

# ZX5 Gripper Energy Chain & Tray Setup

Things to look out for and check when setting up ZX5 energy chains on the ZX5 MH Outfeed or Saw Infeed

 Difficulty **Medium**

 Duration **1 hour(s)**

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Comments

## Introduction



...August 2023 - The energy chain and method used in this dokit has been superseded by [https://stuga.dokit.app/wiki/Energy\\_Chain\\_Installation\\_-\\_2500\\_Series](https://stuga.dokit.app/wiki/Energy_Chain_Installation_-_2500_Series)

The main problems we've had during commissioning with these energy chains is that if they are not positioned well enough, the chain will clip the button heads that hold the trays to the L brackets

To get over this the brackets sometimes need adjusting on the slots along with possibly bending into a better shape or by adjusting the chain bracket position on the slots in the 'finger' bracket

Things to look out for:

- There should be three links which are reversed at the bracket end of the energy chain.
- Servo cable and the pipes and cables from the energy chain are fixed with cable ties to the fingers on the bracket to minimise possible movement and twisting which changes where the energy chain sits in the trays, meaning it could start clipping the button heads.
- Tray heights and energy chain length, there should be a consistent gap all the way along between the energy chain and the top tray (viewed from inside the tray) and when at the full travel either end the chain shouldn't be tight hitting the fence too much at the end.
- It is also worth checking if all of the links fitted are the same radius type, as we have had occasions where some have been a smaller radius meaning at certain points down the rack the radius of the bend becomes smaller and falls out from the support of the top tray, especially when the gripper is at either end of the rack. There is a code on the side of each link in the energy chain.
- A last thing to be wary of is the end corners of the trays may require bending out, there have been occasions where one chain tray has been slightly more bent in than the other meaning when the chain moves from one tray to the next it clips the corner of the next tray

We normally get the gripper on a reversing cycle movement to test this through the twincat project at different speeds, starting slow and working up to higher speeds.

## Step 1 - Check Length of the Energy Chain

MH outfeed - 5.37metres 177 Links approx

Saw infeed - 4.46metres 154 Links approx

Make sure when the gripper is pushed to the end (back) of the rack, the bend of the chain isn't either falling out of the trays or too tight and riding up against the guarding fence.

**i** ...Note these values are for a standard 6.5m machine. A 6.0m will have less

## Step 2 - Check Link type of ALL Links

Link type should be Igs code 15.050.100 for 100mm radius on the bend.

**i** ...There has been a problem with identification of these parts and the wrong bend diameter may have been sent (15.050.048)



