

Workshop manual

TRIPL Urban Cargo Drive



Content

Symbols used in this manual	3
General safety	4
Specific safety	5
Product label	6
Charger	6
Lights and indicators.	7
Rear indicators.	7
Stop light and rear light	8
Head lights.	8
Parking light.	9
Head light unit.	9
Front indicators	10
Brake fluid	11
Jacking up the vehicle.	12
Brake pads	13
Front brakes.	13
Brake pad replacing.	14
Rear brake and parking brake	15
Parking brake pad replacing.	16
Main brake pad replacing.	17
Steering	18
Steering rods	19
Front suspension	20
Front chock absorbers.	20
Rear suspension.	21
Rear chock absorber	21
Engine	22
Removal of engine.	22
Batteries.	24
Fuses	25
Electronic system.	26
Service plan	27
Wiring diagrams	28

Original instruction

Symbols used in this manual

The following symbols are used in this manual as well as the associated documentation supplied with the product.

WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

IMPORTANT

IMPORTANT indicates important information about handling and use of the product.

NOTICE

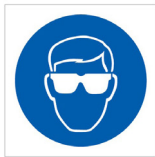
NOTICE is used to address practices not related to personal safety.



Pinching/crushing hazard.



Electricity or potentially dangerous voltage.



Use protective eyewear.



Use protective gloves.

General safety

WARNING

- Read and understand the manual completely before attempting any repair or maintenance.
- Comply with this manual to avoid accidents involving serious personal injury.
- Never handle this vehicle in other ways than are specified in this manual, as this can put your safety at risk and cause damage to the vehicle.
- Make sure that everyone who is to repair or maintain the vehicle and its systems has the necessary information and access to this manual.

CAUTION

Please comply with these instructions to avoid the vehicle becoming damaged or destroyed.

NOTICE

We reserve the right to amend this manual without prior notice.

Specific safety



Never sit or lie under the vehicle when it is jacked up

If the jack fails the vehicle can fall down on you! Jacks, hoists, or other lifting devices shall not be used beyond the safe load capacity recommended by the manufacturer. Never sit in vehicles being lifted by hydraulic lifts or jacks. Never work under vehicles that are not properly supported with approved stands. Makeshift stands made of wood, cement blocks, or boxes shall not be used.

Sudden movement hazard

Switch off the car before beginning service. Follow lockout procedure to secure the car. Never allow anyone to stand in front of or behind the vehicle during service.

Hot surfaces

Some of the engine parts become very hot during operation and shortly after shutdown. Keep hands and other body parts away from hot engine surfaces.

Fire hazard

Keep fire extinguishers handy. Clearly indicate the location of the fire extinguishers with a safety sign. Ensure that the types of fire extinguishers are appropriate for materials that might catch fire. Have all fire extinguishers checked and recharged periodically.

Exposure hazard

Wear protective clothing during work to avoid injuries. Wear the following protection:

- Safety glasses or goggles when performing work like grinding, chiseling, spraying or any other activity that could result in an object or chemical striking the eye.
- Hearing protection when performing work making loud noises that could damage your hearing.
- Safety shoes when working with heavy objects that could be dropped.
- Respiratory protection when performing work involving dust, vapors or gases that could cause respiratory problems.

Eye protection

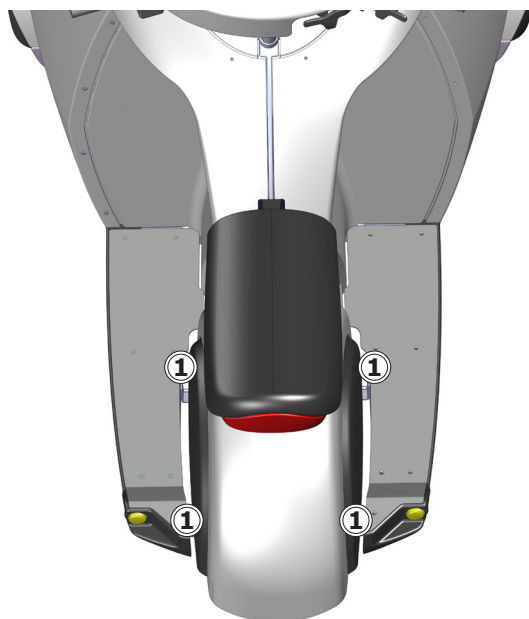
Eye protection is mandatory for all operations which produce sparks, chips, flying objects or involve use of corrosive chemicals. **ALWAYS** wear eye protection when servicing engine and batteries or when using compressed air or high-pressure water. Dust, compressed air, pressurized water or steam may injure your eyes.

Product label

The manufacture's plate ① and the stamped chassis number ② is placed inside the vehicles boot.

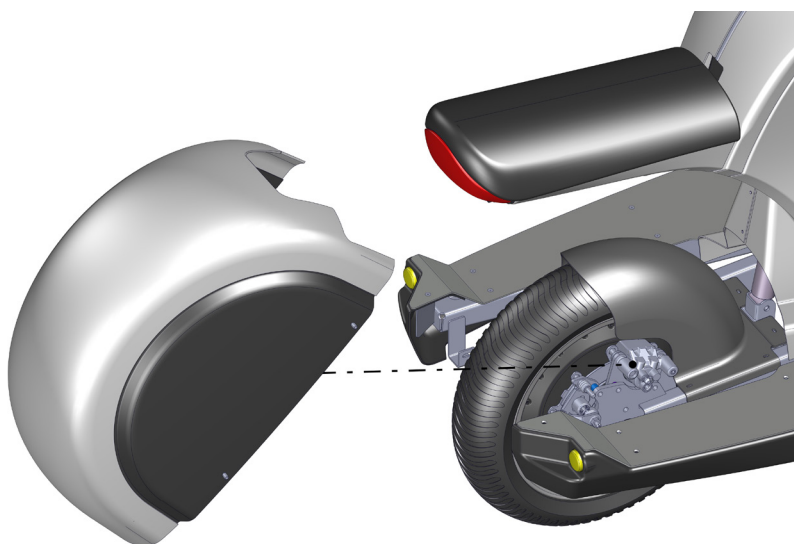


Lights and indicators

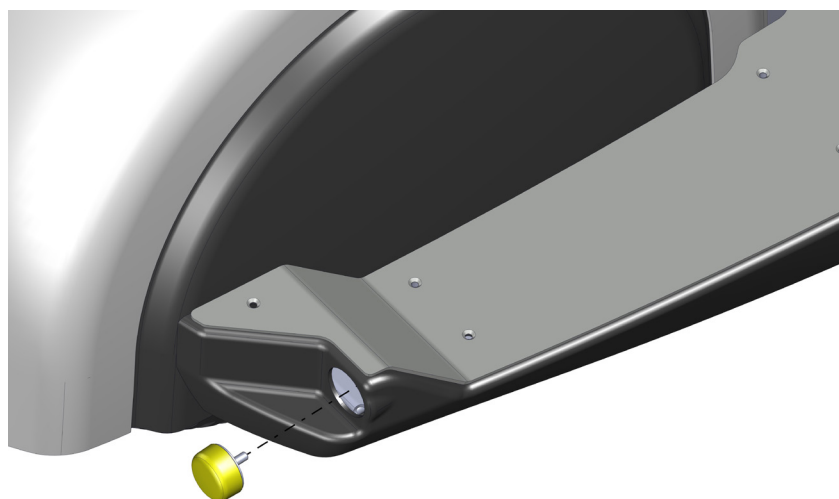


Rear indicators

① Remove the four screws ① holding the back fender.



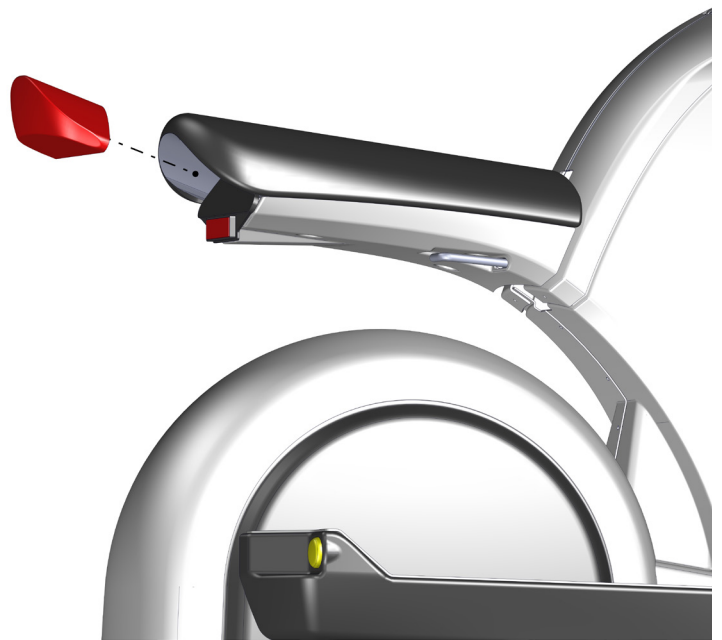
② Remove the back fender.



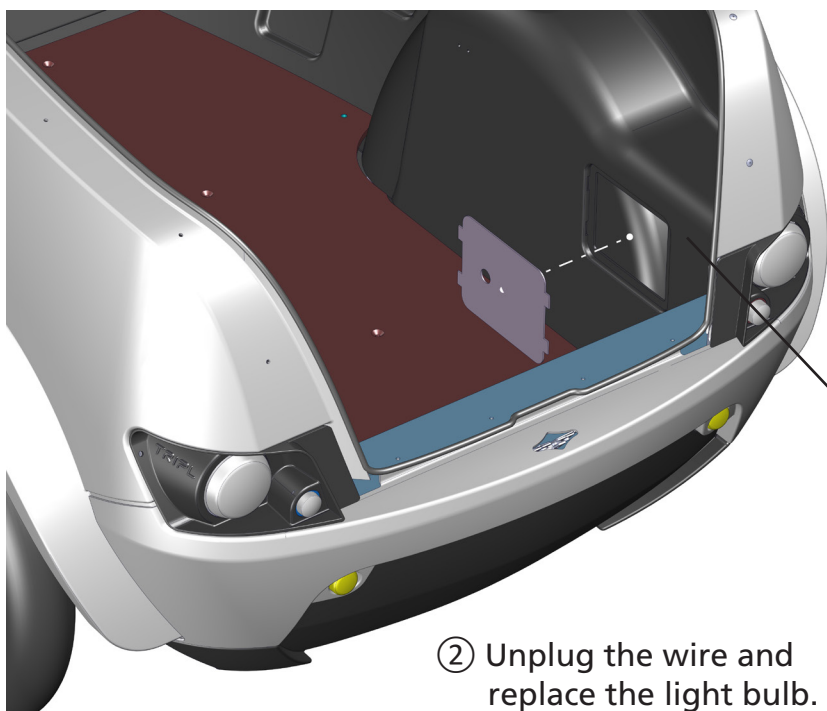
③ Unplug the wires from the tail light. Unscrew it, pull it out and replace it. The indicator must be replaced as a unit.

Stop light and rear light

- ① Unscrew the the stop light/rear light unit. Unplug the wires from the unit.
- ② The light bulb is the double filament type containing both the stop light and the rear light. Replace the bulb if any of the lights are defective.

