


R0015299 Install Spindle control pipework and fittings

Fitting of control pipes and connections

 Difficulty **Hard**

 Duration **4 hour(s)**

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Comments

Introduction

Tools Required

Pipe cutters

Standard screwdriver set

Standard hex key set

Standard spanner set

Parts Required

D0010807 upstand collar x 32

P0001023 6mm compact y x 4

P0000456 M5-4mm straight fitting x 24

P0001091 Bulkhead 6mm straight x 24

P0001093 6mm - 4mm stem elbow x 8

Step 1 - unless otherwise stated

Use Loctite 243 on all fasteners

Pen mark all fasteners to show finalised



Step 2 - Quality

It is vital that no air pipes are kinked on installation .

Ensure all pipes are checked for correct running .

Example attached of kinked pipe



Step 3 - Mount Single plunge valves

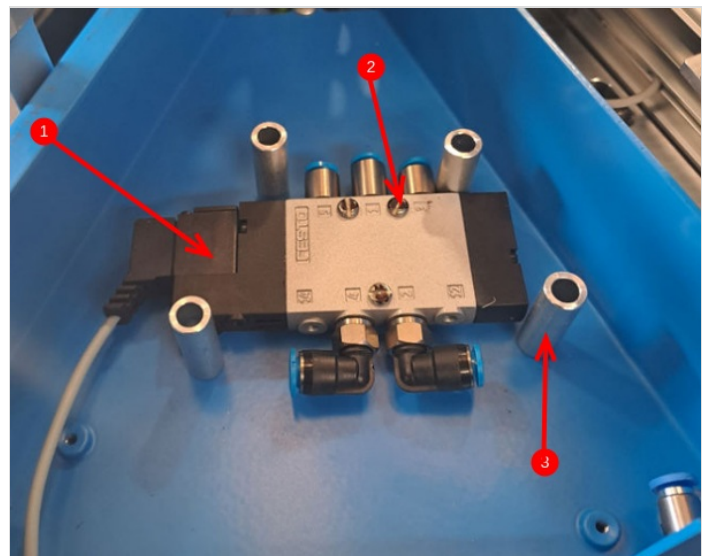
4 off

1 Mount pre assembled valve into spindle connection boxes to the left of the single slide spindle assembly (as viewed from rear)

2 Use 3 off M3 x 12 pan heads to secure valve to connection box as shown

3 Before tightening, add 4 off D0010807 upstand collars to define position of valve mounting

4 Finalise fixing



Step 4 - Mount Double plunge valves

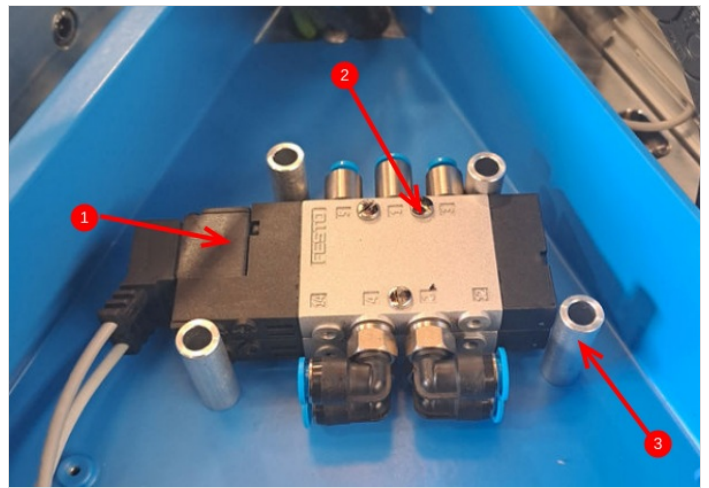
4 off

1 Mount double stack of valves into spindle boxes to the left of the double plunge spindle assemblies. (as viewed from rear)

2 Use 3 off M3 x 25 pan heads to secure valve to connection box as shown

3 Before tightening, add 4 off D0010807 upstand collars to define position of valve mounting

4 Finalise fixing



Step 5 - Air Feed connections

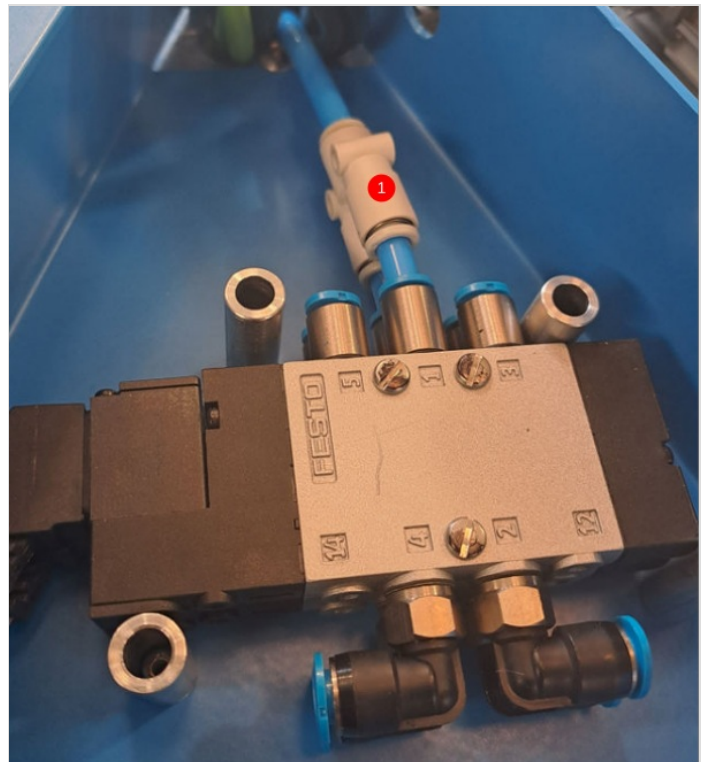
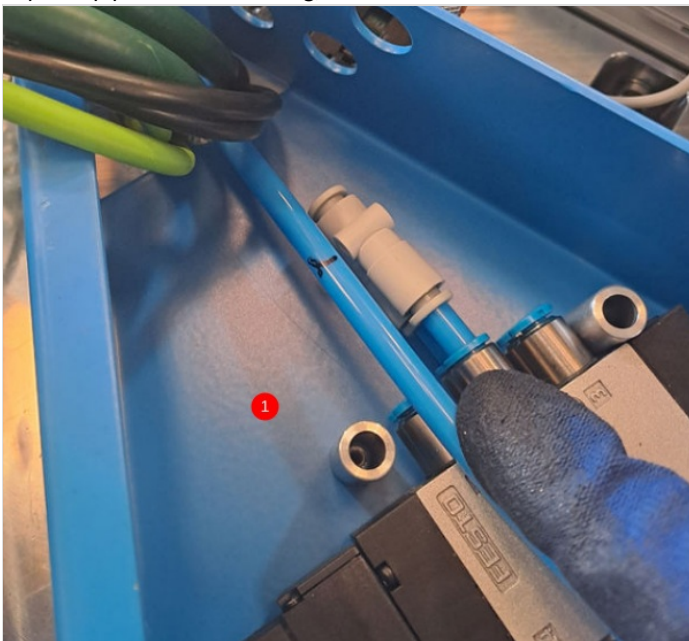
1 Double valve connections

