

TRACTION BATTERY MODULE : REMOVAL-REFITTING



Note, one or more warnings are present in this procedure



Special tooling required	
Set of trim removal levers.	Car. 1363
Equipment required	
multimeter	

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.

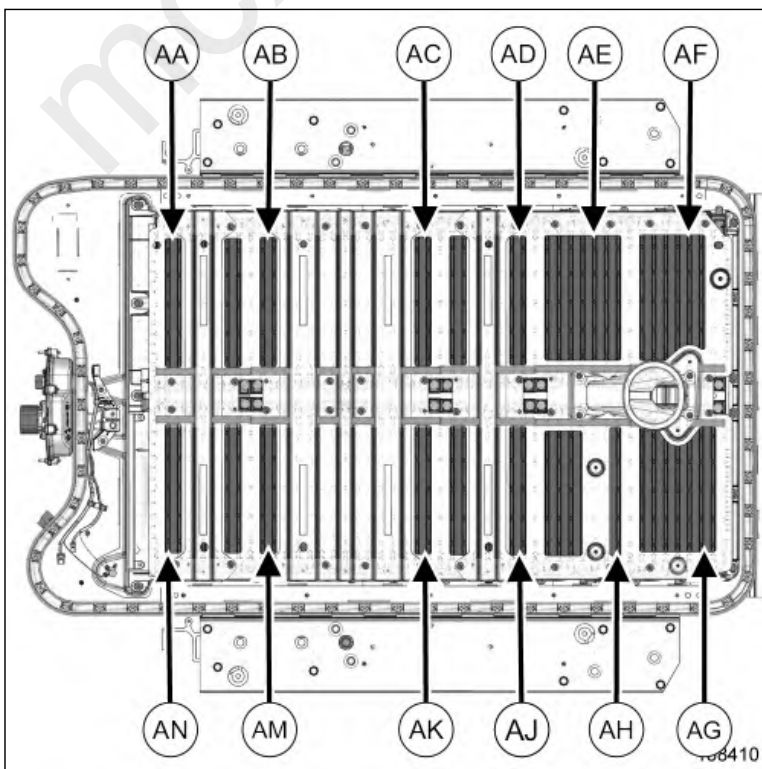
Before carrying out any work on the vehicle, it is essential that you adhere to the instructions regarding vehicle voltage cut-off. This work must be carried out by an employee who is qualified and authorized to work on a high-voltage onboard network.

REMOVAL

1. REMOVAL PREPARATION OPERATION

Remove :

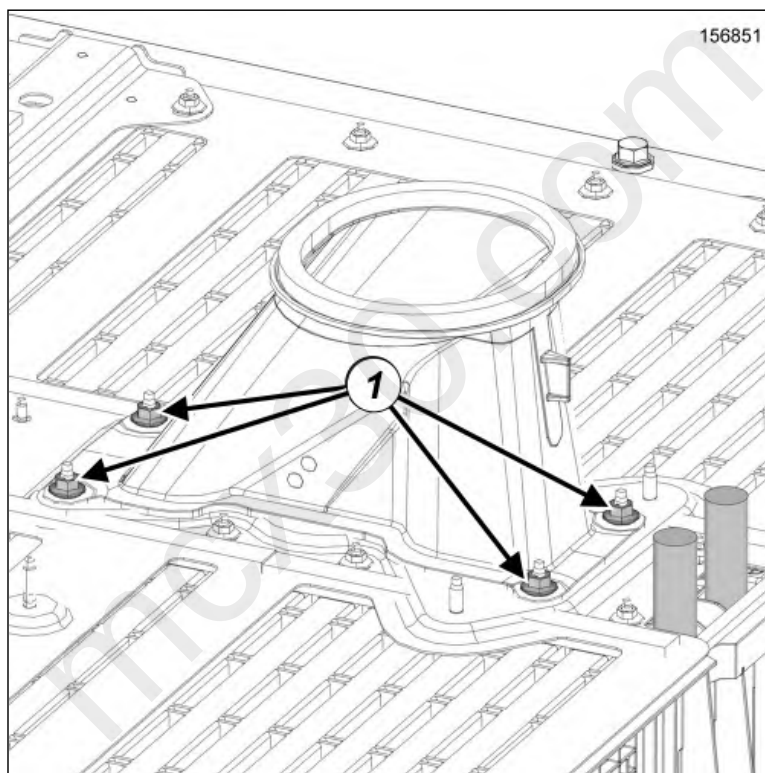
- the traction battery upper cover([see 19E, Traction battery, Traction battery housing assembly : Exploded view](#)) ,
- the traction battery electronic filter([see 19E, Traction battery, Traction battery module stack assembly : Exploded view](#)) ,
- the traction battery internal low voltage wiring([see 19E, Traction battery, Traction battery module stack assembly : Exploded view](#)) ,
- the traction battery computer([see 19E, Traction battery, Traction battery module stack assembly : Exploded view](#)) ,
- the traction battery internal junction box([see 19E, Traction battery, Traction battery module stack assembly : Exploded view](#)) ,
- the traction battery safety device switch socket([see 19E, Traction battery, Traction battery module stack assembly : Exploded view](#)) .



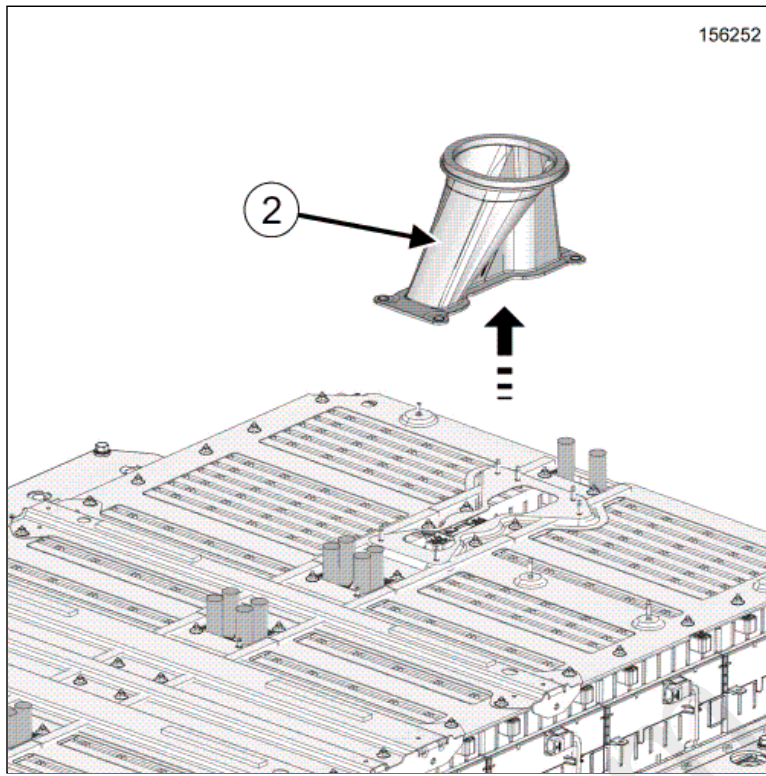
- (AA) module 1
- (AB) module 2
- (AC) module 3
- (AD) module 4
- (AE) module 5
- (AF) module 6
- (AG) module 7
- (AH) module 8
- (AJ) module 9
- (AK) module 10
- (AM) module 11
- (AN) module 12

Mark with a paint marker the number of modules ([see 19E, Traction battery, Traction battery module stack assembly : Exploded view](#)) .

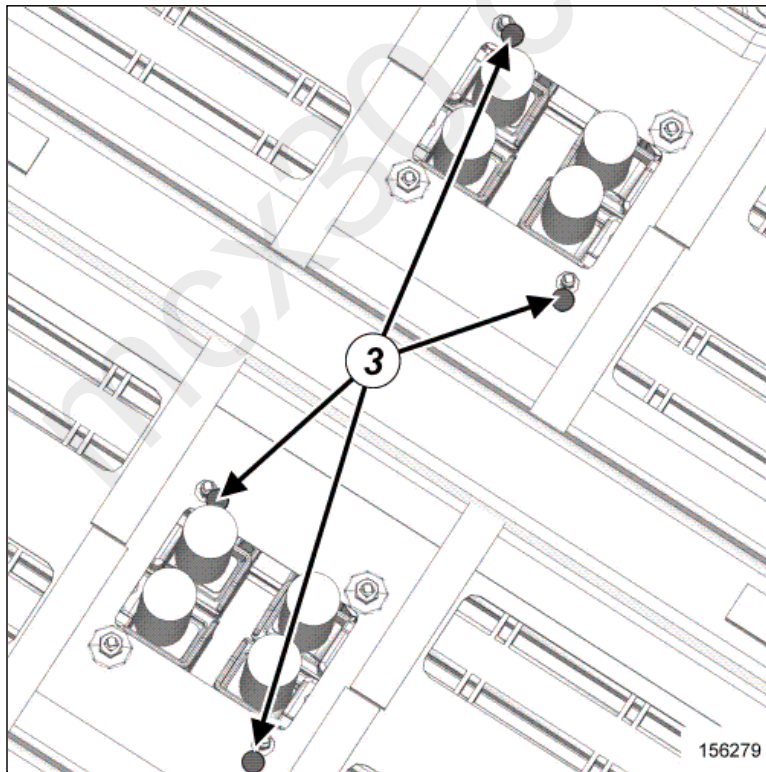
2. REMOVAL OPERATION



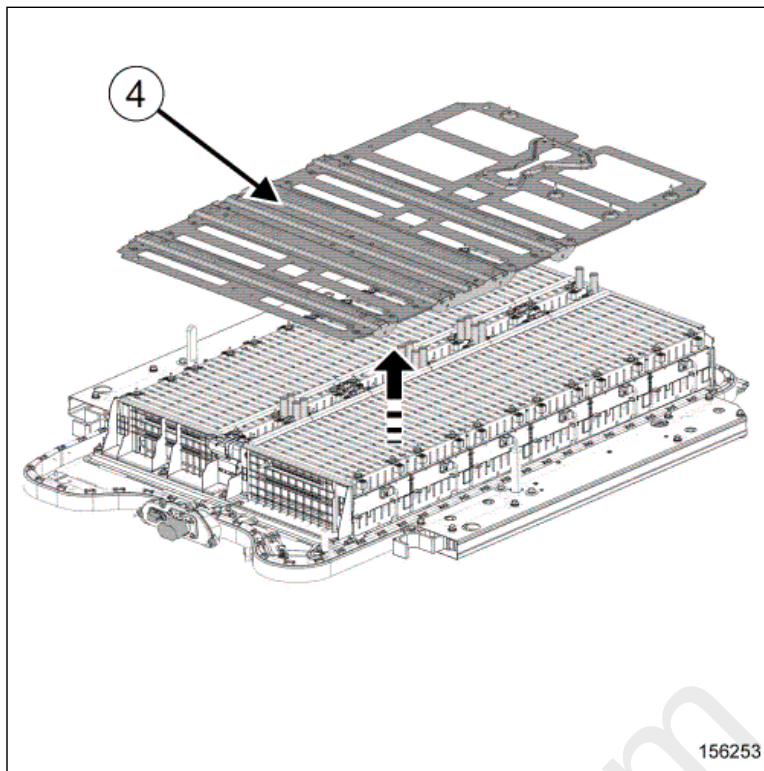
Remove the air inlet duct nuts(1) using an insulated magnetic socket([see 19E, Traction battery, Traction battery module stack assembly : Exploded view](#)) .



