6.9 TERA DISPLAY

6.9.1 Description and Use of the display in the version LS-AS-HS

When the machine is switched on, the initial display screen appears for a few seconds (Fig. 1), then automatically switches to the road traffic screen (Fig. 2). In Fig. 2, all the lights are lit to clearly show their arrangement and shape.

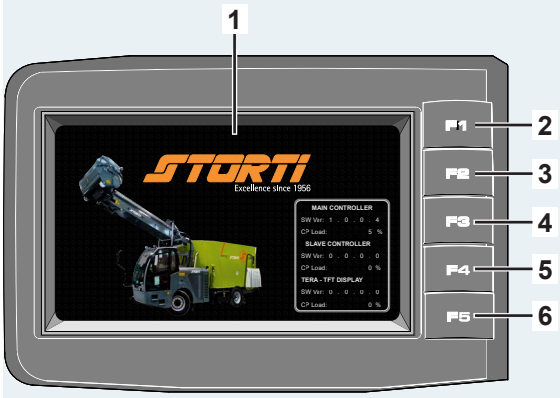


Fig. 1

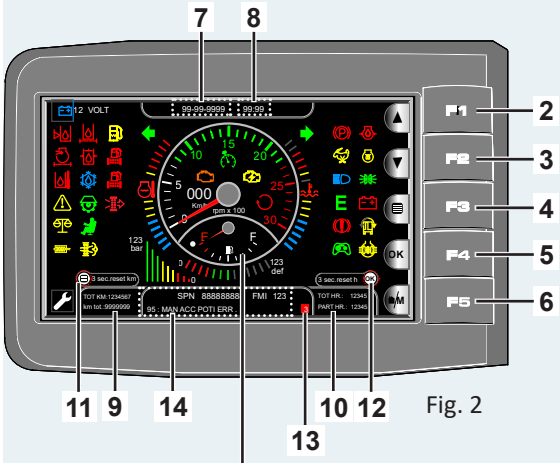


Fig. 2

Display description:

1) 7-inch screen

2) F1 button: press it to return to the previous page.

3) button F2: press it to move to the next and progressive page.

4) button F3: press it to select the various functions that can be set.

5) The F4 button, depending on the page selected, confirms a command or resets the information. Further details on its functions are explained in the following paragraphs

6) button F5: Pressing it, the road traffic page is accessed from any screen displayed (fig. 2).

7) date

8) hour

9) total kilometres

10) total working hours/partial working hours

11) reset kilometres, press and hold F3 for 3 sec. or on the "touch screen" area (red circle) of the monitor (booklet).

12) reset working hours, press and hold OK for 3 sec. or on the "touch screen"(red circle) area of the monitor (OK).

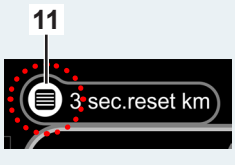
13) number of errors recorded in real time

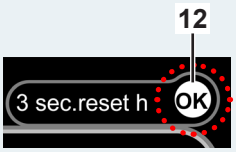
14) display area in which to see the SPM and FMI codes

15) Vehicle speed km/h

16) Engine rpm light

17) fuel level





6.9.2 Main pages present

Opening page 1

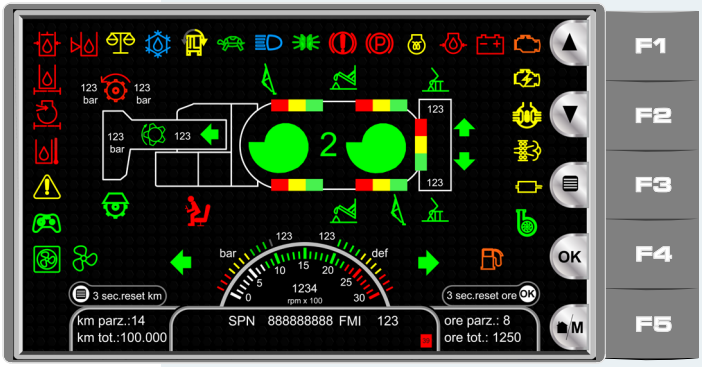
When the machine is switched on, this page opens on the display and remains visible for approximately 5 seconds. Then it automatically goes to the next "road traffic" page.

Page 2 road traffic:

This page presents a series of indicators and lights that provide information on the state of the vehicle and driving conditions.
It includes:
Headlight light lights,
hazard lights, lights, battery speed light lights, temperature light and more.
For further details on each light, see the explanation of lights and indicators in the appropriate chapter.

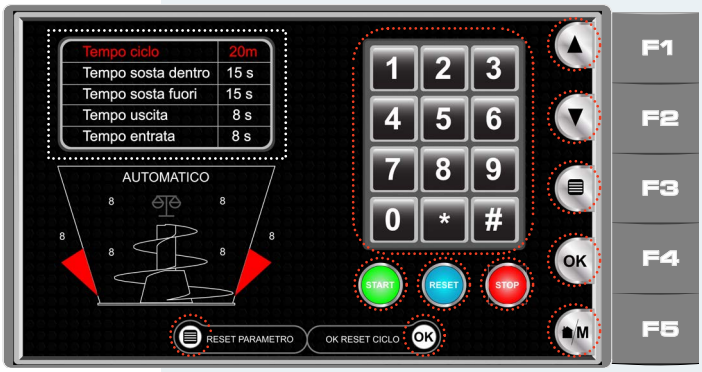
Page 3 work:

the main lights of the road traffic page are present, as well as all the information regarding loading with the milling cutter, rotation of the augers, opening and closing of the unloading doors, use of the joystick, the speed of rotation of the milling cutter, the rotation of the unloading belt to the right and left, the entry and exit of the counter-knives



Page 4 counter-knives:

Indications and setting of the counter-knives in manual mode using the CT keypad, or automatically from "Panel", or automatically from "Weight".
For the various procedures, see the specific chapters.
(The buttons circled in red in the drawing to the side are "touch" type)



Page 5 password:

enter the PIN via numeric keypad (by default set by STORTI to 0000) to enter

the submenus to control the following services:
• rear camera,
• reset alarm table,
• counter-knives mode,
• scale exclusion,
• maintenance reset,
For the various procedures, see the specific chapters.
(The buttons circled in red in the drawing to the side are "touch" type)

Page 6 diagnostics and settings on AS-LS version:

Select the item of interest with the F3 key and confirm with "OK" using the "Touch" key or the "F4" button, accessing the specific information of the service for consultation.
In addition, for certain services, it is possible to change the operating parameters.
(The buttons circled in red in the drawing to the side are "touch" type)

Page 6/1 diagnostics and settings on HS version:

Select the item of interest with the F3 key and confirm with "OK" using the "Touch" key or the "F4" button, accessing the specific information of the service for consultation.
In addition, for certain services, it is possible to change the operating parameters.
(The buttons circled in red in the drawing to the side are "touch" type)

Page 7 system settings:

on this page the items described on the panel are set.
Using the "F3" key, it is possible to scroll through the item of interest, and with the "F4" key it is possible to save the settings adopted.
For the procedures of the various items, refer to the specific chapters.
(The buttons circled in red in the drawing to the side are "touch" type).

Page 8 Inducement and regeneration:

This page remains visible for a few seconds if there are no inducement or

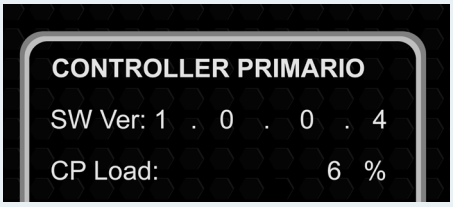
regeneration errors in progress.
In case of errors or inducement in progress, it is automatically activated to display the event.
For consultation only.
For the explanation of the various items, please refer to the specific chapters.
(The buttons circled in red in the drawing to the side are "touch" type).

Page 9 machine control unit alarms table:

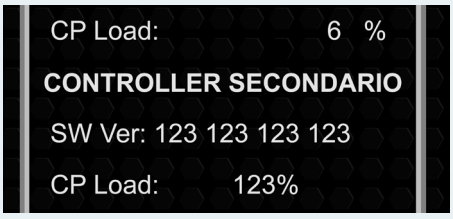
This page displays all the alarms that the machine control units record, both the historical alarms that remain recorded and the alarms in progress.
(The buttons circled in red in the drawing to the side are "touch" type)
It is possible to scroll through the displayed alarms using the "F3" and "F4" keys, and understand the problem through the displayed code.
The codes with an explanation of the error can be consulted in the specific chapter:
6.11 Machine control unit messages and errors.

6.9.3 Opening page

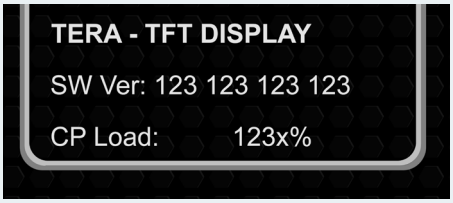
1) Master control unit: version of the installed software and instantaneous CPU engagement as a %



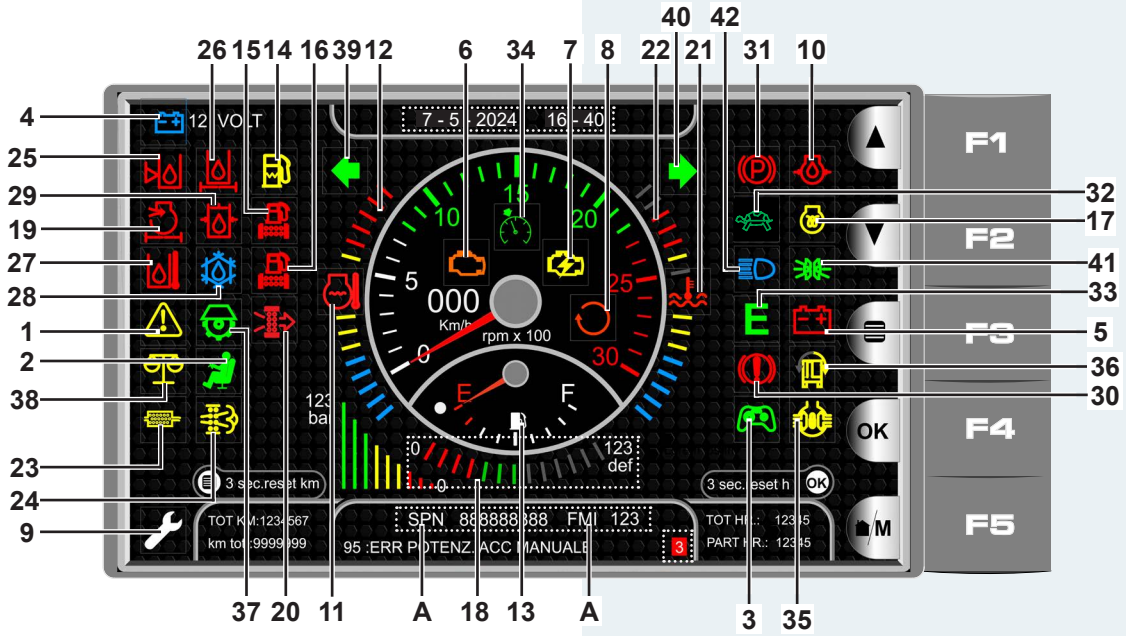
2) Slave control unit (optional): software version installed and instantaneous CPU engagement as a %



3) Main display: display name, installed software version and instant CPU engagement as a %



6.9.4 Page 2 road traffic



6.9.4.1 General indications

1) generic alarm or safety by-pass (part.1 fig.1)
steady yellow state: indicates the presence of an alarm and its purpose is to draw the driver's attention, or it indicates that the emergency button has been pressed.
Flashing yellow state (fig.1/1): indicates activation of the safety by-pass for maintenance operations reserved for authorised personnel.

fig. 1


fig. 1/1

2) Driving seat: presence of the operator (part.2 (fig.2).
Steady green state): indicates that the operator is properly seated in the driver's seat.
Their presence is detected by a microswitch inside the seat.
Steady red state (fig.2/2): indicates that the operator is not properly seated in the seat or is not seated at all.
If the operator is not properly seated in the driver's seat or stands up for more than ~3 seconds, all working functions of the machine are disabled, including travel, and the machine stops (the engine remains on).
When the operator sits down again, they must reset the functions that have been disabled in order to resume working and travel can also resume.

fig. 2


fig. 2/2

3) Control joystick (part.3 fig.3): presence of the operator in a steady green state, indicates that the operator has correctly gripped the joystick and can use its functions.

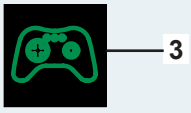


fig. 3

The presence is detected by pressing the red button on the back of the joystick (fig.3/1 on some versions of joystick) or by the presence of a hand itself on the handle via a capacitive sensor (fig.3/2).

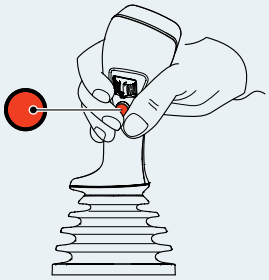


fig. 3/1

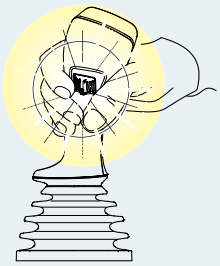


fig. 3/2

6.9.4.2 Battery

4) Real-time battery state (part.4 fig.4): steady blue state: with the machine switched off it can vary from 12 to 12.5 Volts, with the machine switched on from 14 to 14.4 Volts.
Number: indicates the battery charge voltage in Volts (fig.4/1).
If the battery drops below 12 Volts, it means that the alternator is not charging properly or that the battery is failing and does not maintain charge.

fig. 4

fig. 4/1

5) Battery charge level (part.5 fig.5):
if the battery light comes on it could indicate that the alternator is not charging the battery (or faulty battery) .
This could be due to a problem with the alternator itself, the alternator belt or the charging circuit.
If the battery light is off (fig.5/1), it means that the battery charging system is working properly.
The alternator is providing sufficient power to run the vehicle and to keep the battery charged.

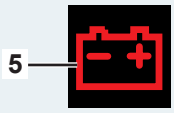


fig. 5

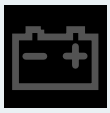


fig. 5/1

6.9.4.3 DIESEL ENGINE

6.9.4.3.1 Engine diagnostics

6) Engine fault (part.6 fig. 6):
the yellow light, lit steady, lights up in case of engine anomalies (light off fig.6.1).
The error code is shown in the relative area of the display, see the relative SPM and FMI codes (part. A) indicated in fig. 7.
See the description in the list of errors in the dedicated chapter see:.

6.11 Diagnostic errors ECU Diagnosis (in PDF)

7) Serious engine anomaly (part.7 fig.7): the orange light, lit steady, lights up in case of "serious" engine anomalies (light off fig.7.1).
The error code is shown in the relative area of the display, see the relative SPM and FMI codes (part. A) indicated in fig. 8.
See the description in the list of errors in the dedicat-

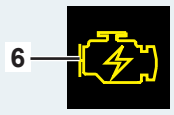


fig. 6


fig. 6/1

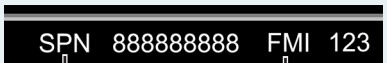


fig. 7

A A

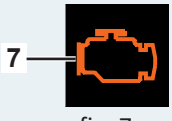


fig. 7

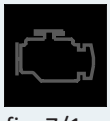


fig. 7/1

ed chapter see:.

6.11 Diagnostic errors ECU Diagnosis (in PDF)

8) Engine revs exceeded (part.8 fig.9): the steady red light + steady buzzer active for the entire time of the exceeded revs indicates that the maximum engine revs threshold (> 2600 rpm) have been exceeded (light off fig.9/1).
If this happens while the machine is moving downhill, it is advisable to use the service brake to slow the machine down.

9) Diesel engine maintenance (part.9 fig.10): when it turns on, it indicates the need for periodic maintenance of the Diesel engine.
Intervals are calculated based on the number of hours accumulated.
By default, it turns on every 300 engine hours.
It only turns off after the "reset", to be performed from the service menu with a specific password (light off fig.10.1).
(This operation can be performed at Storti after-sales service centres).

6.9.4.3.2 Engine oil circuit

10) Engine oil pressure (part.10 fig.11): steady red state + steady buzzer, indicates that the engine oil pressure is insufficient (< 90 kPa - 0.9 bar) (light off fig.11.1).
The exact value can be displayed on the **"6 diagnostics and information"** page by pressing the F2 key. The F3 key is used to go to the **"engine information"**item and with the F4 key the screen with the required information is entered.
The machine must be switched off immediately to avoid irreversible damage to the engine.
In the event of any problems, please contact the Storti Assistance Service.

11) Engine oil temperature (part.11 fig.12): flashing red state + intermittent buzzer, indicates that the maximum temperature of
125°C (light off fig.12/1).
Attention!!!
The same flashing light + intermittent buzzer is also automatically controlled by the "ECU" engine control unit.
This can be activated at different temperatures, depending on the parameters detected during use of the vehicle.
In case of activation, immediately stop the engine and contact the Assistance Service.
12) The engine oil temperature (part.11 fig.13) is also easily visible on the bar graph where the light is located.
This bar graph is divided into three sections that light

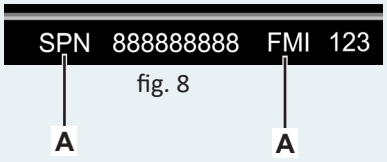


fig. 8

fig. 9


fig. 9/1

fig. 10


fig. 10/1

fig. 11


fig. 11/1

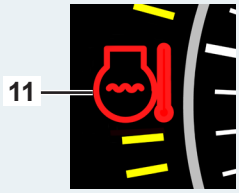


fig. 12


fig. 12/1

up as the temperature increases, each of which is marked by a different colour: blue, yellow and red (fig.13).
The blue bars indicate that the engine oil temperature is low while the yellow bars indicate a normal engine oil temperature.
These two colours represent safe operating conditions for the engine.
When the light moves to the red bars, (the first two bars part.12 fig.13 above the light) of the red section, it is necessary to pay attention to the engine oil temperature trend.
If the temperature continues to rise, it is advisable to slow down or stop the machine completely to see if the temperature decreases.
In case the temperature does not decrease despite these measures, it is highly recommended to turn off the vehicle and immediately contact an assistance service.
This is because excessive engine oil temperature can cause serious damage to the vehicle's engine.

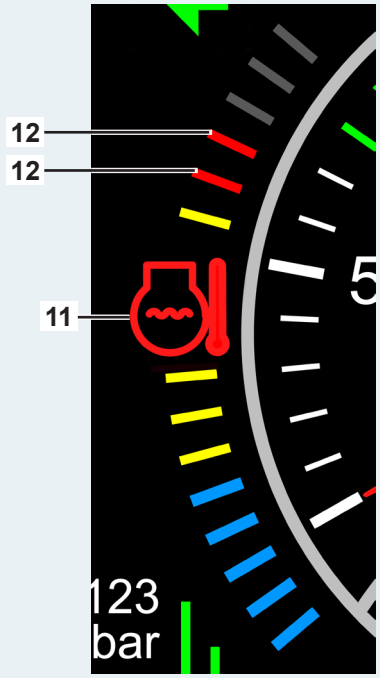


fig. 13

6.9.4.3.3 Diesel circuit

13) The fuel level in the tank is indicated by the pointer (part.13 fig.14), which varies from empty (E) to full (F).
The flashing yellow circular light (A fig.14) is activated when the tank pointer reaches the first red line of the bar graph (B fig.14).
This indicates that the available fuel reserve is:
for the 270 litre tank: ~45-50 litres
For the 170 litre tank: ~25-35 litres
In addition, there is a flashing orange light C fig.15) on page "3 of work" (fig.15) that indicates the fuel reserve while working.

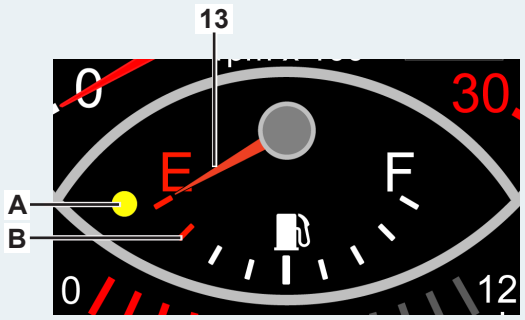


fig. 14

14) Water in diesel (part .14 fig. 16): the steady yellow state indicates the presence of water in the diesel pre-filter.
To remove the water from the pre-filter with the engine off, proceed as follows: place a container under the filter to collect the liquid. Remove the electrical connector A (fig.17) by pressing the safety latch B

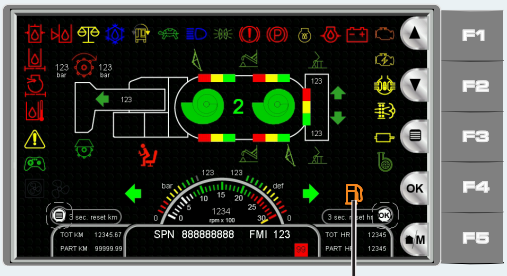
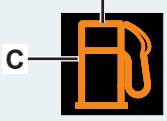


fig. 15



(fig.17) and pull down.
Next, slowly open the drain cap C (fig.17-18) without completely removing it from the bottom of the pre-filter and let the liquid D flow out (fig.18).
When the presence of diesel only is recognised, close and screw the cap back on.
Reconnect the electrical connector A (fig.19).
The light goes out fig.16/1
(For further information, see also the FPT ENGINE USE & MAINTENANCE booklet supplied).

fig. 16


fig. 16/1

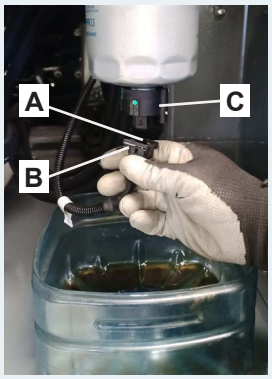


fig. 17

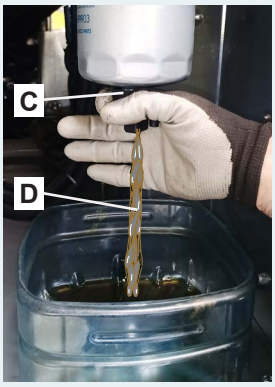


fig. 18

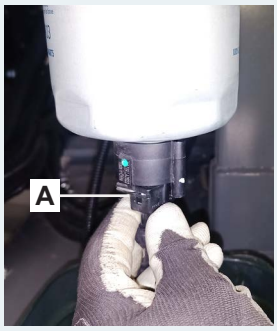


fig. 19

15) Clogged diesel pre-filter (part.15): the steady red state (fig. 20) indicates that the pre-filter must be replaced. The new pre-filter must be filled with fuel by means of the pressure pump placed above the filter A itself (fig.21).
Proceed as follows: loosen the purge screw B (fig.21) located on the pre-filter support and act on the hand pump (A fig.21) until the supply circuit is filled.
Ensure that the fuel that escapes is not dispersed into the environment.
Tighten the purge screw fully home.
Start the engine and keep it in rotation at idle for a few minutes in order to eliminate any residual air.
The light goes out fig.20/1
Note: if it is necessary to accelerate the residual air purging phase, proceed by acting on the hand pump also during start-up.

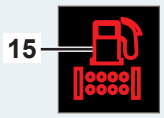


fig. 20


fig. 20/1

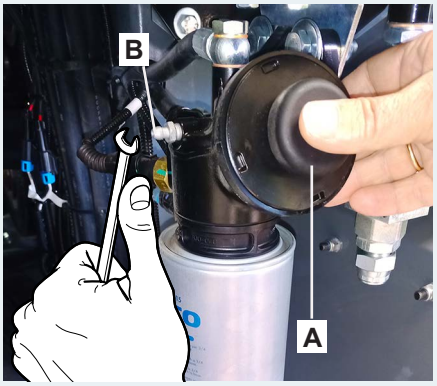


fig. 21

SPARE PART NUMBER
Diesel fuel prefilter cartridge: 96150169 (C fig.22)

16) Clogged diesel filter (part.16): the steady red state (fig. 23) indicates that the pre-filter must be replaced.
For replacement, follow the procedure extrapolated from the use and maintenance manual of the FPT engine supplied (fig.24):*Proceed only with the engine off and at a low temperature to avoid the risk of burns.*
Only use filters with the following characteristics (see section 3-23):
- filtration degree < 12 µm

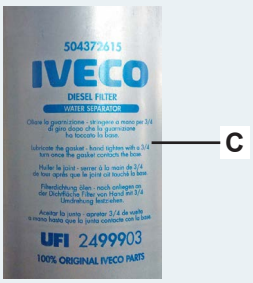


fig. 22

- filtering efficiency 99.5% (ß > 200).
• Place a container to collect diesel oil under the filter support (1).
• Remove the filter (3) by unscrewing it from its support.
• Replace the filter element and O-ring seal (2) contained inside the filter body (3).
• Thoroughly clean the surfaces of the support (1) in contact with the O-ring seal (2).
• Spray the O-ring seal (2) of the new filter with oil.
• Manually tighten the new filter (3) on the support (1) until it adheres to the seal (2).
Tighten further using a specific tool to the torque of 22.5 +/- 2.5 N·m.
After replacing the fuel filter (3), air bubbles may remain in the supply circuit.
• Vent the residual air from the fuel filter (3) by loosening the vent cap (A fig.25) and connecting it to a suitable container using a clear hose (B fig.25).
• Operate the manual pump (C fig.27) of the engine pre-filter until the fuel exiting the vent cap is completely free of air bubbles.
• Tighten the vent cap to the required torque.
• Start the engine and keep it at a minimum for a few minutes in order to eliminate any air residue (light off fig.23/1).

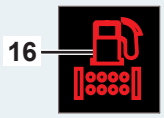


fig. 23


fig. 23/1

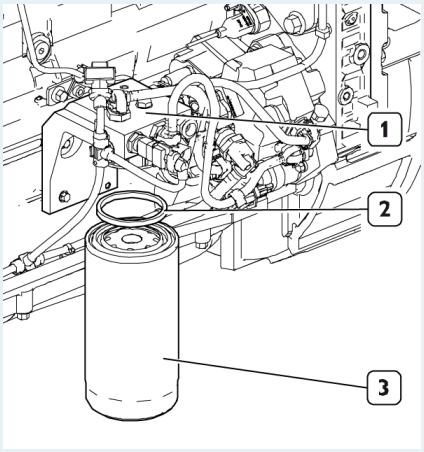


fig. 24

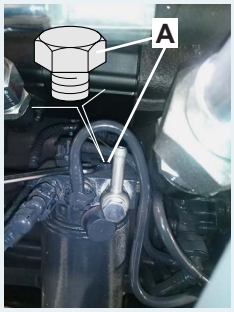


fig. 25

fig. 26

17) Engine preheating light (part.17): when the key is turned to the first position, the monitor turns on after a few seconds and, automatically, the next road traffic page is accessed where the preheating light is present (fig.28/1).
In countries with mild or hot weather, the time needed for the monitor to turn on is usually insufficient to see the light (fig.28) on (off fig.28/1).
In these conditions, the vehicle can be started by turning the key further.
However, in situations of low temperatures or if the vehicle has not been started for an extended period, it may be the case that, once the panel is turned on

fig. 27

(which automatically leads to the road traffic page), the light remains on.
This indicates that the starter system is preheating.
In these circumstances, it is necessary to wait for the light (fig.28) to turn off before proceeding with ignition.
All these waiting times are managed automatically by the engine control unit.
It may be necessary to run more than one ignition cycle.

fig. 28


fig. 28/1

6.9.4.3.4 AD-BLUE Circuit

18) The AD-BLUE level in the tank (part.18 fig.29) is visible on the bar graph, where the "DEF" light is also positioned.
This light indicates the percentage of AD-BLUE depending on the capacity of the installed tank, which in our case is 43 litres.
The bar graph is divided into three coloured sections: yellow, green and red.
The yellow bars indicate a full tank, the green bars indicate a half tank while the red bars indicate the start of the reserve, ultimately ending in an empty tank.
When the tank is full, all the bars are on (fig.29).
As the level of AD-BLUE in the tank decreases, the bars gradually disappear. In fig.30, for example, 4 red bars are visible that indicate the start of the reserve, estimated between 11% and 15% of the tank capacity.
If the AD-BLUE level falls below 9% and up to 5% (fig.31), in addition to disappearing of the red bars, the numerical percentage amount of AD-BLUE in the tank also begins to flash (in red).
The word "DEF" also lights up (in red), which flashes with a frequency of 1 second.
If the level falls below 5% and up to 0% (fig.32), only one red bar remains on and turns off when zero is reached.
The word "DEF" and the numerical percentage quantity of AD-BLUE begin to flash (in red) faster, with a frequency of 0.5 seconds, and are accompanied by a steady buzzer.
It is advisable to refuel AD-BLUE as soon as possible, before the **10%** threshold to avoid activating the inducement procedure.
For further details on the types of "inducement", please refer to the specific chapter:

6.9.10 Inducement and regeneration

fig. 29

fig. 30

fig. 31

fig. 32

19) Clogged air filter light (part.19 fig. 33): this light is present on engines up to and including stage 4.
The steady red state indicates the need to check the air filter cartridge(light off fig.33/1)

20) Clogged air filter light (part.20 fig. 34): this lights up steady red when the engine control unit detects an air filter clog (light off fig.34/1).

The filter consists of two cartridges: a main one and a safety one.
The light (the light) indicates the need to clean or replace the filter.
In particularly dusty environments, it is advisable to clean the filters even before the light comes on, respecting in any case the intervention times envisaged for cleaning and replacement indicated in the ordinary maintenance section.
To proceed with cleaning (with compressed air, use the dedicated PPE to protect the respiratory tract and eyes from dust or debris deposited on the filters) or replacement, follow these steps:

1) Open the pyramid on the right side of the vehicle.

2) Unlock the 3 latches (A fig.34) and remove the cover (B fig.34).

3) Remove the filter (C fig.35) by turning it and pulling it outwards, then clean or replace it as indicated in the maintenance summary table.
If, after performing this operation, the light remains on, it will also be necessary to clean or replace the internal safety cartridge (D fig.36).

4) To extract it, rotate and pull outwards.

5) To reassemble it, insert it in its seat and push it until it rests on the bottom (see fig.37 and fig.38).

6) Repeat this for the main filter, place it in its seat, rotate it slightly if necessary and push it all the way in (see fig.39).

7) Reassemble the cover by locking it with the latches (A fig.34).

Spare parts code:cartridge C = 99012015
Spare parts code: internal cartridge D = 99012014

6.9.4.3.5 Engine cooling circuit

21) Engine water temperature (part.21 fig.40): steady red state + intermittent buzzer with frequency of 1 second, indicates that the engine temperature has been reached
103°C ± 3°C. (light off fig.40/1).
Attention!!!
The same light + intermittent buzzer is also automatically controlled by the "ECU" engine control unit.
This can be activated at different temperatures, depending on the parameters detected during use of the vehicle.
In case of activation, the engine must be stopped immediately.

22) The engine water temperature is also easily vis-

fig. 33


fig. 33/1

fig. 34


fig. 34/1

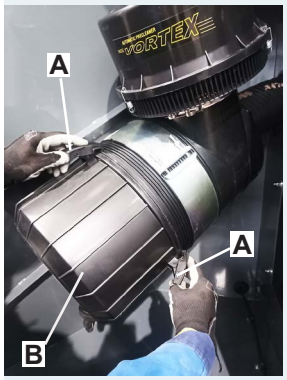


fig. 34

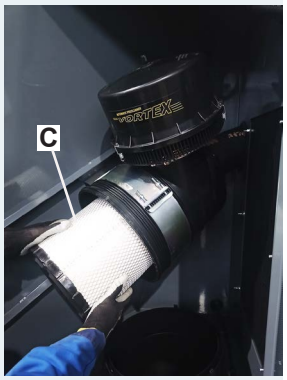


fig. 35

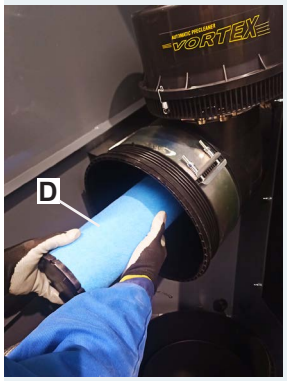


fig. 36


fig. 37


fig. 38


fig. 39

ible on the bar graph (part.22 fig.41) where the light is located (part.21 fig.41).
This bar graph is divided into three sections that light up as the temperature increases, each of which is marked by a different colour: blue, yellow and red (fig.41).
The blue bars indicate that the engine water temperature is low while the yellow bars indicate an engine water temperature within the operating norm (B 90°÷99°C).
When the light moves to the first red bar, (A fig.41 above the light) of the red section the temperature of 103°C ± 3°C has been reached. Stop the engine immediately as continuing to use the engine could cause irreparable damage.
It is advisable to let the engine cool down and not try to restart it until it has cooled down (be careful if the engine is turned off as its temperature continues to be a risk of burns for a long time).
If it is possible to do so, check the cooling system.
Check the level of the cooling liquid in the filling tank near the radiator (1 fig.43) (they are intercommunicating), but only when the engine has cooled down.
If the liquid level is low, it may be necessary to top it up.
Visually check for fluid leaks from the radiator, water pipes or on the ground.
If the tray is empty, first add liquid into the radiator from the cap (C fig.42), check visually that it is full, then close again, continue filling from the tray (D fig.43) until the level marked Max (fig.44) is reached.
Also check and clean the radiant mass of the radiator ensuring that it is not dirty and clogged or does not allow adequate cooling.
If this cannot be resolved, contact the assistance service.
Explain the situation in detail to the assistance service, including the warning of the steady red light and the buzzer.

