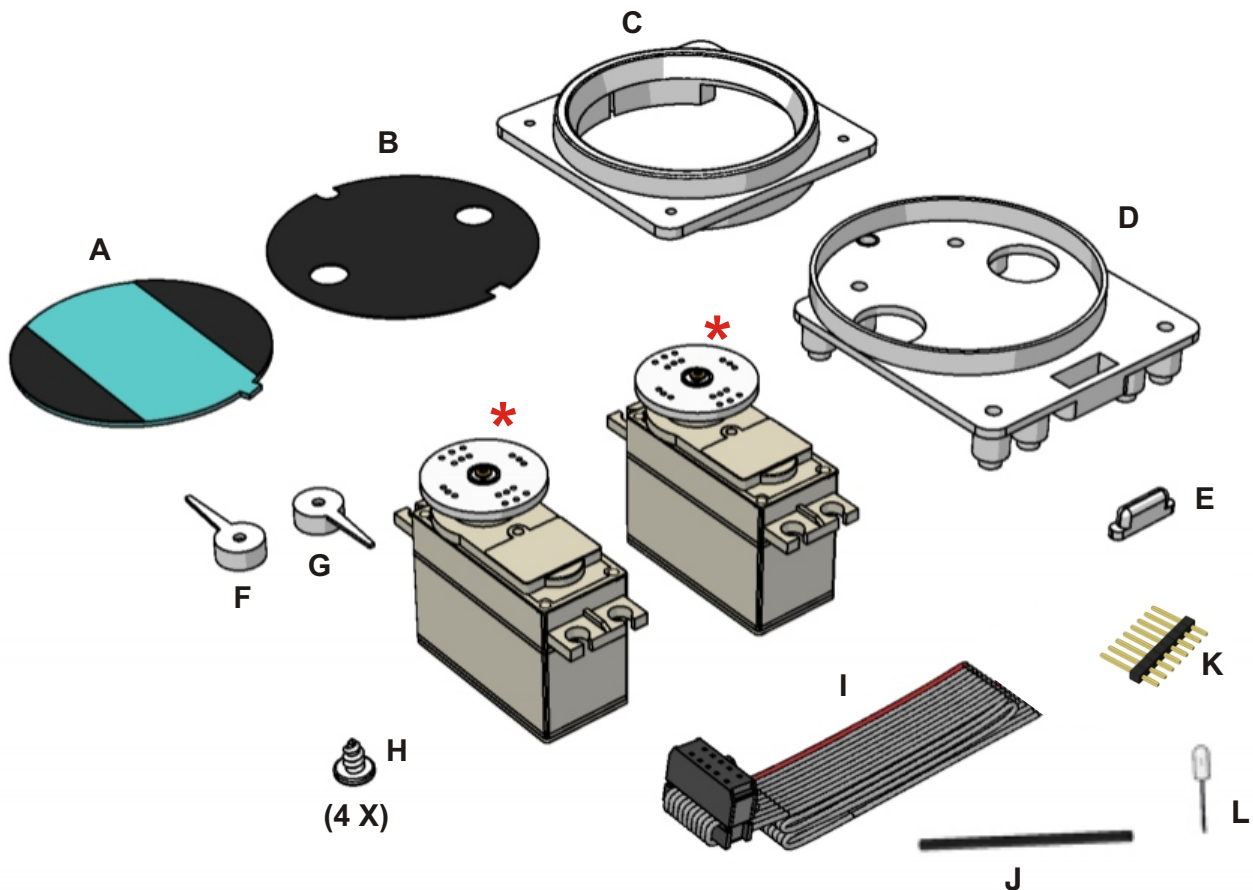


This manual is intended for the assembly of one Fuel Left/Right indicator, EGT/Fuel Flow indicator, Oil Temp/Pressure indicator or Suction Gauge/AM indicator



***SERVOS are not included with this kit.**

Construction kit "Small Gauge"

Your kit contains all the necessary components (except for servomotors) for building a "Small Gauge".

