LOGOSOL

USER MANUAL

SKU. 0458-395-5352

REV:1

SMART SET

FOR PETROL ENGINE

EN

THANK YOU FOR CHOOSING A LOGOSOL MACHINE!

We are very pleased that you have demonstrated your confidence in us by purchasing this machine and we will do our utmost to meet your expectations.

LOGOSOL has been manufacturing sawmills since 1989, and in that time we have supplied approximately 50,000 machines to satisfied customers the world over.

We care about your safety and want to ensure that you achieve the best possible results. We therefore recommend that you take the time to carefully read this user manual in peace and quiet before you start using the machine.

We hope you are completely satisfied with your new equipment.

Bengt-Olov Byström
Founder,
Logosol in Härnösand

Read through the user manual carefully and make sure you understand its contents before using the saw.

This user manual contains important safety instructions.

WARNING! Incorrect use can result in serious or fatal injuries to the operator or others.

CE

LOGOSOL continuously develops its products.
For this reason, we must reserve the right to modify the configuration and design of our products.
Document: Smart Set User Manual
Manual, item no.: 0458-395-5351
Text: Martin Söderberg & Anna Fossane
Illustration: Martin Söderberg & Anna Fossane
Last revised: May 2022
© 2022 LOGOSOL, Härnösand Sweden

TABLE OF CONTENTS

Safety instructions	4
Maintenance	6
Technical specification	7
Components: on delivery	8
Assembly	13
Adjustment of throttle	27
Starting and stopping	28
Functions	29
Troubleshooting guide	37

SAFETY INSTRUCTIONS

KEY TO SYMBOLS

WARNING! This symbol means that you should pay particular attention and is always followed by information about the relevant risk.

ATTENTION. A warning comes after this symbol. Pay particular attention where this symbol appears in the manual text.

For your own safety and the safety of others, do not use the machine without first reading and understanding the entire contents of this user manual.

WARNING! Cutting tools: Incorrect use of the machine can lead to life-threatening injuries. Band blades are extremely sharp and dangerous.

Always use protective gloves (class 1) when working with the bandsaw mill or handling bandsaw blades. Risk of sustaining cuts when handling band blades. Bandsaw blades and engine parts can be hot after sawing.

Always use approved hearing protection when working with the machine. Even brief exposure to high frequency noise can damage your hearing. Always use close-fitting safety goggles when working with the machine or handling bandsaw blades. Under certain circumstances the use of a protective mask may also be advisable. This would primarily apply if you are sawing dry wood or sawing indoors.

Always wear approved protective footwear with saw protection, steel toe-caps and non-slip soles when working with the machine or handling bandsaw blades.

Always wear full-length protective trousers when working with the machine or handling band blades. Never wear loose-fitting clothing, scarves, neck chains, etc. that can get caught in the machine when working. Secure loose hair before working with the bandsaw mill.

SAFETY INSTRUCTIONS

THE BAND SAWMILL'S SAFETY EQUIPMENT

WARNING! Risk of serious injury.

Read the warning instructions for the sawmill in the machine's main manual, 0458-395-5300, before using the machine. Pay particular attention to the safety distance for persons other than the operator [*Figure 1*] as the machine's automation increases the risk of injury.

WARNING! Never use the machine if the safety equipment is defective..

The safety equipment must be checked and maintained.

Here is a description of the safety features of the Smart Set controls together with their functions.

Emergency stop on the control unit
On the control unit there is an emergency stop that shuts off both the control panel and the engine.

Enabling switch on the control panel
The enabling switch is a lock between the operator and the control panel. To be able to run the software, the enabling switch button has to be pressed down.

OPERATOR

WARNING! Wherever the machine is used, approved personal protective equipment must always be used.

Persons under the age of 18 may not use the bandsaw mill or handle bandsaw blades.

Never use the machine or handle bandsaw blades if you are tired, if you have consumed alcohol or are taking medicine that can impair your sight, judgment or control over your body.

WORK SITE

Always keep a hand-held, ABC type (min. 3 kg) fire extinguisher readily accessible at the work site

Always have a fully-stocked first aid kit available at the workplace.

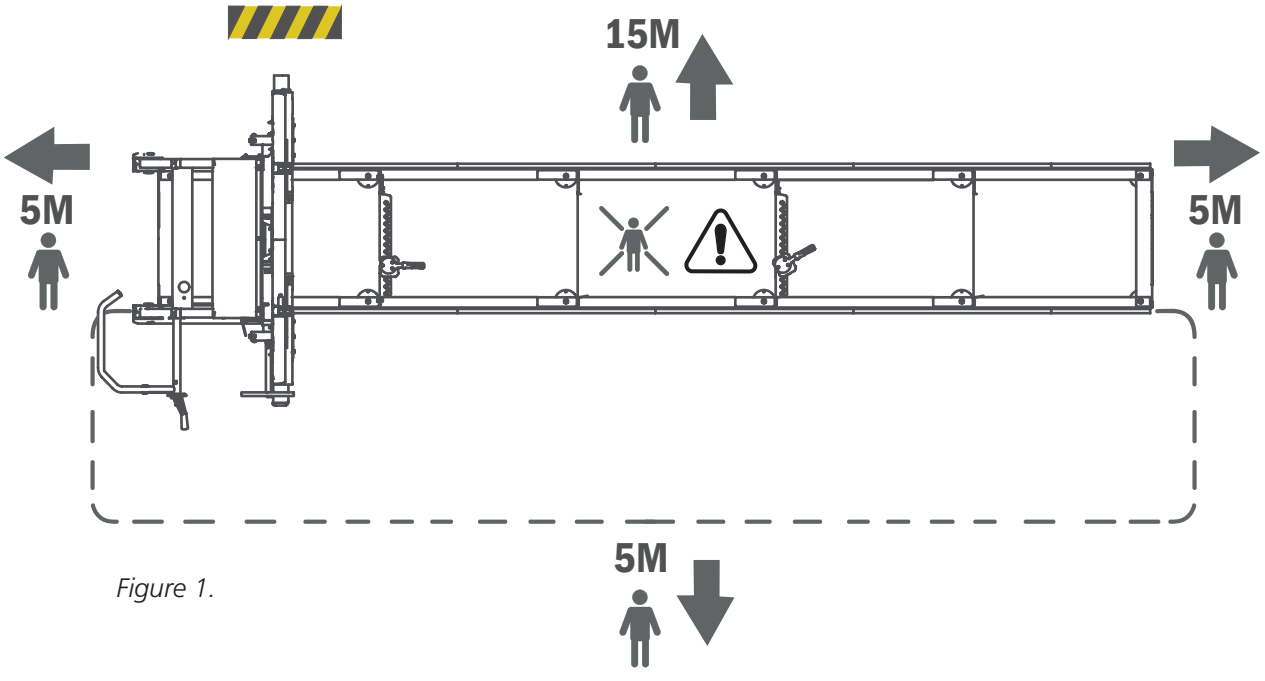


Figure 1.

MAINTENANCE

For general maintenance and lubrication points, refer to the manual for your band sawmill. Remember to trickle charge your battery after a working day. Note that the battery capacity is only for powering the Smart Set, the capacity is not sufficient for additional power consumption. Use Smart Set when the engine is running otherwise the battery may become discharged.

WORK INSTRUCTIONS

For work instructions, see the manual for your band sawmill.

LUBRICATION POINTS

To maintain the sawmill in good condition over a period of many years, and to ensure problem-free ownership, it is important to lubricate the sawmill's components as described below. Lubrication must be carried out:

- Immediately after assembly and before starting to use the sawmill.
- Every 50 hours of operation, but at least once a year.

Sawhead lifting chains and chain transmission
Lubricant: Superflo (item no.: 9999-000-5115). Lubricate the whole chain.

The petrol engine's throttle cable and handle
Lubricant: Superflo. Lubricate the handle joint and spray oil onto the cable from its ends. If the cable is hard to move, remove the cable from its housing, lubricate it in its entirety and spray oil into the housing.

For other lubrication points, refer to the manual for your band sawmill.

INITIAL START-UP

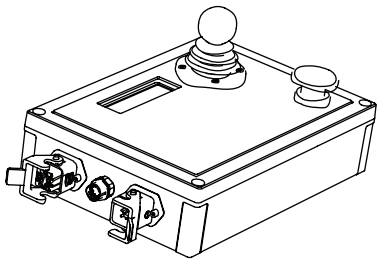
Check that the values shown in the display match the position of the sawhead. If not, calibrate. Read more under the Functions section.

END POSITION FEED/HEIGHT SETTING

Remember to take care when approaching the electric supply/height setting's end position.

STORING THE EQUIPMENT

Ensure to remove the control box from the machine between sawing sessions and store it indoors.



TECHNICAL SPECIFICATION

Recommended maximum length of log bed:
A maximum of 2 extensions is recommended when using Smart Set.
Weight: 90 kg
Electrical system: 12V

BOLTS/NUTS

Definition of the fasteners on following pages.

Shoulder bolt

Cross screw

Slotted screw

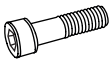
Locking screw

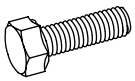
Hex nut

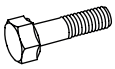
Flange nut

Flat washer

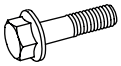
Allen screw

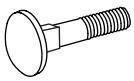

Allen screw (partially threaded)


Hex bolt


Hex bolt (partially threaded)

Flange bolt


Flange screw (partially thread)


Carriage bolt

ADDITIONAL SYMBOLS

The following symbols are used as supplements to the symbols above to describe the design of the parts.

Low

Tensilock

Lock

Countersunk

DIMENSIONS/LENGTH

The dimensions of the fasteners are written as a diameter measurement **(M)** ISO 68-1. For bolts, this is followed by a length measurement. The length of the bolt is measured from below the head to the tip of the bolt.

