

XR1 SERVO FEEDBACK HACK

FOR
DUMMIES®



What you need before you started

To prepare for Servo Feedback Operations, gather the following tools and materials:

1. Compatible Dupont wire jumper crimp tool
2. Set of pliers
3. Allen key suitable for your servo housing screws
4. Good soldering iron and thin solder
5. 10uF 25V capacitors
6. Wire gauge to match the existing cable used on your servo
7. Once you have these items ready, we can begin our operation.

Let's get STARTED!!



1 STEP

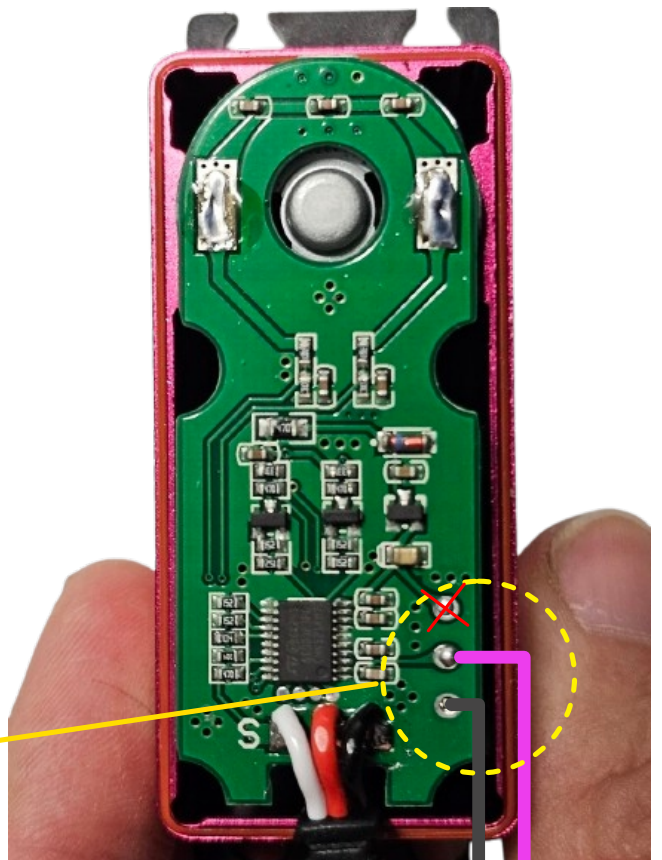
Step 1:

Begin by removing the servo cover, taking care to unscrew all four screws. Ensure you keep them in a safe place as they will be needed later. When removing the cover, be cautious of any rubber seals present. It's advisable to leave these seals in place on the servo. If a seal comes off accidentally, you'll need to reposition it later when closing the servo.



2 STEP

Step 2: After removing the cover, you'll see the servo's inner pot connection, responsible for measuring the angle in current. Among the three connections, we'll focus on the ones indicated in the diagram, excluding the one marked with a red cross. The central connection is crucial, as it's where we'll attach the feedback wire. The other connection serves as ground, evident from its location on the outer grounding of the circuit. closing the servo.



