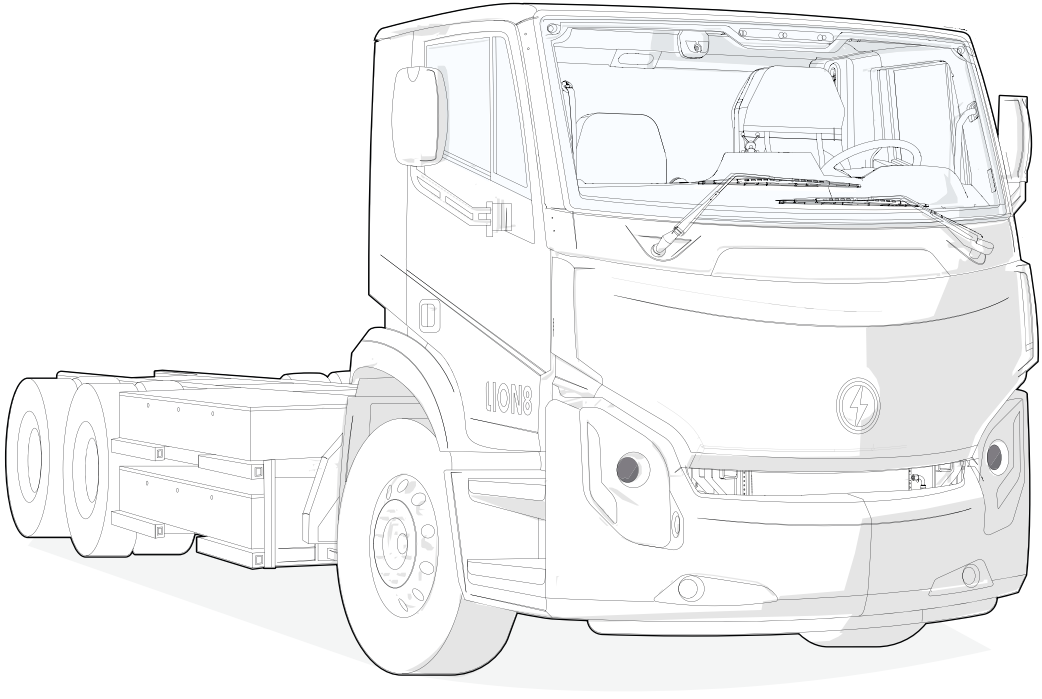
LION ELECTRIC

Towing procedure



This guide is intended for first responders and certified rescuers. high-voltage batteries are the only energy source for the propulsion of the Vehicle. Always act as if the high-voltage system is activated. the high-voltage system might be active even when the vehicle emits no sound.

LION8

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Lion8 Towing procedure — 2024/10/28

Manual parking brake release

If all of the air has been evacuated from the pneumatic system or there is an air leak from a brake actuator, it is possible to release the parking brakes by manually compressing (caging) the spring brake actuator. Before manually releasing parking brakes, chock the wheels to prevent the vehicle from moving.

To manually release the spring brake:

1. Remove the dust plug from the parking brake chamber.
2. Remove the release nut and washer from the release bolt

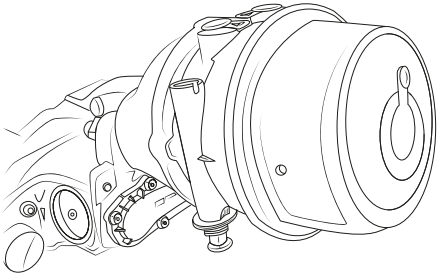

Figure 1 – *Brake actuator*

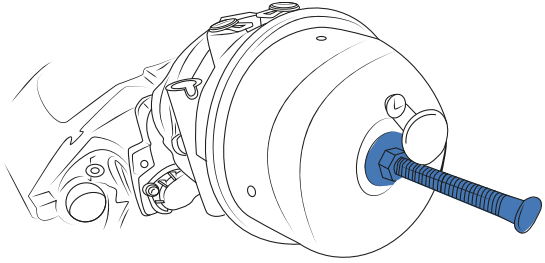

Figure 2 – *Release bolt installed and spring compressed*

3. Slide the release bolt out of the holder.
4. Insert the compression screw assembly through the opening in the rear of the spring chamber.
5. Turn the release bolt a quarter turn clockwise.
6. Using a wrench, turn the release bolt assembly nut until the compression spring is 90–95 % caged.
7. Check to make sure the pushrod is retracting.

