

# Diagnostics and Repair

## My Pro 3 manipulator doesn't seem to work. What can I do to isolate the problem?

There are four likely reasons for a manipulator to stop working.

1. A jammed jaw mechanism.
2. A broken motor.
3. Loss of power at the accessory port.
4. A short or break in the cable from the accessory port to the manipulator.

To isolate the problem, follow these procedures:

1. If you can hear the motor turning but the jaws are not moving, it is probably a stuck mechanism, which may be due to dirt. Remove the three set screws that hold the head to the motor body and rinse the jaws while moving them open and close. Reinstall the head and screws (you may need to rotate the jaws to get the cog gears to engage).
2. If you do not hear the motor turning, check pins 7 and 8 on the accessory port on the rear of the ROV. You should read +/- 24 V DC (depending on switch direction) when the switch is engaged. If you read 24 V DC, there may be a break in the cable or a burned out motor. You should not attempt to open the rear housing of the manipulator. Doing so will likely cause more damage. Send the manipulator to VideoRay for repair in this case. If you do not read 24 V DC at the accessory port, the problem is with the accessory power circuit in the ROV. The ROV should be returned to VideoRay for service.

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