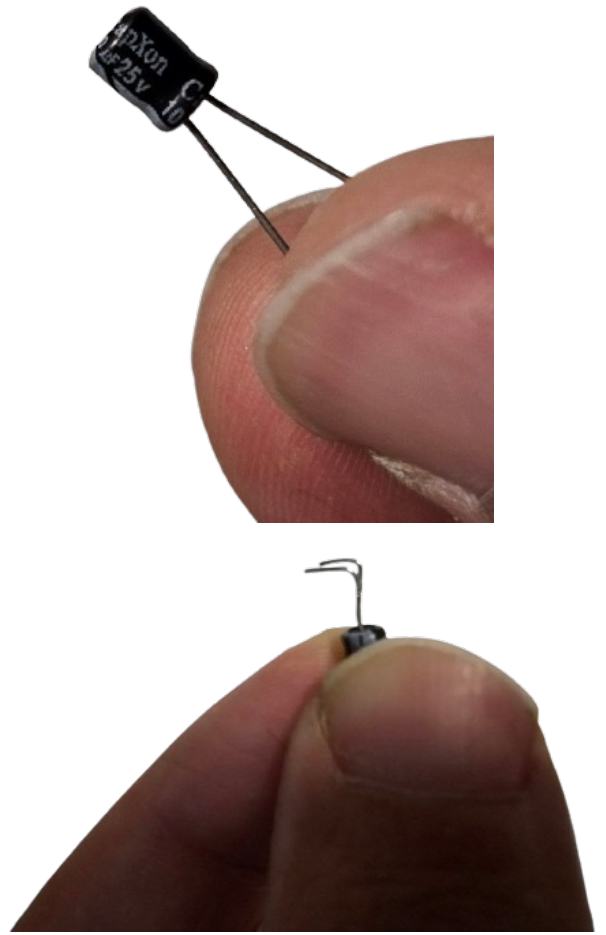
**PAY ATTENTION !
TO THIS AREA**

We are not using the top marked **RED**

GND
FEEDBACK

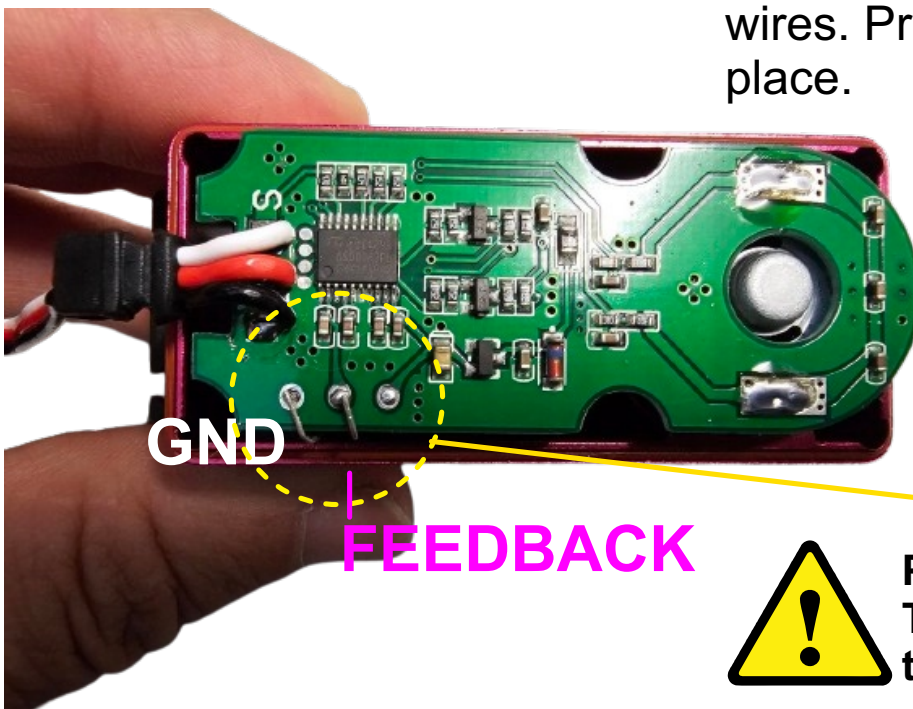
3 STEP

Step 3: Take your 10uF capacitor and trim it, giving it a 90-degree bend. This will enable it to hang in place while we solder it. Pay close attention to the ground (GND), which will be the outer wire, and the positive, which will connect to the center feedback. While this capacitor isn't essential, you may choose to skip this step. However, studies suggest it's beneficial to eliminate any unwanted static in the line, acting as a form of insurance. servo.



4 STEP

Step 4: Allow the capacitor to hang in the designated area, positioned over the ground and the feedback wires. Prepare to solder it into place.

