

Tigercat[®]

MEASURING & CONTROL SYSTEM TIGERCAT D5 PRIO OPERATOR'S MANUAL



ISSUE 1.0 MAY, 2015

Tigercat Industries Inc.

P.O. Box 637
Brantford, Ontario
Canada N3T 5P9

Tel: (519) 753-2000
Fax: (519) 753-8272

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: www.heydownloads.com by clicking the link below



- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

Safety Hazards - Viton Seals

O-rings and other seals manufactured of Viton material (fluorine rubber) produce a highly corrosive acid (Hydrofluoric) when subjected to temperatures above 315°C (600°F).

This contamination can have extreme consequences on human tissue since it is almost impossible to remove after contact.

The following procedures are recommended when inspecting equipment that has been subjected to high temperatures such as fire:

- Visually inspect any seals or gaskets which have suffered from heat; they will appear black and sticky.
- If these are found, **Do Not Touch!!!**
- Determine the material composition of any seals or gaskets, If fluoro-elastomer seals (Viton, fluorel, or tecmoflon) have been used, the affected area must be decontaminated before undertaking further work. Natural rubber and nitrile materials are not hazardous.
- Disposable heavy duty gloves (neoprene) must be worn and the affected area decontaminated by washing thoroughly with limewater (Calcium Hydroxide solution).
- Any cloths, residue and gloves must be safely discarded after use.

NOTE:

Burning discarded items is not recommended except in an approved incineration process where the dangerous products are treated by alkaline scrubbing.

Safety Hazards - Operating

Maintain a charged fire extinguisher on the vehicle at all times and KNOW HOW TO USE IT.

Do not carry passengers either in the cab or anywhere else on the machine. The vehicle is provided and approved with seating for the operator only.

Do not allow anyone to operate the machine who may not be physically fit or who may be under the influence of alcohol or drugs.

When moving the machine, watch that enough clearance is available on both sides and above the machine or any of its attachments. Extra clearance may be required particularly where the ground is uneven.

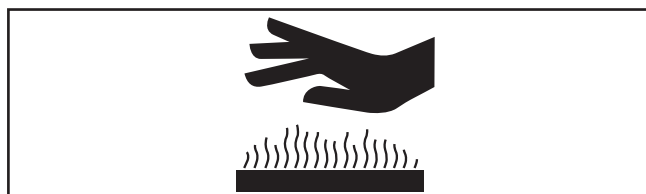
Approach with extreme caution any area where overhanging electrical power lines are present. Serious injury or death by electrocution can result if the machine or any of its attachments are not kept a safe distance from these lines.

Maintain a distance of 3m (10 ft.) between the machine or boom and any power line carrying up to 50,000 volts or less plus 10mm (1/2 inch) for each addition 1,000 volts above the 50,000 volt level.

If State/Provincial, local or job site regulations require even greater safety distances than stated above, adhere strictly to these regulations for your own protection.

If the machine must be transported, make sure that it is adequately secured to the transporting vehicle. Refer to vehicle moving instructions page in SECTION 2.

Stopping the engine immediately after it has been working under load can result in overheating and premature wear of the engine components. Reduce engine speed to LOW IDLE and let run for approximately 5 minutes to allow gradual dissipation of heat and also to reduce turbo speed. This will also prevent loss of coolant by after boil and possible hot spot damage to the engine.



Be aware when performing service and maintenance tasks that surfaces and grab handles in and around the engine and cooling system may become very hot when the engine has been running. Contact with hot surfaces may cause injury.

Comply with instructions in this manual and also your company's regulations for the operation of this machine.

Read, understand and follow all general safety precautions specified by attachment manufacturer.

If acid is accidentally splashed into your eyes, flush immediately with clean water and get medical attention.

⚠ WARNING

Engine exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

SERVICING AND REPAIR:

Before beginning any service work on the harvesting head it must be parked in one of two service positions, upright or tilted down.

PARKING THE HEAD UPRIGHT

1. Park machine on level ground.
2. Fully extend the hoist and stick booms and lower harvesting head to the ground. Lower head enough to rest the full weight of the head on the ground.
3. Close the head.
4. Turn OFF head power.
5. Turn OFF pilot switch.
6. Turn OFF the engine.
7. Turn battery disconnect switch OFF.
8. Install tilt frame lock bolts as outlined on next page.

PARKING THE HEAD TILTED DOWN

1. Park machine on level ground.
2. Raise boom to provide clearance to tilt head down.
3. Tilt head DOWN.
4. Fully extend the hoist and stick booms and lower harvesting head to the ground. Lower head enough to rest the full weight of the head on the ground.
5. Close all clamp arms.
6. Fully open feed wheel arms.
7. Turn OFF head power.
8. Turn OFF pilot switch.
9. Turn OFF the engine.
10. Turn battery disconnect switch OFF.
11. Install tilt frame lock bolts as outlined on next page.



- Ensure that the nozzle of any hand held extinguisher and pressurized water system available on the machine and at the work site fits within the fire extinguisher access holes in the doors of the machine.
- Ensure that your fire detection system* is in working order. Refer to FIRE DETECTION SYSTEM in SECTION 2 of the MACHINE OPERATOR'S MANUAL.
- Ensure that your fire suppression system** is charged and in working order. Refer to FIRE SUPPRESSION SYSTEM in SECTION 2 of the MACHINE OPERATOR'S MANUAL.
- Ensure that you are familiar with the recommended procedures for fire contained in the emergency action plan of your company.
- Ensure that you follow all national, state / provincial and local regulations dealing with fire fighting in effect in your specific geographic region. Regulations will vary from region to region but most will usually require that:
 1. Workers assigned to fire fighting duties must be physically capable of performing them safely and effectively.
 2. Workers designated to use fire fighting equipment as part of an emergency action plan must receive full and proper training from a qualified instructor.
 3. Whenever portable fire extinguishers are provided for use in the workplace, training must be provided to familiarize workers with the general principles of fire extinguisher use and the hazards involved with fire fighting.
 4. Training must be provided upon initial employment and at least annually thereafter.
- Ensure that after you have received the training as outlined above, that you know how to use the fire extinguisher, the pressurized water system (if applicable) and the fire suppression system** on your machine. There is not enough time available to read instructions during a fire emergency.
- Ensure that all information necessary for you to immediately contact all sources of help (local fire department, etc) in the event of a fire emergency is recorded and readily available at all times.

