



QUICK GUIDE: NEW BISON EUROPE

NOVEMBER 2015 | © PRINOTH

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Prinoth

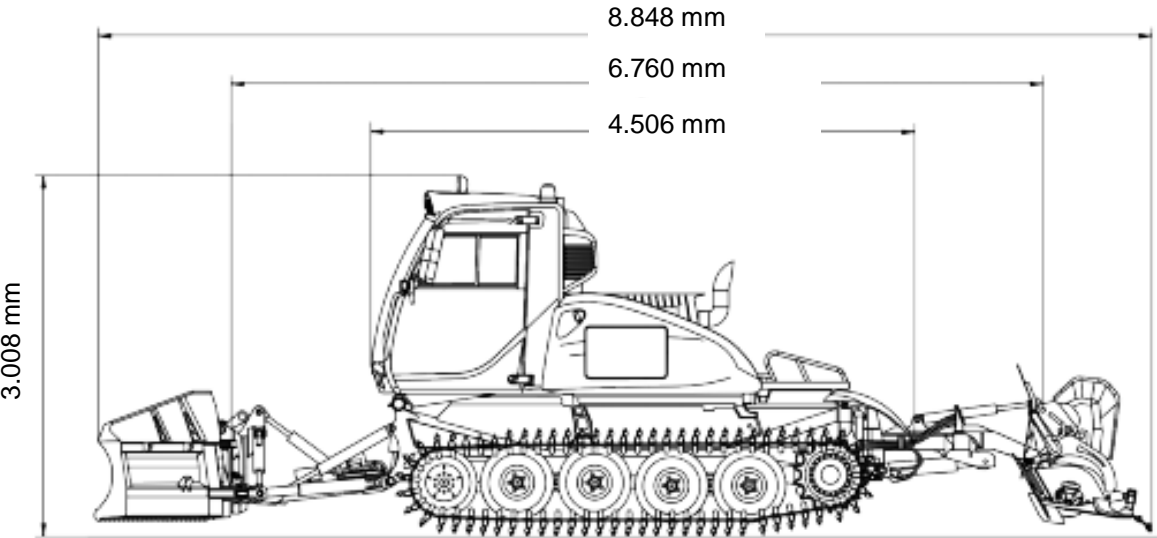
CONTENT

Before starting	
Dimensions.....	3
Daily checks.....	4
Operating controls	6
Driver’s seat, steering wheel & the operating console.....	7
Display and menu navigation	8
Startup	14
Operating	
Rear tiller.....	15
NORDIC LINER.....	18
Front blade.....	21
Fault log.....	23
Indicator lamp.....	24
Stoppage	25
Lubrication points	26

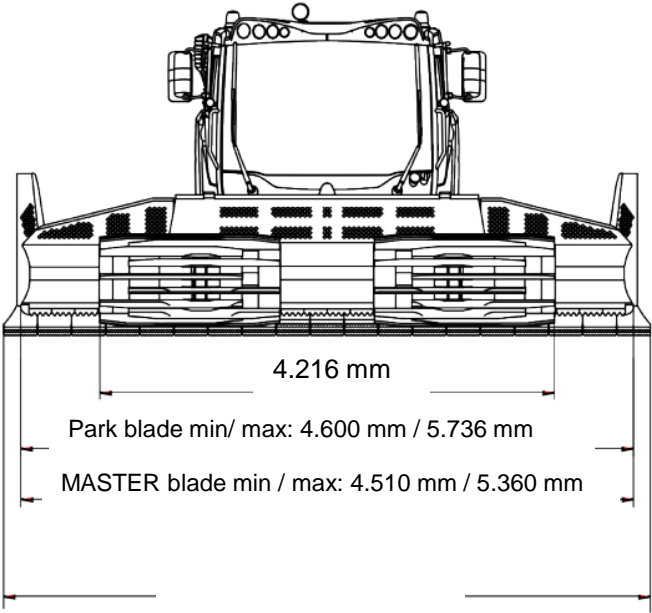


BEFORE STARTING

Dimensions:



Engine	
Engine Power:	298 kW / 400 hp
Model	Caterpillar C9.3
Max. torque:	1.726 Nm at 1.400 rpm
Displacement	9.300 cm³
Exhaust gas regulation	T4f / Stage 4



BEFORE STARTING

Daily checks:

- ✓ Check tracks on damage, wear & tension
 - ✓ Check snow groomer & attachments for proper operation & possible damage
 - ✓ Check the levels of coolant, engine oil & hydraulic oil
 - ✓ Control fluid-filled components for leaks
 - ✓ Check the water separator
 - ✓ Electrical system check (fuses, bulbs, etc.)
 - ✓ Check the fixation from battery & battery terminals
 - ✓ Check washer fluid
- See also user manual: daily checks (chapter 8)

BEFORE STARTING

Daily checks:

Cab

Tilt the cab

1. Park the snow groomer on solid and level ground.
2. Remove all objects from the seats and instrument panel.
3. Observe the notes above.
4. Ignition key position: ON
5. Press and hold the safety button (1), then press on the upper part of the pushbutton (2): the driver's cab is unlocked and tilts to the front automatically.
6. Once the cab is tilted, install the safety rod to secure the cab. Compress safety rod spring to unlock the device and pivot it towards the accessory rack.
7. Insert the free end of the safety rod into the holding block (1) of the accessory rack.

Tracks

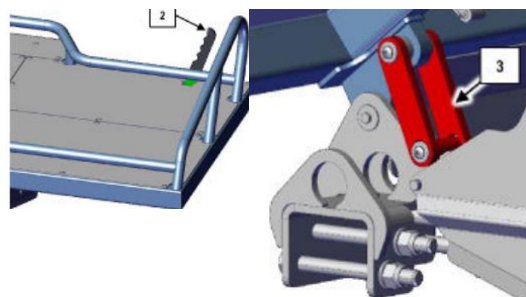
Track tension

1. Press the rotary pushbutton B118.
 2. Turn the rotary pushbutton B118 until menu item "Tension Tracks" (1) is displayed on menu level "Operation": confirm by pressing the rotary pushbutton.
 3. Turn the rotary pushbutton until the desired track tension direction lights up on the display; holding down the button moves the tension axle in the desired direction.
 4. Turn the rotary pushbutton to exit the menu
- Tracks should be tensioned every 50 operating hours

Cargo deck

Raising the loading platform

1. Remove objects from the loading platform.
2. Lower the rear attachment to the ground.
3. Pull the lever (2) to the ground
4. Tilt the loading platform back manually
5. Lower the safety strut (3) to lock mechanically



