

# Operating Controls

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## Overview of the instrument panels and controls



### WARNING

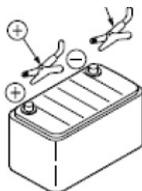
**Do not drive the dump truck until you are well acquainted with the location and function of instruments and controls. Read the following carefully, together with the chapter about operation.**

- Check the instruments now and then, when abnormal values are discovered in time. Precautions can be taken to prevent the occurrence of major damage.
- If red symbols/lights illuminate, stop the dump truck as soon as possible at a safe place and take necessary precautions. If you don't, safety could be compromised and/or the dump truck could be damaged.
- To be able to check the function of instruments and controls, the battery main switch must be connected and the starting switch key must be in position 1.

### NOTE

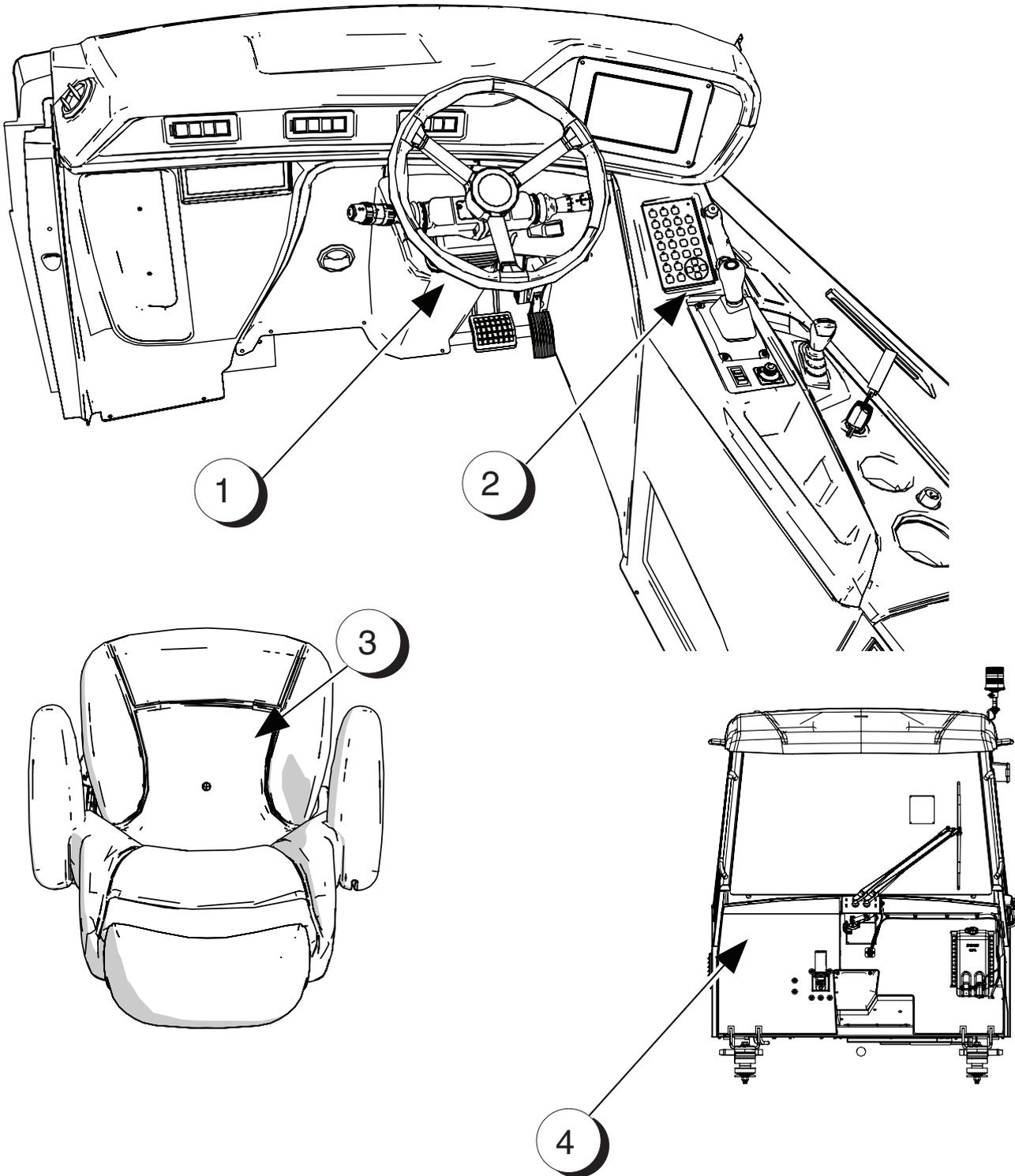
**The truck is equipped with the battery voltage level detection. In case of low battery level the system will force off the following functions:**

- Main lights (high and low beam)
- All work lamps
- HVAC (Heating, ventilation, and air conditioning)
- Heated seat and seat supply



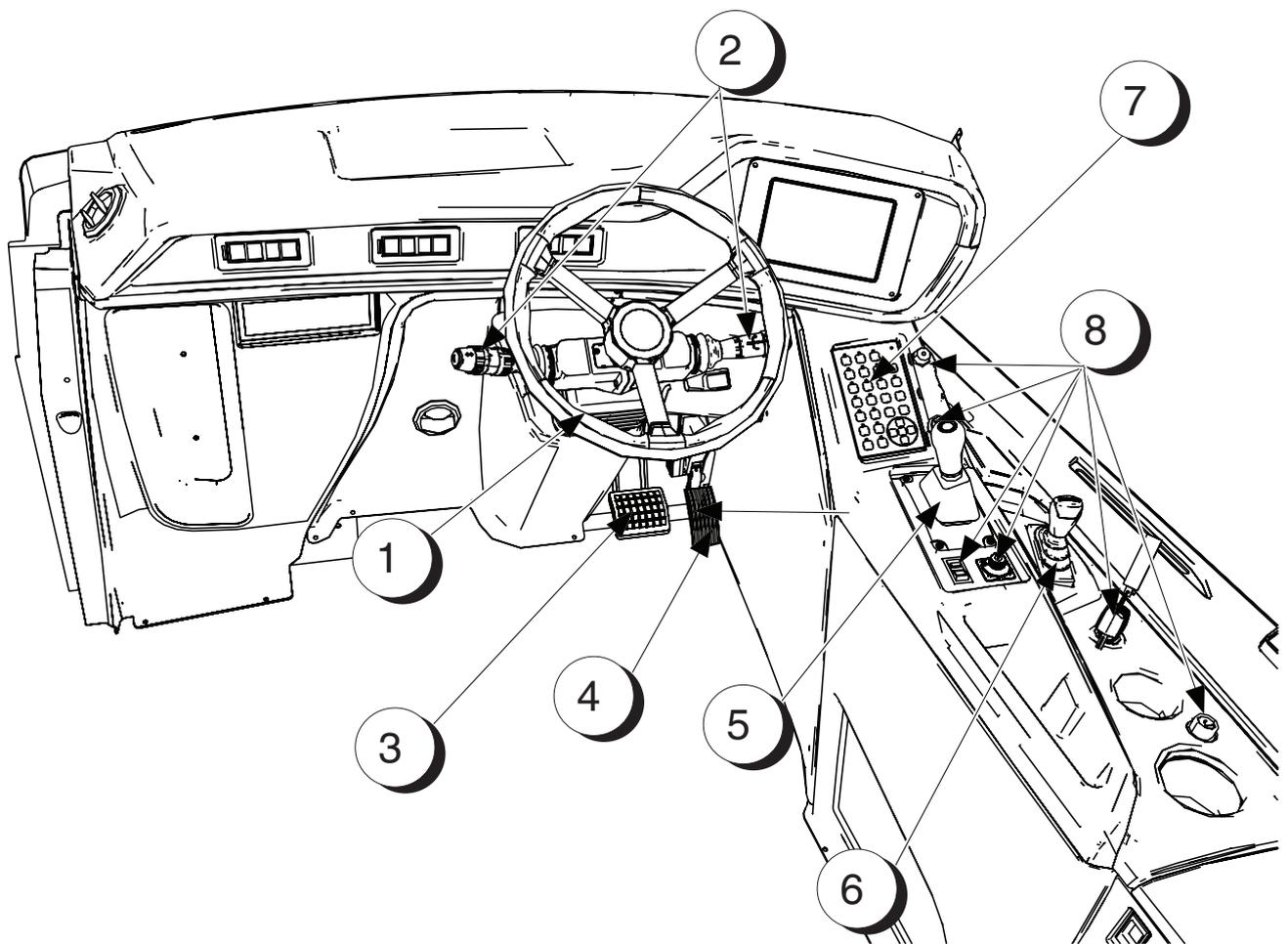
## Operator's area

Standard extra equipment and optional accessories are also shown and described.



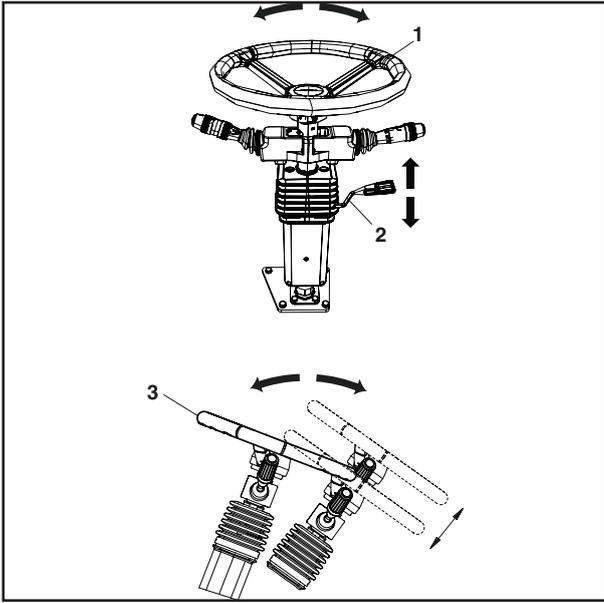
Pos	Description
1.	Steering Console and Pedals
2.	Keypad
3.	Seat Adjustment
4.	Various Cabin Locations

## Steering console and pedals



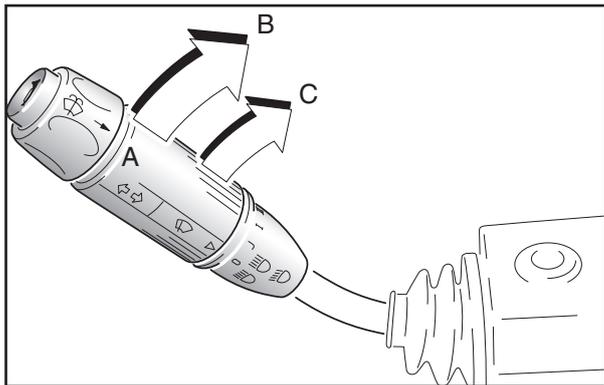
Pos	Description	Page	Remarks
1.	Steering Column	3-6	
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## Steering console and pedals



### Steering Column

1. Rotating of the steering wheel (1) controls position of the front frame against rear wagon and this determines direction of machine travel.
2. The steering wheel is installed on an adjustable column for comfortable reach and easy operation.
  - Height adjustment - lift lever (2) up to unlock.
  - Tilt adjustment - push lever (2) down to unlock.

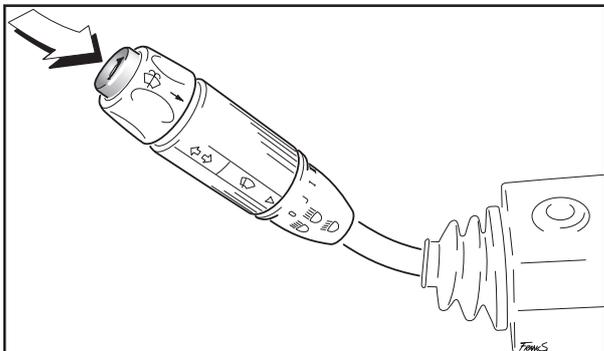


### Column switch left hand side

The column switch is a multi-function switch for main lights, horn, direction indicators and windscreen wiper/washer.

Main lights (A, B, C):

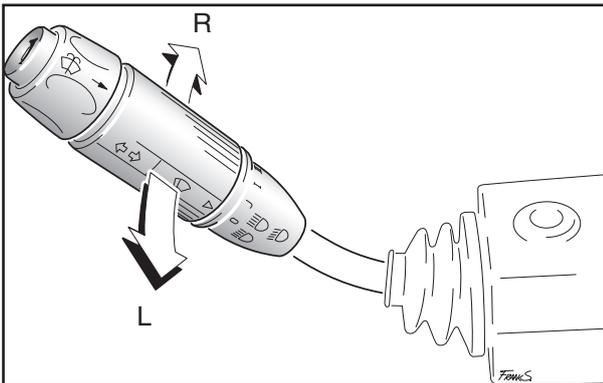
- A. Low beam
- B. High beam indicator will light.
- C. High beam flash. Automatic return.



