These instructions are intended to be used with the Tidland Control Series Knifeholder User Manual

PN 270015467
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About this manual

These operating instructions contain important information on operating the Tidland Control Series knifeholders safely, properly and efficiently. Observing these instructions helps to avoid dangers and increase the service life of the knifeholders.

Additional manuals

This manual is intended to be used with the supporting documentation provided with your system:

- Installation and maintenance: Control Series Knifeholder Installation and Maintenance Part No. 270015468
- PC software interface (optional): PC Interface User Manual Part No. 27L771795

Operating principle

The Tidland Control Series electronic knifeholder uses motors for overlap and side force adjustment. The knifeholder comes configured with a default overlap of 0.035” and 5 lbs of side force.

The Control Plus model provides closed-loop side force control and real-time monitoring.

The touch-activated display screen allows operators to calibrate, engage, and disengage the knifeholder. Password protected security levels control access to side force and overlap adjustment, blade life details, fault history, and other settings.
Safety

**Warning**
Knife blades are sharp.
Can cause serious injury to hands.
Do not remove safety guards.
Use only recommended tools when handling knife blades.

**Warning**
Pinch point.
Keep hands away from moving knifeholder parts.

**Information**
Disconnect power while working with knifeholders on the beam or servicing the knifeholder cabinet.

---

**Safety equipment**

With a Tidland 360 Degree Blade Guard Cartridge installed, the blade is fully guarded when the knifeholder is disengaged.

If the electrical power fails, the blade will stop and remain in that overlap and side force position.

All replacement parts used on this product shall be made to original Tidland specifications.
Knifeholder components

Class II shown

1. Brake knob
2. Power/communication cable (not shown)
3. Status LED*
4. LCD touchscreen**
5. Control body
6. Cant key
7. Control body to cartridge dovetail interface
8. Knifeholder bellows
9. Lock/unlock lever (cartridge to knifeholder)
10. 360° blade guard cartridge
11. Safety latch pin
12. 360° blade guard engagement bracket
13. Guide bar mount assembly (gib or linear bearing)

* Class II – top of knifeholder
Class III – front of knifeholder

** Main Screen display (touchscreen) details; page 4–1.
## Main screen display

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>See Table</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Status bar</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Knifeholder state</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Status LED</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Fault codes</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>Red button</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Yellow button</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>Green button</td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td>Up arrow</td>
<td>8</td>
</tr>
<tr>
<td>9</td>
<td>Down arrow</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td>Security enabled / level of access</td>
<td>10</td>
</tr>
<tr>
<td>11</td>
<td>Press to access Setup menus</td>
<td>11</td>
</tr>
<tr>
<td>12</td>
<td>Overlap set point and blade use alarm</td>
<td>12</td>
</tr>
<tr>
<td>13</td>
<td>Side force set point</td>
<td>13</td>
</tr>
</tbody>
</table>

This area of the main screen is referred to as the **set points bar**.

---

### Touchscreen

Use only your finger to tap the display.  
Do not use pens, tools, or other objects.  
Excessive pressure will damage the display.  
See page 12–3 for cleaning instructions.
Table 1. Description of status bar icons

<table>
<thead>
<tr>
<th>Icon</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Icon]</td>
<td>Armed</td>
<td>Appears when the engage button has been pressed. If this icon is active, the knife is either engaged or can be engaged via the remote engage switch or by a PC/serial command.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Remote Engage Off</td>
<td>Appears when the remote engage switch is OFF.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Locked</td>
<td>Appears when the knifeholder is locked by a PC/serial command.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Fault</td>
<td>Appears when a fault has been detected.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Communication</td>
<td>Appears when the knifeholder is connected to a PC or other device via the RS-422 serial network.</td>
</tr>
</tbody>
</table>