## Step 3 - 3 reversed links

There should be 3 reversed links at the motor end of the chain

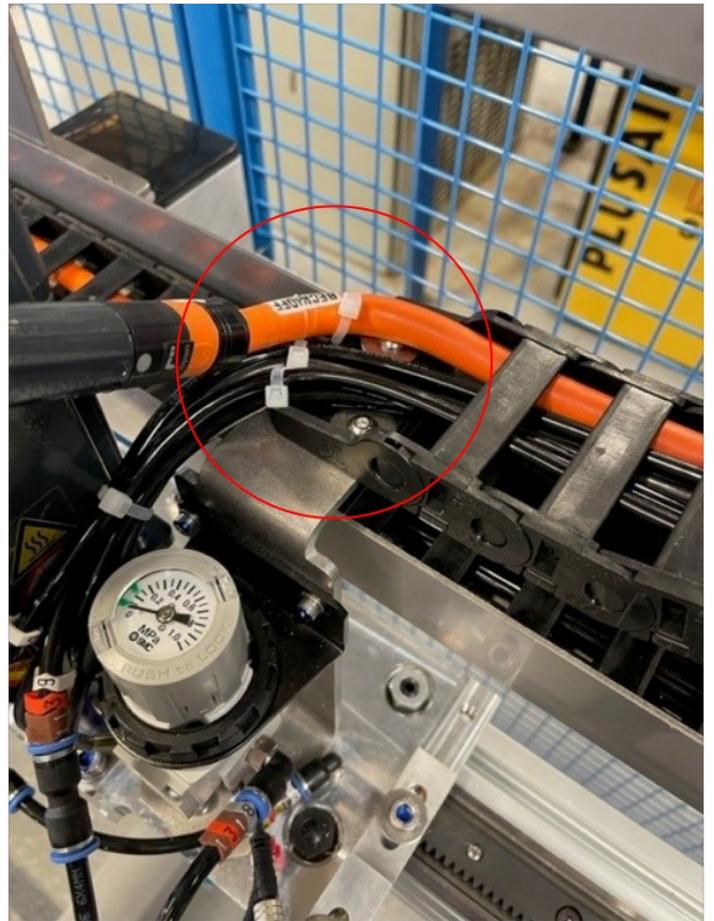
leading to the 'finger' bracket

See Igs Energy Chain Installation



## Step 4 - Fixed cables and pipes on the 'finger' bracket

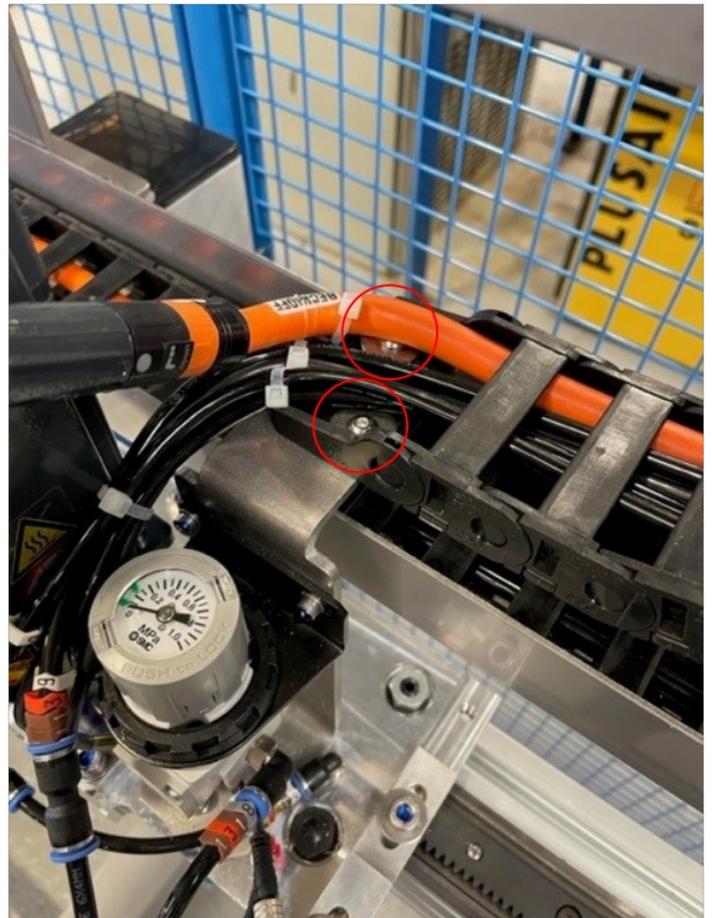
Make sure the cables and pipes are fixed with cable ties to the fingers of the bracket to avoid movement or twisting inside the energy chain.



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## Step 5 - Bracket position

The Bracket to which the finger energy chain bracket fixes to should not rub or catch on the trays during movement  
Also the fold of the energy chain shouldn't ride along the side of the trays when moving towards the multi or saw end