### Horn

Centre button, automatic return.

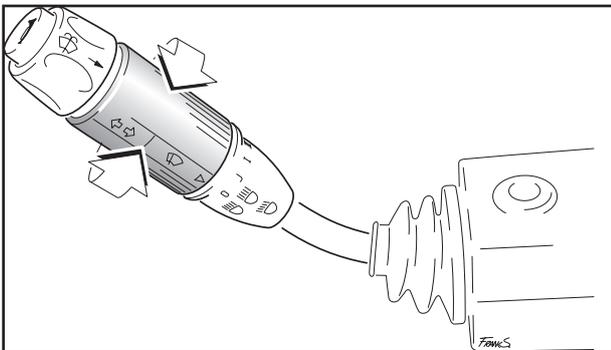
## Steering console and pedals



### Direction switch

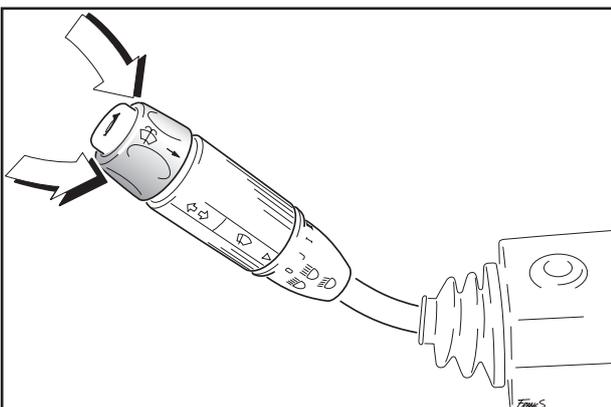
Right turn, all right direction indicators flash. Indicator direction light flashes correspondingly.

Left turn. All left direction indicators flash. Indicator direction light flashes correspondingly.



### Windscreen wiper. Turn-handle. Positions:

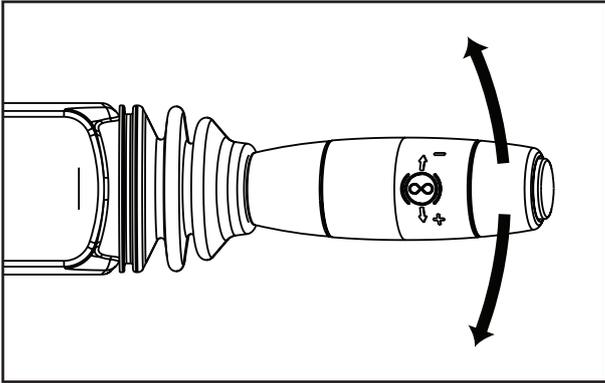
- 0 OFF
- J Interval
- I Low speed
- II High speed



### Windscreen washer

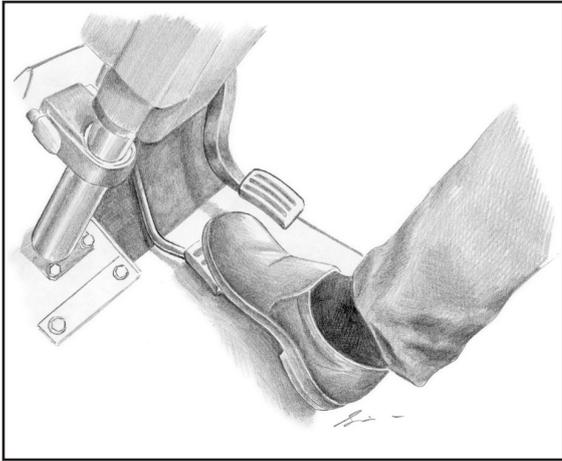
Push outer ring to activate the washer monitor. At the same time, the wiper wipes some times after releasing the ring.

## Steering console and pedals



Retarder Lever (Main brake), right hand side.

Standard retarder setting is 50% and can be adjusted by the Retarder Lever (up or down) from 100% to 25%.



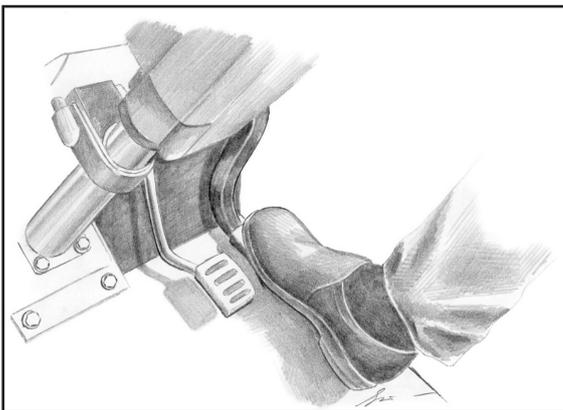
Brake pedal

The pedal controls the service brake. When depressing the pedal, the rear stop light will light. Braking effect depends on pedal position. Depress pedal gradually, and learn to associate braking requirements for loaded and unladen dump truck. Do not use the pedal for long period retardations, i.e. Loaded downhill. This will overheat and damage the brakes.



### CAUTION

**If warning for brake system failure lights up (brake system warning indicator), stop the dump truck immediately!**



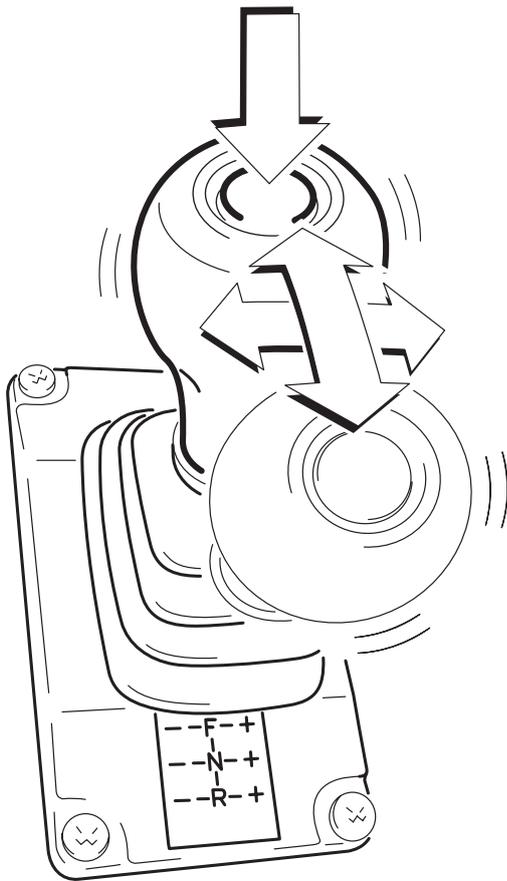
Accelerator pedal

The pedal controls the engine speed electronically.

### NOTE

**The further the pedal is pressed, the more the engine speed will increase. However, do not press the pedal more than necessary otherwise, it will increase fuel consumption.**

## Steering console and pedals



### Gear selector

The dump truck is equipped with a fully automatic transmission with 8 forward and 4 reverse speeds. Gear shift pattern is speed and engine load dependent. Preselection of gears is possible. The main display will always show the engaged gear position.

#### Pos N: Neutral gear position

Depress the knob on top of the gear selector when shifting from neutral to forward or reverse position. Also, always depress the knob when shifting directly between forward and reverse direction.

#### Pos F: Forward drive position.

Automatic gear shift between 1st-8th gear according to speed and engine load. For preselection of gear, push the selector to the right (+) for upshifting or to the left (-) for downshifting. The selected gear will then be engaged when the speed matches the set points.

If the gear selector is pushed either to the left or right, manual gear shifting will take place.

The gear selector must then be pushed in order to change gear.

Manual gear shifting will also take place if the knob on the top of the gear selector is depressed while driving in automatic. To return to automatic gear shifting while driving in manual, depress the knob on top of the gear selector.

#### Pos R: Reverse drive position

Manual gear shift between 1st - 4th gear according to speed and engine load.

The transmission will always select the 1st reverse when the gear selector is moved to "R". The selected gear is engaged directly if the dump truck is stationary.

The gear selector has to be pushed in order to change gear.

For preselection of gear, push the selector to the right (+) for upshifting or to the left (-) for downshifting.

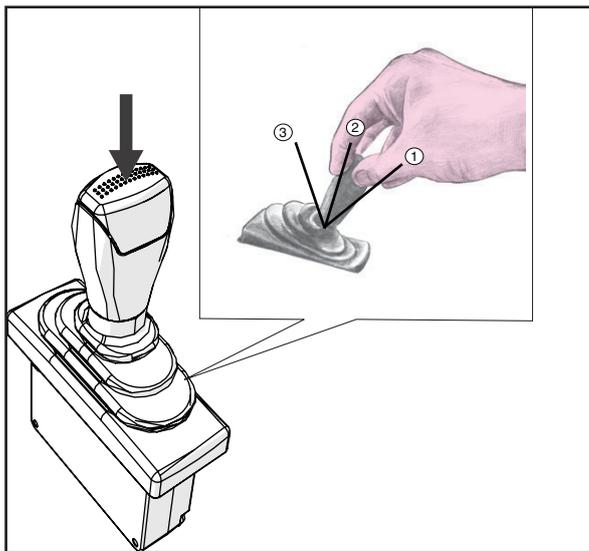
See also chapter 5, Operating Instructions

### NOTE

**The knob on top of the gear selector has three functions:**

- 1. Depress the knob when shifting from neutral to forward or reverse position.**
- 2. Depress the knob when shifting directly between forward and reverse direction.**
- 3. Depress the knob to change between automatic and manual gear shifting.**

## Steering console and pedals



### Tip control lever

The lever controls the body lifting and lowering. The lever has 3 positions:

1. Lift (body up).
2. Hold (hold and floating position).
3. Lower (body down/power down).

The lever is electronically locked in the lower position, and has spring return from lower to hold. Always keep the lever in hold position during loading and driving. Check that the body is resting on the frame rubber pad during loading and driving.

A warning light (body down indicator) will light when the body is lifted (i.e. when the body is not resting on the frame rubber pads).

Button on top of lever increase engine rpm when depressed (1800 rpm when lifting and 1300 rpm when lowering).



### Keypad

A - These keys are used to control the display

- Help button - This shows simplified Operators Manual
- Menu button - This shows a menu that can be used to view the status of the Dumper and to modify a number of settings.
- Info button - Use this to flip through the pages for the Trip Counters, Fault Codes, Tire Pressure Info and Detailed Info.
- Home button - Shows either the main view or the rear camera view.



- Menu Control Buttons.

- Go Back.

- Enter.

- Move up.

- Move down

- Accept change or execute command

## Steering console and pedals



## Parking lights button

Push the button to activate the parking lights.



## The work lights button

Push the button to activate the forward working lights.



## Heated mirrors button (Option)

Push the button to activate the mirrors heater.

After activation turns off automatically after 2 hours.



## Override button

Stops engine immediately when ignition key is switched off.

In combination with arrow buttons can adjust front suspension level in manual mode.



## Suspension button

Use this button to put the front suspension in manual mode to adjust the height of the front frame for the transport purpose.



In Development



## Inter-axle differential lock

Push the button to activate the Inter-axle differential lock.

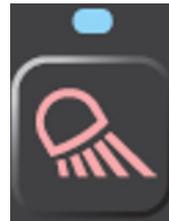
**NOTE**

See chapter 5 for more details.



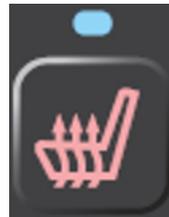
## High beam lights button

Switches on the main lights. High beam is only activated with the steering column stick. When the parking lights were off, they are switched on also. A user settings allows the forward work lights to follow the activation of the main lights.



## Rear work lights button

Push the button to activate the rear working lights.

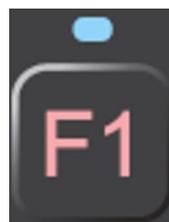


## Electrically heated driver's seat button.

Push the switch to activate the heating of driver's seat. Seat heating works only when the ignition is on

**NOTE**

**This is an optional button and used only if the driver seat is not equipped with such.**



In Development



In Development

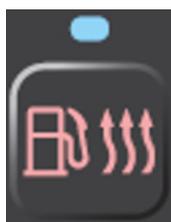


In Development

### Steering console and pedals



Under Development



Fuel heating (Only T4F)

Push the button to activate the fuel heater.

The button will be lit even if the fuel heater is not installed.



Cab light button

Push the button to activate light in the cab.

If the Interior light is switched manually on from the key panel then the timer for the door switch is ignored for 5 minutes



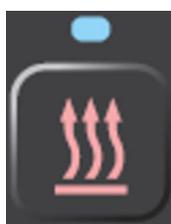
Hazard lights button

Push the button to activate the hazard lights.



Rotating beacon button

Push the button to activate the rotating beacon on top of the cab roof.



Heater (Option)

Engine and cabin heater (like e.g. Webasto). Manually activation button.

After activation the led light will light up on the button if the heater is installed.

