

BRAKING CIRCUIT: BLEED



Note, one or more warnings are present in this procedure



Equipment required

brake circuit bleeding device

Diagnostic tool

pedal press

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 **Brake circuit: Precautions for the repair**) .

CAUTION



To avoid residual air being present in the brake circuit, the parking brake must be released before starting the bleeding process.

■ This procedure must be applied after one of the following components has been removed or replaced:

- the master cylinder,
- the brake fluid,
- the hydraulic unit,
- a rigid pipe,
- a hose,
- the reservoir,
- a calliper.

CAUTION



Switch off the vehicle ignition so as not to activate the hydraulic unit solenoid valves when bleeding the brake circuit.



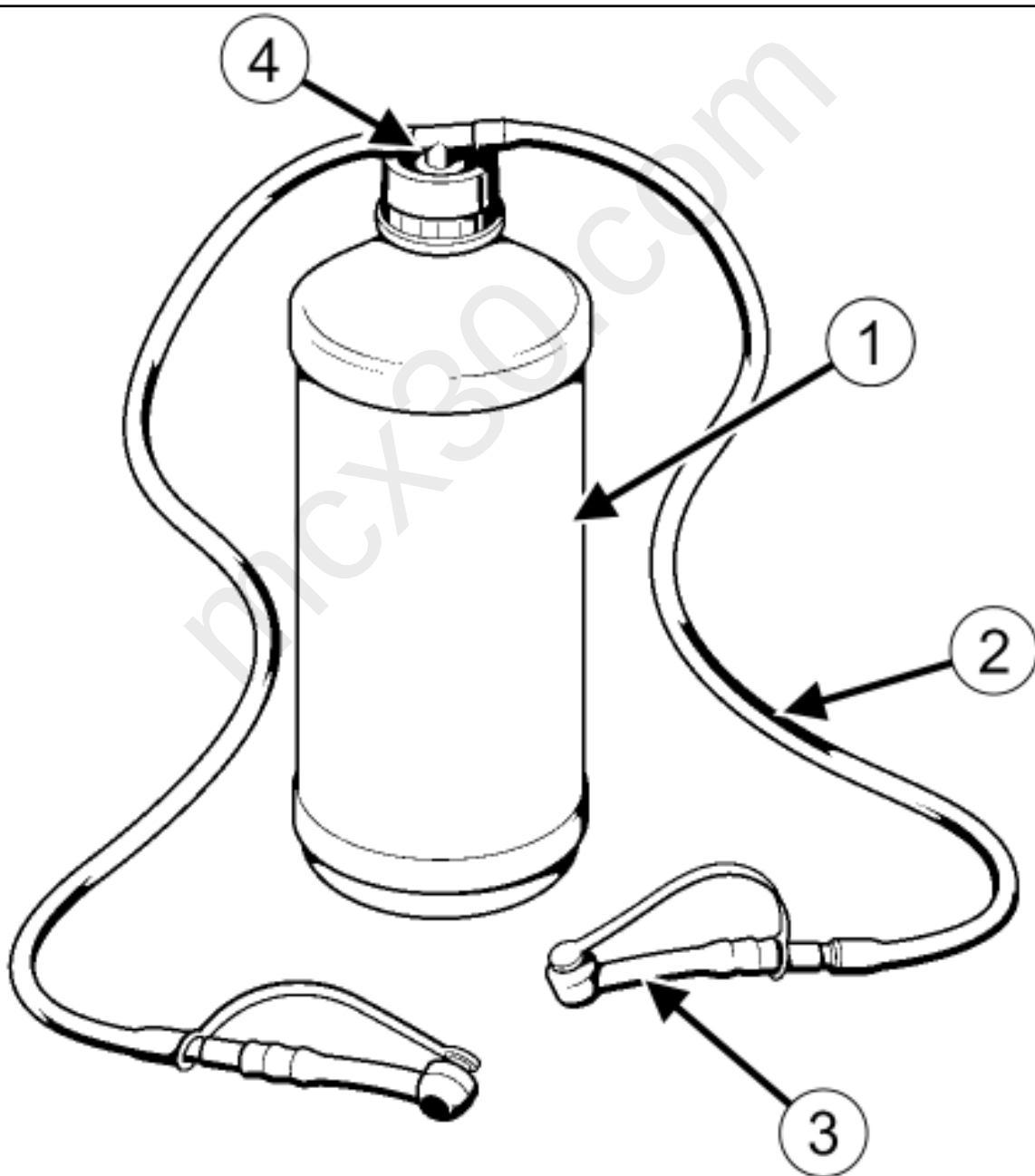
CAUTION

The level must be between the "MIN" and "MAX" markings on the reservoir.