■ Remove the air inlet duct.



■ Mark the location of the nuts already removed from the retaining shock plate(3) .

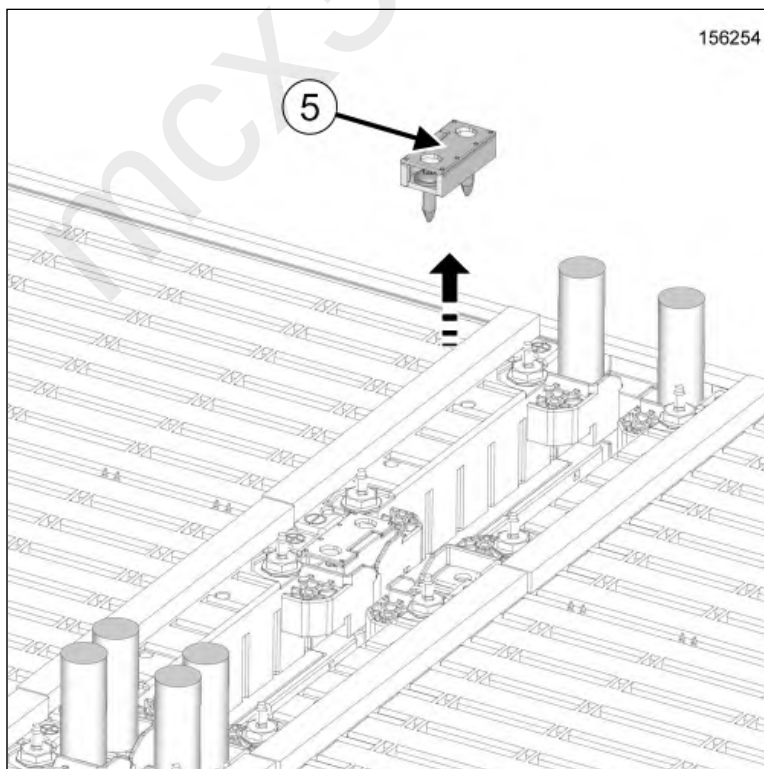


- Remove (see 19E, Traction battery, Traction battery module stack assembly : Exploded view) :
- the retaining shock plate nuts using an insulated magnetic socket,
 - the retaining shock plate(4) .

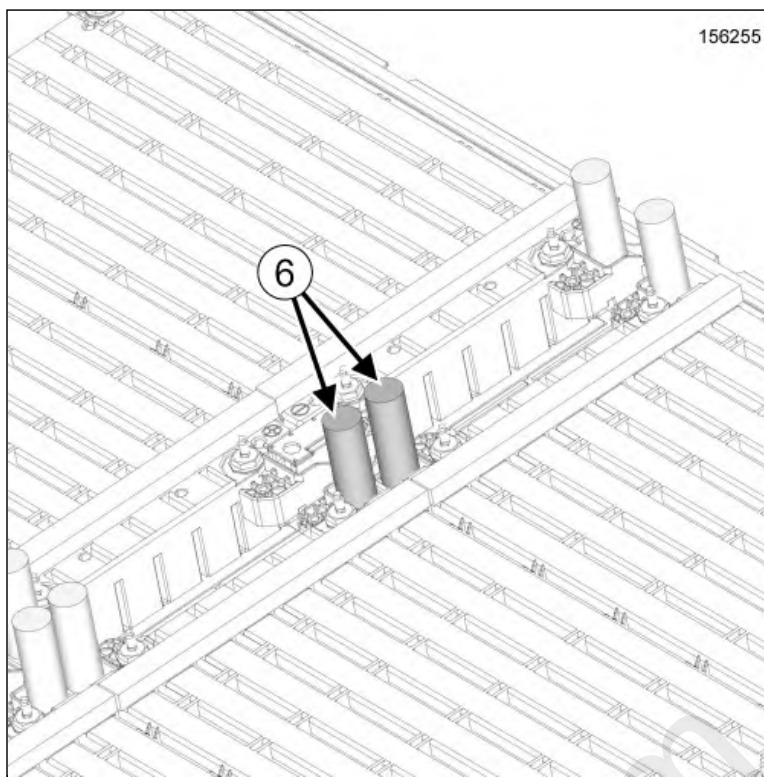


Note:

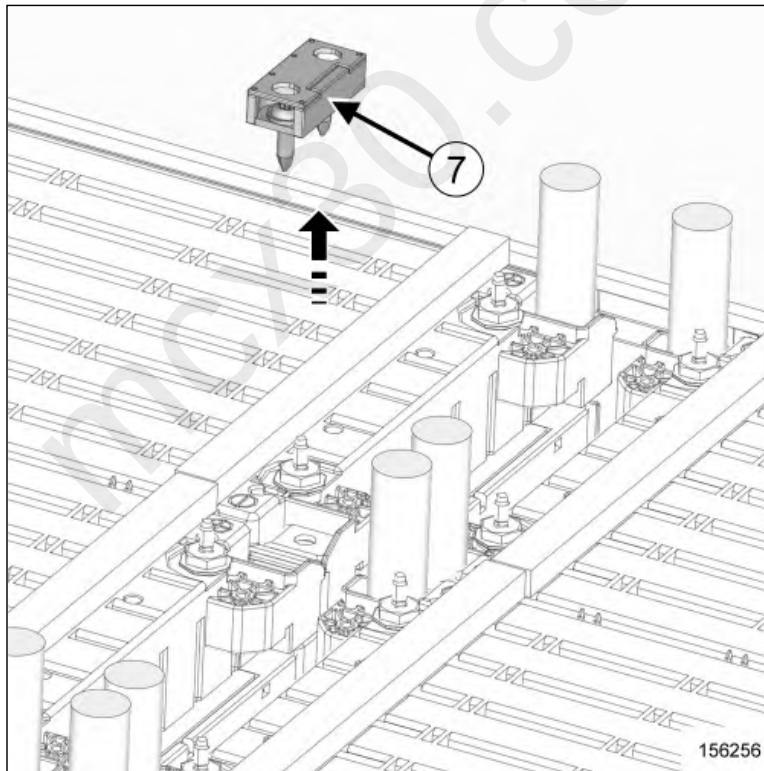
This operation requires two operators.



- Remove (see 19E, Traction battery, Traction battery module stack assembly : Exploded view) :
- the first jumper connection screws using an insulated magnetic socket,
 - the first jumper(5) connection using the toolSet of trim removal levers.(Car. 1363) .

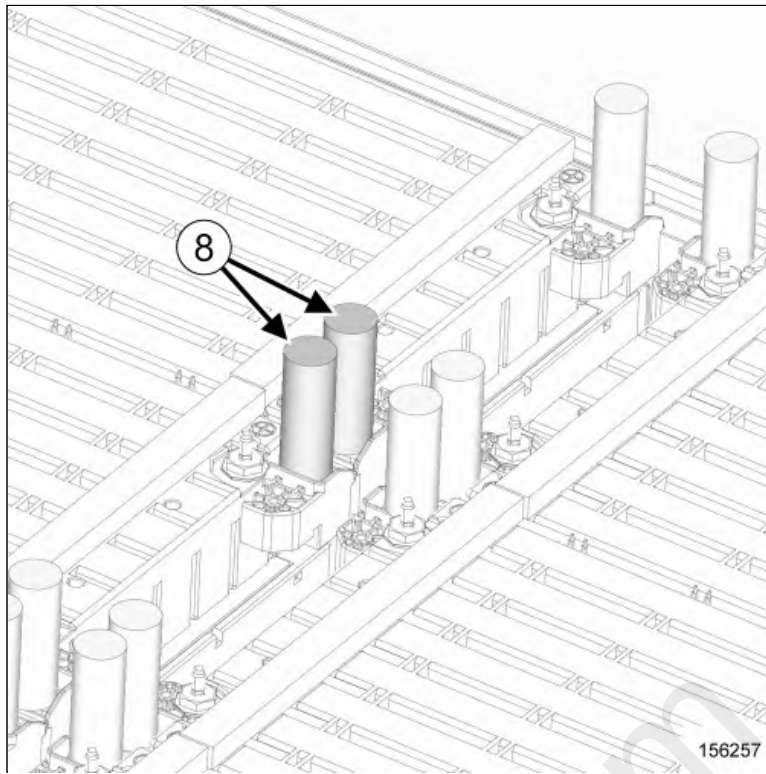


■ Insulate the module terminals with insulated covers(6) .



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

- the second jumper connection screws using an insulated magnetic socket,
- the second jumper(7) connection using the toolSet of trim removal levers.(Car. 1363) .



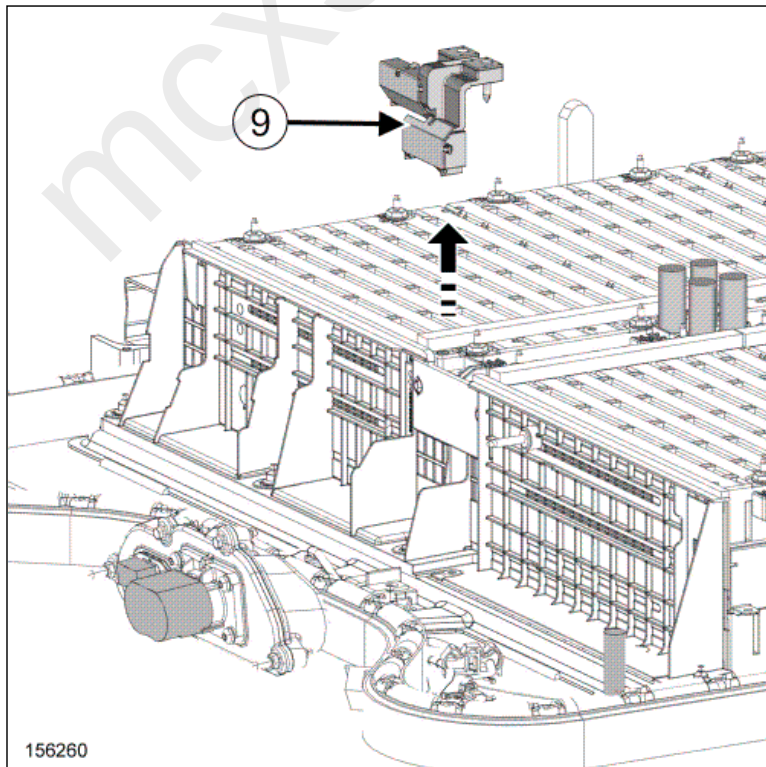
- Insulate the module terminals with insulated covers(8) .