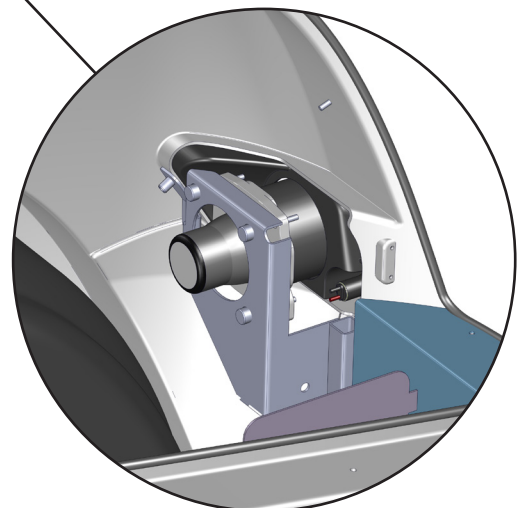


Head lights

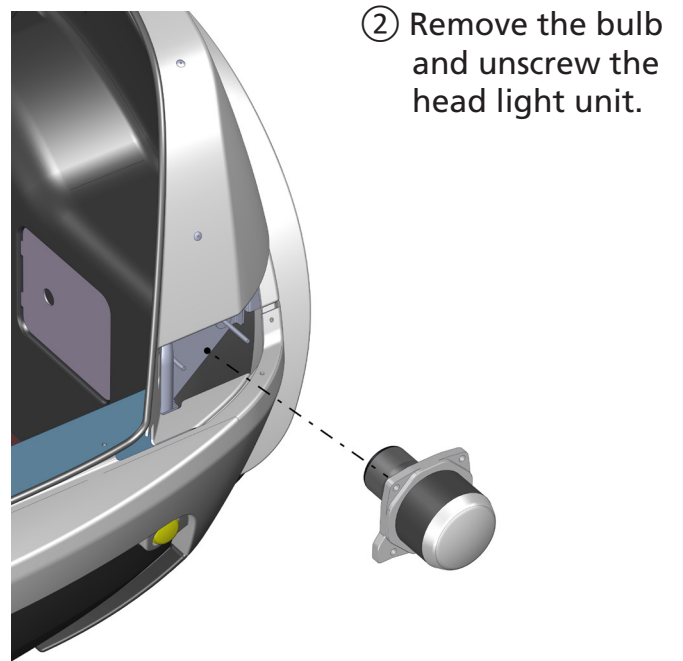
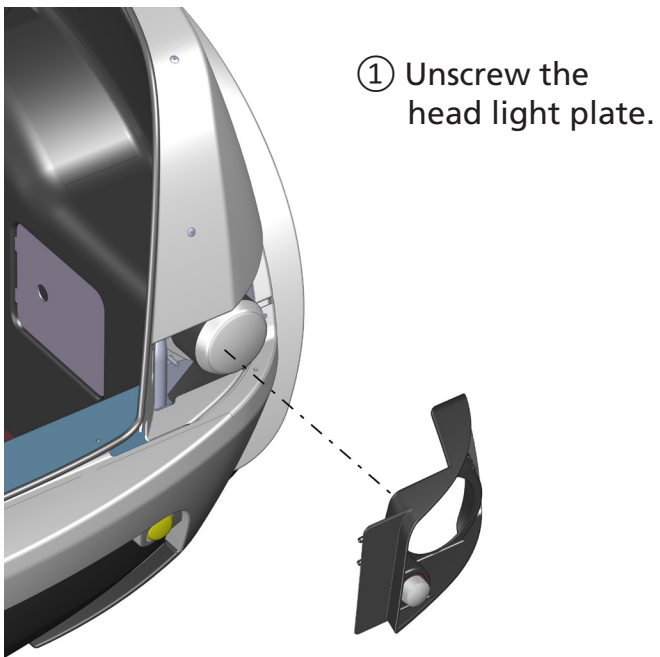


- ① Remove the cover for the light compartment.

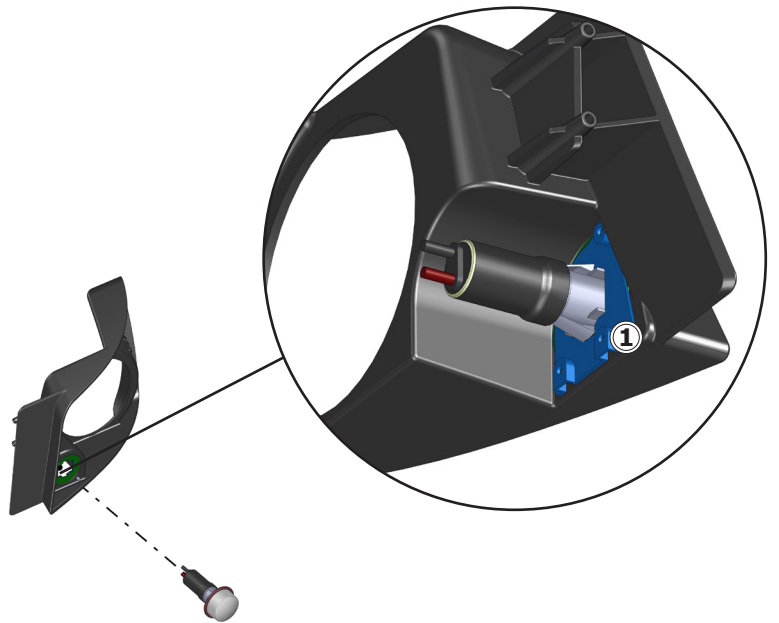
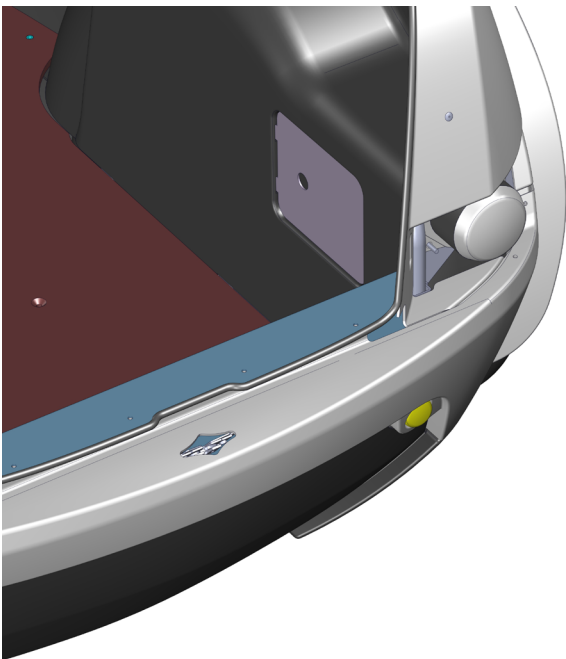
- ② Unplug the wire and replace the light bulb.



Head light unit

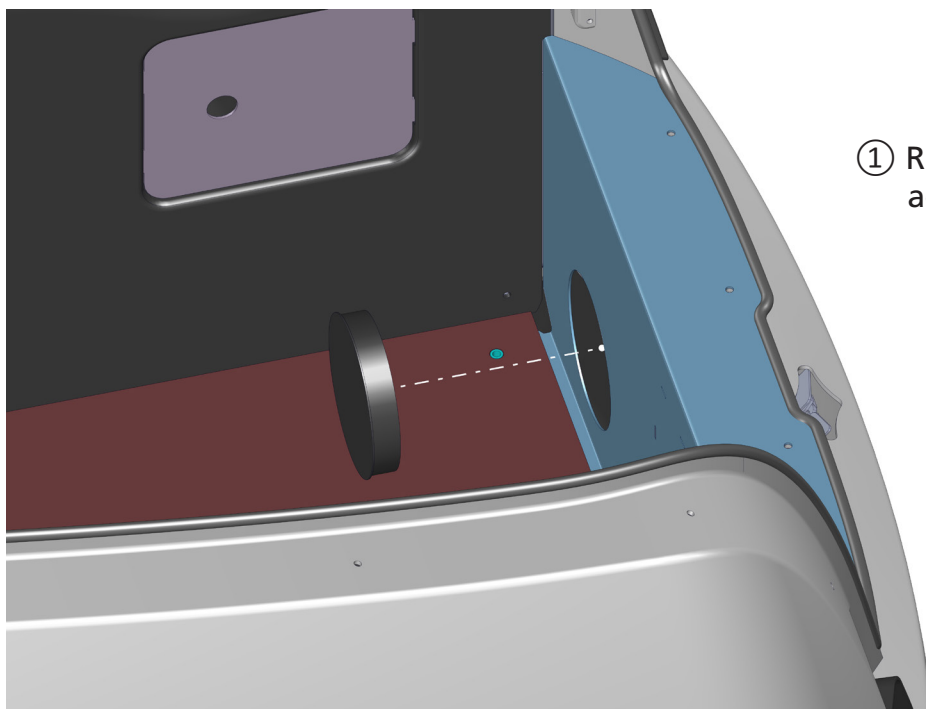


Parking light

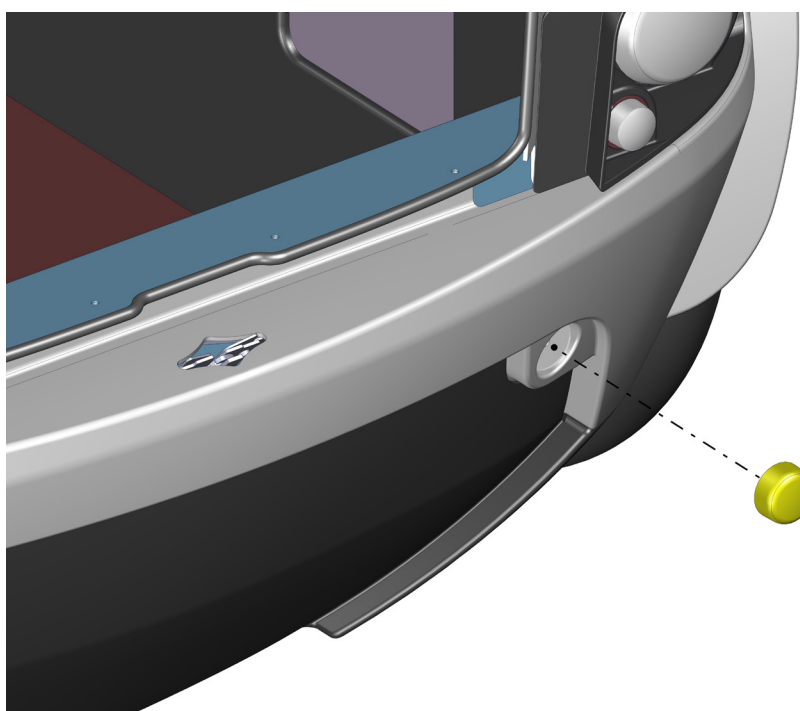


Squeeze the holding springs ① on the parking light unit and pull it out for replacement. Click it back in place.

Front indicators

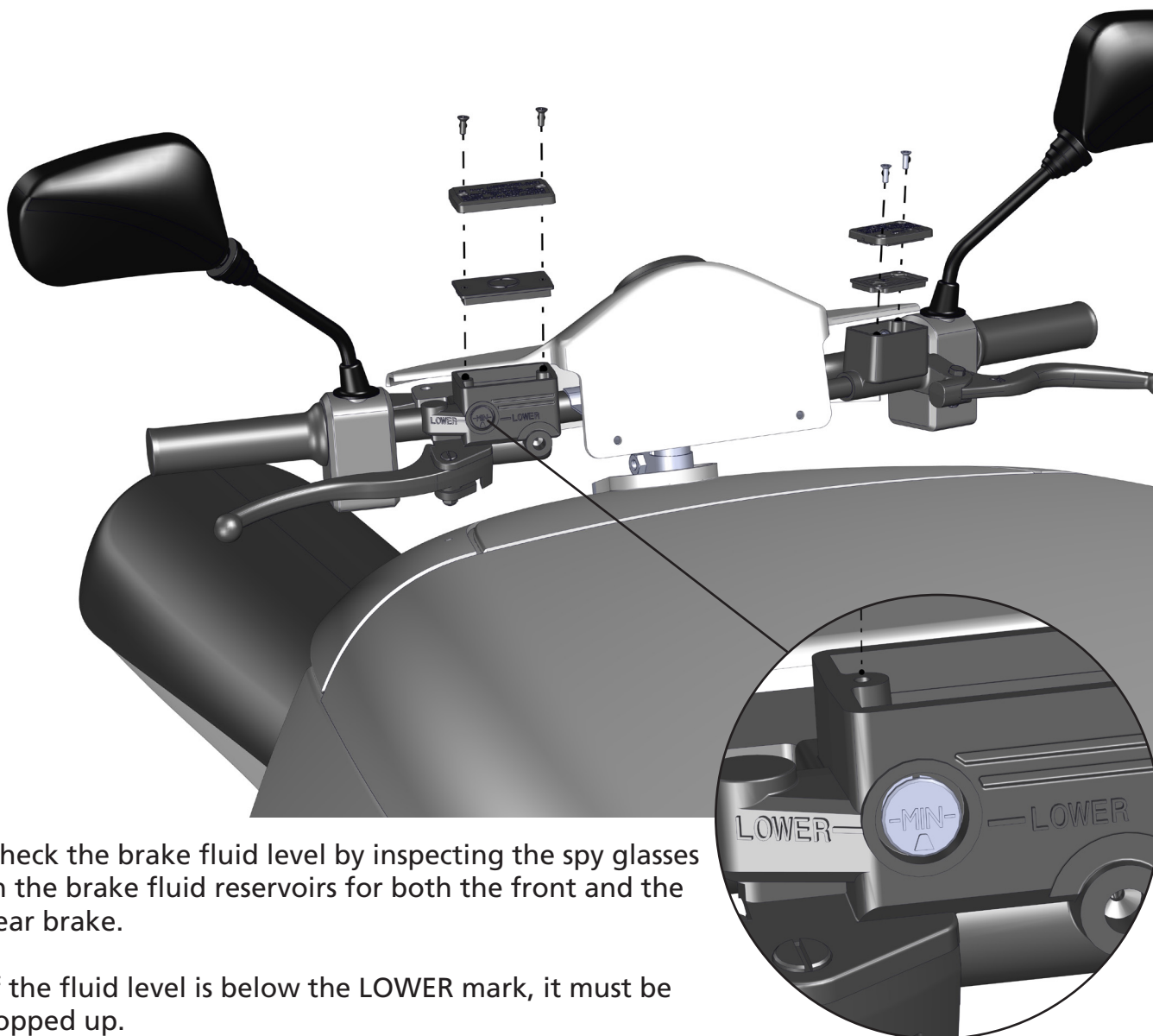


- ① Remove the cover to gain access to the front indicator.



