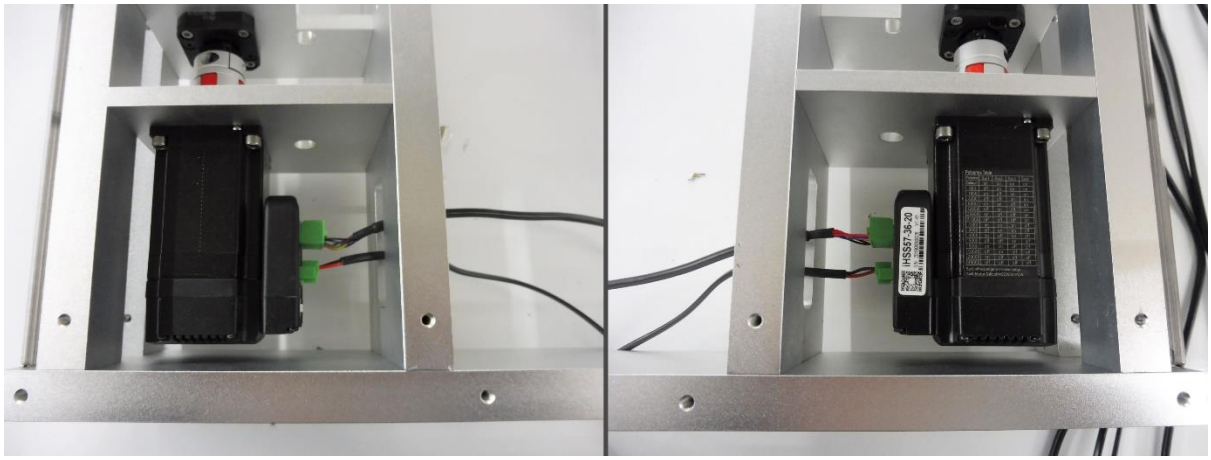
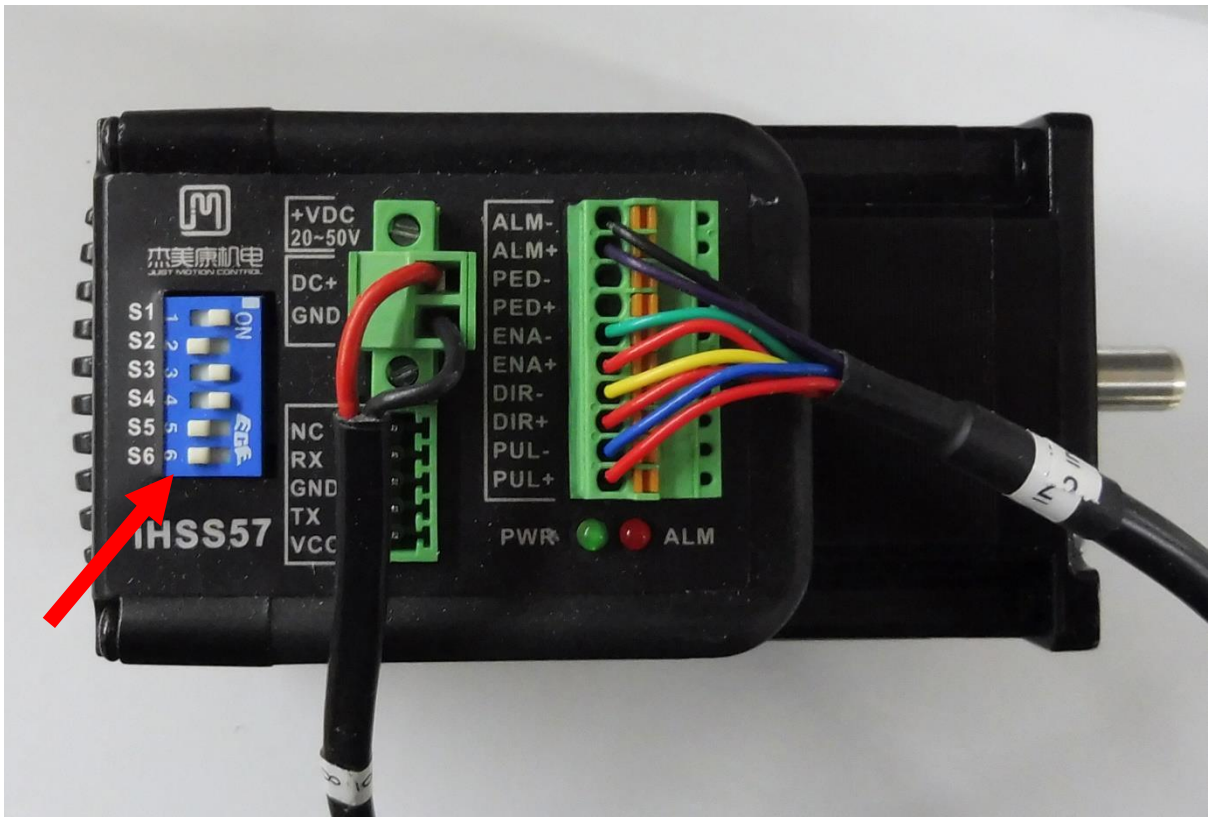
CNC D-500 Wiring Machine Instructions V1.1

http://www.ukcnc.net

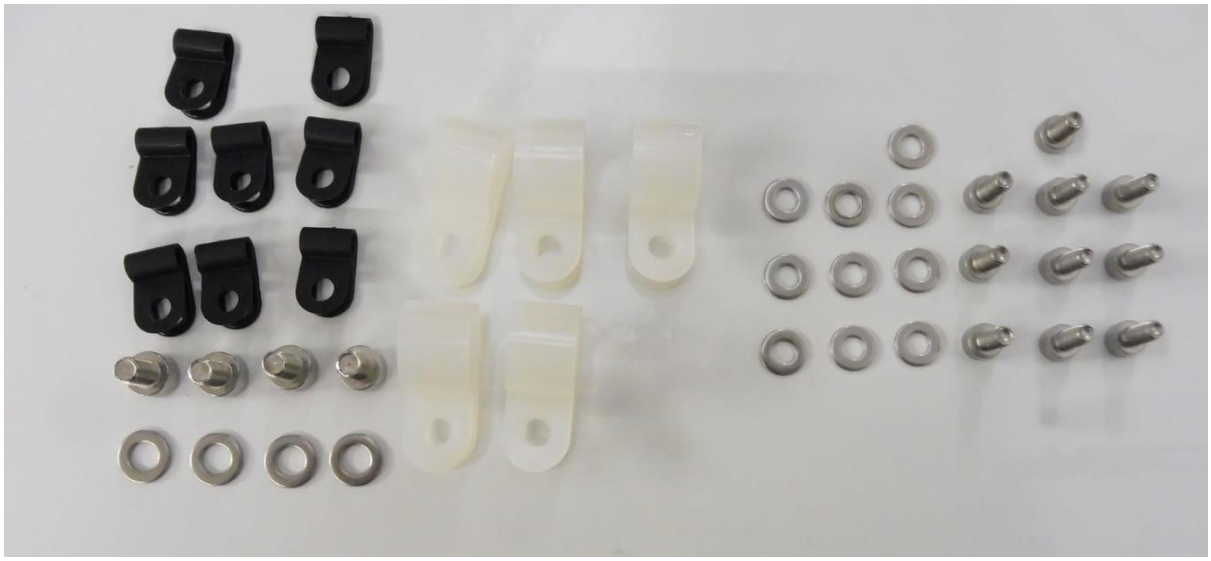
Please make sure you have checked the Checklist and that all the parts have been received. Before proceeding with these build instructions.





Wire the 2 Y-Axis motors with the signal cables (labeled 2) and DC motor cable (labeled 8) as shown above.

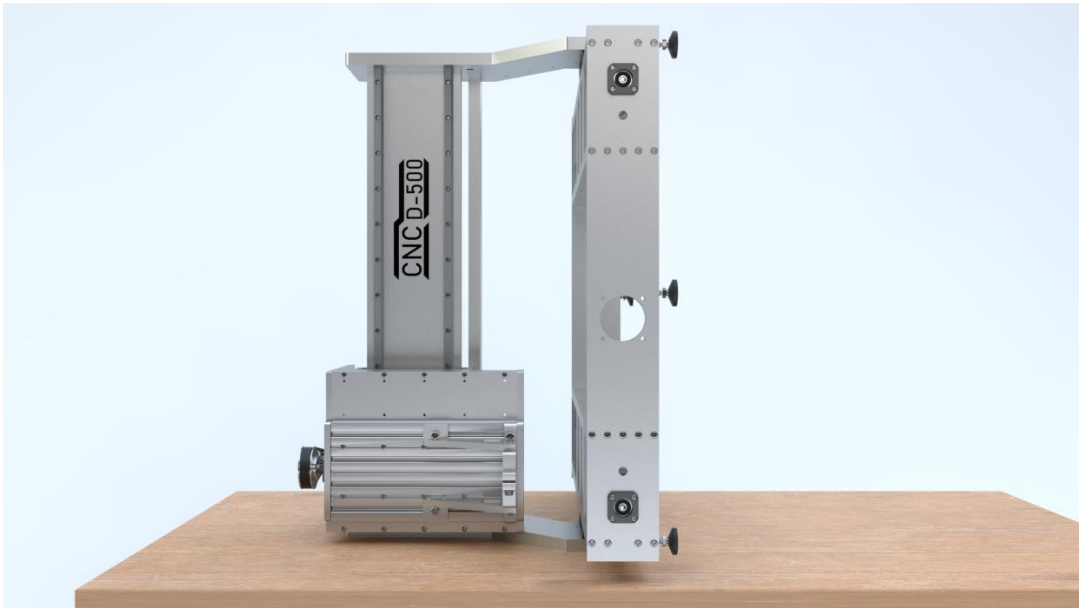
Note: Make sure the jumpers S1-S6 are set to the same value as above.



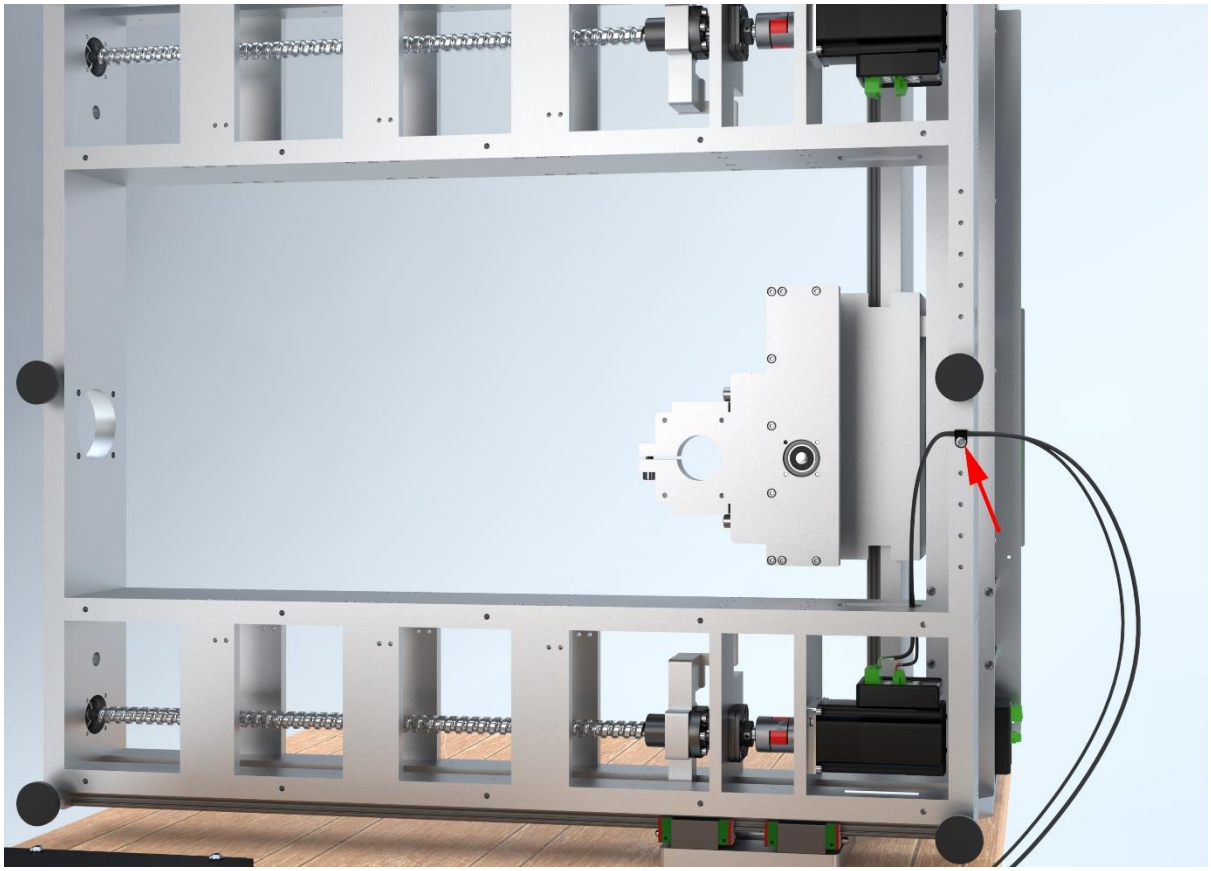
Make sure you have the following:

4 * M5 x 8mm
4 * M5 Washer
10 * M4 x 8mm
10 * M4 Washer

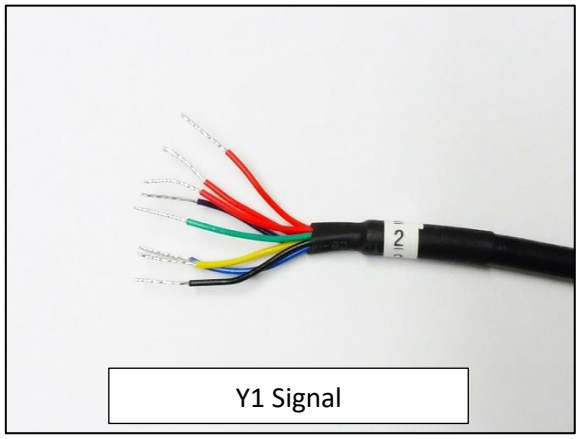
2 * 1/4” P-Clip
6 * 1/8” P-Clip
5 * 1/2” P-Clip



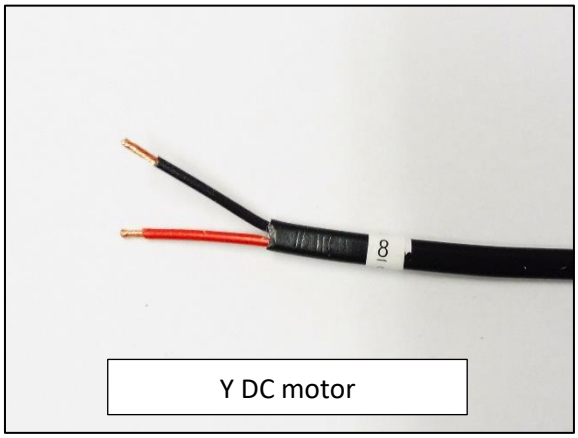
Rotate the machine 90 degrees so it’s resting on the left upright arm.



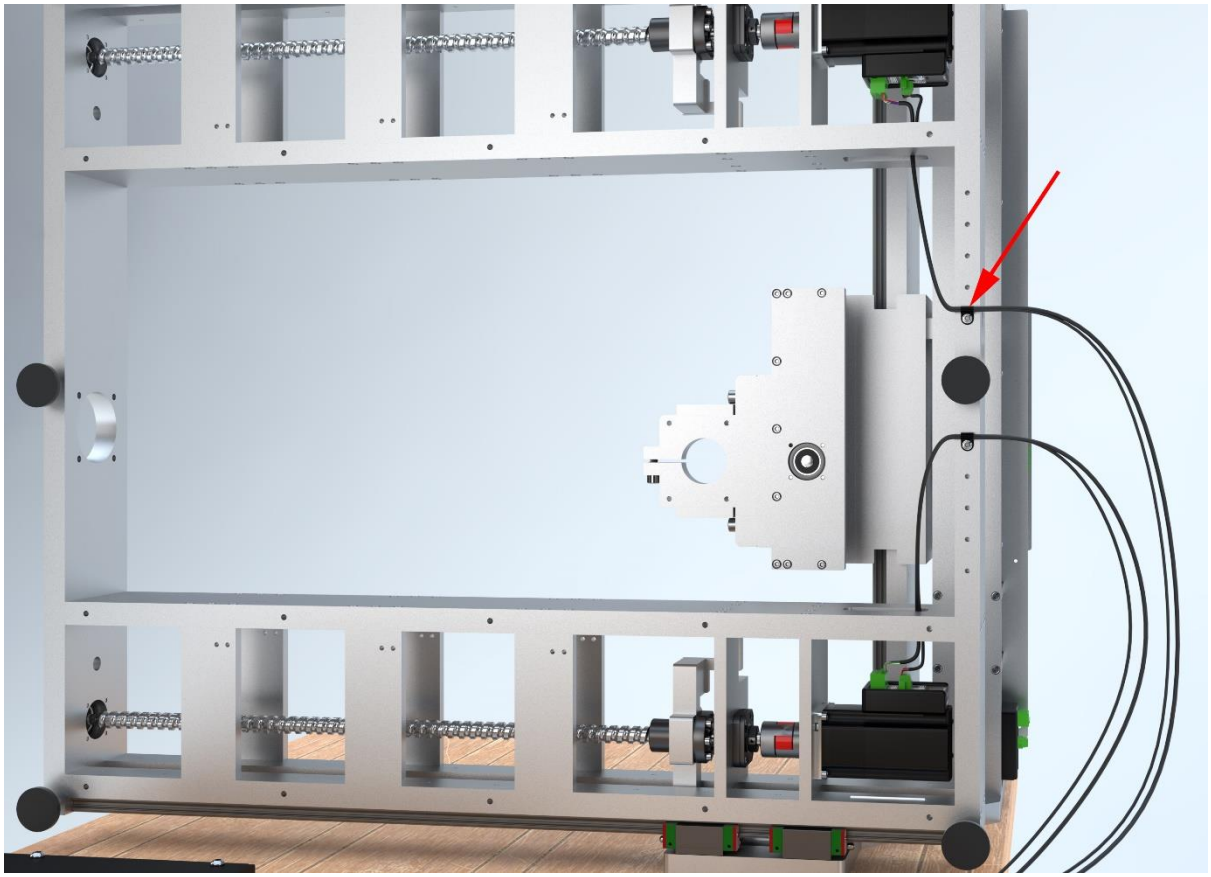
Attach the Y1 Signal (labeled 2) and Y DC motor (labeled 8) cables below the middle foot using a 1/4” P-clip secured with an M4 x 8mm bolt and M4 washer.



