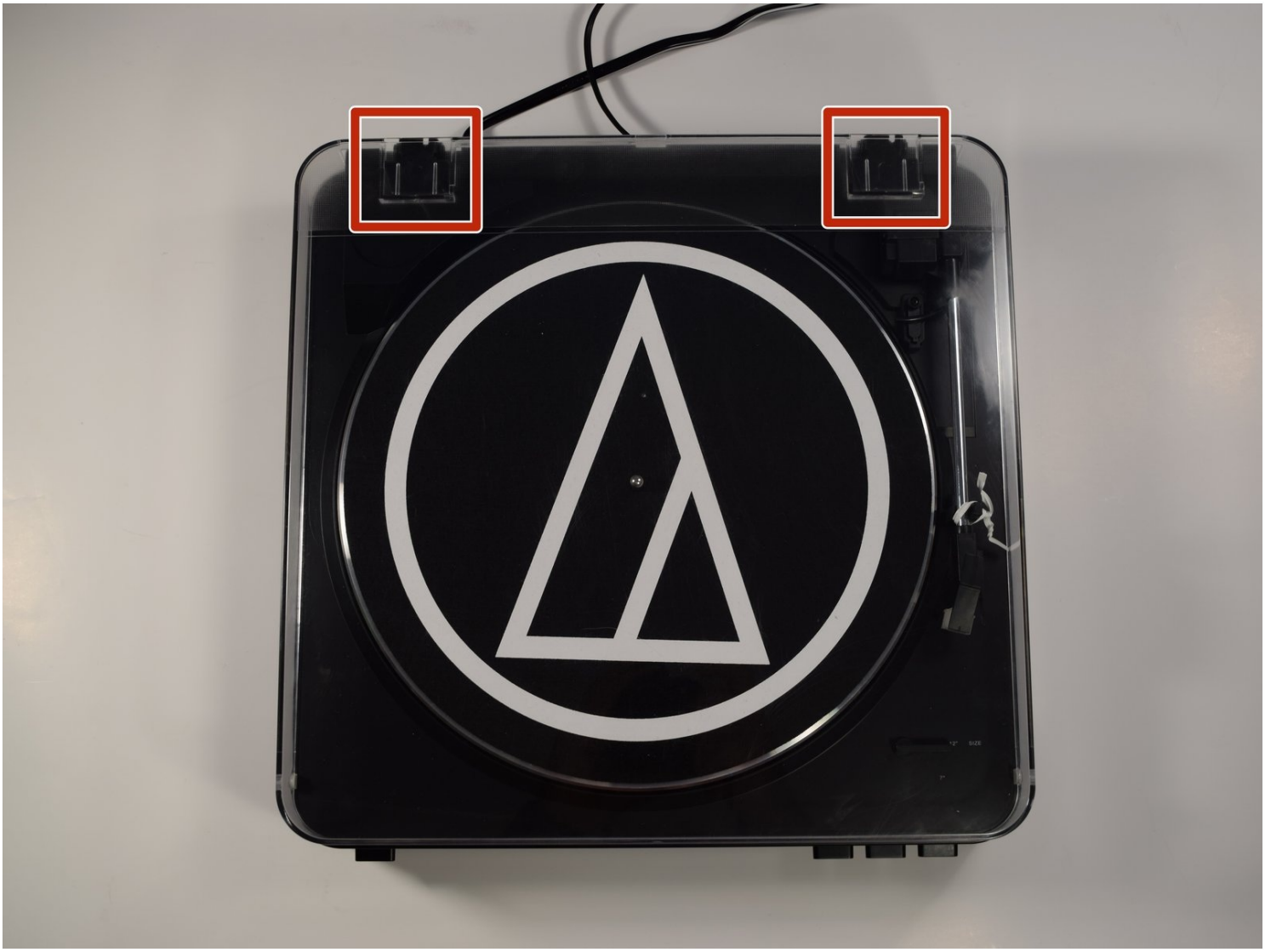
Audio Technica AT-LP60BK Motor Replacement

If the motor of a turntable burns out,...

Written By: Michael Lynch



INTRODUCTION

If the motor of a turntable burns out, replacing the whole unit is expensive and wasteful. This guide provides a step-by-step process for replacing the drive motor on the Audio-Technica AT-LP60BK turntable, but could potentially apply to other similarly constructed turntables. This replacement guide involves a device that is powered by 120V, which poses an electrocution hazard unless the unit is unplugged. The guide also requires the use of a soldering iron, which poses a burn hazard, but this guide will provide an overview of soldering and safe soldering techniques.