(Diameter)		**(Length)**
M8	x	20

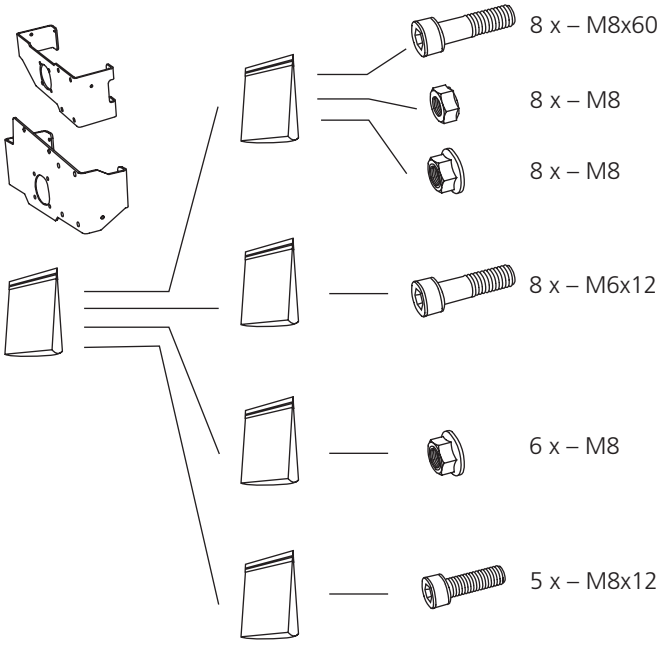
COMPONENTS PARTS: ON DELIVERY

BOX-MF

03-02140

03-02332

SKP-BOXMF

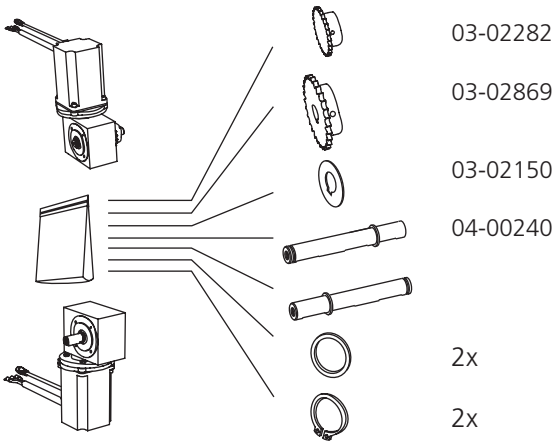


BOX-M

01-00632

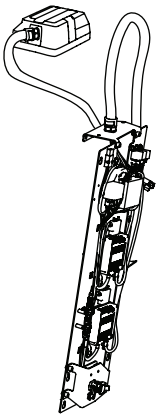
SKP-BOXM

01-00631



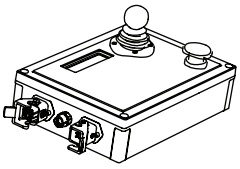
BOX-EC

01-00396



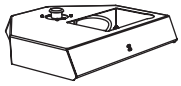
BOX-CB

01-00372

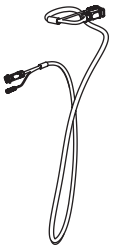


BOX-EP

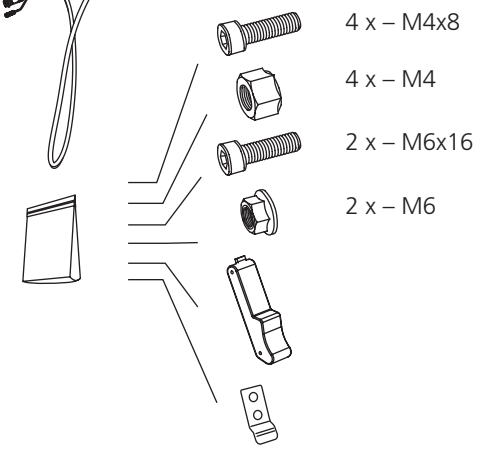
02-00466



05-00035



SKP-BOXEP



4 x – M4x8

4 x – M4

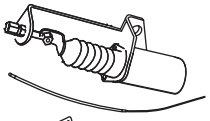
2 x – M6x16

2 x – M6

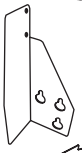
BOX-DV

SKP-BOXDV

01-00452



03-02525



03-03044

03-02668

03-02972

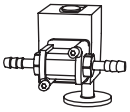
02-00379

04-00624

01-00453

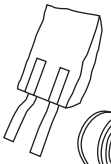
01-00421

01-00420



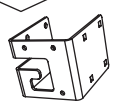
03-02598

DR-01629 2x

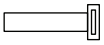


01-00690

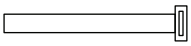
03-03092



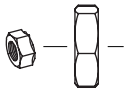
03-03129



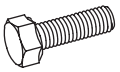
03-03130



2 x – 04-00063



2 x – M10



2 x – M10x35

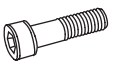
4 x – M10

2 x – M6x30

2 x – M6

2 x – 04-00443

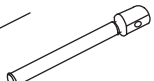
03-02963



4 x – M8x65

4 x – M8

4 x – 03-02502



1 x

2 x – M6

5 x –M6X10

5 x – M6

1x Ø8

2x Ø13

2x Ø25

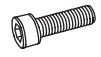
2 x – M6x20

2 x – M6

2 x – M6

1 x – M5x16

1 x – M5



3 x – M8x12

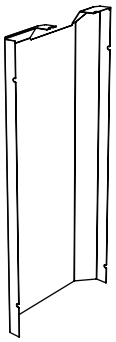
4 x – M8

4 x – MVBF M8x120

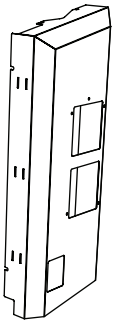
1 x – MVBF M10x55

BOX-TP

03-03121

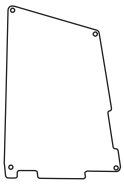


03-03043



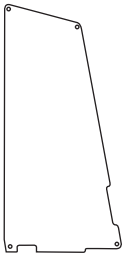
The below items will also be supplied depending on your model of band sawmill

01-00688 B751 PRO

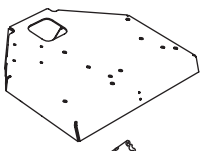
03-02965 B751 PRO 

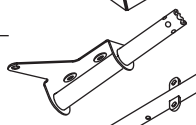
Or

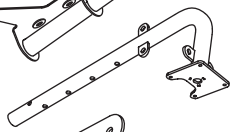
01-00784 B1001

03-02489 B1001 

01-00617

02-00465 

02-00487 

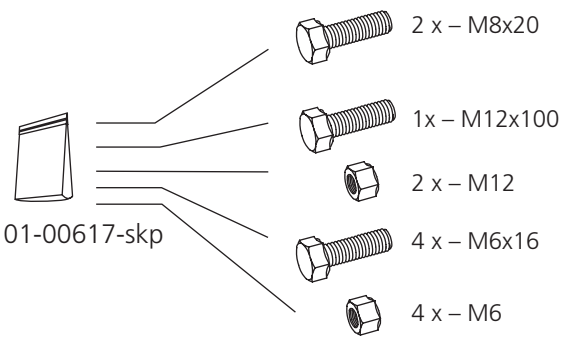
02-00449 

03-02857

04-00521 2x

01-00617-skp

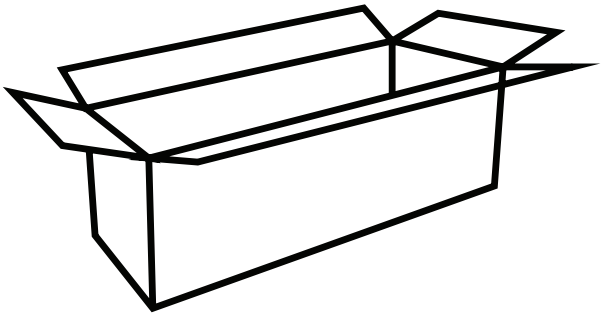
Operation arm
Needed for assembly.
Note. Not included in these packs



Let’s get started!

We recommend laying out all fasteners on a tray or similar to make it easier to find screws.

Symbol: Assembly

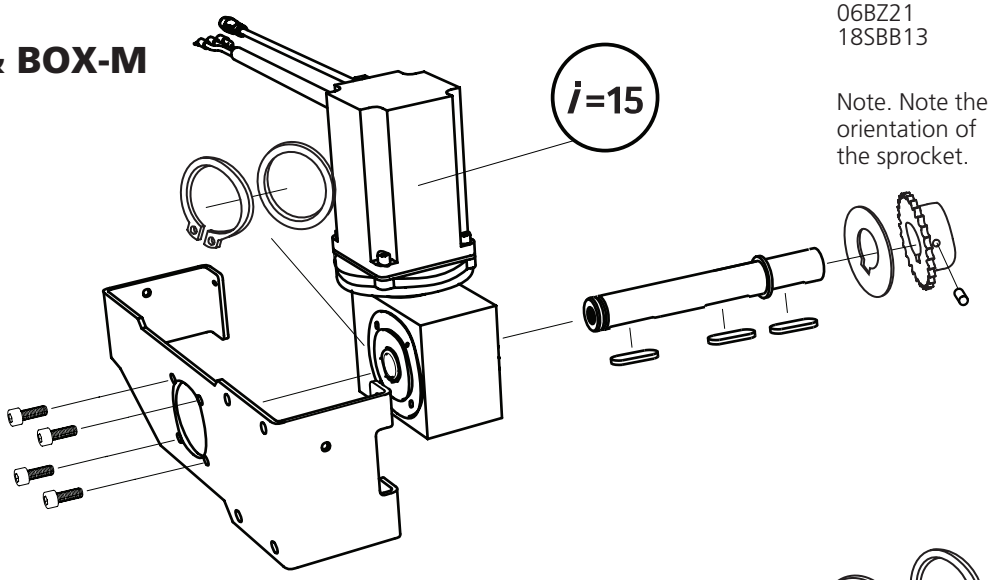


BOX-MF & BOX-M

1

03-02282

4 x – M6x12



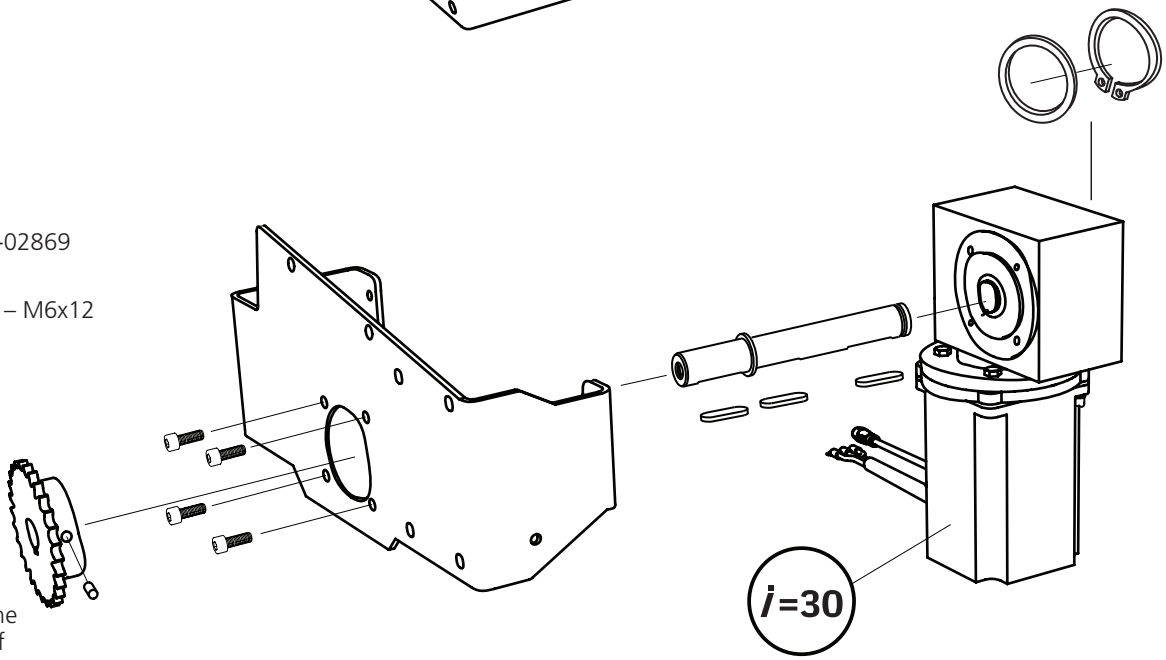
06BZ21
18SBB13

Note. Note the orientation of the sprocket.

2

03-02869

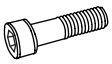
4 x – M6x12



06B1Z28

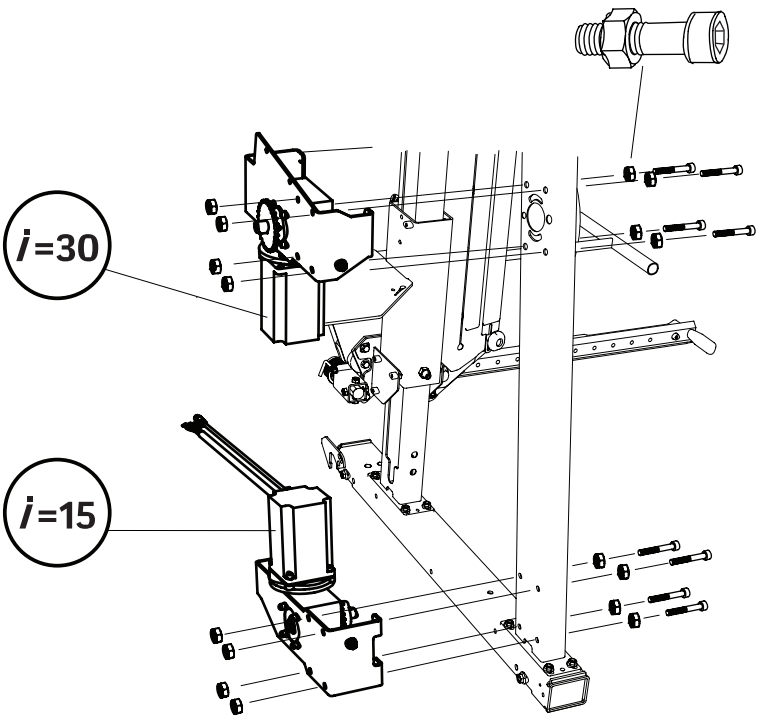
Note. Note the orientation of the sprocket.

3


8 x – M8x60

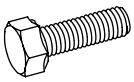
8 x – M8

8 x – M8

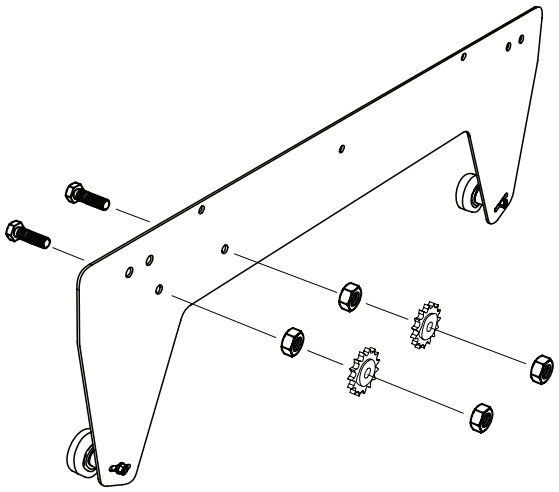


BOX-DV

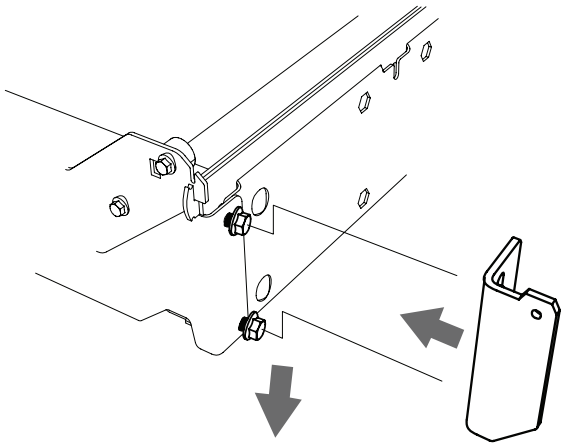
4


2 x – M10x35

4 x – M10



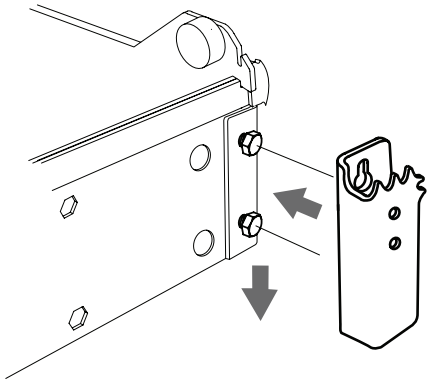
5



6

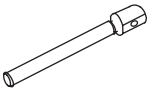
01-00536

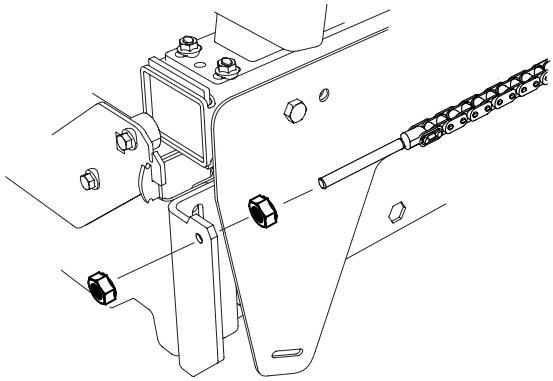
When installing the extensions of the log bed, 01-00536 extension chains should be used, 1 extension chain for each rail extension added



7

2 x – M6


1 x

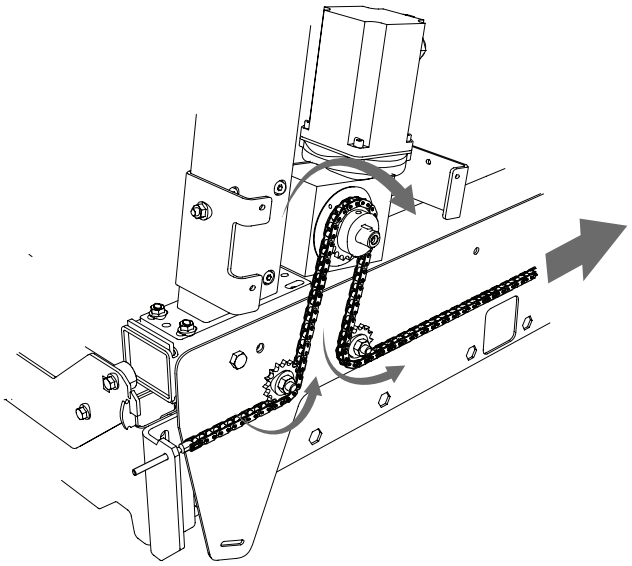


BOX-DV

8

Extension chain 01-00421 is required when mounting a trailerkit to the rail.