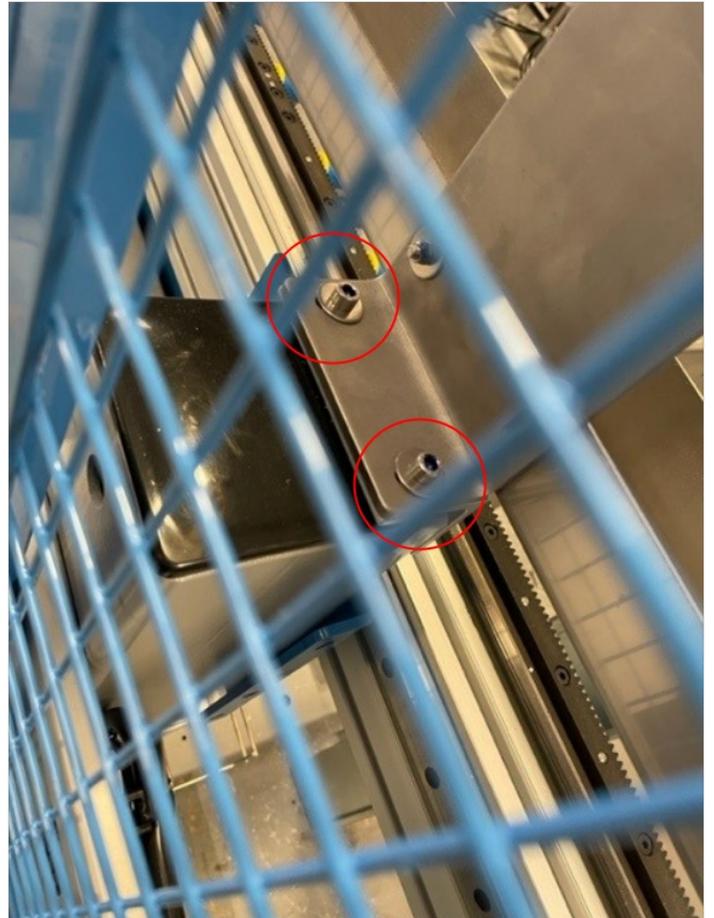


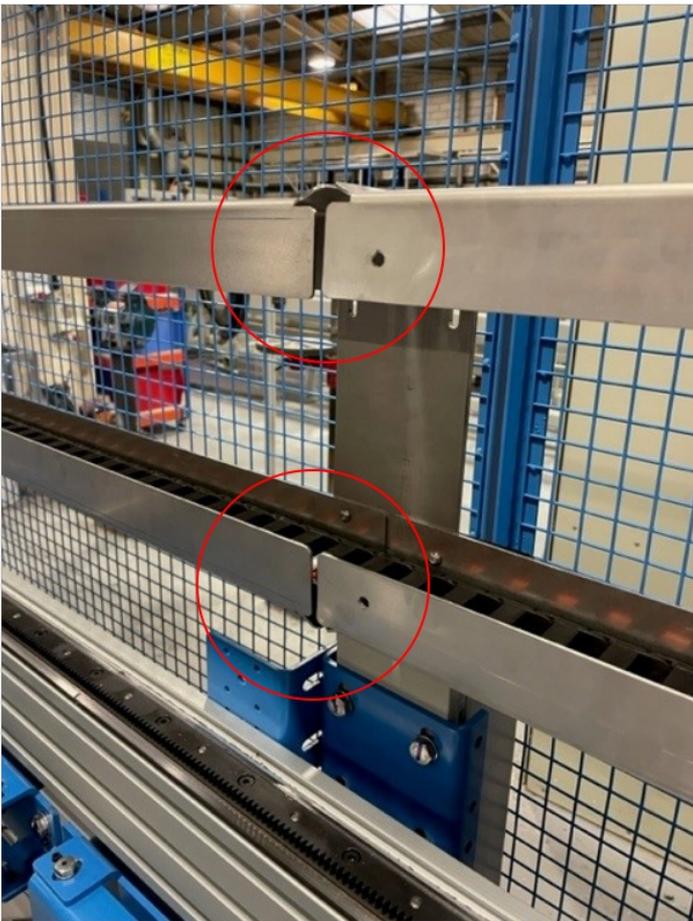
## Step 6 - Tray positioning

To avoid any contact with the button heads which fix the trays to the 'L' brackets adjust the brackets on the slots.

Tray heights are also important, make sure there is a consistent gap (consistent as possible) between the top of the bend and the top tray all the way along.

The end corners of the trays may require bending out slightly, there have been occasions where one chain tray has been slightly more bent in than the other meaning when the chain moves from one tray to the next it clips the corner of the next tray.





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## Step 7 - Testing

Test this by moving the gripper up and down on a reversing cycle in twincat.

Start slow and work up to full speed

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