WHAT TO DO WHEN A MACHINE FIRE OCCURS

- If operating the machine when a fire occurs:
 1. Lower all working attachments to the ground.
 2. Shut the engine off.
 3. Activate the fire suppression system**.
 4. Radio or call for help. Be certain to report a fire immediately.
 5. Exit the machine taking fire extinguisher and pressurized water system hose (if applicable) with you.
 6. At all times ensure your own personal safety and the safety of anyone that may be in the area. Approach any fire with extreme caution. All fires can be very dangerous and life threatening.
 7. Only if you can safely do so, turn OFF the battery disconnect switch.
- Before deciding to fight the fire, be certain that:
 1. The fire is small and not rapidly spreading.
 2. There is always a clear, safe escape route to your back.
 3. You have received training in the use of the available fire extinguishing systems and are confident that you can operate them effectively.
 4. If in any doubt about whether or not to fight the fire – DON'T. Instead stand well clear of the fire and wait for help to arrive.
 5. Be aware that engine coolant, diesel fuel or hydraulic hoses could fail during a fire. If this happens, hot coolant, fuel or oil could possibly be ignited by the fire.
 6. If possible a dry chemical fire extinguisher or fire suppression system** should be used first to fight a machine fire. Then immediately afterwards use the pressurized water hose supplied with the machine (if applicable) or a pressurized water extinguisher (if available). A fire suppressed by dry chemical may re-ignite from the heat retained by any debris or hot machine components in the area. The water will cool the area, reducing the chances of re-ignition.

Measuring and Control System - Tigercat D5 PRIO

SECTION 2 - CONTROLS AND OPERATION

ISSUE 1.0, MAY, 2015

CONTENTS - SECTION 2

COMPUTER DISPLAY	2.13
CONTROL SYSTEM COMPONENTS	2.5
CAB ELECTRICAL CONTROL BOX	2.5
COMPUTER DISPLAY	2.5
HEAD CONTROLLER	2.5
HEAD ELECTRICAL BOX	2.5
INPUT AND OUTPUT MODULE	2.5
JOYSTICK INPUT MODULE	2.5
JOYSTICKS	2.5
MAIN CONTROLLER	2.5
PRINTER	2.5
DIAGNOSTICS SCREEN	2.88
ACTIVATE ALL PUMPS	2.96
ERROR LOG	2.90
FUNCTION DIAGRAM	2.92
KEYPAD (BUTTON) MAPPING	2.94
LOAD SENSE PRESSURE	2.92
MEASURED (PUMP OUTPUTS)	2.96
MODULE CONNECTOR DIAGRAM	2.96
RESET HEAD	2.92
SYSTEM DIAGRAM	2.93
SYSTEM STATUS	2.88, 2.94
TEST OUTPUTS - CARRIER I/O	2.94
TEST OUTPUTS - HEAD I/O A	2.97
TEST OUTPUTS - HEAD I/O B	2.98
DIAMETER MEASURING	2.50
DIAMETER CALIBRATION	2.48
DIAMETER MEASURING LOCATION	2.50
DIAMETER SENSOR	2.50
ELECTRICAL SCHEMATIC	
BOOM AND HEAD FUNCTIONS	2.114, 2.117
BOOM AND HEAD MODULES	2.113, 2.116
CAB AND CONTROLS	2.110
CAB ELECTRICAL BOX	2.111
INDEX	2.109
TERMINAL STRIP CONNECTORS	2.112, 2.115
ERROR CODES	2.107
1H, SHORT	2.108
2H, OPEN	2.108
4H	2.108
10H, LO5V	2.107
20H, HI5V	2.107
40H, LOV	2.107
80H, HIGHV	2.107
100H, BOOT	2.107
400H, INIT	2.108
800H, EXT	2.108
1000H, OK (NC)	2.108
2000H, BUS	2.108
4000H, TEMP	2.108
8000H, NC	2.108
A000H	2.108

All Knives Open

Performs the same as the Front Knives Open or Back Knife(s) Open. Operates all knife arms instead of just the front or back knife(s).

Tilt Up

Operates the tilt up function when the button is pressed. Also see setting Tilt Up Time. If the Tilt Up button is pressed for less than the Tilt Up Time then the tilt will return to float. If the button is pressed for longer than the Tilt Up Time, the tilt will then lock in the tilted up position.

Tilt Up and Lock

When this button is pressed, the tilt up will activate as long as the button is pressed. When released, the tilt will be locked in that position. Useful for positioning the head in intermediate positions. Often this button assignment is a double-click of the tilt up button.

Tilt Down

Tilts the head down as long as the button is pressed and also has a delay off set by the setting Tilt Down Time. After tilting down, the head will revert to tilt float.

Tilt Float

When pressed, the head will go into tilt float allowing the head to swing freely within the tilt frame.

Feed Forward

Press to manually feed the tree forward. Pressing the Feed Forward button at any point during an automatic feeding cycle will cancel the automatic feeding and switch to manual control. This button can also be assigned as a start key (see Settings > Operating > Feed Start Keys). In this case, a short tap of the button will start the automatic feeding. A long press will feed manually.

Feed Reverse

Press to manually feed the tree in reverse. Pressing the Feed Reverse button at any point during an automatic feeding cycle will cancel the automatic feeding and switch to manual control.

Slow Feed Forward

Press to manually feed the tree forward slowly. Pressing the Slow Feed Forward button at any point during an automatic feeding cycle will cancel the automatic feeding and switch to manual control. Also use to free a stuck top saw bar.

Slow Feed Reverse

Press to manually feed the tree slowly in reverse. Pressing the Slow Feed Reverse button at any point during an automatic feeding cycle will cancel the automatic feeding and switch to manual control. Also use to free a stuck main saw bar.

Align LH Feed FWD

Used on 4WD models to operate the left hand feed only in order to align the butts when handling multiple stems.

Align RH Feed FWD

Used on 4WD models to operate the right hand feed only in order to align the butts when handling multiple stems.

Align LH Feed REV

Used on 4WD models to operate the left hand feed only in order to align the butts when handling multiple stems.

Align RH Feed REV

Used on 4WD models to operate the right hand feed only in order to align the butts when handling multiple stems.

Saw

Used to operate manual or automatic sawing, depending on various saw settings. The saw button will operate the currently selected saw (main saw or top saw).

Top Measure

Press to toggle the selected saw between the main saw and top saw. If a feeding cycle is in progress, the system will feed the length to the selected saw. This button can also be assigned as a start key (see Settings > Operating > Feed Start Keys). In this case, pressing the button will select the top saw and start the automatic feeding.