The spring brake is now released mechanically.

If all of the air has been evacuated from the pneumatic system or there is an air leak from a brake actuator, it is possible to release the parking brakes by manually compressing (caging) the spring brake actuator. Before manually releasing parking brakes, chock the wheels to prevent the vehicle from moving

To move the vehicle when the parking brakes have been manually applied, use a tow truck.

⚠ WARNING ⚠

Always chock the wheels before starting this procedure: when a parking brake spring is manually caged, the parking brake will no longer operate.

TOWING THE VEHICLE

If the truck cannot be towed from behind, front towing must be limited to 35 mph (50 km/h). In case of emergency, you can tow from the front axle while leaving the rear wheels in contact with the ground. We do not recommend towing the vehicle this way for long distances and you cannot exceed
35 mph (50 km/h).

⚠ WARNING ⚠

This vehicle must be towed by lifting the rear. Do not forget to lock the steering wheel.

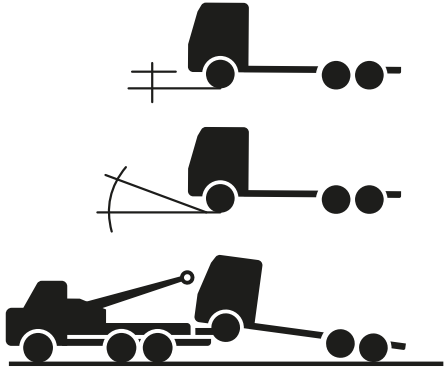

Figure 3 – *Front lift towing*

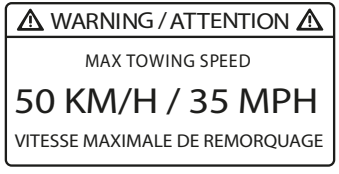

Figure 4 – *Towing safety warning*

Front towing equipment capacity

A vehicle's maximum towing capacity depends on the steering and towing angle. These are listed in **Table 1** and are calculated for two hitches working simultaneously.

Best practices to install trailer hitch

⚠ WARNING ⚠

The data in the table above assumes that the constraints are shared equally between the two hitches. Severe damage to the vehicle can occur if the assembly isn't properly secured.

If the vehicle gets stuck or goes off the road, use the towing equipment with extreme caution and observe capacity limits. Damage to the axle, suspension or hitch can occur if the vehicle gets stuck, even if the pulling force at the hitch is less than the maximum capacity.

Direction of the traction exerted	Maximum capacity	
	kg	lb
Straight towards the front	36,287	80,000
Up front in a V	18,144	40,000
Vertical straight	6,622	14,600
Horizontal straight on the side	4,082	9,000
45 degrees up or down	9,072	20,000
45 degrees straight on the side	5,443	12,000

Table 1 – *Towing capacity by direction of pull*

TOWING THE VEHICLE

For safe towing, we recommend the following:

- Use double chains or ropes to distribute the load evenly between both hitches (see either recovery option in **(Figure 5)**.
- Never run a single chain or cable through both hitches.
- Use a spreader or stabilizer bar to distribute the load between the two hooks **(Figure 5 no. 1)**, or
- If there is no spreader bar, hang the main drag chain or cable at least 6 feet from the vehicle **(Figure 5 no. 2 and 3)**.
- Secure the towed vehicle with two additional chains or cables.

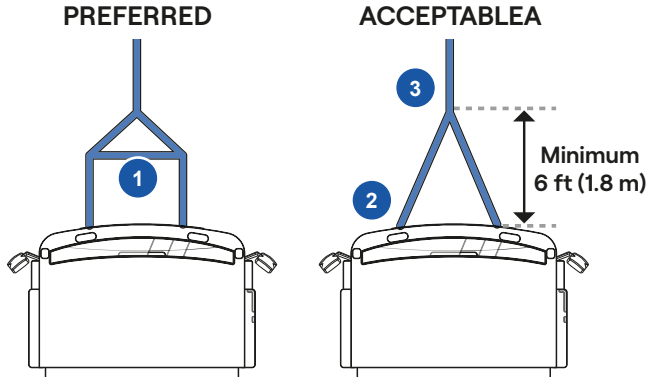

Figure 5 - *Recovery options*

Removing wheel axle half shaft

When performing front lift towing at a speed over 35 mph (50 km/h), a wheel axle half shaft must be removed from each rear wheel to avoid damage to electric motor components.