6.9.4.3.6 Hydrocarbon accumulation emission control

23) The three-state light (part.23 fig.45) has different operating modes: it can be switched off (fig.45), on in the first state (fig. 45/1) or in the second state (fig. 45/2).
This light comes on when the vehicle is moving at a low speed, equal to or less than 1300 rpm, for a period of time determined by the ECU in response to a critical accumulation of hydrocarbons (HC).
Approximately 20 seconds after the light comes on, the message "accelerate" appears on the screen (A fig.46), which remains visible for a few seconds to inform the driver about what to do.
The light remains on until the control unit detects that the operation has returned to the correct parameters.
If the message is ignored and does not accelerate, keeping the engine at low speed (max 1300 rpm), the

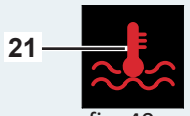


fig. 40


fig. 40/1

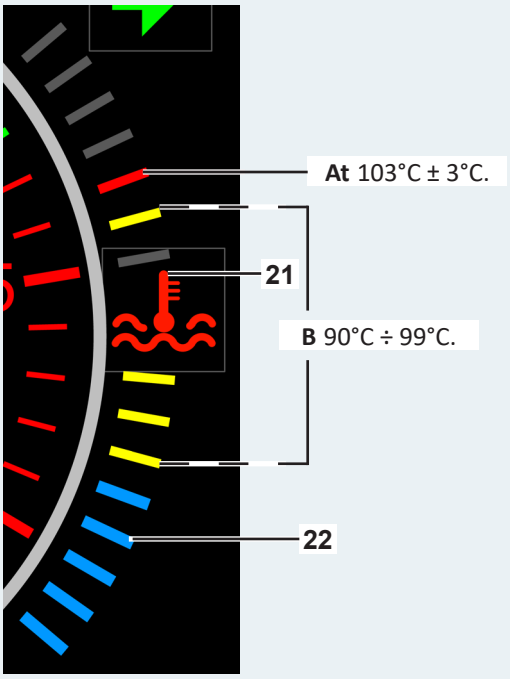


fig. 41

fig. 42

fig. 43

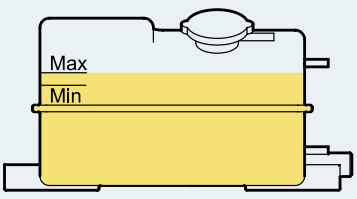


fig. 44

light switches to the second state, signalling an even greater accumulation of unburned hydrocarbons (fig. 45/2).
Also in this case, the warning message "accelerate" appears again.
It is therefore necessary to increase the speed to return to the threshold managed by the control unit and to turn off the light.
If the incorrect operating conditions persist, they could cause damage to the exhaust system components and exceed the legal gas emission thresholds.

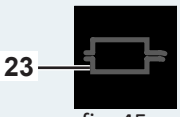


fig. 45


fig. 45/1


fig. 45/2

6.9.4.3.7 Alert of regeneration states

24) The two-state light (part.24 fig.47) comes on as a generic warning of the states of the regeneration lights (light off fig.47/1).
When the light comes on, it automatically opens the "Page 8 Inducement and regeneration" fig.48 (only once automatically), where the operations being regenerated or about to be activated are visible.
If the operator returns to page 2 "**Road traffic**" or page 3 **"Work"** (fig.49), they will find the same light (part.A - fig.49) that will continue to flash until the operations relating to the regeneration states or the ATS system are completed.
See specific chapter **"Alerts and reports to the operator during regeneration"**.

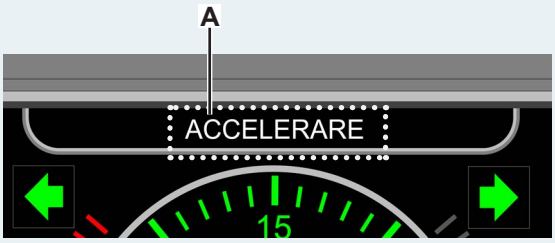


fig. 46

6.9.4.3.8 Hydraulic circuit

25) Hydraulic oil level light (part.25 fig.50): when in the steady red state, it indicates that the hydraulic oil level is too low (light off fig.50/1).
This is accompanied by the sound of a steady acoustic buzzer.
The oil level is detected by the sensor (A fig. 50) positioned above the hydraulic oil tank.
The oil levels are also visible on the clear lights on the tank (B fig. 51 indicates the maximum level, C fig. 51 indicates the minimum level).
To top up the oil, follow these steps:

1) Place the milling arm on the ground.

2) Make sure all the cylinders of the various services are closed.

3) Remove the filling cap (D fig. 50) and top up to the middle of the light (B fig. 51).

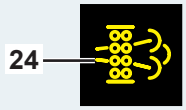


fig. 47


fig. 47/1

fig. 48

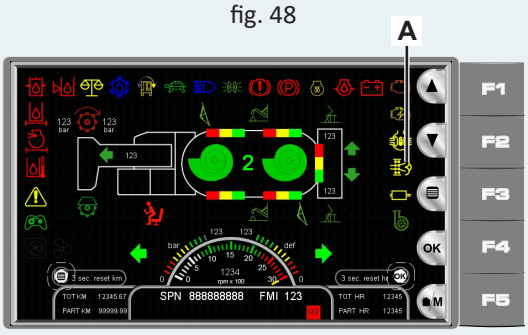


fig. 49

4) After completing the top-up, use the various services, then return the milling arm to the ground, close the various cylinders and after a few minutes check the level again. If necessary, top up further.

fig. 50


fig. 50/1

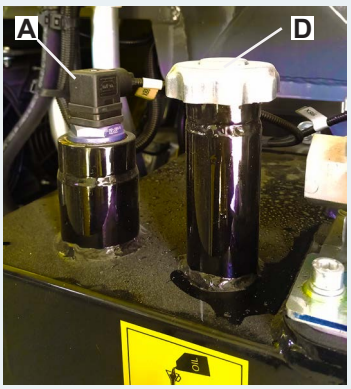


fig. 50

26) Hydraulic oil filter light (part.26 fig.52): lights up steady red to indicate that the hydraulic oil filter is clogged in the tank (light off fig.52/1).
This is accompanied by the sound of a steady acoustic buzzer.
It can turn on for a few seconds when the diesel engine starts cold, due to the higher oil density at low temperatures.
It is advisable to keep the engine at low speed until the light goes out.
If it does not turn off within a few seconds, keep the Diesel speed low, wait another 5 seconds and then stop the engine and replace the clogged filter
Follow this procedure for replacement:
1) With the engine off, use an appropriate wrench (from 50) to unscrew the upper cover of the filter (A fig.53).

2) Remove the cartridge holder, which is equipped with a handle (B fig.54), by pulling it upwards.

3) Remove the filter cartridge (C fig.54) from the holder (B fig.54) and insert the new cartridge.
Be careful not to pinch or damage the seals.

4) Reassemble the support (B fig.54) with the new cartridge (C fig.54) in the main body inside the tank.

5) Reassemble the cover and tighten it properly.
Turn on the engine and check if the light turns off.

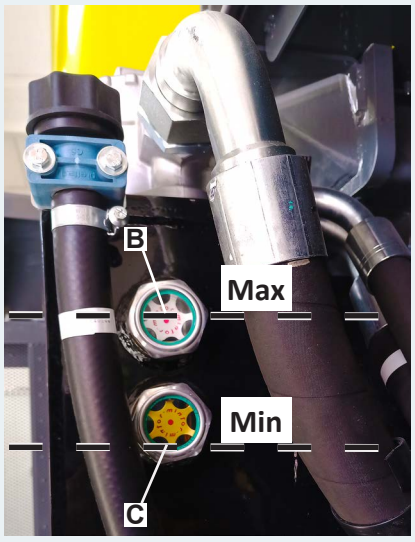


fig. 51

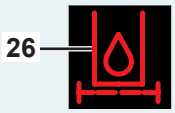


fig. 52


fig. 52/1

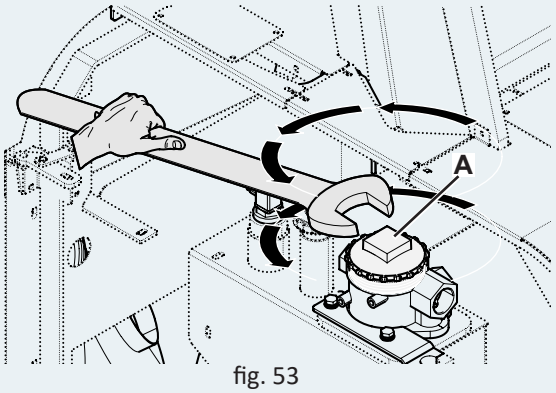


fig. 53

In the event that the alarm persists, it is necessary to check the operation of the pressure switch (D fig.55) and its connections.
If the pressure switch does not work, it will need to be replaced.

After replacing the pressure switch, if the light remains on, it is advisable to contact the assistance centre.

Spare parts codes:

Cartridge C = 99011009
Pressure switch D = 93151120

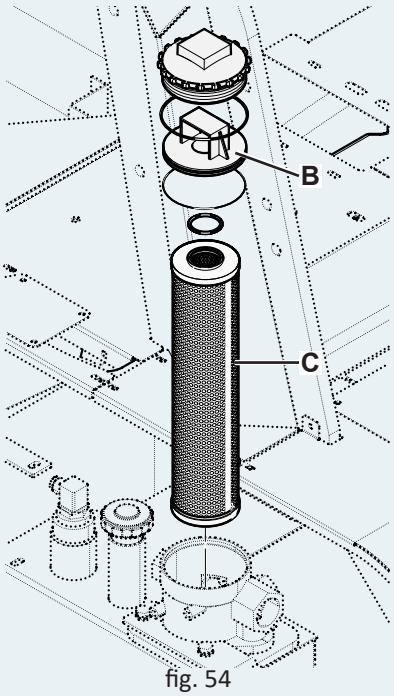


fig. 54

27) High hydraulic oil temperature light (part.27 fig.56): flashing red state intermittently every 1 second, this indicates an excessive temperature of the hydraulic oil 80°÷90°C and is accompanied by the sound of an intermittent acoustic buzzer with a frequency of 1 second (light off fig.56/1).
These reports are valid for all types of machines, LS, AS, HS.

The HS version also has a warning that appears at the bottom of the monitor, "HYDRAULIC OIL TEMPERATURE" (see fig.58 "Road traffic page").
To view in detail the type of error, both for cold oil and for hot oil, it is necessary to select **Page 6/1 diagnostics and settings on HS version** (see fig.59).
Using the physical key F3 or the booklet "touch" button, select "HS INFORMATION" and confirm the page by pressing the physical key F4 or the "touch" button enter/exit OK.
On the "HS INFORMATION" page, it is possible to read the type of error in progress (A fig.60) and the oil temperature (B fig.60).
At the bottom of the screen the words "Hydraulic oil

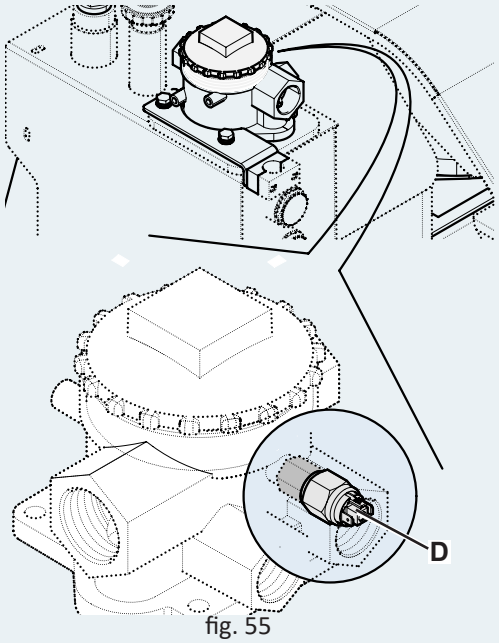


fig. 55

temperature" are also visible.
From this moment on, based on the detected oil temperature, the BOSCH control unit can intervene and automatically start a "DERATING" to limit the performance of the machine.

High oil temperature may depend on one or more of the following concomitant causes:

1) Heat exchanger clogging: clean with compressed air in the opposite direction to the fan air flow.

2) High ambient temperature 35°÷40°C.

3) Particularly intense use of the machine.

4) Malfunction of the fans on the heat exchanger.

In the event of an alarm, stop all the hydraulic services of the machine (advancement, milling cutter, auxiliary services) and wait 5 minutes with the engine running at idle speed. If the alarm disappears, work can continue.
If the alarm persists, turn off the engine and look for the cause (check the thermocontact on the hydraulic oil tank (A fig.57), check the operation of the fan(s) on the radiator).

If the light remains on, it is advisable to contact the assistance centre.
28) Low hydraulic oil temperature light (high oil density) (part.28 fig.58): when it is steady blue, it indicates an excessive depression in the hydraulic suction circuit (light off fig.58/1).
This occurs when the vacuum gauge indicates a pressure of less than 0.5 bar.
This condition can be caused by the low temperature of the hydraulic oil, which increases its density, or because the vehicle is still being used despite the clogged filter light being on.
In this situation, it is advisable to leave the machine stopped with the engine running at idle speed, and if necessary, the milling cutter running, until the alarm stops.
During this period, if the light remains on, the engine control unit automatically limits the engine revolutions.
For the LS-AS machine versions, the limitation is approximately 1100-1200rpm while for the HS versions, the limitation is approximately 1200-1400rpm.
This continues until the control unit detects a temperature that is considered adequate.
In addition, only the HS version is automatically brought into "Derating" mode by the BOSCH control unit if deemed necessary.
Only the HS version displays the generic alarm "Hy-

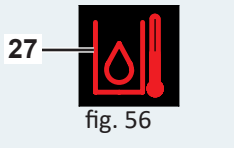


fig. 56


fig. 56/1

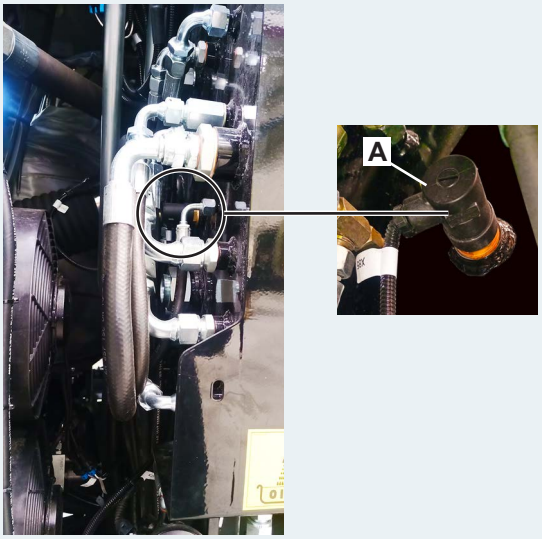


fig. 57

fig. 58

fig. 59

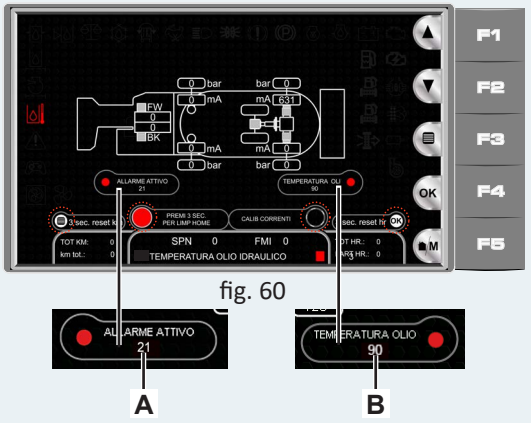


fig. 60

draulic oil temperature" at the bottom of the monitor (fig.60 "Road traffic page").
To view in detail the type of error, both cold oil and hot oil, it is necessary to select **Page 6/1 diagnostics and settings on HS version** (fig.61).
Using the physical key F3 or the booklet "touch" button, select "HS INFORMATION" and confirm the page by pressing the physical key F4 or the "touch" button enter/exit OK.
On this "HS INFORMATION" page, it is possible to read the type of error in progress (A fig.62) and the oil temperature (B fig.62). At the bottom of the screen there are also the words "Hydraulic oil temperature".

29) Closed circuit system supercharging pressure light (advancement and milling cutter) (part.29 fig.63): it only activates with the engine running in a steady red state and indicates that the pressure of the closed circuit pumps supercharging circuit (advancement, milling cutter, mill) is too low (below 15 bar) (light off fig.63/1).
Immediately stop the engine and contact the Assistance Service.
The rotation of the augers stops automatically.

6.9.4.3.9 Brake circuit

30) Service brake light (part.30 fig.64): steady red state and accompanied by the sound of a steady acoustic buzzer (light off fig.64/1).
This indicates too low a pressure (less than 140 bar) in the service braking system.
This pressure is also displayed on the bar graph of the page dedicated to road traffic.
The bar graph is divided into three sections that light up when the braking system is loading and turn off when there is braking, all of which is always visible.

The second green bar represents an optimal operating threshold (fig.65 A~180÷190bar).

If after braking the green zone is not returned to, the first yellow bar and the last green bar (fig.66 B ~160÷140BAR) indicate a condition to be monitored.

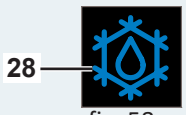


fig. 58


fig. 58/1

fig. 60

fig. 61

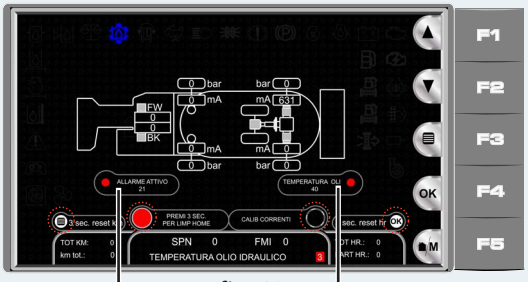


fig. 62

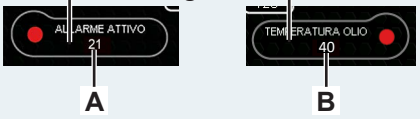


fig. 63


fig. 63/1

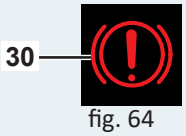


fig. 64


fig. 64/1

The red area indicates that charging is not sufficient (fig.67 C ~80÷60÷40÷ 20bar).
The pressure of the braking system is visible in "bar" in real time in the digit D.
A reserve remains for 3 or 4 brakes.
Place the vehicle in a safe area (using wedges, problem vehicle triangle) and call the Storti authorised Assistance.

31) Parking brake light (part.31 fig.68): steady red state when engaged (light off fig.68/1).
During the first start-up, the parking light is always on.
It is deactivated by releasing the brake using the "P" button (part.10 fig.68/2) on the dashboard in the LS - AS versions.
For the HS version machines, in addition to pressing the "P" button, it is necessary to give a short accelerator pump to release the brake, otherwise, the light remains on and the vehicle remains braked.
If the operator gets up from the seat for any reason, after a few seconds the machine starts to brake automatically and engages the parking brake.
When the machine is with the engine started, before leaving the cab, it is first necessary to press the "P" button (part.10 fig.68/2) on the dashboard.
Activation of the brake is indicated by the presence of the light 31 (fig.68) on, and not by the light on the head of the "P" button.

6.9.4.3.10 Machine advancement

32) Turtle / hare light (part.32 fig.65 - part.32/1 fig.65/1): when the engine is switched on, the turtle light lights up in steady green on all the LS - AS - HS versions.

LS version: the turtle is the only light that comes on to identify the speed of the machine.
Indicates that the speed, modulated by the advancement pedal and by the accelerator, is adjustable from 0 to maximum (12÷15 km/h).

AS version: this version also features the hare light (part. 32/1 fig.65/1)(speed <25km/h).
When the hare light is steady yellow, it indicates that the speed is adjustable from 0 to maximum.
The tortoise light in steady green indicates an adjustable speed from 0 to approximately 12 km/h.
This mode is ideal for slower and more precise movements, such as during milling.

HS Version: This version also has the hare light (part. 32/1 fig.65/1) (speed <40 km/h).
The hare light in steady yellow indicates an adjustable speed from 0 to maximum.
The tortoise light in steady green indicates an adjustable speed from 0 to approximately 12 km/h.

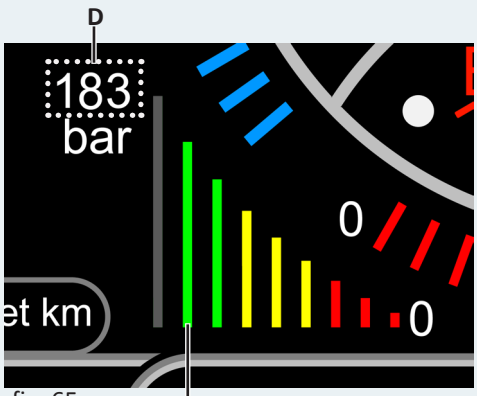


fig. 65

A ~180÷ 190bar

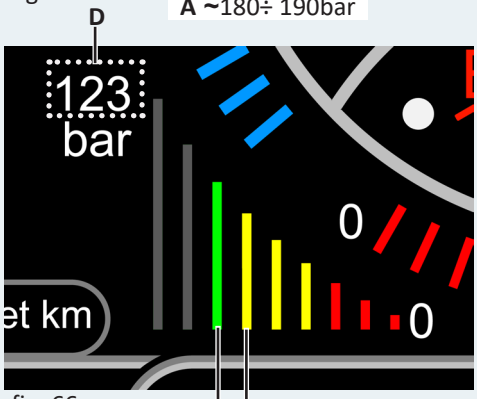


fig. 66

B ~160÷ 140bar

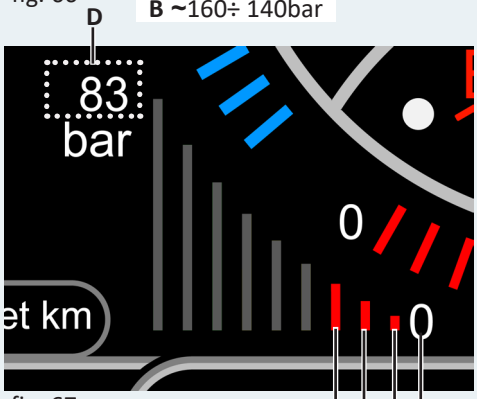


fig. 67

C ~80÷60÷40÷20bar

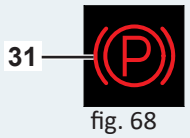


fig. 68

fig. 68/1

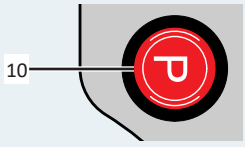


fig. 68/2

This mode is used when slower and more precise movements are needed, such as during milling.

33) HS version ECOMODE light (part.33 fig.66): this light indicates activation of the ECOMODE mode. It automatically turns green when the vehicle enters economy mode (light off 66/1).
To activate ECOMODE mode, the vehicle must be set to road and fast (hare) mode.
The ECOMODE activates automatically approximately 3 seconds after reaching and maintaining maximum speed.
In this mode, the engine revolutions are automatically reduced to approximately "1400-1450 rpm", while maintaining the same speed.

34) HS machine version CRUISE CONTROL light (part.34 fig.67): steady green state indicates that the automatic speed control, known as cruise control, is active (when it is off, see fig.67/1).
This system maintains the speed set by the user.
Cruise control is automatically disabled in two cases:
When pressing the brake pedal.
When pressing the accelerator pedal.
To activate cruise control, a constant speed of more than 5km/h must be maintained.
Next, press the "ON" button on the dashboard (part.39 fig.68) to activate the procedure.
Then, press the button on the dashboard (with the light and set the speed to be maintained (part.38 fig.69) (above 5 km/h).
If the brake or accelerator pedal is depressed, the system resets.
In this case, repeat the procedure to reactivate the cruise control.

35) Differential lock light (part.35 fig.70): steady yellow state, indicates that the differential lock of the rear wheels is active (deactivated fig.67/1).
The control is maintained by means of the button on the dashboard (part.13 fig.71).

Attention!!!
It is absolutely forbidden to activate or deactivate the "differential lock with the machine in motion (part.35 fig.70).
It is only possible when the vehicle is stationary, to avoid possible breakage of the mechanical parts of the transmission.

36) Suspension stabiliser icons (part.36 fig.71 - part.36/1 fig.71/1): only "HS" versions.
These icons automatically light up in yellow when taking a bend, both on the right (part.36 fig.71) and on the left (part.36/1 fig.71/1), while they remain off (fig.71/2) in straight-line conditions.
When the vehicle passes a certain bend angle, an automatic levelling device comes into operation.

fig. 65

fig. 65/1

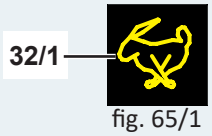


fig. 65/1

fig. 66


fig. 66/1

fig. 67


fig. 67/1

This device is intended to prevent potential overturning of the vehicle during the bend manoeuvre, by stiffening the suspensions. When exiting the bend the light goes out (fig 71/2).

6.9.4.3.11 Milling cutter

37) Milling cutter cover (part .37 fig.72 - part.37/1 fig.72/1):

- steady green: indicates that the cover is open (part.37 fig.72
- steady red: indicates that the cover is closed (part.37/1 fig.72/1)

38) Weight instrument (part.38 fig.73): this light is present and active with weight models that use the CAN-bus protocol to communicate data. It is available upon customer request.

- Steady yellow state (part.38 fig.73): Indicates that the weight is in CAN-bus version (light off fig.73/1) .

Therefore, the operator must program the counter-knives using the scale.
In the HS versions (speed limit related to load as a function of time), it can only be activated for road transfer mode.

6.9.4.3.12 Lighting devices

39) Left arrow (part.39 fig74): flashing green state, direction light on, (light off fig.74/1).

40) Right arrow (part.40 fig.75): flashing green state, direction light on (light off fig.75/1).

41) Dipped-beam light (part.41 fig.76) : steady green state of dipped-beam lights on (light off fig.76/1).

42) High beam lights (part.42 fig.77) : steady blue state of high beam lights on (light off fig.77/1).

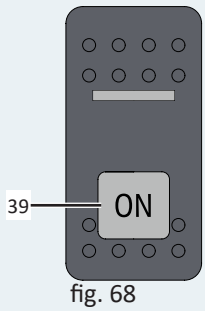


fig. 68

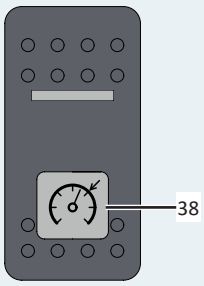


fig. 69

fig. 70


fig. 70/1

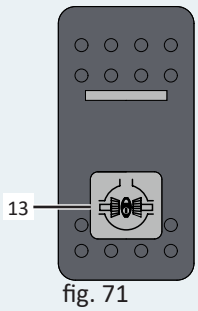


fig. 71

fig. 71

fig. 71/1


fig. 71/2

fig. 72

fig. 72/1

fig. 73


fig. 73/1

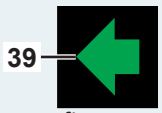


fig. 74


fig. 74/1

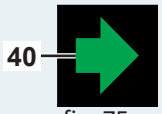


fig. 75


fig. 75/1

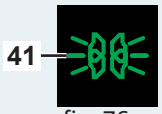


fig. 76


fig. 76/1

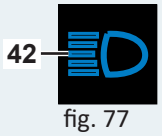
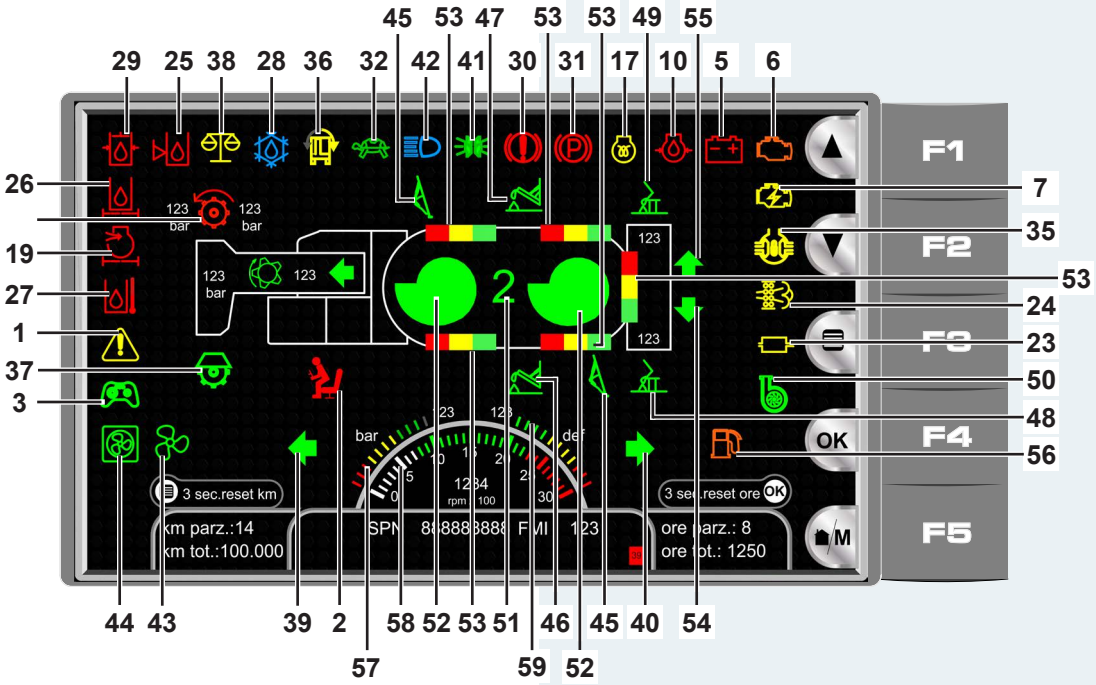


fig. 77


fig. 77/1

6.9.5 Page 3 work



1) generic alarm or safety devices by-pass (part.1).
(description see page 2 road traffic)

2) Driving seat: presence of the operator (part .2).
(description see page 2 road traffic)

3) Control joystick (part.3 fig.3): presence of the operator steady green state.
(description see page 2 road traffic)

5) Battery charge level (part.5 fig.5): if the battery light comes on
(description see page 2 road traffic)

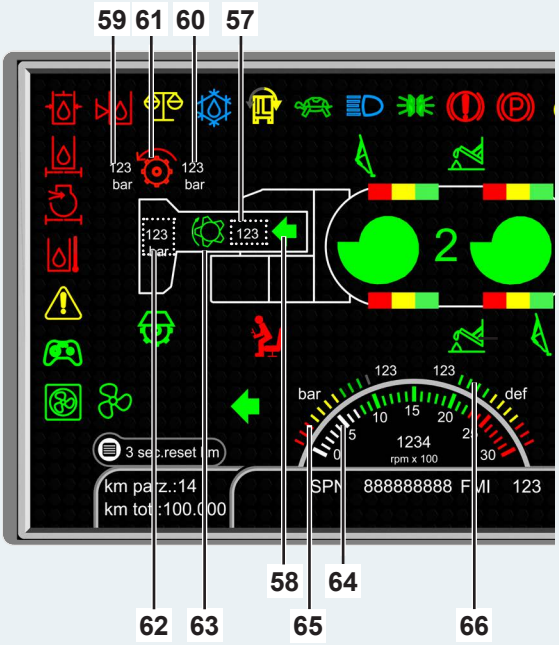
6) Engine fault (part.6 fig. 6):
the yellow light, lit steady.
(description see page 2 road traffic)

7) Serious motor anomaly (part.7 fig.7): the orange light, lit steady.
(description see page 2 road traffic)

10) Engine oil pressure (part.10 fig.11): steady red state + steady buzzer.
(description see page 2 road traffic)

17) Engine preheating light (part.17): when turning the key to the first position,(description see page 2 road traffic)

19) Clogged air filter light (part.19): this light is present on engines up to and including stage 4.
(description see page 2 road traffic)



23) The three-state light (part. 23 fig.45) has different operating modes: it can be switched off).
(description see page 2 road traffic)

24) The two-state light (part. 24 fig.47) is lit as a generic warning of the state of the regeneration lights (light off fig.47/1).
(description see page 2 road traffic)

25) Hydraulic oil level light (part.25 fig.50):when it is in a steady red state it indicates that the hydraulic oil level is too low.
(description see page 2 road traffic)

26) Hydraulic oil filter light (part.26 fig.52): lights up steady red to indicate that the hydraulic oil filter is clogged in the tank.
(description see page 2 road traffic)

27) High hydraulic oil temperature light (part.27 ig.56): flashing red state.
(description see page 2 road traffic)

28) Low hydraulic oil temperature light (high oil density) (part.28): when it is steady blue.
(description see page 2 road traffic)

29) Closed circuit system supercharging pressure light (advancement and milling cutter) (part.29 fig.63): it is only activated with the engine running in a steady red state.
(description see page 2 road traffic)

30) Service brake light (part.30): steady red state and is accompanied by the sound of a steady acoustic buzzer.
(description see page 2 road traffic)

31) Parking brake light (part.31 fig.68): steady red state when activated.
(description see page 2 road traffic)

32) Turtle / hare light (part.32 fig.65): when the engine is switched on, the turtle light comes in steady green on all versions LS - AS - HS.
(description see page 2 road traffic)

35) Differential lock light (part.35 fig.70): steady yellow state.
(description see page 2 road traffic)

36) Suspension stabiliser icons (part.36): "HS" versions only.
(description see page 2 road traffic)

37) Milling cutter cover (part.37):
(description see page 2 road traffic)

38) Weight instrument (part.38):
(description see page 2 road traffic)

39) Left arrow (part.39 fig74): flashing green state.
(description see page 2 road traffic)

40) Right arrow (part.40): flashing green state (fig.75).
(description see page 2 road traffic)

42) High beam lights (part.42 fig.77) : steady blue state.
(description see page 2 road traffic)

6.9.5.1 Motor cooling circuit

43) Main radiator fan light (part.43 fig.1) water/intercooler.
When the fan is active for cleaning, the state of the light turns steady green on (light off fig.1/1).
To clean the radiator of any dirt deposited, the fan inverter must be activated.
This can be performed manually, but it is also possible to program the cleaning automatically (the procedure is explained in the specific chapter "Radiator fan mode").
To activate the fan inverter, press the button on the side dashboard (part.18 fig.1/2).
The light appears on the display (part.43 fig.1) for approximately 2 seconds then turns off (fig.1/1).
At this point, the radiator fan, which normally expels hot air, starts to slow down until it stops.
Then it automatically restarts in the opposite direction, suctioning in air from the outside.
In this way, the radiator is cleaned from the engine side.
The suction lasts approximately 20 seconds, after which the fan begins to slow down until it stops and starts again in the natural direction, expelling the air.