Fine-tuning

The calibration software allows you to accurately adjust the instrument (once connected to the Central Control Unit) to the movement of the indicator of the chosen instrument. Be careful when doing this! The indicator can easily bend out of shape against the side of the instrument.

Difficulty level

This product can be constructed without technical expertise. Care and accuracy are of utmost importance.

What else do you need?

Two servomotors, types HS300, HS311 or equivalent, are required to make the instrument fully functional. These products

can be ordered separately through the SimKits webshop or bought from any retailer of model kits. Additionally you will need some simple tools, such as a small star-shaped screwdriver, a hobby knife, insulating adhesive tape and glue suitable for plastic model kits and a soldering iron.

General hints

Be very careful when using the hobby knife! You can easily hurt yourself when handling sharp objects! Take good care of the amount of glue you apply and to which areas you apply it. Glue for plastics is essentially a solvent. Excessive use can damage the exterior of the instrument.

Preparations before beginning construction

Check if all components are included. During packing, the contents of the construction kit have been inspected several times. Nothing should be missing.

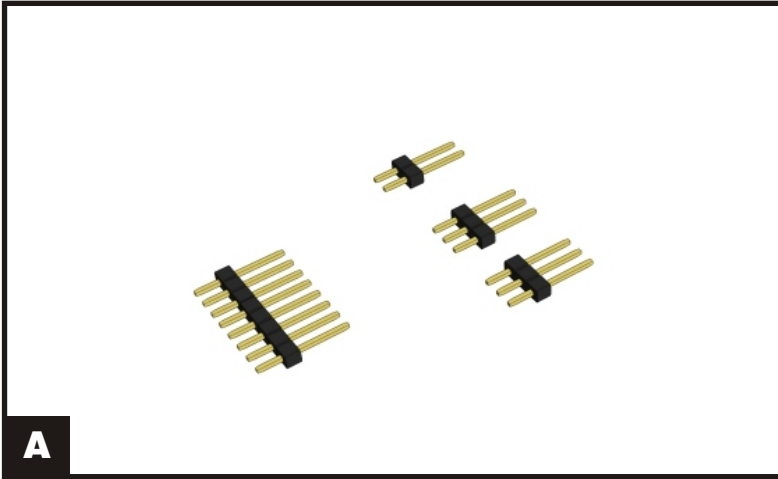
Use the hobby knife to remove any irregularities. Be careful when using the sharp hobby knife!

Warranty

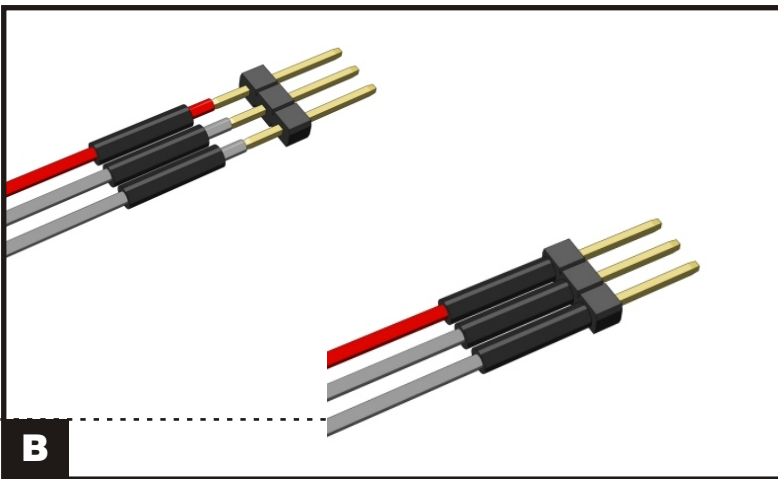
Construction kits come without a warranty!

