IMH STRINGER LINE 1500™ is a production line for double sided stringer pallets. It is designed to be used for small to large pallet producing companies commercially producing pallets. The line offers quick changeover between different pallet sizes and an efficient, fast and high quality production thanks to the reliable individual hydraulic nailing system.

WARNING:
Failure to follow the warning and causion instructions in this document may result in:

Risk of personal injury or death.

Risk of significant property damage, damage of the Product and the products produced in the Product including partial or total loss.

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Updated versions of the documents

This User Instruction along with Safety Instructions, General Terms, Limited Warranty and other important documents can be found on IMH:s web-site www.us.imhmachinery.com/downloads/ :

- (i) the Purchaser, Operators and other staff working with the Product can view online versions of these documents in the event that the Purchaser ever loses his/her copy or in the event that IMH modifies the documents and
- (ii) IMHTM retains the right to modify these documents as it deems appropriate and that the "Purchaser is charged with the knowledge of the modifications set forth in these documents".

Description of IMH STRINGER LINE 1500TM

IMH STRINGER LINE 1500TM is a production line for double sided stringer pallets. It is designed to be used for small to large pallet producing companies commercially producing pallets. The line offers quick change over between different pallet sizes and an efficient, fast and high quality production thanks to the reliable individual hydraulic nailing system.
The line consists of following units:

1. **1st nailing machine**
   - This machine nails the top deck to the stringers. It has notch supports to be able to handle stringers with notches.
   - Capacity, see our brochure at www.us.imhmachinery.com/downloads/

2. **Flip Flop**
   - This unit flips the pallet upside down.

3. **2nd nailing machine**
   - This machine nails the bottom deck to the stringers.
   - Capacity, see our brochure at www.us.imhmachinery.com/downloads/

4. **Flip Flop**
   - This unit flips the pallet back to have its upside facing up again.

5. **Stacker**
   - This unit stacks the pallets.
   - Capacity, see our brochure at www.us.imhmachinery.com/downloads/

6. **Outfeed conveyor**
   - The finished stacks are fed out to be collected from this conveyor.

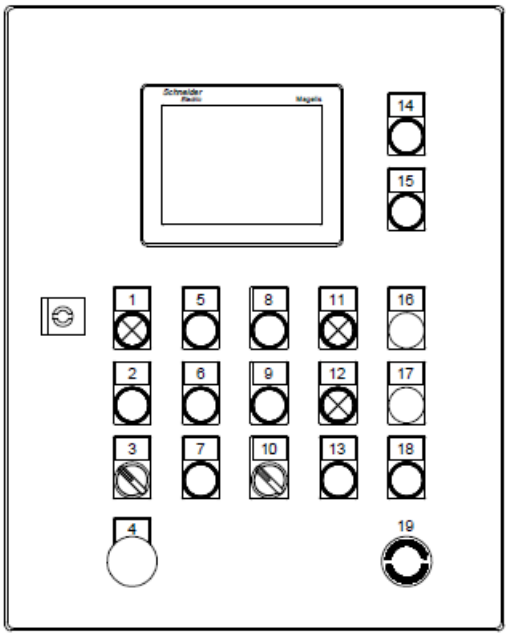
1st and 2nd nailing machines (unit 1 and unit 3 in the description above)

The description below is based on the 1st nailing machine. The 2nd nailing machine is the same except a few manual differences.

Operator terminal

The operator terminal has physical buttons and switches, and also a touch screen. There is an operator terminal for each of the 1st and 2nd nailing machines. With the terminal for the 1st nailing machine you also control the first flip flop (unit 2 in the description above). With the terminal for the 2nd nailing machine you also control the following flip flop, stacker and outfeed conveyor (unit 4, 5 and 6 in the description above).

A. Physical buttons and switches on the operator terminal



1-	-S5.22/H6.19	AUTOSTART
2-	-S5.25	CYCLESTOP
3-	-S5.21	MAN/AUTO
4-	-S5.23:1	AUTOSTOP
5-	-S5.26	MANUAL NAILING
6-	-S5.27:1	PICKING NAIL
7-	-S5.24:1	RESET AUTOSTOP
8-	-S5.31	CHANNEL+HAMMER WIDTH -
9-	-S5.32	CHANNEL+HAMMER WIDTH +
10-	-S5.33	1-CHANNEL+HAMMER
11-	-S8/H8:1	RESET GATES
12-	-S11/H200	RESET GATE NAIL MAGAZINE
13-	-S5.28	PICKING BOARD
14-	-S5.29	MANUAL +
15-	-S5.30	MANUAL -
16-	-	SPARE
17-	-	SPARE
18-	-	SPARE
19-	-S13	EMERGENCY STOP

1-AUTOSTART

To start the machine for production. The button has a time delay in order to prevent start of machine by mistake.
The condition for the machine to be able to start in auto is:

1. Hydraulic unit turned on.
2. Recipe loaded
3. Gates closed
4. Not Autostop
5. Boards in board magazines
6. Under and over conveyor in start position.

The Autostart button is also used to confirm each nailing cycle when machine is in interval mode.

2-CYCLESTOP

Used to stop the machine in start position. Can be pushed at any time, machine will make the present deck finished then stop in start position.

3-MAN/AUTO

Manual: Run under and over conveyors forward/backward using button 14 and 15
Auto: Must be in this position to start machine production.

4-AUTOSTOP

Can be pushed at any time. When pushed all movements freeze. To start machine up again, pushbutton RESET AUTOSTOP (7) must be pushed and hold until machine starts.

5-MANUAL NAILING

With MAN/AUTO switch (3) in mode MAN the nailing cycle can be performed by pressing MANUAL NAILING.

6-PICKING NAIL

If a nail not is picked, the machine stops and indicate which hammer the nail is missing in. By pressing PICKING NAIL, the machine tries to re-pick the nails that are missing.

7-RESET AUTOSTOP

To start the machine after it have been autostoped or security gates have been open. The button has a delay so must be pushed and held down until machine starts.

8-CHANNEL+HAMMER WIDTH –

For adjustment of channels and/or hammers depending position on switch no. 10.

9-CHANNEL+HAMMER WIDTH +

For adjustment of channels and/or hammers depending position on switch no. 10.

10-1-CHANNEL+HAMMER

Pos 1=channel and hammer move at the same time.
Pos 2=only hammers move.

11-RESET GATES

To reset the security doors and light beam.

12-RESET GATE NAIL MAGAZINE

When entering the platform to fill nails the nail box stops in upper position.
To start the movement up/down, press RESET GATE NAIL MAGAZINE.

13-PICKING BOARD
To re-pick over board after loading empty magazine or if machine fails to pick.

14-MANUAL +
To run movement of conveyor in manual mode forward.

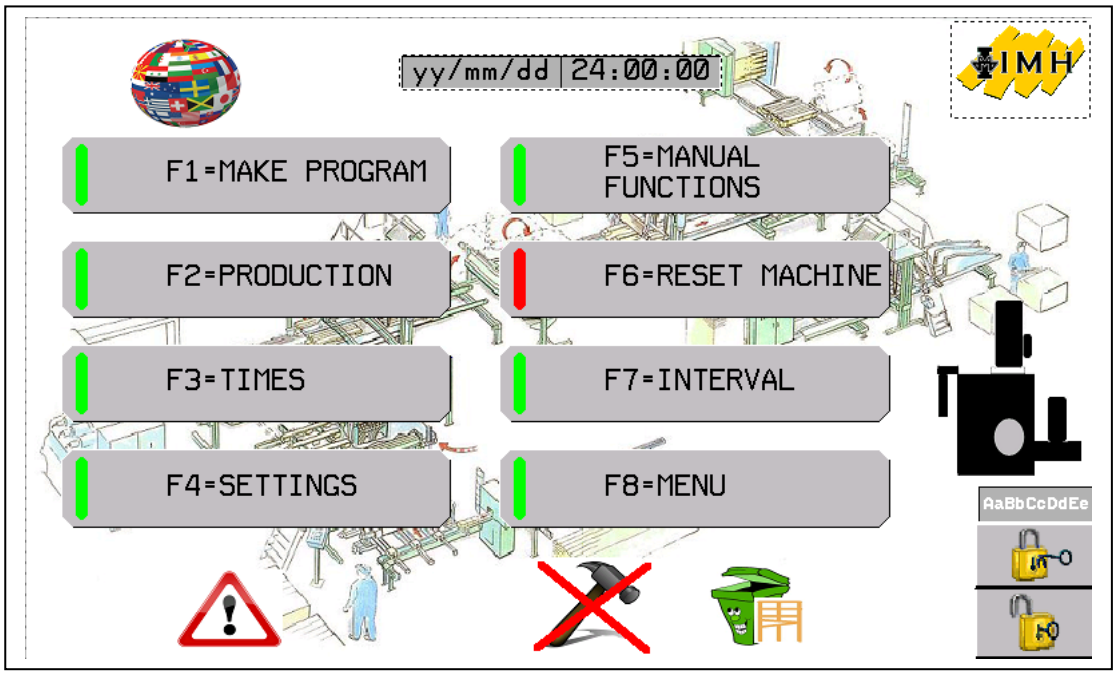
15-MANUAL –
To run movement of conveyor in manual mode backward.

16-18-SPARE
For extra options.

19-EMERGENCY STOP
For emergency, stops complete machine including hydraulic pump.

B. Screen on the operator terminal, explanation and navigation

Menu (Start page):



Below we explain the function of each button, and further down we show more deeply how to use each of them:

To create different recipes of deck and nail patterns:

To send a recipe to the machine for production:

To change different time settings in the machine's program:

To change speed, distances and special parameters for conveyors:

To run the machine with different movements in manual mode:

With switch MAN/AUTO in manual mode and pressing F6, the over and under conveyor will go back to start position. Useful if a product is defect before finished and you need to remove it:

By pressing F7 or the hammer symbol you can switch between having the red cross cover the hammer or not. When the red cross is present the machine is in interval mode. The function for interval mode is that under and over conveyor move to nailing position but the nailer (hammer) cycle does not start until Autostart button is pressed. This is helpful when starting a new recipe to be able to see that the placement of board is correct:

The alarm symbol starts flashing if any alarm is present. By pressing the symbol you will be taken to the list showing the alarms:

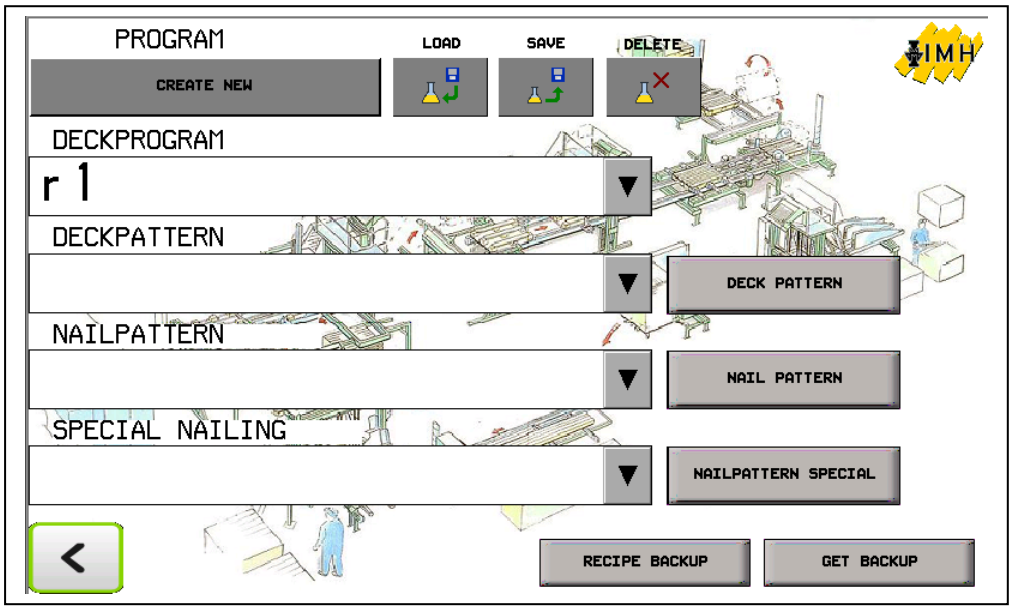
The example given below shows how the 1st nailing machine works when it is producing decks for block pallets. It is the same way recipes are created if you want to produce stringer pallets in the 1st nailing machine. Therefore pictures shown below are displaying decks for block pallets, but it is the same logic for creating stringer pallets.

F1 MAKE A PROGRAM

A deck program needs two or three recipes. Basic program only needs two recipes. One deck pattern so the machine knows how to place the top deck boards on the stringers and one nail pattern to decide which hammer to nail in each nail position.

