MeArm
Instructions

Mime Industries

Read this first!

The MeArm is designed to be easily built with a hex key and some enthusiasm. Here are some tips for a successful build:

• **Don't overtighten!** The joints should move freely. If there's any friction then loosen off the screws.

• **Don't force parts!** If a part doesn't seem to fit, don't force it, it might just need to be flipped around.

For more detailed video instructions visit:
http://learn.mime.co.uk/mearm

#1
Place the base PCB face up (the word TOP should be up) then insert the servo with the double ended arm (there's only one of these) into the hole in the centre. It needs to go the right way around so align the servo arm with the circle on the board

#2
Slide the centre piece (part #1) down over the servo. The tabs are sized so it will only go on one way round. Wind the servo cable around the centre piece in a clockwise direction through the two holes and then plug it in to the pins as shown

#3
Slide the end pieces (parts #2) down over the centre piece so that they slot into the base. Again, these will only go on one way around

#4
Slide the left side (part #3) over the pins in the base

#5
Slide the right side (part #4) over the pins in the base. Loop one of the elastic bands around the base in the upper set of slots in the sides. Put this assembly to one side

#6
Slide the crossbrace (part #10) into the left main strut (part #5) and click it in to place

#7
Attach the long strut (part #6) to the top of the previous part using a 10mm screw. The screw should go through and hold the crossbrace in place

#8
Attach the left rear strut (part #7) to the rear of the long strut you just added using a 6m screw. It should go on the same side as the main strut

#9
Put the two short lower levers (parts #8 and #9) together so that the larger hole is facing to the outside, then attach this to the rear strut you just added using a 10mm screw through the hole at the thin end

#10
Clip on the right main strut (part #11) to the crossbrace

#11
Put a 10mm screw through the thicker end of part #13 and then through the triangular piece (part #12). This piece should be aligned so that the screw goes through the hole marked with a small triangle and the "m" is upright

#12
Attach the upper strut (part #7) to the upper hole of the triangular piece using a 6mm screw

#13
Attach the right rear strut (part #7) to the rear hole on the triangular piece using a 6mm screw

#14
Take the base you previously built and screw the arm piece on to the centre piece of the base using a 6mm screw. The screw should go through the lower lever and screw into the centre piece of the base

#15
Screw the rear strut to the base using a 6mm screw

#16
Slide the right servo in to place so the servo arm slots into the hole. Attach a servo clip (part #14) to either side of the servo and clip it in to the bottom of the base. Wind the cable anticlockwise around the servo clips and then plug it into the pins on the base with the yellow wire to the right

#17
Slide the right servo in to place and clip it on in the same way. Wind the cable anticlockwise around the servo clips and then plug it into the pins on the base with the yellow wire to the right. Place an elastic band around the base and servo clips.

Put this assembly to one side for a moment
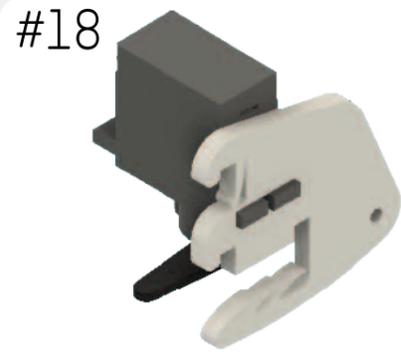
#18

Take the remaining servo and align the arm as shown in the picture. Take the left grip side (part #15) and slide it on to the end of the servo closest to the arm
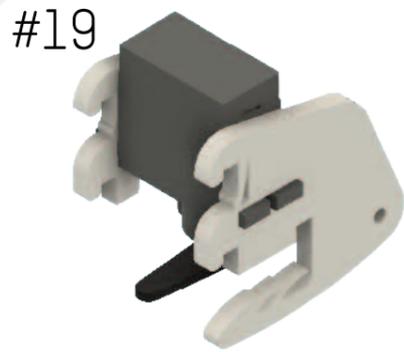
#19

Slot the centre grip support (part #16) on to the other end of the servo facing the same way as the other end
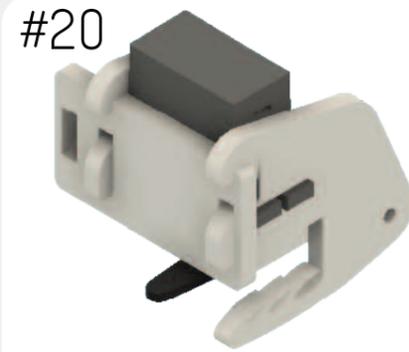
#20

Clip the grip front plate (part #17) on to the front of the two pieces you slotted on to the servo. It should clip up into place. Make sure the extra hole is at the opposite end to the servo arm

#21

Slot the left grip side (part #18) in to the third hole in the front plate

#22

Slide the rear grip support (part #19) in to the gap and turn it up so it slots into place. The lower edge of it should be level with the front plate
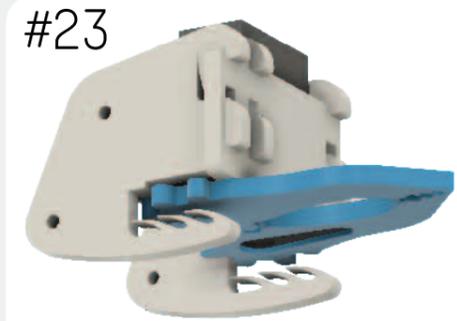
#23