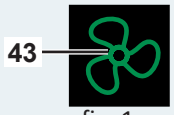


fig. 1


fig. 1/1

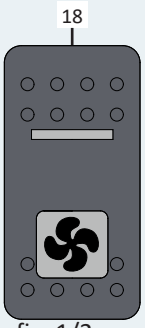


fig. 1/2

6.9.5.2 Hydraulic circuit

44) Fan oil heat exchanger light (part.44 fig.2).
When the light is steady green, it indicates that the fans have started operating.
This light comes on when the hydraulic oil temperature reaches 50-55°C, thus activating the cooling fans.
Once the temperature falls within the established parameters,the light goes out (fig.2/1).

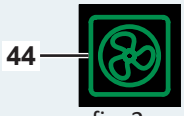


fig. 2


fig. 2/1

6.9.5.3 work

45) Light indicating activation of the counter-blades

(part.45 fig.3) lights up green when the counter-blades are activated (light off fig.3/1).
There are three methods of activating the counter-blades:

1) Manual method: using the button (part. 19, fig.4) on the dashboard and keeping it pressed as indicated by the icons on the button, it is possible to let the counter-blade in or out.
The longer the hold, the greater the counter-blade excursion.
To monitor what is entering or exiting, select page 6 of "Diagnostics and settings" (see fig.5).
Using the F3 key, select "SET COUNTER-BLADE" and confirm the page by pressing the F4 key.
On the page that opens, it is possible to view the animation of the counter-blades (fig.6).

2) Automatic display method: the procedure is described in the dedicated chapter:
6.9.8.9 Set Counter-blade

3) Automatic weight method: the procedure is described in the dedicated weight chapter.

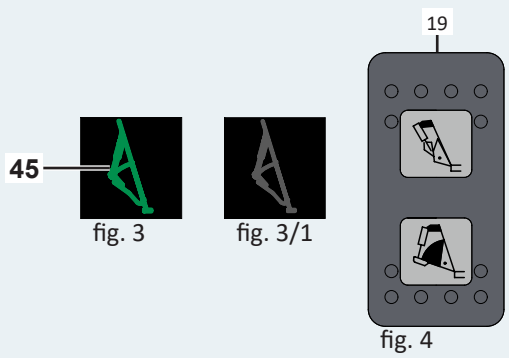


fig. 3 fig. 3/1 fig. 4

fig. 5

fig. 6

46) Light showing activation of the unloading hopper motor on the left side (part.46 fig.7) which lights up green.
To activate the left hopper motor, press the button located on the side dashboard (part.14).
To stop the motor, press the button on the opposite side (above the symbol) again and the light turns off (fig.7/1).

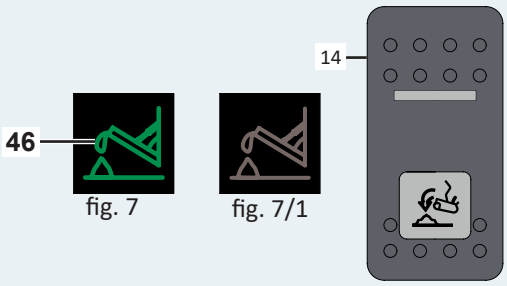


fig. 7 fig. 7/1

47) Light indicating activation of the unloading hopper motor on the right side (part.47 fig.8) which lights up green (light off fig.8/1).
To activate the hopper motor, press the button located on the side dashboard (part.15).
To stop the motor, press the button on the opposite side (above the symbol) again and the light turns off (fig.8/1).

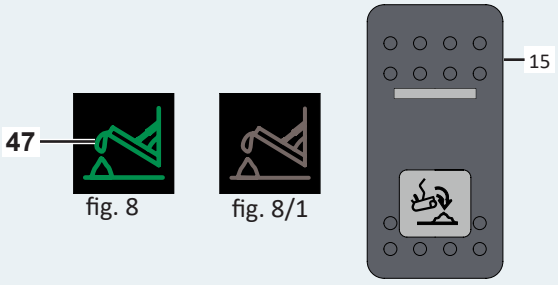


fig. 8 fig. 8/1

48) Light (part.48 fig.9) indicates activation of the rear bilateral unloading belt unloading hopper from the left side.
When the belt is activated, this light turns green (light off fig.9/1).

To activate and deactivate the unloading belt on the left side, it is necessary to press the button (part.23) on the side dashboard, above the icon indicating unloading on the left (A).

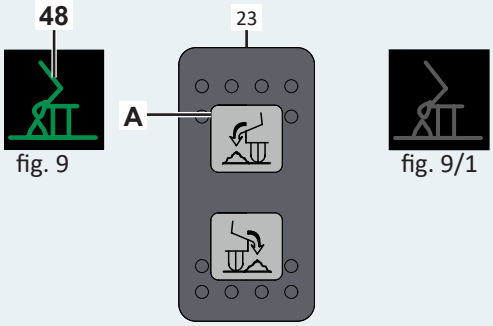


fig. 9

fig. 9/1

49) Light (part.49 fig.10) indicates activation of the rear bilateral unloading belt unloading hopper from the right side.
When the belt is activated, this light turns green (light off fig.10/1).
To activate and deactivate the unloading belt on the right side, press the button (part.23) on the side dashboard, above the icon indicating unloading on the right (B).

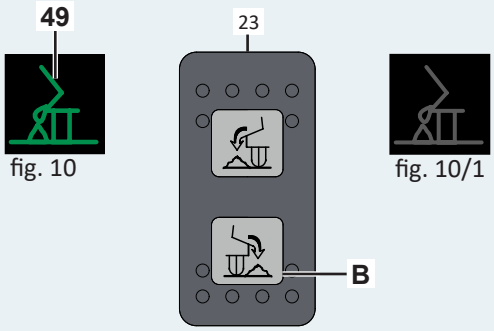


fig. 10

fig. 10/1

50) Light (part.50 fig.11) indicates activation of the molasses pump light that comes on green (light off fig.11/1).
To activate and deactivate the pump press the button (part.32) on the side dashboard.

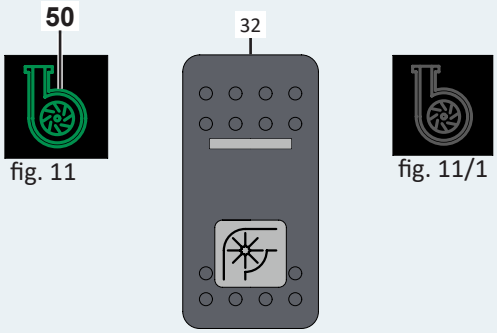


fig. 11

fig. 11/1

51) The icons indicating the speed of rotation of the augers (part.51 fig.12) are always visible when the vehicle is switched on. They show the condition in which the vehicle was at the time of switching off.
The first and second speeds are represented by green icons (part.51 fig.12 - part.51/2 fig.12/2).
Between the two speeds, the yellow letter "N" appears (part.51/1 fig.12/1) when the vehicle has no gear engaged.
This letter "N" is always visible during the transition from one gear to another. When the augers are active they turn green (part.52 fig.12/3). They turn off when passing between one speed and the other, and then turn green again.

fig. 12

fig. 12/1

fig. 12/2

To activate rotation of the augers, there are two modes: manual and semi-automatic.

Manual mode:

Switch on the vehicle.
Disengage the clutch by pressing the button (part.20 fig.13).

fig. 12/3

Press the button (part.21 fig.14) at the desired speed, keeping it pressed until the green light comes on.
Engage the clutch again by pressing the button (part.20 fig.13).
To change speed, disengage the clutch, select the desired gear and re-engage the clutch.
This procedure must be repeated whenever changing the speed of the augers.

Semi-automatic mode:

Switch on the vehicle.
If the clutch is engaged, disengage it by pressing the button (part.20 fig.13).
Engage the clutch again with the button (part.20 fig.13).
Adjust the speed of rotation of the augers by pressing the button and holding it down until the green gear number appears on the display. Release the button; after a short time, the engagement sound is heard and also the speed change.
This system is preferred by most operators.

Attention!!! both in manual and semi-automatic mode, perform the speed changes keeping the engine below 1500rpm to protect the transmission parts (as indicated by the sticker in the cab) (fig.15).

52) The icons of the augers (part .52 fig.16) turn green when they are activated, turn off when passing between one speed and the other, and then turn on again.

53) The icons of the bar graph represent the opening of the doors (maximum 5 doors as per drawing (part.53 fig.17), they light up following a sequence of colours: they start from green, turn to yellow and end with red when the door is completely open.
When the doors begin to close, the sequence of colours starts from red, goes to yellow, then to green and finally turns off (door(s) closed) (fig.17/1)."

54) Right arrow of the sliding hopper (part .54 fig.18): steady green state (light off fig.18/1).
It lights up when the sliding hopper is activated with the button by pressing the icon A (part.22) on the side dashboard above.

55) Sliding hopper left arrow (part.55 fig.19): steady green state (light off fig.19/1).
It lights up when the sliding hopper is activated with

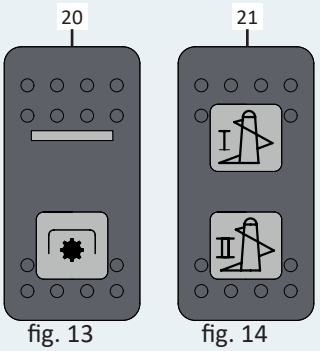


fig. 13 fig. 14

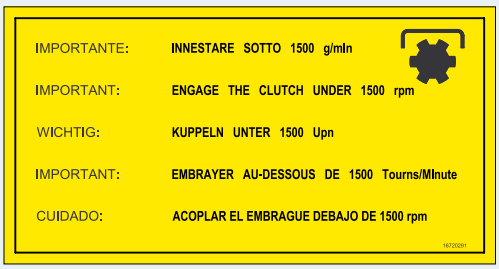


fig. 15

fig. 16

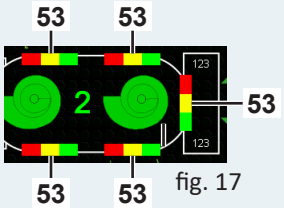


fig. 17

fig. 17/1

the button by pressing the B icon (part.22) on the side dashboard above.

56) flashing orange light (part.56 fig.20) signals the fuel reserve while working (light off fig.20/1).

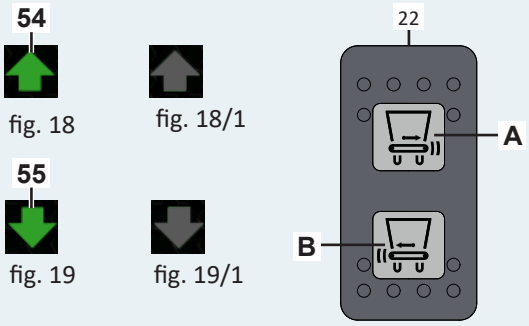


fig. 18 fig. 18/1 fig. 19 fig. 19/1

57) Numerical value of the percentage of speed of the loading belt (part .57 fig.21).

fig. 20 fig. 20/1

The belt speed is set manually by the potentiometer on the side dashboard (part.26 fig.22).

The percentage of rotation of the belt can vary from a minimum percentage of revolutions (never stopped) to a maximum percentage of 100%.

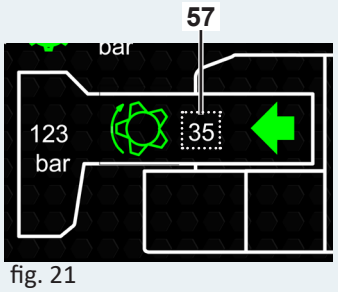


fig. 21

58) Green arrow indicator for clockwise rotation with the belt loaded (part.58 fig.23),
Anti-clockwise rotation arrow light B (fig.23/1).

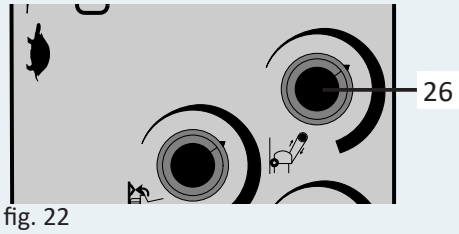


fig. 22

59) Numerical value in bar A (part .59 fig.24) of the milling cutter rotation pressure in an anti-clockwise direction.

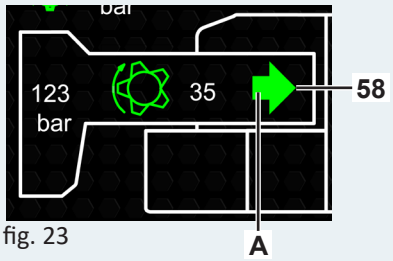


fig. 23

60) Numerical value in bar (B part.60 fig.25) of the milling cutter rotation pressure in a clockwise direc-

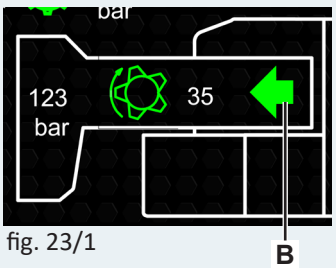


fig. 23/1

tion.

61) The milling cutter rotation direction light (part.61 fig.26) has three colour states: off (fig.26), on green for the clockwise direction of rotation (fig.26/1) and on red for the anti-clockwise direction of rotation (fig.26/2).

To activate the rotation of the milling cutter, follow these steps:

1) Press the button part.1 on the joystick (see sticker 39 in the cab) to open the protective cover (part.37 fig.27).
The cover light changes from red (fig.27) to green (fig.27/1);

2) Press the milling cutter enabling button part.3 (see sticker 39);

3) by acting on the wheel part.5 (see sticker 39), rotation of the milling cutter in both directions is activated. Each rotation reversal is signalled by the lights on the display.
All the controls relating to use of the milling cutter are visible on the sticker 39 located in the cab.

62) view of the numerical value in bar A (part.62 fig.28) of the supercharging of the milling cutter with the milling cutter stationary. The correct value varies between 19÷24 bar.
A lower value indicates a pressure loss.
Call the assistance centre.
With activation of the milling cutter, the value becomes equal to the normal values of use described above
(A fig. 24- B fig.25).

63) Light (part.63 fig.29 off) indicates activation of the mill (on fig.29/1).

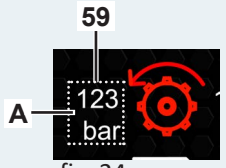


fig. 24

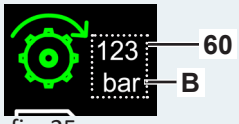


fig. 25

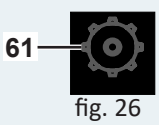


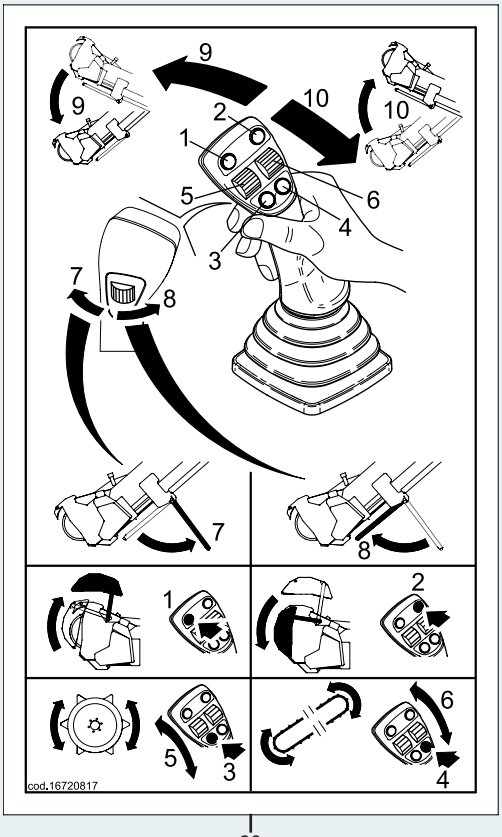
fig. 26


fig. 26/1


fig. 26/2

fig. 27


fig. 27/1



39

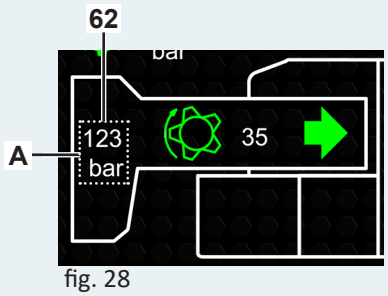


fig. 28

The direction of rotation is understood as in the figures fig.30 and fig.30/1 from the side of the access door, in the cab.

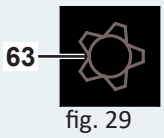


fig. 29

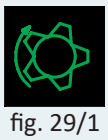


fig. 29/1

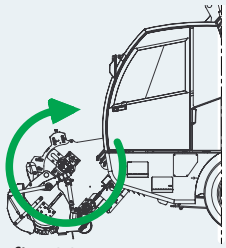


fig. 30

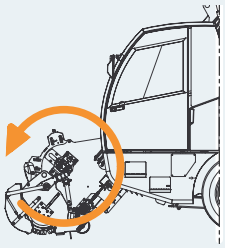


fig. 30/1

Light states:

1) light off (fig.31).


fig. 31

2) Green light in steady state (fig.31/1) indicates rotation of the mill in a "clockwise" direction during the cutting phase.


fig. 31/1

3) The red strikethrough flashing light (fig.31/2) indicates that the mill is blocked or jammed.


fig. 31/2

4) Theorange light on steady (fig.31/3) indicates rotation of the mill anti-clockwise to facilitate loading of the product.
To activate this mode, press and hold the key for more than 4 seconds and then release it (fig.31/4).
The mill will continue to rotate anti-clockwise.
To stop it, press the start key again or lock the loading belt.


fig. 31/3

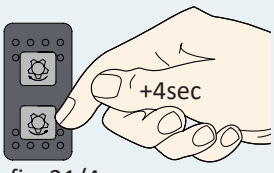


fig. 31/4

5) The orange light on becomes flashing (for 3-4 seconds) (fig.31/5) when it is used to clear the loading belt (automatic default time).


fig. 31/5

To set this function, turn off the normal clockwise rotation (green light fig.32) (button off fig.32/1) then press the button from the unstable part and release (fig.32/2).
The light comes on in flashing orange for 3-4 seconds which is the anti-clockwise rotation time of the mill.
If the problem persists, repeat this procedure several times until the problem is resolved.

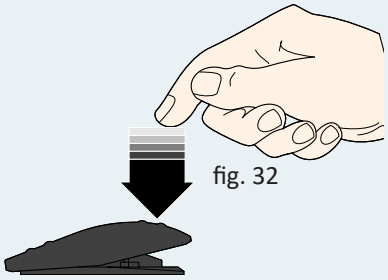


fig. 32

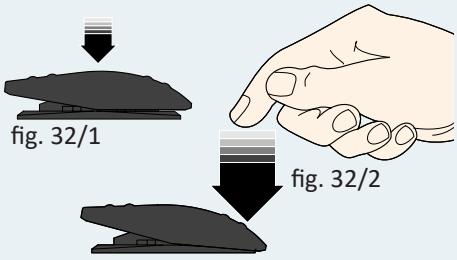


fig. 32/1

fig. 32/2

64) Engine rpm light A (part.64 fig.33)

6.9.5.4 Brake circuit on work page

65) Bar graph (part.65 fig.34) brake system pressure. The bar graph is divided into three coloured sections (yellow green and red) that light up when the braking system is charging and turn off when there is braking. All this is always visible.

The second green bar A (fig.34 180÷190bar) represents an optimal operating threshold.

If after braking the green zone is not returned to, the first yellow bar B (fig.35 168÷172bar) indicates a condition to be monitored.

The red area indicates that charging is not sufficient C (fig.36 104÷140bar).
The pressure of the braking system is visible in "bar" in real time in the digit D.

A reserve remains for 3 or 4 brakes.
Place the vehicle in a safe area (using wedges, problem vehicle triangle) and call the Storti authorised Assistance.

6.9.5.5 AD-BLUE circuit on work page

66) The AD-BLUE level in the tank is visible on the bar graph (part.66 fig.37), where the "DEF" light is also positioned.
This light indicates the percentage of AD-BLUE depending on the capacity of the installed tank, which

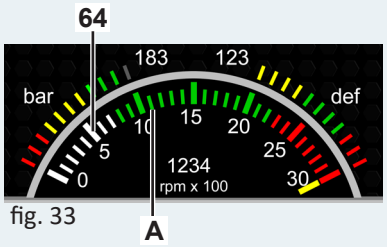


fig. 33

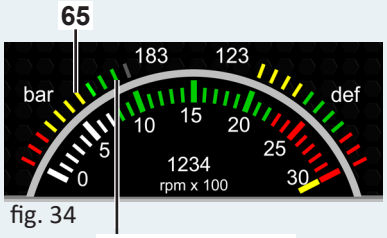


fig. 34

A 180÷ 190bar

fig. 35

B 168÷ 172bar

fig. 36

C 104÷140bar

in our case is 43 litres.
The bar graph is divided into three coloured sections: green, yellow and red.
The green bars A (fig.37) indicate a full tank, the yellow ones B (fig.37) indicate a half tank, while the red ones C (fig.37) mark the beginning of the reserve up to the empty tank.
When the tank is full, all the bars are visible (fig.37).
As the level of AD-BLUE in the tank decreases, the bars gradually disappear.
Fig.38, for example, shows 3 red bars indicating the start of the reserve, estimated between 11% and 15% of the tank capacity.

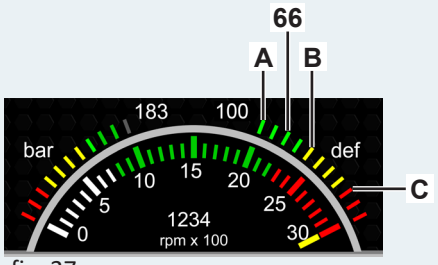


fig. 37

If the AD-BLUE level falls below 9% and up to 5% (fig.39), in addition to disappearing of the red bars, the numerical percentage quantity of AD-BLUE in the tank also begins to flash (IN red).
The word "DEF" also lights up (in red), which flashes with a frequency of 1 second.

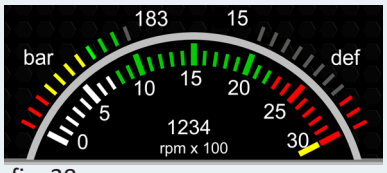


fig. 38

If the level falls below 5% and up to 0% (fig.40), only one red bar remains on and turns off when zero is reached.
The word "DEF" and the numerical percentage quantity of AD-BLUE begin to flash (in red) faster, with a frequency of 0.5 seconds, and are
accompanied by a steady buzzer.

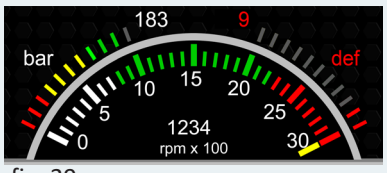


fig. 39

It is advisable to refuel AD-BLUE before the 10% threshold to avoid triggering the inducement procedure.
For further details on the types of "inducement", please refer to the specific chapter:
6.9.10 Inducement and regeneration

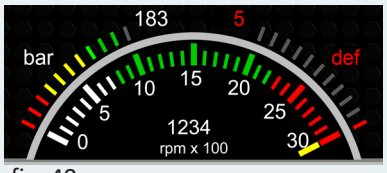
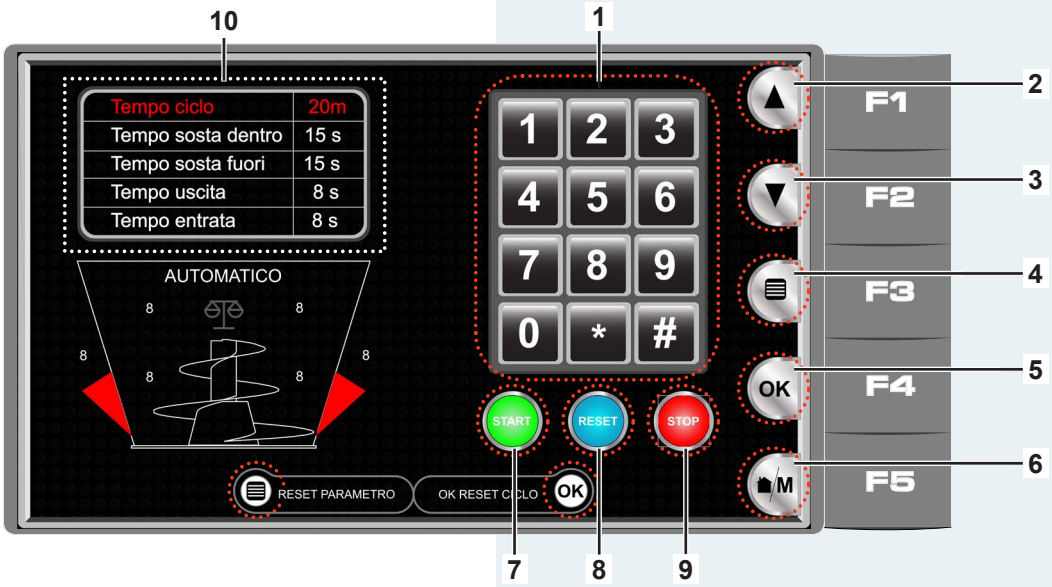


fig. 40

6.9.6 Page 4 counter-blades



1) "Touch" numeric keypad to set the automatic management of the counter-blades (part.1 fig.1).

2) "touch" button: press (top arrow) to return to the previous page (part.2 fig.2).

3) "touch" button: press (down arrow) to go to the next and progressive page (part.3 fig.2).

4) "touch" button: by pressing (booklet) it is used to select the various functions that can be set (part.4 fig.2).

5) The "touch" button (OK), by pressing according to the selected page, confirms a command or resets the information (part.5 fig.2).
Further details on its functions are explained in the following paragraphs

6) "touch" button (HOME/M part.6 fig.2) by pressing door from any screen on the road traffic page (fig.2/2).

7) "touch" START button (part.7 fig.3): pressing, the button activates the counter-blade cycle.
The button lights up (fig.3.1).

8) "touch" RESET button (part.8 fig.4): pressing, the button lights up (fig.4/1) and the previously activated cycle stops.
The timers reset.
To restart the previously set procedure, press START again.

9) "STOP" button: by pressing the "STOP" button

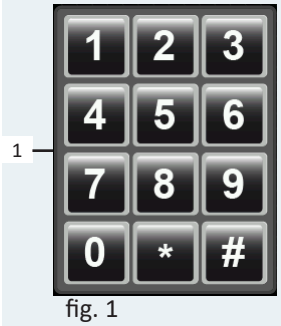


fig. 1

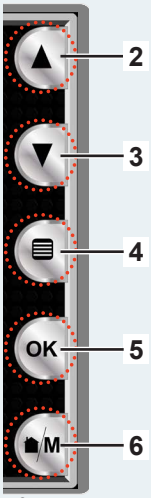


fig. 2

fig. 2/2

fig. 3

fig. 3/1

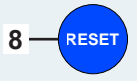


fig. 4

fig. 4/1

(part.9 fig.5) the activated cycle stops (fig.5/1).
By pressing "START" again, the cycle resumes from where it was interrupted.

fig. 5

fig. 5/1

10) In the area for setting of the times of the "counter-blade cycle" (A fig.6), the cycle times of the counter-blades can be defined in automatic mode.
By default, they are programmed as indicated in the table (part. 10 fig.6).

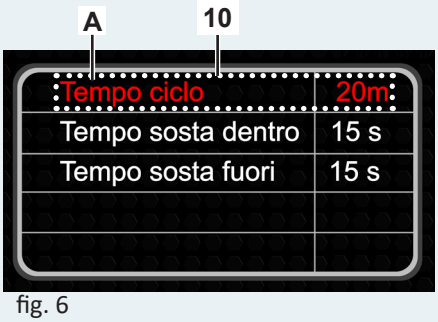


fig. 6

To change the values, follow these steps:

1) Example of setting: to set the "cycle time", touch the "touch" button (B fig.7) or press the button (C "F3") to select the "cycle time" row.

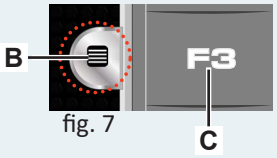


fig. 7

Press the "touch" "hash" button (D fig.8) on the numeric keypad once to delete the existing value in order to change it.

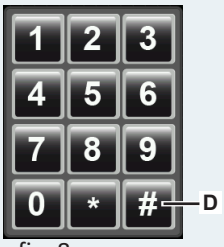


fig. 8

Enter the new desired value:
for example, to set a time of 20 minutes, touch the number 2 and the number 0 on the "touch" keyboard (fig.8).

When the string is selected, the text and numeric value change colour and become red; when they are saved , they return to white.

fig. 9

To save the time entered, touch the booklet "touch" button (B fig.7) or press the C button "F3".

Use the same procedure to also change the other values such as "Stopping time inside" and "Stopping time outside".

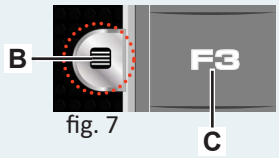


fig. 7

It is also possible to set the "Output time" and the "Input time" of the counter-blades.
By default, these two items do not appear on the display (E fig.9).

To use and set the cycle times on these two items, press "F2" (fig.10) to select page 5 "password" (fig.11).

Once the page fig.11) is opened, enter the PIN (default password set by Storti as "0000") with the numeric keypad.

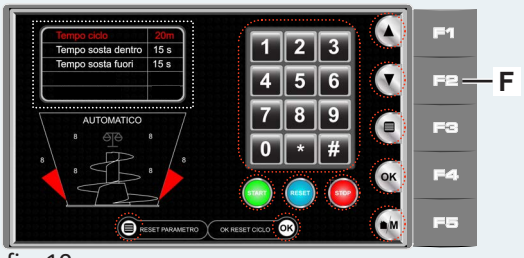


fig. 10

fig. 11

The PIN asterisks (G fig.12) light up and the key also lights up green (H fig.12).

fig. 12

After setting the PIN, press the "F1" button (I fig.13) to return to page 4 of the counter-blades.

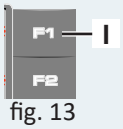


fig. 13

On this page, press the "hash" touch key (L fig.14) on the numeric keypad to see the password-protected functions.