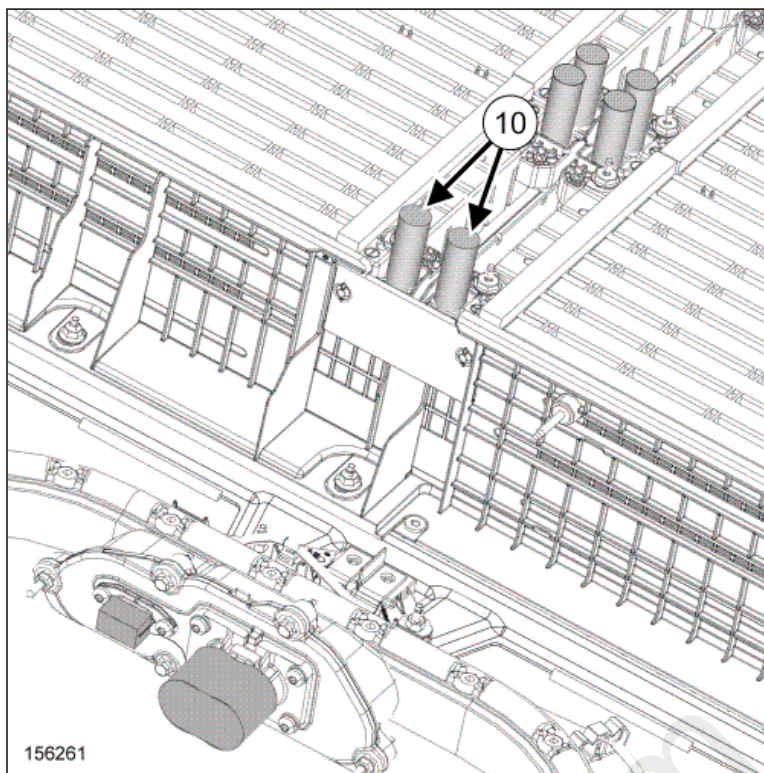
Note:

Repeat these operations with the two remaining jumper connections.

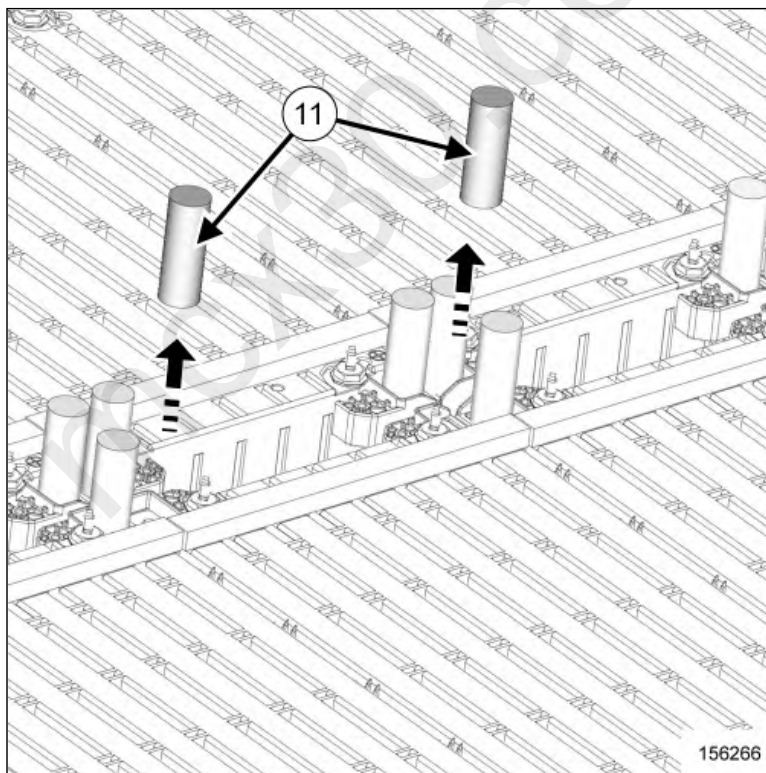
- Remove the bus bar screws using an insulated magnetic socket(see 19E, Traction battery, Traction battery module stack assembly : Exploded view) .



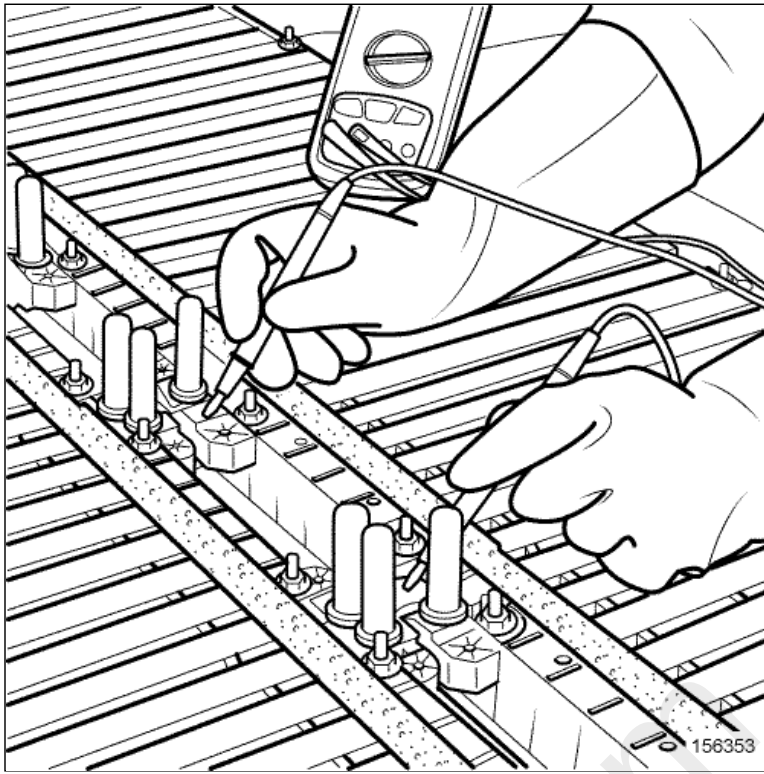
- Remove the bus bar(9) (see 19E, Traction battery, Traction battery module stack assembly : Exploded view) .



- Insulate the modules terminals with insulated covers(10) .



- Remove the insulated coversfrom the module to be repaced.

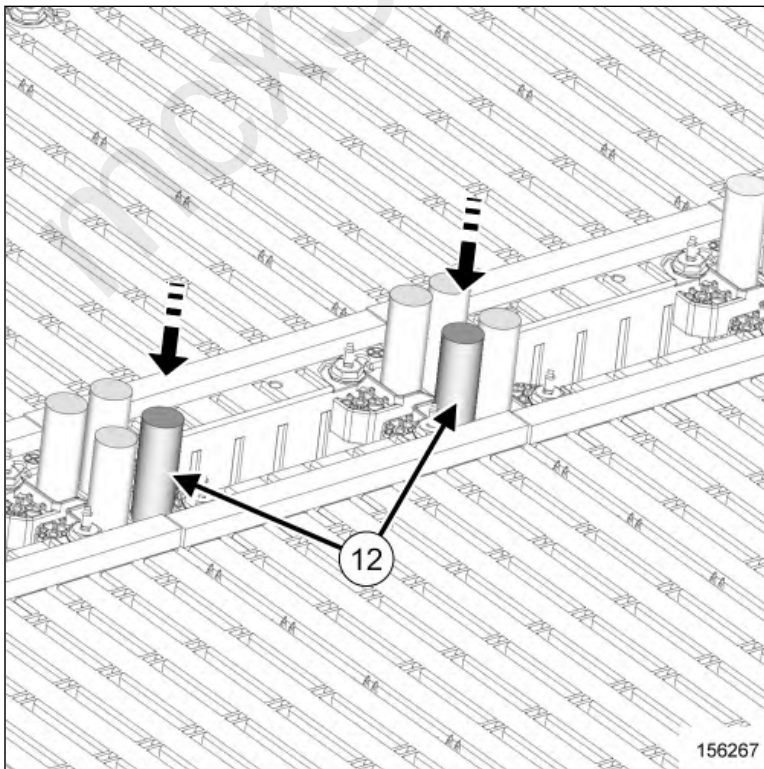


Measure the voltage on the + and - terminals of the module to be replaced using the multimeter.

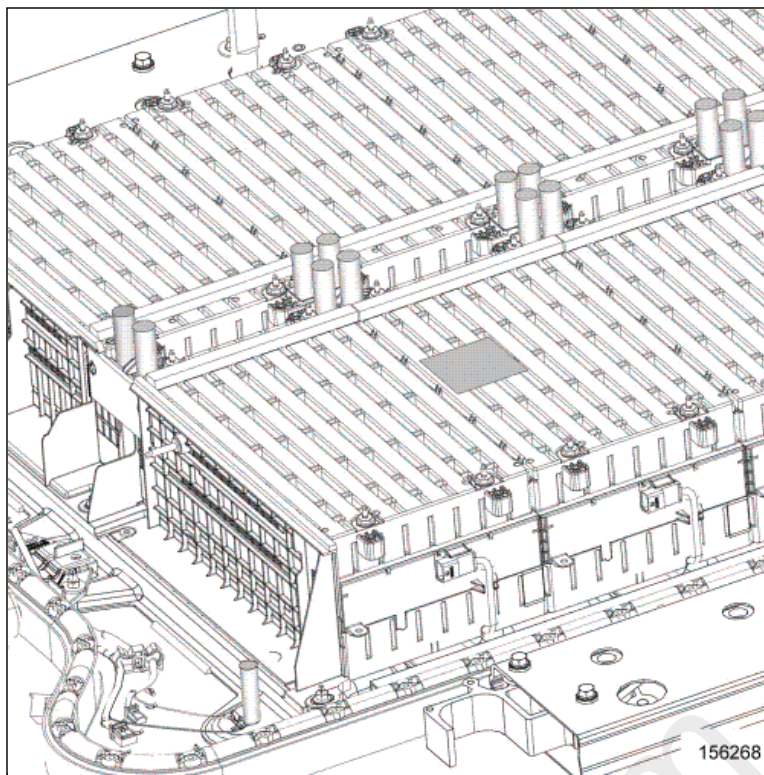


Note:

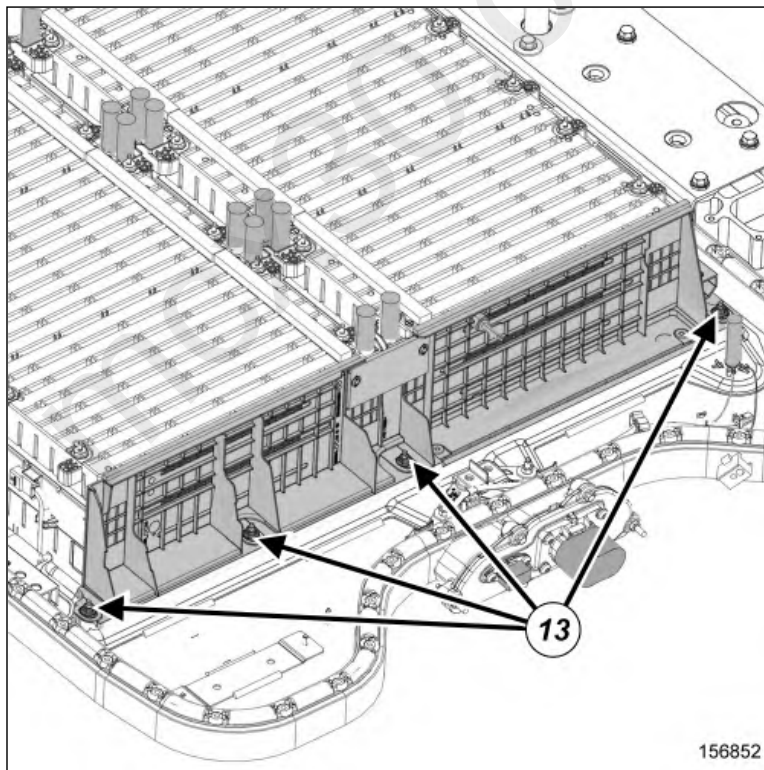
The touch point of the multimeter must be in contact with the terminals + and - of the module.