In this case, be sure to cover the shaft opening to avoid contaminating the oil.

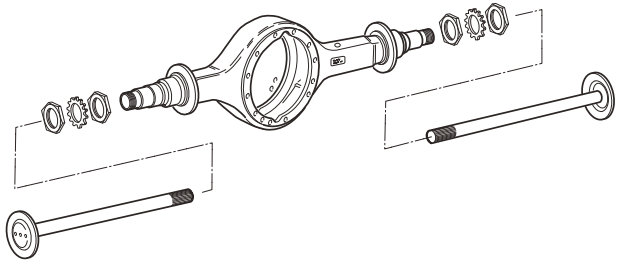

Figure 6 - *Wheel axle half shaft*

Tow hooks

To secure the tow hooks to the chassis:

1. Open the hood and, to secure it in the open position, push both arms of the safety mechanism.

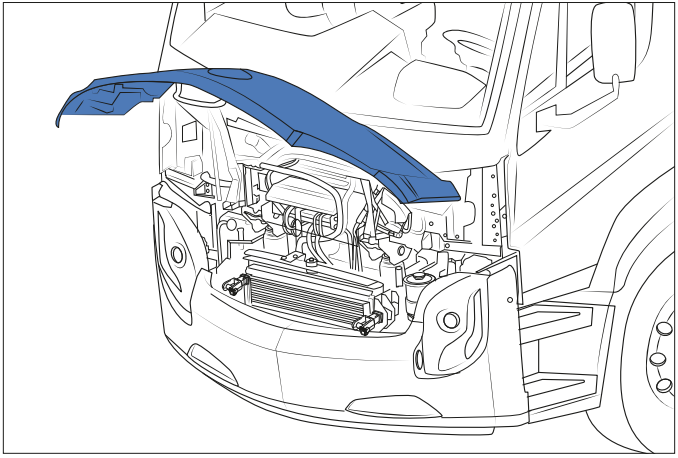

Figure 7 – *Hood*

2. Open the accessories compartment (located above the compressed air tanks).

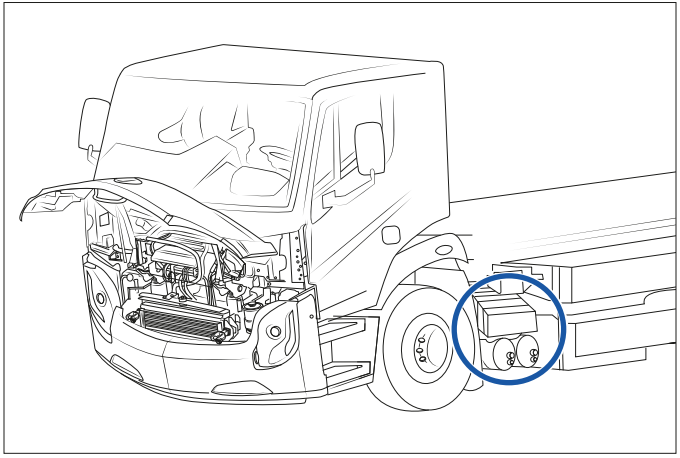

Figure 8 – *Location of the accessories compartment*

3. Remove the tow hooks, the dowel pins and the cotter pins.

4. Insert the two hooks on the front cross member as illustrated in **(Figure 10)**.

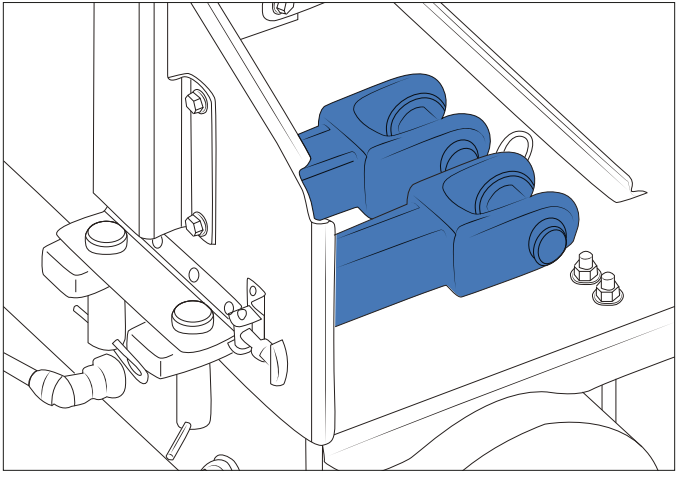

Figure 9 – *Tow hooks, dowel pins and cotter pins*

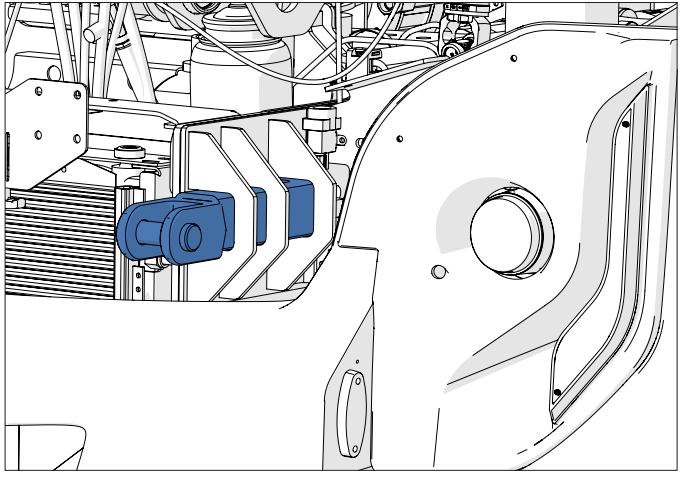

Figure 10 – *Tow hooks inserted on the front crossmember*

5. Secure the tow hooks with dowel pins and cutter pins.

The tow hooks are secured.

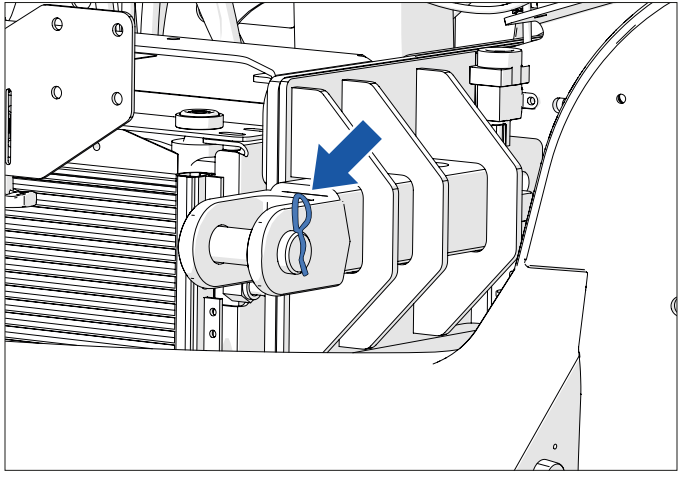

Figure 11 – *Tow hook secured with dowel pins and cutter pins*

Towing in case of electrical breakdown