- ② Unplug the wires from the indicator. Unscrew it, pull it out and replace it. The indicator must be replaced as a unit.

Brake fluid



Check the brake fluid level by inspecting the spy glasses in the brake fluid reservoirs for both the front and the rear brake.

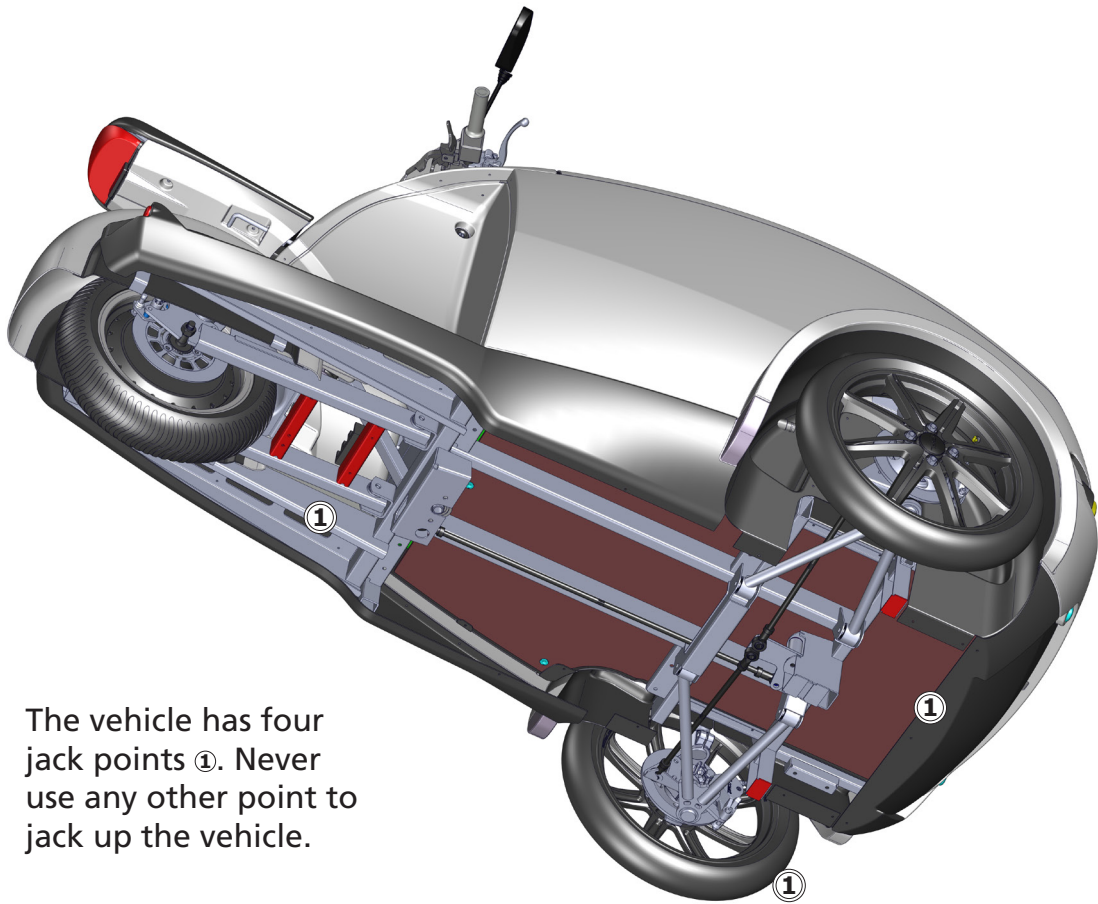
If the fluid level is below the LOWER mark, it must be topped up.

Remove the brake fluid reservoir cap and fill the reservoir until the brake fluid fill all of the spy glass. **Use Dot #### brake fluid.**



Use protective gloves and eye wear when working with hydraulic brakes. Brake fluid can burn skin and eyes.

Jacking up the vehicle



The vehicle has four jack points ①. Never use any other point to jack up the vehicle.

WARNING

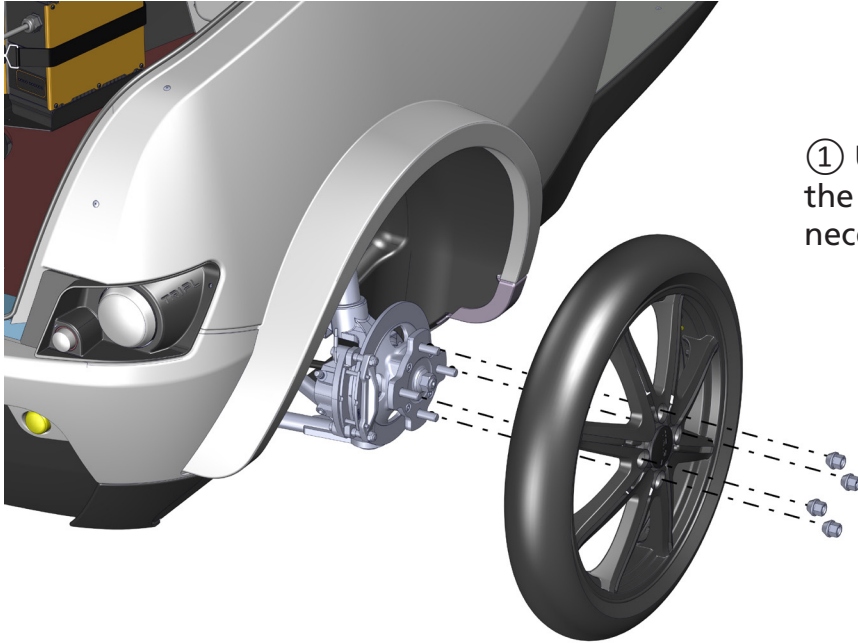


Never sit or lie under the vehicle when it is jacked up. If the jack fails the vehicle can fall down on you! Jacks, hoists, or other lifting devices shall not be used beyond the safe load capacity recommended by the manufacturer. Never sit in vehicles being lifted by hydraulic lifts or jacks. Never work under vehicles that are not properly supported with approved stands. Makeshift stands made of wood, cement blocks, or boxes shall not be used.

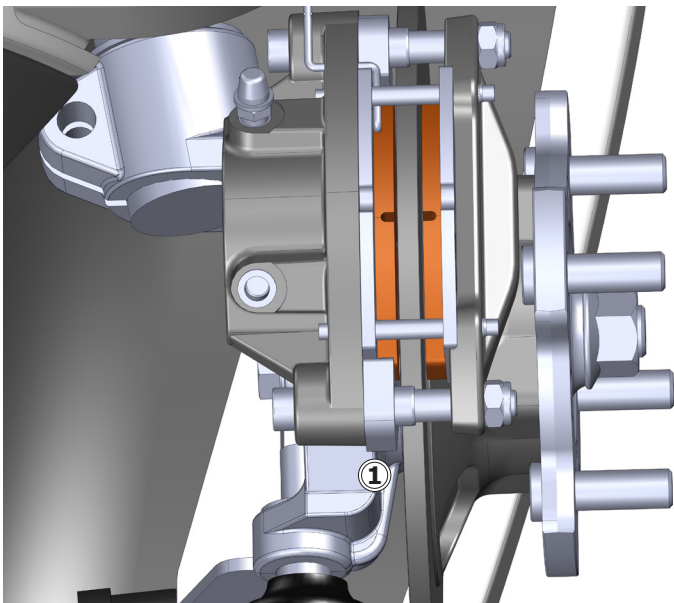
Brake pads

Engage the parking brake and jack up the vehicle before removing any wheels.

Front brakes

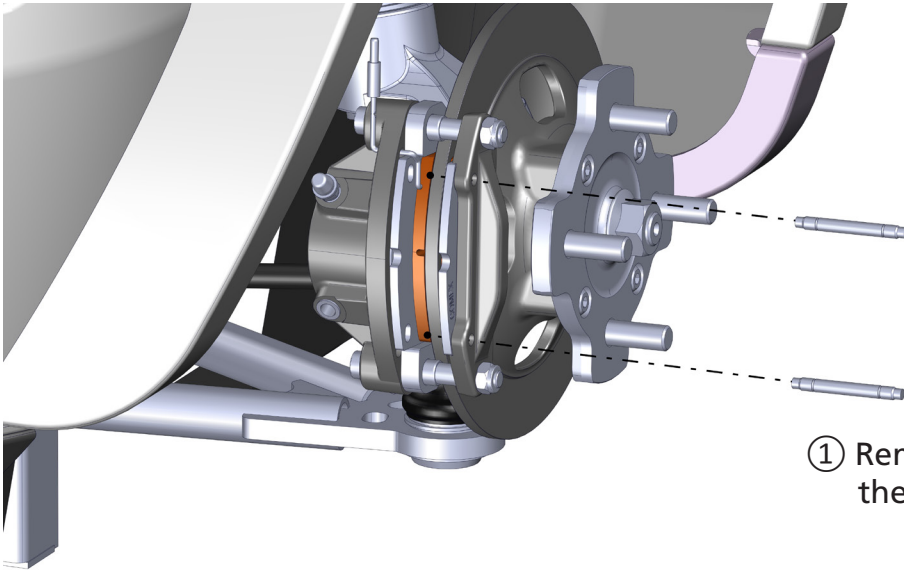


① Unscrew the wheel. Check the tyre for wear and replace it if necessary.

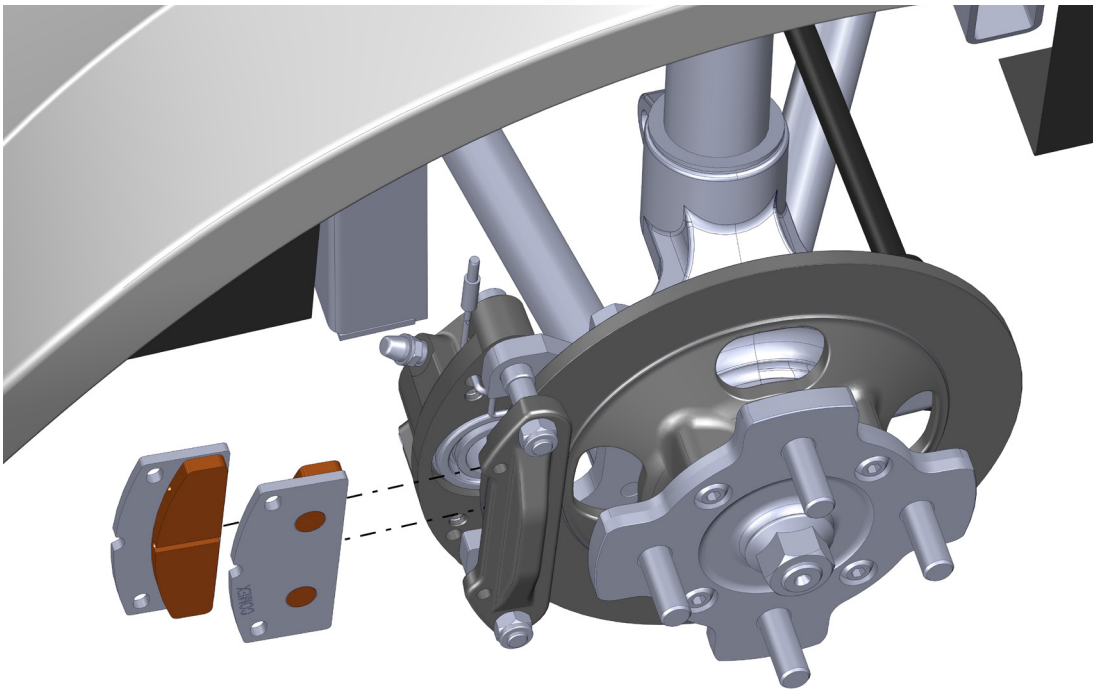


② Check the brake pads ① for wear. If the brake pads are under 2 mm they must be replaced.