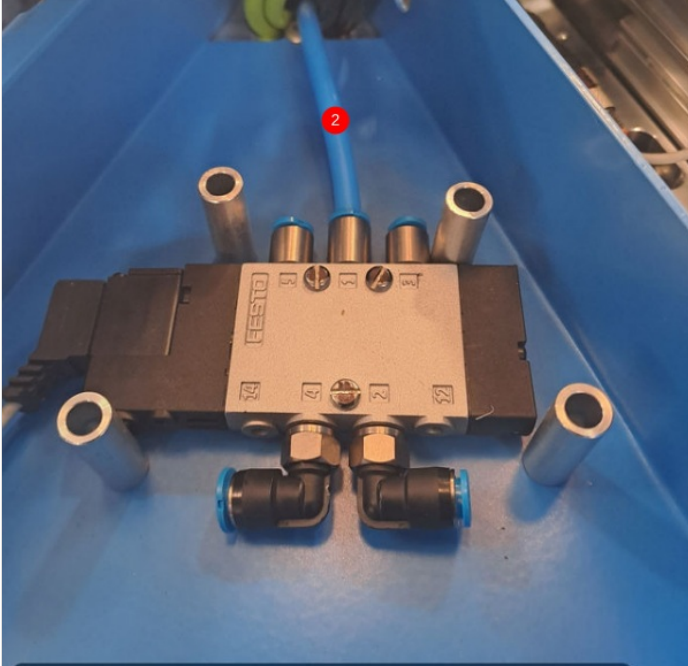
Use compact 6mm tee P0001023 and connect two valves together as picture

Lay feed pipe over top and mark length, cut and connect

2 Single valve connections

Lay feed pipe over valve fitting, mark and cut then connect





Step 6 - Exhaust line fittings

1 Fit 4 off P0000456 m5 -4mm straight fittings to double plunge connection boxes (2 valve boxes)

2 Fit 2 off P0000456 m5-4mm straight fittings to single plunge connection boxes (1 valve boxes) and 2 off M5 x5 button heads as blanks

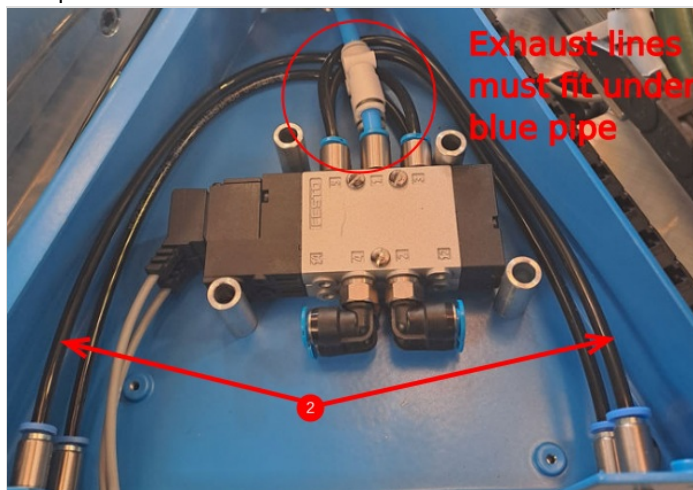
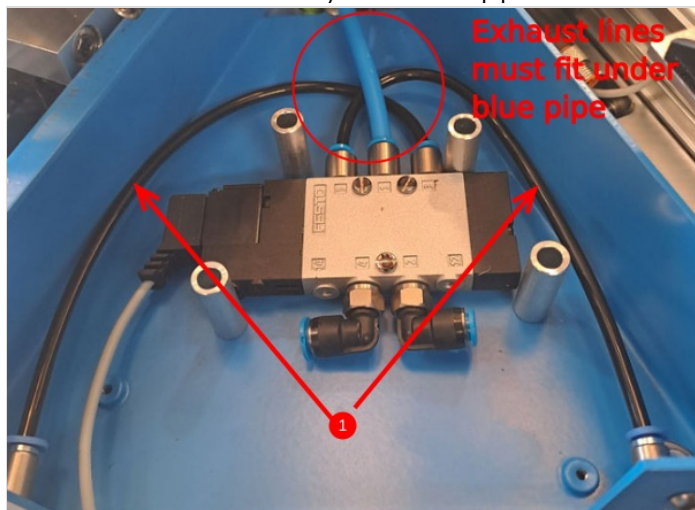




