

# TERRAIN

## EX4

USER MANUAL



  
CORVUS



CORVUS INNOVA, Limited Company.

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Drivers of CORVUS vehicles must comply with all requirements demanded by current legislation in relation to driving licenses and security measures required for the proper use of such vehicles. NEVER perform acrobatics and avoid excessive speeds and abrupt turns. Never drive under the influence of alcohol or drugs.

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USER MANUAL

CRVS-MU-23-ENG-EX4-123-1.0

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# GENERAL INFORMATION



## INTRODUCTION

We are delighted to be able to congratulate you on the purchase of your **CORVUS** vehicle and we would like to thank you for the confidence you have placed in us.

You are now the owner of a modern multi-purpose work vehicle that you will enjoy a lot if you care for it and maintain it adequately. Before you start it up for the first time, please read the instructions of use carefully to become familiar with the handling and the characteristics of your vehicle. Only in this way will you be able to understand how to best adapt your vehicle to your requirements and how to avoid accidents. For your safety we recommend that you use only spare parts and accessories authorized by **CORVUS**.

If you use any other products, **CORVUS** declines all liability for any damages that may arise from so doing. We recommend you follow the instructions on the driving-in period and maintenance intervals in order to prolong the life of your vehicle. For maintenance work, you should always consult an official **CORVUS** distributor or dealer.

Driving in the countryside is fascinating and we hope you will enjoy it to the full. Although **CORVUS** vehicles are environmentally friendly, environmental problems and conflict with other people may ensue in the countryside. Handling the vehicle in a responsible way ensures that these problems and conflicts do not arise. Be sure to use the vehicle within the bounds of the law, show that you are environmentally aware and respect the rights of others.

#100% WORK  
#100 % ELECTRIC

## LEGAL NOTICES

In the interest of technical development, **CORVUS INNOVA S.L.** reserves the right to modify the construction, equipment and accessories of its vehicles without notice. Size, weight and power data should be understood with the respective tolerances. Depending on the volume of your **CORVUS'** equipment and accessories, and on the versions that are approved in compliance with the different laws of each State, there may be variations with regard to descriptions and illustrations. The photographs in this manual may not therefore correspond to the model you have purchased. For this reason, no liability can be derived from any error, printing error or omission.

In the event of any discrepancy or question about the content of this manual, we recommend that you contact our After-sales Service.

## CAUTIONS AND WARNINGS

YOU SHOULD READ THIS MANUAL CAREFULLY AND COMPLETELY BEFORE YOU ENJOY USING IT FOR THE FIRST TIME. IT CONTAINS INFORMATION AND SUGGESTIONS THAT WILL FACILITATE THE USE AND HANDLING OF THE VEHICLE. PAY PARTICULAR ATTENTION TO THE FOLLOWING WARNINGS THAT CAN BE FOUND IN THE MANUAL:



A warning concerning a hazard that can cause damage to the vehicle.



A warning concerning a hazard that can lead to personal and/or serious injury and even death.

## PRELIMINARY WARNINGS



### WARNING

Take proper precautions while driving, especially in turning manoeuvres; driving on slopes or in areas with obstacles can cause a collision or make the vehicle overturn.

Only people who have a driving license should drive this vehicle. It is advisable that the driver and their companion should use a helmet and goggles when using the vehicle. Do not cause the vehicle to jump or flip, be aware of changes in the terrain on which you are going to drive.

Check the possible obstacles that you want to clear, do not attempt to clear major obstacles, such as fallen trees, rocks, slopes, muddy areas, etc.

Take care in slippery areas, drive at low speed, watch out for any possible loss of grip, do not tackle steep slopes.



### DANGER

You should not use the vehicle in a way that is not in line with the criteria and instructions contained in this manual or in a way that may cause damage to persons or things.

These are some examples of unsafe use and misuse:

- Driving with more than two people in the vehicle.
- Not keeping the entire body inside the cabin.
- Transporting people in the cargo box.
- Not complying with the instructions for use and maintenance set forth in this manual.
- Exceeding the cargo and towing limits.
- Driving on unstable or not consolidated ground.

- Driving on terrain with an inclination of more than 15%.
- Driving in flooded areas (Do not drive through water if it rises above the centre of your wheel rims).
- Using accessories, parts or equipment that are not authorised by **CORVUS**.

Adapt the speed of the vehicle to the terrain. When driving downhill, use the short LOW gear and keep the speed as low as possible, gently applying the brakes without locking the wheels. Under no circumstances should you perform manoeuvres with a slope / elevation or lowering greater than 15%. If you need to tow your vehicle, make sure the towing vehicle has sufficient drag and braking capacity, use a tow bar or a sufficiently long cable and do not go any faster than 10 km/hr.

All technical and mechanical repairs must be carried out by an authorised **CORVUS** garage.



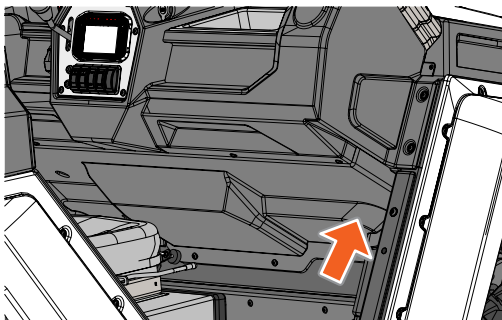
The electric motor and other components can reach high temperatures and take time to cool down once the motor has been switched off. Avoid handling or touching any hot components.



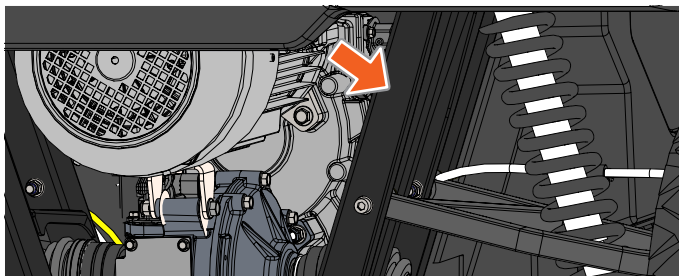
The electric motor and other components can reach high temperatures and take time to cool down once the motor has been switched off. Avoid handling or touching any hot components.

## VEHICLE IDENTIFICATION (CHASSIS - ENGINE)

Your **CORVUS TERRAIN** has an **identification plate** which details: manufacturer, type approval, VIN, mass of the vehicle, maximum mass per axle (A1-A2) and towable mass (depending on type of braking and towing).



The **vehicle identification number** is also stamped on the rear right-hand side of the chassis:



CORVUS INNOVA, S.L.

T1x\*

e13\*167/2013\*00205\*02

VS9CTRDXXXXXXX\*

1.400 kg

A-1: 650 kg

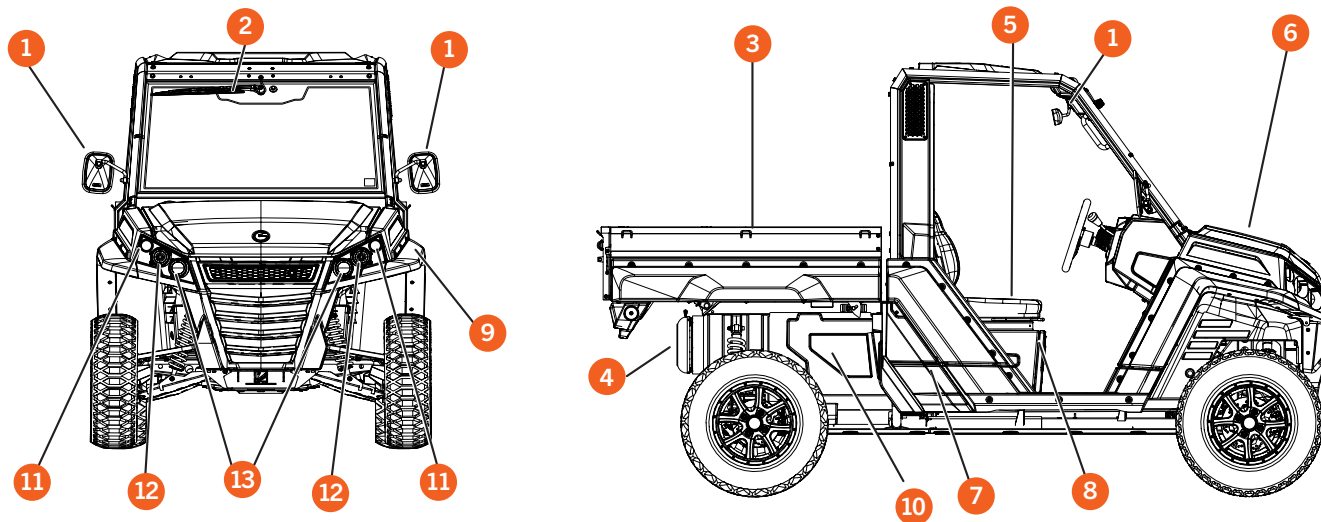
A-2: 950 kg

	T-1	T-2	T-3
B-1	450 kg	450 kg	450 kg
B-2	907 kg	907 kg	907 kg
B-3	-	-	-
B-4	-	-	-

\* Variable depending on version and model.

Your **CORVUS TERRAIN** has an **engine identification plate** which details: manufacturer, model, displacement and serial number.

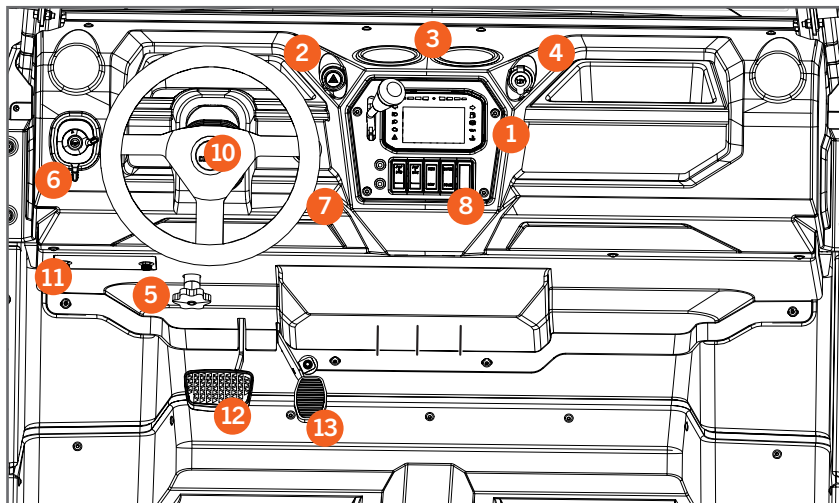
## EXTERIOR COMPONENTS



- 1. Rear-view mirrors
- 2. Windshield wiper \*
- 3. Cargo box
- 4. Engine
- 5. Driving seat
- 6. Front hood
- 7. Spray suppression device / Side storage compartments

- 8. Inner storage compartments \*
- 9. Battery charging cap
- 10. Battery and peripherals
- 11. Steering indicators
- 12. High beam
- 13. Low beam (short)

## DRIVING SEAT



1. Multifunction panel.
2. Emergency light switch.
3. Cup holder.
4. 12V socket.
5. Steering wheel adjustment.
6. Switch for lights, turn signal lamps and horn.
7. Key ignition.
8. Instrument panel button panel.
9. Gear lever.
10. Steering wheel.
11. Fuse box.
12. Brake pedal.
13. Accelerator pedal.

## LOCATION OF COMPONENTS

### IGNITION KEY (1)

The lock is located to the right of the steering wheel and has three positions:

- OFF
- ON
- START



### STORAGE COMPARTMENT KEY (2)\*

The storage compartments are located under the seats.



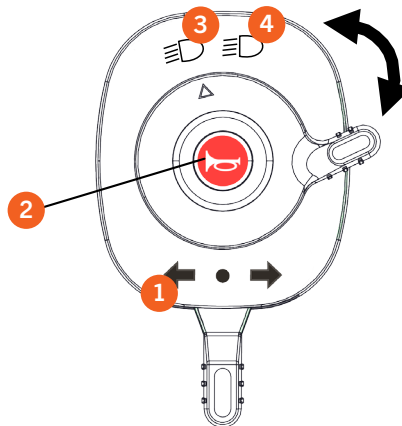
## LOCATION OF COMPONENTS

### LIGHT SWITCH

Located to the left of the steering wheel, with the following functions:

- **Turn signal lamps (1):** Move the lever to the right (right turn signal lamp) and to the left (left turn signal lamp).
- **Activation of the horn (2):** Press the red button in the centre.
- **Long beam or road lights (2):** Pull the lever toward the outside.
- **Long beam (3) or road lights (4):** Move the lever to the required position.

The side, dipped-beam or side lamps will turn on automatically when you switch on the vehicle.



### WINDSHIELD WIPER / WASHER BUTTON\*

Located above the driving seat.

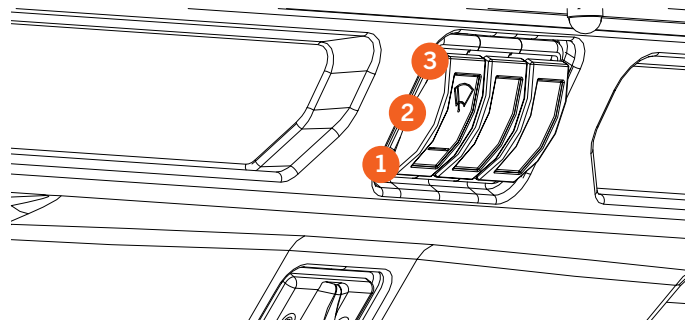
#### WINDSHIELD WIPER

OFF Position (1) - Lower position.

ON Position (2) - Central position.

#### - WINDSCREEN WIPER

ON Position (3) - Upper position.

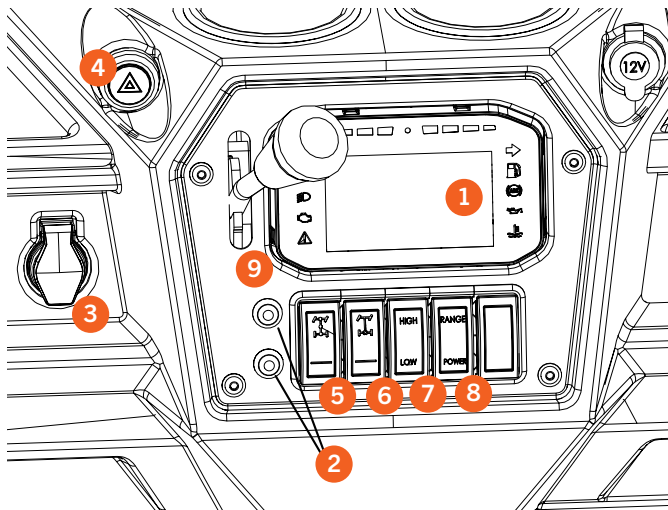


## LOCATION OF COMPONENTS

### INSTRUMENT PANEL

On the vehicle's instrument panel you can find:

1. Multifunction panel.
2. Multi-function panel controls.
3. Key ignition.
4. Emergency light switch.
5. 4WD driveline switch.
6. Rear differential lock switch.
7. Gear selector.
8. Power range selector.
9. Gearshift lever.



