

# TigerXCut<sup>®</sup>

## TigerCrossCut

### *Installation & Basic Setup*

January 2006



**Dog won't hunt till you enable it!**

**This machine will NOT function until it's enabled!**

Enable your TigerStop between the hours of 7 am and 4 pm PST Monday to Friday.

The warranty period doesn't begin until you enable your TigerStop. To enable your TigerStop, complete the warranty registration form INSIDE.

**IMPORTANT!** TigerStop must be enabled with a code that must be obtained from TigerStop Customer Service.

If you will be installing your unit on a weekend or after business hours, be sure to get your enable code before 4 p.m. PST!

**Contact information:**

TigerStop LLC, Assembly Plant, 12909 NE 95<sup>th</sup> St., Vancouver, WA 98682

Tel: 360 254-0661 □ Fax: 360 260-0755 □ Website: [www.tigerstop.com](http://www.tigerstop.com) □ Email: [service@tigerstop.com](mailto:service@tigerstop.com)

## Table Of Contents

Register Your Warranty .....	1
To enable your TigerStop .....	1
TigerCrossCut .....	2
Get your tools for installation ready.....	2
Unpack TigerCrossCut.....	2
Basic TigerCrossCut components .....	3
Remove your existing crosscut guide bar and lay TigerCrossCut on the slider .....	3
Attach the control stand base to the bottom of TigerCrossCut .....	4
Mount TigerCrossCut to the slider.....	4
Mounting to sliders WITHOUT eccentric peg squaring adjustment (Type 1).....	5
Mounting to sliders WITH eccentric peg squaring adjustment (Type 2).....	6
Install the extension arm .....	7
Install the control stand and controller, and connect the power cord.....	7
Cutting a new wood block filler piece .....	8
The TigerStop Controller .....	9
Primary Function Keys .....	9
Numeric Calculator Keys.....	9
Math Function Keys.....	9
Inches or Metric .....	10
Controller Ports .....	10
Controller Cable Facts.....	11
Home Routine .....	12
Recap of the Home routine at Start Up .....	12
Performing Home Routines After Start Up.....	13
Home Routine Failure .....	13
Parameter Check & Adjustment.....	13
What is TigerStop Telling Me? .....	14
Running Min-Max.....	15
When to Run Min-Max .....	15
Making TigerStop Accurate .....	16
It's time to calibrate!.....	16
TigerCrossCut Calibration .....	17
Scaling.....	18
Spreadsheet Method .....	18
Change the Scale Parameter.....	20
Manual Scaling.....	21
Saw Kerf.....	23
Kerf Range .....	23
Set Up Auto-Test .....	24

Table Of Contents

Now Run Auto-Test.....24

TigerCrossCut Extension Arm Operation .....25

    TigerCrossCut Min-Max Value .....25

TigerStop Warranty .....26

    TigerStop, TigerRip Fence, & TigerStop Accessories .....26

    TigerStop Replacement Parts .....26

    Service.....26



# Register Your Warranty

1 When your new TigerStop arrives, you will find a warranty registration wrapped around the controller in the accessory box.



2 Fill out this form and fax it to TigerStop Customer Service at (360) 260-0755.

3 TigerStop Customer Service will contact you by return fax or by phone to give you the enable code, within the hour during *regular business hours*, (360) 254-0661 x238 Mon-Fri 7am~4pm PST (West Coast), [service@tigerstop.com](mailto:service@tigerstop.com), or the next business day if faxed after 4:00 P.M.

4 When you get your enable code from TigerStop Customer Service, it's time to enable your TigerStop!

*Your TigerStop warranty begins on the day that your TigerStop is enabled!*

To enable your TigerStop...

1 Fill out the warranty registration form and fax it to TigerStop. Fax 360-260-0755.

*TigerStop customer service will give you your machine's enable code.*

2 Turn TigerStop ON . The switch is on the motor box .

3 The screen displays...



*You will see the message "Enter enable code" on the top line of the LCD screen, which alternates with two other messages: "Call TigerStop," and the factory telephone number "(360) 254-0661." The serial number of your machine is constantly displayed on the bottom line of the screen. When you enter the enable code, it will REPLACE the serial number.*

4 Enter the **enable code** and press  to load the code.

*If the "Enter enable code" and the other messages stop blinking, the enable code has been successfully loaded (but not yet stored), so you can run the home routine. If the messages continue displaying on the top line of the screen, you have not entered the enable code correctly. Take a careful look at the enable code and re-enter it. If it still does not work, call TigerStop Customer Service.*

*If you encounter a home routine failure right after you have entered your enable code, the enable code will NOT have been stored, and it will have to be re-entered. TigerStop is not actually enabled until it has successfully run the home routine and stored the enable code.*

# TigerCrossCut



Fig. 1

**Concept** → TigerCrossCut is an automated replacement crosscut fence for sliding bed table saws. TigerCrossCut...

- ... consists of the replacement crosscut fence and extension fence, each with a flipstop, the controller and stand (Fig. 1).
- ... entirely replaces the existing crosscut fence gauge.
- ... can be installed on sliders that can support a gauge weighing 100# (45kg).

**TigerFence must be installed in accordance with all local, state, and federal regulations, as well as common sense safety requirements. Use only trained professionals when installing TigerFence with your existing saw to ensure a safe and proper work station that will in no way endanger the operator or any other personnel. Do not operate TigerFence without proper training.**

## Get your tools for installation ready

To install TigerFence you will need these tools (or equivalents):

- power drill/driver
- 3/8" carbide drill bit (for boring through the saw casting)
- 1/2" deep socket wrench & ratchet (for tightening mounting bolts)
- 9/16" combination wrench to adjust rip fence squareness
- 5/32" hex wrench (for control stand set screw)
- 7/16" socket wrench (use with power driver to turn drive screw)
- two sturdy C-clamps
- combination square

## Unpack TigerCrossCut

TigerFence comes packed in a carton.