Note:



To avoid generating an anomaly on the brake system with warning light on the dashboard, proscribe bleeding using the brake pedal.



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■ Use locally produced containers to collect the used brake fluid.

■ Front and rear callipers:

- 2 washer fluid containers(1) (1 litre),
- 4 mm diameter transparent pipes(2) ,
- 4 pipettes(3) ,
- 2 T-unions(4) .

Note:

The new hydraulic unit is pre-filled.



■ When working on one of the following components, position a pedal press to limit the outflow of brake fluid and prevent any air from entering the master cylinder and the circuits downstream of the master cylinder:

- hydraulic unit,
- pipes between the hydraulic unit and brake callipers,
- brake hoses,
- brake calliper.

Remove the pedal press before carrying out the braking system bleeding procedure.

■ Position the vehicle on a two-post lift [Vehicle: Towing and lifting](#) .

■ Switch off the vehicle ignition.

■ Connect the brake circuit bleeding device (after having received Renault approval) to the master cylinder reservoir (see the instructions for the equipment).

■ Pressurise the brake circuit.

■ Adjust the pressure to between 1.5 bar < P < 2 bar for 3 minutes to stabilise it in the braking circuit.

■ Close the circuit between the bleed screw and brake fluid reservoir without dumping the pressure.

Note:



■ The circuit between the bleed screw and brake fluid reservoir is closed in different ways depending on the type of equipment used:

- valve,
- switch.

- Fit the bleed containers to the six bleed screws of the callipers.

Note:



Some callipers are equipped with several bleed screws. In this case, turn the bolts one after another to perform the brake circuit bleed.

- Undo the calliper bleed screws:
 - front left-hand,
 - front right-hand,
 - rear left-hand,
 - rear right-hand.
- Open the circuit between the bleed screw and brake fluid reservoir and allow the liquid to run until all the air bubbles have been released.
- Tighten the bleed screws in the following order:
 - front left-hand,
 - front right-hand,
 - rear left-hand,
 - rear right-hand.
- Undo the calliper bleed screw:
 - front left-hand,
 - allow the fluid to run until all the air bubbles have been released,
 - tighten the bleed screw on the calliper.
- Carry out the previous operation on the callipers:
 - front right-hand,
 - rear left-hand,
 - rear right-hand.
- Close the bleed screw to dump the pressure in the brake circuit.
- Remove the brake circuit bleeding device from the master cylinder reservoir.
- Check pedal travel and resistance. If it is not correct, finish bleeding the brake circuit with the help of a second operator. Start the bleed operation by bleeding the calliper that is the furthest away from the master cylinder:
 - hold down the brake pedal,
 - open the circuit bleed screw to release the air from the brake circuit,
 - close the circuit bleed screw,
 - release the brake pedal.
- Top up the brake fluid level in the reservoir, if necessary. Check the sealing of the front and rear bleed screws and ensure that the sealing covers are in place [Front brake calliper assembly: Exploded view](#).

- During a road test, trigger braking regulation to confirm that the brake pedal travel is correct.
- Clean off any traces of brake fluid on the vehicle using brake cleaning product [Vehicle: Parts and consumables for the repair](#) .

1. BLEEDING THE BRAKING ASSISTANCE CIRCUIT

WARNING

DANGER: HIGH VOLTAGE VEHICLE.



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

Before carrying out any work on the vehicle, it is essential that you follow the instructions regarding vehicle lockout. This work must be carried out by an employee who is qualified and authorised to work on a high-voltage onboard network [Vehicle: Precautions for the repair](#) .

- Lockout the vehicle [Vehicle: Lockout - Removal of lockout](#) .

CAUTION



- To guarantee stable filling throughout the bleeding process, the following points must be observed:
 - Do not use an ARC50 pneumatic bleeding device,
 - Use a machine with a minimum capacity of 3 litres that can supply a constant pressure of 2 bar.
 - Ensure that the machine's tank is filled with brake fluid before beginning the operation.