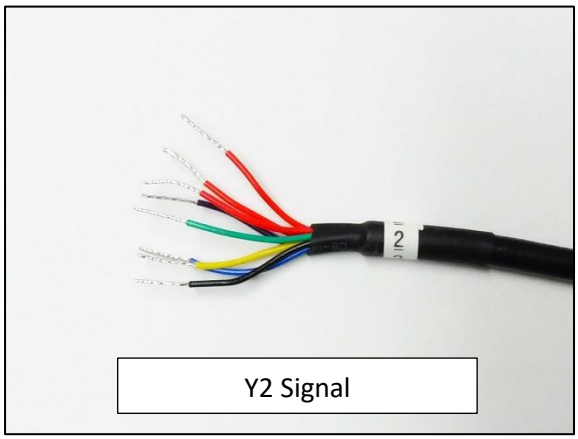
Y1 Signal

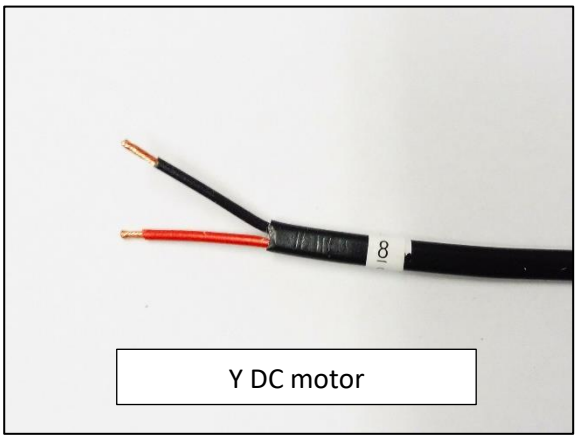


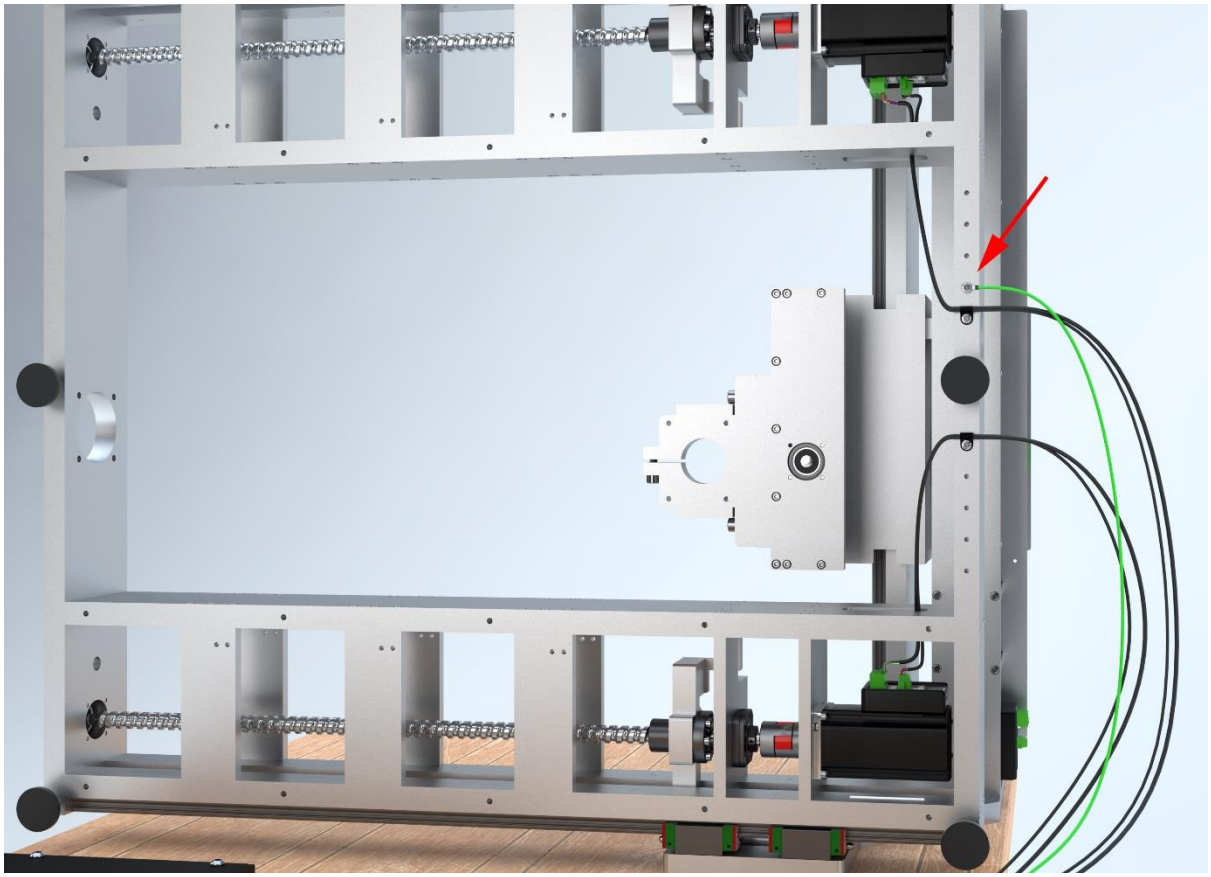
Y DC motor



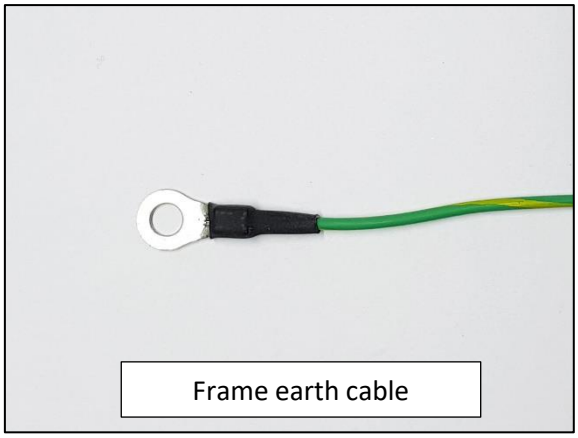
Now attach the Y2 Signal (labeled 2) and Y DC motor (labeled 8) cables above the middle foot using a 1/4” P-clip secured with an M4 x 8mm bolt and M4 washer.

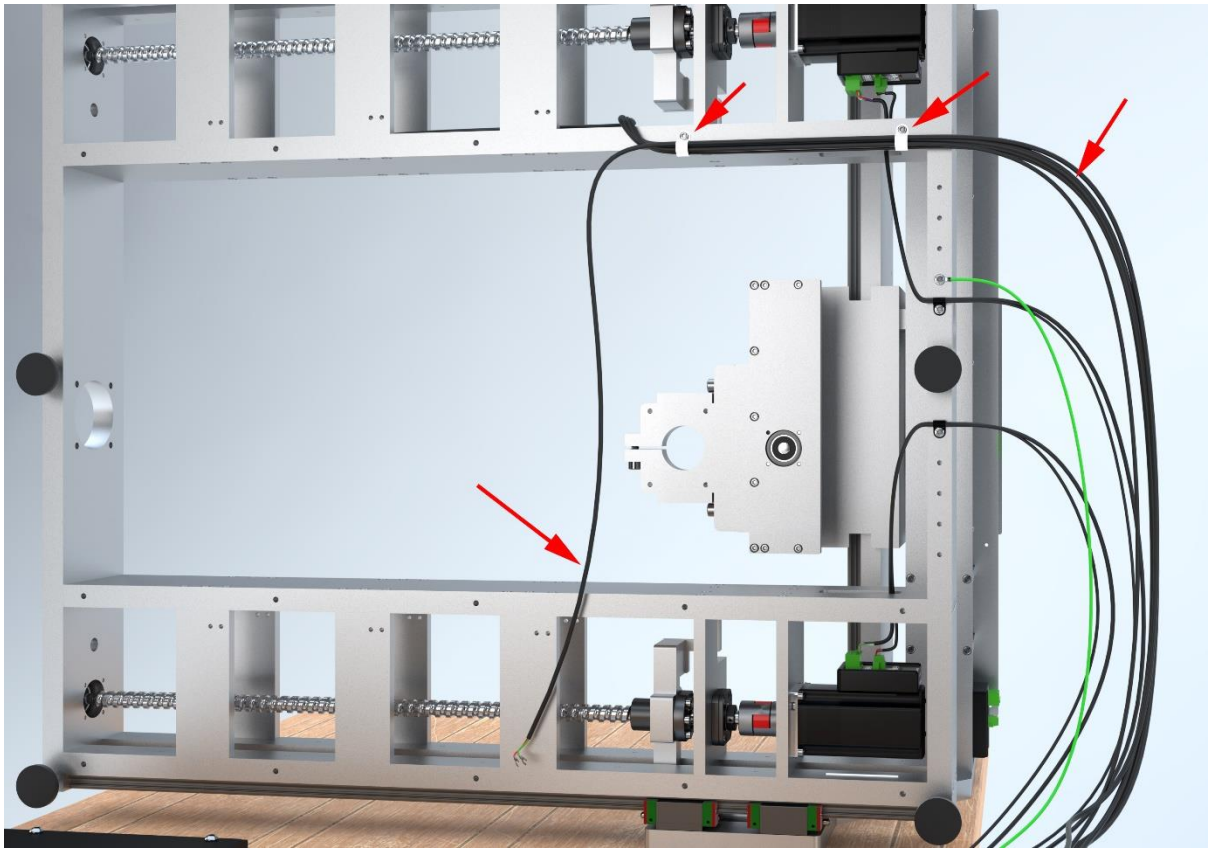






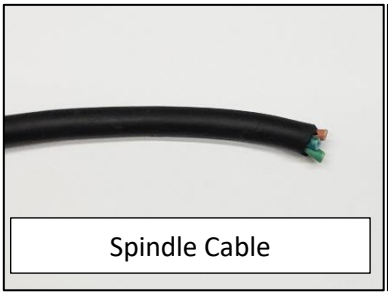
No. 3) Secure the frame earth cable into the threaded hole above the Y2 signal and Y DC motor cable with an M4 x 8mm bolt and M4 washer.



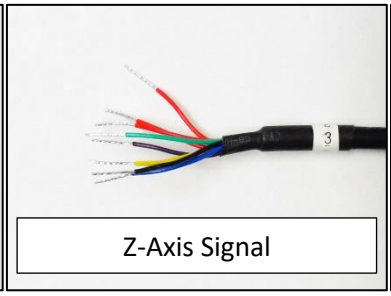


Thread the following cables through 2 x 1/2” P-clips with 2 * M5 x 8mm bolts and M5 washers:

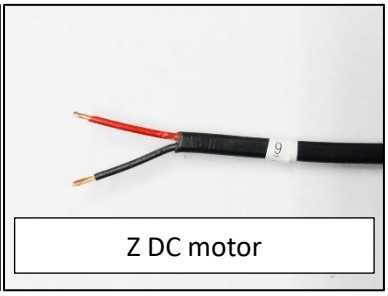
Spindle cable, Z-axis signal (labeled 3),Z DC motor (labeled 9), Z Limit switch cable (labeled 6) and the Emergency stop cable.



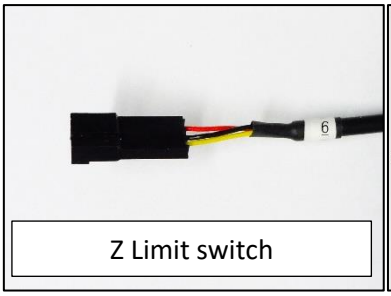
Spindle Cable



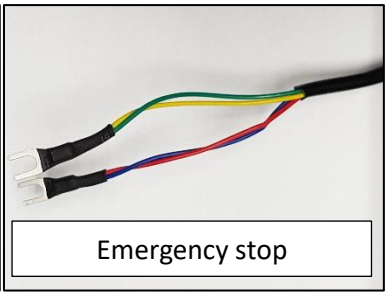
Z-Axis Signal



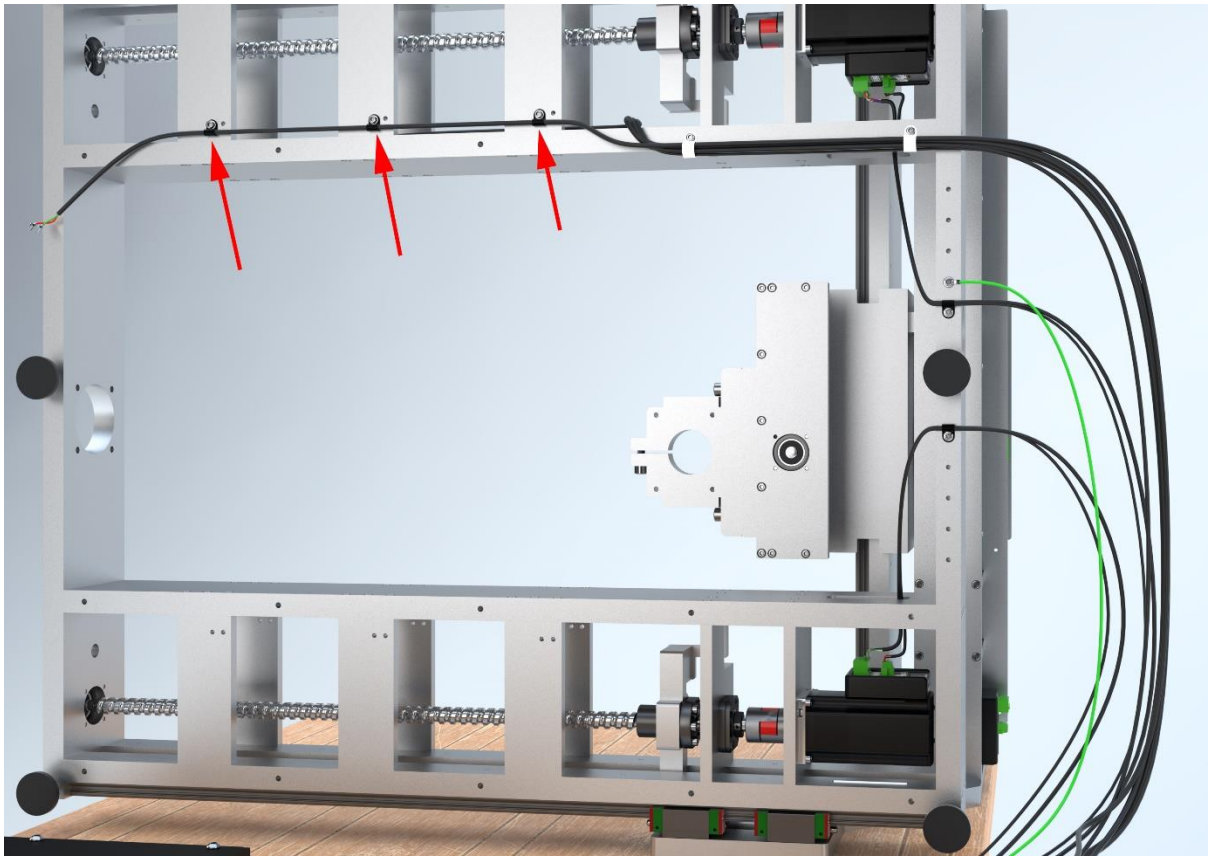
Z DC motor



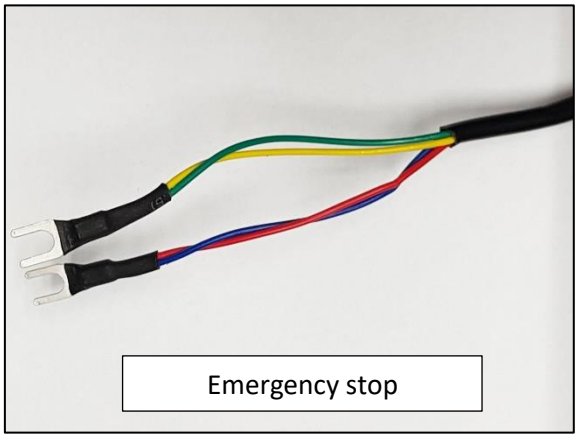
Z Limit switch

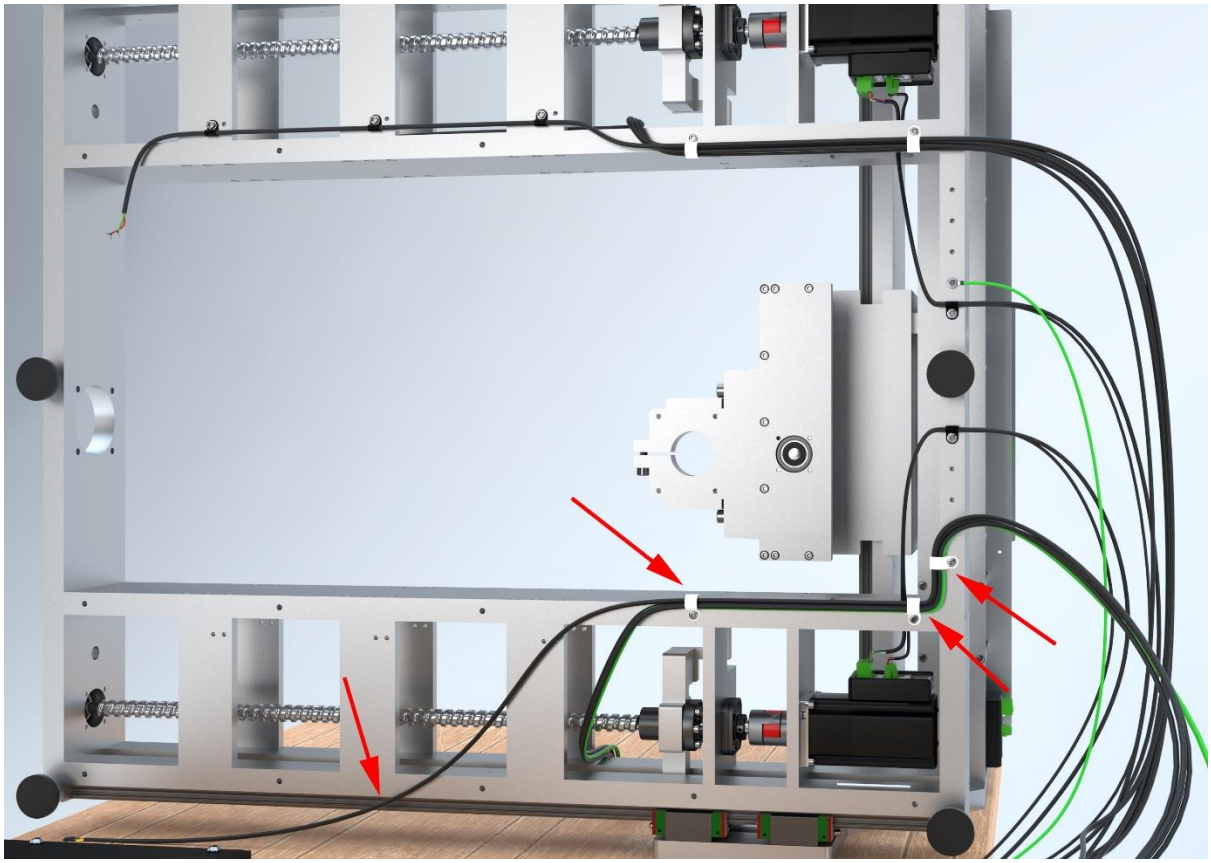


Emergency stop



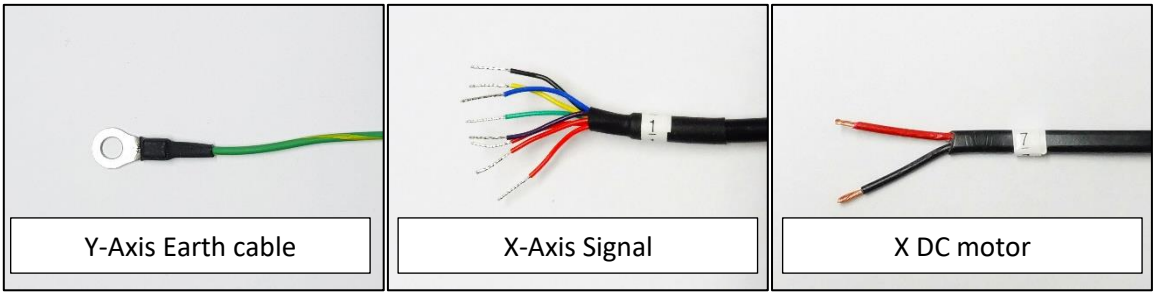
Thread the emergency stop cable along the top bar through the 1/8” P-clips securing them onto the frame with M4 x 8mm bolts and M4 Washers.