Carefully unpack it and make sure you have all the parts shown in Fig. 2.

## Basic TigerCrossCut components

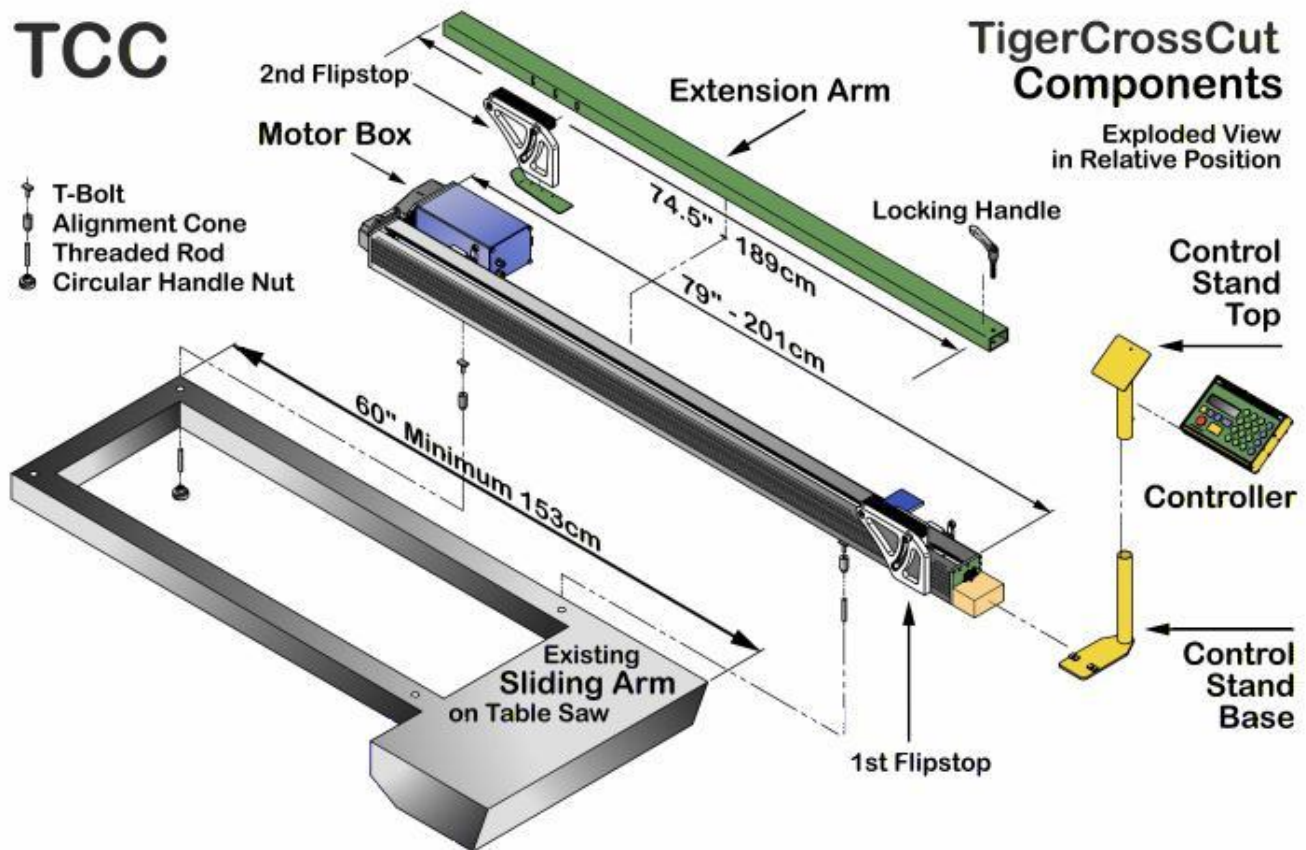



Fig. 2

 Turn OFF all power to the saw!

Remove your existing crosscut guide bar and lay TigerCrossCut on the slider

1. Push the sliding bed forward to the point where you can lock it down, so it will not move while you are working on it.
2. Remove the existing crosscut guide bar.
3. Make sure that the top side of the sliding arm table is very smooth and clean. This is where TigerCrossCut will be attached. Nothing should prevent a tight fit.
4. Lay TigerCrossCut on the slider, motor end away from the saw blade and facing up.

*The carriage with 1st Flipstop (Fig. 2) should be positioned closest to the saw blade.*

Attach the control stand base to the bottom of TigerCrossCut

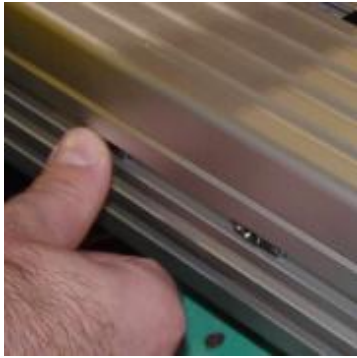


Fig. 3



Fig. 4




Fig. 5

5. Slide two T-nuts into the top channel of the face of the fence beam (Fig. 3), and attach the bottom half of the control stand to the fence beam by threading bolts and washers into the T-nuts (Figs. 4, 5). At this point, hand tighten only, so that the control stand can be re-positioned later, if necessary.

Mount TigerCrossCut to the slider

6. Position the fence beam so the end closest to the saw blade is about 3" (76mm) from the right end of the sliding arm (Fig. 6). The motor end will hang over the edge at the other end and must be supported.