### GEARSHIFT LEVER

The gearshift lever (9) is located in the centre of the instrument panel.

It has 3 positions:

- (F) - FORWARD
- (N) - NEUTRAL
- (R) - REVERSE



**!** Do not put the vehicle into reverse gear if it is not completely stationary, as this can lead to accelerated deterioration or even breakage of the gearbox.

Do not force the gearshift: if a gear does not engage, accelerate gently and try to change gear again.



## LOCATION OF COMPONENTS

### 2WD / 4WD DRIVELINE SWITCH

Located in the centre of the instrument panel.

It has 2 positions:

**2WD:** 2-wheel drive transmission -rear wheel drive- (1).

**4WD:** 4-wheel drive transmission (2).

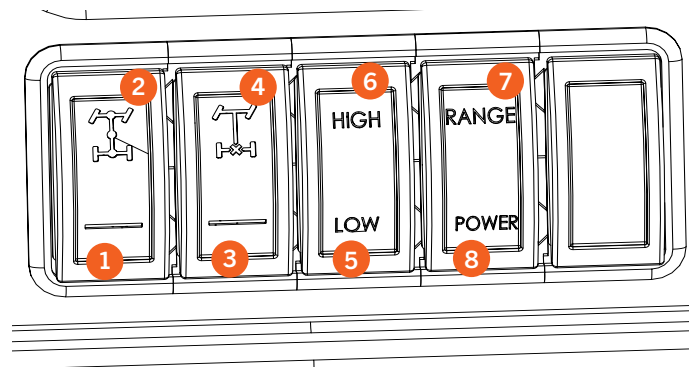
### REAR DIFFERENTIAL LOCK SWITCH

Located in the centre of the instrument panel.

It has 2 positions:

**OFF:** Rear differential unlocked (3).

**LOCK:** Rear differential locked (4).



**THE 4WD AND THE DIFFERENTIAL LOCK MUST BE DEACTIVATED WHEN NOT REQUIRED.**

**EXCEEDING 20 KM/H WITH THE DIFFERENTIAL OR 4WD ENGAGED MAY CAUSE THE VEHICLE'S GEARBOX OR DIFFERENTIAL TO BREAK.**



To minimise component wear, we recommend that you engage the 4WD and lock when the vehicle is at a complete standstill. **NEVER** engage the 4WD and lock when the steering is turned. Do not use the 4WD and lock on paved roads.

Remember to service the 4WD actuator and gearbox as indicated in the Service Chart (p. 50) to avoid premature deterioration.

## LOCATION OF COMPONENTS

### GEAR SELECTOR

Located in the centre of the instrument panel.

It has 2 positions:

**L - LOW** (5).

**H - HIGH** (6).



Do not change gear if the vehicle is not completely stationary, as this can lead to accelerated deterioration or even breakage of the gearbox.

### POWER RANGE SELECTOR

It is located on the instrument panel.

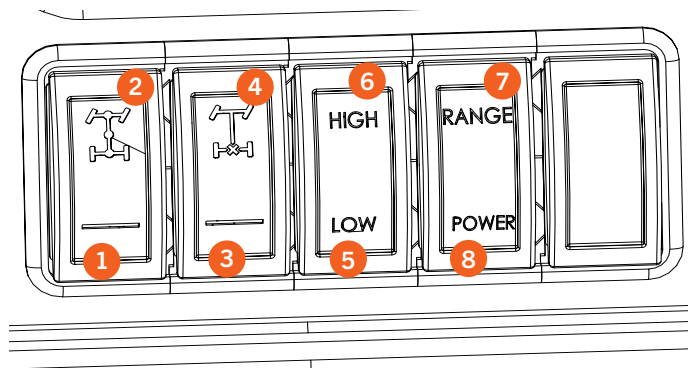
It has 2 positions:

**ECO:** For smoother driving and to save power (7).

**POWER:** For when you need power - the battery will drain more quickly (8).



Driving in **POWER** mode may rapidly reduce the battery charge level.



## LOCATION OF COMPONENTS

### PARKING BRAKE

The parking brake is engaged by means of a lever located on the left-hand side of the driver seat.

It has 2 positions:

**ON:** Engage the parking brake by pulling the lever up firmly.

**OFF:** Lift the lever up slightly, push on the lock button and pull it down.

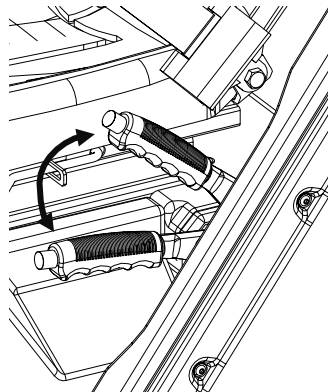


**DO NOT** apply the handbrake from outside the vehicle, as the lever may bend and damage bodywork components.

**NEVER** apply the handbrake when the vehicle is in motion, as this could lead to an accident.

The **AUDIBLE WARNING DEVICE** will activate in the following situations:


- If the vehicle does not detect anyone in the driver seat and the handbrake is not on.
- If any gear other than neutral (N) is engaged and the handbrake is on.
- If the vehicle's battery charge is low
- If there is an engine failure.
- If the temperature of the engine or the peripherals is high.
- If the auxiliary battery is not charging properly.



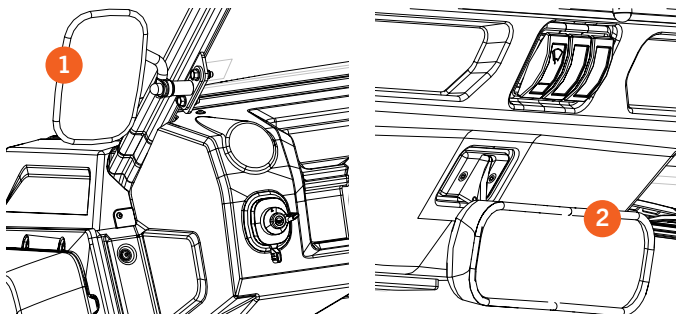
## LOCATION OF COMPONENTS

### REAR-VIEW MIRRORS

The vehicle is equipped with two rear-view mirrors (1), one on each side, and a third one on the inside in the centre\* (2).


 Adjust the rear-view mirrors before driving to ensure maximum visibility.

 Do not adjust the rear-view mirrors while driving.

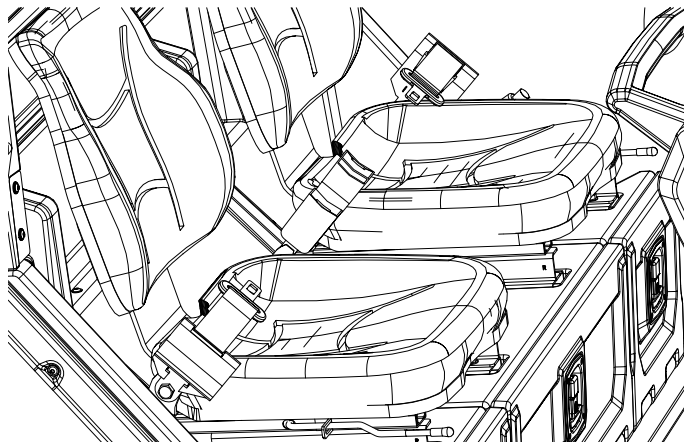


### SAFETY BELTS

The safety belts are two-point belts and have a cam to release them.

 Adjust the safety belts before driving to ensure maximum safety in the event of an accident.

 Always drive with the safety belts correctly fastened. Do not adjust the belts while driving.

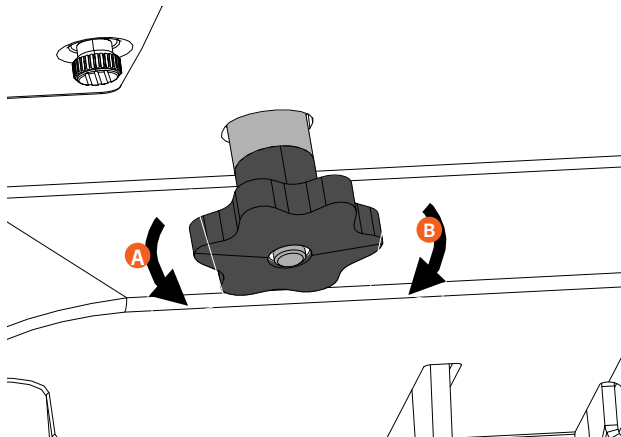


## LOCATION OF COMPONENTS

### STEERING WHEEL ADJUSTMENT

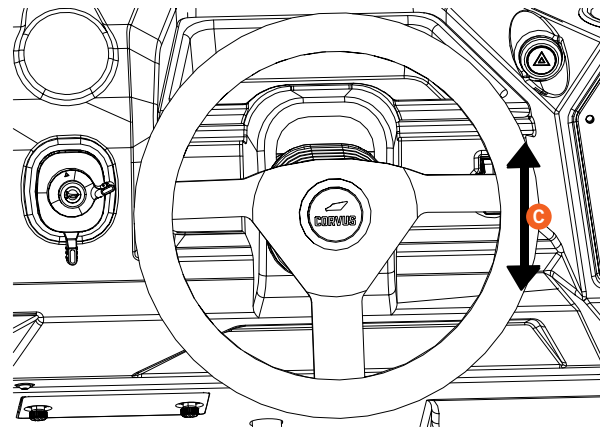
There is an adjustment knob under the steering wheel that allows you to move the position of the steering wheel along the vertical shaft for a more comfortable driving position. To do this, follow these steps:

1. Turn the knob counter-clockwise (A)
2. Place the steering wheel in the most comfortable driving position (B)
3. Turn the knob clockwise to re-tighten the steering wheel (C)



**Do not adjust the steering wheel while driving; always do so before you start driving the vehicle.**

**Check the adjustment knob before you move off and tighten it firmly if necessary to prevent unwanted steering wheel movement while driving.**



## LOCATION OF COMPONENTS

### LUGGAGE COMPARTMENT HOOD

To **open** the hood of the vehicle, you need to do the following:

- 1 - Press the button located on the hood (1).
- 2 - The hood will rise a few cm.
- 3 - Tilt the hood backward as far as it can go.

To **close** the hood of the vehicle:

- 1 - Lower the hood (2) slowly, without closing it.
- 2 - Press with both hands on the area around the logo to anchor it.

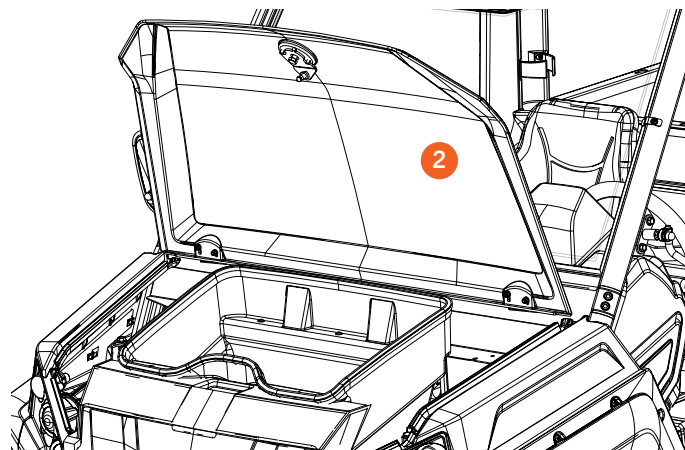
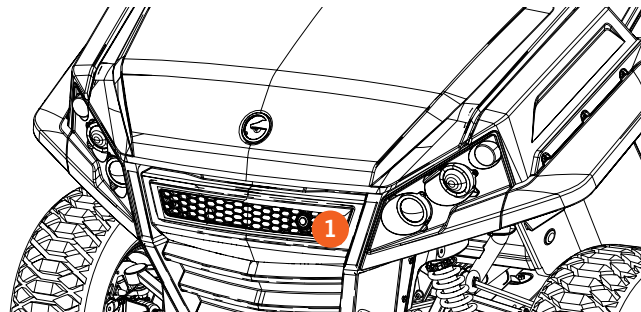


**When closing the hood, do not let it drop. This could cause injury to you or others.**

**Before driving off, make sure it is completely closed.**



**Do not store flammable materials in any of the compartments.**  
**Do not drive the vehicle with the hood open.**



## LOCATION OF COMPONENTS

### CARGO BOX

The cargo box has a rear door (1) for easier loading and unloading of materials.

Opening the rear door:

- The door has two side bayonet levers (2).
- Grasp the door by the centre and open the two bayonet levers, one after the other.



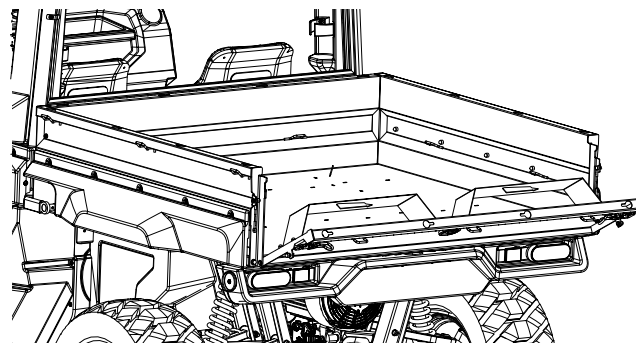
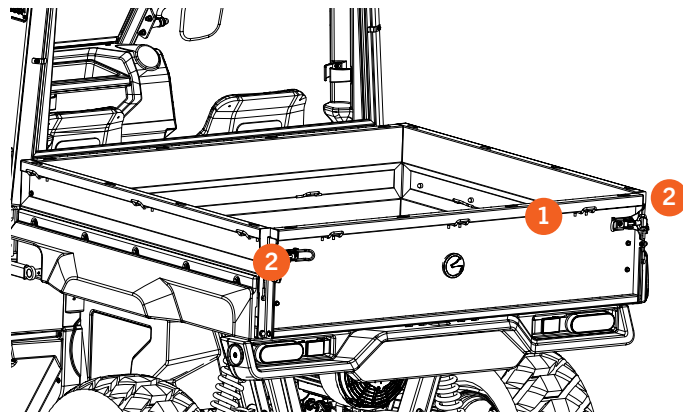
Avoid opening both bayonets at the same time to avoid damaging the rear door or the structure of the cargo box.



Sitting on or leaning against the tailgate is prohibited. This element is not designed for this purpose.



**NEVER** lift the cargo box fully loaded. Doing so could cause the box to rise up unexpectedly or aggressively, which would break the springs and could cause serious injury to the operator.