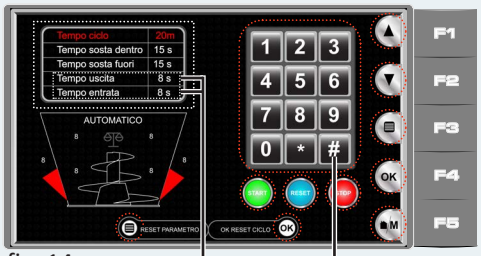


fig. 14

"Output time" and "Input time" of the counter-blades are now visible, and can be modified with the same procedure as the other items present.

By default, the set times are those shown in the table (M fig.15).

fig. 15

The times in "seconds" of entry and exit of the counter-blades are displayed in real time on the display (N fig.16).

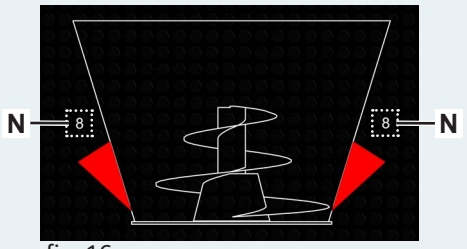


fig. 16

6.9.7 Page 5 password

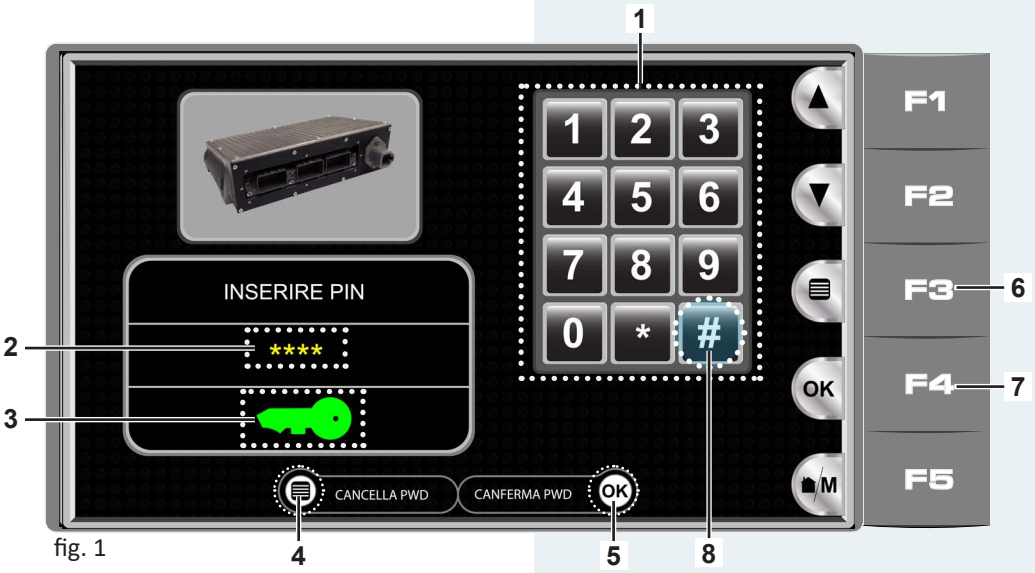


fig. 1

1) The numeric touch keypad (part.1 fig.1) is used to access the submenus to control the services.

2) The PIN asterisks (see 2 fig.2) light up when a PIN number is typed (4 digits by default, it is set by STORTI to 0000.).

3) The key lights up green (part.3 fig.2) when the last digit of the "PIN" is entered to confirm the correct code entered (if it is typed in incorrectly, it does not light up).

4) The booklet touch button (part.4 fig.3) or the "F3" button (part.6 fig.4) have multiple functions. On this specific page, its function is to reset the "PIN".

5) The touch button (part.5 fig.5) or the "F4" key (part.7 fig.6) are used to confirm the password entered.
If a next page is not accessed and the key does not turn on, it means that the incorrect value has been typed in.
In this case, the values entered must be deleted by pressing the booklet "touch" button (part.4 fig.3), or the physical key "F3" (part.6 fig.4), or by pressing the "touch" "hash" key on the numeric keypad (part.8 fig.8).
After re-typing the "PIN" correctly, touch the "touch" button "confirm password" or the "F4" button (part.7 fig.6), the "password-protected" page opens.

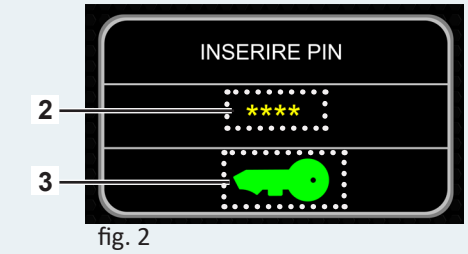


fig. 2

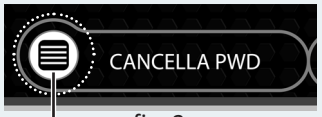


fig. 3

fig. 4

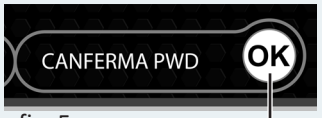


fig. 5

fig. 6

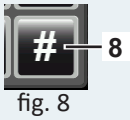


fig. 8

6.9.7.1 Service control settings page

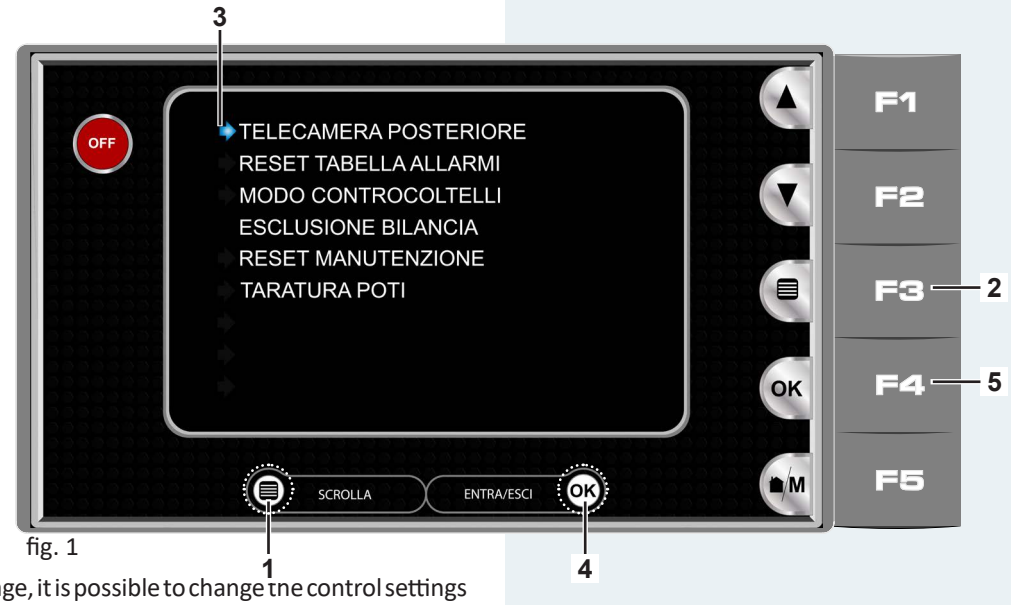


fig. 1

On this page, it is possible to change the control settings for the following services:

- Rear camera (not active, only preparation)
- Reset Alarms Table
- Counter-knives Mode
- Scale Exclusion
- Reset Maintenance

The procedure for accessing these menus and the operating method for setting of the various services are the same for all the items listed.

To modify a service, use the booklet "touch" "scroll" key (part. 1 fig.1/1) or the "F3" button (part. 2 fig.1/2) to move the blue arrow (part.3 fig.1/3) on the service to be changed (see rear camera example).

fig. 1/1

fig. 1/2

fig. 1/3

Press the "touch" key "enter/exit" OK (part. 4 fig.1/4) or the "F4" button (part. 5 fig.1/5) hold until the selected item starts flashing.

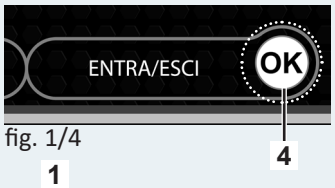


fig. 1/4

fig. 1/5

Now while flashing, press the "touch" "scroll" key again (part. 1 fig.1/6) or the "F3" button (part. 2 fig.1/7) until the item stops flashing.

This indicates that the change to the service has been saved.

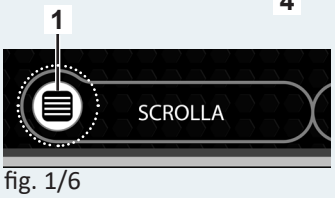


fig. 1/6

fig. 1/7

Repeat the same procedure whenever the various service settings are to be changed.

6.9.7.2 Rear camera (not active only preparation)

Rear camera set-up, by default off on "OFF" (part.1

fig.1).

When activated with the booklet "touch" key (part.2 fig.2) or with the "F3" button (part.3 fig.2), the text becomes "ON" (part.4 fig.3) and lights up green. An icon of the camera also lights up (part.5 fig.3).

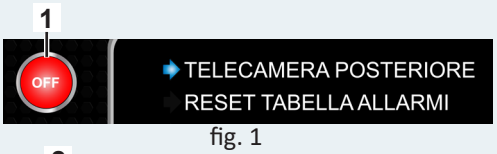


fig. 1

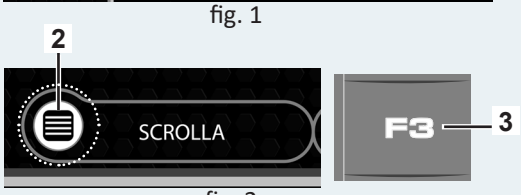


fig. 2

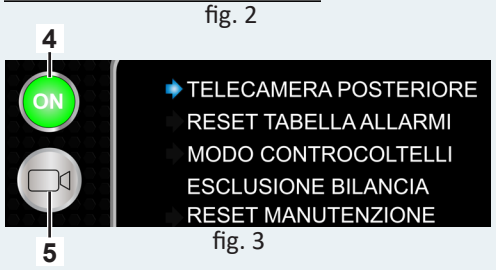


fig. 3

6.9.7.3 Alarm table reset

The reset icon of the alarm table is set to "OFF" (part.1 fig.1).

Pressing the booklet "touch" key (part.2 fig.2) or the "F3" button (part.3 fig.2) while the text flashes, a quick refresh occurs, the icon changes colour from red to green and the text changes from "OFF" to "ON" (part.4 fig.3), and then immediately returns to red with the text "OFF" (part.5 fig.4).

This icon colour change indicates that the errors in the alarm table have been cleared.
It is advisable to press the button at least three times in a row to ensure that the operation has been performed correctly.

To exit the control, press and hold the "touch" key enter/exit OK (part.6 fig.5) or the "F4" button (part.7 fig.5) until the text stops flashing.

To check that all the alarms have been cleared, open page 9 "Machine control unit alarm table" (fig:6).
If errors remain, repeat the procedure.

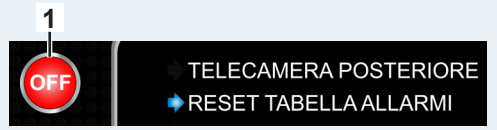


fig. 1

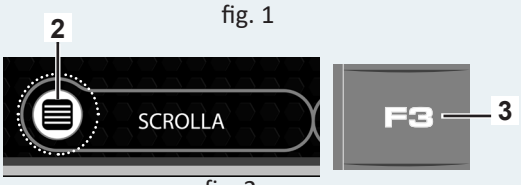


fig. 2

fig. 3

fig. 4

fig. 5

6.9.7.4 Counter-knives mode

This option is used to select the mode of activation of the counter-blades, which can be manual or automatic (fig.1).
This is only possible if there is no "CAN-bus" weight (anyone who has this type of weight does not use

fig. 6

these methods).

The first operation to be performed is exclusion of the weight.
To do this, press the booklet "touch" "scroll" key (part. 1 fig.2) or button "F3" (part. 2 fig.2/1) to move the blue arrow (part.3 fig.3) on the service.

fig. 1

Press and hold until the selected option starts to flash.

fig. 2

fig.2/1

While flashing, press the booklet "touch" "scroll" key (part.4 fig.4) or the "F3" button (part.5 fig.4/1)

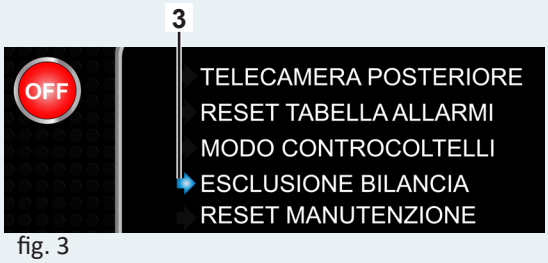


fig. 3

The red "OFF" icon turns green and the word "ON" appears (green icon and the text "ON" which means scale excluded)((fig.5).

fig. 4

fig.4/1

Press and hold the "touch" key to enter/exit (part.6 fig.6) or button "F4" (part.7 fig.6/1) until it stops flashing.
This indicates that exclusion of the weight has been saved.

fig. 5

Now it is possible to resume the "Counter-knives Mode" procedure.

By default, the machine is supplied with the counter-blades in manual mode "M" (fig.8).

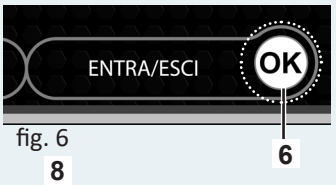


fig. 6

fig. 6/1

In this mode, to activate or deactivate the counter-blades, use the specific button on the dashboard (part.19 fig.9).

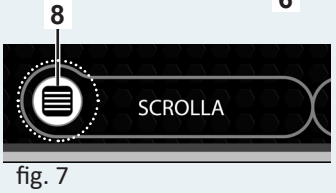


fig. 7

fig.7/1

fig. 8

To switch from manual mode "M" (fig.10) to automatic mode "A" (fig.11), managed by the display, follow these steps:

Press the booklet "touch" "scroll" key (part.10 fig.12) or the "F3" button (part. 11 fig.12/1) to move the blue arrow to the "COUNTER-BLADE MODE" item (fig.13).

Press the "touch" key "enter/exit" OK (part.12 fig.14) or the "F4" button (part. 13 fig.14/1) and hold until the selected item starts flashing.

While flashing, press the booklet "touch" "scroll" key (part.14 fig.15) or the "F3" button (part.15 fig.15/1).

The "M"(manual) icon becomes "A" (automatic) (fig.16).

Press and hold the "touch" key enter/exit OK (part.16 fig.17) or the "F4" button (part.17 fig.17/1) until it stops flashing.

This indicates that the automatic mode has been saved (fig.18) and reflects the times set in the "4 Counter-knives" page.

6.9.7.5 Maintenance reset

This option is used to reset the time count between routine maintenance.
When the "wrench" light (fig.1) appears on the display, it indicates that it is time to perform a maintenance service on the vehicle.
Once the service has been performed, it is possible to turn off the light on the display by pressing "reset maintenance".

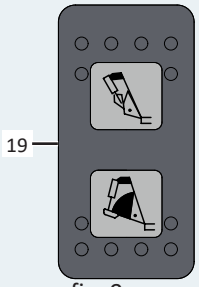


fig. 9

fig. 10

fig. 11

fig. 12

fig.12/1

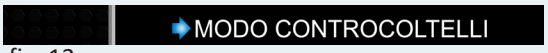


fig. 13

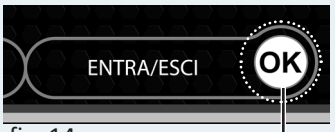


fig. 14

fig. 14/1

fig. 15

fig.15/1

fig. 16

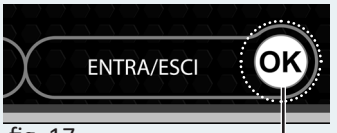


fig. 17

fig. 17/1

fig. 18

To reset the interval hours counter between one maintenance event and another, follow the procedure below:

fig. 1

Press the "touch" key of the "scroll" booklet (part.1 fig.2) or the "F3" button (part.2 fig.2) to move the blue arrow to the "RESET MAINTENANCE" item (fig.3).

fig. 2

fig.2/1

Press the "touch" key "enter/exit" OK (part.3 fig.4) or the "F4" button (part. 4 fig.4/1).
Press and hold it until the selected item starts flashing and then stops.
At this point, the hour counter has been reset and the key light turns off.

fig. 3

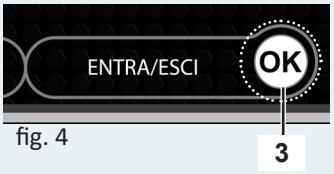


fig. 4

fig. 4/1

6.9.7.6 Door potentiometer calibration on LS-AS-HS

This option is used to calibrate the electrical values of the door opening potentiometers.

Press the "touch" key of the "scroll" booklet (part.1 fig.2) or the "F3" button (part.2 fig.2) to move the blue arrow to the "POTI CALIBRATION" item (fig.3).

fig. 1

fig. 1/2

fig. 3

Press the "touch" key "enter/exit" OK (part.4 fig.4) or the "F4" button (part. 5 fig.4/1).
During opening of the page there is a quick refresh of the colour change of the "OFF" icon from red to green and the text in "ON" (part.6 fig.5).

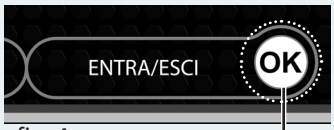


fig. 4

fig. 4/1

The figure shows the maximum number of doors available, all open (5 doors fig.6).

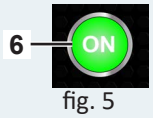


fig. 5

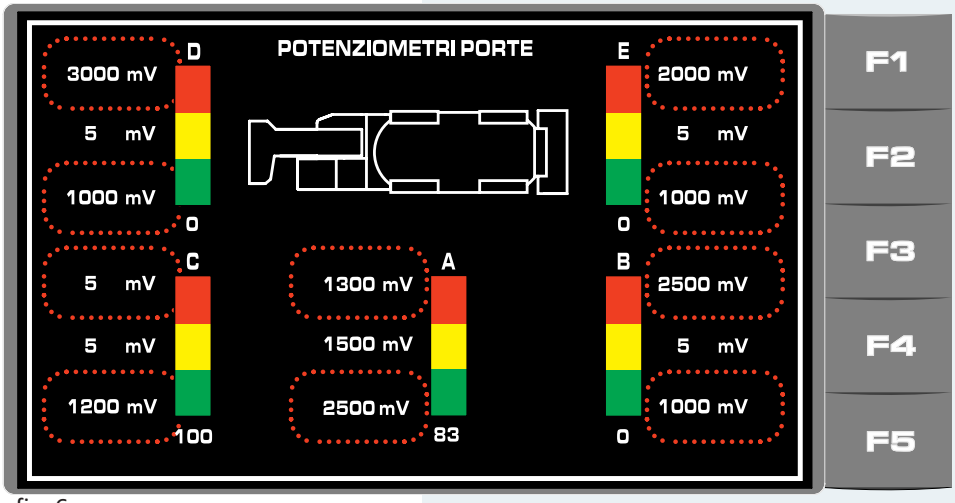


fig. 6

Each door has the values of the potentiometers programmable through the "touch" display (area marked in red on the drawing) .
The doors shown without colour are closed (fig.7).
The values in figures 6-7 are purely indicative.

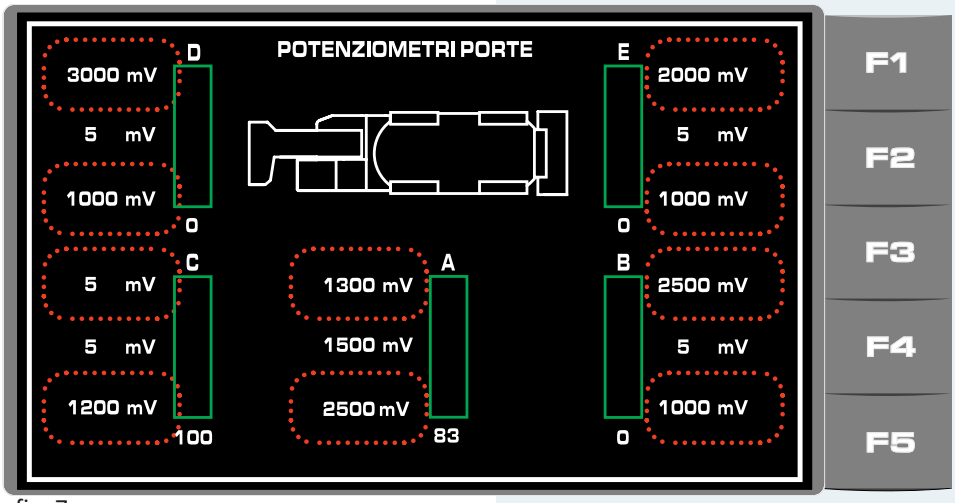


fig. 7

Door potentiometer calibration
This procedure is necessary after replacing a potentiometer or to delay its parameters.
Below is an example of calibration of the central rear door (procedure valid for all doors on the vehicle).

Description of the value boxes Potentiometer calibration parameters (fig.8).
(The values in the figure are purely indicative)

A) The value displayed in this box is the relative value sent by the potentiometer (it varies from door to door). This value changes after the total opening or closing of the door by means of the button on the dashboard (part. 25).

B) The value in this box is the one saved with the door fully open and is equal to the resulting value of box "A" (with the door fully open, fig. 8/1).

C) The value in this box is the one saved with the door completely closed and is equal to the resulting value of box "A" (with the door completely closed, fig. 8/2).

BB) Door opening percentage value
100% fully open
0% fully closed

With the motor vehicle on, proceed as follows:

1) Fully open the door by pressing the button on the side dashboard (part. 25 fig.9) specific to the

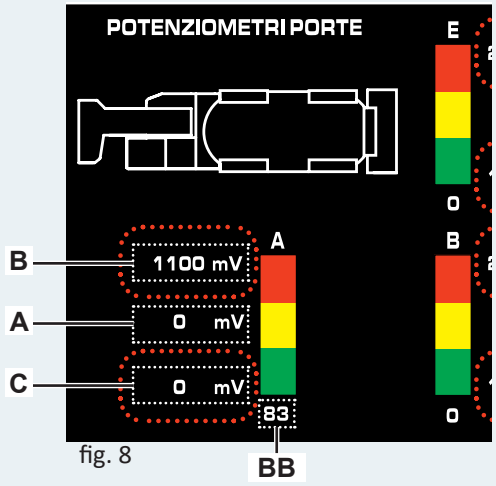


fig. 8

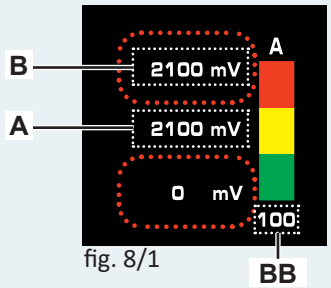


fig. 8/1

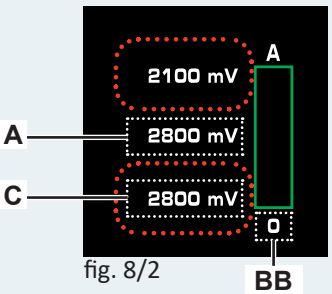


fig. 8/2

door in question, continuing to press on the screen printing at the top (door opening).
Make sure the door is physically fully open.

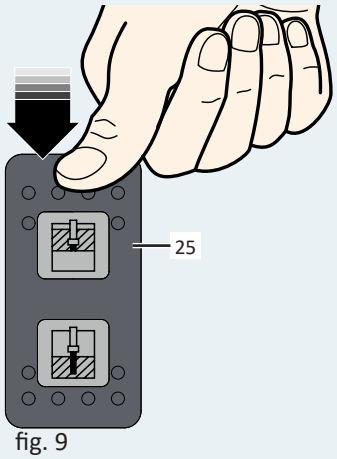


fig. 9

In box "A" (fig. 10) the value of the fully open door is displayed, in our example 2100 mV.

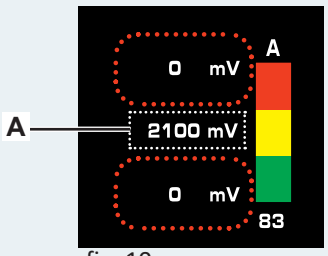


fig. 10

2) Now to save the "A" value of the door fully open, press on the "touch" area of the display part."B" (fig.10/1) for 3-4 seconds. In real time we see the value of the parameter become equal to the value "A" 2100 mV of our example.

At the same time, when pressing on the "touch" area (B fig.10/1), the central rear door lights up yellow on the machine figure
(part.D fig.10/1 and also indicates the door concerned is fully open.

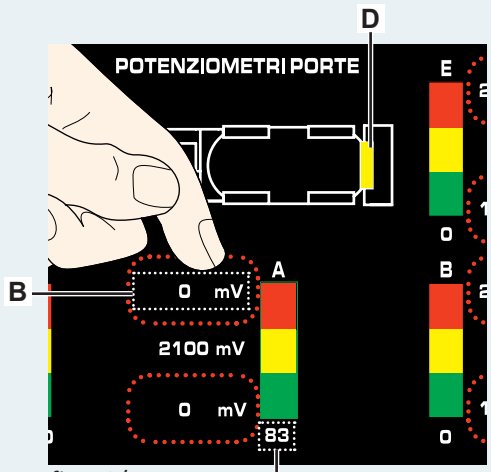


fig. 10/1

The values of box "A" and box "B"
(part A-B fig.12.2) are equal.
The value "door fully open" has been saved.

Now let's calibrate the potentiometer with the door fully closed:

3) Fully close the door by pressing the button on the side dashboard (part. 25 fig.11) specific to the

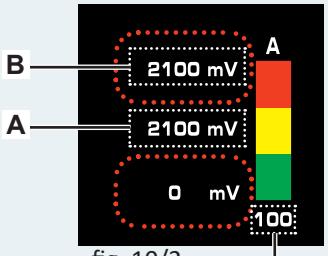


fig. 10/2

door in question, continuing to press on the screen printing at the bottom (door closure).
Make sure the door is physically fully closed.

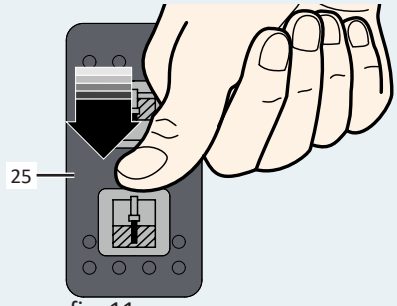


fig. 11

In box "A" (fig. 12) the value of the fully closed door is displayed, in our example 2800 mV.

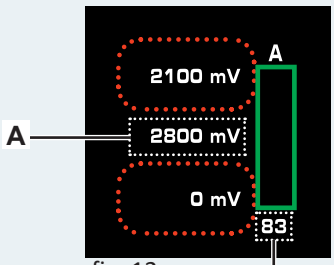


fig. 12

2) Now to save the "A" value of the fully closed door, press on the "touch" area of the display part."C" (fig.12/1) for 3-4 seconds. In real time we see the value of the parameter become equal to the value "A" 2800 mV of our example.

At the same time, when pressing on the "touch" area (C fig.12/1), the central rear door lights up green on the machine figure
(part.D fig.12/1 and also indicates the door concerned is fully closed.

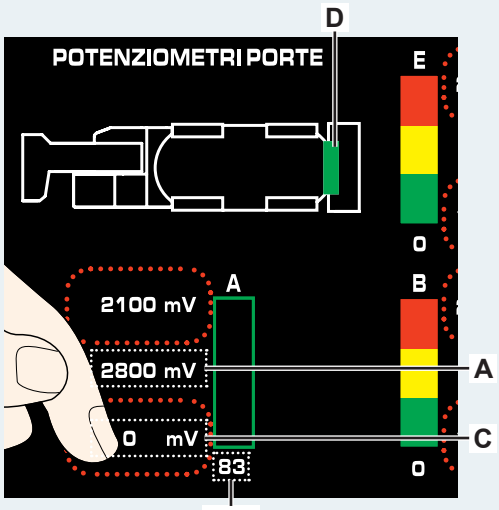


fig. 12/1

The values of box "A" and box "C"
(part A-B fig.12.2) are equal.
The value "door fully closed" has been saved.

5) Once the calibration procedure is finished, turn off the machine, wait a few seconds, restart the vehicle, open the password-protected "DOOR POTENTIOMETER CALIBRATION" page and check the correct display of the coloured bar that shows in real time the percentage of opening or closing of the door.

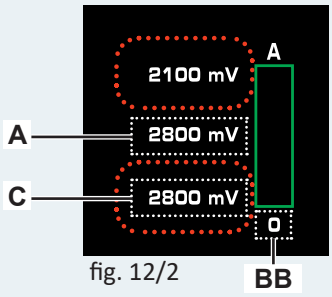


fig. 12/2

If the calibration is not correct, check that there are no impediments to the total closure or total opening of the door and that there are no mechanical or hydraulic problems.
If the problem is resolved, repeat the procedure described so far to adjust the potentiometer.

6.9.8 Page 6 diagnostics and settings on AS - LS:

On this page, it is possible to view, and change the control settings of some of the following services:

- Logical outputs (data display for control)
- Logical inputs (data display for control)
- Alarms table (display)
- Motor information (data display for control)
- Program information (data display)
- Weight control (it is possible to change the password-protected settings)
- LS - AS information (data display and reset)
- SCR adblue (data display)
- Set counter-blades (it is possible to change the password-protected settings)

6.9.8.1 Logical outputs on AS - LS:

Press the "touch" key of the "scroll" booklet (part.1 fig.1) or the "F3" button (part. 2 fig.1/1) to move the blue arrow to the "LOGICAL OUTPUTS" item (fig.2).

Press the "touch" key "enter/exit" OK (part.3 fig.3) or the "F4" button (part. 4 fig.3/1) ,

The "MAIN CONTROLLER OUTPUTS" section opens (N.B. in this section there are no touch keys), consisting of three progressive pages (fig.4 - fig.5- fig.6) . These pages open sequentially by pressing the physical key "change page F3 (part.5)" or the arrows "F1 (part.6) - F2 (part.7)".

fig. 1

fig. 1/1

fig. 2

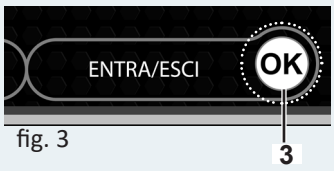


fig. 3

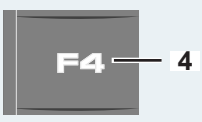


fig. 3/1

The "MAIN CONTROLLER OUTPUTS" section opens (N.B. in this section there are no touch keys), consisting of three progressive pages (fig.4 - fig.5- fig.6) . These pages open sequentially by pressing the physical key "change page F3 (part.5)" or the arrows "F1 (part.6) - F2 (part.7)".