 *Until the fence beam is actually secured to the slider, have an assistant support the motor end of the machine while positioning it. If not supported, it could tip over and fall off the slider!*

*TigerCrossCut is mounted to the slider using the same two holes that were used to secure the previous measuring system (Fig. 7).*

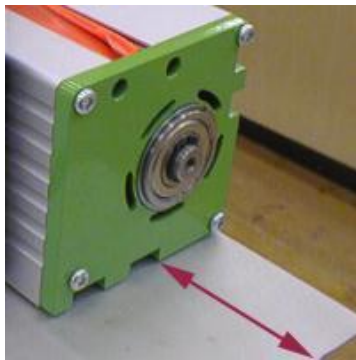


Fig. 6



Fig. 7

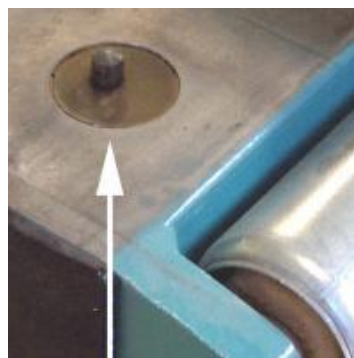


Fig. 8

Fig. 9

*Some sliders have washers (Fig. 8) to space up the cross cut fence. You can use these when replacing it with a TigerCrossCut.*

## Mounting to sliders WITHOUT eccentric peg squaring adjustment (Type 1)

*If your slider does NOT use an eccentric peg (Fig. 9) to square the fence to the saw blade, it will simply have two holes to attach the fence. TigerCrossCut is mounted using these two holes. If it uses an eccentric peg, continue below at step 12.*

7. With TigerCrossCut still lying on the slider, insert one T-bolt (Fig. 10) into the top channel of the fence beam at each end (because the control stand is already mounted in the same channel). Line up each T-bolt with the existing holes. Thread an alignment cone (Fig. 10) on to each T-bolt and hand tighten.

*Alignment cones come in two sizes: 15mm and 20mm diameter. Select the size that fits the holes in your slider.*

8. Pivot the fence beam into working position. The alignment cones should fall right into the mounting holes. If the cones were not perfectly lined up to the holes, their tapered bottoms will funnel them into exact alignment.
9. With a WIDE flat screwdriver, firmly tighten the alignment cones, accessing them from under the slider through the mounting holes. The alignment cones are slotted to fit a screwdriver (Fig. 11).

 *TigerCrossCut is now in position, but it is still NOT secured. Continue to provide support to prevent it from falling off the slider!*



Fig. 10



Fig. 11



Fig. 12

10. From underneath the slider, insert the threaded rods through the attachment holes and thread them into the alignment cones. The end of the threaded rod is a hex head, just like a set screw, so you can turn it with an allen wrench.
11. Finally, thread the circular handles on to the rods and firmly tighten (Fig. 12). TigerCrossCut is now secured to the slider.

Mounting to sliders WITH eccentric peg squaring adjustment (Type 2)

*Sliders with an eccentric peg will also have two holes for attachment, one close to the saw blade and the other in the middle of the sliding arm (Fig. 13).*

- 12. With TigerCrossCut lying on the slider, insert one T-bolt (Fig. 10) into the top channel of the fence beam at each end (because the control stand is already mounted in the same channel). Line up each T-bolt with the existing holes. Thread an alignment cone (Fig. 10) on to each T-bolt and hand tighten.
- 13. Insert a threaded rod into each alignment cone and hand tighten.

*Because final tightening of the attachment bolts must be done AFTER squaring up the fence with the eccentric peg, leave the attachment bolts loose enough to move them slightly, if necessary.*

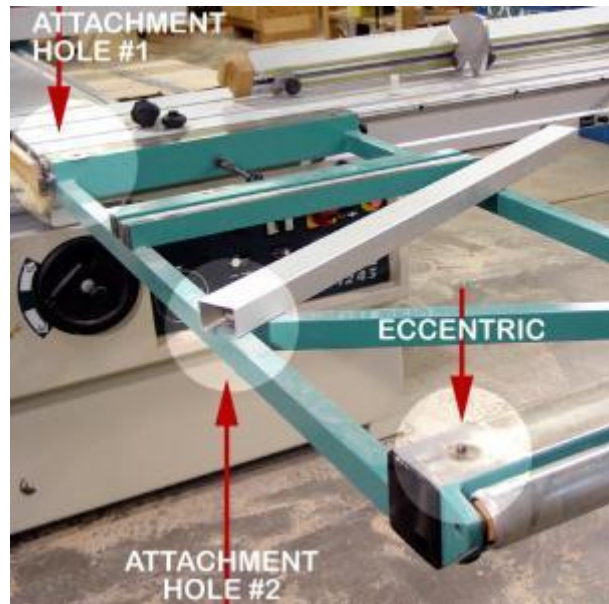


Fig. 13

- 14. Slide a T-nut (Fig. 14) into the top channel of the fence beam and line it up with the eccentric peg (Fig. 15). Thread the set screws into the T-nut and screw them in so you can slide the T-nut in the channel with some resistance.
- 15. Carefully rotate the fence beam and locate it by inserting the bolts into the attachment holes and the T-nut on to the eccentric peg. Hand tighten the circular handles on to the threaded rods passing through the attachment holes.