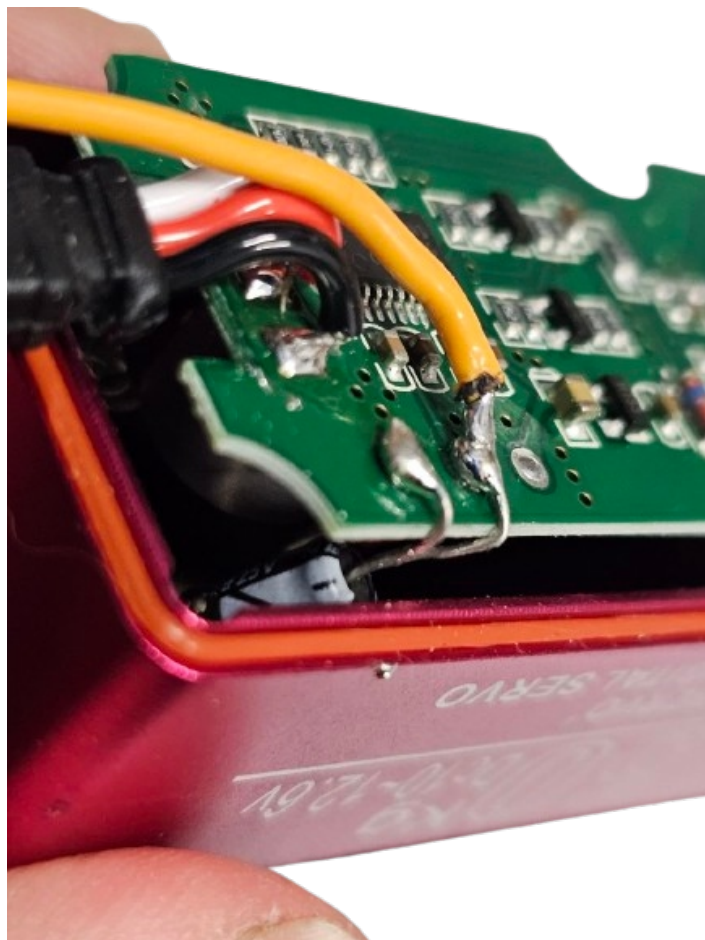


PAY ATTENTION !
THE GROUND on 10uF CAP
to the outside

5 STEP

STEP 5: Soldering the Capacitor and the Feedback Cable

Please refer to the accompanying images for guidance. Begin by soldering the feedback cable and the capacitor as demonstrated. Ensure that the capacitor is neatly tucked under the board, following the indicated position. Additionally, orient the feedback cable in alignment with the other cables, facilitating smoother passage through the cover during later stages.



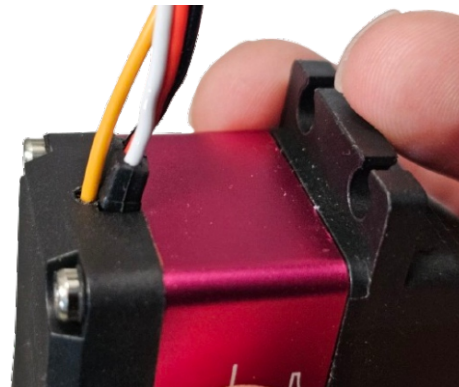
6 STEP

STEP 6: Drill a Hole Above the Existing Notch

In the center, drill a hole above the current notch and thread your feedback cable through it. Once completed, delicately reseal the cover to its initial condition. Below, I've outlined two methods: one involves drilling a hole, and the other entails burning a notch just above the existing one, providing ample space for the new feedback cable to pass through. The latter method simply requires a quick press of the soldering iron while hot. Either approach is effective.

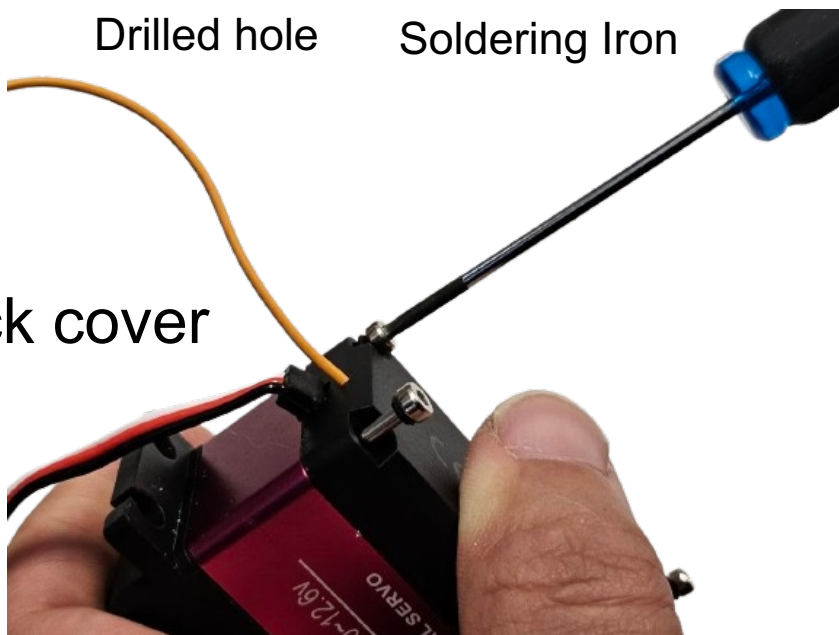


Drilled hole



Soldering Iron

Screw back cover



7 STEP

STEP 7: Crimping the Dupont Female Wire Connector
Begin by peeling back approximately 5mm of the feedback cable. Insert this exposed portion into the female connector. Ensure the butterfly wings are delicately folded to securely hold the cable in place as you insert it into the crimping tool. Proceed to crimp the cable together with the female connector to join them. Once completed, insert the cover to lock it into place.