Brake pad replacing

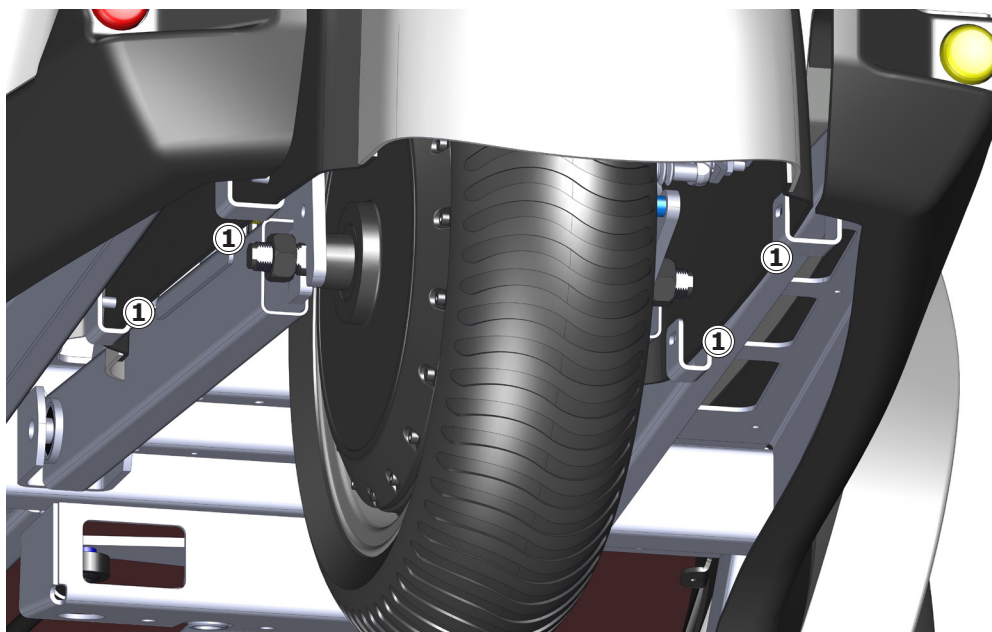


- ① Remove the pad clips and remove the brake pad pins.

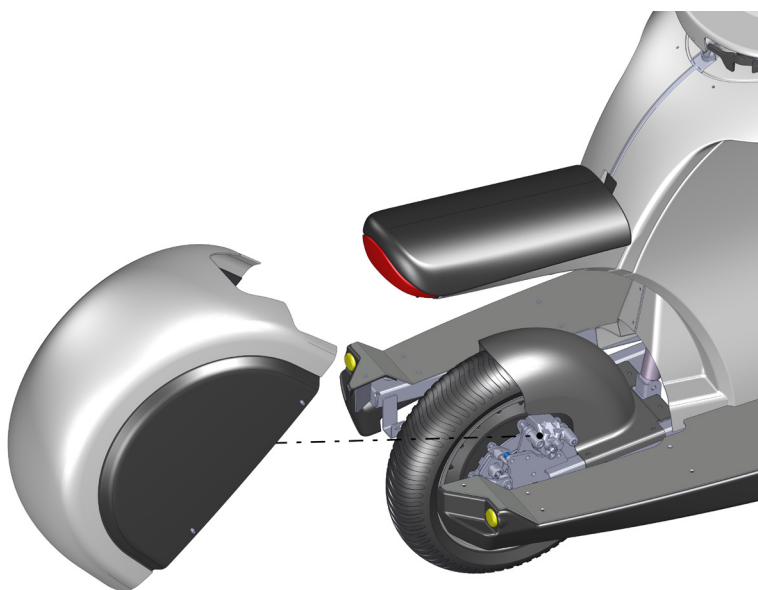


- ② Remove the brakepads and replace them.

Rear brake and parking brake

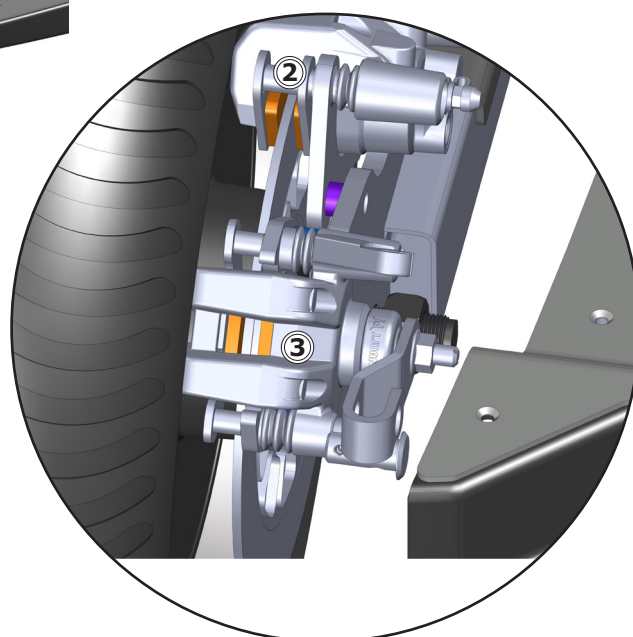


- ① Unscrew the rear wheel cover. It is secured with four screws ①.

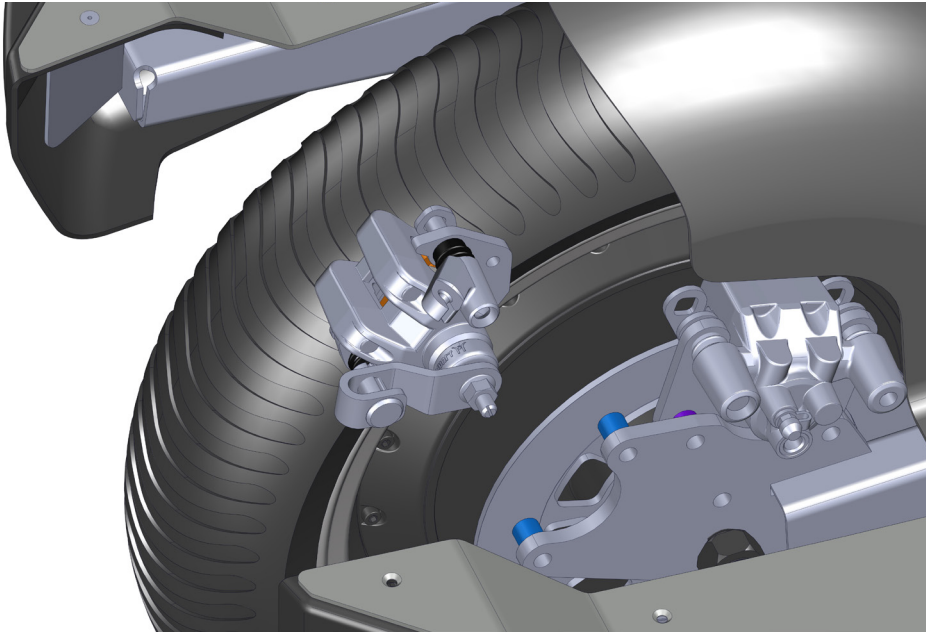


- ② Remove the rear wheel fender.

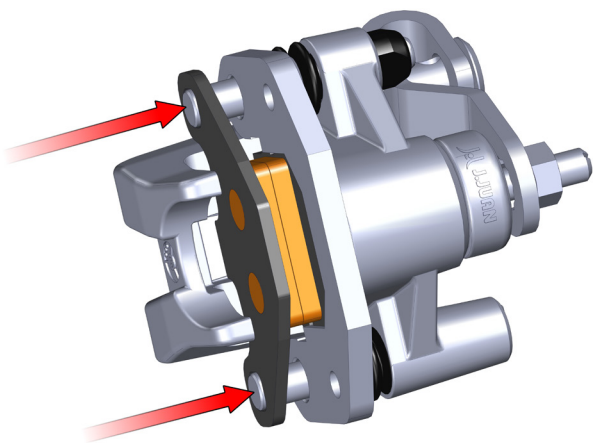
- ③ Check the brake pads for wear on both the the main brake ② and the parking brake ③. If the brake pads are under 2 mm they must be replaced.



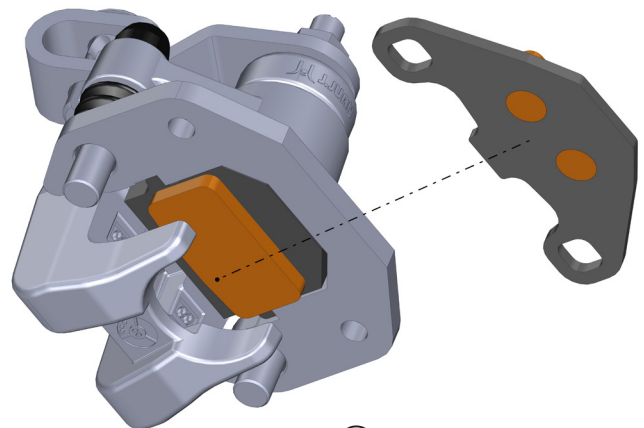
Parking brake pad replacing



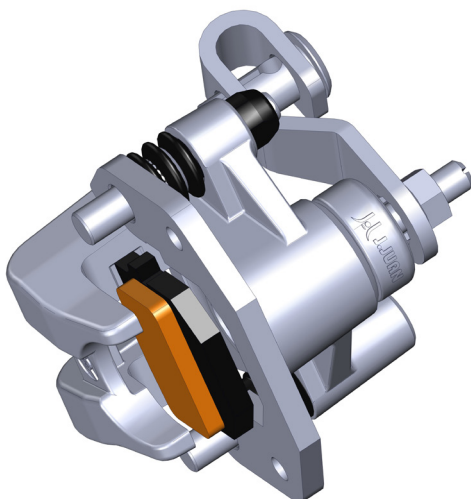
- ① Remove the parking brake caliper.



- ② Push the caliper piston as far back as possible.

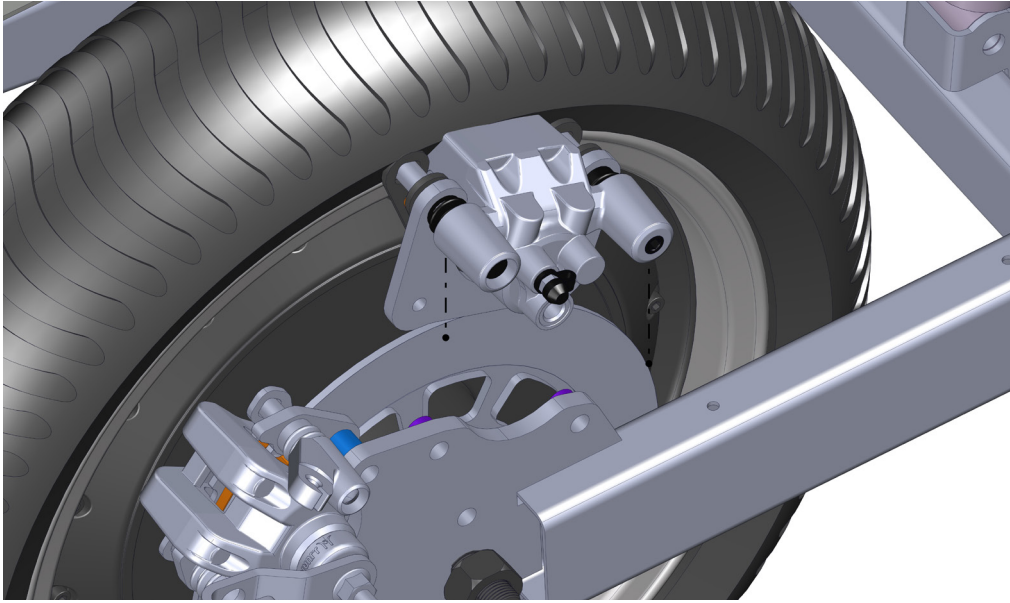


- ③ Remove the first brake pad.

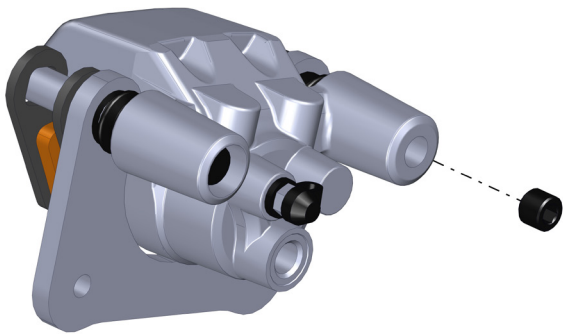


- ③ Push the second brake pad from behind to remove it.

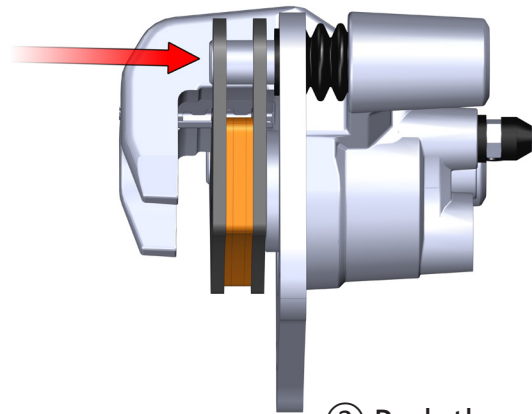
Main brake pad replacing



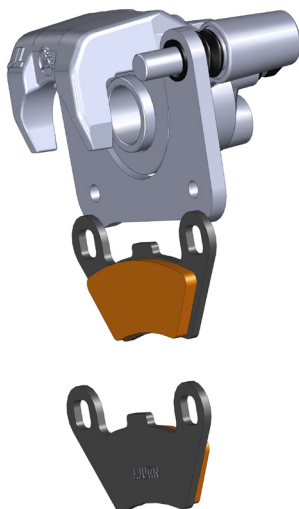
① Remove the main brake caliper.



