

SAWGEAR®

automatic length measuring by **TigerStop®**

MANUAL



Safety First!

IMPORTANT SAFETY INFORMATION. READ ALL WARNINGS BEFORE OPERATING THIS PRODUCT.



GENERAL WARNINGS

WARNING: Installation of your TigerStop Product must be done by a person trained in the safe design and installation of automation products, and in the safe operation of power equipment. Ensure that such installation meets all legally required safety requirements and guidelines, and that proper guarding and safety devices are provided on all sides of the equipment to preclude unintended access during operation. Consult with and follow the recommendations of a qualified safety engineer.

WARNING: TigerStop Products are components intended for use in conjunction with potentially dangerous machinery. The use of TigerStop Products does not make other machinery safe. TigerStop Products are not intended to substitute, in any manner, for safe operating practices in general, or for safety features present in other machines designed to make those machines as safe as possible. **TIGERSTOP PRODUCTS, IF USED OR INSTALLED IMPROPERLY, MAY CAUSE PERSONAL INJURY OR DEATH AND SHOULD ONLY BE OPERATED BY PERSONS TRAINED IN THEIR SAFE OPERATING PROCEDURES.** Illustrations of TigerStop Products in use do not show, and are not intended to show, all safety features and practices necessary for their safe operation.



INSTALLATION WARNINGS

WARNING: TigerStop Products must be installed in accordance with all local, state, and federal regulations. Only personnel properly trained in the safe design and installation of automation machinery and related power equipment should install TigerStop Products onto other equipment, to ensure a safe and proper work station. TigerStop Products should not be operated without proper training, both in the operation of TigerStop Products, and in the operation of related equipment.

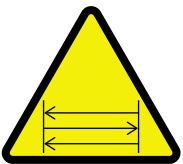
IMPORTANT CAUTION:

The motor box (compartment) contains DC voltage with potentially FATAL amperage. **NEVER** attempt any unauthorized actions inside the motor box.



INTERCONNECTS

WARNING: Using a TigerStop interconnect does not relieve you of the responsibility for making sure that your saw or other tool has all the necessary safety equipment in place. All installations must meet all legally required safety requirements and guidelines. Installation and training should be done following the recommendations of a qualified safety engineer.



OPERATION

DANGER: This machine can start, move and stop automatically. Keep hands and loose clothing clear of moving parts while operating. Moving parts can crush and cut. When used with a saw or other cutting equipment, bodily injury and death may result if operated without safety guards on all machines. Do not operate with guards removed. Operators must wear adequate eye and ear protection.



DANGER! Don't get pinched by the push feeder. Keep your hands away when in motion!

IMPORTANT SAFETY INFORMATION. READ ALL WARNINGS BEFORE OPERATING THIS PRODUCT.



Keep the work area clean and well lighted to avoid accidental injury.



Do not use TigerStop machines in a dangerous environment. Using power tools in damp or wet locations or in rain can cause shock or electrocution.



Do not operate near flammable liquids or in gaseous or explosive atmospheres!



Wear proper apparel, no loose clothes, long hair or jewelry which could get pulled into moving machinery or materials.
Wear non slip footwear, safety glasses, ear protection and a dust mask.



Use only 3- wire extension cords that have 3-prong grounding type plugs and 3-pole receptacles that accept the tools plug for 120VAC. Use only 5-wire cords and plugs when using 3 phase.



Do not open motor compartment or controller keypad. DC Voltage with potentially FATAL amperage!
Disconnect power before servicing. No user-serviceable parts inside.

DO NOT operate this or any machine under the influence of drugs or alcohol!



No one should operate this machine except for fully qualified personnel.
Read the manual!

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SawGear Tables

SawGear can be easily mounted to your saw stand using SawGear Tables.
Order# SGTAB04 (4ft table), SGTAB08 (8ft table), SGTAB12 (12ft table), or SGTAB16 (16ft table).

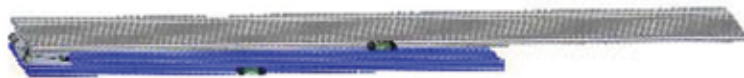
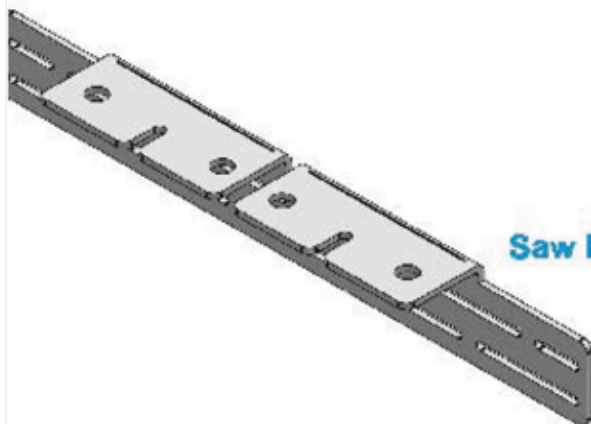


Table
SGTAB04 (6ft overall)
SGTAB08 (10ft overall)
SGTAB12 (14ft overall)
SGTAB16 (18ft overall)