Lowering the loading platform

1. Lift the safety strut (3) and fix in the holder (4)
2. Push down the loading platform manually
3. Pull the lever (2) to the ground
4. Press down the loading platform until it stops.
5. Pull the lever (1) to the left

BEFORE STARTING

Operating controls:

1	A33 Display
2	Indicator lights
3	Ignition key
4	A36 Keypad1
5	A36 Keypad1
6	A35 _Joystick
7	S62 Rocker switch: Parking brake / Operational readiness
8	S85 Rocker switch: Operational readiness of the attachments
9	S23 Rocker switch: Horn and warning buzzer
10	Rocker switch: Slide function driver seat (optional)
11	Constant up/down pressure potentiometer
12	R34 Rotary switch: Engine speed potentiometer
13	R12 Rotary switch: Rear tiller shaft speed setting
14	Rotary rocker switch: Door mirror adjustment
15	B118 Rotary pushbutton switch: Menu navigation
16	S29 Push-button switch: Emergency
17	Rocker switch: Cabin lighting
18	Storage compartment

1	Hand wheel for adjusting height position
2	Lever for adjusting angle position

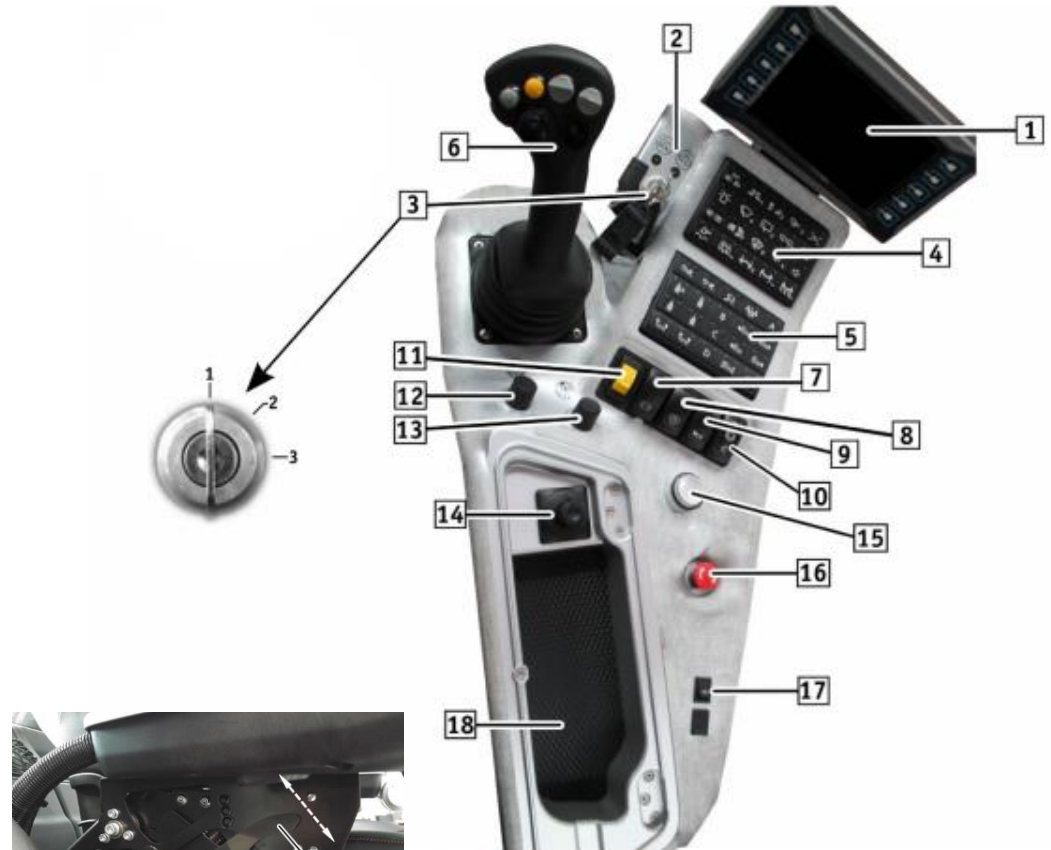


Figure 2: Control console

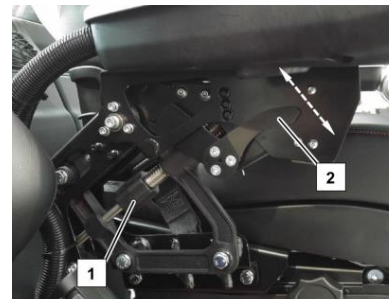


Figure 12: Control console

BEFORE STARTING

Central driver's seat:

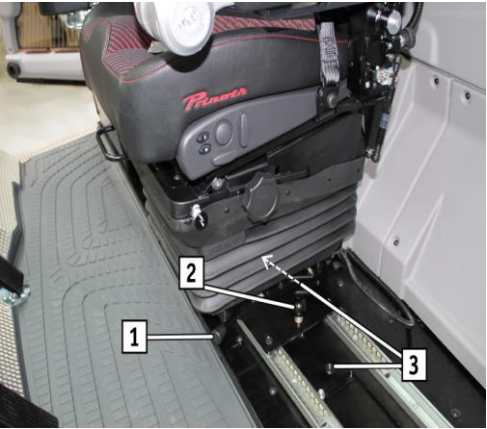
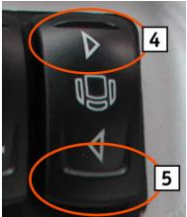
1	Steering console (left armrest)
2	Control console (right armrest)
3	Backrest angle adjustment
4	Lumbar support adjustment
5	Seat heating adjustment
6	Seat suspension and height adjustment
7	Seat tilt angle adjustment
8	Seat fore/ aft adjustment
9	Backrest release
10	Seat belt
11	Head restraint



Figure 7: Controls on the driver seat

Sliding driver's seat:

1	Seat rotation lever
2	Locking screw
3	Threaded hole



BEFORE STARTING

Display:



Figure 0: Main display

1	Diesel engine tachometer
2	Fuel Level
3	AdBlue level
4	Vehicle working hours
5	Date
6	Time
7	Outside temperature
8	Parking brake warning lamp (red)
9	Emergency OFF warning lamp (red)
10	Snow groomer forward/reverse direction indicator
11/12	Travel direction indicator

13	Regeneration indicator lamp is disabled
14	DEF indicator lamp low level
15	Indicator lamp for high exhaust gas temperature
16	Indicator lamp DEF system malfunction or indicator lamp rpm limiting active
17	Diesel engine coolant temperature indicator
18	Coolant temperature warning lamp
19	Coolant temperature warning lamp
20	Indicator lamp diesel engine ECM fault
21	Check indicator lamp for diesel engine exhaust gas aftertreatment
22	Warning lamp for battery and charge control
24	Warning lamp fault