List of components

- A - Printed optical
- B - Printed faceplate
- C - Front ring
- D - Plate
- E - Strain relief
- F - Hand
- G - Hand
- H - Screws (4 x)
- I - Flatcable with connectors and light
- J - Heat Shrink sleeve
- K - 8-pin header
- L - Filament Lamp



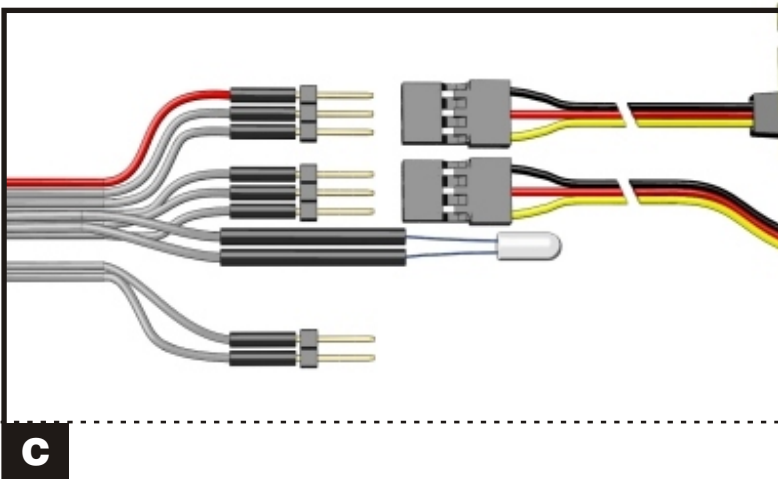
A: The pin header comes as an 8-pin version. Separate 2 times a set of 3-pins, which results in 2 pieces of 3-pin header and one piece of 2-pin header.



B: Separate on one end of the ribbon cable the leads for approx. 3 cm. (approx. 1.2") from each other. Remove the insulation from the end of the ribbon cable for approx. 5 mm. (approx. 0.5").

Now cut the heat shrink in 10 pieces of approx. 1.5 cm. and first move each piece of the heat shrink on the wires of the flat cable, before you start to solder.

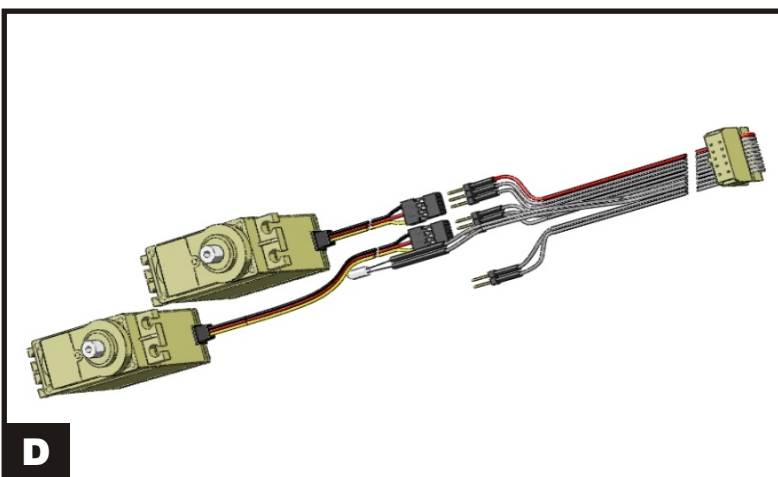
Now solder the 2 3-pin headers and the 2-pin header on the flat cable, to begin at the red indicated wire.



Solder the filament lamp on wires 7 and 8. The polarity is not important here.

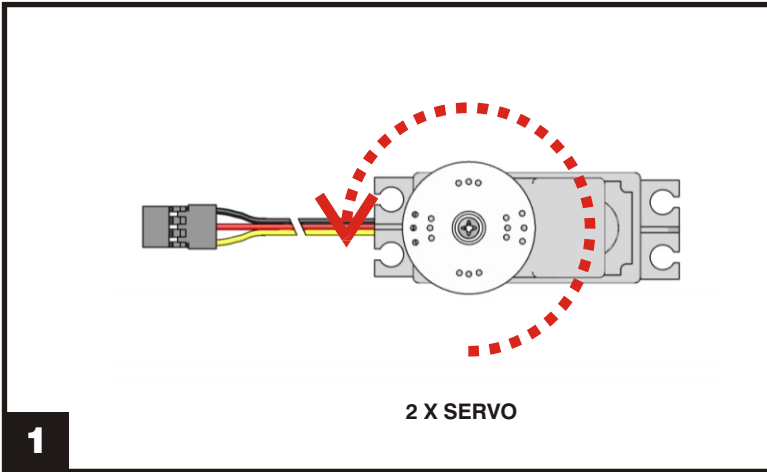
Move the heat shrink isolation forward towards and over the blank soldering to prevent short circuit later. Use the soldering iron to shrink the heat shrink isolation over the blank leads