Step 7 - Exhaust line pipes

1 Use 4mm black air pipe to connect lower valve in all connection boxes as shown

2 On double valve boxes overlay second set of pipes to connect exhausts of top valve

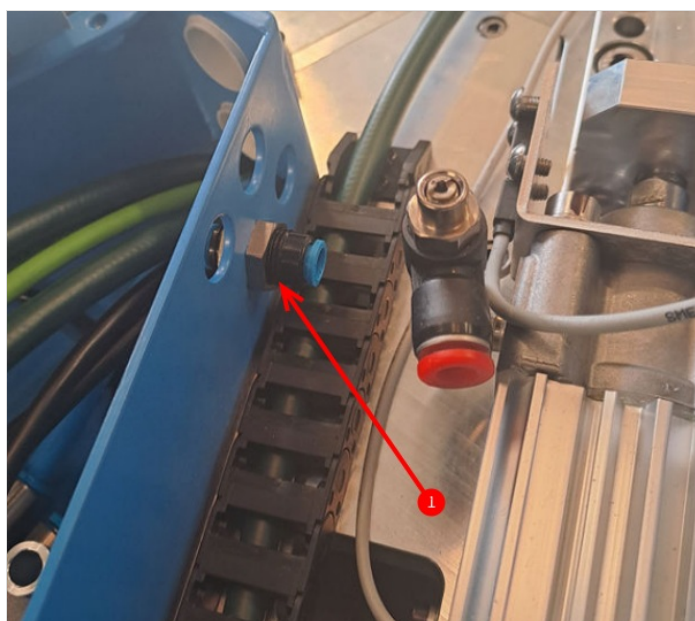


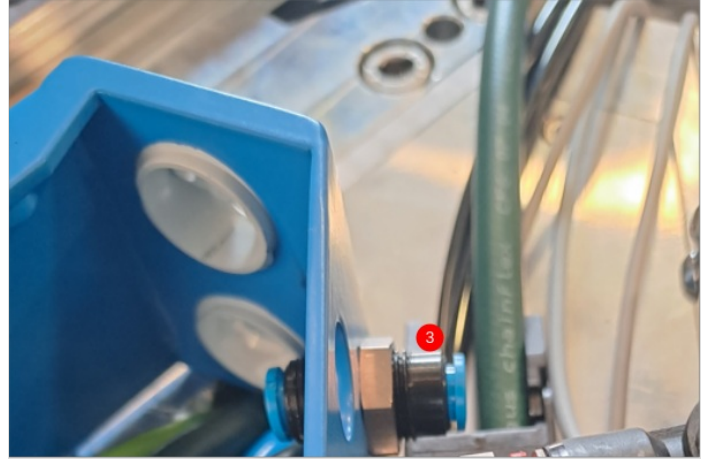
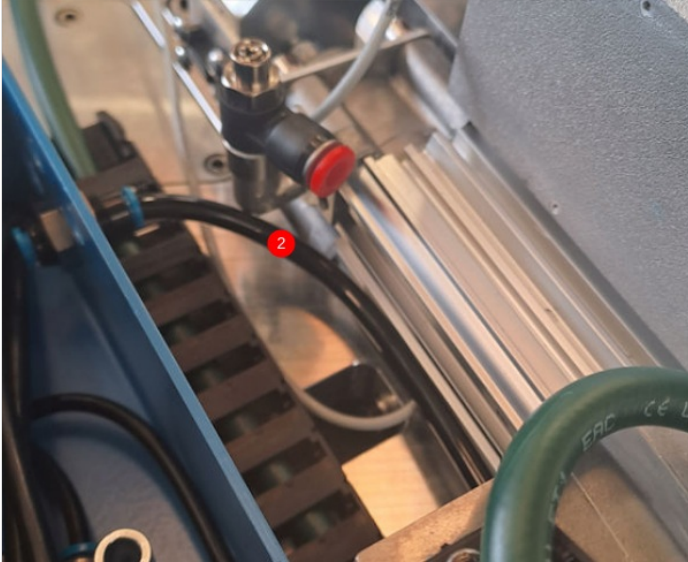
Step 8 - Cylinder connections

1 Fit P0001091 bulkhead connector to all spindle boxes at position shown, ensuring orientation of bulkhead is the same

2 Cut 8 pieces of black 6mm air pipe @230mm long and fit as show

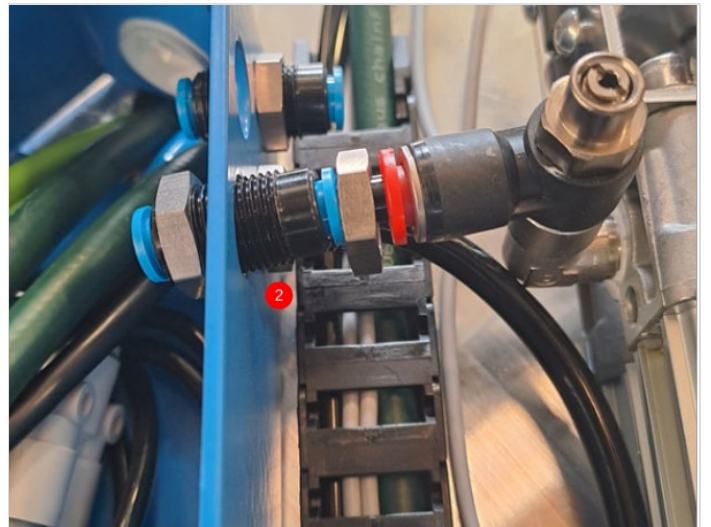
3 Add P0001091 bulkhead to double slide connection boxes only as shown