BEFORE STARTING

Display:



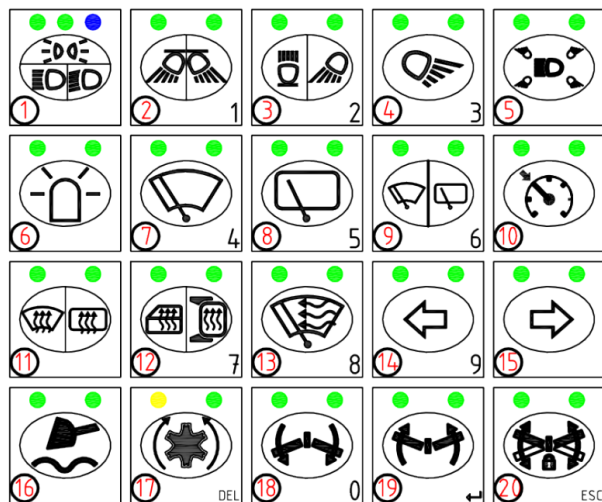
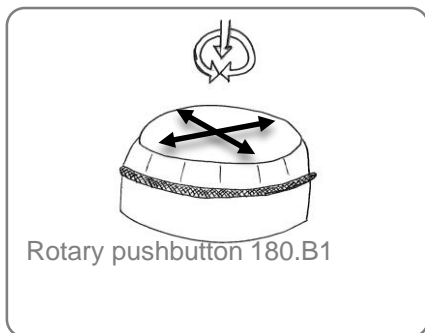
Figure 0: Main display

25	Preheating monitor indicator lamp
26	Preheating monitor indicator lamp
27	Indicator lamp for rotating beacons
28	Indicator lamp for rotating beacons
29	Indicator lamp for rotating beacons
30	Indicator lamp for complete reduction of torque / overspeed control
31	Rear tiller side wings up/down
32	Rear tiller Parkdesigner function
33	Rear tiller (horizontal) centre/floating/right/left position
34	Attachments standby
35	Tiller cutting depth in %

36	Cutter shaft speed in % and rotation direction
37	Contact pressure / floating position/ counter pressure for rear tiller (vertical) and setting value in %
38	Rear tiller locked (rigid) flexible (free)
46	Heater control
47	Air conditioner (optional)
48	Recirculated air in driver's cab
49	Temperature or fault display
50	Defrosting the windshield
51	Fan speed control

BEFORE STARTING

Menu navigation:



1. Push 180.B1 to open menu
2. Rotate 180.B1 till the desired icon is marked
3. Confirm selection by pressing 180.B1
4. Values can be changed by rotating of 180.B1
5. Confirm changed value by pressing 180.B1
6. Rotate 180.B1 to change menu level
7. Push ESC-button (A36/20) exit the menu
→ It is asked whether the changes should be saved

BEFORE STARTING

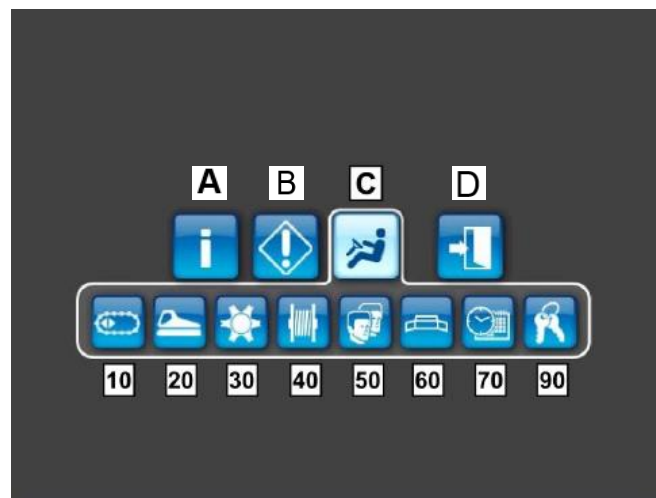
Pos.	Main menu	Pos.	Menu level "Information" (A)
A	Information	10	Information: snow groomer
B	SERVICE	20	Information: engine
C	Operation	30	Information: rear tiller / AUTOMATIC winch
E	Exit	40	Trip 1 statistics
		50	Trip 2 statistics
		70	Snow groomer configuration

Pos.	Main menu	Pos.	Menu level "Service" (B)
A	Information	10	Fault log
B	SERVICE	20	Warning symbols display
C	Operation	30	Input / output, traction drive
E	Exit	40	Input / output, tiller drive
		60	Connection CAN 0
		70	Connection CAN 1
		90	Connection CAN 3
		100	Input / output TTC94
		110	Input / output TTC48-1
		120	Input / output TTC48-2
		130	Input / output TTC48-3
		150	Input / output TTC60-TS track setter
		155	Input / output TTC30
		160	Backlight
		170	Input / output, Joystick

Pos.	Main menu	Pos.	Menu level "Operation" (C)
A	Information	20	Driver's cabin operation
B	SERVICE	30	Rear tiller operation
C	Operation	50	User profile
E	Exit	60	Front devices
		70	Set date / time

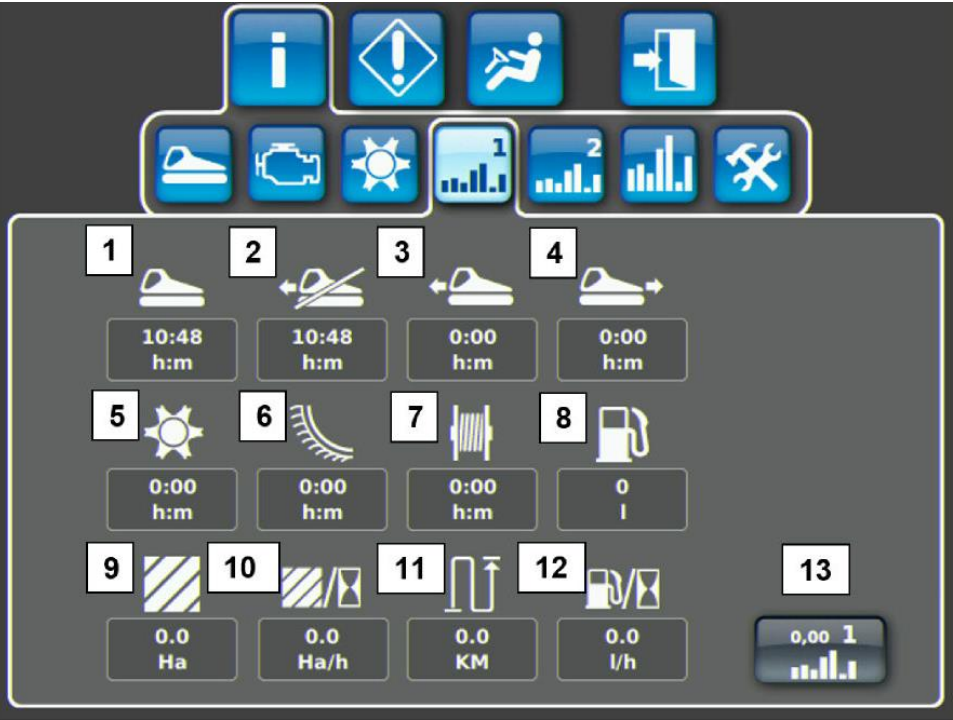
Pos.	Main menu	Pos.	Menu level "Password level 1" (D)
A	Information	10	Set vehicle handling
B	SERVICE	20	Set the rear tiller
C	Operation	40	Set the vehicle
D	Password level 1	50	Statistics setting
E	Exit	60	Engine settings
		70	Calibration