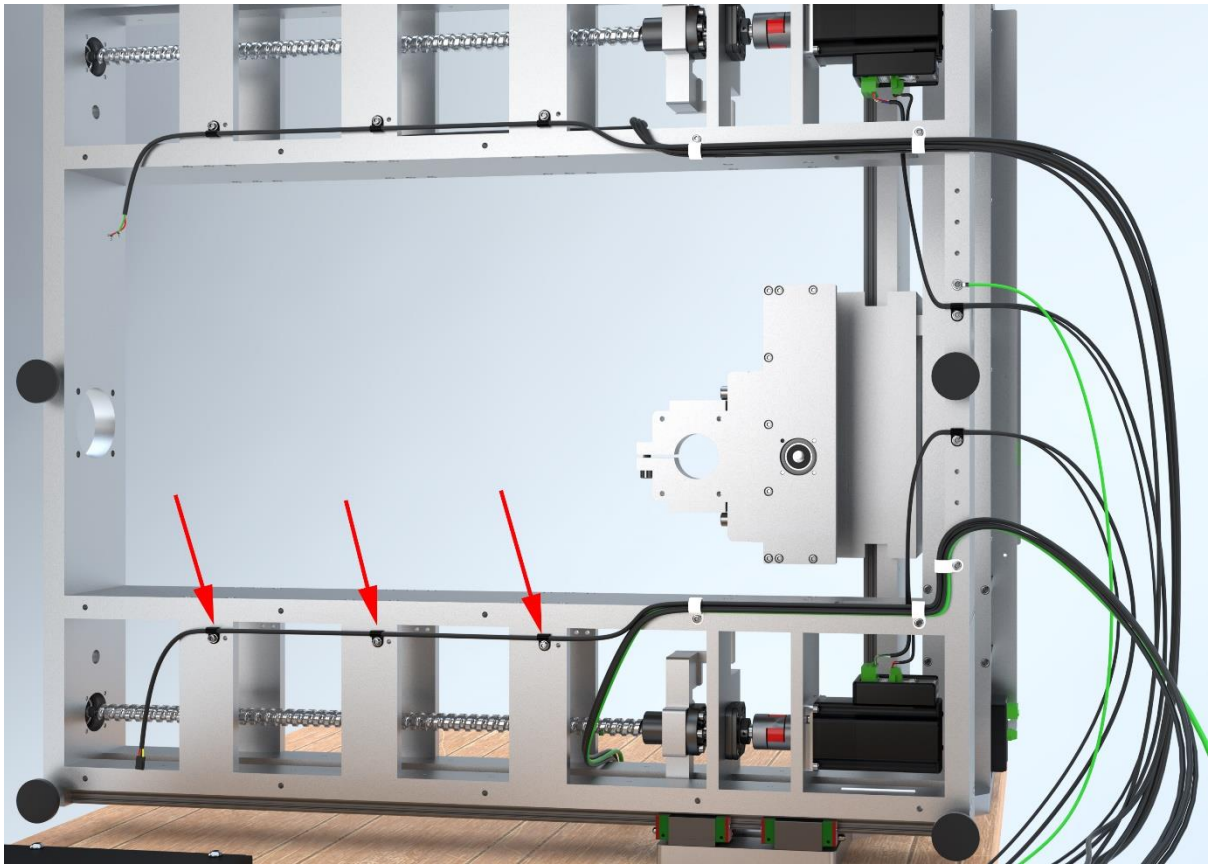




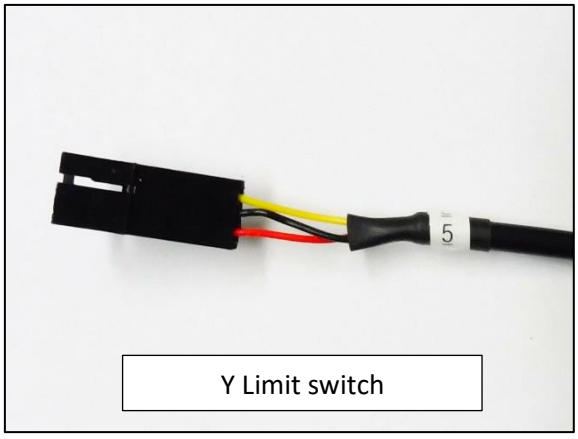
No. 4) Thread the following cables through 3 x 1/2” P-clips with 2 * M5 x 8mm bolts, M5 washers and 1 * M4 x 8mm bolt, M4 washer:

Y-Axis Earth cable, X-axis signal (labeled 1),X DC motor (labeled 7), X Limit switch cable (labeled 4) and the Y Limit switch cable (labeled 5).

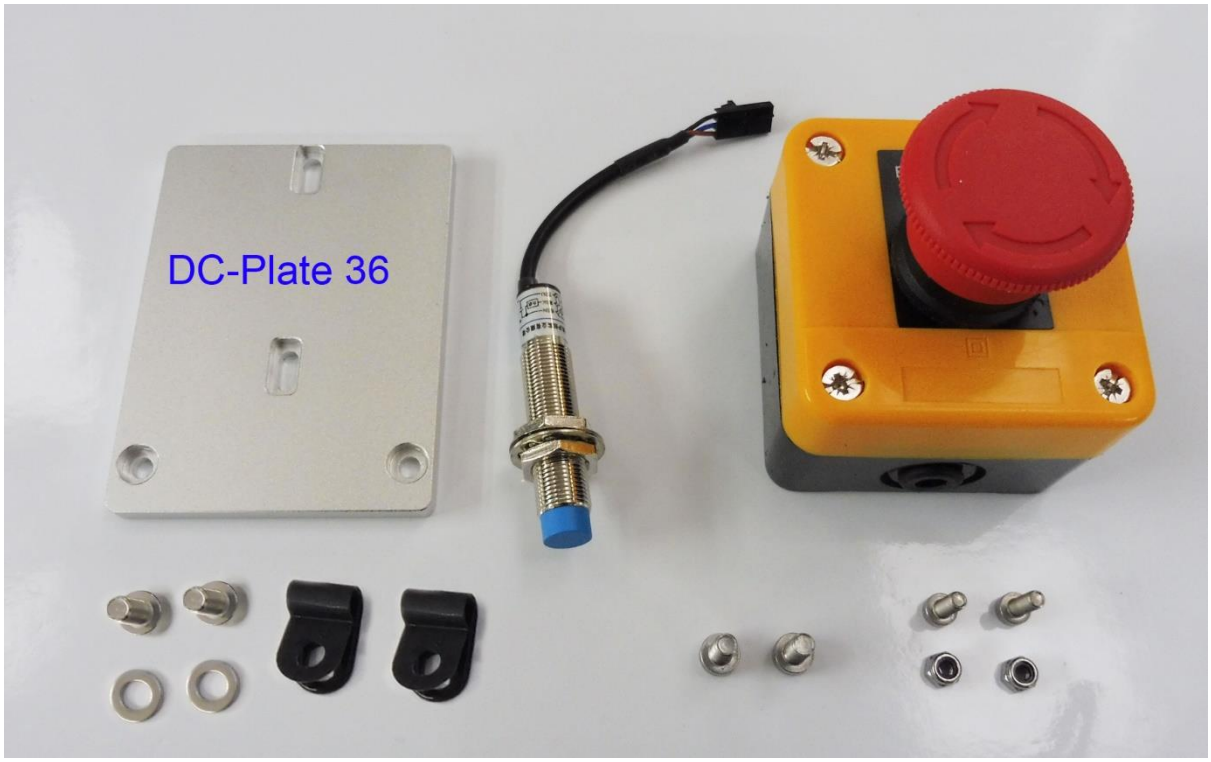




Thread the Y limit switch cable (Labeled 5) along the bottom bar through the 1/8” P-clips securing them onto the frame with M4 x 8mm bolts and M4 Washers.



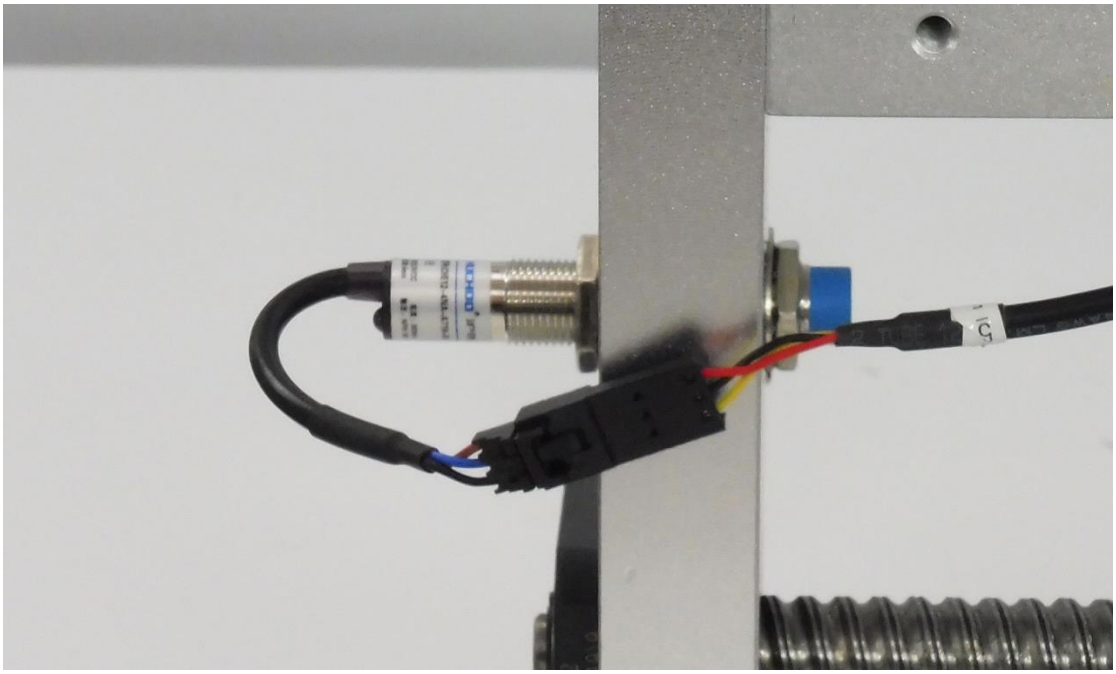
Y Limit switch



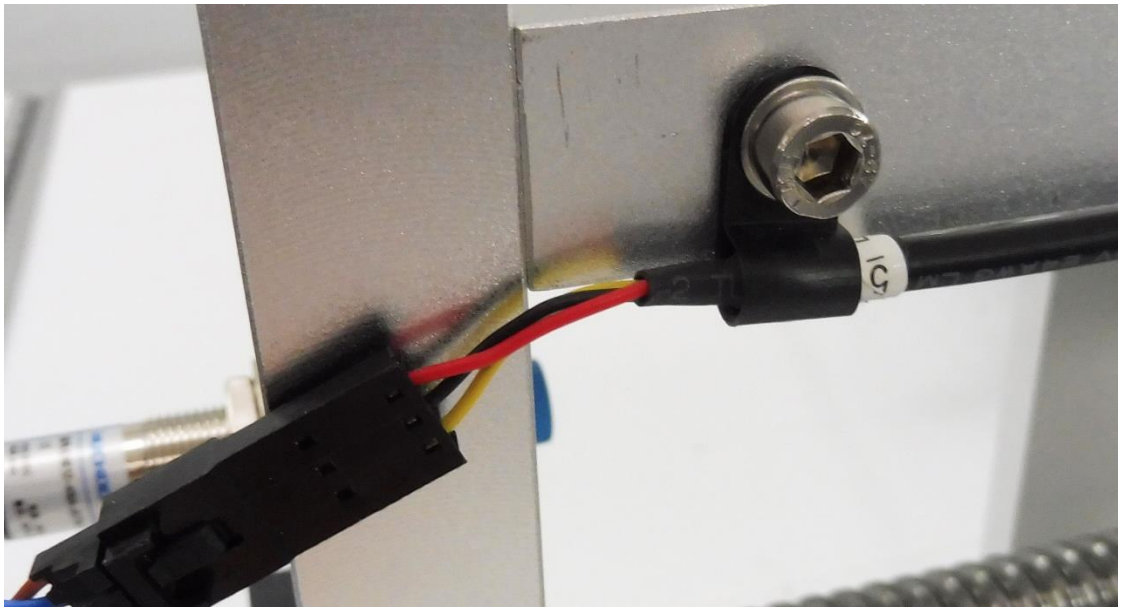
Make sure you have the following:

4 * M5 x 8mm bolts
2 * M5 Washer
2 * M4 x 12mm bolts
2 * M4 Nylon locking nut
2 * 1/8” P-clip

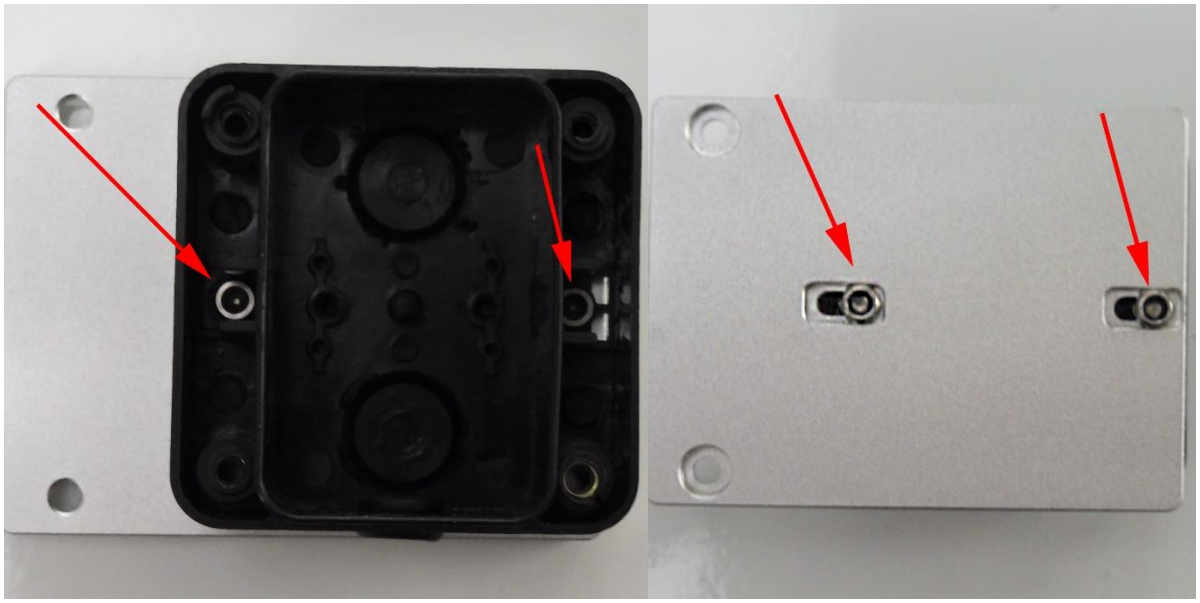
1 * DC-Plate 36
1 * Limit Switch
1 * Emergency Stop



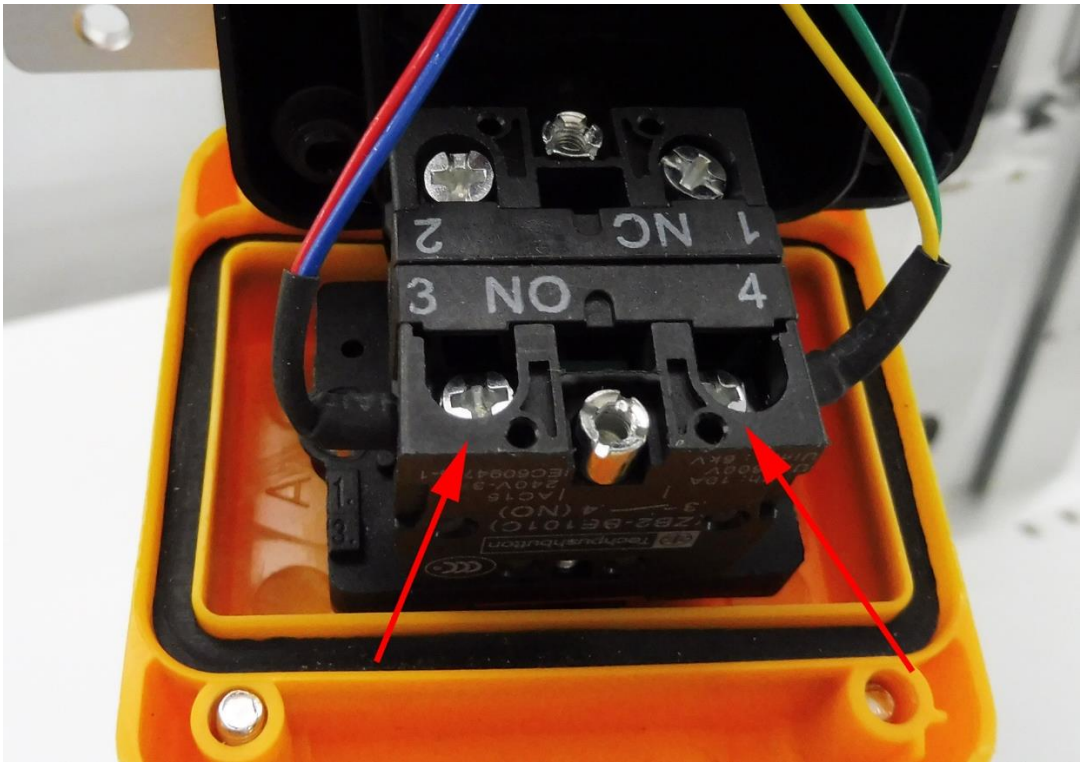
Attach the Limit switch to the frame. Plug it into the cable.