CAUTION



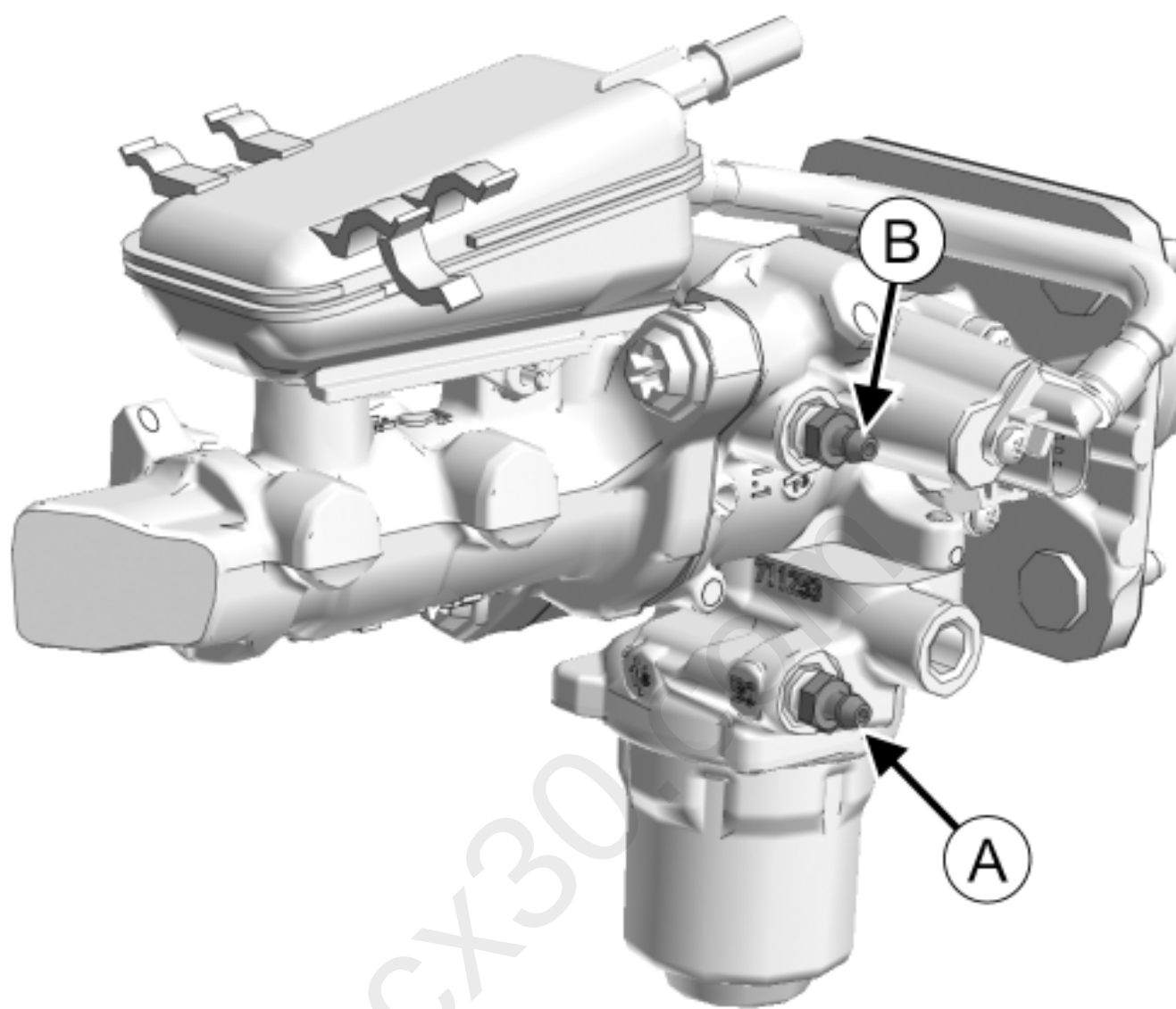
To avoid battery discharge, which would compromise the brake circuit bleeding process, the 12 V vehicle battery must be connected to a charger throughout the entire operation.