Display menu structure:



BEFORE STARTING

Display statistics:



1	Total operating hours
2	Stationary with engine ON operating hours
3	Forward travel operating hours
4	Backward travel operating hours
5	Rear tiller operating hours
6	Snow plough operating hours
7	Hoist operating hours
8	Diesel consumption (l)
9	Area performance (Ha)
10	Area performance (Ha/h)
11	Kilometres travelled
12	Diesel consumption (l/h)
13	Reset (when activated via password level 1)

BEFORE STARTING

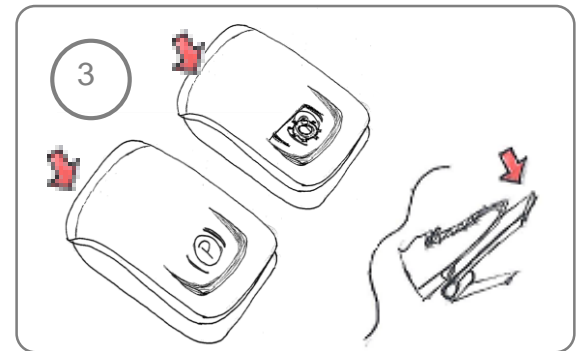
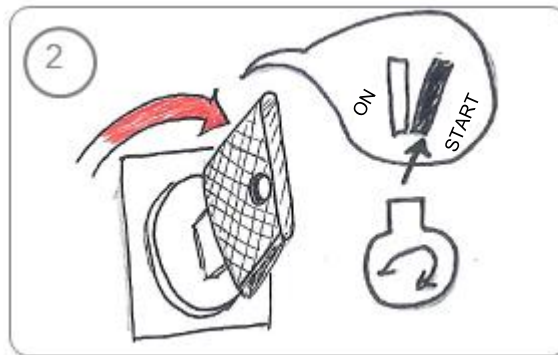
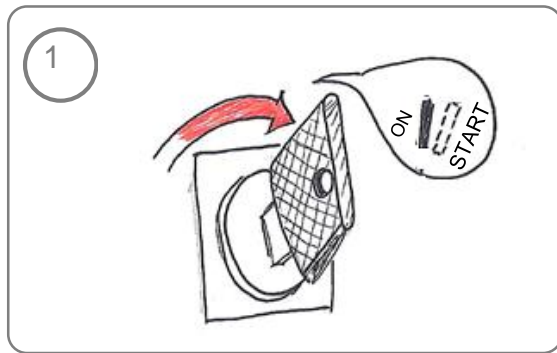
Display (A33): vehicle status



25	Full beam indicator light (blue)
26	Rotating beacon indicator light (orange)
28	Battery and charge indicator warning lamp (red)

1	Engine tachometer
2	Fuel level
3	AdBlue-level
4	Vehicle operating hours counter
5	Date
6	Time
7	Outside temperature
8	Parking brake warning lamp
9	Emergency OFF warning lamp
10	Driving direction forward / backward
11	Turn signal right
12	Turn signal left
13	Restore vehicle readiness indicator lamp (white)
14	Cab lock
15	Dongle remote system recording & transfer
16	Modem remote system & receiving strength
17	Warning lamp coolant temperature too high Gauge: blue when engine temperature <40°C (reduced engine speed)
18	Warning lamp deficient engine oil pressure
19	Indicator lamp engine fault ECM
20	Engine exhaust gas after treatment indicator lamp (yellow)
21	Indicator lamp engine torque-/ engine speed limitation
22	Indicator lamp AdBlue / DEF
23	Error warning lamp (red)

START UP



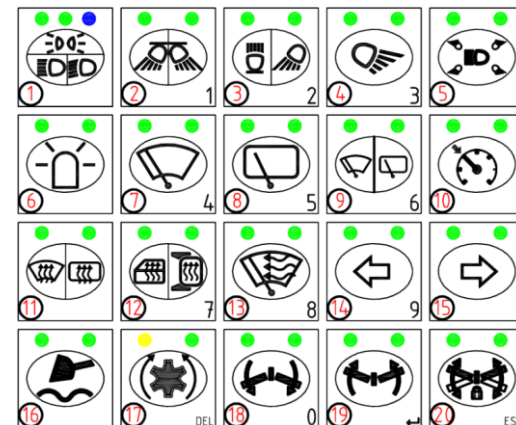
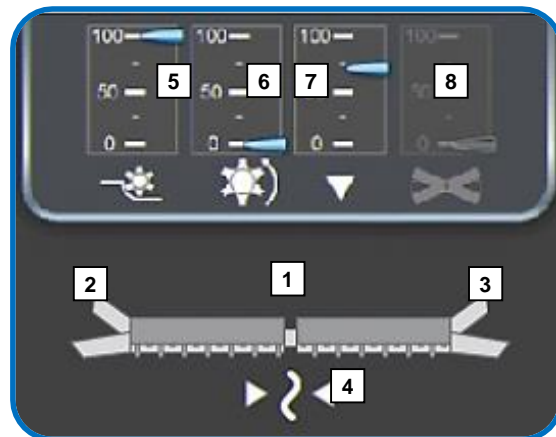
The drive permit can only be made under the following conditions:

- ✓ The engine is running
- ✓ Both cabin doors are closed
- ✓ The emergency OFF switch was dissolved