01-00421 Trailer kit



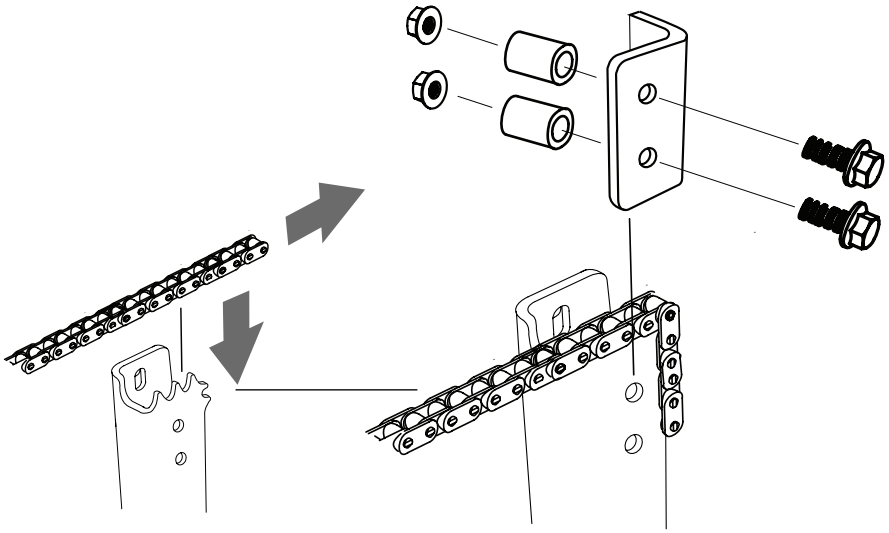
9

Tighten the supply chain manually as much as possible before it is mounted on the chain lock.

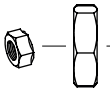
2 x – M6x30

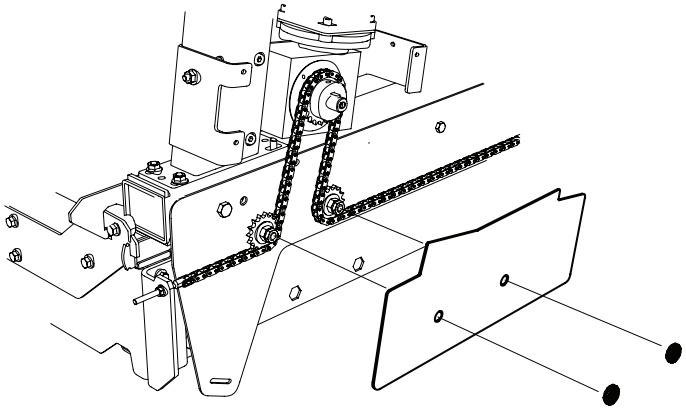
4 x – M6

04-00443



10

 2 x – M10

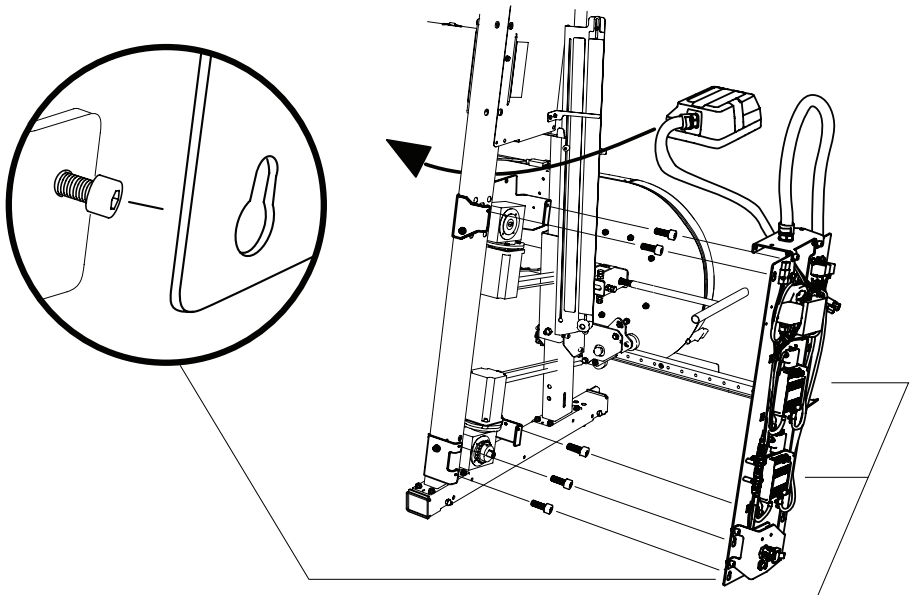


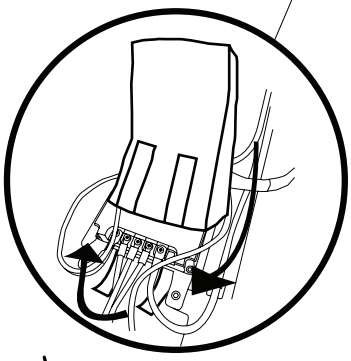
BOX-EC

11

5 x – M8x12

2 x





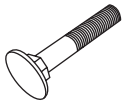
BOX-DV

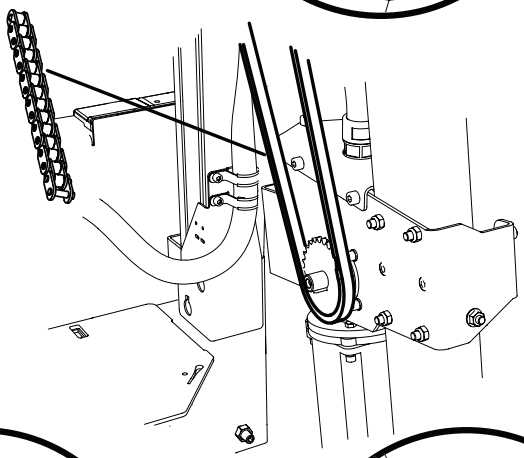
12

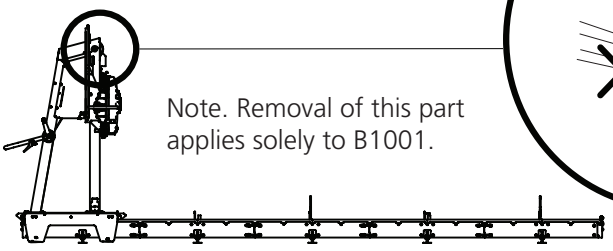
01-00688 B751 PRO

01-00784 B1001

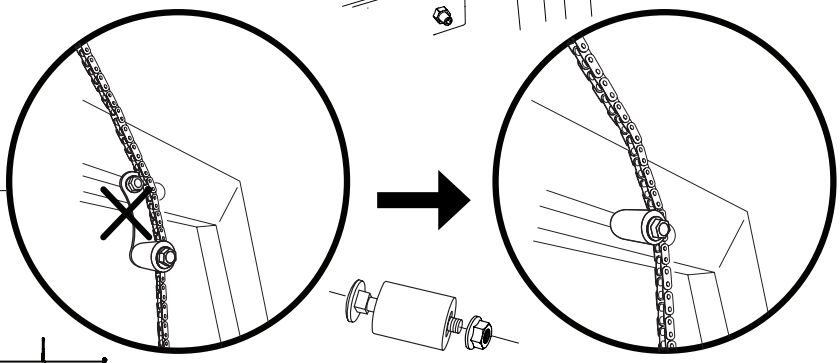
1 x – MVBF M10x55







Note. Removal of this part applies solely to B1001.