Fig. 14

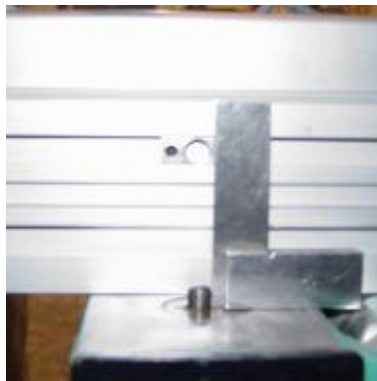


Fig. 15



Fig. 16

- 16. Make a sample cut and check the sample for squareness. If the sample is square, you will not need to make any adjustment to the eccentric peg. Firmly tighten the connecting bolt circular handles and the eccentric peg knob.
- 17. If the sample is NOT square, adjust the eccentric and re-tighten. Pry the plastic cap off the end of the housing to access the eccentric peg adjustment (Fig. 16). Adjust the peg position, hand tighten,

cut another sample, and check for squareness. Continue this procedure until the sample is square. Then firmly tighten the connecting bolt circular handles and the eccentric peg knob.

## Install the extension arm

18. To install the extension arm, lay the end with the locking handle on the HORIZONTAL blue plate on the carriage at the saw blade end of the fence beam (Fig. 17).

*There is a metal dowel in the plate to guide the extension arm into correct position. The locking handle (Fig. 18) will screw into a hole in the blue plate.*



Fig. 17



Fig. 18



Fig. 19

19. Lay the other end into the notch in the black support plate at the motor end (Fig. 19).  
20. Firmly tighten down the locking handle (Fig. 18).

*This is the only place where the extension arm is secured to the fence beam.*

*NEVER try to shorten the extension arm by cutting it off!*

## Install the control stand and controller, and connect the power cord

21. Move the control stand to a location convenient for the saw operator, and tighten down the bolts securing it to the bottom of the fence beam (Fig. 20).  
22. After mounting the control stand, load the controller on to it, and fasten it down securely (Fig. 21).



Fig. 20



Fig. 21



Fig. 22

23. Plug one end of the controller cable into the controller and the other end into the motor box (Fig. 22).

*There is only one way to plug in the controller cable: the "male" end plugs into the controller, the "female" end plugs into the port on the side of the motor box.*

## TigerXCut Installation

24. Make sure the power switch is OFF, plug the female end of the power cord into the motor box, and fasten with the metal retainer clip (Fig. 22).
25. The power cord is extra long and coiled. Fasten it to the sliding arm support with cable ties at the top near the TigerCrossCut motor (Fig. 23) and at the bottom (Fig. 24), making sure that at every possible position of the slider the cord will have ample length, so it will not pull out (Fig. 25).



Fig. 23



Fig. 24



Fig. 25

## Cutting a new wood block filler piece



Fig. 26

**Concept** → The gap between the right end of TigerCrossCut and the saw blade is filled with a wood block that must be cut the first time the fence is used. Do this **AFTER** running the home routine, running min-max, etc.

- With the sliding arm and TigerCrossCut positioned on the operator's side of the saw blade, insert the wood block into the retainer at the right end of the fence beam (Fig. 26).
- Power up the saw and carefully cut through the wood block filler piece.

## Continue → Home Routine

See also... Running Min-Max, Making TigerStop Accurate, Scaling, Saw Kerf, Set Up Auto-Test, TigerCrossCut Calibration

# The TigerStop Controller

**Concept** → The TigerStop controller is the ordinary means of operating TigerStop and using its many functions.

- TigerStop versions 3.5 and higher utilize a new type of controller, called **SMT** to distinguish it from the original design. Version and level display on screen when TigerStop is powered on.
- The controller case itself is made of aluminum and has gaskets at all seams and at the LCD screen to prevent the entry of metal dust or other contaminants.



- There is a yellow pilot light  on the controller to indicate that TigerStop is powered .

## Primary Function Keys



Program List is used to **program** cut lists, **hot keys**, and to access **menus**.



Increm(ent) is used in the operation of the **Increment** function.



Space Calib(rate) is used to enter lengths in feet, inches, and a fraction, to enter numbers with a fraction, to enter negative lengths. It is also used to **calibrate** TigerStop, to select inches or metric dimensions, and to set saw kerf.



Clear is used to clear or erase data entry one digit at a time.



STOP is used to stop any TigerStop operation, to return to the Ready screen, and to exit the Increment function.

START is used...



- To start movement. After entering a length, a hot key, or an increment, START moves the stop to the length entered.
- To accept a length or quantity when entering a cut list.
- To select a hot key length.

## Numeric Calculator Keys



The number keys are used to enter values just like those on any calculator.



...are also used to select inches or metric dimensions.

## Math Function Keys



MINUS is used to subtract values, to enter negative values, and to view the previous line of data in a cut list.

## TigerXCut Installation



PLUS is used to add values, and to view the next line of data in a cut list.



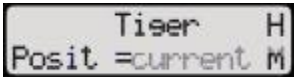
STAR is used to multiply values.



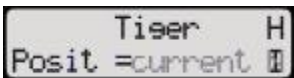
SLASH is used to divide values, and to enter fractions.

## Inches or Metric

### ?➔ What is the screen display telling me?



TigerStop is in Metric mode when **M m** blinks in the lower right corner.

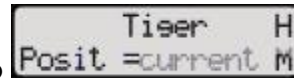


TigerStop is in Inch mode when **I N** blinks in the lower right corner.

➔ To select metric mode...



Press . The Ready screen will change to



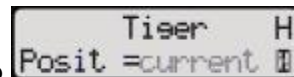
**Metric** ➔

*In TigerStop Manual documentation, all values are in Inches. Values and examples in Metric are flagged by the Metric arrow and purple text and background.*

➔ To select inches mode...