Table 2. Description of mode icons

<table>
<thead>
<tr>
<th>Icon</th>
<th>Mode</th>
<th>Knifeholder status</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Icon]</td>
<td>On</td>
<td>Knifeholder disengaged</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Blinking</td>
<td>Knifeholder disengaging</td>
</tr>
<tr>
<td>![Icon]</td>
<td>On</td>
<td>Knifeholder calibration complete</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Blinking</td>
<td>Knifeholder calibrating</td>
</tr>
<tr>
<td>![Icon]</td>
<td>On</td>
<td>Knifeholder engaged/slitting</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Blinking</td>
<td>Knifeholder engaging</td>
</tr>
<tr>
<td>![Icon]</td>
<td>On</td>
<td>Knifeholder in manual/jog mode</td>
</tr>
</tbody>
</table>

Table 3. Fault codes – first digit

<table>
<thead>
<tr>
<th>First digit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>Fault occurred while disengaging</td>
</tr>
<tr>
<td>C</td>
<td>Fault occurred while calibrating</td>
</tr>
<tr>
<td>E</td>
<td>Fault occurred while engaging</td>
</tr>
</tbody>
</table>

Table 4. Fault codes – second digit

<table>
<thead>
<tr>
<th>Second digit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No fault</td>
</tr>
<tr>
<td>1</td>
<td>Unexpected anvil touch</td>
</tr>
<tr>
<td>2</td>
<td>Anvil not detected</td>
</tr>
<tr>
<td>3</td>
<td>Cannot achieve side force</td>
</tr>
<tr>
<td>4</td>
<td>Cannot achieve overlap</td>
</tr>
<tr>
<td>5</td>
<td>Problem finding home sensor</td>
</tr>
<tr>
<td>6</td>
<td>Problem leaving home sensor</td>
</tr>
<tr>
<td>7</td>
<td>Action aborted by user</td>
</tr>
<tr>
<td>8</td>
<td>Knifeholder not calibrated</td>
</tr>
<tr>
<td>9</td>
<td>EEPROM memory error</td>
</tr>
</tbody>
</table>
Table 5. Status LED

<table>
<thead>
<tr>
<th>Color</th>
<th>Mode</th>
<th>Knifeholder status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>Steady</td>
<td>Knifeholder disengaged</td>
</tr>
<tr>
<td></td>
<td>Blinking</td>
<td>Knifeholder disengaging</td>
</tr>
<tr>
<td></td>
<td>Steady / green flash</td>
<td>Knifeholder disengaged; ready to engage</td>
</tr>
<tr>
<td></td>
<td>Blinking / yellow flash</td>
<td>Knifeholder disengaging; will calibrate when complete</td>
</tr>
<tr>
<td></td>
<td>Blinking / green flash</td>
<td>Knifeholder disengaging; will engage when complete</td>
</tr>
<tr>
<td></td>
<td>Steady / white pulses</td>
<td>Knifeholder disengage error</td>
</tr>
<tr>
<td>Yellow</td>
<td>Steady</td>
<td>Knifeholder calibration complete</td>
</tr>
<tr>
<td></td>
<td>Blinking</td>
<td>Knifeholder calibrating</td>
</tr>
<tr>
<td></td>
<td>Blinking / red flash</td>
<td>Knifeholder calibrating; will disengage when complete</td>
</tr>
<tr>
<td></td>
<td>Blinking / green flash</td>
<td>Knifeholder calibrating; will engage when complete</td>
</tr>
<tr>
<td></td>
<td>Steady / white pulses</td>
<td>Knifeholder calibration error</td>
</tr>
<tr>
<td>Green</td>
<td>Steady</td>
<td>Knifeholder engaged/slitting</td>
</tr>
<tr>
<td></td>
<td>Blinking</td>
<td>Knifeholder engaging</td>
</tr>
<tr>
<td></td>
<td>Alternating Green/Orange</td>
<td>Knifeholder engaged and blade use alarm condition</td>
</tr>
<tr>
<td></td>
<td>Steady / white pulses</td>
<td>Knifeholder engage error</td>
</tr>
<tr>
<td>Blue</td>
<td>On</td>
<td>Knifeholder in manual/jog mode</td>
</tr>
<tr>
<td></td>
<td>Alternating blue / yellow</td>
<td>Knifeholder in manual/jog mode and blade is touching anvil</td>
</tr>
</tbody>
</table>