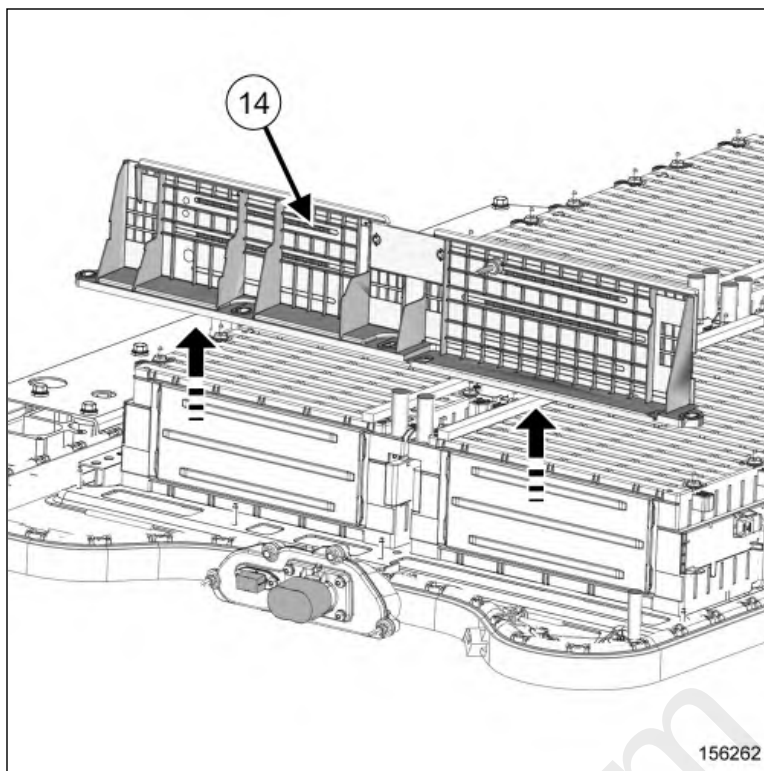
Insulate the terminals of the module to be replaced with insulated covers(12) .



Mark the module to be replaced.



Remove the front end plate nuts(13) using an insulated magnetic socket([see 19E, Traction battery, Traction battery module stack assembly : Exploded view](#)) .



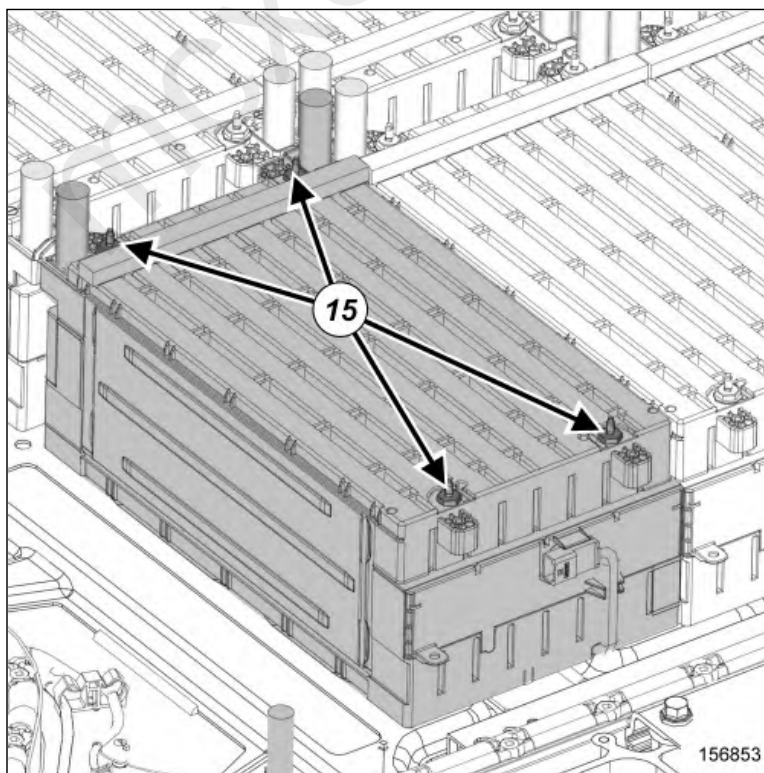
Remove the front end plate(14) ([see 19E, Traction battery, Traction battery module stack assembly : Exploded view](#)) .

Note:

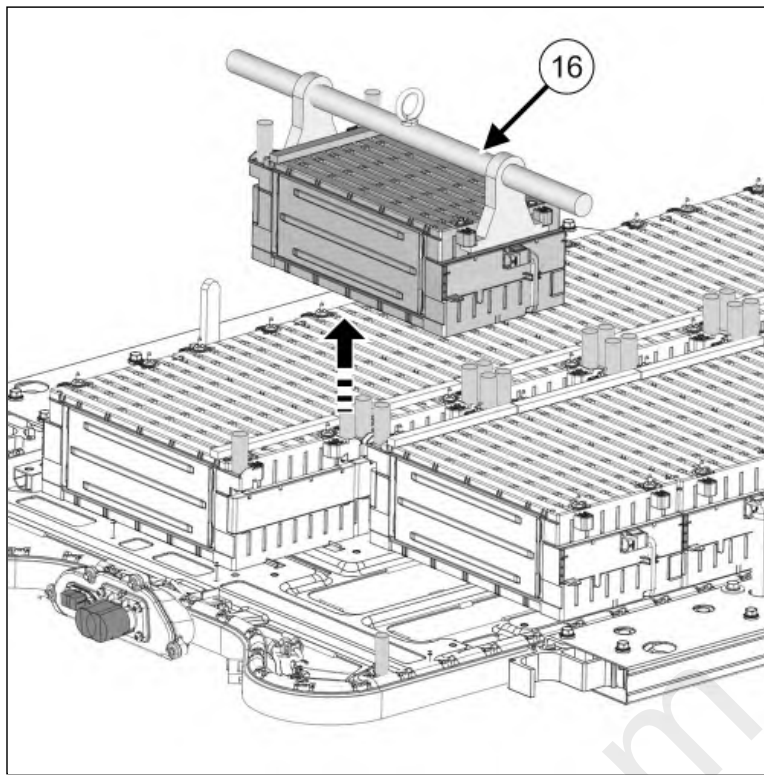


The left modules stack is mechanically independant from the right modules stack.

For each stack, remove at first the front module, then the other modules and up to the module to be replaced.



Remove the module screws(15) using an insulated magnetic socket([see 19E, Traction battery, Traction battery module stack assembly : Exploded view](#)) .



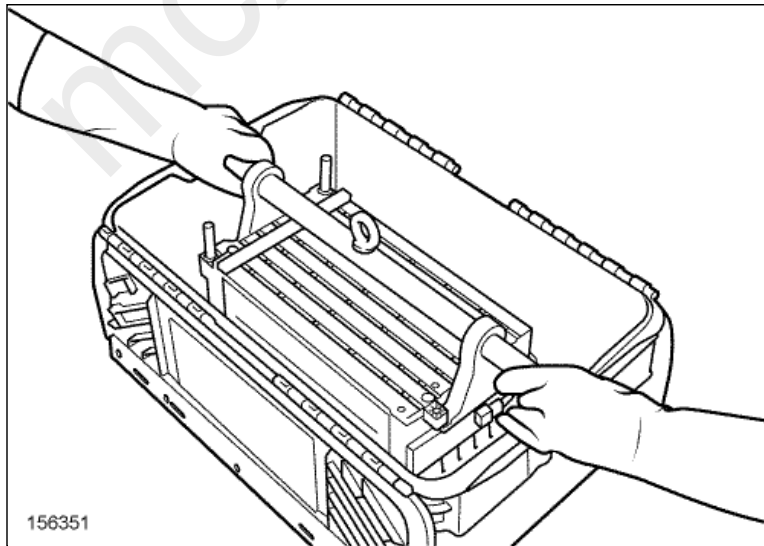
Remove the module using the module lifting tool(16) .



Note:

Repeat these two operations for each module to be removed.

Fit the modules on a insulated mat.



Fit the modules to be replaced in the recycling bin.

Record the serial number of the new module.



Note:

This record is mandatory for the tracability of modules (battery world database).

REFITTING

1. REFITTING PREPARATION OPERATION



Parts always to be replaced(see 19E, [Traction battery, Traction battery module stack assembly : Exploded view](#)) :



module screws.



Clean the bottom of the traction battery lower cover using the VACUUM CLEANER EQUIPED WITH A PLASTIC NOZZLE.

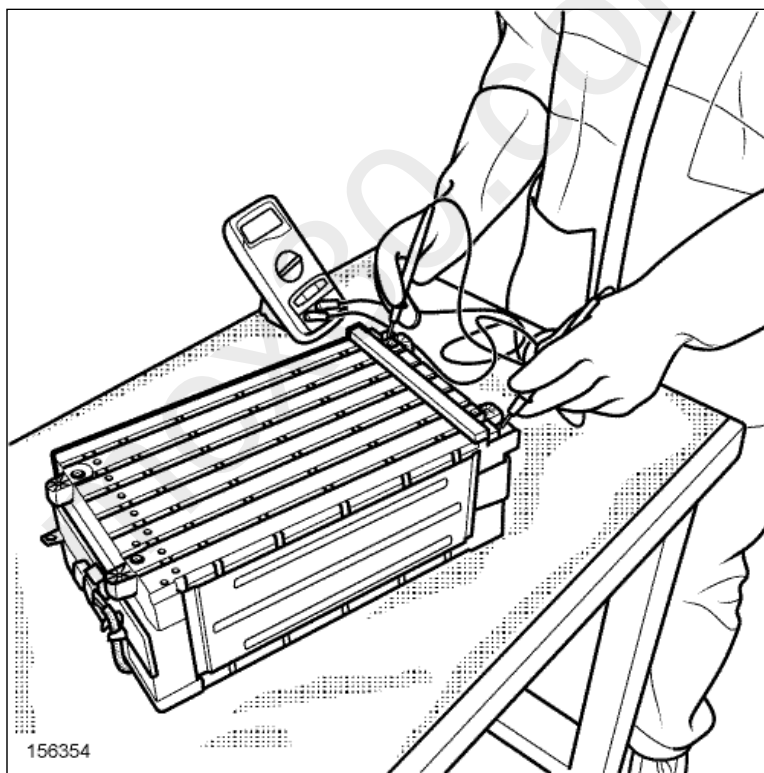


Equalize the voltage of the new module to the target voltage value diagnosed.