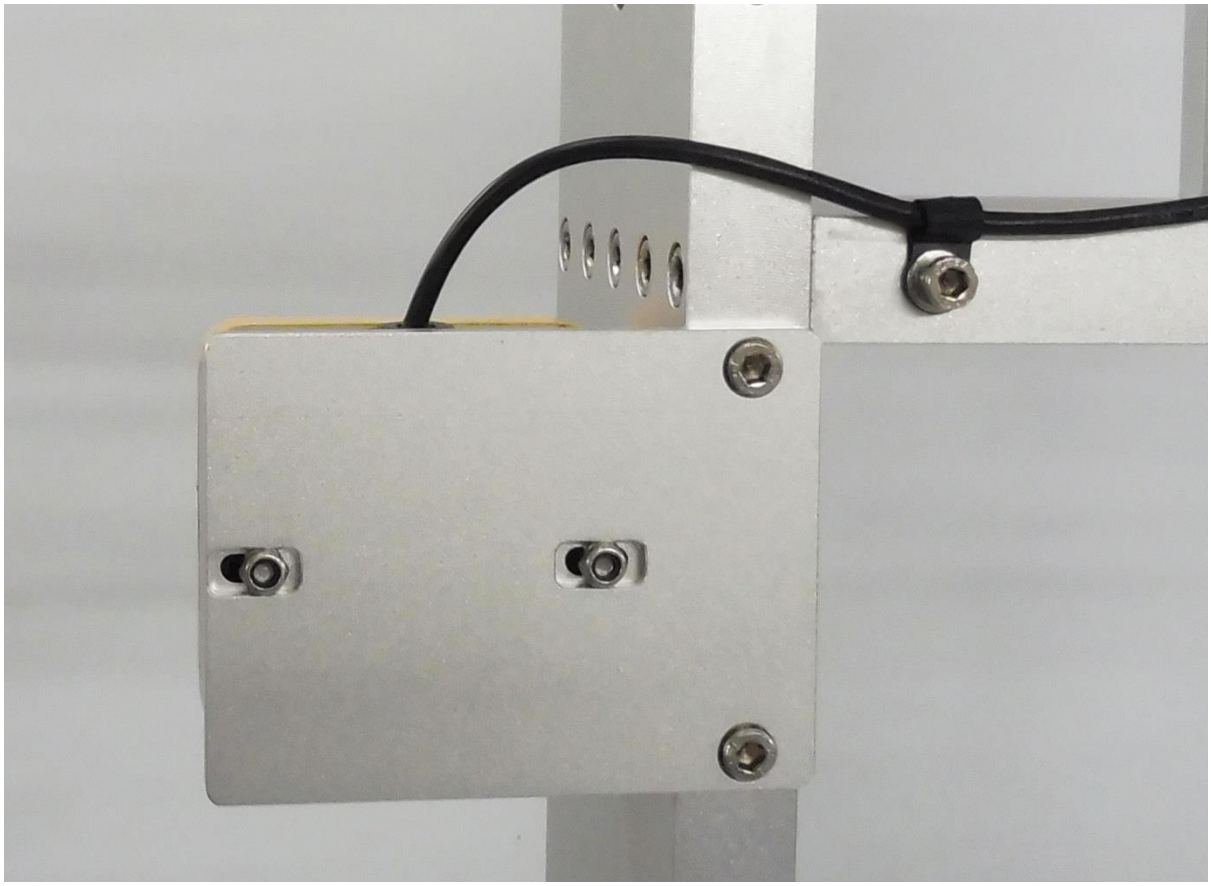
Secure the cable using a 1/8” P-clip, M5 x 8mm bolt and M5 washer.



Secure the emergency stop to DC-Plate 36 with 2 * M4 x 16mm bolts and M4 Nylon locking nuts as shown.



Screw the forks into the normally open terminal in the emergency stop(labeled ‘NO’ 3 + 4).



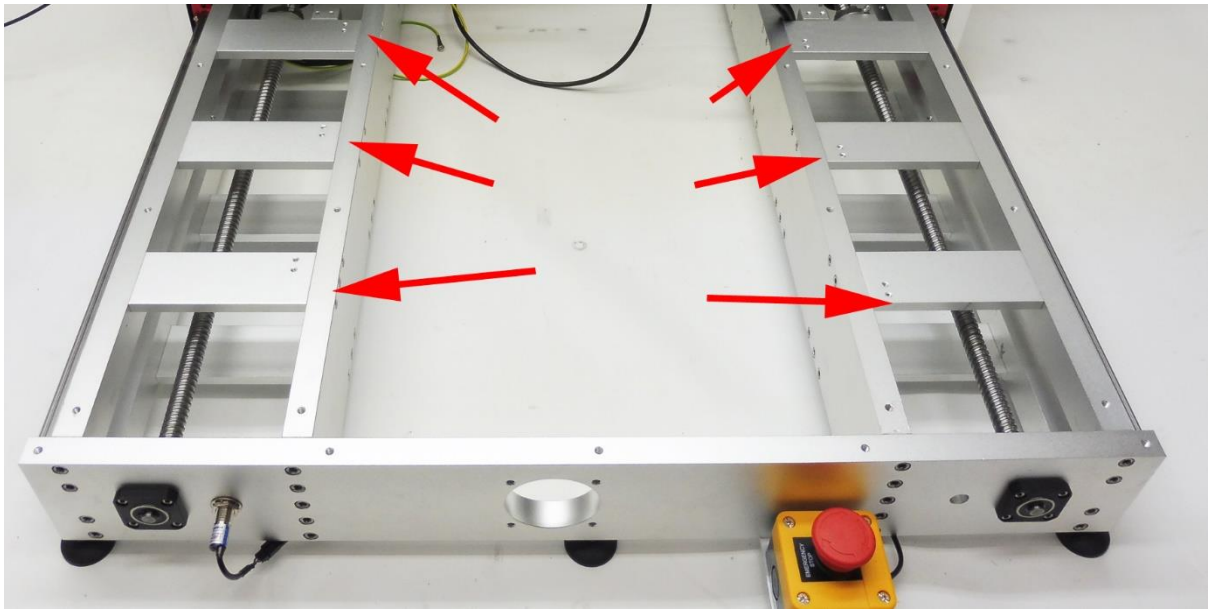
Bolt the emergnecy stop plate onto the frame using 2 * M5 x 8mm bolts then secure the cable using a 1/8” P-clip and an M5 x 8mm bolt, M5 washer.

Make sure you have the following:

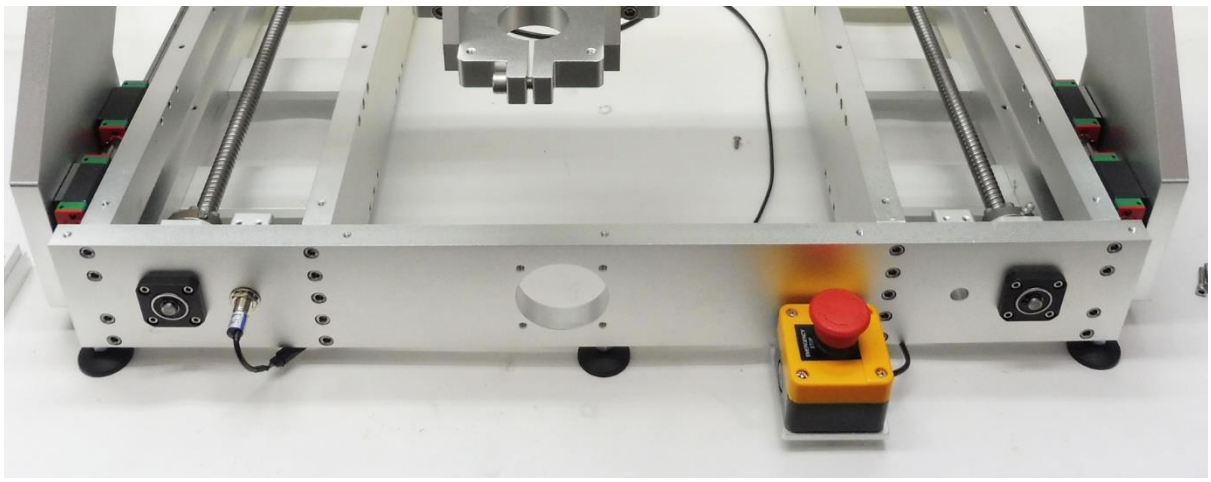
4 * M4 x 8mm bolts
8 * M4 x 10mm countersunk bolts

2 * DC-Plate 35
2 * 520mm long - 20 x 10 Drag chain

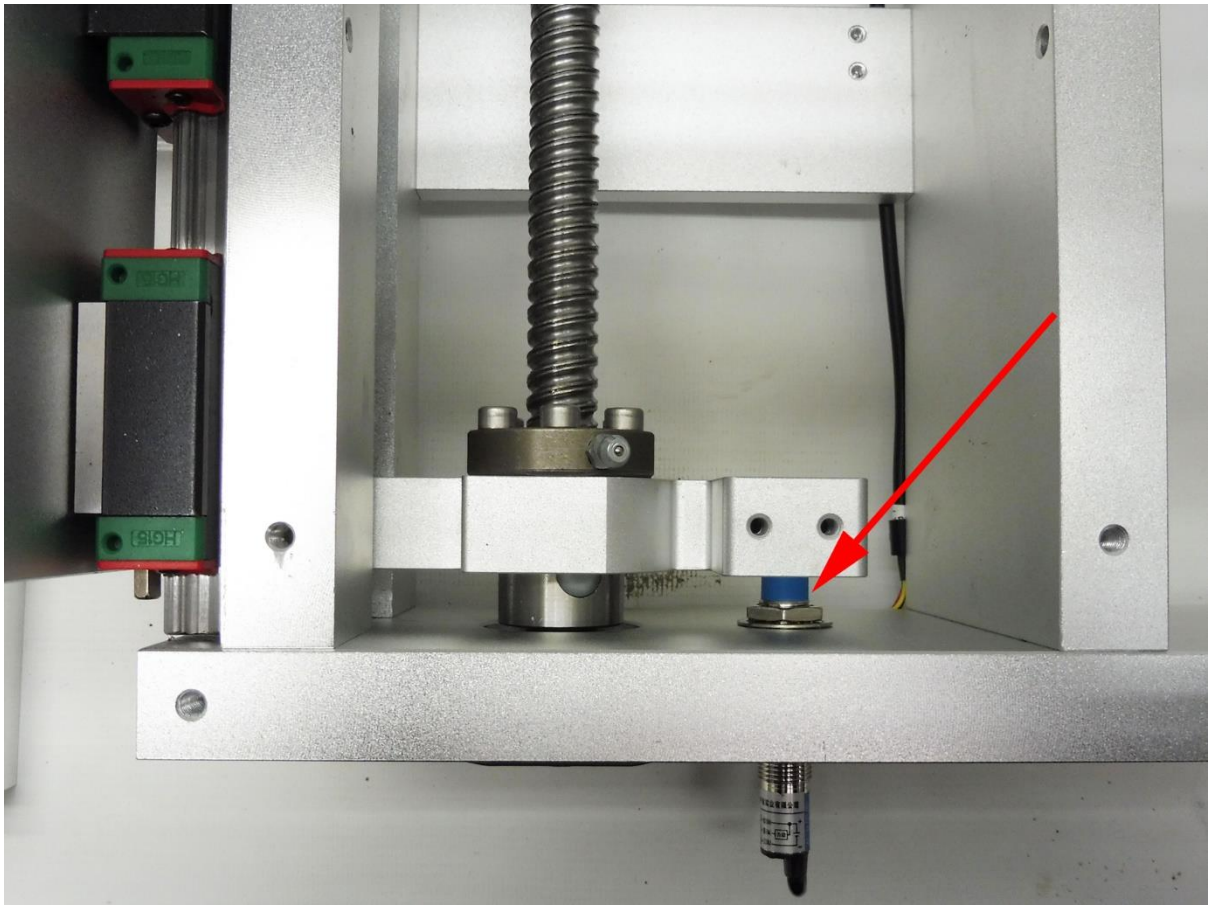
Note: The drag chain has a static bracket and a rotatable bracket on either end. This becomes important in the further steps and the terms will be underlined static or rotatable.



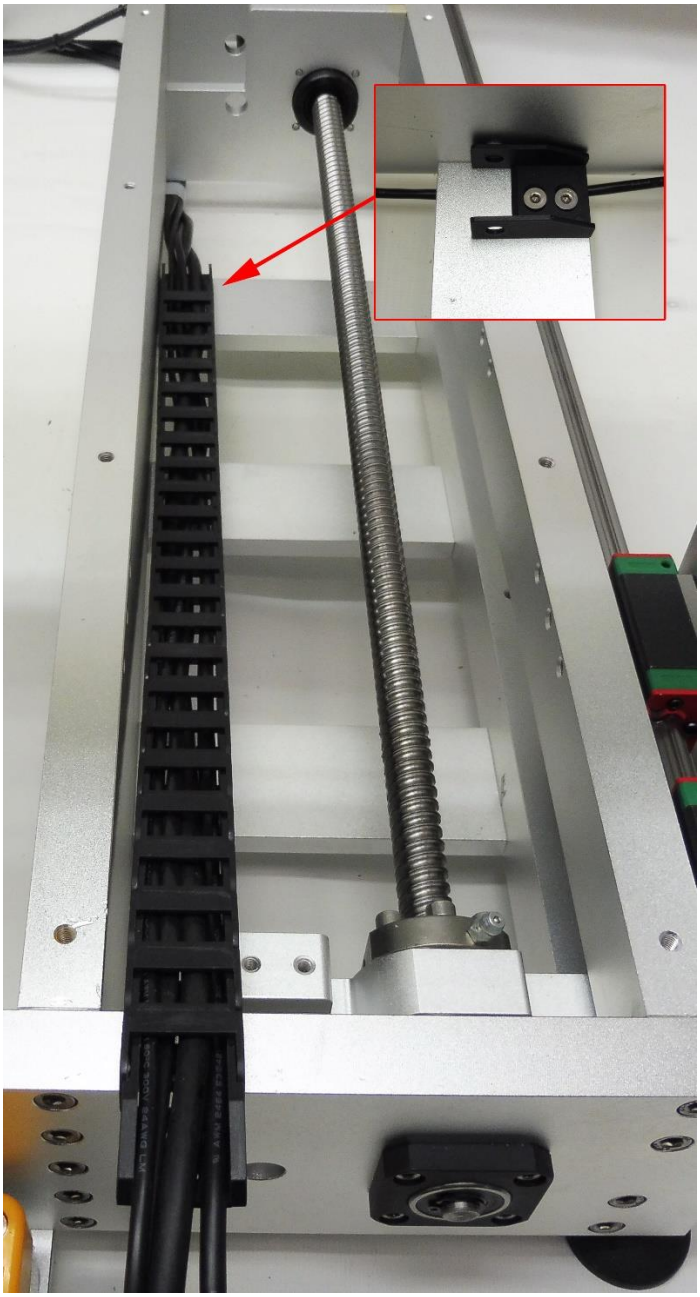
Remove the 6 support plates (DC-Plate 15).



Pull the Y-axis to the front of the machine.

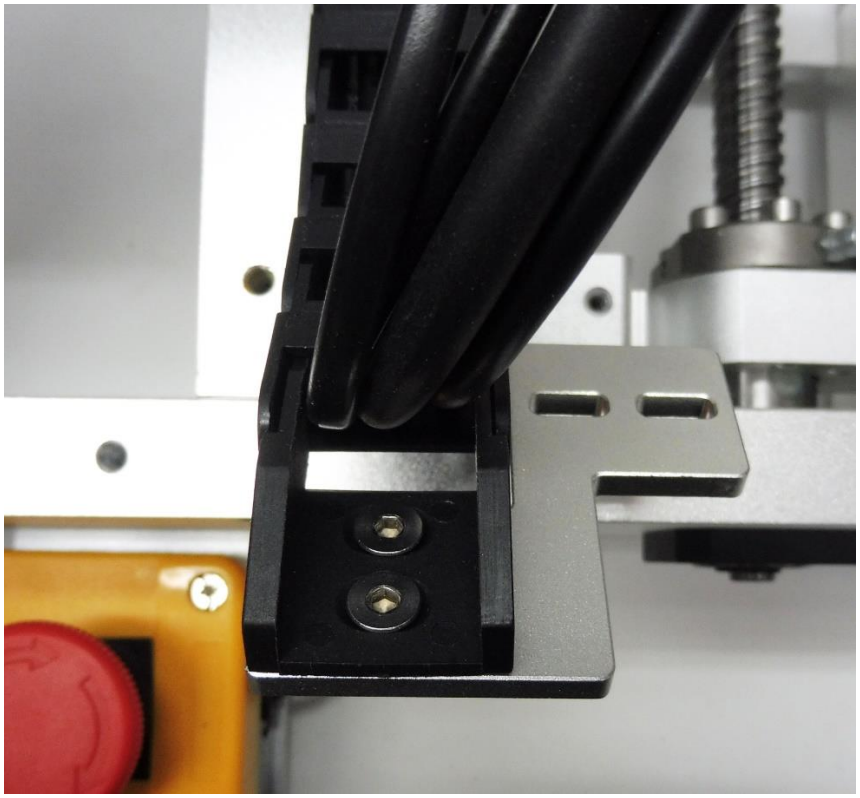


Adjust the Y Limit switch.

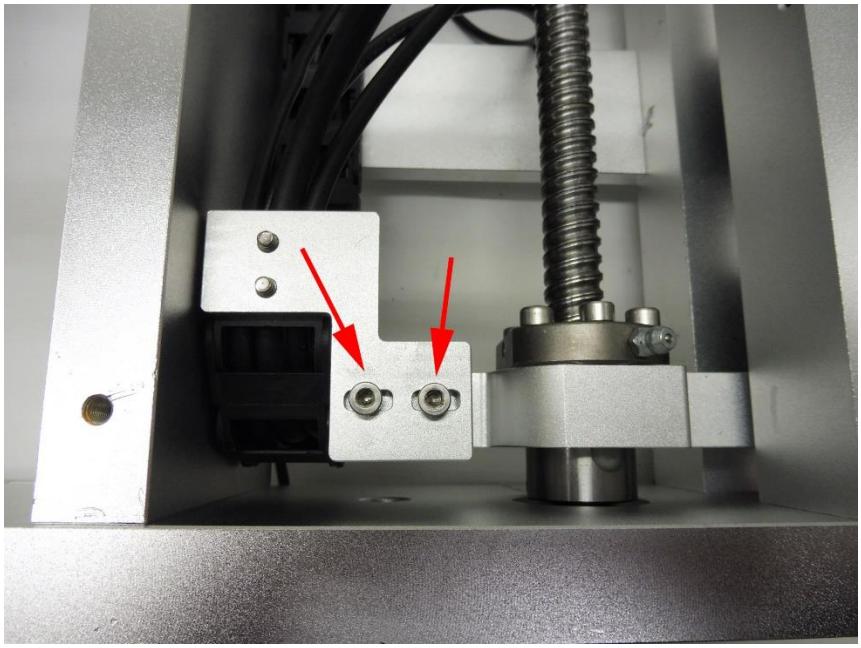


Start with the right hand side of the machine.