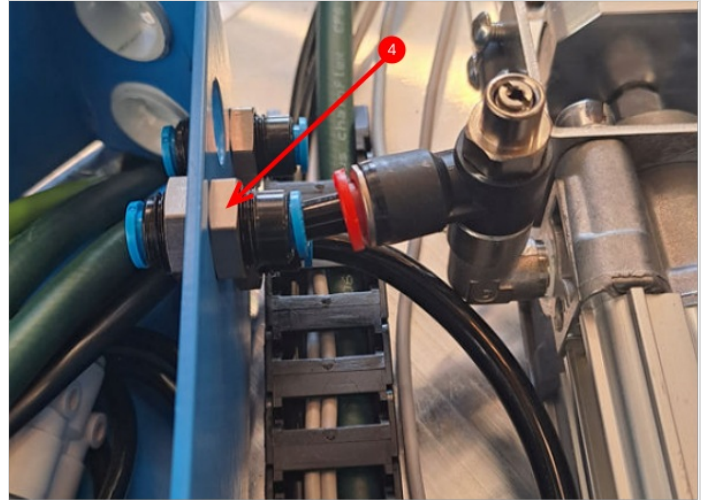
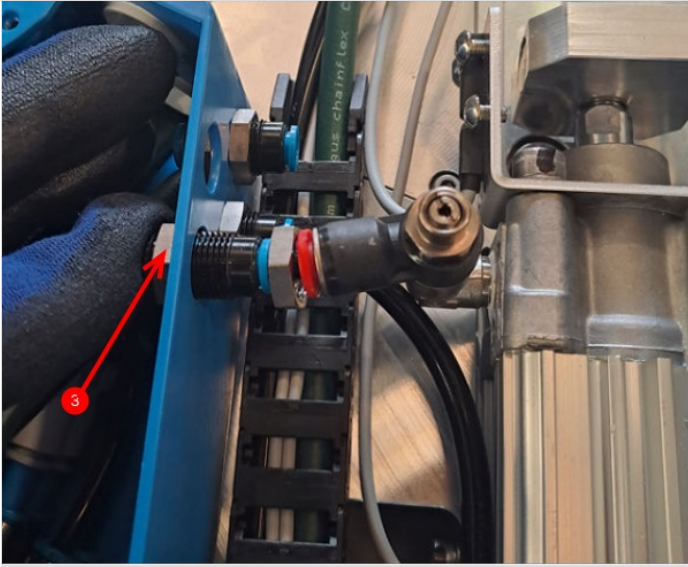




Step 9 - Cylinder connections

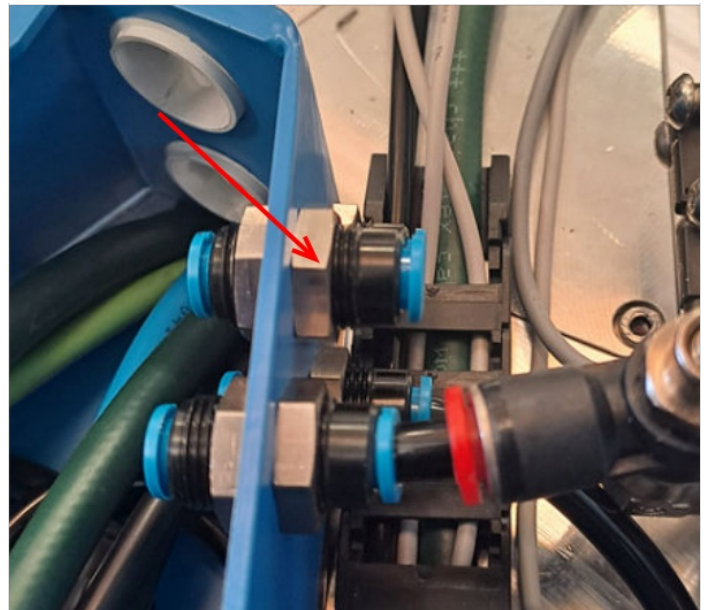
- 1 Prepare 8 off P0001091 bulkheads with a piece of 32mm long 6mm black pipe added and one nut removed
- 2 Push pipe into cylinder fitting with nuts loose as shown
- 3 Apply force on fitting towards cylinder and run indicated nut to face to ensure no strain is added to fitting when tightening
- 4 Spin indicated nut to the connection box face and then tighten nuts