C: Finally your cable assembly should look as in illustration **C**.

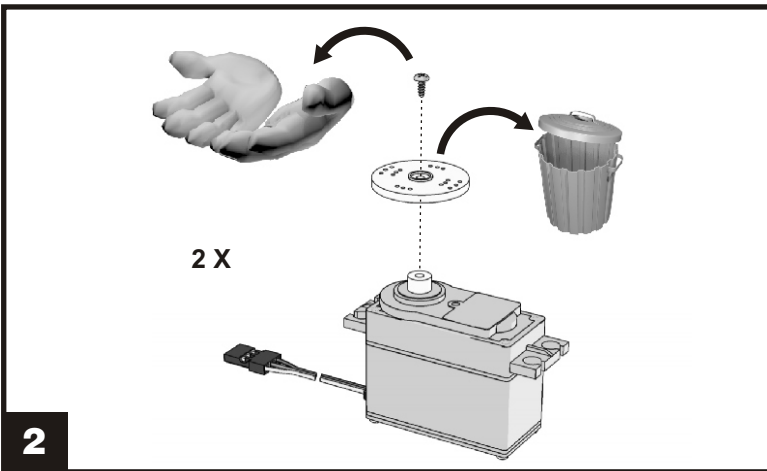


D: This illustration shows 2 servo connections.

Since this page describes the ribbon cable connection for instruments with 1 and 2 servo's, just use - when your instrument has only one servo - the outer 3-pin connector for the first (or solitair) servo and the second 3-pins for an instrument with 2 servos. The outer 2-pin header connector is not used for this instrument and can eventually be omitted.

