

2 - USE

CHARACTERISTICS

ENGINE		
Engine		
Type		OM 934 (EU Stage IV) (Mercedes-Benz)
Fuel		Diesel
Number of cylinders		4
Injection system		-
Firing order		1 - 3 - 4 - 2
Displacement	liters - cm ³	5,1 - 5100
Bore	mm - in	110 - 4.33
Stroke	mm - in	135 - 5.31
Turbocharging System		Turbocharging with charge air cooling (air/air)
Turbocharger		2-TC dual stage charging with fixed geometry and waste-gate
Compression ratio		17,6
Nominal rate	rpm	2200
Idle rate		-
Max operating speed	rpm	2500
Rated Power		231 CV-170 kW @ 2200 rpm
Maximum torque		900 Nm @ 1200 - 1600 rpm
Main Coupling type		SAE3
Additional service PTO (type, max torque)		-
Exhaust Gas Aftertreatment		SCR system, exhaust muffler with catalyst, AdBlue injection with supplying and metering unit
Alternator		24 V - 100 A
Cooling system		
Water cooling		Cooling water circuit
Hydraulic Oil cooling		
Fan drive system		Electric/Hydraulic/Mec.
Motor type		Hydraulic
Blower fan speed	rpm	2300
Number of blades		14
Diameter	mm - in	680 - 26.77
TRANSMISSION		
Transmission unit		
Type		hydrostatic, variable displacement pump and motor (Rexroth)
Gearshift	liters - cm ³	"Model 319 CVT - Continuous Variable Transmission" (Dana)
Brakes		
Type		Disc in oil bath on front and rear axle
Foot brake		Acts on the front and rear wheels
Hand brake		Hydraulic with negative action on the front axle
Front axle		
Type		Steering final drives (Dana)
Brakes type		-
Limited slip system		-
Final drives		Epicyclic
Rear axle		
Type		Steering with final drives(Dana)
Brakes type		-
Limited slip system		-
Final drives		Epicyclic

Suspensions		
Type		Floating rear axle with automatic hydraulic lock
Standard Front & Rear tyres		
Dimensions		17,5 R 25 22PR EM 60 TL (Mitas)
Pressure	bar - psi	7 - 102
Optional Front & Rear tyres		
Dimensions		-
Pressure	bar - psi	-
ELECTRICAL CIRCUIT		
Electrical circuit		
Ground		Negative
Battery standard		2x12V - 120Ah - 850A rif. EN
Battery optional		2x12V - 180Ah - 1200A rif. EN
Voltage regulator		Built into the alternator
HYDRAULIC CIRCUIT		
Hydrostatic pump		
Pump Type		A4VG145 - Axial piston variable pump (Rexroth)
Displacement max	liters - cm ³	0.1453 - 145.3
Flow rate @ 2200 rpm	l/min	313
Pressure	bar - psi	500 - 7251.88
Hydraulic circuit main pump		
Pump Type		A11VO95 - Axial piston variable pump (Rexroth)
Displacement	liters - cm ³	0.0935 - 93.5
Flow rate @2200 rpm	l/min	210
Pressure	bar - psi	350 - 5076.32
Hydraulic circuit secondary pump		
Pump Type		PLP20.16 (Casappa)
Displacement	liters - cm ³	0.0169 - 16.9
Flow rate @ 2200 rpm	l/min	36
Pressure	bar - psi	250 - 3625.94
Main electrovalves		
Type		PVG100/6 (Rexroth)
Lifting circuit	bar - psi	350 (5076.32)
	l/min	180
Extension circuit	bar - psi	210 - 3045.79
	l/min	180
Tilting circuit	bar - psi	280 (4061.05)
	l/min	150
Stabilizers	bar - psi	220 (3190.83)
	l/min	-
Optional circuit	bar - psi	265 (3843.5)
	l/min	150
Winch	bar - psi	265 (3843.5)
	l/min	180
Steering circuit		
Pump Type		Load sensing
Displacement	liters - cm ³	0.034 - 34
Flow rate @ xxxx rpm	l/min	115
Pressure	bar - psi	270 - 3916.01
Type		Load-sensing
Brake circuit		
Type		Servo-assisted by hydrostatic drive
Pressure	bar - psi	175 - 2538.16

NOISE AND VIBRATION		
Acoustic pressure level in the driver's cab LpA (according to NF EN 12053)	dB(A)	80 (cab closed)
Noise pressure level ensured in the LWA environment (according to directive 2000/14/EC modified by directive 2005/88/EC)	dB(A)	108 (guaranteed)
The average weighted acceleration transmitted to the driver's hand/arm system (as per ISO 5349-2)	m/s ²	< 2,5
HYDRAULIC MOTIONS SPEEDS		
Unladen lifting	s	
Laden lifting	s	
Unladen lowering	s	
Laden lowering	s	
Unladen extending	s	
Laden extending	s	
Unladen retracting	s	
Laden retracting	s	
Reverse tilt time unladen	s	
Forward tilt time unladen	s	
SPECIFICATIONS AND WEIGHTS		
Speed of movement for telehandler in standard configuration on flat ground (except particular conditions)		
Driving Speed		
Maximum speed	km/h - mph	40 - 24.85
Forward unloaded	km/h - mph	40 - 24.85
With nominal load	km/h - mph	-
Reverse unloaded	km/h - mph	40 - 24.85
With nominal load	km/h - mph	-
Lifting Capacity		
Standard lifting height	m - ft	31.6 - 103.67
Lifting height at max capacity	mm - in	13660 - 537.79
Forward reach at max capacity	mm - in	-
Max rated capacity with STD carriage and forks	kg - lb	5500 - 12125.41
Distance from center of gravity	mm - in	600 - 23.62
Capacity at max height with STD carriage and forks	kg - lb	2500 - 5511.55
Capacity at max reach with STD carriage and forks	kg - lb	200 - 440.92
Weight distribution with STD carriage and forks		
Truck weight with STD carriage and forks (unloaded)	kg	23986 - 52880.02
Front axle unloaded	kg	11328 - 24973.94
Rear axle unloaded	kg	12658 - 27906.08
Max load per tyre unloaded	kg	6329 - 13953.04
Drawbar pull		
Tractive force (Drawbar pull)	daN	10500
Break out force with bucket (according to standard ISO 8313)		/
Gradeability		
Unloaded	%	39
Loaded	%	10

Turret		
Slewing turret		360°
Locking system type		Hydraulic system
Outriggers		
Type		Telescopic 3 elements
Nb		4
Control		Individual or simultaneous control
LIQUID CAPACITIES		
Tanks capacities		
Hydraulic and Transmission Oil	Liters	297
Fuel	Liters	361
Diesel Exhaust System (DEF)	Liters	63

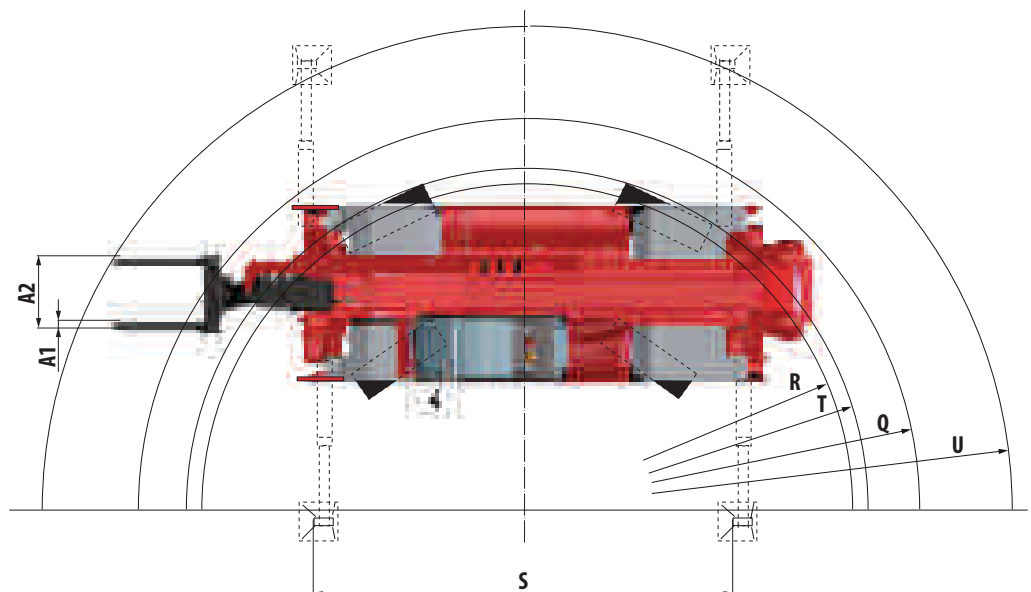
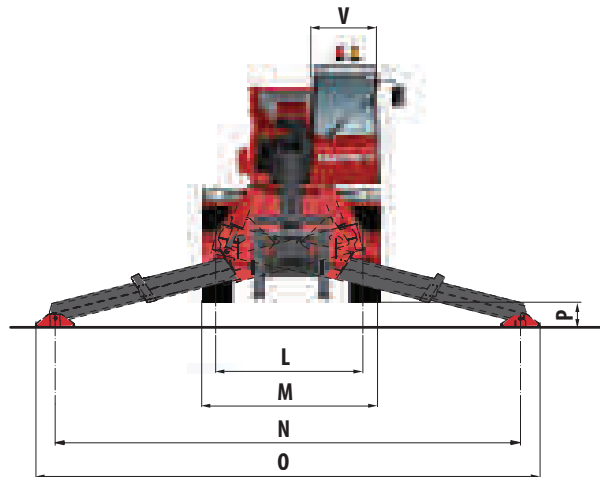
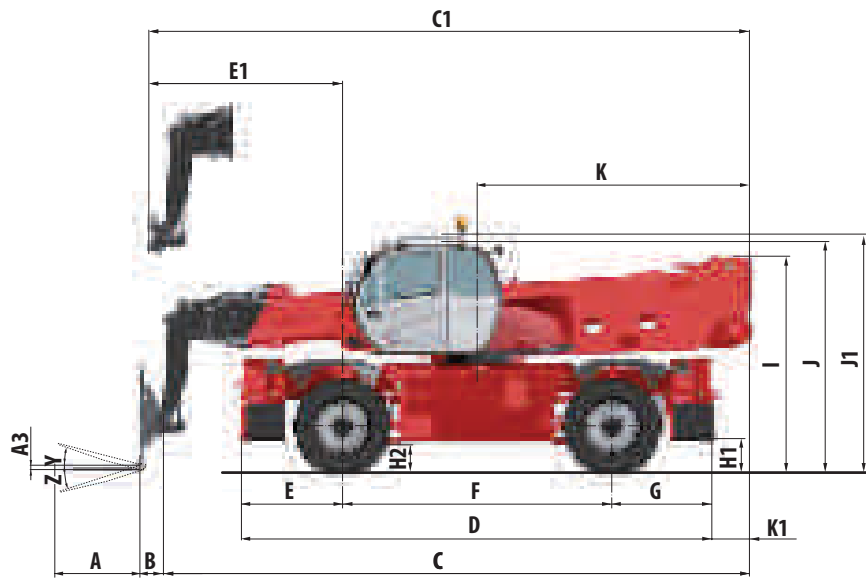
DIMENSIONS AND LOAD CHARTS

	mm	in
A	1200	47,24
A1	130	5,12
A2	1028	40,47
A3	60	2,36
B	383	15,08
C	8114	319,45
C1	8412	331,18
D	6568	258,58
E	1409	55,47
F	3750	147,64
G	1409	55,47
H1*	431	16,97
H2*	420	16,54
I*	3002	118,19
J*	3205	126,18
J1*	3306	130,16
K	3803	149,72
K1	519	20,43
L	2064	81,26
M	2499	98,39
N	6490	255,51
O	7100	279,53
P*	350	13,78
P2	14°	
P3	20°	
P4	20°	
Q	5560	218,90
R	4690	184,65
S1	5945	234,06
S2	6490	255,51
T	4910	193,31
U	7000	275,59
V	933	36,73
Y	12°	
Z	105°	

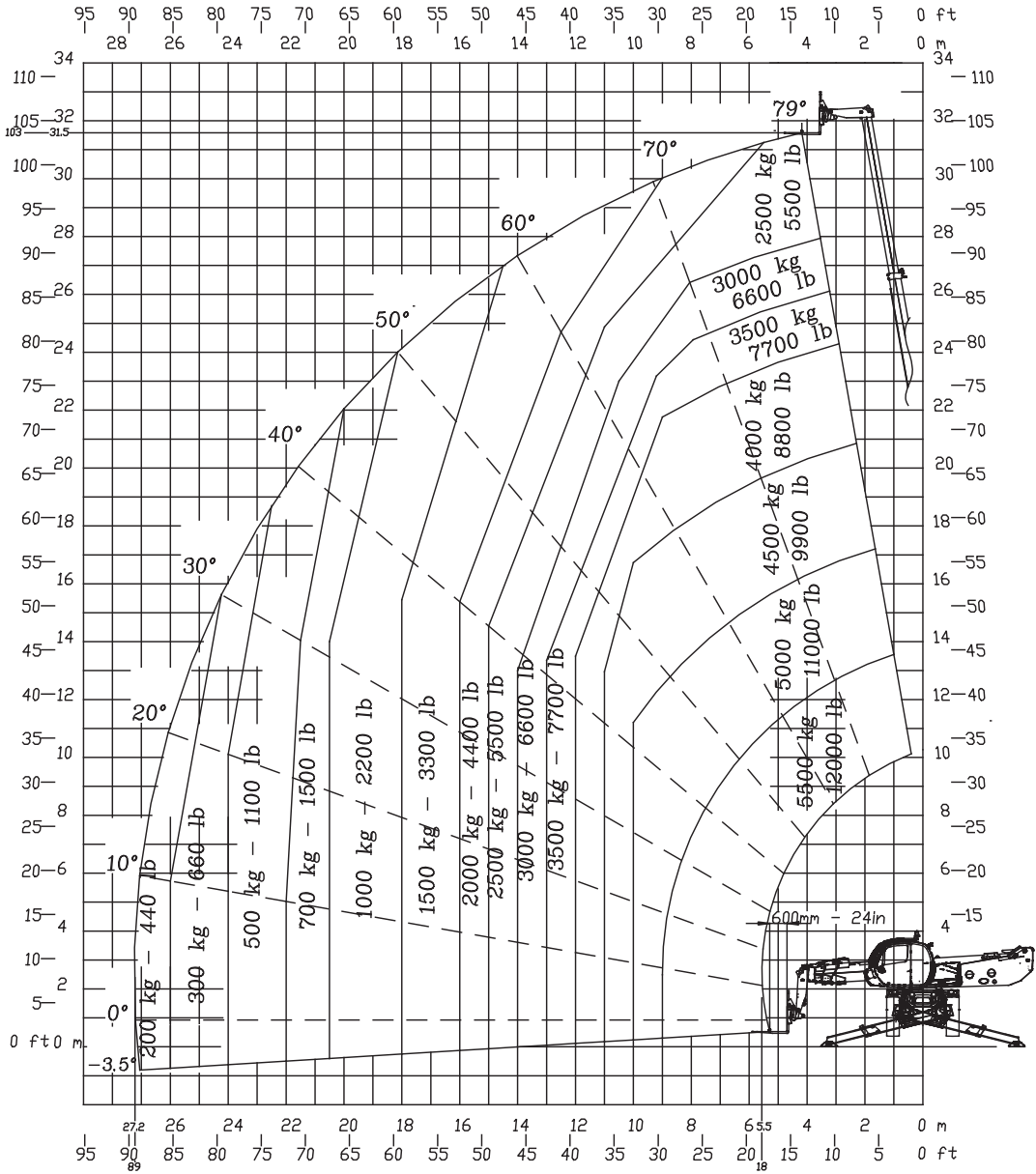
*: ± 78 mm.

Valore a metà corsa
delle sospensioni.

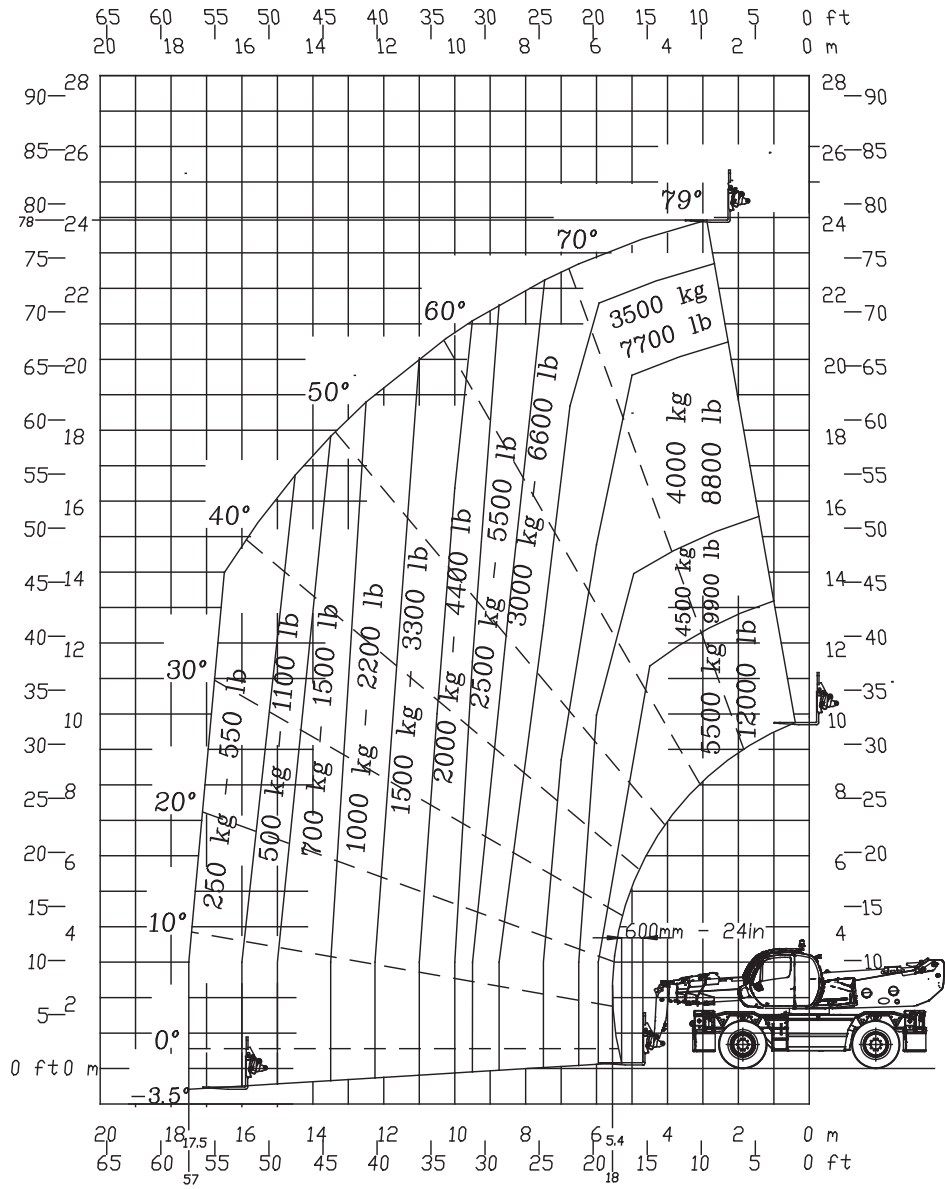
Worth one-half throw
of the suspension.