Top Saw Cut

Used to operate manual or automatic sawing for the top saw, depending on various saw settings.

Stop

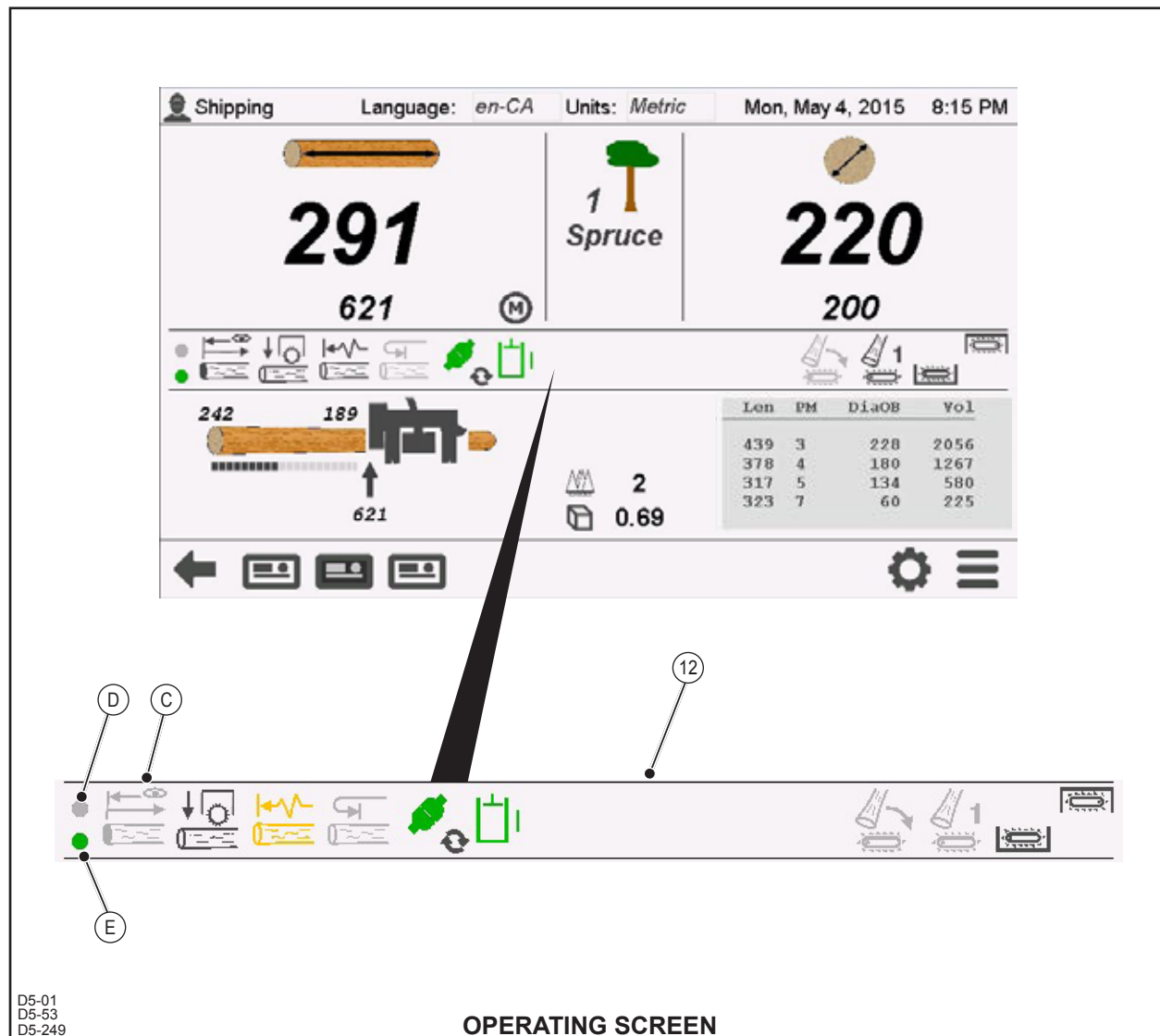
This button function is used to stop or interrupt any automatic functions such as feeding or sawing.

Shift Key

The shift button allows multiple functions to be assigned to the same button. For example, a function can be assigned to button 'A' and a different function is assigned if the Shift Key and 'A' are pressed together. Works similar to a computer keyboard.

Reset

Resets the length and restarts measurement of the tree.



D5-01
D5-53
D5-249

OPERATING SCREEN

C. Find End Sensor

Icon to indicate if find end sensor is turned on or off. Also acts as a button to take you to Settings > Other screen where all settings for find end sensor are located.



Find end sensor - On (black)



Find end sensor - Off (grey)

D. Find End Routine

- Find end active (black)
- Find end not active (grey)

E. Find End Sensor Output

- Sensing obstacle (green)
- Not sensing (grey)

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

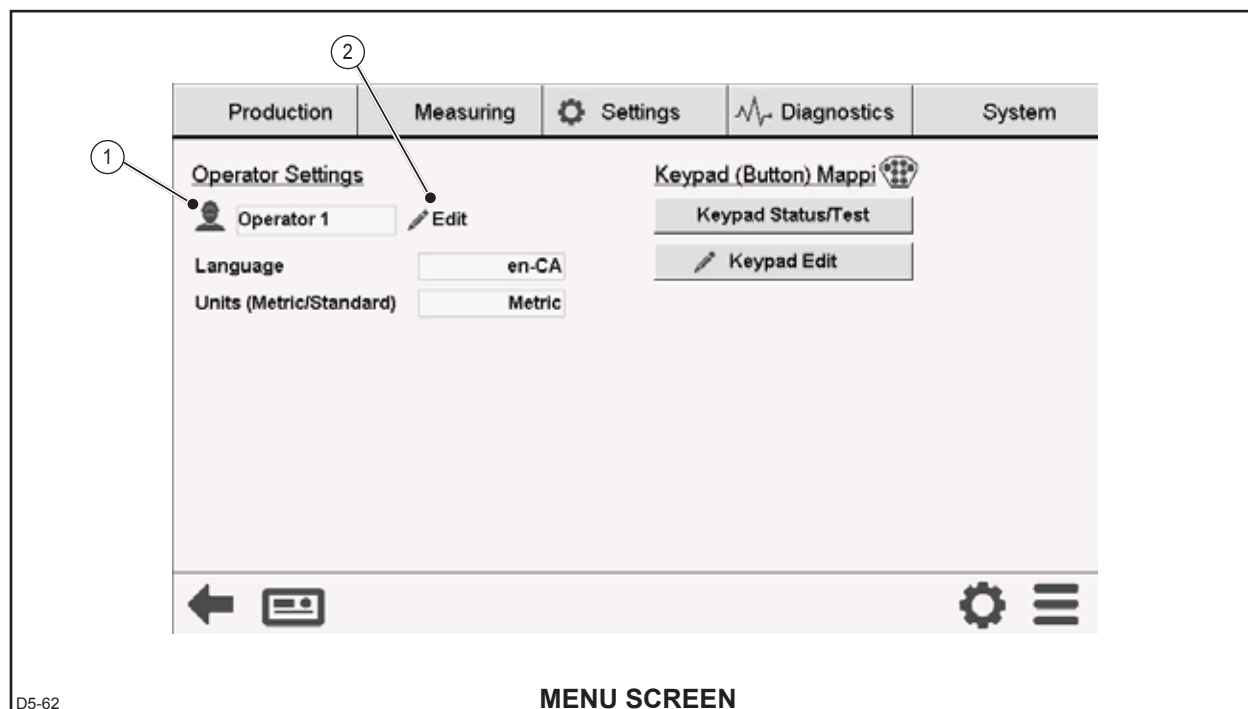
- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: www.heydownloads.com by clicking the link below



- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

COMPUTER DISPLAY



D5-62

MENU SCREEN

MENU SCREEN



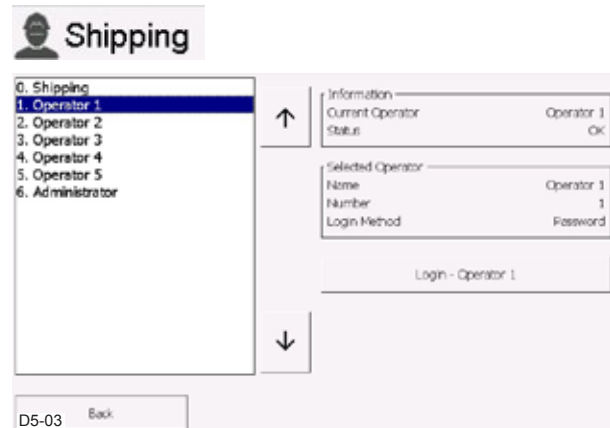
The main menu contains the menu navigation bar at the top and the most common settings for operator selection and preferences.

1. Operator

Displays the current operator and allows login of a new operator.

To login as an operator:

Tap the operator icon or the operator name to open an operator login screen.

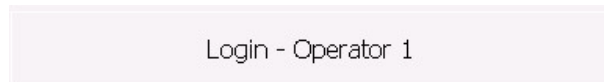


D5-03 Back

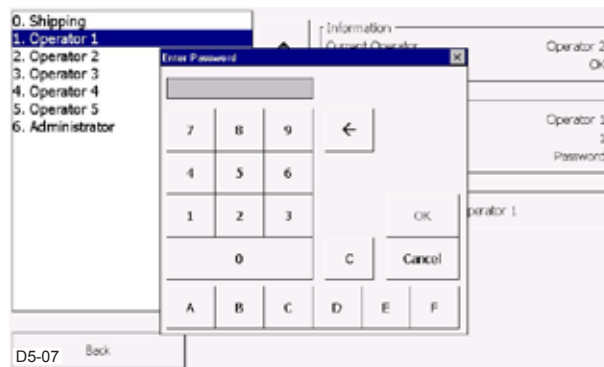
Select the desired operator directly by tapping the name or tap the arrow up and down buttons.



Tap the Login – xxx button



Enter the password for the desired operator and tap OK.

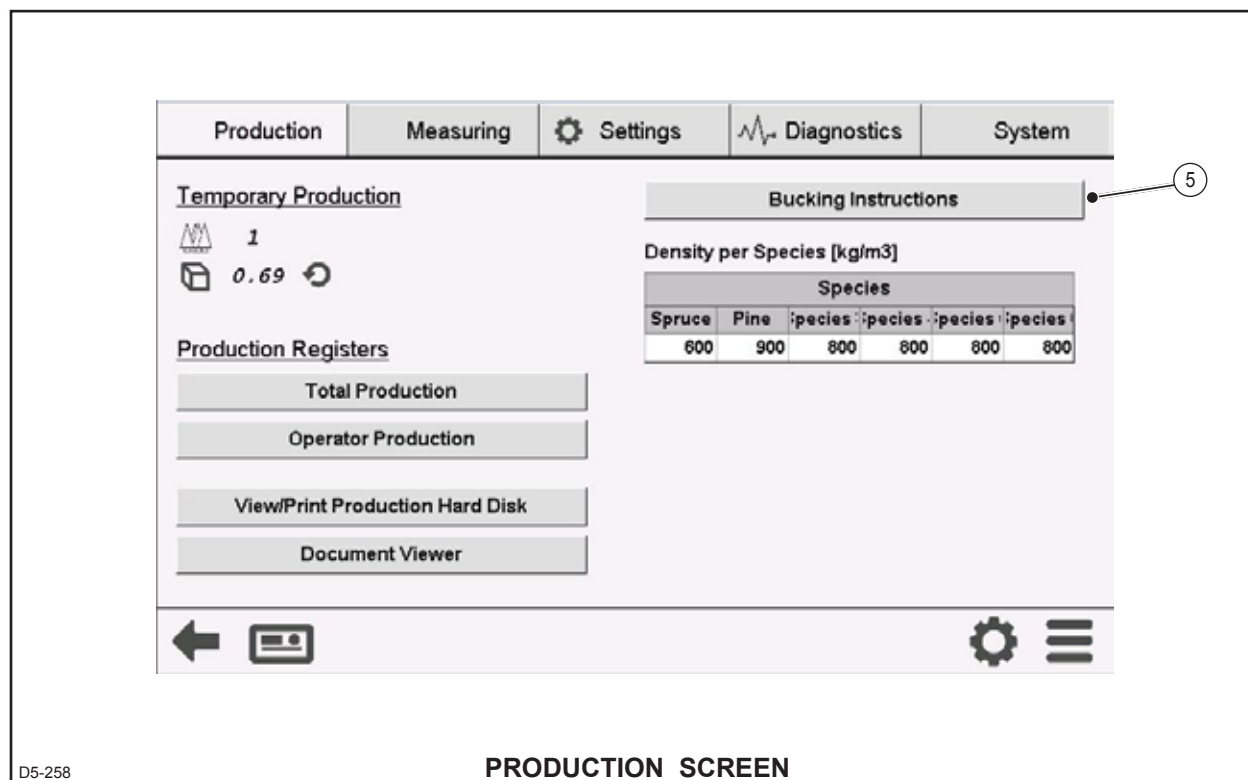


D5-07 Back

The passwords and operator settings can be changed in Settings > System > Operator List by the Administrator.