② Remove the retainer screw.

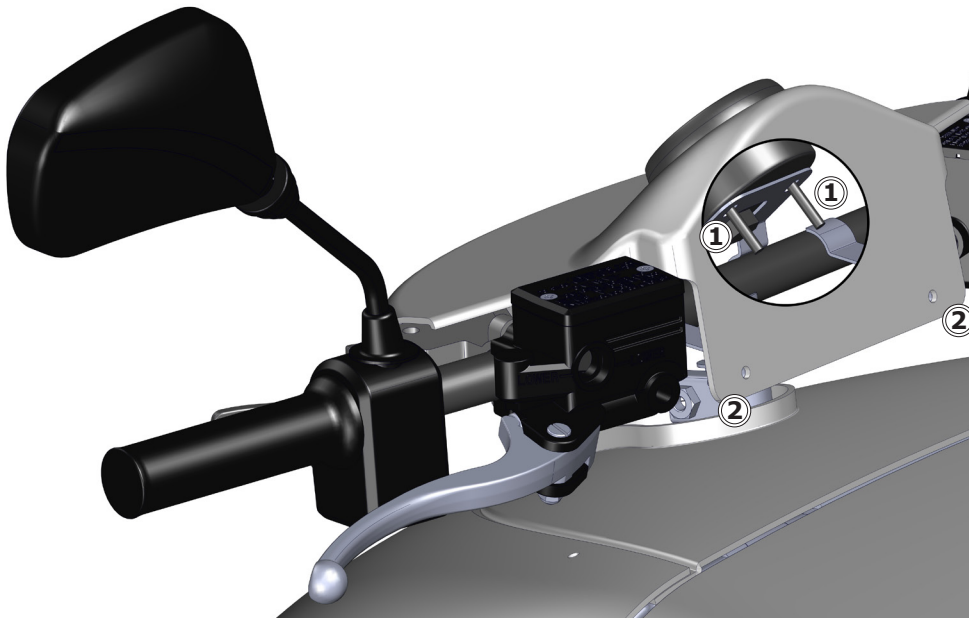


③ Push the caliper piston as far back as possible.



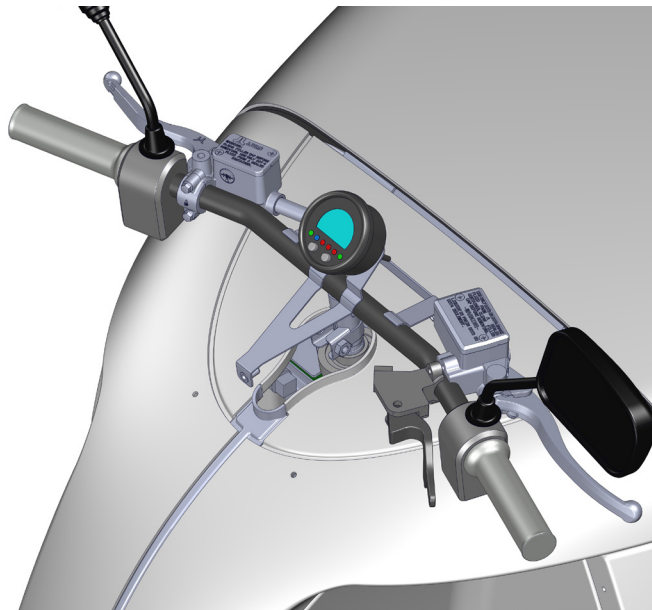
③ Remove both brake pads and replace them.

Steering



Reach up under the dashboard cover and remove the screws ① for the instrument cluster.

Remove the two screws ② for the dashboard cover, and remove it.



Check the parking brake handle, the instrument cluster and the handlebar assembly. Check everything for wear and cracks and replace it if necessary.

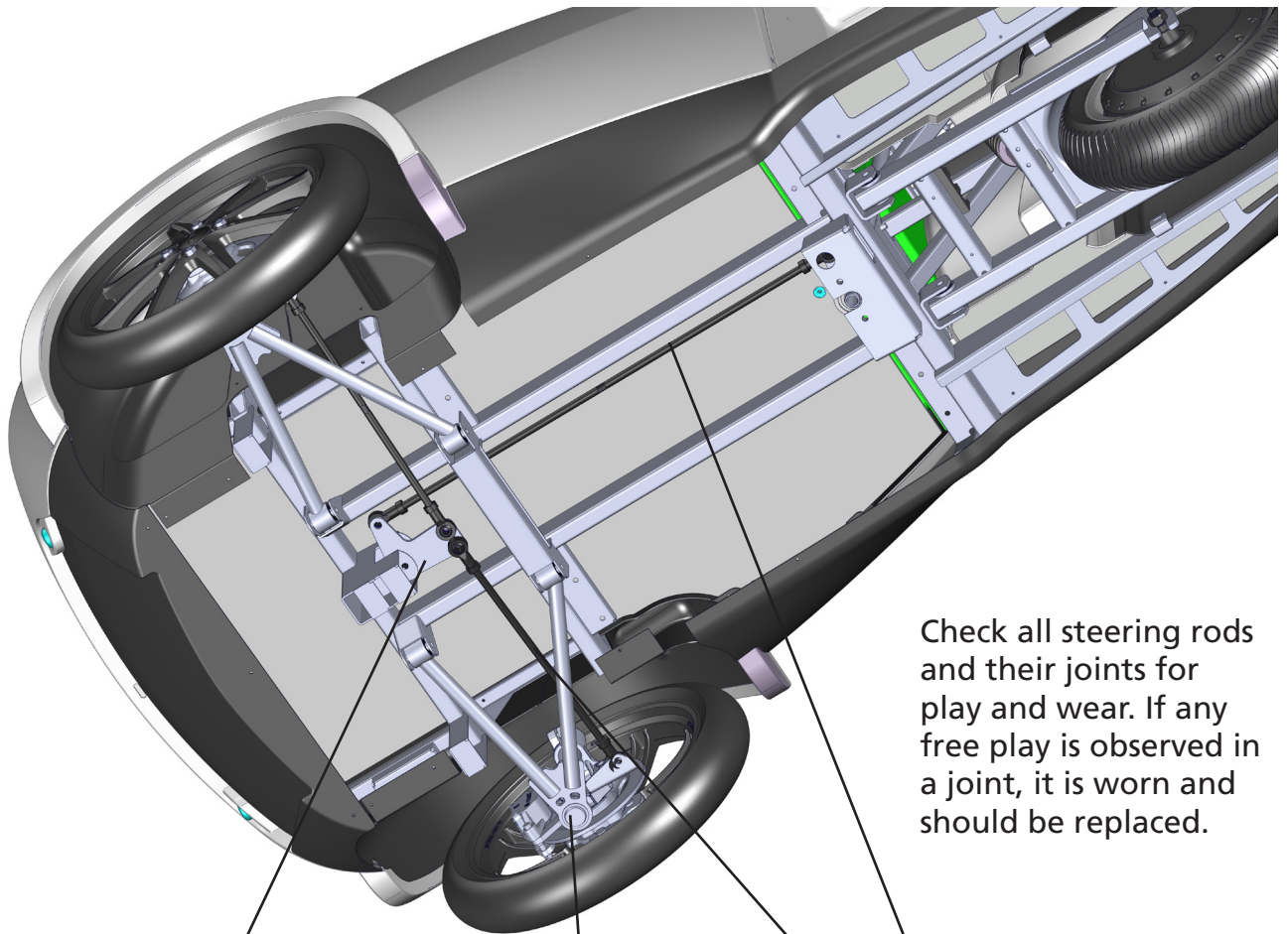
Jack up the vehicle to gain access to the steering rods.

WARNING

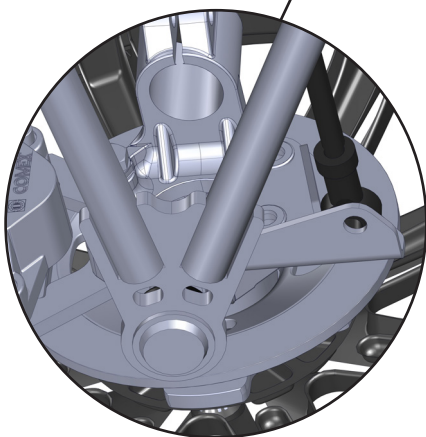


Never sit or lie under the vehicle when it is jacked up. If the jack fails the vehicle can fall down on you! Jacks, hoists, or other lifting devices shall not be used beyond the safe load capacity recommended by the manufacturer. Never sit in vehicles being lifted by hydraulic lifts or jacks. Never work under vehicles that are not properly supported with approved stands. Makeshift stands made of wood, cement blocks, or boxes shall not be used.

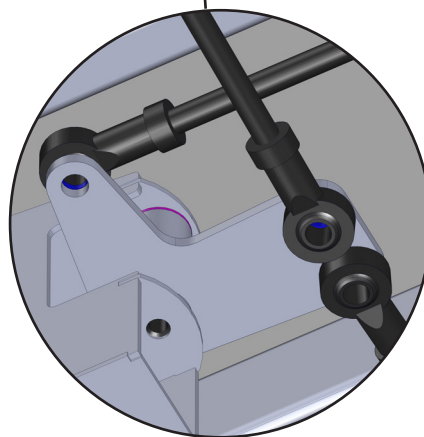
Steering rods



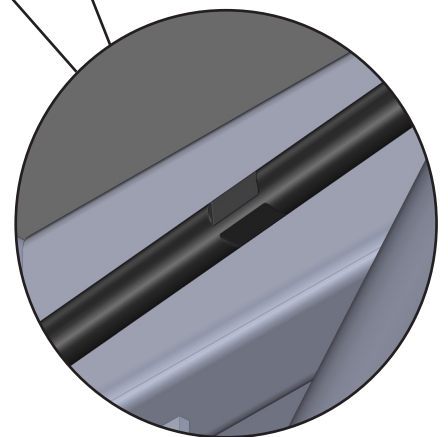
Check all steering rods and their joints for play and wear. If any free play is observed in a joint, it is worn and should be replaced.



Check all steering rods and their joints for play and wear. If any free play is observed in a joint, it is worn and should be replaced.

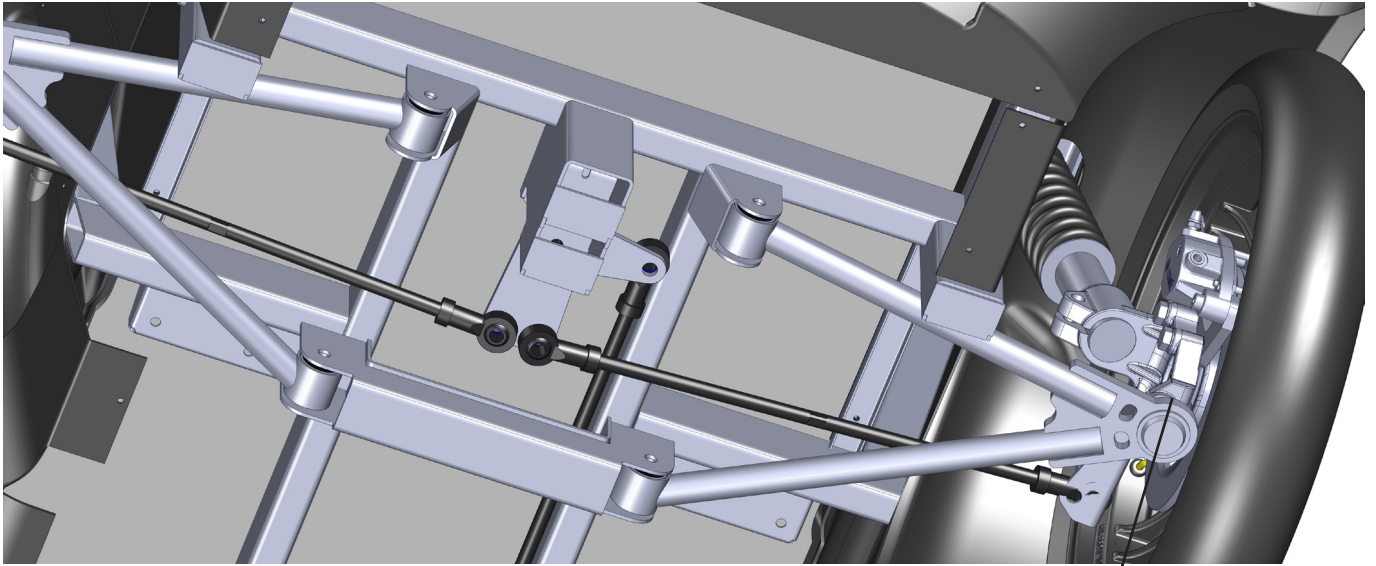


For adjustment of the vehicle's wheel alignment, the steering rods can be adjusted using the right-hand and left-hand thread adjustment nuts.