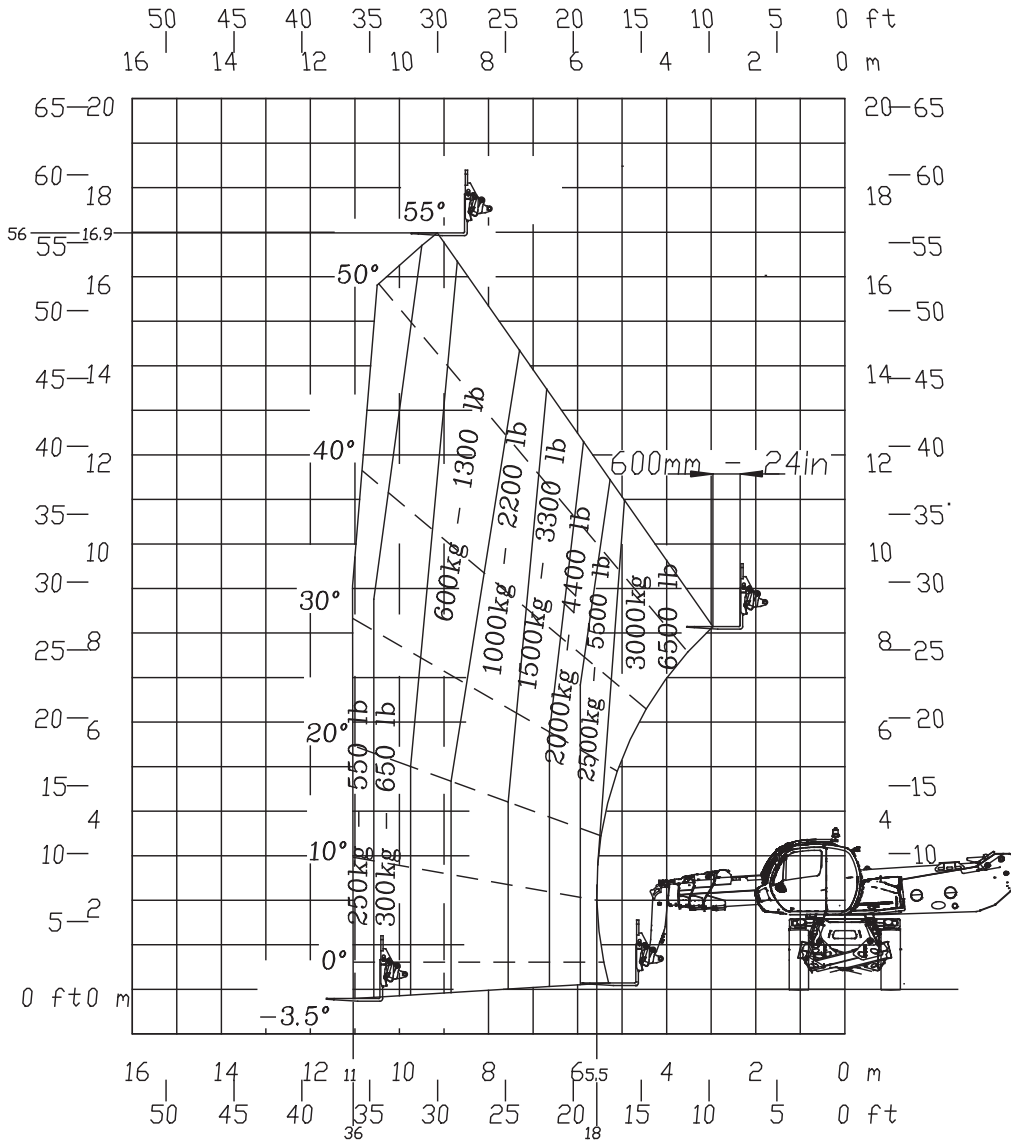
Load chart
Operating Mode:
ON STABILISERS WITH FORKS CAR-
RIAGE



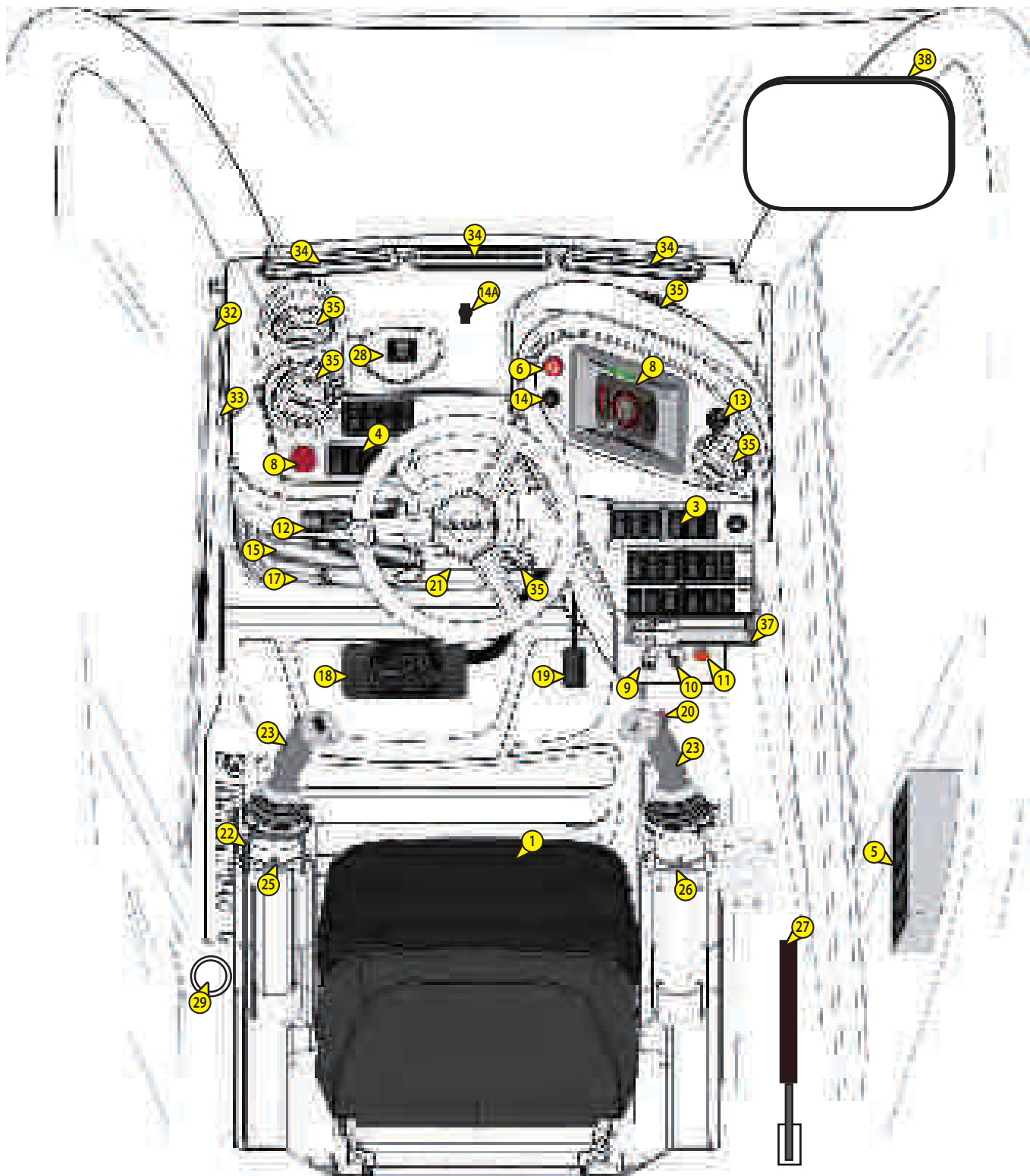
Load chart
Operating Mode:
ON WHEELS (FRONT TURRET)



Load chart
Operating Mode:
ON WHEELS (TURRET ROTATED)



**MONITORING AND
CONTROL INSTRUMENTS**



DESCRIPTION

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Recommendations

Whatever the operator's experience in this sector, he must be familiar with the location and function of all the instruments onboard and the controls, before starting operation of the forklift truck.

All the instruments onboard must be checked immediately after start-up with the engine hot and at regular intervals during use, to immediately detect anomalies and solve problems without delay. If the instrument does not give correct indications, switch the engine off and immediately take the measures necessary to restore correct working.



Ignoring these recommendations while using the forklift truck can have dangerous consequences.

1-OPERATOR SEAT

(1)

Adjusting seat forwards-backwards using the control joysticks.

Pull lever A (FIG.1) upwards.
Move the seat forwards or backwards, as required, according to the arm-rests.
Release the lever and make sure it returns to the blocking position.

Adjusting the seat forwards-backwards

Pull lever B upwards (FIG. 1).
Position the seat as required.
Release the lever and make sure it returns to the blocking position.
(OPTIONAL) : The seat can also be moved forwards-backwards electrically by pressing the two buttons on the LH manipulator.
It can also be inclined upwards forwards by 13°.

Adjusting the seat height

Pull lever C upwards (FIG. 1).
Position the seat at the required height.
Release the lever and make sure it returns to the blocking position.

Adjusting the backrest inclination

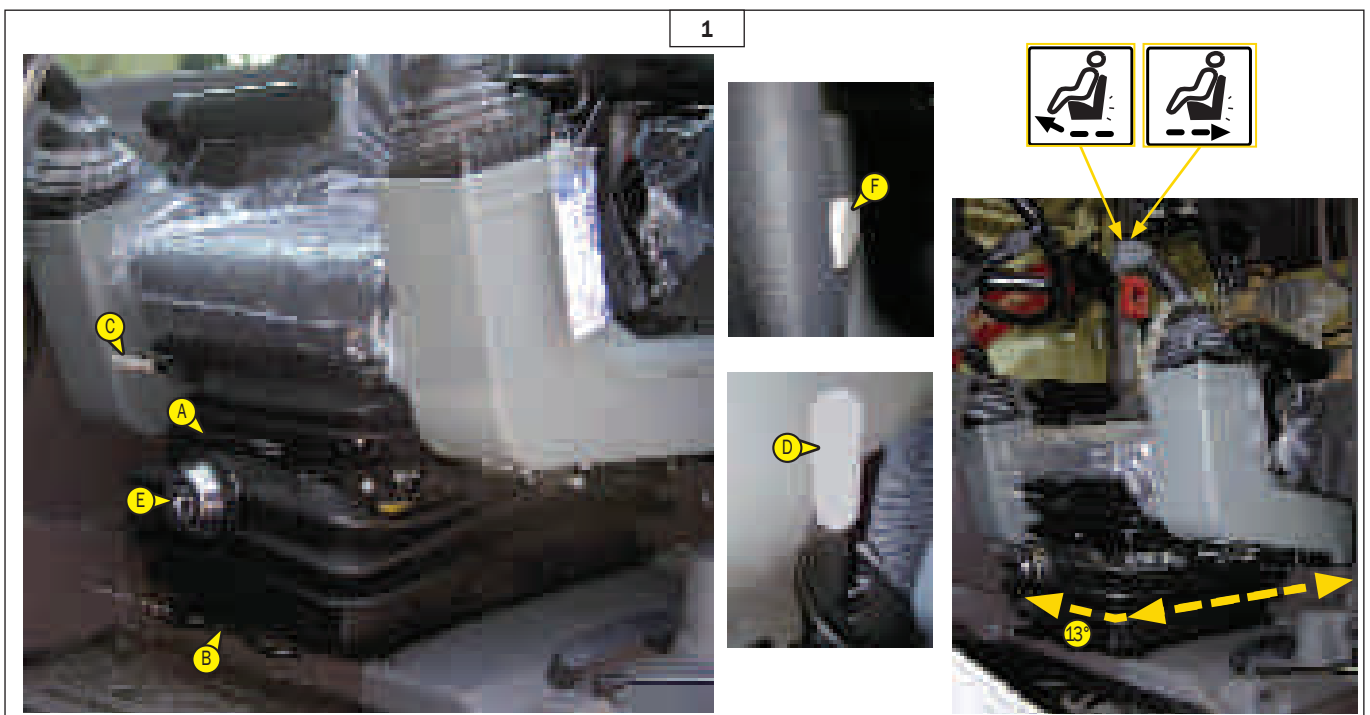
Pull lever D (FIG.1) upwards and incline the seat as required.
Release the lever and make sure it returns to the blocking position.

Adjusting the seat suspension according to weight

The movement of the seat suspension may vary according to the operator's weight.
To carry out this operation, use knob E (FIG. 1) to select the required value.

Lumbar adjustment of seat back-rest

Turn knob "F" to adjust the lumbar area of the backrest.



2 - SAFETY BELT

(2)

Sit correctly on the seat.

- Check to make sure the seat belt is not twisted.
- Wear the belt at the hip.
- Fasten the safety belt and check to make sure it is locked properly.
- Adjust the belt according to your body, avoid pressing against the hip and avoid excessive play.

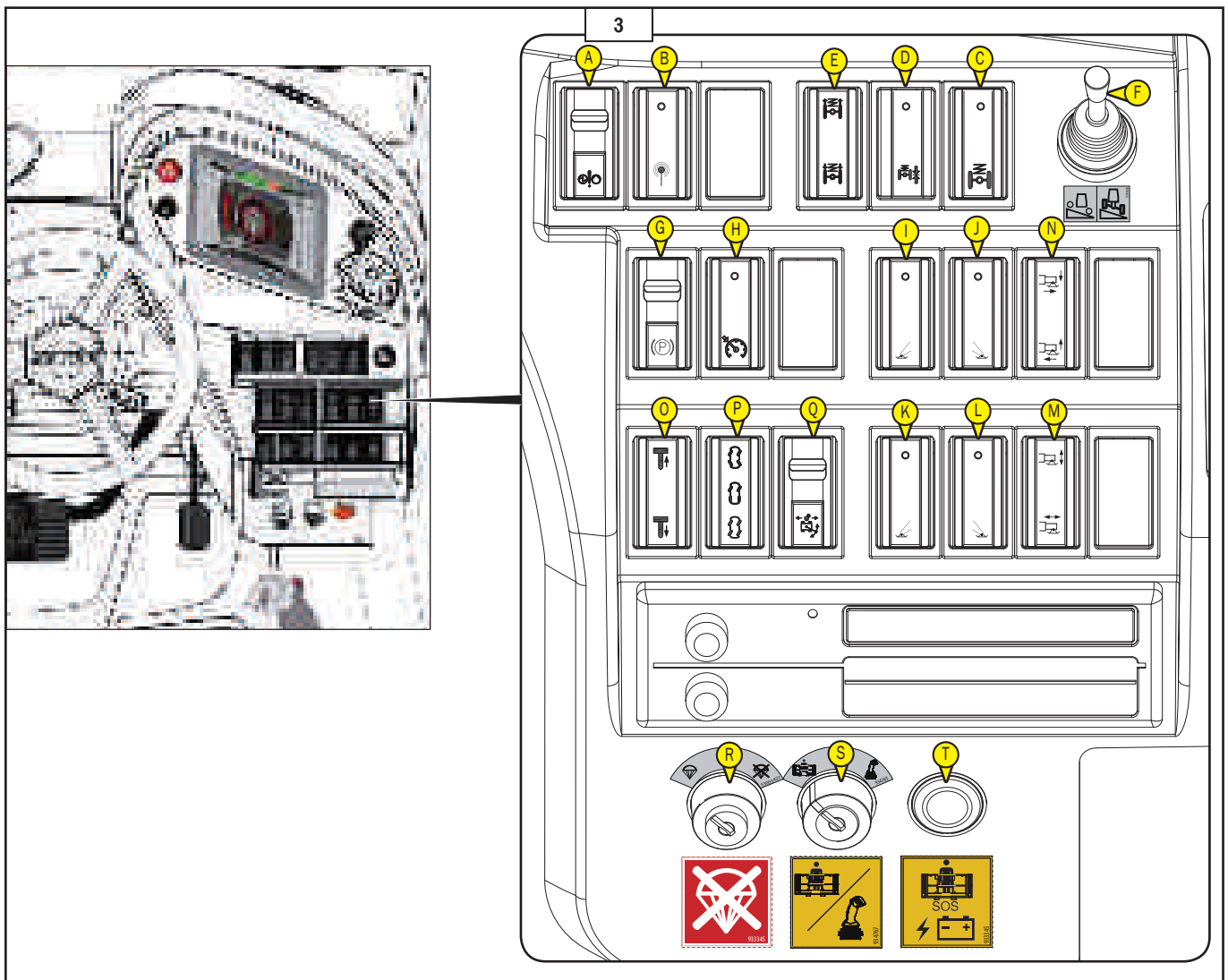
⚠ *The telescopic lift must not be used if the seat belt is defective (Fixing, lock, seams, tears, etc.). Repair or change the seat belt immediately.*



3 - SWITCHES

RH area overview (3)

- A - Emergency pump switch
- B - Radio control switch
- C - Suspensions on/off switch
- D - Machine suspensions halfway switch
- E - Machine completely raised/lowered selector switch
- F - Levelling control lever
- G - Parking brake switch
- H - Cruise control switch
- I - LH front stabilizer selector
- J - RH front stabilizer selector
- K - LH rear stabilizer selector
- L - RH rear stabilizer selector
- M - Stabilizers movement selector
- N - Stabilizers movements control
- O - Hydraulic pivot switch
- P - Steering type selector switch
- Q - Switch for resetting movement block
- R - Key selector for exclusion of Safety system
- S - Telehandler/platform selector switch key (only with platform)
- T - Pushbutton for restoring electric power supply from battery and allowing I.C. engine restart (only with platform)



A - EMERGENCY PUMP SWITCH (ONLY WITH PLATFORM)

Switch, two-positions (1, 2, 3.1):

- when (1, 3.1) is pressed, the safety motor pump is disabled
- when (2, 3.1) is pressed, the safety motor pump is enabled.


For more information regarding the control see "Platform User Manual." (3.1)

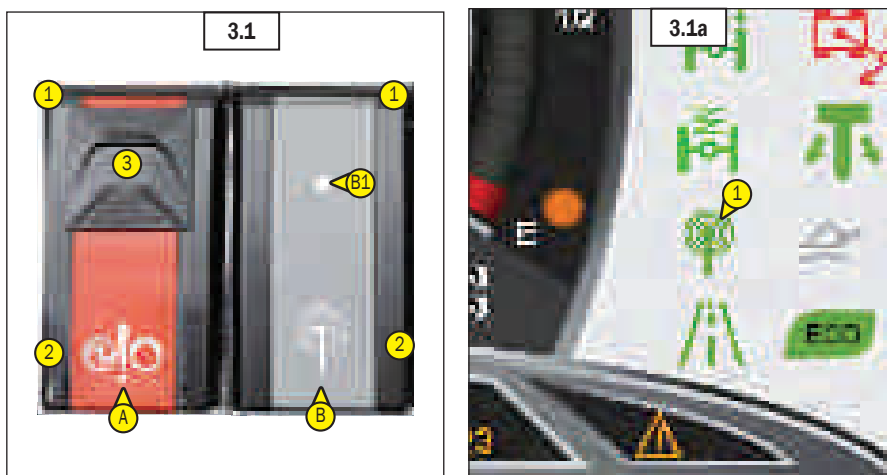
B - RADIO-CONTROL SWITCH

Switch (B, 3.1), two-positions (1, 2, 3.1):

- press on (1, 3.1) the radio control is disabled;
- press on (2, 3.1) the radio control is enabled.

When the radio-control is active, a green indicator lights up in the control panel (1, 3.1a) and a led (B1, 3.1) on the switch (B, 3.1) lights up.

 **When the radio control is enabled by means of the switch (B, 3.1), the machine switches off, for safety.**



LEVELLING AND SUSPENSIONS CONTROL

LEVELLING/SUSPENSIONS DEVICE

The forklift truck is provided with hydro-pneumatic suspensions with electronic corrector for levelling with respect to the ground. The axles are connected to the structure by means of four hydraulic jacks and suspensions which can be controlled by the operator, from the driving seat, depending on the use.

The suspensions and levelling are meant for:

- absorbing the shocks when the vehicle is running.
- levelling the vehicle with respect to the ground





The suspensions only work if the boom is retracted completely and the turret rotation blocking pivot is activated.




With the suspensions active, the manipulator controls are disabled.


Before using the suspensions, level the vehicle frame so that it is parallel to the ground.

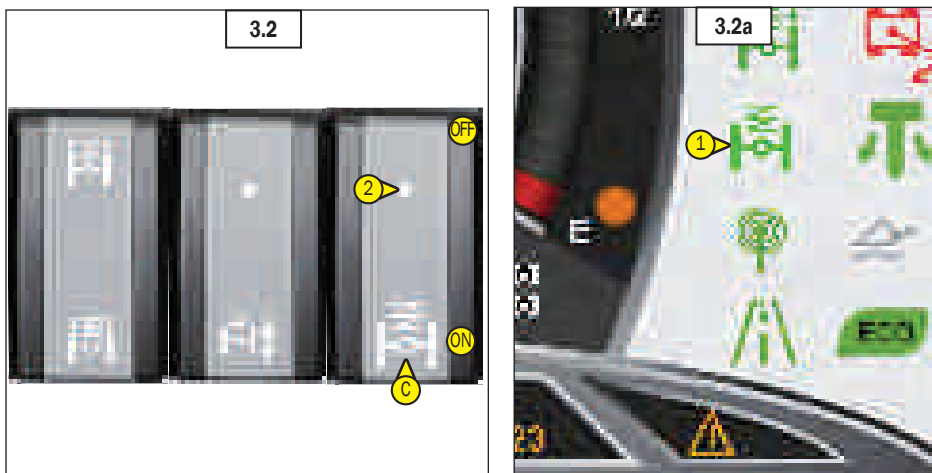
SUSPENSIONS CONTROLS

C - SUSPENSIONS ON/OFF SWITCH



Press switch (C, ) 3.2) to activate/deactivate the vehicle's suspensions (ON, OFF, ) 3.2)

When the suspensions are active, a green indicator lights up in the control panel (1, ) 3.2a) and a led (2, ) on the switch lights up (C, ) 3.2).



The machine manual levelling lever (F, ) 3) does not work.




D - SUSPENSIONS IN WORK SITE SETUP


Keep pushbutton (D,  3.3) pressed for a few seconds to activate the configurations of the suspensions in “work site setup”. A led on switch (1,  3.3) lights up.