Press . The Ready screen will change to



## Controller Ports

**Concept** ➔ On the top edge of the controller there are three **ports**. The wide port is for the controller cable. The middle port is for the cable running from your computer to TigerStop. The port closest to the left side of the controller is for the printer cable.

- Level 1 TigerStops will use only the controller cable port.
- Level 2, 3, and 4 TigerStops will use the controller cable and the computer cable ports.
- Level 4 TigerStops will use all three ports.



# Controller Cable Facts

1. The SMT controller cable is 6 feet (1.83m) long for TigerStops and 20 feet (6.1m) long for TigerRip Fences.
2. There is only one way to plug in the controller cable: the "male" end plugs into the controller, the "female" end plugs into the port on the side of the motor box.
3. Optional controller cables are available in 20 foot (6.1m) and 30 foot (9.15m) lengths.
4. The controller cable is shipped in the TigerStop accessories box in a pink anti-static bag (Fig. 1) with a warning tag (Fig. 2) that gives instructions on use.



## Important!

**NEVER** bend the controller cable sharply as shown in Fig. 2. It can damage the cable and cause the controller not to communicate with TigerStop.



Fig. 1



Fig. 2



## CRITICALLY important!

The TigerStop controller cable is a proprietary cable. You CANNOT replace it with a look-alike cable obtained from a local electronics store. If you try to replace a TigerStop controller cable with any other type, you risk serious damage to your machine!

**"OFF THE SHELF"  
PRINTER CABLE**



DB25 M DB25 M  
**DEAD WRONG!**

**N'employez JAMAIS**  
un câble générique  
d'imprimeur d'ordinateur.



DB25 M DB25 M  
**Erreur mortelle!**

**¡NUNCA** use  
cables genéricos  
para impresoras!




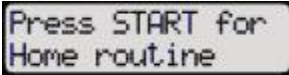
DB25 M DB25 M  
**¡Error garrafal!**

# Home Routine

**Concept** → Every TigerStop completes a **home routine** on start up. The home routine is a five stage process as described below.

- Prior to running the home routine, TigerStop automatically changes the values of several parameters and then changes them back.
- The **ramps**, **velocity**, **lash** and **min/max limits** are saved.
- Once saved, the acceleration parameters are set to 50 (normally set to 75)
- Velocity parameters are reset to 5 **ips**
- Maximum Limit is set to +1000
- Minimum Limit is set to -1000
- Lash parameter is set to 0.

## Recap of the Home routine at Start Up


Turn TigerStop ON . The screen displays .


Press  for the home routine. The screen displays .


*Make sure NOTHING is in the path of the stop!*


Press  again.


*The stop moves away from the blue motor box and begins to run through the 5 stages of the setup routine...*

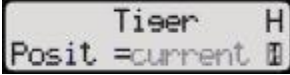
 The **stop** moves 1" (25mm) toward the **zero end** to ensure that the **carriage** is outside of the end sensor. This also confirms that there is enough room to move toward the **home end** of the fence in later stages.

 The stop reverses direction and moves toward the home end of the machine until it trips the end sensor. This confirms that the sensor is sending a signal to indicate that the carriage is blocked.

 The value of the velocity parameter is automatically reset to 1 ips, and the stop backs away 1" (25mm) to clear the far end sensor.

 The stop moves slowly and precisely back to the home end sensor again until it is tripped. The position displayed on screen is reset to the calibration parameter saved in the motion menu.

 The stop again moves back 1" (25mm) to clear the home end sensor. Velocity and acceleration parameters are restored to the values saved in the motion menu.

After stage 5, the display returns to the Ready screen .

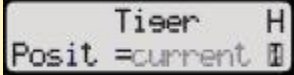
# Performing Home Routines After Start Up

**Concept** → The home routine can usually be performed without **cycling power**. This is most often done if TigerStop X's out, either through a software error, or because the drive is disabled after the stop comes up against an immovable object.

**How to Do It** → To perform a home routine without cycling power...

- Press   → 
- Press  

*This will initiate the home routine.*



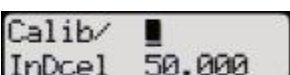

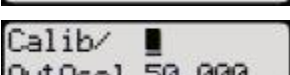
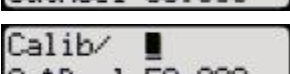
*TigerStop will run through all 5 stages and return to the Ready screen  to indicate that the routine has been completed.*

## Home Routine Failure

**Concept** → If the home routine fails at power-on, the drive will be disabled and movement commands will not be processed.


### Parameter Check & Adjustment

→ Make sure that the values of the motion menu parameters in your TigerStop match those listed below.

-  InVel = 5
-  InAccel = 50
-  InDecel = 50
-  OutVel = 5
-  OutAccel = 50
-  OutDecel = 50

# What is TigerStop Telling Me?

---

**Concept**  The controller screen displays TigerStop's current status as a letter at the end of the top line. When TigerStop executes a movement or operation, it passes through several stages, indicated by the letter rapidly changing.

```
targetTiser  H
Posit =current  H
```

H = Holding position: TigerStop is at rest.

```
targetTiser  A
Posit =current  A
```

A = Accelerating: TigerStop is speeding up from 0 to its **target velocity**.

```
targetTiser  C
Posit =current  C
```

C = Constant velocity: TigerStop is travelling at its target velocity.

```
targetTiser  D
Posit =current  D
```

D = Decelerating: TigerStop is slowing down to 0 velocity.

```
targetTiser  L
Posit =current  L
```

L = Lash compensation: TigerStop is making an adjustment move to account for **lash**.


```
targetTiser  W
Posit =current  W
```

W = Wait: TigerStop is waiting to move, having disabled the interlock solenoid.

```
targetTiser  X
Posit =current  X
```

X = Drive disabled: For some reason TigerStop's drive is disengaged.