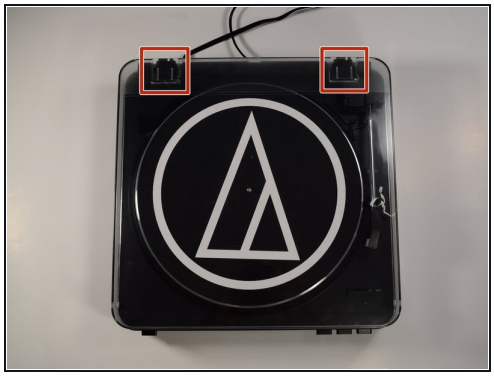
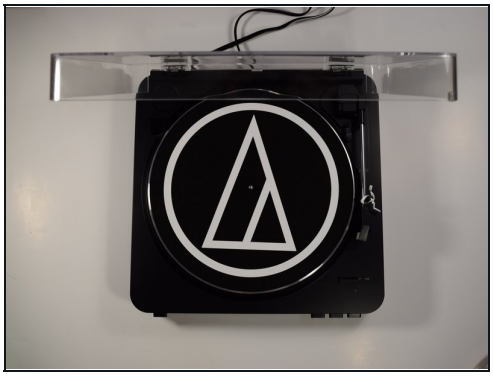
TOOLS:

Phillips #1 Screwdriver (1)
Phillips #2 Screwdriver (1)
Flathead 1.5 mm Screwdriver (1)
Soldering Iron (1)
Lead-Free Solder (1)
Soldering Tweezers (1)
This tool is optional, but having tweezers to hold the small wires near the hot soldering iron lowers the chances of injury when soldering.
Desoldering Pump (1)
This tool is optional, if you have it and you think it will help then use it, but it is not necessary to complete this project.

PARTS:

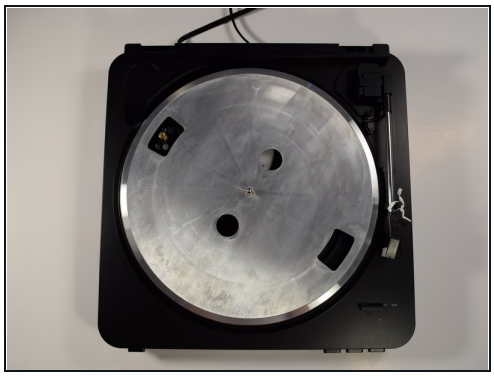
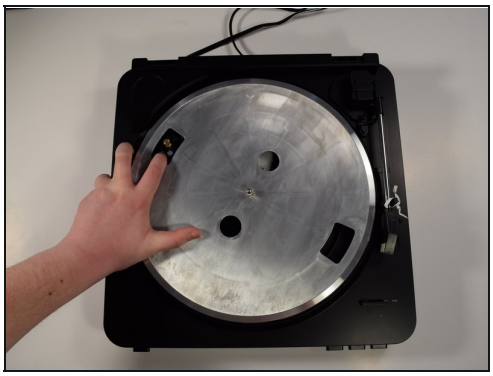
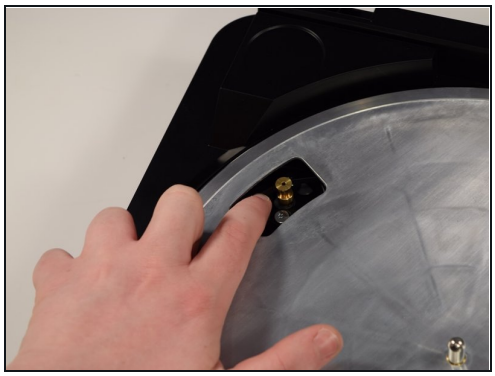
Adjustable Speed DC Motor (1)

Step 1 — Turntable Motor

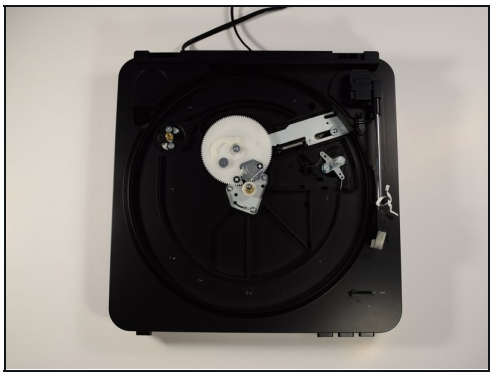

- Before starting, ensure the unit is not plugged into a wall outlet or output device.
- The hinges for the clear lid will slide vertically out of the case when the lid is in the open position.

Step 2

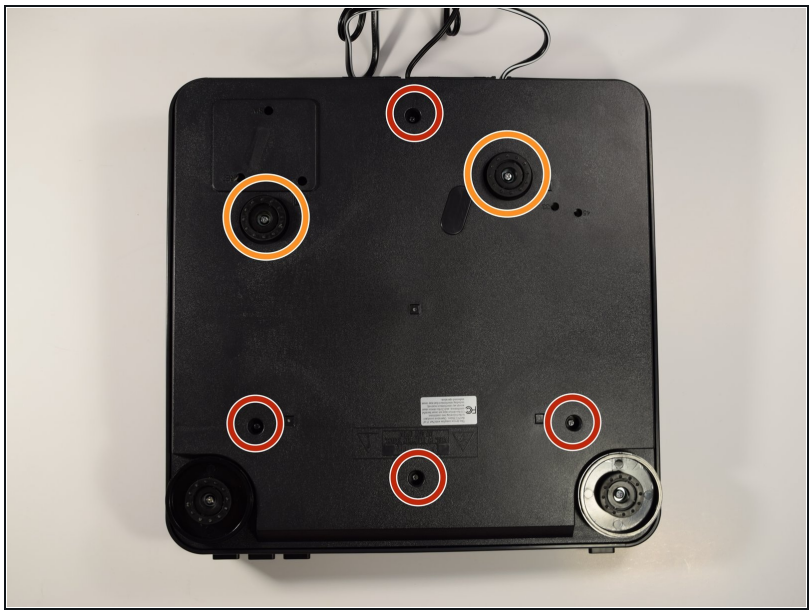
- Remove the felt mat from the turntable deck to expose the metal platter below.
- Remove the belt from the motor spindle (brass cylinder) to be able to remove the platter.

Step 3

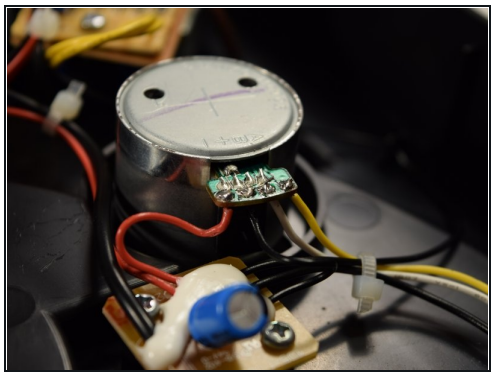

- Remove the metal turntable platter by gripping as shown and pulling straight up until free.
- The brass cylinder shown is the spindle that drives the platter that is attached to the motor that is being replaced.

Step 4

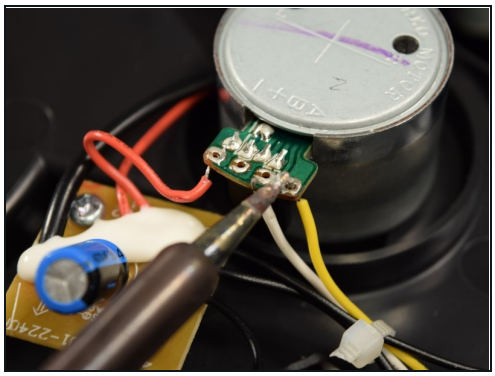


- Flip the whole unit over, and remove the four screws indicated in red using the Phillips #2 screwdriver.
  - Remove the two feet indicated in orange using the Phillips #2 driver. The other two feet do not need to be unscrewed to remove the case.
- Remove the bottom lid by carefully lifting straight up. Do not force it, the lid should remove easily.

Step 5





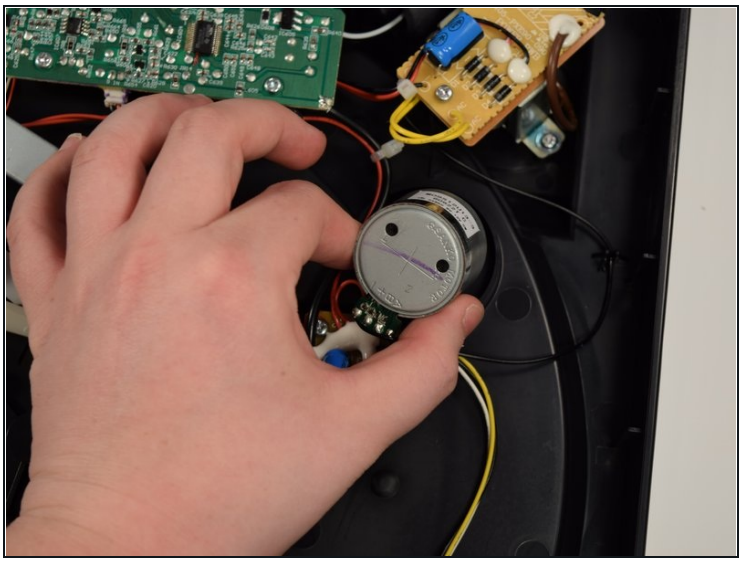


- The drive motor will be on the right side and in the upper half of the unit. The drive motor within this unit is displayed as it was found in the unit in the first photo.
- The motor in this unit was a SANKO 9V, 12V CW (clockwise) MO9S12U13-3 60622T C. Verify the motor model before ordering a replacement.
- Note the polarity of the wires leading to the motor. This unit is wired as follows, according to the markings on the motor body: (NOTE: if the wiring varies on other units, use that wiring schematic.)
  - A - Yellow
  - B - White
  - '+' - Black
  - '-' - Red

⚠ De-solder the connections to the motor. Be careful when using a soldering iron so as not to burn yourself. Do not hold the iron in one place for too long to prevent burning and damaging the circuit board. For more information on soldering connections, please read the How to Solder and Desolder Connections guide.

Step 6

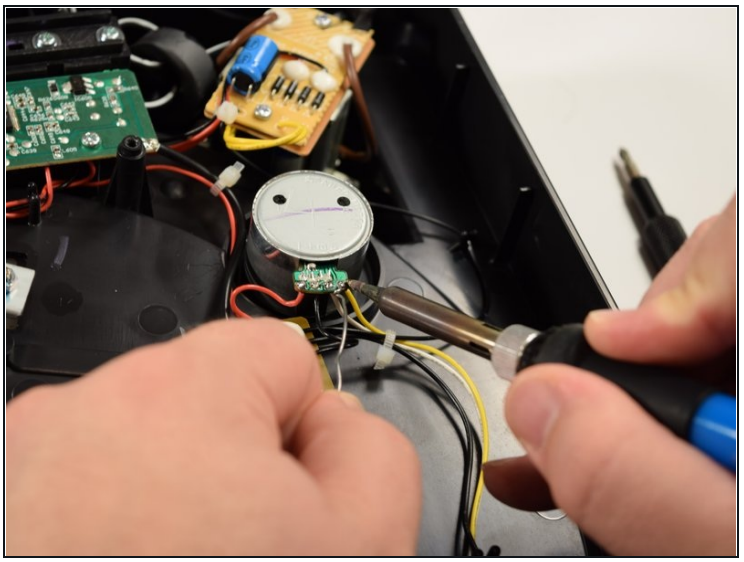




- Flip the unit over and using the Phillips #1 screwdriver, carefully unscrew the two indicated screws that hold the motor in place.
- Carefully flip the unit back over and remove the motor by gently lifting straight up.

Step 7



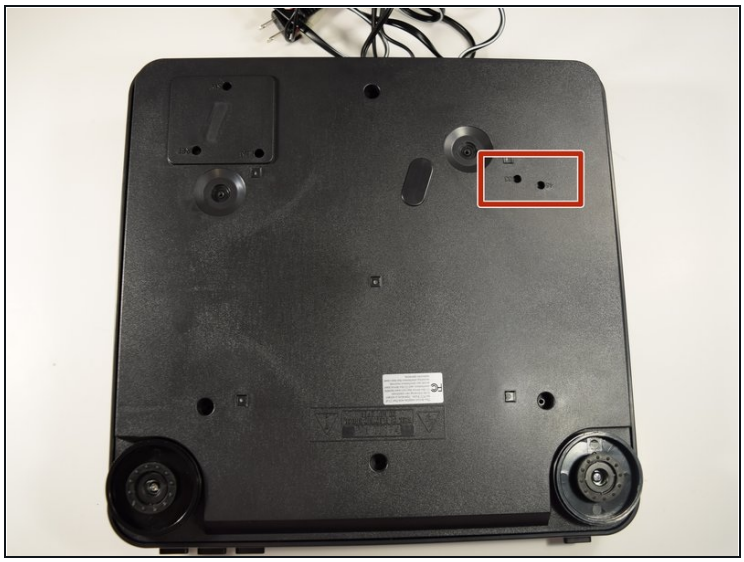


- The new motor should be inserted and attached to the case in the opposite manner of the last step.

- Solder the new motor, making sure to attach the colored wires in the same manner as they were removed.

⚠ Be careful when using a soldering iron so as not to burn yourself. Do not hold the iron in one place for too long to prevent burning and damaging the circuit board.

Step 8





- Reassemble the unit by following Steps 1-4 in reverse order.
- Note the indicated holes on the bottom of the case. These lead to the motor to adjust the speed at which the turntable spins.
  - The orange indicator leads to the 33 rpm speed control.
  - The yellow indicator leads to the 45 rpm speed control.

Step 9





- With the unit fully reassembled, test the speed of the motor by comparing the output of the turntable to a digital recording of the same song.
- With the unit OFF and unplugged, adjust the speed by inserting the 1.5 mm Flathead screwdriver into the shown holes and carefully turning the screw in the motor housing. This step is very sensitive and will likely take multiple attempts to get the speed just right.
  - NOTE: do not adjust the speed of the unit while the motor is turning, as this is likely to damage the motor or cause injury.
- Reinsert the lid and enjoy your repaired Audio Technica AT-LP60BK turntable.