There are two configurations in “work site setup”:




1. suspensions halfway and vehicle frame parallel to the ground and a green indicator light (1,  3.3a) on the control panel lights up.
2. suspensions completely lowered and machine frame parallel to the ground and a green indicator light (2,  3.3a) on the control panel lights up.


In cyclic mode, press and re-press pushbutton (D,  3.3), to select the required machine setup (suspensions halfway or completely lowered).

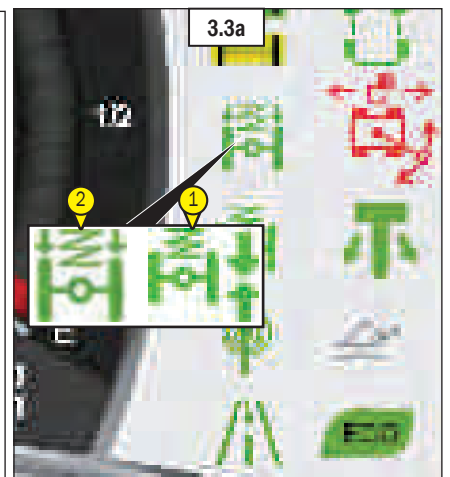
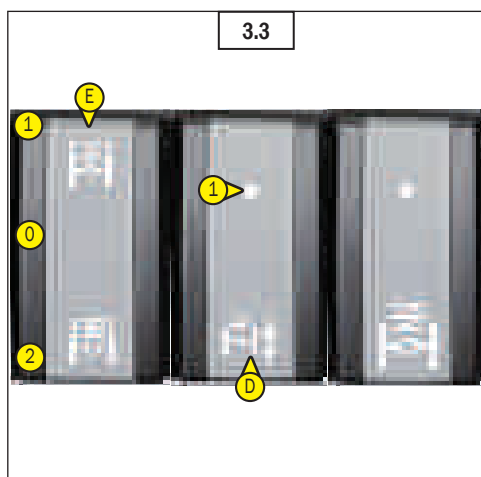
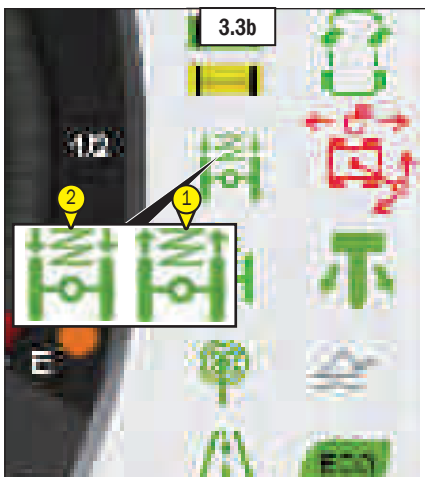
E - SUSPENSIONS SETUP CONTROL

Press pushbutton (E,  3.3) to change the suspensions setup, raised or lowered, determining the vehicle’s height off the ground.

The suspensions travel is 156 mm. The pushbutton has 3 positions:


1. increases the height from the ground (+156 mm) and a green indicator light “1” on the control panel lights up ( 3.3b)
2. neutral ( 3.3)
3. decreases the height from the ground (- 156 mm) and a green indicator light (2,  3.3b) on the control panel lights up.

Press pushbutton (D,  3.3) to reset the suspensions and the levelling of the vehicle frame.





LEVELLING CONTROL



F - LEVELLING LEVER



Lever (F,  3.4) controls the vehicle levelling transversely (+8° and -8°) and longitudinally (+3° and -3°).


The lever moves in 4 directions and inclines the vehicle:

- forward-backward (longitudinal inclination) ( 3.4)
- RH-LH (transverse inclination) ( 3.4)

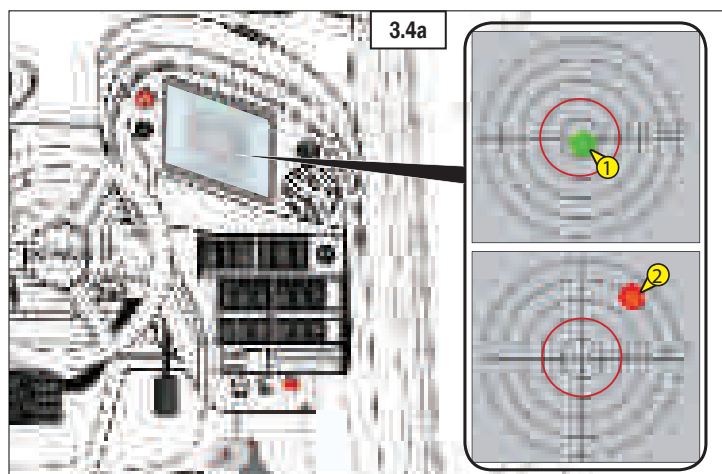
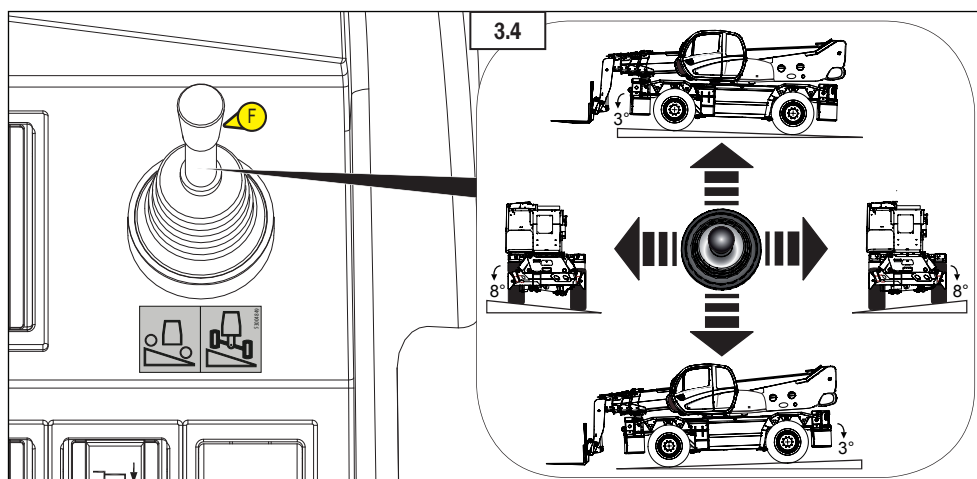
To make the vehicle perfectly horizontal, check the level gauge:

- green bubble machine leveled (1,  3.4a).
- red bubble machine is not leveled (2,  3.4a).




 **Adjust the vehicle's slope longitudinally only if necessary, moving the truck at slow speed through short distances. The truck's stability is at risk. To check the vehicle's stability, use the spirit level (1,  3.4a).**

 **The levelling operation is not possible when:**




- the telescopic boom is lifted, more than 30° off the ground,
- the turret is rotated by more than 15°.






G - PARKING BRAKE SWITCH

Two-position (1, 2,  3.5) switch (G,  3.5) with safety block (3,  3.5).


The parking brake acts on the front axle.

- To release the brake, push the button in position (1,  3.5).
- To apply the brake, push the button in position (2,  3.5) and a red indicator light (1,  3.5b) on the control panel lights up.

To release the brake from (2,  3.5) to (1,  3.5), while pressing the switch, act on the safety lock (3,  3.5).

H - CRUISE CONTROL SWITCH



The machine is equipped with the cruise control system.



The switch (G,  3.5) identifies the control to set the cruise control system.

The system automatically accelerates or decelerates the machine to maintain a pre-set speed.


The system takes over the throttle of the machine to maintain a steady speed as set by the driver.

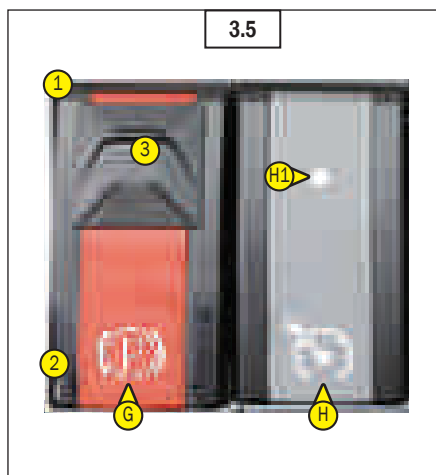
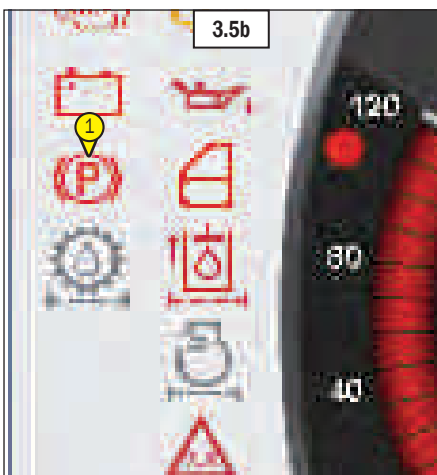
Set the speed

The driver can choose to increase or decrease the speed of the machine by pressing the accelerator pedal and then set the desired speed by pressing the switch (G,  3.5). The green indicator lights up on the control panel (1,  3.5a).

On the switch (G,  3.5) the led lights on (1,  3.5) to indicate that the function is active.

The system deactivates in event of:

- service brake pressure or parking brake activated,
- pressure switch (G,  3.5),
- forward/neutral/reversing movement selector in neutral position,
- every motions of the telescopic boom,
- every machine alarms.



STABILIZERS CONTROLS

**I: SELECTS THE FRONT LEFT
OUTRIGGER.**

**J: SELECTS THE FRONT RIGHT
OUTRIGGER.**

**K: SELECTS THE REAR LEFT
OUTRIGGER.**

**L: SELECTS THE REAR RIGHT
OUTRIGGER.**

On the switch (I, J, K, L, 3.5) the led lights on (1, 3.5) to indicate that the function is active.

M - OUTRIGGER UP-DOWN/ EXTENSION-RETRACTION SELECTOR

Once the outrigger/s has/have been selected, this selector can be used to extend or retract or lower and lift the stabilizers.

- Position M1: the outriggers lift or lower (M2, 3.5)
- Position M2: the outriggers extend or retract (M2, 3.5).

Consult the next paragraph when carrying out the required operations.

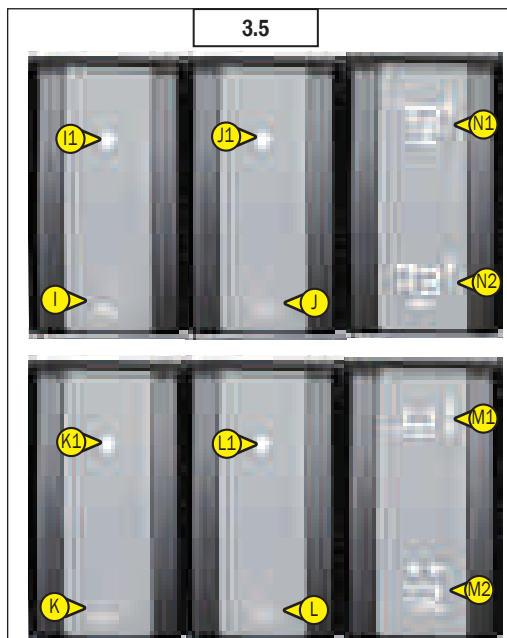
N - OUTRIGGER UP/DOWN EXTENSION- RETRACTION CONTROL

After selecting one or more stabilizers, and the stabilizers movements using selector (M, 3.5), use pushbutton (N, 3.5) to control the movements of the stabilizers.



For extension of the stabilizers selector (M, 3.5) must be set in position (M2, 3.5), press pushbutton (N, 3.5) in position (N1, 3.5).



To retract the stabilizers, press pushbutton (N, 3.5) to position (N2, 3.5).

To lower the stabilizers, after having positioned selector (M, 3.5) at (M1, 3.5) press pushbutton (N, 3.5) to position (N1, 3.5). To raise the stabilizers, press pushbutton (N, 3.5) to position (N2, 3.5).






I - TURRET ROTATION BLOCK PIVOT CONTROL

With the turret centred, press the pushbutton to insert (1,  3.6) or to extract (2,  3.6) the pivot.

- Press the pushbutton on (O1,  3.6) to extract the pivot,
- Press the pushbutton on (O2,  3.6) to insert the pivot

The rotation block pivot is not activated if the turret is not centred perfectly.




Observe the three indicator lights on the control panel to check the following:


1. indicator light Off, the turret is rotated and the rotation block pivot is deactivated,
2. green indicator light On, turret aligned to the truck and turret rotation pin is deactivated (1,  3.6a),
3. yellow indicator light On, turret almost aligned with the truck and the turret rotation pivot is deactivated (2,  3.6a),
4. green indicator light On, turret aligned to the truck and turret rotation pin is activated (3,  3.6a).
Turret rotation blocked.

H - STEERING TYPES SELECTOR

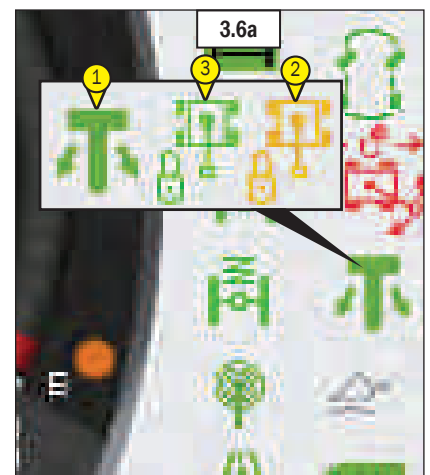
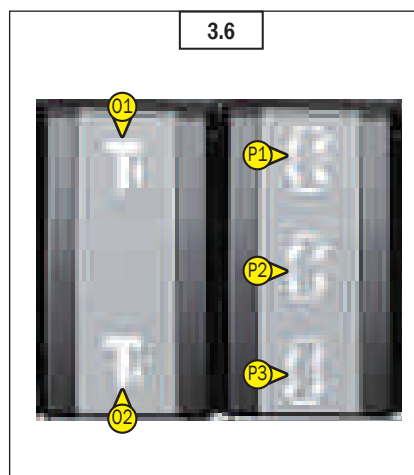
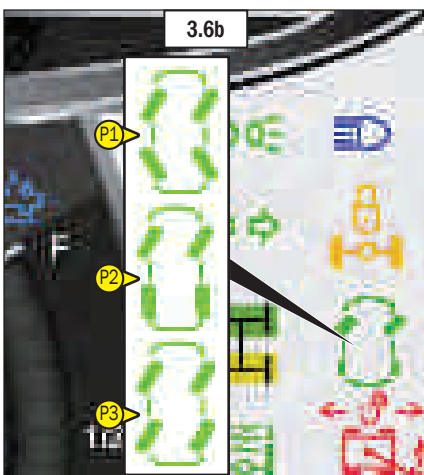
Three types of steering.

To select the three possible types of steering, press the switch as follows:

- front and rear steering wheels (P1,  3.6b),
- front steering wheels (P2,  3.6b),
- wheels in oblique position (crab steering) (P3,  3.6b).

On the control panel there are three indicators which light up with a green light (P1, P2, P3,  3.6b) depending on the steering selected.

Before selecting a type of steering, check the alignment of the rear and front wheels.



Q - SWITCH FOR RESETTING MOVEMENT SAFETY SYSTEM

The truck with turret rotated, with the boom extended and/or raised above 3m, does not move.

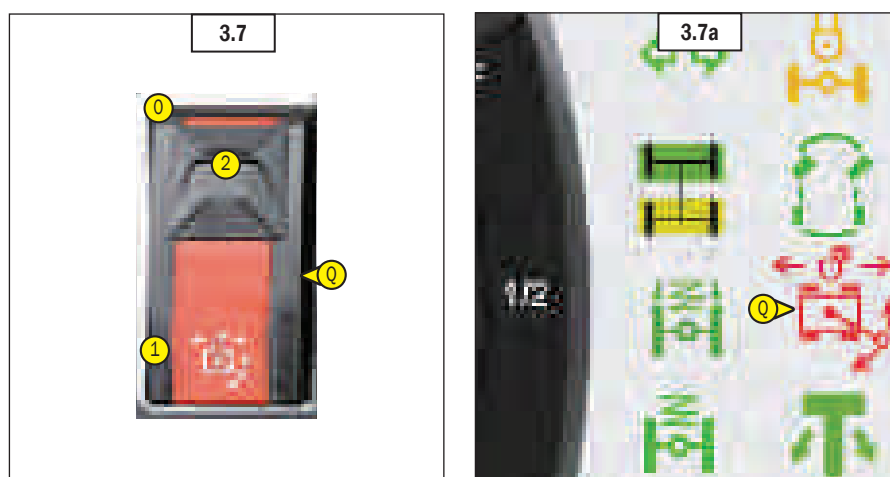
It can be made to move only in exceptional cases and for safety reasons by pressing switch (Q, 3.7).

The switch (Q, 3.7) has two-positions (1, 2, 3.7) and with safety block (2, 3.7).



- To authorize movement, the operator must turn switch (Q, 3.7) to position (1, 3.7) and a red indicator lights up on the control panel (1, 3.7a).
- To reset the movement Safety system, the operator must turn switch (Q, 3.7) to position (0, 3.7).



To avoid affecting the stability of the truck, move slowly for short distances on flat, level ground. The operator and the truck are exposed to risks.





TELEHANDLER/PLATFORM SELECTOR**SWITCH KEY** (only with platform)

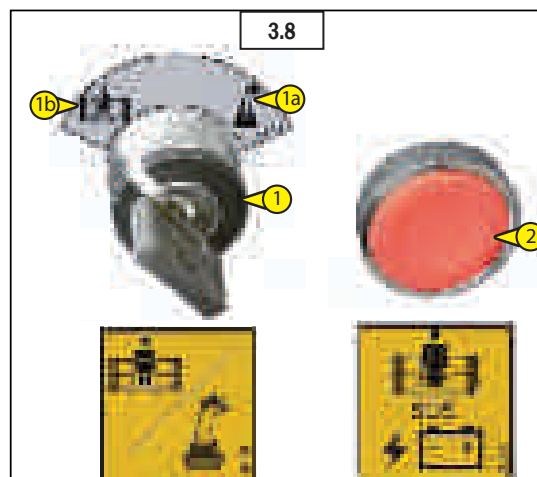
- Handling or platform operation from driver's cab controls (1a,  3.8).
- Platform operation from control console (1b,  3.8).

(For more details:  Baskets use manual)

PUSHBUTTON FOR RESTORING ELECTRIC POWER SUPPLY FROM BATTERY AND ALLOWING I.C. ENGINE RESTART
(only with platform)

If the "emergency stop" button is pressed from the basket, the supply of electricity from the battery is cut off and the I.C. engine switches off.

Keep button pressed (2,  3.8) to restore supply of electric current to the battery and make it possible to restart the i.c. engine
(For more details:  Baskets use manual)



KEY SELECTOR FOR EXCLUSION OF SAFETY SYSTEM


The Manitou telehandler is equipped with an electronic safety system which controls the overload of the machine in the operating phase.




The system acts automatically to block the boom movements.






It is only in exceptional cases and for reasons of safety, that the system can be deactivated manually. With the safety system deactivated, the operator and the forklift truck are exposed to risks and there is nothing to prevent overload and/or overturning of the vehicle.


Key selector

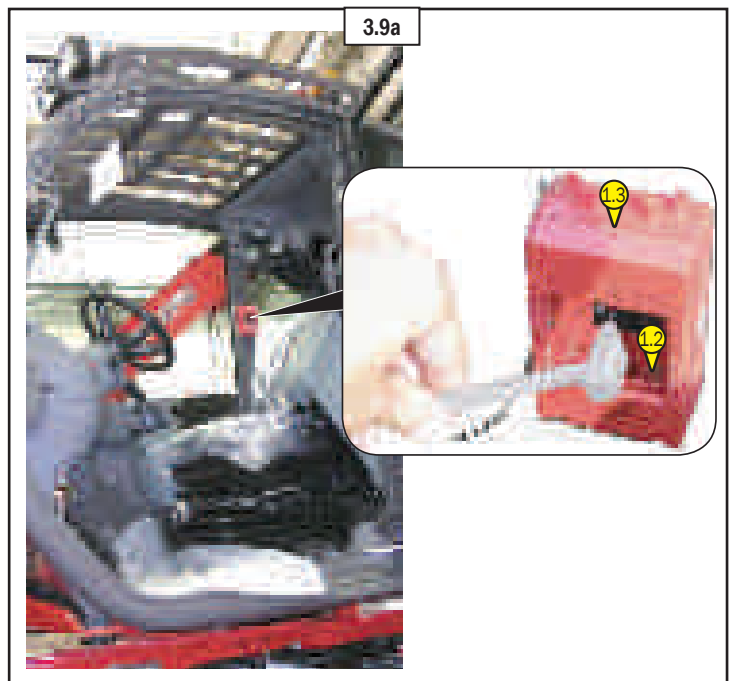
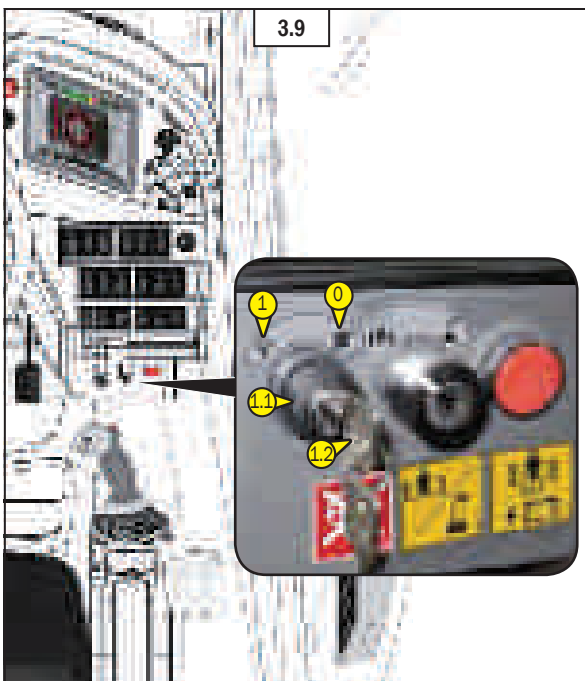
To disable the Safety System, the operator must turn (1.1,  3.9), a key selector in the cab.