#### Other switches

##### Parking brake switch

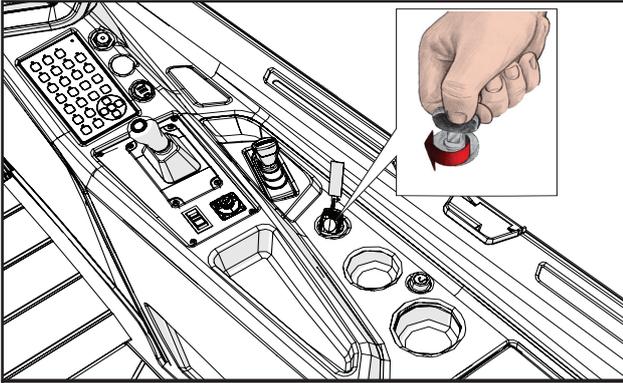
The parking brake is on (locked) when the switch is in the backward position. An indicator appear on main screen when the parking brake is on. Push the lock device to release the parking brake. In the forward position the parking brake is off (released). The parking brake must not be applied when the dump truck is in motion unless in an emergency situation. Indicator light and a buzzer will sound if a gear is selected while the parking brake is on (locked).



#### CAUTION

**Do not drive the dump truck if the fluid pressure is below normal pressure (indicator brake system warning light and buzzer). The parking brake will not be fully released, and the service brakes may not have max. parking effect.**

## Steering console and pedals



### Starter switch

The starter switch is key operated, and has 4 positions.

P = Park (key removable)

0 = Power off (key removable)

I = Power on (drive position).

II = Starting position (key returns back to pos. I when released).

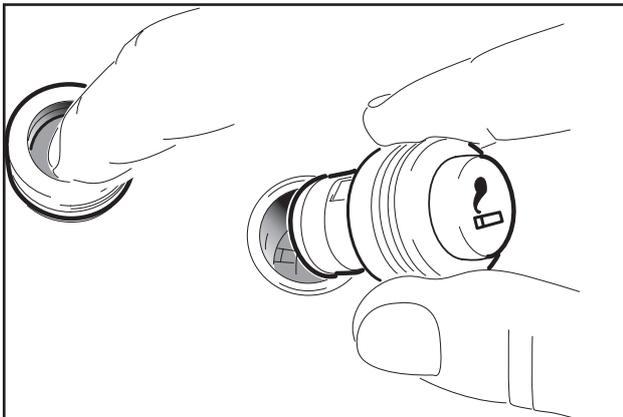
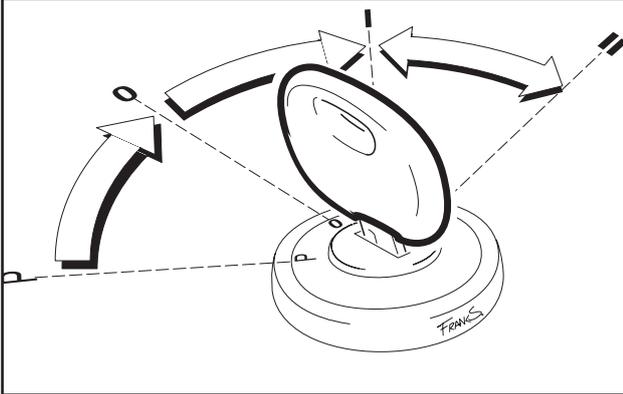
### Auto ignition off (AIO)

Monitoring engine running and driveline movement. Also monitoring the accelerator pedal press-down to keep ignition on. If not activity then ignition is forced off after 1 hour.



### WARNING

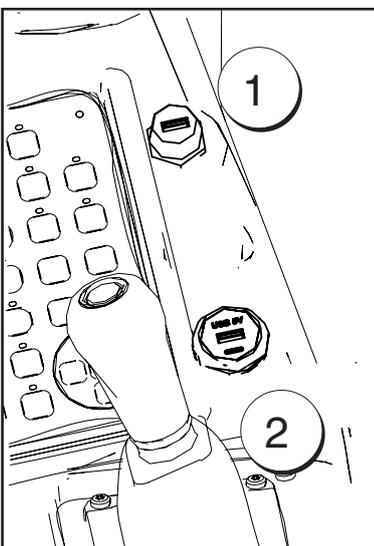
**Do not turn the key to off position if you do not intend to stop the engine. The engine has a key stop and requires neutral position on the gear selector to start again.**



### Cigarette lighter

Push in to activate the heating function. Automatic return when hot.

Can also be utilised as a 12 Volt / 10 amp power source.

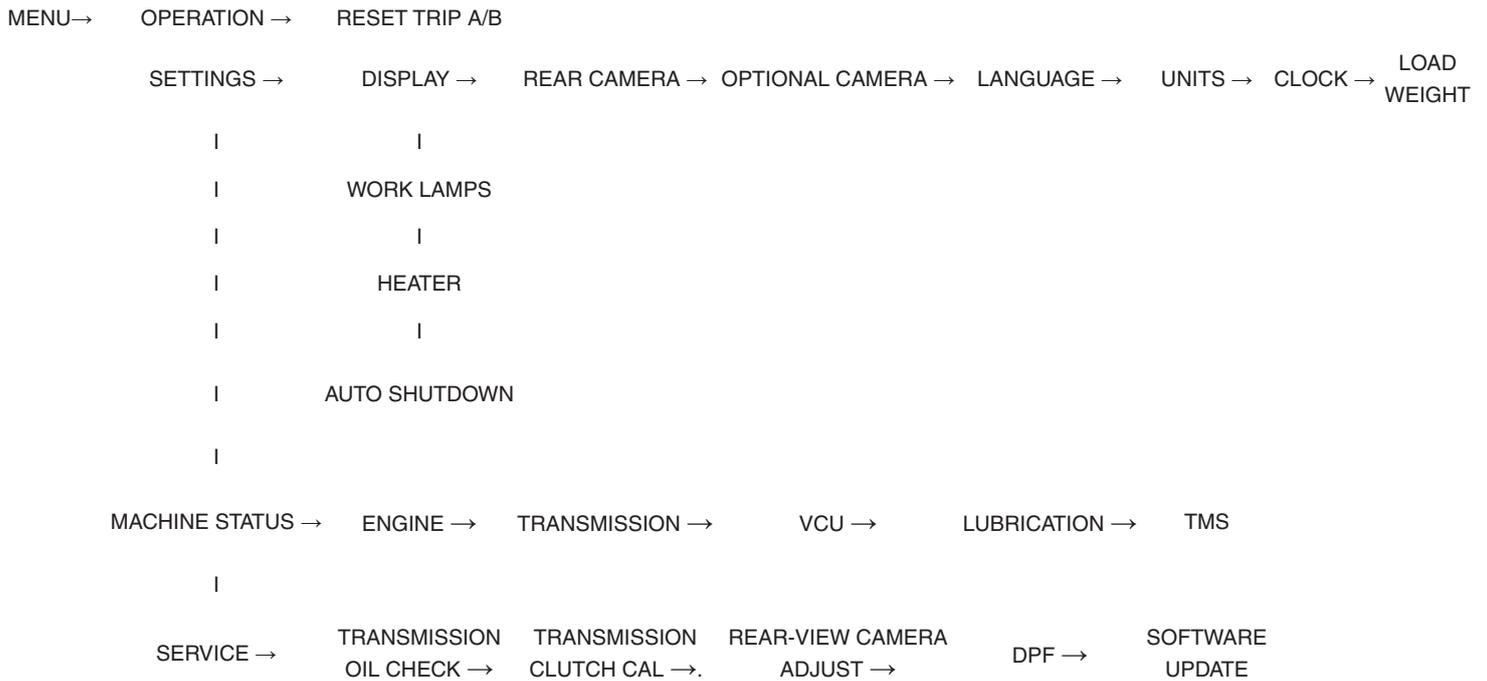


### USB ports

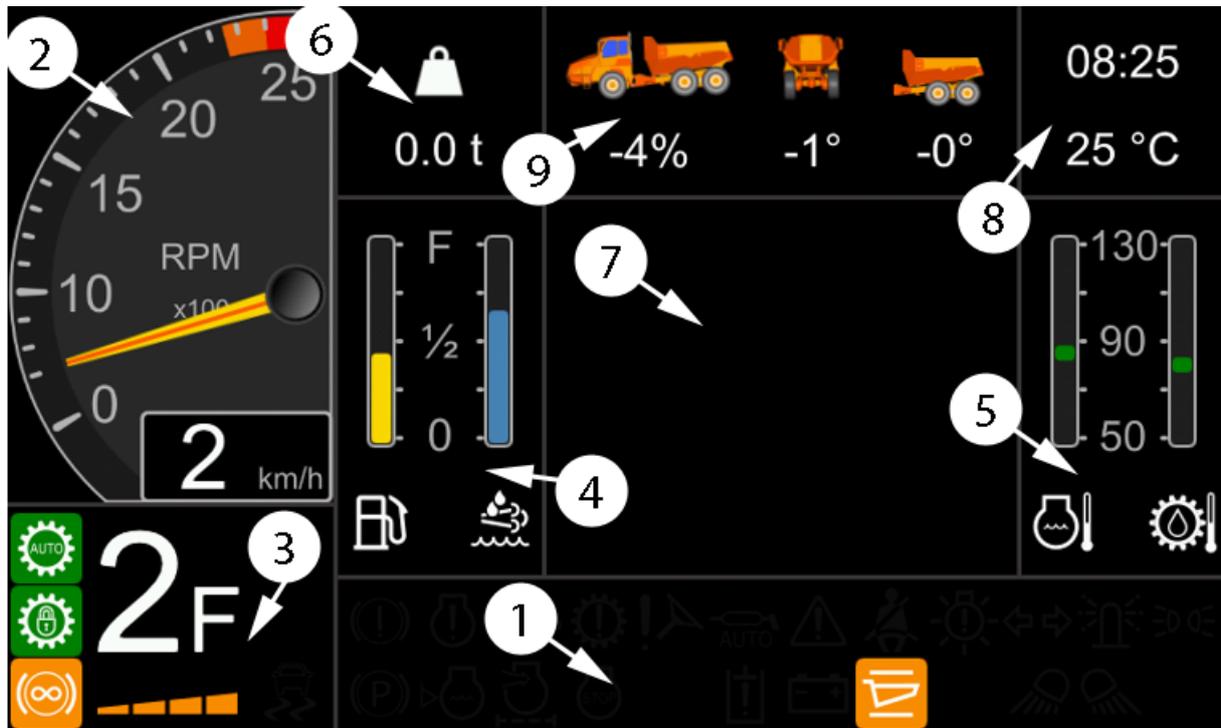
- The upper(1) port is dedicated to updating the display software.
- The bottom(2) port is dedicated to charging of other equipment.

## Instruments

### Display main menu overview



### MAIN SCREEN VIEW



Pos	Description
1.	Indicators Overview
2.	Speed Screen
3.	Transmission Status
4.	Fuel Levels
5.	Engine coolant & transmission oil temperature
6.	Weighing System
7.	Information Screen
8.	Time/Temperature Screen
9.	Vehicle angle

## Instruments



### 1. Indicators

#### Brake system warning, amber or red

When brake system hydraulic pressure is abnormal, lamp will illuminate.

It can also light when the starter switch is turned on, switches off when the fluid pressure is at a normal level. If the light does not switch off, check for leakage.

A warning buzzer will sound if the pressure is too low on the supply line.

An amber colour is warning, a red colour is an error.



If this illuminates:

- A. Stop the dump truck on a safe place.
- B. Select neutral gear position and apply the parking brake.
- C. Check and note the error codes on the display.
- D. Contact your Hyundai Dealer (a short explanation of the codes is listed under troubleshooting, chapter 5).



#### **WARNING**

**Do not drive a dump truck with the brake failure warning lamp illuminates.**



#### Engine failure warning,

This illuminates when engine failure occurs. Stop the dump truck, turn off the engine and contact your Hyundai Dealer immediately.

If this illuminates:

- A. Stop the dump truck on a safe place.
- B. Select neutral gear position and apply the parking brake.
- C. Check and note the error codes on the display.
- D. Contact your Hyundai Dealer.

## Instruments



Low engine oil pressure warning.

This illuminates when low oil pressure in engine.



### WARNING

**In this event, stop the engine immediately.**



**Transmission failure warning.**

This illuminates when an error has been detected.

If this illuminates:

- A. Stop the dump truck on a safe place.
- B. Select neutral gear position and apply the parking brake.
- C. Check and note the error codes on the display.
- D. Contact your Hyundai Dealer (a short explanation of the codes is listed under troubleshooting, page 5-32).



### WARNING

- **If error codes are shown on the display, contact your Hyundai Dealer in all cases.**
- **All error codes (also the special features) shown on the display will be stored in the memory of the transmission controller.**



**Emergency steering warning.**

Lights if the emergency steering system is abnormal.



**Lubrication system warning, amber or red**

This will illuminate when a failure occurs in the trucks lubrication system. Stop the truck immediately and check the main lubricator.