The steering rods have counterhold recesses for use when adjusting the wheel alignment.

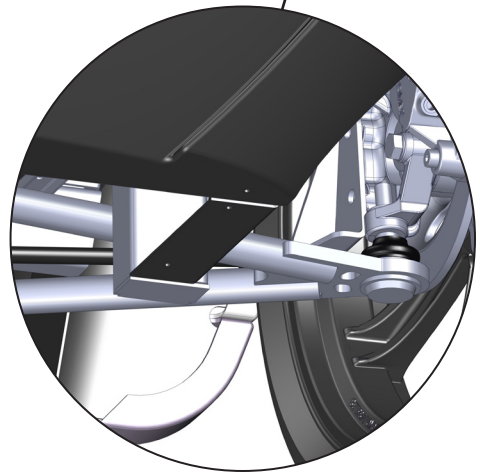
Front suspension



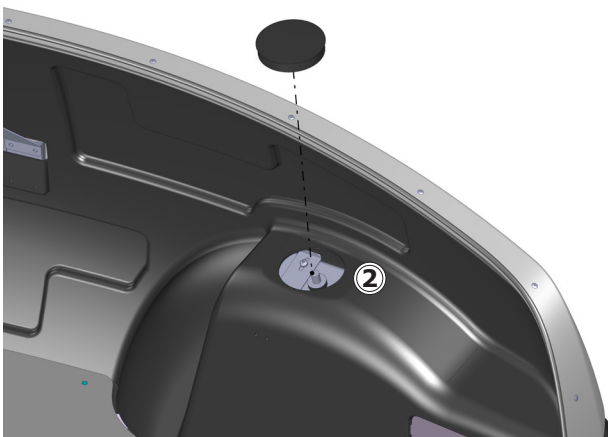
The front suspension can be inspected by jacking up the vehicle.

Check all joints and bushings for cracks and wear and replace if necessary.

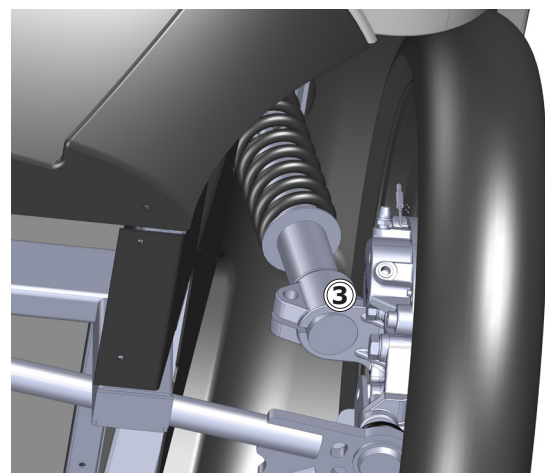
Check the suspension ball joint rubber bushings ① for crack and wear. Replace if necessary.



Front chock absorbers



Remove the chock absorber cover in the boot and remove the upper chock absorber bolt ②.

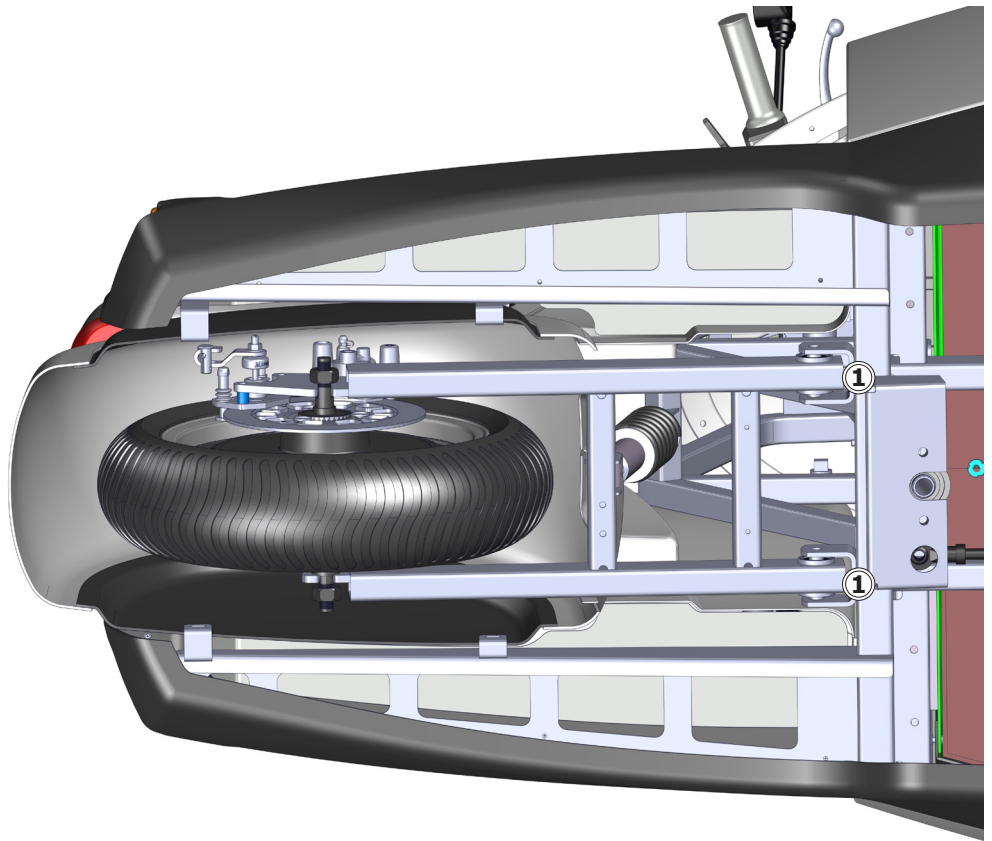


Remove the lower chock absorber bolt ③ and remove the chock absorber. Absorber and spring must be replaced as a unit.

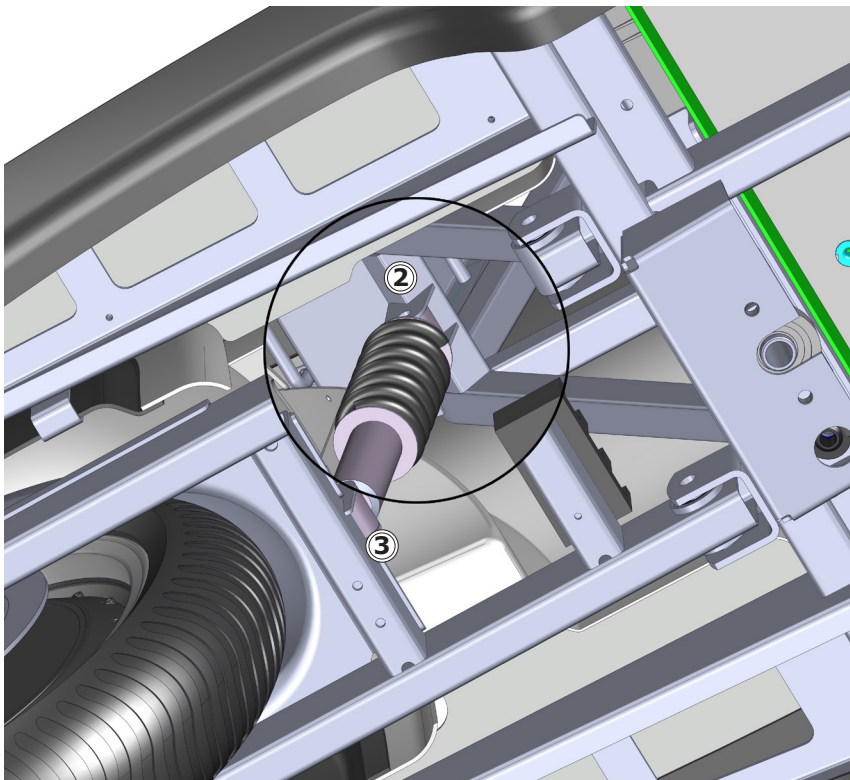
Rear suspension

The rear suspension can be inspected when the vehicle is jacked up.

Inspect all joints for cracks and wear and replace if necessary. Also inspect the suspension bushings ①.



Rear chock absorber




- ① Remove the upper chock absorber bolt ②.
- ② Remove the lower chock absorber bolt ③.
- ③ Remove the chock absorber.

Absorber and spring must be replaced as a unit.

Engine

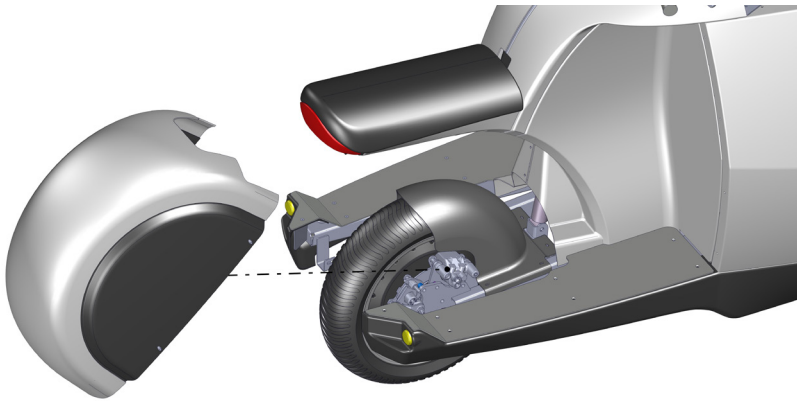
The engine is a closed unit with no serviceable parts inside. It must be replaced as a unit if it is defective.

⚠ WARNING



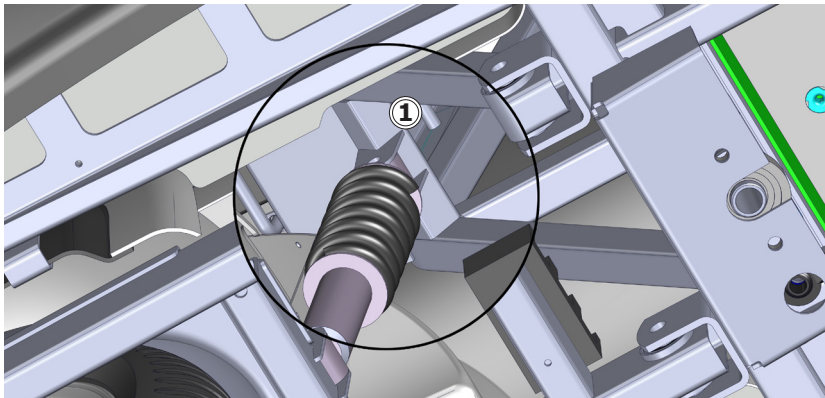
High voltage
Disconnect all power before removal of the engine.

HOW?

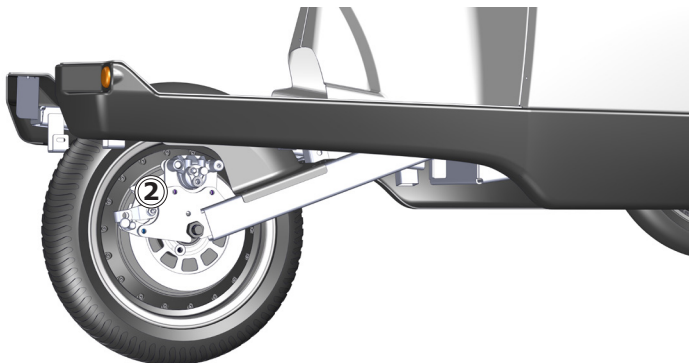


Removal of engine

- ① Disconnect the power
- ② Jack up the vehicle.

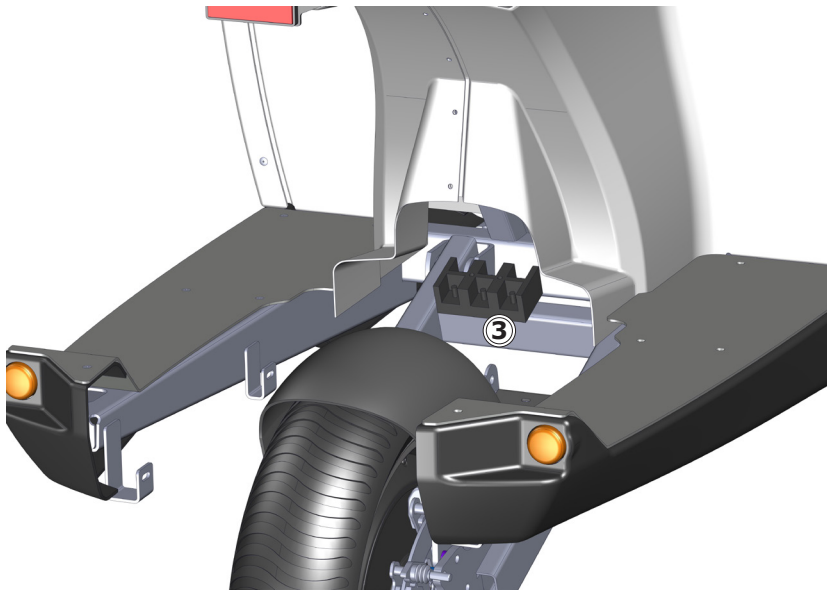


- ③ Remove the upper chock absorber bolt ①.