## LOCATION OF COMPONENTS

### TILTING THE CARGO BOX

To tilt the cargo box, proceed as follows:

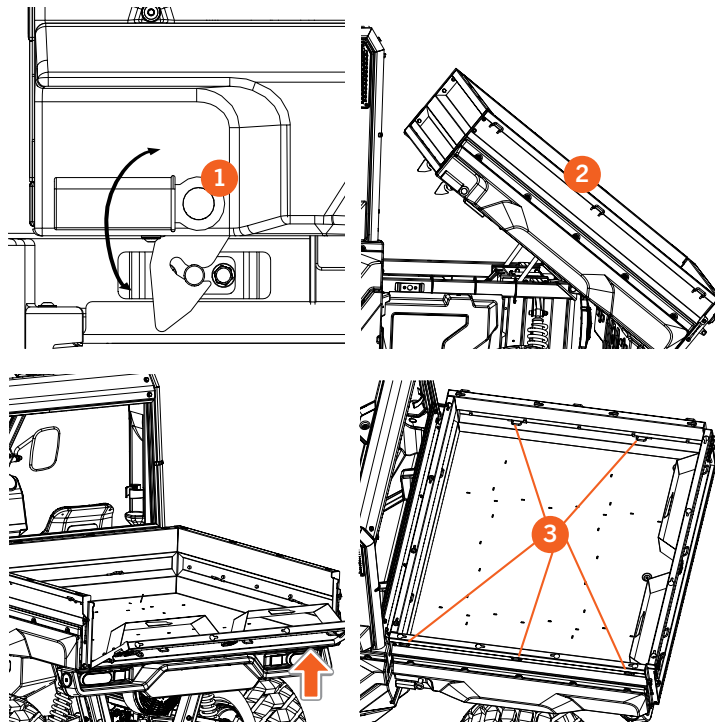
- 1 - Turn the lever (1) clockwise.
- 2 - The box will be unhooked.
- 3 - Tilt the box up. The box has two shock absorbers (2) that make it easy to tilt it and prevent recoil.



- An overload (max. 300 kg) can make the vehicle unstable and may lead to an accident.
- Place the load as far forward as possible.
- Place a mesh or a tarpaulin over light or volatile loads.
- Use straps to secure the load to prevent it moving in the box.
- The box has interior hooks (3) for fastening purposes.
- If driving on uneven or unstable terrain, reduce speed to avoid movements that may make you lose control.
- Make sure that the load does not protrude from the sides of the transport box.
- Remember that the heavier the load, the longer it will take to brake the vehicle.
- Keep any fluid tanks under control and make sure they do not move around inside the box.



**NEVER** carry a passenger in or on the cargo box. Do not lift the cargo box when it is loaded. Doing so could pose a risk to the operator or even cause the vehicle to overturn. First unload the heavy load through the rear door.





## LOCATION OF COMPONENTS

### UNLOADING THE BOX

Please follow the procedure below to unload the cargo box safely:

1. Park the vehicle on a straight and level surface and apply the handbrake.
2. Open the rear door and unload all or most of the load. Only lift the cargo box if you are absolutely sure you can lift it. Do not lift it with a load.
3. Once you have unloaded it, lower the cargo box and put it in place.



**NEVER LIFT THE CARGO BOX FULLY LOADED. DOING SO COULD CAUSE THE BOX TO RISE UP UNEXPECTEDLY OR AGGRESSIVELY, WHICH WOULD BREAK THE SPRINGS AND COULD CAUSE SERIOUS INJURY TO THE OPERATOR.**

**ALWAYS UNLOAD THE VEHICLE ON A LEVEL SURFACE TO PREVENT THE VEHICLE FROM OVERTURNING.**

**NEVER DRIVE THE VEHICLE WITH THE CARGO BOX RAISED UP OR THE REAR DOOR OPEN.**

**PLACE A MESH OR A TARPAULIN OVER LIGHT OR VOLATILE LOADS.  
USE STRAPS TO SECURE THE LOAD TO PREVENT IT MOVING IN THE BOX.**

**MAKE SURE THAT THE LOAD DOES NOT PROTRUDE FROM THE SIDES OF THE TRANSPORT BOX.**

**REMEMBER THAT THE HEAVIER THE LOAD, THE LONGER IT WILL TAKE TO BRAKE THE VEHICLE.**

**KEEP ANY FLUID TANKS UNDER CONTROL AND MAKE SURE THEY DO NOT MOVE AROUND INSIDE THE BOX.**

**NEVER DRIVE WITH A PASSENGER IN OR ON THE CARGO BOX, THIS COULD CAUSE SERIOUS INJURY OR EVEN DEATH TO THE PASSENGER. PASSENGERS MAY ONLY RIDE IN THE PASSENGER SEAT.**

**DO NOT PLACE HEAVY LOADS ON THE REAR DOOR, THIS COULD MAKE IT COLLAPSE.**

## LOCATION OF COMPONENTS

### CHARGING THE BATTERY

The battery charging point (1) is located on the left hand side of the vehicle above the rear fender.

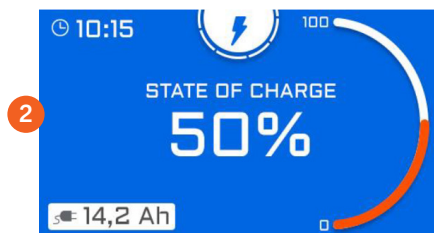
As shown in the picture (1), the charger is a type 2 ("Mennekes") charger.

To be able to charge the battery, you will need to have access to a mains socket compatible with your charger.

To charge the battery you must first:

1. Park the vehicle on a level surface and apply the handbrake.
2. Turn the vehicle off.
3. Open the charging point (1)
4. Connect the charging cable.

The following information will be displayed on the multifunction panel (2) once you have connected the plug.



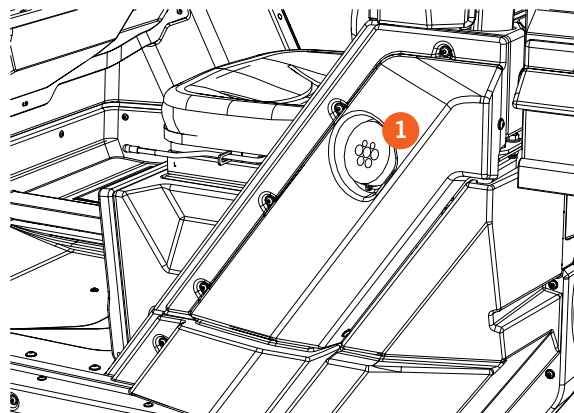
**DO NOT CHARGE THE BATTERIES BY ANY METHOD OTHER THAN THE CORVUS CHARGING POINT.**



**CHECK THE CHARGING POINT DAILY TO AVOID ANY BUILD-UP OF WATER OR OTHER FOREIGN MATTER THAT COULD DAMAGE THE CONTACTS.**

**CHECK THAT THE CHARGING CABLE IS IN GOOD WORKING ORDER BEFORE YOU CONNECT IT TO YOUR VEHICLE. A BROKEN CHARGING CABLE COULD DAMAGE VEHICLE COMPONENTS.**

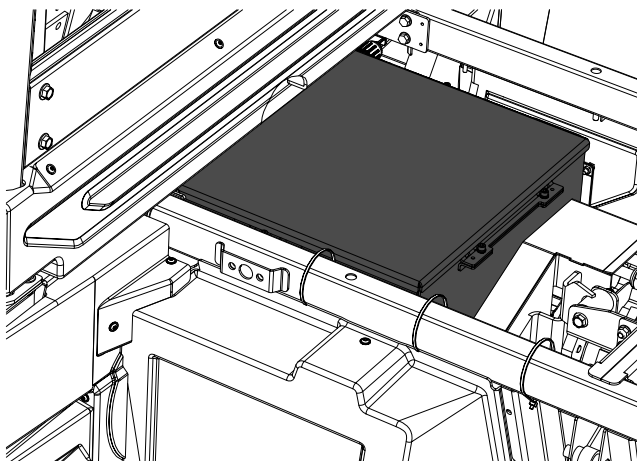
**CHARGE IN A DRY PLACE AT A SUITABLE TEMPERATURE. NEVER ABOVE 40°C**



## LOCATION OF COMPONENTS


### CHARGING THE BATTERY


The battery is located beneath the cargo box, inside a protective casing.



To clean the battery area, use low-pressure water and a cloth, taking care to avoid the connectors and grommets. Under no circumstances should you use high-pressure water for cleaning.

Do not open batteries or perimeter controllers for any reason no matter how justified it may seem, please contact your nearest Corvus Service Centre.

 **DO NOT** charge the batteries by any method other than the **CORVUS CHARGING POINT**.

 Handling batteries can result in electrical failure, component rupture or fire.

 Handling battery management systems may result in electrical failure, component breakage or fire.

 **DO NOT WASH THE BATTERY COMPONENTS WITH HIGH-PRESSURE WATER.**

The elements required for charging, such as the converter and the charge management system, can be found next to the battery.

## LOCATION OF COMPONENTS

### TRAILER

The vehicle is fitted with a towbar at the rear of the vehicle. It is important that you are aware of the load limitations of the towbar; for this purpose, there is a type approval plate with the following information.

MODEL: CORVUS TERRAIN EX4	
MAX towing capacity on trailer WITH inertia brake	755 kg
Max. vertical towbar load (1)	240 kg

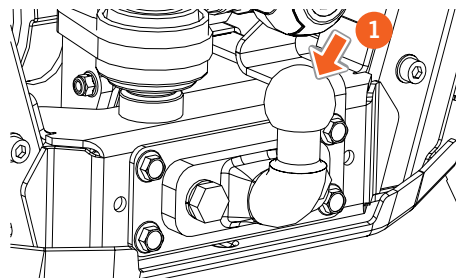
**!** Do not pull or tow objects from any point on the vehicle other than the pulling winch (if fitted) or from the tow points provided (one at the rear with a towbar and one at the front).

Never carry passengers on the trailer.

When driving the vehicle, avoid sharp turns or aggressive driving. Accelerate gradually and bear in mind that the braking distance will be affected by the load on the trailer.

Do not exceed 16 km/h when towing a load and drive the vehicle with the low gear (L) engaged.

Do not drive on steep or dangerous terrain when towing a load. If you have to drive on difficult terrain, reduce your speed considerably and pay attention at all times to elements that pose a potential hazard to your safety.



**!** When parking a vehicle with a trailer it is important to park on a horizontal surface. Do not park on a slope or leave the vehicle parked with a gear engaged, as this will not prevent the vehicle from rolling downhill. Always apply the hand brake. To improve vehicle stability and reduce the effects of towing the load to a minimum, it is advisable to distribute the weight of the load between the box and the trailer, if possible.

Secure the load on the trailer properly and ensure that the area between the trailer and the vehicle is free of anything that might damage the trailer or affect your driving.

On the top of the towbar there is a pineapple-like 7 pin electrical trailer connector with a maximum power rating of 150W. Exceeding this can cause serious damage to the electrical system and should not be exceeded under any circumstances. This maximum power will be even lower if anything is connected to any of the vehicle's auxiliary sockets.

## LOCATION OF COMPONENTS

### INSIDE STORAGE COMPARTMENTS

You will find three storage compartments under the seats:  
You must use the specific key to open them (5, page 10).

- 1 - Insert the key into the lock.
- 2 - Lift the handle.
- 3 - Turn the knob to the left or right.
- 4 - Slowly lower the cover.

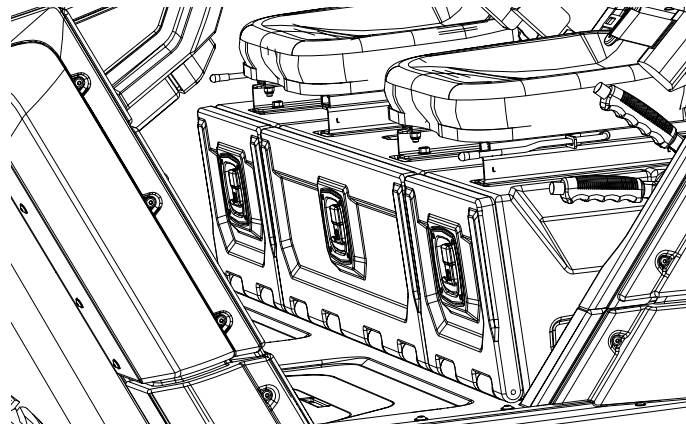
To close it, carry out the same steps in reverse.



**NEVER drive the vehicle with the storage compartments open.**  
**Do not drive the vehicle while the storage compartments are being handled.**  
**Do not store flammable material inside the storage compartments.**



**Although the storage compartments are water resistant, they are not completely waterproof: do not store any objects in them that you do not want to be affected by humidity.**



## SPECIFICATIONS

### ENGINE

Engine type	AC induction at 48V
Battery	Lithium-ion 15 kWh
Torque	150 Nm (rated)
Power	13 kw
Maximum speed	In Low: 25 km/h. In High 40 km/h
Transmission mode	On-demand 2WD or 4WD drive-line with lockable rear differential. L-H-N-R
Transmission	

### LIQUIDS

	DOT-4
Brake fluid <sup>1</sup>	Quantity: 1L
Transmission oil	SAE 80W-90 GL5 EP Quantity: 1L
	SAE 80W-90 GL5 EP Quantity: 0.5 L.
Differential oil *	SAE 80W Quantity: 0.05 L
4WD actuator oil *	

### DIMENSIONS

L x W x H	3414 x 1656 x 1973 mm
Wheelbase	2238 mm
Ground clearance	309 mm
Curb weight	2,238 mm
Towing displacement	In Low: 755 kg. In High: 479 kg
Max. total load capacity	620 kg

### CARGO BOX

Dimensions (L x W x H)	1340 x 1203 x 300 mm
Material	Steel
Load capacity	300 kg

### BATTERY

Generator	37 A
Battery charger	3 Kw (AC)
Running time	RANGE mode: 100 km (depending on usage)

1.- Cold weather countries should adjust the antifreeze solution to suit the temperature.

## SPECIFICATIONS

### CHASSIS

Front tire	6x9. R14
Rear tire	26x11. R14
Wheel rims	14" steel
Lights	LED (rear)
Turning radius	4.42 m
Front and rear suspension	Independent double wishbone suspension (both). 287 mm travel
Front brakes	Hydraulic dual-piston disc brakes
Rear brakes	Hydraulic disc brakes
Parking brake	Yes
Protections	Underbody protection
Coupling	2" front adapter and rear ball
No. passengers	2

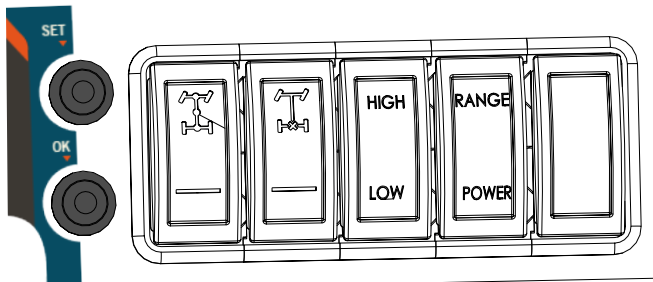
### CABIN

Windshield	Front *	Fixed laminate
	Rear *	Fixed tempered
Seats	2, separated	
Windshield wiper *	Upper centre part	
Safety belt	2-point	
Interior safety storage compartments	Beneath the seats	

### APPROVAL

Type	EU T1a
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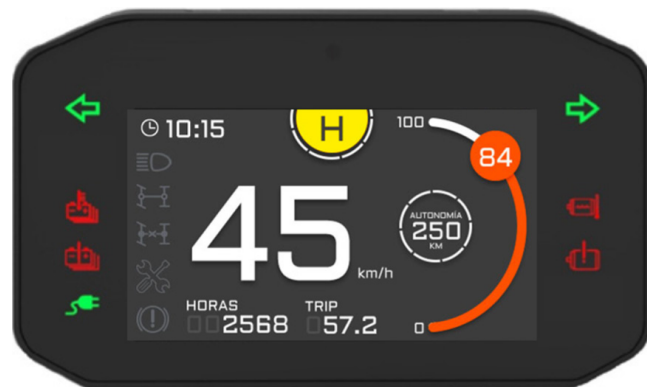
## MULTIFUNCTION PANEL



The multifunction device is water resistant but not waterproof. Do not wash it with water under pressure.