Key (1.2,  3.9a) is kept inside a safety box (1.3,  3.9a) placed to RH side of the driver's ( 3.9).



Key selector (1.1,  3.9) has two positions:


- safety system is activated (1,  3.9);
- safety system is deactivated (0,  3.9).

During normal use, the key selector is turned to position (1,  3.9), so the safety system is activated.




In case of emergency, if the safety system is to be deactivated, the operator must:


- take hammer (1.4, ) 3.9b) on the side of the safety box (1.3, 

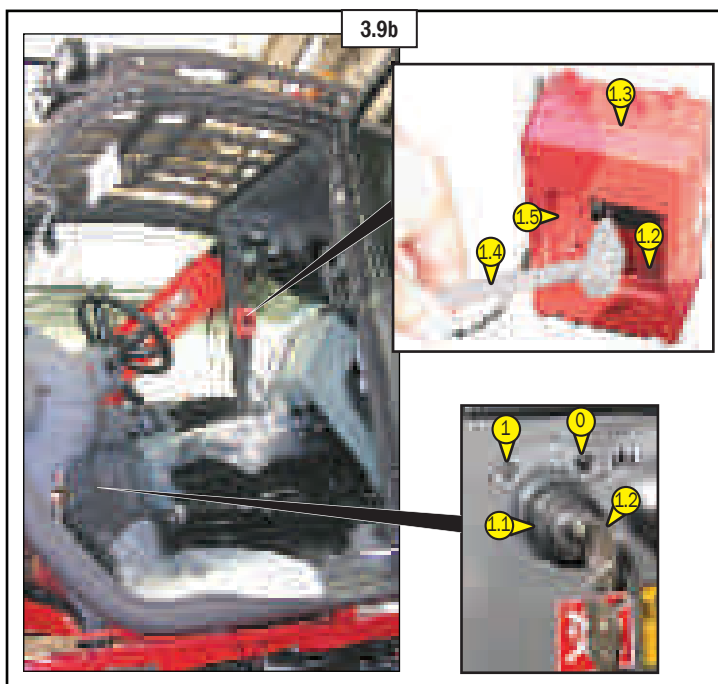
**Rotate key selector (1.1, 

Note: When the safety system is disabled, enable it automatically:**

- a red warning light (1.7, 

With disabled safety system all the movements of the machine are restricted to 15% of their maximum speed.

 **When the emergency procedure is complete, the key must be replaced inside the safety box and the glass cover must be replaced.**



LH area switches (3.16)

NOTE: The location of the switches may vary depending on the options.

FRONT WINDSHIELD WIPER AND WINDOW WASHER SWITCH

The switch (1, 3.10) has three position (0, 1a, 1b, 3.10).

This switch (1, 3.10) identifies the control which activates the front wiper (1a, 3.10) and dispenses washing fluid (1b, 3.10), initiating a sweeping motion and fluid spray to clear the windshield.

When the front wiper is active lights up the LED (2, 3.10) on the switch (1, 3.10).

To deactivate the window washer, just release the switch.

EMERGENCY STOP" BUTTON

In case of emergency, press the mushroom-shaped red button (1, 3.11) to stop the I.C. engine of the telehandler.

On the control panel the indicator light indicates the active function (e paragraph: "Instruments control panel").



Warning: hydraulic movements suddenly stop when using this button.

If possible, stop the telehandler before using the emergency stop.

Turn the button (1, 3.11) to disable it and to restart the telehandler.

WINDOW LIFT (POWER-OPERATED) SWITCH

This switch (1, 3.12) active the control that raises or lowers the cab door window using a powered mechanism.

Opening the window

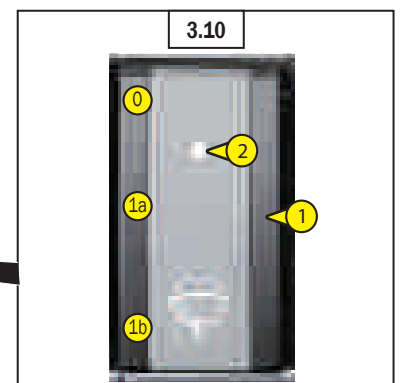
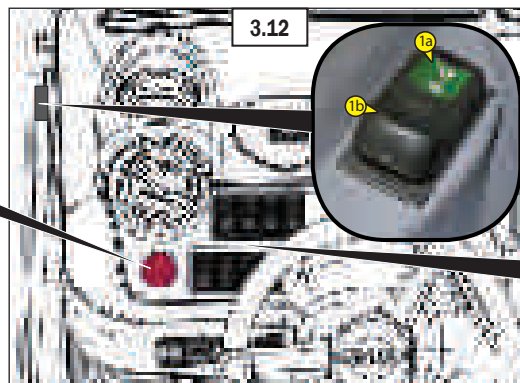
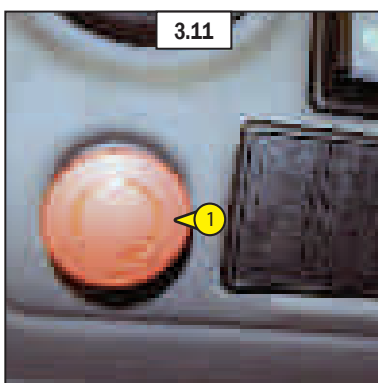
Press the switch forward (1a, 3.12) and hold it until the window has moved to the desired position.

Press the switch forward (1a, 3.12) and hold it until the window will open all the way.

Closing the window

Press the switch back (1b, 3.12) and hold it until the window has moved to the desired position.

Press the switch back (1b, 3.12) and hold it until the window will close all the way.



Under roof area switches (3.13)

NOTE: The location of the switches may vary depending on the options.

ROTATING BEACON LIGHT SWITCH

This switch (1, 3.14) controls the operation of the rotating beacon light.

On the switch (1, 3.14) the led comes on (2, 3.14) to indicate that the function is active.

NOTE: Except in case of emergency, it is advised to disable the rotating beacon light when the ignition is switched off to avoid a flat battery.

CABIN ROOF WIPER AND WASHER SWITCH

This switch (1, 3.15) sprays a cleaning liquid on the cab roof and uses the wiper to clear the liquid from the cab roof.

The switch (1, 3.15) has three positions:

- deactivated (0, 3.15);
- for window wiper (1a, 3.15);
- for window washer (1b, 3.15).

To deactivate the window washer, just release the switch (1b, 3.15).

On the switch (1, 3.15) the led comes on (2, 3.15) to indicate that the function is active.

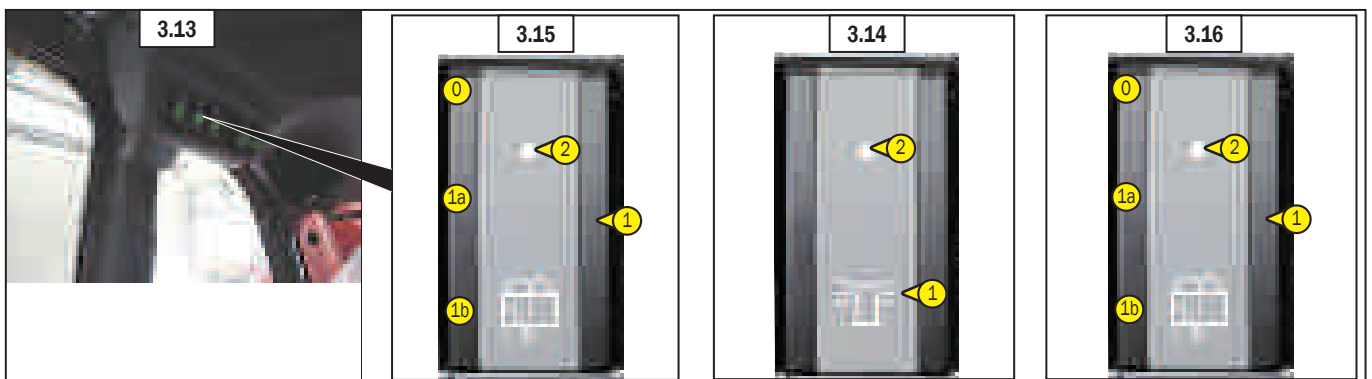
REAR WINDOW WASHER AND WIPER SWITCH

The switch (1, 3.16) has three position (0, 1a, 1b, 3.16).

This switch (1, 3.16) identifies the control which activates the rear wiper (1a, 3.16) and dispenses washing fluid (1b, 3.16), initiating a sweeping motion and fluid spray to clear the windshield.

When the rear wiper is activates lights up the LED (2, 3.16) on the switch (1, 3.16).

To deactivate the window washer, just release the switch.



Armrests switches (1, 3.17)

OPTIONAL EXCLUSION CONTROL SWITCH

This switch (1, 3.18) enables or disables the command roller of the “optional” (example: rope ascent/descent) on LH joystick (1, 3.17).

The attachment can be used only after enabling the optional.

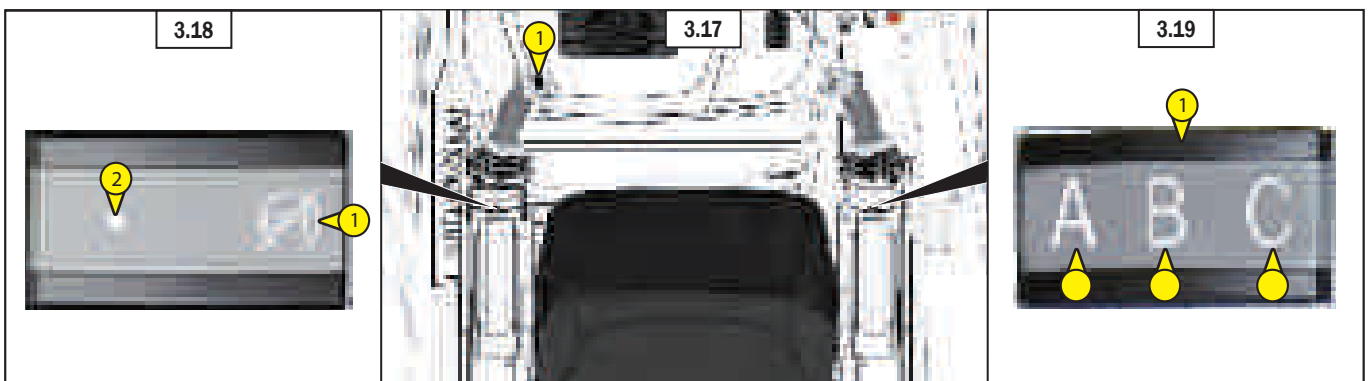
When the function is activated lights up a black indicator on the control panel and the LED (2, 3.18) on switch (1, 3.18).

“ABC” SELECTOR FOR MOVEMENTS OF ACCESSORIES AND PLATFORMS

This selector (1, 3.19) is located on the LH armrest of the driver’s seat and select the hydraulic movements of an accessory that will be controlled by roller “optional” on the LH joystick (1, 3.17).



When the selector (1, 3.19) is in position (A, 3.19) the roller “optional” on LH joystick controls a possible hydraulic movement of an accessory.

If the accessory has more than one hydraulic movement press the selector in position (B, 3.19) or (C, 3.19).







OPTIONAL FUNCTIONS SWITCHES

RADIO-CONTROL SWITCH

(, paragraph "Switches",  3.1)

ELECTRIC ACCELERATOR SWITCH


The function of the switch (1,  3.20) is to increase or decrease the I.C. engine rpm electrically.


- The switch has two positions:
- pressing on (1a,  3.20) will cause I.C. engine rpm to accelerate gradually,
- deactivated (1c,  3.20),
- pressing on (1b,  3.20) will cause I.C. engine rpm to decelerate gradually.



ENGINE BRAKE SWITCH


The engine brake decelerates the telehandler without using mechanical friction in order to avoid the overheating of the brake system.

This brake is mainly used in the long descents, and it allows to brake the machine without stressing the brakes.

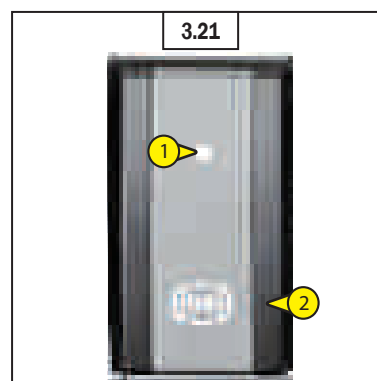
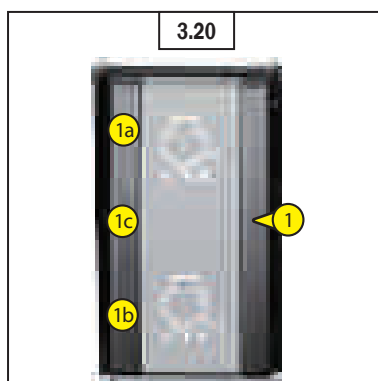
Press switch (2,  3.21) to enable or disable the engine brake.

On the control panel the red indicator light indicates that the function is active ( paragraph: "Instruments and control panel").

On the switch (2,  3.21) the led comes on (1,  3.21) to indicate that the function is active.

When activating the engine brake is excluded the inching function ( paragraph: "Service brake pedal").


The engine brake is controlled by pressing the brake pedal of service and allows two stages of deceleration, a low and an intense depending on the stroke of the pedal. When starting the engine is always activated the inching function.






STABILIZERS AUTOMATIC LEVELLING PUSHBUTTON

The machine is provided with a device for levelling the outriggers in relation to the ground to be able to level the machine and therefore lift the boom to the maximum height in complete safety and stability.

Working of the device

Before levelling the machine select the four outriggers by means of switches (I, J, K, L,  3.5).


Keep button (2,  3.22) pressed until the machine is leveled and stabilized.


On the control panel, in "Stabilty page" check the indications of machine leveled (2,  3.22a) and stabilized (1,  3.22a).



AUTOMATIC STABILIZATION PUSHBUTTON

The machine is provided with a device movements of automatic stabilizers in relation to the ground to be able to stabilize the machine and therefore lift the boom to the maximum height in complete safety and stability.


Working of the device

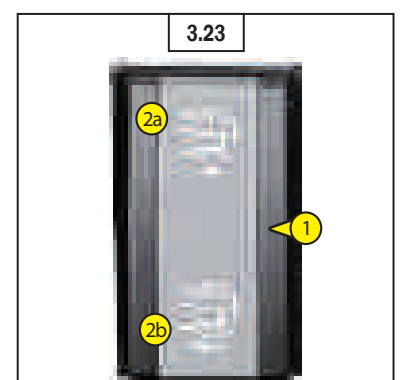
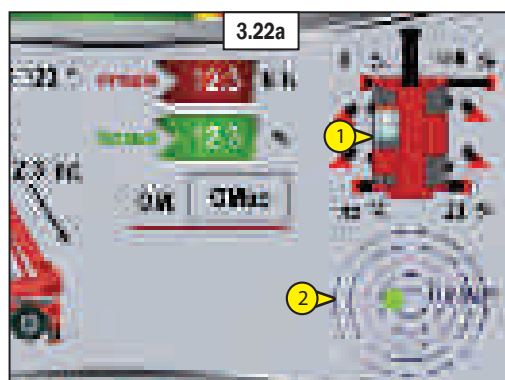
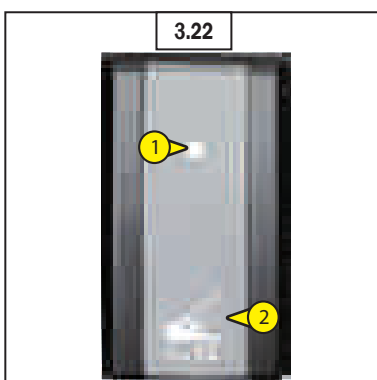
Before to stabilize the machine select the four stabilizers by means of switches (I, J, K, L,  3.5).

Keep pressed the button (1,  3.23) to activate the automatic movements of stabilizers:

- extension and descent (1a,  3.23),
- retraction and ascent (1b,  3.23),

and until the machine is stabilized.


On the control panel, in "Stabilty page" check the indications of machine stabilized (1,  3.23a).





HYDRAULIC ACCESSORY BLOCK BUTTON




Precautions to be taken if the machine is provided with the "hydraulic accessory block" device.





This hydraulic device with electric control makes it possible for the operator to block/release an accessory from the driving seat.

The device activates two pins (X, Y,  3.24) which move horizontally on the quick-release coupling, outwards (blocking the accessory) and inwards (releasing the accessory).


 **To block the accessory, the two check pins must come completely out of the quick-release coupling ( 3.25)**


Description of the controls

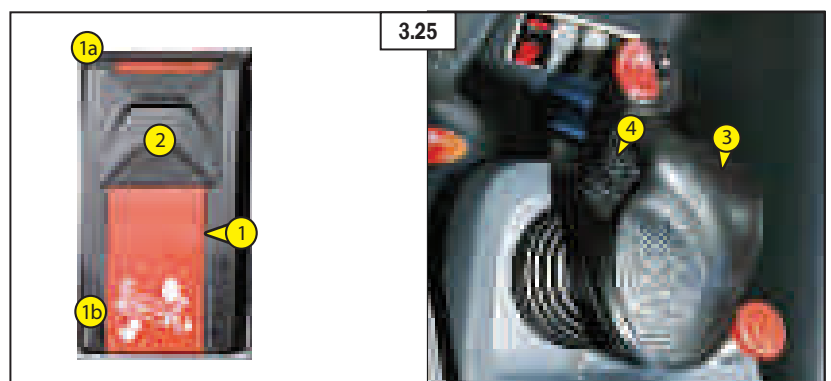
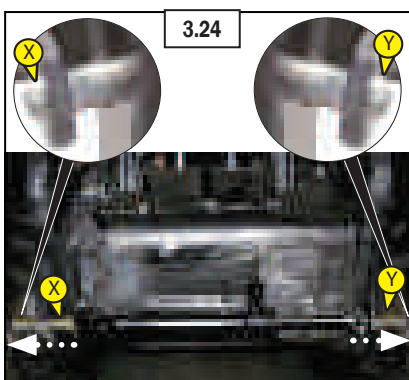
To select the "hydraulic accessory block" device, the operator must keep pressed the pushbutton on the switchboard (1,  3.25). The pushbutton has two positions: pressed on (1a,  3.25), the "hydraulic accessory block" is activated: pressed down (1b,  3.25), the "hydraulic accessory block" is deactivated.

By keeping the pushbutton pressed (1b,  3.25) the operator can activate the two pins "X, Y,  3.24) pressing the optional rocker button (4,  3.25) on the LH manipulator (3,  3.25):

- to the RH, the two pins come out and block the accessory;
- to the LH, the two pins retract and release the accessory.

By releasing the pushbutton (1a,  3.25) the operator deactivates the hydraulic accessories block and restores the standard optional controls.



If the equipped fitted is provided with hydraulic connections, connect these in the quick-release coupling on the boom, carrying out the operation with the IC engine switched off ( Chapter: 4 - OPTIONAL ATTACHMENTS FOR USE WITH THE RANGE).





BOOM SUSPENSION SWITCH



The boom is suspended to reduce shaking of the telehandler on rough ground (e.g. moving straw in a field).

The switch (2,  3.26) has two positions.

On the switch (2,  3.26) the led comes on (1,  3.26) to indicate that the function is active.

On the control panel a green indicator light up (1,  3.26) to indicate that function is active ( paragraph: "Instruments and control panel").