Table 6. Button functions

<table>
<thead>
<tr>
<th>Button</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="arrow_left" /> <img src="image" alt="arrow_right" /></td>
<td>Navigate between pages</td>
</tr>
<tr>
<td><img src="image" alt="arrow_left" /></td>
<td>Return to the previous screen</td>
</tr>
<tr>
<td><img src="image" alt="arrow_left" /> <img src="image" alt="arrow_right" /></td>
<td>Use to select from a list of items</td>
</tr>
<tr>
<td><img src="image" alt="minus" /></td>
<td>Decrease a numeric value</td>
</tr>
<tr>
<td><img src="image" alt="plus" /></td>
<td>Increase a numeric value</td>
</tr>
<tr>
<td><img src="image" alt="check" /></td>
<td>Save the value and return to previous screen</td>
</tr>
<tr>
<td><img src="image" alt="x" /></td>
<td>Cancel and return (value not saved)</td>
</tr>
<tr>
<td><img src="image" alt="refresh" /></td>
<td>Clear or reset a value</td>
</tr>
<tr>
<td><img src="image" alt="menu" /> <img src="image" alt="menu" /></td>
<td>Switch between two options such as enable/disable or yes/no</td>
</tr>
</tbody>
</table>
Menu tree

0.A.1  MAIN SCREEN

0.A.1 MAIN SCREEN

SETUP 1

<table>
<thead>
<tr>
<th>1.1 SECURITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1.1 LOGIN</td>
</tr>
<tr>
<td>1.1.2 LOGOUT</td>
</tr>
<tr>
<td>1.1.3 PASSWORDS</td>
</tr>
<tr>
<td>1.2.1 DISPLAY</td>
</tr>
<tr>
<td>1.2.1.1 LANGUAGE</td>
</tr>
<tr>
<td>1.2.1.2 TIMEOUT</td>
</tr>
<tr>
<td>1.2.1.3 UNITS</td>
</tr>
<tr>
<td>1.2.1.4 ROTATE</td>
</tr>
<tr>
<td>1.2.2 CALIBRATION (TOUCH)</td>
</tr>
<tr>
<td>1.3 SIDE FORCE</td>
</tr>
<tr>
<td>1.4 OVERLAP</td>
</tr>
</tbody>
</table>

page forward/back
### SETUP 2

<table>
<thead>
<tr>
<th>2.1</th>
<th>ADDRESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.2</td>
<td>BLADE USE</td>
</tr>
<tr>
<td>2.3</td>
<td>MONITOR</td>
</tr>
<tr>
<td>2.3.1</td>
<td>SENSORS</td>
</tr>
<tr>
<td>2.3.2.1</td>
<td>COUNTERS</td>
</tr>
<tr>
<td>2.3.3</td>
<td>SIDE FORCE</td>
</tr>
<tr>
<td>2.4</td>
<td>FAULTS</td>
</tr>
<tr>
<td>2.4.1</td>
<td>COUNTERS</td>
</tr>
<tr>
<td>2.4.2.1</td>
<td>HISTORY</td>
</tr>
</tbody>
</table>

- page forward/back

### SETUP 3

<table>
<thead>
<tr>
<th>3.1</th>
<th>ADVANCED</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1.1</td>
<td>MATERIAL</td>
</tr>
<tr>
<td>3.1.2</td>
<td>PARKING</td>
</tr>
<tr>
<td>3.1.2.1</td>
<td>PARK?</td>
</tr>
<tr>
<td>3.1.2.2</td>
<td>HOME FIRST?</td>
</tr>
<tr>
<td>3.1.2.3</td>
<td>DISTANCE H</td>
</tr>
<tr>
<td>3.1.2.4</td>
<td>DISTANCE V</td>
</tr>
<tr>
<td>3.1.3</td>
<td>ASF ENABLE</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3.2</th>
<th>MAINTENANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.2.1</td>
<td>CLEANING</td>
</tr>
<tr>
<td>3.2.2</td>
<td>MAINT. MODE</td>
</tr>
</tbody>
</table>

| 3.3 | ABOUT |
Keypad entries

On any screen where a numeric setting can be entered or adjusted, tap the value field (a) to display the numeric keypad (b), which can be used as an alternative to the (+) and (−) buttons.