Take the left grip (part #20) and place it over the servo arm. Align the right grip (part #21) with the left and hold in place

#24

Slide the grip base (part #22) on so that the large hole aligns with the servo arm side and screw it into place through the right grip with a 10mm screw
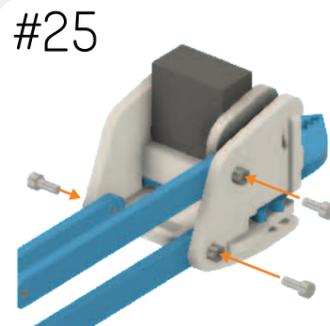
#25

Attach the grip to the rest of the arm using three 6mm screws. Tuck the cable down through the slot on the grip, then in and out of the crossbrace on the arm, plugging it in to the pins on the base with the yellow wire on the right.

Now choose one of the following three steps to continue

MeArm Maker Instructions
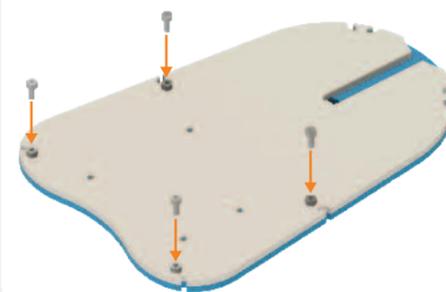
#26a Align the two large base pieces as shown. Screw them together using four 6mm screws. Do not overtighten the screws

#26b Stretch the elastic bands over the sides of the base to use as feet

MeArm Pi Instructions

Before starting this part set up your SD card. Instructions at: http://learn.mime.co.uk/mearm
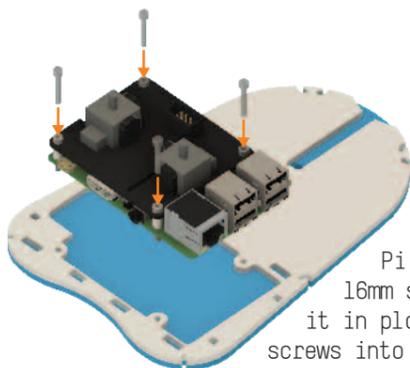
#26a Align the two large base pieces as shown. Plug the HAT on to the GPIO pins of the Raspberry Pi. One by one, slot a spacer in between the Pi and HAT then slot a 16mm screw through to hold it in place. Screw all four screws into the holes in the base
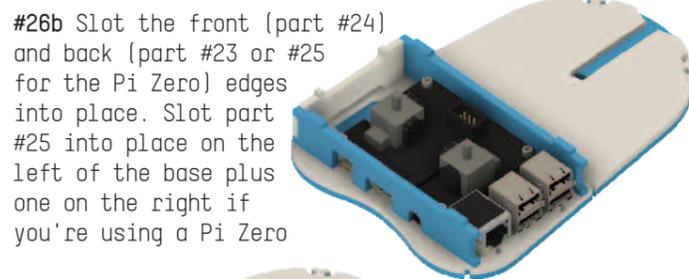
#26b Slot the front (part #24) and back (part #23 or #25 for the Pi Zero) edges into place. Slot part #25 into place on the left of the base plus one on the right if you're using a Pi Zero

#26c Fit the cover over the tabs on the sides and stretch an elastic band over each side. Push the joystick caps on to the joysticks, making sure they are properly aligned before pushing

MeArm WiFi Instructions
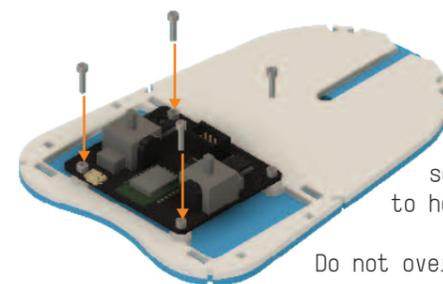
#26a Align the two large base pieces as shown. Slot the small round spacers under the PCB then screw in a 10mm screw to hold it in place

Do not overtighten the screws
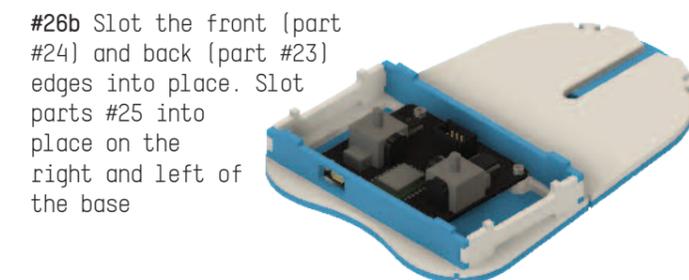
#26b Slot the front (part #24) and back (part #23) edges into place. Slot parts #25 into place on the right and left of the base

#26c Fit the cover over the tabs on the sides and stretch an elastic band over each side. Push the joystick caps on to the joysticks, making sure they are properly aligned before pushing

#27

Gently prise the two base plates apart and slide the servo arm in between them and slide it down the central slot until it clips into place in the hole in the bottom

#28

Attach the final elastic band across the front of the base to hold the plates together and make a stable foot to stand it on

#29

Plug the two parts together using the ribbon cable provided

Congratulations!
You've just built a robot arm!

Plug in the power supply to get it working and visit:

http://learn.mime.co.uk/mearm
to begin using and programming your MeArm

If you have any problems you can get help at:
http://mime.co.uk/support

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