OPERATING

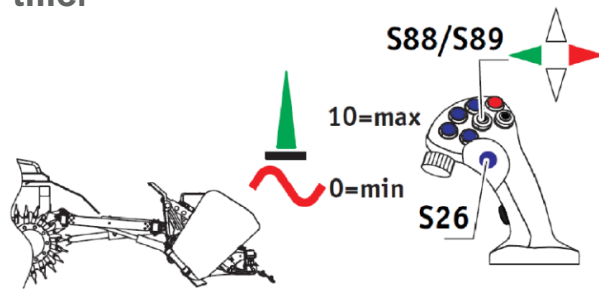
Operation: rear tiller



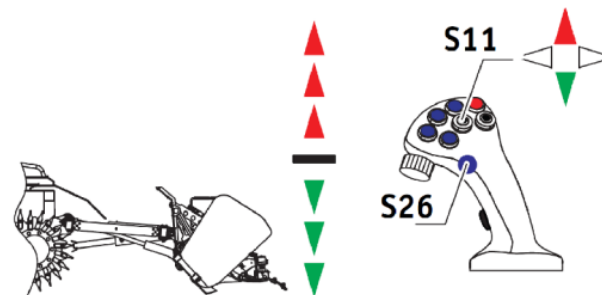
Nr.	Actuation	Function
1		Attachments standby (tiller, blade, winch)
2	S123	Left rear tiller side wing UP / DOWN
3	S124	Right rear tiller side wing UP / DOWN
4	S88/S89 ; S90/S91	Middle- / floating- / right- / left position rear tiller
5	S11 / S70 ; S26 + S11	Tiller cutting depth in %
6	S92 ; A36/17	Tiller shaft speed in % & rotation direction
7	A36/20 ; S26 + S88/S89	Down pressure / floating position / counter pressure rear tiller & setting value in %
8	S108	Rear tiller rigid / flexible

OPERATING

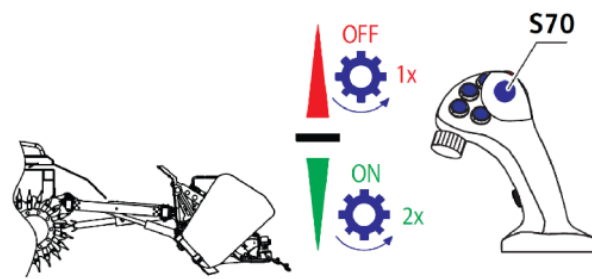
Operation: rear tiller



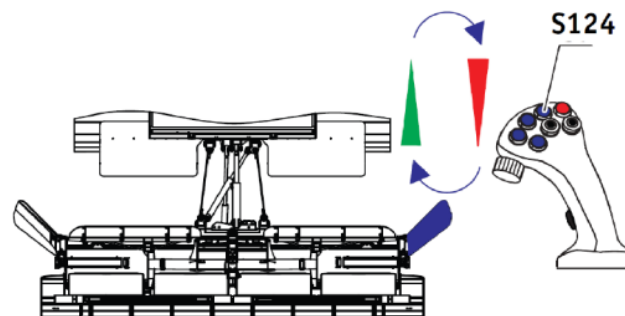
S26+mini-joystick right = Increase down pressure
S26+mini-joystick left = Reduce down pressure



S26+mini-joystick forward = Lift rear tiller gradually
S26+mini-joystick backward = Lower rear tiller gradually



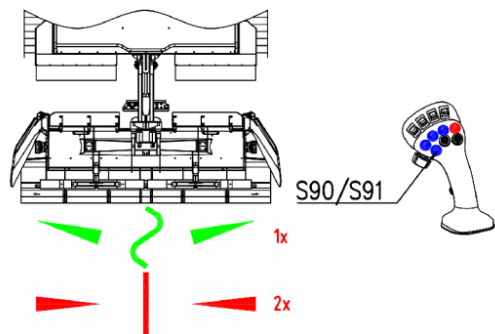
Push 1x S70 = Lift rear tiller complete & rear tiller shaft OFF
Push 2x S70 = Lower rear tiller complete & rear tiller shaft ON



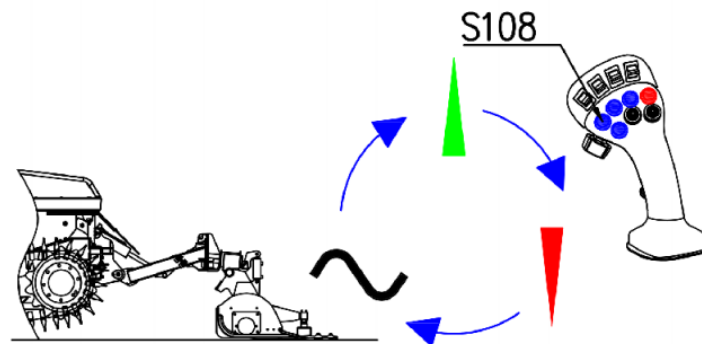
Push 1x S124 = Lower right side wing
Push again S124 = Lift right side wing

OPERATING

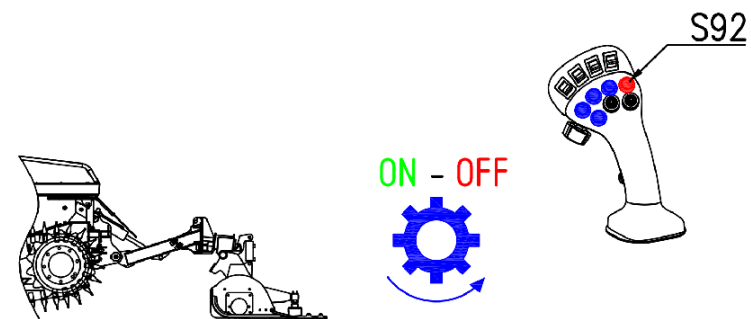
Operation: rear tiller



S90/ 91 = Rear tiller in horizontal floating position/Lock rear tiller in center position



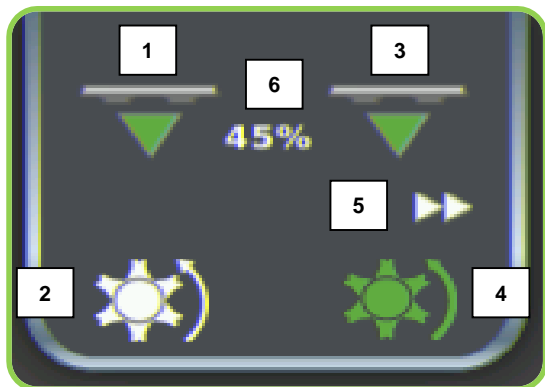
S108 once = Lower the rear tiller (down pressure 75%)
S108 again = Lower the rear tiller (floating position)
S108 again = Lower the rear tiller (counter pressure 50%)