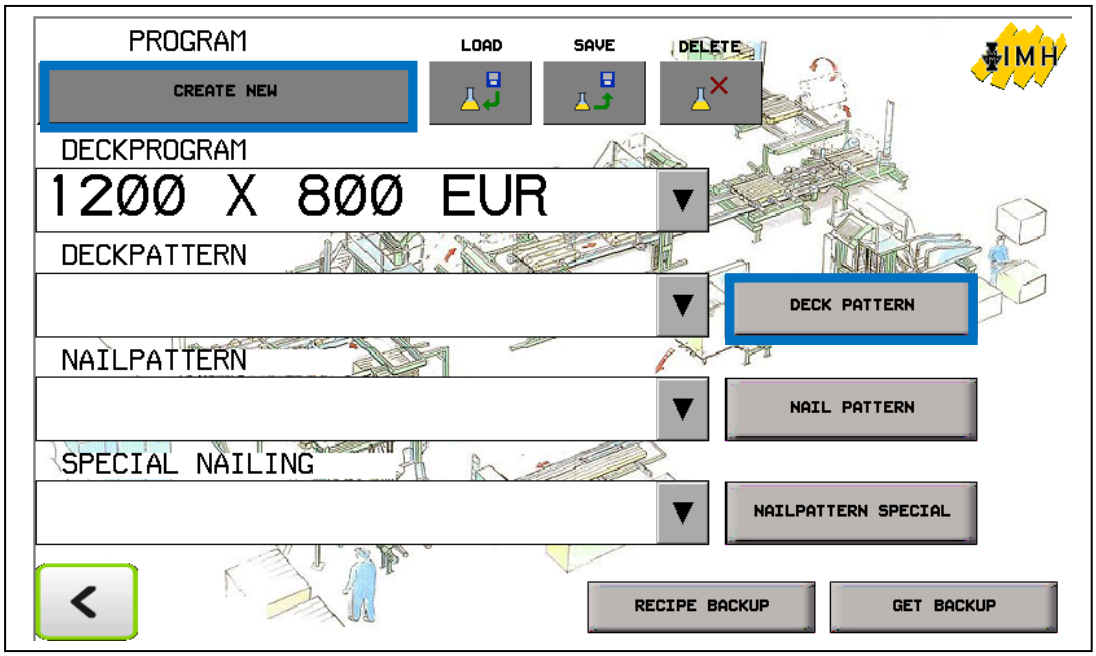
1.Press →

2.Change name →

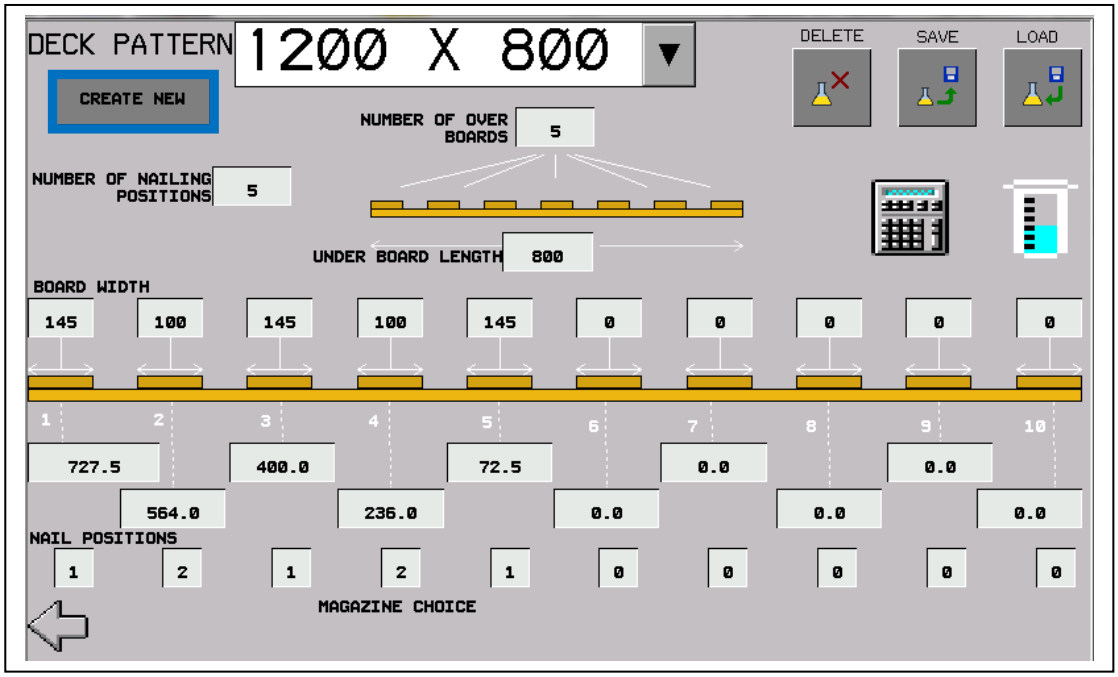


1. Press “CREATE NEW”. In the scrollbar for Deck programs, an automatic number will be generated starting as r1 i.e. recipe 1.
2. Press on name “r1” and change it to what you want this recipe to be called.

3. Press “DECK PATTERN”



4. Press “CREATE NEW”. In the scrollbar for Deck pattern, an automatic number will be generated starting as r1 i.e. recipe 1. Press on name “r1” and change it to what you want this recipe to be called.



5. Put in how many top deck boards that should be placed and number of nailing positions. Put in stringer length so the machine knows how big the product is. In this example it is 5 top deck boards and 5 nailing positions. Stringer length is 31.47” (800 mm) and there are two different widths of the top deck boards.

6. The machine needs information of the distance from the back end of the top deck board to the middle of nailing position. On the 1st nailing position the calculation will be:

   31.47” – (5.71”/2) = 28.64” (800-(145/2) = 727.5 mm)

   2nd nailing position calculation will be:

   31.47” – 5.71” (800-145 mm) (1st board) – 1.61” (41 mm) (1 gap between boards) – 1.97” (50 mm) (half of 2nd board width) = 22.20” (564 mm)

   3rd nailing position calculation will be:

   Stringer length - 1st board - 1st gap - 2nd board - 2nd gap - (3rd board/2) = 15.75”

   (400 mm)

   4th nailing position will therefore be:

   9.29” (236 mm)

   5th nailing position will therefore be:

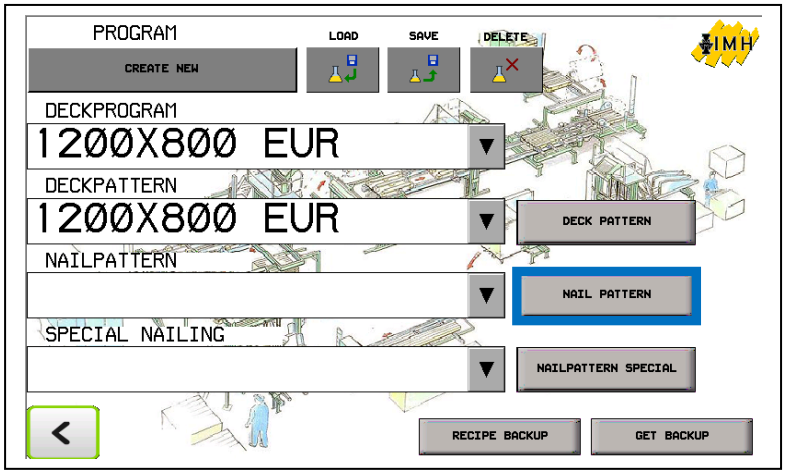
   2.85” (72.5 mm)

7. Make a choice from which magazine the machine should pick each board. Choice is between 1st and 2nd top deck magazines. Magazine 1 is closest to the stringer magazines and magazine 2 is closest to the hammers.

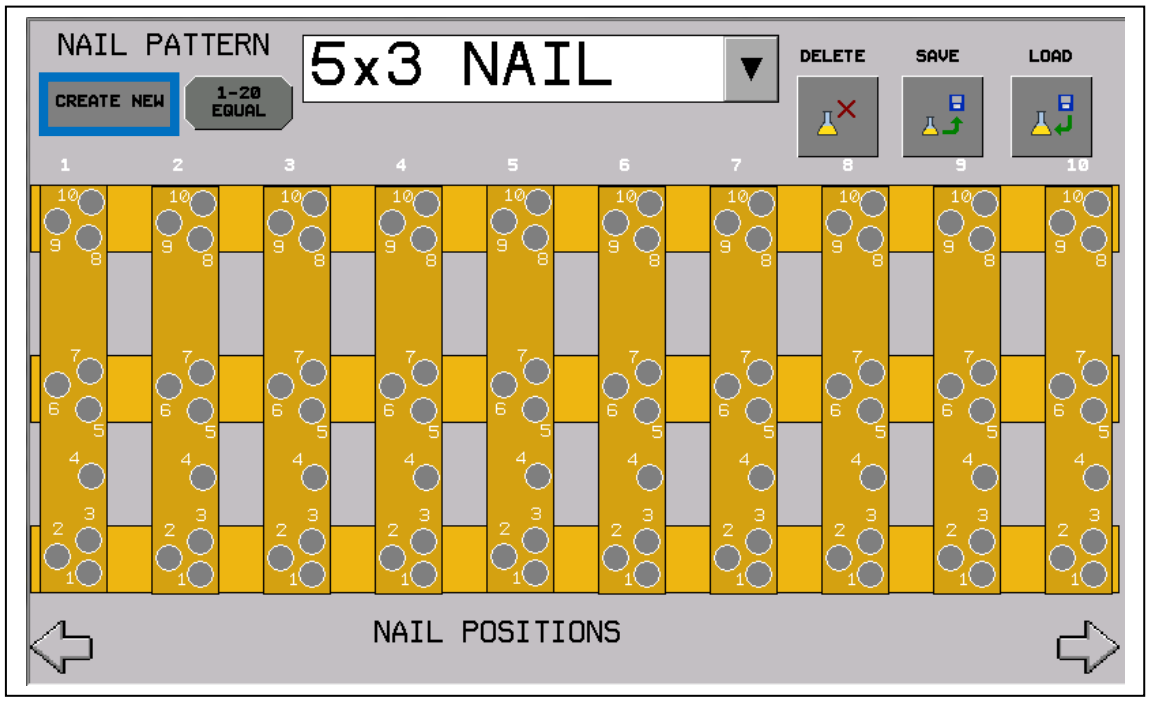
8. When everything is set up press to save your deck pattern into the memory.

9. Press at left bottom corner to come back to the “Make program” start page.

10. Press “NAIL PATTERN” (shown in mm below)

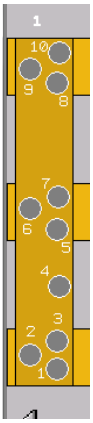


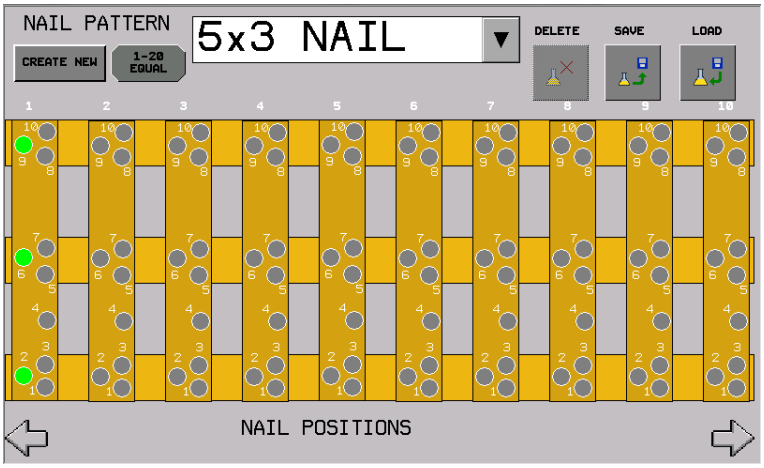
11. Press “CREATE NEW”. In the scrollbar for NAIL PATTERN, an automatic number will be generated starting as “r1” i.e. recipe 1. Press on name “r1” and change it to what you want this recipe to be called.

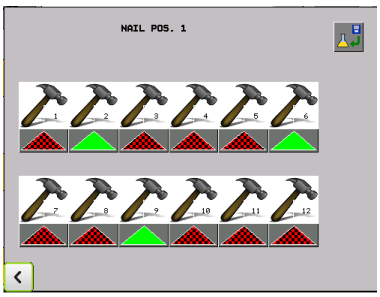


12. The nailers are lined up from left to right in the machine (looking in the production flow direction). Depending on how many nailers the machine has, the layout of nailers can be different from machine to machine. In this example the machine is equipped with 10 nailers because the machine has an extra channel for stringers. The channel is not present in this illustration. In this example it will be 3 nails in each joint. Board 1, 3 and 5 will be nailed through one more time in the next nailing machine when assembling a deck together with the legs on a block pallet. Therefore it is needed to be 1 nail/joint, enough to keep the over board in position when assembling.