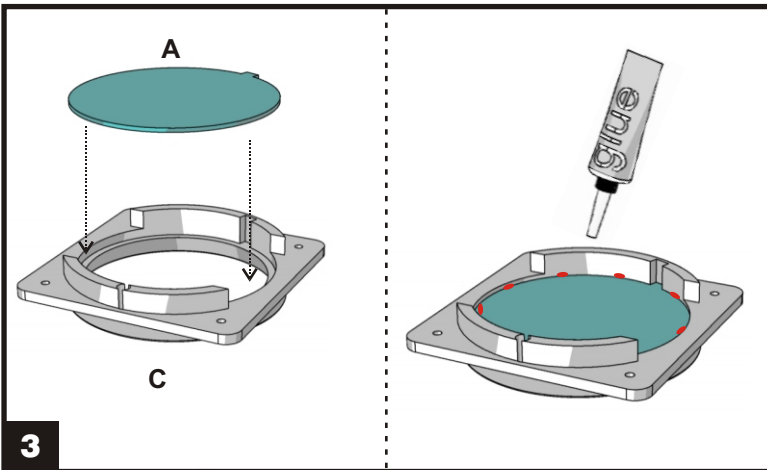


1. Twist the disc on each servo counter-clockwise until it blocks.

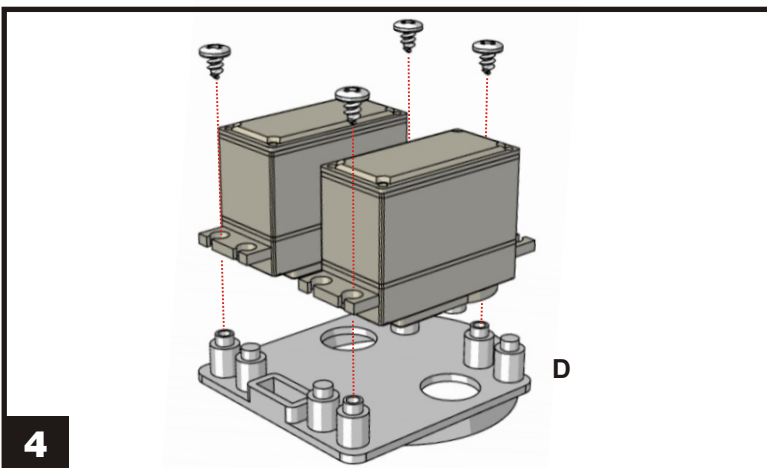


2. Remove the discs from both servos and save the screws. Make sure the servo shaft remains in position!

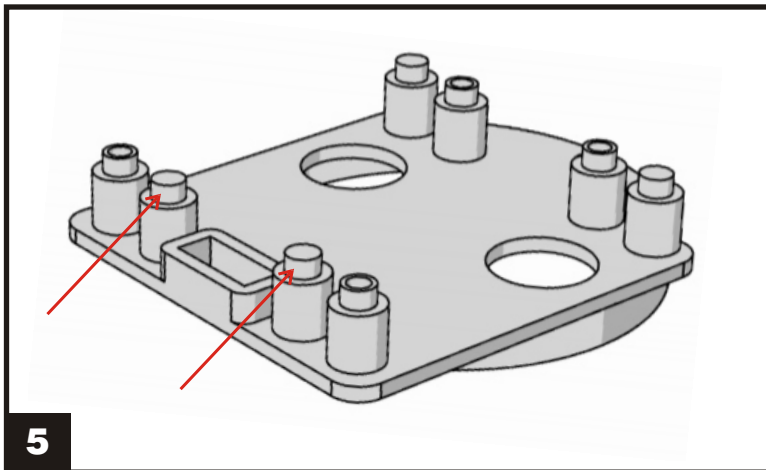
3. PI



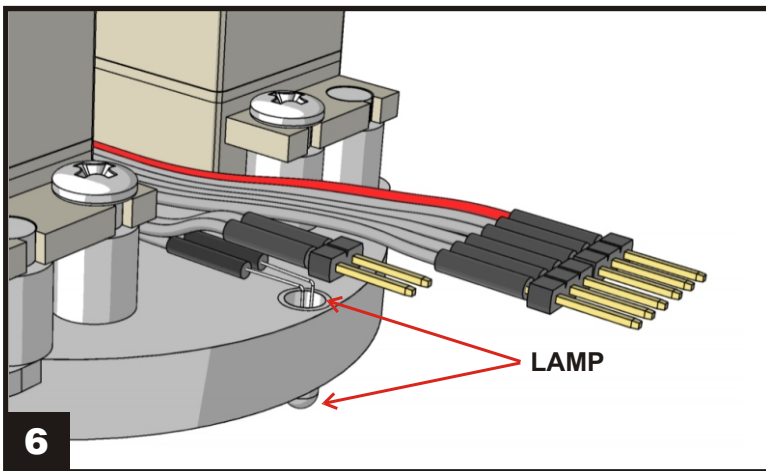
Place the optical inside the front ring (mind the positioning notch) and only then carefully apply several small drops of glue on the inside. Too much glue will be noticeable from the outside, too little will result in the optical being fitted too loosely.