Note:

Voltage equalization could last many hours, so anticipate voltage equalization as much as possible.

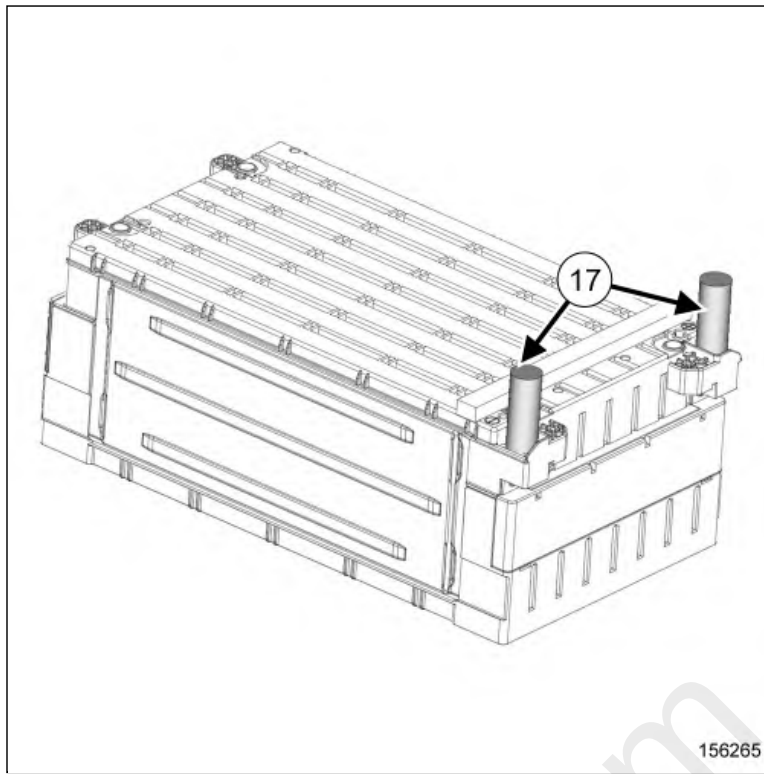


Measure the voltage on the +and -terminals of the new module using the multimeter.



Note:

The touch point of the multimeter must be in contact with the terminals +and -of the module.



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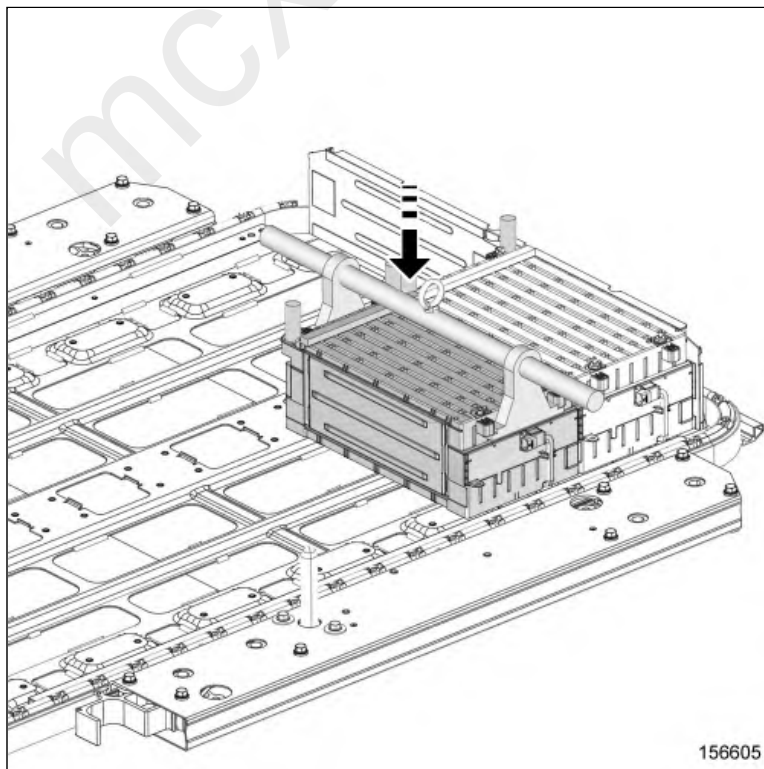
Insulate the electric connections of the new module(17) .

2. MODULES REFITTING OPERATION



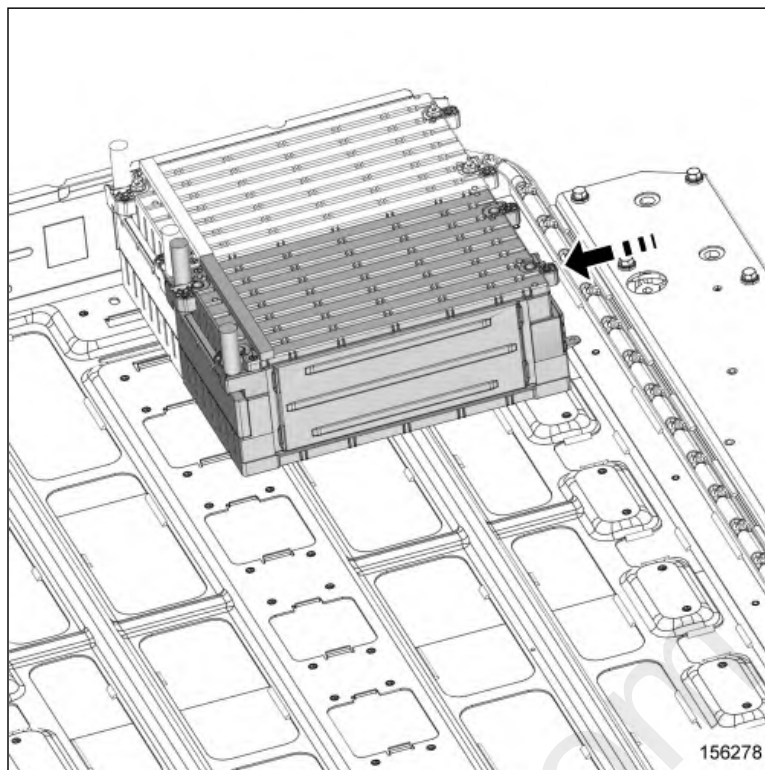
Note:

The left modules stack is mechanically independent from the right modules stack.

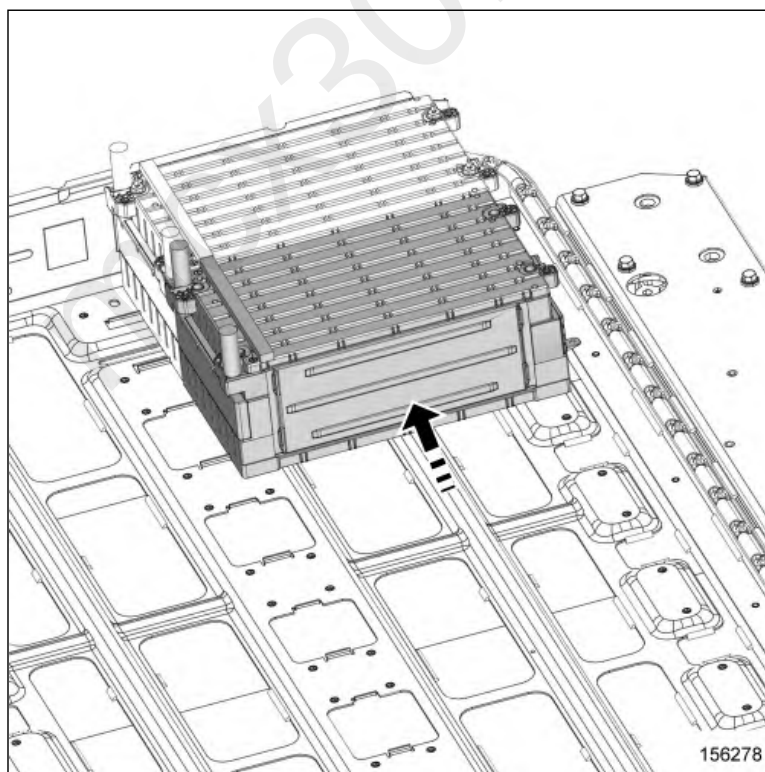


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Refit the new module using the module lifting tool([see 19E, Traction battery, Traction battery module stack assembly : Exploded view](#)) .

