RoboThespian™

RT3

Jaw Servo Motor Replacement

Replacing the Jaw Servo Motor
Shut down RoboThespian, switch off the mains power

Note the position of the servo disk when the jaw is open

Note the position of the servo disk when the jaw is closed

Undo the screw connecting the jaw connector to the motor servo disk

Ease the jaw connector away from the motor servo disk and move to one side

The motor is bolted to its bracket with two bolts.

Use a small spanner to hold the nut in place and unscrew the bolts using a screwdriver

If there are no rubber grommets on the replacement motor then take these from the original as well
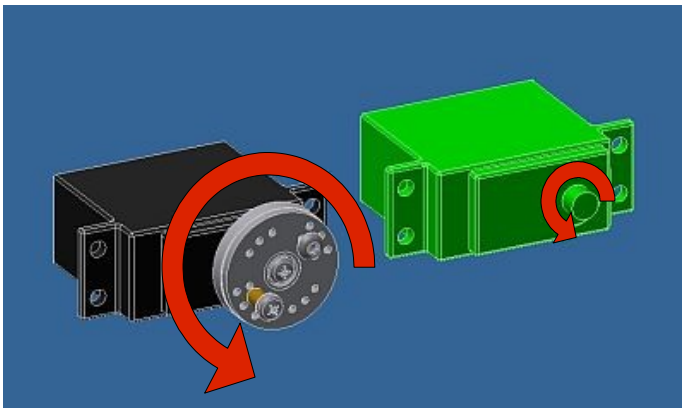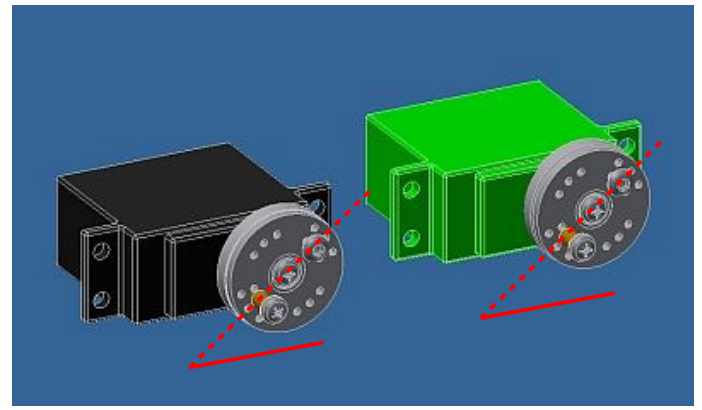
Rest the old motor next to the replacement motor (illustrated in green), both in the same orientation

Rotate both motor shafts fully anticlockwise note the position of the servo disk

(The servo disk is removed / attached using the screw at the centre.)

On the replacement motor mount the servo disk on the replacement motor at **the same angle as on the old servo**

This is important to insure that the jaw opens and closes the same amount it had done with the previous motor.
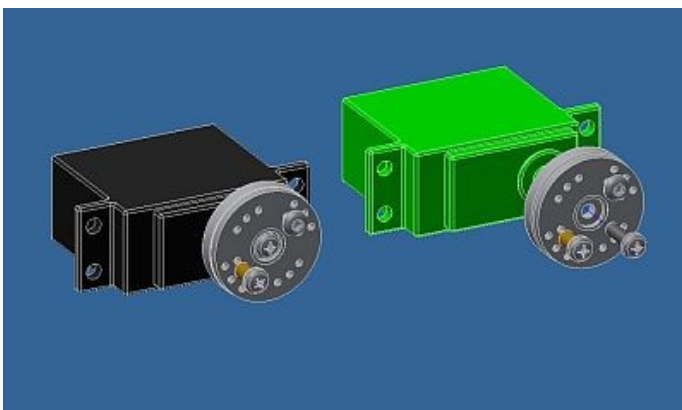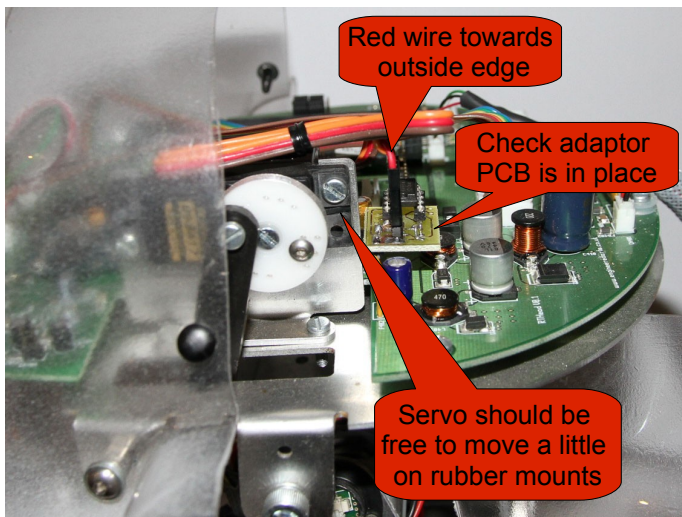
Mount the servo back on the motor bracket.