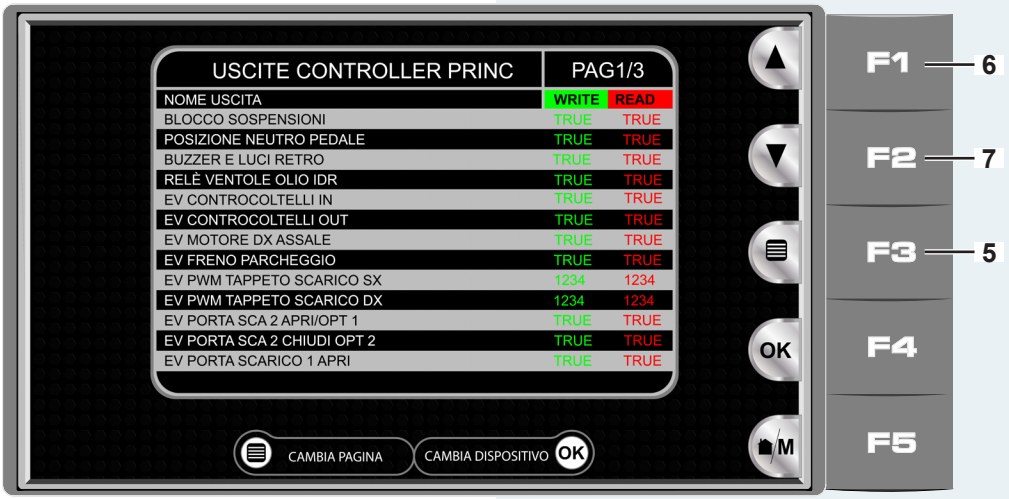


fig. 4

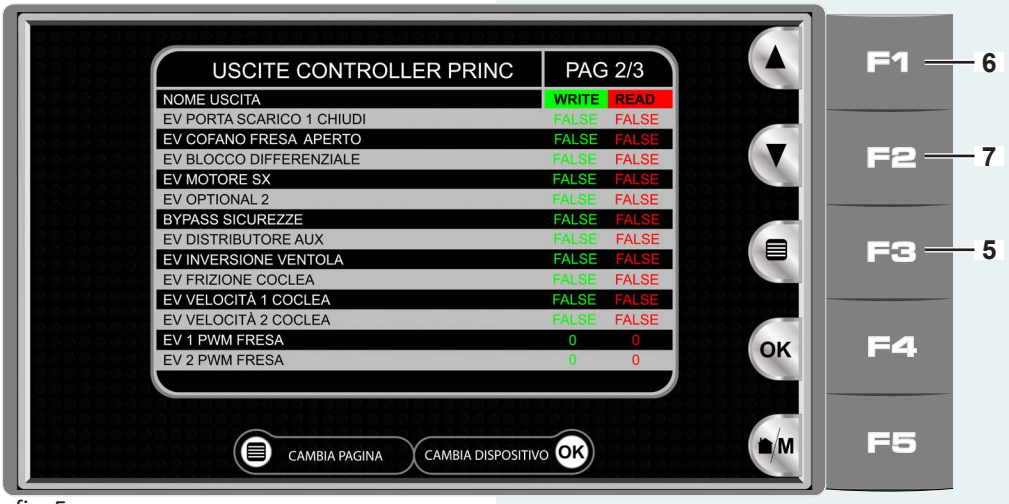


fig. 5

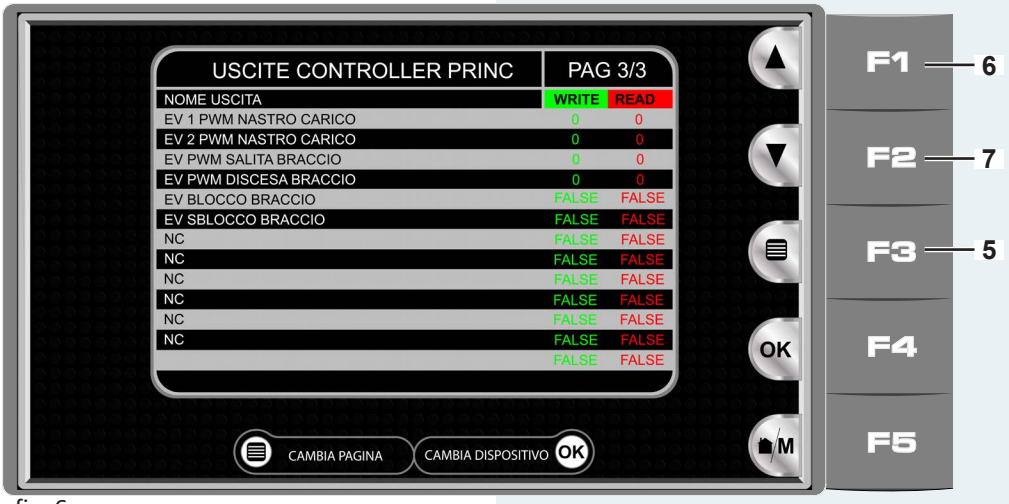


fig. 6

On these three pages, it is possible to see the utilities managed by the main control unit (Master).
The green text under the word "WRITE" must correspond to the red text under the word "READ".

If there is no correspondence, please contact the "STORTI" assistance centre.

From these screens by pressing the physical key F4 (part.8 fig.7) select the other devices connected to the "Logical outputs".

fig. 7

6.9.8.1.1 Secondary Controller Outputs on LS - AS :

When the physical key "F4" is pressed , the "SECONDARY CONTROLLER OUTPUTS" section opens (N.B. in this section there are no touch keys) which consists of three progressive pages (fig.1 - fig.2- fig.3).
These pages open sequentially by pressing the physical key "change page F3 (part.4)" or the arrows "F1 (part.5) - F2 (part.6)".

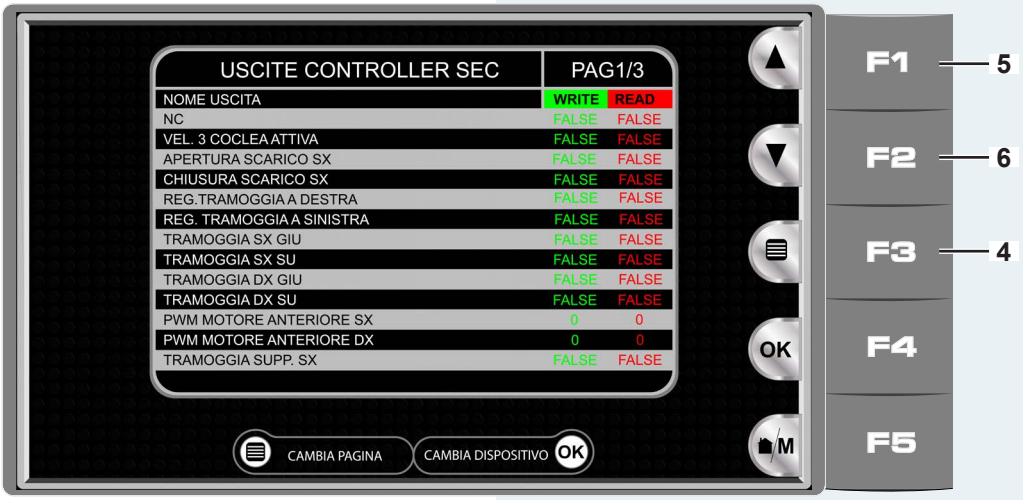


fig. 1

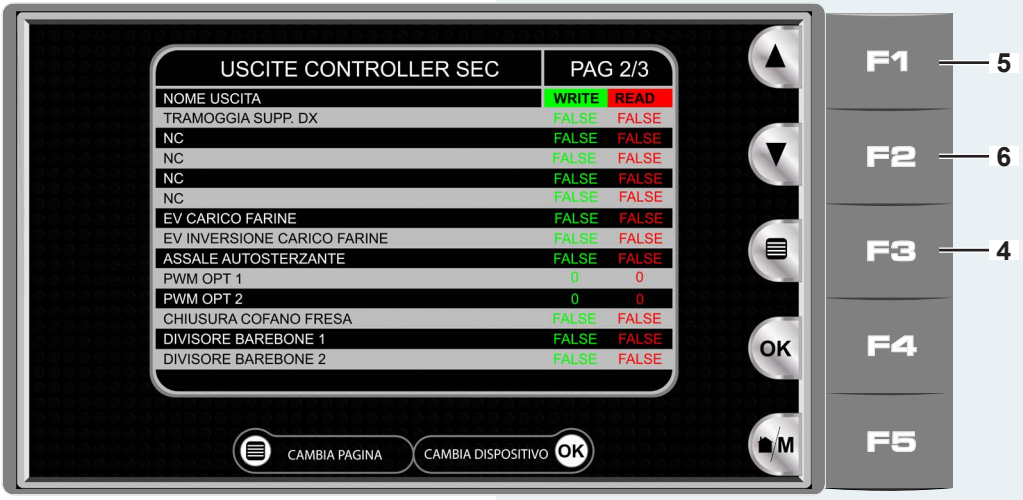


fig. 2

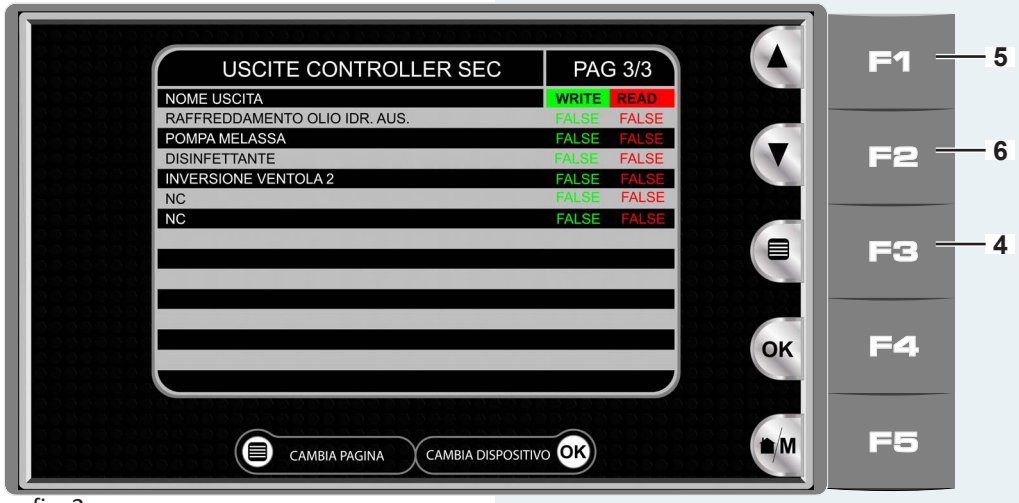


fig. 3

on these three pages, it is possible to see the utilities managed by the secondary control unit.
The green text under the word "WRITE" must correspond to the red text under the word "READ".

If there is no correspondence, please contact the "STORTI" assistance centre.

6.9.8.1 Page 6/1 diagnostics and settings on HS:

On this page, it is possible to view, and change the control settings of some of the following services:

- Logical outputs (data display for control)
- Logical inputs (data display for control)
- Alarms table (display)
- Motor information (data display for control)
- Program information (data display)
- Weight control (it is possible to change the password-protected settings)
- HS information (data display and reset)
- SCR adblue (data display)
- Set counter-blades (it is possible to change the password-protected settings)

6.9.8.1 Logical outputs on HS:

Press the "touch" key of the "scroll" booklet (part.1 fig.1) or the "F3" button (part. 2 fig.1/1) to move the blue arrow to the "LOGICAL OUTPUTS" item (fig.2).

fig. 1

fig. 1/1

fig. 2

Press the "touch" key "enter/exit" OK (part.3 fig.3) or the "F4" button (part. 4 fig.3/1) ,

The "MAIN CONTROLLER OUTPUTS" section opens (N.B. in this section there are no touch keys), con-

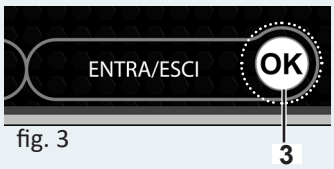


fig. 3

fig. 3/1

sisting of three progressive pages (fig.4 - fig.5- fig.6) . These pages open sequentially by pressing the physical key "change page F3 (part.5)" or the arrows "F1 (part.6) - F2 (part.7)".

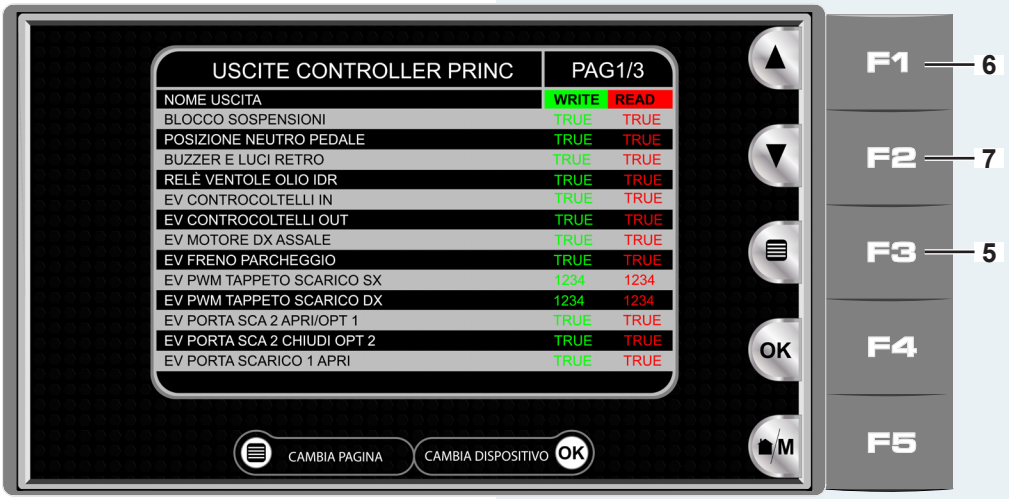


fig. 4

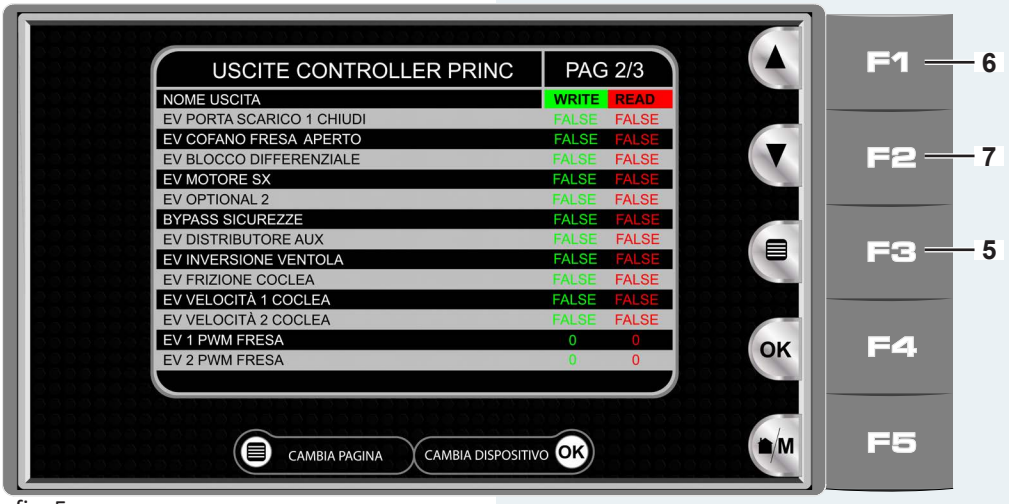


fig. 5

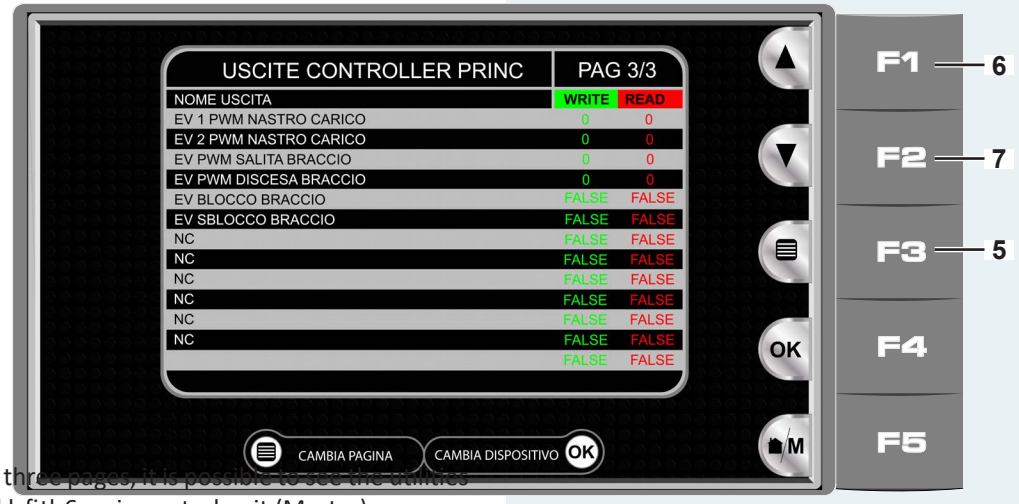


fig. 6

On these three pages, it is possible to see the utilities managed by the main control unit (Master).

The green text under the word "WRITE" must correspond to the red text under the word "READ".

If there is no correspondence, please contact the "STORTI" assistance centre.

From these screens by pressing the physical key F4 (part.8 fig.7) select the other devices connected to the "Logical outputs".

fig. 7

6.9.8.1.1 Secondary controller outputs on HS:

When the physical key "F4" is pressed , the "SECONDARY CONTROLLER OUTPUTS" section opens (N.B. in this section there are no touch keys) which consists of three progressive pages (fig.1 - fig.2- fig.3).
These pages open sequentially by pressing the physical key "change page F3 (part.4)" or the arrows "F1 (part.5) - F2 (part.6)".

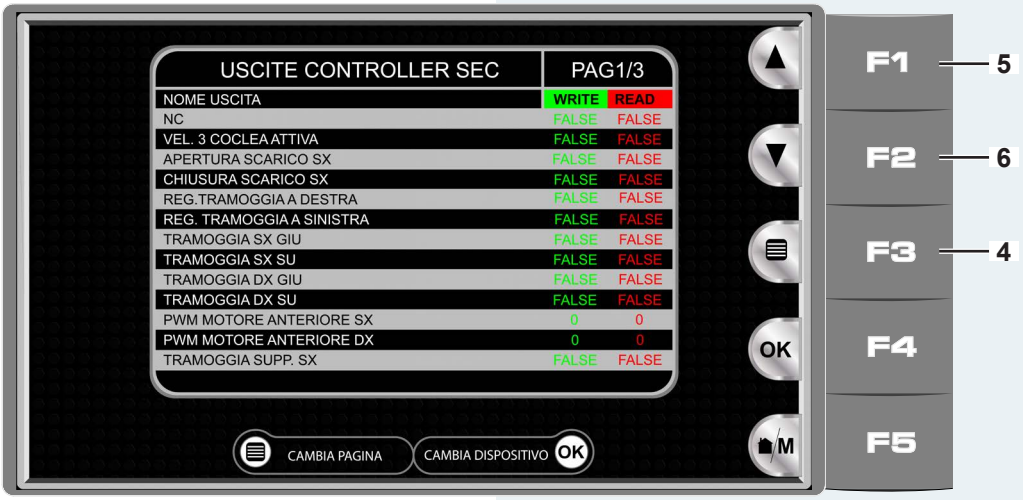


fig. 1

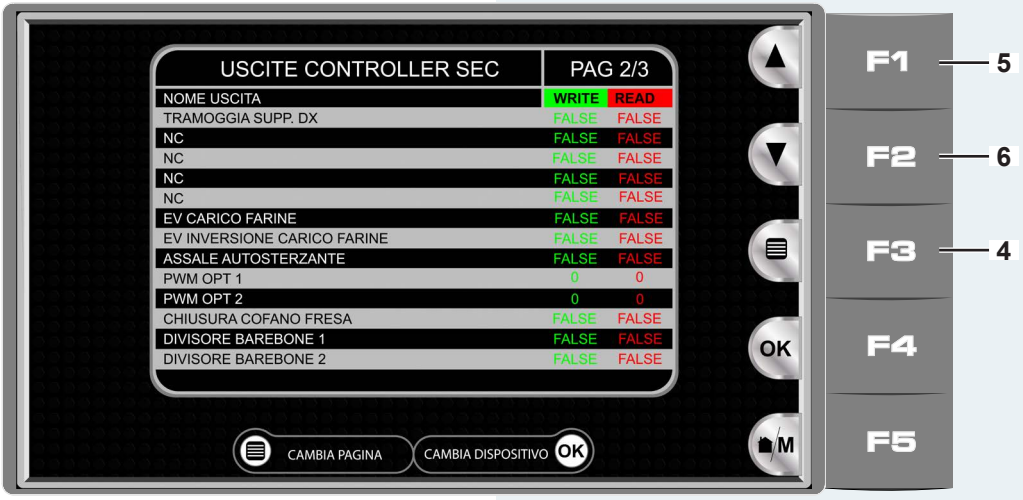


fig. 2

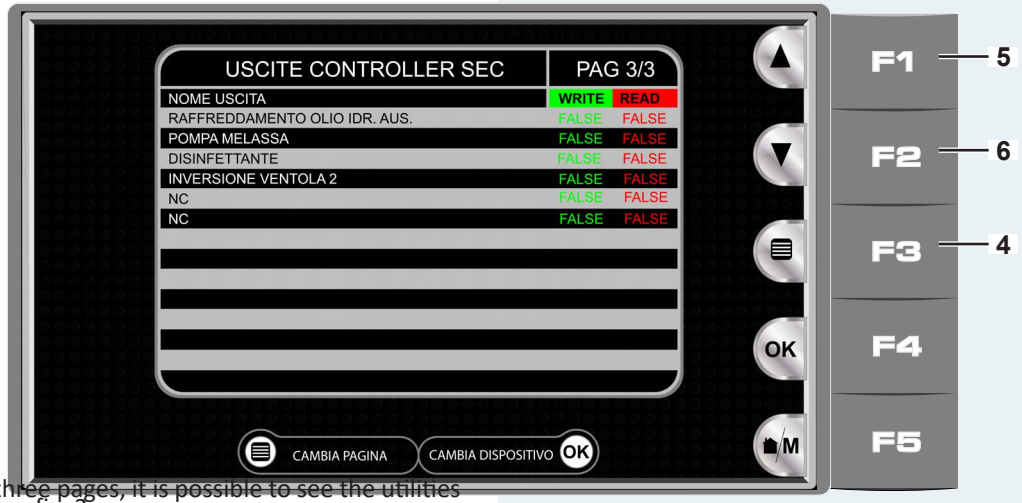


fig. 3

on these three pages, it is possible to see the utilities managed by the secondary control unit.
The green text under the word "WRITE" must correspond to the red text under the word "READ".

If there is no correspondence, please contact the "STORTI" assistance centre.

6.9.8.2 Logical inputs AS - LS:

To return to **"Page 6 diagnostics and settings" on LS-AS** (fig.1) and to select and access the "LOGICAL INPUTS" pages, the following steps must be followed:

fig. 1

if on any page selected within the "LOGICAL OUTPUTS", press the physical key "F5" (HOME) (fig.2).

fig. 2

This returns to the main page (fig.3).
Subsequently,by pressing the physical key "F2" (fig.4), it is possible to choose the "diagnostics and settings" page (fig.1).

fig. 4

This selection procedure is to be used regardless of the page the user is on within the various items of the diagnostic page.

fig. 3

6.9.8.2.1 Mode 1 I/O Inputs and I/O Inputs mode 2 on AS-LS:

Press the "touch" key of the "scroll" booklet (part.1 fig.1) or the "F3" button (part. 2 fig.1/1) to move the blue arrow to the "LOGICAL INPUTS" item (fig.2).

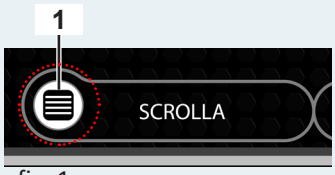


fig. 1

fig. 1/1

Press the "touch" key "enter/exit" OK (part.3 fig.3) or the "F4" button (part. 4 fig.3/1) ,

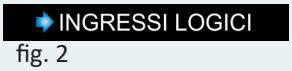


fig. 2

The **"I/O MODE 1 INPUTS"**section opens, which consists of three progressive pages (fig.5 - fig.6 - fig.7). After the third page, we enter the section **"I/O MODE 2 INPUTS"** consisting of three pages (fig.8 - fig.9 - fig.10).
MODE 1 I/O INPUTS - MODE 2 I/O on AS - LS

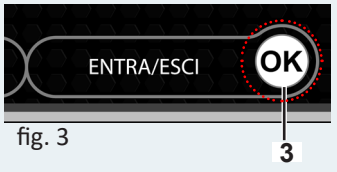


fig. 3

fig. 3/1

(N.B. in this section there are no touch keys),
these pages open sequentially by pressing the physical key "6 change page F3 (part.5)" or the arrows "F1 (part.6) - F2 (part.7)".
on these six pages, it is possible to see the incoming utilities of the various services, managed by the control unit

fig. 5

fig. 6

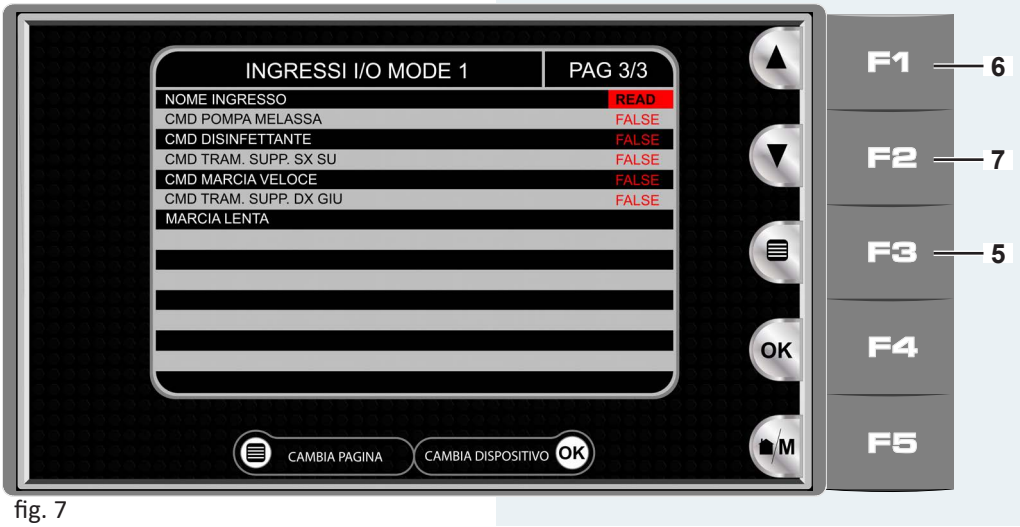


fig. 7

fig. 8

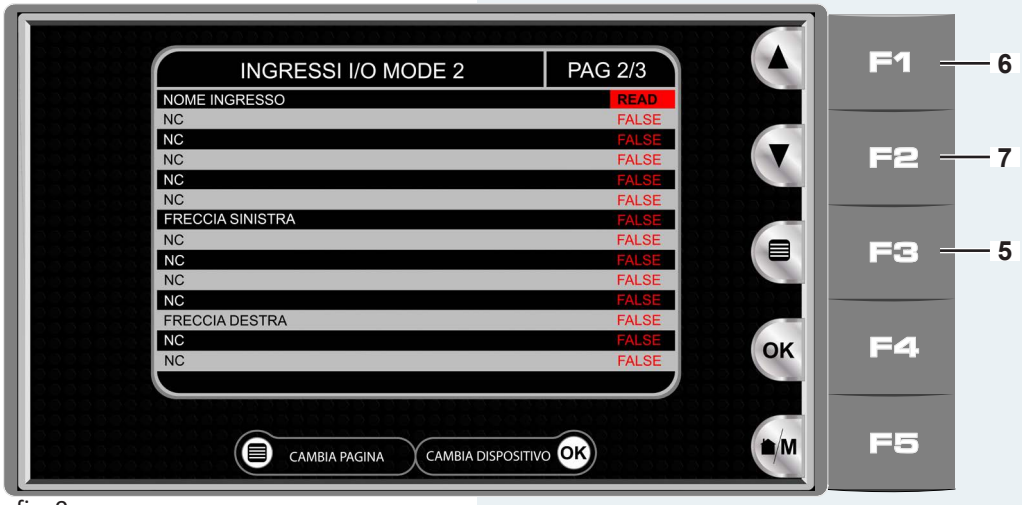


fig. 9

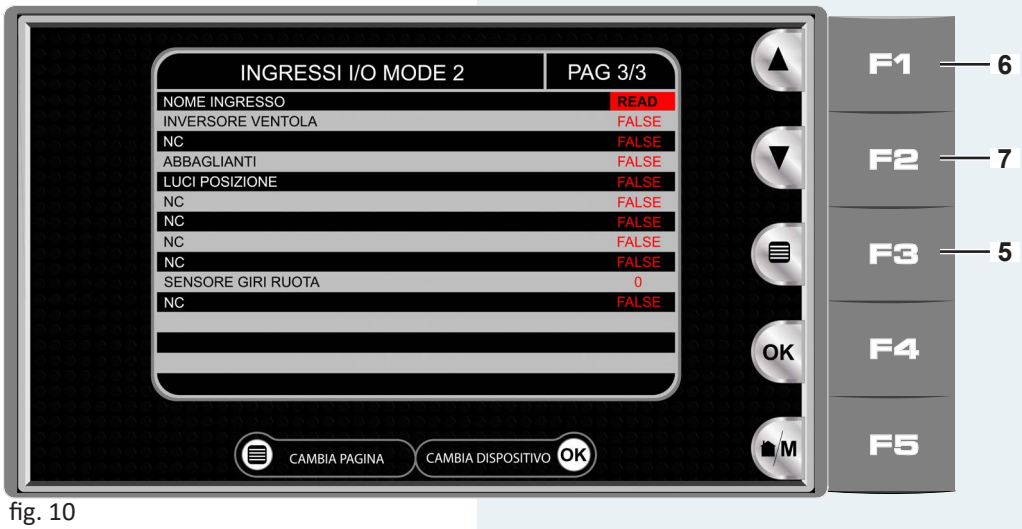


fig. 10

I/O MODE 1 and from the **I/O MODE 2**control unit.

These screens are used to monitor in real time the activation of the services with the buttons.
When a command is activated, the word "FALSE" associated with that service changes from red to green, becoming "TRUE".

For buttons with maintained action, such as opening of the doors, the word "TRUE" in green remains visible as long as the button is pressed (fig.11).

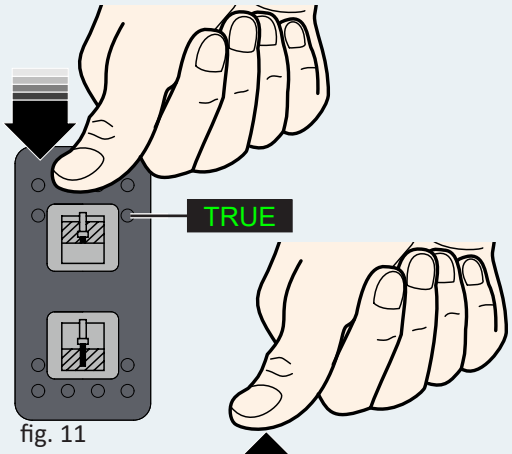


fig. 11

As soon as the button is released, the text returns to "FALSE" in red (fig. 12).

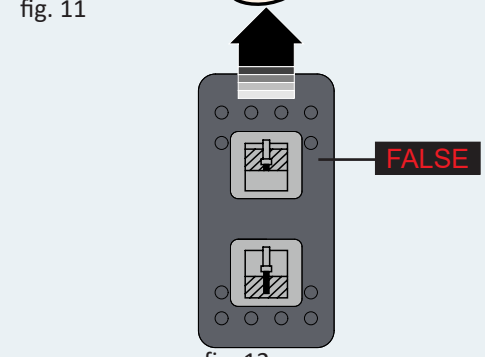


fig. 12

For the stable type buttons, which remain engaged when they are pressed (such as the one for activation of the auger rotation clutch), the word "FALSE" in red becomes "TRUE" in green (fig.13).
This remains green until the pressed button is disengaged (fig.14).

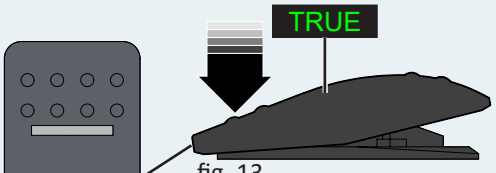


fig. 13

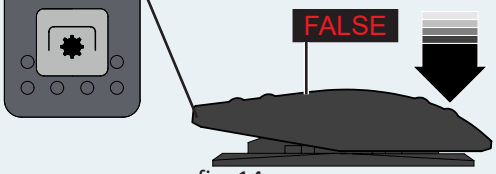


fig. 14

These pages, therefore, are used to view in real time any malfunctions or anomalies in the electrical system of the selected service.
This allows the operator of the cart or their delegate to contact the assistance service, providing useful information to ensure a more targeted intervention to restore the activated service.

