

Accuracy - Check Gripper Datum Hole Position Variance

Accuracy Check Procecedure for Gripper Datum Hole Position

Contents

- Applies To
- Symptoms
- Diagnostic Method
- Pass / Fail
- Resolutions
- Comments

Applies To

ZX5 Only

Symptoms

Number	Description / Link
SYM101	Accuracy - Intermittent Operation Position
SYM201	Interruption - Saw Side Gripper Not Gripping

Diagnostic Method

Collect all the offcut ends from a batch of cutting from the machine and measure the distance of the gripper datum holes from the end of the bar, grouping under each profile type. Measure to the nearest **0.5mm**. Collect at least 50 samples

 ...Check that the profile is square from the top to bottom face. Unfortunately, the physical hard stop is at the bottom face, yet the measure position is at the top face. This will lead to incoisistencies in the measurement that will make the test more complicated. A good idea would be to ensure all the bars have a square end to start with, but this is not always practical.

 ...The gripper system is designed to cope with a top to bottom "un squareness" of +/- 1.5mm in normal operation - this is the range of "on" switching allowed in the gripper switch mechanism



Reading 8.5mm	Reading 10.0mm	Checking offcut has a square end
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Example recording:

Outer Frame
10.0, 9.5, 10.0, 9.5, 7.0, 7.0, 7.0, 7.0, 7.0, 7.0, 7.0, 7.0, 7.0, 7.0
T Sash
6.5, 7.0, 7.5, 7.0, 7.0, 7.0, 7.0, 7.0, 7.0, 7.0, 7.0, 7.0, 7.0, 7.0
T-Door
6.5, 7.0, 7.5, 7.5, 7.5, 7.5, 7.5, 7.5, 7.5, 7.5, 7.5, 7.5

The example recordings show that the outer frame has a variance of 7mm to 10mm.
The T Sash and door are fairly consistent

Pass / Fail

The following measurements assume a bar with a square end

Pass	The hole is consistently at 7mm +/-1mm (Can vary between 6mm and 8mm, but with the median at 7mm)
Fail	Any hole is greater than 8mm Any hole less than 6mm

Resolutions

⚠ ...Always use a bar with a square end for test pieces during any resolution measurements

Failure Mode	Resolution
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Hole position is inconsistent	Check correct function of infeed wheel clutch Check correct function of infeed datum clamp then ZX5 Datum and Grip Pin Setup also Check 10mm cutter sharpness
Hole position is consistent, but outside the tolerance range	Follow procedure ZX5 Datum and Grip Pin Setup