To tow a vehicle with an electrical breakdown, you must first check if there is any voltage left in the 12 V batteries.

To determine if there is voltage in the batteries, put the key into the starter switch and turn it to the "**ACC**" (Accessory) position **(Figure 12)**.

If there is any power left in the 12 V batteries, the indicator lights on the dash will come on. You can now press the "**N**" (Neutral) gear selector **(Figure 13)** and straighten the wheels.

If there is no power left in the 12 V batteries, the indicator lights will not come on. You'll need to boost the low voltage batteries.

Once the 12 V batteries are charged, you can turn the starter switch to the "**ACC**" (Accessory) position, press the "**N**" (Neutral) gear selector and straighten the wheels.

For the boosting procedure, refer to the *Boosting the low-voltage batteries* section of this manual.

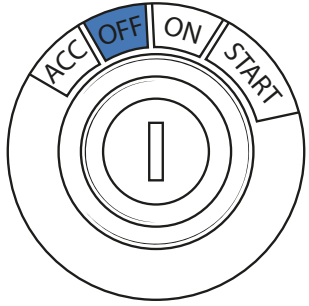

Figure 12 – *Accessory "**ACC**" position (Starter switch)*

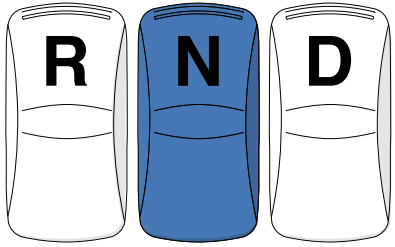

Figure 13 – *Neutral "**N**" gear selector*

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