Step 10 - Cylinder connections

Fit remaining p0001091 bulkhead to double slide connection boxes as shown



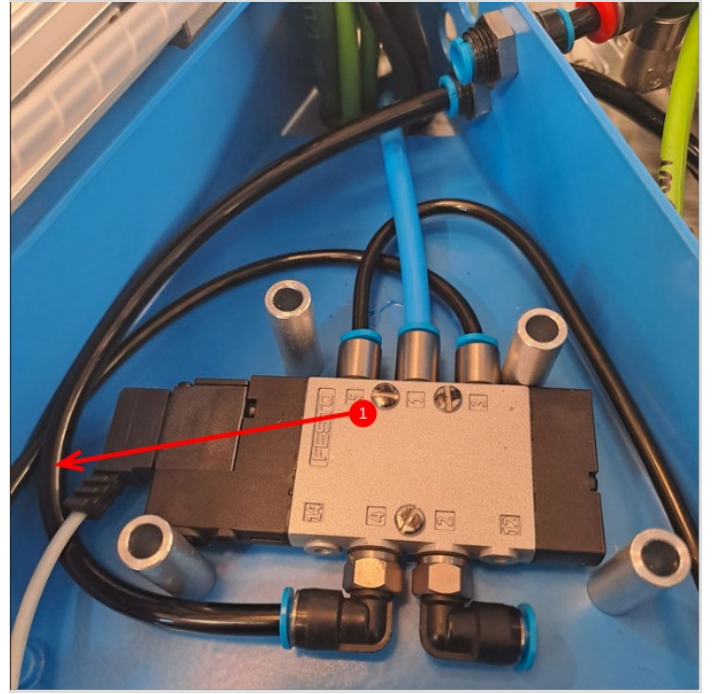
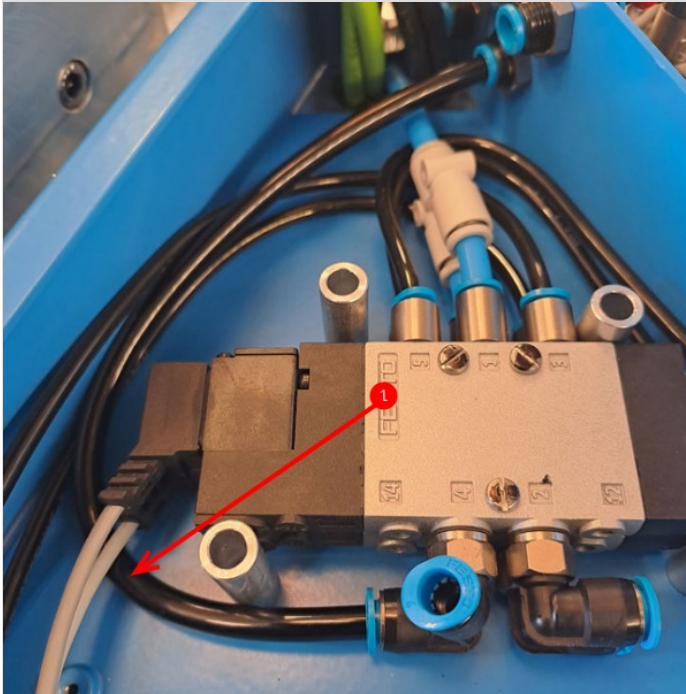
Step 11 - Quality

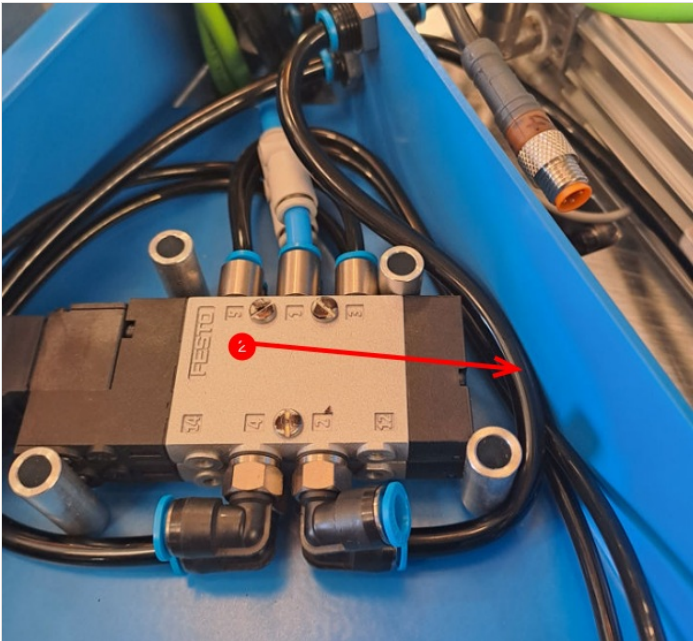
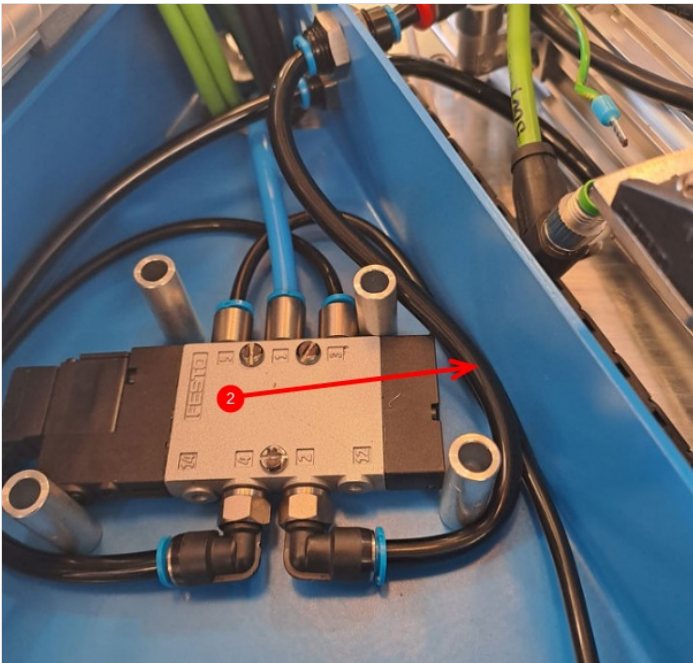
Please ensure all looms created and run are identical on each spindle head and copy examples shown . Looms must be kept to minimal size to protect from debris during operation



Step 12 - Valve connections

- 1 Cut 8 off pieces of black air pipe @ 230mm and fit as shown to all connection boxes, noting pipe routing
- 2 Cut 8 off pieces of black 6mm air pipe @ 190mm and fit as shown to all connection boxes