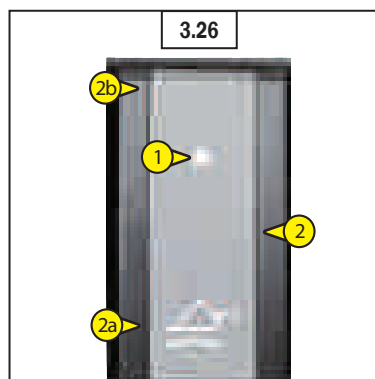
Operation:

- set the forks or attachment on the ground and relieve the front wheels a few centimetres only.
- press switch set to position (2a,  3.26), the visual indicator comes on indicating that boom suspension is activated.
- press switch set to position (2b,  3.26), the visual indicator goes out indicating that boom suspension is deactivated.






Boom suspension is active to a lifting height of 3 m from the axis of articulation of the carriage with respect to the ground with the boom retracted. When you move beyond this height or make another hydraulic movement (tilting, telescoping, attachment), boom suspension is momentarily deactivated and the visual indicator of switch 1 goes out.

- When the I.C. engine is off, boom suspension is automatically deactivated.






CAB FRONT WORK LIGHTS SWITCH

This switch (2,  3.27) controls the operation of the front work lights.


- On the switch (2,  3.27) the led comes on (1,  3.27) to indicate that the function is active.



CAB REAR WORK LIGHTS SWITCH

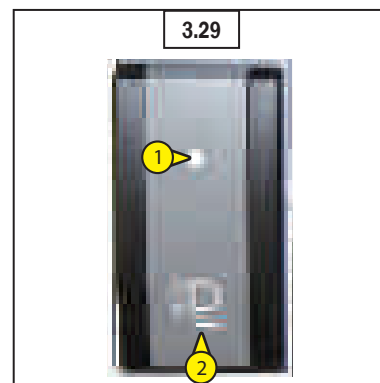
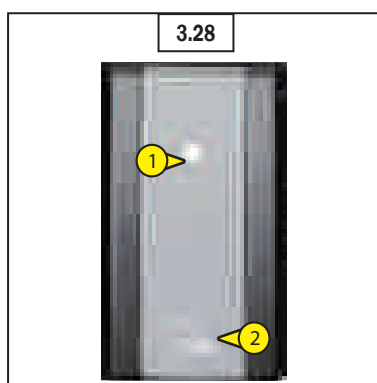
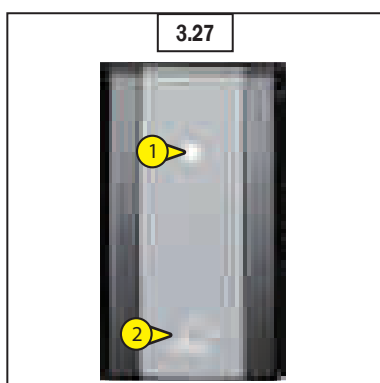
This switch (2,  3.28) controls the operation of the rear work lights.

On the switch (2,  3.28) the led comes on (1,  3.28) to indicate that the function is active.


BOOM HEAD WORK LIGHTS SWITCH



This switch (2,  3.29), controls the operation of the boom head work lights.

- On the switch (2,  3.29) the led comes on (1,  3.29) to indicate that the function is active.






REAR WINDOW DEMISTING AND DEFROSTING SWITCH

This switch (2,  3.30) active the control that distributes a low electrical current to the rear window to aid in removing frost, fog and mist.


On the switch (2,  3.30) the led comes on (1,  3.31) to indicate that the function is active.

AIR CONDITIONING ON-OFF SWITCH




This switch (2,  3.31) identifies the control that operates the air conditioning unit.



On the switch (2,  3.31) the led light up (1,  3.31) to indicate that the function is active.

AIR CONDITIONING VENTILATION CONTROL


This switch (2,  3.32) identifies the control which activates the fan and circulates air at a speed selected by the user.



The switch has three positions:

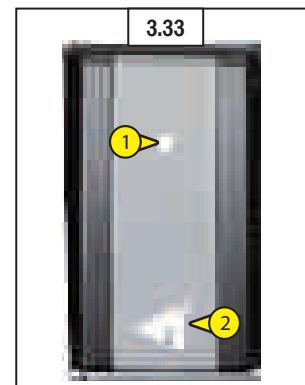
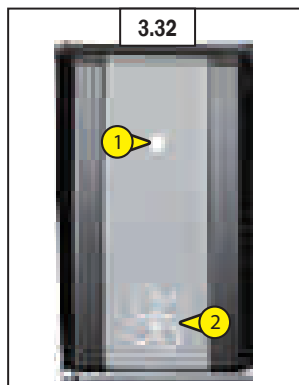
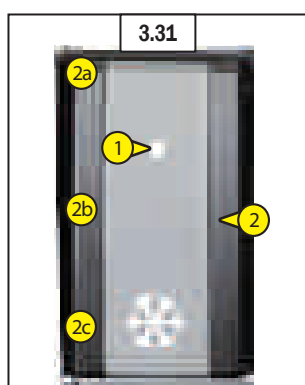
- minimum ventilation (2a,  3.32),
- medium ventilation (2b,  3.32),
- maximum ventilation (2c,  3.32).

On the switch (2,  3.32) the led light up (1,  3.32) to indicate that the function is active.

MULTI-PURPOSE BUCKET CONTROL SWITCH

This switch (2,  3.33) identifies the control for operation of the multi-purpose bucket.

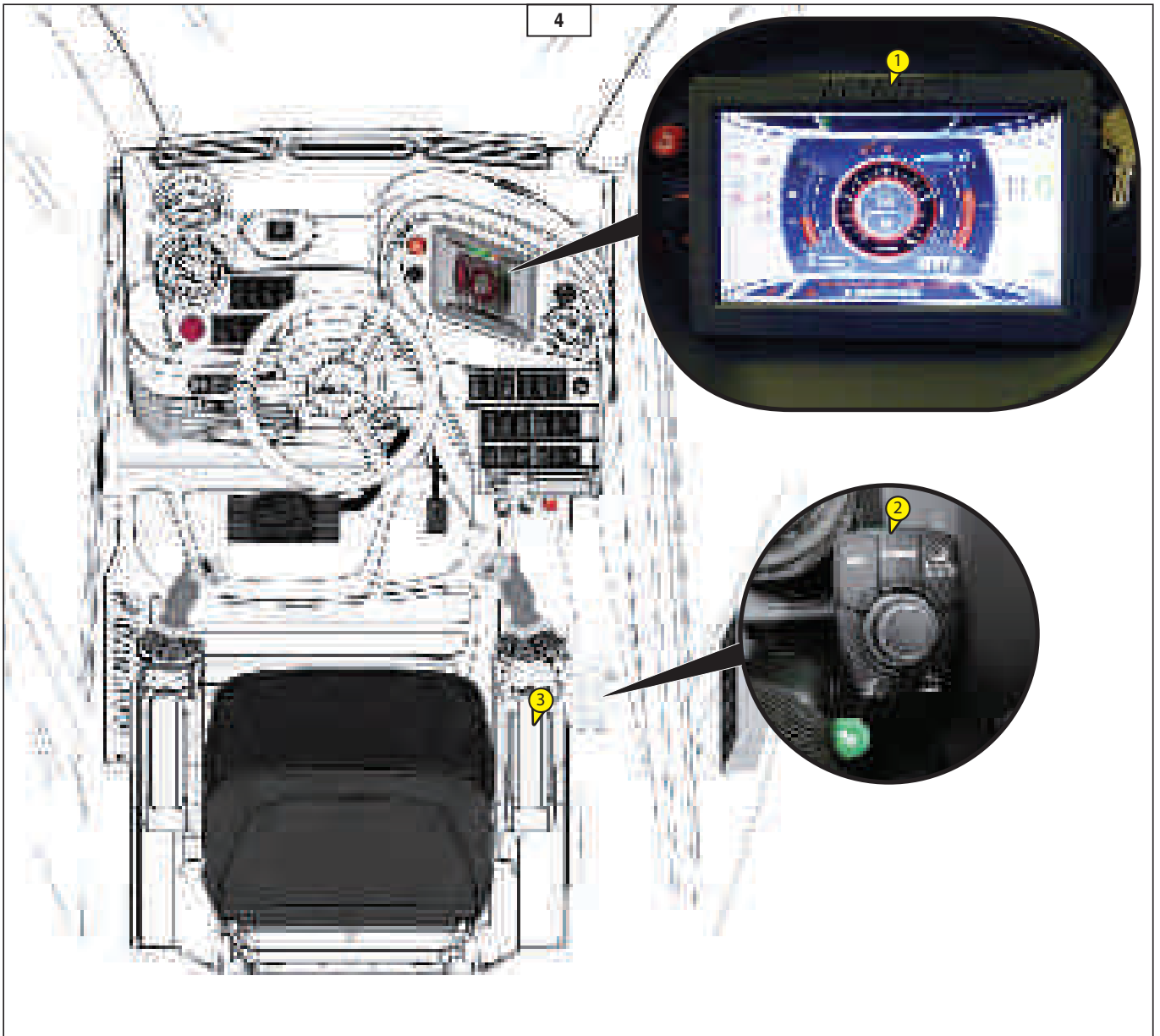
On the switch (2,  3.33) the led light up (1,  3.33) to indicate that the function is active.



4 - CONTROL PANEL and LOAD LIMITER "HMI"

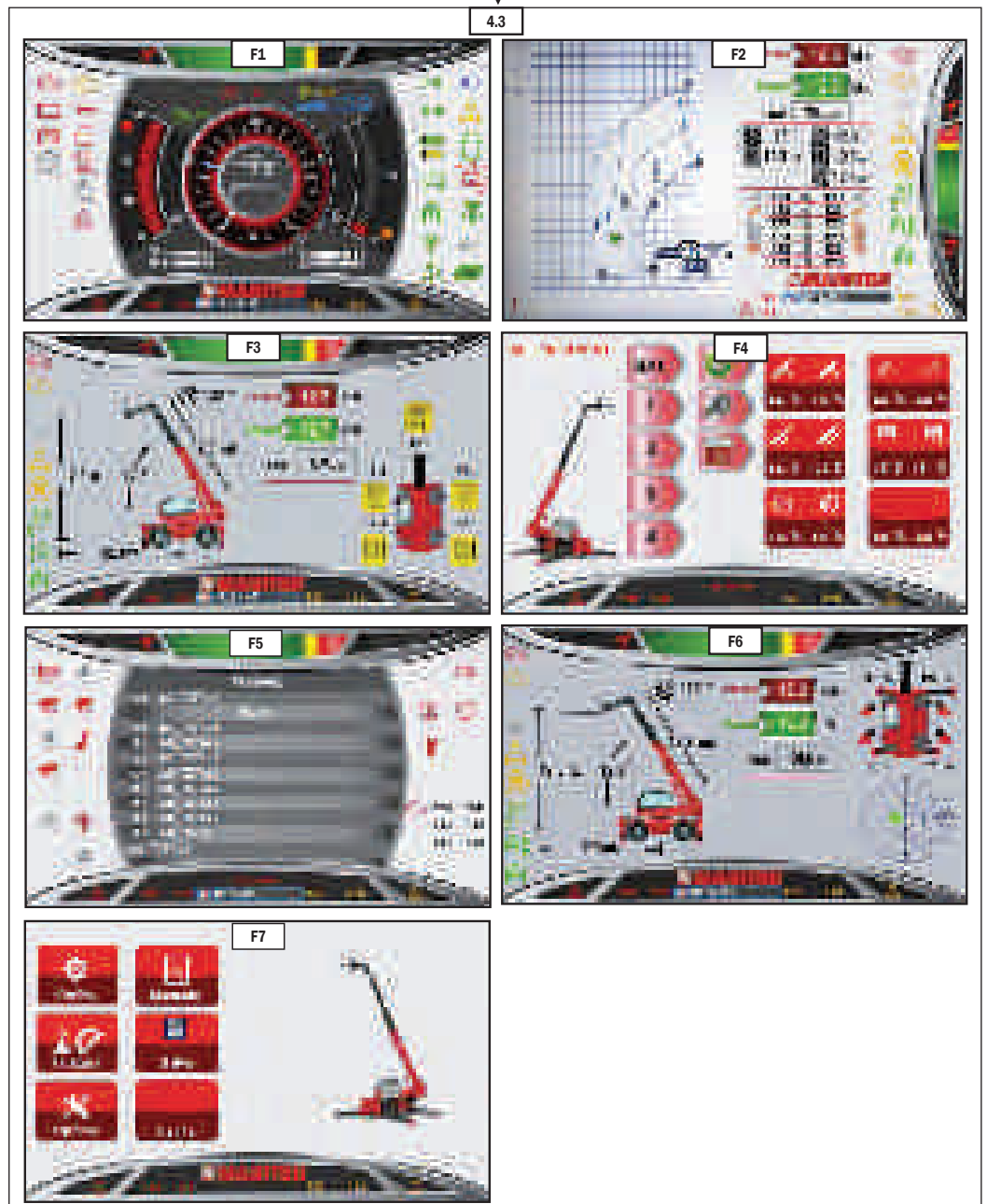
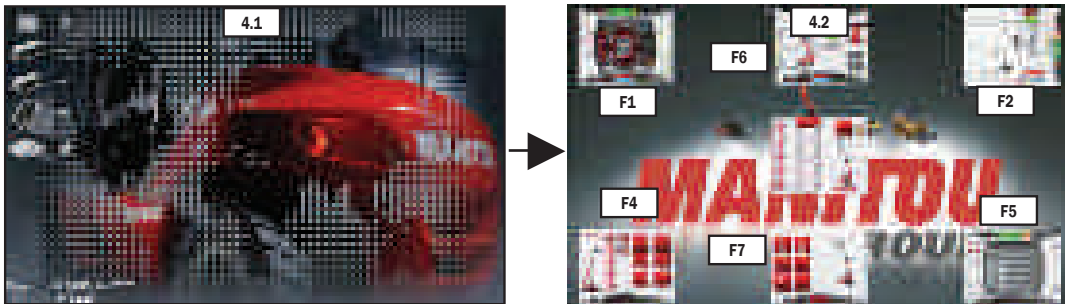
The control panel (1, 4) with colour screen 9" display shows and informs the operator of all the steps of the working of the telehandler.

Eight control modes are saved in memory of the HMI panel (4.3) and these can be selected by machine-human interface keypad (2, 4) on the armrest (3, 4) in cabin.




CONTROL PANEL PAGES

- Splash screen (4.1)
- Menu page (4.2):
 - Driving page (F1, 4.3)
 - Working page (F2, 4.3)
 - Geometric limits page (F3, 4.3)
 - Maximum speed of hydraulic movements page (F4, 4.3)
 - Alarms page (F5, 4.3)
 - Stability page (F6, 4.3)
 - Setting page (F7, 4.3)



MACHINE DISPLAY CONTROLLER







Keypad with encoder (1, 4.4)

This instrument (1,  4.4) provide excellent tactile feedback to the user and the greatest advantage of encoder is increase the functions in one control.

Put display functions within reach











- 5 hot keys for rapid navigation
- scroll with rotary encoder knob
- Select with pushbutton










Functions:

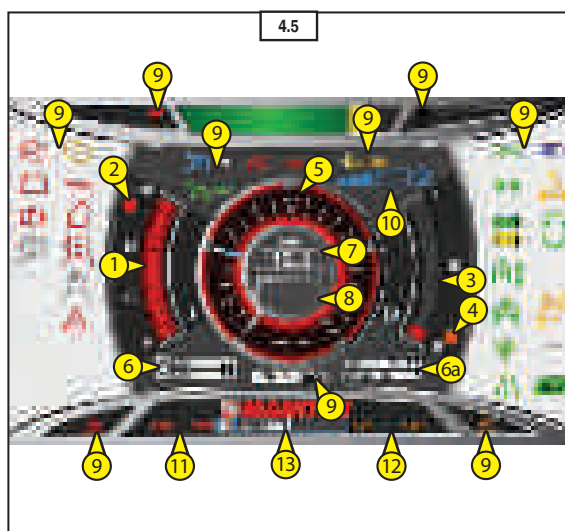
- Rotary encoder knob with select pushbutton (2,  4.4): turn the knob to scroll the pages and to navigation into pages (if possible) after press it to select or confirm the choice.
- LOAD CHART key (2b,  4.4) press it to enter in "F2 - Load limiter page",
- HOME key (2c,  4.4): push it to enter in "Machine diagnostic mode control",
- BACK key (2d,  4.4): press it to back in the choice,
- MENU key (2e,  4.4): press it to enter in "Menu screen",
- OPTIONAL key (2f,  4.4): from "F1 - Driving page" press it to enter in the "Driving setup page".









































Control modes saved in memory**F1 - DRIVING PAGE**





1. Engine coolant temperature gauge indicator (1,  4.5)
2. The indicator warning lights up when (2,  4.5):
 - the engine coolant is overheating
 - or low liquid level
3. Fuel level indicator (3,  4.5)
4. The indicator lamp lights up (4,  4.5) when the fuel level in the tank is lower than 10% of its capacity
5. Rev counter (x100 rpm) (5,  4.5)
6. Partial (p) and total (t) hour-counter (6,  4.5)
 - 6.1. Time(t) and date (d) (6a,  4.5)
7. Speedometer (km/h or mph) (7,  4.5)
8. Moving direction indicator (8,  4.5):
 - N= neutral
 - F= forwards
 - R= reverse
9. Warning and indicator lamps (9,  4.5)
Symbol overview:

	position lights
	low beams
	high beams
	direction lights
	rear axle lock
	front wheels alignment
	rear wheels alignment
	front wheel steering
	concentric wheel steering







	crab steering
	telescopic boom hydraulic movements control
	green indicator light On, turret aligned to the truck and turret rotation pin is deactivated
	yellow indicator light on, turret almost aligned with the truck and the turret rotation pivot is deactivated
	green indicator light on, turret aligned to the truck and turret rotation pin is activated. Turret rotation blocked.
	resetting movement safety system
	suspensions
	suspensions completely lowered
	suspensions completely raised
	suspensions halfway
	handling and loader mode
	road travel mode
	eco fuel mode
	retarder (optional)
	telescopic boom suspension (optional)
	remote control (optional)
	I.C. engine severe fault
	I.C. engine malfunction
	alternator excitation
	I.C. engine oil pressure
	I.C. engine oil level (0-100 %) (The red warning lamp lights on when the level is under at 20 %)
	engine intake air filter
	transmission oil filter
	parking brake
	telehandler door
	hydraulic oil filter
	hydraulic oil filter delivery is blocked or damaged

	service (maintenance required)
	hydraulic oil filter exhaust is blocked or damaged
	hydraulic oil filters delivery and exhaust is blocked or damaged
	boom chains anomaly anomaly (according to standard EN 280:2001+ EN 280: 2001/ A1: 2004).
	diesel exhaust fluid (DEF) level indicator
	emissions-relevant malfunction of the exhaust gas aftertreatment system or DEF supply
LIM	Machine speed or torque operating restriction
	cruise control
	setting the maximum speed of the machine
	"emergency stop" red button
	safety system exclusion
	warning / alarm

10. Diesel exhaust fluid (DEF) level indicator that provides information about the quantity of DEF in the tank (10,  4.5).
11. Machine alarm code: in normal operating conditions are displayed (11,  4.5).
12. Machine warning code: in normal operating conditions are displayed (12,  4.5)
13. Messages area and confirm of accessory (13,  4.5).

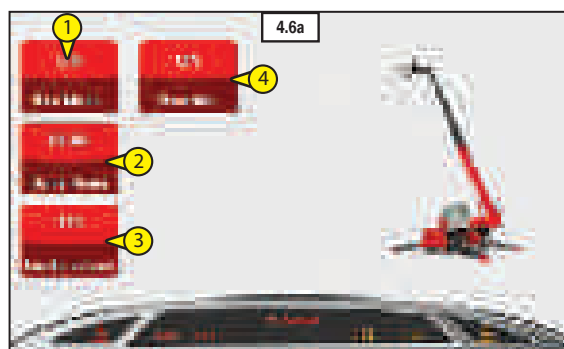
F1.1 - DRIVING SETUP PAGE

From "F1 - Driving page" press the OPTIONAL key on keypad to enter in the "Driving setup page":

14. Eco fuel mode ON-OFF (1,  4.6a)
15. Drive mode select (2,  4.6a):
 - road
 - forks
16. Setting the maximum speed of the machine (3,  4.6a).
17. Override ON-OFF (4,  4.6a).

Rotate the knob encoder to choose the setting mode and press it to select the setting mode.














Rotate the knob encoder to set the mode. Press the knob encoder to confirm the setting mode.