An amber colour is a warning that the reservoir is almost empty

Red colour is an error. The lubrication system has stopped

If this illuminates:

- A. Stop the dump truck on a safe place.
- B. Select neutral gear position and apply the parking brake.
- C. Check and note the error codes on the display.
- D. Contact your Hyundai Dealer

### NOTE

**If there is a failure in the system, it is only possible to run the dump truck to 7 km/h until the failure is corrected.**

## Instruments



### General failure warning, amber or red

This illuminates when a general error has been detected.

An amber color is a warning, a red color is an error.

If this illuminates:

- A. Stop the dump truck on a safe place.
- B. Select neutral gear position and apply the parking brake.
- C. Check and note the error codes on the display.
- D. Contact your Hyundai Dealer (a short explanation of the codes is listed under troubleshooting, (Chapter 5).



### Seat belt warning.

This illuminates when driver has not fastened the safety belt.



### Lamp fault, amber

This illuminates when some bulb of direction, back-up and main lights are damaged.



### Direction light indicator.

Flashes when direction indicator or hazard light is activated.

- Will flash fast if one of the bulbs from external direction indicator is broken.



- All hazard warning lights are on



### Rotating beacon indicator, amber

This illuminates when the rotating beacon light is activated.

## Instruments



### Parking lights.

This illuminates when the parking lights are activated.



### Main lights indicator.

This illuminates when the main lights are activated.



### High beam indicator.

This illuminates when the high beam lights are activated.



### Parking brake activated indicator.

This illuminates when the parking brake is "on".



### Low coolant level warning.

This illuminates when the coolant in the expansion tank is too low. Stop the truck immediately and see (chapter 7) for procedure.



### WARNING

Engine damage may occur if truck is driven with little or no coolant.



### Air filter warning, red

This illuminates when the engine air filter is clogged and needs maintenance.

See (chapter 7) for procedure .

### Tires status

Red is Error.

At least one of the six tires has a serious problem. This requires immediate action to solve the error.

Amber is Warning.

At least one of the six tires has an issue. It is recommended check the system and fix the problem.



### SCR failure warning.

Off - No error

On continuously- Error

Blinking slow - Active torque limit due to SCR failure

Blinking fast - Active speed limit due to SCR failure



## Instruments

### Particle filter failure/warning.

This illuminates when an error on Particle Filter (DPF) has been detected.

Amber



- ON - The particle filter is starting to become full. Increase the load to improve automatic regeneration or regenerate manually
- Blinking slow: Carry out manual regeneration as soon as possible.

Red



- Error. Blinking slow. The particle filter is overfull. Manual regeneration can only be carried out by service personnel
- Error. Blinking fast. The particle filter full. Regeneration is not possible. Replace the particle filter. Contact your Hyundai support.
- Amber strikethrough (ON) .This symbol indicates that it is not allowed to do either manual or automatic regeneration due to restrictions.
- Red strikethrough blinking fast. Indicates that the driver has switched off (temporarily) the automatic regeneration of the DPF.



Green ON - Automatic regeneration of the filter is active.

Amber ON - Manual regeneration of the filter is active.

### Hydraulic system failure.

This illuminates when an error in hydraulic system has been detected.

An amber colour is a warning, a red colour is an error.

If this illuminates:

- Stop the dump truck on a safe place.
- Select neutral gear position and apply the parking brake.
- Check and note the error codes on the display.
- Contact your Hyundai Dealer (a short explanation of the codes is listed under troubleshooting, chapter 5).

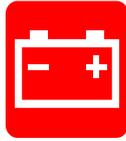


### WARNING

**Do not drive a dump truck with the hydraulic failure warning lamp illuminates.**



## Instruments



### Battery charge warning.

Lights if the battery charging voltage is too low (less than 24 volts). Check alternator, multi-groove belt and regulator



### Body status indicator.

Lights if body is lifted and it is only possible to run the dump truck to 10 km/h until the body is completely down.



Green colour means correct function.



An amber colour is a warning.

Body is slightly lifted



A red colour is an error.



### Working and extra high beam lights indicator, amber

This illuminates when the working and extra high beam lights are activated.



### Rear working lights indicator, amber

This illuminates when the rear working lights are activated.



### Optional work lights, amber

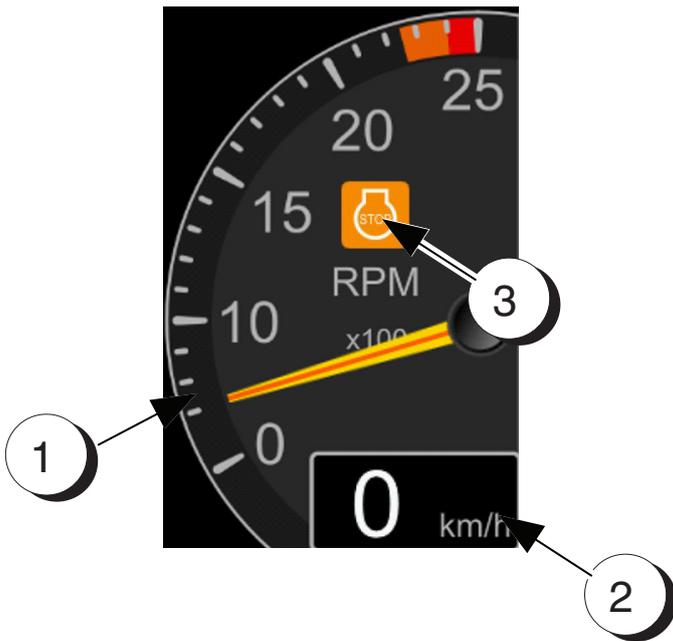
This illuminates when:

- 1- The optional lights are activated.
- 2- Both forward and optional work lights are on.



- Warning. Windscreen washer reservoir is low.

## Instruments



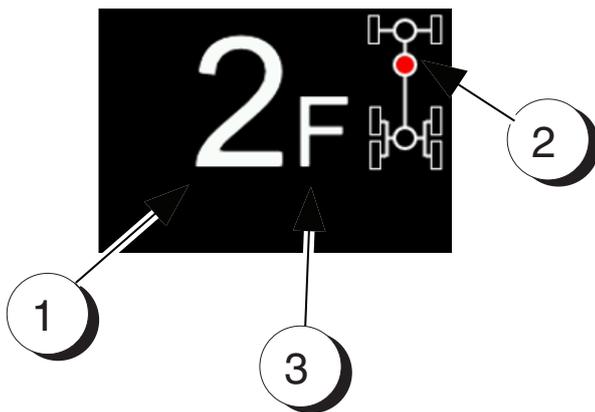
### 2. Speed Screen

1. Engine speed (rpm). Shown is idle around 720 rpm
2. Vehicle speed (km/h)
3. Engine status: This illuminates when the engine has just stopped automatically.

This counter indicates the engine rpm.

Normal revolution:

- Low idle: 720 rpm
- Max. economic area: 1500 - 1900 rpm
- High idle: 2280 rpm  $\pm$  20
- Max. allowed rpm: 2400 rpm



### 3. Transmission Status

Display shows gear ranges 1st - 8th and driving direction "F" for forward or 1st - 4th "R" for reverse and "N" for neutral.

1. Current gear
2. Diff lock is engaged when red.
3. Direction.



#### Gear shift restriction.

Amber is Warning. Shown when gear shift is delayed because the clutches are too hot and need time to cool down.

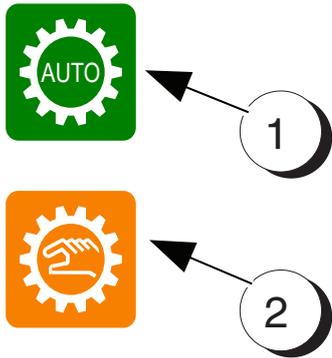
Red is Error. Shown when it is not possible to engage gear because the clutches are too hot and need time to cool down.

#### Shifting limitations at low temperature

Amber is Warning. Shown when gear shift is restricted because of low temperature of the gearbox.

Red is Error. Shown when it is not possible to engage gear because of low temperature of the gearbox.

## Instruments



### Status of the transmission

Automatic/Manual transmission status.

This shows which mode of transmission is active. AUTO (1) for automatic mode and (2) for manual mode of transmission.



### Transmission lock-up indicator.

This illuminates when the automatic lock-up clutch for transmission is connected.



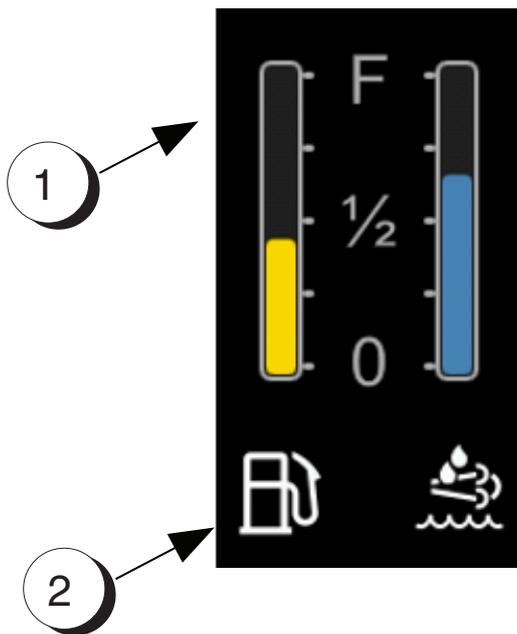
This illuminates when the retarder brake is active.



### Retarder setting

Standard retarder setting is 50% and can be adjusted with a retarder lever from 100% to 25%.

## Instruments



### 4. Fuel level

This indicates fuel tank level from empty to full (0% - 100%)

Tank capacity: HA30/HA30A, approx. 363 litres

Tank capacity: HA45/HA45A, approx. 490 litres

1. Fuel level in the Diesel tank
2. Status of the Fuel level



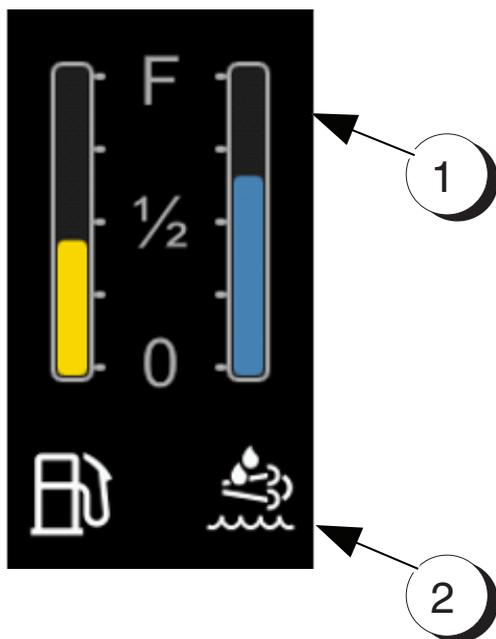
This illuminates if fuel level is below (5 %) and it is an attention.



This illuminates if the sensor failure is detected.

### NOTE

**Fill up with diesel when necessary and at the end of the shift.**



### Urea (AdBlue®) level

Only for dump trucks with Tier4 / Stage V engines.

Tank capacity: HA30/HA30A, approx. 70 litres

Tank capacity: HA45/HA45A, approx. 70 litres

This indicates urea tank level from empty to full. (0% - 100%)

1. Level of the Diesel Exhaust Fluid (AdBlue).
2. Status of the DEF level



Urea level is between 11-20 %



Blinking slow - Urea level is between 1-10 %

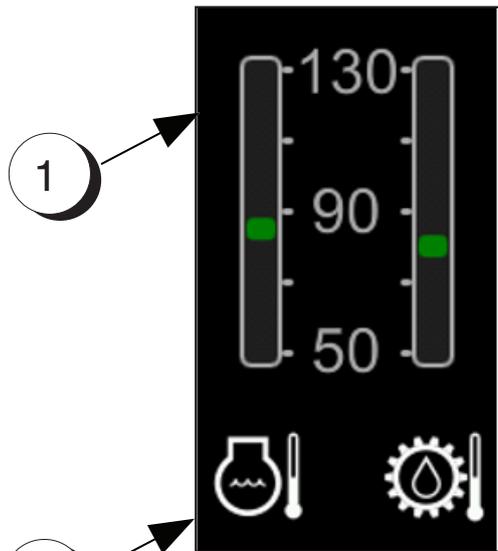


Blinking fast - Urea level is 0 %



Error

## Instruments



### 5. Engine coolant temperature

This indicates the temperature of the engine coolant.