Choose the 1st board





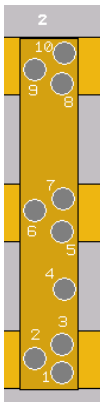


Press the different hammers to toggle them ON or OFF

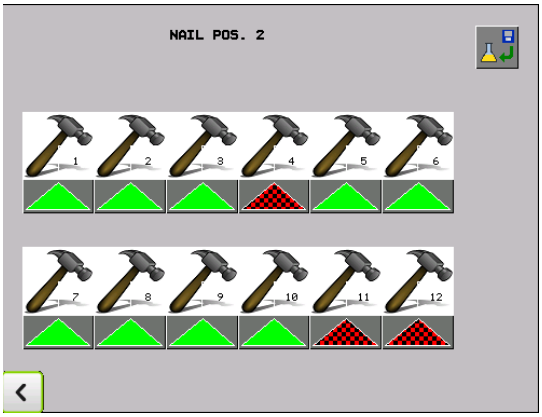
Press to close current pop-up

Now nailers 2, 6 and 9 will nail in the 1st board

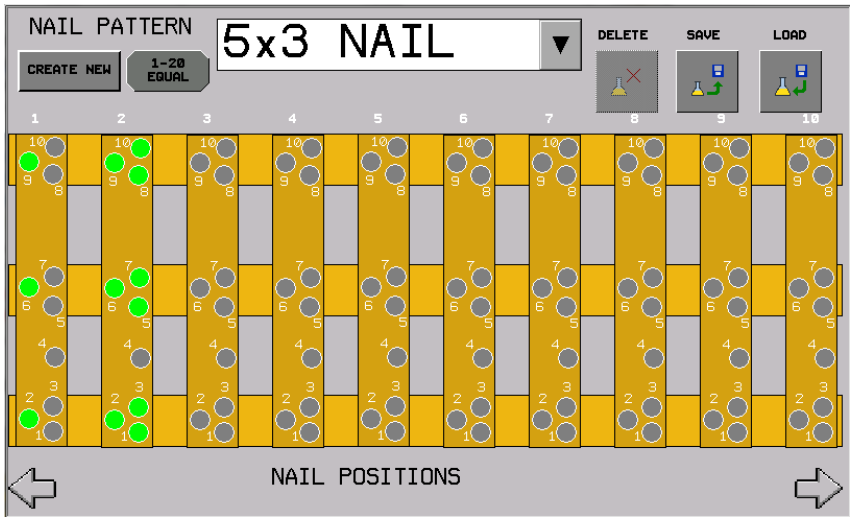
Choose the 2nd board



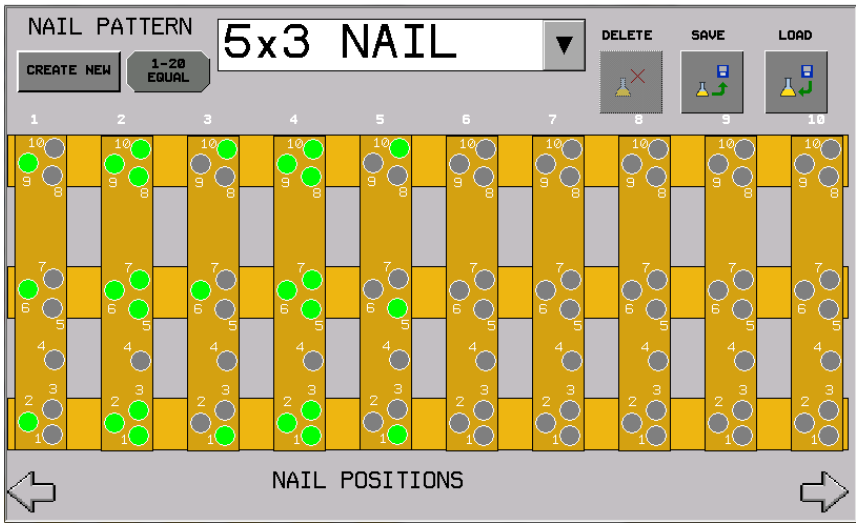
Press the different hammers to toggle them ON or OFF



Press to close current pop-up →

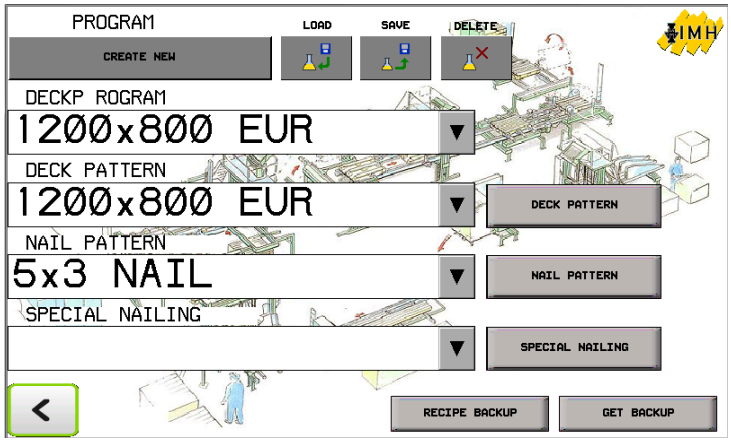


Now nailers 1,2,3,5,6,7,8,9 and 10 will nail the 2nd board. Continue with the rest of nailing positions required for the product.



13. When all nailing positions are ready press following button to save your nail pattern into the memory.

14. Press at the bottom left corner to come back to the starting page for making the program.



15. When all nailing positions are ready press following button to save the two recipes as a deck program into the memory.

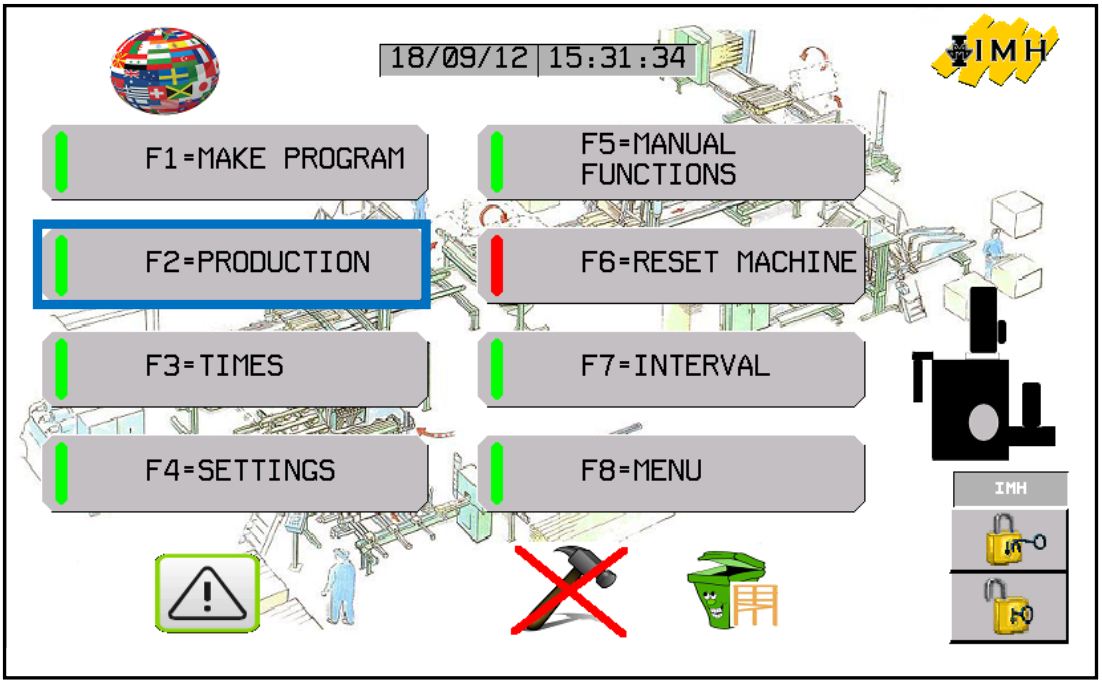
16. Press following button to get back to the menu page.

If a USB memory stick is attached to the operator terminal, a backup of all recipes can easily be done by pushing “RECIPE BACKUP” button.

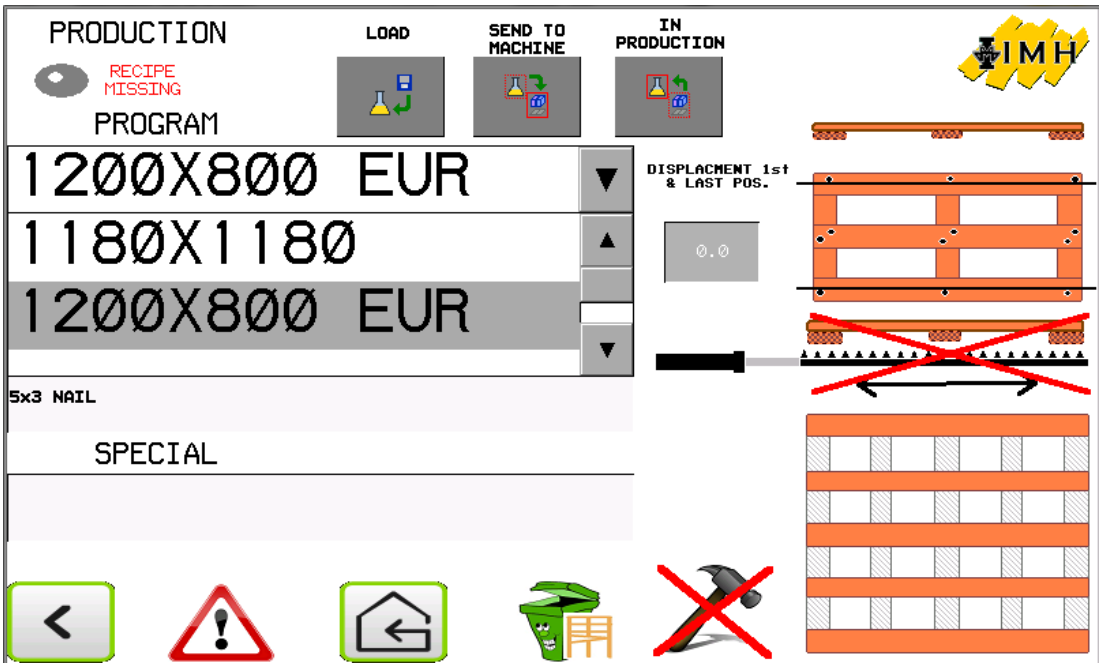
To restore recipes from USB memory stick, press this button.

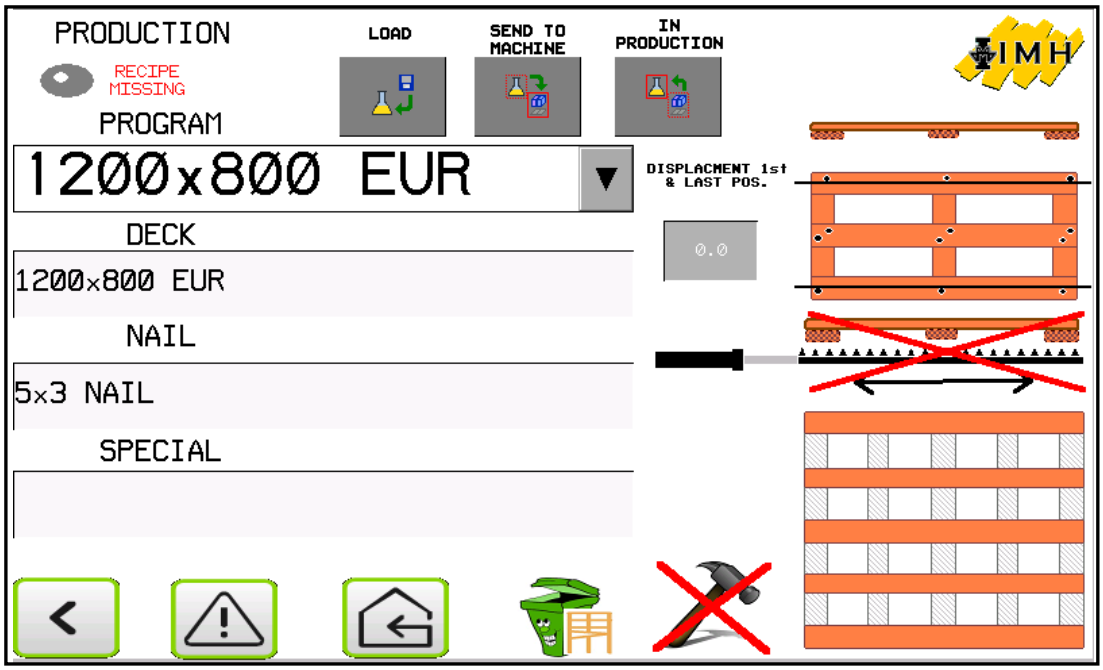
F2 PRODUCTION

To send a pre-maid program to production press “F2 PRODUCTION”.



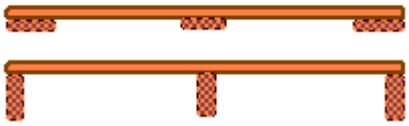
In the program scrollbar select the program for production.





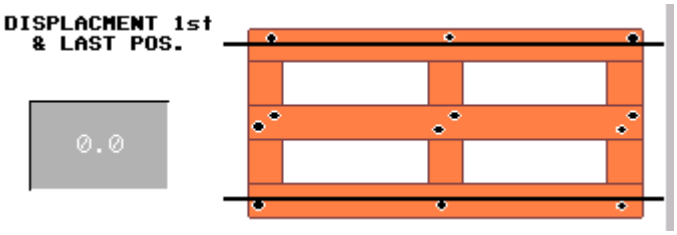
1. Press ”LOAD” to upload the recipes from the memory. Then deck pattern and nail pattern will show up in the scrollbar under your name of the program.

2. Press one of following icons to decide if you are producing decks or 2-way pallet. Each time pressing will toggle between deck or 2-way pallet



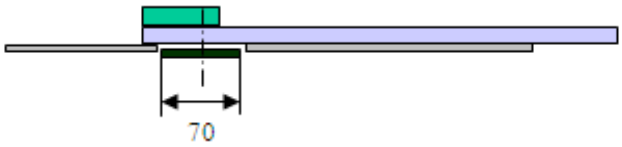
Deck

Stringer pallet (2-way pallet)

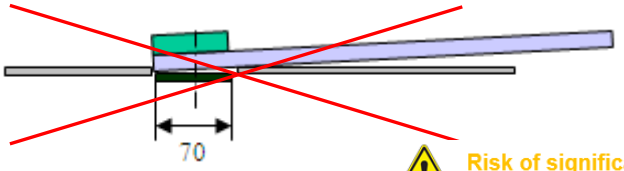


3. The machine is equipped with a moveable clinching plate which bends the nails so that they run up the board again and therefore creates a very rigid joint between deck boards and stringer boards. The nails shall therefore have .39 - .59” (10-15 mm) oversize and have a diamond tip. The clinching plate is 2.76” (70 mm) wide and is situated about .04 - .08” (1-2 mm) below the bottom of the channels for stringer boards.

When producing decks with deck boards that have a width <= 3.15” (80 mm) it is necessary to move the centerline of nailing to support the stringer boards in a way so that they do not get pushed down to the clinching plate and follow the movement of that plate sideways. In the 1st nailing position the machine therefore needs to push deck and stringer boards pass the clinching plate and in the last nail position stop before the clinching plate. If deck board is > 3.15” (80 mm) it will automatically pass the edge of the clinching plate, and therefore displacement is not necessary.