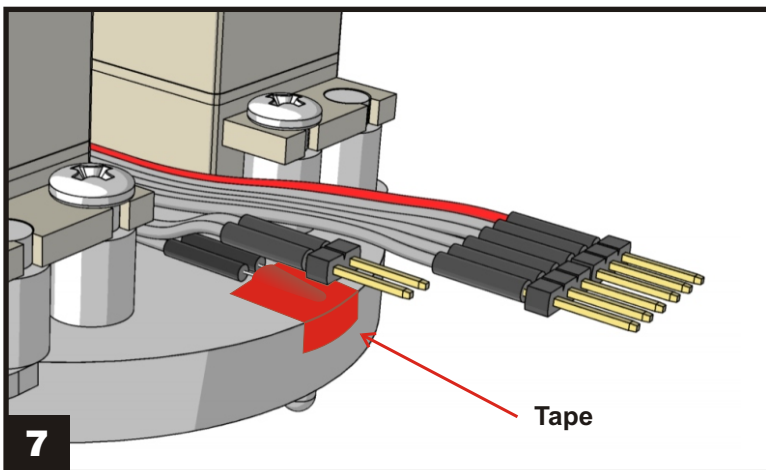
4. Now mount the servos onto the plate as indicated (see also drawing 5).



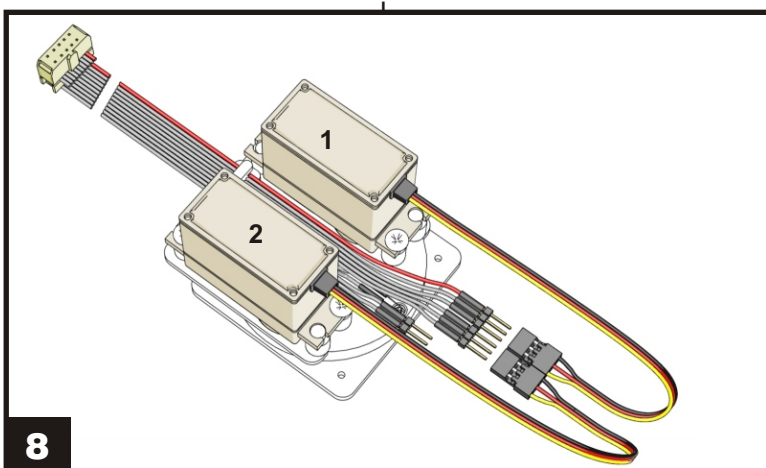
5. If the pins should not fit precisely into the holes of the servo, use a knife to cut them down to a proper length (see illustration). Be careful, it's easy to hurt yourself!!



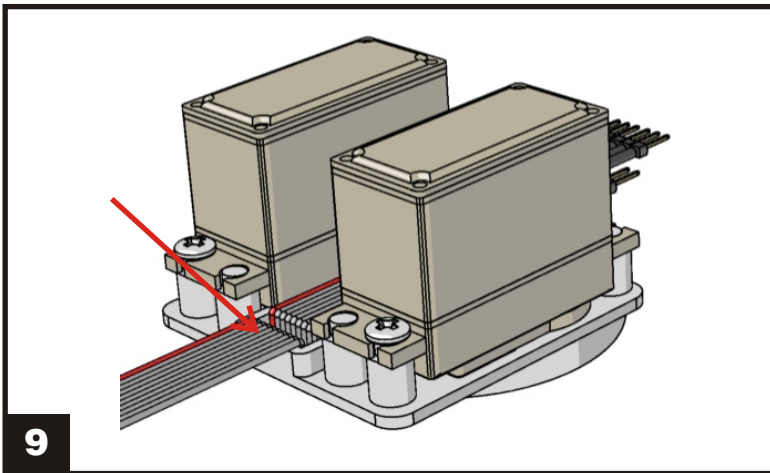
6. Take the flatcable and guide it between the servos in such a way that the light is positioned at the hole in which it will be placed. Fix the light in such a way that it only just protrudes through the hole in the plate, as indicated in illustration 6.