Table Stand



Saw Bracket x2

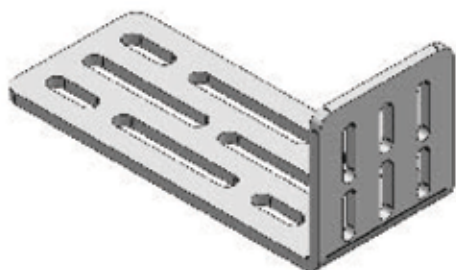


Table Bracket x2



Knob x1



Carriage Bolt x4



Washer x4



Spacer x2



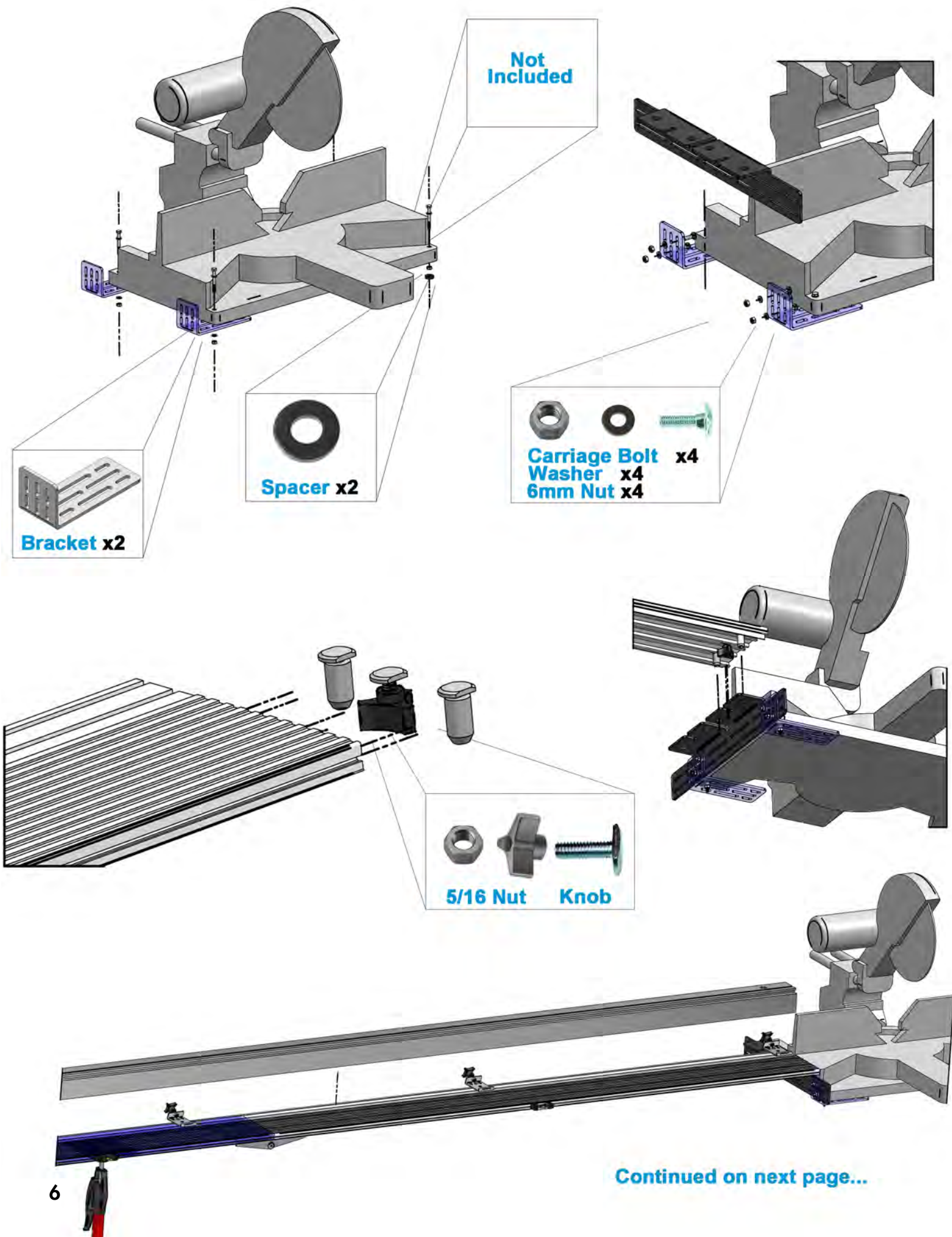
(6mm)

6mm Nut x4



(5/16 in)

5/16 Nut x1



Trimming SawGear Tables

Some miter saws have a range of motion that would cause the saw to cut into the SawGear table. It is ok to trim the corner of the SawGear table to accommodate saws with a wider range of motion.

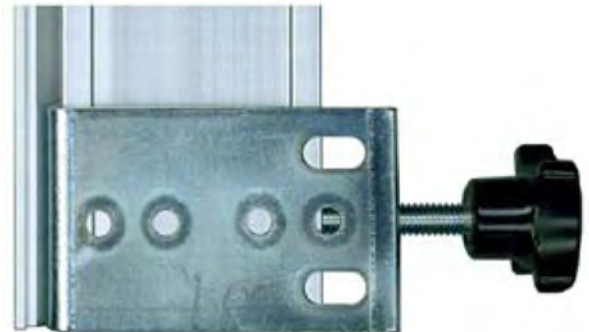
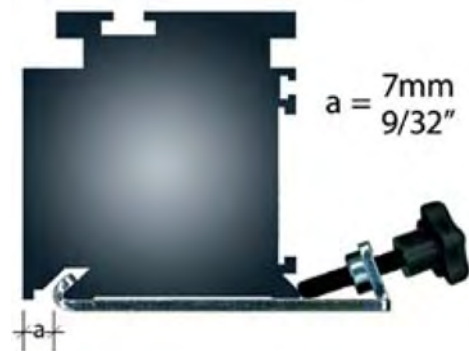


SawGear Bench Mount Brackets

SawGear comes with two (2) bench mount brackets. To order additional, use order# BR-BM.

Secure SawGear in the brackets

1. Make sure both bracket mounts are approximately in line. Fasten them down with the supplied hardware.
2. Lay SawGear across both bracket mounts in the desired position relative to the saw.
3. When SawGear is facing front, there is an angled channel running along the full length of the beam at the bottom. Pivot SawGear, so the curled front edge of both SawGear bench mount brackets fits into this channel.
4. Let SawGear lie flat against the surface of both brackets, so the beveled back lip of the SawGear beam can be secured by the locking knobs.
5. Turn the locking knobs to capture SawGear in both bench mount brackets.

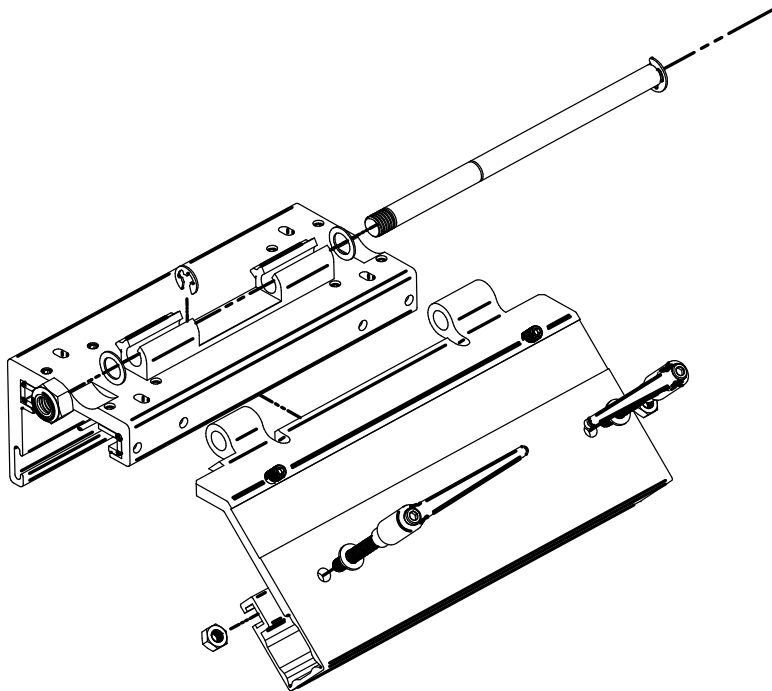


Dismounting SawGear from the saw stand

SawGear is easily dismounted from the saw stand by loosening the locking knobs and pivoting it off the brackets.