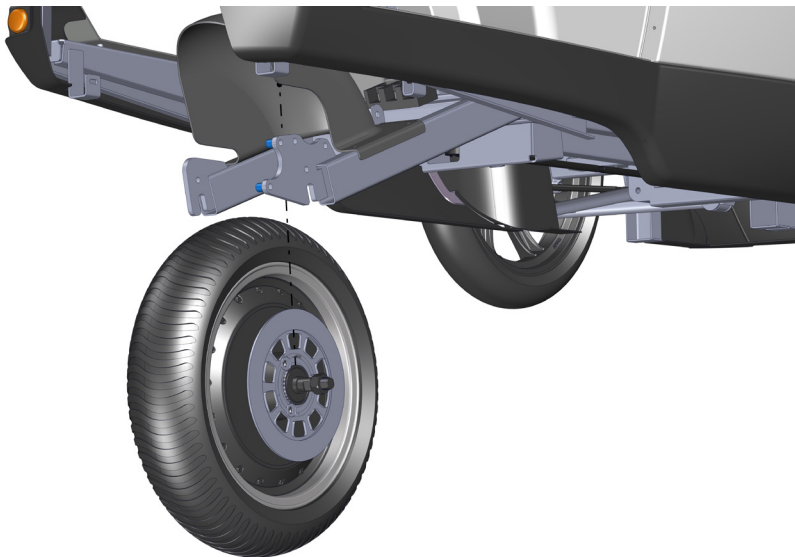


Now the swing arm will go further down and give access to the engine unit.

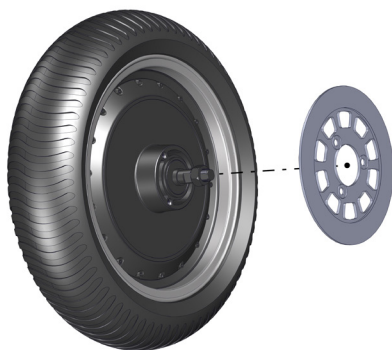
- ④ Remove the calipers ② for the parking brake and the main brake.



- ⑤ Disconnect all wires from the connector block ③ to the engine.

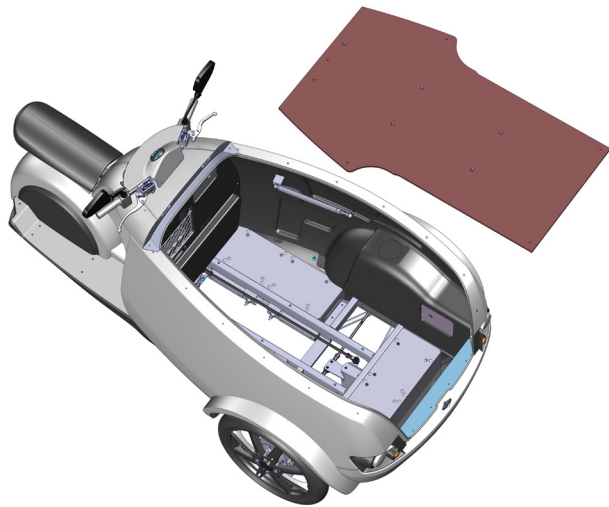


- ⑥ Loosen the retaining bolts ④ and remove the engine.



- ⑦ Remove the braking disc and reuse it on the new engine. Use LockTite to secure the screws for the disc.

Batteries

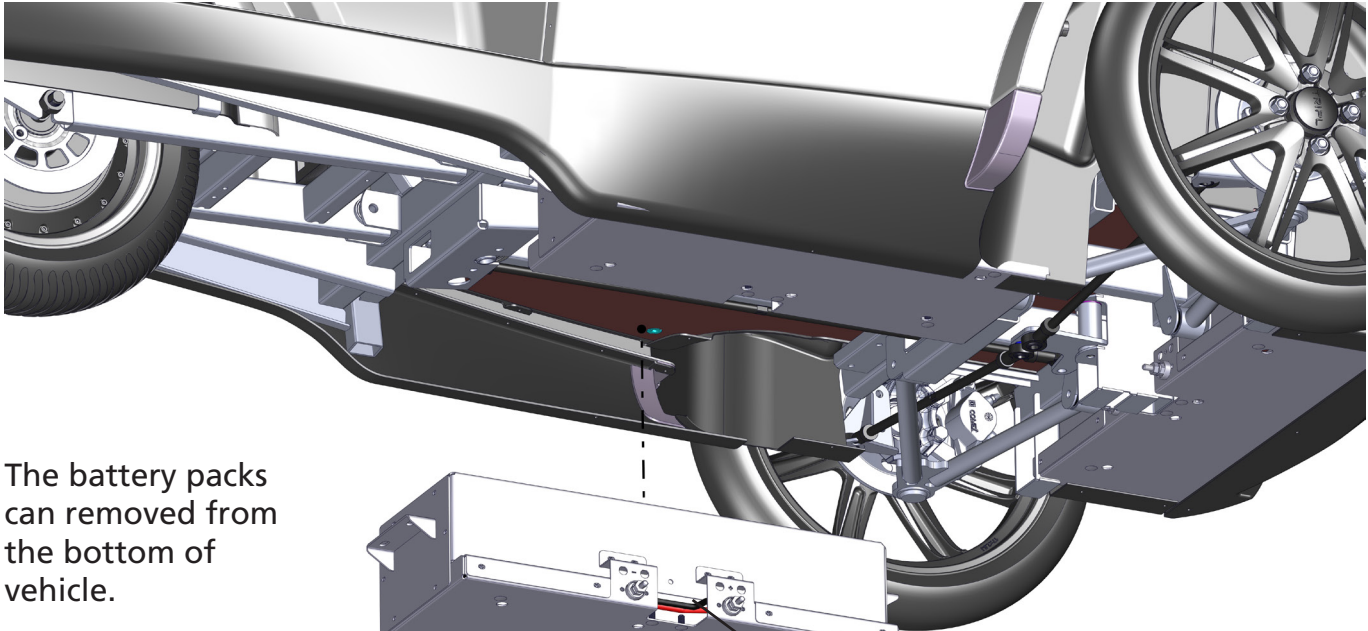


⚠ WARNING



High voltage
The terminals of the battery units are always live.

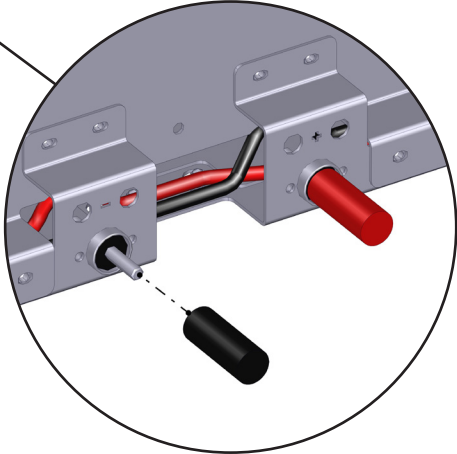
Remove the floor board to gain access to the battery units. Inspect the wiring and the battery terminals.



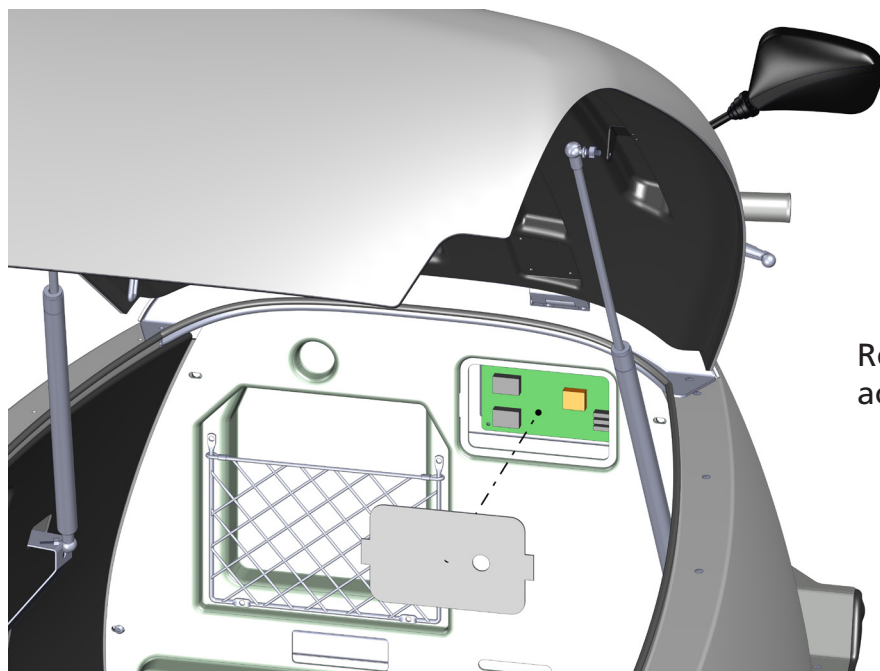
The battery packs can be removed from the bottom of the vehicle.

Jack up the vehicle and remove the battery packs.

Attach insulation caps over the battery terminals for safe handling.

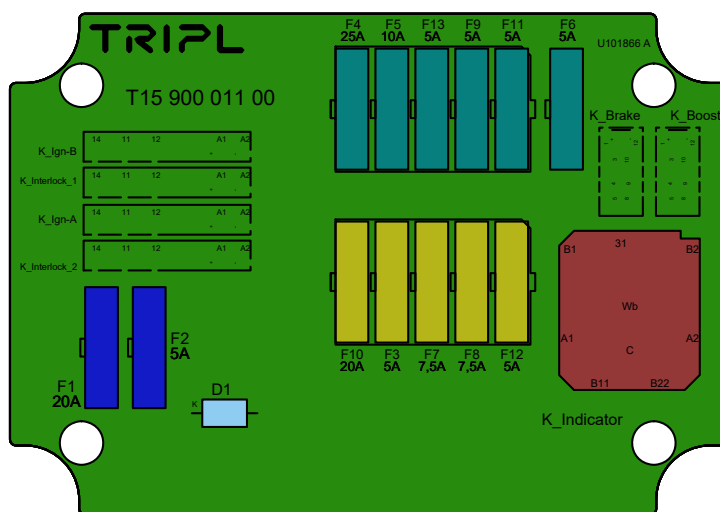


Fuses



Remove the service hatch to gain access to the fuse box.