F2 - WORKING PAGE

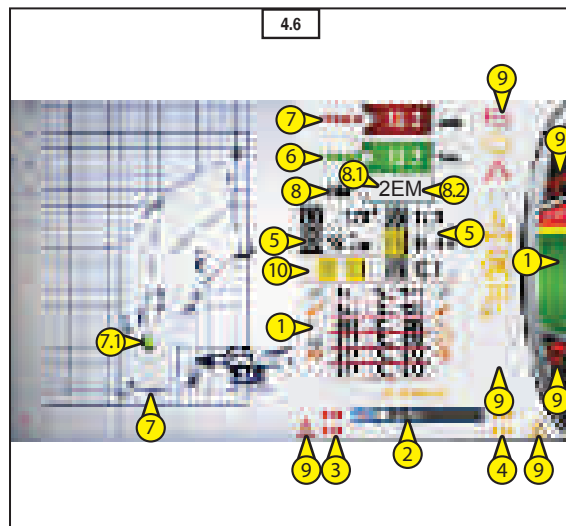
1. Load conditions




The colored bar indicate the percentage of the load lifted referred to the operative condition of the machine:

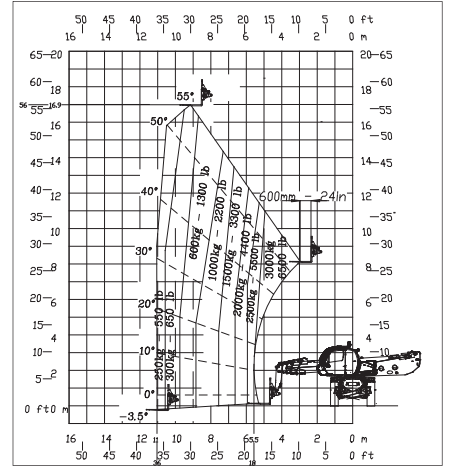
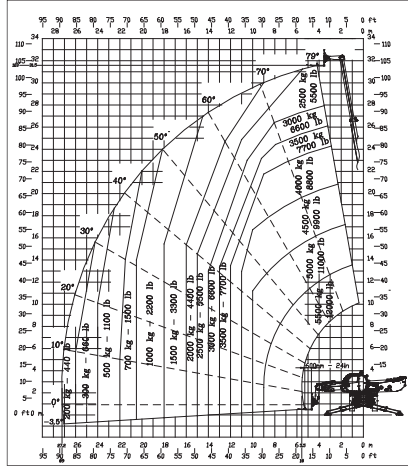
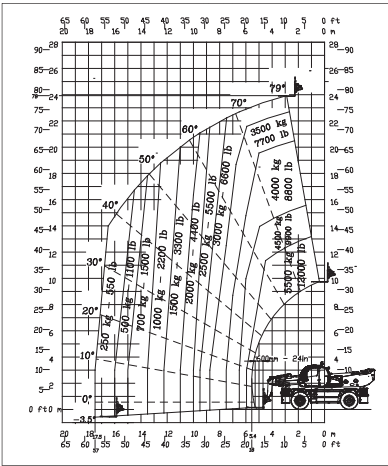
 - Green reference (1a,  4.6): safety area.
 - Yellow reference (1b,  4.6): alarm area, load lifted 90% more than permitted load (external warning sound active) .
 - Red reference (1c,  4.6): Block area, load lifted 100% more than permitted load (external warning sound active).
2. Messages area and confirm of accessory (2,  4.6)
3. Machine alarm code: in normal operating conditions are displayed (3,  4.6)
4. Machine warning code: in normal operating conditions are displayed (4,  4.6)
5. Reading main operating data
 - Height off the ground (H) (reading in "Meters ■", with a decimal) (5,  4.6)
 - Boom angle (A) (reading in "Degrees ■", with a decimal) (5,  4.6)
 - Boom length (L) (reading in "Meters ■", with a decimal) (5,  4.6)
 - Operating radius (R) Measurement of the distance from the fifth wheel centre to the projection of the point of application of the load.(reading in "Meters ■", with a decimal) (5,  4.6).
 - Weight of load lifted (LOAD) (reading in "Tons ■", with a decimal) (6,  4.6).
 - Maximum permitted load (MAX) in the current configuration of the machine (7,  4.6) (reading in "Tons ■", with a decimal).
 - Turret angle (°) (reading in "Degrees ■") (5,  4.6).




■: metric unit [length unit (m) and weight unit (ton)] or imperial unit [length unit (ft) and weight unit (kLb)]

6. Geometric limits set (10,  4.6)
( F3 - GEOMETRIC LIMITS PAGE)

















7. Slowing settings view (6,  4.6) (For more details:  next paragraph “Slowing page”).
8. Dynamic load chart (7, 7.1,  4.6).
Forks example:



9. Working configuration
 - The first digit concerns the operating mode (8.1,  4.6):
 - 1 = On Stabilisers
 - 2 = On wheels (front turret).
 - 3 = On wheels (turret rotated).
 - 4 = On stabilisers partially extended.
 - The second digit (8.2,  4.6) concerns the equipment being used (PT, forks, etc...).
10. Function and alarm indicator lights (9,  4.6)

Symbols overview:

	I.C. engine severe fault
	I.C. engine malfunction
	telescopic boom suspension (optional)
	rear axle lock
	green indicator light On, turret aligned to the truck and turret rotation pin is deactivated
	yellow indicator light on, turret almost aligned with the truck and the turret rotation pivot is deactivated
	green indicator light on, turret aligned to the truck and turret rotation pin is activated. Turret rotation blocked.
	suspensions
	suspensions completely lowered
	suspensions completely raised
	suspensions halfway
	“emergency stop” red button
	safety system exclusion
	warning / alarm






F3 - GEOMETRIC LIMITS PAGE

From "F2 - Working page" press the OPTIO-NAL key on keypad to enter in the "F3-GEOMETRIC LIMITS PAGE":

1. Geometric limits
Ranges from 1 to 5 indicate the programmed limit value.

With the icon switched on, the limit is exceeded and the movements are blocked.

Indication appears when the limiter is programmed:

- Height limitation (1,  4.7)
- Limitation to the RH (2,  4.7)
- Limitation to the LH (3,  4.7)
- Limitation clockwise direction of rotation (4,  4.7)
- Limitation anticlockwise direction of rotation (5,  4.7)

Setting the work area limit


- Stop the machine movements.
- Display page "F3 - GEOMETRIC LIMITS PAGE".
- **The operator must position the machine, turret and telescopic boom in the working position and restrict a limited area of action.**
- Now program each work area limit by using the keypad, rotating the knob to select the area limit and press the knob button to confirm and set the choice.
- Press the BACK key on keypad to return in "F2 - Working page".





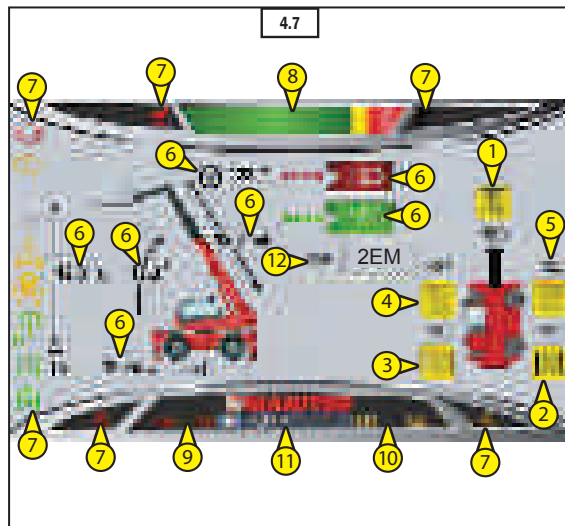
Make sure the display shows the selected limit values. If no value is displayed (for example, "0.0") it means the limits are not set, or are disenabled.





- To RESET one or more work area limits, keep the knob corresponding to the work limit pressed for a few seconds.

















For reasons of safety, even with the work area limit programs activated, check the machine dimensions during the work phases ( 4.7).

2. Reading main operating data.
Current values (6,  4.7)
3. Working configuration (12,  4.7)









4. Messages area and confirm of accessory (11,  4.7)
5. Machine alarm code: in normal operating conditions are displayed (9,  4.7)
6. Machine warning code: in normal operating conditions are displayed (10,  4.7)
7. Function and alarm indicator lights (7,  4.7)

Symbols overview:









	I.C. engine severe fault
	I.C. engine malfunction
	telescopic boom suspension (optional)
	rear axle lock
	green indicator light On, turret aligned to the truck and turret rotation pin is deactivated
	yellow indicator light on, turret almost aligned with the truck and the turret rotation pivot is deactivated
	green indicator light on, turret aligned to the truck and turret rotation pin is activated. Turret rotation blocked.
	suspensions
	suspensions completely lowered
	suspensions completely raised
	suspensions halfway
	"emergency stop" red button
	safety system exclusion
	warning / alarm

F4 - SLOWING PAGE

Is possible to save five systems to work:

1. Slowing down (1,  4.8):
 - Maximum speed (100%) (1a,  4.8)
 - 1 Slowing down (1b,  4.8)
 - 2 Slowing down (1c,  4.8)
 - 3 Slowing down (1d,  4.8)
 - 4 Slowing down (1e,  4.8)


Is possible to set the maximum speed of hydraulic movements control:






- maximum ascent speed of telescopic boom (2a,  4.8)
- maximum descent speed of telescopic boom (2b,  4.8)
- maximum extension speed of telescopic boom (2c,  4.8)
- maximum retraction speed of telescopic boom (2d,  4.8)
- maximum speed of inclination of load upwards (2e,  4.8)
- maximum speed of inclination of load downwards (2f,  4.8)
- maximum speed of attachment movements control: ascent, clockwise rotation, to the RH, upward inclination (depending on the attachment installed) (2g,  4.8)
- maximum speed of attachment movements control: descent, anticlockwise rotation, to the LH, downward inclination (depending on the attachment installed) (2h,  4.8)


The maximum speed of hydraulic movements control is expressed in percentage: from 0 to 100 % .


To select a system to work

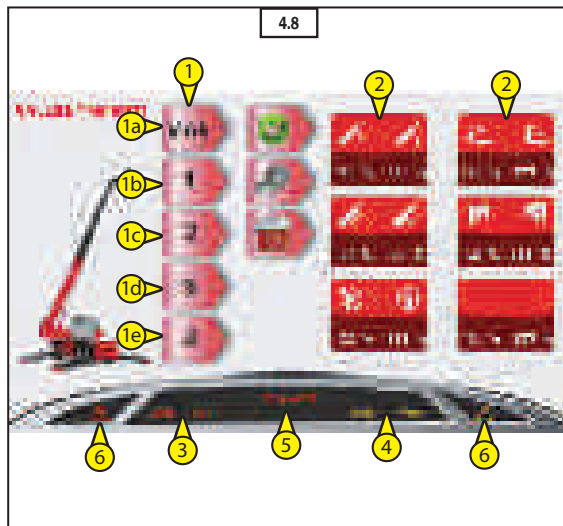
Select the "F4 - Slowing page" ( 4.8)

Rotate the knob encoder on keypad to select the "Slowing down" system work (1,  4.8):


















- MAX (1a,  4.8)
- 1 (1b,  4.8)
- 2 (1c,  4.8)
- 3 (1d,  4.8)
- 4. (1e,  4.8)

Press knob encoder to confirm the "Slowing down" system work selected ( 4.8).

Automatically will open the "Working page" ( 4.6). with "Slowing down" system work selected.









To set and save the “2 Slowing down” system to work (example):

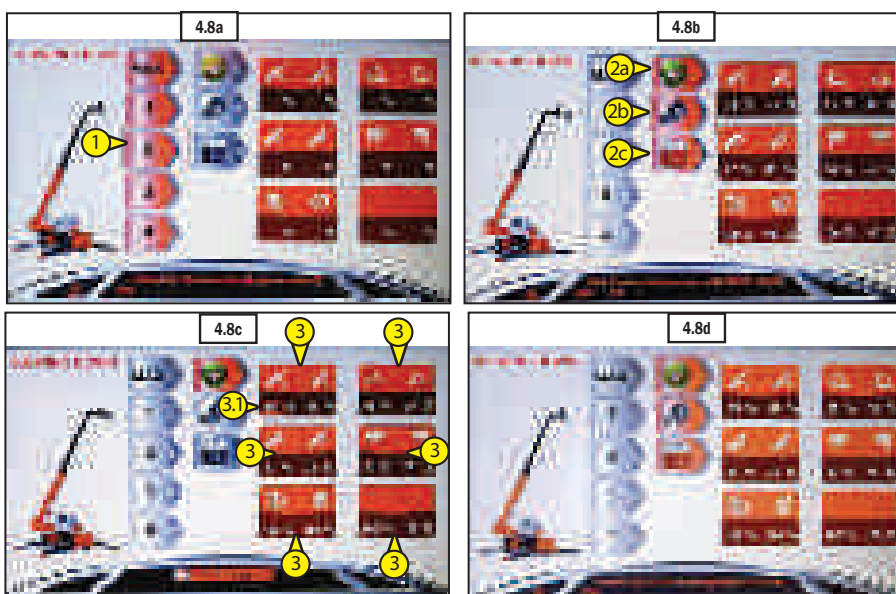
- Rotate the knob encoder to scroll the “Slowing down” (1,  4.8)
- Press the knob encoder to select the “2 Slowing down” system work (1b,  4.8a) and settings space are shown ( 4.8).
- Rotate the knob encoder to choose the controls (2,  4.8b) of:
 - saving (2a,  4.8b)
 - setting (2b,  4.8b)
 - deleting (2c,  4.8)
- Press the knob encoder to enter in the “setting” screen (3,  4.8c).
- Rotate the knob encoder to select the hydraulic movement to be set (3,  4.8c). In correspondence of hydraulic movement a cursor lights up (3.1,  4.8c).
- Press the knob encoder to enter in percentage setup (3.1,  4.8c).
- Rotate the knob encoder to set the percentage (3.1,  4.8c) of maximum speed of hydraulic movements control.
- Press the knob encoder to confirm the percentage set (3.1,  4.8c).
- Repeat these steps for each hydraulic movement to be set (3.1,  4.8).
- Rotate the knob encoder to choose the controls (4,  4.8d) of:
 - Saving (4,  4.8d)
- Press the knob encoder to save the settings (4,  4.8d).

To delete the “2 Slowing down” system to work from memory (example)

Select the “F4 - Slowing page” ( 4.8)

Rotate the knob encoder on keypad to select the “2 Slowing down” system work (1,  4.8a),

- Rotate the knob encoder to choose the controls (2,  4.8b) of:
 - setting (2a,  4.8b)
- Press the knob encoder on “setting” (3b,  4.8) to select the hydraulic movement to be delete.
- Rotate and press the knob encoder on:
 - deleting,
 - to delete the settings (1a,  4.8)
 - into “2 Slowing down” system work (1a,  4.8).



2. Messages area and confirm of accessory (5, 4.8)
 3. Machine alarm code: in normal operating conditions are displayed (3, 4.8)
 4. Machine warning code: in normal operating conditions are displayed (4, 4.8)
 5. Warning and alarm indicator lights (6, 4.8)
- Symbol overview:

	warning / alarm
--	-----------------

F5 - ALARMS PAGE

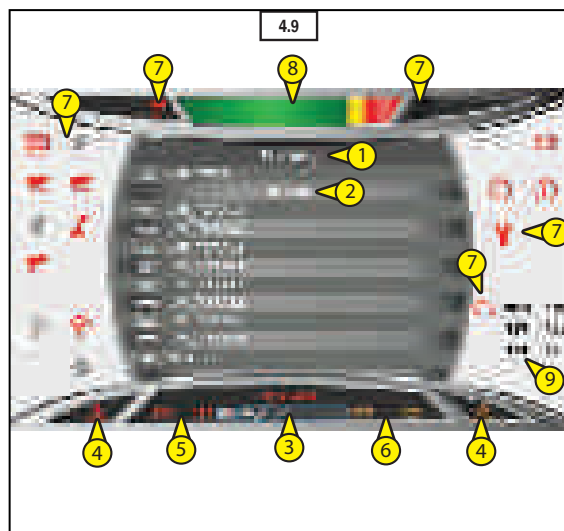
The indicators with the red light on the central unit or the component indicate an error or an anomaly.



















In the event of a component failure, the system stops all the movement.

1. Colored bar indicate load conditions (8, 4.9)
2. Engine units errors codes (9, 4.9)
3. Warning list (1, 4.9)
Example: 123 [code warning] LMI_TXTAL1 [description warning]
4. Alarm list (2, 4.9)
Example: 123 [code alarm] LMI_TXTAL1 [description alarm]
5. Messages area (3, 4.9)
 - Attention, alarm telehandler (4, 4.9).
 - Telehandler alarms code (5, 4.9).
 - Telehandler warnings code (6, 4.9).
 - Red warning lights and indicator lights (7, 4.9)











Symbol overview:






	DISPLAY, display in cab
	IO-CORE, control unit to control the voltage
	MC2M unit on turret

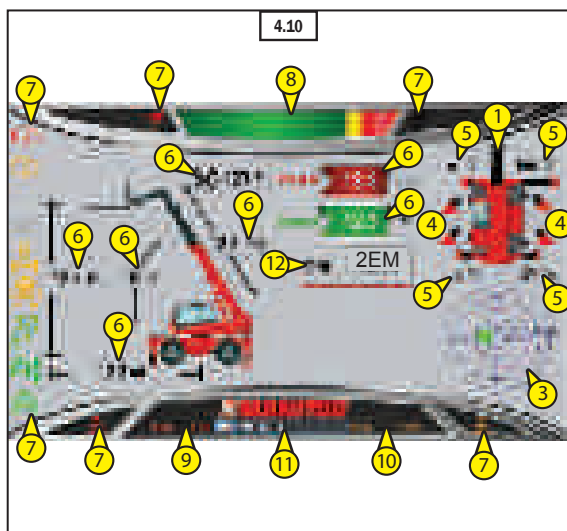











	MC2M unit on frame
	LMI load limiter control unit
	joystick
	turret rotation encoder
	LE70 unit suspensions
	acknowledgement of attachment
	radio remote controles (optional)
	extension outriggers boom encoder
	telescopic boom winder encoder
	pressure transducers
	distributor
	hydrostatic transmission alarm
	I.C. engine malfunctions
	I.C. engine stop
	service
	"emergency stop" red button
	safety system exclusion
	warning / alarm

F6 - STABILITY PAGE










1. Graduated electronic level gauge.
Makes it possible to check the level (3,  4.10) of inclination of the machine in the transverse and longitudinal direction.
If necessary, adjust the machine inclination using the levelling and/ or stabilizers.
 2. Stability and Resting area.
During the working phase, it is possible to display the area on which the machine rests on the ground. The machine's (1,  4.10) resting surface depends on the operating mode selected (stabilizers, wheels, etc..).
On the stabilizers:
the machine's resting area is represented by:
 - 4 stabilisers extended (5,  4.10)
Reading in “%” from 0 to 100.
 - 4 stabilisers resting on the ground (4,  4.10).
The symbol turns red.
 3. Reading main operating data.
Current values (6,  4.10)
 4. Working configuration (12,  4.10)
 5. Messages area and confirm of accessory (11,  4.10)
 6. Machine alarm code: in normal operating conditions are displayed (9,  4.10)
 7. Machine warning code: in normal operating conditions are displayed (10,  4.10)
 8. Function and alarm indicator lights (4,  4.10)
- Symbols overview:




	I.C. engine severe fault
	I.C. engine malfunction
	telescopic boom suspension (optional)
	rear axle lock
	green indicator light On, turret aligned to the truck and turret rotation pin is deactivated

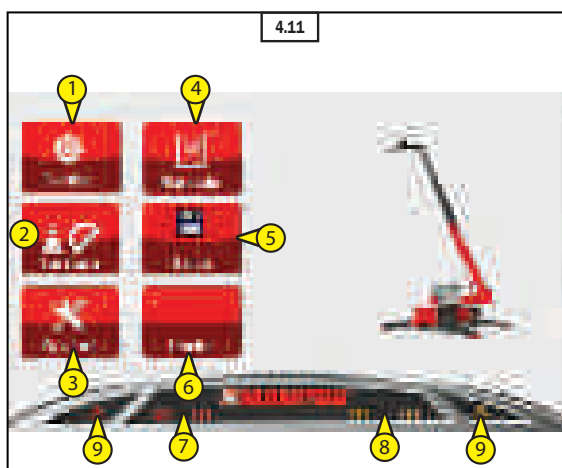


	yellow indicator light on, turret almost aligned with the truck and the turret rotation pivot is deactivated
	green indicator light on, turret aligned to the truck and turret rotation pin is activated. Turret rotation blocked.
	suspensions
	suspensions completely lowered
	suspensions completely raised
	suspensions halfway
	"emergency stop" red button
	safety system exclusion
	warning / alarm

F7 - SETTINGS PAGE






1. Settings:
 - Configurations (1,  4.11)
 - Calibrations (Only with password) (2,  4.11)
 - Options (3,  4.11)
 - User manual (If available) (4,  4.11)
 - Save (5,  4.11)
 - Exit (6,  4.11)
 2. Machine alarm code
In normal operating conditions are displayed (7,  4.11)
 3. Machine warning code
In normal operating conditions are displayed (8,  4.11)
 4. Warning and indicator lamps (9,  4.11)
- Symbols overview:


	"emergency stop" red button
	safety system exclusion
	warning / alarm















Configurations (1,  4.11)

Press the knob encoder to select and to access at the functions:

- Language (1,  4.11a)
 - Brightness (2,  4.11a)
 - Password 1 (only with password) (3,  4.11a)
 - Password 2 (only with password) (4,  4.11a)
 - Unit (only with password) (5,  4.11a)
- Press the knob encoder to enter in the function.
 - Rotate the knob encoder to set the function.
 - Press the knob encoder to confirm the setup.
 - Press the "Home" key on keypad to return in the "Menu" screen.