See page 9–1 for information about units of measure.

Invalid entries

If the value entered is invalid or out of range, the number will turn red when the enter button is pressed and the keypad will not close.

Clear the entry and enter a new value.

To exit the numeric keypad, you must either enter a valid value or clear the entry.

The keypad is also used to define passwords; see page 8–2.
Security strategy

Setup 1 > Security (1.1)
To restrict access to certain screens and menus, you can enable password security for three different authorization levels. When security is enabled, you must log in with a password to make changes to knifeholder settings.

Level 1 – Operator
Access to Main screen only; default level if not logged in

Level 2 – Maintenance
Access to all functions except Passwords, Display Settings, and Advanced menus

Level 3 – Administrator
Full access (default when password security is disabled)

If connected to a PC
The PC software settings can override configuration and any values set at the knifeholder.
This includes passwords and menu access.

<table>
<thead>
<tr>
<th></th>
<th>Level 1 Operator</th>
<th>Level 2 Maintenance</th>
<th>Level 3 Administrator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Password required</td>
<td>n/a</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>Home</td>
<td>Full Access</td>
<td>Full Access</td>
<td>Full Access</td>
</tr>
<tr>
<td>Setup</td>
<td>No Access</td>
<td>Full Access</td>
<td>Full Access</td>
</tr>
<tr>
<td>Security</td>
<td>No Access</td>
<td>Full Access</td>
<td>Full Access</td>
</tr>
<tr>
<td>Passwords</td>
<td>No Access</td>
<td>No Access</td>
<td>Full Access</td>
</tr>
<tr>
<td>Display</td>
<td>No Access</td>
<td>No Access</td>
<td>Full Access</td>
</tr>
<tr>
<td>Side Force</td>
<td>No Access</td>
<td>Full Access</td>
<td>Full Access</td>
</tr>
<tr>
<td>Overlap</td>
<td>No Access</td>
<td>Full Access</td>
<td>Full Access</td>
</tr>
<tr>
<td>Address</td>
<td>No Access</td>
<td>Full Access</td>
<td>Full Access</td>
</tr>
<tr>
<td>Blade Life</td>
<td>No Access</td>
<td>Full Access</td>
<td>Full Access</td>
</tr>
<tr>
<td>Measure</td>
<td>No Access</td>
<td>Full Access</td>
<td>Full Access</td>
</tr>
<tr>
<td>Faults</td>
<td>No Access</td>
<td>Full Access</td>
<td>Full Access</td>
</tr>
<tr>
<td>Advanced</td>
<td>No Access</td>
<td>No Access</td>
<td>Full Access</td>
</tr>
<tr>
<td>Maintenance</td>
<td>No Access</td>
<td>Full Access</td>
<td>Full Access</td>
</tr>
<tr>
<td>About</td>
<td>No Access</td>
<td>Full Access</td>
<td>Full Access</td>
</tr>
</tbody>
</table>

Table 7. Authorization levels

When access to a screen or menu is restricted, a lock icon appears on the menu icon. Pressing the icon will prompt the user for a password.

Define passwords – page 8–2
Setup 1 > Security > Passwords (1.1.3)

Enter a password for each authorization level needed (maximum five characters). Refer to Table 7 on page 8–2 for a description of authorization levels.

Delete existing passwords

Enable security

You must define a level 3 password in order to enable security; a level 2 password is optional.

1. Press the switch button to enable security (optional).
   The switch will turn green.
2. Accept changes and return to the previous screen.

Attempting to save and exit without defining a level 3 password will result in an error if security has been enabled.

Security status

The key icon appears on the main screen if password security is enabled. The number next to the icon indicates the current authorization level.