Do not leave the device in direct sunlight when the vehicle is not in use.

Avoid contact with fuel, degreasers or other chemical cleaners as they may damage the device. Remember to always pay attention to the road while driving.





## MULTIFUNCTION PANEL

### WARNING INDICATORS



#### **Battery overheating:**

The battery and/or any of the peripheral modules are above their safe operating temperature. If this happens, the vehicle will shut down until they return to operating temperature.

Whenever this warning indicator appears, please inform your nearest Corvus Service Centre.



#### **Battery failure:**

The battery and/or any of the peripherals have entered error or warning mode. The vehicle may shut down or slow down if this warning indicator appears.

Whenever this warning indicator appears, please inform your nearest Corvus Service Centre.



#### **Charge connected:**

This indicates that the charging cable is connected; if this warning indicator appears the vehicle will not operate.

If this warning indicator appears even though the charger is not connected, please contact your nearest Corvus Service Centre.

Please also contact your nearest Corvus Service Centre if this warning indicator does not appear during charging.



#### **Engine overheating:**

This warning indicator appears when the engine or the controller exceeds the maximum operating temperature. When it appears, the vehicle may shut down until the temperature is reduced.

Whenever this warning indicator appears, please inform your nearest Corvus Service Centre.



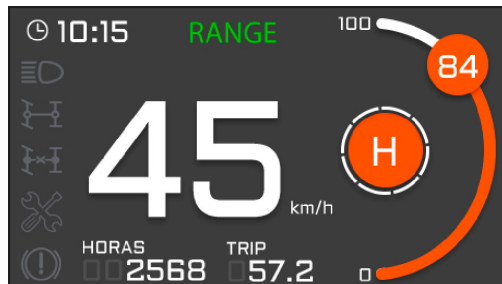
#### **Engine failure:**

This warning indicator appears when the engine or controller has entered error or warning mode. The vehicle may shut down completely or reduce its operating speed.

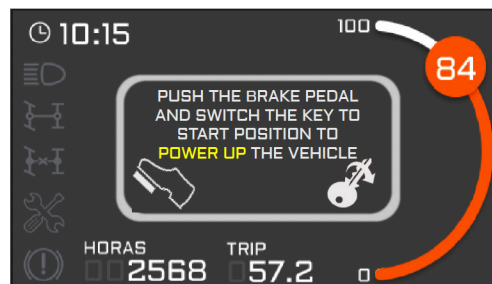
Whenever this warning indicator appears, please inform your nearest Corvus Service Centre.

## MULTIFUNCTION PANEL

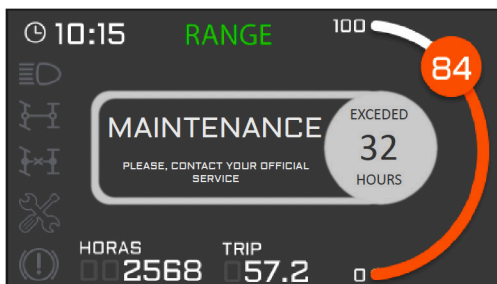
### ON-SCREEN NOTIFICATIONS



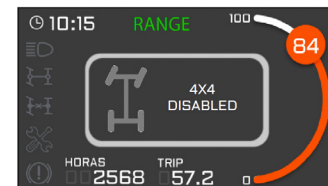
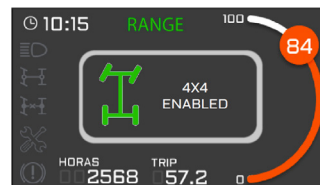
The parking light will start flashing and a buzzer will sound if the speed is above 2km/h and the parking brake is engaged.



This notification will appear whenever the procedure to activate the vehicle is not performed correctly.



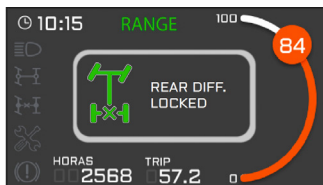
A maintenance message will be displayed for 5 seconds when the vehicle is activated.



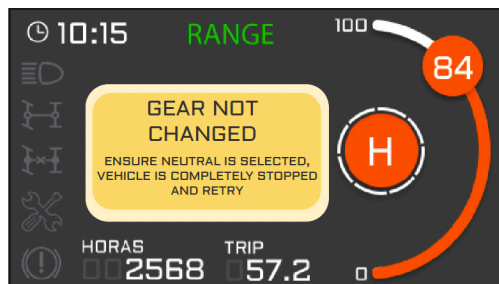
When the 4WD is activated or deactivated, a notification will be displayed on the screen.

## MULTIFUNCTION PANEL

### ON-SCREEN NOTIFICATIONS



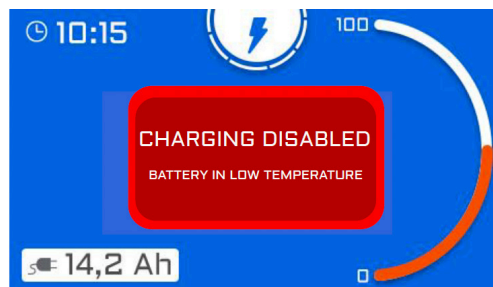
When the differential is activated or deactivated, a notification will be displayed on the screen.



When changing gear, this message will appear if you have not performed the process correctly. Always change gear by selecting N.



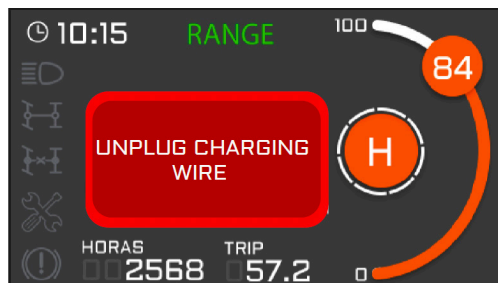
When changing driving mode while driving, the notification shown above will appear. Stop the vehicle and try again.



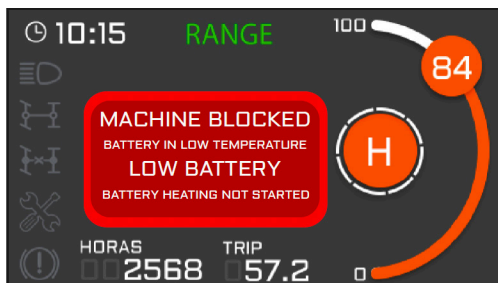
The following notification may appear during charging. If this happens, the vehicle cannot be charged until the temperature of the battery pack has risen.

## MULTIFUNCTION PANEL

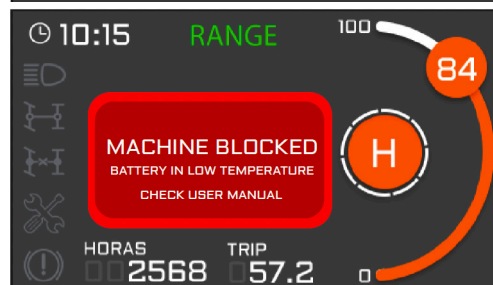
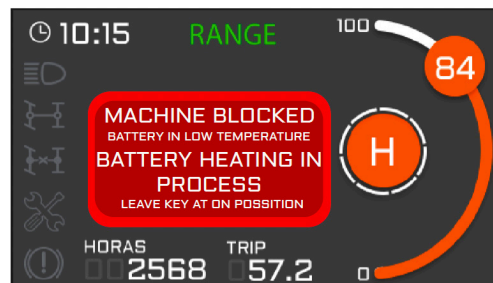
### ON-SCREEN NOTIFICATIONS



If you forget to disconnect the cable after charging and try to start the vehicle, the following message will appear on the display.



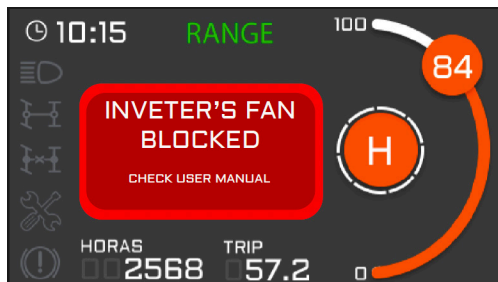
This message will appear if the battery charge is too low when the heater is activated.



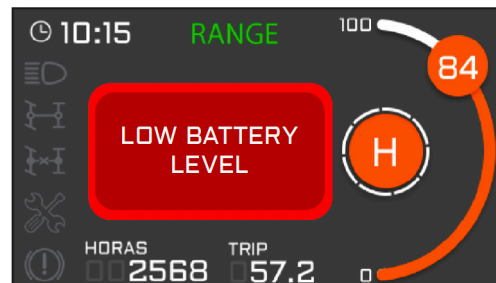
When the battery is in use and the battery temperature is below the operating temperature ( $-14^{\circ}\text{C}$ ), these messages will appear on the display depending on whether or not the vehicle has a battery heater. If it does not, it will not be possible to use the vehicle until the temperature rises. If your vehicle does have a heater, wait with the key ON until the correct temperature is reached.

## MULTIFUNCTION PANEL

### ON-SCREEN NOTIFICATIONS

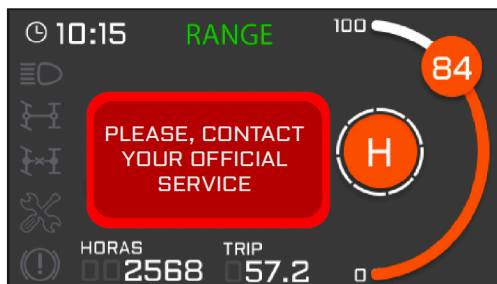


If this message appears, you should check the inverter area as something may be preventing the fans from working properly or there may be dirt in the area. If this is not the case, contact your



This message will appear for the first time when the battery drops to 20%. The buzzer will sound 4 times and it will disappear after a few seconds. This message will appear every 5% until the battery level drops to 5%. When this happens, the message will not disappear and the buzzer will sound every 4 seconds.

! The battery charge should not drop below 20% as it may go into deep discharge.



If this message appears on the screen, the vehicle has an inverter or battery failure. It will not operate and you should contact your nearest technical service.

## MULTIFUNCTION PANEL

### FUNCTIONALITIES

- **Odometer**

After contact, press the OK button to switch between kilometres and hours.

- **TRIP**

The dashboard has 2 meter readings, either kilometres or TRIP: to switch between them just press the SET button.

If you want to reset the TRIP function, press and hold the SET button until the kilometres return to 0.

### SETTINGS SCREEN

In this screen you can change the speed unit, the dashboard language, and the clock mode. To enter this mode, press and hold both the OK and SET buttons until the menu appears.

- **Speed units**

Accessing the menu will take you directly to the speed units; pressing SET will take you to the next setting section. Pressing OK takes you to the setting section; with SET you can switch between "kms" and "miles". To accept the change, press OK.

- **Language**

If you press the SET button when you access the settings menu, the language section will be displayed on the screen. By pressing OK you can access the setting, where you have to press the SET button to switch between the different languages. Once you have found your desired language, you need to press the OK button to accept the setting.

- **Changing the time**

To change the hour setting, press the SET button (each press of the SET button will add one hour). Press OK to accept the setting.

Then change the minute setting: each press of the SET button will add one minute. Press OK to confirm the time and exit.

### MAINTENANCE SCREEN

The maintenance screen will appear for 2s when the vehicle is switched on if it requires servicing in less than 100 km or 10 hours.

To access the maintenance screen, make sure the vehicle is at a complete standstill and press the OK button for 2 seconds.

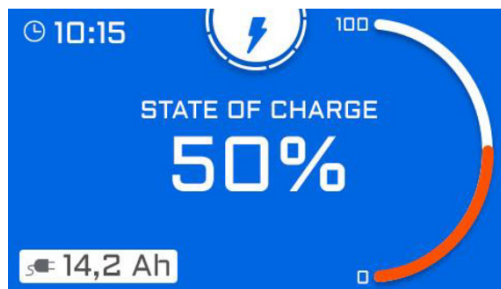
- **Maintenance reset**

Once in the maintenance page, press the OK and SET button until a confirmation screen appears: to accept press the OK button, to cancel press the SET button.

## MULTIFUNCTION PANEL

### CHARGE SCREEN

When the vehicle is connected to the charging point and the vehicle is switched off, this display will appear on the multifunction panel. After one minute of inactivity the panel will shut down until it receives an impulse from the OK or SET buttons.



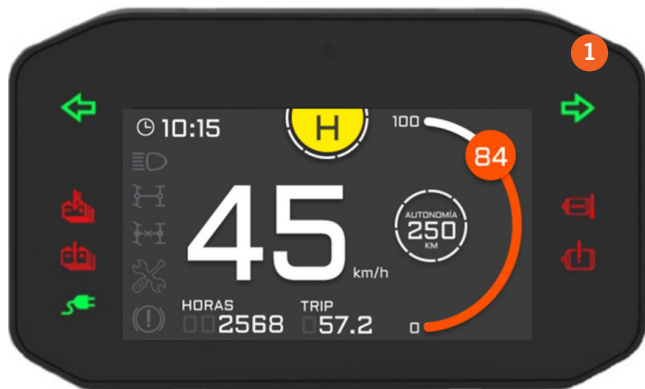


# USAGE INFORMATION



## DAILY INSPECTION BEFORE DRIVING

**!** These controls can actually be performed very quickly, it is a question of habit. the user knows to what use the vehicle has been subjected the last time it was used and where to intensify this control. Respecting this set of controls implies greater security for the user and, undoubtedly, better and more economical maintenance of your vehicle.



Before driving, put the vehicle in horizontal position and perform the following controls:

### Is the battery sufficiently charged?

Check your battery level on the multifunction panel (1) and make sure you charge the battery before each use.

### Is the brake fluid reservoir level correct?

It is located beneath the hood, under the luggage compartment hood if there is one.

The container is translucent (2).

Its level must be between MIN/MAX; if necessary, add brake fluid.