TigerStop has cut out and needs to be reset.

 TigerRip Fence specific: X = TigerStop is at rest. Drive must be disabled because rip fence handle is in lock down position, and the drive cannot be allowed free movement once it comes to rest.

```
targetTiser DM H
Posit =current  DM H
```

DM = Dead Man Open: TigerStop "thinks" the interlock limit switch is OPEN and the saw or other tool engaged. The stop can NOT move with this status.

# Running Min-Max

**Concept** → The Min-Max routine defines TigerStop's **operating range** by detecting the position of the end sensors at both extremities of the aluminum fence extrusion.

*Min-Max is an auto-setup mode and should be run ONLY after the stop has run through the home routine. Min-Max should be the ONLY method used to change minimum or maximum parameters. See also, When to Run Min-Max.*

1. At the Ready screen  press and HOLD  and  at the same time, then quickly release.

2. The screen displays .

*Make sure NOTHING is in the path of the stop!*

3. Press  again.

*The stop will move to both ends of the fence extrusion, first to the **far end**, then to the **motor end**. The minimum and maximum parameter values are now changed and saved.*

## When to Run Min-Max

**Concept** → The Min-Max routine should be run...

- When a belt is changed or re-tensioned.
- When TigerStop has a problem that affects the minimum and maximum parameters.
- When parameters have been reset.
- When a controller has been replaced.

See also...

Set Up Auto-Test

Now Run Auto-Test

# Making TigerStop Accurate

**Concept** → Calibrate TigerStop to set its distance from zero. Calibrate whenever the saw blade is changed, or when you add or remove a stop attachment, such as a gangstop or pusher foot.

**How to Do It** → From a position at least 12" out, enter a length of 10".

1. Press   .

*The stop moves inbound to a position 10" from the saw blade.*

2. Cut a piece of stock at this length and carefully measure it.



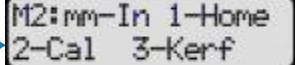
*It should be right on 10". If it is accurate, no need to calibrate.*

*Be sure to use an accurate measuring tool. TigerStop can be only as accurate as you make it!*

→ If the sample cut measured 10¼" instead of 10" ...

## It's time to calibrate!

**Continuing** →

3. Press   → . The M2 menu displays.

4. Press  → . The M4 menu displays.

*You enter the actual measured length of your sample piece at this screen.*

5. Press       .

*This will save the original position of 10" as 10.25", correcting the inaccuracy.*

6. Cut another sample piece using the same procedure, starting at step 1 above.

*If the sample piece measures the same as the position shown on screen, TigerStop is calibrated. If it is still off, repeat the process.*

# TigerCrossCut Calibration

Version 4.61 +

**HowToDoIt**  After installing TigerCrossCut, follow these instructions to self-calibrate the two flipstops.

**1** Press   at the same time.

*The screen will scroll the message “Enter distance between stops 1 & 2”.*

**2** Measure the distance between the stops.

**3** Enter the measured distance into the controller.

**4** Press  to continue, or  to cancel.

**5** Cut material using both of the flipstops.

*Both flipstops should be accurate. If not, repeat steps 1-3 until your TigerCrossCut is accurate.*



# Scaling

**Concept** Most TigerStops require a scaling adjustment **biannually**. This operation may also be performed on new machines received from the factory, because the environment in your facility can be dramatically different than that in our assembly shop.

There are two methods that can be used to **scale a TigerStop**. The first method makes use of a spreadsheet and is much quicker. The second method makes use of a "trial and error" method of gradual changes to the scale value combined with making sample cuts until the sample length is accurate. Refer to Manual Scaling for this method.

## Spreadsheet Method

*To scale your TigerStop a short and a long measurement are needed to work from.*

*The short measure must be 12" or less, and the long measure about 10" less than the **working length** of the TigerStop. In the case of Tiger16 or longer, you must use a long measurement of at least 70"*

**Metric** *The short measure must be 300mm or less, and the long measure about 200mm less than the working length of the TigerStop. In the case of Tiger16 or longer, you must use a long measurement of at least 1780mm.*




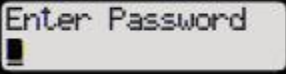




**ALWAYS use the same measuring tool for all measurements!**

Users of the printed TigerStop Manual, download the scaling spreadsheet from the CD Manual or from the website, [www.tigerstop.com](http://www.tigerstop.com), or create one inserting the formulas shown in the example below.

The screenshot shows a Microsoft Excel spreadsheet with the following structure:

	A	B	C	D	E	F	G	
1	<b>INCH MEASUREMENT SYSTEM</b>							
2	<b>Initial Scale</b>	<b>Short Position</b>	<b>Long Position</b>	<b>Long Measure</b>	<b>Position Error</b>	<b>New Scale</b>		
3					=SUM(D3-C3)	=(A3)*(((C3)-(D3))/(C3-B3)+1)		
4	Enter positions and measurements as whole inches, decimal inches, or inches and fractions. Any decimal or							
5								
6	<b>METRIC (MILLIMETER) MEASUREMENT SYSTEM</b>							
7	<b>Initial Scale</b>	<b>Short Position</b>	<b>Long Position</b>	<b>Long Measure</b>	<b>Position Error</b>	<b>New Scale</b>		
8					=SUM(D8-C8)	=(A8)*(((C8)-(D8))/(C8-B8)+1)		
9	Enter positions and measurements in MILLIMETERS.							
10								
11								
12								

Find the current scale factor the machine is using in the Calib\* Motion menu.