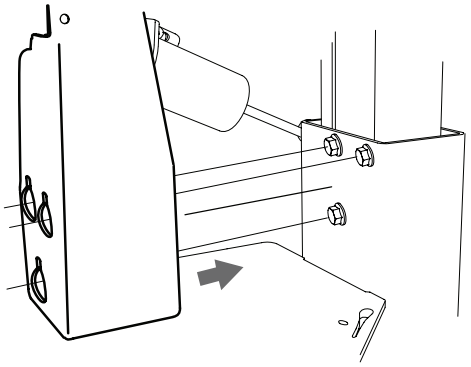
13

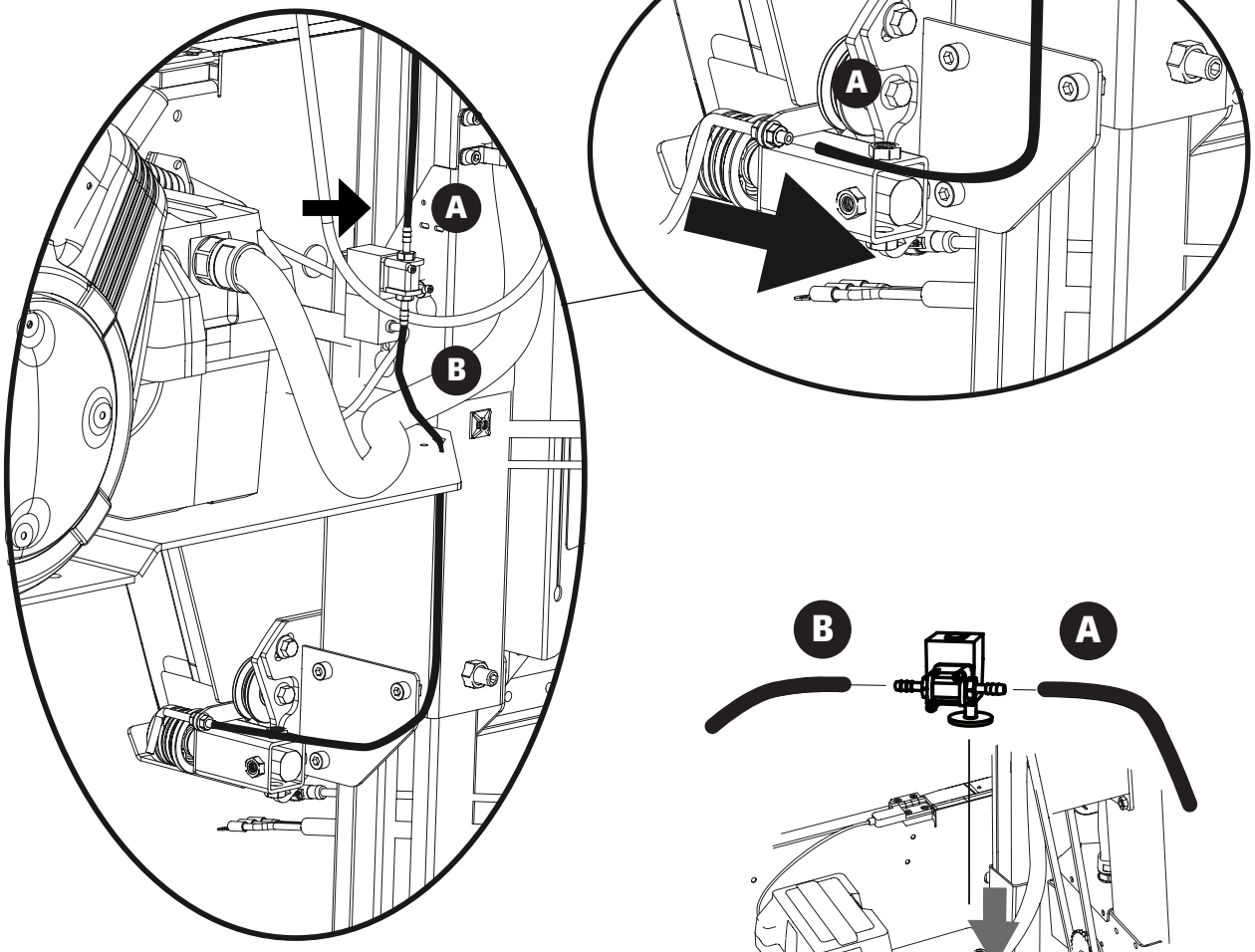
1 x – M5x16

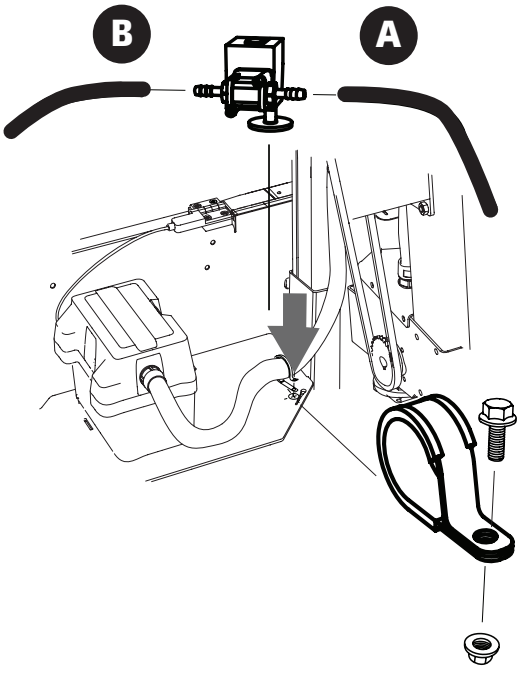
1 x – M5

B

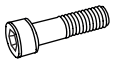
04-00624







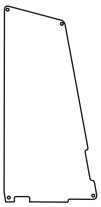
14

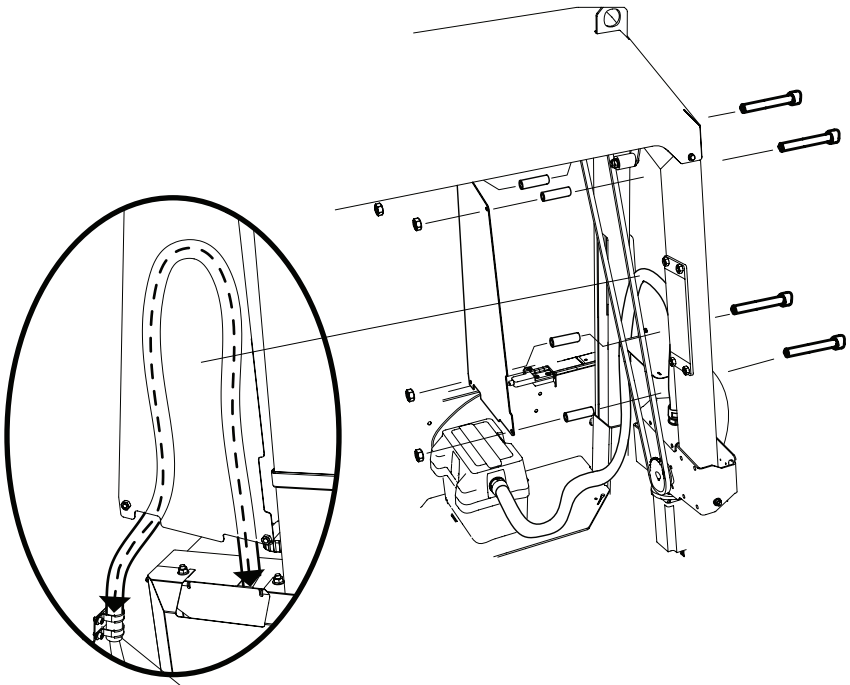

4 x – M8x65

4 x – M8

4 x – 03-02502

03-02965 B751 PRO


03-02489 B1001



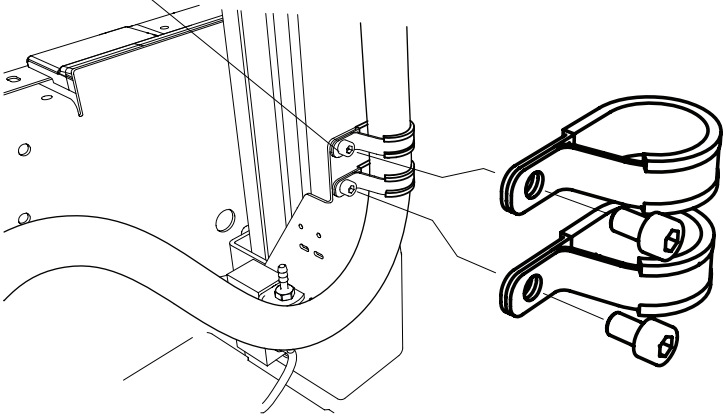
15

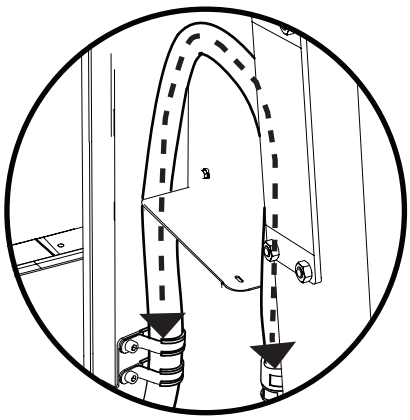
Note the length of the hose specified between the hose clamp and the upper attachment. The length of the hose is important so that it does not become knotted together or become too long in its end positions.

B751 PRO 80 cm

B1001 100 cm

4 x – M8x12





B751 PRO 80 cm

B1001 100 cm

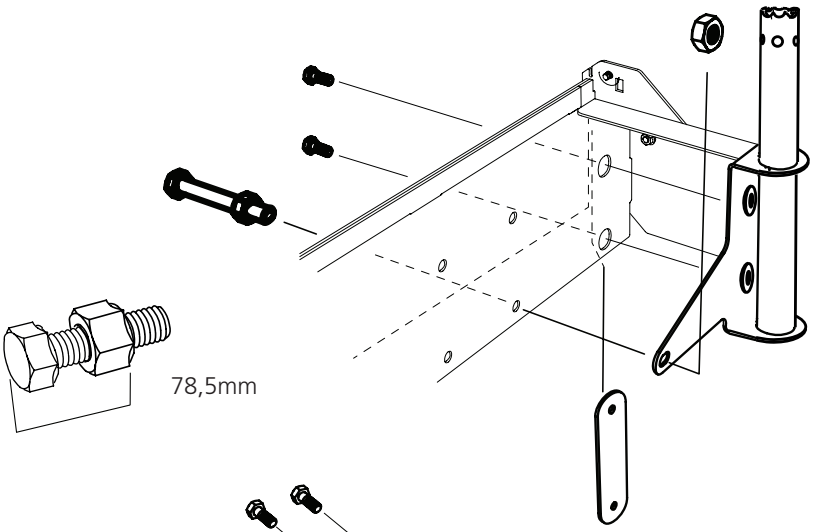
01-00617

16

2 x – M8x20

1 x – M12x100 +M12

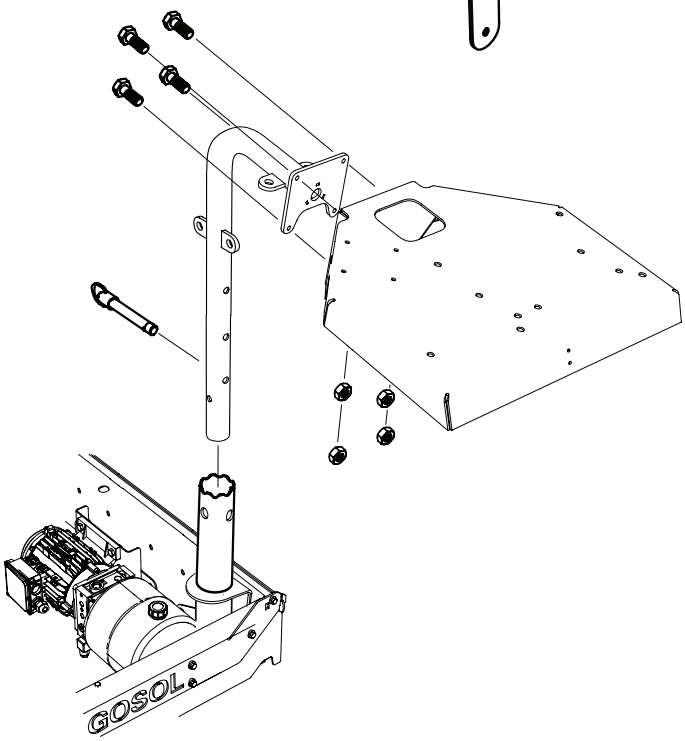
1 x – M12



17

4 x – M6x16

4 x – M6



BOX-CB

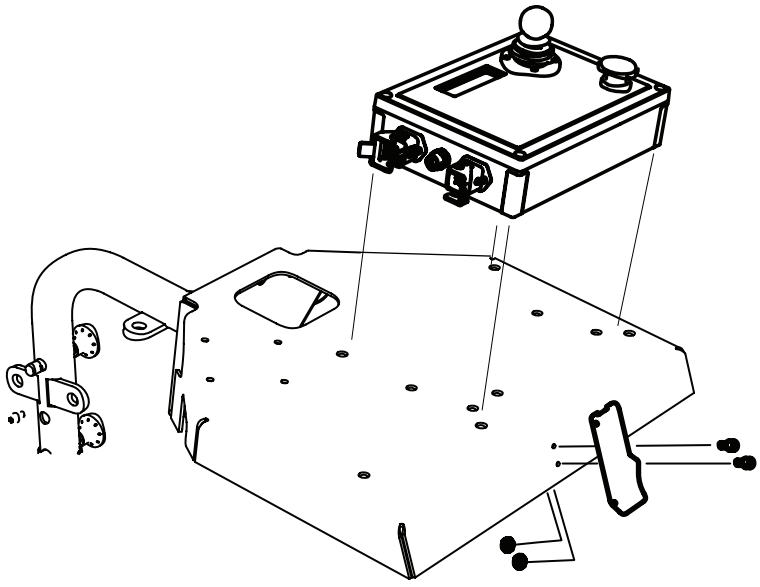
18

4 x – M8x16

4 x – M8

2 x – M4x8

2 x – M4



BOX-EP

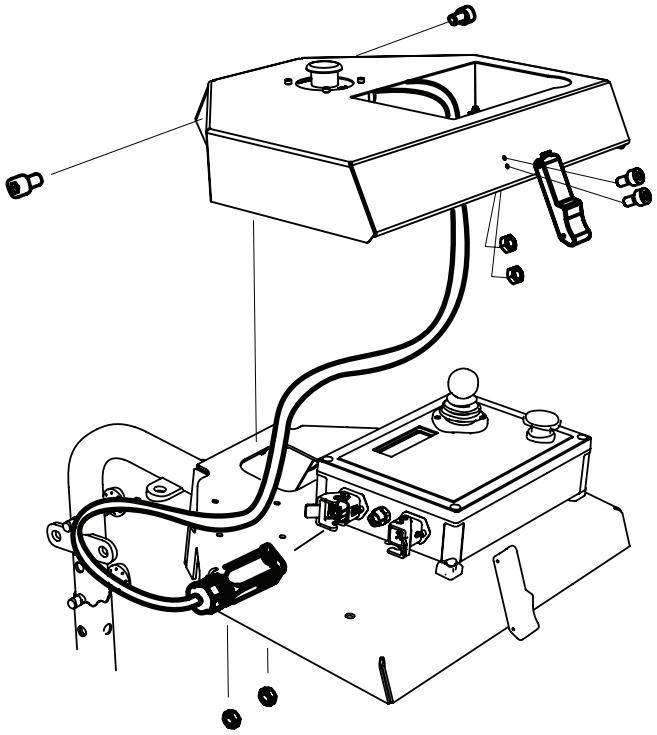
19

2 x – M6x16

2 x – M6

2 x – M4x8

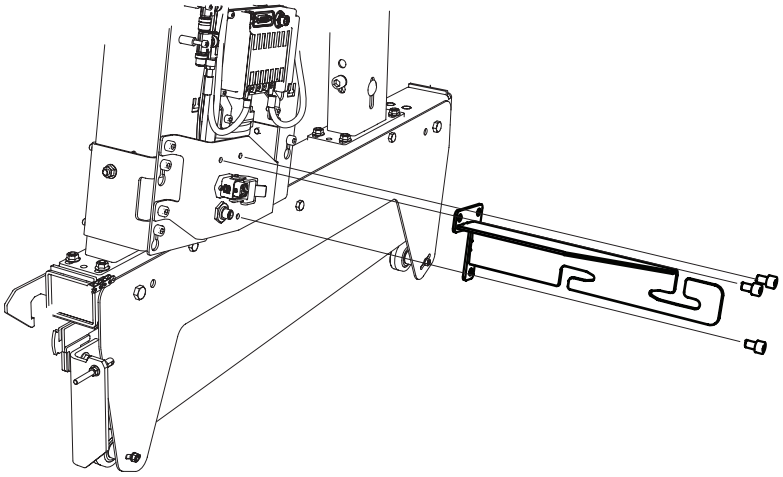
2 x – M4



BOX-DV

20

3 x – M8x12



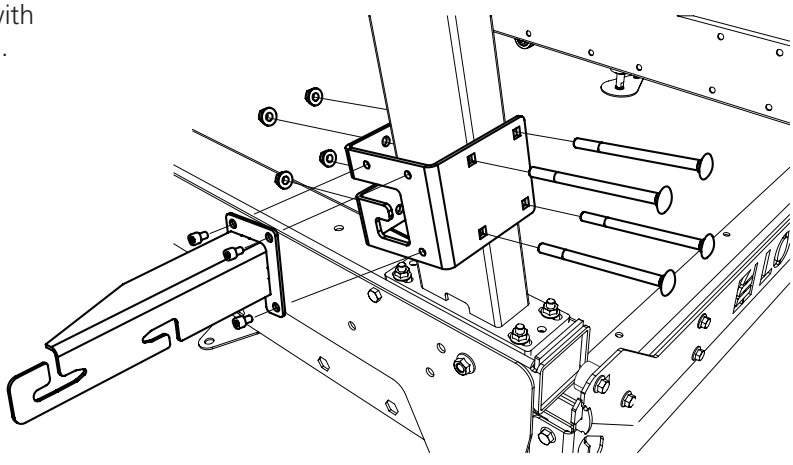
The signal cable can be mounted on the left side of the sawhead as an option. The cable is then secured with Velcro according to step 21.