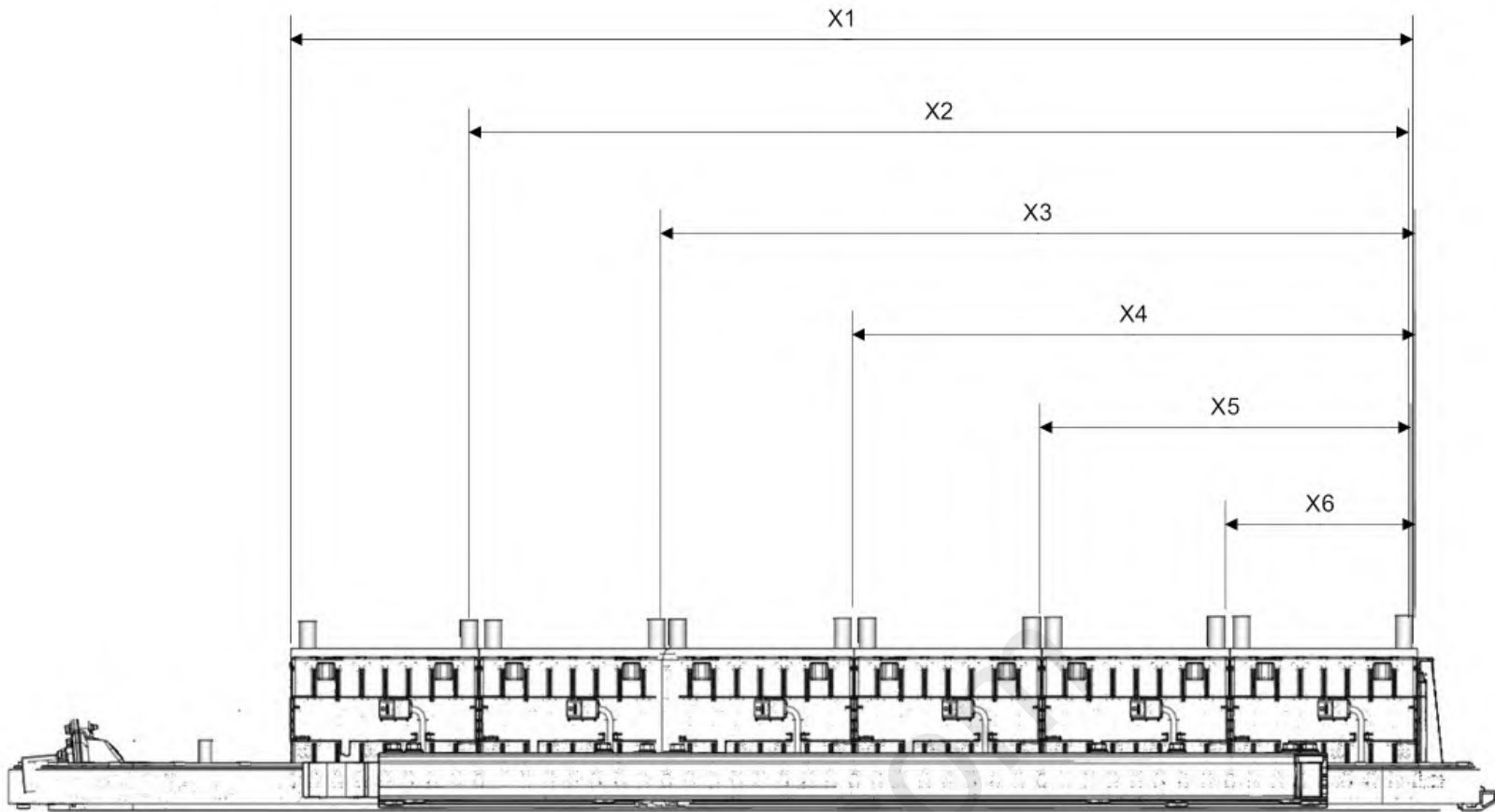


Press the new module against the abutments in the middle of the lower cover.



Press the new module against the rear end plate or against the module already in place.

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



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(X1) 1237,55 mm

(X2) 1032,75 mm

(X3) 827,95 mm

(X4) 623,15 mm

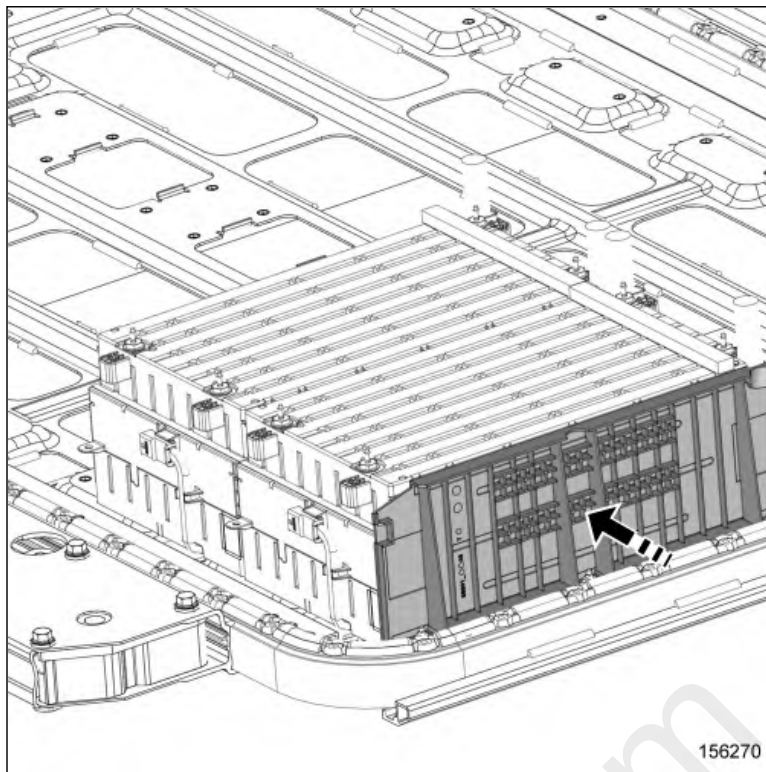
(X5) 418,35 mm

(X6) 213,55 mm



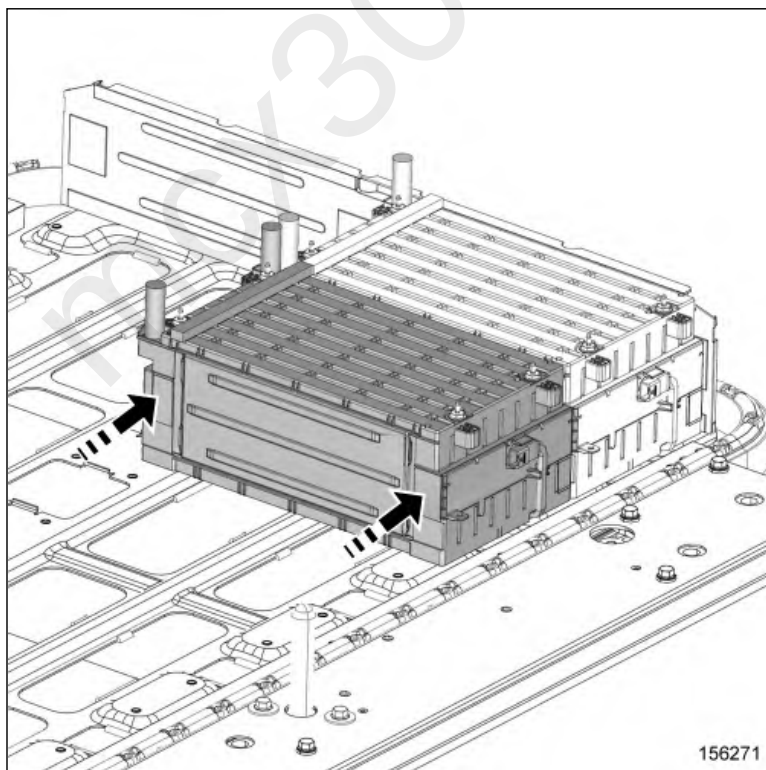
Note:

Check the value of the dimension modules stack.



Note1/2 :

For measurement, take into account the area indicated by the arrow.



Note 2/2 :

For measurement, take into account the area indicated by the arrow.

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



Note:

Tighten the screws in a criss-cross pattern.

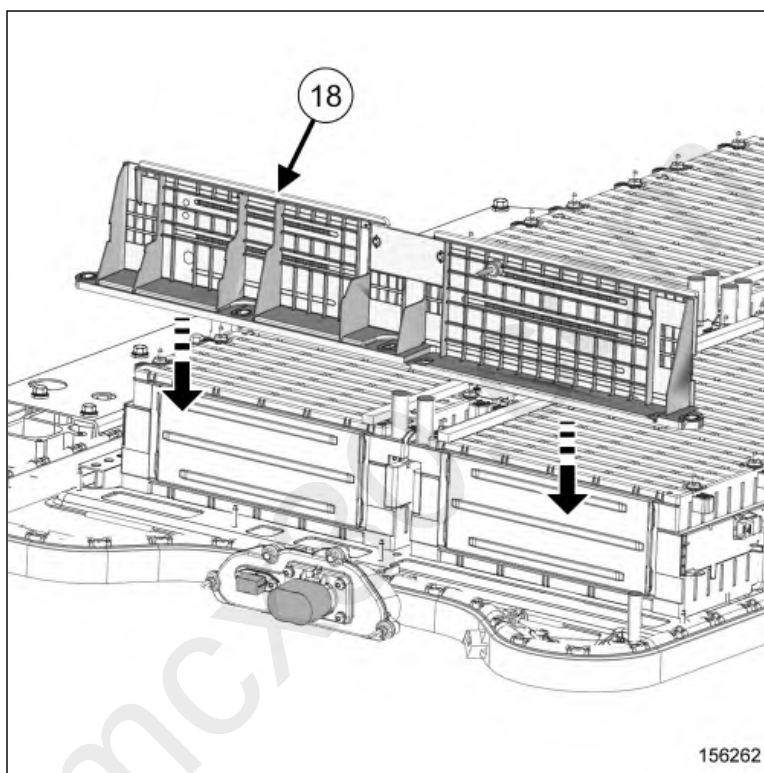
Mark always the screws with a PAINT MARKER of a color different from the original.



Note:

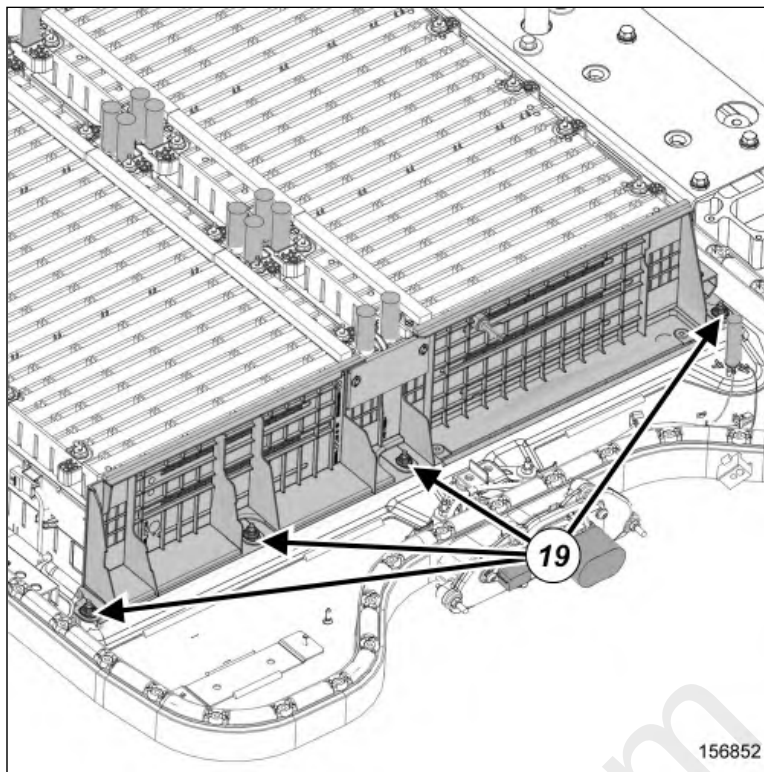
Repeat these operations for each module to be refitted.

3. OTHER PARTS REFITTING OPERATION



Refit the front end plate(18) .