When security is first enabled, you are automatically logged in at authorization level 3.
When logged out, the default authorization is level 1.

continued
Change security authorization levels

Log in
Setup 1 > Security > Login (1.1)

Tap the Login icon; if security is enabled, you will be prompted for a password.

(If you log out at this time, authorization returns to level 1.)

Enter the password for the authorization level you wish to set.
You will be returned to the Login screen. Navigate back to the main screen to confirm the authorization level, which is displayed next to the key icon at the bottom of the main screen.

An incorrect password displays in red text.
If you have forgotten your level 3 password, call Maxcess.

Cancel and return to the previous screen.
Display settings

**Setup 1 > Display 1 (1.2.1)**
Select a menu from the Display screen.
After selecting an option from any sub-menu:
- ☑ Accept the selection  OR
- ❌ Cancel the selection

**Language**

**Setup 1 > Display 1 > Language (1.2.1.1)**
Press the white arrows to scroll through the language options.

**Menu timeout**

**Setup 1 > Display 1 > M Timeout (1.2.1.2)**
A menu display will return to the main screen display after a pre-set interval of inactivity. The default is 180 seconds.
Press the value field to open the numeric keypad and enter a new value, or use (+) and (-) to adjust the interval.

**Units**

**Setup 1 > Display 1 > Units (1.2.1.3)**
Press the white arrow to scroll through the options for units of measure: in/lbs, mm/kg, or mm/N.

**Rotate**

**Setup 1 > Display 1 > Rotate (1.2.1.4)**
Press the switch button to rotate the screen 180 degrees. The switch turns green, indicating that the screen is rotated.
Knifeholder blade settings

**Side force**

*Setup 1 > Side Force (1.3)*

Side force is the amount of pressure that the knife blade applies to the anvil when engaged.

Increase (+) or decrease (−) the parameter, or touch the value field button to open the numeric keypad for manual entry.

**Overlap**

*Setup 1 > Overlap (1.4)*

Overlap is the depth of the knife below the anvil when engaged.

Increase (+) or decrease (−) the parameter, or touch the value field button to open the numeric keypad for manual entry.

Overlap range is 0.125” to 0.010”.

The overlap icon on the main screen also indicates blade use, changing color when the hours of use exceed the number of hours set at the Blade Use screen (page 9–3).

If the knifeholder is engaged when either of these adjustments is made

You will be prompted to apply the new setting.

- Updates to the new side force setting immediately
- The new side force setting will take effect the next time the knifeholder is engaged.

If the knifeholder is not engaged, you will not see this prompt when making adjustments.
Blade settings continued

Blade use

Setup 2 > Blade use (2.2)

Timer indicates hours of blade use since the alarm was set.

Alarm Touch the button to enter the number of blade use hours that will elapse before the alarm is actuated.

Alarm activated When the number of blade use hours reaches the alarm set point, the overlap icon on the main screen turns orange. While the knifeholder is engaged, the LED flashes green/orange.

Resets the timer to zero and clears the alarm.

The system does not automatically detect the presence of a new blade. You must re-set the timer manually each time you replace a blade.
Knifeholder operation

Warning – danger due to cutting
Do not put hands between the knife blade and the web material at any time during operation.
Severe bodily injury may occur.

Warning – danger due to crushing
Keeps hands away from all moving knifeholder parts during blade cartridge retraction.
Severe bodily injury may occur.

No remote engage switch installed

If there is no remote engage switch installed in your system, all knifeholder commands are input using the touchscreen. The buttons function as described below.

<table>
<thead>
<tr>
<th>Button</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>Disengages the knifeholder</td>
</tr>
<tr>
<td>Yellow</td>
<td>Starts the calibration process</td>
</tr>
<tr>
<td>Green</td>
<td>Engages the knifeholder for slitting</td>
</tr>
<tr>
<td></td>
<td>If pressed during calibration, the knifeholder enters the 'armed' state and will engage when calibration is complete.</td>
</tr>
<tr>
<td>Jog</td>
<td>Moves the knifeholder up or down.</td>
</tr>
<tr>
<td></td>
<td>– stops knifeholder movement during calibration or engage (knifeholder will fault)</td>
</tr>
<tr>
<td></td>
<td>– has no effect during disengage</td>
</tr>
<tr>
<td></td>
<td>Does nothing when the knifeholder is calibrated or slitting (LED steady yellow or green)</td>
</tr>
</tbody>
</table>

The status LED indicates the operation or error status.
See Table 5.
Remote engage switch installed

To engage or disengage the knifeholders remotely you must wire an external engage switch into the knifeholder interface cabinet. Refer to the electrical drawings supplied with your system.