4 x – M8x12

03-03092

4 x – M8

4 x – MVBF M8x120



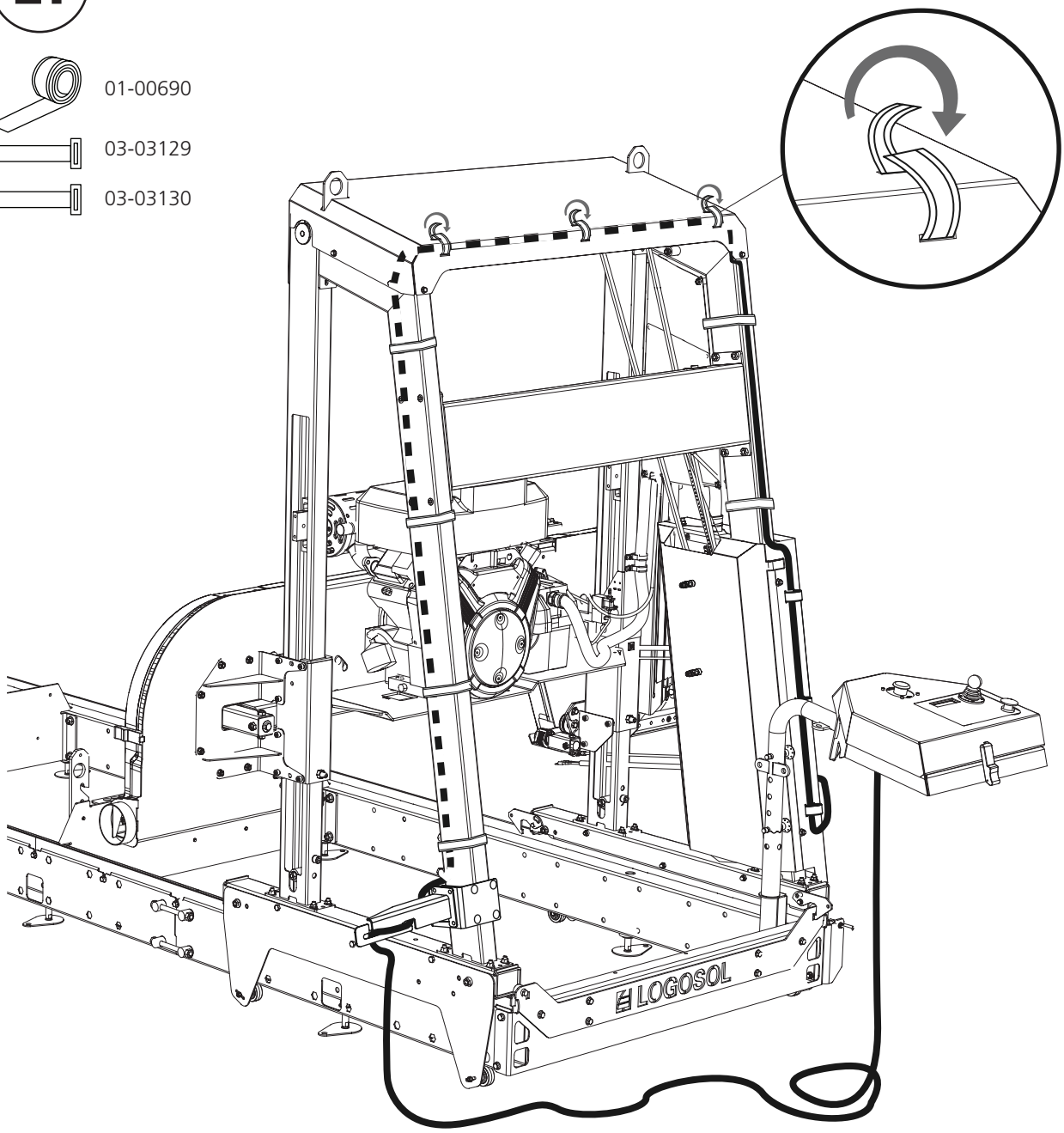
BOX-DV

21

01-00690

03-03129

03-03130

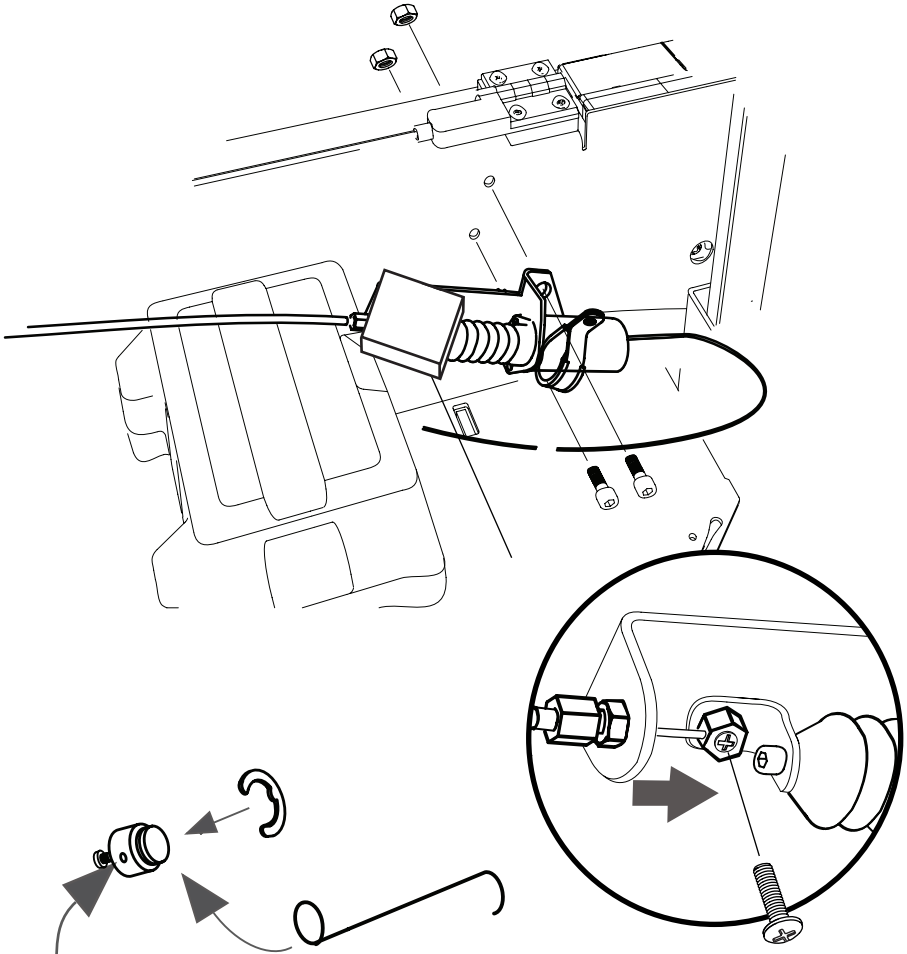


22

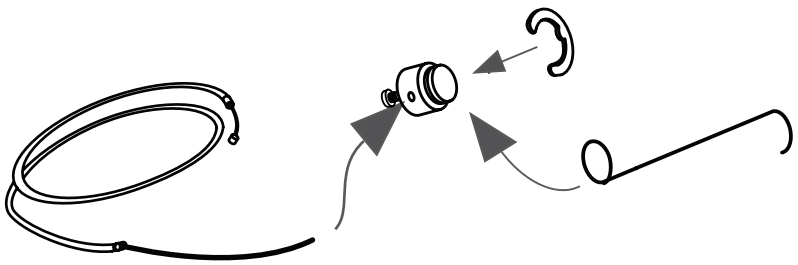
The below items can be found in the petrol engine saw pack.

