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MACHINE TOOL SOLUTIONS

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Did You Know? Standard Control Features on Enshu Horizontals

ENSHU pallet-changing Horizontal Machining Centers are built to last, with 5,000 Hours Mean Time Between Failure. The following control features standard on ENSHU contribute to speed, reliability, and long term accuracy.

Manual Operation of Automatic Pallet Changer

This feature allows an operator to rotate the pallet shuttle by hand to easily clean, maintain, and check fixture clearance safely while pallets exchange.

1. Select Manual Mode
2. Select desired pallet using the APC Drive Switch
3. Press 'APC Drive' button to step through pallet change
4. Release the 'APC Drive' button at any time to stop that operation, and press again to resume operation.

Interested in learning more about Enshu?

Tool Change Arm Recovery

If the tool change arm is interrupted, there are two recovery methods:

Automatic, Manual. For Automatic, select 'MDI Mode' and enter **M180**.

Manual Tool Change Recovery:

1. Select Manual Mode & MAINT Mode from control panel
2. Press CUSTOM soft key and navigate right to MAINTENANCE
3. Press MAINT MANUAL & ATC MANUAL soft keys
4. From "ATC MANUAL OPERATE" screen, locate desired function and press FUNC.START button.

[Check out this awesome Enshu video...](#)

Butt-Type Zero Return Setting Procedure

If motors, ball-screws, or ball-screw support bearings have been changed, or a collision occurred, or the ABS battery has depleted; use this procedure to set home position. Make sure the path is clear prior to executing:

1. On desired axis, ZERO RETURN REQUEST alarm should be present, set parameter N1815.4 to 0 and cycle power on/off to generate alarm
2. Axis motion is required before continuing, move it a few inches and cycle power off/on. Repeat this step if necessary
3. Select ZERO RETURN mode and move axis towards home
4. Select desired axis on handle pendant, hit CYCLE START
5. Check that home position alignment marks are aligned
6. Perform tool change in MDI Mode with no tools to verify

Miss our Last Tech Tips? Click Below!

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Did You Know?

Skip the Milling, Run Non-Conformed Stock!

Sometimes it makes sense to run hex or other stock rather than milling to shape. To set up the machine, use a round bar leader collet to fit over points of the stock. In Spindle 1, use a chucking sleeve with a pin to hold the collet in place as a new bar is loaded. To teach the machine rotational relationships, you will now perform phase adjustment.



You can adjust phase between the following on your Citizen:

- Main spindle and guide bushing
- Main spindle and back spindle
- Main spindle, guide bushing, and back spindle

In the phase adjustment menu, there are three (3) selections located on the right. Enter the desired number in the Operation Select field, close all doors.

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Did You Know?

Cincom Low Frequency Vibration-Cutting



What is LFCV?

Chip Control: Servo-controlled axes oscillate in the axial direction, and machining is carried out while synchronizing this vibration with spindle rotation. The air cutting time created during machining leads to intermittent chip removal.

LFCV-Produced Chips: Two 14.3 gram samples of 304 Stainless, which would you prefer?

[View our Webinar on Low Frequency Vibration Here](#)



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