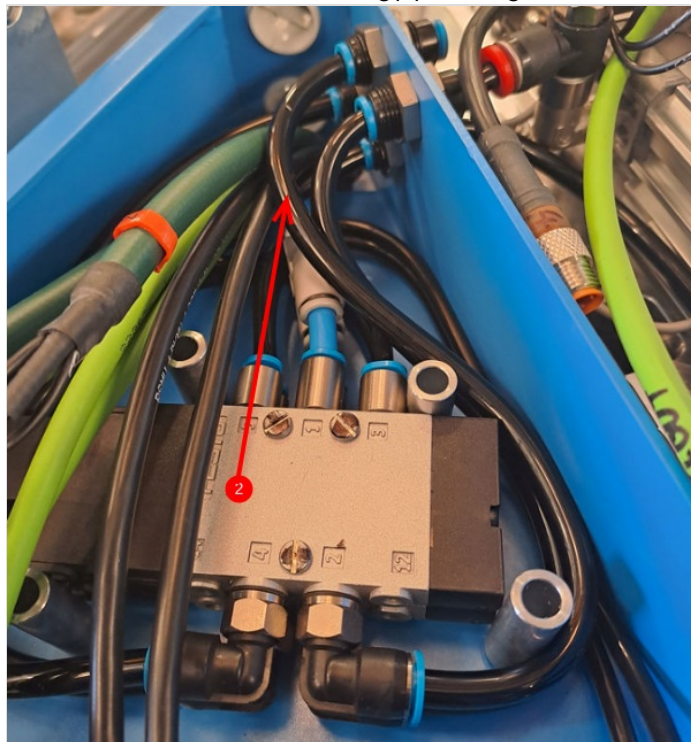
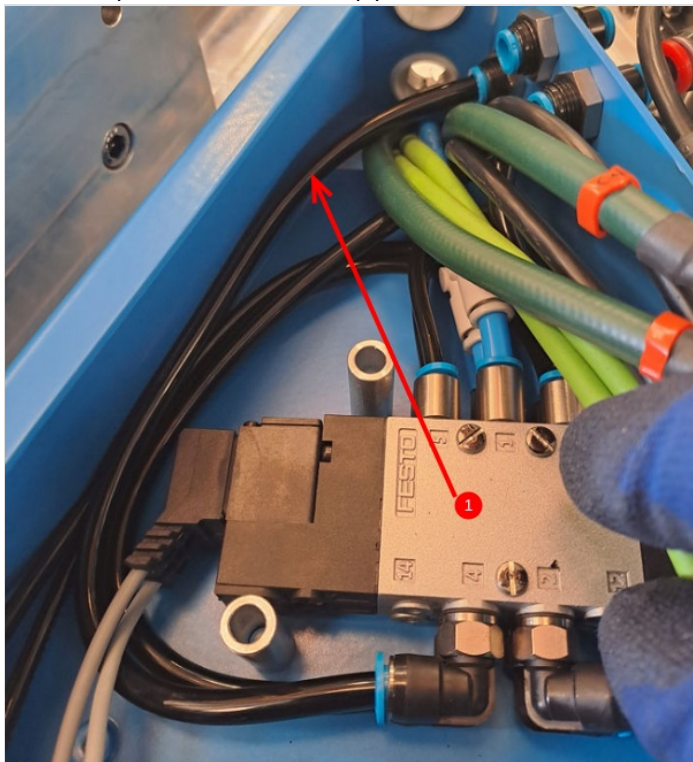




Step 13 - Valve connections

1 Cut 4 off pieces of 6mm black airpipe @ 245mm and install in double slide connection boxes as shown, noting pipe routing

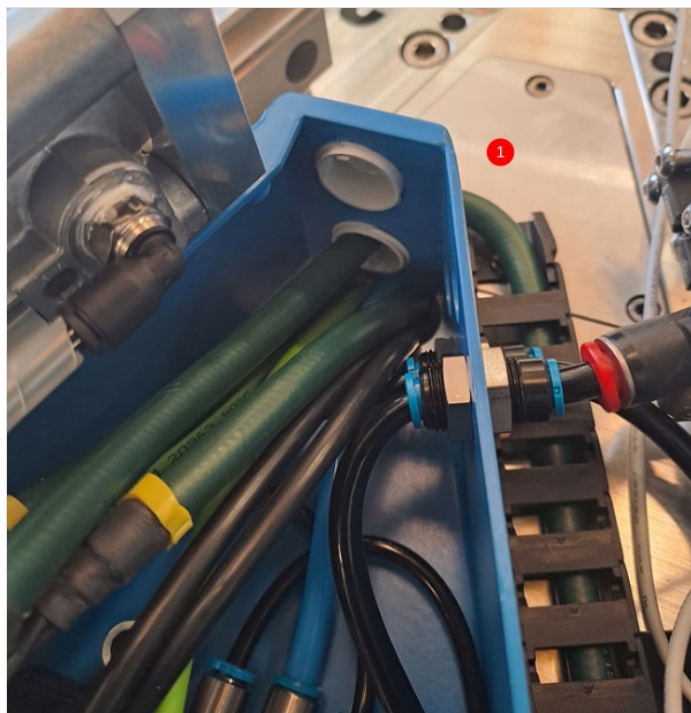
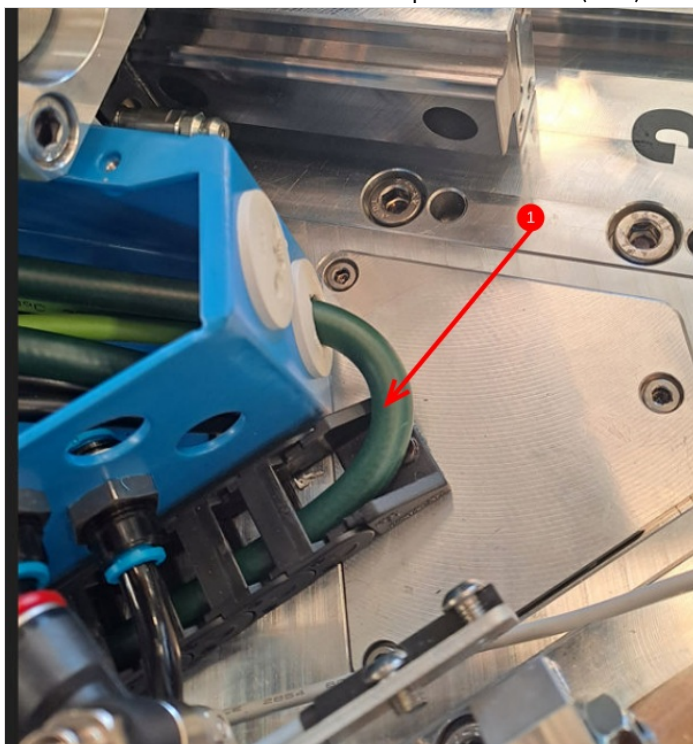
2 Cut 4 off pieces of 6mm black airpipe @ 205mm and install in double slide connection boxes as shown, noting pipe routing