03-02194

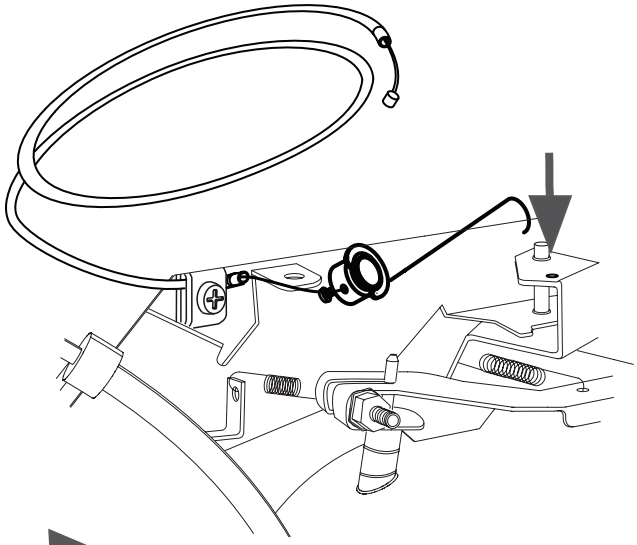
04-00223



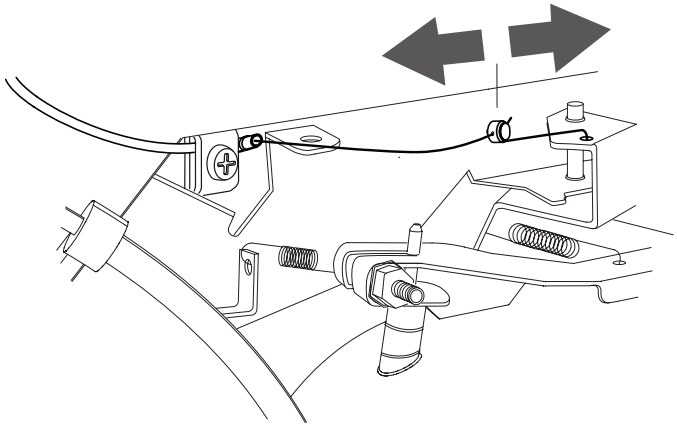
23



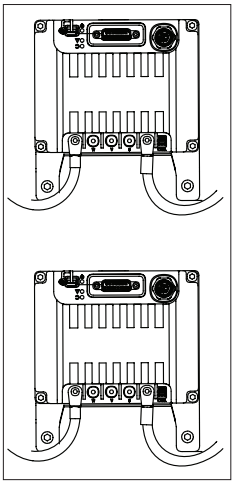
24

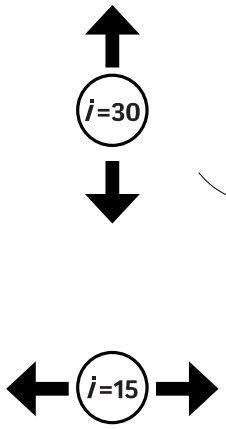


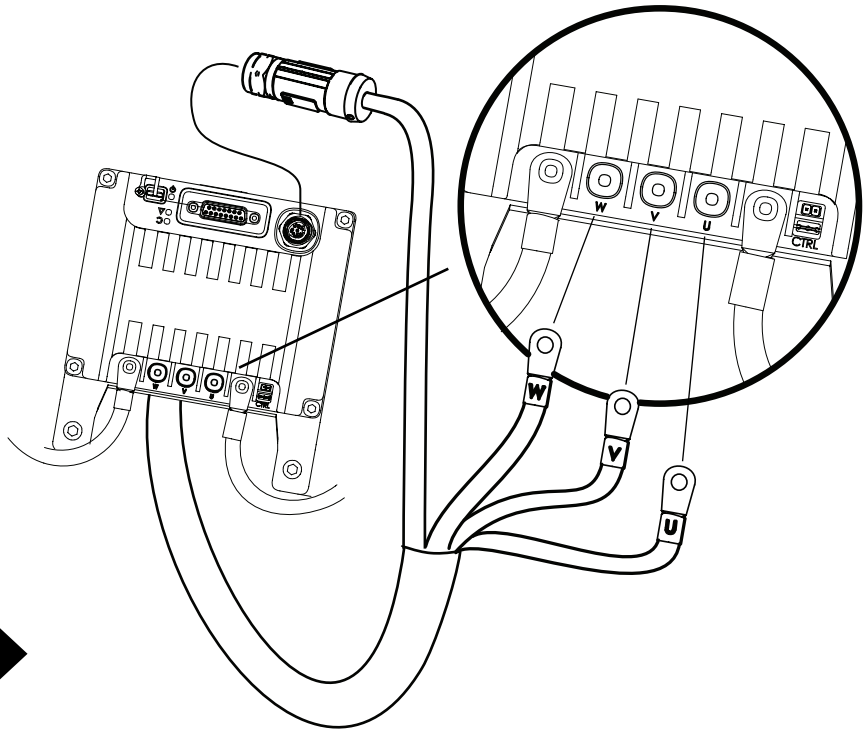
25



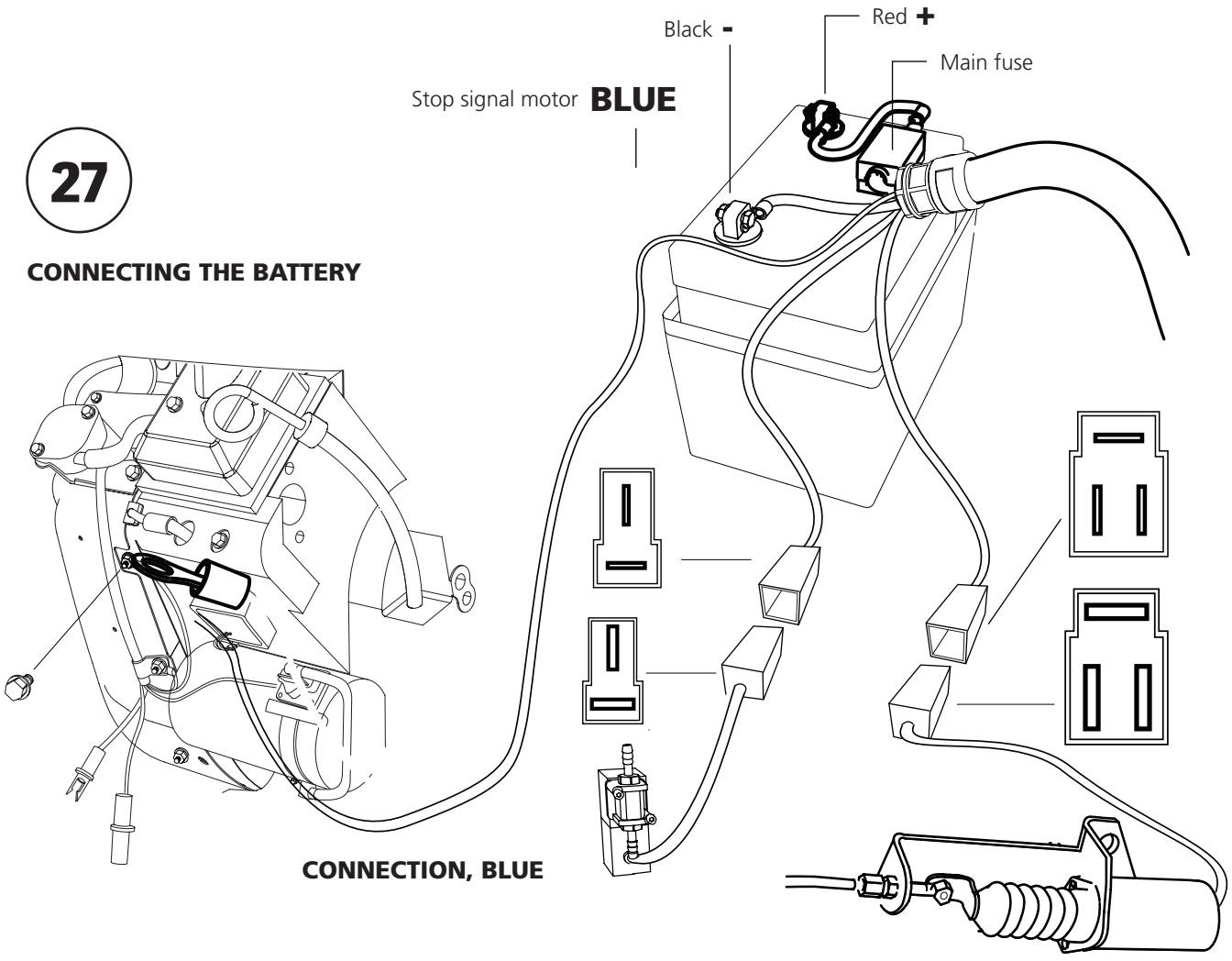
26 CONNECTING MOTOR CONTROLS







27 CONNECTING THE BATTERY

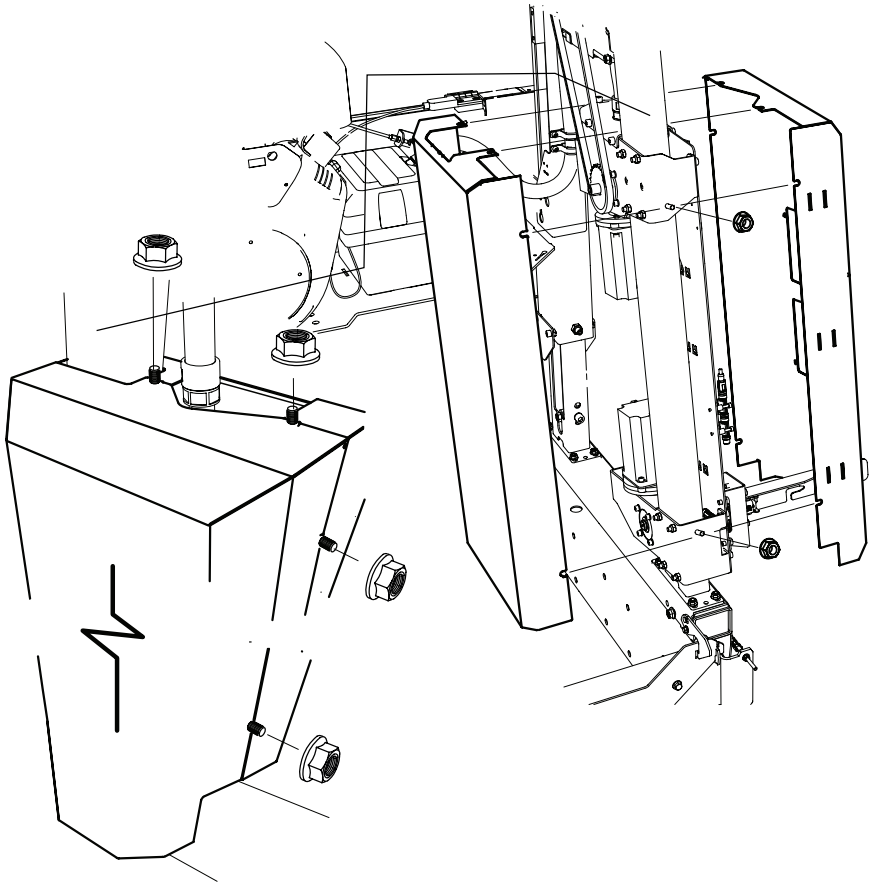


CONNECTION, BLUE

BOX-TP

28

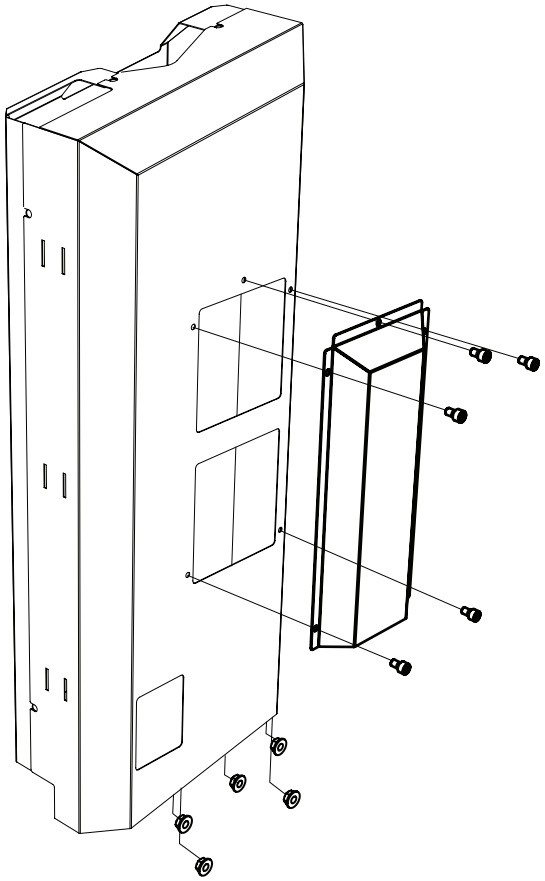
6 x – M8



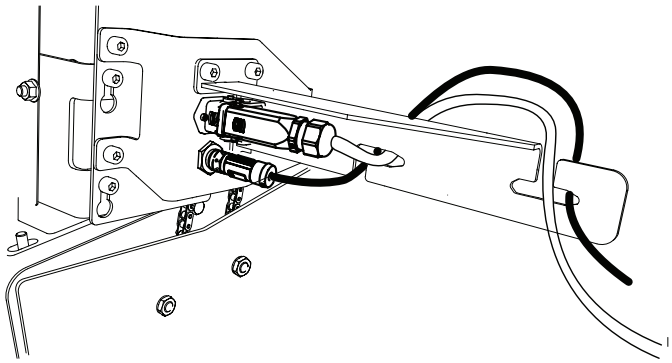
29

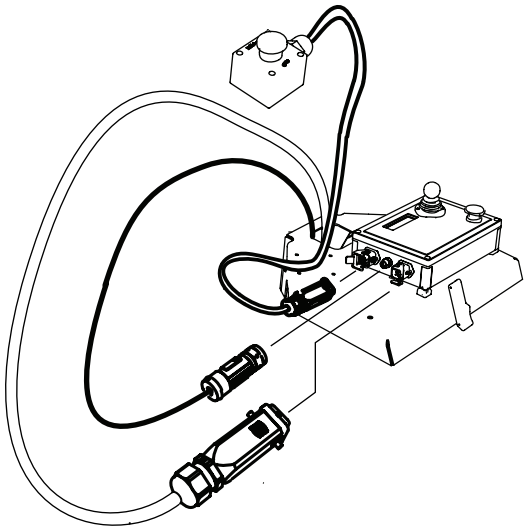
5 x –M6X10

5 x – M6



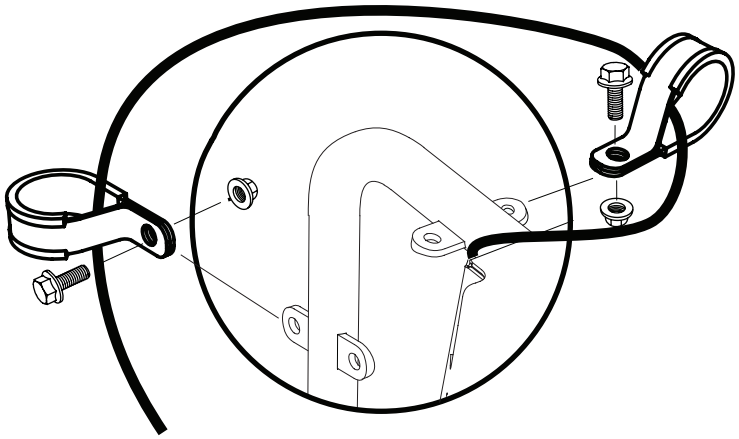
CONNECTION EMERGENCY STOP AND CONTROL BOX





05-00004

When installing a rail extension on the log bed, extension cable 05-00004 is required, 1 cable extension per 2 extensions.



INSTALLING CONTROL CABLE

2 x

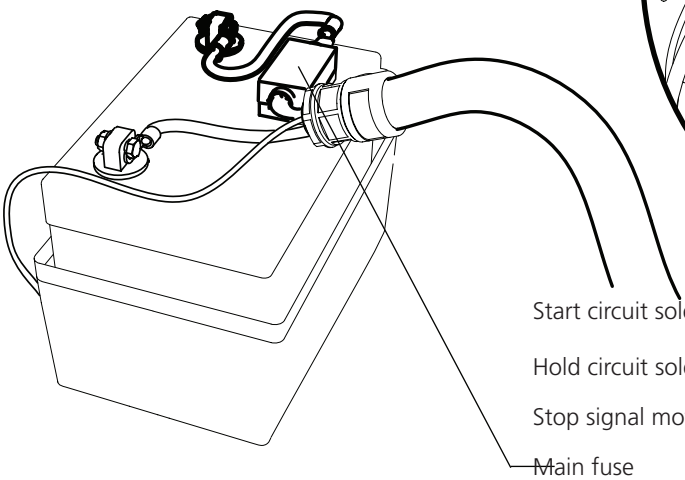
2 x – M6x20

2 x – M6

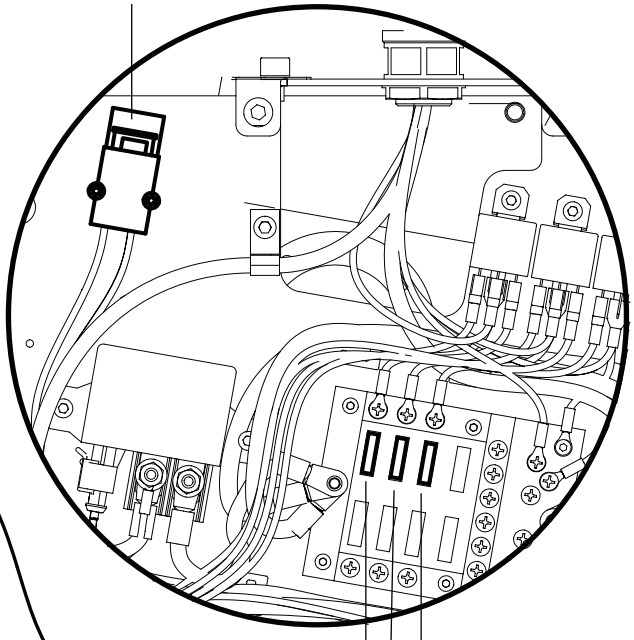
2 x – M6

FUSES

The machine has a number of fuses, some at the top of the battery and four fuses on the upper part of the component panel. Ampere and function are shown in the illustration.



Feed to Smart Set Control Box **Midi/ATO 10A**



Start circuit solenoid **Midi/ATO 30A**

Hold circuit solenoid **Midi/ATO 10A**

Stop signal motor **Midi/ATO 10A**

Main fuse **Midi ISO 8820-5:25 32V 120A**

THROTTLE ADJUSTMENT - BRIGGS 23HK

WARNING! Risk of serious injury.

Before adjusting the throttle cable's tension on the engine: turn the ignition knob to the OFF position and close the fuel valve.