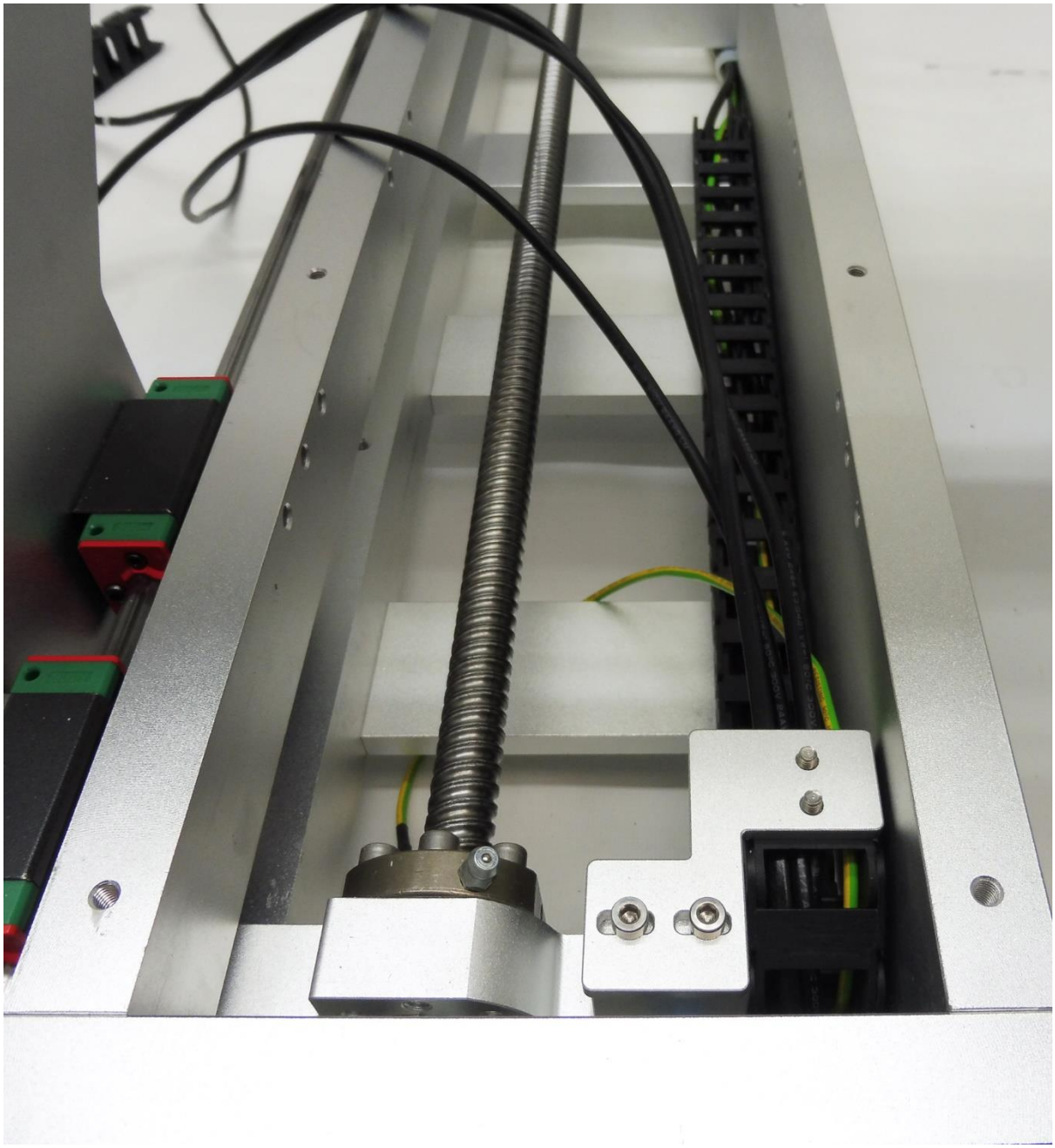
Bolt the static bracket onto the DC-Plate 15 closest to the back of the machine and thread the cables through the drag chain.



Secure the rotatable bracket onto DC-Plate 35 using 2 * M4 x 10mm countersunk bolts.

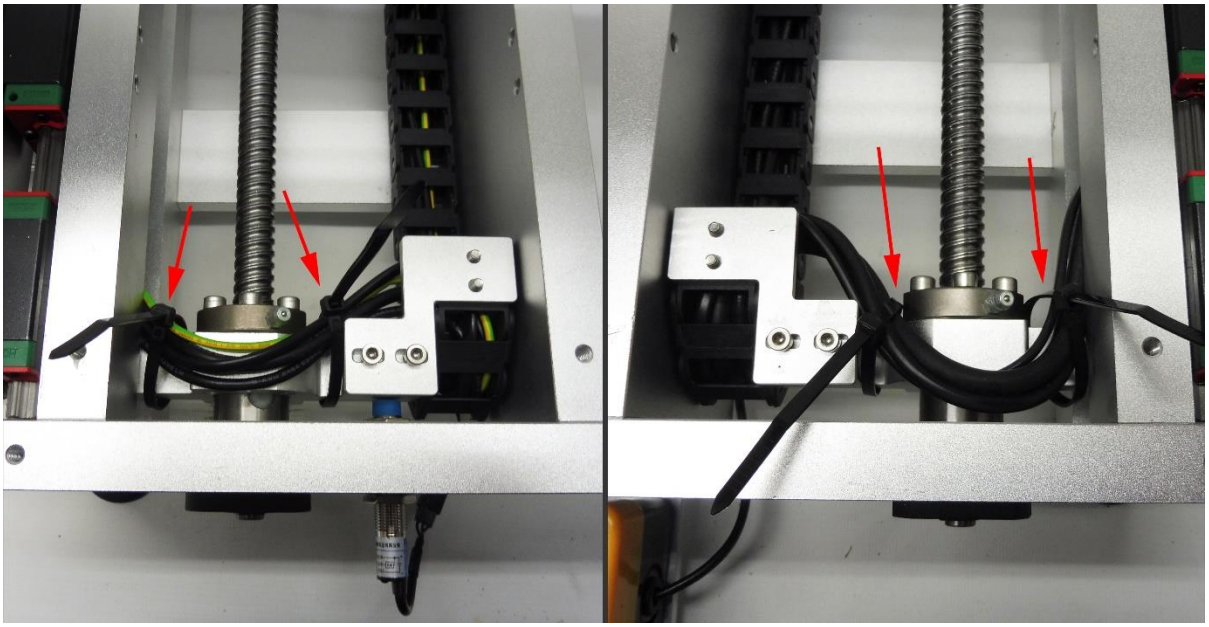


Bolt DC-Plate 35 onto DC-Plate 16 using 2 * M4 x 8mm bolts.



Repeat the same process for the left hand side of the machine.

Ensure that the static bracket is bolted to DC-Plate 15 closest to the back of the machine and the rotatable bracket is secured to DC-Plate 35.



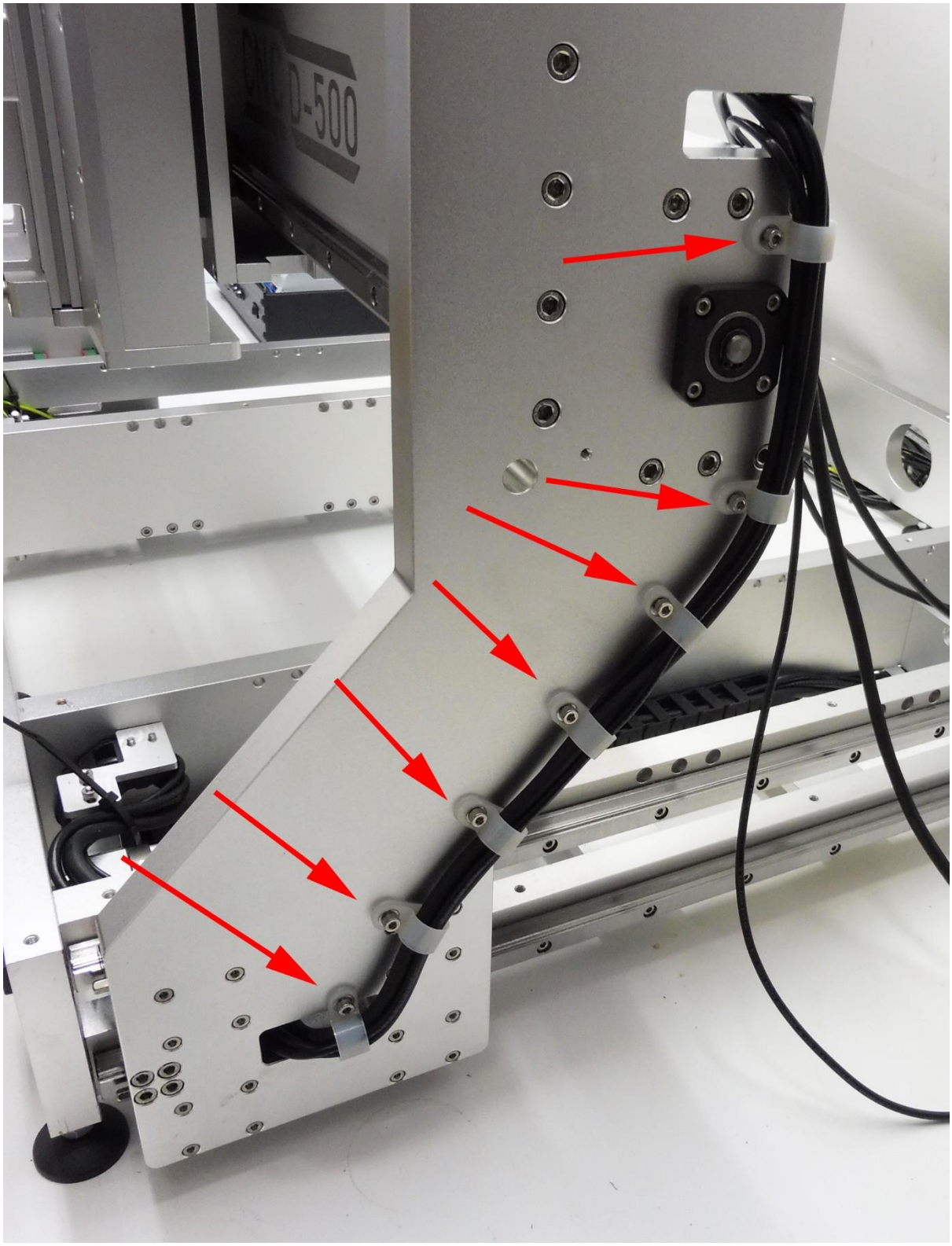
Thread the cables as shown over DC-Plate 16 Using 2 * 8” cable ties for each side.

Leave these cable ties loose.

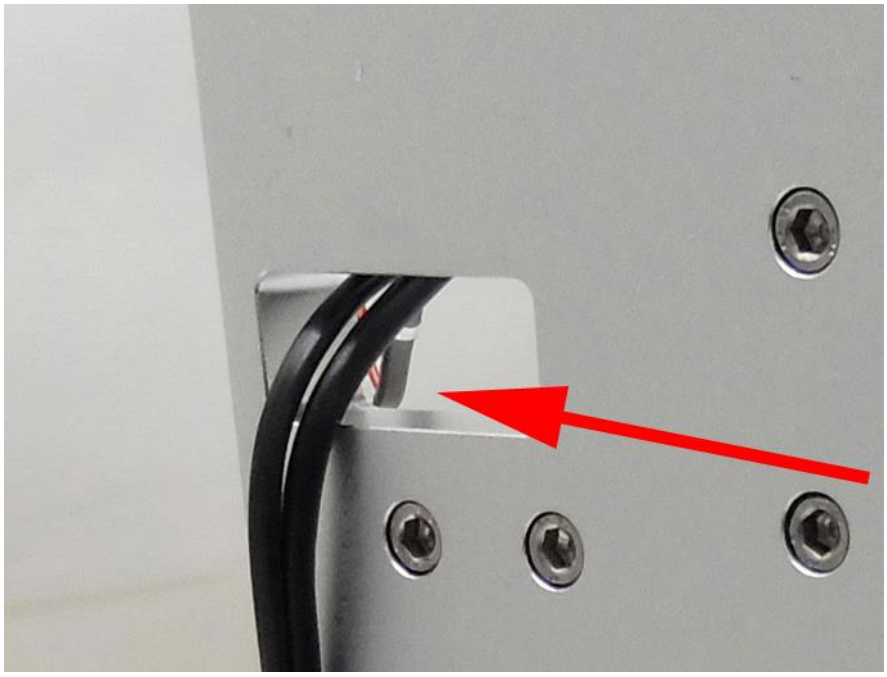
Make sure you have the following:

16 * M4 x 8mm bolts
16 * M4 washers

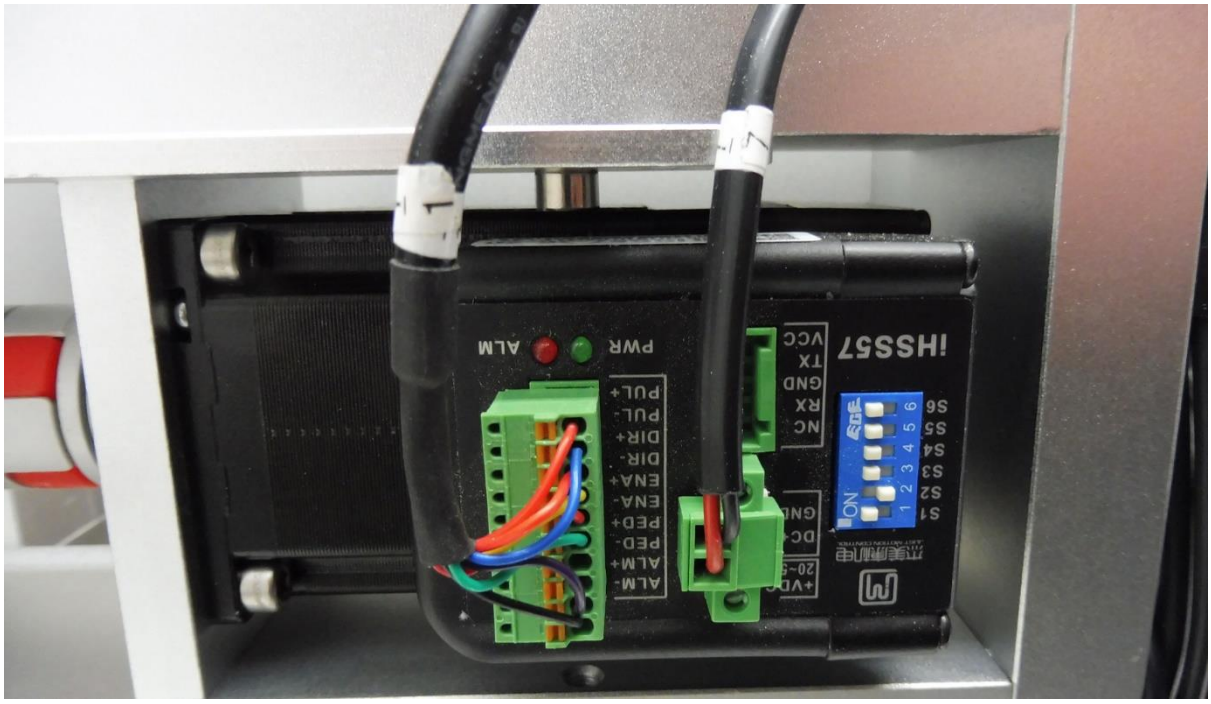
7 * 1/2” P-clips
6 * 1/4” P-clips
2 * 1/8” P-clips



Starting with the right side thread all the cables through the 1/2” P-clips and secure them to the upright arm using 7 * M4 x 8mm bolts, M4 washers.

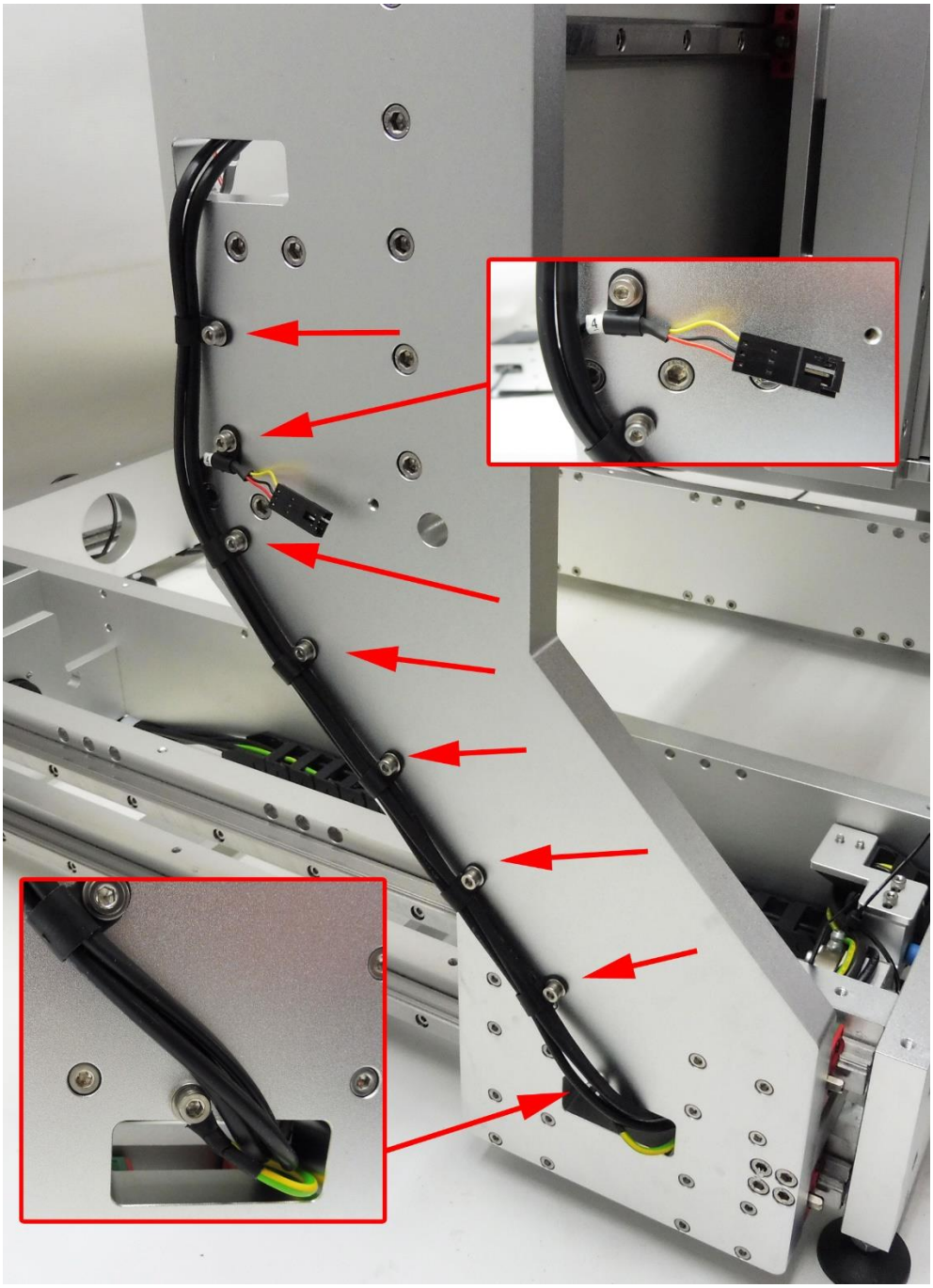


With the left hand upright arm first thread the X-axis signal cable (labeled 1) and X DC motor cable (labeled 7) through the top slot.



Connect the cables to the X axis motor as shown above.

Note: Make sure the jumpers S1-S6 are set to the same value as above.