Always be sure to firmly tighten the locking knobs and all fasteners before using SawGear.

Connecting the Flipaway Stop



Tighten until the flipaway stop can hold it's position when flipped up.

Register Your Warranty


When your new SawGear arrives, you will find a warranty registration sheet in the accessory box.

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

TigerStop Customer Service will contact you by phone to give you the enable code, within the hour during regular business hours, (360) 448-6102 Mon-Fri 6am~4pm PST (West Coast), or the next business day if faxed after 4:00 P.M.

Enable Your SawGear

To use your SawGear, you have to enable it! Your SawGear warranty begins on the day that your SawGear is enabled!

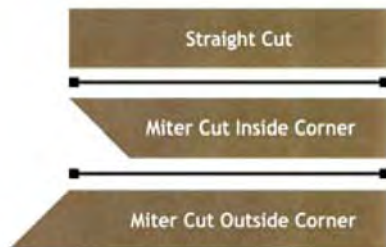
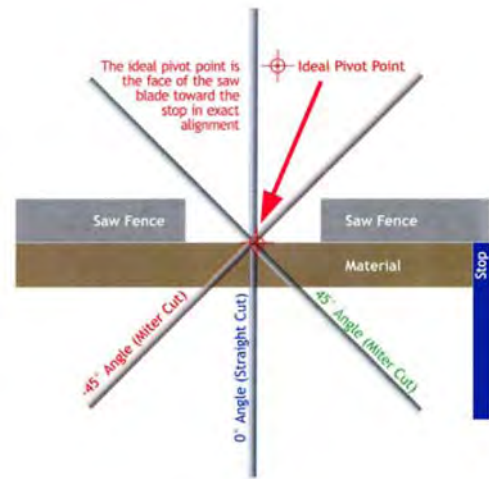
1. Power SawGear ON using the  button on the keypad.
2. The screen displays "SN=# Enter enable code, call TigerStop".
3. When you receive the enable code from TigerStop, enter the number, and press [Start] to load it.

| TigerStop Warranty Registration | |
|--|---------------------------------------|
| Please fill in your company information and fax this to TigerStop at (360) 260-0755. | |
| Your machine warranty begins on the date that you receive your enable code. | |
| Serial Number: | |
| Company Information | |
| Name of Company | Email Address |
| What is the street address of the TigerStop? | |
| We will send you an email with your enable code. Please provide your email address so we can send you important updates. Please let us know who can accept email at. <input type="checkbox"/> Please call me with an enable code also. | |
| Contact Name | |
| Tel | |
| Fax | |
| Please select your industry | |
| Furniture Manufacturing | Wood Industry |
| Kitchen & Bath Cabinetry | Mouldings & Millwork |
| Commercial Fixtures | Wood Doors & Windows |
| Doors & Windows | Lumber & Panel Products |
| Sheet Metal Fabrication | Metal Industry |
| Doors & Windows | Other |
| | Plastic Industry |
| | Other |
| What problem(s) did you purchase the TigerStop to solve? | |
| Eliminate Setup | Improve Accuracy |
| Increase Productivity | Improve Material Costs / Optimization |
| Reduce Labor Costs | Eliminate Rework |
| Reduce Waste | Increase Repeatability |
| Where did you first hear about TigerStop? | |
| Word of mouth | Used in a different job |
| Metals Trade Show | Dealer recommendation |
| Wood Trade Show | Mobile Showroom |
| Internet Search | E-mail |
| Existing user | |
| This TigerStop is being used with (check one) | |
| Saw: Chip Saw | Boring Machine |
| Saw: Double Miller | Drill Press |
| Saw: Miter | Monteur |
| Saw: Radial Arm | Iron Workers |
| Saw: Straightline Rip | Punch Press |
| Saw: Table | Shaper |
| Saw: Up Cut | Tube Bending |
| Saw: | Tube Cutter |
| Custom Machinery | Other |

Miter Saw Accuracy

SawGear is an accurate measuring tool, but when cutting angles using a miter saw, the saw must be accurate too.

- Miter saws rotate around a center called the 'pivot point.'
- The pivot point must be in exact alignment with the saw's back fence.
- Some miter saws have an adjustable back fence; others do not.
- If the pivot point is not in correct alignment and the fence cannot be adjusted, accuracy can be maintained by adjusting the length entered into SawGear by the amount of offset observed.



When the pivot point is in exact alignment, all your cut lengths, straight, inside and outside miters, will be exactly equal.

Don't settle for less than perfect! Dial in your saw!

Check Your Pivot Point

This example assumes that SawGear is on the right of the saw, and that the observed pivot point is on the right side of the saw blade.

You can check for accuracy by comparing the straight cut and the left and right miter cuts:

1. End trim a sample board so it has a clean, square right end.
2. Using a tape measure mark 8" from the right end with a pencil and square.
3. Line up the pencil mark with the right side of the saw kerf, and clamp the sample board flat up against the back fence, keeping the clamp away from the path of the saw blade.
4. With the saw set at 0° make a partial cut into the sample board. This is the straight cut.
5. With the saw set at -45° make another partial cut into the sample. This is the outside corner miter cut.
6. With the saw set at 45° make another partial cut into the sample. This is the inside corner miter cut.