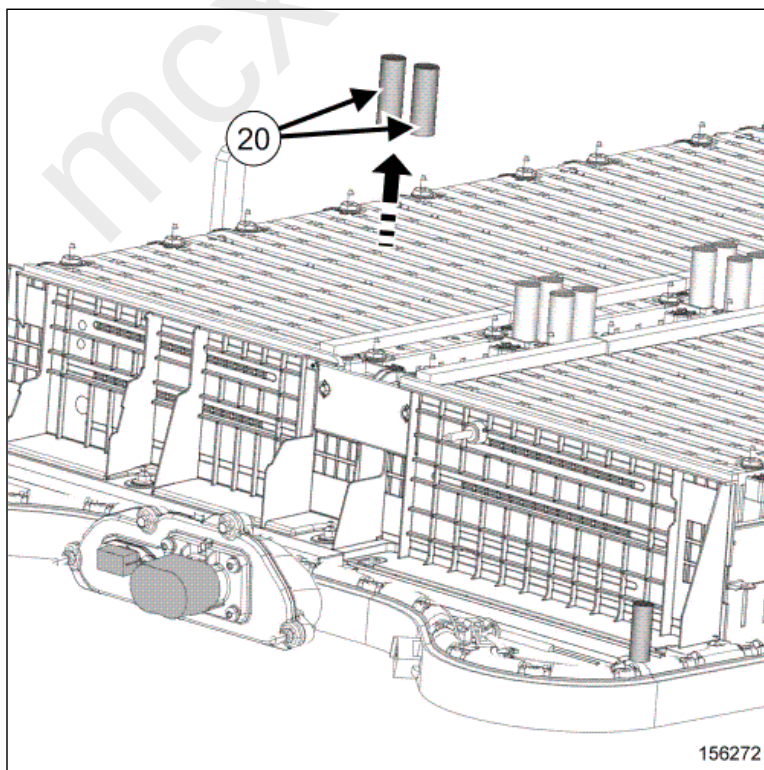
Press the front end plate against the front modules.



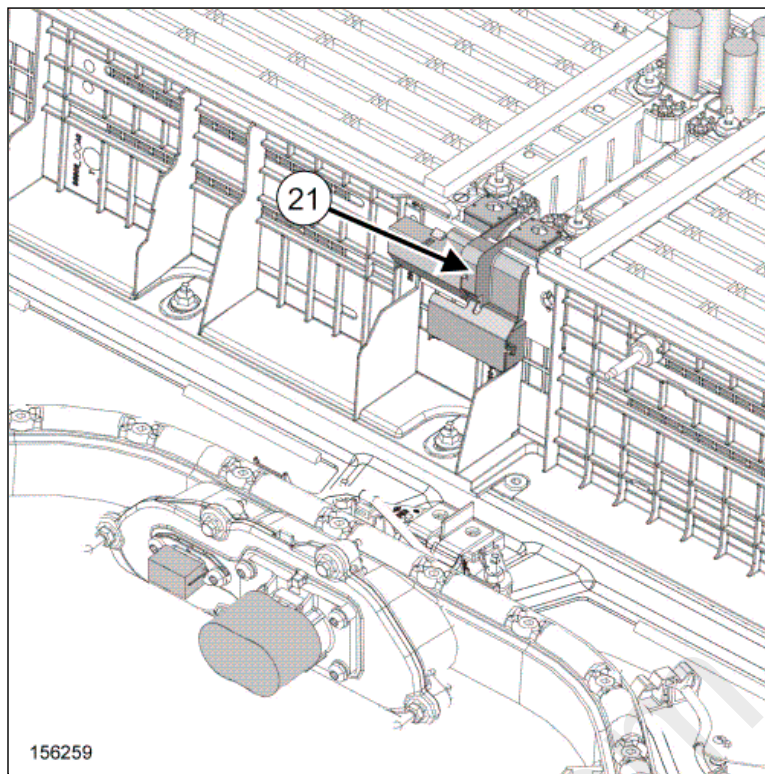
Refit the front end plate nuts(19) using an insulated magnetic socket([see 19E, Traction battery, Traction battery module stack assembly : Exploded view](#)) .

Torque tighten the front end plate nuts using an insulated magnetic socket([see 19E, Traction battery, Traction battery module stack assembly : Exploded view](#)) .

Mark always the screws with a PAINT MARKER of a color different from the original.



Remove the insulate covers(20) from the modules terminals.

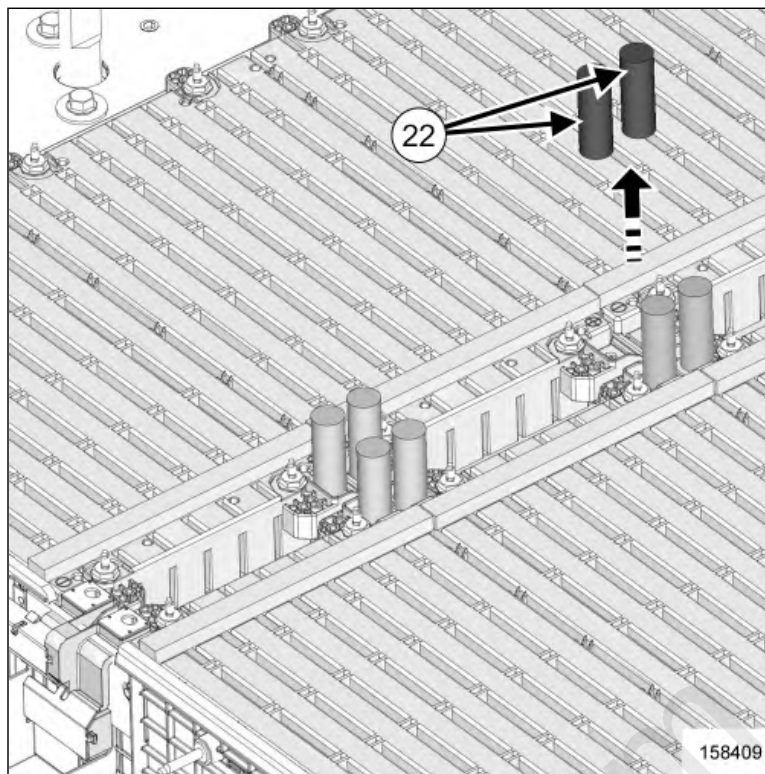


Refit ([see 19E, Traction battery, Traction battery module stack assembly : Exploded view](#)) :

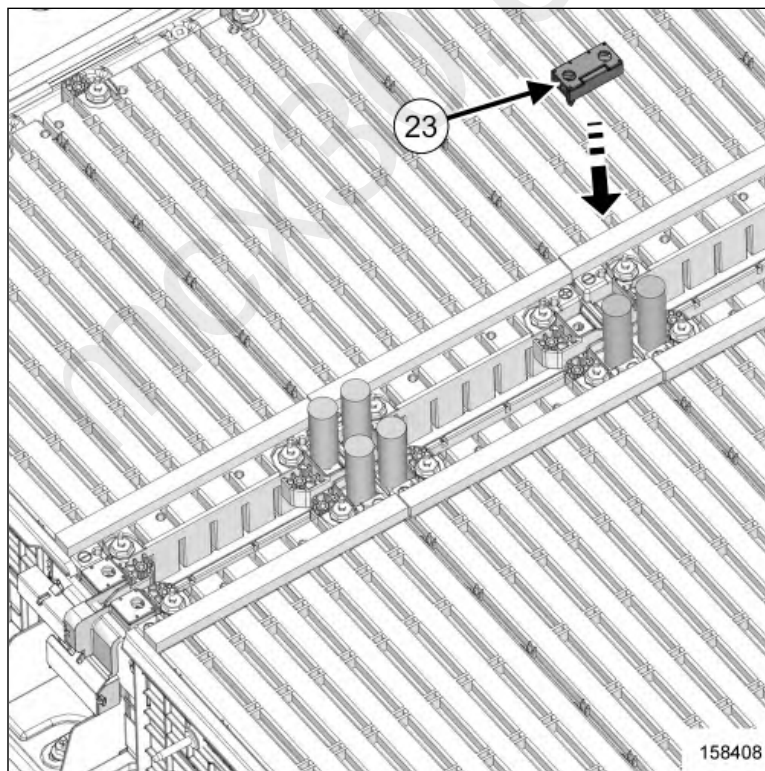
- the bus bar(21) ,
- manually the bus bar screws using an insulated magnetic socket.

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

Mark always the screws with a PAINT MARKER of a color different from the original.



Remove the 2 insulated covers(22) .



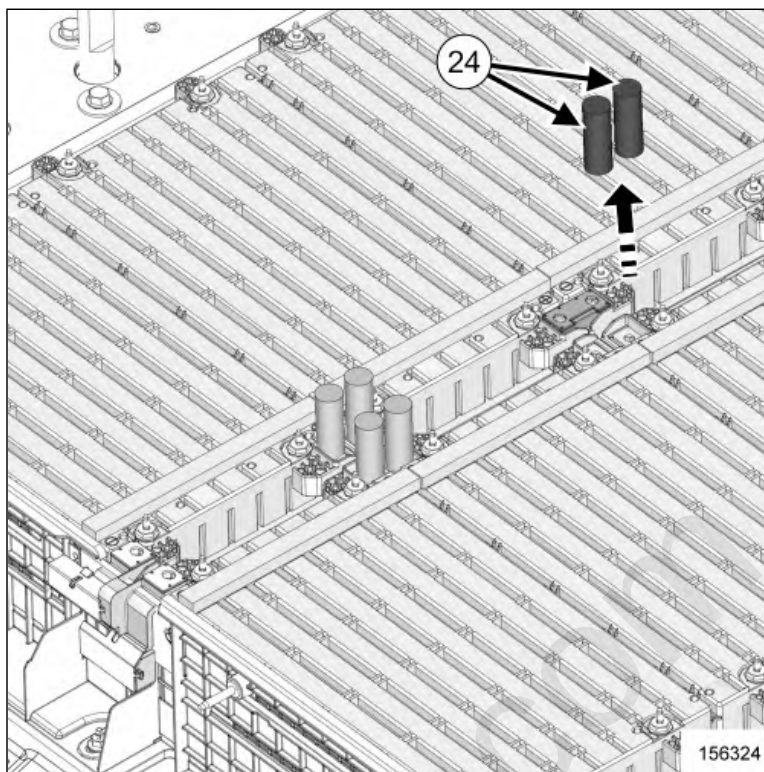
Refit ([see 19E, Traction battery, Traction battery module stack assembly : Exploded view](#)) :

- the first jumper connection(23) using the toolSet of trim removal levers.(Car. 1363) ,

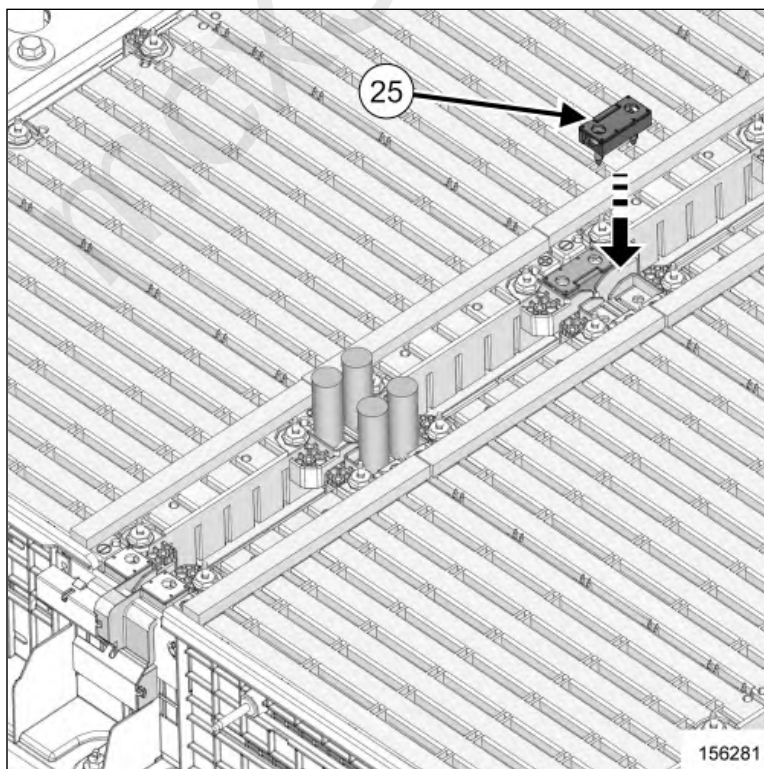
- manually the jumpers connection screws using an insulated magnetic socket.