The bolts should **not** be tightened very much. The motor should be free to move a little back and forth on it's rubber mounting.

This provides natural damping. The motor is very fast and without damping can become damaged internally.

Red wire towards outside edge

Check adaptor PCB is in place

Servo should be free to move a little on rubber mounts

Connect the motor to the head PCB. The red cable should be nearest the outside. If the red cable is inbetween the other two cables, please see the next section for instructions to change the wiring.

Depending on your model you may have a small PCB adaptor, ensure this is plugged in securely as well.

Power up RoboThespian.

If after replacing the jaw motor it is tightly closed or you hear a loud clacking noise when RoboThespian is talking, this is a sign that the servo disk is mounted wrongly.
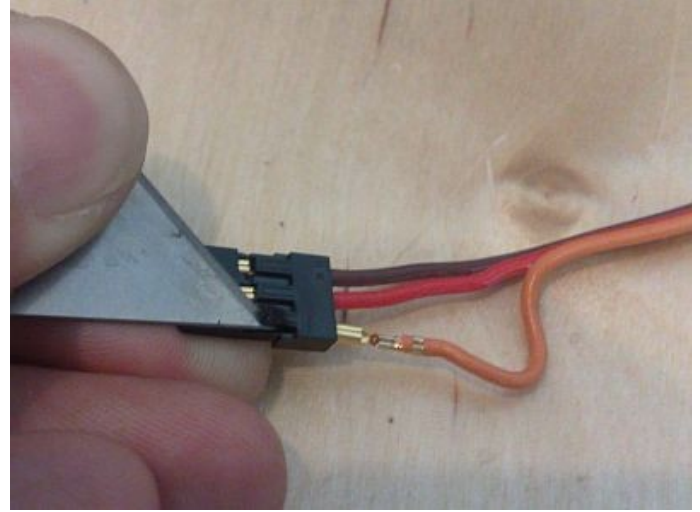
(If the jaw is closed tightly and the motor attempts to continue moving it can quickly burn out.)

In this case remount the servo disk so the mouth does not close as much.

Changing servo plug wiring If the red cable on the servo motor is not on the outside
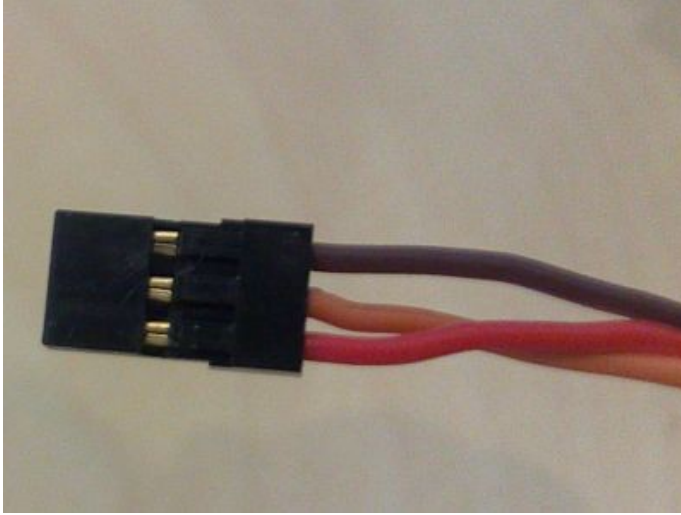
Check the plug for the servo motor. The cable should be ordered brown, orange, red

If the order or wiring is different, swap the orange and red plugs. To do this use a very thin object to lift the black plastic tab enough so that you can pull the brass pin and cable out.

The brass pin should slide out easily when the tab is lifted. There should be no need to pull hard on the cable.

Take care not to cut yourself if you use a sharp object to lift the tab

Note the orientation of the brass pin. When re-inserting the pins make sure they face the same way and they should click into place.