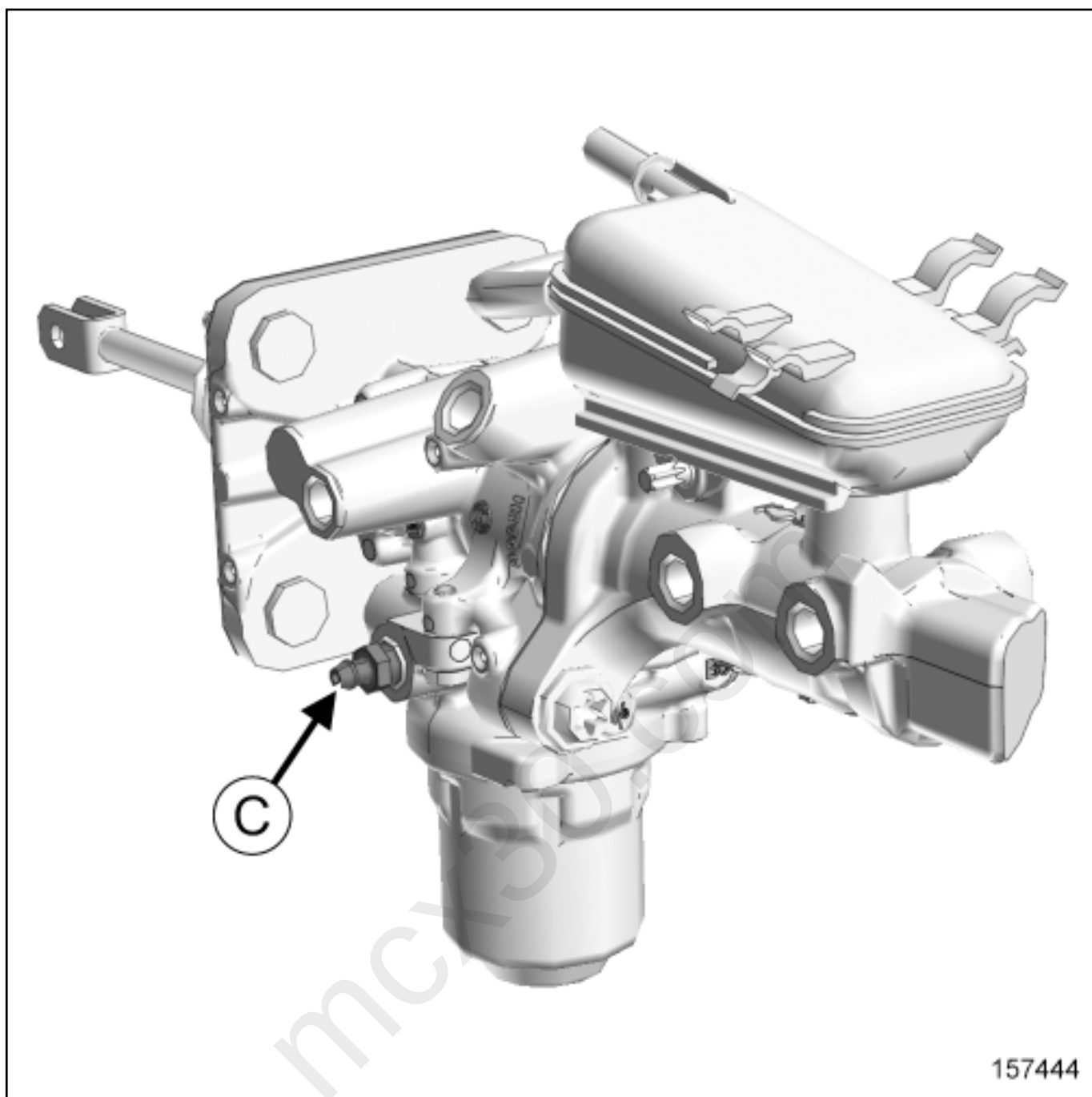
CAUTION

So that air is not reinjected into the brake circuit during the bleeding process, it is essential to keep the secondary tank at a sufficient level (the same as its initial position) before beginning the operation.

- Remove the scuttle panel grille [Scuttle panel grille: Removal - Refitting](#) .
- Insert the RENAULT card into the card reader,
- Place the gear selector in position D.
- Press the vehicle start button during 5 s to put the vehicle under forced +12V after ignition feed.
- Apply the After repair procedure using the Diagnostic tool [Diagnostic tool : Use](#) :
 - Computer concerned by the After repair procedure:
 - "ABS-ESP computer" .



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■ Mark the screws:

- (A) : Bleed screw
- (B) : Bleed screw
- (C) : Bleed screw



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