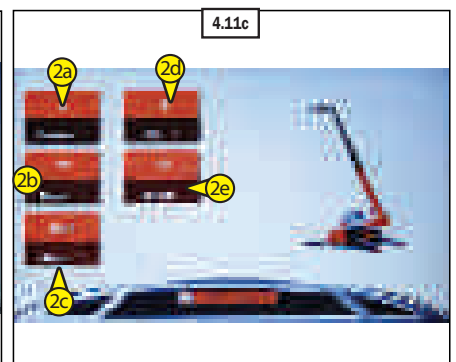
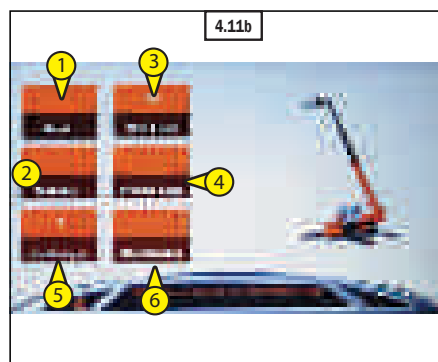
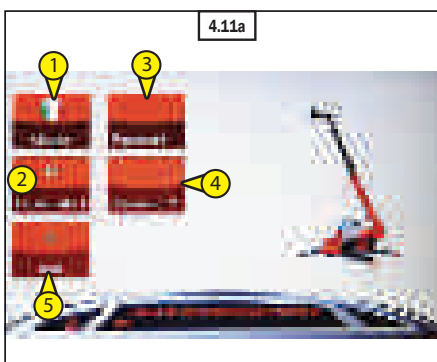
Options (3,  4.11)

Rotate the knob encoder to choose the functions:

- Hours zeroing (1,  4.11b)
Keep pressed the knob encoder to reset in "Hours" (6,  4.11b).
- Time setting (2,  4.11b):
 - day (2a,  4.11c)
 - month (2b,  4.11c)
 - year (2c,  4.11c)
 - hour (2d,  4.11c)
 - minutes (2e,  4.11c)
 Press the knob encoder to enter in these functions and settings.
- TUV limit (only with password) (3,  4.11b)
- Machine settings (only with password)(5,  4.11b)
- Event log (only with password) (4,  4.11b)
- Distributor (only with password) (6,  4.11b)

Save (5,  4.11b)

Push the knob encoder to save the settings.



5 - DIAGNOSIS SOCKETS

Remove cover (1.3, 5) to access diagnosis sockets (1.1, 5) and (1.2, 5) :

1.1 - Machine electronics

1.2 - Mercedes-Benz Diagnostics

6 - SERVICE BRAKES PEDAL

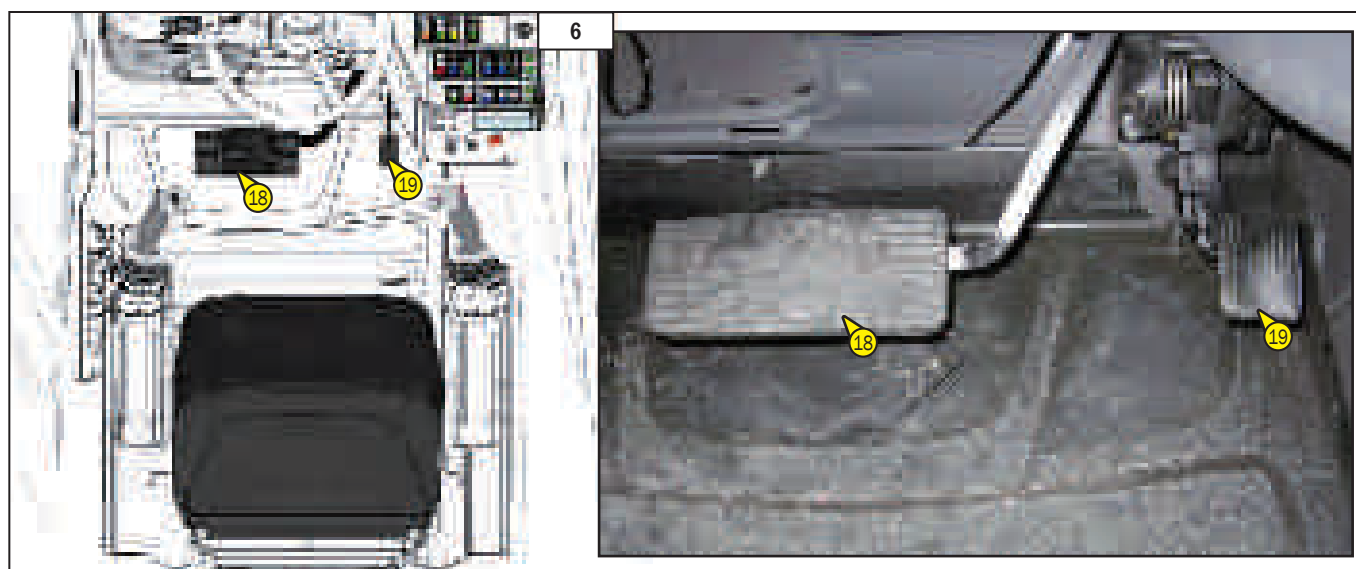
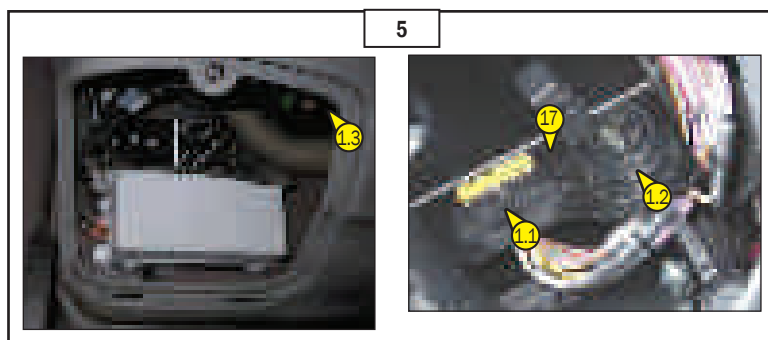
(6)

The pedal acts on the front and rear wheels and makes it possible to slow down and block the forklift truck. In the initial 20 mm of travel, the brake pedal acts as the Inching pedal to allow slow, accurate movements, and during the remaining part of the travel it produces the braking effect.

7 - ACCELERATOR PEDAL

(6)

Electronic pedal which is used for changing the forklift truck speed by acting on the rpm of the I.C. engine.



8 - FORWARD/NEUTRAL/ REVERSING MOVEMENT SELECTOR

FORWARD MOVEMENT: Push the switch forwards (position **F**). (7)

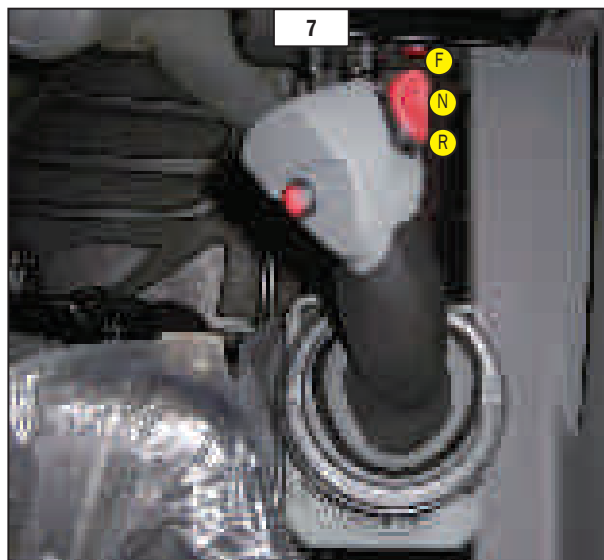
REVERSING: Pull swicth bakcwards (position "**R**") (7).

NEUTRAL: To start up the forklift truck the switch must be in the neutral position (position "**N**") (7).

The control panel displays, in "road travel mode (**F1**)", the direction of movement selected (**F - N - R**) (7).


The gear change of the forklift truck must be done at low speed, without accelerating. (7)

! *If the cab door is open, the movement of the vehicle is blocked.*





9 - STEERING WHEEL ADJUSTER LEVER

The lever is used to adjust the steering wheel according to the operator:


- push lever (1,  8) downwards to slacken the grip of the steering wheel block,
- the height is adjusted,
- the telescopic adjustment is made
- Pull the lever upwards to block the steering wheel.

10 - CONTROL LEVER FOR LIFTING LH ARMREST OF SEAT

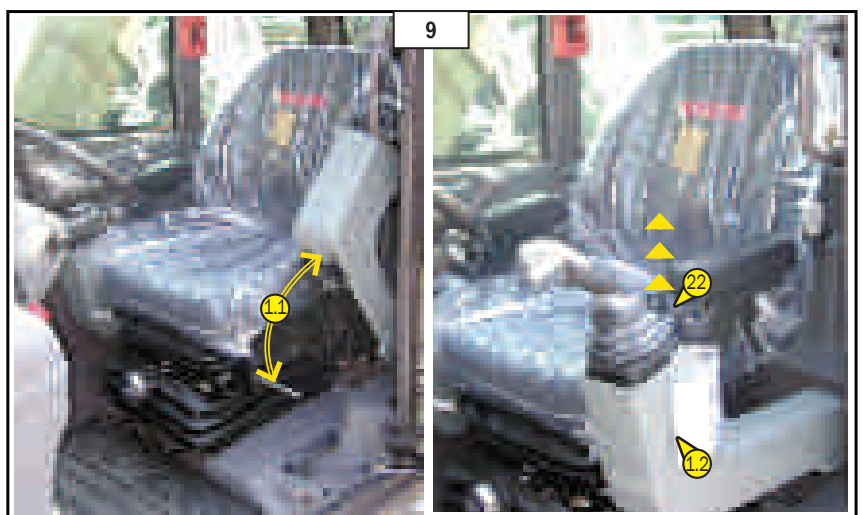
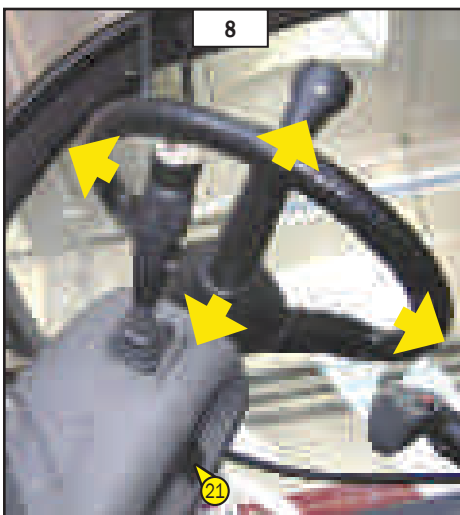
Pull the lever (2,  9) upwards to unlock the arm-rest to the LH of the operator. The arm-rest can be set in two positions.

Position (1.1,  9)



The arm-rest is in the raised position between the seat and cab column. In this position it is easier for the operator to enter the cab.

Position (1.2,  9)

The arm-rest must be in this position when the operator is in the driving seat.



11 - PROPORTIONAL ELECTRO-HYDRAULIC SERVO-CONTROLS



The forklift truck is equipped with two electro-hydraulic servocontrols, one to the RH (1.1, ) of the operator and the other to the LH (1.2, ) both on the arm-rests to ensure better control and comfort.



The manipulators work only with the cab door closed and the manoeuvre consent pushbuttons pressed.

Servocontrol (1.1,)



It can simultaneously activate two double-action movements: lifting the load and inclining the forks.


To enable and carry out the movements keep the manoeuvre enable (OK, ) on manipulator (1.1, ) pressed.

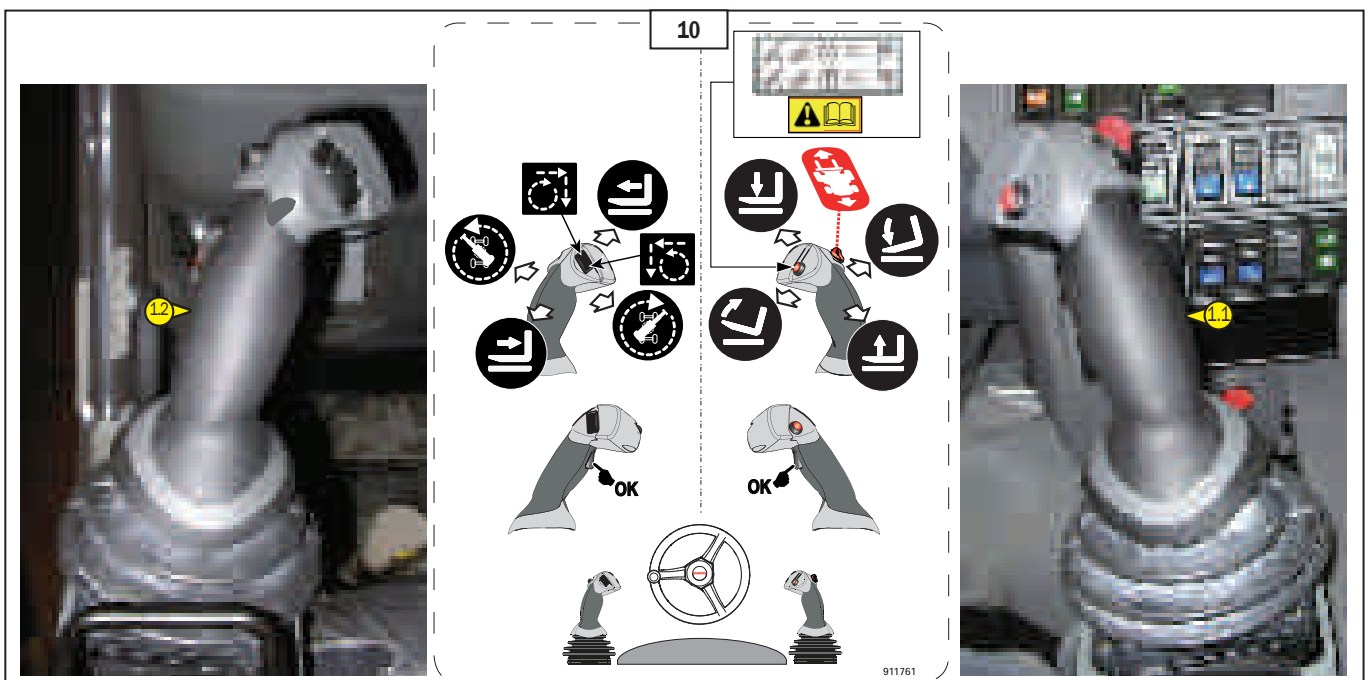
- To raise the load, pull the lever backwards. leva.
- To lower the load, push the lever forwards. avanti .
- To incline the fork downwards push the lever to the RH.
- To incline the fork upwards push the lever to the LH.
- Pushbutton for setting maximum speed of hydraulic movements

Servo-control (1.2,)



It can simultaneously activate three double-action movements: Telescopic boom extension, turret rotation and optional command.

To enable and carry out the movements keep the manoeuvre enable (OK, ) on manipulator (1.2, ) pressed.

- To extend the telescopic boom press the lever forwards.
- To retract the boom, pull the lever backwards. la leva.
- To rotate the turret clockwise push the lever to the RH.
- To rotate the turret anticlockwise push the lever to the LH.
- To control the movements of the optional turn the roller on the lever (1.2, )




12 - OPTIONAL EXCLUSION CONTROL SWITCH





Switch enables and disables the optional roller (1,  11) command (rope ascent/descent) on servo-control (1.2,  10).

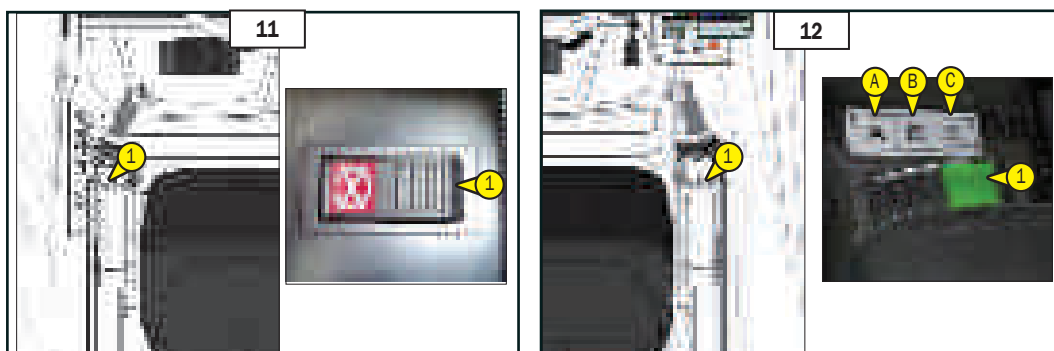


The attachment can be used only after enabling the optional.


13 - SELECTOR FOR MOVEMENTS OF ACCESSORIES AND PLATFORMS



Select the function of the roller on servo-control (1.2,  12)(LH).

When the selector is in position (A,  12) the servo-control (1.2,  10) roller (LH) activates a hydraulic attachment (if present). If the attachment has more than one hydraulic movement press the selector in (B,  12) or in (C,  12).






14 - ROTATION BLOCKING PIN CONTROL LEVER

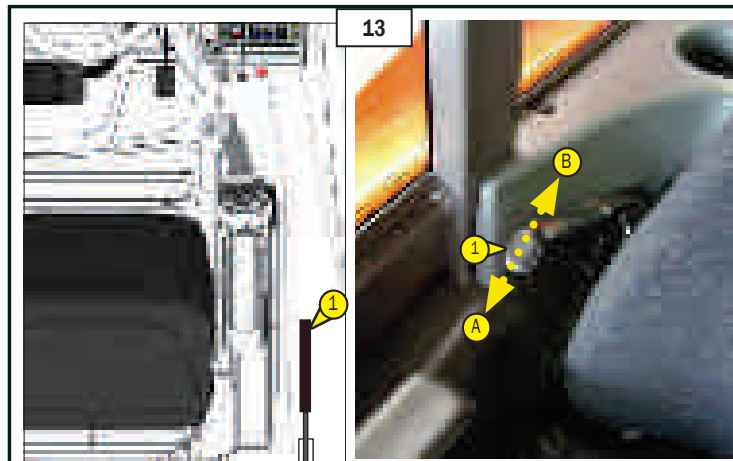
This lever (1,  13), on the RH of the operator, controls the pin which blocks the hydraulic rotation of the forklift truck. The lever has two positions:

- To insert the blocking pin, push the lever in position (A,  13)
- To deactivate the blocking pin pull the lever backwards in position (B,  13)



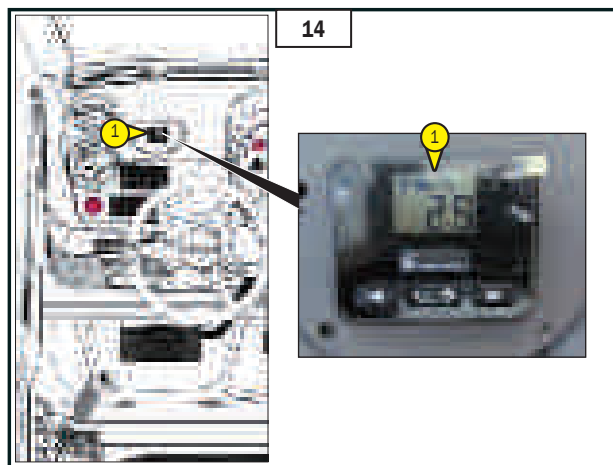
Before inserting the pin in its seat to block the rotation, check to make sure the upper part of the forklift truck (turret) is aligned by means of indicator ( 4). When the pin is inserted indicator ( 4), indicates that the pin is in its seat. It is important when using the "Rotation" command to check by means of indicator ( 4).

For correct and optimum use of this device, refer to paragraph "USING THE ROTATION DEVICE" (See Chapter 1-INSTRUCTIONS).