Push 1x S92 = Rear tiller shaft ON
Push again S92 = Rear tiller shaft OFF

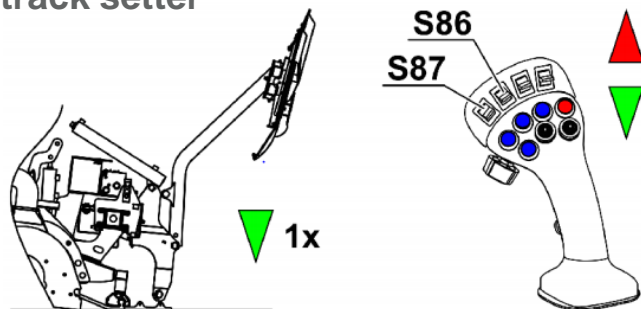
OPERATING

Display: Nordic Liner



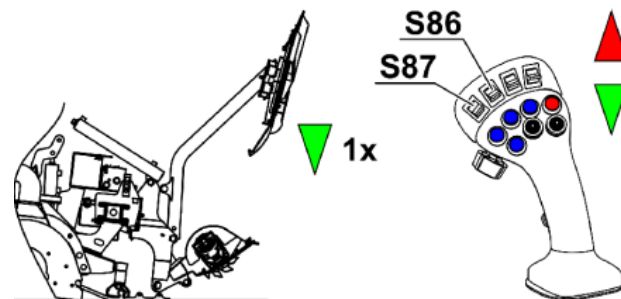
1	Left TRACK SETTER UP / DOWN
2	Left TRACK TILLER ON / OFF
3	Right TRACK SETTER UP / DOWN
4	Right TRACK TILLER ON / OFF
5	Displacement of the right TRACK SETTER
6	TRACK SETTER down pressure in %

Operation: track setter

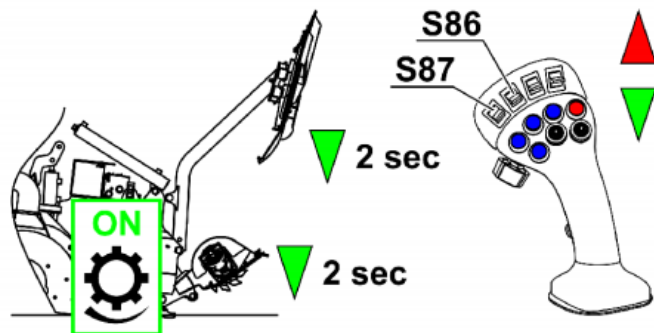


Press S86 / 87 down = Lower track setting plate
Press S86 / 87 upwards = Raise track setting plate

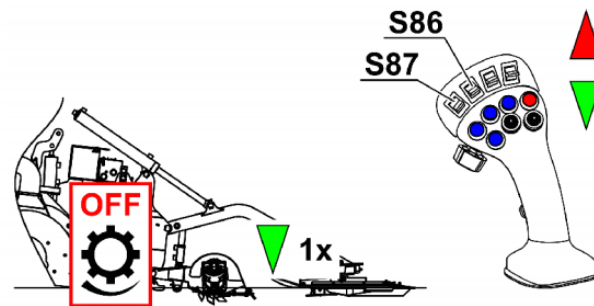
Rocker switch S87 = Operation of left track setter
Rocker switch S86 = Operation of right track setter



Press S86 / 87 down (when track tiller is switched off) = lower track setting plate

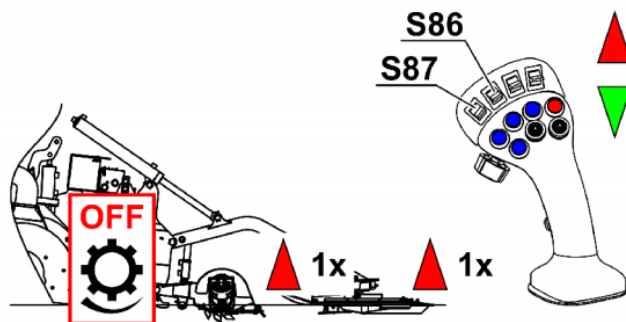


Press S86 / 87 downwards 2 seconds = lower track setting plate, Lower and switch on track tiller

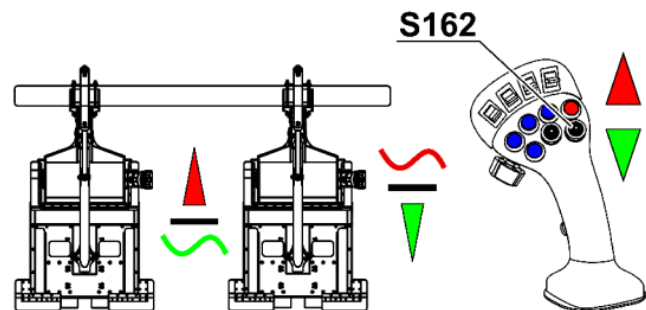


Press S86 / 87 down (when track tiller is switched on) = Raise and switch off track tiller

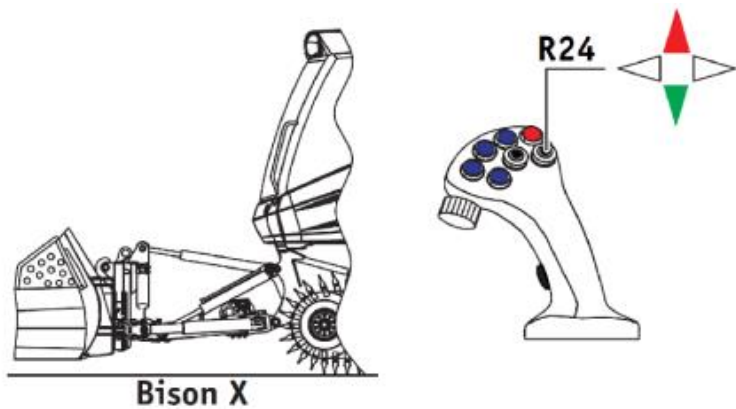
OPERATING



Press S86 / 87 briefly upwards = track setting plate, raise and switch off track tiller



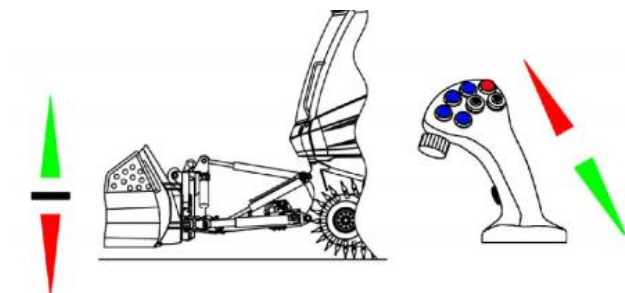
Press mini joystick S162 forward/ back = lower/ raise track setter contact pressure



