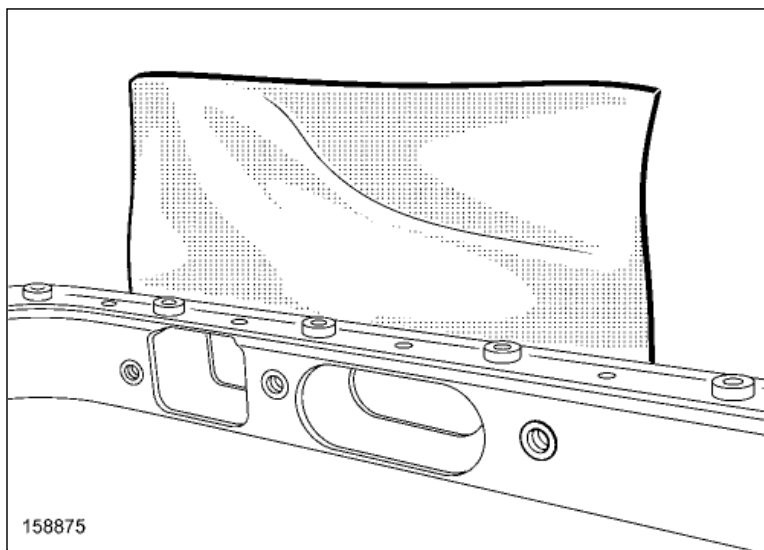
- Remove the retaining shock pillars(7) ([see 19E, Traction battery, Traction battery housing assembly : Exploded view](#)) .
- Clean using the vacuum cleaner equipped with a plastic nozzle, all traces of dust and dirt on the traction battery upper cover.



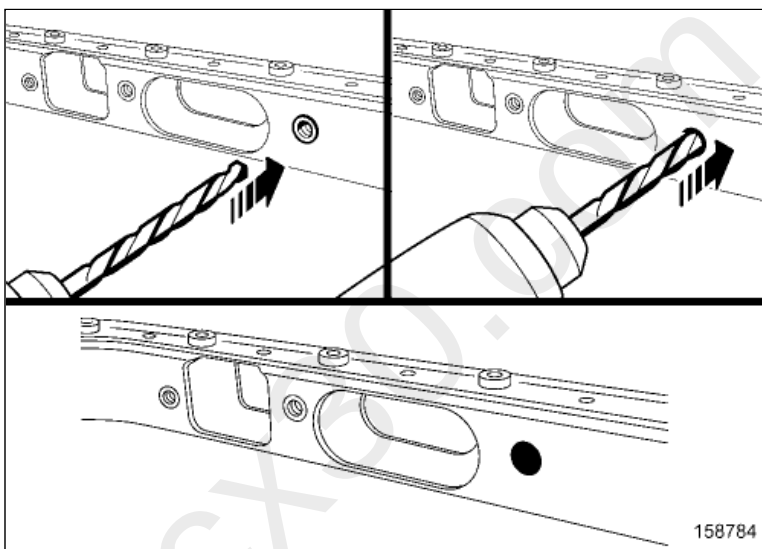
- Drill the defective rivet using a drill equipped with a drill bit of 9 mm diameter.
- Clean the area, using a vacuum cleaner equipped with a plastic nozzle.
- Remove the protective cap closest to the repair area ([see 19E, Traction battery, Traction battery housing assembly : Exploded view](#)) .
- Clean the inside of the lower cover tube using a magnet and a vacuum cleaner equipped with a plastic nozzle.

5. CONNECTORS SUPPORT FIXING RIVETS REMOVAL OPERATION (3 RIVETS M6)

- Remove :
 - the traction battery upper cover ([see 19E, Traction battery, Traction battery housing assembly : Exploded view](#)) ,
 - the traction battery high voltage connector ([see 19E, Traction battery, Traction battery module stack assembly : Exploded view](#)) ,
 - the connectors support screws using an insulated magnetic socket ([see 19E, Traction battery, Traction battery module stack assembly : Exploded view](#)) ,
 - the connectors support ([see 19E, Traction battery, Traction battery module stack assembly : Exploded view](#)) ,
 - the seal between connectors support and lower cover.



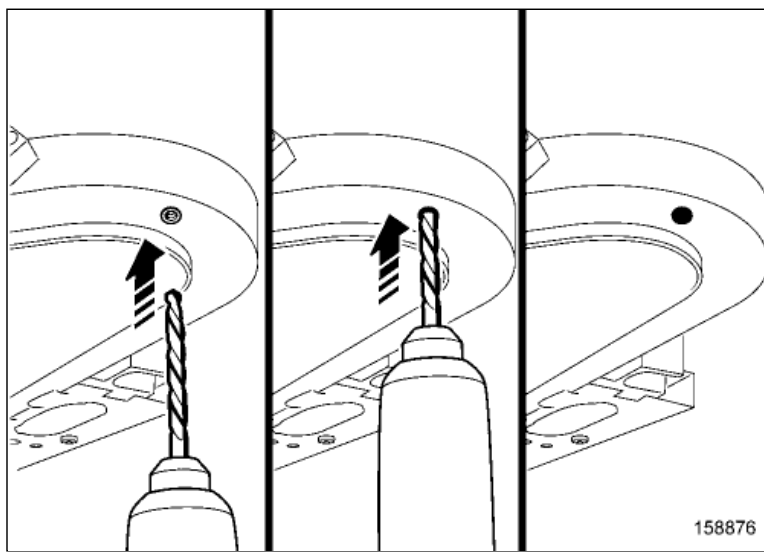
- Protect the area using an insulated cover before drilling.



- Drill the defective rivet using a drill equipped with a drill bit of 9 mm diameter.
- Clean the area, using a magnet and a vacuum cleaner equipped with a plastic nozzle.

6. WIRING PROTECTIVE HOUSING FIXING RIVETS REMOVAL OPERATION (4 RIVETS M6)

- Remove the traction battery upper cover ([see 19E, Traction battery, Traction battery housing assembly : Exploded view](#)).

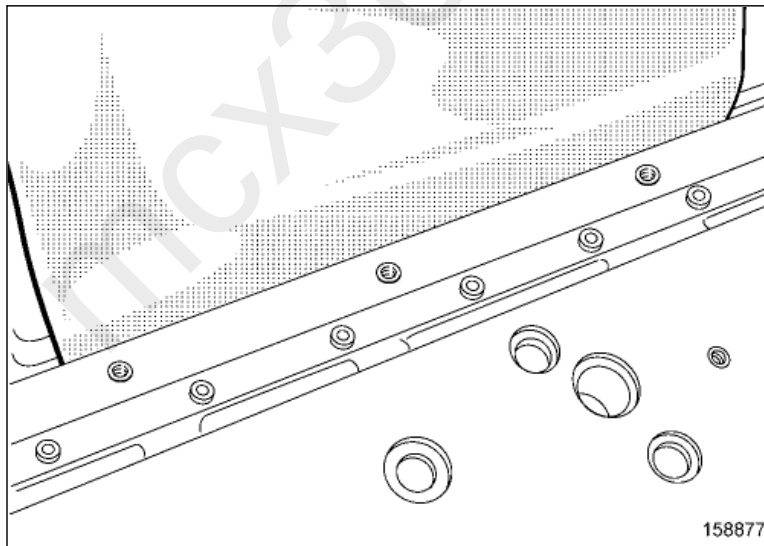


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- Drill the defective rivet using a drill equipped with a drill bit of 9 mm diameter.
- Clean the area, using a vacuum cleaner equipped with a plastic nozzle.
- Remove the protective cap closest to the repair area ([see 19E, Traction battery, Traction battery housing assembly : Exploded view](#)).
- Clean the inside of the lower cover tube using a magnet and a vacuum cleaner equipped with a plastic nozzle.
- Refit the protective cap.

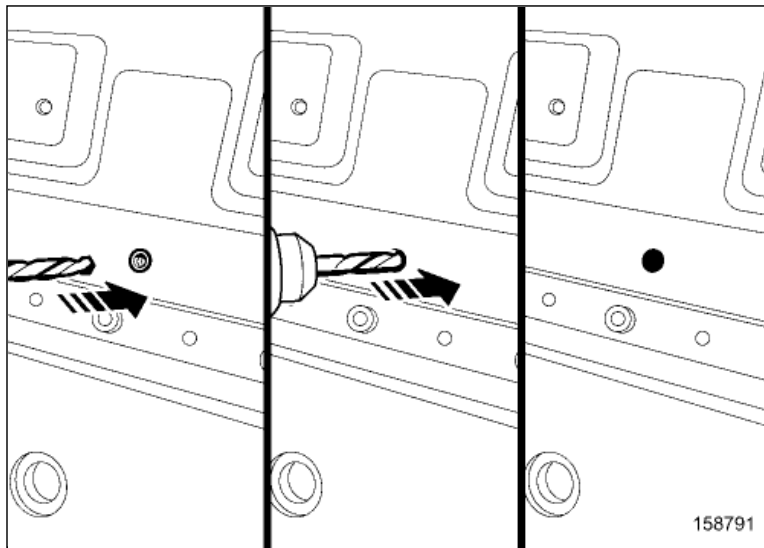
7. SHOCK PILLAR FIXING RIVETS REMOVAL OPERATION (10 RIVETS M5)

- Remove the traction battery upper cover ([see 19E, Traction battery, Traction battery housing assembly : Exploded view](#)).
- Remove the traction battery low voltage wiring ([see 19E, Traction battery, Traction battery module stack assembly : Exploded view](#)).