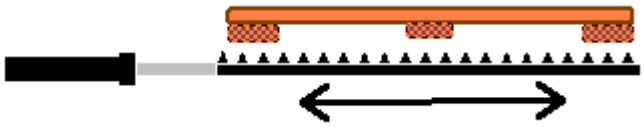
With .39” (10mm) displacement and board width 2.76” (70 mm)



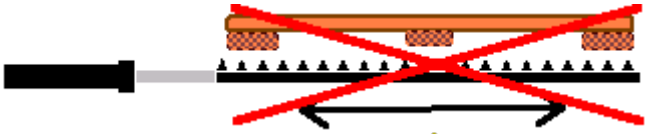
Without displacement and board width 2.76” (70 mm).

Risk of significant property damage, damage of the Product and the products produced in the Product including partial or total loss.

4. There is an option if clinching plate should be active or not. When producing stringer pallets (2-way pallets) the clinching plate should be turned off.



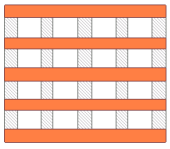
Clinching plate ON



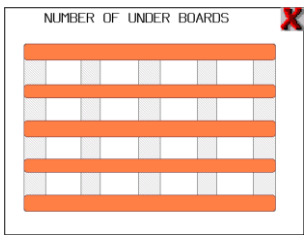
Clinching plate OFF

Risk of significant property damage, damage of the Product and the products produced in the Product including partial or total loss.

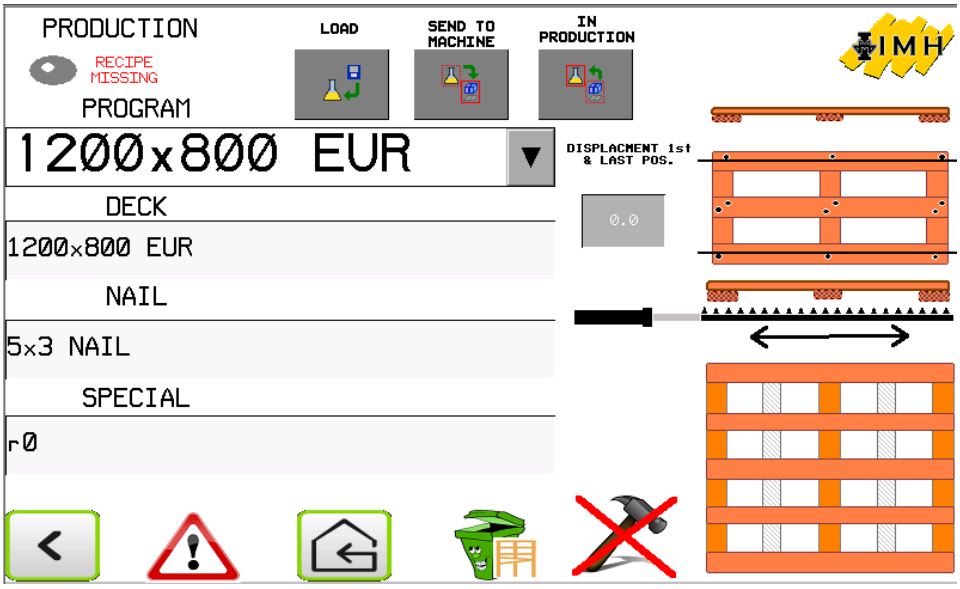
5. Press the deck icon and a new popup window will let you tell the machine how many under boards that are used in the program.



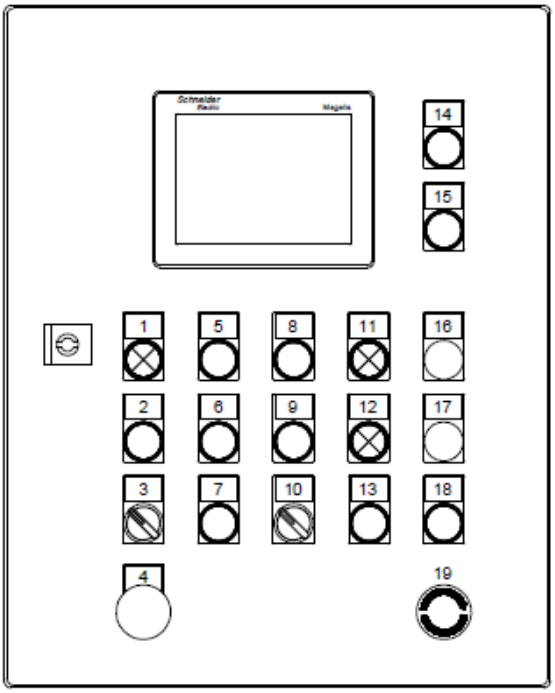
Standard is 3 stringer board channels, but the machine can be equipped with up to 5 channels. From the left the stringers are numbered 1, 2, 3, 4, 5, and when it is our standard with 3 channels it will be channels 1, 3, 5:



6. Press on each channel to toggle if they should be in use or not. When ready, press the red cross in the top right corner to close the popup window.



7. Next step is to send all data to the machine´s PLC. Before sending, the switch must be in manual mode (switch no. 3 in position MAN)



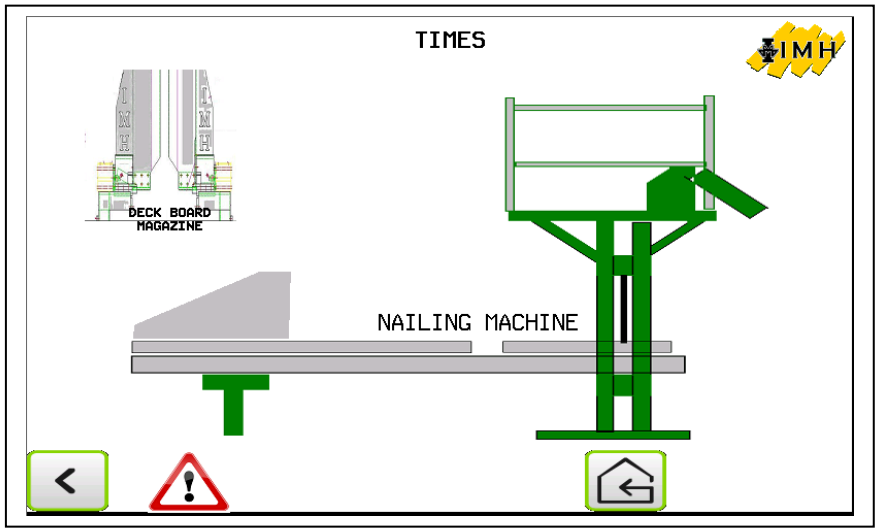
1-	-S5.22/H6.19	AUTOSTART
2-	-S5.25	CYCLESTOP
3-	-S5.21	MAN/AUTO

Press following icon and it will start flashing.

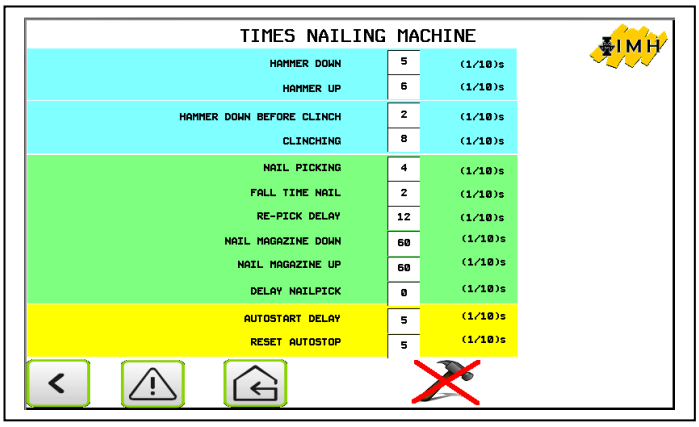
When sending is complete following icon

will change to

F3 TIMES



To change the different times, press on the icon that needs modification.



HAMMER DOWN

The time in 1/10 of a sec that the hammer drives in the nail before starting up. When oil is cold in the morning it could be necessary to increase the time during the first products.

HAMMER UP

The time for the hammer to return to its upper position before conveyor starts moving forward to next nailing position.

HAMMER DOWN BEFORE CLINCHING

Time for hammer to start down before clinching plate starts its movement. This is to prevent clinching plate to reach full stroke before the nail gets through the joint.

CLINCHING

Time for movement of the clinching plate.

NAIL PICKING

Picking time for nail picking cylinders.

FALL TIME NAIL

Time for nail to fall into hammer after detected by nail sensor.

RE-PICK DELAY

Time delay after missed nail before machine tries to re-pick the missed nail.

NAIL MAGAZINE UP

Time for nail magazine to go up before it returns down.

NAIL MAGAZINE DOWN

Time for nail magazine down before it returns up.

DELAY NAIL PICK

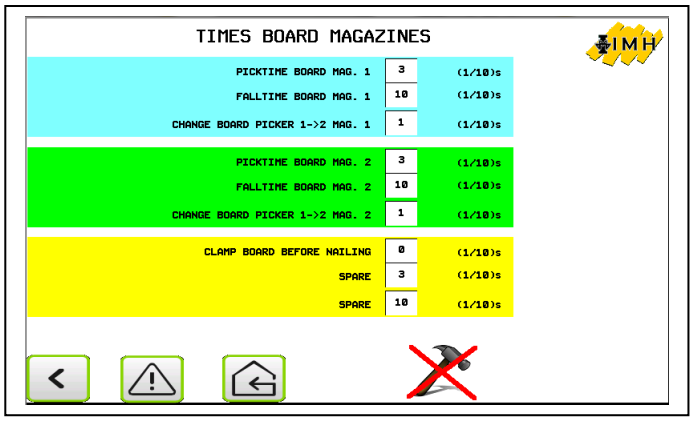
If “0”, the picking of nail starts directly when hammer goes down to the nail previously nailed. With long “hammer down time” it could be necessary to increase this time in order to prevent the dropping nail to hit the hammer pin.

AUTOSTART DELAY

Time delay to get the machine autostarted.

RESET AUTOSTOP

Time delay to reset autostop.



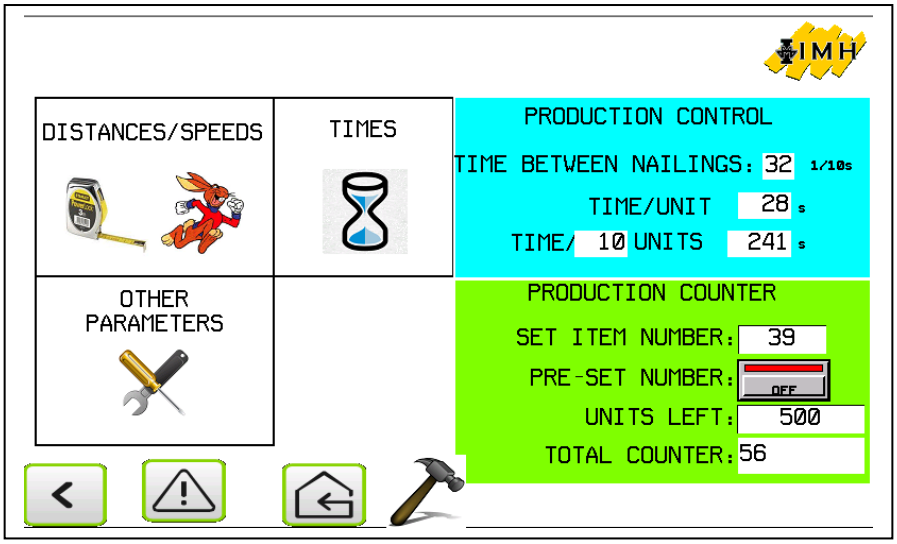
PICKTIME BOARD MAG 1 and MAG 2
Time for cylinder's movement out when picking a board.

FALLTIME BOARD MAG 1 and MAG 2
Time for the board to fall and get detected by sensor. If adjusted to short, the machine will stop and give alarm that the board is not dropped.

CHANG BOARD PICKER 1->2 MAG 1 and MAG 2
The board magazine drops one side at a time. The time lets the first side fall before next side starts dropping.

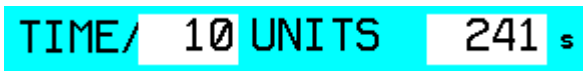
CLAMP BOARD BEFORE NAILING
Option used if two different lengths of over boards are used. Air cylinders clamp the shorter board before nailing cycle starts.

F4 SETTINGS

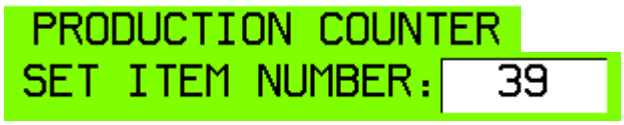


Information how long time it takes between two nailing cycles.

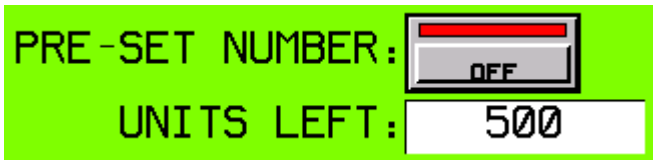
Information how long time it takes to make one product.



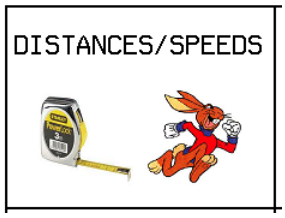
Here it is possible to set the number of products to see an average time.