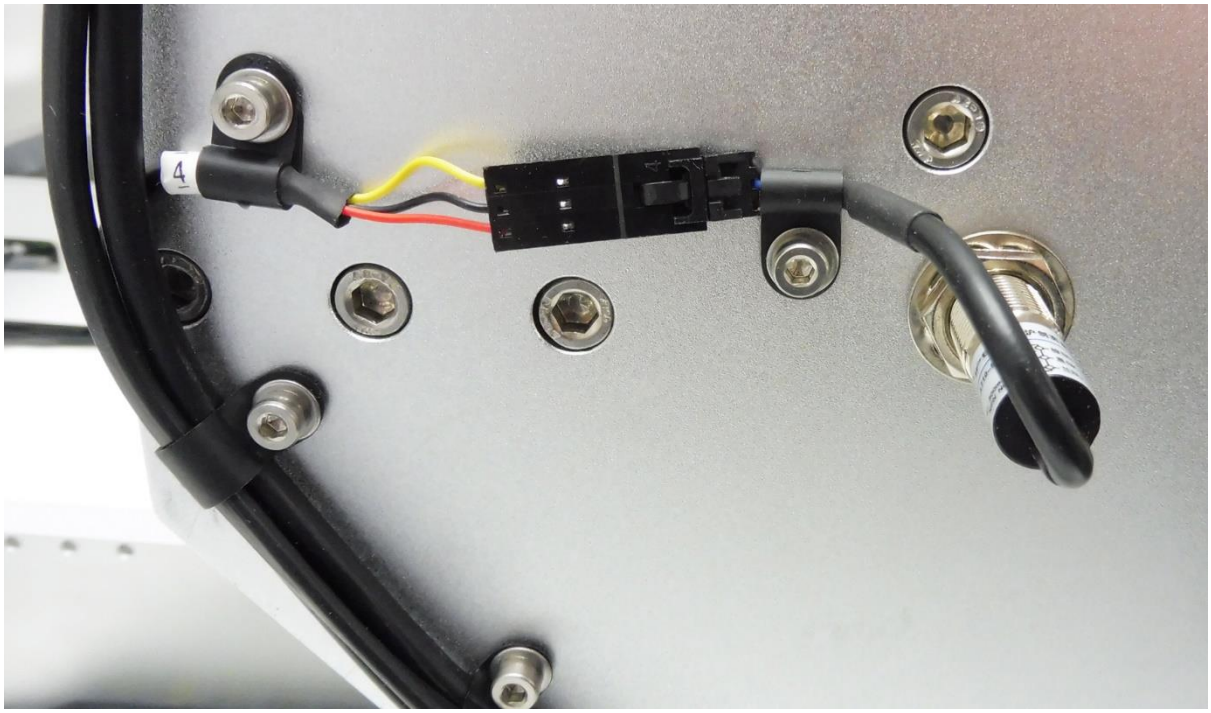


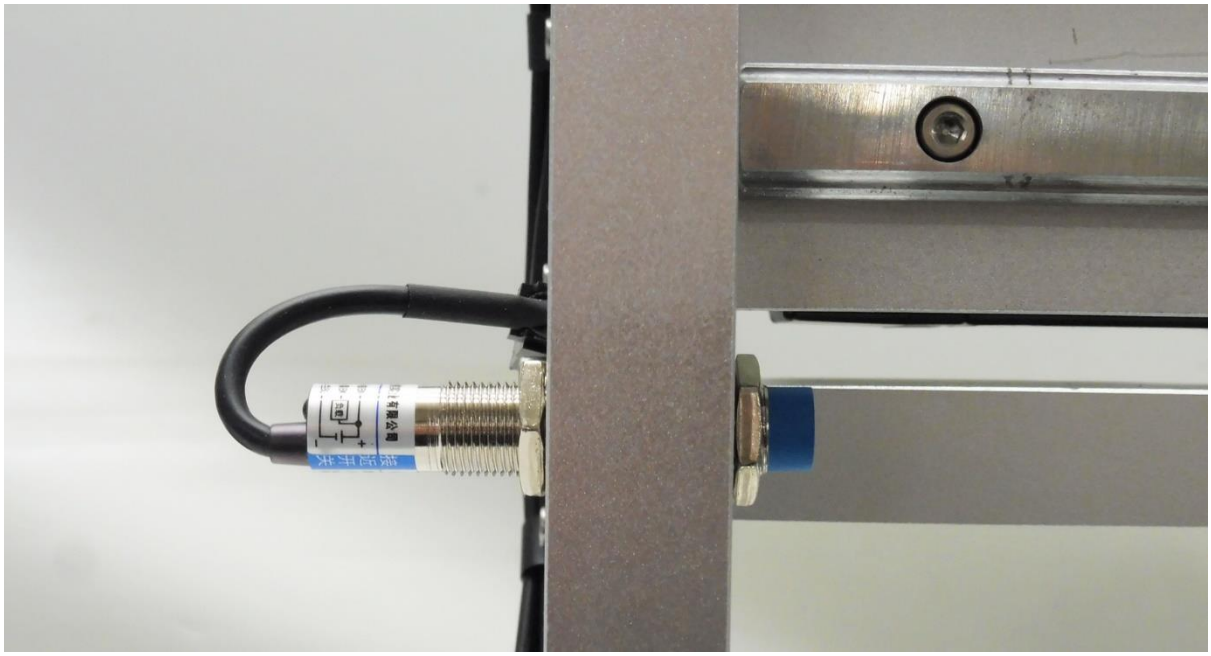
With the left hand upright arm bolt the earth cable to the bottom threaded hole as shown with an M4 x 8mm bolt and M4 washer.

Thread the remaining cables up the armusing 1/4" P-clips and 6 * M4 x 8mm bolts, M4 washers.

Secure the X Limit switch (labeled 4) with a 1/8” P-clip and M4 x 8mm bolt, M4 washer.

Note: Thread any left over slack back through the loose cable ties attached to DC-Plate 16 and through the drag chain to the back of the machine.



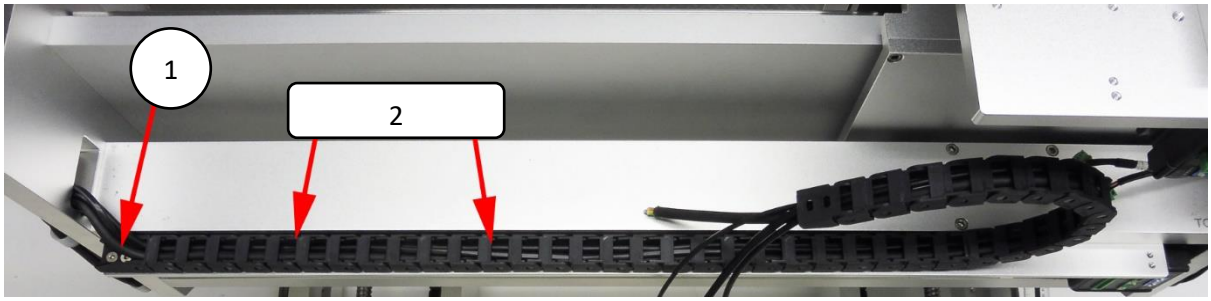


Fasten the X limit switch into the upright arm and secure the cable using a 1/8” P-clip and M4 x 8mm bolt, M4 washer.

Make sure you have the following:

6 * M4 x 10mm countersunk bolt

1 * 880mm long – 15 x 10 Drag chain

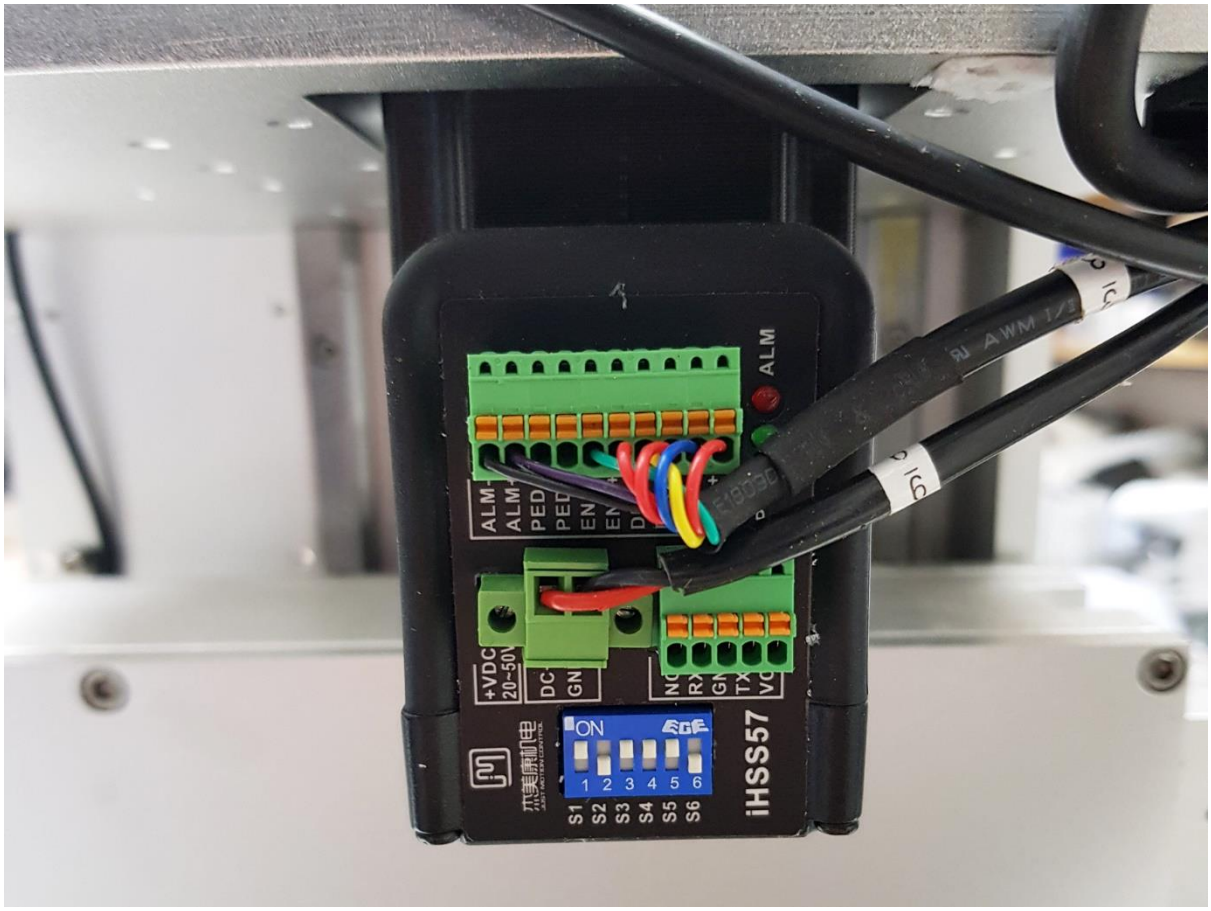


No.1) Secure the static drag chain bracket to DC-Plate 34 using 2 * M4 x 10mm countersunk bolts.

No.2) There will be 2 slotted chain links in the drag chain, using 2 * M4 x 10mm countersunk bolts to securely fasten those links to DC-Plate 34.

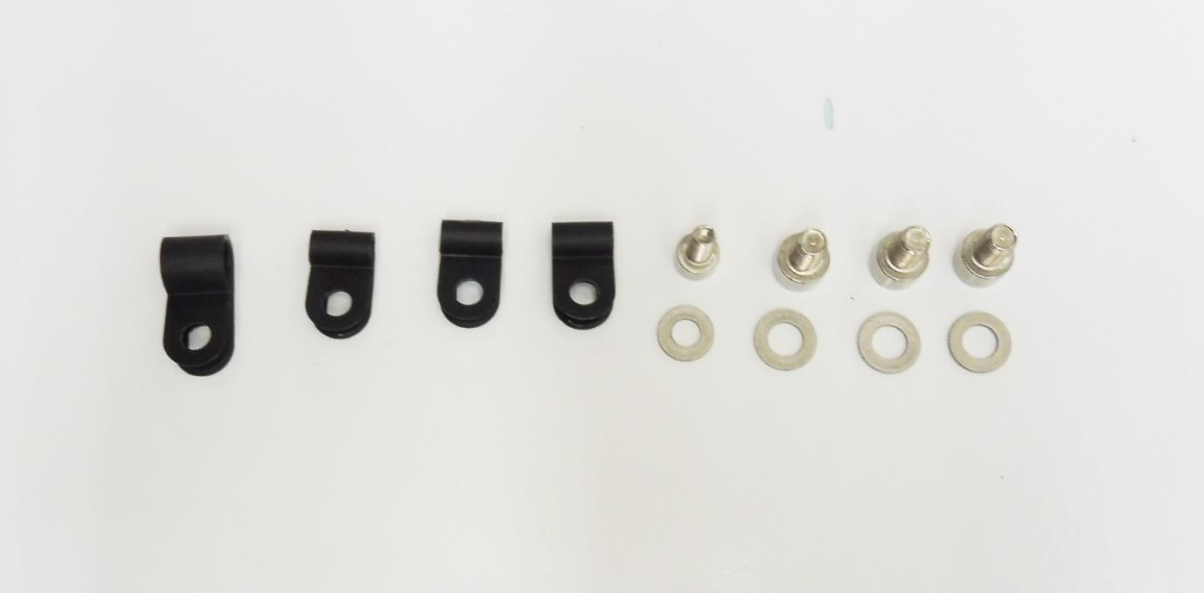
Now thread the cabling through the drag chain.

Attach the rotatable bracket to DC-Plate 8 using 2 * M4 x 10mm countersunk bolts.



Connect the cables to the Z axis motor as shown above.

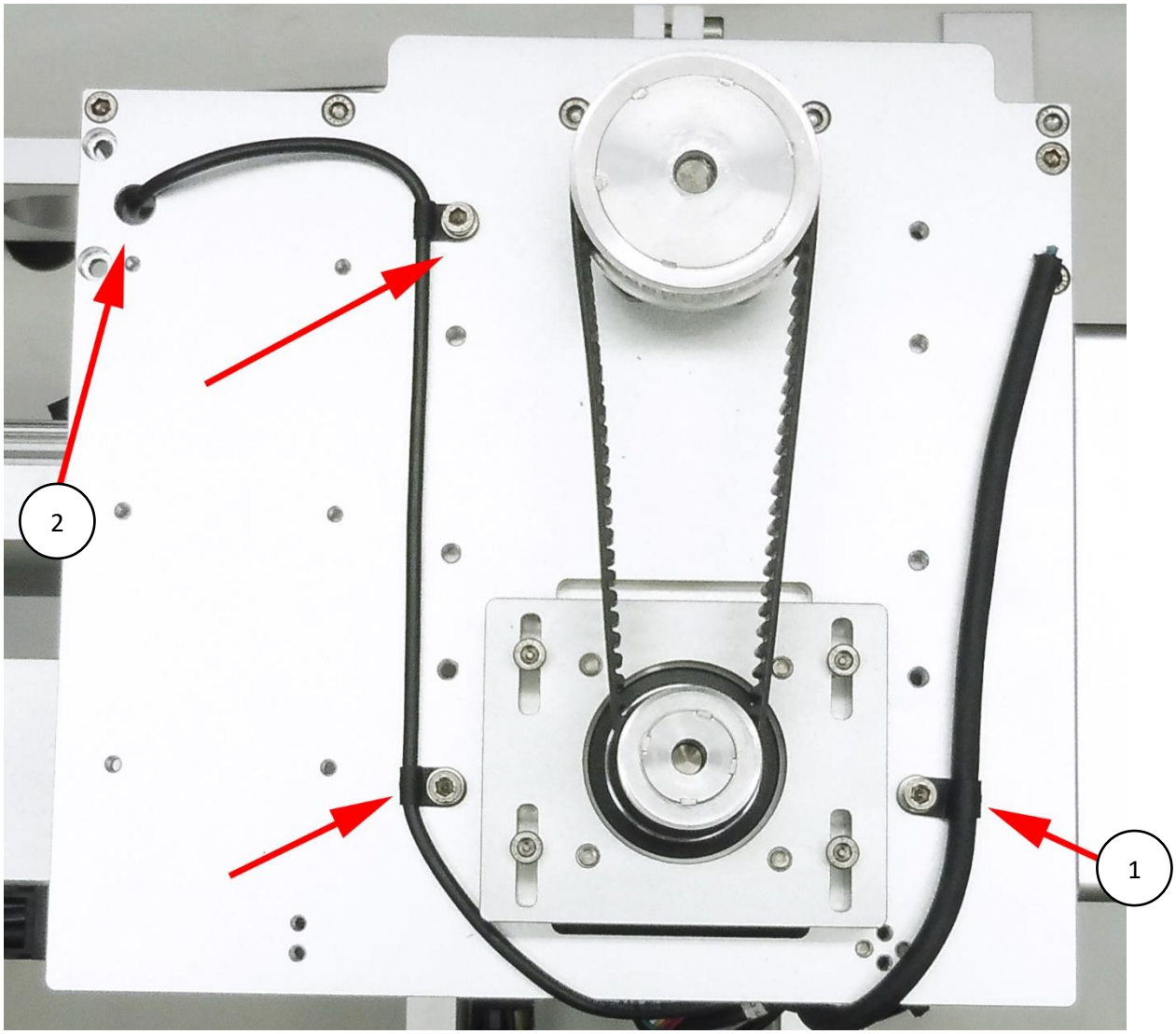
Note: Make sure the jumpers S1-S6 are set to the same value as above.