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- Protect the area using an insulating cover before drilling.



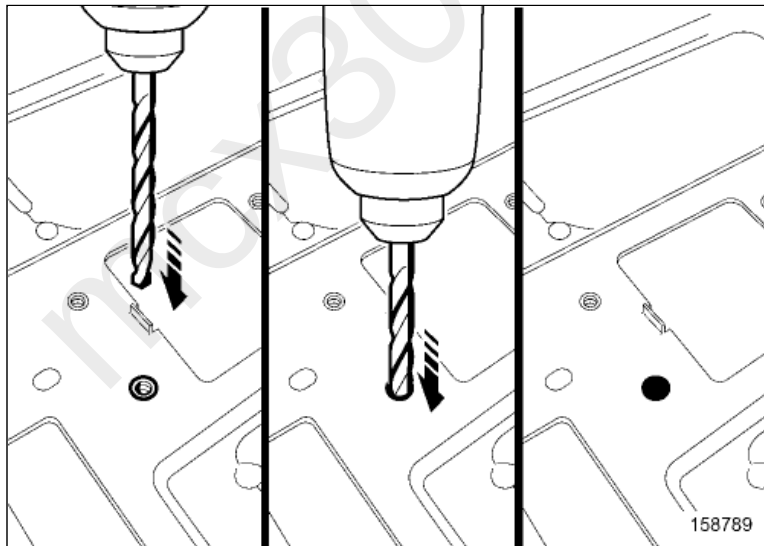
- Drill the defective rivet using a drill equipped with a drill bit of 7 mm diameter.
- Clean the area, using a magnet and a vacuum cleaner equipped with a plastic nozzle.

8. MODULES FIXING RIVETS REMOVAL OPERATION (48 RIVETS M6)

- Remove the traction battery upper cover (see 19E, Traction battery, Traction battery housing assembly : Exploded view) .

- Remove (see 19E, Traction battery, Traction battery module stack assembly : Exploded view) :

- the traction battery internal low voltage wiring,
- the traction battery computer,
- the traction battery internal junction box,
- the traction battery safety device switch socket,
- the traction battery module.



- Drill the defective rivet using a drill equipped with a drill bit of 10 mm diameter.

- Clean the area, using a magnet and a vacuum cleaner equipped with a plastic nozzle.

REFITTING

1. REFITTING PREPARATION OPERATION

- Parts always to be replaced :

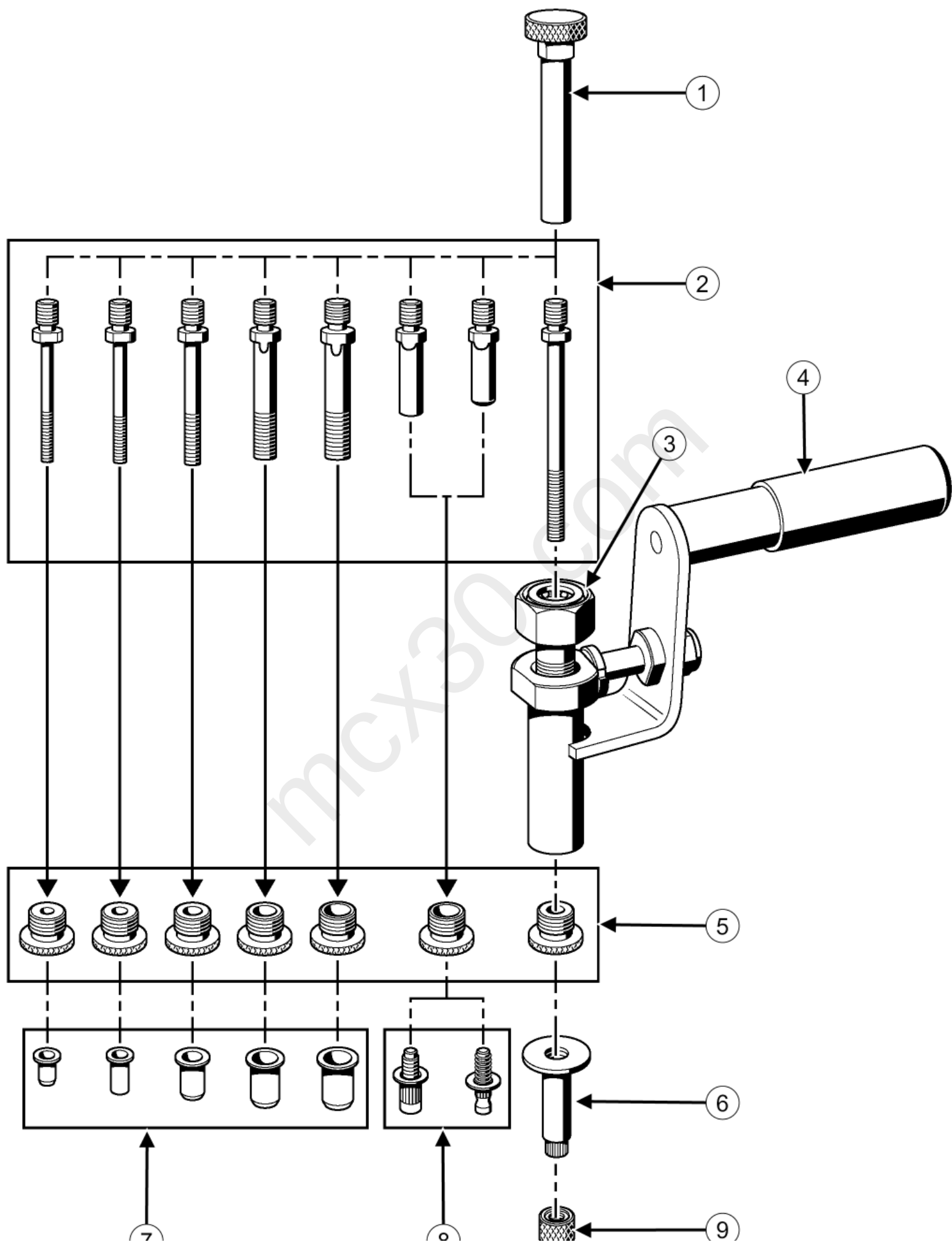
■ the connector support screws using an insulated magnetic socket,

the seal between connectors support and lower cover.

DESCRIPTION OF THE TOOL CAR.1504

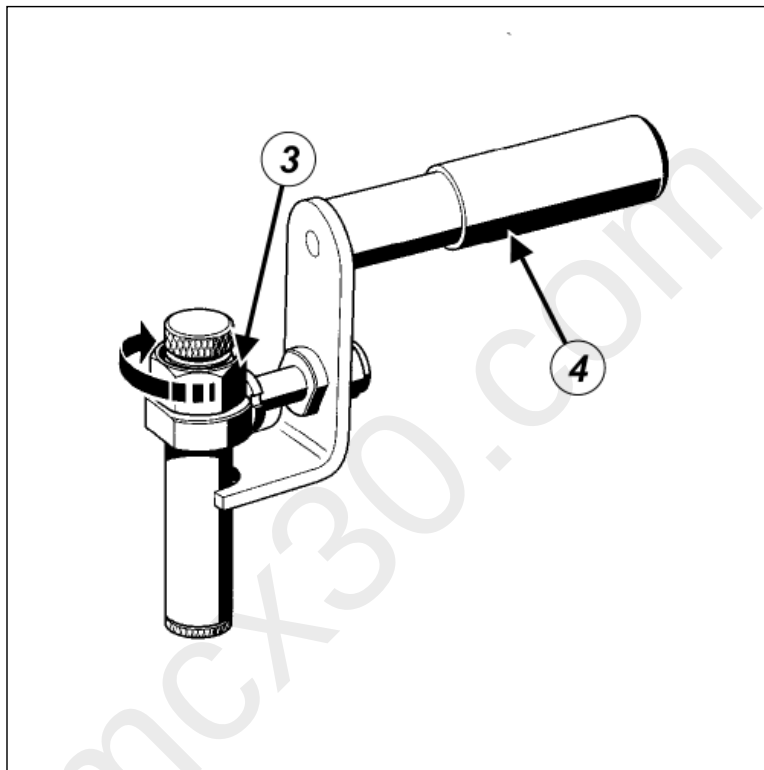
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- (1) bracket pulling
- (2) pulling blind rivet nut
- (3) clamping screw
- (4) tool body
- (5) lock nut
- (6) special nut
- (7) nuts
- (8) stud
- (9) pushed nut

PREPARATION OF THE TOOL CAR.1504



Chose all : " pulling blind rivet nut - lock nut - insert " for the crimping.

Screw the pulling blind rivet nut(2) in the the bracket pulling(1) .

Tighten the screw(3) make contact to the tool body(4) .

Tighten the lock nut(5) in the tool body(4) .