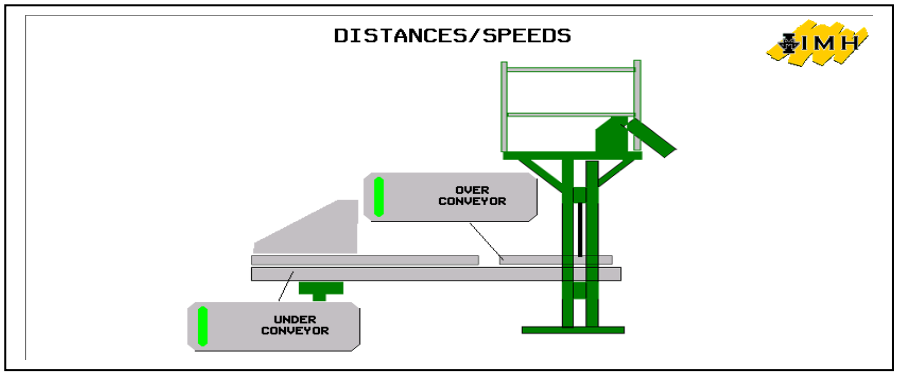
Used as a counter for each type of product or to see how many products that have been made/day. Can be reset at any time. Automatically reset after 9999.



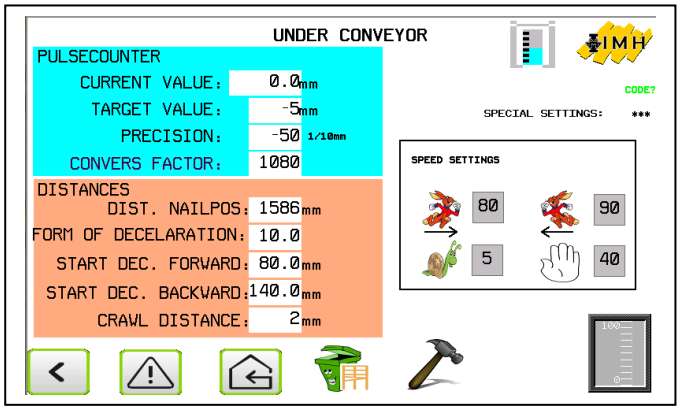
Used for making the machine stop after producing the number of products put in. When the machine has done the number asked for, it will give an alarm “PRE-SET NUMBER REACHED”. To turn off the function, switch the MAN/AUTO in manual mode or turn the PRE-SET NUMBER function off.

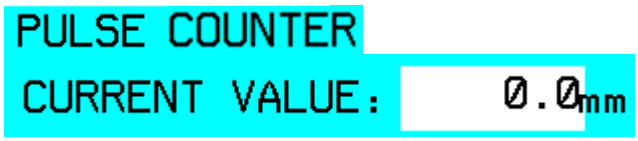


To change distances and speed.



Select the conveyor to modify.





Counting up when conveyor moves forward and counting down when conveyor moves backward.

The position the machine is trying to reach.

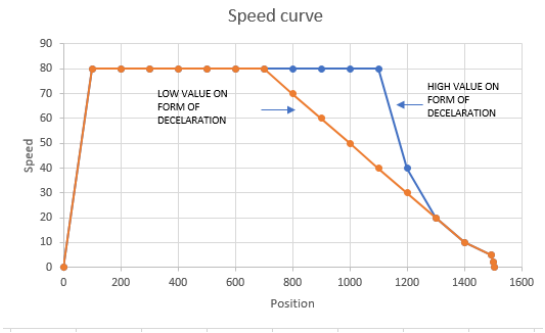
Showing how exact the machine is stopping in different positions. Precision=Target value-current value.

To convert pulses into mm.

Distance from start position to the center of the nailing position. Nailing position is in the center of the nailing frame.

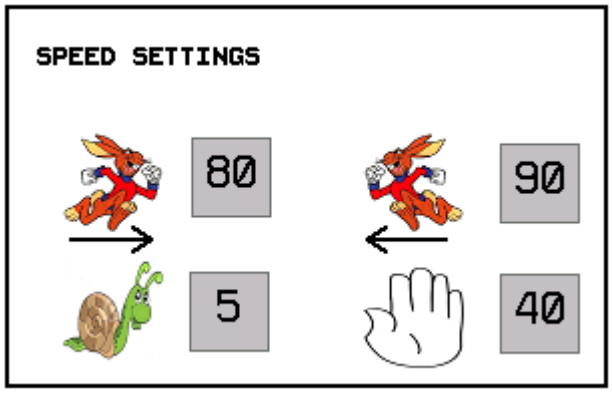
High value will give quicker positioning but lower accuracy.

How many mm before “stop position forward” that the machine starts the deceleration of speed.



Same function as forward.

In order to get to an exact position, the machine speed reduces to crawl speed the last given distance.

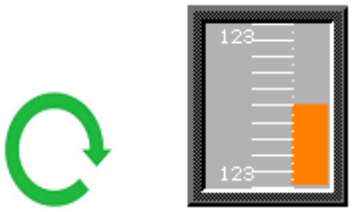


Speed forward in auto mode. Optional from 20-99. Nominal 60-90.

Speed forward in auto mode. Optional from 20-99. Nominal 60-90.

Speed during crawl distance. Optional from 1-15. Nominal 5.

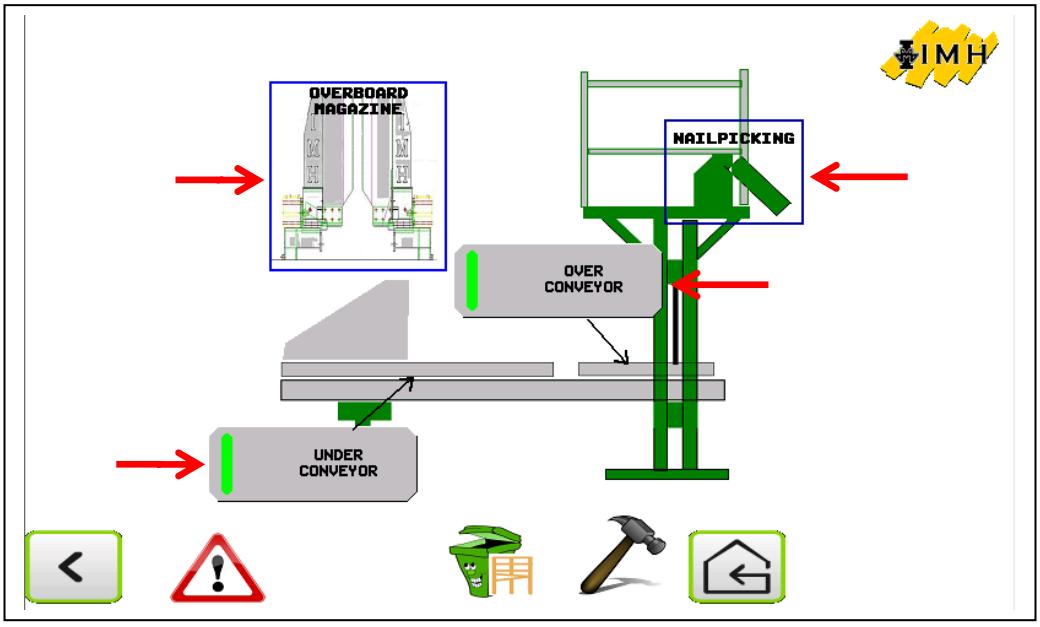
Speed forward/backward in manual mode. Optional from 20-99.
Nominal 40-50



This indicates speed ref value and rotation, which are sent to the hydraulic control card.

To change other parameters

Select the part of machine to modify.



REP. PICKING MAG. 1,2 and 3

With option “ON” the magazine will try two times to re-pick if a board is missed before giving alarm “BOARD NOT PICKED”.

DIST. COLLECT MAG 2

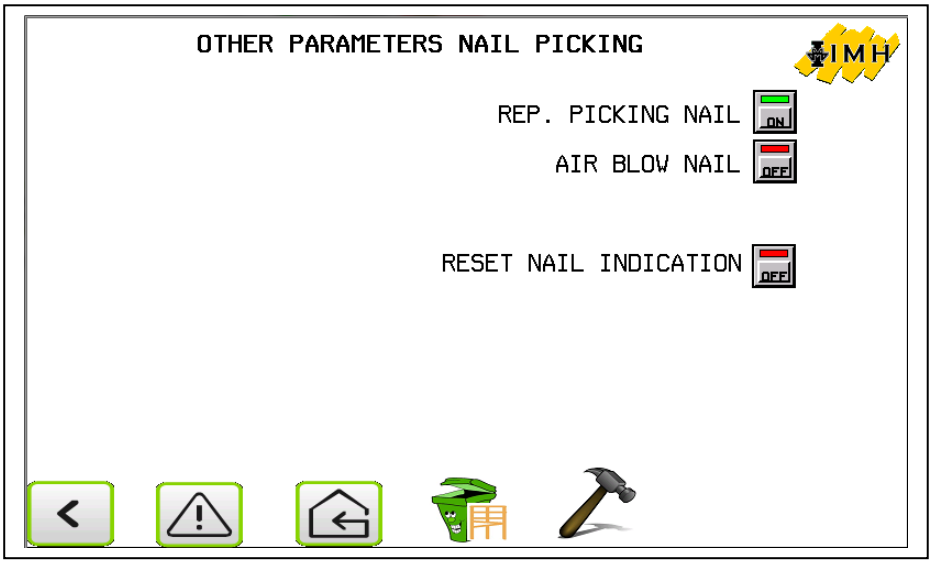
Distance from start position and forward where the conveyor stops when collecting boards from magazine 2.

DIST. START PICK BOARD AT REV

Distance from start position and forward where the magazine is allowed to start picking the boards.

DIST. START PICK BOARD AT SIDE FEEDING

Option. If the machine is equipped with feeding of over boards from the side, this is where over board pushers must be located to not collide when the boards are feed in.



REP. PICKING NAIL

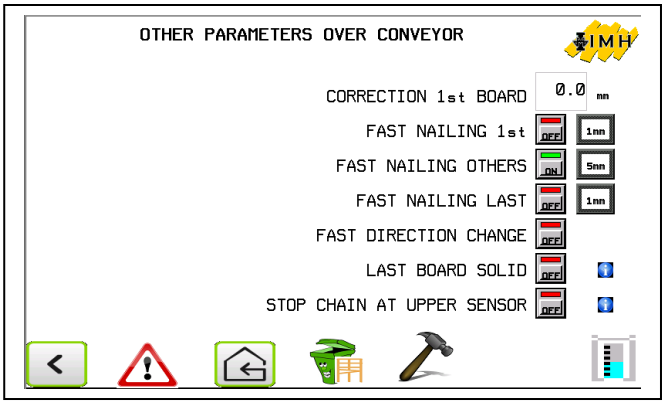
If ”ON” the machine will try to re-pick missing nails two times before giving alarm that nails are missing.

AIR BLOW NAIL

Option for wide machines with long nail hoses. The nail will be forced through the hose with compressed air.

RESET NAIL INDICATION

To tell the machine that nails are loaded in the hammers. If power has been out or software upgrade.



CORRECTION 1st BOARD

If the deck board is not exact in dimension as programmed, the position of the 1st board can be adjusted forward+ or backwards- to align the end of the deck board with the ends of the stringers.

FAST NAILING 1st

Used to increase capacity. When turned “ON” the nailing cycle starts before board is in position with the given amount of mm. This is done for the 1st board independent of all other boards.

FAST NAILING OTHERS

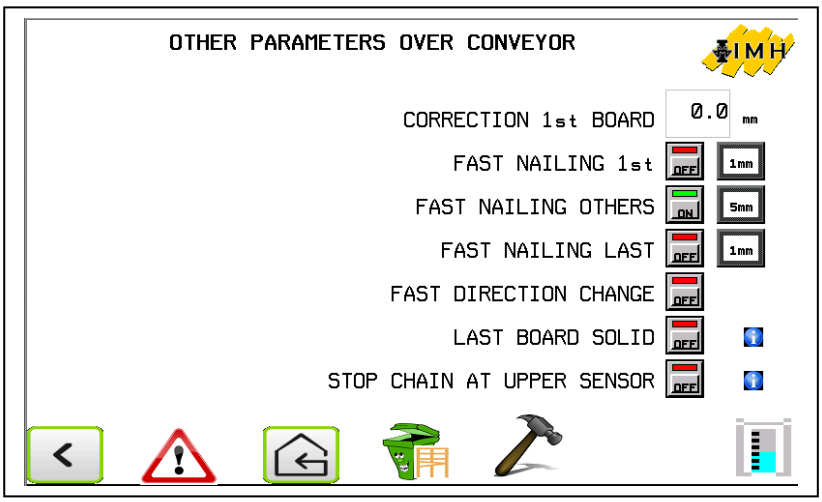
Used to increase capacity. When turned “ON” the nailing cycle starts before board is in position with the given amount of mm. For all other boards except 1st and last.

FAST NAILING LAST

Used to increase capacity. When turned “ON” the nailing cycle starts before board is in position with the given amount of mm. For last board independent of all other boards.

FAST DIRECTION CHANGE

Used to increase capacity. Conveyor will change direction to forward about 30 mm earlier when going reverse to collect a new board.

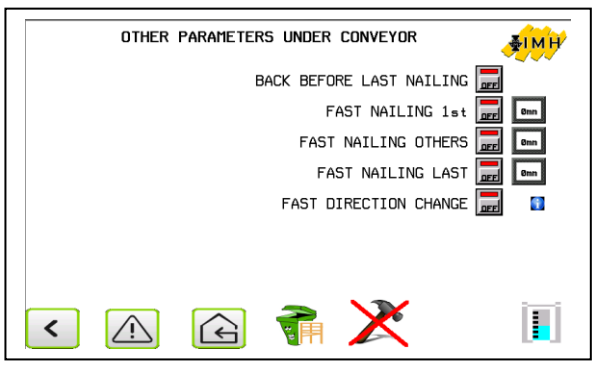


LAST BOARD SOLID

The conveyor will feed the second last board by pushing it in front of the last board. This is to prevent any wing at the back when producing a product with no space between last and second last board.