1. Press   . At  enter your  and press . Scroll to the scale parameter by pressing  to go forward, or  to go backward.

2. When you get to Scale , enter the value you find there into spreadsheet cell

	A
1	
2	Initial Scale
3	

A, Initial Scale

3. Calibrate TigerStop at the Short Position, a point close to the application. Move the stop to this position by an inbound movement, for example by moving from 10" to 8". Enter this position into

	B
	INC
	Short Position

spreadsheet cell B, Short Position

4. Next, move the stop to a point 2" (50mm) past the Long Position, and then bring it back to the Long Position, again by an inbound movement. Enter this position into spreadsheet cell C, Long

	C
	LONG MEASURE
	Long Position

Position

5. Cut a sample piece with the stop at the Long Position. Carefully measure the sample piece and

	D
	MEASUREMENT SYST
	Long Measure

enter the measured length of this sample into spreadsheet cell D, Long Measure






6. The spreadsheet instantly calculates the Position Error  and the New Scale value

	F
	New Scale
	#DIV/0!

appears in spreadsheet cell F, New Scale

*The New Scale value should be reasonably close to the old value. If it is SIGNIFICANTLY different, check your work for errors. If everything appears correct, enter the new value into the Scale parameter.*

## TigerXCut Installation










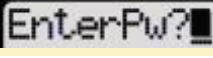


 The Scale parameter  is DOUBLE password protected. To change the value, you must re-enter your  and press , and then enter the new value for scale from spreadsheet cell F, and press  to save it.

## Change the Scale Parameter

This instruction simply tells you how to access the Calib\* Motion menu to change the Scale parameter. Refer to the Scaling or Manual Scaling topics for complete instructions on when and why to change this parameter.

*To tamper with the Scale parameter without reasonable cause will make your TigerStop measure inaccurately.*

**How to Do It**  To access the Motion Menu...

1. Press   .
  2. At  enter your  and press .
  3. Scroll through the parameters by pressing  to go forward, or  to go backward until you get to the Scale parameter .
- Scale is double password protected.  indicates this.*
4. 4. Enter the password again and press . This lets you change the value of the Scale parameter.
  5. 5. After you change the parameter value, press  to save the change.

# Manual Scaling

**Concept** Most TigerStops require a scaling adjustment **biannually**. This operation may also be performed on new machines received from the factory, because the environment in your facility can be dramatically different than that in our assembly shop.

There are two methods that can be used to **scale a TigerStop**. The first method makes use of a spreadsheet and is much quicker. Refer to Scaling for this method. The second method makes use of a "trial and error" method of gradual changes to the scale value combined with making sample cuttings, until the sample length is accurate.

## How to Do It Manual Method

To scale your TigerStop a short and a long measurement are needed to work from.

The short measure must be 12" or less, and the long measure about 10" less than the **working length** of the TigerStop. In the case of Tiger16 or longer, you must use a long measurement of at least 70"

**Metric** The short measure must be 300mm or less, and the long measure about 200mm less than the working length of the TigerStop. In the case of Tiger16 or longer, you must use a long measurement of at least 1780mm.

**ALWAYS use the same measuring tool for all measurements!**









1. Calibrate TigerStop at a point close to the **application**. Move the stop to this position by an **inbound movement**, for example by moving from 12" to 10". For easy instructions on calibrating your TigerStop at 10", see Making TigerStop Accurate. You can then return to this topic and continue at step 2.
2. Next, move the stop out to 72" (1828mm), and then bring it back to 70" (1778mm), again by an inbound movement.
3. Cut a sample piece with the stop at this length. Carefully measure the sample piece.

**DECREASE Scale** If the piece measures **LONGER** than 70", you will **DECREASE** the scale factor at Step 5.

**INCREASE Scale** If the piece measures **SHORTER** than 70", you will **INCREASE** the scale factor at Step 5.

**NEVER decrease or increase the Scale factor by more than 0.005 each time!**

4. Move the stop back in to 10" (254mm).
5. Change the scale factor by an increment no more than 0.005. Click here for instructions on changing the scale factor.
6. After you have changed the scale factor, the stop's position as shown in the controller display will change.

7. Press     . Enter 10" by pressing    to restore the correct position.

## TigerXCut Installation

8. Repeat steps above until TigerStop's short and long positions are accurate.

# Saw Kerf

**Concept** Saw kerf is the width of the cut made by your saw blade. Any time you change the saw blade, you must check the kerf to make sure it matches the TigerStop kerf parameter. If it is larger or smaller, you must adjust the kerf. This is done at the controller.

**How to Do It** How to set saw kerf

**1** Make a sample cut to check the actual kerf.


1. Cut a sample board, for example, at 24". Make sure it is very accurate!
2. Cut the sample board into two pieces.
3. Carefully measure each of the cut pieces.
4. Add the lengths of the pieces together.

*The kerf will be the difference in length between the original uncut board and the combined length of the two cut pieces.*


**2** Look at the current kerf value.

5. Press    

6. Press     and look at the current kerf value.

*If the current kerf value is correct, press  to leave it alone and exit the M5 menu.  
If the kerf displayed is incorrect, change it to match your sample...*

**3** Update the kerf value.

7. Enter the correct kerf value and press  to save it and exit the M5 menu.

## Kerf Range

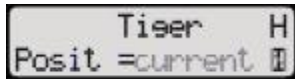

- o Normal kerf ranges between 1/8" and 7/32".
- o TigerStop displays this in decimal inches as between 0.125" and 0.225".