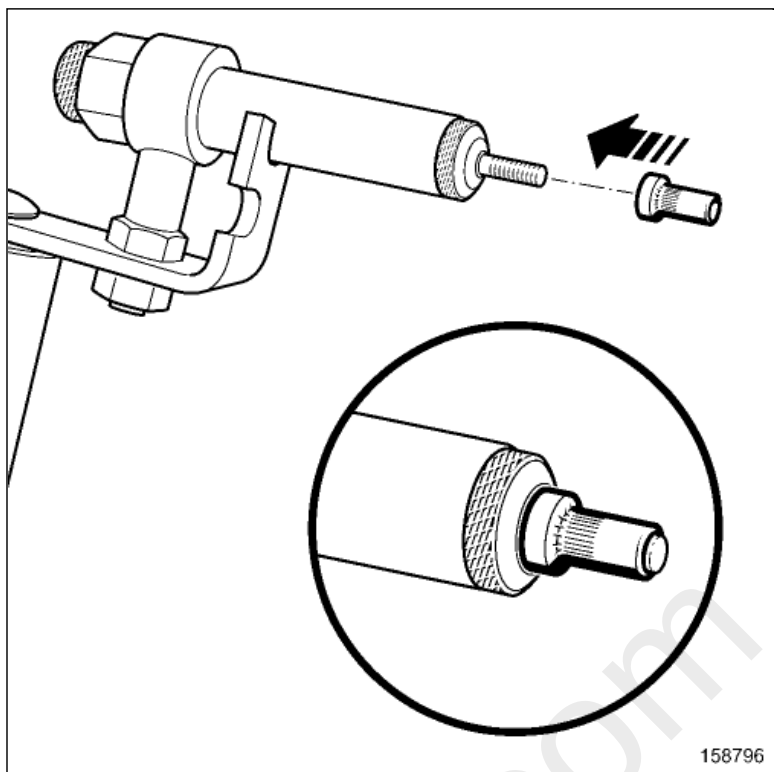
Put the bracket pulling(1) and the pulling blind rivet nut(2) in the tool body.

Screw the blind rivet of the rod pulling (bracket pulling and pulling blind rivet nut).

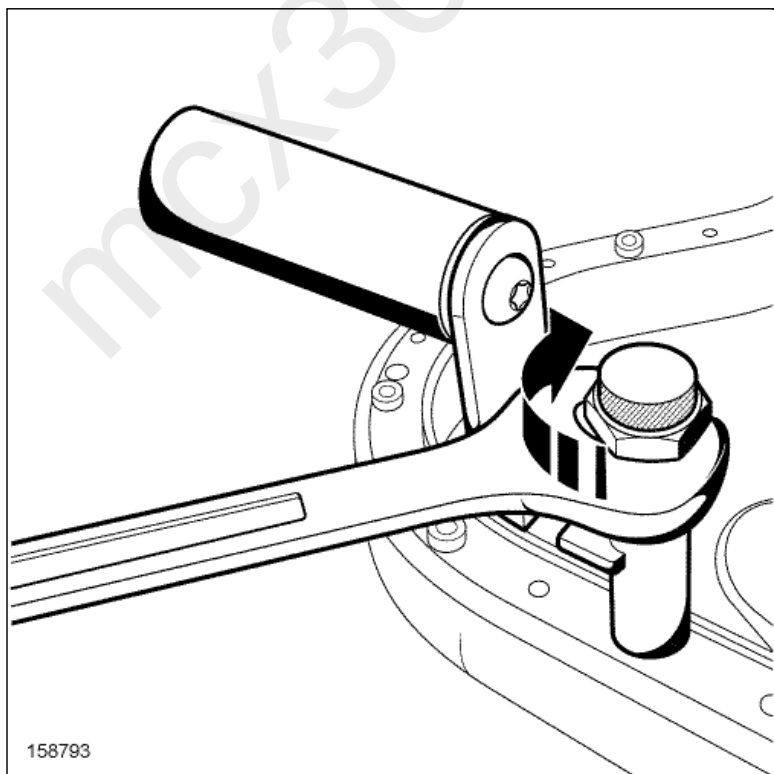
Turn the screw(3) holding manually the handle of the tool(4) using a 24mm spanner.

The crimping end must to be felt by the operator (clamping force increase). The insert crimping is ok when there are not rotational clearance. Check this control before unscrew the pulling blind rivet nut.

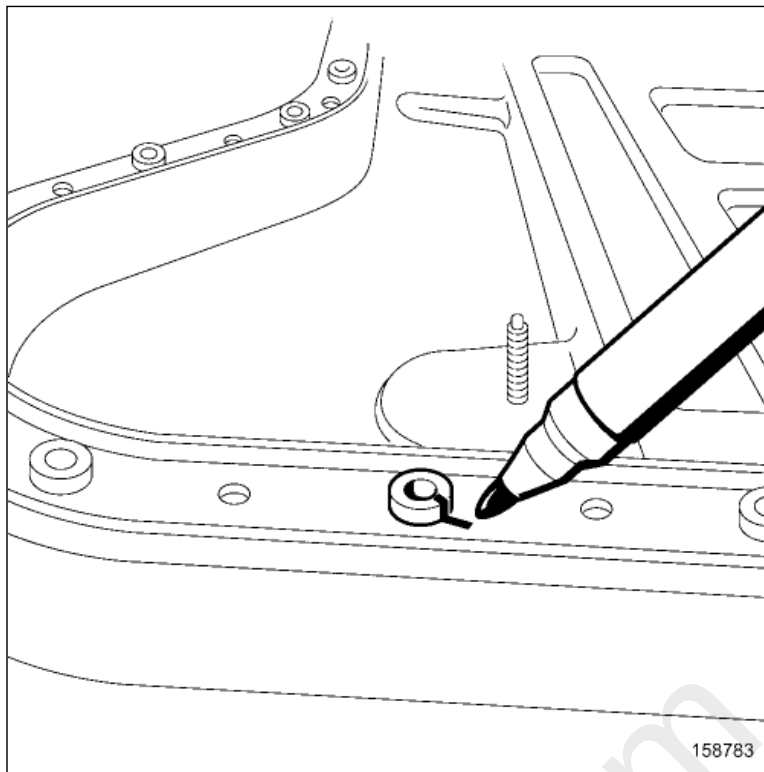
2. UPPER COVER FIXING RIVETS REFITTING OPERATION (68 RIVETS M5)



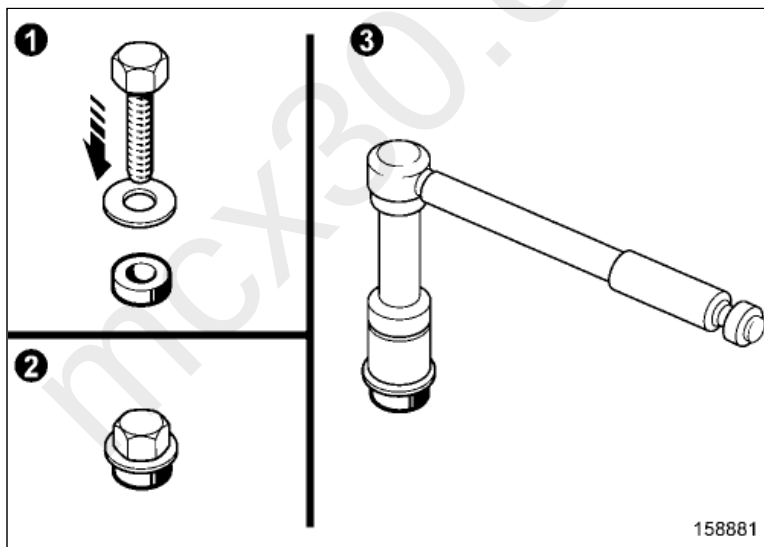
Fit the new blind rivet nut M5 on the tool Tool for fitting crimped nuts.(Car. 1504) .



Position the tool Tool for fitting crimped nuts.(Car. 1504) and its new blind rivet nut M5 on the traction battery lower cover.



Mark for test the new blind rivet nut with paint marker.