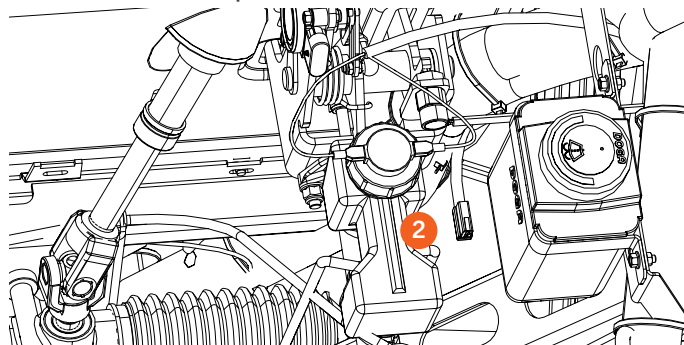
**!** If the brake fluid level is outside the limits shown on the tank, check the thickness of the brake pads and make sure they have not reached their usage limit.

If the thickness is correct, fill up the brake fluid and make sure there is no leakage: if in doubt, go immediately to your CORVUS dealer, they know what to do in each case.

This can affect your safety.

**NEVER** drive the vehicle if the brake fluid level is low.

Check the level regularly and carry out maintenance as indicated in the Service Chart (p. 50).



## DAILY INSPECTION BEFORE DRIVING

### Have any wires come loose?

The batteries, their controllers and everything related to the engine can be found beneath the cargo box. To avoid electrical failures, it is important to check whether any wires have come loose or been damaged by foreign matter or by interference with other components.

If you do find any damaged or loose wiring, please contact your nearest Corvus Service Centre.

### Is there any corrosion on the connections?

Check that the connectors are in good condition and that there are no signs of corrosion on the terminals.

If you do find corrosion on the terminal, please contact your nearest Corvus Service Centre.



**Do not under any circumstances disassemble the enclosure of any of the controllers, inverter or batteries.**

**A loose or damaged cable could interfere with the proper operation of the vehicle, and may even cause irreversible damage or fire.**

**Connecting or disconnecting a battery terminal incorrectly can lead to a catastrophic battery failure.**

### Is the battery in good condition?

It is important to check that the battery casing is in good condition and that there are no dents or scratches.

Check that the battery and engine mounts are in good condition.

## DAILY INSPECTION BEFORE DRIVING

### Do the brake discs look okay?

Any important scratches, cracks, excessive wear, etc. can be easily spotted.



**Check that the discs are at least 3.5 mm thick on the front and rear wheels.**

**Go immediately to your CORVUS dealer if you don't know what to do in each case. This can affect your safety. You should not drive the vehicle.**

### Are the front and rear brake pads in good condition?

Check the thickness of the remaining lining, ensuring that the thickness of the lining is not less than 1.5 mm. If it is, contact your CORVUS dealer to replace them.

Check that the brake pads do not rub against the discs when the hydraulic brake pedal or parking brake lever is deactivated.



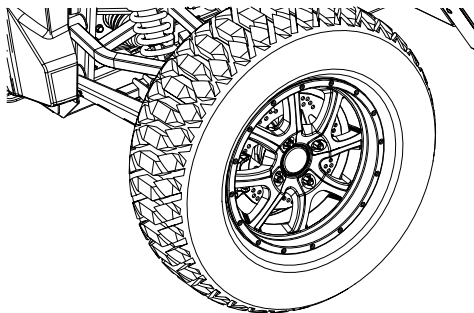
**NEVER drive a vehicle with worn brake pads. Brake pads in this condition lose their effectiveness and could pose a serious risk to your safety. Visit your CORVUS Service Centre to have the brake pads replaced immediately.**



**Clean the area around the wheel spindle and the brakes regularly to prevent the build-up of mud and other foreign matter. Allowing these to build up could lead to loss of brake effectiveness and rapid deterioration of components.**

### Do the commands feel okay to the touch?

The brake pedal, accelerator pedal, gearshift lever, differential lock lever, 2WD/4WD driveline level, hand brake lever, light panel, ignition system, horn and indicators. All these commands and control elements have their own characteristic functioning and touch, any change indicates an abnormality or damage. Nobody knows your vehicle better than you do, if you appreciate any changes, go immediately to your CORVUS dealer.



## DAILY INSPECTION BEFORE DRIVING

### Are the tires in good condition?

If in doubt, ALWAYS check the pressure level. If the problem persists, or is repeated, there may be a leak: see your CORVUS dealer.

Recommended front/rear pressure:

- 1.0 bar (empty vehicle).
- 1.5 bar (vehicle at full load).

Tire tread wear limit: 3.5 mm deep.

### Is there the risk of any element falling off?

Fenders, side covers, tank, mud flaps, etc. If there is any such risk, you should try to attach it or remove it so that it does not fall off, for the sake of your safety. Visit your CORVUS dealer to have it repaired.

### Are there any leaks?

Visually check for leaks, assessing them on the basis of their location, amount and the product that is leaking (be aware of the danger of fire). Always go as quickly as possible to your official CORVUS distributor or dealer.

### Do the safety belts work properly?

The safety belt will not function properly if the buckle or the strap of the belt are dirty or damaged. For this reason, always keep the buckle and the strap of the safety belts clean, because otherwise, the tongue of the belt will not click into place correctly.

Regularly check the safety belts to ensure that:

- They are not damaged.
- They are not in contact with sharp edges.
- They are not entangled.

In case of doubt or anomaly, go to your CORVUS dealer.

### Does the lighting and signalling system light up properly?

Regularly check all the bulbs of the lighting and signalling system are working properly. If you detect that any of them have burned out, replace them immediately.



**Regularly review the tightening torque of the bolts of the vehicle, paying special attention to the suspension, bushings, wheel spindles, driveline, steering and brakes.**

**NEVER drive without a bolt or a nut.**

**The lighting and signalling system are important safety measures: you should never drive the vehicle without either of them.**

**Daily checks can prevent breakdowns and accidents.**

## DAILY INSPECTION BEFORE DRIVING

### Is the vehicle clean?

Proper vehicle hygiene is important to ensure that the battery or engine system does not overheat. Many of the vehicle's components require air for proper cooling and a build-up of mud, dust or other foreign matter can have a negative effect.

The accumulation of mud on the vehicle's moving parts could have a negative effect on their performance. You should regularly remove any mud from the vehicle and prevent it from solidifying.



**Do not clean the battery or engine area with high-pressure water, as this could irreversibly damage the systems.**

If you notice that any of the electronic components have been damaged, do not wash the vehicle but contact your nearest Corvus Service Centre.

It is important to keep the area around the discs, pads and wheel spindles clean. Do not allow mud or external elements to accumulate over long periods of time. These elements can affect the performance, effectiveness and life of the materials.

### DAILY CHARGE

Perform the operation described on page 23.

It is advisable to charge the vehicle every day, even if the battery has not been fully discharged. This will help to extend the life of the batteries.

The battery level should not be allowed to fall below 20%.



**You should perform at least one full charge cycle per month, even if the vehicle is not in use.**

The battery should be charged in a dry environment with temperatures below 40°C - the ideal charging temperature is 25°C.

## STARTING THE VEHICLE

To start your Corvus vehicle, please follow the steps below:

1. Place the gearstick (1) in the N position (neutral).
2. Step on the brake pedal without stepping on the accelerator.
3. Turn the key all the way (2) until the multifunction panel lights up.
4. Disengage the handbrake, select the gear (3) and power mode (4).



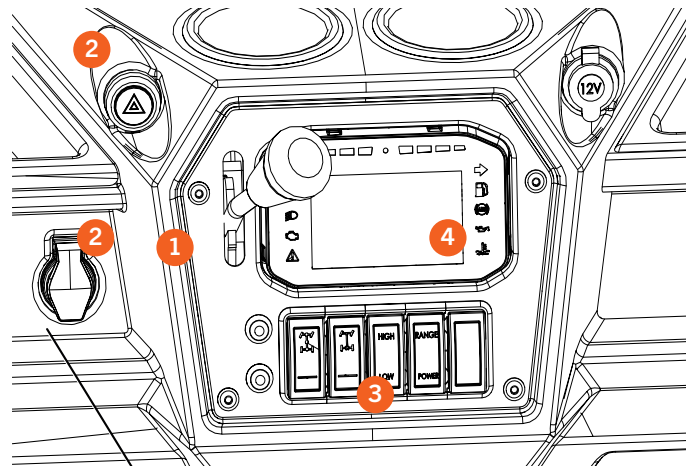
The gearshift lever must be operated with the vehicle completely stopped and the engine running at the minimum possible level, without accelerating.

Failure to comply with this instruction can cause severe damage to the driveline.


Do not drive with the hand brake on.

Do not operate the hand brake to stop the vehicle. Doing so can cause serious damage to the braking system of the vehicle and can be dangerous.

When moving into gear, accelerate gently, avoiding abrupt accelerations.



## USE OF THE REAR DIFFERENTIAL LOCK AND UNLOCK\*

 To minimise component wear, we recommend that you engage the lock when the vehicle is at a complete standstill.

It must **NEVER** be used on the road or on asphalt. The lock may only be used up to 20 km/h.

Failure to comply with this instruction can cause severe damage to the transmission system and the gearbox.


To **LOCK** the rear differential, perform the following steps:

1. Step on the brake pedal, without stepping on the accelerator.
2. Disconnect the hand brake. Make sure that is completely disconnected.
3. Put the gearshift lever into NEUTRAL (N) - central position.

To **UNLOCK** the rear differential, perform the following steps:

1. With the vehicle completely stopped, step on the brake pedal, without applying the accelerator.
2. Put the gearshift lever into NEUTRAL (N) - central position.

## USE OF THE 2WD / 4WD DRIVELINE \*

 To minimise component wear, we recommend that you engage the 4WD when the vehicle is at a complete standstill.

It must **NEVER** be used on the road or on asphalt. The 4WD may only be used up to 20 km/h.

Failure to comply with this instruction can cause severe damage to the transmission system and the gearbox.

To **ENABLE 4WD driveline** perform the following steps:

1. Step on the brake pedal, without stepping on the accelerator.
2. Put the gearshift lever into NEUTRAL (N) - central position.

To **DISABLE 4WD driveline** perform the following steps:

1. With the vehicle completely stopped, step on the brake pedal, without stepping on the accelerator.
2. Put the gearshift lever into NEUTRAL (N) - central position.

## DRIVING TIPS

### GENERAL INFORMATION

- Keep your body completely inside the vehicle at all times while driving.
- Keep both hands on the steering wheel while driving.
- The front passenger seat can be occupied by a passenger while the vehicle is in use.
- Make sure the passenger is properly seated and wearing a safety belt.
- Be aware of potential hazards that may get into the vehicle.
- Abrupt or aggressive driving manoeuvres, even in open areas and on flat surfaces, can result in loss of control and may even cause the vehicle to overturn.

### TURNING PRECAUTIONS

- Turning the steering wheel sharply and at considerable speed could cause the vehicle to overturn.
- Avoid driving with the vehicle tilted sideways and if you must turn, do so gradually.
- Brake before turning and avoid braking sharply while turning.
- If you need to turn when the car is at a standstill or at low speeds, accelerate gradually.

### DRIVING ON SLOPES OR HILLS

- Try not to drive over hills, but if it is unavoidable, drive slowly and do not proceed if you think the vehicle may overturn.
- Steep slopes could cause the vehicle to overturn.
- Drive slowly, at a steady speed, and if the vehicle stops moving forward, gradually apply the brakes until it comes to a complete stop. Put the vehicle in reverse gear and let it move slowly down the hill or slope, applying the brakes so as not to lose control.

### REVERSE GEAR

- NEVER shift into reverse gear if the vehicle is not completely stationary as this causes rapid deterioration of the gearbox and could damage it.
- NEVER accelerate down a hill or slope, step lightly on the brake so as not to lose control.
- If you cannot stop the vehicle from overturning, keep your body completely inside the vehicle, press firmly on the floor and hold on tightly to the steering wheel or passenger hand grip.
- Do not attempt to stop the vehicle from rolling over with any part of your body.

### PAVED SURFACES

- As far as possible, try not to drive on paved surfaces.
- If you do need to drive on a paved road, turn gradually and drive cautiously.
- Do not engage the 4WD or the differential on paved roads.

### DRIVING THROUGH WATER

- Avoid driving through water if it is not necessary.
- NEVER drive through fast flowing water as this could cause you to lose control, be carried away by the current and even overturn.
- Before entering the water, choose where to cross, avoiding rocks or sudden drops. Always choose gradual descents.
- Take special care and attention when performing these operations
- Do not drive through water if it rises above the centre of your wheel rims.
- Do not drive through water at high speed, even shallow water.



## DRIVING TIPS

- If you need to manoeuvre in a confined space, make sure you bring the vehicle to a complete stop before shifting between forward and reverse gears and vice versa.
- **NEVER** force the reverse gear, if it does not engage, gently press the accelerator and try again.

### UNFAMILIAR TERRAIN

- If you are not familiar with the terrain you are driving over, check to see if there are any hidden obstacles or anything that could be hazardous to your work.
- Drive carefully and always use existing roads.
- Drive with extra caution if visibility is poor.

### DRIVING WITH A LOAD

- When driving with a **loaded box** or a trailer:
  - Reduce speed and drive in LOW (L) gear.
  - Avoid hills or slopes.
  - Load the box correctly and drive with extra care.
  - A load greater than 300 kg could pose a serious risk to the occupants of the vehicle, **NEVER** exceed this load in the box.
- When **towing** a load:
  - Use a low gear and do not exceed 16 km/h when towing a heavy load.
  - Do not drive aggressively when towing a load.

- Bear in mind that the braking distance and stability of the vehicle will be affected by the towed weight.
- Never park on a slope when carrying a load.
- Avoid driving over unfamiliar or difficult terrain; if you must do so, reduce your speed considerably and be alert to any potentially dangerous elements you may encounter.
- Spreading the weight between the load box and the trailer, where possible, can help to improve the stability of the vehicle.

## CLEANING THE VEHICLE

To clean your CORVUS, perform the following steps:

1. Remove the underbody protector.
2. Use low-pressure water and a cloth or sponge.
3. Clean the vehicle from top to bottom, using soapy or specialised products if the area requires it.



**DO NOT USE CORROSIVE, ACIDIC OR HIGHLY AGGRESSIVE PRODUCTS.**

4. Use a damp cloth to clean the battery area.
5. Rinse with low-pressure water, taking care not to let the electrical areas get wet.
6. Allow the vehicle to dry naturally or wipe it dry for a better finish.
7. Reassemble any parts you may have removed in step 1.



It is important to clean the vehicle frequently, especially the area around the wheel spindle, brake callipers and the inside of the underbody protector.

**NEVER** use high-pressure equipment to clean the vehicle. Avoid aiming the jet of water directly at the multifunction panel, bearings, air cleaner, switches, controls or any other electrical element.

It is very detrimental to briefly start up the engine when the vehicle is stationary, because the engine is not hot enough and the air vapour created during combustion condenses and causes the oxidation of the exhaust valves.