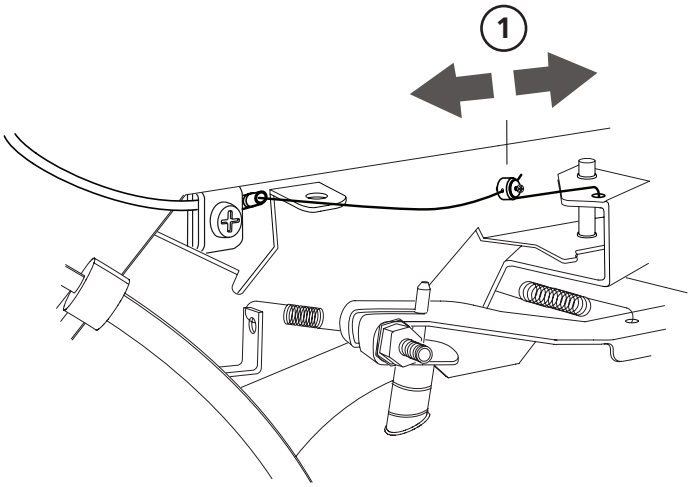
Always start the machine from the operator's station. Always turn off the machine before adjusting the tension of the throttle cable on the engine side.

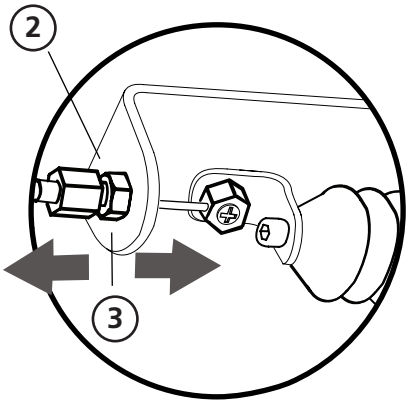
WARNING! Risk of burn injuries. The engine and its muffler get very hot during operation and remain hot for a while after shutdown.

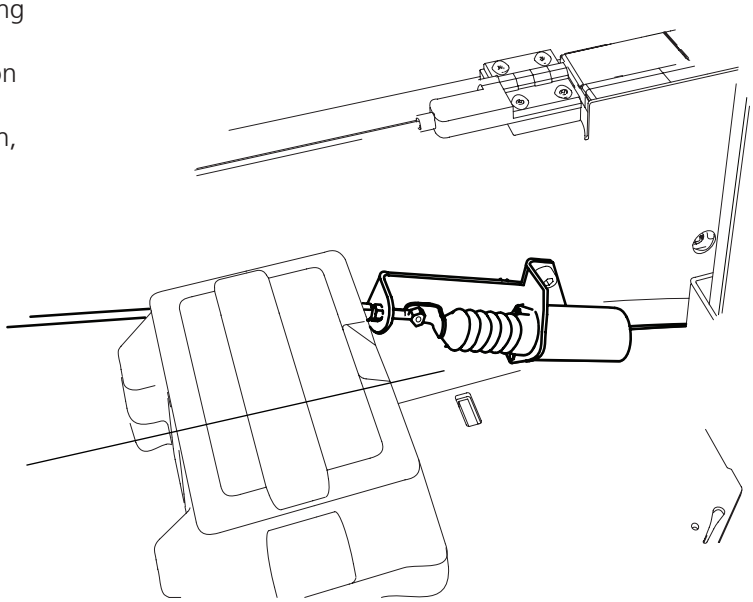
Allow the engine and the muffler to cool to cool before performing servicing or maintenance on the machine.

THROTTLE ADJUSTMENT

Start by tightening the throttle cable on the cable's attachment to the engine's throttle. (1) Then start the engine from the operator's station, noting whether the saw blade moves when idling. If it does, then adjust the tension of the throttle cable on the solenoid. (2) If the blade moves, then release the tension until it is stationary when idling. If the blade moves despite the adjusting nut on the cable being at its innermost position, turn off the engine and let it cool down, then slightly loosen the adjustment in step 1. Then repeat step 2 and check whether you now get the blade to remain still when idling. Then manually put the solenoid in maximum throttle. If the engine revs up to working speeds, then the setting is correct. Then turn off the engine and check and tighten the lock nuts on the throttle. (3) The cable length is adjusted so that when the solenoid is in its innermost position, there should be a small gap to the end position on the engine's throttle.







STARTING AND STOPPING

STARTING

1. Open the fuel valve by moving the slide control to the right to the "ON" position.
2. To start a cold engine, set the choke to closed position (lever to the left). To start a warm engine, leave the choke in open position (lever to the right).
3. Turn the ignition switch to the "ON" position and start the engine with the key.
4. With the software running, press the start button while the enabling switch is pressed in.
5. This will increase the speed of the combustion engine to its working rpm, and the bandsaw blade will start.
6. If the choke is in closed position, gradually move the control to open position as the engine warms up.

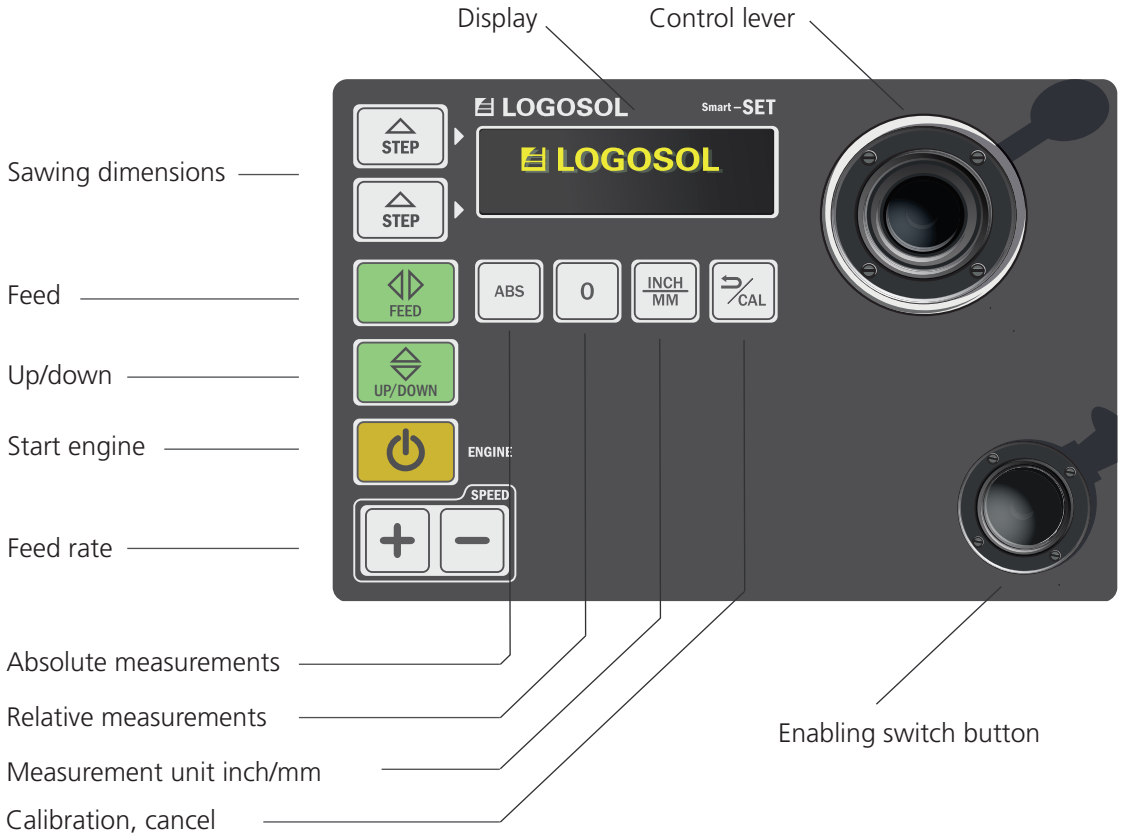
STOPPING

The saw blade is stopped by releasing the control lever or enabling the switch button. The bandsaw blade is then deaccelerated to a standstill, and the engine drops to idling speed. Now turn the engine off by turning the key to the "OFF" position and then closing the fuel valve.

FUNCTIONS

Control unit

The Logosol Smart Set control unit includes a display, a number of programs and settings buttons, as well as an enabling switch button and a control lever. To use the different functions, select the desired function on the control panel. To subsequently execute the command, the enabling switch button must be pressed in at the same time as the operation is performed with the operating lever. If the enabling switch button is released, the machine stops.



Control lever

The control lever of the Smart Set control unit is progressive, i.e. it performs operations at an increasing rate depending on how far from the centre it is pushed.

The control lever is only used in the directions forward/back.

Enabling switch button

The enabling switch button is a safety function. It is superior to the control unit and has to be kept pressed down if the machine is to be activated.

FUNCTIONS

PROGRAM KEYS

Up/down

Up / Down activates the ability to move the vertically.

Saw mode / Start

The feed button is used to run the sawhead back and forth over the rails.

REVVING UP THE ENGINE

Activates the engine to enable sawing. The engine revs up and runs at working speeds until the operating lever is released.

STEP MODE

Step mode is two adjustable modes that enable you to quickly repeat a preset value of the saw cut.

SETTINGS

ABS

Absolute measurement means that the display will show the distance between the bottom of the sawblade and the top of the log bed.

0

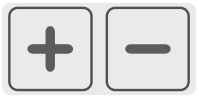
The 0 key creates a zero point for the position of the sawhead. The value shown on the display will then start out from this point.

DIMENSIONING

The display can show measurement units in inches or millimetres. To choose measurement unit you press down the key inch/mm.

CAL / Back

This key activates the calibration function of the machine. Can only be used after the start up process.



SPEED

Controls the sawhead feed rate +/- in increments of 1%.

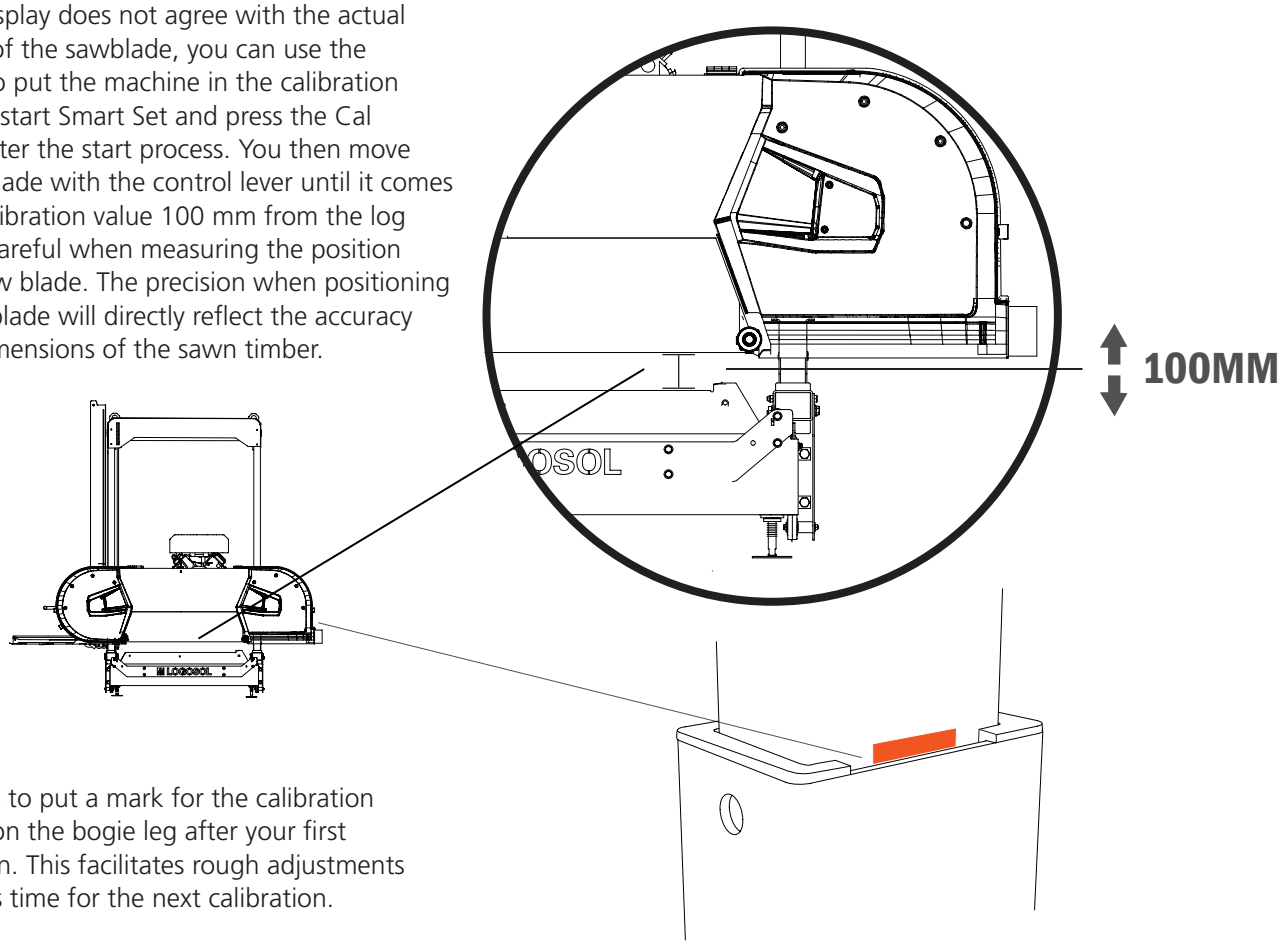
FUNCTIONS

Calibration

At each start-up, the machine asks for the measurement between the sawblade and the log bed. If the value shown on the display does not agree with the value on the machine scale, the calibration value has been changed and the machine has to be recalibrated. This operation is performed in the calibration mode.

WARNING! In calibration mode, the software that controls the end positions of the sawhead is not active, it is thus possible to run the sawhead so that it mechanically crashes, which can lead to damage to the mechanics and the sawhead falling down.