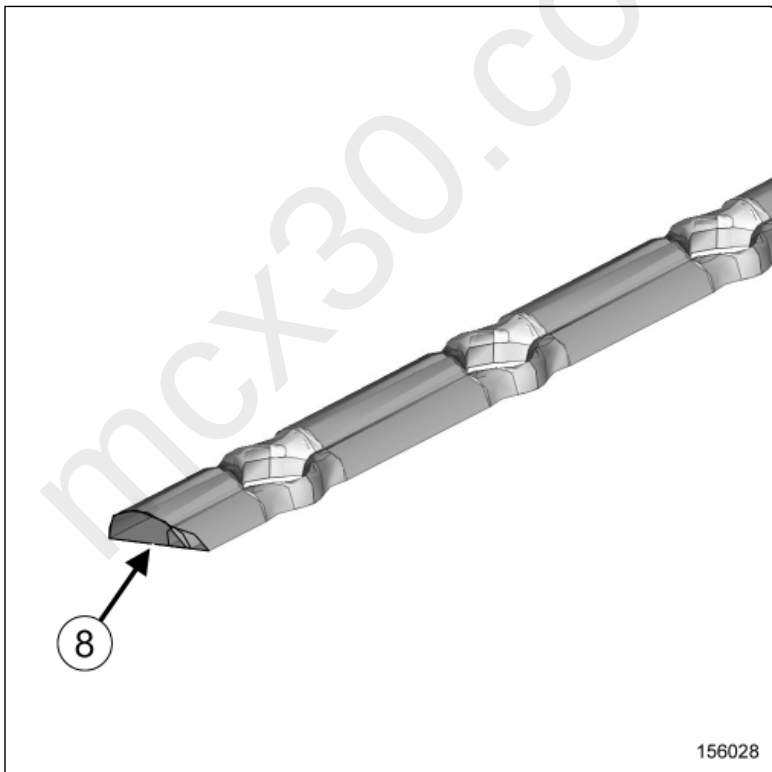
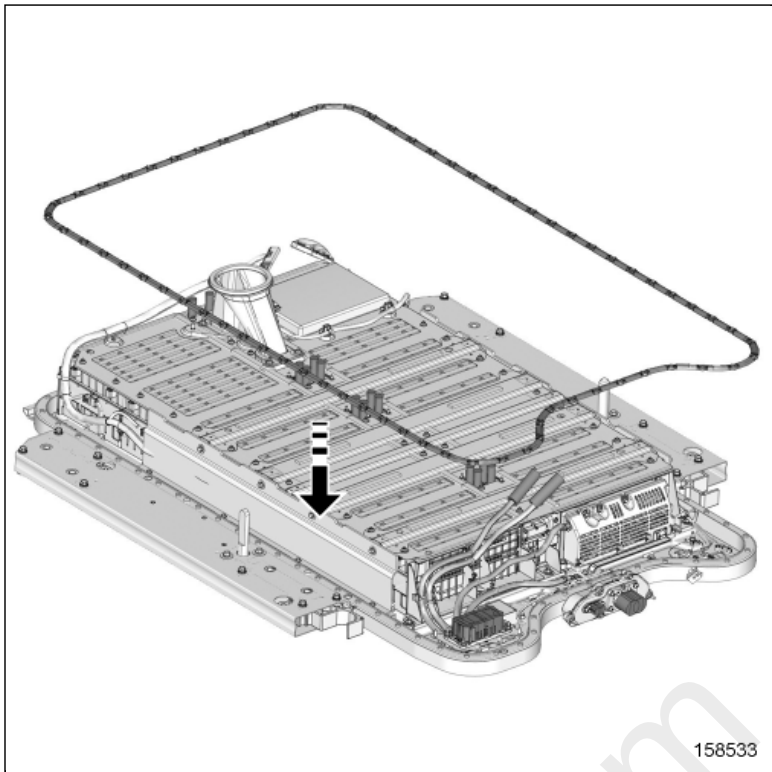


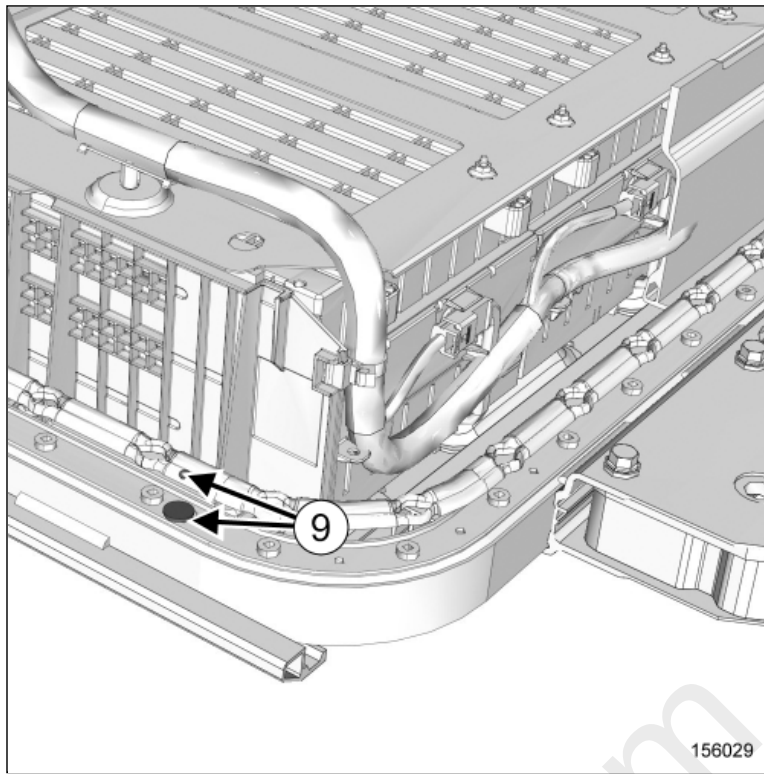
Fit a screw with a washer on the new blind rivet.

Tighten the screw until contact.

Torque tighten the screw 8 N.m.

Check that the new blind rivet don't turn if it turn, remove it and put a new blind rivet.





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Fit the new seal according to the following illustrations.



Note:

Take care to the direction of fitting (flat section downwards⁽⁹⁾).



Note:

Start fitting the seal by aligning the two marks⁽⁹⁾.

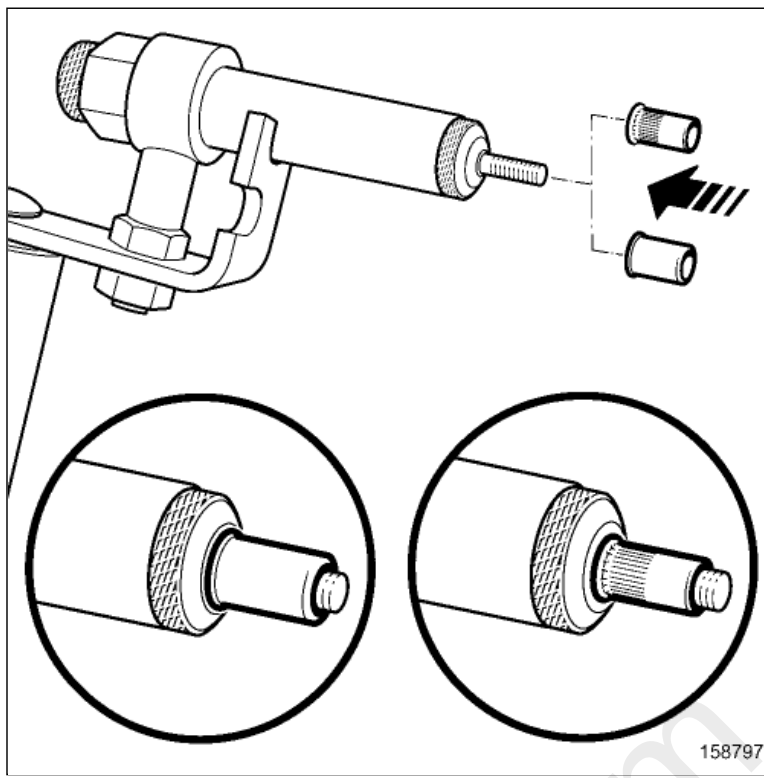


Note:

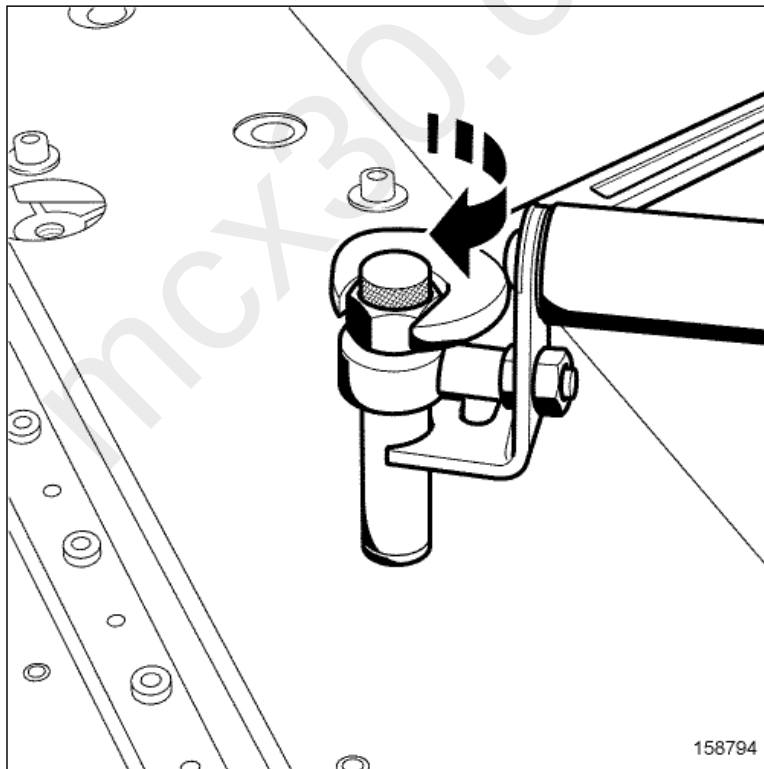
This operation require two operators.

Proceed in the reverse order to removal.