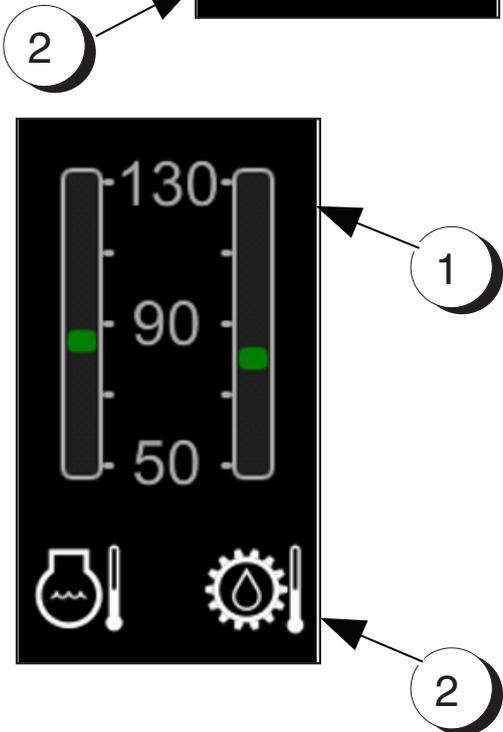
1. Engine coolant temperature in °C.
2. Status of the coolant temperature.



This illuminates if temperature is between (97°C - 103°C) and it is an attention.



This illuminates if temperature is over (103°C) and it is a warning.



### Transmission oil temperature

This indicates the temperature of the oil in transmission.

1. Transmission oil temperature in °C.
2. Status of the Transmission temperature.



This illuminates if temperature is between.

- (115°C - 125°C) and it is an attention.



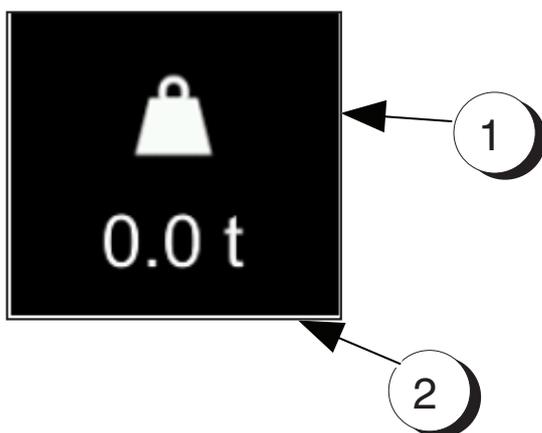
This illuminates if temperature is over.

- (125°C) and it is a warning.



### DANGER

**Never drive with too high transmission oil temperature. It will cause a danger situation and result serious injury or death.**



### 6. Weighing system

1. Status of the weighing system
2. Measured load in metric tons

This indicates the weight of load on body in tons (t).



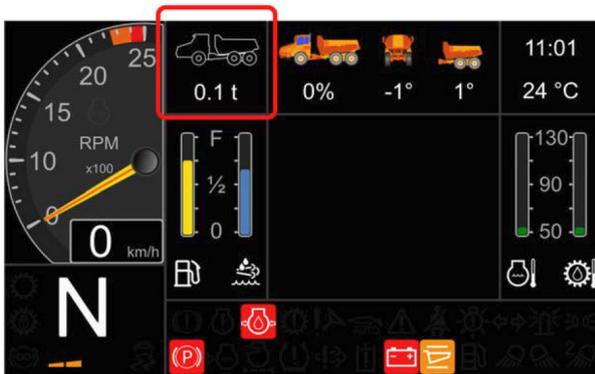
This illuminates if value of loads was reached:

- HA30/HA30A - 27,1 t
- HA45/HA45A - 39 t



This illuminates if value of loads was reached:

- HA30/HA30A - 28,2 t
- HA45/HA45A - 40,1 t



## 6. Overload Protection System (OPS) only HA45/HA45A.

This indicates the weight of load on body in tons on the main screen. This is connected to status lights on the back side of cab.



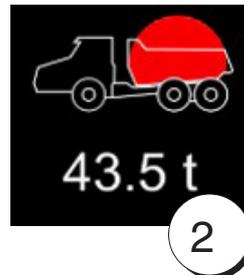
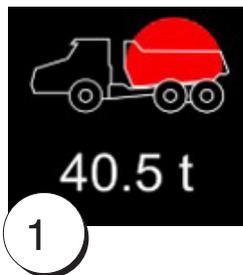
Green

This illuminates if value of loads is in normal range:



Amber

This illuminates if value of loads is in at limitation point:



Red

This illuminates if body is overloaded

1. Light is ON when value of loads is over then 39 metric ton
2. Blinking when value of loads is over then 42 metric ton (critical situation).

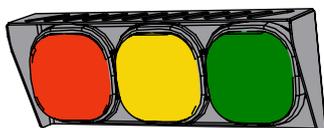


Amber

- Sensor error or calibration fault. Load weight is not available

Red

Sensor signal missing (e.g. cable damage). Load weight is not available.

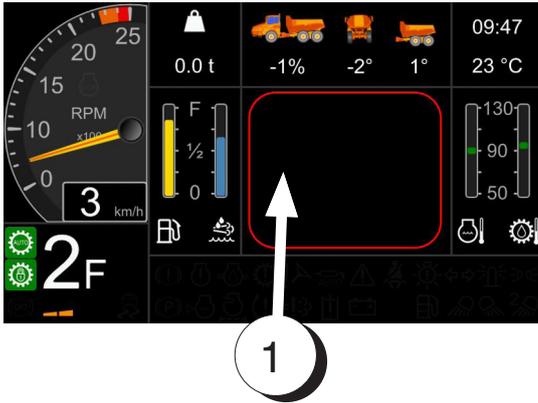


Status lights are located on the back side of cab.

## Instruments

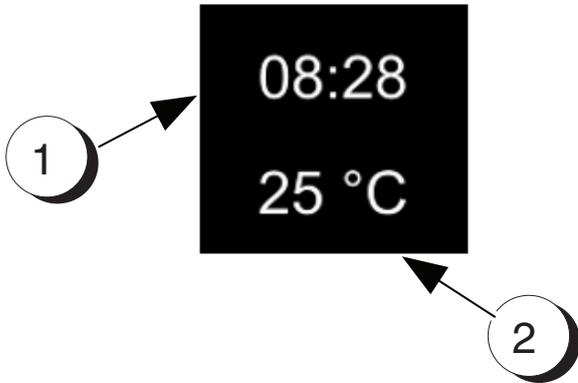
### 7. Information Screen

1. Here will be shown various information about the status of the truck, error code and sub menu.



### 8. Time/ Temperature

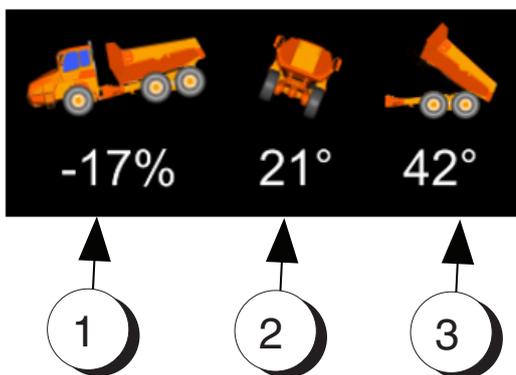
1. Time in 24 hours.
2. Outside temperature in degrees Celsius (°C).



### 9. Vehicle angle.

This screen will show the position of the truck.

1. The longitudinal angle in percentage (%).
2. The sideways angle in degrees(°).
3. The body angle in degrees (°)

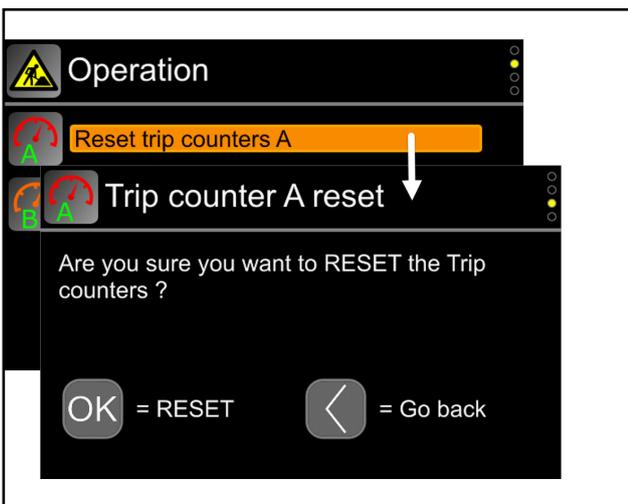


## Main display



### Main menu

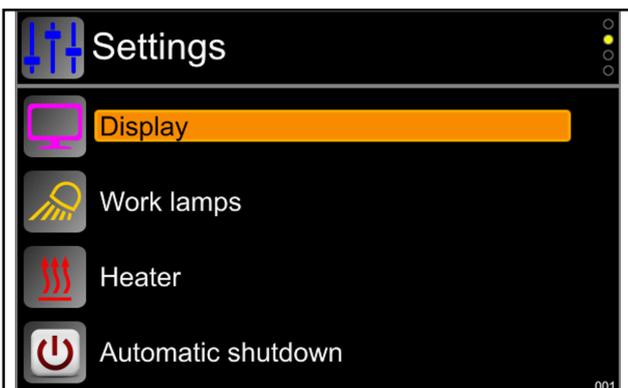
The main menu screen is shown after pressing the Menu button. This shows a menu that can be used to view the status of the truck and to modify a number of settings.



### Operation

When the cursor is on "Operation", press the ">" or OK button. The reset trip counters A or B will appear.

The operator can now reset the Trip counter A or B by pressing the "UP" or "DOWN" buttons and after execute the requested action.



### Settings

When the cursor is on "Settings", press the ">" or OK button. The Settings submenu will appear.

When the selected menu item is highlighted, press the ">" or OK button to enter the next submenu.

Menu > Settings > Display

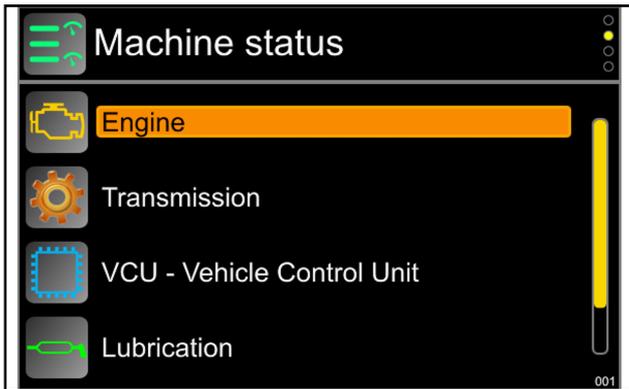
- Camera screen
  - » Automatic or manual view of the rear camera
  - » Small or widescreen view
  - » Left or right view of the camera picture
- Language settings
- Unit settings
- Clock settings
  - » DST (Daylight savings time). activation mode

Menu > Settings > Work lamp

Menu > Settings > Heater

Menu > Settings > Automatic shutdown

## Main display



### Machine status

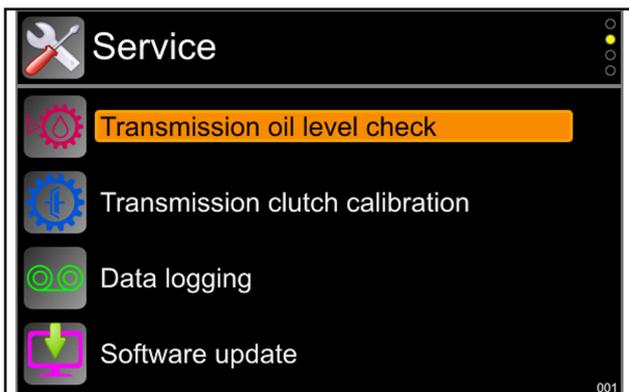
When the cursor is on "Machine status", press the ">" or OK button. The Settings submenu will appear.

When the selected menu item is highlighted, press the ">" or OK button to enter the next submenu.

Pressing Back button will navigate to the Main Menu screen

Menu > Settings > Machine status

- Diagnostics Engine
- Diagnostics Transmission
- Diagnostics VCU
- Diagnostics Lubrication
  - » Possibility to run an extra lubrication cycle.
- Diagnostics TMS system



### Service

When the cursor is on "Service", press the ">" or OK button. The Settings submenu will appear.

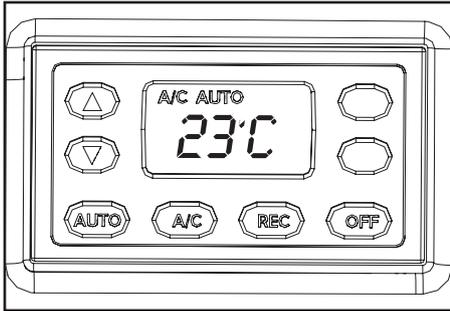
When the selected menu item is highlighted, press the ">" or OK button to enter the next submenu.

Pressing Back button will navigate to the Main Menu screen

Menu > Settings > Service

- Transmission oil level check
- Transmission clutch calibration
- Data logging
- Software update

## Cab ventilation



### Ventilation control panel

The air conditioning system allows high level of security during driving together with a total comfort and a constant thermo-balance is assured in the cab independently from the external environment that changes continuously.

To choose your ideal climate during any season, it is sufficient to select the desired temperature in cab.

We suggest to select temperatures between 20-23°C.