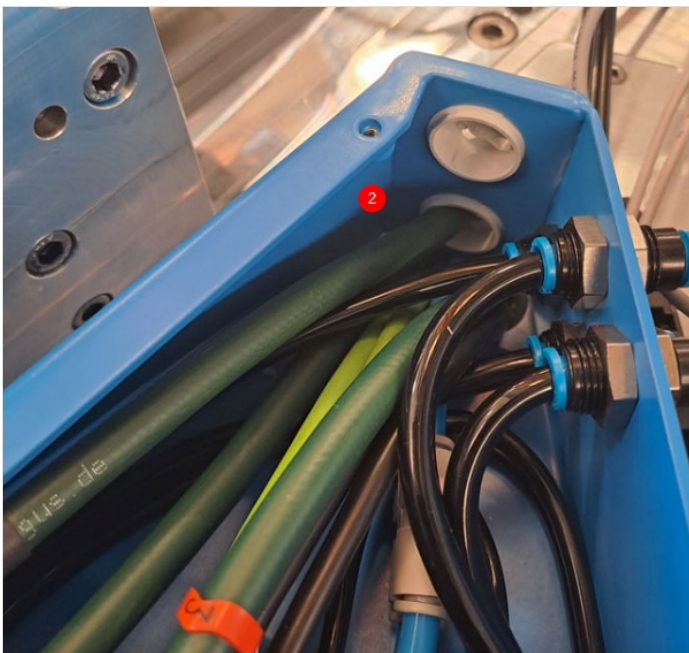
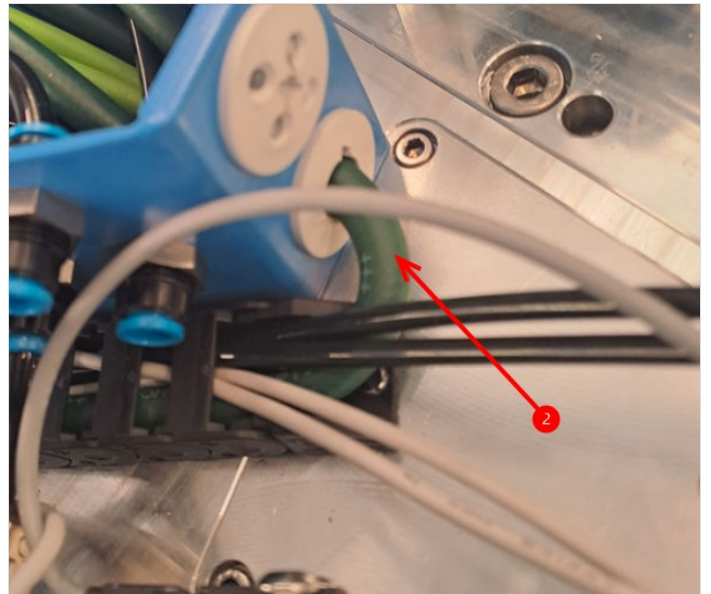