6.9.8.2.2 Main controller inputs on AS-LS

After **I/O MODE 2 INPUTS**
Press key "F4" (part.4 fig.1) to access the progressive section "**Main controller inputs**".
(N.B. in this section there are no touch keys),
This section consists of five progressive pages that open in sequence by pressing the physical key "change page F3 (part.5)" or the arrows "F1 (part.6) - F2 (part.7)".
The information contained on these diagnostic pages is useful during assistance, when the operator is in telephone contact with the assistance service for resolution of problems on the services.

fig. 1

fig. 2

fig. 3

fig. 4

fig. 5

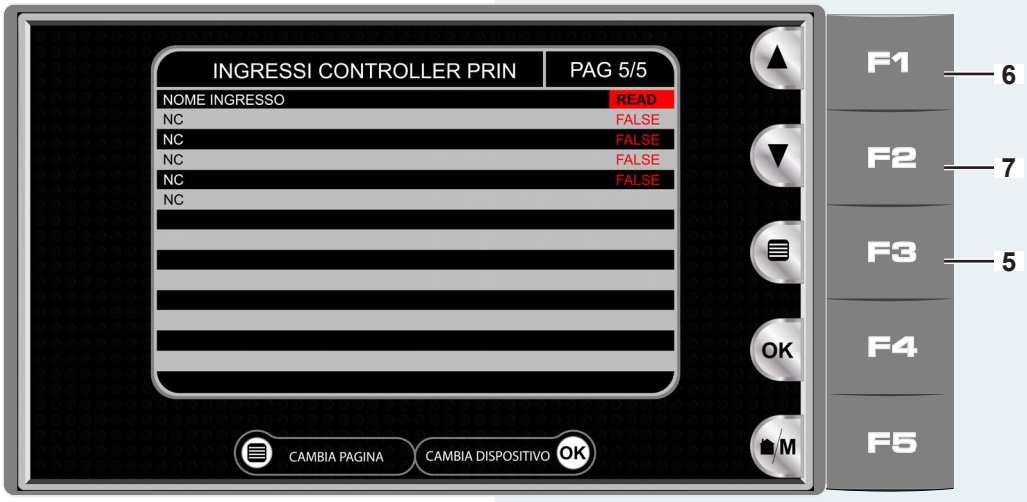


fig. 6

6.9.8.2.3 Secondary controller inputs on LS-AS

After the **Main Controller Inputs** section
Press the "F4" key (part.4 fig.1) to access the "**Secondary controller inputs**" progressive section.
(N.B. in this section there are no touch keys)**,**
This section consists of two progressive pages that open in sequence by pressing the physical key "change page F3 (part.5)" or the arrows "F1 (part.6) - F2 (part.7)".
The information contained on these diagnostic pages is useful during assistance, when the operator is in telephone contact with the assistance service for resolution of problems on the services.

fig. 1

fig. 2

6.9.8.3 Logical inputs ON HS:

To return to **"Page 6 diagnostics and settings" on HS** (fig.1) and to select and access the "LOGICAL INPUTS" pages, the following steps must be followed:

fig. 1

if on any page selected within the "LOGICAL OUTPUTS", press the physical key "F5" (HOME) (fig.2).

fig. 2

This returns to the main page (fig.3).
Subsequently,by pressing the physical key "F2" (fig.4), it is possible to choose the "diagnostics and settings" page (fig.1).

fig. 4

This selection procedure is to be used regardless of the page the user is on within the various items of the diagnostic page.

fig. 3

6.9.8.3.1 Mode 1 I/O Inputs and Mode 2 I/O Inputs:

Press the "touch" key of the "scroll" booklet (part.1 fig.1) or the "F3" button (part. 2 fig.1/1) to move the blue arrow to the "LOGICAL INPUTS" item (fig.2).

fig. 1

fig. 1/1

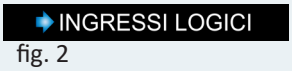


fig. 2

Press the "touch" key "enter/exit" OK (part.3 fig.3) or the "F4" button (part. 4 fig.3/1) ,

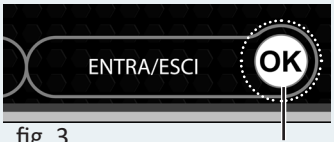


fig. 3

fig. 3/1

The **"I/O MODE 1 INPUTS"**section opens, which consists of three progressive pages (fig.5 - fig.6 - fig.7). After the third page, we enter the section **"I/O MODE 2 INPUTS"** consisting of three pages (fig.8 - fig.9 - fig.10).
MODE 1 I/O INPUTS - MODE 2 I/O

(N.B. in this section there are no touch keys),

these pages open sequentially by pressing the physical key "6 change page F3 (part.5)" or the arrows "F1 (part.6) - F2 (part.7)".
on these six pages, it is possible to see the incoming utilities of the various services, managed by the control unit

fig. 5

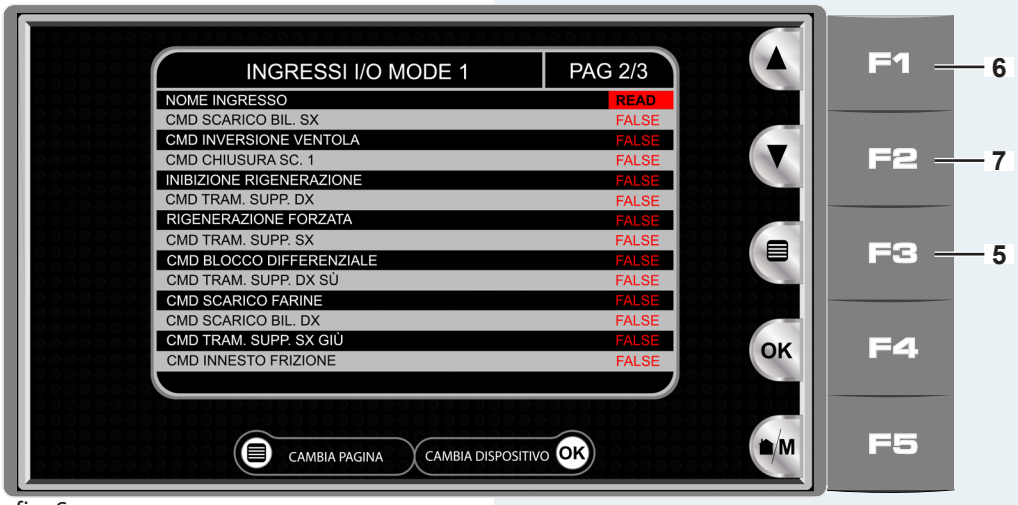


fig. 6

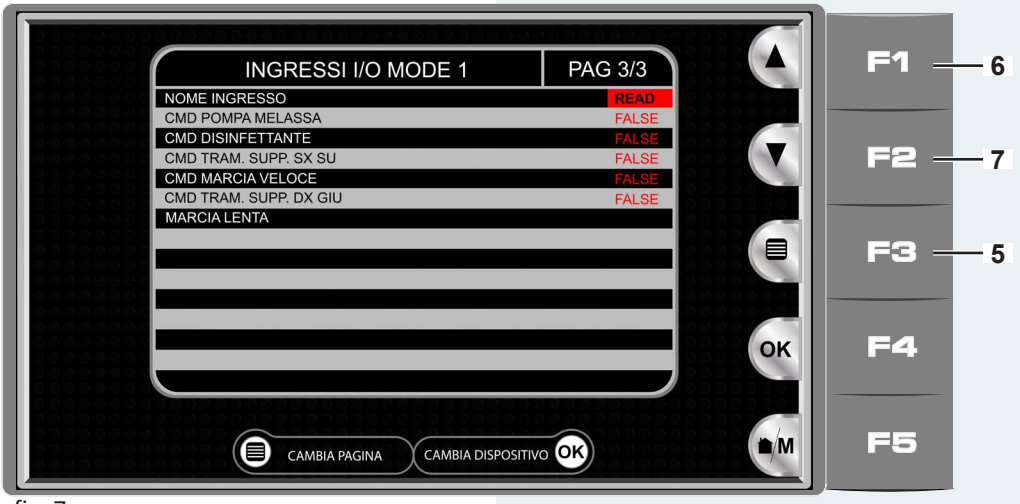


fig. 7

fig. 8

fig. 9

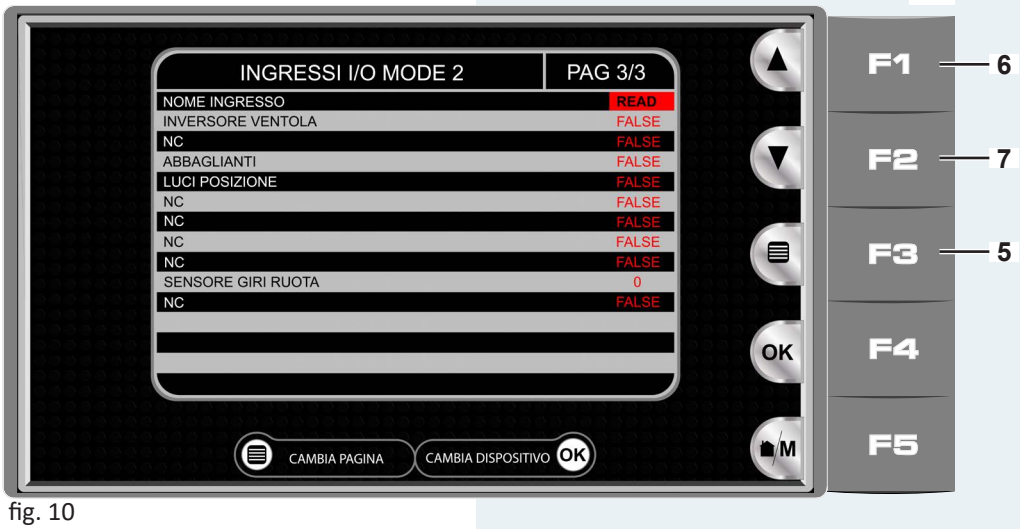


fig. 10

I/O MODE 1 and from the **I/O MODE 2**control unit.

These screens are used to monitor in real time the activation of the services with the buttons.
When a command is activated, the word "FALSE" associated with that service changes from red to green, becoming "TRUE".

For buttons with maintained action, such as opening of the doors, the word "TRUE" in green remains visible as long as the button is pressed (fig.11).

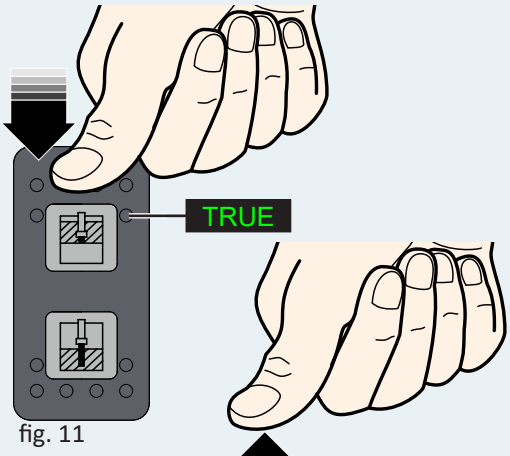


fig. 11

As soon as the button is released, the text returns to "FALSE" in red (fig. 12).

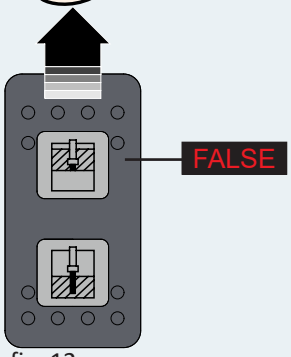


fig. 12

For the stable type buttons, which remain engaged when they are pressed (such as the one for activation of the auger rotation clutch), the word "FALSE" in red becomes "TRUE" in green (fig.13).
This remains green until the pressed button is disengaged (fig.14).

These pages, therefore, are used to view in real time any malfunctions or anomalies in the electrical system of the selected service.
This allows the operator of the cart or their delegate to contact the assistance service, providing useful information to ensure a more targeted intervention to restore the activated service.

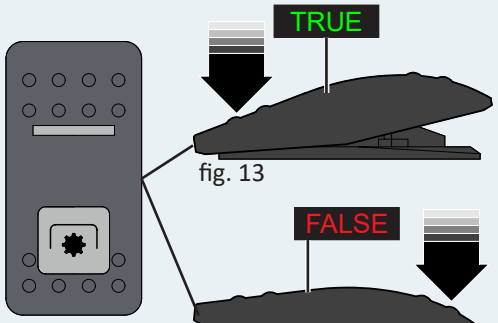


fig. 13

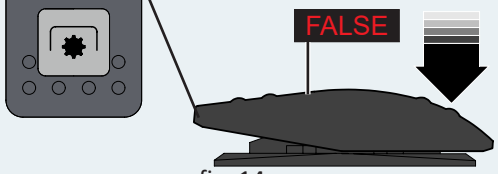


fig. 14

6.9.8.3.2 Main controller inputs on HS

After **I/O MODE 2 INPUTS**
Press key "F4" (part.4 fig.1) to access the progressive section "**Main controller inputs**".
(N.B. in this section there are no touch keys)**,**
This section consists of five progressive pages that open in sequence by pressing the physical key "change page F3 (part.5)" or the arrows "F1 (part.6) - F2 (part.7)".
The information contained on these diagnostic pages is useful during assistance, when the operator is in telephone contact with the assistance service for resolution of problems on the services.

fig. 1

fig. 2

fig. 3

fig. 4

fig. 5

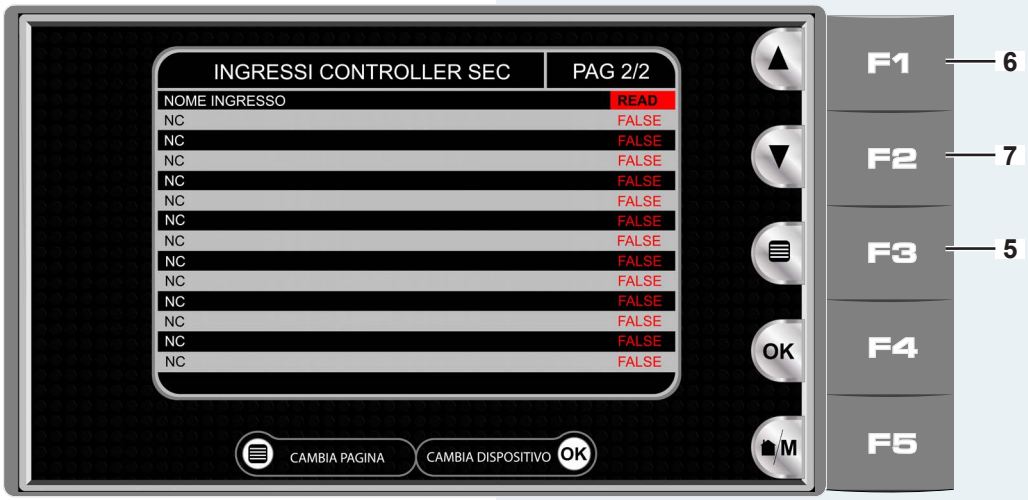
fig. 6

6.9.8.3.3 Secondary controller inputs on AS-LS

After the **Main Controller Inputs** section
Press the "F4" key (part.4 fig.1) to access the "**Secondary controller inputs**" progressive section.
(N.B. in this section there are no touch keys)**,**
This section consists of two progressive pages that open in sequence by pressing the physical key "change page F3 (part.5)" or the arrows "F1 (part.6) - F2 (part.7)".
The information contained on these diagnostic pages is useful during assistance, when the operator is in telephone contact with the assistance service for resolution of problems on the services.

fig. 1

fig. 2



6.9.8.4 Alarms table

Press the "touch" key of the "scroll" booklet (part.1 fig.1) or the "F3" button (part. 2 fig.1/1) to move the blue arrow to the "ALARMS TABLE" item (fig.2).

fig. 1

fig. 1/1

fig. 2

Press the "touch" key "enter/exit" OK (part.3 fig.3) or the "F4" button (part. 4 fig.3/1) ,

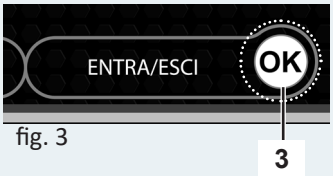


fig. 3

fig. 3/1

The "ALARMS TABLE" section opens (N.B. this section contains down alarm booklet touch and alarm on OK circled in red),

On this screen, all the current errors of all the control units of the machine are displayed.
These errors must be analysed and, only after solving the problem, can they be deleted through the password submenu of the dedicated page.
To navigate through the errors, use the physical keys

"F3" (part.1 fig.1) and "F4" (part.2 fig.2).
These allow the blue selection string to be scrolled back and forth, highlighting error entries.

Now, as an example, let's analyse the structure of the error string highlighted in fig.3:

1) The blue box (part.1) is used to highlight the alarm.

2) “6” (part.2) represents the error number.

3) In this example (part .3), the error is: "can bus 187 message alarm on IO-MODE control unit".

4) "2024-06-06" - "12:50"(part.4) indicates the date and time when the alarm was recorded.

5) “OK ==> ERROR” (part.5) represents the transition from ‘OK’, which indicates a correct operating state, to ‘ERROR’, which represents an anomaly state.

If the problem is solved (it can also be solved automatically by the control unit), the next view becomes "ERROR==> OK" (part.6 fig.3/1), and the date and time of recording is also updated.

To check if the problem has been solved, exit the screen by pressing the physical key "F5" (fig.3), which opens the page "2 Road traffic" (fig.4).
The error visible in the lower area is then deleted (A fig.4).

To confirm that the alarm has been removed and resolved, press the physical key "F2" (fig.5) (N.B. in this section there are no touch keys), enter the "ALARM TABLE" again and press the physical key "OK F4" (fig.6).
Now we will see in sequence the alarm "OK ==> ERROR (B fig.7)" and also the resolution of the alarm from
"ERROR ==> OK" (C fig.7).

Finally, even if the alarms are reset (with password-protected menu) or because they are resolved, the sum of the errors (in our example 70 (D fig.7) is saved in the "BLACK BOX" control unit.

fig. 1

fig. 2

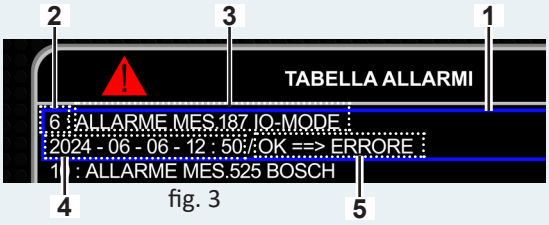


fig. 3

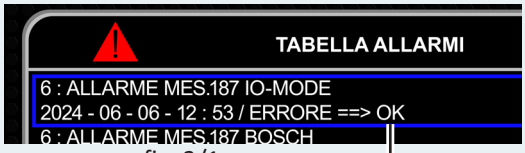


fig. 3/1

fig. 3

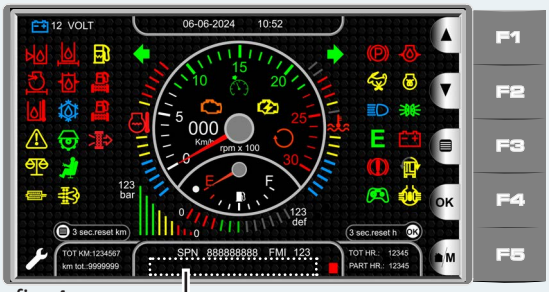


fig. 4

fig. 5

fig. 6

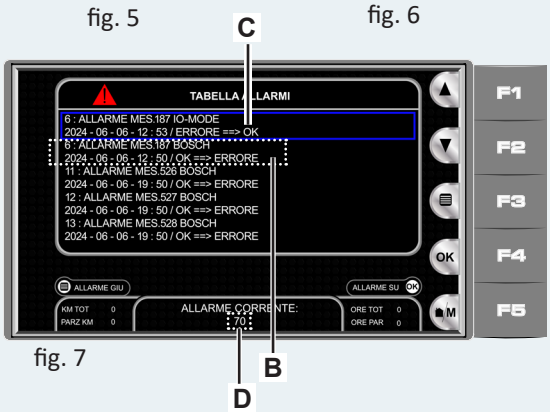


fig. 7

6.9.8.5 Engine information

Press the "touch" key of the "scroll" booklet (part.1 fig.1) or the "F3" button (part. 2 fig.1/1) to move the blue arrow to the "ENGINE INFORMATION" item (fig.2).

fig. 1

fig. 1/1

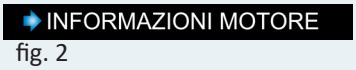


fig. 2

Press the "touch" key "enter/exit" OK (part.3 fig.3) or the "F4" button (part. 4 fig.3/1) ,

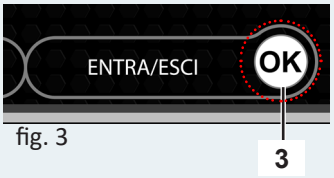


fig. 3

fig. 3/1

The "ENGINE INFORMATION" section opens (N.B. Only the km reset and the hr reset are touch in this section); the section consists of two pages: the first page shows all the parameters relating to the operation and state of the engine (fig.4).

When the control unit determines that the engine oil must be changed, the text NORMAL OIL green (fig.4/1) turns red and the text OIL CHANGE (fig.4/2) appears.

fig. 4/1

fig. 4/2

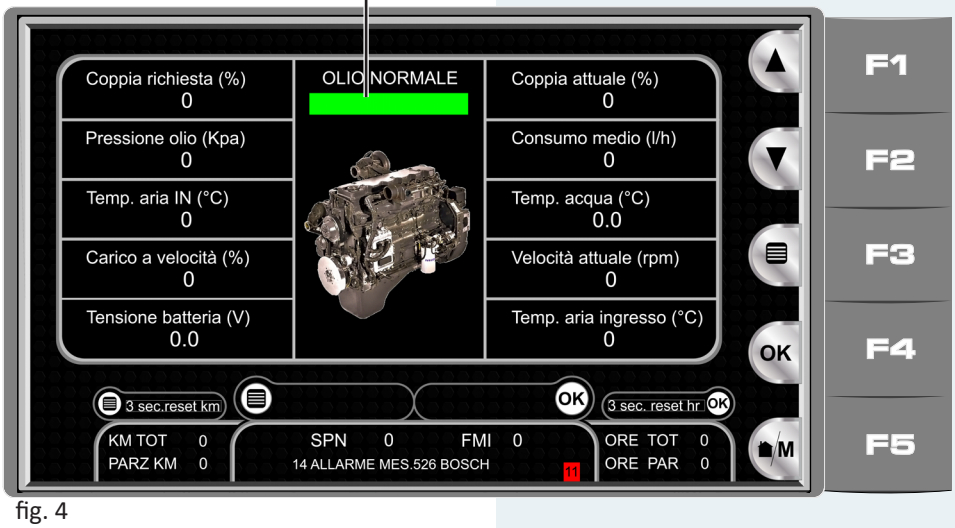


fig. 4

The second page is dedicated to the SCR ADBLUE system, which can also be selected from page 6 of diagnostics and settings.
To access this page, press the physical key "F2" (fig.5).
Here it is possible to find all the information about the SCR ADBLUE system.
The first line shows the level of Adblue in the tank, expressed as a percentage.

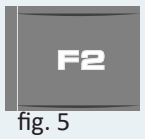


fig. 5

When the tank is 100% full, graphically it is possible to see the full tank A in grey (fig.1).

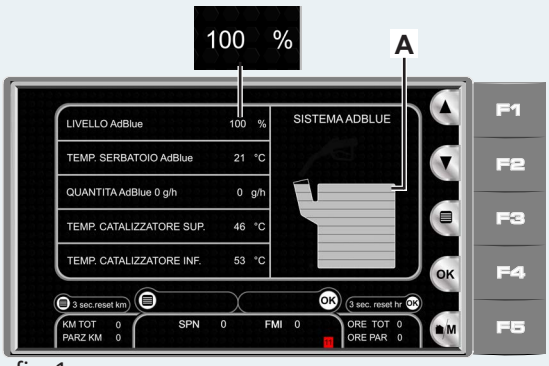


fig. 1

When the tank is emptying, as shown in fig. 2, at the estimate of the remaining 10÷15% Adblue, the nozzle is lit in green together with a yellow flashing light to prompt to refuel.
An IDs 29 "ALERT" is also displayed with the text LOW ADBLUE LEVEL

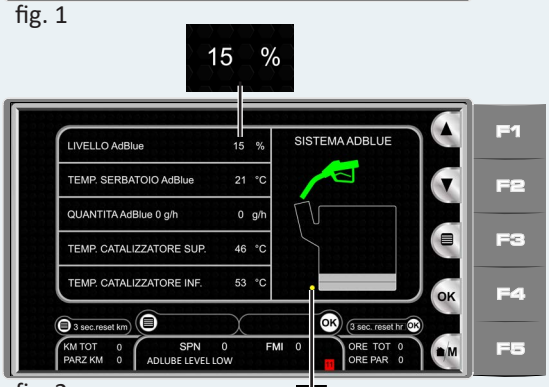


fig. 2

When the nozzle turns red with the yellow flashing light (fig.3), it means that the percentage of Adblue in the tank has dropped between 0 and 10%.
In this case, it is necessary to refuel.

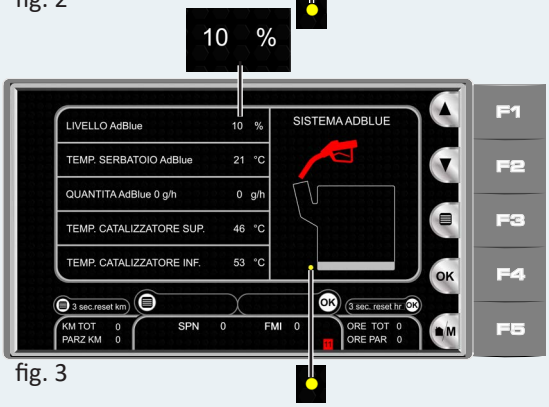


fig. 3

The second line on the page marks the Internal Temperature of the Adblue tank.
N.B.: Adblue freezes at a temperature of -11°C and deteriorates above 40°C (example 21°C fig.4).

fig. 4

The third line marks the quantity of Adblue injected in
g/h (example not yet activated 0 g/h fig.5).

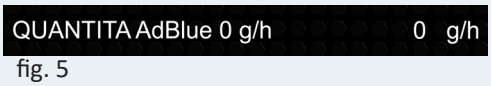


fig. 5

The fourth line shows the temperature in output of the catalyst (example 46°C fig.6).

fig. 6

The fifth line marks the inlet temperature to the catalyst (example 53°C fig.7).
To return to the main page "engine information"

fig. 7

(fig.8) use the physical button "F1" (fig.9).

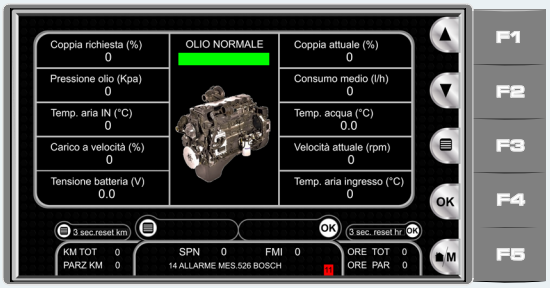


fig. 8

fig. 9

6.9.8.6 Program information

To return to **"Page 6 diagnostics and settings"** (fig.1) and to access the "PROGRAM INFORMATION" pages, follow these steps:

fig. 1

if on any page selected within "ENGINE INFORMATION", press the physical key "F5" (HOME fig.2).

fig. 2

This returns to the main page (fig.3).
Subsequently,by pressing the physical key "F2" (fig.4), it is possible to again choose the "diagnostics and settings" page (fig.1).

fig. 4

This selection procedure is to be used regardless of the page the user is on within the various items of the diagnostic page.

fig. 3

Press the "touch" key of the "scroll" booklet (part.1 fig.5) or button "F3" (part. 2 fig.5/1) to move the blue arrow to the "PROGRAM INFORMATION" item (fig.6).

fig. 5

fig.5/1

Press the "touch" key "enter/exit" OK (part.3 fig.7) or the "F4" button (part. 4 fig.7/1) ,

fig. 6

The "PROGRAM INFORMATION" section opens (fig.8) (N.B. in this section there are no touch keys); on this page it is possible to see the versions of the installed software.

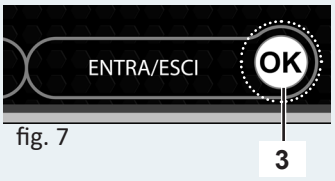


fig. 7

fig. 7/1

fig. 8

6.9.8.7 Weight control

(Section only valid for certain versions of HS machine models depending on the weight in can BUS)

To return to **"Page 6 diagnostics and settings"** (fig.1) and to select and access the "WEIGHT CONTROL" page, follow these steps:

fig. 1

fig. 3

fig. 4

if in the "PROGRAM INFORMATION" page (fig.2) press the physical key "F5" (HOME fig.3) or the physical key "F2"(fig.4).

fig. 2

This returns to the main page (fig.4).

fig. 4

Next, press the physical key "F2" (fig.5). Press the "touch" key of the "scroll" booklet (part.1 fig. 6) or button "F3" (part. 2 fig.6/1) to

fig. 5

fig. 6

fig.6/1

move the blue arrow to the "WEIGHT CONTROL" item (fig. 7).

fig. 7

Press the "touch" key "enter/exit" OK (part.3 fig.8) or the "F4" button (part. 4 fig.8/1) ,

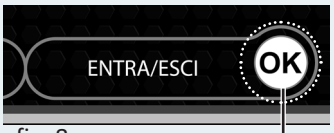


fig. 8

fig. 8/1

The "WEIGHT CONTROL" section opens.
The section consists of a page with a "touch" numeric keypad (in this section only the keypad is touch) used to enter the weight and time values in seconds.

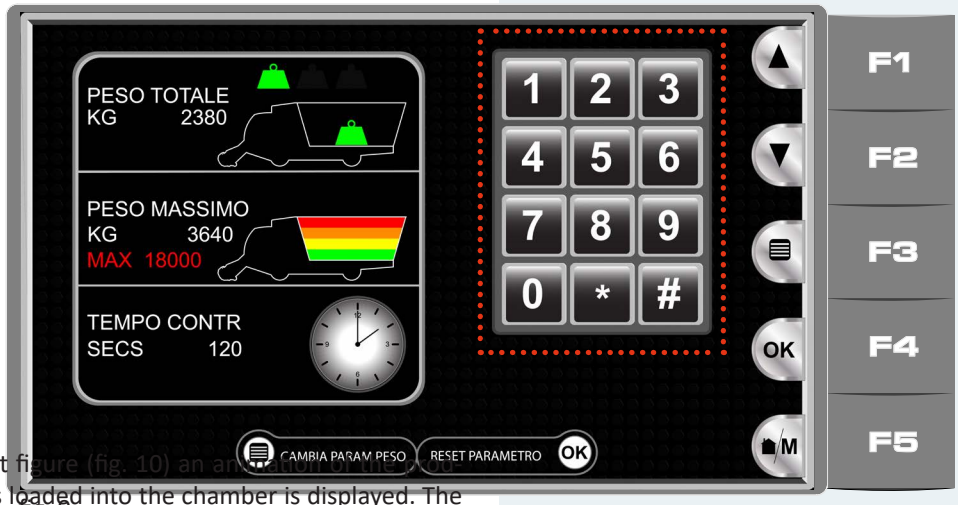


fig. 9

In the first figure (fig. 10) an animation of the product that is loaded into the chamber is displayed. The quantity of the visible weight (part.1 fig. 10) is the same as that seen on the weight in real time (only with CAN BUS weight).

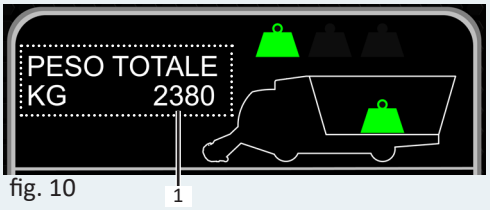


fig. 10

With the physical key "F3" (fig.11) it is possible to switch and alternatively select the second "TOTAL WEIGHT" figure or the third "MAXIMUM WEIGHT" figure.
When the figures are selected with the "F3" key, the words turn green and it is possible to enter the values with the keypad.

fig. 11

The second figure (fig.12) concerns the maximum weight that the machine can load which varies from

model to model depending on the cubic capacity.

With the "touch" keypad, the values of the weight to be loaded are entered, from a minimum (for example 400kg first green bar visible on the bottom of the chamber fig.13) to a maximum permissible (all coloured bars fig.12). The quantity of "weight" that can be loaded is obtained from the tables of the "technical data" of the various machine models (see section Technical data), subtracting the "Unladen weight" of the vehicle from the "Full load weight permissible".
Our example shows a Dobermann SW HS 40km/h with a "Full Load Weight" of 18,000 kg (part.2 fig.12), an "Unladen Weight" of 14,360 kg (see Technical Data tables), so the difference of 3,640 kg (part.3 fig.12) is the maximum permissible loadable weight for this model.

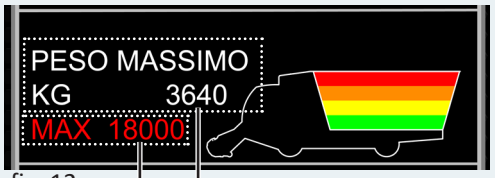


fig. 12

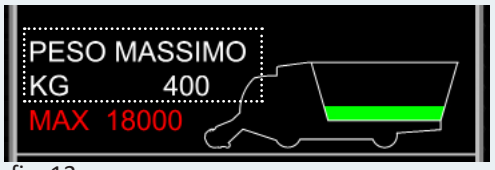


fig. 13

The third figure shows a safety counter to be set after choosing the weight threshold (fig.13).
The timer can be set for a maximum time of ~120 seconds (part. 4 fig.14).
This second counter plays a crucial role in protecting the machine's mechanics.

It comes into operation when an excessive weight is loaded on the machine.
On uneven ground there may be knocks due to holes or other irregularities, which increase the risks of damaging the vehicle if the weight is greater than that permitted.
At the end of the timer count, the machine automatically starts to slow down the transfer speed and the various work functions. Everything is managed automatically by a control unit.
This function helps to prevent any damage to the machine caused by overloads.

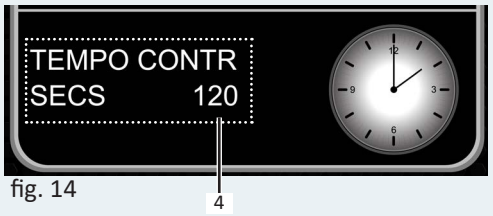


fig. 14

After unloading the product, the machine returns to full operation.