Remote engage switch ON
The user can engage or disengage any knifeholder using the red and green buttons on the touchscreen. The knifeholders will function as they do with no switch installed (page 10-1).

Remote engage switch OFF
Turning the remote engage switch OFF during the slitting operation automatically disengages and retracts the knifeholder. The 'open switch' icon will appear in the status bar to indicate that the switch is OFF.

The knifeholder remains 'armed' (ready to engage) and the 'armed' icon appears in the status bar.

The knifeholder touchscreen will function as described below.

<table>
<thead>
<tr>
<th>Button</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>Disarms the knifeholder</td>
</tr>
<tr>
<td>Yellow</td>
<td>No action</td>
</tr>
</tbody>
</table>
| Green  | Knifeholder remains disengaged until the remote engage switch is turned ON.*  
The knifeholder state is 'armed'.  
When the switch is turned ON, the knifeholder will engage. |
| Jog    | No action |

* The status LED will be steady red with an intermittent green flash until the remote engage switch is turned ON.
Setting up the knifeholder

- Make sure that electrical continuity requirements were met during installation.
- Make sure the power/communication cable is plugged in and that the knifeholder is disengaged and disarmed.

**Warning – danger due to cutting**
Do not put hands between the knife blade and the web material at any time during operation. Severe bodily injury may occur.

**Warning – danger due to crushing**
Keeps hands away from all moving knifeholder parts during blade cartridge retraction. Severe bodily injury may occur.

Position the knifeholder

1. Press the red button to retract the knifeholder.
2. Loosen the brake knob and move the knifeholder close to, but not touching, the anvil.
3. With the knifeholder in retracted position, press the button to manually extend the blade cartridge to the approximate cutting depth.
4. Move the knifeholder on the guide bar until the blade just touches the anvil.
5. Tighten the brake knob.
**Calibrate**

Press the yellow button to begin the calibration sequence. The status LED will blink yellow during calibration. When calibration is complete, the LED will become steady yellow.

**Engage to slit**

Press the green button: the knifeholder will engage after successful calibration is achieved. The status LED will blink green while engaging. Note: You can push the green button during the calibration process; the knifeholder will engage when calibration is complete.

**Retract**

Press the red button to disengage the knifeholder. The status LED will blink red while knifeholder is disengaging, and will become steady red when completely disengaged.

If you are using the optional PC control software, that user interface will update to reflect that a button on the knifeholder has been pressed.

**Faults (errors)**

If a fault occurs during normal operation, an alphanumeric code and a short description of the fault will be displayed on the screen. See page 11–2. The status LED will be in a steady color state with an intermittent white flash; the steady color corresponds to the knifeholder function at the time of the fault.
Knifeholder actions

Reference only: This page provides details about knifeholder action when a button is pressed.

1 Disengage knifeholder
- Moves blade away from anvil, and then retracts blade cartridge.
- Allows jog buttons ◀ to move the knife up/down.
- Use when moving the knifeholder (with cartridge retracted) to new slit position.

Do not move the knifeholder on the guide bar with extended cartridge except for calibration setup.

2 Calibrate knifeholder
a) The blade will move vertically away from the anvil.
b) The blade cartridge will fully side–stroke,
c) move down until it just touches the top of the anvil blade,
d) move up to clear the anvil,
e) side–disengage to zero point,
f) move down to desired overlap,
g) side–engage until it just touches the side of the anvil blade,
h) side–disengage to zero point, and then
i) will wait for the next command.

3 Engage/extend knifeholder
- Depending upon commanded engage state, extends blade cartridge to programmed overlap, and then moves side–stroke to the programmed side force.