USE FEMALE TYPE

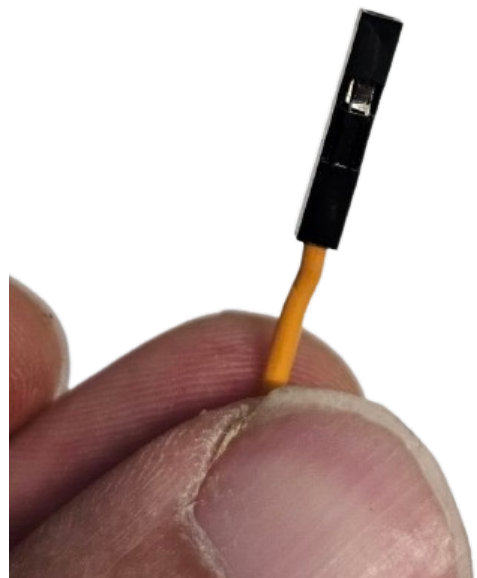
STEP 1 CRIMP



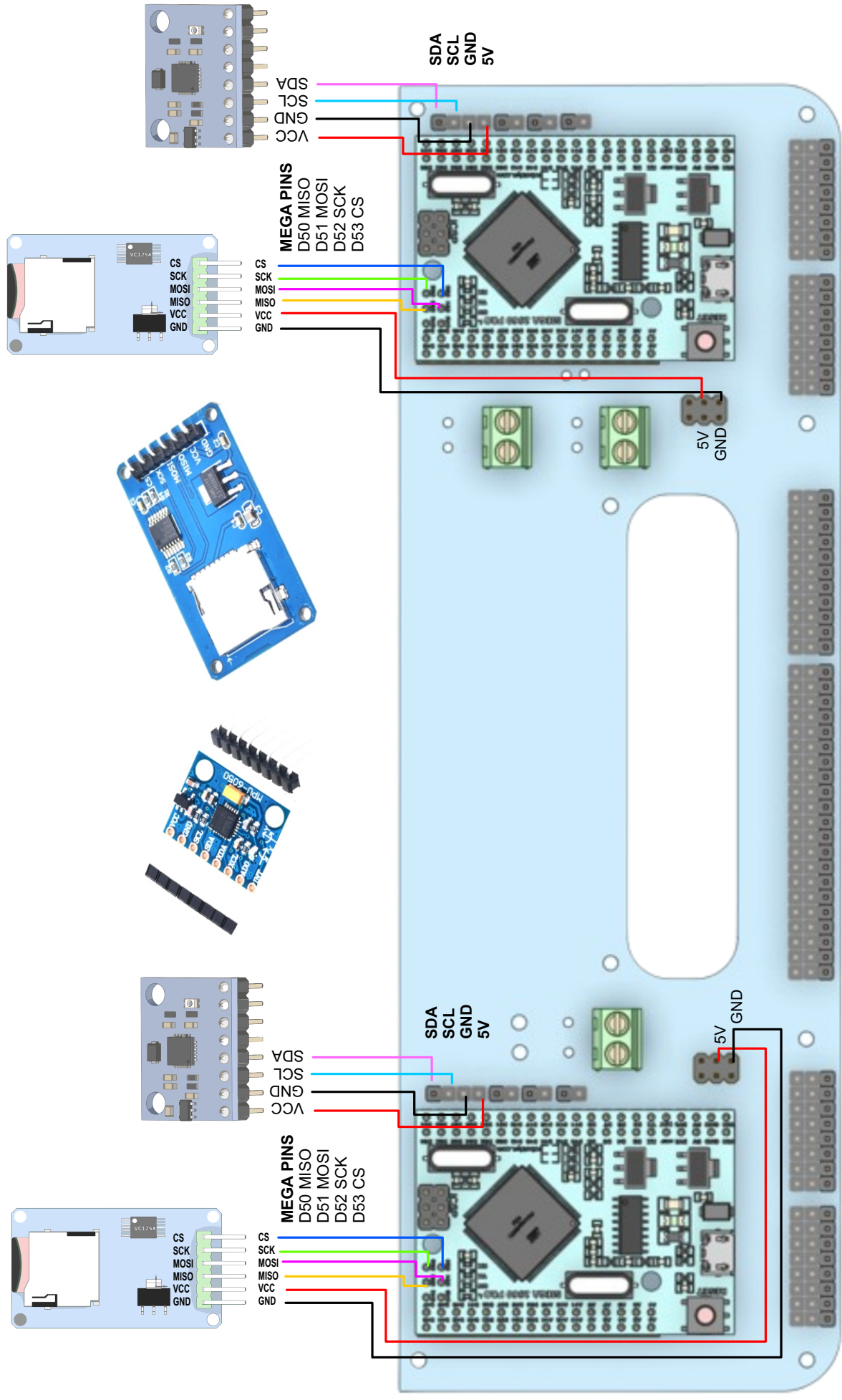
SHOULD LOOK LIKE THIS



STEP 2 SLIDE INSERT



Connection Diagram XR1 Main board MEGA DRIVERS



 robots**builder**