The default operators and settings are as follows:

#	Name	Password	Access Level
0.	Shipping	None	0
1.	Operator 1	0	1
2.	Operator 1	0	1
3.	Operator 1	0	1
4.	Operator 1	0	1
5.	Operator 1	0	1
6.	Operator 1	0	1
7.	Administrator	4875	2



D5-258

PRODUCTION SCREEN

5. Bucking Instructions

Access Level > = 1

All Operators

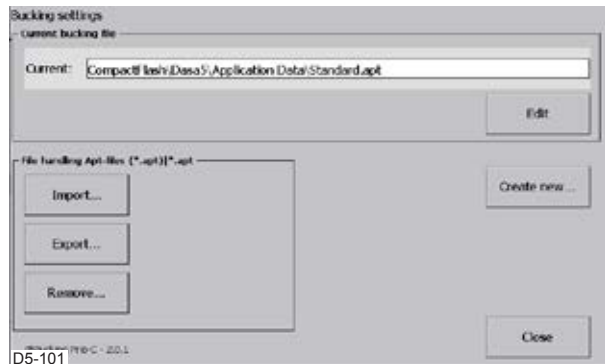
The bucking instructions refers to the preset length and species information. The bucking parameters can be entered, changed, saved, imported and exported.

Tap the Bucking Instructions button to enter the bucking settings.



D5-102

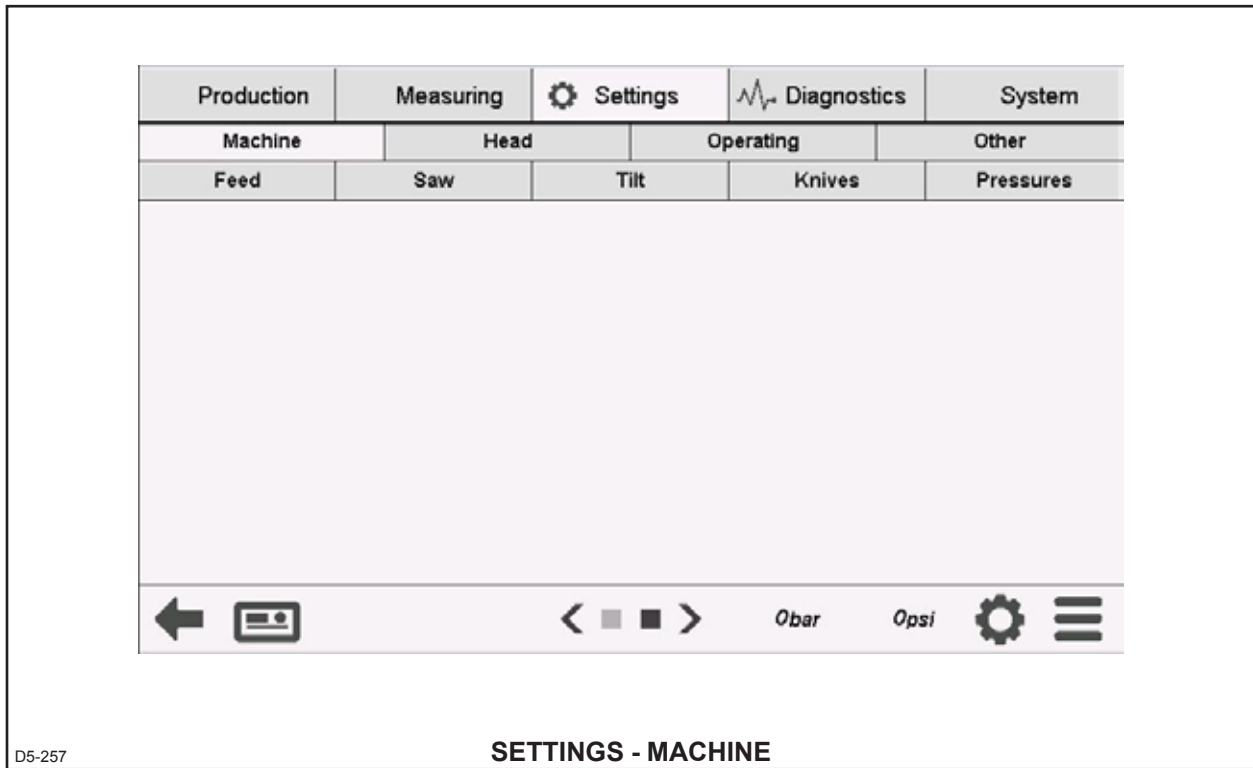
Select the desired bucking file and tap OK to load it as the current active bucking instructions.



D5-101

The top section labelled “Current bucking file” displays the active bucking file. Tap the name of the file to open a list of bucking files currently available on the system.