STOP CHAIN AT UPPER SENSOR

For superdeck machine only. To prevent collision of over boards between two decks if over board width is bigger than 5.51” (140 mm).



BACK BEFORE LAST NAILING

Under conveyor will return backwards before over conveyor feeds the last board into final nail position. This is to prevent that last deck board catches the under board pushers.

FAST NAILING 1st

Used to increase capacity. When turned “ON” the nailing cycle starts before board is in position with the given amount of mm. For 1st board independent of all other boards.

FAST NAILING OTHERS

Used to increase capacity. When turned “ON” the nailing cycle starts before board is in position with the given amount of mm. For all other boards except 1st and last.

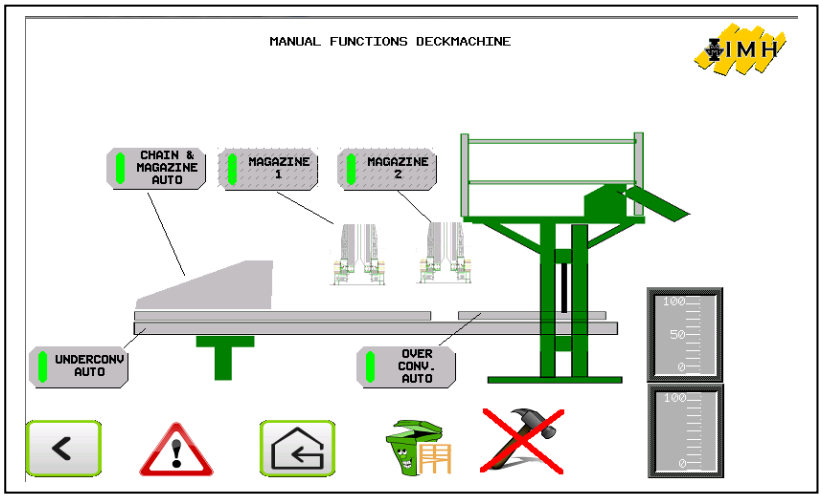
FAST NAILING LAST

Used to increase capacity. When turned “ON” the nailing cycle starts before board is in position with the given amount of mm. For last board independent all other boards.

FAST DIRECTION CHANGE

Used to increase capacity. Conveyor will change direction to forward about 1.18” (30 mm) earlier when going reverse to collect new board.

F5 MANUAL FUNCTIONS



General about manual functions.

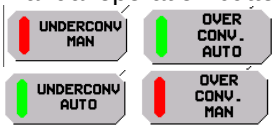
All movements in the machine can be operated manually by selecting the function to operate them.

Deck board magazines.

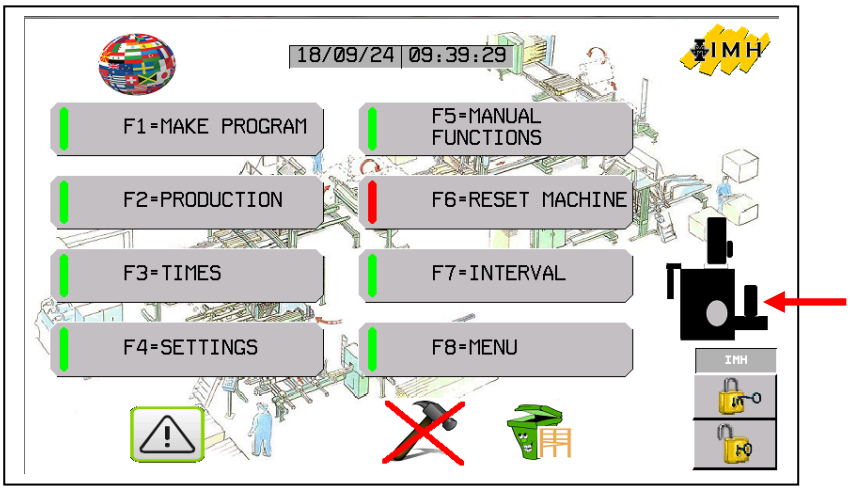
Conditions. First put the magazines in manual mode. Then push the button for the magazine to drop.

Stringer and deck board conveyors.

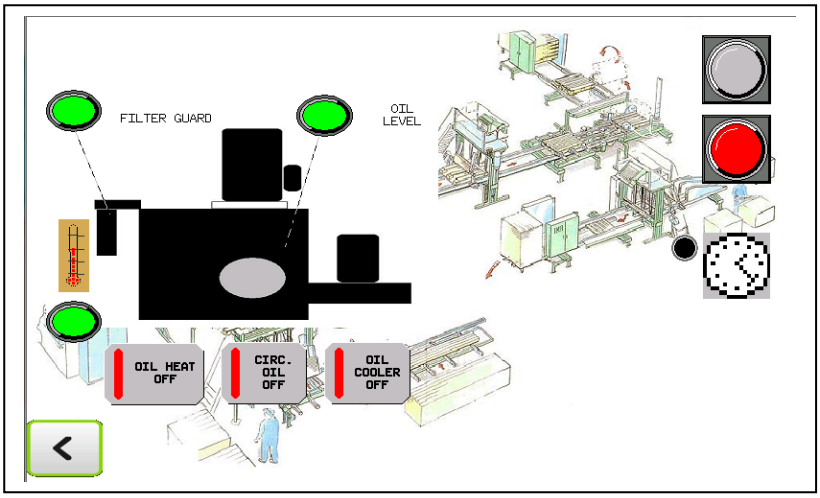
Conditions. First put machine in manual mode, (switch no. 3) then select the conveyor to operate it. Use manual operation buttons +/- to move conveyor forward/backward.



HYDRAULIC UNIT



Press the icon of the hydraulic unit to get into the hydraulic unit set-up page.



Press to start hydraulic pump. When pump is running the button will become green.

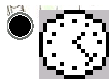
Press to stop hydraulic pump.

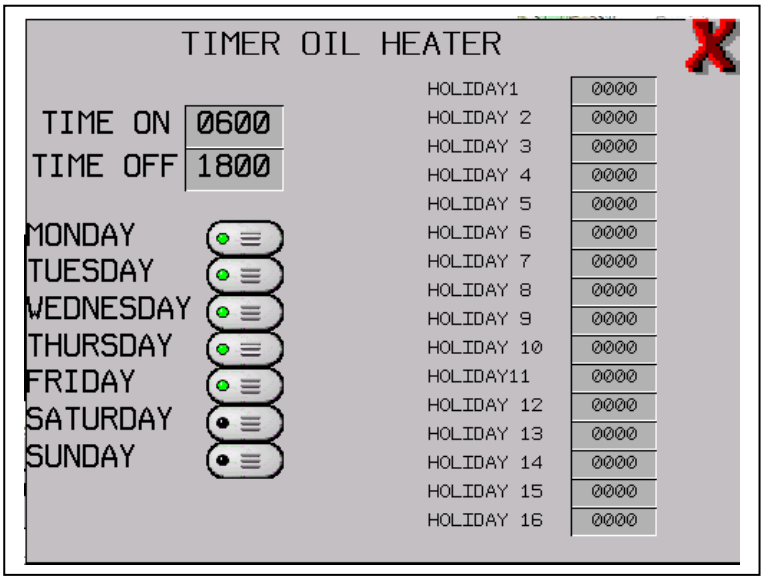
To circulate warm oil through the manifold of the hammer. Automatically turned off after 30 seconds.

With oil cooler OFF, the cooler only runs 1 minute every 10 minutes if the heater is trying to heat the oil. When oil is up in temperature and heater stops or set to ON, the cooler runs at the same time as the hydraulic pump is on.

The heater heats the oil to approx. 30 degrees. The heater is equipped with a timer and a weekly schedule to have the oil warm before the working shift starts.

To set time and day of the week for oil heater. When timer is active the black indicator to the left of the symbol will be green.

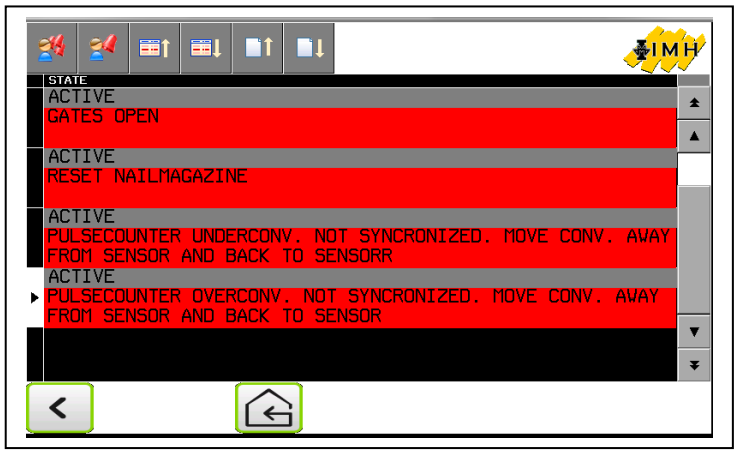




Set start time “TIME ON” and stop time “TIME OFF”. Select days of the week for heater to be active.

Holiday 1-16. Here you can type in dates for bank holidays. The heater will not turn on during those days.

ALARM LIST



Explanation of alarms in operator terminal.

EMERGENCY STOP:

If any of the red push-buttons marked “EMERGENCY STOP” are pressed, the complete machine and hydraulic pump stops. To reset emergency stop, twist the pressed emergency stop button then press “RESET EMERGENCY STOP” on the electrical control cabinet.

GATES OPEN:

The machine is equipped with security fencing or/and security light beams to protect the operator from moving parts in the machine during production. If any security door is open or light beam crossed, the machine freezes all movements and gets into autostop mode. To start up the machine again, close the door and press “RESET GATE” (No. 11) When it is lit up green the security circuit is closed. Then press “RESET AUTOSTOP” (No. 7) to get machine in operation.

RESET NAIL MAGAZINE:

When going up on the platform to fill nails, a light beam is crossed and the nail box stops in upper position. After filling nails, the green button (No. 12) must be pushed to get the nail box movement started.

AUTOSTOP:

The machine is autostoped. To reset push and hold “RESET AUTOSTOP” (No. 7)

NAIL NOT PICKED:

Nail is missing in hammer/s. The machine indicates on nail control box X2 with a red light which hammer/s are missing nails. Go up on the platform and check cause, then push “PICKING NAIL” (No.7) and the machine will try to re-pick the nails missing.

NAIL IN HOSE:

If nails are jammed inside a hammer, the machine stops. Clear the nails inside the hammer then push “PICKING NAIL” (No.7).

UNDERCONVEYOR NOT IN START POSITION:

To start the machine in auto mode the conveyor must be in start position and reset sensor for pulse counter must be lit up.

UNDER CONVEYOR NOT IN FINAL POSITION:

If the conveyor has not reached nailing position within 4 seconds, the alarm is triggered. Possible reason is that something mechanical is blocking the conveyor.

UNDER BOARDS MISSING IN MAGAZINE:

If magazine for under board (stringers) gets empty, the machine stops. Fill the magazine with boards and push “AUTOSTART” (No. 1).

UNDER BOARD MISSING IN CHANNEL:

The under board (stringer) conveyor has two divided functions. One is getting boards out from the magazine, and the other is bringing previous board into the nailing position. If any boards are missing before it shall start move forward, the machine stops. Correct the board placement and push “AUTOSTART” (No. 1).

UNDER BOARD MISSING IN NAILING POSITION, ADJUST AND CONFIRM WITH AUTOSTART:

The dividing sensors must see the gap between the two boards before it reaches 1st nail position. If any sensor does not detect the gap, the machine thinks that the board was not brought forward.

OVERCONVEYOR NOT IN START POSITION:

To start the machine in auto mode the conveyor must be in start position and reset sensor for pulse counter must be lit up.

OVER CONVEYOR NOT IN FINAL POSITION:

If the conveyor has not reached nailing position within 4 seconds, the alarm is triggered. Possible reason is that something mechanical is blocking the conveyor.

OVER BOARD NOT PICKED:

If the deck board is not detected by the sensor under the magazine after the picking of board, the machine stops. Load the magazine or correct the cause, then push “PICKING BOARD” (No. 13).

PULSECOUNTER UNDERCONV. NOT SYNCHRONIZED. MOVE CONV. AWAY FROM SENSOR AND BACK TO SENSOR:

If the power to the machine has been out, the pulse counters must be synchronized. Put machine in manual mode and move conveyor forward away from the reset sensor and backwards until sensor is lit up. Same procedure for all conveyors.

HIGH TEMPERATURE HYDRAULIC:

If the hydraulic oil gets over 60 degrees, the alarm is triggered. Make sure cooler is working and clean it from sawdust with compressed air.