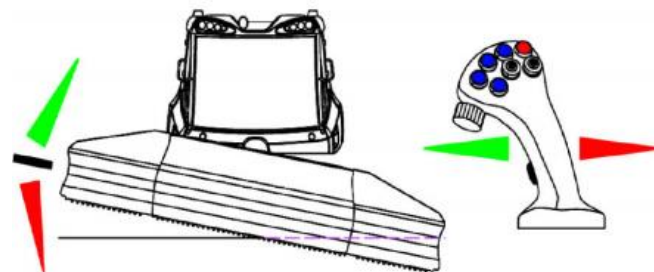
Movements using mini-joystick R24 (NEW Bison X only)
 Mini-joystick forward = tilt rake blade top edge forward
 Mini-joystick backward = tilt rake blade top edge backward

OPERATING

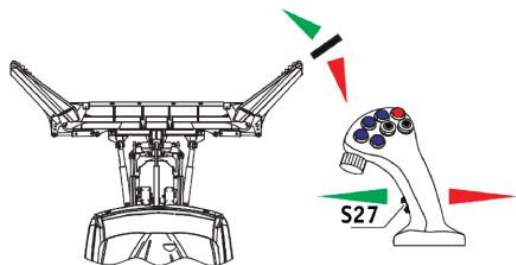
Operation: Front blade



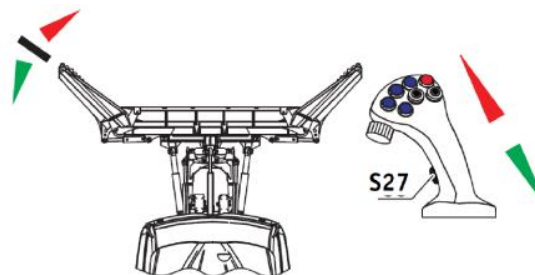
Joystick forward = Lower front blade
Joystick backward = Raise front blade



Joystick right = Rotate front blade to the right
Joystick left = Rotate front blade to the left



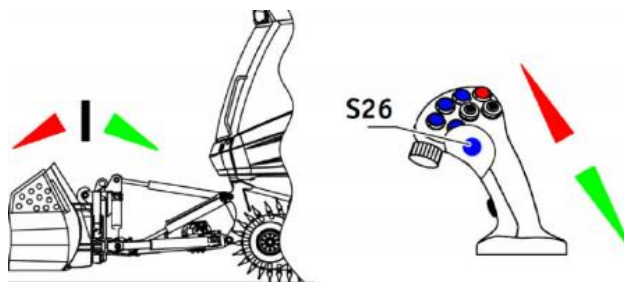
S27+joystick right = Swivel right front blade wing backwards
S27+joystick left = Swivel right rake blade wing forwards



S27+joystick forward = Swivel left front blade wing forwards
S27+joystick backward = Swivel left rake blade wing backwards

OPERATING

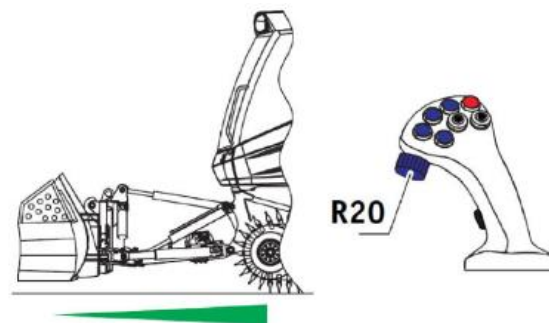
Operation: Front blade



Keep push button S26* pressed:

- Joystick forward = tilt rake blade top edge forward
- Joystick backward = tilt rake blade top edge backward
- Joystick left = Swivel front blade to the left
- Joystick right = Swivel front blade to the right

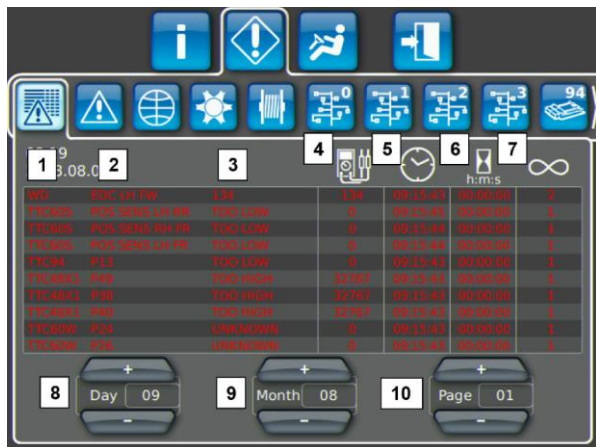
Operation: vehicle speed



- Rotary switch R20 vehicle speed by constant engine speed
- continuously reduce vehicle speed without changing engine speed

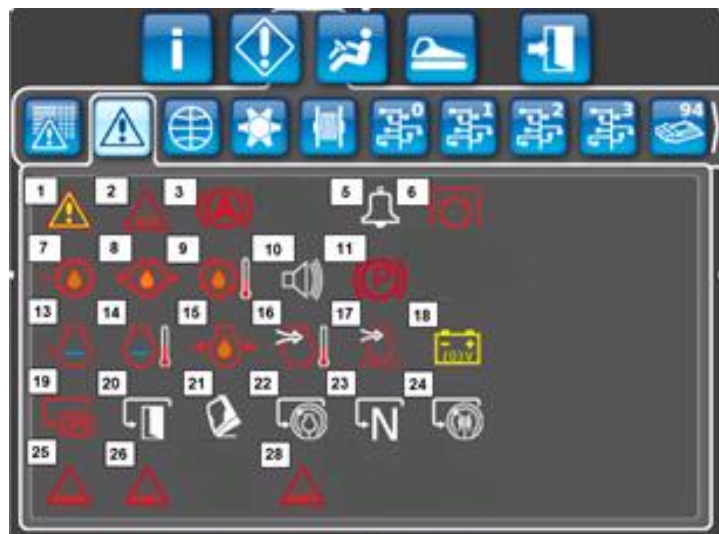
OPERATING

Fault log



1	Control unit
2	PIN-number or fault code ADM / Eaton
3	Cause
4	Actual measurement
5	Fault appearance
6	How long is (was) the fault active
7	How often the fault occurred
8	List of fault codes (which day)
9	List of fault codes (which month)
10	List of fault codes (which side)