6.9.8.8 AS-LS Information

To return to **"Page 6 diagnostics and settings"** (fig.1) and to access the "AS-LS INFORMATION" page, the following steps must be followed:

fig. 1

fig. 3

fig. 4

if in the "PROGRAM INFORMATION" page (fig.2) press the physical key "F5" (HOME fig.3) or the physical key "F2"(fig.4).

fig. 2

This returns to the main page (fig.4).

fig. 4

fig. 5

Next, press the physical key "F2" (fig.5). Press the "touch" key of the "scroll" booklet (part.1 fig. 6) or button "F3" (part. 2 fig.6/1) to move the blue arrow to the "HS INFORMATION" item (fig. 7).

fig. 6

fig.6/1

fig. 7

Press the "touch" key "enter/exit" OK (part.3 fig.8) or the "F4" button (part. 4 fig.8/1) ,

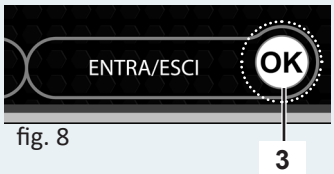


fig. 8

fig. 8/1

The "AS-LS INFORMATION" section opens (fig.1).
This section consists of a page with "touch" buttons (in the drawing circled in red).
On this page, it is possible to view the lights, the reset of the kilometres, the reset of the hours worked and at the bottom the error string.

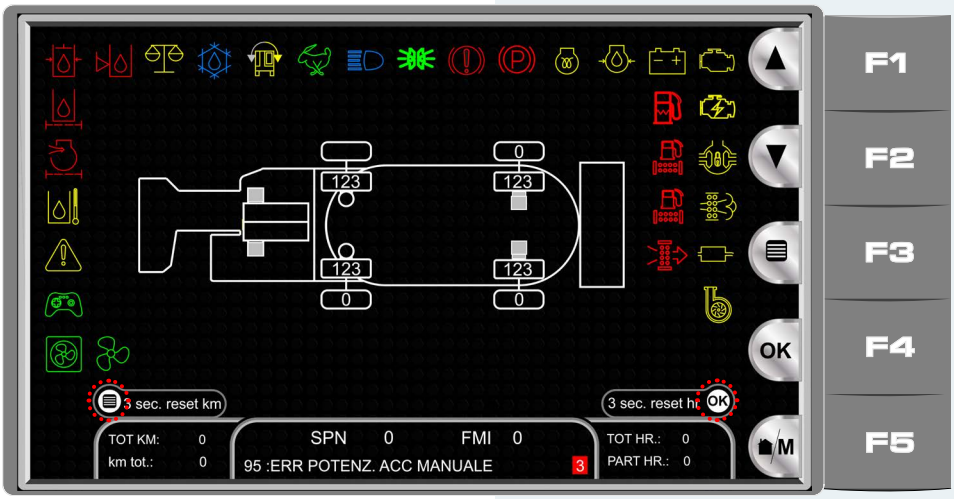


fig. 1

6.9.8.8.1 HS Information

To return to **"Page 6 diagnostics and settings"** (fig.1) and to access the "HS INFORMATION" page, follow these steps:

fig. 1

fig. 3

fig. 4

if in the "PROGRAM INFORMATION" page (fig.2) press the physical key "F5" (HOME fig.3) or the physical key "F2"(fig.4).

fig. 2

This returns to the main page (fig.4).

fig. 4

fig. 5

Next, press the physical key "F2" (fig.5). Press the "touch" key of the "scroll" booklet (part.1 fig. 6) or button "F3" (part. 2 fig.6/1) to move the blue arrow to the "HS INFORMATION" item (fig. 7).

fig. 6

fig.6/1

fig. 7

Press the "touch" key "enter/exit" OK (part.3 fig.8) or the "F4" button (part. 4 fig.8/1) ,

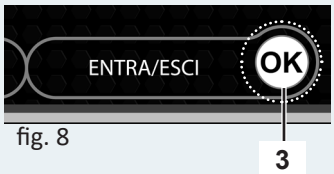


fig. 8

fig. 8/1

the "HS INFORMATION" section opens (fig.1).
This section consists of a page with "touch" buttons (in the drawing circled in red).
On this page, it is possible to view the functionality parameters of the BOSCH translation system. This data is useful for the assistance service in case of anomalies.

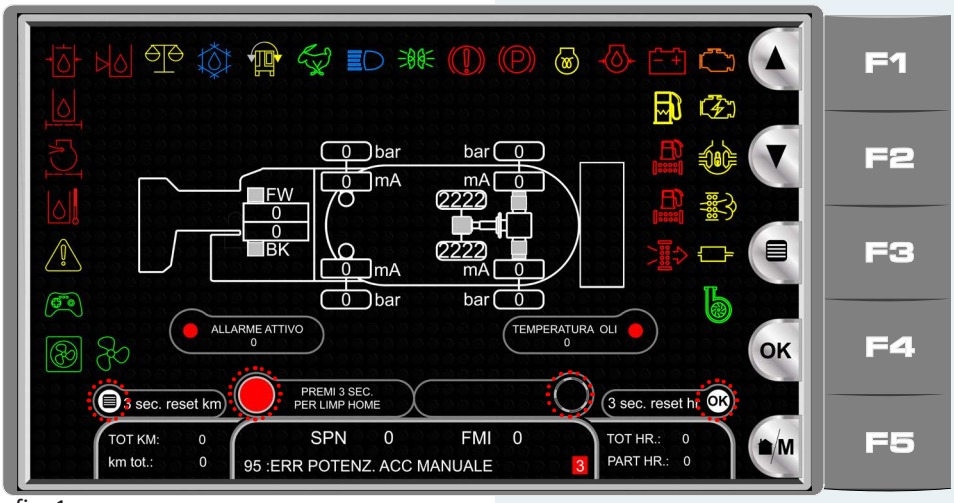


fig. 1

Page description:

Alarm related to the BOSCH system: the light turns on red (part.1 fig.2) and at the same time an error number is displayed, in our example "3" (part.2 fig.2).

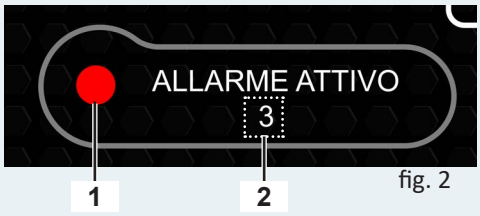


fig. 2

To understand the meaning of the displayed error number, it is necessary to consult the section:
6.10 Bosch Diagnostics

This section explains the possible cause of the error, the effect and the remedy to be taken.

In our example, the error number "3"
(Light Code: 3) as explained in section
BOSCH ERRORS (available only in English) (side view).

Error Message:	HW Temperature
• Bodas Code:	0x8003
• Light Code:	3
• Save:	no
• Error Reference:	1
• Possible Cause	Hardware temperature exceed safety limit
• Effect	Error detection - Low speed activation for 5min after Traction topped
• Remedy	Reset ECU

Alarm related to the BOSCH system: the light turns on red (part.3 fig.3) and at the same time an error number is displayed, in our example "21" Oil temperature (part.4 fig.3).

fig. 3

In our example, the error number "21"
(Light Code: 21) as explained in section

BOSCH ERRORS (available only in English) (side view).

This error is displayed together with the red light when the oil temperature is either too low or too hot. The Bosch control unit switches on the alarm light and the error code. Depending on the type of oil in use in hot work environments or for colder work environments, it switches on at different temperatures and automatically causes the machine to "derate"(reduce performance) for safety reasons.
Temperature calibration takes place by entering the data into the control unit according to the type of oil.

Press the booklet "touch" key (part.5 fig.4) or the physical "F3" button (part.6 fig.4/1) for 3 seconds to delete the partial kilometres.

'LIMP HOME' touch key
Description: the "LIMP HOME" key is a green "touch" button (deactivated) part. 7 fig. 5.

Function:
by pressing the key for 3 seconds, the colour changes to red (activated) (part. 8 fig. 5/1).

Purpose:
this key is used when problems occur with the machine's hydrostatic translation system.
The electronic control units, in the event of a fault, can block the movement.

"LIMP HOME" mode:
The "LIMP HOME" system is used to temporarily bypass the limitations on translation, thus being able to move the vehicle to a safe area.

Duration:
The "LIMP HOME" function remains active until the vehicle is switched off.

Upon re-ignition, the light is deactivated again (green colour part.7 fig.5/2)
"CURRENT CALIBRATIONS" touch key
Description: the "CURRENT CALIBRATIONS" key is a "touch" button. When it is activated there is rotation of the arrow that continues to rotate until the end of calibration (part. 8 fig. 6).

Static Calibration Key

21. Error Message: **Oil Temp**

- Bodas Code: 0x8015
- Light Code: 21
- Save: no
- Error Reference: bit 1: Oil Temperature < T2 Pump 100%
  bit 2: : Oil Temperatures > T3 Pump 100%
- Possible Cause: Pump limitation by Temperature control
- Effect: Error detection
- Remedy: check cooler functionality , Load reduction

fig. 4

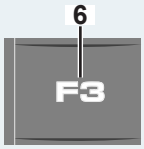


fig.4/1

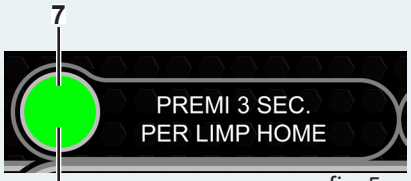


fig. 5

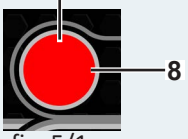


fig. 5/1

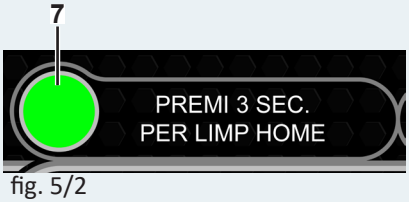


fig. 5/2

Function:
The current calibration key is a touch button used to calibrate the currents of the translation pump.

Purpose:
It is used to ensure the correct operation of the translation pump, especially when replacing the pump and the translation motors or in the event of irregularities in fluidity of the movement.

Mode:
Calibration can be performed in two ways:

Static:
this procedure must be performed at an assistance centre by qualified personnel.

Dynamics:
Used for calibrating the acceleration curve of the machine.
In case of irregularities, a dynamic procedure must be followed, preferably performed by qualified personnel.

Duration: The duration of the calibration procedure may vary depending on the mode and specific conditions of the machine.

To perform the calibration follow the procedure below:

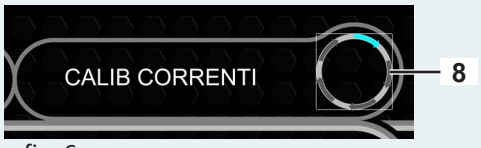


fig. 6

1) Press the "AUTOMOTIVE" button (part.7 fig.1)

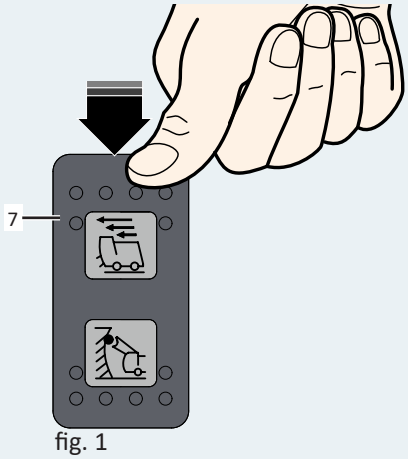


fig. 1

2) Press the "HARE" button (part.5 fig.2)

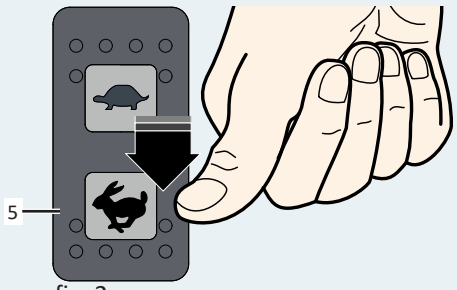


fig. 2

3) Press the parking brake button (part.10 fig.3)

3) Press and hold the brake pedal (part.A - B fig.3).

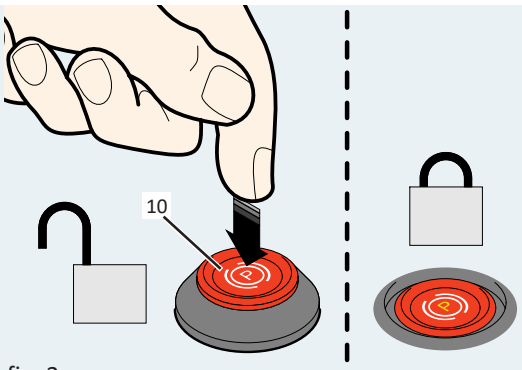


fig. 3

4) Press the "touch" button "CURRENT CALIB"for more than 3 seconds (part.8 fig.5). The arrow will begin to rotate.

5) At this point, the machine increases the number of engine revolutions automatically.

6) When an engine speed increase is perceived, proceed as follows:

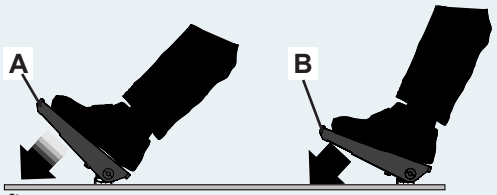


fig. 4

release the parking brake by pressing the button (part.10 fig.6).

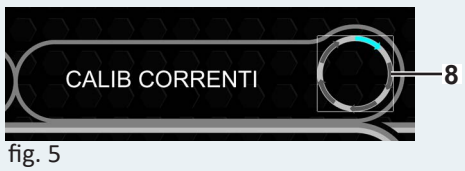


fig. 5

7) Remove the foot from the service brake (A fig.7);

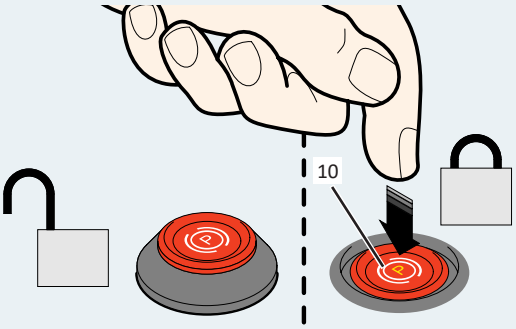


fig. 6

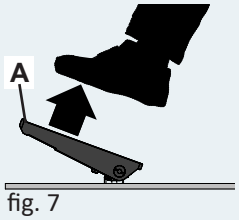


fig. 7

then fully press down the advancement pedal (part.C fig.8).

8) Maintain this condition for approximately 10-15 seconds.

Stop and press the parking brake (part.10 fig.9).

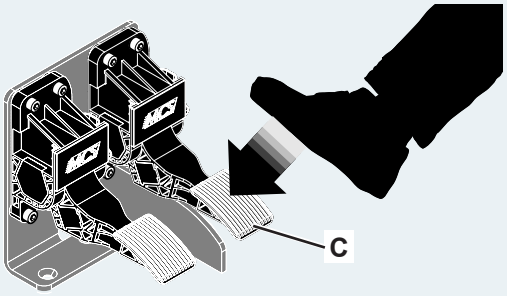


fig. 8

9) Visually check if the arrow indicating the calibration has stopped (part.8 fig.10) (calibration performed correctly.

10) If the arrow has not stopped and continues to turn, repeat the entire procedure described up to this point.

Press the "touch" OK key (part.10 fig.11) or the physical "F4" key (part.10 fig.11/1) for 3 seconds to reset (reset) the partial hours.

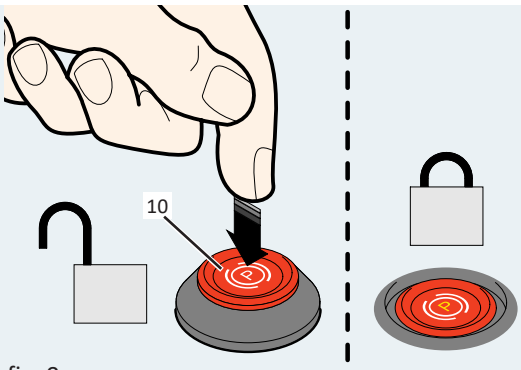


fig. 9

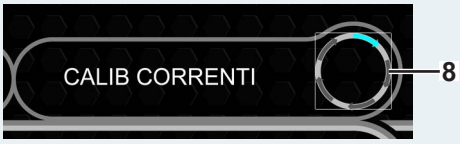


fig. 10

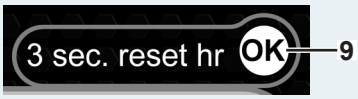


fig. 11

fig. 11/1

6.9.8.9 Scr adblue

Press the "touch" key of the "scroll" booklet (part.1 fig.1) or the "F3" button (part. 2 fig.1/1) to move the blue arrow to the "SCR ADBLUE" item (fig.2).

fig. 1

fig. 1/1

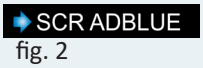


fig. 2

Press the "touch" key "enter/exit" OK (part.3 fig.3) or the "F4" button (part. 4 fig.3/1) ,

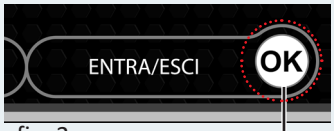


fig. 3

fig. 3/1

The "SCR ADBLUE" section opens (N.B. in this section only the km reset and the hr reset are touch). Located here is all the information regarding the SCR ADBLUE system.
The first line shows the level of Adblue in the tank, expressed as a percentage.

When the tank is 100% full, graphically it is possible to see the full tank A in grey (fig.1).

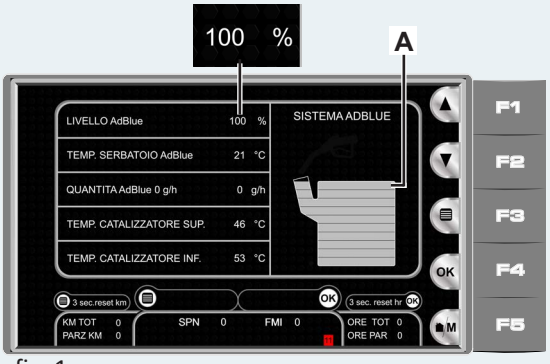


fig. 1

When the tank is emptying, as shown in fig. 2, at the estimate of the remaining 10÷15% Adblue, the nozzle is lit in green together with a yellow flashing light to prompt to refuel.
An IDs 29 "ALERT" is also displayed with the text LOW ADBLUE LEVEL

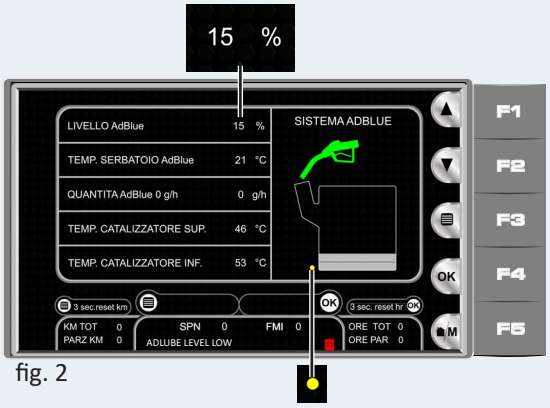


fig. 2

When the nozzle turns red with the yellow flashing light (fig.3), it means that the percentage of Adblue in the tank has dropped between 0 and 10%.
In this case, it is necessary to refuel.

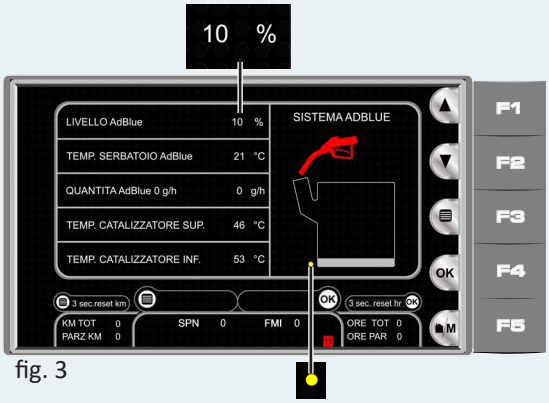


fig. 3

The second line on the page marks the Internal Temperature of the Adblue tank.
N.B.: Adblue freezes at a temperature of -11°C and deteriorates above 40°C (example 21°C fig.4).

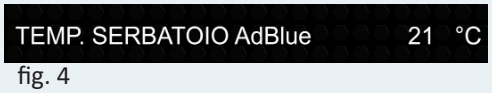


fig. 4

The third line marks the quantity of Adblue injected in
g/h (example not yet activated 0 g/h fig.5).

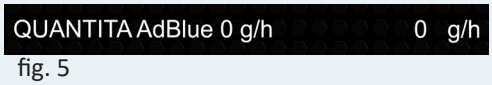


fig. 5

The fourth line shows the temperature in output of the catalyst (example 46°C fig.6).

fig. 6

The fifth line marks the inlet temperature to the catalyst (example 53°C fig.7).

fig. 7

Press the booklet touch key (part.5 fig.8) or the physical key "F3" (part.6 fig.8/1) for 3 seconds to delete the partial kilometres.

fig. 8

fig.8/1

Press the touch OK key (part.7 fig.9) or the physical key "F4" (part.8 fig.9/1) for 3 seconds to cancel the partial hours.

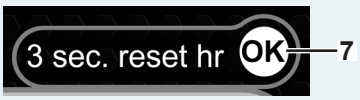


fig. 9

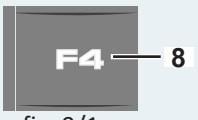


fig. 9/1

6.9.8.10 Set Counter-blade

Press the "touch" key of the "scroll" booklet (part. 1fig.1) or the "F3" button (part. 2 fig.1/1) to move the blue arrow to the "SET COUNTER-BLADES " item (fig.2).

fig. 1

fig. 1/1

fig. 2

Press the "touch" key "enter/exit" OK (part.3 fig.3) or the "F4" button (part. 4 fig.3/1),

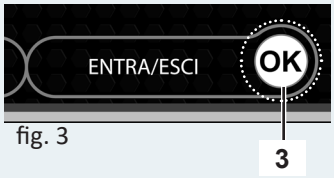
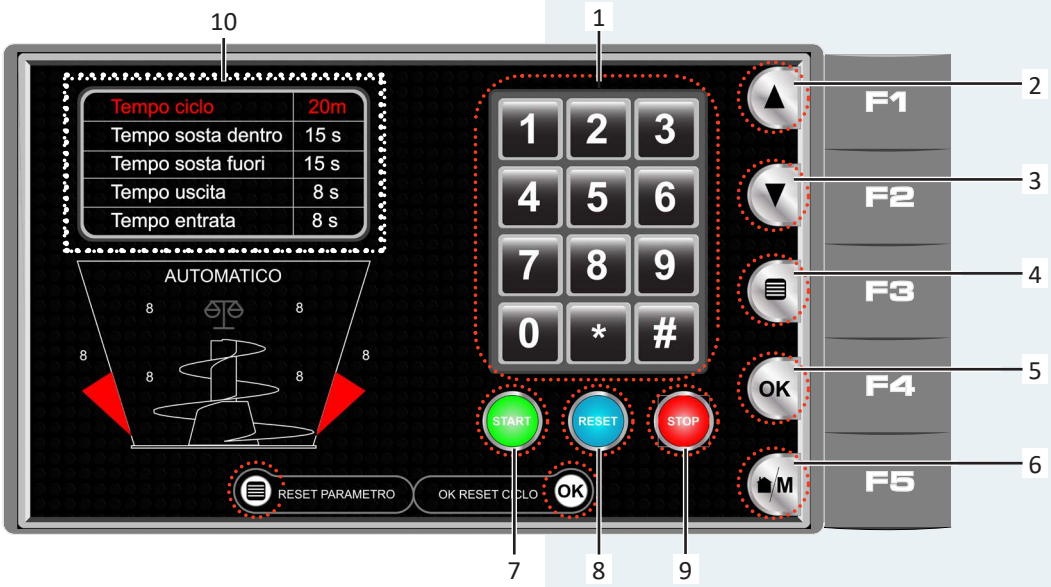


fig. 3

fig. 3/1

The "SET COUNTER-BLADES" section opens (N.B. in this section all the keys are "touch").



1) "Touch" numeric keypad to set the automatic management of the counter-blades (part.1 fig.1).

2) "touch" button: press (top arrow) to return to the previous page (part.2 fig.2).

3) "touch" button: press (down arrow) to go to the next and progressive page (part.3 fig.2).

4) "touch" button: by pressing (booklet) it is used to select the various functions that can be set (part.4 fig.2).

5) The "touch" button (OK), by pressing according to the selected page, confirms a command or resets the information (part.5 fig.2).
Further details on its functions are explained in the following paragraphs

6) "touch" button (HOME/M part.6 fig.2) by pressing door from any screen on the road traffic page (fig.2/2).

7) "touch" START button (part.7 fig.3): pressing, the button activates the counter-blade cycle.
The button lights up (fig.3.1).

8) "touch" RESET button (part.8 fig.4): pressing, the button lights up (fig.4/1) and the previously activated cycle stops.
The timers reset.
To restart the previously set procedure, press START again.

9) "STOP" button: by pressing the "STOP" button (part.9 fig.5) the activated cycle stops (fig.5/1).
By pressing "START" again, the cycle resumes from where it was interrupted.

10) In the area for setting of the times of the "counter-blade cycle" (A) fig.6), the cycle times of the counter-blades can be defined in automatic mode.
By default, they are programmed as indicated in the table (part. 10 fig.6).

To change the values, follow these steps:

1) Example of setting: to set the "cycle time", touch the "touch" button (B fig.7) or press the button (C "F3") to select the "cycle time" row.

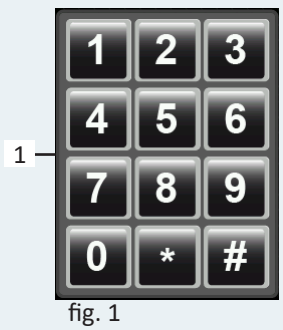


fig. 1

fig. 2

fig. 2/2

fig. 3

fig. 3/1

fig. 4

fig. 4/1

fig. 5

fig. 5/1

fig. 6

fig. 7

Press the "touch" "hash" button (D fig.8) on the numeric keypad once to delete the existing value in order to change it.

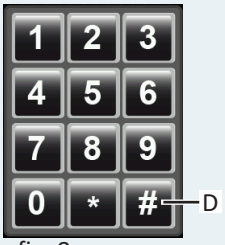


fig. 8

Enter the new desired value:
for example, to set a time of 20 minutes, touch the number 2 and the number 0 on the "touch" keyboard (fig.8).

When the string is selected, the text and numeric value change colour and become red;
when they are saved, they turn white.

fig. 9

To save the time entered, touch the booklet "touch" button (B fig.7) or press the C button "F3".

fig. 7

Use the same procedure to also change the other values such as "Stopping time inside" and "Stopping time outside".

It is also possible to set the "Output time" and the "Input time" of the counter-blades.
By default, these two items do not appear on the display (E fig.9).

To use and set the cycle times on these two items, press "F2" (fig.10) to select page 5 "password" (fig.11).

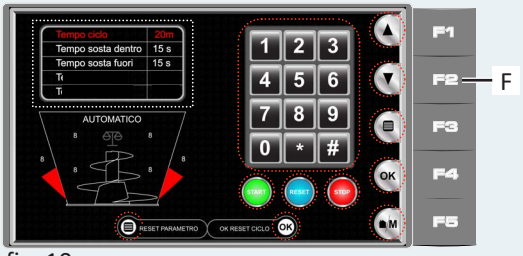


fig. 10

Once the page fig.11) is opened, enter the PIN (default password set by Storti "0000") with the numeric keypad.

fig. 11

The PIN asterisks (G fig.12) light up and the key lights up green (H fig.12).

After setting the PIN, press the "F1" button (I fig.13)

fig. 12

to return to page 4 of the counter-blades.

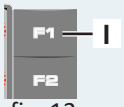


fig. 13

On this page, press the "hash" touch key (L fig.14) on the numeric keypad to see the password-protected functions.

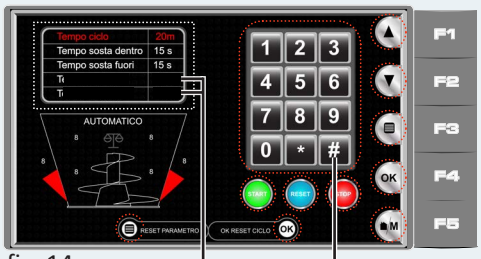


fig. 14

"Output time" and "Input time" of the counter-blades are now visible, and can be modified with the same procedure as the other items present.

By default, the set times are those shown in the table (M fig.15).

fig. 15

The times in "seconds" of entry and exit of the counter-blades are displayed in real time on the display (N fig.16).

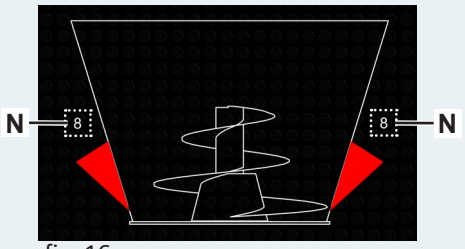


fig. 16

6.9.9 Page 7 System Settings

On this page, it is possible to view,and change the control settings of the following services:

- Change time
- Change language
- Bosch calibration
- Radiator fan mode
- Brightness adjustment

6.9.9.1 Time change

Press the "touch" key of the "scroll" booklet (part.1 fig.1) or the "F3" button (part.2 fig.1/1) to move the blue arrow to the "CHANGE TIME" item (fig.2) (N.B. in this section only the "SCROLL" booklet button is touch and the OK ENTER/EXIT button).

fig. 1

fig. 1/1

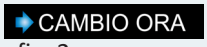


fig. 2

Press the "touch" key "enter/exit" OK (part.3 fig.3) or the "F4" button (part. 4 fig.3/1),

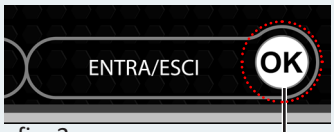


fig. 3

fig. 3/1

In the lower panel of the display a blue arrow is shown, the digits of the date (part. Fig. 4) and of the time (part. B fig. 4), and of the day digit flashing in yellow.

To set the date and time, follow these steps:
1) Change of day: in our example, the 25 is in a flashing yellow state.
To increase the day, press the physical button "F3"

fig. 4

(part. 5 fig. 5).
With each press, the day increases by one unit.
Holding down "F3", the days run faster.
Going past the desired day, it is not possible to go back.
It is necessary to repeat the lap and stop on the correct day.

fig. 5

2) Change of month: to increase the month by one unit, press the physical button "F4" (part. 4 fig. 6), which is used to select the day, month, year, hours and minutes in this order.
The month digit starts flashing yellow (part. C fig. 7).
To change the month, press the physical button "F3" (part. 5 fig. 8).
With each press, the value increases by one unit.
Holding down “F3”, the values scroll faster.
Exceeding the desired month, it is not possible to go back.
It is necessary to repeat the lap and stop at the correct value.

fig. 6

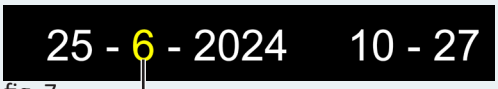


fig. 7
C

fig. 8

3) Change of year: to increase by one unit per year, press the physical button "F4" (part. 6 fig. 9). The figure of the year begins to flash yellow (part. D fig. 10).
To change the year, press the physical button "F3" (part. 7 fig. 11).
With each press, the value increases by one unit (maximum settable year 2100).
Holding down “F3”, the values scroll faster.
Exceeding the desired year, it is not possible to go back.
It is necessary to repeat the lap (year 2100) and stop at the correct value.

fig. 9

fig. 10
D

fig. 11

4) Time change: to increase by one unit per hour, press the physical button "F4" (part. 8 fig. 12).
The hour digit starts flashing yellow (part. E fig. 13).
To change the month, press the physical button "F3" (part. 9 fig. 14).
With each press, the value increases by one unit.
Holding down “F3”, the values scroll faster.
Exceeding the desired time, it is not possible to go back.
It is necessary to repeat the lap and stop at the correct value.

fig. 12

5) Minute change: to increase the minutes by one unit, press the physical button "F4" (part.10 fig. 15).
The number of minutes begins to flash yellow (part. F fig. 16).
To change the minutes, press the physical button

fig. 13
E

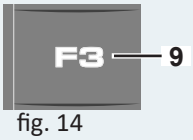


fig. 14

"F3" (part. 11 fig. 17).
With each press, the value increases by one unit.
Holding down “F3”, the values scroll faster.
Exceeding the desired time, it is not possible to go back.
It is necessary to repeat the lap and stop at the correct value.