7. Use a piece of adhesive tape to fix the light to the plate and to keep it in position.

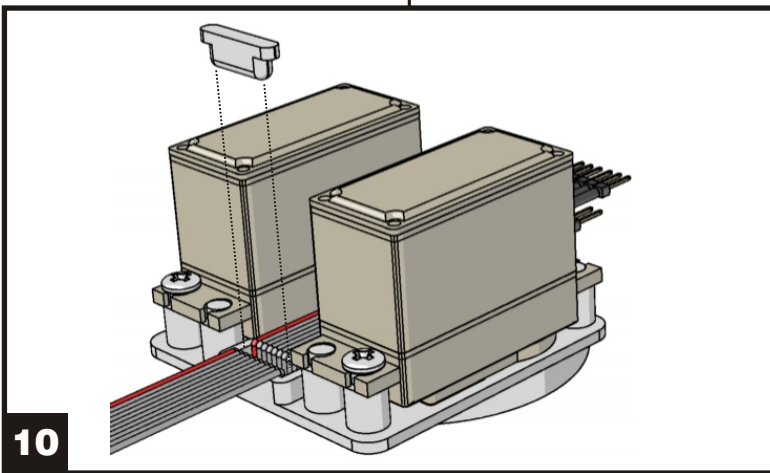


8. Now connect the servos' connectors as indicated in the drawing. Servo 1 is to be connected first, followed by servo 2. Mind the polarities! The 2-pin connector is not used.



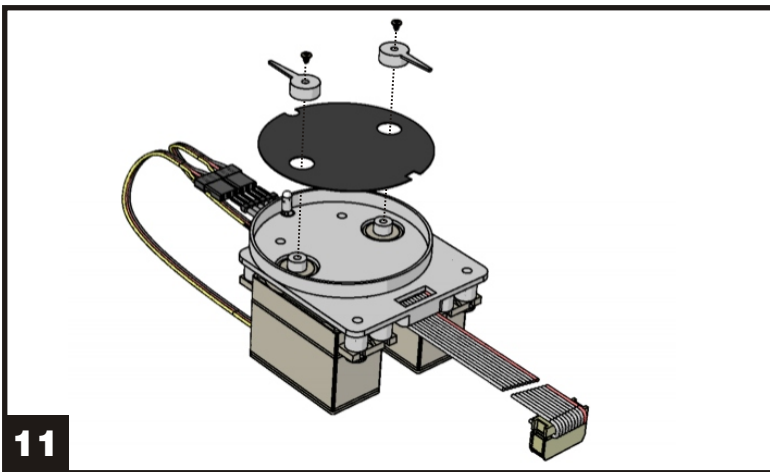
9

9. The plate contains an oblong cavity. This is intended for connecting the flatcable to the strain relief.



10

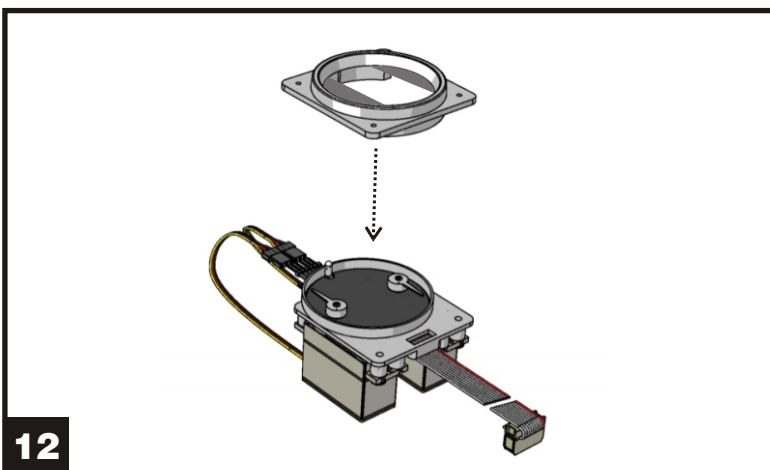
10. Press the strain relief and the slightly folded flatcable into the oblong cavity. Apply some glue to the places where the strain relief touches the plate.



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11. Mount the indicators in the position indicated in the drawing, using the screw you previously removed from the servo. Make sure the servo shafts don't twist out of position when doing this.

First test the instrument by connecting it to the Central Control Unit and using the calibration software. Make sure the indicators are not pressed too tightly against the side of the plate. This can bend the indicators out of shape!



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12. Once the instrument functions properly you can glue the front ring with optical to the plate.

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www.simkits.com

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