4 Jog buttons
- stop knifeholder movement during calibration or engage (knifeholder will fault)
- have no effect on disengage
- put knifeholder in manual mode
  ◀ DOWN arrow extends the knifeholder
  △ UP arrow retracts the knifeholder

Use jog buttons with extreme caution.
Keep hands clear of knife blades at all times.
Monitoring tools

**Monitor**

*Setup 2 > Monitor (2.3)*

Select a menu item from the Monitor screen to view.

**Sensors**

*Setup 2 > Monitor > Sensors (2.3.1)*

Home – horizontal and vertical
Anvil Touch
Remote Engage

**Counters**

*Setup 2 > Monitor > Counters (2.3.2.1)*

Counters keep track of these knifeholder actions since the last power cycle:
Engage
Disengage
Remote Engage
Remote Disengage
Calibrate
Power Cycles (Yellow text indicates that the value was saved in EEPROM when the power was cycled.)

**Side force**

*Setup 2 > Monitor > Side Force (2.3.3)*

Load Cell: actual measured voltage
Side Force: actual side force reported in pounds, kilograms, and Newtons.

Control Series Plus knifeholders have an Auto Side Force option. See page 11-5.
Knifeholder faults (errors)

When a fault occurs, the fault code and a short description of the fault are displayed on the Active Fault screen (0.A.4).

Refer to the fault code tables on page 5–1.

- Returns the operator to the Main Screen, but does **NOT** clear the fault.
- Press the red button on the main screen to clear the fault and resume operation.

The fault is stored in history: *Setup 2 > Faults > History (2.4.2.1)*

---

**Fault data**

*Setup 2 > Faults (2.4)*

**Counters**

*Setup 2 > Faults > Counters (2.4.1)*

Counts the number of knifeholder fault types — engage, disengage, and calibration — since last power cycle.

**History**

*Setup 2 > Faults > History (2.4.2.1)*

Fault code history is remembered between power cycles. History is limited to ten faults; the oldest faults are deleted as new faults are listed.
Advanced options

Web material

Setup 3 > Advanced > Material (3.1.1)

If the knife blade touches conductive material before touching the anvil, an 'unexpected anvil touch' error occurs.

Non-Conductive material (typical web application)
The anvil blade sensor is ON and enables the knife blade to detect the anvil upon touch.

Conductive material
The anvil blade sensor is OFF, which allows the knife blade to plunge cut conductive material without causing the 'unexpected touch' error.

Parking

Setup 3 > Advanced > Parking (3.1.2)

Parking a knife blade in a specific location when disengaged allows for consistent elapsed time from engage signal to actual start of cut.

When using the Parking feature, you must 'home' the knifeholder at least once per week. This is necessary to maintain consistent positioning.

continued
Parking continued

**Park?**

*Setup 3 > Advanced > Parking (3.1.2.1)*

*None* is the default; the knifeholder returns to the home position when disengaging.

*Vertical Only* maintains a specific vertical distance between the knife blade and the anvil when parked in the disengage position.

*Both* maintains a specific vertical and horizontal distance between the knife blade and anvil when parked in the disengaged position.

---

**Home First**

*Setup 3 > Advanced > Parking (3.1.2.2)*

When disengaging, the knifeholder returns to the home position, and then to the park location. Enable this option to maintain an accurate position.

Press the switch button to turn on this option. The switch turns green, indicating that Home First is enabled.

---

**Distance H** and **Distance V**

*Setup 3 > Advanced > Parking (3.1.2.3/3.1.2.4)*

When parking is enabled and knifeholder is disengaged, this is the *horizontal* and/or *vertical* distance between the knife blade and the anvil.

Press (+) or (-) to increase or decrease the distance, or press the value field button to open the numeric keypad and enter a value.
Auto side force (ASF)

Enable ASF – Control Plus model only

*Setup 3 > Advanced > ASF Enable (3.1.3)*

When ASF is enabled, the knifeholder makes automatic corrections when the measured side force is more than plus or minus one pound from the set point.