To save the date and time values entered , press and hold the "F4" button (part.12 fig. 18) until the blue arrow and the digit string disappear fig.19.

fig. 15

fig. 16

fig. 17

fig. 18

fig. 19

6.9.9.2 Language change

Press the "touch" key of the "scroll" booklet (part.1 fig.1) or the "F3" button (part. 2 fig.1/1) to move the blue arrow to the "CHANGE LANGUAGE" item (fig.2).

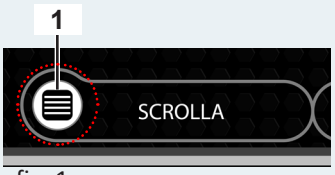


fig. 1

fig. 1/1

fig. 2

Press the "touch" key "enter/exit" OK (part.3 fig.3) or the "F4" button (part. 4 fig.3/1) ,

The "LANGUAGE CHANGE" section opens (N.B. this section contains the "scroll" booklet buttons and the "enter/exit" OK button).

fig. 3

fig. 3/1

In the lower panel of the display, a blue arrow lights up, indicating the language and the flag of the selected country (part. Fig. 4).

To change the language, press the “scroll booklet” “touch” key or the physical button “F3”.
The text of the language and the flag will confirm that the change has taken place.

fig. 4

To save the language change, press and hold the touch key "enter/exit" OK (part.3 fig.3) or the physical key "F4" (part. 4 fig.3/1), until the blue arrow goes off.

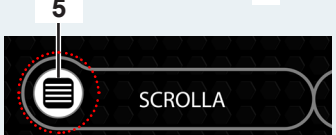


fig. 5

fig.5/1

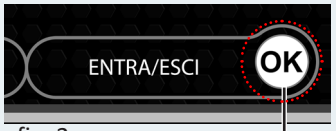


fig. 3

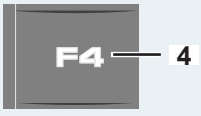


fig. 3/1

6.9.9.3 Bosch Calibration

N.B.: Thisprocedure must be performed at an assistance centre by qualified personnel.

For the "static" calibration press the "touch" key of the "scroll" booklet (part. 1 fig. 1) or the button "F3" (part. 2 fig. 1/1) to move the blue arrow to the "BOSCH CALIBRATION" item (fig. 2).

The "BOSCH CALIBRATION" section opens (N.B. in this section the "scroll" booklet buttons and the "enter/exit" OK button are touch).
The text "eLearning start" lights up in white (fig.3).

Static calibration function:
the current calibration button "touch" "enter/exit" OK (part. 3 fig. 3) or the physical button "F4" (part. 4 fig. 3/1) is used for the calibration of pump currents and hydraulic translation motors.

Purpose:
to ensure the correct operation of the translation pump, especially when replacing the pump and the translation motors or in the event of irregularities in fluidity of the movement.

Mode:
To activate the static calibration press the key "touch" "enter/exit" OK (part.5 fig.4) or the "F4" button (part. 6 fig.4/1).
A blue arrow lights up and the text "eLearning start" turn green (fig.5).

After a few seconds, automatically managed by the

fig. 1

fig. 1/1

fig. 2

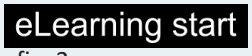


fig. 3

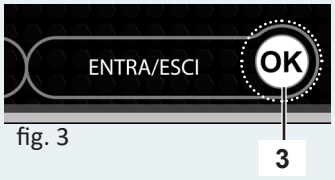


fig. 3

fig. 3/1

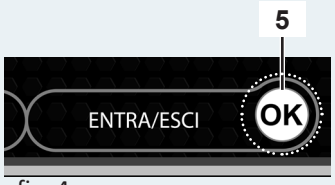
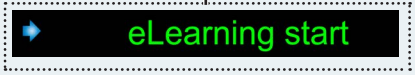


fig. 4

fig. 4/1

fig. 5



Bosch control unit, the "BOSCH CALIBRATION" page closes and the "HS INFORMATION" page opens (fig. 6), where the current calibration is displayed by rotation of the arrow (part. 7 fig. 7) which rotates until the calibration is completed.

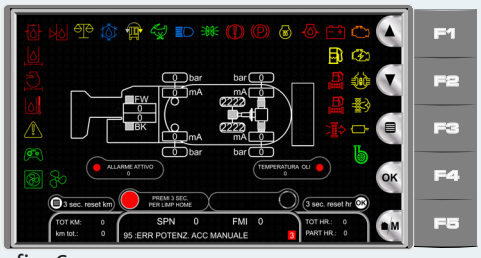


fig. 6

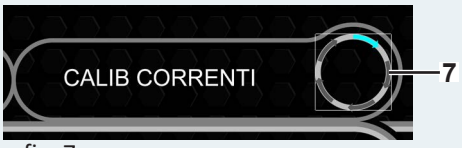


fig. 7

Once the calibration is finished, the system automatically closes the "HS INFORMATION" page and reopens the "BOSCH CALIBRATION" page.
The text "eLearning start" return white and the blue arrow is off.

fig. 8

eLearning start

6.9.9.4 Radiator fan mode

Press the "touch" key of the "scroll" booklet (part.1 fig.1) or the "F3" button (part. 2 fig.1/1) to move the blue arrow to the "RADIATOR FAN MODE" item (fig.2).

fig. 1

fig. 1/1

fig. 2

There are two modes Radiator fan mode, one manual and one automatic:

6.9.9.4.1 Manual radiator fan mode

Press the "touch" key "enter/exit" OK (part.3 fig.3) or the "F4" button (part. 4 fig.3/1).

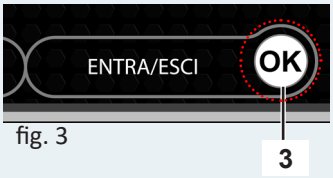


fig. 3

fig. 3/1

The "RADIATOR FAN MODE" section opens (N.B.: in this section the "scroll booklet" buttons and the "enter/exit" OK button are touch).
By default, the fan reversal is set to manual mode.

fig. 4

A blue arrow lights up, with the text "MANUAL FAN REVERSAL and a green circular icon with the letter"M" (manual) in the centre.
To save the setting in manual mode, press and hold the key "touch" enter/exit or the physical key "F4" until the blue arrow is off.

To change the mode from manual to automatic mode or vice-versa, press the scroll booklet "touch" key part.5 fig.5 or the physical key "F3" part.6 fig.5/1).
When the system is set to manual to activate the cooling fan inverter for cleaning, press the button on

fig. 5

fig.5/1

the dashboard (part.18 fig.6).

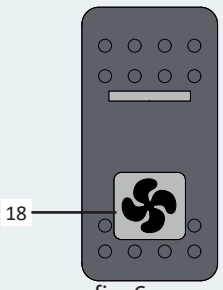


fig. 6

Once the button is engaged, the "Work page" automatically opens (fig.7)
The fan light (part.43 fig.7/1) appears on the display for approximately 2 seconds and then turns off (fig.7/2).
At this point, the radiator fan, which normally expels hot air, starts to slow down until it stops.
Then it automatically restarts in the opposite direction, suctioning in air from the outside.
In this way, the radiator is cleaned from the engine side.
The suction lasts approximately 20 seconds, after which the fan begins to slow down until it stops and starts again in the natural direction, expelling the air.

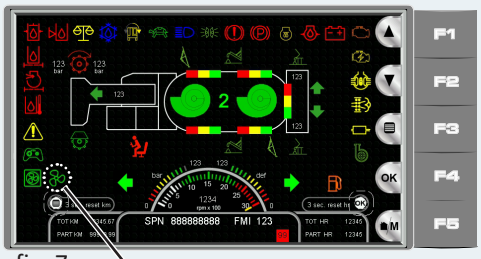


fig. 7

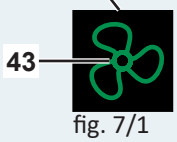


fig. 7/1


fig. 7/2

6.9.9.4.2 Automatic radiator fan mode

To switch from manual mode (explained in the previous section) to automatic mode, from the activated selection condition (blue arrow next to the text "MANUAL FAN REVERS"),

fig. 1

press the "scroll booklet" touch key (part. 1 fig.2) or the physical key "F3" (part.2 fig. 2/1).

fig. 2

fig.2/1

This selects the automatic mode and the text next to the arrow will change to "AUTOMATIC FAN REVERS" (fig.3).
The green circular icon with the letter "A" in the centre (AUTOMATIC) will also be activated (fig.3).

To save this condition, press and hold the touch key "enter/exit" or the physical key "F4" until the blue arrow turns off.
In automatic mode, reversal of fans is set by default to activate every 20 minutes.
To change this period of time, please contact the Storti assistance centre.

fig. 3

6.9.9.5 Brightness adjustment

On this page, it is possible to adjust the brightness of the display.

Press the "touch" key of the "scroll" booklet (part.1 fig.1) or the "F3" button (part. 2 fig.1/1) to move the blue arrow to the "BRIGHTNESS ADJUSTMENT" item (fig.2).

fig. 1

fig. 1/1

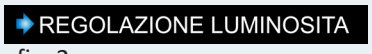


fig. 2

Press the "touch" key "enter/exit" OK (part.3 fig.3) or the "F4" button (part.4 fig.3/1).

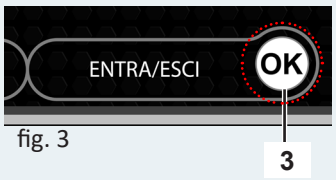


fig. 3

fig. 3/1

The "BRIGHTNESS ADJUSTMENT" section is activated (N.B.: in this section the "scroll booklet" buttons are touch, the OK button "enter/exit", and the green arrows A/B to increase or decrease the brightness) fig.4 - fig.4/1.
The blue arrow on indicates being in adjustment mode.
By default, the screen brightness is set to 100%, at minimum the brightness is 2%.
The percentage of brightness is visible on the green bar (fig.4/1) and also in figures next to the text "BRIGHTNESS ADJUSTMENT" (fig. 4/2).

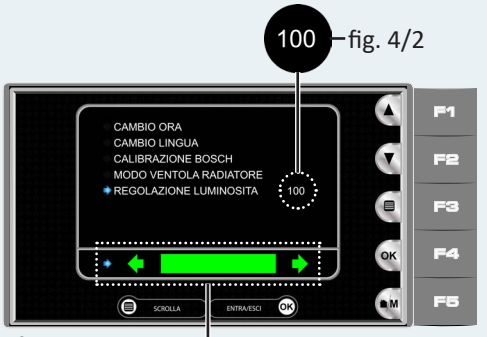


fig. 4

fig. 4/2

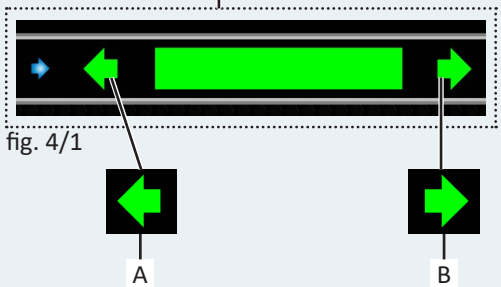


fig. 4/1

N.B.: when the work lights are turned on (even in position light) the brightness decreases when entering night mode.
When switched off, it returns to the set brightness.

To reduce or increase the brightness (maximum 100% as per default), tap with the fingertip of the index finger on the green "touch" arrows (A to decrease, B to increase).
the green band visually decreases or increases and the digits also change in real time.

To save the brightness values, press and hold the touch key "enter/exit"(part.5 fig.3) or the physical key "F4" (part.4 fig.5/1) until the adjustment commands are switched off (fig.6).

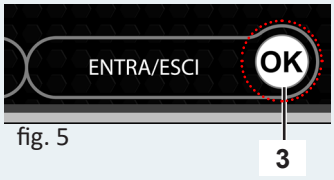


fig. 5

fig. 5/1

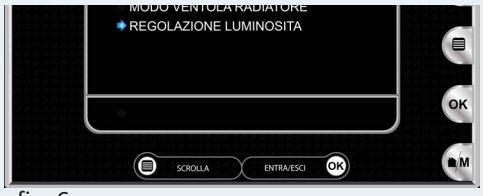


fig. 6

6.9.10 Inducement and regeneration

"Inducement" Description
The function of **"SCR INDUCEMENT"** is to make the operator intervene if the engine is operating in conditions that cause exhaust emissions at levels above the legal limits.
The malfunction must be resolved as soon as possible, otherwise there will be a calibration of the number of engine revolutions and/or of the torque delivered called "derating".
The **SCR** system needs **AdBlue** to reduce emissions of NO_x in the exhaust gas to meet the exhaust gas emission standards.
If a fault is detects or the AdBlue is nearly finished the **SCR** system does not function, a warning message is displayed for example signalling technical failure or a low level of **AdBlue**.
This warning to the operator is based on a DTC (DTC) code.
SCR INDUCEMENT is a programmed sequence and can take place when the operator ignores the cause. It is therefore important to be aware of the alerts to the operator and to correct the error in a timely manner to prevent the activation of subsequent **INDUCEMENTS**
This system is necessary to encourage the operator to keep the **SCR** system working, for example by filling the **AdBlue** tank to restore an acceptable level in order to work and fix the **SCR** system that signals a **TECHNICAL FAULT** as soon as possible.

INDUCEMENT is also activated for protection against tampering (for example for electrical disconnection of the sensors).
If errors are detected consecutively numbering 3 times in 40 hours the **INDUCEMENT** remains locked in this condition and can only be reset with a service instrument.

Inducement COUNTERS
There are performance counters (in the SW of the control unit) that begin to function as soon as a malfunction is detected and that interrupt the counting when the fault disappears.
The counter for a **DTC** will be set to zero within the 40 hours of operation without recurrence but remains in the memory, even if the **DTC** has been cancelled from the memory.
If a fault with the **SCR** is detected, the **INDUCEMENT** is activated.
The fault detection hysteresis varies from a few seconds for electrical faults to 30 minutes for failures that require active reagent dosing.
If an error appears 3 times in 40 hours, the decalibration is locked and recovery of the locked engine is only possible with a service tool.

Engine restart
The engine can always be restarted.
Depending on the failure present after starting the engine, the INDUCEMENT will or will not limit the speed and torque of the engine.

ERROR detection
error detection and Inducement activation.
How the **INDUCEMENT** is activated depends on the type of fault and where it occurs.
If a malfunction occurs in the SCR system, it is stored in a "suspended" state DTC, and the counter starts counting with a warning message to the operator.

Fault deletion
Always read the errors memory before deleting them.
IT IS also possible to erase technical faults from the memory.
Active electrical faults will be detected again immediately after a new ignition.
Certain faults relating to dosage have specific testing conditions and may therefore be difficult to reproduce for testing under laboratory conditions.
Deleting errors from the control unit memory is only possible with the engine off and the ignition key on **ON** (+15)

Validation start
When an **INDUCEMENT** is active, the motor torque and speed are limited (derating).
Emergency restart suspends the active **INDUCEMENT** in order to check whether a fault has been successfully resolved.
THERE must be no **INDUCEMENTS** active with power failure in order to be able to bring **SCR** to correct operating temperature.
Validation restart is enabled by means of a cycle performed with start key.
- Validation restart is only permitted with moderate **INDUCEMENT** and not with serious **INDUCEMENT**.
- permitted during incitement low-level, not with serious incentive;
- it suspends active **INDUCEMENT** for 30 minutes;
- it reports engine torque values and number of idle nominal revolutions;
- it is only possible for 3 times;
- it is activated by means of a logic performed with ignition key;
- it is necessary to confirm that resolution of the fault has been successful;
- it allows resolution of the **INDUCEMENT** after resolving a fault.

Tampering
- The SCR system is protected against tampering according to the regulations. No tampering is permitted because the SCR configuration is certified.

There might be attempts to save money, expenses on consumables and spare parts or to obtain greater engine power.

Tampering is monitored by the OBD system that keeps the NO_x concentration in exhaust gases within legal limits.

Detection of tampering on the SCR will result in an **INDUCEMENT**.

Anti-tampering logic:
- each SCR element that can be tampered with that could prevent correct functioning of the system must be detected and monitored and in
case of problems cause INDUCEMENT.

- As a defrost fault prevents correct operation of the system, if it is detected as tampering this status activates INDUCEMENT.

In case of repeated faults
Repeated failure logic is applied if an SCR error still occurs within the 40 hours of engine operation since the last repair.
- if there is a repeated fault, the engine is brought directly to a serious INDUCEMENT within 30 minutes.

- Low-level AdBlue errors are excluded from the repeated failure logic.

Inducement RECOVERY

The SCR management system must check and confirm if an error has been fixed.
This process is called "**RECOVERY**".

The system needs the engine to be running and the **SCR** at the operating temperature to measure the reduction of NO_x and to confirm whether or not the fault has been repaired.
If a serious **INDUCEMENT** is active the SCR system might not reach the operating temperature to confirm solution of a fault. Therefore this procedure requires the engine to be running, varying speed and load absorbed for approximately 30 minutes.
The INDUCEMENT **counter reset allows checking of resolution of the fault.If the fault has been repaired the engine works normally and without** INDUCEMENT. **If instead the malfunction is still present** INDUCEMENT starts again and the engine is decalibrated.
Exiting **INDUCEMENT** "only" takes place if the fault is repaired definitively.

This page displays the icons of the types of inducement or regeneration present managed by the engine control unit.

The page mainly consists of two distinct parts:

6.9.10.1 First part "TYPES OF INDUCEMENT" :

1) ADBLUE LEVEL (fig. 1)

2) ADBLUE QUALITY (fig. 1)

3) ADBLUE FAULT (fig. 1)

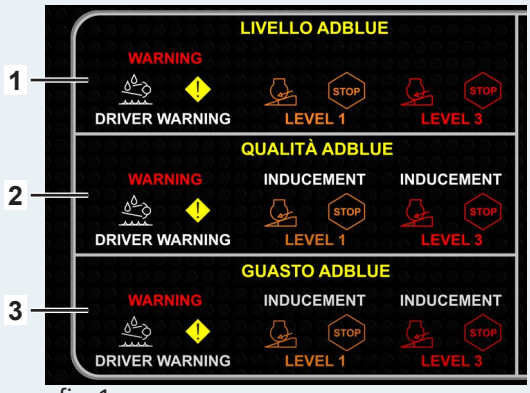


fig. 1

1 ADBLUE LEVEL			
INDUCEMENT DUE TO LOW LEVEL OF AdBlue			
PHASE	**CONDITION**	**EFFECT ON THE VEHICLE ENGINE**	**ATTENTION OPERATOR**
OK	adBlue level in the tank 15% - 100%	NONE	NO
PHASE 0	AdBlue tank level below 15%, up to 10%	NONE	YES
PHASE 1	AdBlue level in tank below 10%, but above 5%	NONE	Steady light on + WARNING 
PHASE 2	Reagent level in the tank below 5%, but above 0%	motor torque reduction of 65% and reduction in the number of engine revolutions of 40%, in a time ramp of 40 minutes	Flashing light on with frequency of 1 sec. + Level 1 inducement 
PHASE 3	AdBlue tank level 0%	Low number of revolutions (idle) and maximum engine torque of 50%, in a time ramp of 30 minutes	Flashing light on with frequency of 0.5 sec. + Level 3 inducement 

2 ADBLUE QUALITIES			
INDUCEMENT DUE TO POOR ADBLUE QUALITY			
PHASE	**CONDITION**	**EFFECT ON THE VEHICLE ENGINE**	**ATTENTION OPERATOR**
PHASE 0	good quality of AdBlue	NONE	No
PHASE 1	detected incorrect AdBlue quality	NONE	Steady light on + WARNING 
PHASE 2	detected incorrect AdBlue quality	motor torque reduction of 65% and reduction in the number of engine revolutions of 40%, in a time ramp of 40 minutes	Flashing light on with frequency of 1 sec. + Level 1 inducement 
PHASE 3	Incorrect AdBlue quality. The inducement is blocked if activated 3 times in 40 hours Resetting of the blocked engine is only possible with a service tool.	Low number of revolutions (idle) and maximum engine torque of 50%, in a time ramp of 30 minutes	Flashing light on with frequency of 0.5 sec. + Level 3 inducement 

3 ADBLUE FAULT			
INDUCEMENT DUE TO TECHNICAL FAULT OR TAMPERING			
PHASE	**CONDITION**	**EFFECT ON THE VEHICLE ENGINE**	**ATTENTION OPERATOR**
PHASE 0	No technical fault	NONE	No
PHASE 1	Technical fault detected	25% motor torque reduction, in a time ramp of 25 minutes time (1% per minute)	Steady light on + WARNING 
PHASE 2	Technical fault	65% motor torque reduction and reduction in the number of engine revolutions of 40%, in a time ramp of 40 minutes	Flashing light on with frequency of 1 sec. + Level 1 inducement 
PHASE 3	Technical fault The inducement is blocked if activated 3 times in 40 hours. Resetting of the blocked engine is only possible with a service tool.	Low number of revolutions (idle) and maximum engine torque of 50%, in a time ramp of 30 minutes	Flashing light on with frequency of 0.5 sec. + Level 3 inducement 

6.9.10.2 Second part "REGENERATION":

Guide to operator alerts during recovery states for FPT STAGE V diesel engine regeneration

The messages and notifications to the operator in the regeneration stage.

Meaning of the lights:

A) SPN 3698 icon lights up steady when regeneration is in progress, both ACM and MCM, and indicates a high exhaust gas temperature.

B) SPN 3697 icon lights up steady when ACM is required.

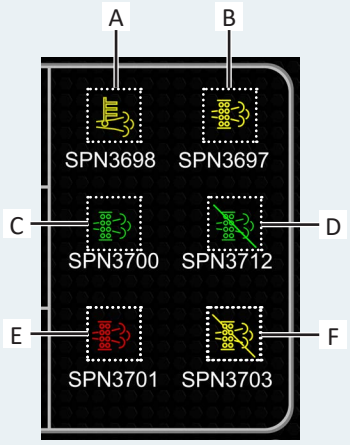
C) SPN 3700 icon lights up steady when the machine has been placed in safe condition to start an MCM.

D) SPN 3712 icon lights up steady when:
1) the safety conditions for starting of the MCM have not been activated,
2) the safety conditions are removed or the machine is moved during the MCM (inhibiting regeneration itself).
3) The engine ECU detects a technical fault with the ATS and reports it via DTC,
4) The particulate accumulation level L3 has not yet been reached to inhibit an unnecessary MCM.

E) Icon SPN 3701 lights up steady when an MCM is required.
The icon flashes when an SCM with PT Box tool is required.

F) Icon SPN 3703 lights up steady
only when ACM is inhibited.
When the MCM is inhibited (no safety conditions), the light is activated with a GREEN strikethrough puff).
The inhibition remains active until the button is repositioned to the neutral position.

The following notes refer to the messages which are



displayed to the operator during the regeneration stages of the exhaust fume line (**ATS**) of the diesel engine.

The regeneration strategies are of three types and are called **ACM**, **MCM** and **SCM**.

ACM (Automatic Catalyst Management) is the regeneration automatically activated by the machine.

MCM (Manual Catalyst Management) is the regeneration manually activated by the user.

SCM (Service Catalyst Management) is the regeneration manually activated by a specialised technician via the PT Box tool.

There is also an automatic urea injector cleaning strategy called
Urea **D**eposit **B**urn-**O**ff.

If the two lights on the side (A/B fig.1) light up constantly and simultaneously, it means that an automatic regeneration (**ACM**) is in progress.

The **ACM** is a normal operating condition and is independently managed by the machine.

The **ACM** can be run more frequently when the self-propelled wagon is used for long periods with a low diesel load.

Work can be carried out as usual during the **ACM**.
If this is not possible, the machine must still be kept running with the diesel engine ticking over, until the **ACM** has finished.

The **ACM** can last for over one hour.

The **ACM** increases the temperature of the exhaust fumes.

If necessary, the operator can inhibit the**ACM**
by pressing the button on the dashboard (part.29)
from the side
1 fig.2.

Inhibition of the '**ACM** should only be performed in

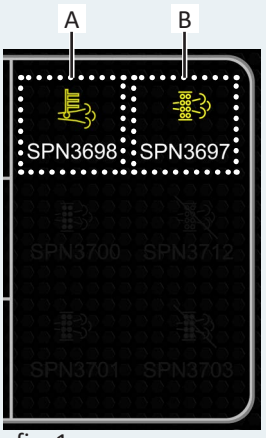


fig. 1

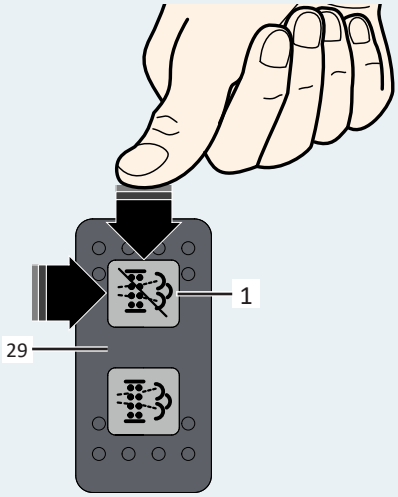


fig. 2

exceptional cases, for example when the exhaust gas outlet temperature may become dangerous for surrounding flammable materials or when a fire risk occurs.

Repeated inhibition of the**ACM** may result in irreversible damage to the machine, resulting in a request for intervention by Assistance and, in extreme cases, replacement of ATS components.

ATTENTION: the button 29, once pressed from side 1 fig.3, remains engaged and the inhibition remains active until the button is repositioned to the neutral central position.

Once the risk condition that led to the inhibition has been resolved, the button must be returned to the neutral position to allow normal operation of the machine and possible resumption of the previously suspended **ACM**.

Switching off the diesel engine before the **ACM** has finished, will, however, interrupt the regeneration.
When restarted, if the particulate level has not been sufficiently reduced beforehand, the '**ACM** will resume.

When the inhibit button is pressed, the yellow light on the side (C fig.4) is displayed, indicating that both the**ACM** and the **MCM** are suspended.

If the yellow light on the side flashes (D fig.5) it means that an automatic cleaning of the urea injector (Urea Deposit Burn-Off) is in progress and the same conditions described above apply.
During this stage, the exhaust fume temperature does not increase significantly.

If the two lights on the side (E - F fig.6) light up constantly and simultaneously, it means that it is necessary to immediately prepare the machine to perform a manual regeneration (**MCM**).

The **MCM** increases the temperature of the exhaust fumes, so you should immediately move to an area where there is no risk of fire and the regeneration procedure can be carried out successfully.

It must also be ensured that there are no conditions that can lead to interruption once started (e.g. low

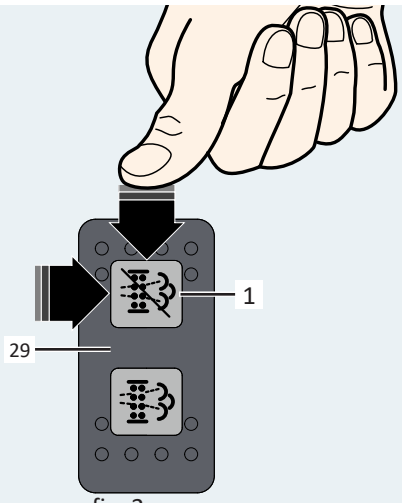


fig. 3

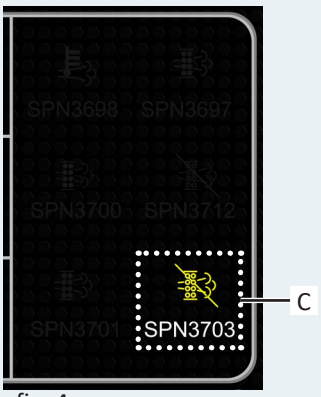


fig. 4

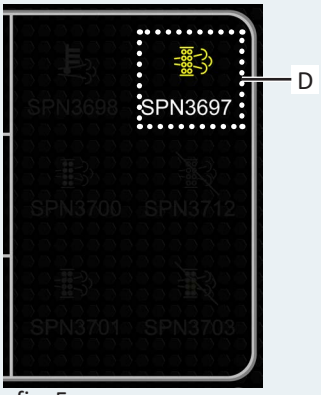


fig. 5

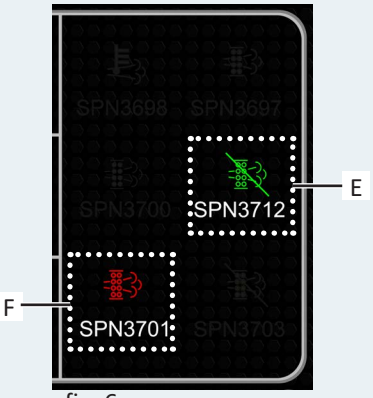


fig. 6

diesel level, alarms and malfunctions in progress).

The MCM can last even more than one hour.

For this type of regeneration, you should park the self-propelled wagon in safety mode, i.e.:

1) Stop the augers
2) Engage the parking brake.

When the safety conditions are active, the bar disappears from the green light (G fig.7) and it is possible to start the **MCM**.

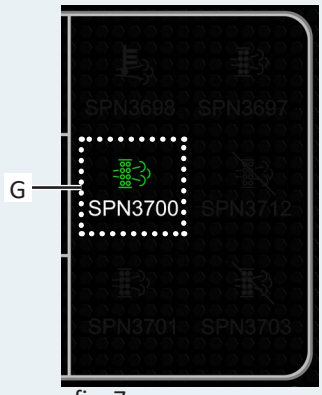


fig. 7

The **MCM** starts by pressing the button on the dashboard (part.29) from side 2 fig.8.

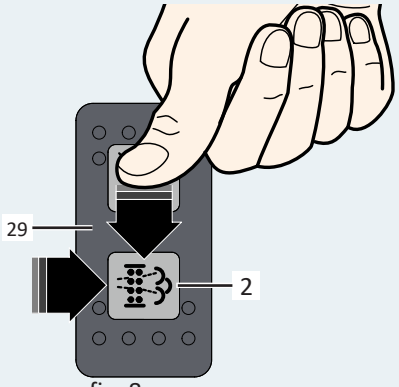


fig. 8

Releasing it, the button returns to the neutral central position (fig.8/1).


fig. 8/1

A few seconds after pressing the button, the two icons on the side turn on simultaneously (H - I fig.9), the Diesel engine increases the number of revolutions automatically and the self-propelled vehicle must not be used or moved until the lights themselves turn off, i.e. when the **MCM**has finished.

The **MCM** must not be interrupted.

An interrupted **MCM** can cause irreversible damage to the exhaust line (ATS).

When the light on the side flashes (L fig.10) it is necessary to proceed with the **SCM**, that is, the regeneration manually activated by a specialised operator

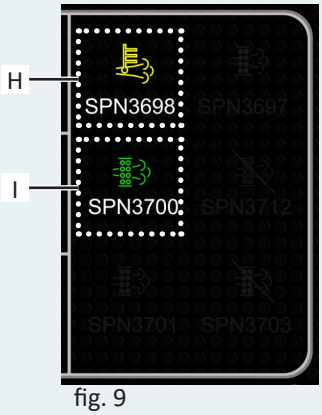


fig. 9

through the PT Box (Service Catalyst Management) tool.

Neither the **ACM** nor the **MCM** can now be activated.

The request for an **SCM** means that the accumulation of particulate matter in the catalyst is so high as to require the intervention of a specialised technician with the diagnostic and assistance tool called PT Box.

Contact your dealer, Storti S.p.A. or your local FPT service.

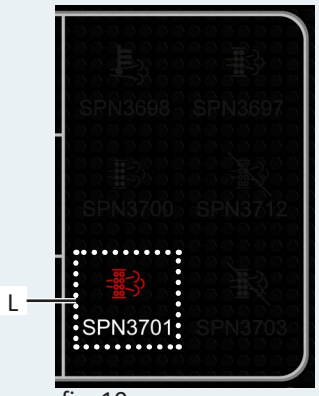


fig. 10

Oil life monitoring

It only intervenes on the **MCM** and **SCM**.

If 4 **MCM** or **SCM** are interrupted or if 5 **MCM** or **SCM** are performed, the diagnostics prompt to replace the lubricating oil.
It is reported via **DTC** (fig.11).

If, after the oil change, the counter in the **ECU** is not reset, the system will NOT allow further **MCM** to be performed.

Reset can be performed:
1) via PT Box
2) See section **6.9.8.4 Engine Information.**

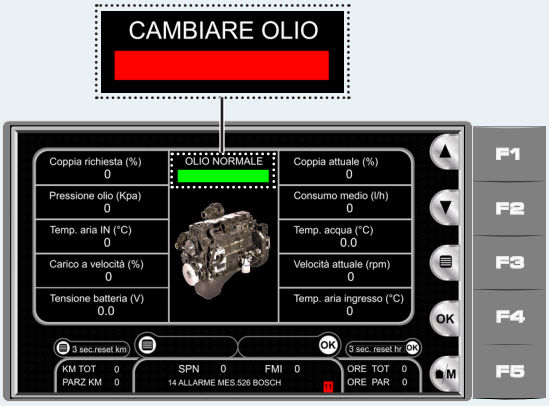


fig. 11