**Metric** *The normal range of kerfs is between 3.2mm and 5.7mm.*

# Set Up Auto-Test

**Concept** Running auto-test requires that you choose two positions, one near the motor and the other near the far end, and program these two positions alternately into the **first 10 hot keys**. When auto-test is run, the stop will travel between these two positions until you press the STOP button.




**How to Do It** How to set up Auto-Test


1 At the Ready screen  press    to start entering the "hot keys."




**Example** Use 8" and 50" as the near and far positions.

*To run auto-test for your machine, choose as the far position a length at the far end of your TigerCrossCut instead of 50" as in this example.*

*To run auto-test on a metric TigerCrossCut, you can use 200mm and 1270mm, approximate metric equivalents of the positions used in this example.*


2 Press  to enter the first (near) length and then  to view it 

Press  to advance to the next hot key.

3 Press   to enter the next (far) length and then  to view it



You can automatically advance to the next hot key by pressing  after each entry.




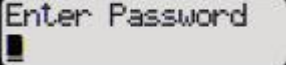


4 Now, program hot keys 3 to 10 alternately with 8" and 50" (see list below), and then press  to save them and exit the "hot keys" program.





*Auto-test will NOT run correctly unless ALL 10 hot keys are programmed!*

## Hot Keys #3 to #10



- GoSet#3 .....8"
- GoSet#4 .....50"
- GoSet#5 .....8"
- GoSet#6 .....50"
- GoSet#7 .....8"
- GoSet#8 .....50"
- GoSet#9 .....8"
- GoSet#10 ... 50"

Now Run Auto-Test

5 Press    to access the Calib\* Motion menu , and then enter your  and press .

6 Press  repeatedly until you see , enter your  again, and then .


*Make sure NOTHING is in the path of the fence!*

7 Press   to change the parameter value from 0 (inactive) to 1 (active).

*TigerCrossCut immediately starts running the auto-test, coursing back and forth between the close and far positions you programmed in hot keys 1 to 10.*

8 Press  to stop running auto-test.

## TigerCrossCut Extension Arm Operation

**Concept**  TigerCrossCut is able to double its range, using two flipstops, one for the main extrusion, the other for an extension. Two new Operation parameters have been introduced to control this function:

- **X2-Off** parameter informs the controller of the offset position of the second flipstop. Double password protected.  
*The value of this parameter is the distance in inches between the standard fence and the extended fence. The default is 40".*
- **X2-Alert** parameter is a flag variable that enables or disables the alert message that is displayed when switching between the standard and extended fences. Double password protected.  
*Default value is set to 1, for enabled. To disable the alert message, change the value to 0.*  
*X2-Off and X2-Alert parameters are visible only with Debug turned ON in the service menu.*

### TigerCrossCut Min-Max Value

- The value of the Min-Max parameter must be greater than 60" (152cm) in order to get full use of TigerCrossCut's extension arm.
- The range must be greater than the value of the X2 Offset parameter.

# TigerStop Warranty

## TigerStop, TigerRip Fence, & TigerStop Accessories

TigerStop products are sold with a 12 month or 2,000 hours of service warranty against defects in material or workmanship when operated in normal environments and under normal circumstances for their intended purpose. Electronics carry a 6 month limited warranty. Consumable items such as belts and paint on wear surfaces are not covered under this warranty.

## TigerStop Replacement Parts

Spare parts are sold with a 30 day warranty against defects in material or workmanship when operated in normal environments and under normal circumstances for their intended purpose.

- Same day shipment of most parts will be made for orders received before 2:00 P.M. PST Monday through Friday.
- All **non-warranty** parts are shipped via UPS Ground, unless the customer requests higher service level, and UPS charges will be added to the invoice.
- Within 30 days of purchase, warranty parts are shipped at no charge via UPS Red.
- Warranty parts beyond 30 days of purchase are shipped via UPS Ground at no charge to the customer. If a higher UPS service level is required, the customer will be invoiced for the higher service level less the cost of ground.

## Service

Our service technicians are **on duty during regular business hours (360) 254-0661 x238 Mon-Fri 7am~4pm PST (West Coast), [service@tigerstop.com](mailto:service@tigerstop.com) at our assembly plant in Vancouver, WA, U.S.A.** All incoming service calls and/or email are acknowledged, and most challenges are resolved, within the same business day.

We provide an operation manual with every machine which explains in detail the installation and programming of the TigerStop. All TigerStops and TigerRip Fences are assigned a serial number and all activities concerning every unit are documented for future reference.

### **Important Notices**

TigerStop, TigerFence and TigerCrossCut are machine components intended for use in conjunction with other potentially dangerous machinery. The use of these components does not make that machinery safe. TigerStop LLC's products are not intended to substitute, in any manner, for safety requirements in general, or in conjunction with other machinery. These components must be incorporated into machinery by persons qualified to design safety features to make the machine as safe as possible and to ensure that it meets federal, state and local law with respect to safety and all other regulatory requirements. In addition, TigerStop, TigerFence and TigerCrossCut are machine components that should only be operated by qualified persons trained in safe operating procedures. Illustrations of TigerStop, TigerFence and TigerCrossCut components in use do not show and are not intended to show safety features necessary to make the machinery safe to operate.

### **Limit of Liability**

All rights reserved. The information contained in the TigerStop Manual has been validated and reviewed for accuracy. No patent liability is assumed with respect to the use of the information contained herein. While every precaution has been taken in the preparation of this manual, the manufacturer assumes no responsibility for errors or omissions.

### **Copyright**

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the manufacturer.

### **Trademark**

TigerStop® is a registered trademark of TigerStop LLC.

These specifications are subject to change without notice.