COMPUTER DISPLAY

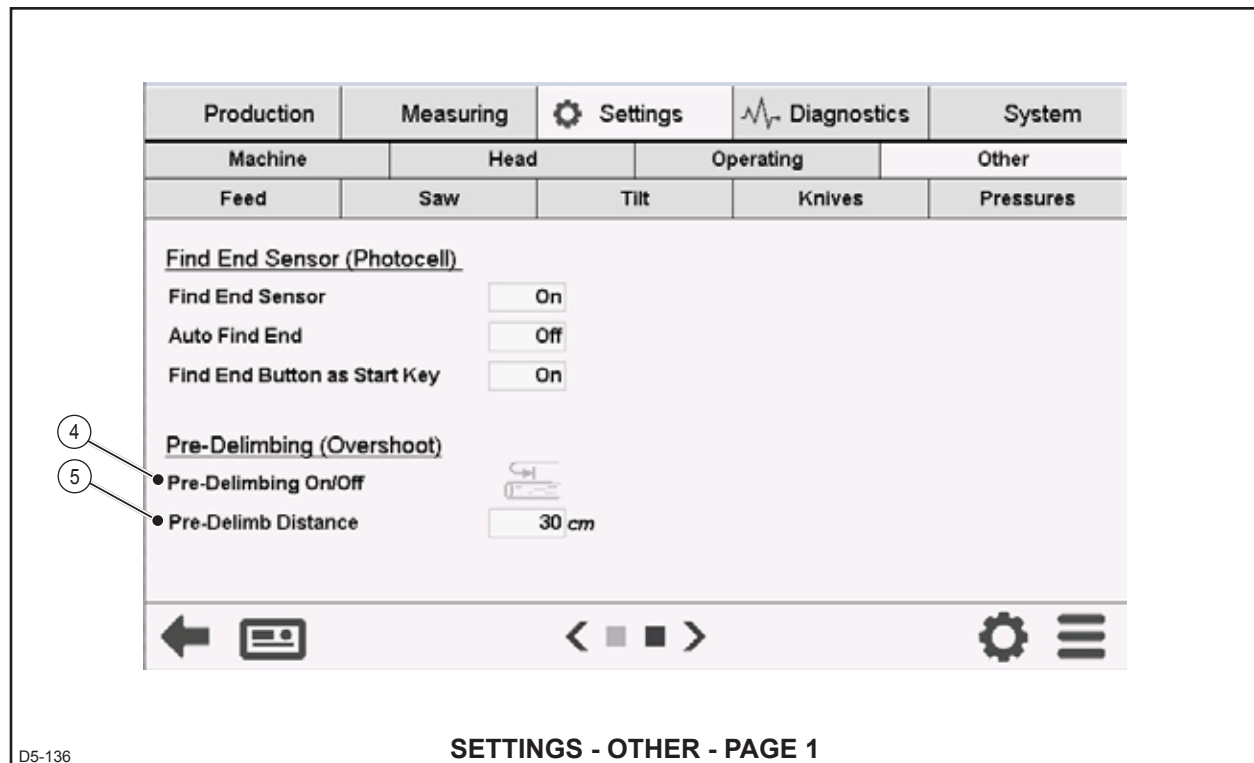


D5-257

SETTINGS - MACHINE

MACHINE SETTINGS

No Operator adjustable settings are available at this time.



D5-136

SETTINGS - OTHER - PAGE 1

4. Pre-Delimiting [On/Off]

Access Level > = 0

Current operator

Toggles pre-delimiting function On or Off.

Typical Setting – Operator's preference.

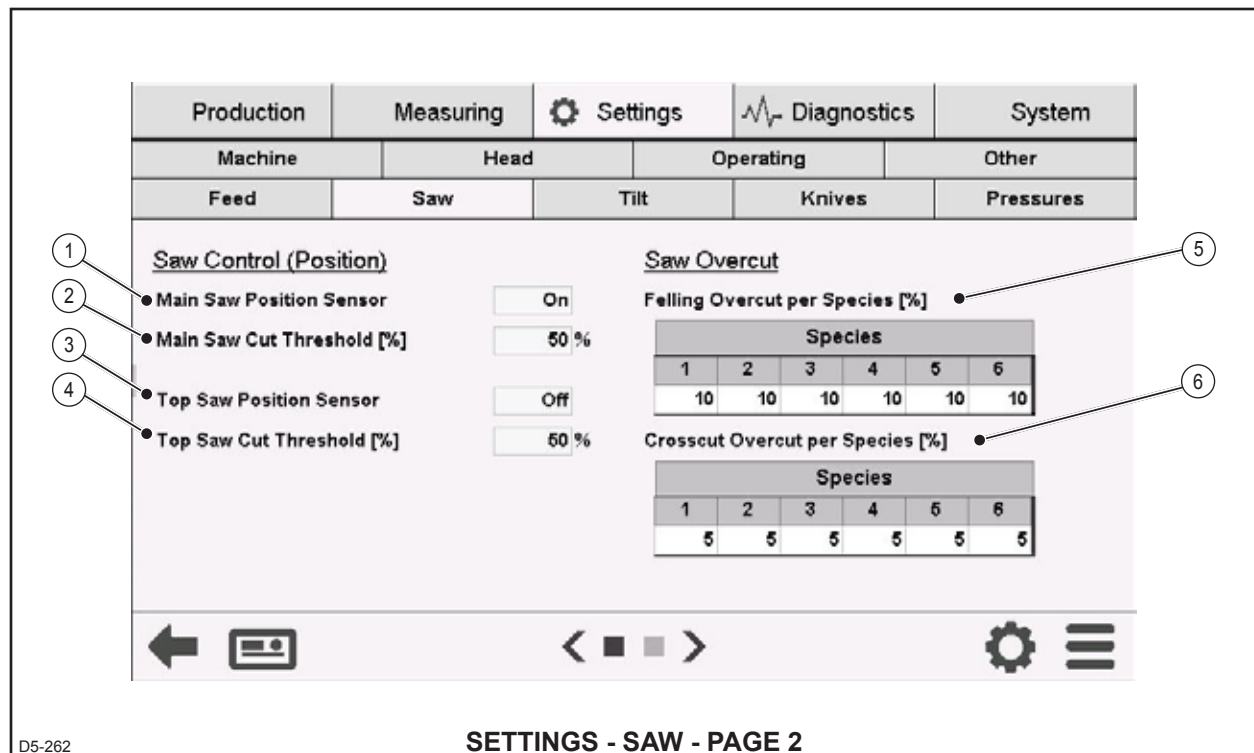
Off (Grey) – Automatic feeding will go directly to the preset length.**On** (Black) – Automatic feeding will feed the tree past the preset length by the Pre-Delimb Distance, then will reverse back to the preset length. This removes limbs for an easier start on the next feeding cycle.**5. Pre-Delimb Distance [cm]**

Access Level > = 0

Current operator

Determines the distance that the Pre-Delimiting function will feed beyond the preset length.

Typical Setting – 30 cm



D5-262

SETTINGS - SAW - PAGE 2

SAW SETTINGS – PAGE 2

Settings for saw position and control.

1. Main Saw Position Sensor [On/Off]

Access Level > = 0

All operators

Select **On** for heads equipped with a main saw position sensor for automatic saw position control. This allows the saw to stop cutting once the diameter of the tree has been reached.

Set to **Off** if the head is not equipped with a sensor or it is malfunctioning. Set to **Off** also if automatic saw control is not desired – sawing will revert to manual control where the operator will hold the saw button for the length of the cut required.

Typical Setting – On

2. Main Saw Cut Threshold [%]

Access Level > = 2

All operators

Set the percentage through the cut where the system will consider the cut complete for registering production and zeroing the length.

Typical Setting – 50%

3. Top Saw Position Sensor [On/Off]

Access Level > = 0

All operators

Select **On** for heads equipped with a top saw position sensor for automatic saw position control. This allows the saw to stop cutting once the

diameter of the tree has been reached.