## VEHICLE STORAGE

If you are going to store the vehicle for a prolonged period of time, please do the following:

- Clean the vehicle thoroughly and allow it to dry.
- Disconnect the main battery by using the switch between the seats (1).
- Treat all bright or zinc-coated parts with wax-based corrosion inhibitors, except for the brake discs, which are made of stainless steel and do not need protection.
- Check the tire pressure and inflate them to their maximum pressure of 2 bars.
- Disconnect the auxiliary battery.
- Cover the vehicle to protect it from dust and dirt.
- Store the vehicle in a dry place that is not subjected to important temperature changes.
- Charge the battery at least once a month.
- Do not let the battery charge fall below 20%. If this happens, the battery may go into deep discharge and you will have to contact your Corvus service to get it working again.



To turn on the vehicle again, after storage:

- Connect the auxiliary battery (having charged it previously).
- Reconnect the main battery.
- Fully charge the battery.
- Check the points in the section "Daily inspection before driving".
- Perform a brief test drive.

# MAINTENANCE

## SAFETY AND MAINTENANCE STANDARDS



- The battery electrolyte contains sulphuric acid. Protect your eyes, clothing and skin. Sulphuric acid is highly corrosive; in case of contact with eyes or skin, wash with plenty of water and go to a doctor immediately.

- Batteries produce hydrogen, a gas that can be highly explosive. Do not smoke and avoid open flames or sparks near the battery, especially when you are charging it.

- Clean the brake pads in a ventilated place, directing the jet of compressed air in such a way that you do not breathe in the dust produced by the wear and tear of the friction material. Although such dust does not contain asbestos, inhalation is nevertheless harmful.



- Use original CORVUS spare parts and lubricants recommended by CORVUS. Non-original or non-compliant spare parts can damage the vehicle.

- Only use tools designed specifically for this vehicle.

- Always use new gaskets, sealing rings and pins during assembly.

- After disassembly, clean the components with non-flammable solvent or one with a low flammability point.  
Lubricate all working surfaces before assembly, excluding the conical couplings.

- After assembly, check that all components have been installed correctly and that they work perfectly.

- For disassembly, inspection and assembly operations, only use tools with metric measurements. Metric screws, nuts and bolts are not interchangeable with connecting parts with English measurements. The use of unsuitable tools and connecting parts may damage your vehicle.

## SERVICE CHART

The maintenance requirements set out in this chart are simple and necessary for a good maintenance of your vehicle.

**A:** ADJUST / **C:** CHECK / **L:** LUBRICATE / **R:** REPLACE

ELEMENT		Daily	Interval		
			50 h	500 h	2000 h
Auxiliary battery	Check indicators	C			
	Check the auxiliary battery		C		
Electrical equip	Wiring		C (1)		
	Battery terminals and peripherals	C	A		
	Battery	C			
Gearbox, differentials and transmissions	Check gearbox and front/rear differential oil level			C	
	Replace gearbox and front/rear differential / 4WD actuator oil		R (3)	R (4)	
	Check transmission joint boots	C			
	Cardan gaskets	L			
Wheels and amortization	Wheel bearings		C		
	Nuts and studs of the wheel bolts		C		
	Suspension ball joints and mounting points		C		
	Tire pressure and wear	C			
General check	Absence of leaks and state of seals (1)	C			R (6)
	Check brake fluid level	C			
	Replace brake fluid		L		R (6)
	Lubricate the wheel spindles, cardan gaskets and ball joints				
	Check and clean underbody protection.	C		A	
	Hand brake cable				
Engine	Check condition of discs and pads.	C			
	Check overall condition and cleanliness	C			

(1) Perform more often if the vehicle is used intensively, in areas with a lot of dust, sand, snow, wet or muddy conditions. (2): Replace if necessary. (3): The first time. (4): 2nd time and from then on. (5): Or 1 year, whichever comes first. (6): Or 2 years, whichever comes first.

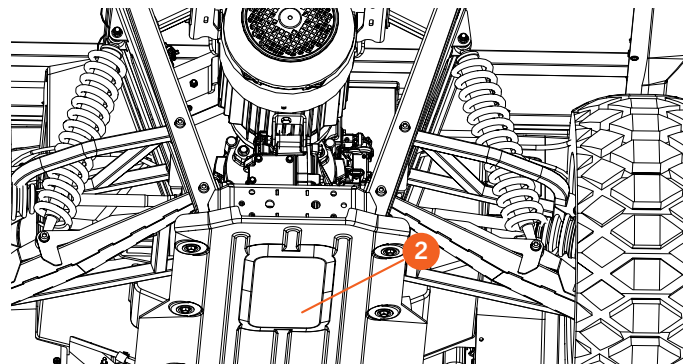
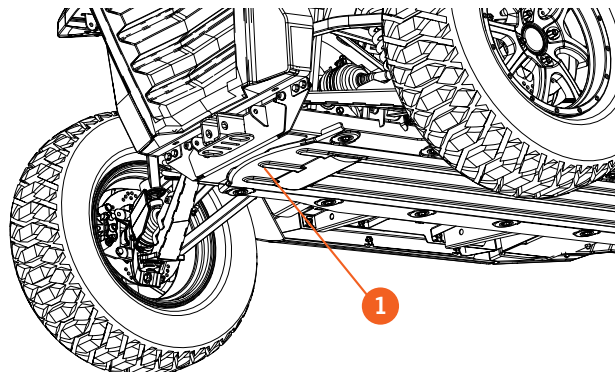
## RAISING THE VEHICLE

The vehicle is equipped with an area at the front (1) and another at the rear (2) to facilitate its elevation.

**!** Before raising the vehicle, make sure the brake is fully on and that the surface is flat and completely horizontal.

**!** Do not perform any operation or service while the vehicle is being lifted.  
Do not touch the vehicle or get into it until it is fully raised and secured, as this could destabilise the vehicle and cause it to overturn.

1. Place the base of the forklift in the area indicated in the vehicle.
2. Raise the vehicle slowly, checking that it is stable.



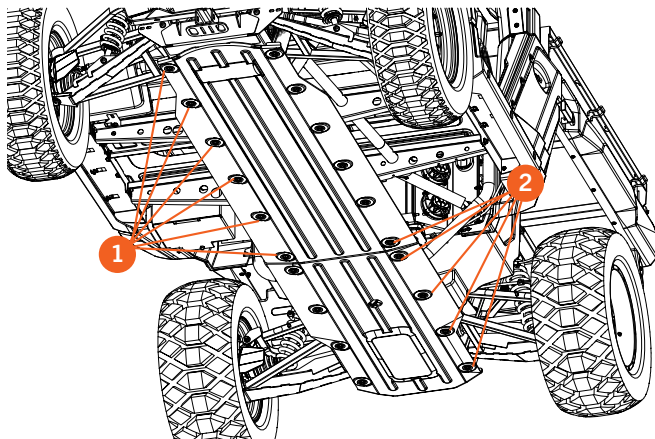
## UNDERBODY PROTECTOR

### DISASSEMBLY:

1. Remove the 12 screws (1) from the front underbody protector.
2. Uncouple the protector.
3. Remove the 8 screws (2) from the rear underbody protector.
4. Uncouple the protector.



**Do not drive without the underbody protector, as this could jeopardise the integrity of important components such as the transmission.**



**The underbody protector must be kept clean, both internally and externally. In order to be able to detect fluid leaks from the vehicle, to avoid rust due to trapped water, etc.**

## WHEELS

### DISASSEMBLY:

1. Put the vehicle in a horizontal position.
2. Engage the parking brake.
3. Raise the area of the vehicle (front or rear) where the wheel you are removing is located (see page 51).
4. Remove the four screws (3) holding the wheel rim.
5. Remove the wheel.

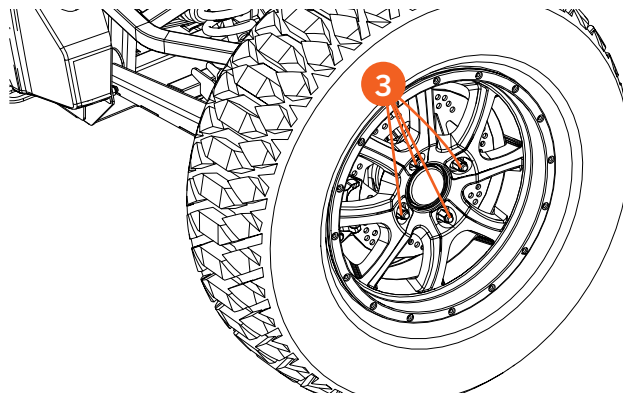
Perform the above procedure in reverse for the **installation**.



**NEVER drive without one of the wheel bolts, as this poses a great risk to your safety.**



**TECHNICAL INFORMATION** Fastening torque for wheel nuts: 70 Nm.

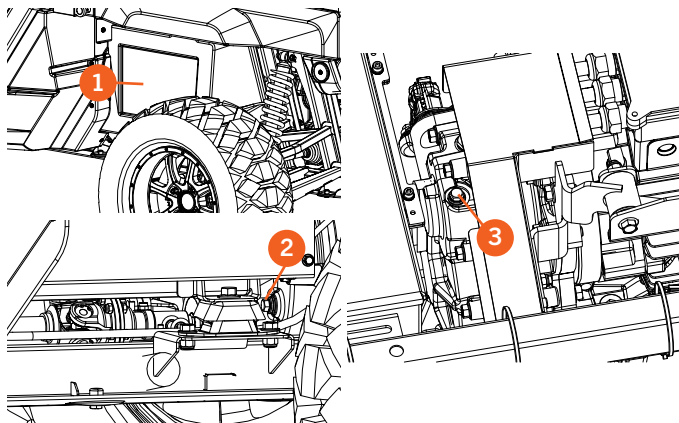


## TRANSMISSION OIL (LEVEL CHECK)

The smooth operation and durability of the transmission essentially depend on the oil being kept at the optimum level and being changed periodically, as indicated in the Service Chart (page 50).

Checking procedure:

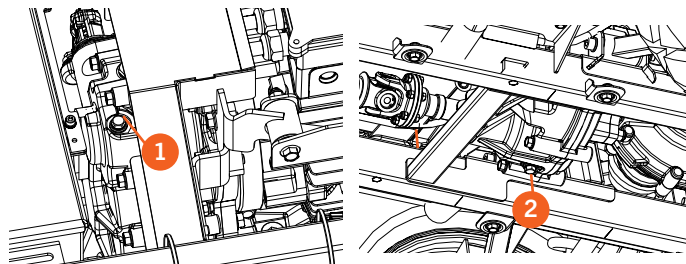
1. Put the vehicle in a horizontal position.
2. Remove the side protector (1).
3. Remove the level screw (2).
4. If a slight amount of oil oozes from the hole, the level will be correct. If, on the contrary, no liquid oozes from the hole, you should continue to add more oil.
5. If you need to add more oil, you must do so through the filler cap (3).



## TRANSMISSION OIL (OIL CHANGE)

### CHANGE PROCEDURE:

1. Put the vehicle in horizontal position and lift the load box.
2. Remove the rear protector (see page 50).
3. Place a container under the transmission to collect the used oil and avoid any spillage.
4. Remove the filler plug (1), to facilitate a better drainage of the transmission oil.
5. Remove the transmission oil drain screw (2).
6. Once all the oil has drained from the transmission, replace the washer and make sure the drain screw is tightened to 24 Nm.
7. Fill the transmission with new oil.
8. Replace the O-ring and fit the filler plug (1).



### TECHNICAL INFORMATION:

Recommended oil: SAE 80W-90, API GL5.

Capacity: 1L.



**NEVER** drive the vehicle with no or low oil in the gearbox. It is important that you are familiar with the maintenance intervals for the components shown in the service chart.



## REAR DIFFERENTIAL OIL (CHECK AND CHANGE)

### CHECK:

To check the rear differential oil level, you have to drain the oil into a calibrated container and measure the amount that has been extracted. The correct volume is 0.5 L.

### CHANGE:

The oil must be changed periodically, to ensure the life of the differential, as indicated in the Service Chart (page 50).

1. Park the vehicle in a totally horizontal position.
2. Before starting the operation, remove the rear underbody protector (p. 52) and lift up the cargo box.
3. Place a container under the differential to collect the used oil and avoid any spillage.
5. Remove the filler plug/screw (1), to facilitate better oil drainage.
6. If it is not possible to access the filler cap from the rear, you will have to remove the side protector (2).
7. Remove the drain cap/screw (3) and wait until all the content has emptied out.
8. Screw on the drain plug/screw (3) and tighten the drain plug, replacing the washer, securing it at 24 Nm.
9. Fill the rear differential with the new oil.
10. Screw on and make sure the corresponding filler plug/screw (1) is tight, replacing its washer, securing it at 24 Nm.



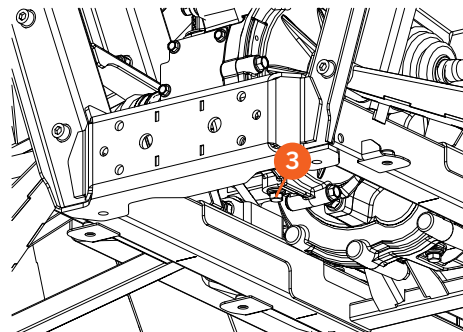
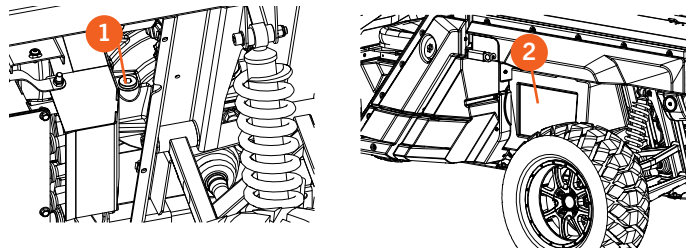
**NEVER** drive the vehicle if there is no oil in the rear differential or if the oil level is low.



It is important that you are familiar with the maintenance intervals for the components shown in the service chart.



If you notice any leakage from the differential, make sure that you have enough oil to run the vehicle and contact your nearest Corvus Service Centre.



## FRONT DIFFERENTIAL OIL (CHECK AND CHANGE)

### CHECK:

To check the front differential oil level, you have to drain the oil into a calibrated container and measure the amount that has been extracted. The correct volume is 0.5 L.

### CHANGE:

The oil must be changed periodically, to ensure the life of the differential, as indicated in the Service Chart (page 50).

1. Park the vehicle in a totally horizontal position.
2. Before starting the operation, remove the front underbody protector (p. 52) and lift up the hood.
3. If necessary, remove the front luggage compartment.
4. Place a container under the differential to collect the used oil and avoid any spillage.
5. Remove the filler plug/screw (1), to facilitate better oil drainage.
6. Remove the drain cap/screw (2) and wait until all the content has emptied out.
7. Screw on the drain plug/screw (2) and tighten the drain plug, replacing the washer, securing it at 24 Nm.
8. Fill the front differential with the new oil.
9. Screw on and make sure the corresponding filler plug/screw (1) is tight, replacing its washer, securing it at 24 Nm.



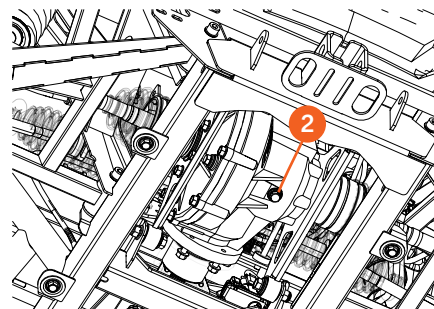
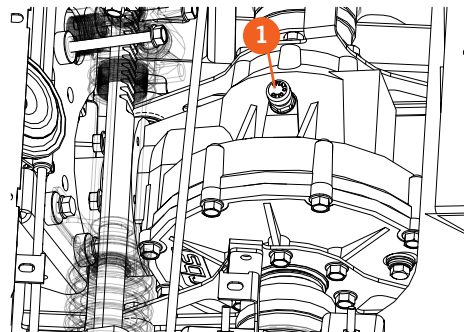
**NEVER** drive the vehicle if there is no oil in the front differential or if the oil level is low



It is important that you are familiar with the maintenance intervals for the components shown in the service chart.



If you notice any leakage from the differential, make sure that you have enough oil to run the vehicle and contact your nearest Corvus Service Centre.



## 4WD LOCKING SYSTEM OIL (CHECK AND CHANGE)

### CHECK:

To check the 4WD lock system oil level, you have to drain the oil into a calibrated container and measure the amount that has been extracted. The correct volume is 0.05 L.

### CHANGE:

It is convenient to frequently check that there are no leaks and the maintenance of the oil level, for correct operation.

Changing the locking system oil.

1. Put the vehicle in the horizontal position and remove the front underbody protector (see page 52).
2. Place a container under the 4WD locking system to collect the used oil and avoid any spillage.
3. Remove the filler plug (1), to facilitate a better drainage of the 4WD locking system oil.
4. Remove the drain screw (2) the 4WD locking system oil.
5. Once all the oil has drained out of the system, replace the washer and make sure the drain screw is tightened at 24 Nm.
6. Fill with 0.05 L of new oil.
7. Replace the plug washer and tighten the oil filler plug (1) to 24 Nm.



### TECHNICAL INFORMATION:

Recommended oil: SAE 80W-90, API GL5. Capacity: 0.05 L.

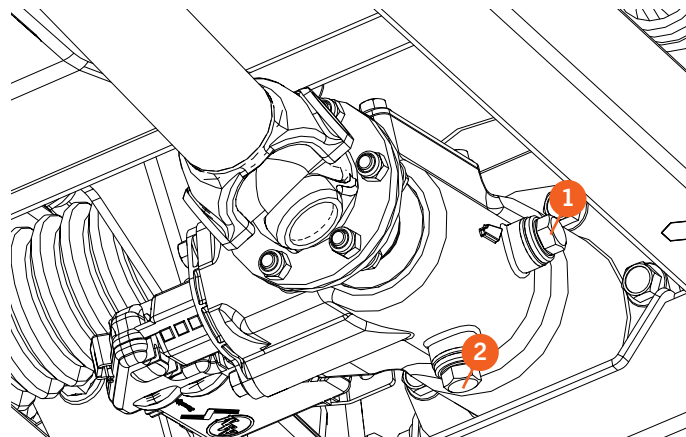
Tighten the filler plug/screw to 24 Nm.

Tighten the drain plug/screw to 24 Nm.



**NEVER** drive the vehicle with no or low oil in the 4WD actuator.

It is important that you are familiar with the maintenance intervals for the components shown in the service chart.



## GREASE NIPPLES

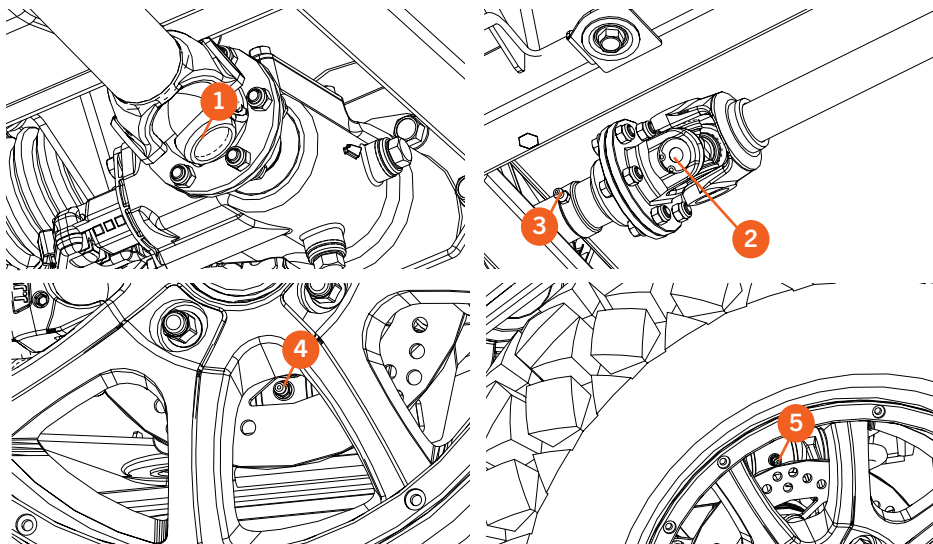
Your vehicle is equipped with grease nipples to facilitate the lubrication of certain parts (2 in each rear wheel spindle, 2 in each cardan joint and 1 in the transmission cardan/output coupling joint).

- 1- Cardan-driveline hub grease nipple.
- 2- Cardan-driveline hub grease nipple.
- 3- Driveline coupling grease nipple.
- 4- Lower rear wheel spindle grease nipple.
- 5- Upper rear wheel spindle grease nipple.



The indicated points should be lubricated according to the service chart to prevent rapid wear of the components.

Check regularly to make sure that the grease nipple is still in position. If it falls out, lubrication may be lost and dust or foreign matter can get in, which will accelerate the wear of the components.



## LUGGAGE COMPARTMENT HOOD

### DISASSEMBLY:

To gain access to the differential and the components located under the hood, it will be necessary to remove the luggage compartment if there is one.

Previously, you need to remove the front hood.

1. Loosen the 5 screws (1) that hold the luggage compartment hood in place.
2. Remove the luggage compartment hood.

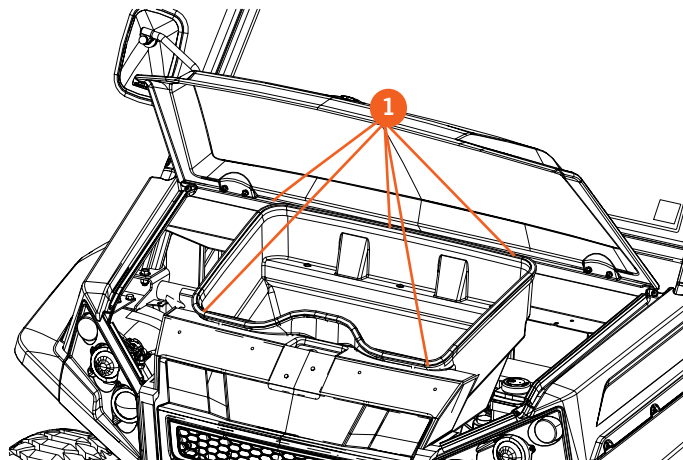


### TECHNICAL INFORMATION

Fastening torque for lock bolts: 12 Nm.



**NEVER** drive the vehicle with the luggage compartment hood removed.

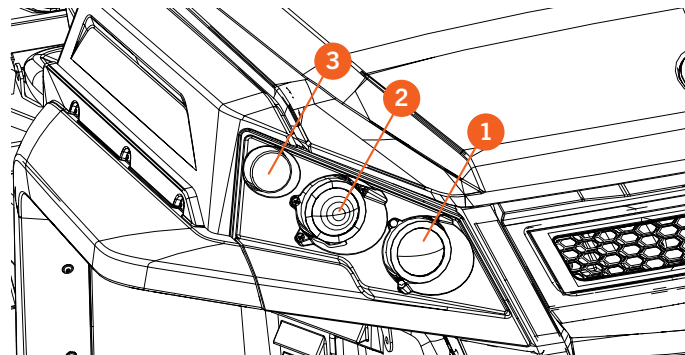


## LIGHTING

### PILOT LIGHTS

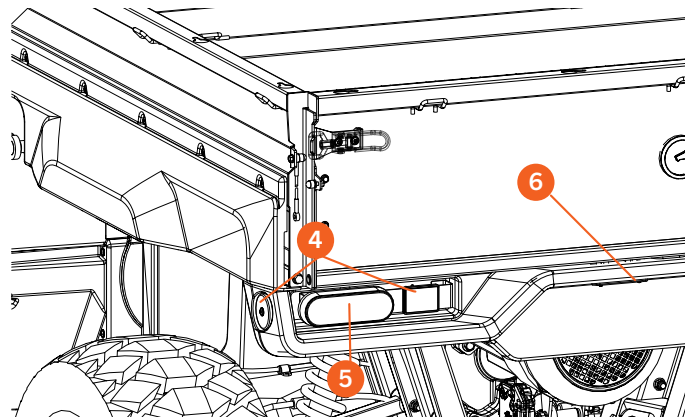
The headlamps and the turn signal lamps are located on the **front** of the vehicle:

1. The front low beam headlamps (short) have a screw so you can adjust their height.
2. The front long beam headlamps have screws so you can adjust their height.
3. Front turn signal lamps.



The brake lights/sidelights, the turn signal lamps and the reflectors are located on the **rear** of the vehicle:

4. Reflectors
5. Rear brake and sidelights.
6. Your vehicle also has a number plate light.



The surface of the lamps may be very hot.

**NEVER** drive the vehicle without lights or turn signal lamps.

They are an important safety feature.

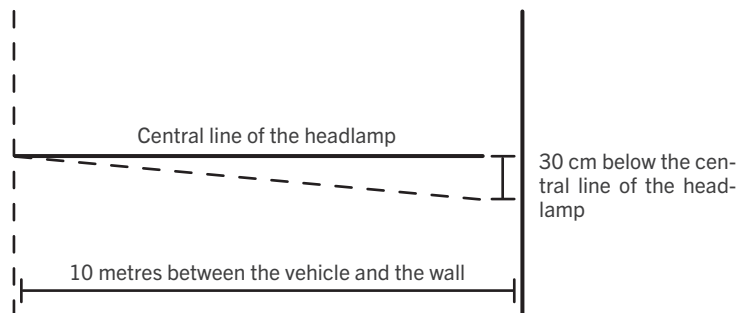
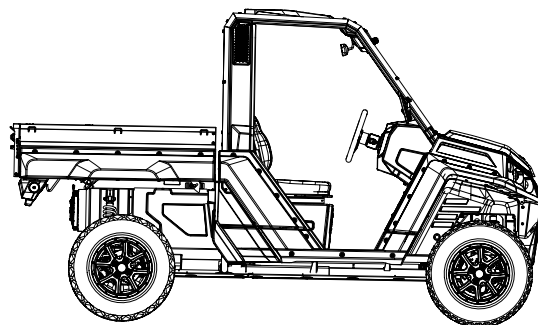
## LIGHTING

### ADJUSTING THE HEIGHT

1. Position the vehicle 10 meters from a wall and use the parking brake to immobilize it.
2. Use the screws to adjust the headlamps (1).
3. The light beam must be 30 cm below the horizontal line projected onto the wall from the centre of the headlamp.



The bulbs and headlamps may be very hot.



## FRONT LAMPS (LOW AND HIGH BEAM AND TURN SIGNAL LAMPS)



The bulbs and headlamps may be very hot.

### Procedure:

1. Switch the vehicle off.
2. Open the front hood.

### Replacing the turn signal lamps:

1. Unplug the electrical connector (1) of the lamp you are replacing.
2. Turn the bulb counterclockwise to remove it from its housing.

### Replacing the long-range lights:

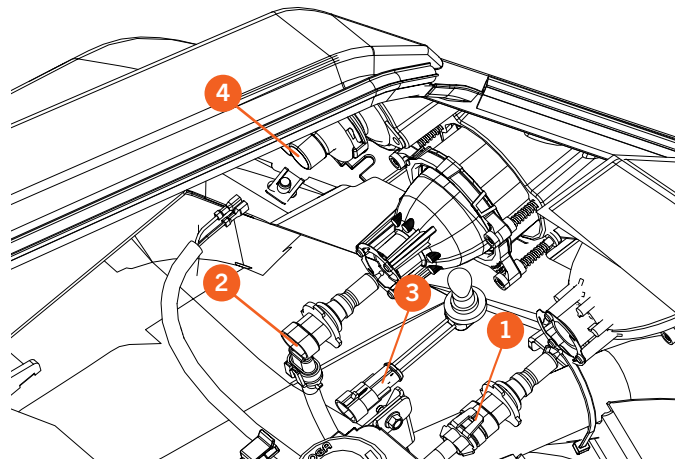
1. Unplug the electrical connector (2) of the lamp you are replacing.
2. Turn the bulb counterclockwise to remove it from its housing.

### Replacing the sidelights:

1. Unplug the electrical connector (3) of the lamp you are replacing.
2. Insert your hand beneath the lamp until you touch the light.
3. Turn the bulb counterclockwise to remove it from its housing.

### Replacing the indicator lamps:

1. To replace the indicator lamps, turn the bulb holder bushing (4) counterclockwise to disconnect it from its housing.
2. Turn the lamp and separate it from the bushing.



### TECHNICAL INFORMATION

Dipped beam lamp: HB3A 12V 60W // Ref. 09180040003

Long-range lamp: HB3 12V 60W // Ref. 08011460000

Sidelights: W5W 12V 5W // Ref: 08011360000

Turn signal lamp 12V 21W //Ref. 08000960000



Do not drive the vehicle without brake, turn signal or sidelights as these are important safety features.



## LAMPS

### NUMBER PLATE HOLDER BULB

To access the number plate holder bulbs, it is necessary to follow these steps:

1. Remove the screws shown (1).
2. Then remove the outer plastic of the lamp (2).
3. Carefully remove the bulb (3).

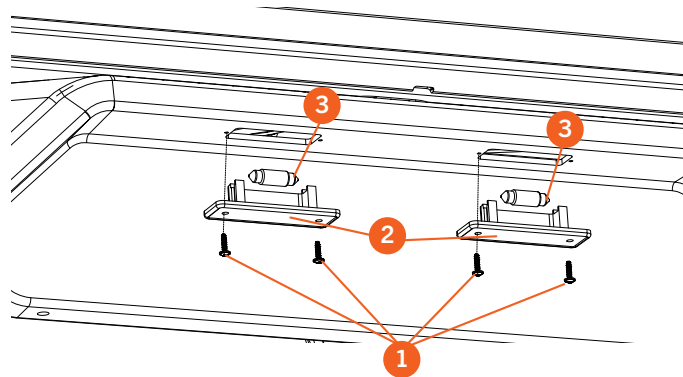


### TECHNICAL INFORMATION

Indicator lamp: 12V 21W // Ref. 09180040001

Brake and sidelight lamp: 12V 21W/5W // Ref. 09180040002

Number plate light bulb: Ref. 08001660000

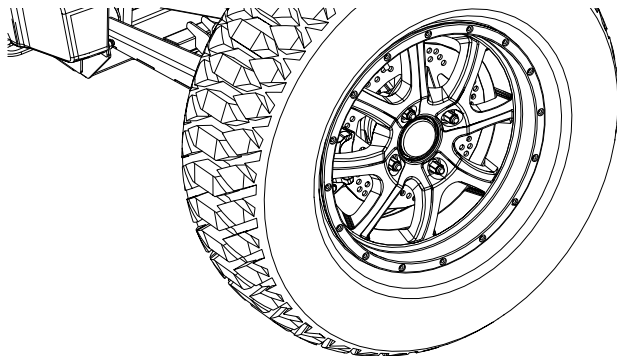


## TIRES

Check that the tires are not worn, cracked or damaged.  
Also check that they are at the correct pressure.

Recommended front/rear pressure:

- 1.0 bar (empty vehicle)
- 1.5 bar (vehicle at full load)



## BOLTS, NUTS AND FASTENINGS

Every day before you drive your vehicle you should check that all the nuts and bolts are tight.

You should also check that the other fastenings are in place and in good condition.



**NEVER** drive with nuts or bolts removed, this could cause an accident or serious damage.

## ADJUST HANDBRAKE

To adjust the parking brake, follow the procedure below:

Loosen the nut (1) and separate the pads by loosening the axle (2).

Adjust the cable stud so that the distance between the nut and the end of the stud is 10 mm.

Adjust the cam until the indicated dimension (60-61 mm) is reached when the hand brake is off.

Slowly move the pads towards the disc, tightening the axle (2), until they touch.

Loosen the axle by 90°, moving the pads away from the disc.

Tighten the nut (1) by holding the axle (2) with a flat screwdriver.

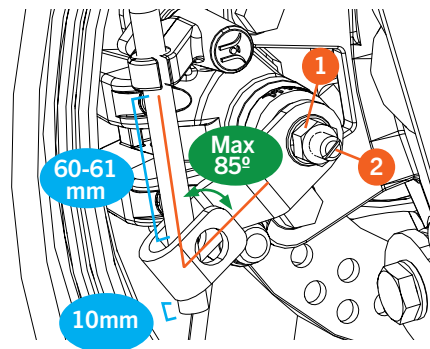


### TECHNICAL INFORMATION

The cam must be adjusted in such a way that when the parking brake is applied to its maximum extent, the angle of the cam with reference to the cable has to be 85° at the most.




**Do not carry out this operation when the handbrake is on. Only activate it when the nut (1) is tightened.**




## BRAKE WEAR

If the thickness of any of the front or rear disc brake pads is less than 1.5 mm, completely change the set of affected pads.


 Check that the front and rear axle discs are at least 3.5 mm thick.

It is important to keep the area around the discs, pads and wheel spindles clean. Do not allow mud or external elements to accumulate over long periods of time. These elements can affect the performance, effectiveness and life of the materials.


 We recommend that you go to your CORVUS dealer to change the brake pads. They will also check for any possible wear of the brake discs.


## BRAKE FLUID

Inspect the brake fluid and change it regularly. You must also change it if it is contaminated by water or dirt.  
*Recommended fluid: DOT-4 brake fluid.*

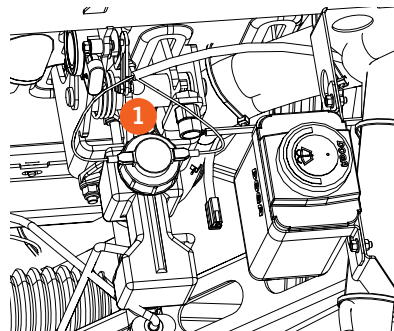
 Do not mix different types of brake fluid. The fluid used to fill or renew your circuit must respond to the specified standard in the fluid reservoir of each circuit. You should **NEVER** change the specification, always respect the dot-4 specification. What is important is not that the brake fluid should be the same brand, rather that it **MUST HAVE** the same specification. **NEVER** use fluid from a container that is not sealed (unopened) at source. **NEVER** use brake fluid that has already been used.

The brake fluid level must be within the MIN/MAX range. If there is not enough liquid, it should be added.

 Do not spill brake fluid on paintwork.

 Check that there is no loss of liquid through the gaskets. Check for possible damage to the brake sleeves.

It is recommended that you replace the brake fluid every 2 years.



## AUXILIARY BATTERY

The battery (12 V and 55 Ah) does not need maintenance.

### CHANGING THE BATTERY

The battery is located at the right rear of the vehicle, under the right-hand spray shield or right-hand side box.

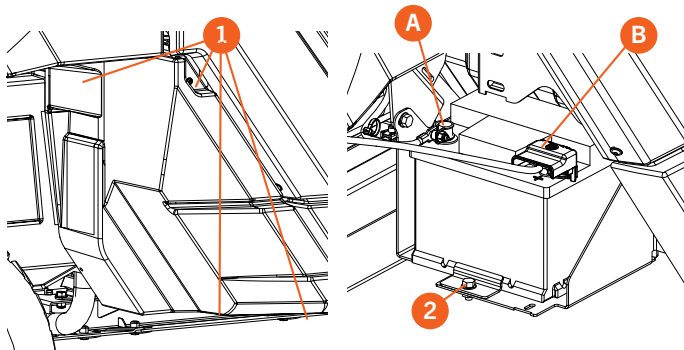
To change it, perform the following steps:

1. Loosen the 4 screws (1) securing the spray shield and remove it.
2. Remove the screw (2) securing the battery nail.
3. Loosen the battery terminals and remove the battery, first the negative terminal (A) and then the positive terminal (B).

Replace the battery with a new one and follow the steps in reverse order to reassemble it.



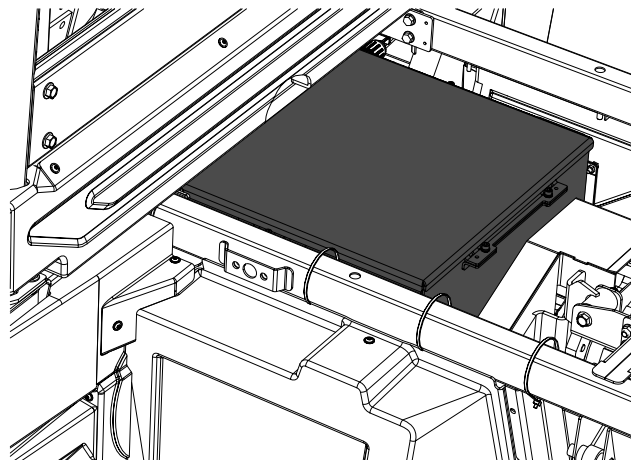
Do not handle or try to open the battery, the electrolyte and gases are toxic and can cause serious injury. Keep the battery out of the reach of children. Keep the battery away from sources of heat, open flames and sparks. Always store and charge the battery in well-ventilated areas. Use protective clothing and goggles. Always disconnect the negative terminal first and connect it last.



## BATTERY

The batteries are housed at the rear in a protective box: it is necessary to know their limitations in order to avoid failures or dangerous situations:

- Do not charge the batteries by any method other than the Corvus charging point.
- Handling batteries can result in electrical failure, component rupture or fire.
- Handling battery management systems may result in electrical failure, component breakage or fire.
- Do not wash the battery components with high-pressure water.
- To avoid poor contacts or electrical problems, keep terminals and connections clean from foreign matter and rust.
- Do not operate or charge the vehicle at temperatures above 40°C.
- The vehicle should not be used below 14°C. If a heater has not been installed, the vehicle will not operate and will not charge.
- Avoid allowing the charge to fall below 20%, as the battery may go into deep discharge.
- Failure to comply with any of these instructions may result in electrical failure and/or loss of warranty.



**As the battery capacity may be affected by external temperature, it may not work under extreme conditions. The optimum operating temperature is 25°C.**

**Battery life will depend on both how the vehicle is used and on external conditions. The maximum running time is 100 km under optimum conditions.**

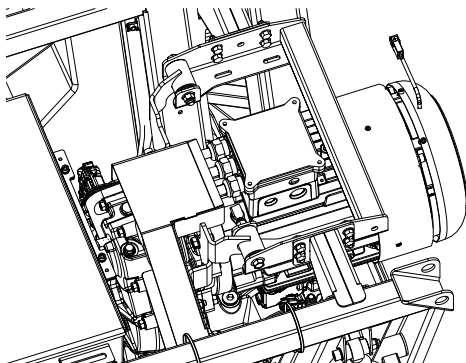
**Maximum charge capacity will be obtained after several charge cycles. It is advisable to fully charge the battery after each use.**

## ENGINE

The 13KW induction engine is located at the rear, beneath the cargo box. It is connected directly to the transfer case and from there to both differentials.

It is responsible for steering, therefore, when switching to reverse gear there is no actual physical change, only an electrical change in the engine.

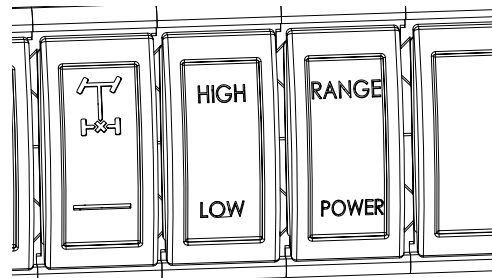
The engine is cooled by a fan (1) located at the rear. This area must always be kept in good working order which means that no foreign matter, such as dust or mud, should be allowed to build up on the engine, as the engine's service life will depend on it being kept clean.



One of the engine's main features is the ability to modify its power range depending on the driving use.

**POWER:** the vehicle will deliver maximum power, but the battery life will be shortened.

**RANGE:** is a moderate engine mapping that allows for longer battery life by reducing engine power.



Do not drive the vehicle if the fan is not working. Always keep the engine area clean as this will help the engine to cool down properly.

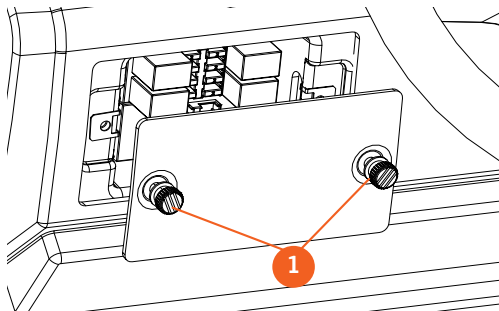
It is not possible to change gear or direction while the vehicle is in motion; to make any such change, the vehicle must come to a complete stop beforehand.

Continued use of the Power mode will discharge the battery rapidly.

## FUSES

### LOT 1

To access the fuse box, you will need to remove the 2 screws on the cover located to the lower left-hand side of the driver's seat.



**NEVER** use fuses other than those indicated, as this could lead to malfunction or failure of the electrical system.

- F1 - Trailer supply // Alimentación remolque
- F2 - Lighter // Mechero
- F3 - Signal KEY // Señal LLAVE
- F4 - Light // Luces
- F5 - Low and brake light // Cortas y luces de freno
- F6 - Key switch // Interruptor de arranque
- F7 - Dashboard // Tablero multifunción
- F8 - VCU
- F9 - GPS supply // Alimentación GPS
- F10 - Signal // Señal
- F11 - EPS // Dirección asistida
- F12 - Not used // Sin utilizar
- F13 - 48V signal // Señal 48V
- F14 - Converter DCDC // Conversor DCDC
- F15 - Motor fan // Ventilador de motor
- F16 - Not used // Sin utilizar
- R1 - Auxiliar supply // Alimentación auxiliar
- R2 - Lighter and signal // Señal y mechero
- R3 - Lights // Luces
- R4 - Motor fan // Ventilador de motor
- R5 - Battery switch // Interruptor de batería
- R6 - Not used // Sin utilizar
- R7 - Reverse relay // Relé de marcha atrás
- R8 - Forward relay // Relé de marcha adelante

### TOP//SUPERIOR

	F11	F15		R8	
R5	F10	F14		R7	
	F9	F13			
R2	F4	F8		R4	
	F3	F7			
R1	F2	F6		R3	
	F1	F5			

30A   20A   15A   10A  

\*: Optional // Opcional

## WINDSHIELD WIPER

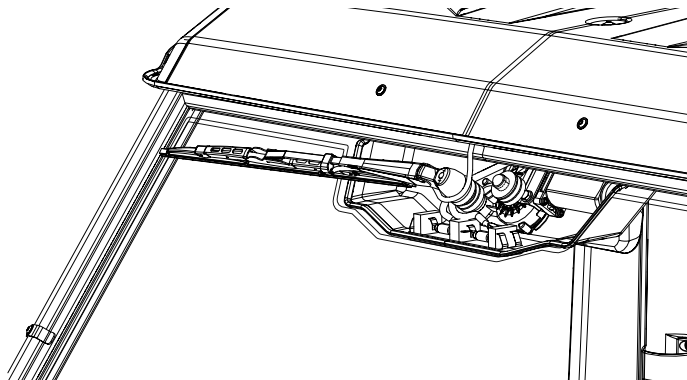
### WINDSHIELD WIPER BLADE \*

To remove the windshield wiper blade:

- 1 - Separate the windshield wiper arm.  
The arm and the blade must form an angle of 90°.
- 2 - Press the central clip.
- 3 - Remove the blade downwards.

To assemble the blade:

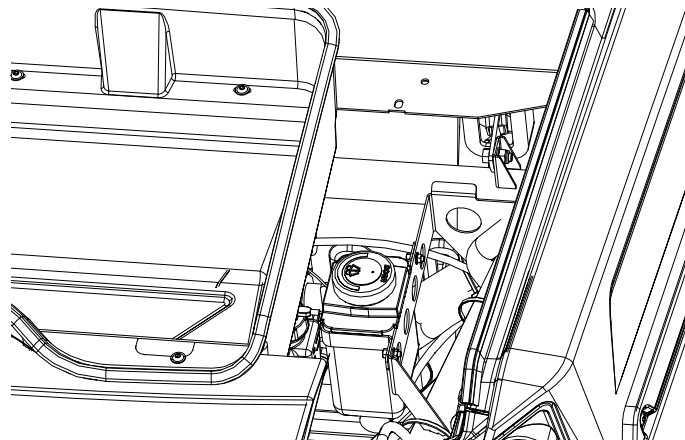
- 1 - Place the windshield wiper arm between the blade.
- 2 - Place the tip of the arm onto the central clip.
- 3 - Twist the blade and return the arm to its initial position.



### WINDSHIELD CLEANER FLUID \*

The windscreen wiper fluid reservoir is located under the front hood.

- 1 - Put the vehicle in a horizontal position.
- 2 - Remove the four screws from the cover.
- 3 - Remove the cap.
- 4 - Fill the tank with fluid up to the top.
- 5 - Screw the cap back on.
- 6 - Check it works properly.









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