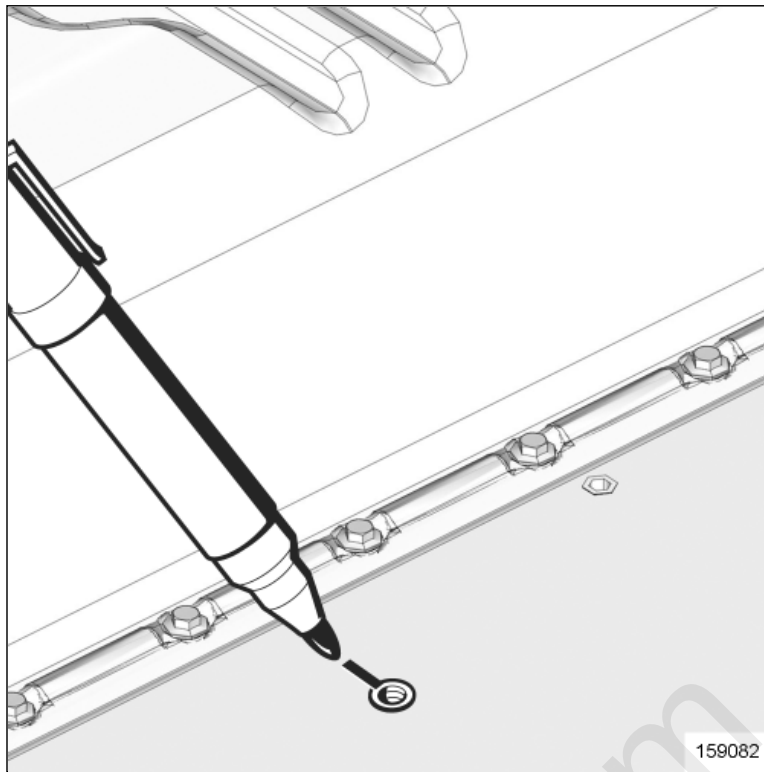
3. CRASH BOX FIXING RIVETS REFITTING OPERATION (6 RIVETS M6)



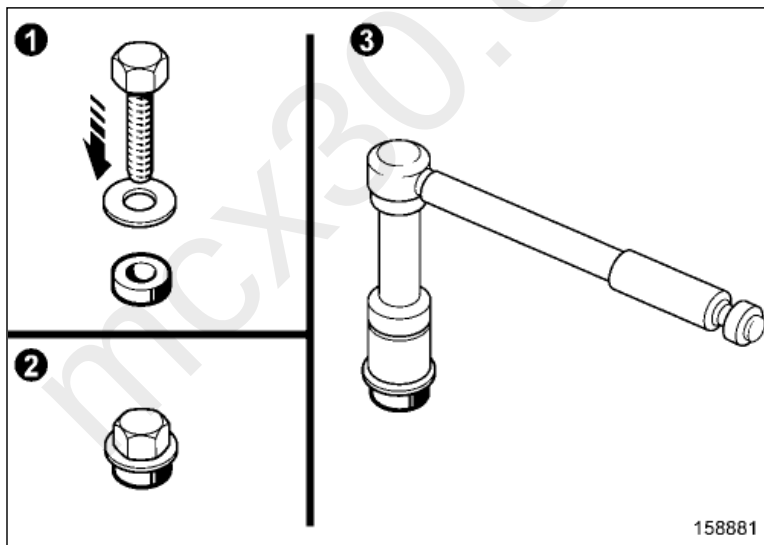
Fit the new blind rivet nut M6 on the tool Tool for fitting crimped nuts. (Car. 1504) .



Position the tool Tool for fitting crimped nuts. (Car. 1504) and its new blind rivet nut M6 on the traction battery lower cover.



Mark for test the new blind rivet nut with paint marker.

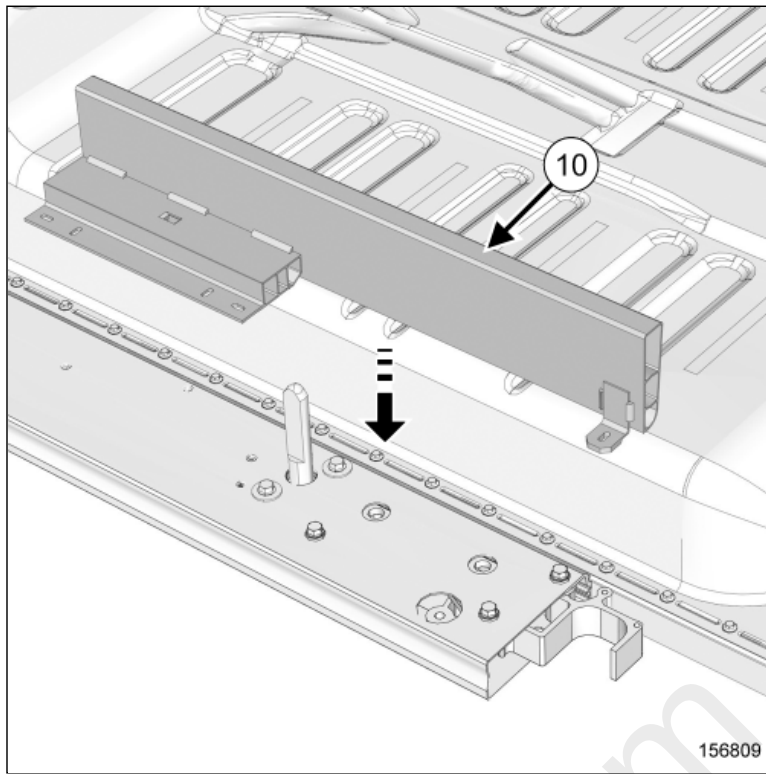


Fit a screw with a washer on the new blind rivet.

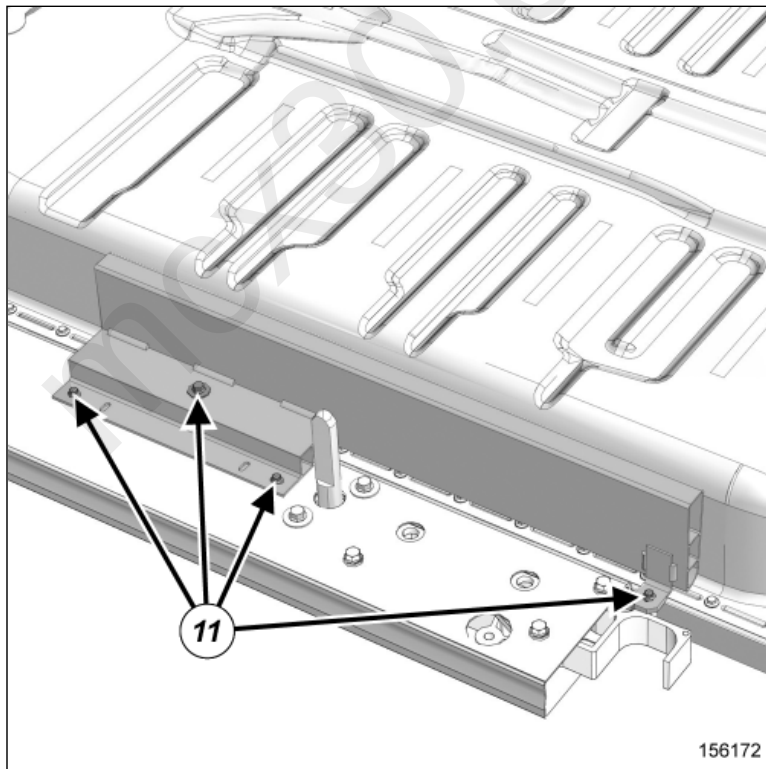
Tighten the screw until contact.

Torque tighten the screw 8 N.m.

Check that the new blind rivet don't turn if it turn, remove it and put a new blind rivet.



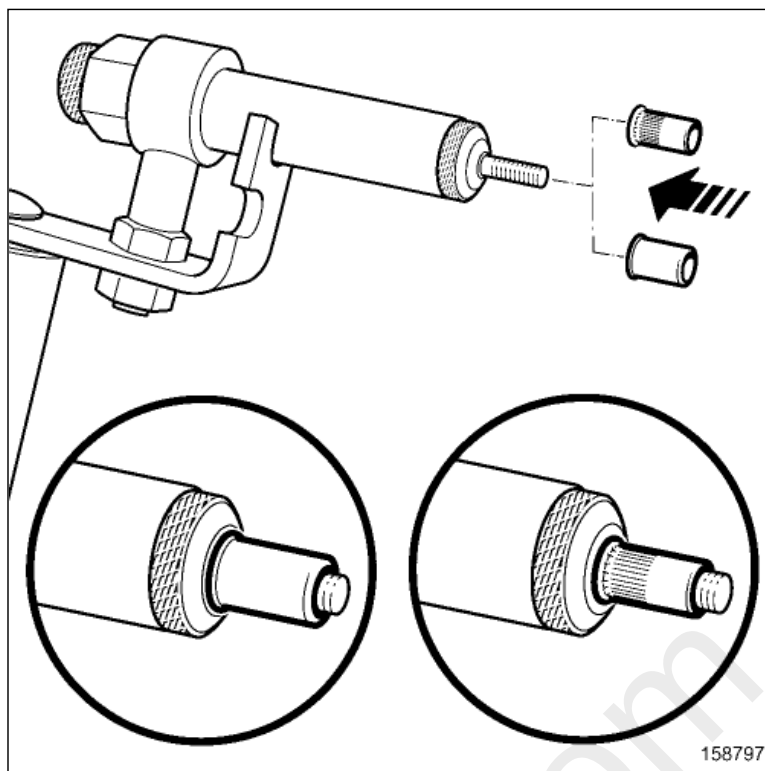
Refit the retaining shock pillars(10) ([see 19E, Traction battery, Traction battery housing assembly : Exploded view](#)) .



