

Sole ST90 Teardown & Service Guide

Console, deck, rollers, motor, and incline mechanism: full disassembly/reassembly reference

Source: Visual step sequence compiled from Sole Fitness's official ST90 parts replacement video (manufacturer dealer training footage), reviewed frame by frame and organized into this written step-by-step reference for field use. Keep with the Sole ST90 owner's manual in the parts/manual library.

Applies to every job on a Sole ST90. Treat this as the standard teardown sequence for this model. Belt replacement, roller/axle work, motor control board swaps, drive motor swaps, and incline mechanism work all start the same way (console off, deck exposed) before branching into the specific repair.

Tools Needed

- Phillips and flathead screwdrivers
- Hex/Allen key set (metric)
- Adjustable wrench
- Dial caliper (for the final belt/roller clearance check)
- Small parts cup or magnetic tray (chain guard screws are tiny and easy to lose)
- Moving blanket or furniture pad (protects the side rail when the frame is turned on its side)

Crew size: plan for two people minimum, three if available. Section 3 (turning the frame on its side) and Section 4 (sliding the rear roller/axle out) both need a second set of hands.

Most common repair on this model: rear roller/axle assembly R&R (clicking/ticking belt noise). See Section 4. This is frequently paired with left and right calibrating rod replacement to fully resolve the noise, since the rear roller alone often does not fix it.

1. Console & Handlebar Disassembly

Start here for any repair that requires opening the frame. The console sits on top of the mast and has to come off before the handlebar mast bolts are reachable.

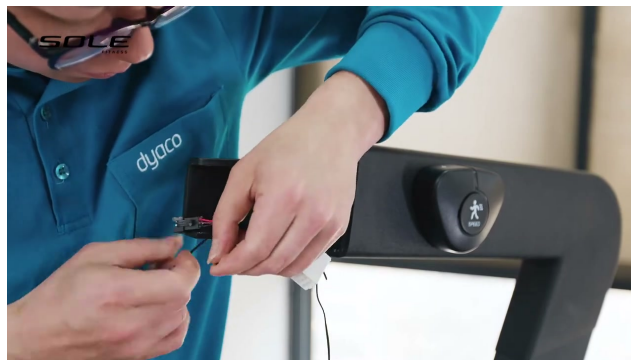
- 1 Remove the console mounting screws on the underside of the console housing.
- 2 Disconnect the console's wiring harness (main data cable) before fully separating it from the mast.
- 3 Remove the handlebar end caps on both sides to expose the pulse grip sensor wiring and incline/speed button wiring.
- 4 Disconnect the handlebar wiring connectors, noting the connector orientation/color before unplugging.



Removing the console mount screws.



Console panel disconnected and lifted free.



Handlebar end cap removed, pulse/button wiring connector exposed.

2. Slat Belt Removal

The ST90 uses a slatted belt (individual slats linked by a roller chain), not a single rubber belt. Treat it like a chain, not a belt, when releasing tension and handling it.

- 1 Remove the motor hood and both side rail covers to fully expose the deck.
- 2 Loosen the rear roller tension bolts evenly on both sides, a few turns at a time, rather than fully loosening one side first. Uneven loosening can bind the chain on the sprockets.
- 3 Once tension is released, lift the slat chain off the rear roller sprockets first, then walk it forward off the front roller.
- 4 Lay the removed slat belt out flat and straight, not coiled. Coiling it can stress or crack the slats.



Side rail removed, deck exposed.

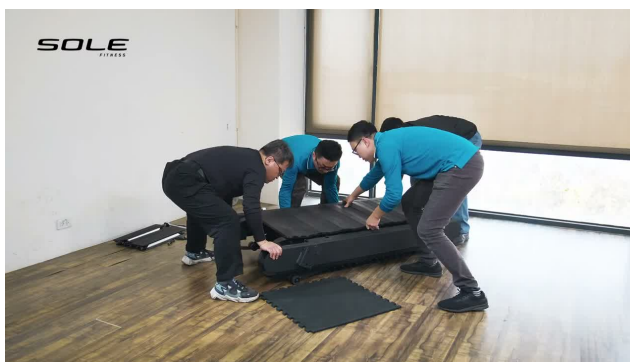


Tension released, slat belt coming off the rear roller.