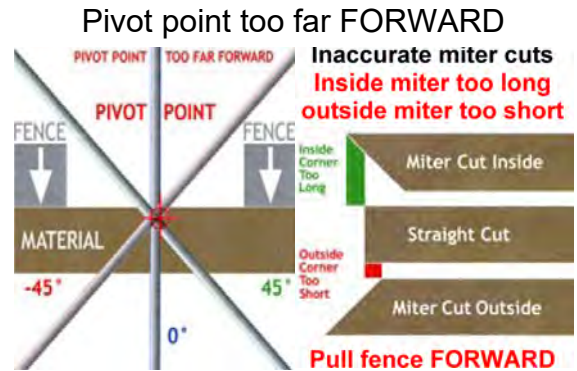
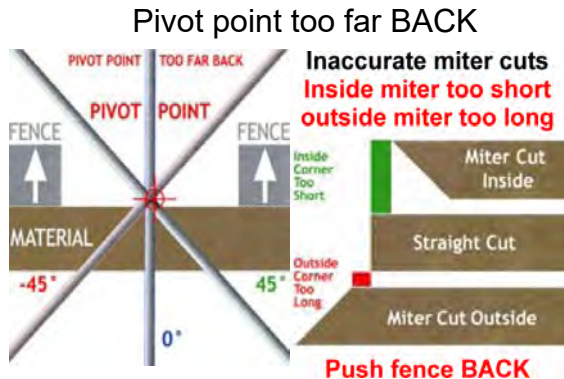


- Unclamp the board and measure carefully from the right end of the board to each of the cuts. If the pivot point has been correctly adjusted, all three cuts should be the same. If they are not, readjust the back fence, and repeat the test process.

Adjusting the Miter Saw Pivot Point

If your miter saw is cutting inaccurately when cutting miters, its pivot point is either too far back or too far forward.

The examples below show in which direction to adjust the fence to improve pivot point alignment.



Using SawGear to Adjust Pivot Point

If the back fence of the saw cannot be moved, you can adjust the pivot point offset using SawGears pivot point adjustment system.

- Press the [D] key then press the [W] key.

Ensure SawGear calibration is correct

- If SawGear calibration is necessary, press [Stop] and calibrate as usual.

- If calibration is correct, press [Start].

Place square end of stock against stop

- Place the square end of your stock against the SawGear and press [Start] key.

Cut 45° left, enter back length

- Swing your miter saw left to 45 degrees. Cut the piece and then measure the piece from the back edge. Enter this dimension and press [Start] Key.

Place square end of stock against stop

6. Take a new piece of stock and place the square end against the SawGear. Press [Start] key.

Cut 45de right, enter
back length

7. Swing your miter saw right to 45 degrees. Cut the piece and then measure the piece from the back edge. Enter this dimension and press [Start] key.

SawGear will return to the main screen.

Pivot Point is now set.

SawGear Control



[Soft Start] switches off power to save energy.



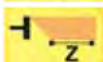
[W] Molding Width Entry for cutting 45° miters.



[X] Left Stile Inside Length Entry for miters.



[Y] Header Inside Length Entry for miters.



[Z] Right Stile Inside Length Entry for miters.



[Ft] Feet Entry denotes numbers as Feet.



[In] Inches Entry denotes numbers as Inches.



[/] Slash is used to enter fractional numbers.



[<±>] Increment adds or subtracts from current position by a given amount.



[List] List stores dimensions for later use.



[-D-] Calibrate sets the distance from the saw blade. Also used to set or kill sleep mode.



[STOP] Stop halts movement immediately.



[Start] Start accepts an entered dimension, and causes movement.



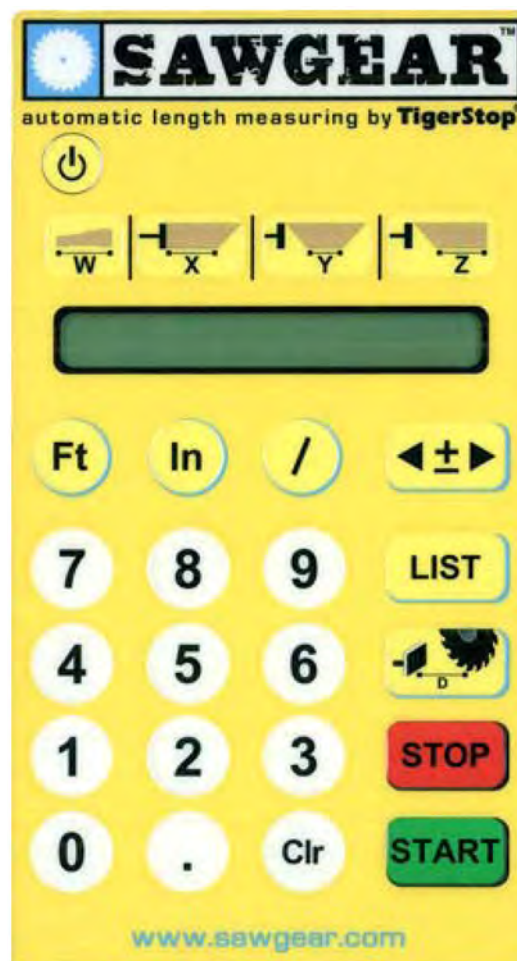
[Clr] Clear backs up and erases one digit at a time to correct a data entry error. Also used to clear a cut length.

[.] Decimal is used to enter decimal numbers in both metric and inches.

[.] [.] [.] inserts a minus sign before a dimension, allowing entry of negative numbers



[n] Number keys are used to enter dimensions.



SawGear LCD Display

Display Size:

- 16 characters wide x 1 character high

1234567890123456

Ready Screen:

- Defined as when the stop is at position and the last 2 digits are blinking (heartbeat).

Display at Position in Foot Mode:

- Fractions divided from whole inches by an underscore.
- Feet divided from inches by "Ft" and a space.
- "in" for inches ALWAYS at end.
- "in" and "IN" blink back and forth.


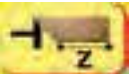
84_7/8iN
7ft 3_1/2iN
111.875iN

Display at Position in Metric Mode:

- "mm" for millimeters ALWAYS at end.
- "mm" and "MM" blink back and forth.

611.5mm

Switch between Inches and Metric

- Press  then press 

1st Power Up

The following routine is followed only the first time SawGear is used, or whenever the interface language, measuring system, saw side or working length must be changed.

The messages shown below SCROLL across the screen if longer than the LCD's 16 character width.

1. Plug into AC power. Press [Soft Start].

Language is English=1,
Español=2, Français=3

2. Select language when prompted.

SawGear can display text in English, Spanish, French, Dutch, German and Italian.

Units are Metric=X,
Inch=Y

3. Press [4] or [6] to select measurement system.
4. Press [7] if the saw is to the left of SawGear, or [9] if the saw is to the right.
5. Press [Start] to move.

Saw is Left=7, Right=9

Press Start to move

SawGear moves to the end away from the saw until it reaches maximum position. Then it moves to the end closest to the saw until it reaches minimum position.

SawGear quickly displays the working length, +/- 0.5 inch. (96.253 is only an example.)

Working Length
96.253in

If the working length that displays is NOT the working length of the machine you are using the power head on, it MUST be changed. Enter the correct working length found on the back side of the Measuring Bar.

6. Press [Start] to confirm the SawGear working length.

SawGear backs out and stops at 6". CUT a sample at this length and MEASURE it.

7. Enter the length of the sample and press [Start].

SawGear is now ready to use!

Enter length of cut
piece and Press Start

Repeat a 1st Power Up

If you need to change the interface language, the measurement system, or the saw location, or if you are moving the SawGear power head to a different measuring bar, you must perform a 1st power up.



Unplug the machine and plug it in again while HOLDING DOWN the [STOP] key.



While still HOLDING DOWN the [STOP] key, press the soft start key until the active screen displays, and continue at 1st Power Up, step 2.

Normal Power Up

The following routine is followed whenever SawGear is used, AFTER the first time.

The messages shown below SCROLL across the screen if longer than the LCD's 16 character width.

1. Plug into AC power.
2. Press [Start].

Please wait...
Press Start to move


SawGear homes itself and then scrolls:

Ready to work. Enter a
dimension and Press
Start.

3. Enter length and press [Start].

SawGear instantly moves to the length you entered. Make your cut(s) and repeat the process.

Start SawGear


If SawGear is plugged into power but does not display the active screen, start it up using the soft start key: 

SawGear will automatically power off the display when not in use, unless sleep mode is turned off.

- When powered ON, SawGear emits a low hum, which indicates that SawGear is ON and ready to use.
- When powered OFF using the soft start key, the hum stops, indicating that SawGear is OFF.
- To power it ON again, push the soft start, and listen for the hum. The display will also come on.
- If you have turned on Password Protection, then the password MUST be entered whenever SawGear has to be powered on.

Set Sleep Mode

SawGear will automatically power OFF after ten minutes of inactivity. This puts it in 'sleep mode.'

Start it up again using the soft start key: 

Sleep mode can be turned off, or the length of time before going into sleep mode can be changed.

1. Press  and then .

2. Press [0] to turn sleep mode OFF, and [Start] to save the setting.

Enter time until sleep mode, 0 to disable, and Press START

Your SawGear will never automatically power OFF.




3. OR, enter a number to set how many minutes SawGear can be inactive before it powers OFF in sleep mode, and then press [Start] to save the setting.

The smallest number you can enter is 0.25 minutes. Your entry can include a decimal fraction.

Set Contrast

V2.08 or higher

The SawGear power head screen contrast can be adjusted to lighten or darken the screen.

Press  and then  .

Enter Contrast

Enter the desired contrast and press [Start].

100 is maximum contrast and 1 is minimum contrast.

Password Protection

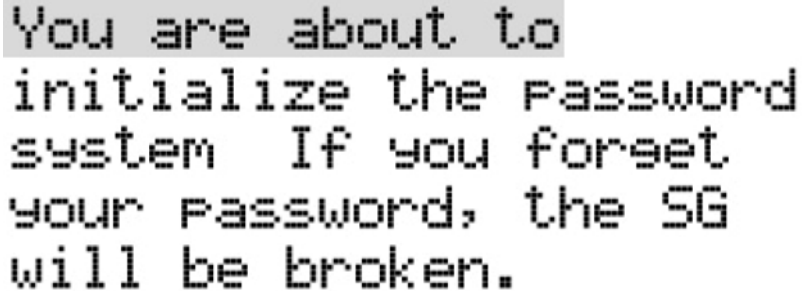
SawGear can be secured by a password to prevent its use by unauthorized persons.

The following steps show how to activate password protection.

Once a password has been set, SawGear cannot be operated without it, so DON'T LOSE IT!

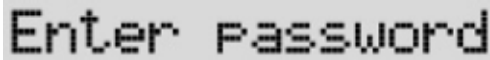
The messages shown below SCROLL across the screen if longer than the LCD's 16 character width.

1. Unplug SawGear from AC power.
2. While holding down the [/] key, plug SawGear into AC power.
3. Press [Start].

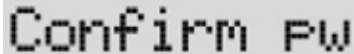


You are about to
initialize the Password
system. If you forget
your Password, the SG
will be broken.

4. Enter a password consisting of 4 to 8 digits, and press [Start].
5. Re-enter password and press [Start].



Enter Password

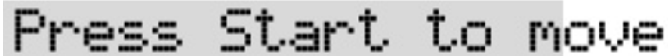


Confirm PW

6. Press [Start].

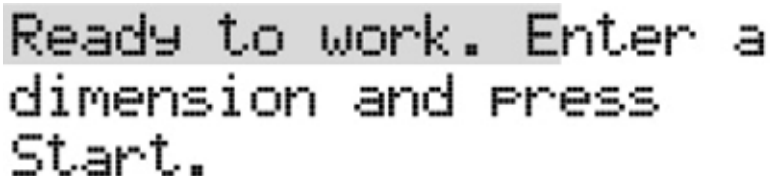


Please wait...



Press Start to move

SawGear homes itself and then scrolls:



Ready to work. Enter a
dimension and Press
Start.

SawGear is now ready to use!

The password MUST be entered whenever SawGear is powered up

Change the Password

When password protection has been set, the password can be changed.

The following steps show how to change the password.

Once a password has been set, SawGear cannot be operated without it, so DON'T LOSE IT!

The messages shown below SCROLL across the screen if longer than the LCD's 16 character width.

1. Unplug SawGear from AC power.



Enter old PW

2. While holding down the [/] key, plug SawGear into AC power.
3. Enter the old password and press [Start].

4. Enter a new password consisting of 4 to 8 digits, and press [Start].

Enter Password

5. Re-enter password and press [Start].

Confirm PW

6. Press [Start].

Please wait...

Press Start to move

SawGear homes itself and then scrolls:

Ready to work. Enter a dimension and press Start.

SawGear is now ready to use!

Deactivate the Password

When password protection has been set, it can also be turned off.

The following steps show how to deactivate password protection.

The messages shown below SCROLL across the screen if longer than the LCD's 16 character width.

1. Unplug SawGear from AC power.
2. While holding down the [/] key, plug SawGear into AC power.
3. Enter the old password and press [Start].

Enter old PW

4. Press [Start] [Start].

Enter Password

5. Press [Start] [Start] again.

Confirm PW

This clears the password.

6. Press [Start].

Please wait...

Press Start to move

SawGear homes itself and then scrolls:


Ready to work. Enter a dimension and press Start.

SawGear is now ready to use!

SawGear is no longer password protected and will not ask for a password when it is powered up

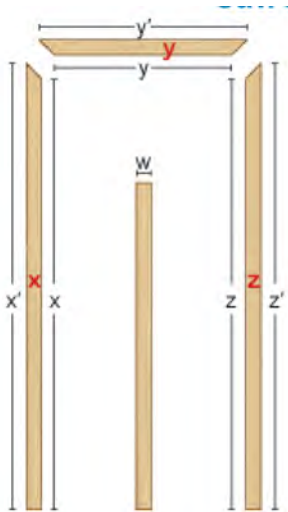
Setting the Distance Between the Stop and the Blade

This is how to set the distance between the stop and the saw blade using the

Calibrate key: 

SawGear is in Foot mode for these examples.

The Calibrate key will let you set five distances:



1. Between stop and saw blade (straight cut distance)

2. Between stop and saw blade at 45° angle miter (X distance)

3. Between stop and saw blade at 45° angle miter (Y distance)

4. Between stop and saw blade at 45° angle miter (Z distance)

5. Between stop and saw blade (stored increment)

Calibrate Straight Cut Distance

1. Cut a sample board at least 12 inches long.

2. Measure the cut board, and press [-D-].

The LCD screen scrolls:

Enter length of cut
piece and press Start

3. Enter the actual length of the sample piece and press [Start] to return to the ready screen.



Calibrate Miter Cut X Distance

- The calibration of the X, Y and Z values uses a calculated value based on the value of W (moulding width).
- SawGear will use whatever was the last known value of W to calibrate X, Y and Z values.
- See also Setting the Value of W.

1. Cut a sample 'X' moulding at least 12 inches long.
2. Measure the X distance of the cut board, and press [-D-] [X].
3. Enter the actual X length of the sample piece and press [Start] to return to the ready screen.

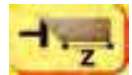
X=



Calibrate Miter Cut Y Distance

1. Cut a sample 'Y' moulding at least 12 inches long.
2. Measure the Y distance of the cut board, and press [-D-] [Y].
3. Enter the actual Y length of the sample piece and press [Start] to return to the ready screen.

Y=



Calibrate Miter Cut Z Distance

1. Cut a sample 'Z' moulding at least 12 inches long.
2. Measure the Z distance of the cut board, and press [-D-] [Z].
3. Enter the actual Z length of the sample piece and press [Start] to return to the ready screen.

Z=

Calibrate Increment Distance

1. Press [-D-] [<±>].

Incr=

2. Enter the length of the desired increment and press [Start] to return to the ready screen.

Straight Cutting

SawGear has been set up on a chop saw or miter saw and has been homed and is now ready to run.

SawGear can be used in Foot Mode or in Metric Mode.

Basic Operation

Consists of two simple steps:

1. *Enter a dimension and hit [Start].*
2. *When SawGear moves to position, make your cut(s).*

45° Miter Cutting

All miters will be 45° cuts. See also Custom Miter Cutting.

SawGear can be used in Foot Mode or in Metric Mode.



These buttons, located along the top of the SawGear control, are used to set up your machine for miter cuts.

The most important thing to do in setting up SawGear to miter cut molding and other stock is to correctly enter the width of the material to be cut. The movements that SawGear makes are calculated from the width entered using the [W] key.

1. Press [W], enter the width of the molding being cut, and press [Start].

W=

2. Make a square trim cut with the exterior edge to fence.

3. Press [X] to set the length of the left stile, enter the interior dimension of the casing, and press [Start].

X=

SawGear moves to a length based on the width of the stock and the 45° angle of the first miter.

4. Swing the saw to the left, set it at -45°, make a trim cut from the front to the back fence, and remove the left stile.
5. Swing the saw to the right, set it at 45°, and trim off the residual miter from the previous cut.
6. Press [Y] to set the length of the header, enter the interior dimension of the casing, and press [Start].

Y=

SawGear moves to a length accounting for the 45° angle of the two miter cut ends.

7. Move your piece to the stop, swing the saw to the left, set it at -45°, make the cut, and remove the piece.
8. Swing the saw to the right, set it at 45°, and trim off the residual miter from the previous cut.
9. Press [Z] to set the length of the right stile, enter the interior dimension of the casing, and press [Start].

Z=

SawGear moves to a length based on the width of the stock and the 45° angle of the last miter.

10. Move your piece to the stop, return the saw to 0°, make the final square cut, and remove the right stile.

SawGear returns to the ready screen and is waiting for your next move.

Custom Miter Cutting

Miters to be cut will be at various angles.

SawGear can be used in Foot Mode or in Metric Mode.



These buttons, located along the top of the SawGear control, are used to set up your machine for miter cuts.

SawGear can be used to cut custom angled miters for crown or other trim moldings. The [W] key is used to input the angle of any miter that is not 45°. The following steps show how.

1. Press [W], enter the width of the molding being cut, and press [W] again.

W=

- Enter the angle of the miter being cut, and press [Start].

A=

If an angle greater than 89.000 is entered, SawGear will not accept it and continue to await your correct input. You can exit the input screen by pressing [Start]. The default miter angle of 45°, or whatever custom angle was most recently input, will be saved.

2. Make a square trim cut with the exterior edge to fence.
3. Press [X] to set the length of the left stile, enter the interior dimension of the casing, and press [Start].

X=

SawGear moves to a length based on the width of the stock and the 45° angle of the first miter.

4. Swing the saw to the left, set it at -45°, make a trim cut from the front to the back fence, and remove the left stile.
5. Swing the saw to the right, set it at 45°, and trim off the residual miter from the previous cut.
6. Press [Y] to set the length of the header, enter the interior dimension of the casing, and press [Start].

Y=

SawGear moves to a length accounting for the 45° angle of the two miter cut ends.

7. Move your piece to the stop, swing the saw to the left, set it at -45°, make the cut, and remove the piece.
8. Swing the saw to the right, set it at 45°, and trim off the residual miter from the previous cut.
9. Press [Z] to set the length of the right stile, enter the interior dimension of the casing, and press [Start].

Z=

SawGear moves to a length based on the width of the stock and the 45° angle of the last miter.

Move your piece to the stop, return the saw to 0°, make the final square cut, and remove the right stile.

SawGear returns to the ready screen and is waiting for your next move.

Using Crown & Miter Pro

The Crown & Miter Pro feature is designed to help cut crown moulding and base moulding without having to calculate saw angles or worry about length mistakes. SawGear will tell the user which direction to move the saw and at what angle the saw should be set.

Getting Started

Turning the Crown & Miter Pro feature ON

1. To activate the Crown & Miter Pro feature, Simply press the [W] key twice.
2. Type [0] then the [Start] key.

A= 45.000de
A= 0.000de



These buttons, located along the top of the SawGear control, are used to set angles once the Crown & Miter Pro feature is turned ON.

Measuring Angles and Lengths

Crown & Miter Pro works best if, going counter clockwise around the room, you make a list of angles and cut lengths. See Table 1.

Note - If doing base moulding, you will want to work clockwise around the room.

Table 1:

| First Angle | Piece Length | Final Angle |
|--------------|--------------|--------------|
| 45° Outside | 5 in | 90° Outside |
| 90° Outside | 21 3/16 in | 81.5° Inside |
| 81.5° Inside | 7 3/8 in | 90° Inside |

How to use Crown & Miter Pro

Once we have a list compiled, we can start using the system.

[W] Key

The [W] key is used to set the width of the molding.

[X] Key

In Crown & Miter Pro mode, the [X] key acts as the first angle of your part. Press the [X] key, and the following screen will display;

A=XX.XXI, S=YY.Y<
A is the angle. S is the saw angle you will need to set.

Enter the first angle of the piece you want to cut, then use the [incrm] key to select if this is an inside or outside corner. As you type the angle the angle the saw will need to be set to will display. You will also see < for Left or > for Right. This will tell you which direction to set the saw angle.

[Y] Key

The [Y] key sets the part length. Press the [Y] key and the following screen will display;

B XX.XXXIN

Enter the length of the piece you want to cut. Use the [Increm] key to tell SawGear if you are measuring from the back (B) or the front (F) of the part (back is the recommended setting). When finished, press the [Z] key to set the final angle

[Z] Key

The [Z] key sets the final angle of the part. Press the [Z] key and the following screen will display;

A=XX.XXI, S=YY.Y<

A is the angle. S is the saw angle you will need to set.

Enter the final angle of the piece you want to cut, then use the [increm] key to select if this is an inside or outside corner. As you type the angle the angle the saw will need to be set to will display. You will also see < for Left or > for Right. This will tell you which direction to set the saw angle. Once the saw is set, press [Start] and SawGear will move to the proper length for the cut.

Example of work flow

1. Press [X]. Enter the first angle and use the [increm] key to select inside or outside corner.
From table 1 above we can see its 45° and its an outside corner.

A=45 0,S=67.5>

Once the angle is entered, SawGear will display the angle and the direction the saw needs to be set to. Set the saw and cut your first angle.

2. Press [Y]. Enter the length of the piece.

B 5in

From table 1 above, we would enter [5] [in]

3. Press [Z]. Enter the final angle and use the [increm] key to select inside or outside corner.
From table 1 above we can see that its 90° and an outside corner.

A=90 0,S=45.0<

Once the angle is entered, SawGear will display the angle and the direction the saw needs to be set to. Set the saw and press [Start]. SawGear will move to the proper length.

4. Cut the part.

Increment

Small incremental moves (nudges) can be made by pressing the increment key:



Every time the [$\leftarrow\pm\rightarrow$] key is pressed, the stop moves one increment in the direction indicated.

The increment key is actually two keys in one.



Press the Left Arrow side of the key to nudge the stop to the left.



Press the Right Arrow side of the key to nudge the stop to the right.

The value of Increment is set as the last step in setting the distance between the stop and the blade.

Saving Dimensions with List

•SawGear lets you save dimensions you are working with by storing up to 9 lengths in each of 10 cut lists.

The messages shown below SCROLL across the screen if longer than the LCD's 16 character width.

SawGear is in Foot mode for these examples.

1. Press [List].

```
Select the list # to  
use
```

2. Enter [5].

```
List#5
```

Or any number from 0 to 9.

The screen displays "List#" followed by the number you entered. If this is NOT the list number you want, exit by pressing [STOP]. If the list number you entered is correct...

3. Press [Start].

```
1#Empty Cut
```

The first cut displays with "Empty Cut" to tell you this list is empty. Enter your first dimension.

SawGear will move to each new dimension as it is entered, so be sure nothing is in the way.

4. Enter [4] [8] and press [Start].

```
1#48
```


The dimension displays exactly as you entered it. In Foot mode, inches is assumed.

When you press [Start], SawGear moves immediately to the length entered and displays its current position.

1# 48.000in

5. Press [Start] to advance to the next line in the cut list.

2#Empty Cut

6. Enter [2] [3] [In] [7] [8] and press [Start].

2#23in7/8

When entering inches and a fraction, use the [In] key to separate the fraction. When you press [Start], SawGear moves immediately to the length entered and displays its current position.

At any point you can exit the list by pressing [STOP] and the dimensions will be saved.

7. Press [Start] to advance to the next line in the cut list.

3#Empty Cut

Enter as many as 9 different dimensions into a list.

8. Press [STOP] to exit a list.

Entering Feet, Inches and Fractions

The following examples show how to enter dimensions into SawGear and how it interprets the data.

SawGear is in Foot mode for these examples.

1. Enter [6].
2. Press [Start].

SawGear moves to position at 6 inches.

6

6in

*RULE: When neither [Ft] nor [In] are pressed, SawGear assumes Inches when in Foot mode.
DISPLAY: In Foot mode, if there are inches, when at position the last two digits are ALWAYS "in".*

3. Enter [5] [/] [8].
4. Press [Start].

SawGear moves to position at 5/8 inch.

5/8

5/8in

RULE: When [/] is used in a dimension, SawGear assumes Inches when in Foot mode.

5. Enter [6] [In] [5] [/] [8].

6. Press [Start].

SawGear moves to position at 6-5/8 inches.

6in5/8

6_5/8in

DISPLAY: Inches are separated from fractions by an underscore when at position.

7. Enter [8] [Ft] [6] [In] [5] [/] [8].

8. Press [Start].

SawGear moves to position at 8 feet 6-5/8 inches.

8ft 6in5/8

8ft 6_5/8in

DISPLAY: Feet is ALWAYS followed by "Ft" and is separated from Inches by a space when at position.

9. Enter [8] [Ft] [6].

10. Press [Start].

SawGear moves to position at 8 feet 6 inches.

8ft 6

8ft 6in

RULE: Any number entered after [Ft] is interpreted as Inches.

11. Enter [6] [Ft].

12. Press [Start].

SawGear moves to position at 6 feet.

6ft

6ft 0in

RULE: Any number in whole feet with neither inches nor fractions must be followed by [Ft], otherwise the number will be interpreted as Inches.

DISPLAY: If a dimension is entered in feet and no inches, "0in" will ALWAYS display at the end of the number when at position.

Largest Number Display

The LCD display has 16 characters available, which limits the maximum number.

SawGear is in Foot mode for this example.

The number of feet is related to SawGear working length.

99ft 11_63/64in

Entering Feet and Decimal Inches

The following examples show how to enter dimensions into SawGear and how it interprets the data.

SawGear is in Foot mode for these examples.

1. Enter [0] [.] [8] [7] [5].

2. Press [Start].

SawGear moves to position at 0.875 inches.

0.875

0.875in

3. Enter [1] [1] [1] [.] [8] [7] [5].

4. Press [Start].

SawGear moves to position at 111.875 inches.

111.875

111.875in

RULE: When neither [Ft] nor [In] are pressed, SawGear assumes Inches when in Foot mode.

DISPLAY: If a dimension is entered ENTIRELY in inches and decimals, "in" will ALWAYS display at the end of the number when at position.

5. Enter [6] [Ft] [9] [.] [8] [7] [5].

6. Press [Start].

SawGear moves to position at 6 feet 9.875 inches.

6ft 9.875

6ft 9.875in

RULE: When entering feet and decimal inches, after pressing [Ft] any further entry is assumed to be inches, so there is no need to press [In] for inches.

DISPLAY: If a dimension is entered in feet and no inches, "0.0in" will ALWAYS display at the end of the number when at position.

7. Enter [6] [Ft].

8. Press [Start].

SawGear moves to position at 6 feet.

6ft

6ft 0in

RULE: Any number in whole feet with no inches must be followed by [Ft], otherwise the number will be interpreted as Inches.

DISPLAY: If a dimension is entered in feet and no inches, "0.0in" will ALWAYS display at the end of the number when at position.

Largest Number Display

The LCD display has 16 characters available, which limits the maximum number.

SawGear is in Foot mode for this example.

The number of feet is related to SawGear working length.

999ft 11.875in

Entering Non-Standard Fractions

It is possible to enter a non-standard fraction of an inch and have SawGear move to the exact position.

When at position, the display will show the closest standard fractional equivalent.

SawGear is in Foot mode for these examples.

1. Enter [1] [6] [In] [2] [/] [3].
2. Press [Start].

16in 2/3
16_21/32in

SawGear moves to position at 16-2/3 inches, but the display shows the position as 16-21/32.

It is not recommended to enter dimensions in non-standard fractional inches, but to enter decimal inches when working with lengths that must be more precise than 64ths of an inch.

Entering Millimeters

The following example shows how to enter dimensions into SawGear and how it interprets the data.

*SawGear is in Metric mode for this example.
When in Metric mode, the [Ft], [In], and [/] keys are disabled.*

1. Enter [1] [1] [1] [.] [8].
2. Press [Start].

SawGear moves to position at 111.8 millimeters.

111.8
111.8mm

RULE: When in Metric mode, SawGear assumes every dimension is in millimeters.

Largest Number Display

The LCD display has 16 characters available, which limits the maximum number.

*SawGear is in Metric mode for this example.
The number of millimeters is related to SawGear working length.*

9999.99mm

Entering Negative Numbers

The following example shows how to enter a negative dimension into SawGear.

Negative numbers can be entered when setting an increment.

SawGear is in Foot mode for this example.

1. Enter [.] [.] [.]

—

SawGear displays a minus sign whenever you press [.] three times. Then, enter the actual number.

2. Enter [3] [/] [4].

-3/4

3. Press [START].

SawGear moves to position at minus 3/4".

-3/4in

Correcting Entry Errors

The following example shows how to correct an entry error using the Clear key:



SawGear is in Foot mode for these examples.

1. Enter [6] [2] [In] [3] [/] [8].

62in3/8

You notice you entered 3/8 by mistake. It should have been 5/8.

2. Enter [Clr] [Clr] [Clr].

Your entry is erased starting with the last digit entered.

62in3/8

3. Enter [5] [/] [8].

Your new entry replaces the error.

62in5/8

4. Press [Start].

SawGear moves to position at 62-5/8 inches.

62_5/8in

“Too Big” Error

You cannot enter a dimension at the SawGear control longer than the maximum limit.

SawGear is in Foot mode for this example.

1. Enter [2] [4] [4] and press [Start].

SawGear assumes "inches" and displays an error message.

244

TOO BIG

Then, it quickly returns to the ready screen and displays the actual position, waiting for your valid input.

84_7/8in

2. Enter any dimension that is not MORE than SawGear's maximum limit, and press [Start] to move.

“Too Small” Error

You cannot enter a dimension at the SawGear control less than the minimum limit.

SawGear is in Foot mode for this example.

1. Enter [.] [.] [.] [3] [/] [4] and press [Start].

SawGear assumes "inches" and displays an error message.

-3/4

TOO SMALL

Then, it quickly returns to the ready screen and displays the actual position, waiting for your valid input.

84_7/8in

2. Enter any dimension that is not LESS than SawGear's minimum limit, and press [Start] to move.

Home Routine after Impact

- If material is thrust against SawGear with sufficient force, it can possibly bump the stop off position.
- Whether it does or not, a warning message appears to allow you to re-home the machine, or continue working.
- If you think the machine might have been knocked off position, choose to re-home it.
- If you are confident it did not move, choose to continue working.

The messages shown below SCROLL across the screen if longer than the LCD's 16 character width.

After significant impact, the screen displays:

OPTION 1: Re-home SawGear.

- Press [Start].

SawGear homes itself and then scrolls:

```
Calibration Possibly  
lost.  START to home,  
STOP to continue  
Ready to work. Enter a  
dimension and press  
Start.
```

OPTION 2: Keep working.

- Press [Stop].

The display shows the current position.

- Enter a length and press [Start].

Scaling Instructions

- Unplug.
- Plug back in.
- Press power, then hit calibrate three times.
- If the long cuts are too long, increase the working length by 0.03". Or vice versa.
- Start through the other options
(these include throttles and scale)
(throttles are 300 inches and 8000 inches)
(speed is 25 ips, scale defaults to 3.047 inches, but you must allow it to float as you change the working length)
- Now it moves to the back and says ready to work.
- Calibrate short.
- Cut long.
- Repeat if necessary.

SawGear Legs

SawGear legs are constructed with foldable hinges. To use, simply lift the table up and unfold the legs into a triangular formation for incredible stability in only a matter of minutes of set up time. Each leg snaps into place and is height adjustable using the small handle located at the center of the leg. SawGear table legs are simple to use and functional. The legs are constructed out of thick gauge steel for durability and longevity in any industrial or jobsite environment.

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