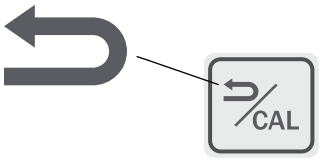
If, during operation, you suspect that the value on the display does not agree with the actual position of the sawblade, you can use the Cal key to put the machine in the calibration mode. Restart Smart Set and press the Cal button after the start process. You then move the sawblade with the control lever until it comes to the calibration value 100 mm from the log bed. Be careful when measuring the position of the saw blade. The precision when positioning the saw blade will directly reflect the accuracy of the dimensions of the sawn timber.



One tip is to put a mark for the calibration position on the bogie leg after your first calibration. This facilitates rough adjustments when it is time for the next calibration.

FUNCTIONS

CANCEL COMMAND

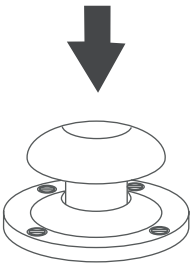


The calibration key has two functions; it also works as a command for cancelling a selected operation. Pressing this key returns the machine to standby mode.

ENABLING SWITCH BUTTON

The machine's enabling switch button is the big button located below the control lever to the right of the control panel. The enabling switch is connected to all the functions of the machine and is to be regarded as a lock between the keypad and the control lever. To execute the selected command, the enabling switch button has to be kept pressed down.

ENABLING SWITCH BUTTON



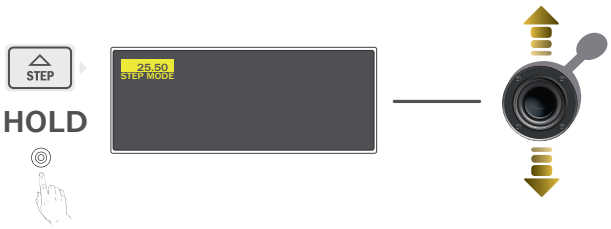
FUNCTIONS

STEP MODE

Step mode is two adjustable modes that enable you to quickly repeat a preset value of the saw cut. When you want to use Step mode, the machine remembers where the sawhead was positioned when the last cut was made. This means that the sawhead will be lowered to the position of the last cut plus the selected value. The movements are kerf-compensated, i.e. if you use a preset value of 25 mm, the sawn board will be 25 mm. The sawhead has then actually moved 25 mm + 1.9 mm = a kerf-compensated 25 mm board.

SETTING STEP MODE

Set the Step mode by pressing down one of the step keys. This has to be done with the Smart Set in its standby mode. Keep the sawing dimension key pressed down and then enter the desired value using the control lever. The value will be shown on the display next to the key to which the relevant command is connected.

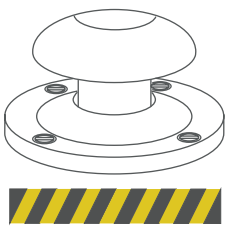


USING STEP MODE

The Step mode is activated by pressing one of the preset step keys. The value will then be shown on the display and the display's colours are inverted. To activate the command, you push the control lever forward. The sawhead is now lowered down to the position of the previous cut plus the selected value and the display's colours are restored when the sawhead reaches its position. The idea is thus that you can make a cut, raise the sawhead to be able to bring it back over the sawn board, and then use the step function to move the sawhead and cut a new board with exactly the same measurements as the last one.

TURNING OFF SMART SET

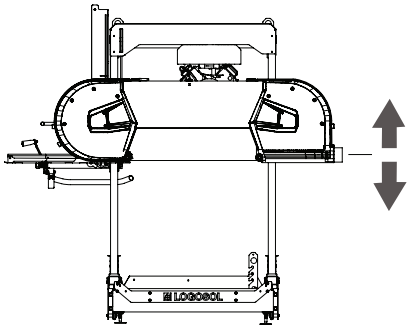
Upon completion of work, the machine is turned off by pressing the emergency stop on the top of the control unit.



FUNCTIONS

UP/DOWN

The Up / Down key is used to activate the ability to move the sawhead vertically with the help of the control lever. In the basic mode, the position is shown as a value on the display. This value shows the distance between the sawblade and the log bed.



SAWING A LOG

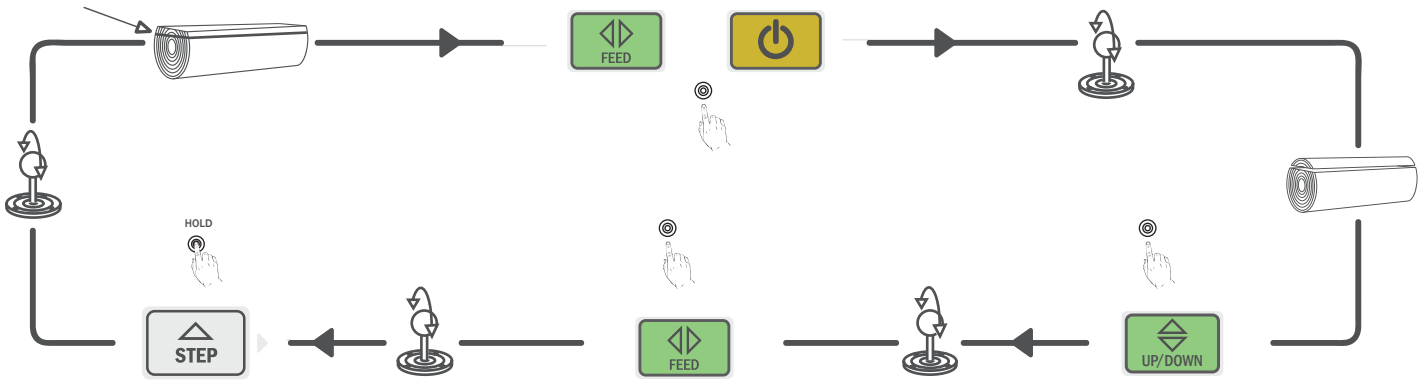
The illustration below shows an example of a workflow, with the steps that are performed by the Smart Set during sawing.

START POSITION

To make a cut, begin by setting the sawblade to the desired height.

Activate the feed and start the engine to enable sawing.

Feed the blade through the log using the control lever.



Prepare the next cut by using a preset depth of cut. Keep the Step key pressed in and feed using the control lever.

Activate the feed and bring the sawhead back to the start position.

Activate up/down to be able to raise the saw blade before bringing it back.

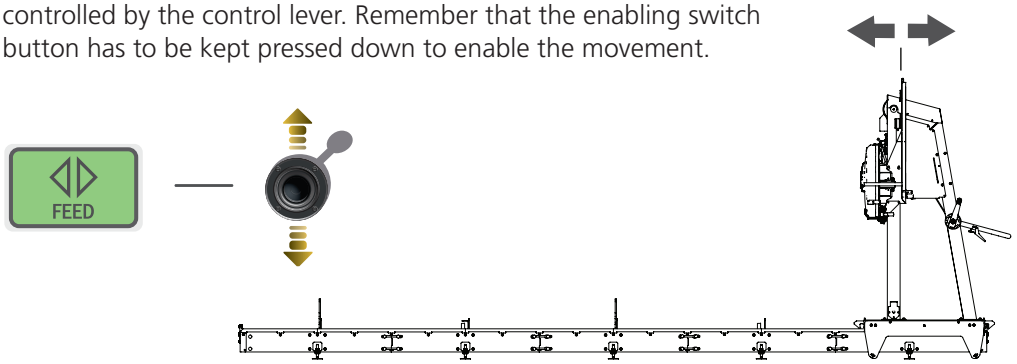
FUNCTIONS

PERFORM FUNCTIONS

To run the different functions in Smart Set, you follow the steps as shown in the illustration below. (1) Select the desired function on the keypad. (2) Keep the enabling switch button pressed down. (3) Carry out the selected operation using the control lever. If you release the enabling switch button, the operation cannot be performed.

FEED

The feed function is used for moving the sawhead back and forth over the rails. The function is activated with the Feed key, and is then controlled by the control lever. Remember that the enabling switch button has to be kept pressed down to enable the movement.



REVVING UP ENGINE

To rev up the engine and start the blade, you have to be in the Feed mode and then press down the Start key. Stop the engine by releasing the control lever to its 0 position.

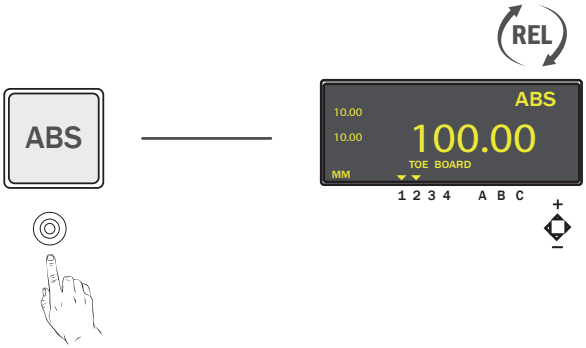
FUNCTIONS

DIMENSIONING

The Smart Set interface can display several different measurements and units to make it easier for the user in different situations. The interface is set in the starting position to show an absolute measurement between the saw blade and the log bed in mm.

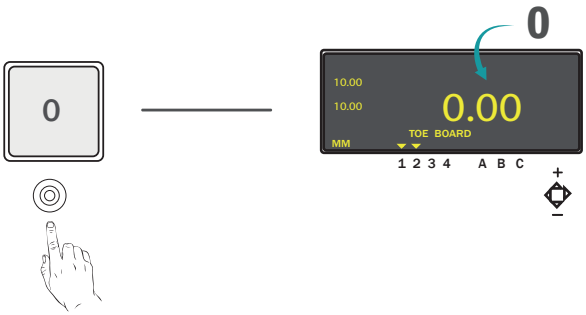
ABSOLUTE MEASUREMENTS

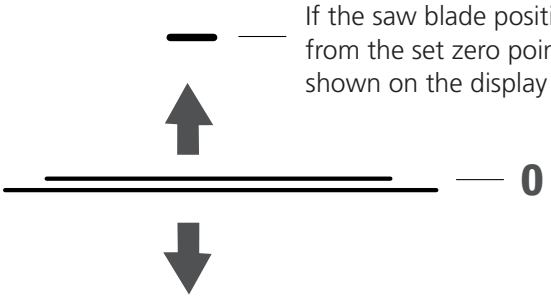
The Smart Set interface initially shows the distance between the log bed and the bottom of the sawblade. The selected measurement is shown in the box called ABS on the display.



RELATIVE MEASUREMENTS

The 0 key creates a new zero point for the blade's position. From this zero point, a new relative measurement is shown for the position of the blade. If the sawblade is raised from this selected point, a negative value is shown, and if the sawblade is lowered a positive value is shown. On the display, the selected value is shown with the symbol 0. In this mode, the kerf is compensated manually.





If the saw blade position is raised from the set zero point, the value shown on the display is negative.

INCH/MM

The display can show measurement units in inches or millimetres. To choose measurement unit you press down the key inch/mm.

TROUBLESHOOTING SCHEDULE

PROBLEM/SYMPTOM	CONTROL/SOLUTION
Nothing happens when you press any of the keys on the control panel.	Open the box and check the cable that connects to the keypad, unplug and replace the cable. If it still doesn't work, then it is likely that the keypad is faulty.
The FEED motor is not working.	Move all the motor's cables to the up/down motor controller. Activate UP/DOWN and move the control lever back or forth. If the motor is working, then it is likely that the motor controller for FEED is faulty. If the motor is not working, then it is likely that the motor is malfunctioning.
The FEED motor only runs backwards.	Check that the speed is not at 0. Press the + button while FEED is activated and the control lever is pressed forward.
The UP/DOWN motor is not working.	Move all the motor's cables to the FEED motor controller. Activate FEED and move the control lever back or forth. If the motor is working, then it is likely that the controller for UP/DOWN is faulty. If the motor is not working, then it is likely that the motor is malfunctioning.
The sawhead passes below the bottom position or above the maximum position.	Restart the Smart Set and recalibrate the sawhead. 100mm between saw blade and log bed.
The solenoid for motor start is only activated only for a short period and then released and the band saw motor goes back to idling again.	Completely loosen the cable between the solenoid and the motor, press down the enabling switch button, and then press the start button. Manually check that the solenoid is fully drawn to the bottom and is held in place as long as the enabling switch button is pressed. If the solenoid is functioning normally without being connected to the engine, then it is likely that the cable connecting to the engine throttle is too tightly tensioned. If it still does not work, check the cables, see separate instruction.
The solenoid for water cooling does not work.	Check cables, see separate instruction.
The Smart Set loses contact with the FEED or UP/DOWN motor during operation and restart is required to continue.	Low battery voltage. Charge or replace the battery. If it still does not work satisfactorily, check the cables, see separate instruction.
The display is black.	Open the cover and check the cable that goes to the display, is it properly inserted? Unplug and replace the cable at both ends. Does pin 1 on the display go to pin 1 on the circuit board? If not, turn one of the contacts 180 degrees. Still not working? Then it is likely that the cable or display is faulty.
It is not possible to restart the band saw motor after the enabling switch button is released and then pressed again.	In order for the emergency stop circuit to release completely requires that the control lever is pushed forward a little and then released completely. Try starting the band saw motor now.
The STEP function does not work as intended and the sawhead continues past the STEP position set.	The engine's choke must be activated between each use of step function.
Timeout is shown on the display	Check data cable, see separate instruction
MSG fail is shown on the display	Communication between the control unit and motor controls is interrupted. May be due to too low voltage or gap in data cable.
Up to End is shown on the display	The STEP function reaches outside the sawhead's motion range

Fiskaregatan 2, SE-871 33 Härnösand, SWEDEN
+46 611 182 85 | info@logosol.com | www.logosol.com