Make sure you have the following:

1 * 1/4” P-clip
3 * 1/8” P-clip

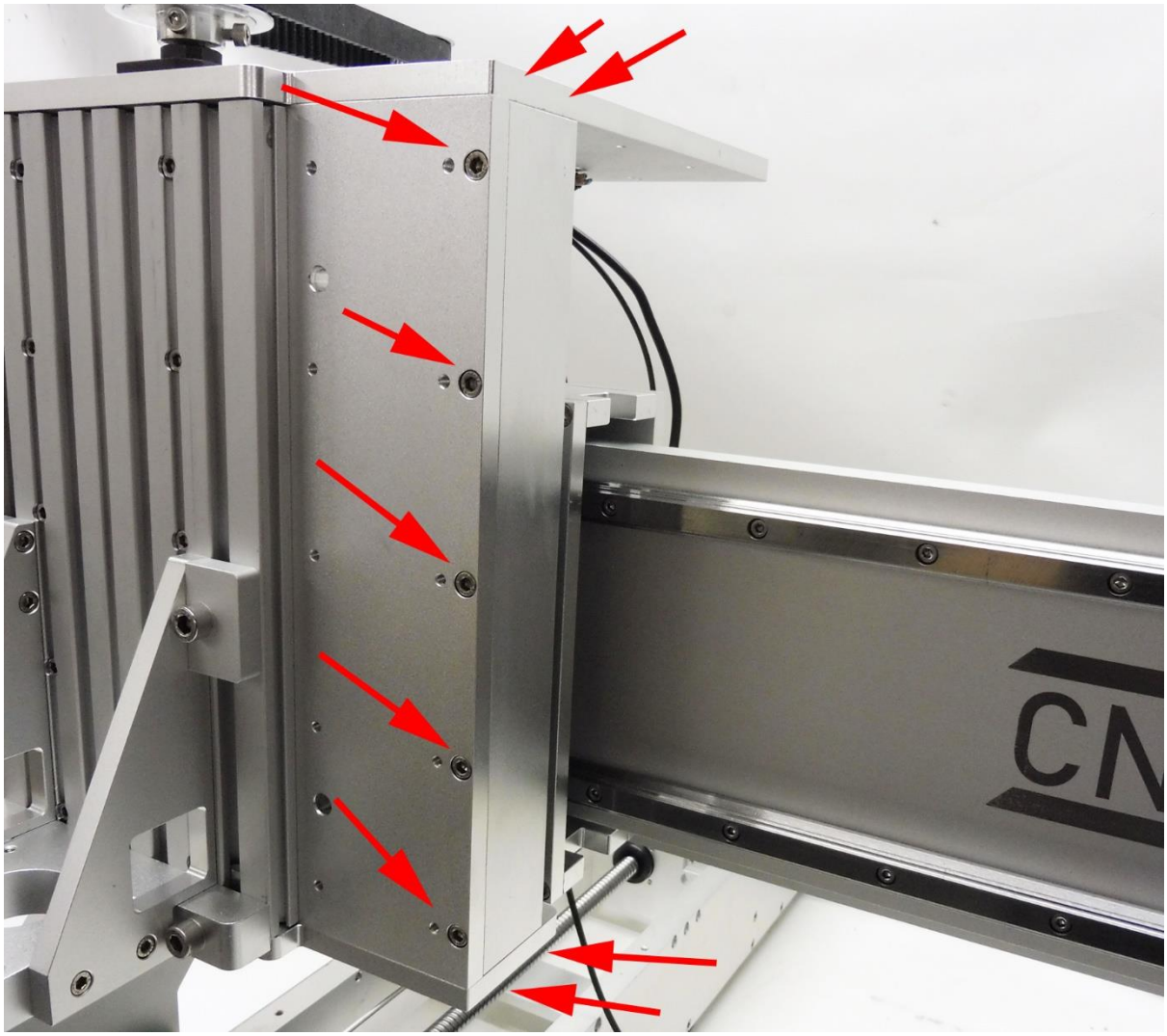
1 * M4 x 8mm bolt
1 * M4 washer
3 * M5 x 8mm bolt
3 * M5 washer



No.1) Secure the Spindle cable using a 1/4" P-clip and an M5 x 8mm bolt, M5 washer.

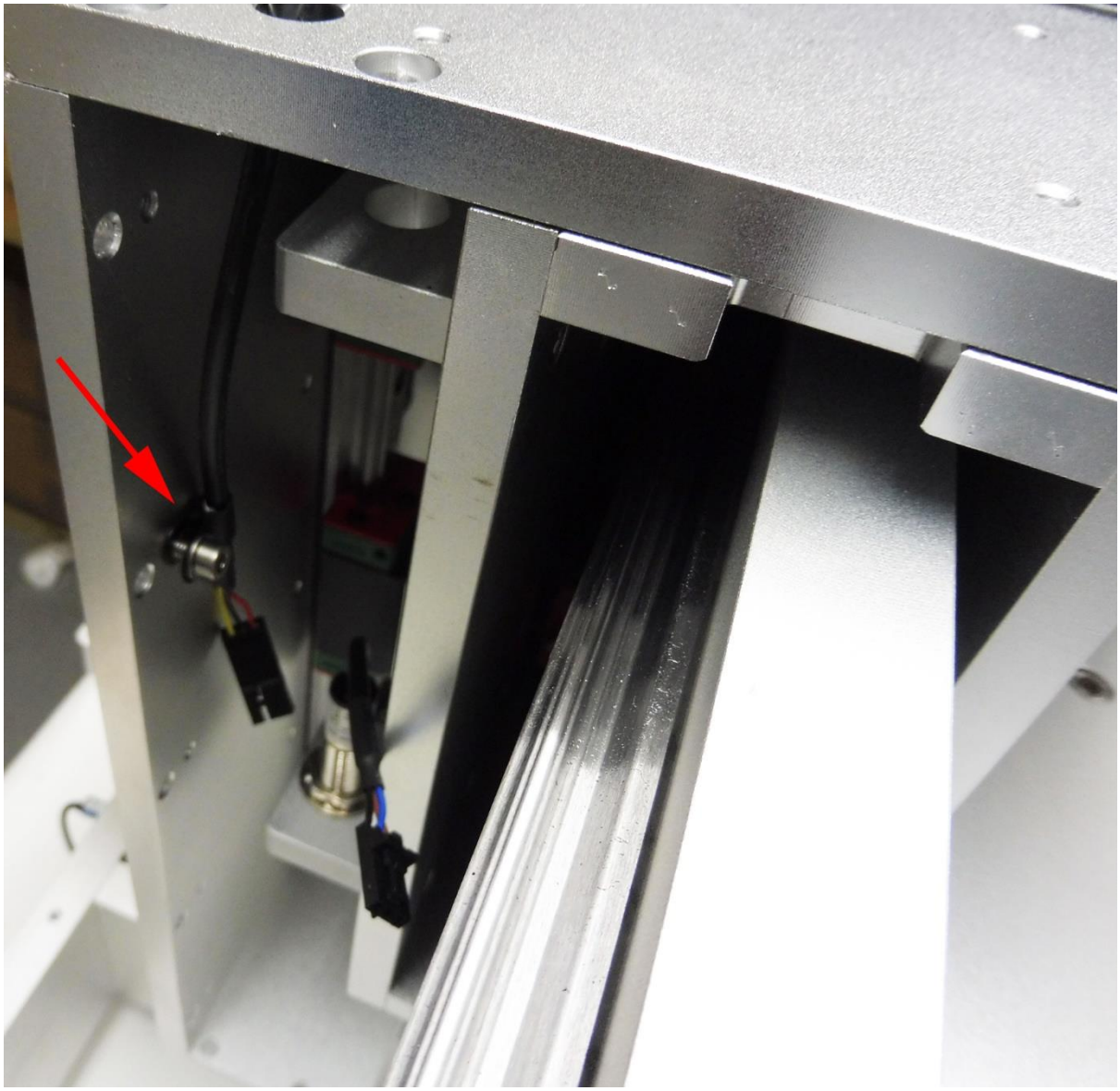
No.2) Thread the Z Limit switch cable (labeled 6) through the slot.

Attach the Z Limit switch cable to DC-Plate 8 using 2 * 1/8” P-clips and 2 * M4 x 8mm bolts, M4 washers.



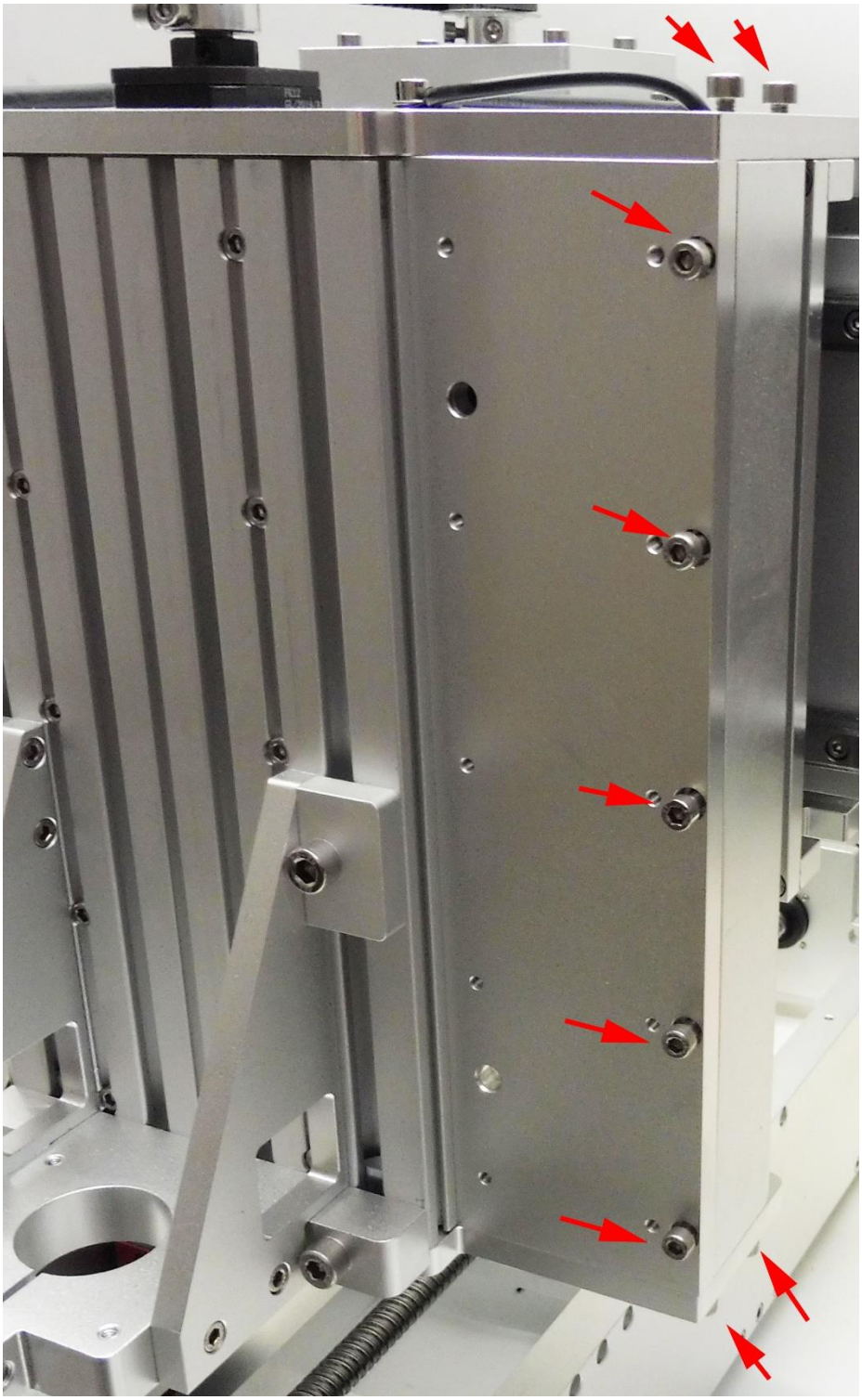
Take off DC-Plate 7 by removing the 9 bolts indicated with arrows.

Attach the Z-Axis Limit switch as shown.

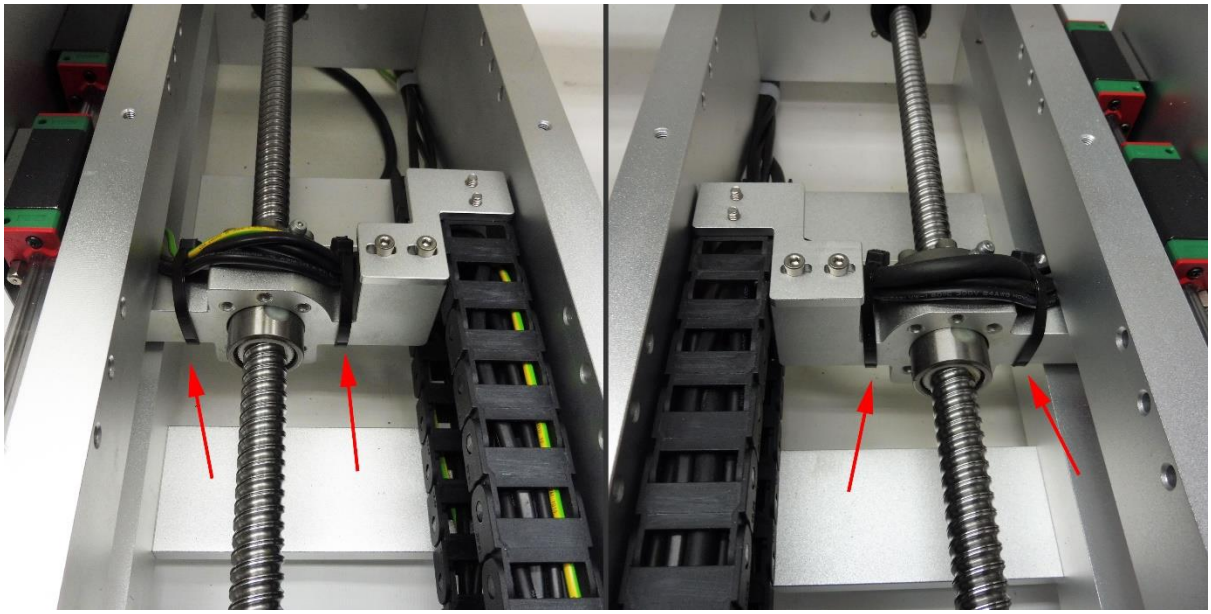


Secure the Z Limit switch cable into the second from the top threaded hole using a 1/8” P-clip and M4 x 8mm bolt, M4 washer.

Join the switch together and ensure you have full travel along the Z-axis.

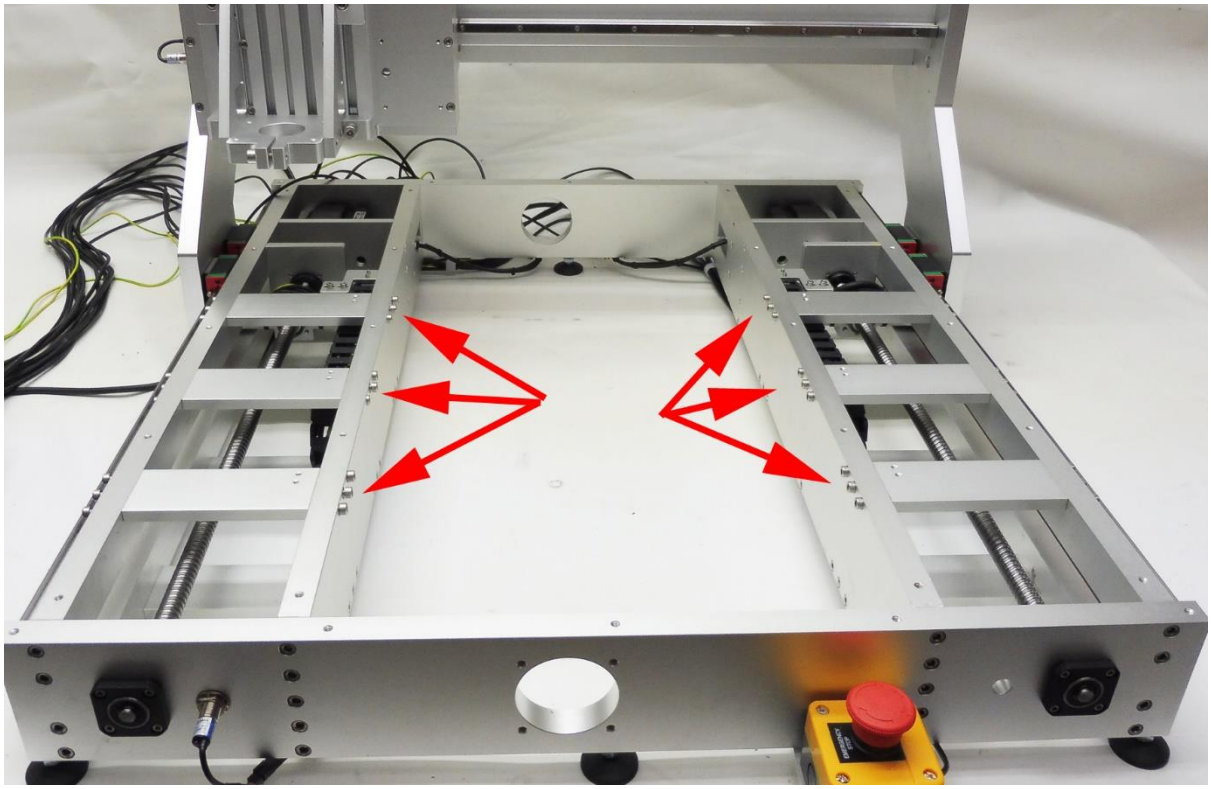


Fasten DC-Plate 7 back onto the machine.



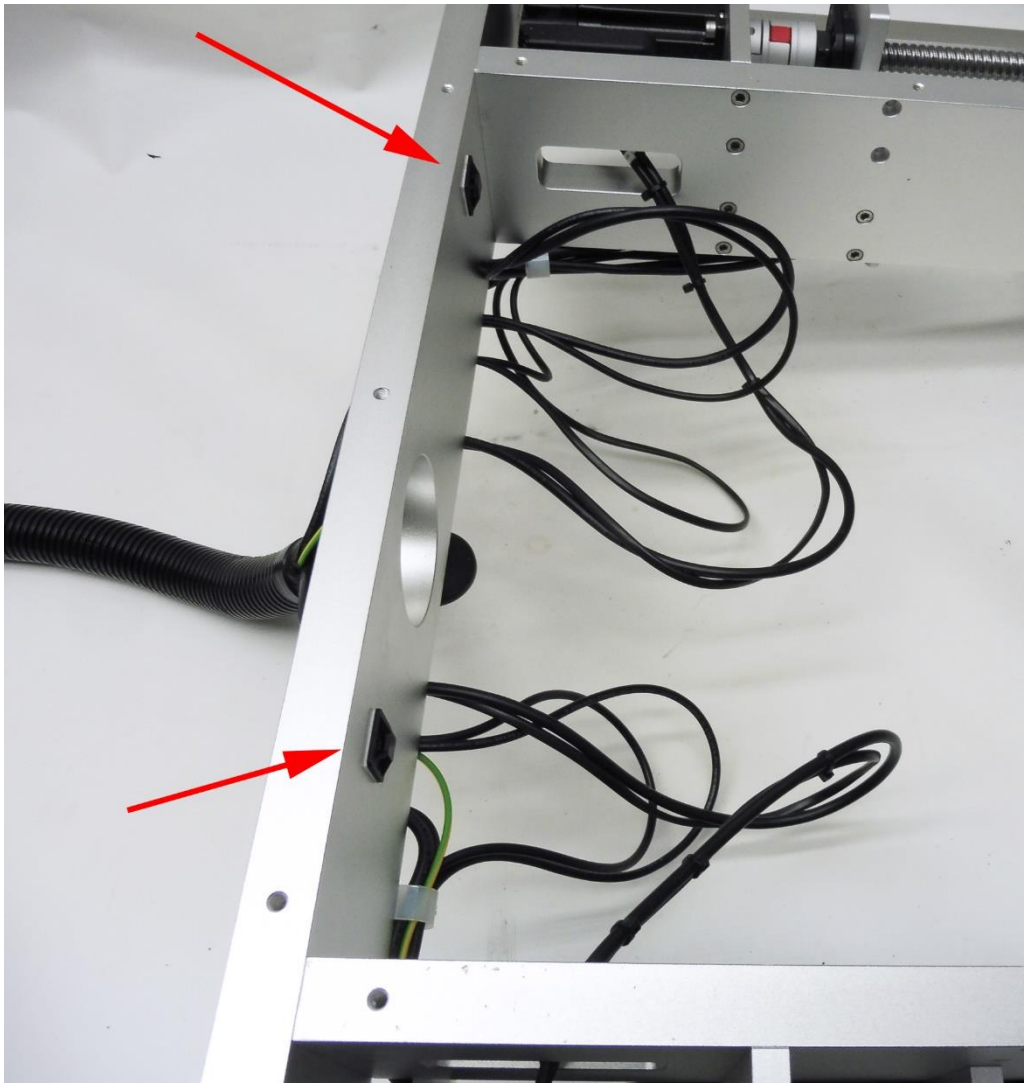
Take up any slack on the Z-axis and thread back through the drag chain.