LOW OIL LEVEL HYDRAULIC:

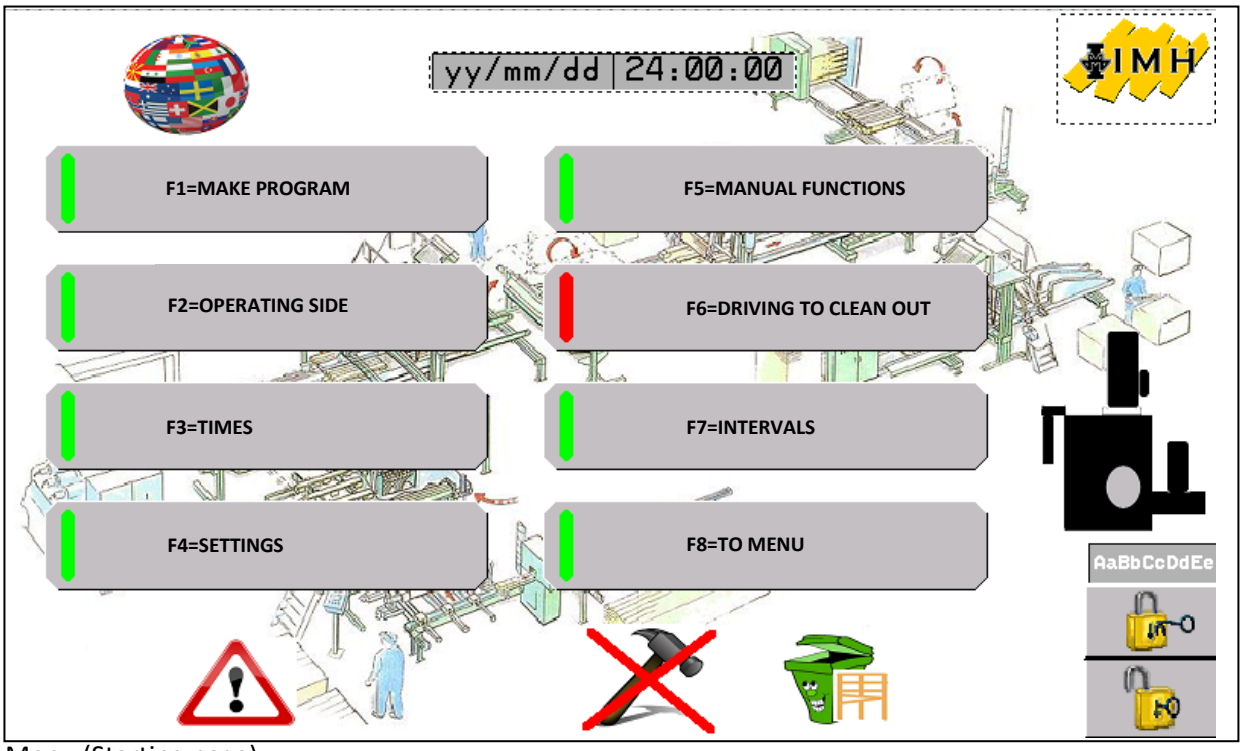
If the hydraulic oil level gets under “LOW”, mark the hydraulic pump so that it stops to prevent damage.

FILTER CLOGGED HYDRAULIC:

The hydraulic unit has a detector on the pressure filter. When the alarm is triggered, change the oil filters.

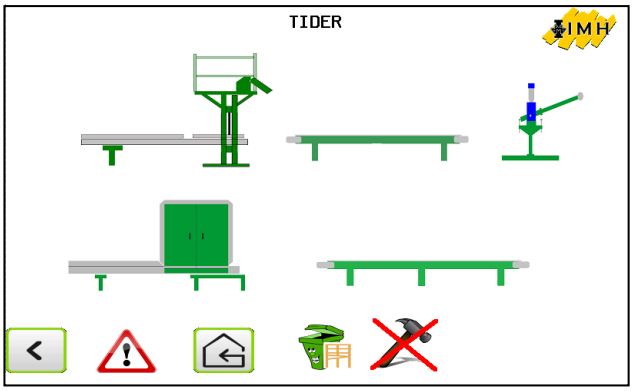
Stacker

Stacker Times

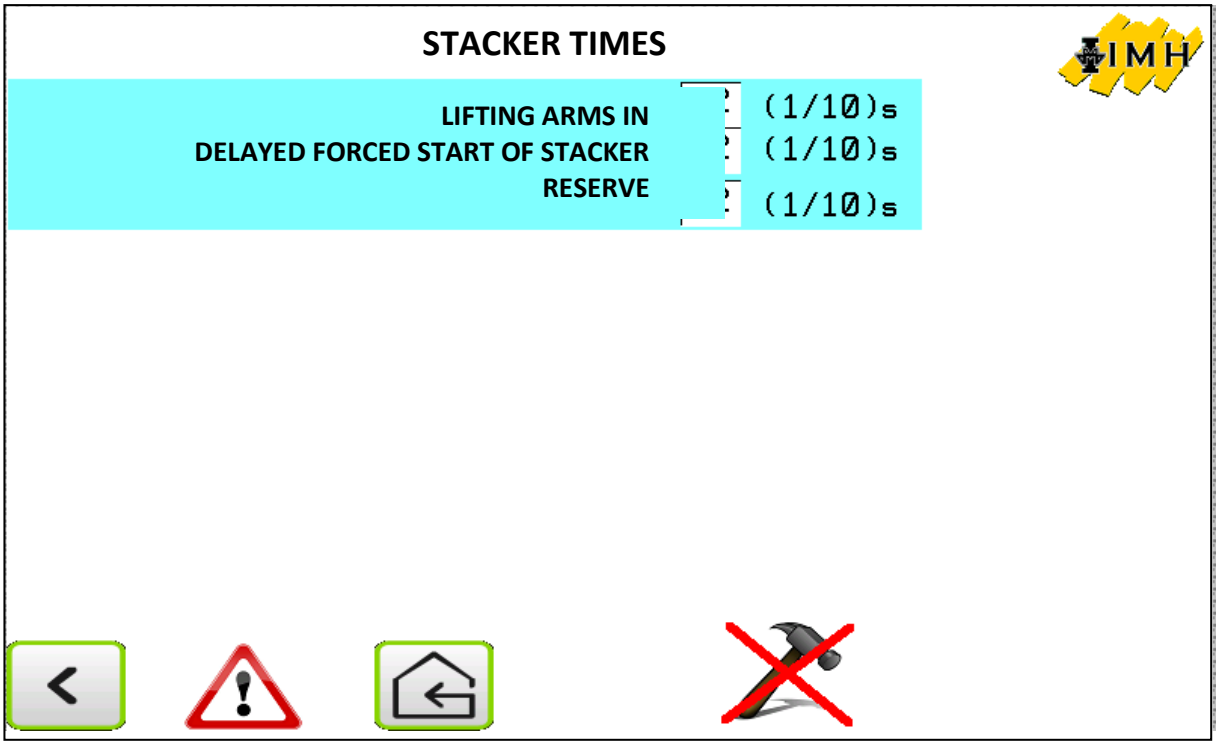


Menu (Starting page)

Press button “F3=TIMES”



Depending on the machine configuration, this image may differ. Press Stacker to enter the stacker time setting.

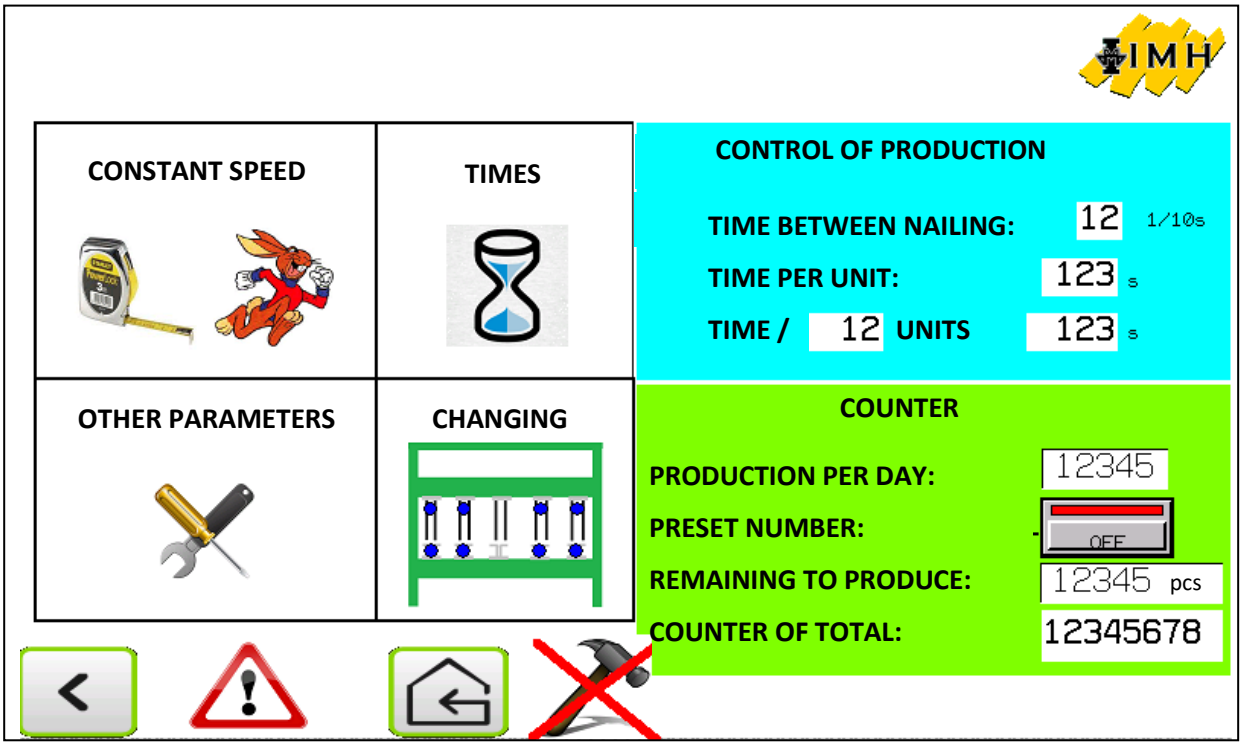


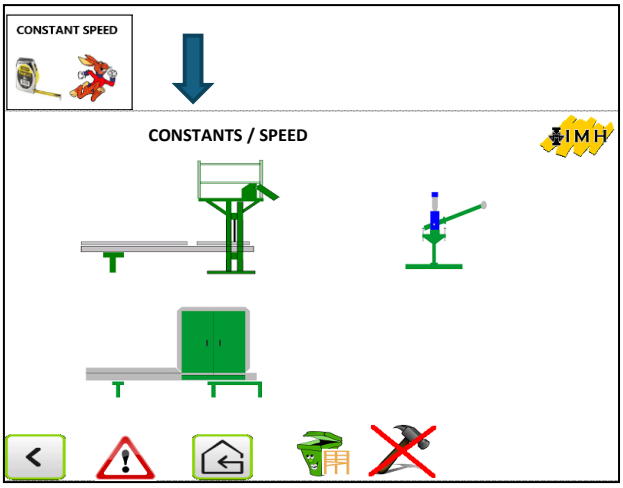
LIFT ARMS IN: Time for lift arms to retract before the stacker sides start up after picking up new product.

DELAY FORCED START OF STACKER: Time delay when choosing to force run a stack sequence. This is to prevent forced start by mistake. The times are in ms, so the value 10 means 1s in time.

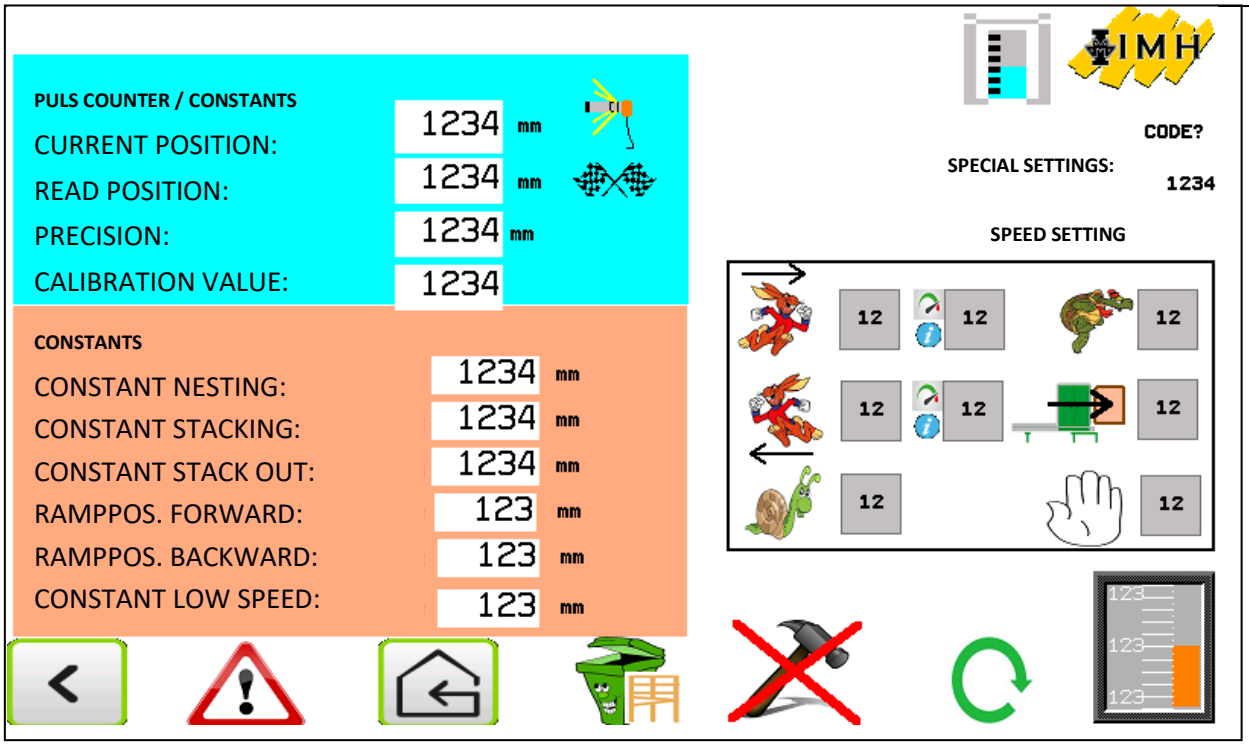
Stacker settings

To change speeds, constants and other options.