Control lamps



1	Warning lamp fault
2	Warning lamp Watchdog fault
3	Warning lamp automatic braking function
4	-
5	Control lamp cab warning buzzer
6	Warning lamp attachments standby
7	Warning lamp low hydraulic fluid level
8	Warning lamp clogging of hydraulic fluid filter
9	Warning lamp high hydraulic fluid temperature
10	Control lamp warning buzzer

11	Warning lamp parking brake
12	-
13	Warning lamp low coolant level
14	Warning lamp high coolant temperature
15	Warning lamp low engine oil pressure
16	Warning lamp high intake air temperature
17	Warning lamp air filter clogging
18	Control lamp battery and charging control
19	Control lamp restore drive permit – activate parking brake
20	Control lamp restore drive permit – close doors
21	Control lamp restore drive permit – lock cab
22	Control lamp restore drive permit – set engine potentiometer MIN
23	Control lamp restore drive permit – control lever in neutral position
24	Control lamp restore drive permit – set winch potentiometer MIN
25	Warning lamp fault CAN 0
26	Warning lamp fault CAN 1
27	-
28	Warning lamp fault CAN 3
29	-
30	-

STOPPAGE

- ✓ Ensure the snow groomer is safely immobilized on a hard & level surface with enough capacity (e.g. garages, bridges, snow covered parking spots)
- ✓ When parking or leaving the snow groomer activate the parking brake and switch off and ground attachments and remove the ignition key
- ✓ Close windows & roof window
- ✓ The battery master switch disconnects the battery after 5 minutes

LUBRICATION POINTS

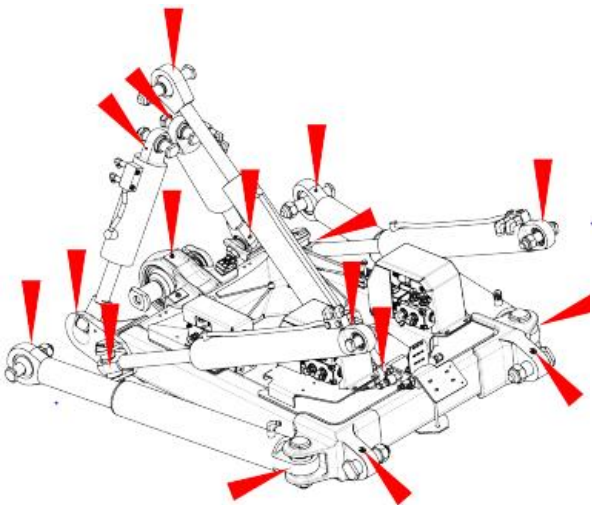


Figure 79: Lubrication points - front attachment frame

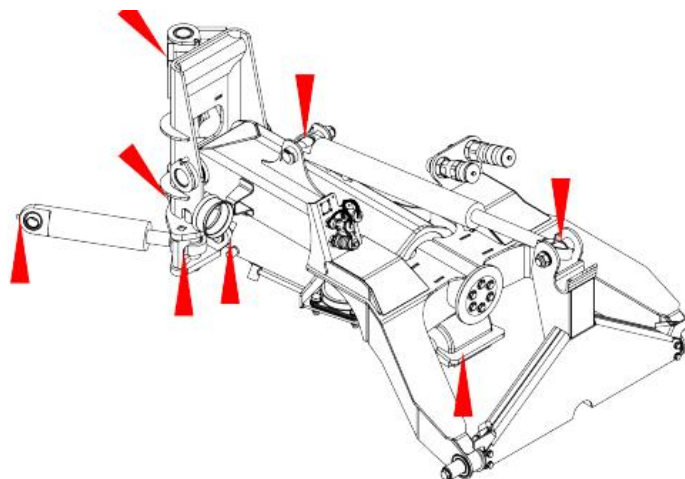


Figure 80: Lubrication points - rear attachment frame

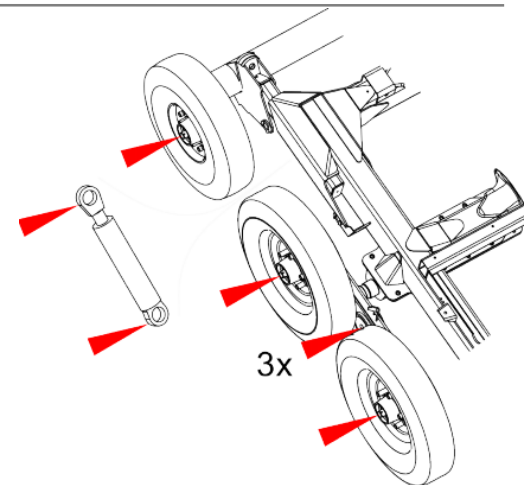


Figure 81: Lubrication points - running gear

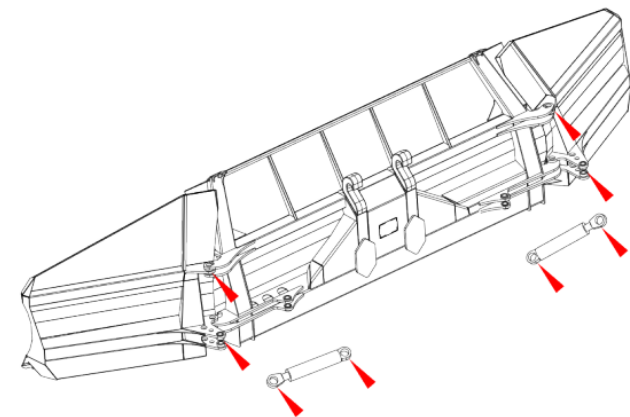


Figure 82: Lubrication points - front blade

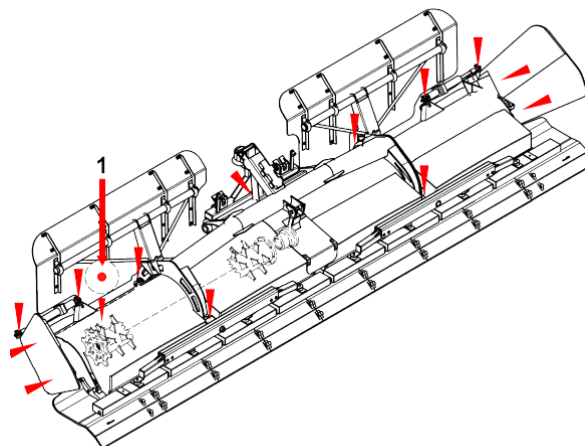


Figure 83: Lubrication points - Powertiller