Once all the cabling is secured tighten the 4 cable ties as shown above.

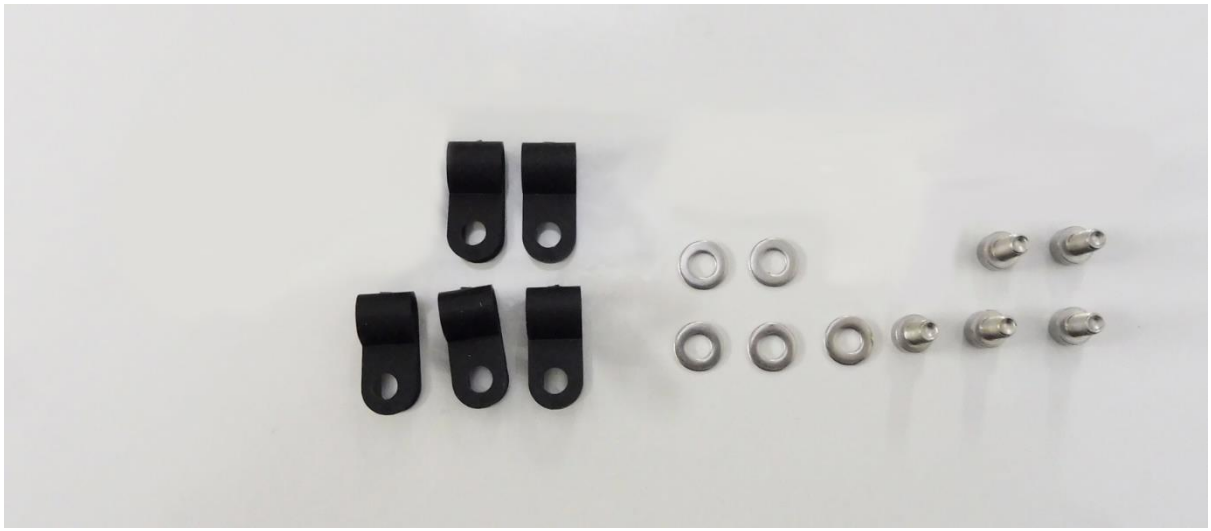


Attach all the support DC-Plate 15’s back onto the machine.

Insert the cabling from the back of the machine into the 1.2 Meter conduit.



Attach 2 cable tie mounts as shown above.



Make sure you have the following:

5 * 1/4" P-clip

5 * M4 x 8mm bolts

5 * M4 washers

Secure the leftover cables using the 1/4” P-clips and M4 x 8mm bolts, M4 washers.

Ensure that the loose cable is within the machine frame.

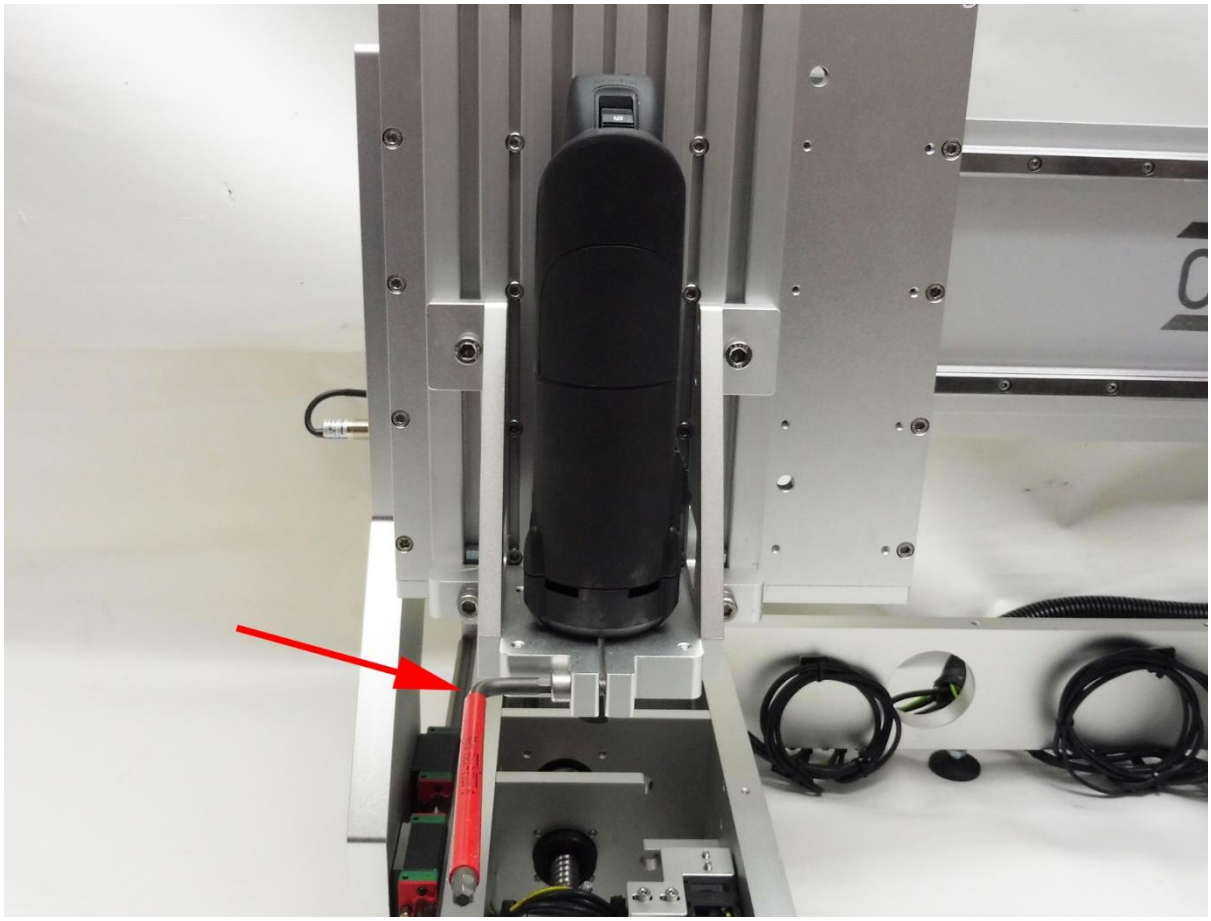
Tie the bundles of cable together and secure onto the cable tie mounts.

Make sure you have the following:

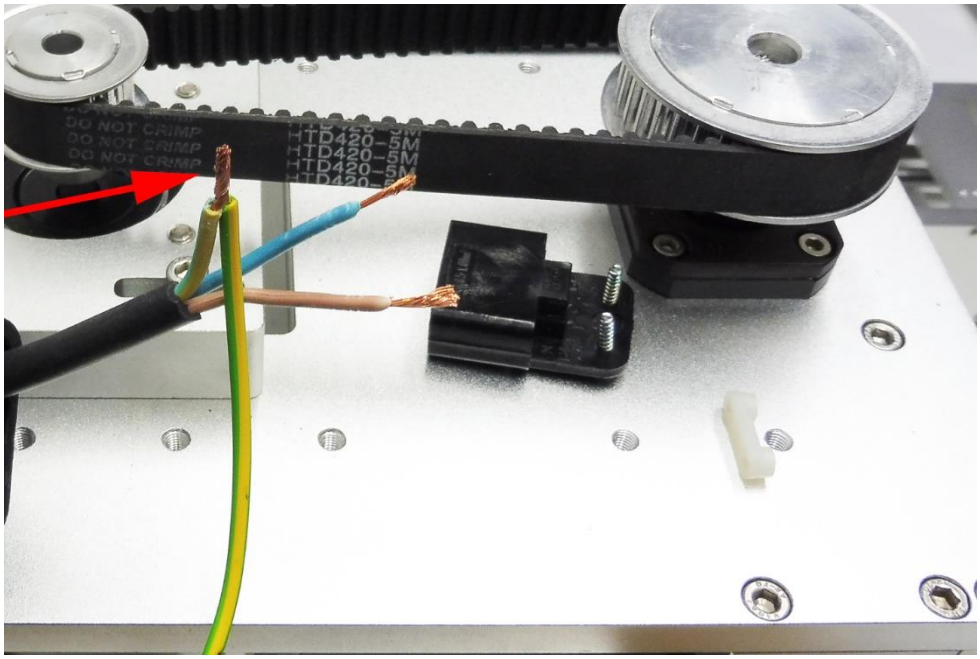
1 * AMB Spindle
1 * Spindle lead
1 * 3 pin plug
1 * Earth cable

1 * M5 x 8mm bolt
1 * M5 washer
1 * M4 x 8mm bolt
1 * M4 washer
1 * 1/4" P-clip

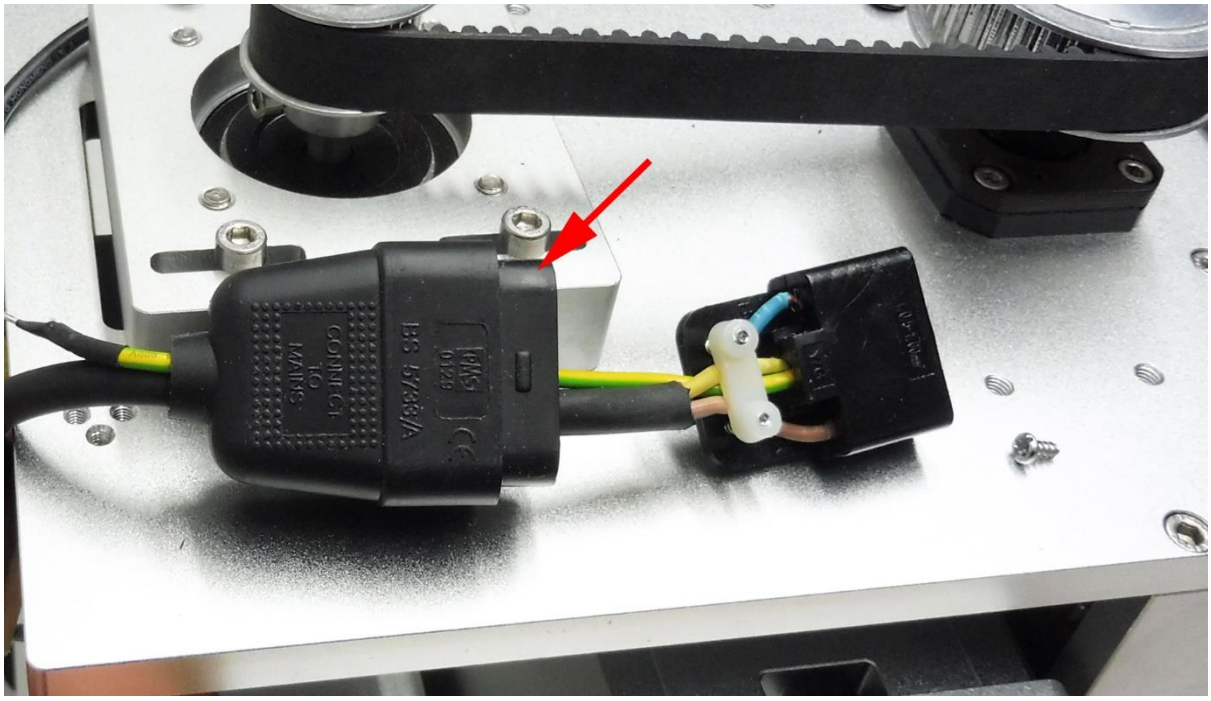
Unscrew the 3 pin plug.



Secure the spindle into the spindle holder using an M8 allen key.

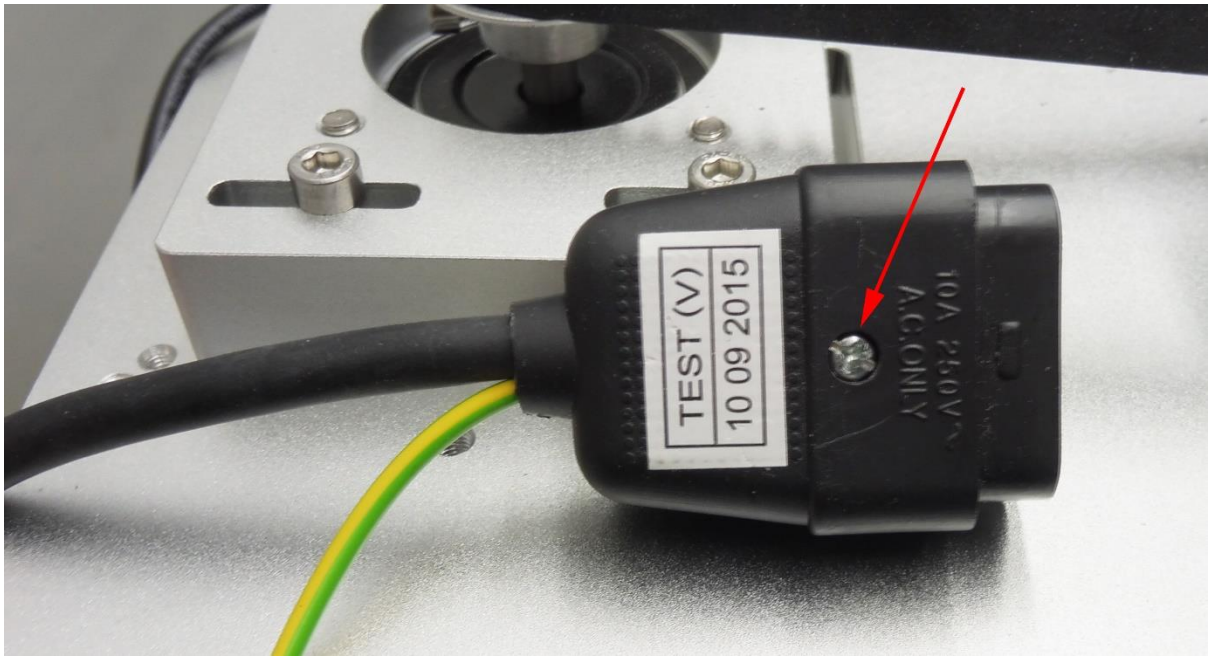


Strip back the spindle cable and twist together the ground lines.

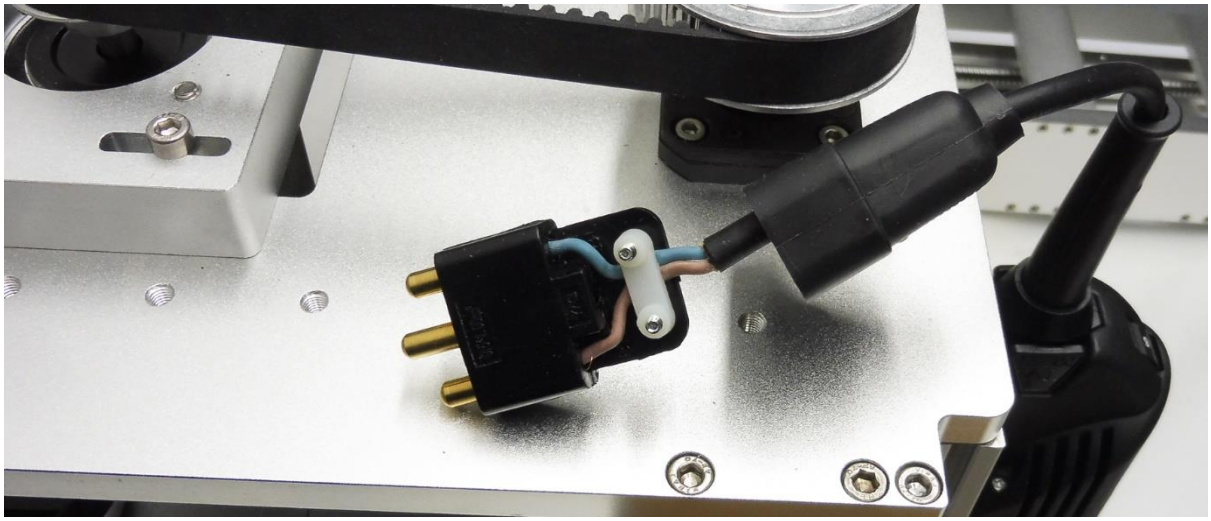


Wire into the plug as shown.

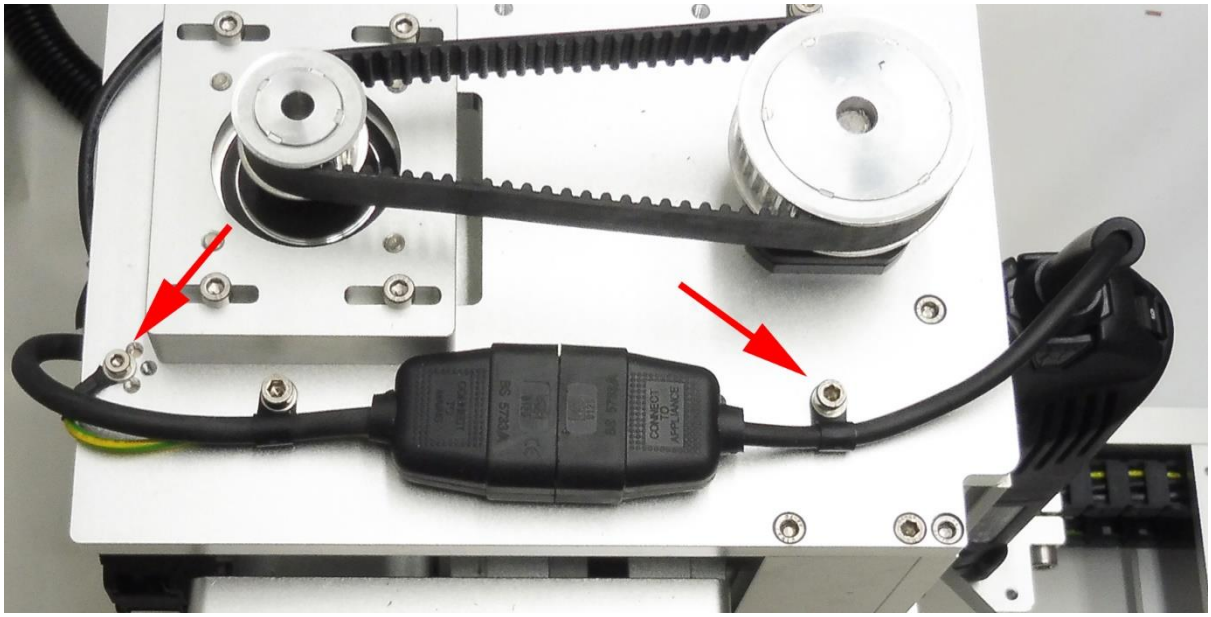
Ensure the right cover is on.



Screw the plug back together.



Cut down and trip back the spindle lead and wire it into the plug as shown above then screw the cover on.



Secure the spindle lead onto DC-Plate 8 with a 1/4" P-clip and M5 x 8mm bolt, M5 washer.

Mount the earth cable to DC-Plate 8 using an M4 x 8mm bolt and M4 washer.