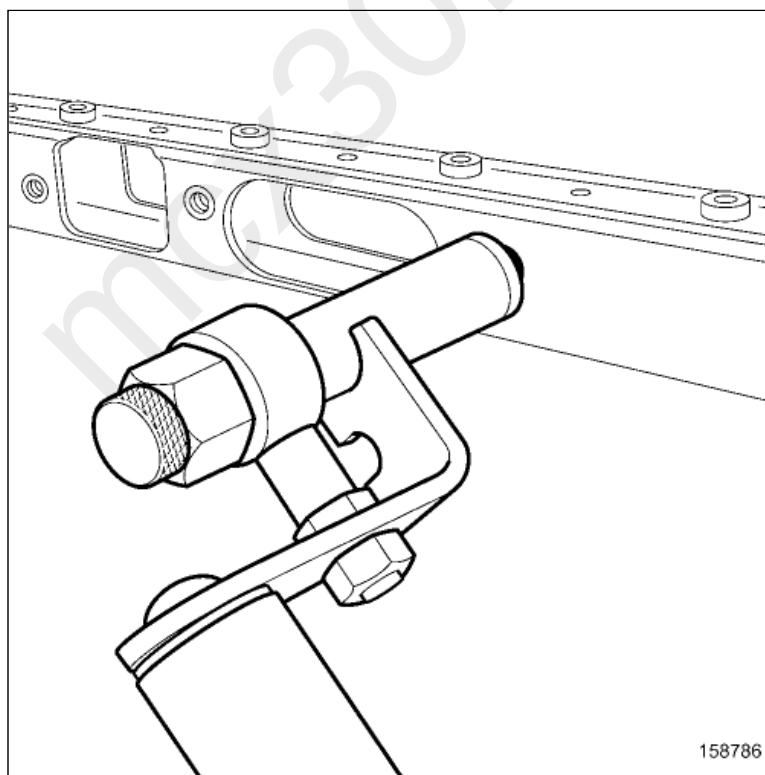
Refit the retaining shock pillars screws(11) using an insulated magnetic socket([see 19E, Traction battery, Traction battery housing assembly : Exploded view](#))

Torque tighten the retaining shock pillars screws using an insulated magnetic socket([see 19E, Traction battery, Traction battery housing assembly : Exploded view](#)) .

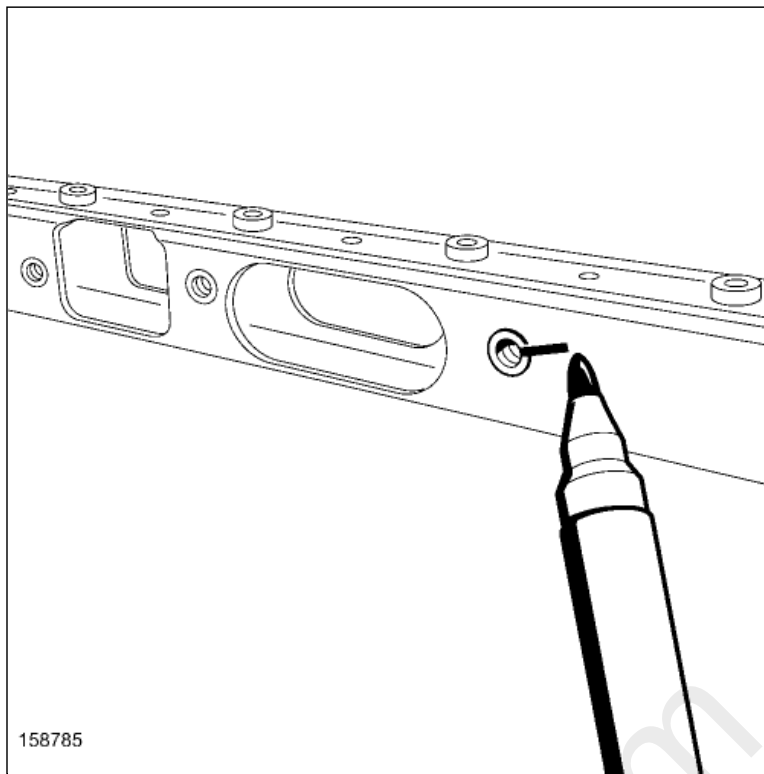
Mark always the screws with paint marker of color different from the original.



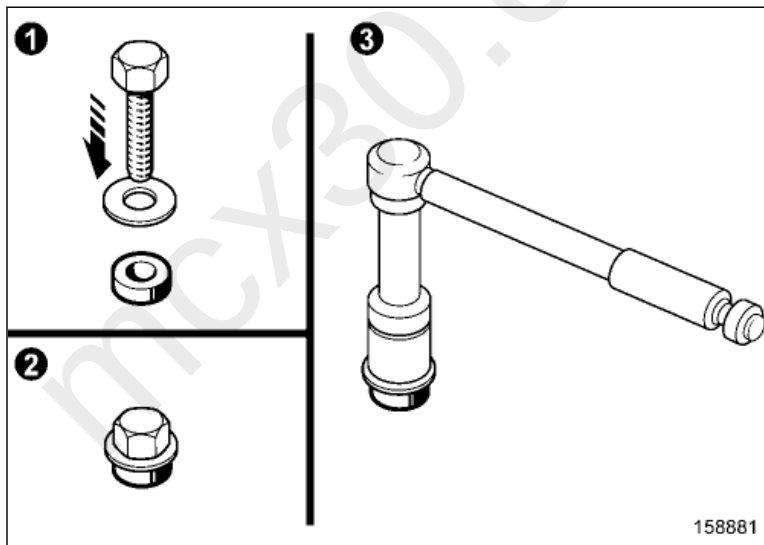
Fit the new blind rivet nut M6 on the tool Tool for fitting crimped nuts. (Car. 1504) .



Position the tool Tool for fitting crimped nuts. (Car. 1504) and its new blind rivet nut M6 on the traction battery lower cover.



Mark for test the new blind rivet nut with paint marker.



Fit a screw with a washer on the new blind rivet.

Tighten the screw until contact.

Torque tighten the screw 8 N.m.

Check that the new blind rivet don't turn if it turn, remove it and put a new blind rivet.

Refit :



the seal between connectors support and lower cover,



the connectors support [\(see 19E, Traction battery, Traction battery module stack assembly : Exploded view\)](#) ,

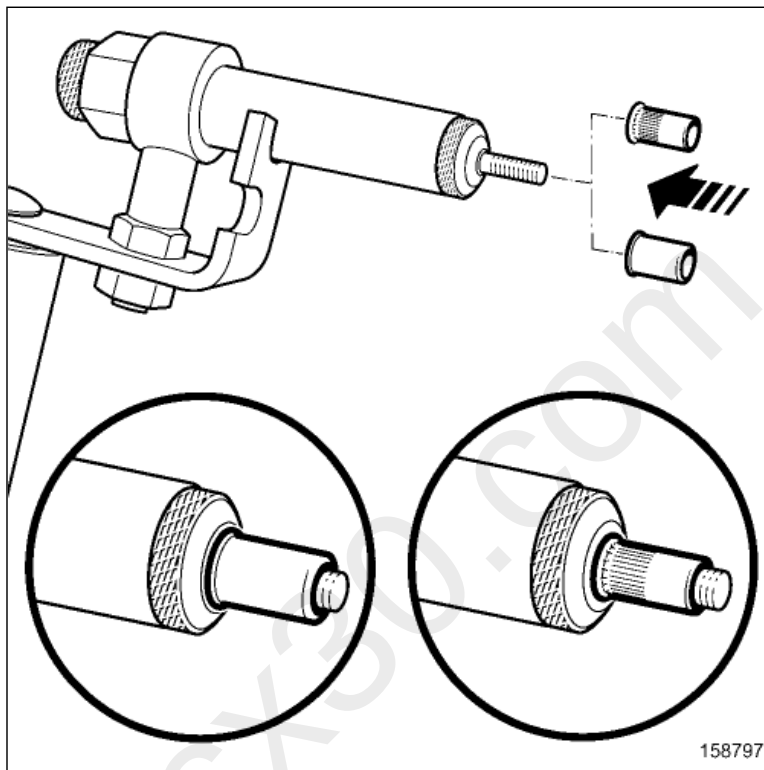
the connectors support screws using an insulated magnetic socket [\(see 19E, Traction battery, Traction battery module stack assembly : Exploded view\)](#) .

Torque tighten the connectors support screws using an insulated magnetic socket [\(see 19E, Traction battery, Traction battery module stack assembly : Exploded view\)](#) .

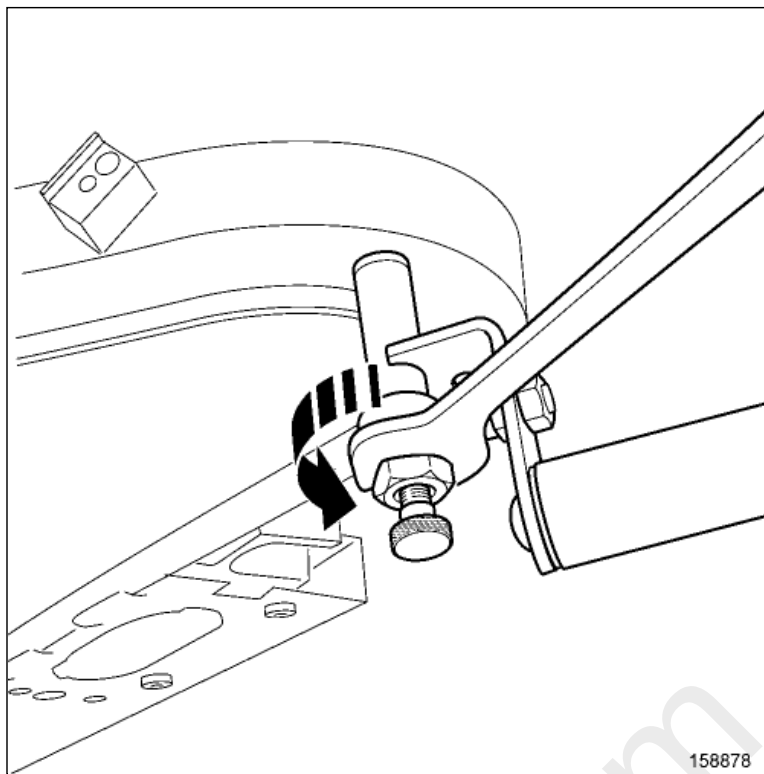
Mark always the screws with paint marker of color different from the original.