Depending on the machine configuration, this image may differ. Press Stacker to access the stacker speeds/constants.



CURRENT POSITION: Shows the current position of the conveyor. When the conveyor is in the rear position, this is indicated in the symbol of the zero position sensor.

READ POSITION: Shows which position the conveyor has been positioned to.

PRECISION: Shows how exactly the conveyor stopped.

CALIBRATION VALUE: A value to convert pulses to mm. Should be value 108.

CONSTANT NESTING: Distance in mm from the starting position and the center of the pallet that has been dropped by the roll over unit.

CONSTANT STACKING: Distance in mm from the starting position to the center of the stacker.

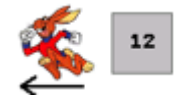
CONSTANT STACK OUT: Distance in mm from the starting position and the end of the stacker.

RAMPPOS. FORWARD: Distance in mm where the conveyor begins to brake to stop forward.

RAMPPOS. BACKWARD: Distance in mm where the conveyor begins to slow down before stopping backwards.

CONSTANT LOW SPEED: Distance in mm when the conveyor switches to low speed before stopping

Forward speed in Auto mode.



Reverse speed in Auto mode.

Low speed forward/reverse in Auto mode.

Creep speed. The conveyor switches to this speed the selected number of mm before the stop position is reached.

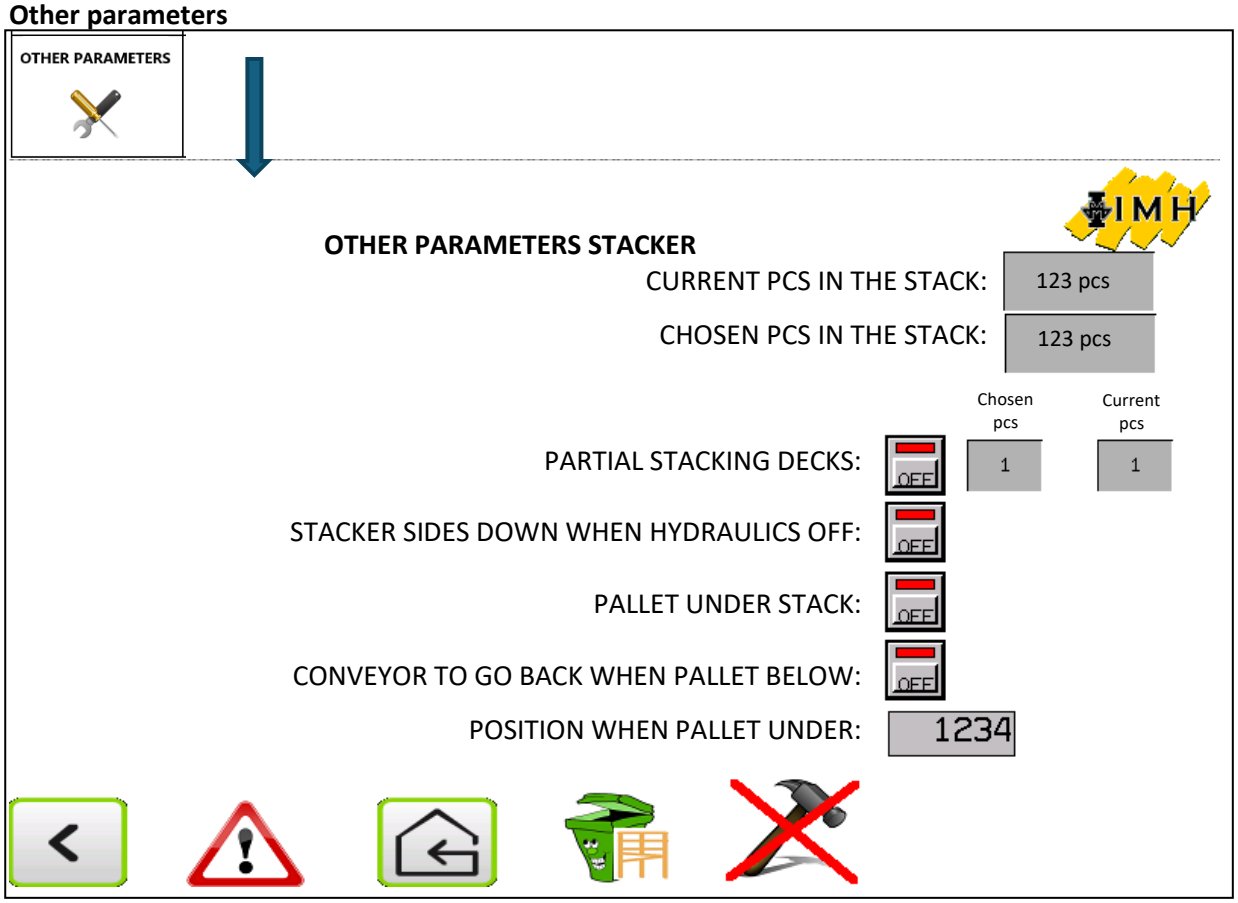
Speed when the conveyor ejects a stack from the stacker.

Speed when driving manually forward/reverse.

IMH Machinery Inc
251 Little Falls Drive
Wilmington, DE 19808
USA

Web: www.imhmachinery.com

Other parameters



CURRENT PCS IN STACK: Counts the current number in the stacker.

CHOSEN PCS IN STACK: Here you specify how many decks/pallets you want in each stack.

PARTIAL STACKING DECKS: When stacking decks, you can drop up to 3 decks onto the stacking conveyor before it goes into stacking position. This saves time and unnecessary wear on the stacker.

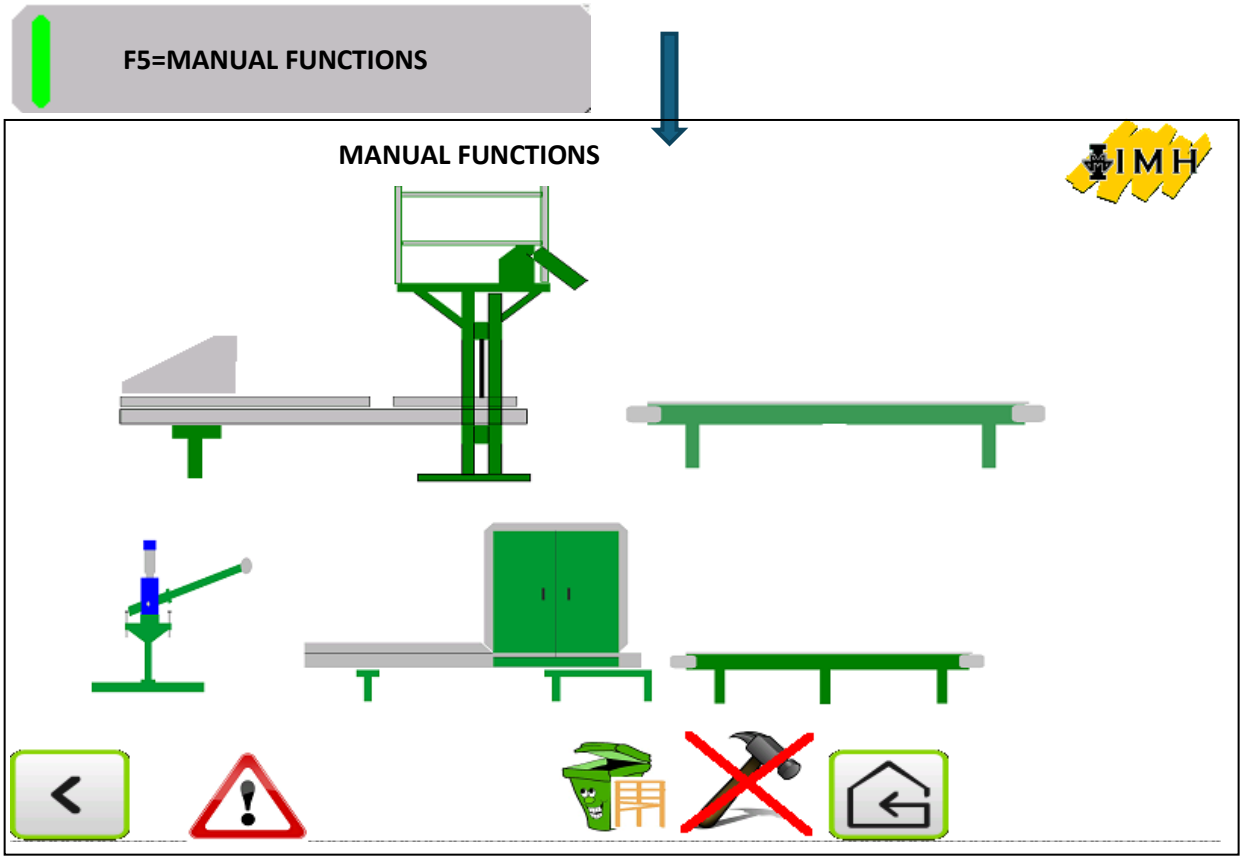
STACKER SIDES DOWN WHEN HYDRAULICS OFF: When selected, the stacker sides go down and stay in the lower position until the hydraulics are started. This is to prevent the stacker from dropping the stack if the air disappears, e.g. at night.

PALLET UNDER STACK: When selected, the stacker stops in a high raised position so that a pallet can be placed under the stack with decks to make it easier to lift off with a forklift.

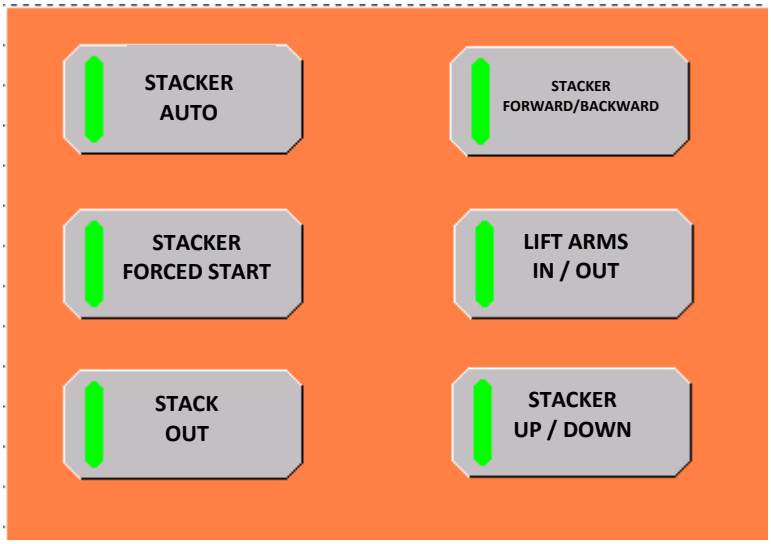
CONVEYOR TO GO BACK WHEN PALLET BELOW: The conveyor reverses to the selected position for inserting the pallet that will be under the stack. The conveyor then positions the pallet so that it ends up in the correct position.

POSITION WHEN PALLET UNDER: Selected position where the conveyor should stop for loading a pallet underneath.

Stacker manual functions

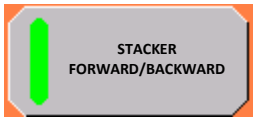


Depending on the machine configuration, this image may differ. Press Stacker to access manual stacker functions.



Explanation of function

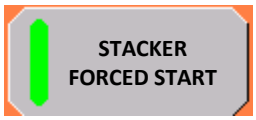
To run a function manually, press the button which will then change to "STACKER MAN" and indicate in red instead of green on the left side of the button..



To manually drive the conveyor forward/backward, the stacker must be in manual mode. Press the button above so that it indicates red on the left side. Then use the manual function button + or – to move forward and backward.

To manually move the lift arms in/out, the stacker must be in manual mode. Press the button above so that it indicates red on the left side. Then use the manual function button + or – to move out or in.

To manually move the stacker sides up/down, the stacker must be in manual mode. Press the button above so that it indicates red on the left side. Then use the manual function button + or – for up or down.



This function is used if you manually have placed a deck or pallet in the stacker conveyor and want it to be stacked automatically. The stacker must be in AUTO mode.

This function is used if you want to empty the stacker before the number is reached. The stacker must be in AUTO mode.

Stacker alarm list

STACKER PULSE COUNTER NOT SYNCED. RUN CONVEYOR MANUALLY FROM SENSOR THEN BACK.
If the voltage to the control cabinet disappears, the pulse counter loses its position and must then move away from the zeroing sensor at the rear edge of the conveyor and then back since it synchronizes on the rising edge of the zeroing sensor signal and activates the counting of pulses.

STACKER IN MANUAL MODE
Appears if the stacker is set to manual mode.

STACKER CONVEYOR NOT IN ITS REAR POSITION
If the conveyor is not in the rear position (zeroing sensor sees the carrier) and the start signal is given, this alarm will occur. Put the stacker in manual and reverse it to the zeroing sensor. Then put the stacker back in auto.

STACK NOT COLLECTED BY THE STACKER CONVEYOR
If the start signal has been given to the stacker but the photocell that detects the tire/pallet in the conveyor does not have a signal, this alarm will occur. Adjust so that the sensor sees the product and start with a forced start.

STACK OUT LOCKED
If the outfeed conveyor is full so that no more stacks can fit, this alarm will be triggered.

MOTOR PROTECTION FOR LIFT MOTORS IN THE STACKER
If a deck or pallet ends up in the wrong stacking position so that it gets pinched when the stacker sides are about to go down or up, the motor protection in the electrical cabinet trips and the stacker stops. Check the error and reset the motor protection.

Disclaimer

It is not possible for IMH to warn the Purchaser about every possible danger related to use of the Product. The Purchaser must use his or her own common sense and good judgement when using the Product.