Step 14 - Route single slide 300hz

1 Install 300hz cable from single slide spindle as shown (4 off)

2 Install 300hz cable from double slide spindle as shown (4 off)



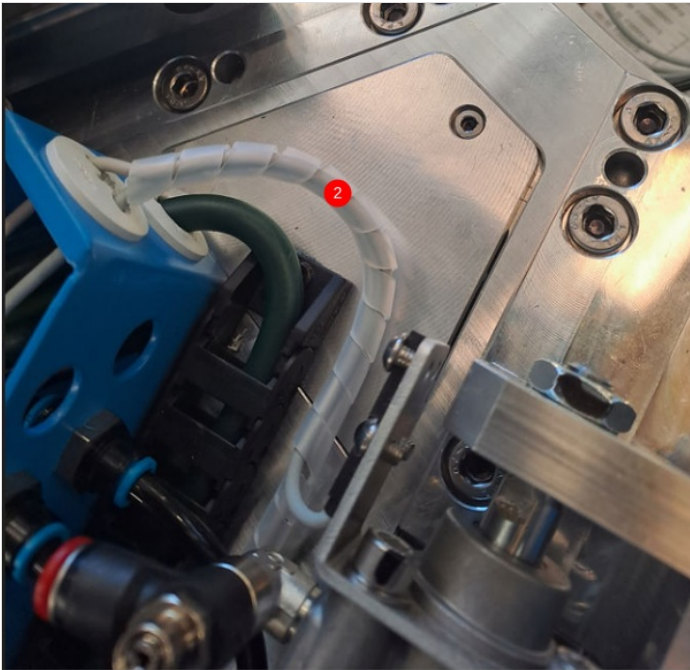
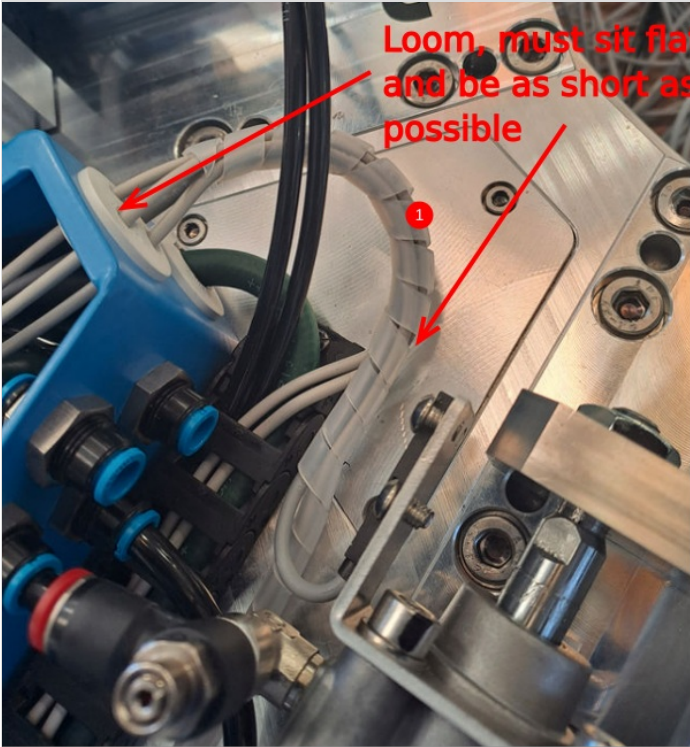
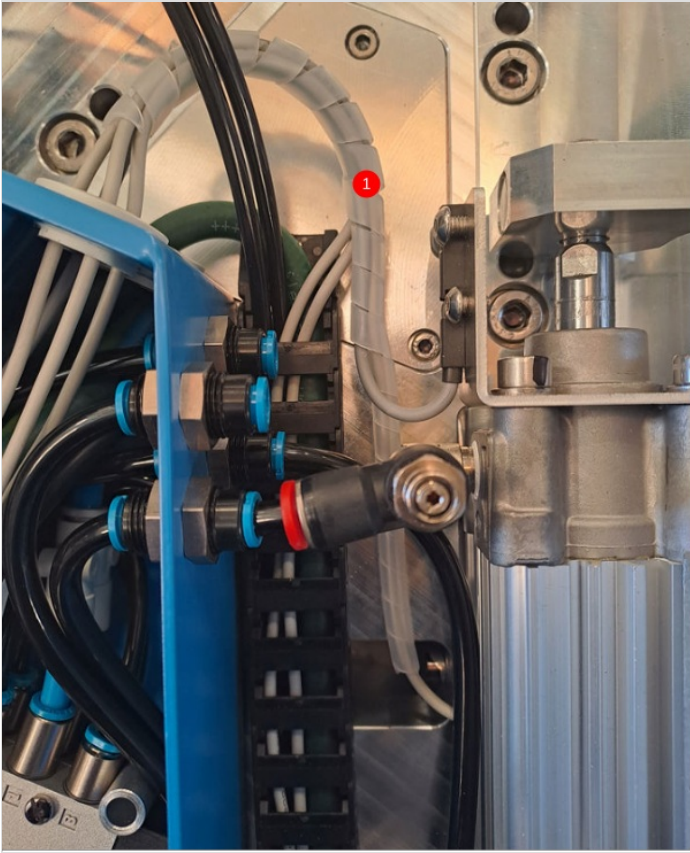


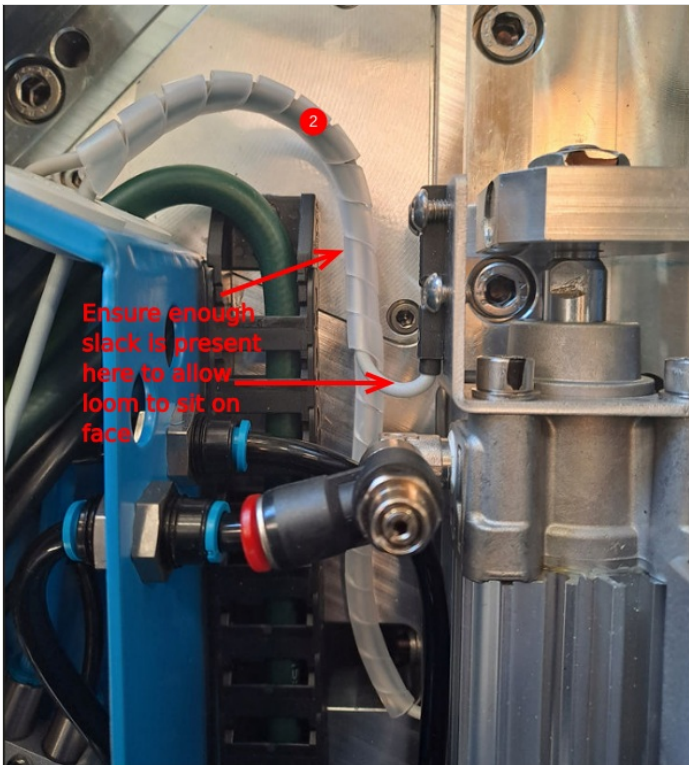
Step 15 - Loom sensors

- 1 Loom with spiral wrap as shown sensors from double plunge assembly
- 2 Loom with spiral wrap as shown sensors from single plunge assembly



...Ensure sensors are loomed to enable loom to sit flat on spindle base and have minimal slack or exposed loom





Step 16 - Connect 4mm air pipes

Fit 2 off P0001093 stem elbows as shown then connect 4mm airpipes over length as shown to either connection (these will be identified and tidied later on)

Repeat on remaining 3 double plunge connection boxes