Proceed in the reverse order to removal.

5. WIRING PROTECTIVE HOUSING FIXING RIVETS REFITTING OPERATION (4 RIVETS M6)

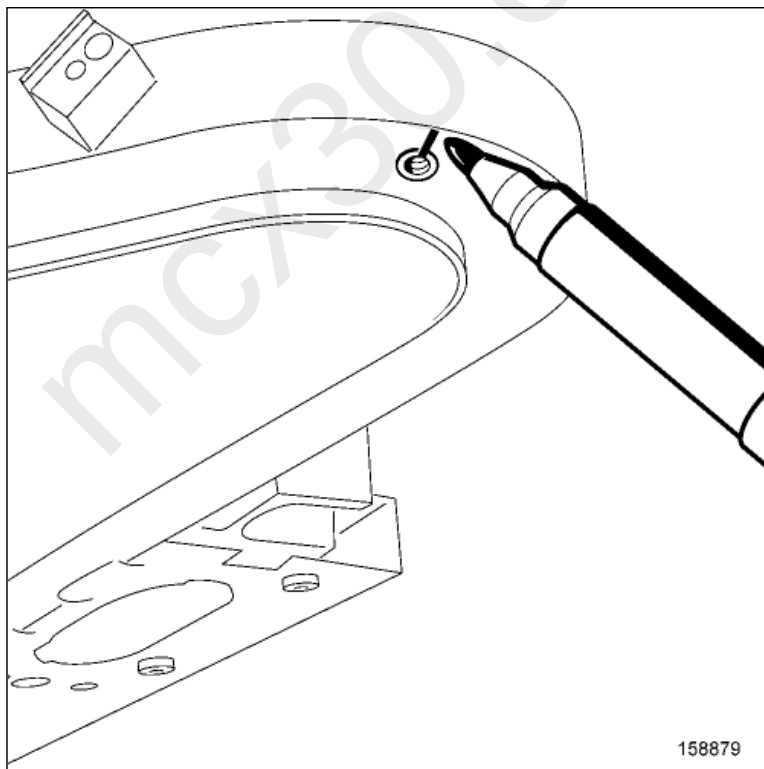


Fit the new blind rivet nut M6 on the tool [Tool for fitting crimped nuts. \(Car. 1504\)](#) .



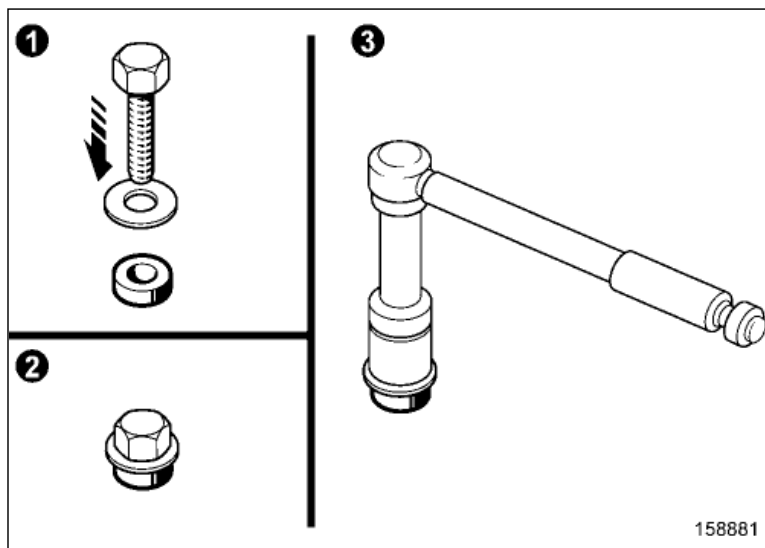
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Position the tool Tool for fitting crimped nuts.(Car. 1504) and its new blind rivet nut M6 on the traction battery lower cover.



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Mark for test the new blind rivet nut with paint marker.



Fit a screw with a washer on the new blind rivet.

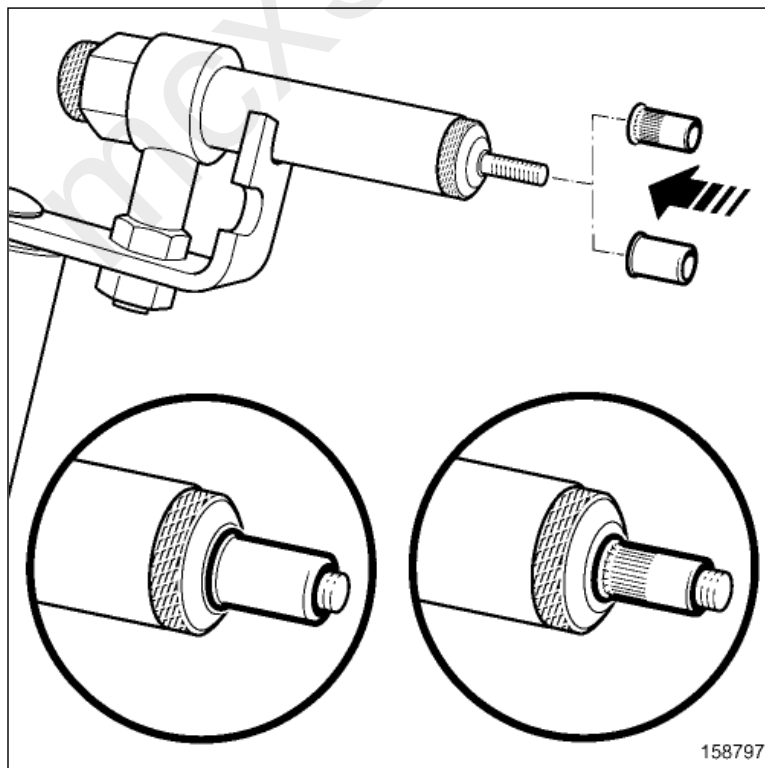
Tighten the screw until contact.

Torque tighten the screw 8 N.m.

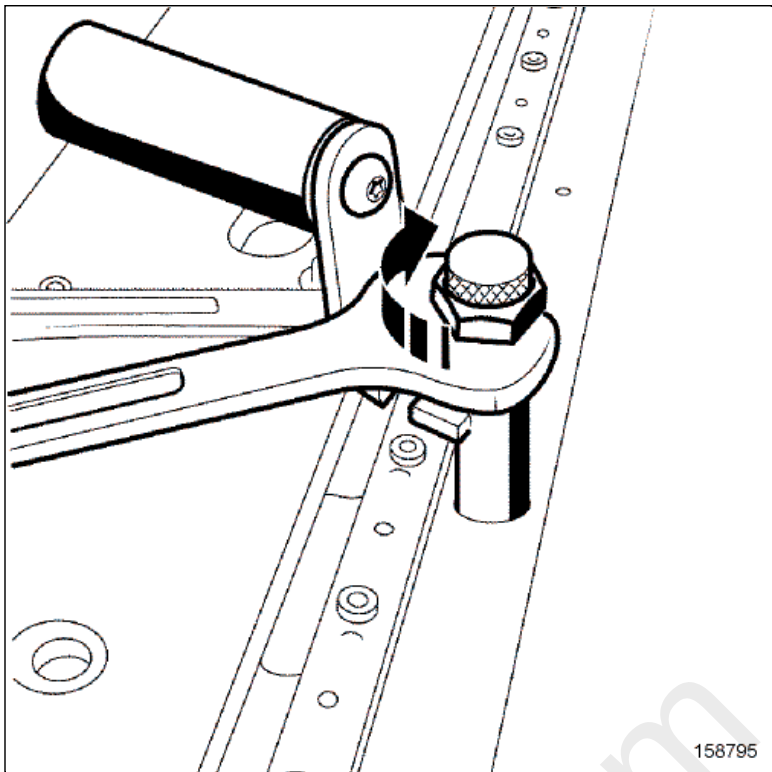
Check that the new blind rivet don't turn if it turn, remove it and put a new blind rivet.

Proceed in the reverse order to removal.