Press the switch button to enable ASF. The switch turns green, indicating that ASF is enabled.

ASF status icons on Main Screen

- ASF is disabled or the knifeholder is not engaged. Side force is not being controlled.
- ASF is enabled and the knifeholder is engaged. Side force is being controlled.
- ASF is enabled and the knifeholder is engaged. An error has been detected. Side force is not being controlled.

Monitor side force

*Display 2 > Monitor > Side Force (2.3.3)*

**Load Cell:** actual measured voltage

**Side Force:** actual side force reported in pounds, kilograms, and Newtons.
Knifeholder address

---

### Manual mode

**Setup 2 > Address (2.1)**

Press (+) or (−) to manually assign an address to a knifeholder, or press the value field button to open the numeric keypad and enter a specific number.

---

⚠️ Auto-addressing is not available at the touchscreen. You will need the PC interface software for that function.
Maintenance mode

Setup 3 > Maintenance > Maint. mode (3.2)

Maintenance mode is used by Maxcess staff or technically trained users to diagnose and potentially resolve problems with a knifeholder.

Call Maxcess for assistance if you cannot solve a problem using the Error Code or Troubleshooting information.

1 Status bar
2 Knifeholder address
3 Cut side: arrow direction must match your knifeholder cant key Press the icon to change it.
4 Up/down arrow: jog vertical axis
5 Left/right arrow: jog horizontal axis Direction depends upon cut side setting.
6 Center button: disable touch sensor relay (momentary)
7 Press and hold for 10 seconds to reboot
8 Tap to exit Maintenance Mode and return to previous screen.*
9 Raw load cell voltage (0 to 3.3 V)

* The device will return to the main screen in manual/jog mode when you exit maintenance mode. Press the red button on the main screen to exit manual/jog mode.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Icon" /></td>
<td>Horizontal Home</td>
<td>This icon appears whenever the home sensor is activated in the horizontal axis.</td>
</tr>
<tr>
<td><img src="image2.png" alt="Icon" /></td>
<td>Vertical Home</td>
<td>This icon appears whenever the home sensor is activated in the vertical axis.</td>
</tr>
<tr>
<td><img src="image3.png" alt="Icon" /></td>
<td>Anvil Touch</td>
<td>This icon appears whenever the blade is in contact with the anvil.</td>
</tr>
<tr>
<td><img src="image4.png" alt="Icon" /></td>
<td>Remote Engage Off</td>
<td>The remote engage switch is OFF.</td>
</tr>
<tr>
<td><img src="image5.png" alt="Icon" /></td>
<td>Locked</td>
<td>The knifeholder is locked by a PC/serial command.</td>
</tr>
<tr>
<td><img src="image6.png" alt="Icon" /></td>
<td>Communication</td>
<td>This symbol appears when the knifeholder is connected to a PC or other device via the RS-422 serial network.</td>
</tr>
</tbody>
</table>

*Table 8. Maintenance mode status bar icons*
Touchscreen

Calibration

*Display 2 (1.2.2)*

The knifeholder is factory-calibrated. If it does not respond to touch as expected in any area, you may need to calibrate the touchscreen.

**Cal. Touch**

*Display 2 > Cal. Touch (0.A.5.1)*

(a) Touch the square in the upper left corner of the screen.
(b) Touch the square in the lower right corner of the screen.

Touch the green check mark when the **Calibration Complete** prompt appears.

Failed calibration

If you touch the screen in the wrong places during the process, the calibration will fail. If this happens and you cannot navigate away from the calibration screen:

1. Turn off power to the knifeholder.
2. Press and hold at the center of the touchscreen while turning on the power. (This may take two people.)
Touchscreen

Cleaning

Setup 3 > Maintenance > Cleaning (3.2)

1. Press the icon to temporarily disable the screen (30 seconds).
2. Breathe on the screen and wipe dry with a clean, soft cloth.

DO NOT USE: flux, water, acetone, ethanol, isopropyl alcohol, toluene, or ammonia (glass cleaner) to clean the screen.