Set to **Off** if the head is not equipped with a sensor or it is malfunctioning. Set to **Off** also if automatic saw control is not desired – sawing will revert to manual control where the operator will hold the saw button for the length of the cut required.

Typical Setting – Off

4. Top Saw Cut Threshold [%]

Access Level > = 2

All operators

Set the percentage through the cut where the system will consider the cut complete for registering production and zeroing the length.

Typical Setting – 50%

5. Felling Overcut per Species (%)

Access Level > = 0

All operators

Set the percentage for each species that the saw feeds beyond the tree diameter during felling.

Typical Setting – 10%

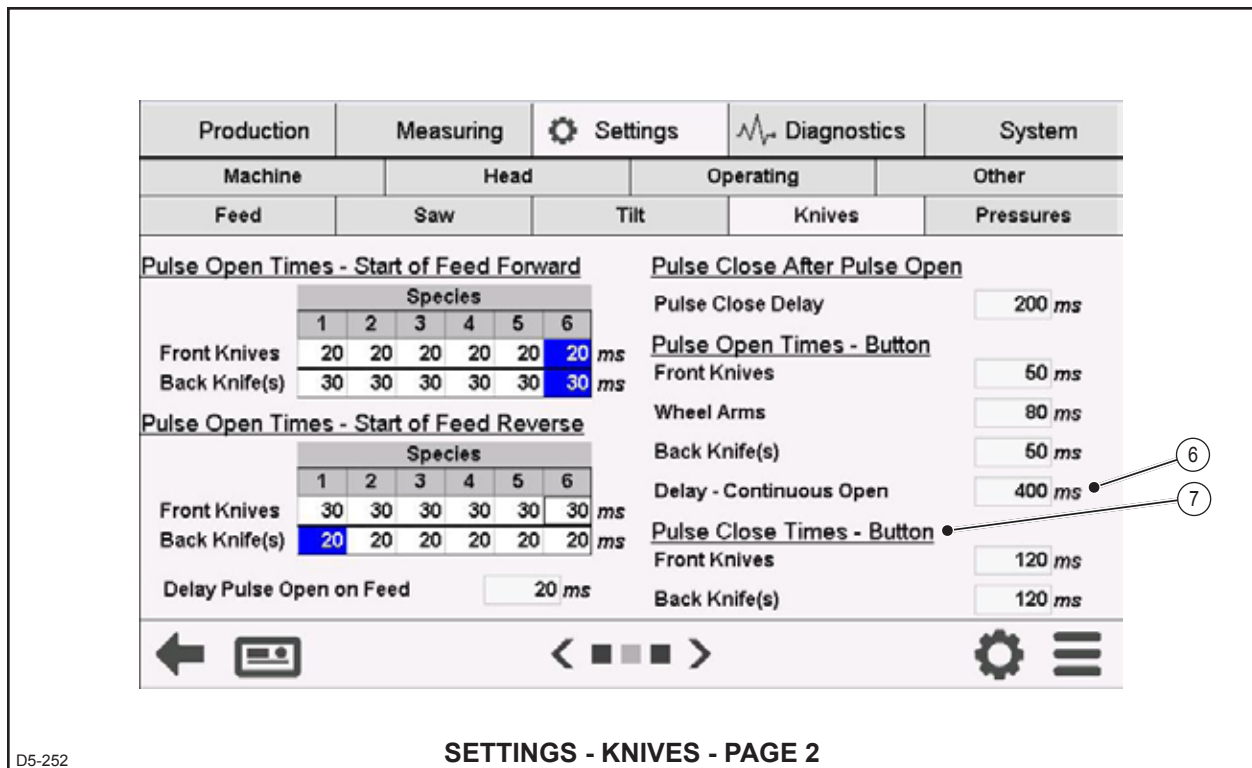
6. Crosscut Overcut per Species (%)

Access Level > = 0

All operators

Set the percentage for each species that the saw feeds beyond the stem diameter during crosscuts.

Typical Setting – 5%



D5-252

6. Delay – Continuous Open [ms]

Access Level > = 0

Current operator

Pressing the button for manual control of the arms open function longer than this Delay – Continuous Open time will operate the function for the length of time the button is held.

Typical Setting – 400 ms

7. Pulse Close Times - Button [ms]

Access Level > = 0

Current operator

The time at which the arms close function operates when its corresponding button is tapped. This is for the manual control button functions.

Tapping the button, operates the function for this amount of time.

Individual settings for:

Front Knives Open

Back Knife(s) Open

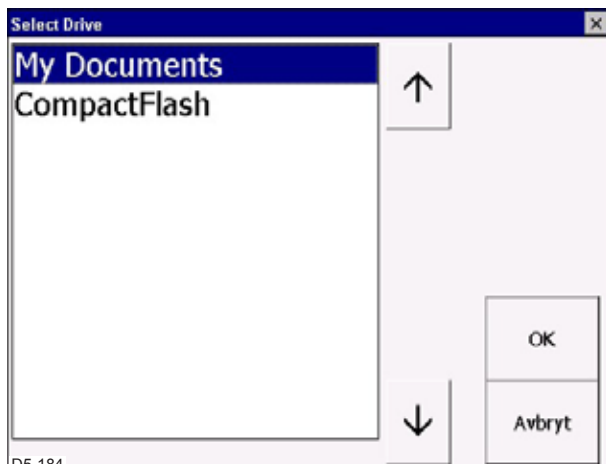
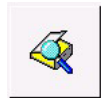
Typical Setting – 120 ms



Name the file as desired and tap OK.

Tap Save on the Export screen.

Select the magnifying glass icon to access other storage locations such as a USB memory stick



A USB memory stick is designated by the system as 'Hard Disk'.

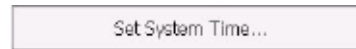
Use the other navigation icons to enter and exit subfolders.



Set System Time

Access Level > = 0

Tap the Set System Time... button on the error log screen to open a dialogue box to set the system time, date and time zone.