With this simple operation the microprocessor will maintain always the desired temperature in the cab.

In any condition the air conditioning system will control the temperature, the air quantity towards in-vehicle in order to avoid continuous interventions with the manual controls, as in the case of manually operated air conditioners.

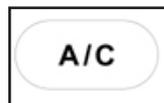
- Keep the door and window shut.
- Always open the nozzles when operating the dump truck.
- Direct the air flow so that it does not blow straight on uncovered skin.
- Always turn on the fan when operating the dump truck and adjust fan speed until it feels comfortable in the cab.



### AUTO

Pressing AUTO all the functions are automatically controlled. The AUTO symbol will appear on the display.

According to the cab setting and external temperatures, the controller will monitor the connected devices (water valve, compressor and blower) in order to achieve and maintain the required cab temperature.



### A/C

Pushing A/C engages / disengages the compressor clutch.

When the symbol A/C appears on the display, then the cooling system will be in operation.

Conversely when the ECON symbol is lit, the compressor is turned off.

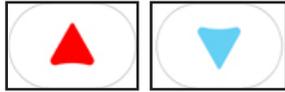
The automatic temperature controller will further monitor the system to hold the cab temperature in line with the set temperature, by making use of the fresh air and the heater capacity.

If cooling is required, press A/C or AUTO.

### NOTE

**When the outside temperature is below +3°C, the air conditioning system is disengaged to protect the compressor.**

## Cab ventilation



### Temperature Up/down

The screen displays the cab temperature setting, the desired temperature in the cab.

Pressing ▲ will increase the displayed value.

Each touch on ▲ increases the value on the display by 1°C.

The maximum value to be set is 28°C. Beyond 28°C, the display shows “HI” (High). In this case the control will run for the maximum cab temperature the HVAC system can deliver under the existing conditions.

Selecting “HI” = Fastest Way to reach a higher cab temperature

Pressing ▼ will lower the display value (= desired cab temperature). Each touch on ▼ lowers the value on the display by 1°C.

The minimum value to be set is 18°C. Below 18°C the display shows “LO” (Low) which means the control system goes for the lowest cab temperature that the HVAC can reach under the existing conditions.

Selecting “LO” = Fastest Way to reach a lower cab temperature

### Fan up/down



Pushing one of the ventilation buttons will interrupt the Auto Blower Speed Control and bring it in manual use - the Controller continues to control for the set Temperature without airflow control. AUTO symbol is turned off.

Return to automatic control by pushing AUTO.

Pressing  increases the fan speed in steps to the maximum value. 

Pressing  decreases the fan speed in steps to zero. 

Pressing  again when blower display is at zero stops the controller and the “OFF” symbol appears on the display - all functions  disabled.

### Recirculation or fresh air mode.

When pushing , the actuator control device changes the state of the air intake.

When the  symbol appears on the screen, the HVAC system operates with recirculation air from the cab only.

When the  symbol does not show up on the screen, the HVAC system operates with 80% recirculation and 20% fresh air.

By manually changing the recirculation status, the system continues controlling the cab temperature, except when “AUTO” symbol is turned off.



## Cab ventilation



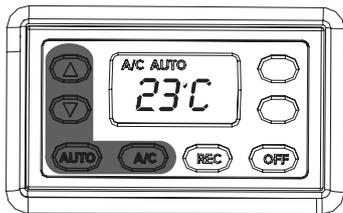
### Outside temperature display.

When pressing **EXT** for less of 2 seconds, the external temperature value will be shown on display for about 6 seconds.

You will know, when the EXT and symbols **E** are lit, that the external temperature value is showing up on the display.

When the external temperature is close to 0°C, the  symbol is lit to indicate the possibility of ice forming.

When pressing **EXT** for 3 seconds at least, the internal temperature value will be shown on display for about 6 seconds.



### Demist mode.

Press the A/C button and then AUTO and set the temperature 5°C above the desired temperature.

Air Conditioning and heating will be simultaneously on and the blower goes to maximum flow in order to defog the windscreen.

Regulation control.

Prior to the inspection:

- Check that the air inlets are not blocked by leaves.
- Check that the cab air louvers are opened to avoid evaporator freeze.
- Check the compressor drive belt tension:
  - A too high tension: early wearing of the compressor bearings
  - A too low tension: early wearing of the belt

### NOTE

- **The air conditioning system works only if the vehicle is running.**
- **While using the air conditioning system, keep all doors and windows closed.**

Outside temperature	Temperature at louver exit	Time needed to reach temperature
+20°C	+4°C	2 min
+25°C	+4°C	3,5 min
+30°C	+4°C	5 min

### NOTE

Note: The temperatures were recorded with the vehicle staying in the workshop (not exposed to the direct sunlight) and with around 1100 rpm engine speed.

### AIR CONDITIONING CONTROL

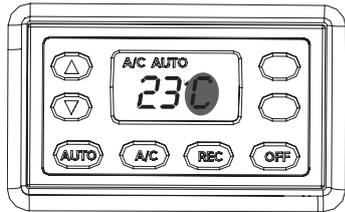
Commands must be set as follows:

- Ventilation setting at maximum
- Temperature setting at minimum
- A/C symbol ON

Place the thermometer in one of the air louvers, and check the cool air outlet temperature.

See table with the temperatures.

## Cab ventilation



### Ventilation control panel Celsius / Fahrenheit

To switch between Celsius / Fahrenheit:

- Switch off ignition
- Press both RED+BLUE button
- Switch on ignition
- Panel will show either 'C' (Celsius) or 'F' (Fahrenheit)
- Release both buttons after 2 seconds
- Now the panel will have switched either from Celsius to Fahrenheit or Fahrenheit to Celsius.

### Heater (Option)

External coolant heater circulate the machines coolant over a heat exchanger and then pumps it back through the engine and HVAC system. The result is a pre-heated engine and interior.

The heater setting screen will appear when the operator navigate to :

Menu > Settings > Heater..

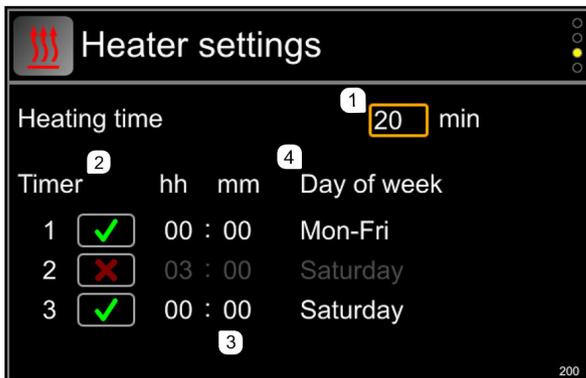
Use the screen buttons to sett up the wishes values of heater.

1. Select the maximum burning time for the heater.
2. Select the timer program.
3. Configure the start time.
4. Configure the days on which the heater start.

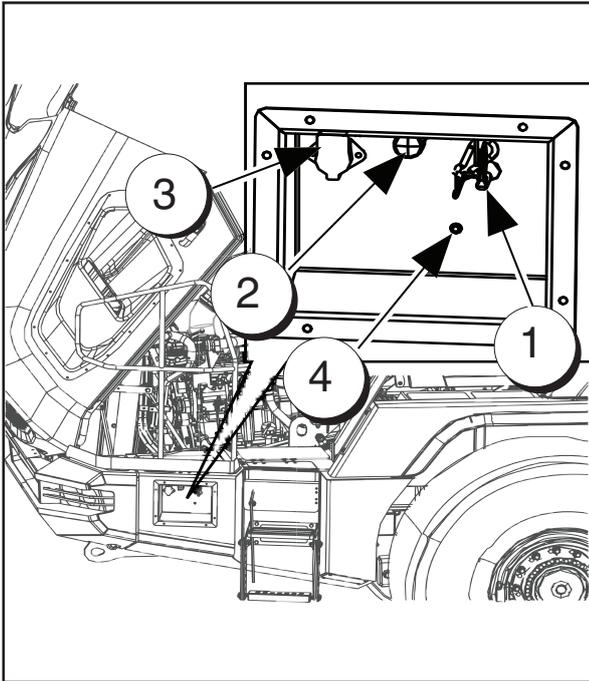
### Manual activation.

After activation the led light will light up on the button if the heater is installed and the ignition is ON. The heater will run until the operator turn OFF the ignition.

When the ignition is OFF and button is activated then the heater will run maximum for the duration that is set in the display menu page for the heating time.



## Other cab equipment



### Main Switches Panel

#### 1. Main switch on battery.

To disconnect the battery turn the switch to OFF position

To connect the battery turn the switch to ON position.

- Never turn off battery main switch when engine is running.
- Never turn off battery main switch when ignition is on.
- Leave battery main switch in ON position as long the lamp (4) is light on or flashing. When the lamp(4) is off the main switch can safely be turned to OFF position.



### WARNING

This instruction need to be followed otherwise this will cause damage of the machine components. Specifically turning battery main switch OFF when engine is running is very destructive.

#### 2. Emergency stop of engine.

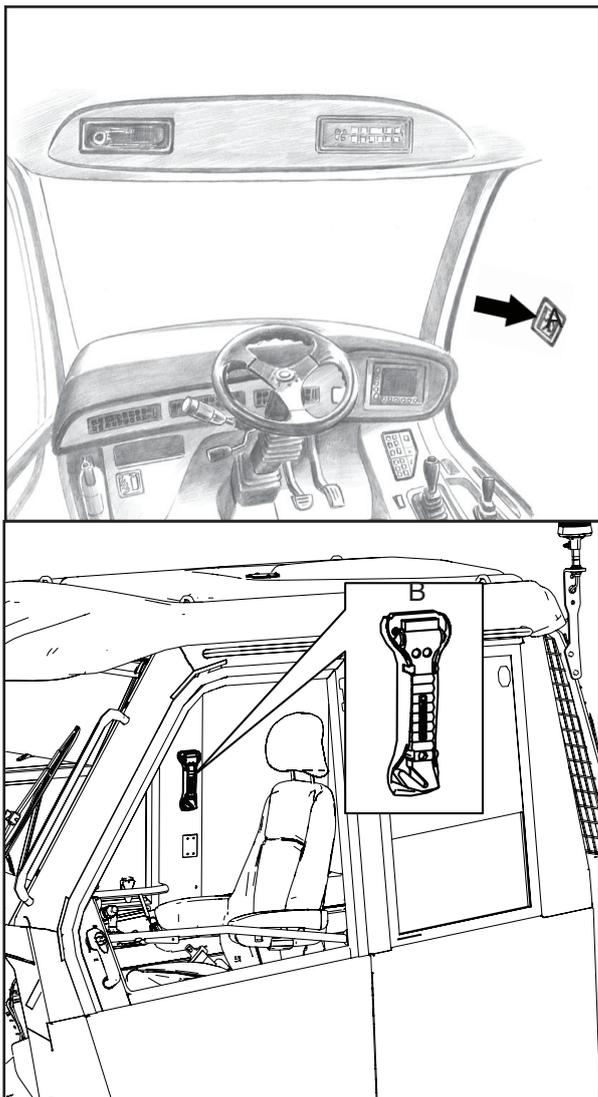
In case of danger situation push the button to emergency stop the engine.

To unlock the switch turn it clockwise.

#### 3. External power supply output.

External equipment (pump, lights, etc.) can obtain power from this connection. Voltage is 24V. Maximum load is 16A.

## Other cab equipment



### Emergency exit

- This dump truck is fitted with two emergency exits.
- Left door and front side window on right hand side (A).
- If the door is blocked, you can get out through the front side window.
- Remove hammer (B) from storage location and break front side window.

## Other cab equipment

### Driver's seat

The seat is air-sprung with a separate air compressor and adjustable in height, tilt, back support and lengthwise position. Adjust the seat to the desired position. Always use the safety belt when operating the dump truck.

Seat adjustment.

A. Backrest angle adjustment

B. Armrest angle adjustment

Can be lifted for easy access, and the inclination of the arm rests are adjustable for comfortable operating position.

C. Fore and aft slide adjustment

Lift lever up and slide the seat to a suitable position - release lever.

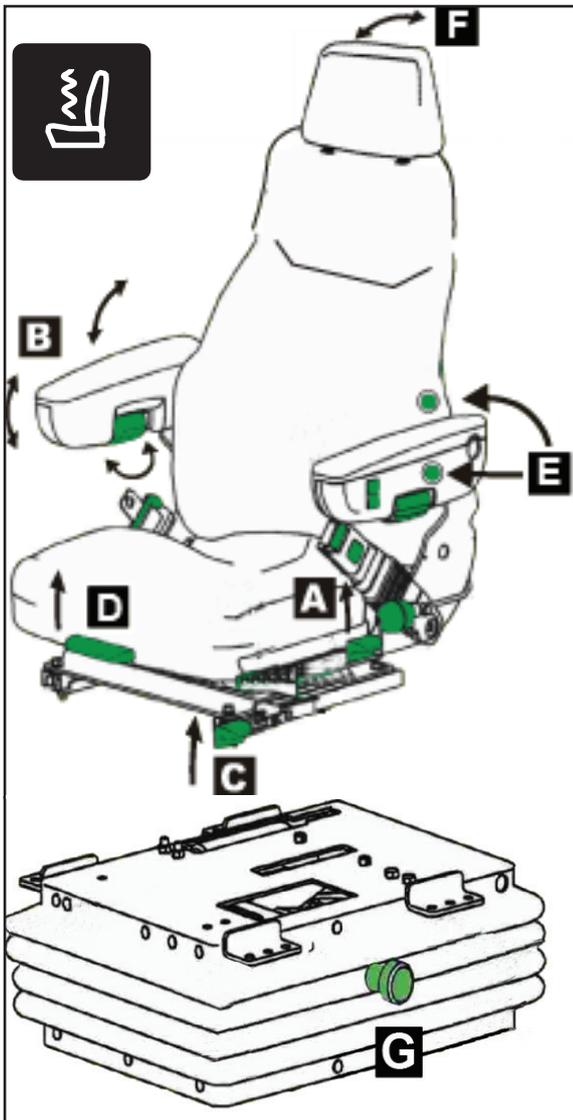
D. Thigh support adjustment (3 positions)

E. Seat heater

The seat can be heated by pushing the switch.

F. Headrest fore and aft adjustment

G. Adjustable damper control



### WARNING

For one seated occupant. Do not adjust seat when vehicle is in operation. Keep clear of all moving parts. Installation and maintenance should be carried out by authorised and competent personnel.

### NOTE

The driver seat with heating is an option. The seat can be heated by pushing the switch. Refer to button on keypad page 3-11.

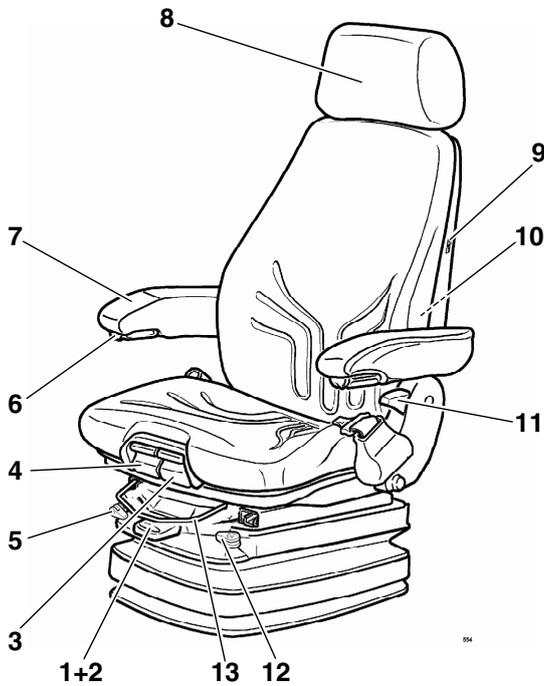
## Other cab equipment

### High-comfort seat (Option)

The seat is air-sprung with a separate air compressor and adjustable height, pan angle, back support and lengthwise position. Adjust the seat to the desired position and according to the operators weight. Always use the safety belt when operating the dump truck.

Seat adjustment.

1. Weight adjustment
2. Height adjustment
3. Seat pan angle adjustment
4. Seat depth adjustment
5. Absorber
6. Armrest adjustment
7. Armrests
8. Headrest
9. Seat heater
10. Lumbar support
11. Backrest adjustment
12. Fore/aft isolator
13. Fore/aft adjustment



### WARNING

For one seated occupant. Do not adjust seat when vehicle is in operation. Keep clear of all moving parts. Installation and maintenance should be carried out by authorised and competent personnel.

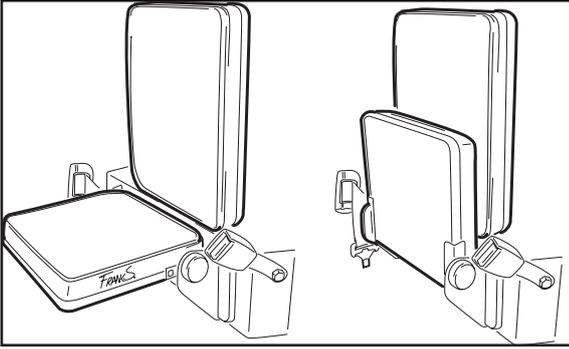
### NOTE

Driver's seats that have been adjusted incorrectly have a smaller moving area. In order to prevent any personal injury, the seat must be adjusted for the driver's weight before use and before every change of driver

### NOTE

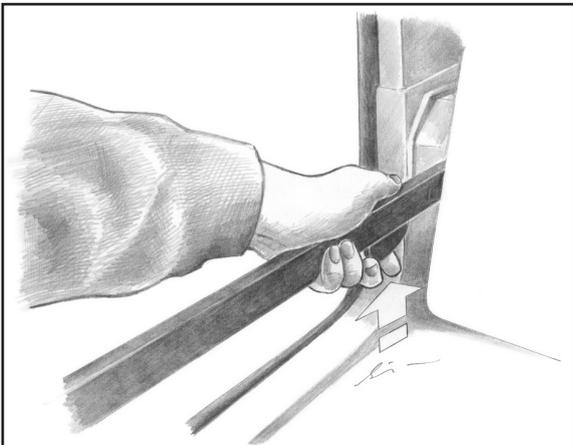
The driver seat with heating is an option. The seat can be heated by pushing the switch. Refer to button on keypad page 3-11.

## Other cab equipment



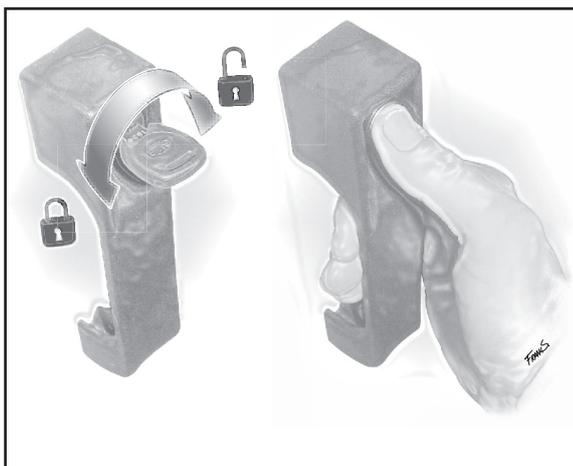
### Instructor seat

There is one seat for instructor, on the left side of the driver seat. The seat cushion are spring-loaded and will return to upright position when released. The seat is fitted with safety belt which is recommended for use during driving, both for safety and comfort.



### Internal door opener

- Push up handle to open the door.

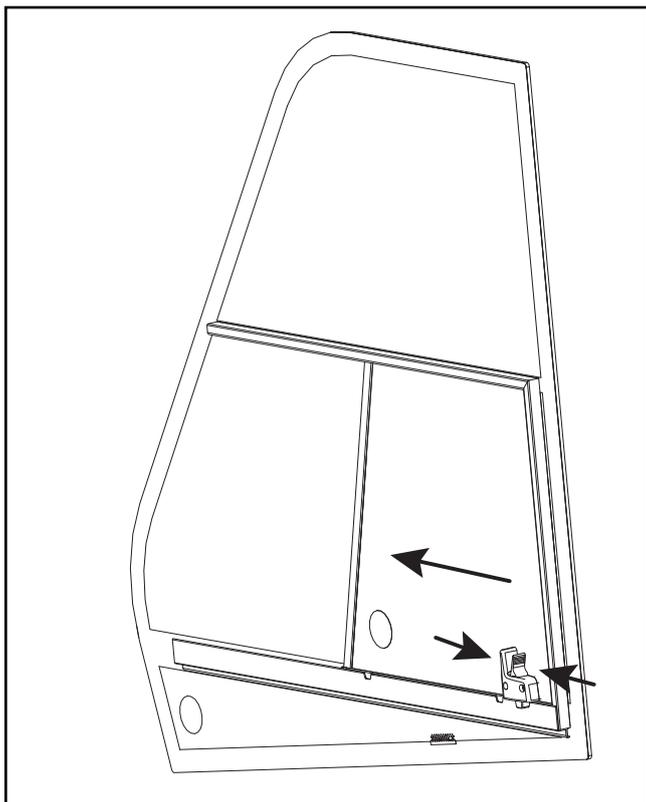


### External door opener/lock

The door is fitted with lockable door opener.

- Depress the button on the handle grip to open the door.
- The door can be locked from outside by using the door key.

## Other cab equipment

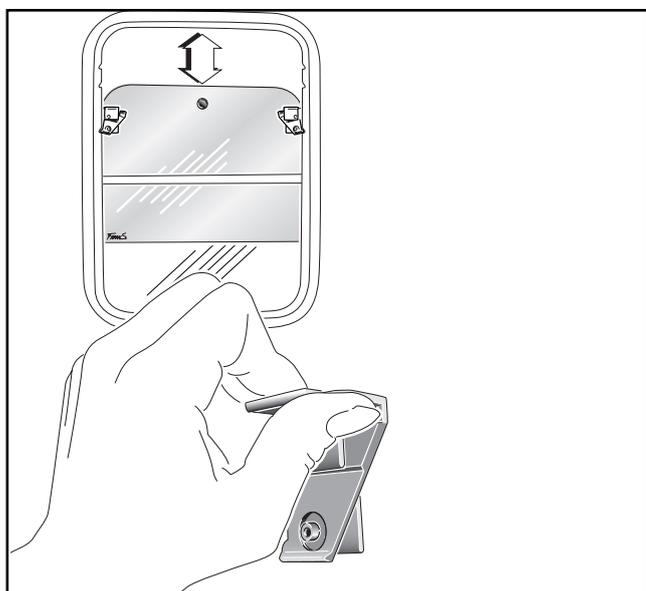


### Side window, right front

- To open the window:  
Press both lock arms and push forward position.
- To close the window:  
Press both lock arms again and pull the window to the close position.

#### NOTE

Be aware not to push and pull too hard because this can damage the locking mechanism.



### Side window, left rear

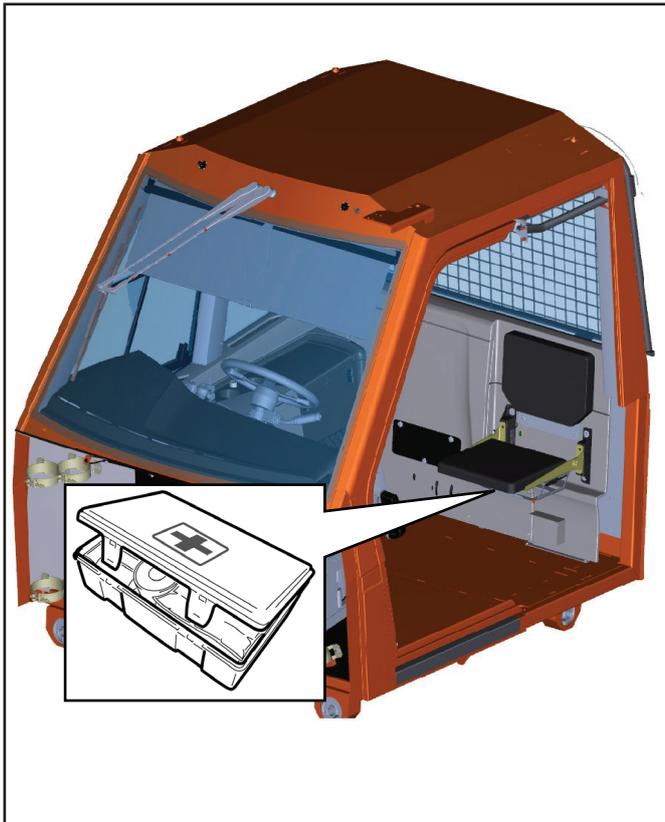
To open the window:

- Press both lock arms and lower the window to a suitable position.
- To close the window:  
Push window completely upward and check that the window locks are in the locked position.

#### NOTE

Be aware not to push and pull too hard because this can damage the locking mechanism.