Torque the jumpers connection screws using an insulated magnetic socket(see 19E, Traction battery, Traction battery module stack assembly : Exploded view) .

Mark always the screws with a PAINT MARKER of a color different from the original.



Remove the 2 insulated covers(24) .



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

the second jumper connection(25) using the toolSet of trim removal levers.(Car. 1363) ,

manually the jumpers connection screws using an insulated magnetic socket.

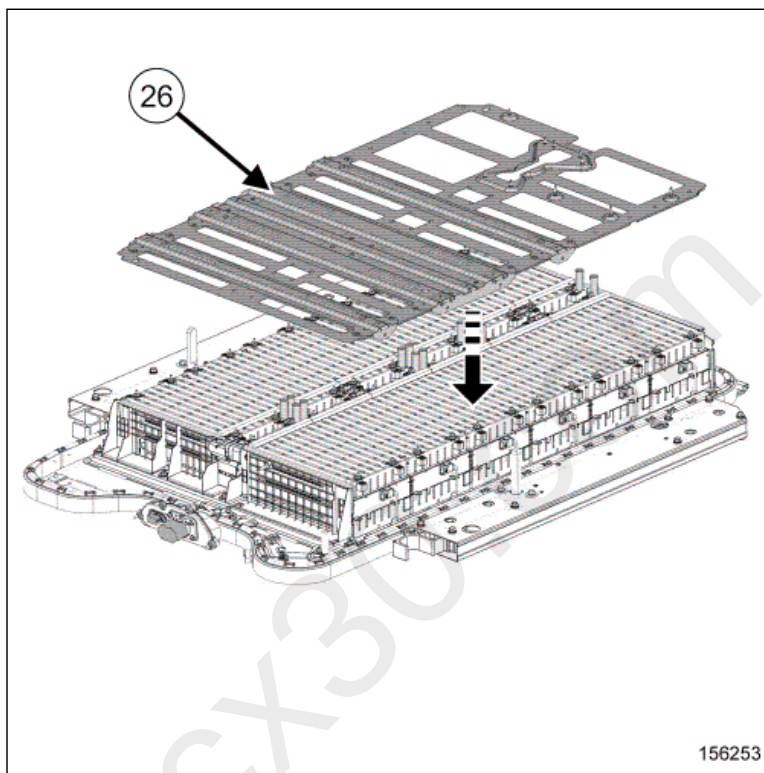
Torque the jumper connection screws using an insulated magnetic socket(see 19E, Traction battery, Traction battery module stack assembly : Exploded view) .

Mark always the screws with a PAINT MARKERof a color different from the original.



Note:

Repeat these operations for the jumper connection between modules 5 and 6, then for the jumper connection between modules 7 and 8.



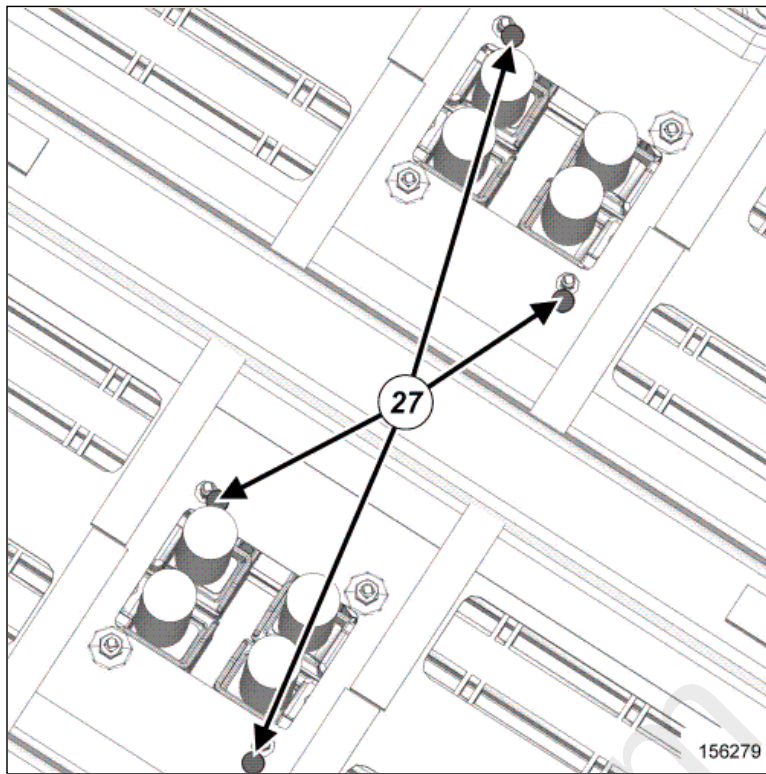
Refit the retaining shock plate(26) (see 19E, Traction battery, Traction battery module stack assembly : Exploded view) .



Note:

This operation requires two operators.

Refit the retaining shock plate nuts using an insulated magnetic socket(see 19E, Traction battery, Traction battery module stack assembly : Exploded view) .



Do not refit the nuts where indicated by a mark.

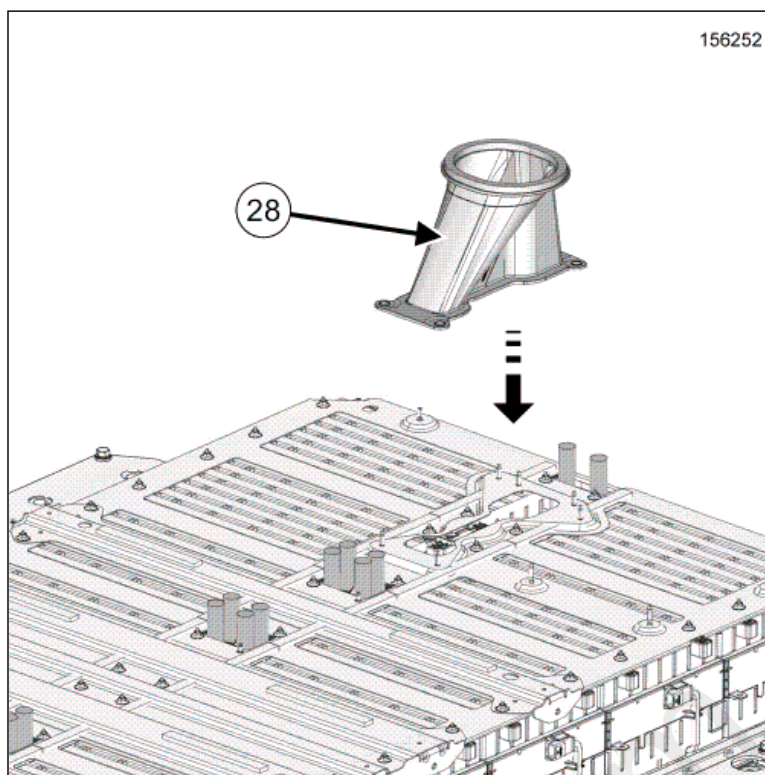
Torque tighten the retaining shock plate nuts using an insulated magnetic socket([see 19E, Traction battery, Traction battery module stack assembly : Exploded view](#)) .



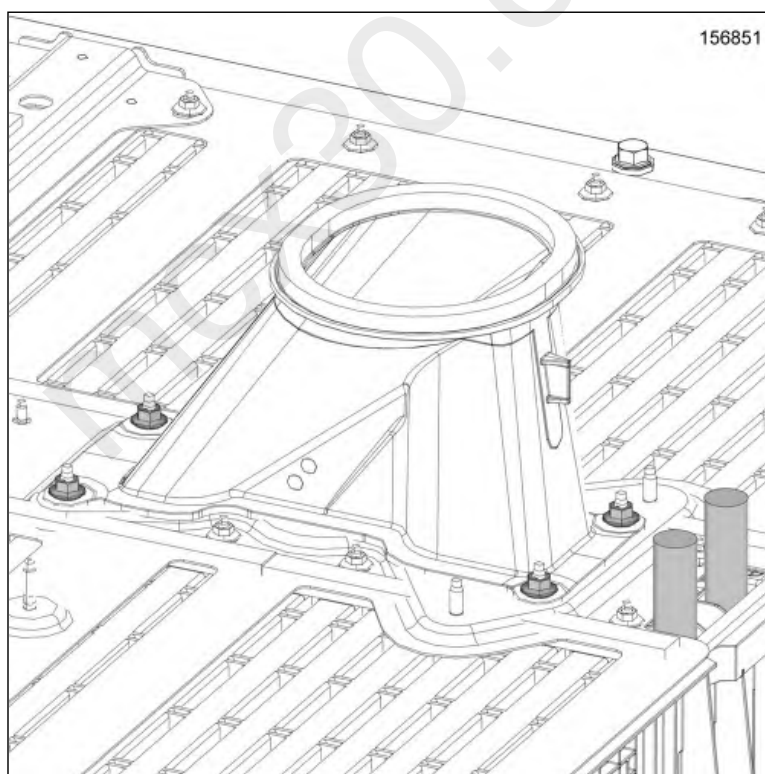
Note:

Begin tightening with the nuts in the middle.

Mark always the nuts with a PAINT MARKER of a color different from the original.



Refit air inlet duct(28) .



Refit the air inlet duct nuts using an insulated magnetic socket(see 19E, [Traction battery, Traction battery module stack assembly : Exploded view](#)) .

Torque tighten the air inlet duct nuts using an insulated magnetic socket(see 19E, [Traction battery, Traction battery module stack assembly : Exploded view](#)) .

Mark always the nuts with a PAINT MARKER of a color different from the original.

4. FINAL OPERATION



Proceed in the reverse order to removal.



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XSL version : 3.02 du 22/07/11

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