15 - SWITCHING ON AND REGULATING **HEATING (1, 14)**

See the manual attached: **OPERATING INSTRUCTIONS EASYSTART SELECT.**



16 - WINDSCREEN-WIPER LIQUID TANK


Present on the LH of the operator. Unscrew cap (1, ) 15), and make sure the tank is always full. Liquid to be used: water + detergent for glass windows (use an anti-freeze in winter)



17 - CEILING LIGHT

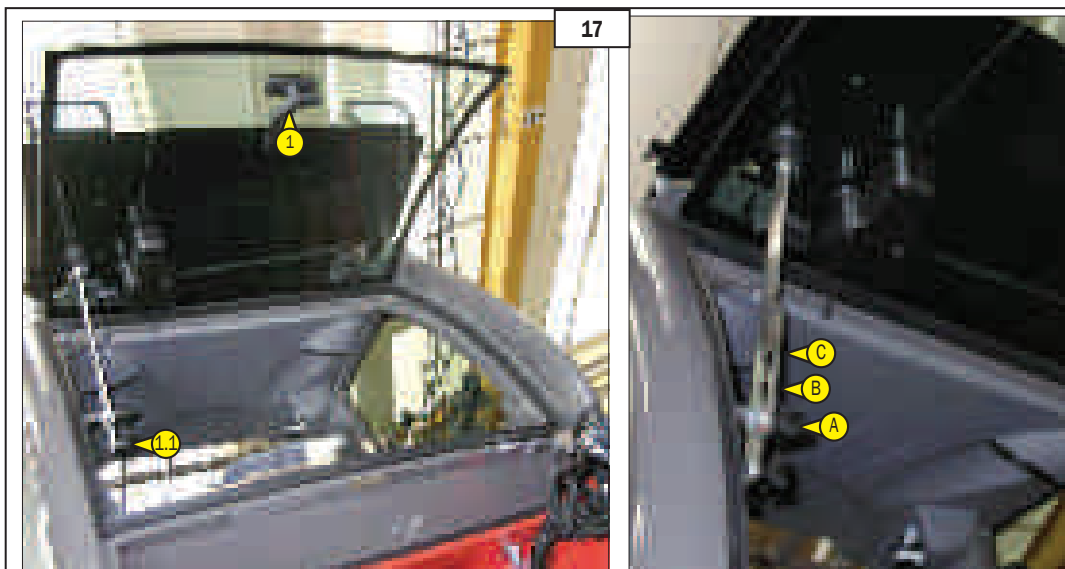
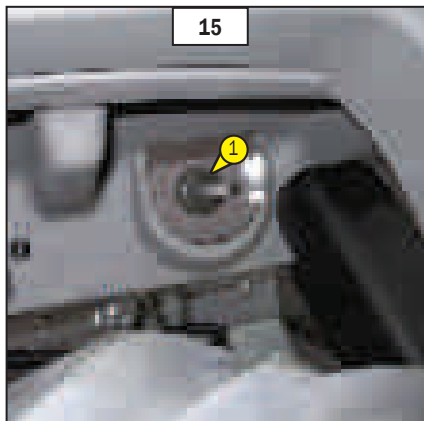
(1, ) 16)

The switch is built into the ceiling light. It has two positions: continuous lighting and Off.


18 - REAR WINDOW OPENING LEVER


To open the rear window pull the lever (1, ) 17) clockwise and push the window.

Use knob (1.1, ) 17) to block the rear window in three different positions (A, B, C, ) 17).



19 - DOOR CLOSURE

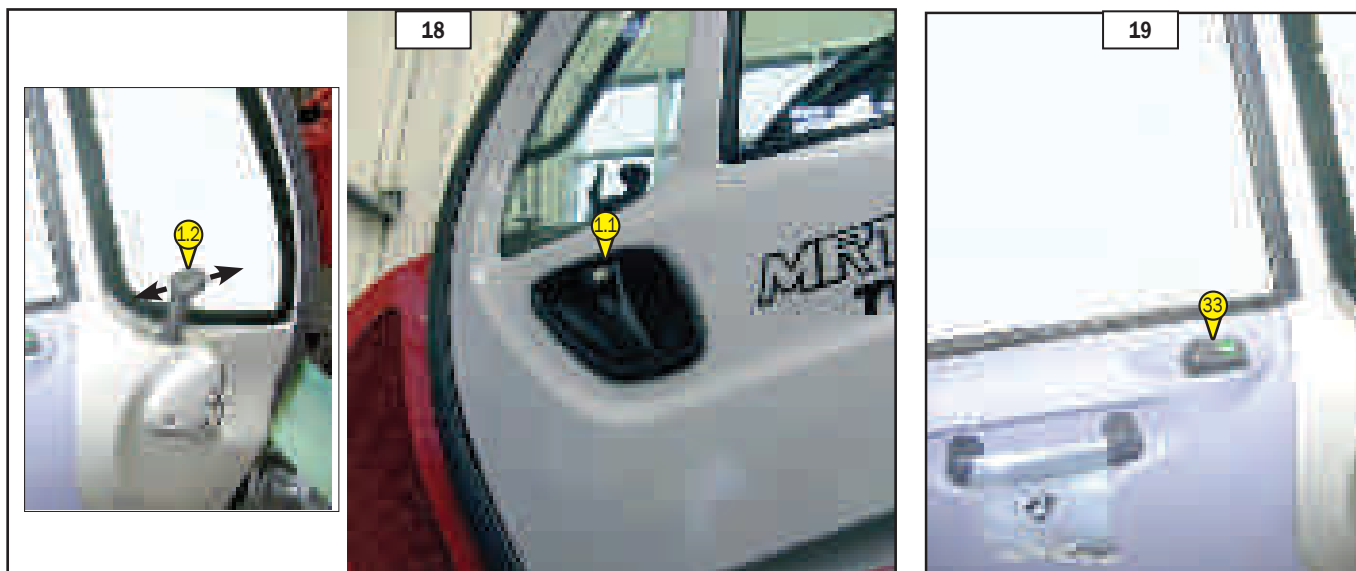
External closure: To open the door press button (1.1,  18). Two keys are supplied with the truck for closure.

Internal closure: To open the door, grip lever (1.2,  18) and push it forwards.


20 - ELECTRIC WINDOWS

(1,  19)

Keep the button pressed to slide the window up or down.



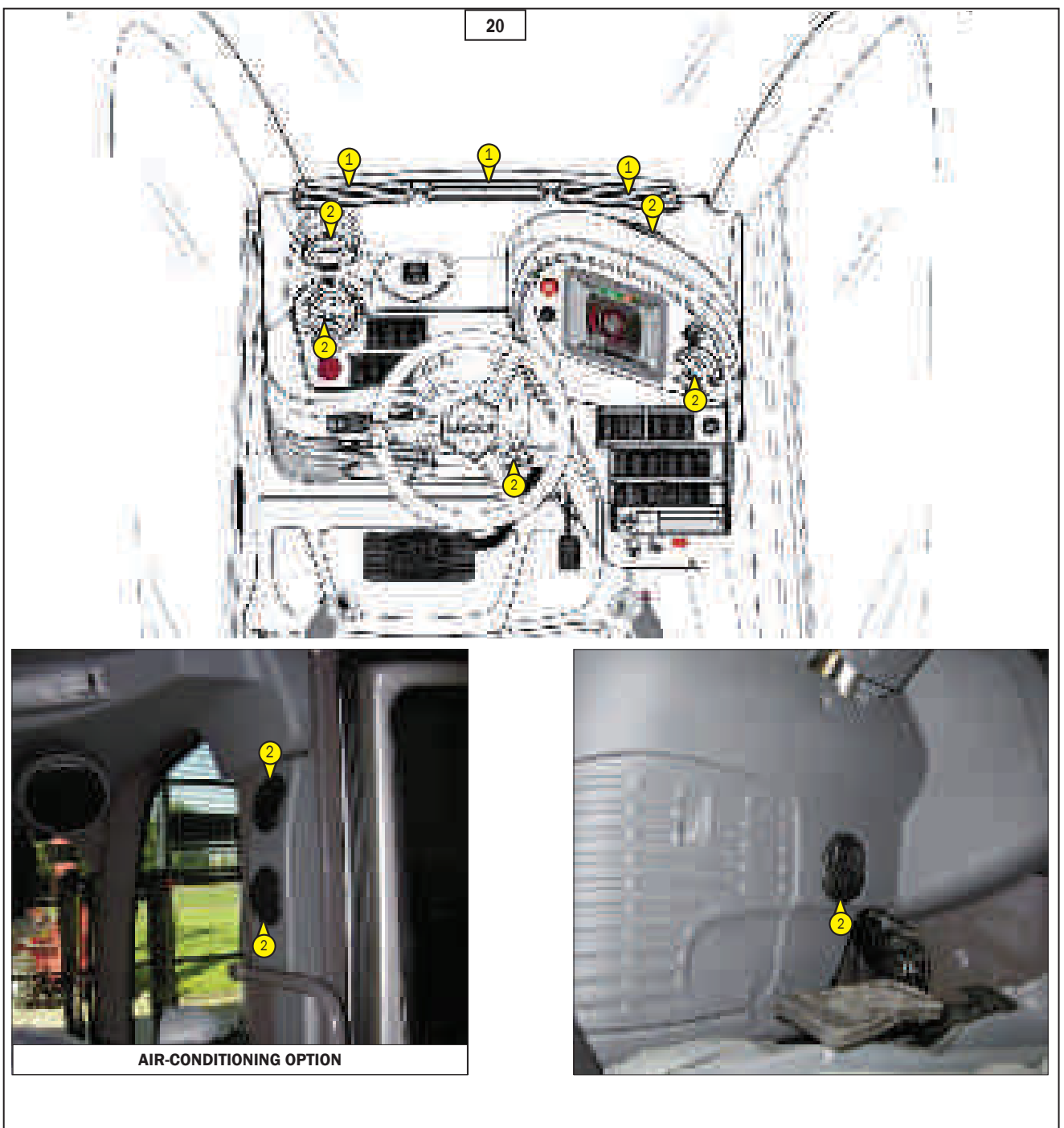
21 - AIR DIFFUSERS FOR DEMISTING WINDSCREEN

For optimum performance, close the heating diffusers (1,  20).

22 - AIR DIFFUSERS OF HEATING

(2,  20)

The heating diffusers make it possible to distribute the ventilated air inside the cab and on the side windows.

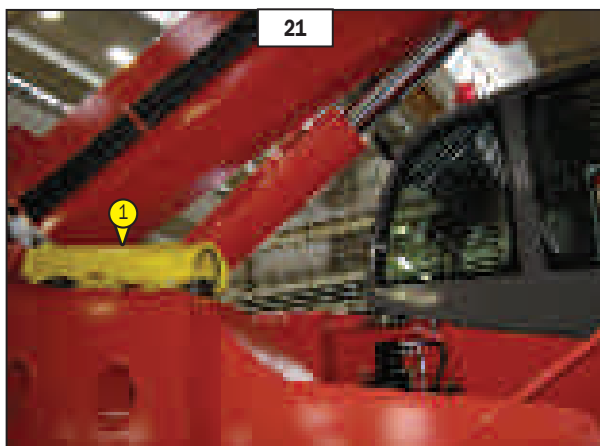


23 - BOOM SAFETY WEDGE

(1,  21)

The forklift truck is provided with a safety wedge for the boom which must be installed under the lift cylinder rod in case of intervention on the boom (See: 1 - INSTRUCTIONS AND SAFETY STANDARDS).

 **Use only the safety wedge supplied with the forklift truck.**



ATTACHMENT AUTOMATIC IDENTIFICATION

The machine is equipped with an electronic system for the recognition at the time of the hook attachment that identifies the type of attachment installed.

This system facilitates and fast the attachments change.

The system is characterized by two devices fixed one on the machine boom and one on the attachment.

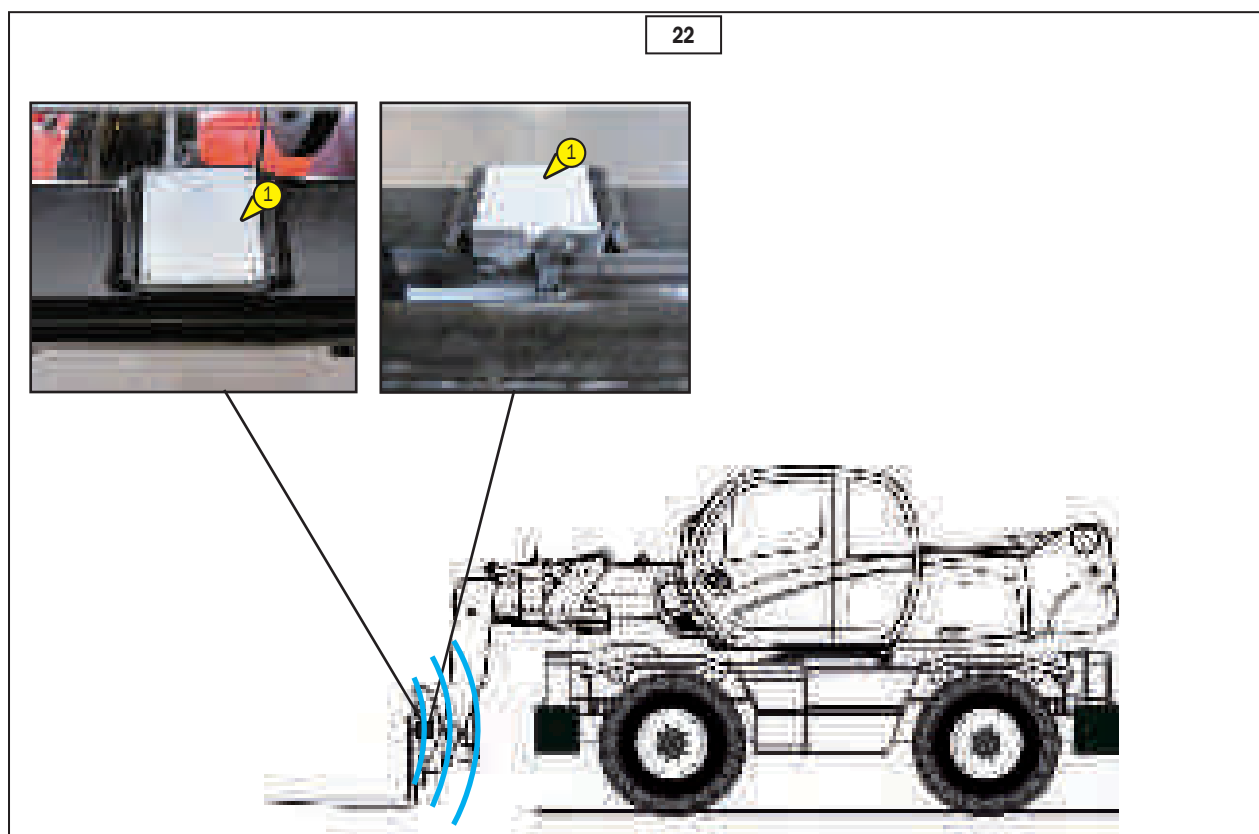
(1,  22)

After identification of the attachment type and its confirm by the operator, the recognition system sets the machine to operate with the attachment hooked.

This mode is defined **automatically**.



However the machine can operate with an attachment without identification device but in this case it is the responsibility of the operator identify and confirm the type of attachment hooked.

This mode is defined **manual**.






Automatic mode

Immediately after you hooked a attachment recognition system:

- Identifies the type of attachment (2,  23),
- Requires to the Operator to confirm (1,  23) that the recognized accessory is the one properly hooked at the machine,
- Press enter (3) to confirm the attachment type

Manual mode

Immediately after hooking an attachment without the identification device, the recognition system:

- does not recognize the attachment hooked,
- the Operator must select the attachment type hooked at the machine. The operator must select manually the installed attachment type, as follows:
- Press ESC (1) to exit from mode "Empty" (2,  24) [no attachment hooked]
- Press the up / down (3) to select the attachment that it has hooked (4,  25),
- Confirm the attachment, press enter (5,  25).

Note: in "empty" mode, the machine can move the telescopic boom but with a maximum lifting capacity setted at 500kg.

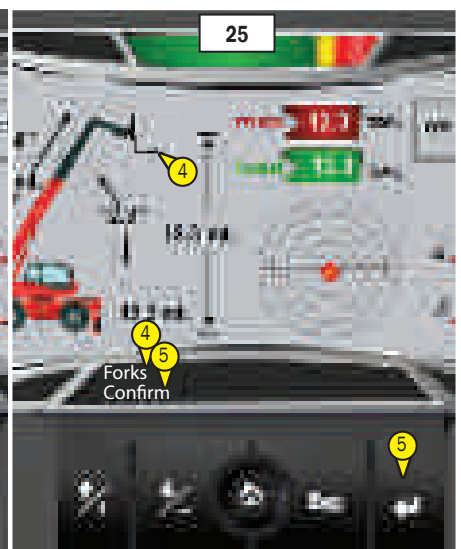
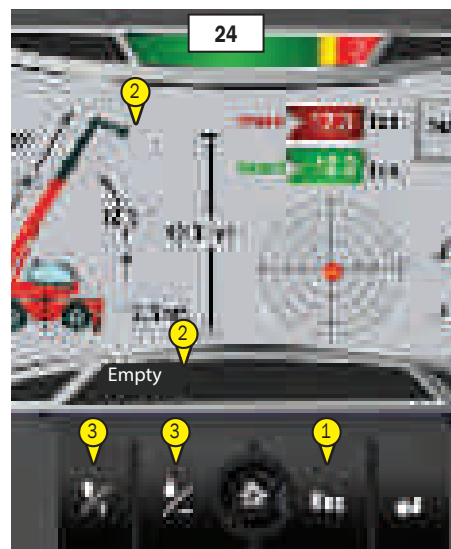
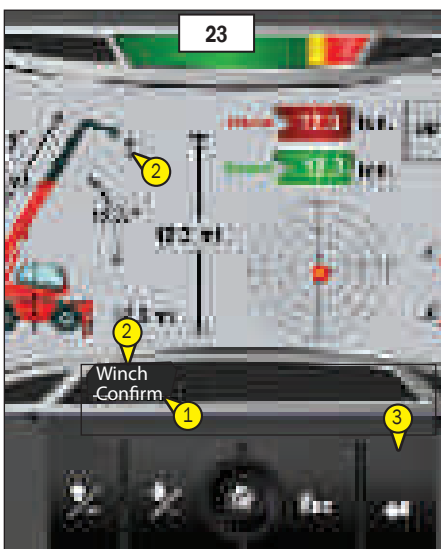
**In both modes:**

is the responsibility of the operator to ensure that the attachment is hooked and view on the display is that identified from the recognition system or manually selected.

Your safety or the safety of the lift truck is at risk.

Any bending may cause malfunction of your machine and damage to property and people close to the working area of the machine.

Respect the procedures described above.



PIN AND TOWING HOOK

This hook, provided on the rear part of the forklift truck, is used for towing a trailer. For every forklift truck, the capacity is limited to the total permitted circulating weight, by the towing force and the maximum vertical force on the hooking point.

- To use a trailer, consult the regulations in force in the country of use (maximum travelling speed, braking, maximum weight of trailer, etc.).
- Check the state of the trailer, before using it (condition and pressure of the types, electric socket, hydraulic hose pipe, braking system...).



⚠ Do not use a trailer or an attachment that is not in perfect working condition. Using a trailer that is in poor condition can cause damage to the direction and braking devices of the forklift truck, and thereby affect the safety of the assembly.


⚠ If the trailer hooking and unhooking operations are done by another person, the latter must be visible to the truck driver and must wait for the telescopic lift to come to a standstill, the service brake to be pulled and the I.E. engine to be switched off before acting on the trailer.

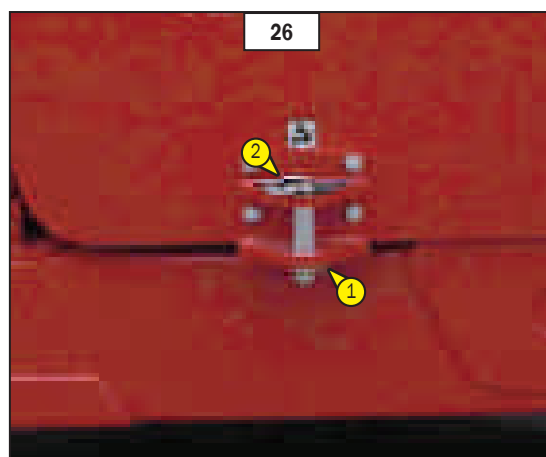
NOTE: A rearview mirror at the back allows the forklift truck to approach the trailer ring more accurately.

A - HOOKING FORK

HOOKING AND UNHOOKING TRAILER

- To hook up, bring the telescopic lift as close to the trailer ring as possible.
- Pull the parking brake and switch off the I.C. engine.
- Remove split pin (1,  26), raise towing pin (2,  26), and position or remove the ring of the trailer..

⚠ Caution! Risk of pinching or crushing during the maneuver. Remember to refit the split pin (1,  26). When released, make sure the trailer stands by itself..



FOLDING LADDER INSTALLATION FOR MAINTENANCE

The truck is equipped with an ladder snap that is placed back cab .

If necessary, in case of maintenance interventions install the ladder on the walkway of the machine.
(see chapter : **1- OPERATING AND SAFETY INSTRUCTIONS**).