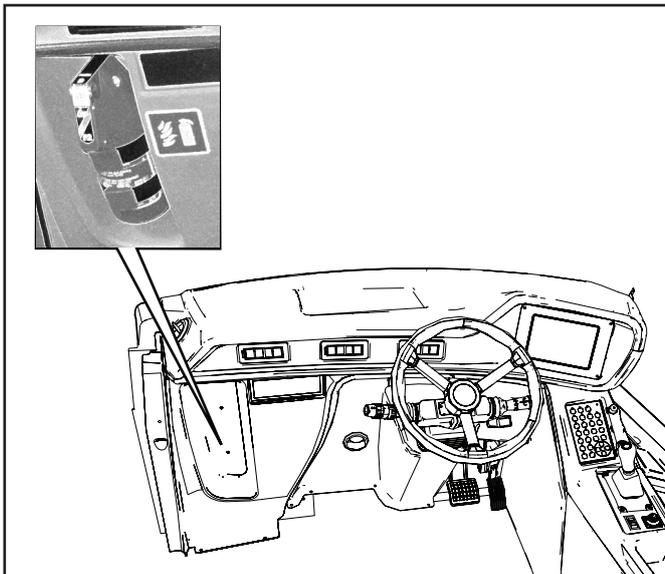
## Other cab equipment



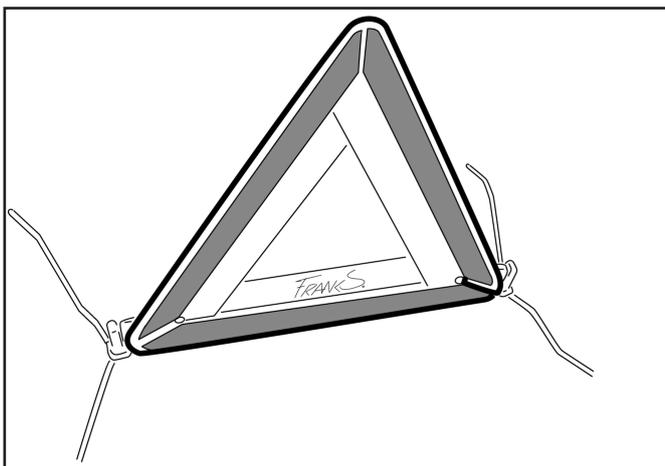
### Safety equipment

Ensure the safety equipment is present. Always keep it in its storage place and make sure that it is in order:

- First aid kit.

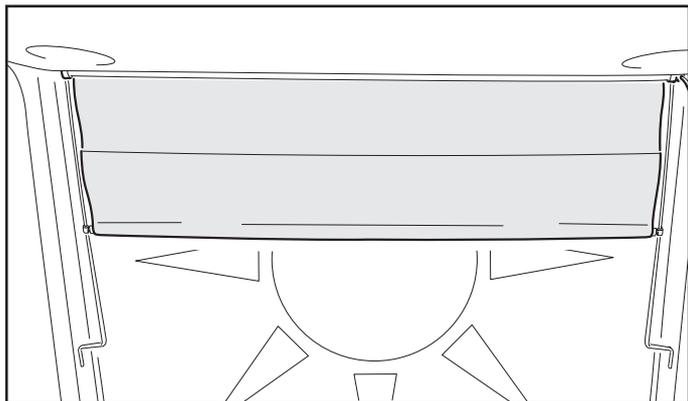


- Fire extinguisher, 2 kg, ABE class II powder. (Distributor / Dealer fitted)

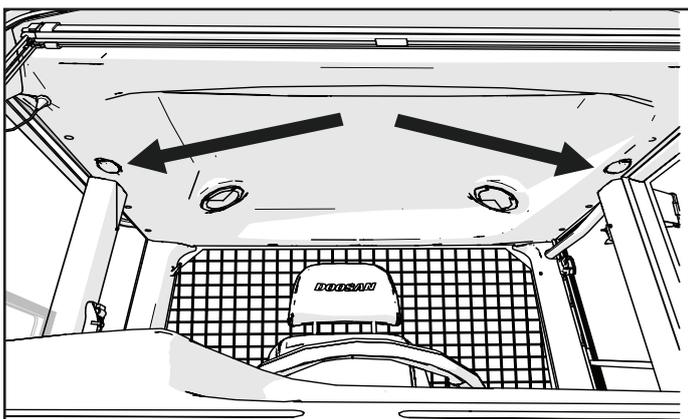


- Warning triangle (Optional equipment)

## Other cab equipment



Retractable roller sun blind on front windscreen



### Cab light

The cab light serves an extra function when error is detected. It will illuminate in red colour and flashes.



### Radio

The radio has following security features:

- Security warning sticker and identification number.
- If any of the security features are missing, contact your local Hyundai Dealer.

Radio will be kept on after ignition is off. Radio will be turned off automatically after 30 minutes or when the door is opened.

You can manually turn off the radio with the override button on keypad.

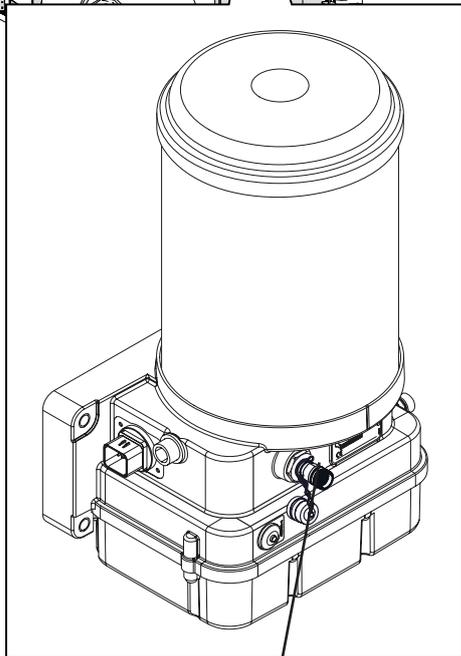
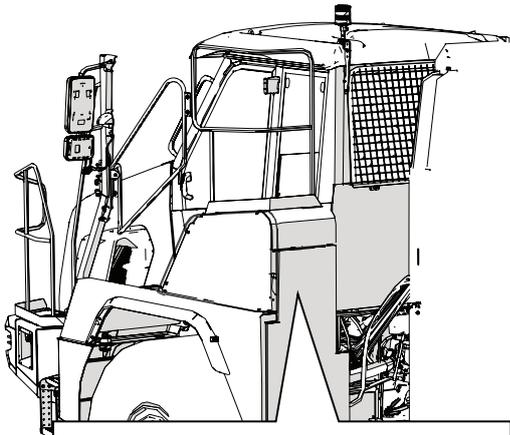
Operating Manual for the Radio.

For operation of the radio, see separate Operating Manual.

If the Operating Manual for the radio is missing, contact your local Hyundai Dealer.

## Other cab equipment

Located under the cover



1

### Groeneveld pump test

Introduction.

To test the greasing system two different cycle tests can be performed with the test push-button on the pump (1) or via the display (single test only)

1. The single cycle test (through line-A or -B).
2. The multiple cycle test (continuous cycles through line-A and -B).

A cycle test can only be performed if the greasing system is performing the pressure retaining phase, the pressure decrease phase or the pause phase.

### NOTE

When the system is already performing a pumping phase, the system will not respond when the test push-button is pushed.



### WARNING

Only use the cycle test if necessary. Every time a cycles test is performed, grease is added to the grease points. This is at the expense of the grease volume and can lead to excessive greasing of the grease points.

## Other cab equipment

### Electrical adjustment on mirrors (Option)

The power mirror switch has three positions: left, off, and right. When the switch is in the centre position, neither mirror will be adjusted if the button is pressed. This is to ensure that the mirrors don't move if the directional control button is accidentally hit.

The directional control button has four directions that the mirror motor can move: up, down, right, and left. If the switch is moved to either the left or right side, that side mirror motor circuit is powered at the switch. When you press the directional control button on the switch, the mirror motor inside the mirror housing will pivot the mirror glass to the selected direction. When you release the button, the mirror stops moving.

The mirror motor has a limited amount of travel that is allowed to prevent damage to the mirror glass. Once the travel limit is reached, the motor will continue to click and bind until the directional control button is released. Continuing to press the button when at its limit will cause the mirror motor to burn out eventually, and it will cease to operate until it is replaced.

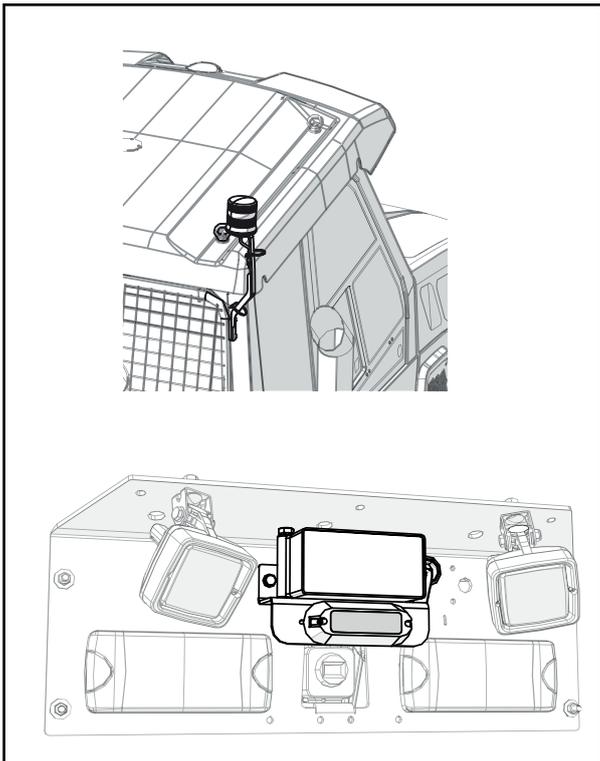
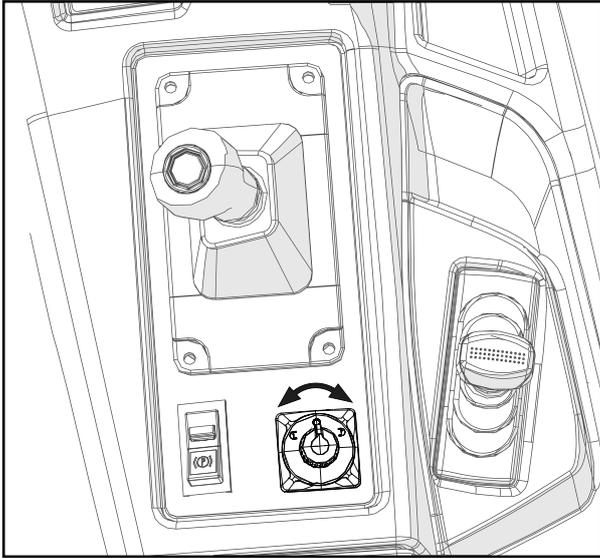
Ashtray and electrical adjustment of mirror can't be combined.

### WARNING

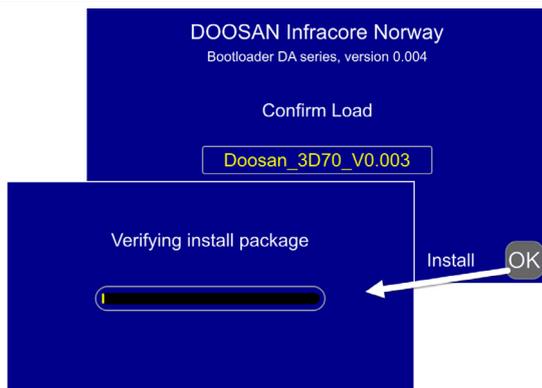
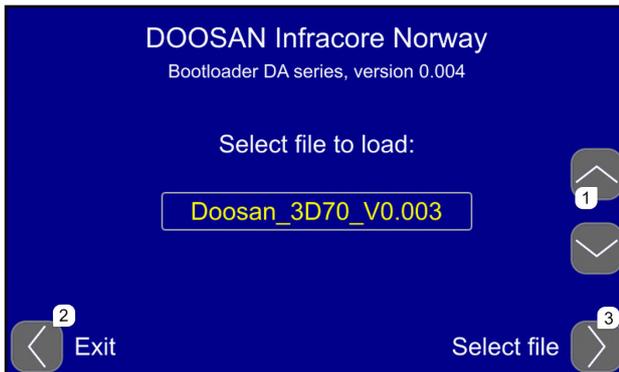
**Making sure your mirrors are adjusted for proper rear and side-view visibility is extremely important to safely operating. You need to be able to see the traffic beside and behind you to make informed decisions about your driving. Check your mirror adjustment every time you start drive dumper to make sure they are positioned properly for you.**

### Safety packages (Option)

- Seat belt indicator
- The green flashing light on roof activates when the seat belt is fastened.
- On the rear lights plate.
- White Noise Backup alarm and blue LED Flasher activates when the gear selector is moved to "R" reverse position .



## Software update



### Display software update

Press the Menu button.

Scroll with the arrow keys to highlight "Service". Press ">" or OK button.

Scroll with the arrow keys to highlight "software update", press the ">" or OK button. The software update screen will appear.

Menu > Service > Software update

Updating the existing application is only possible from the bootloader, press OK to enter bootloader.

- Insert usb stick containing file(s) with extension .din3D70.
  - » The up and down arrows (1) on the keypad can be used to scroll through these files.
  - » To cancel the update and return to the first view press Exit (2).

- Select the listed file by pressing the right arrow (3) on the keypad.
- Confirm the selected file by pressing the OK button.
  - » After confirmation, the bootloader will check the file.
- After verification, the bootloader will update the application.

- The bootloader has finished successfully. The display will reset and start the updated application.

- There was an error during the update. The display will reset and try to start the application. If this fails the bootloader will be shown again.
  - » If this will occur several times, please contact your Hyundai support.