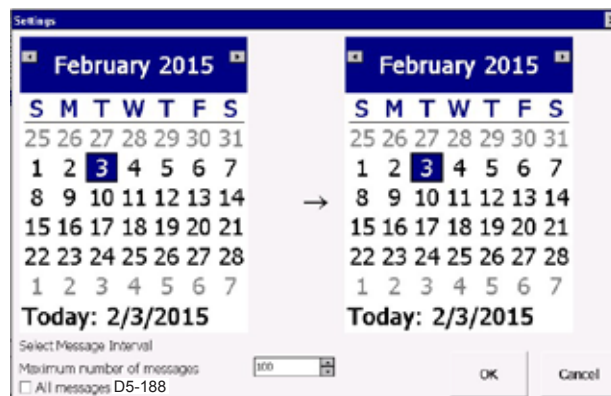
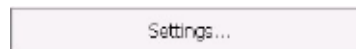


Edit the settings using the arrow buttons or Edit... button, then tap OK when complete.

Settings

Access Level > = 0

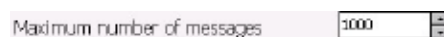
Tap the Settings... button on the error log screen to open a dialogue box to adjust settings for the error log.



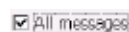
Set the date interval for the errors you wish to view using the calendars to set the start and end dates.

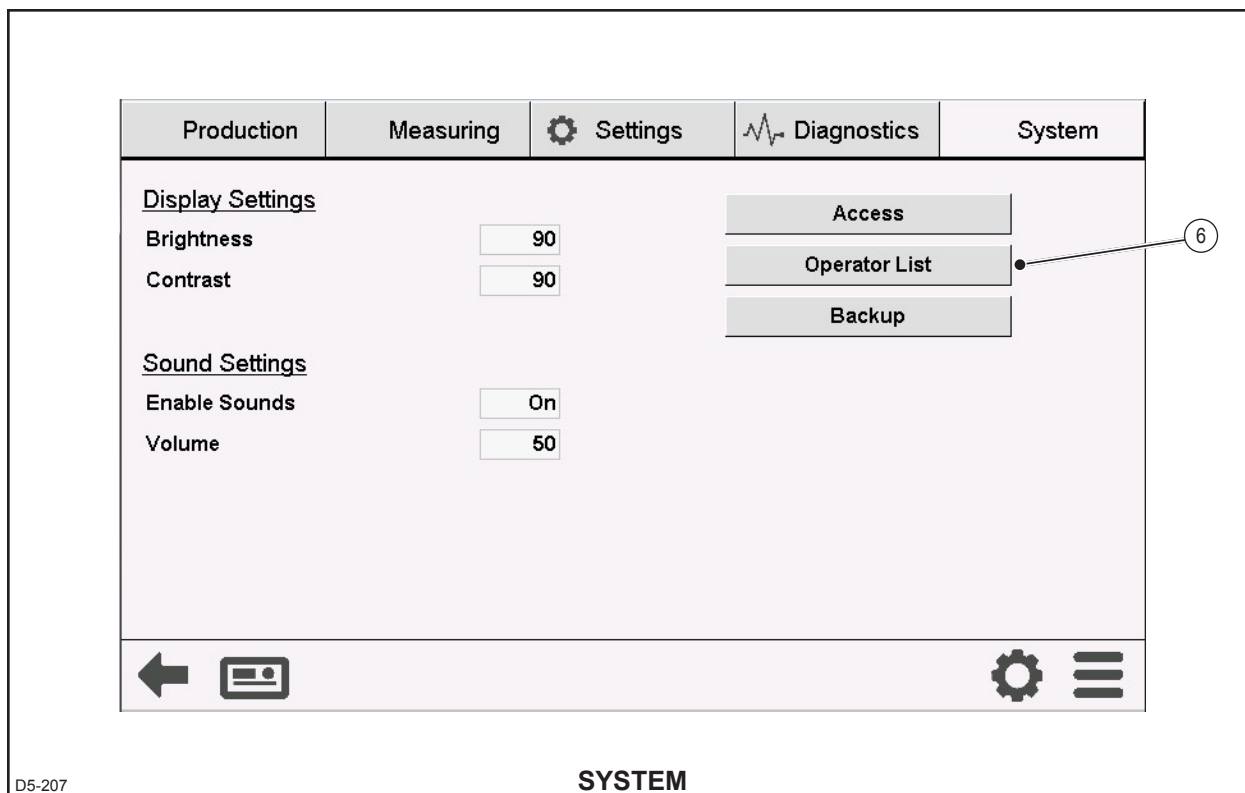
Tap Today: X/X/XXXX to select the current date for the start or end date.

Set a maximum number of messages to be displayed.



Select the checkbox All Messages to show all error messages in the system. This will set the date interval from Jan 1, 2000 to the current date.





D5-207

SYSTEM

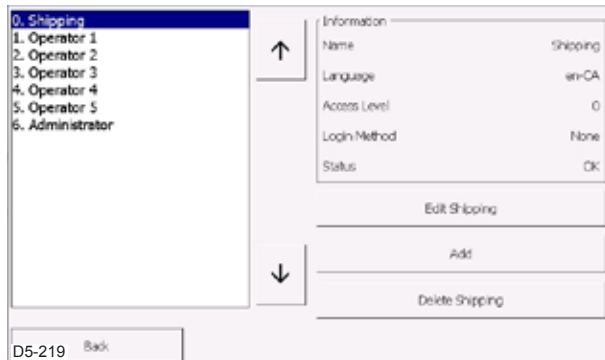
6. Operator List

Access Level > = 2

Tap the **Operator List** button to access settings for management of the operators.



Management of operators includes changing the names of operators, setting or changing passwords, assigning a default language, units and access level.



D5-219

Scroll through the list of operators using the arrow up and down buttons, or select an operator directly by tapping it.

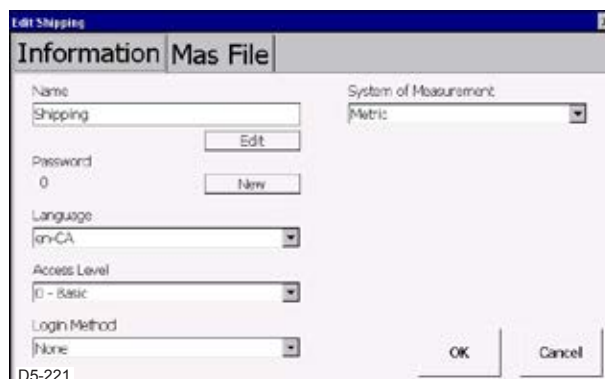


The Information panel (top right of the screen) shows the current setting for the selected operator.

Edit XXXXX – Tap this button to edit the selected operator.



A dialogue box will open to allow editing of the parameters for the operator.



D5-221

Name – Displays the name of the selected operator. Tap the **Edit** button under the name to open a keyboard to change the name of the operator.



CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: www.heydownloads.com by clicking the link below



- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL