BALL SCREW MILLS

FUNCTION SETTINGS		18" MILL P/N 6858	18" MILL P/N 6858	14" MILL P/N 6820	14" MILL P/N 6820	12" MILL P/N 6854	12" MILL P/N 6854	10" MILL P/N 5000	10" MILL P/N 5100
		18" Base, 18" Table, & 15" Column	18" Base, 18" Table, & 15" Column	14" Base, 13" Table, & 11" Column	14" Base, 13" Table, & 11" Column	12" Base, 13" Table, & 11" Column	12" Base, 13" Table, & 11" Column	10" Base, 13" Table, & 11" Column	10" Base, 13" Table, & 11" Column
HOMING	SETTINGS	INCH VALUES	METRIC VALUES	INCH VALUES	METRIC VALUES	INCH VALUES	METRIC VALUES	INCH VALUES	METRIC VALUES
	SEQ 1	Z	Z	Z	Z	Z	Z	Z	Z
	SEQ 2	Y	Y	Y	Y	Y	Y	Y	Y
	SEQ 3	X	X	X	X	X	X	X	X
	SEQ 4	A	A	A	A	A	A	A	A
	Direction Invert	X, Y, & Z=NO A-Axis=YES	X, Y, & Z=NO A-Axis=YES	X, Y, & Z=NO A-Axis=YES	X, Y, & Z=NO A-Axis=YES	X, Y, & Z=NO A-Axis=YES	X, Y, & Z=NO A-Axis=YES	X, Y, & Z=NO A-Axis=YES	X, Y, & Z=NO A-Axis=YES
	Homing Feedrate	20IN/MIN	508MM/MIN	20IN/MIN	508MM/MIN	20IN/MIN	508MM/MIN	20IN/MIN	508MM/MIN
	Pull Off Distance	0.039"	0.991MM	0.039"	0.991MM	0.039"	0.991MM	0.039"	0.991MM
	Home Position	X0,Y0,Z0,A0	X0,Y0,Z0,A0	X0,Y0,Z0,A0	X0,Y0,Z0,A0	X0,Y0,Z0,A0	X0,Y0,Z0,A0	X0,Y0,Z0,A0	X0,Y0,Z0,A0
	Request Home on Startup	YES/CHECK	YES/CHECK	YES/CHECK	YES/CHECK	YES/CHECK	YES/CHECK	YES/CHECK	YES/CHECK

SHERLINE PRODUCTS
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Sherline/MASSO Controller Default Settings Instructions

MASSO Default Settings

We have updated our Function Settings on the F1 Setup page.

The new settings will increase the speed of some of the functions such as Homing. It will reduce the amount of "ramp up – ramp down" on-axis moves. It will increase the accuracy and precision of the threading cycle, and in some cases it will correct the direction that your lathe-axis will jog.

We have a list of default settings for all of our standard machines on our Sherline/MASSO Help page (https://www.sherline.com/sherline-masso-help/).

1. When you go to the MASSO Help page, scroll down to "*MASSO Controller-Default Function Settings for Sherline Machines*" (see Figure 1). Then click on the type of machine that you have.

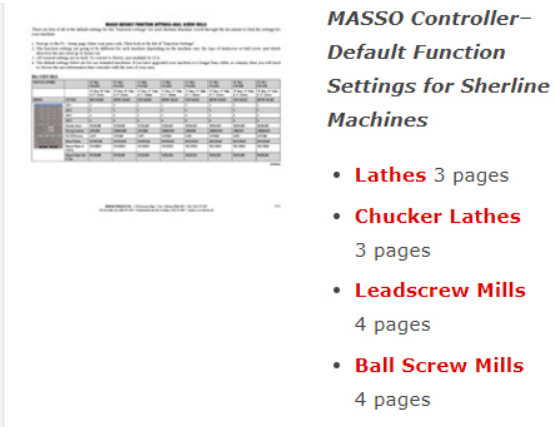
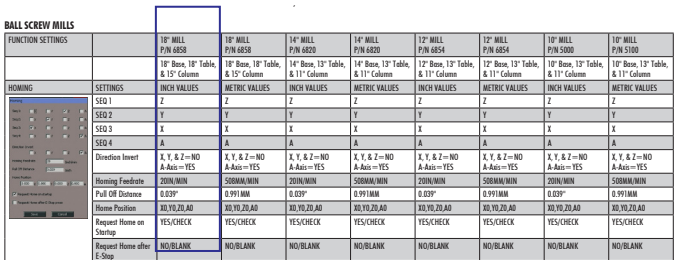


FIGURE 1—Detail of the Sherline/MASSO Help page.

2. The machines in each category are listed by part number and-axis length. Look up the machine settings for your machine.

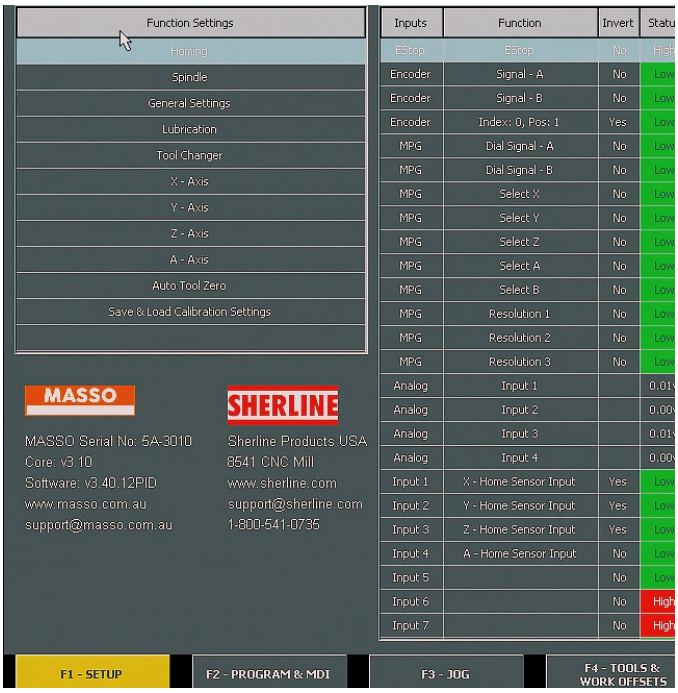


BALL SCREW MILLS

FUNCTION SETTINGS		18" MILL P/N 6858	18" MILL P/N 6858	14" MILL P/N 6820	14" MILL P/N 6820	12" MILL P/N 6854	12" MILL P/N 6854	10" MILL P/N 5000	10" MILL P/N 5100
		18" Base, 18" Table, & 15" Column	18" Base, 18" Table, & 15" Column	14" Base, 13" Table, & 11" Column	14" Base, 13" Table, & 11" Column	12" Base, 13" Table, & 11" Column	12" Base, 13" Table, & 11" Column	10" Base, 13" Table, & 11" Column	10" Base, 13" Table, & 11" Column
HOMING	SETTINGS	INCH VALUES	METRIC VALUES	INCH VALUES	METRIC VALUES	INCH VALUES	METRIC VALUES	INCH VALUES	METRIC VALUES
	SEQ 1	Z	Z	Z	Z	Z	Z	Z	Z
	SEQ 2	Y	Y	Y	Y	Y	Y	Y	Y
	SEQ 3	X	X	X	X	X	X	X	X
	SEQ 4	A	A	A	A	A	A	A	A
	Direction Invert	X, Y, & Z=NO A-Axis=YES	X, Y, & Z=NO A-Axis=YES	X, Y, & Z=NO A-Axis=YES	X, Y, & Z=NO A-Axis=YES	X, Y, & Z=NO A-Axis=YES	X, Y, & Z=NO A-Axis=YES	X, Y, & Z=NO A-Axis=YES	X, Y, & Z=NO A-Axis=YES
	Homing Feedrate	20IN/MIN	508MM/MIN	20IN/MIN	508MM/MIN	20IN/MIN	508MM/MIN	20IN/MIN	508MM/MIN
	Pull Off Distance	0.039"	0.991MM	0.039"	0.991MM	0.039"	0.991MM	0.039"	0.991MM
	Home Position	X0,Y0,Z0,A0	X0,Y0,Z0,A0	X0,Y0,Z0,A0	X0,Y0,Z0,A0	X0,Y0,Z0,A0	X0,Y0,Z0,A0	X0,Y0,Z0,A0	X0,Y0,Z0,A0
	Request Home on Startup	YES/CHECK	YES/CHECK	YES/CHECK	YES/CHECK	YES/CHECK	YES/CHECK	YES/CHECK	YES/CHECK
	Request Home after E-Stop	NO/BLANK	NO/BLANK	NO/BLANK	NO/BLANK	NO/BLANK	NO/BLANK	NO/BLANK	NO/BLANK

FIGURE 2—The blue outline is highlighting the 18" Ball Screw mill as an example.

3. Then go to the F1 Setup screen. Enter your password, and then go to the Function Settings at the top left corner of the page.



4. Double click on each setting option and compare these settings to the default settings.

Most of the setting changes are going to be on the "Homing" page and the individual axis pages.

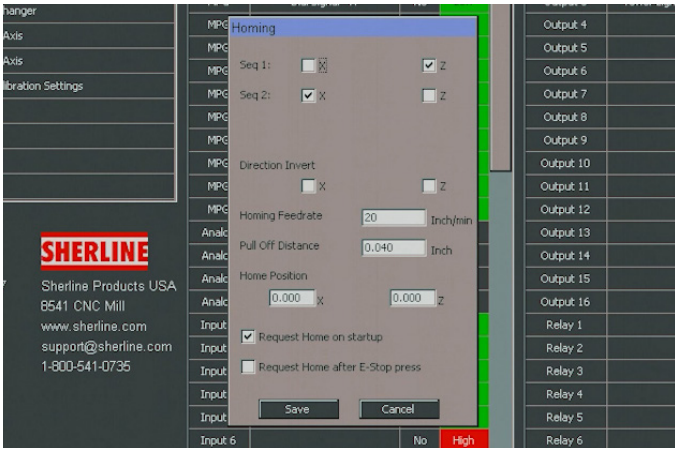


FIGURE 4—The Homing settings screen.

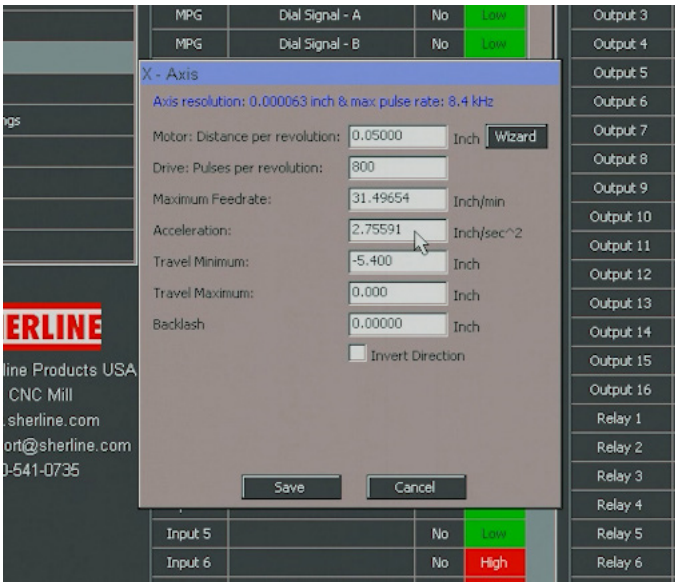


FIGURE 5—The X-axis settings screen.

5. Double click on each of these pages to open them up. Then edit the new default settings onto each page. Then click on Save.
6. After you have changed all of the settings, double click on "Save & Load Calibration Settings," then click on "Load from File." This will save all of your settings onto your USB drive.

Very Important Notes:

1. You will need to touch off all of your tools and reset them because your machine home position may change with the increased acceleration settings.
2. You will need to check you part home position and any "Work Offsets" G54 – G59.
3. On the lathe, your X-axis should home out correctly. Then it should jog in the correct direction and your tool should be described on the tool page correctly as front side or back side tools (see Figures 6 and 7).

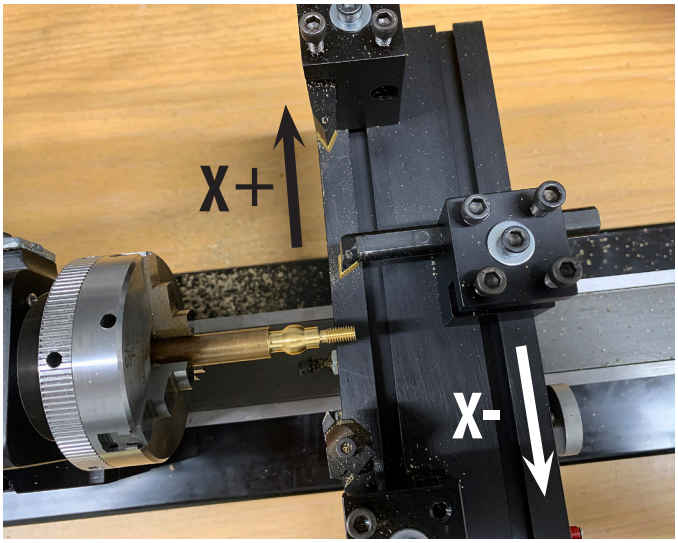


FIGURE 6—X-axis table directions.

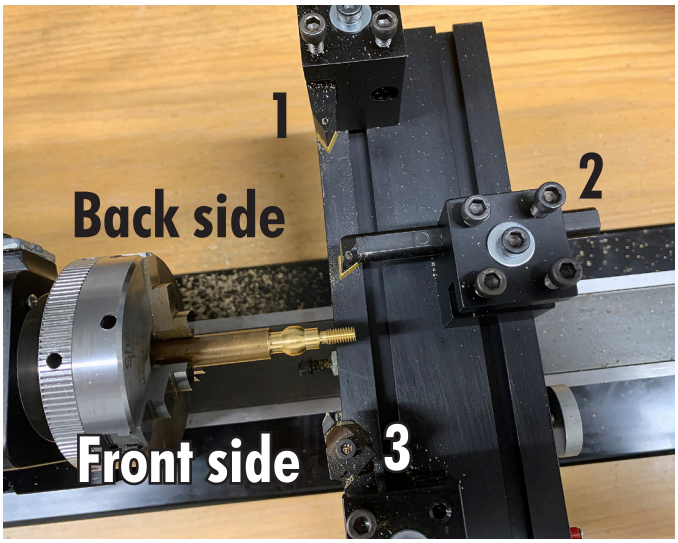


FIGURE 7—Tools 1 and 2 are on the back side of the part and Tool 3 is on the front side of the part.

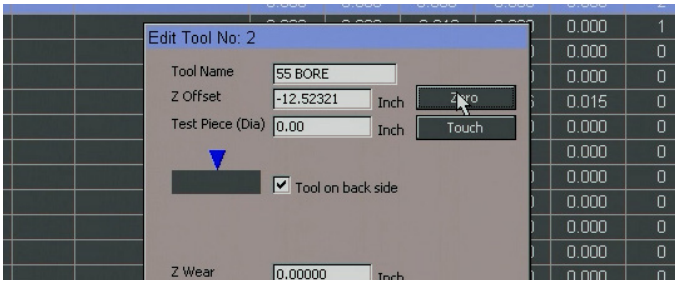


FIGURE 8—The blue triangle indicates tool #2 is on the back side.

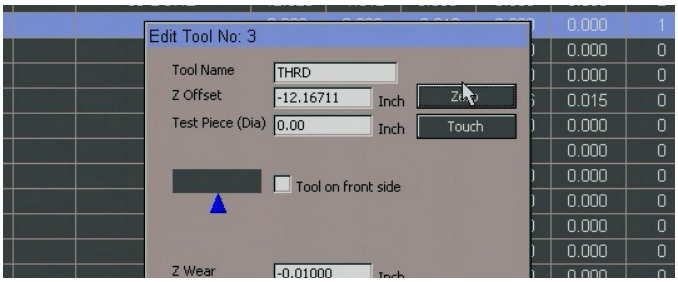


FIGURE 9—The blue triangle indicates tool #3 is on the front side.

4. If you have upgraded your machine to a longer base, table, or column, you will need to look at the-axis information for a comparable machine with those-axis length dimensions.

Example Set-up

You have a 5400 mill and you upgraded your table to an 18" table.

1. Is your machine a Leadscrew machine, or a Ball screw machine?
2. If it is a Leadscrew machine, are the leadscrews Inch or Metric?

For this example, we are going to say that your machine is a leadscrew machine and the leadscrews are metric.

3. For all of your settings, except for the X-axis settings, you would use the settings under **12" Mill, P/N 5410, 12" Base, 13" Table, & 11" Column** (see Figure 10).

LEADSCREW MILLS

FUNCTION SETTINGS		18" MILL–NEXGEN P/N 5800	18" MILL–NEXGEN P/N 5810	14" MILL P/N 2000	14" MILL P/N 2010	12" MILL P/N 5400	12" MILL P/N 5410	10" MILL P/N 5000	10" MILL P/N 5100
		18" Base, 18" Table, & 15" Column	18" Base, 18" Table, & 15" Column	14" Base, 13" Table, & 11" Column	14" Base, 13" Table, & 11" Column	12" Base, 13" Table, & 11" Column	12" Base, 13" Table, & 11" Column	10" Base, 13" Table, & 11" Column	10" Base, 13" Table, & 11" Column
HOMING	SETTINGS	INCH VALUES	METRIC VALUES	INCH VALUES	METRIC VALUES	INCH VALUES	METRIC VALUES	INCH VALUES	METRIC VALUES
	SEQ 1	Z	Z	Z	Z	Z	Z	Z	Z
	SEQ 2	Y	Y	Y	Y	Y	Y	Y	Y
	SEQ 3	X	X	X	X	X	X	X	X
	SEQ 4	A	A	A	A	A	A	A	A
	Direction Invert	X, Y, & Z=NO A-Axis=YES	X, Y, & Z=NO A-Axis=YES	X, Y, & Z=NO A-Axis=YES	X, Y, & Z=NO A-Axis=YES	X, Y, & Z=NO A-Axis=YES	X, Y, & Z=NO A-Axis=YES	X, Y, & Z=NO A-Axis=YES	X, Y, & Z=NO A-Axis=YES
	Homing Feedrate	20IN/MIN	508MM/MIN	20IN/MIN	508MM/MIN	20IN/MIN	508MM/MIN	20IN/MIN	508MM/MIN
	Pull Off Distance	0.039"	0.991MM	0.039"	0.991MM	0.039"	0.991MM	0.039"	0.991MM
	Home Position	X0,Y0,Z0,A0	X0,Y0,Z0,A0	X0,Y0,Z0,A0	X0,Y0,Z0,A0	X0,Y0,Z0,A0	X0,Y0,Z0,A0	X0,Y0,Z0,A0	X0,Y0,Z0,A0
	Request Home on Startup	YES/CHECK	YES/CHECK	YES/CHECK	YES/CHECK	YES/CHECK	YES/CHECK	YES/CHECK	YES/CHECK
	Request Home after E-Stop	NO/BLANK	NO/BLANK	NO/BLANK	NO/BLANK	NO/BLANK	NO/BLANK	NO/BLANK	NO/BLANK

FIGURE 10—The blue outline shows the 5410 12" metric mill in the table.

For the X-axis settings you will use the settings for the“**18" Mill – NexGen, P/N 5810, 18" Base, 18" Table, & 15" Column** (see Figure 11).

		18" Base, 18" Table, & 15" Column	18" Base, 18" Table, & 15" Column	14" Base, 13" Table, & 11" Column	14" Base, 13" Table, & 11" Column	12" Base, 13" Table, & 11" Column	12" Base, 13" Table, & 11" Column	10" Base, 13" Table, & 11" Column	10" Base, 13" Table, & 11" Column
X-AXIS	SETTINGS	INCH VALUES	METRIC VALUES	INCH VALUES	METRIC VALUES	INCH VALUES	METRIC VALUES	INCH VALUES	METRIC VALUES
	Motor: Distance per Revolution	0.05	1.00	0.05	1.00	0.05	1.00	0.05	1.00
	Drive: Pulses per Revolution	800	800	800	800	800	800	800	800
	Maximum Feedrate	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00
	Acceleration	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
	Travel Minimum	-12.80	-325.12	-7.80	-198.12	-7.80	-198.12	-7.80	-198.12
	Travel Maximum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Backlash	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Invert: Check or Blank	NO/BLANK	NO/BLANK	NO/BLANK	NO/BLANK	NO/BLANK	NO/BLANK	NO/BLANK	NO/BLANK
Y-AXIS	SETTINGS	18" Base, 18" Table, & 15" Column	18" Base, 18" Table, & 15" Column	14" Base, 13" Table, & 11" Column	14" Base, 13" Table, & 11" Column	12" Base, 13" Table, & 11" Column	12" Base, 13" Table, & 11" Column	10" Base, 13" Table, & 11" Column	10" Base, 13" Table, & 11" Column
	Motor: Distance per Revolution	0.05	1.00	0.05	1.00	0.05	1.00	0.05	1.00
	Drive: Pulses per Revolution	800	800	800	800	800	800	800	800
	Maximum Feedrate	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00

FIGURE 11— The blue outline shows the 5810 18" metric mill in the table for the 18" table X-axis settings.

If you have any questions or problems, call 760-727-5857 and ask for Karl.

Thank you,
Sherline Products Inc.