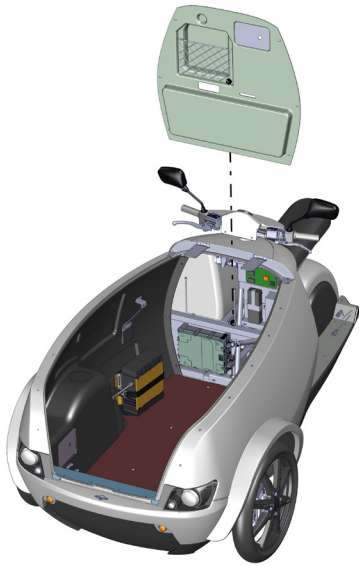
- ①
- ②
- ③
- ④
- ⑤
- ⑥
- ⑦
- ⑧
- ⑨
- ⑩



- ⑪
- ⑫
- ⑬
- ⑭
- ⑮
- ⑯
- ⑰
- ⑱
- ⑲
- ⑳

1		6		11	
2		7		12	
3		8		13	
4		9		14	
5		10		15	

Electronic system

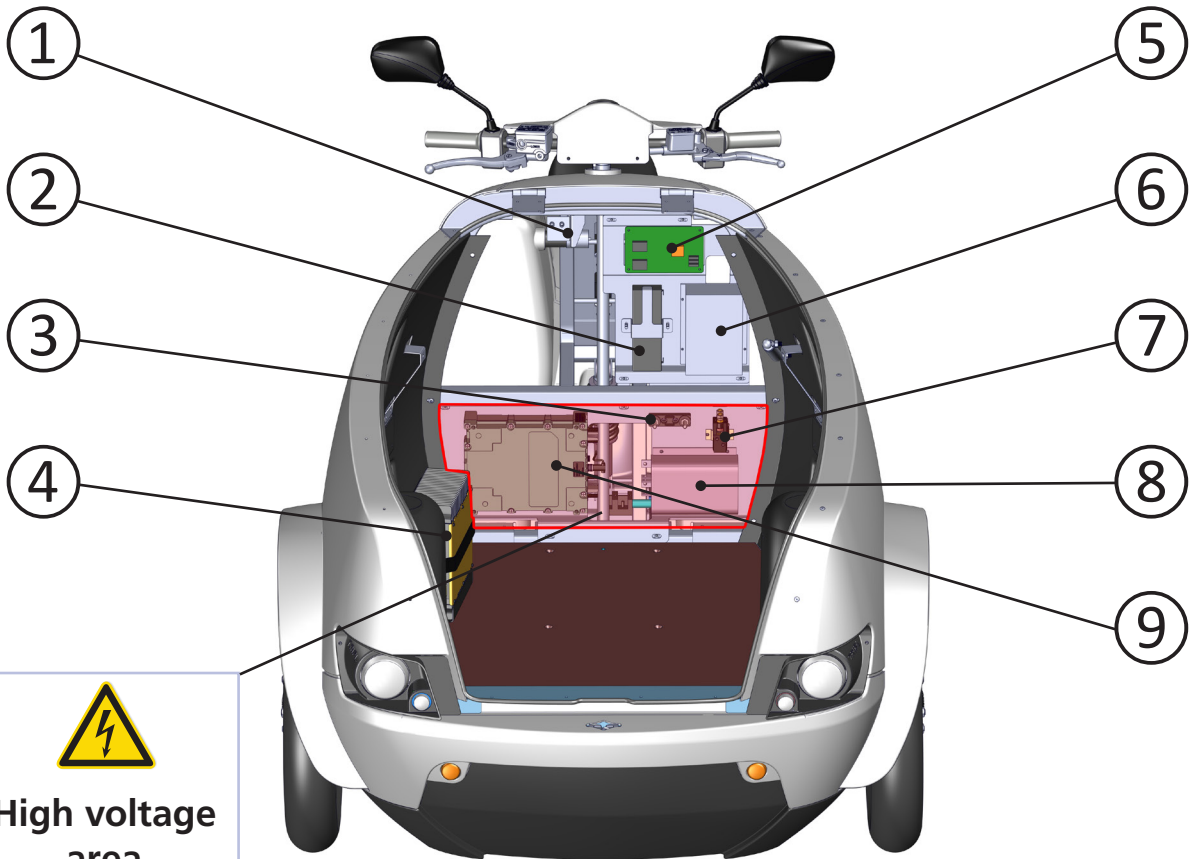


Remove the partition panel to gain access to the electronics.

WARNING

High voltage area
Disconnect all power before removing the partition panel.

HOW?



High voltage area

1	Key switch
2	12V battery
3	Main fuse
4	Charger (see separate charger manual)

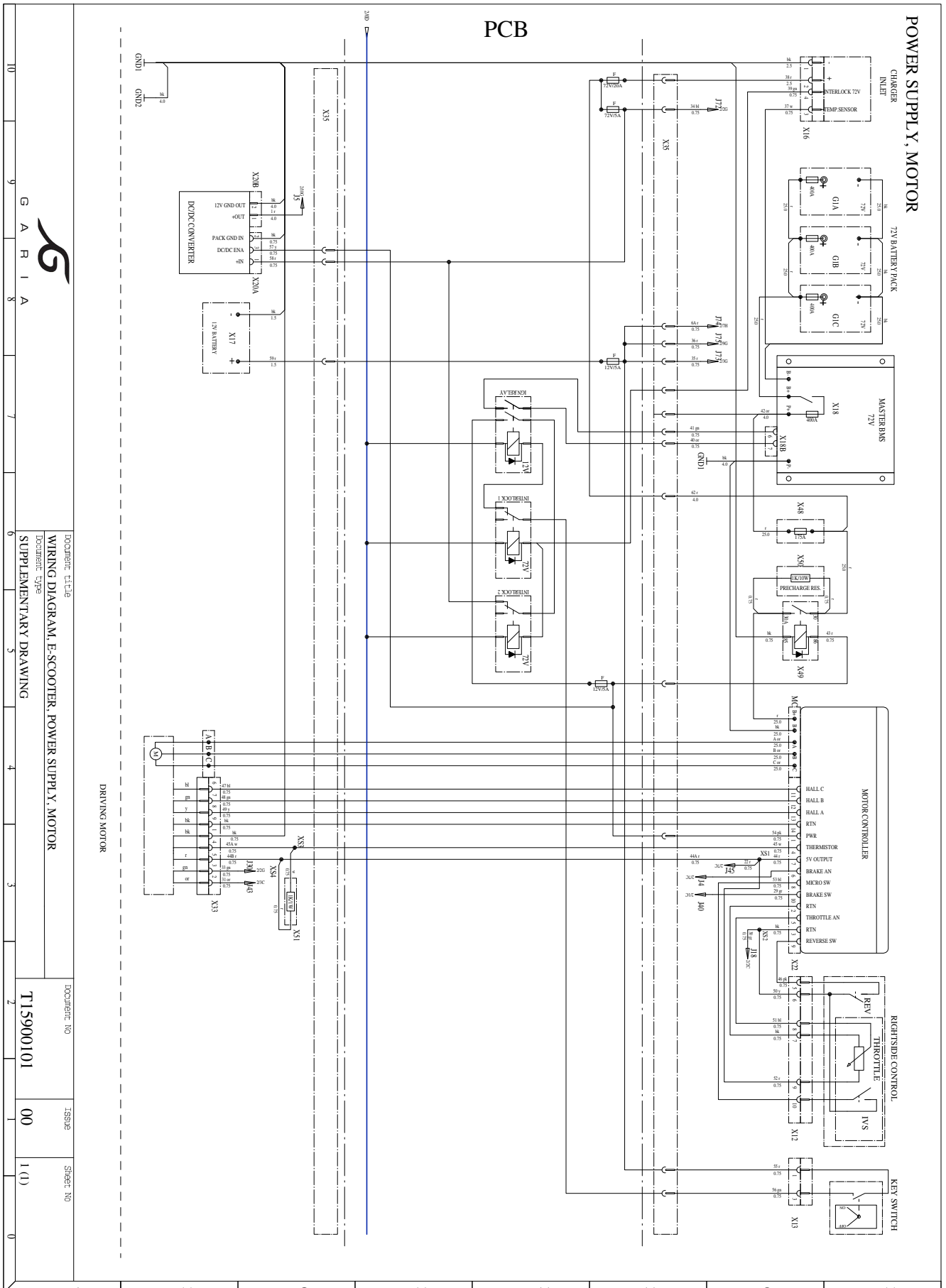
5	Electrical center
6	DCDC converter
7	Main contactor
8	Controller
9	Battery Management System (BMS)

Service plan

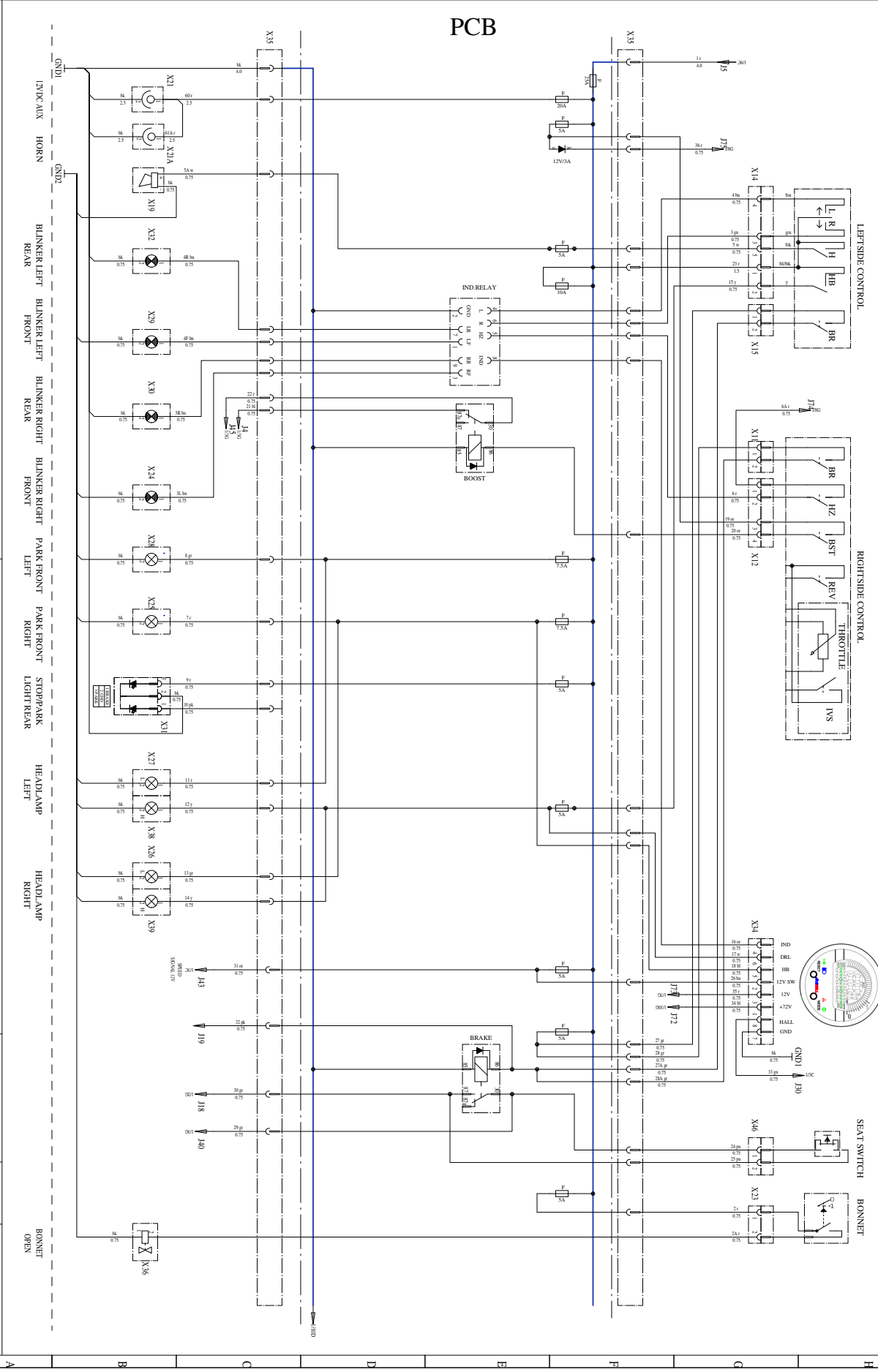
Service intervals								
Months	6	12	18	24	30	36	42	48
Distance (km)	10,000	20,000	30,000	40,000	50,000	60,000	70,000	80,000
Description								
Tire pressure	CA	CA	CA	CA	CA	CA	CA	CA
Visual inspection of tires and rims	C	C	C	C	C	C	C	C
Brake fluid	C/S	C/S	R	C/S	R	C/S	R	C/S
Battery mounting and liquid levels	C	S	S	S	S	S	S	S
Wires, battery cables and various connectors	CL	CL	CL	CL	CL	CL	CL	CL
Steering for free play	C	S	S	S	S	S	S	S
Shocks, springs and cuffs	C	C	C	C	C	C	C	C
Lights (front, rear, turn)	C/R	C/R	C/R	C/R	C/R	C/R	C/R	C/R
Wheel bearings, sound and free play	-	S	S	S	S	S	S	S
Toe in alignment	-	CA	CA	CA	CA	CA	CA	CA
Front brakes	C	S/CL	S/CL	S/CL	S/CL	S/CL	S/CL	S/CL
Rear brakes	C	S/CL	S/CL	S/CL	S/CL	S/CL	S/CL	S/CL
Discharge test	-	S	S	S	S	S	S	S
Front suspension wishbones	-	C	C	C	C	C	C	C
Rear suspension swing arm	-	C	C	C	C	C	C	C
Motor	-	C	C	C	C	C	C	C
Controller	-	C	C	C	C	C	C	C
Brake handles and throttle control	-	CA	C	CA	C	CA	C	CA
Seat adjustment	-	C	C	C	C	C	C	C
Side mirrors	-	C	C	C	C	C	C	C
Cluster (functionality / Service reset)	CA	CA	CA	CA	CA	CA	CA	CA
Dashboard buttons and switches	C	C	C	C	C	C	C	C

<p>C = Check CA = Check & Adjust R = Replace</p>	<p>S = Service CL = Clean & Lubricate L = Lubricate</p>
--	---

Wiring diagrams



HEADLIGHTS, EQUIPMENT



Document Title		Document No	
WIRING DIAGRAM E-SCOOTER HEADLIGHTS, EQUIPMENT		T15900101	
Document Type		Issue	
SUPPLEMENTARY DRAWING		00	
10		2 (1)	
9		0	
8		0	
7		0	
6		0	
5		0	
4		0	
3		0	
2		0	
1		0	