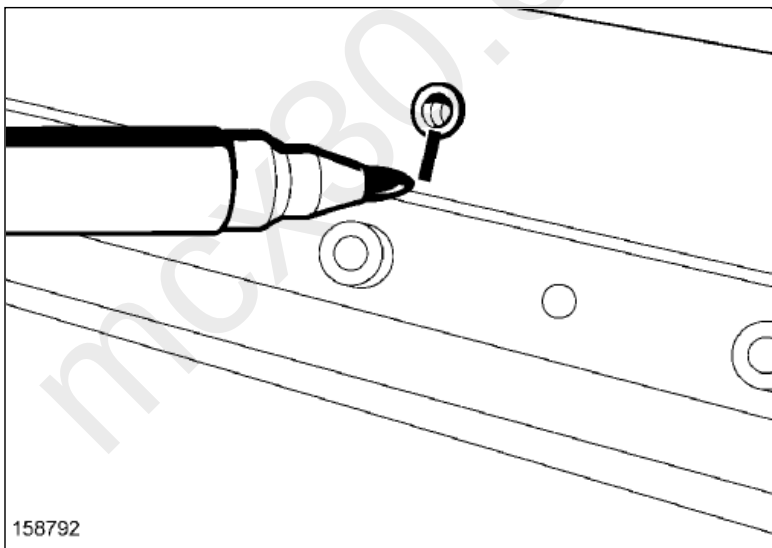
6. SHOCK PILLAR FIXING RIVETS REFITTING OPERATION (10 RIVETS M5)



Fit the new blind rivet nut M5 on the toolTool for fitting crimped nuts.(Car. 1504) .



Position the tool Tool for fitting crimped nuts.(Car. 1504) and its new blind rivet nut M5 on the traction battery lower cover.



Mark for test the new blind rivet nut with paint marker.

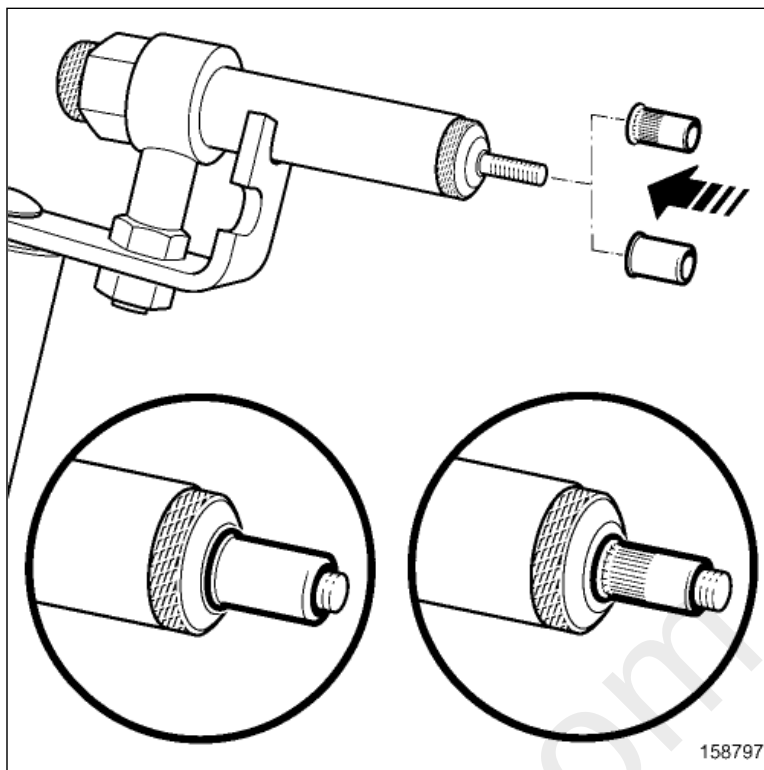
Fit a screw with a washer on the new blind rivet.

Tighten the screw until contact.

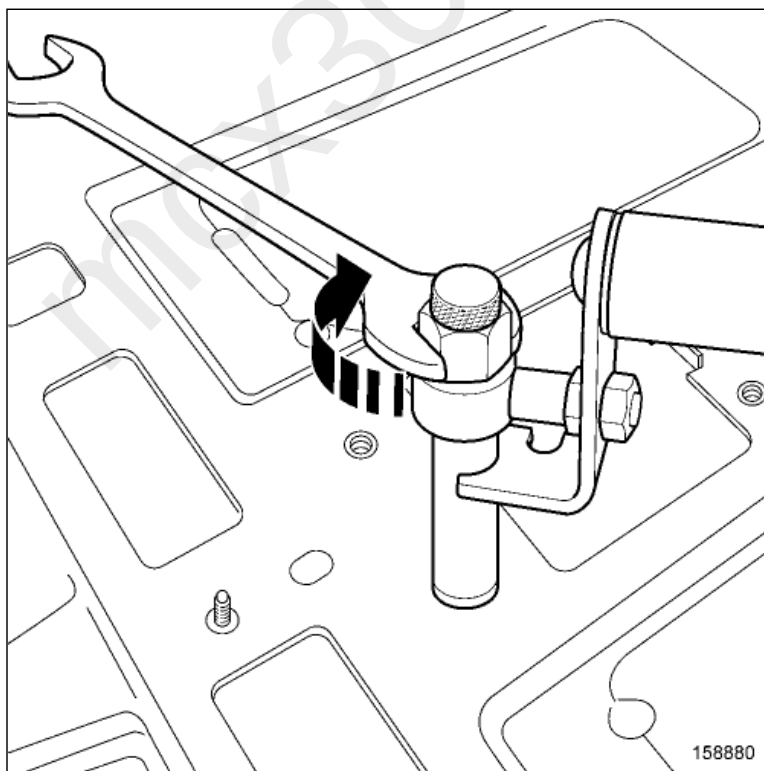
Torque tighten the screw 8 N.m.

Check that the new blind rivet don't turn if it turn, remove it and put a new blind rivet.

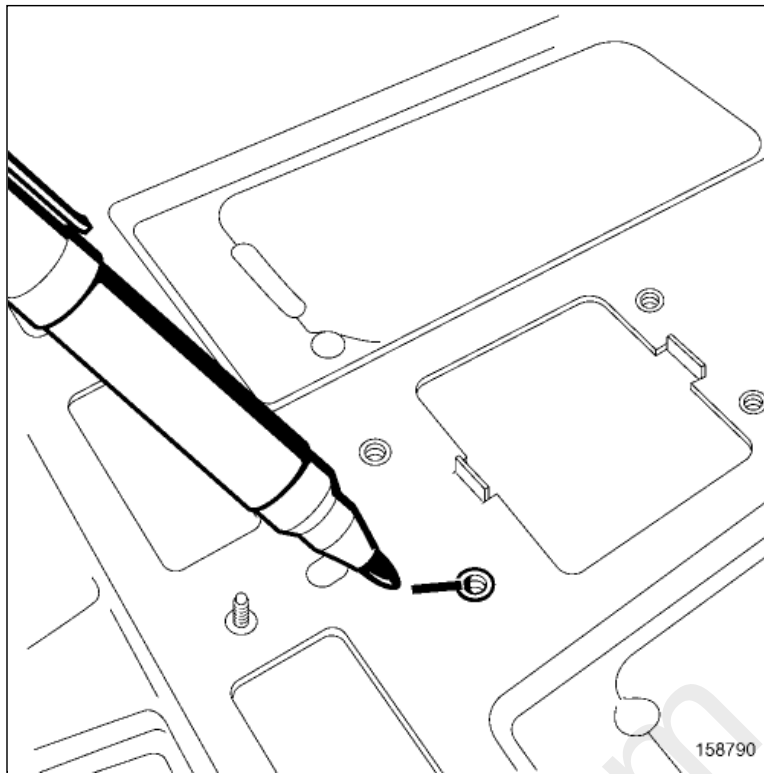
Proceed in the reverse order to removal.



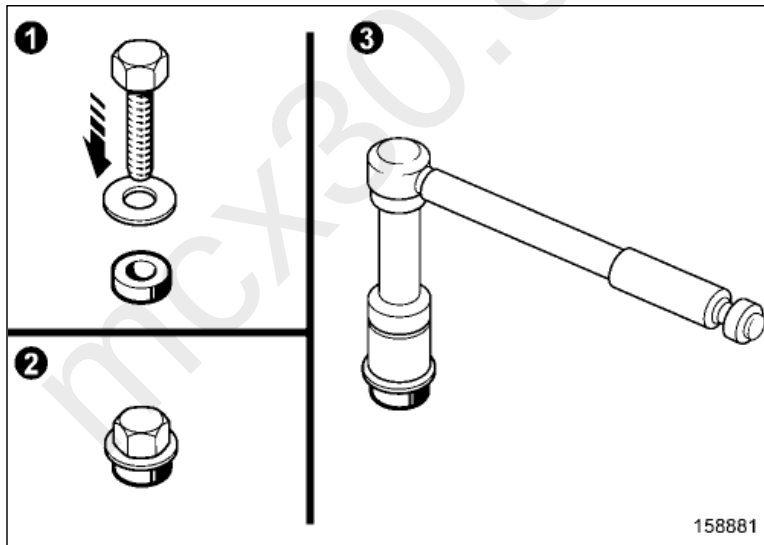
Fit the new blind rivet nut M6 on the tool Tool for fitting crimped nuts.(Car. 1504) .



Position the tool Tool for fitting crimped nuts.(Car. 1504) and its new blind rivet nut M6 on the traction battery lower cover.



Mark for test the new blind rivet nut with paint marker.



Fit a screw with a washer on the new blind rivet.

Tighten the screw until contact.

Torque tighten the screw 8 N.m.

Check that the new blind rivet don't turn if it turn, remove it and put a new blind rivet.

Proceed in the reverse order to removal.



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