3. Turn the Unit On Its Side

Do this before touching the rear roller. With the slat belt and both side rails off, the frame is light enough to turn on its side, and this is the only way to get clean, square access to the rear roller's sprocket, chain guard, and end brackets. Trying to pull the roller with the unit still flat on the floor makes it far harder to see and reach the chain guard screws.

- 1 Get a second person (a third if available) to help. The bare frame is awkward, not light.
- 2 Lay a moving blanket or furniture pad on the floor where the frame will rest, to protect the side rail finish.
- 3 Lift the frame from the rear end and rotate it up and over so it comes to rest on one side rail, deck facing you.
- 4 Confirm the frame is stable on its side before letting go. It should rest flat on the rail, not teeter.

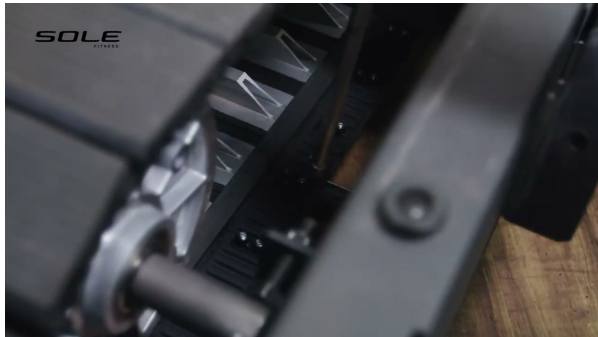


Multi-person lift, turning the bare frame up onto its side.

4. Rear Roller / Axle Assembly (Most Common Repair)

This is the repair behind most "clicking" or "ticking" belt noise complaints on the ST90. **Important:** the rear roller/axle assembly alone frequently does not fully resolve the noise. The left and right calibrating rods often need to be replaced at the same time. Confirm both parts are on hand before the visit so the job doesn't need a repeat trip.

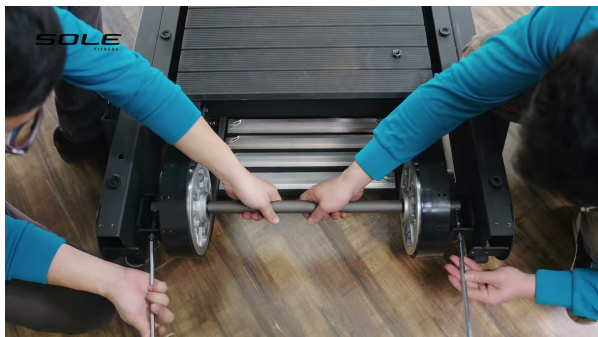
- 1 With the unit on its side (Section 3), locate the chain guard / cover plate at the rear roller's sprocket end.
- 2 Remove the small Phillips screws holding the chain guard in place. There are usually two. Set them aside in a cup or magnetic tray immediately, they are small and easy to lose or kick across the floor.
- 3 With the chain guard off, remove the roller end bracket bolts on both ends of the rear roller.
- 4 With a second person supporting the far end, slide the full rear roller/axle assembly straight out of the frame rails.
- 5 Inspect the calibrating rods (left and right) that ride alongside the roller, and replace both if worn, bent, or if this is a repeat-noise job.
- 6 Install the new roller/axle assembly (and calibrating rods if applicable) in the reverse order: roller in first, end brackets torqued evenly on both sides, then the chain guard and its two screws last.
- 7 Turn the unit back upright before reinstalling the slat belt (Section 9).



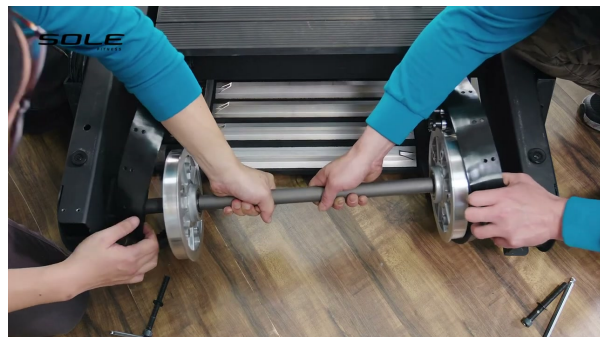
Chain guard screws coming out at the rear roller sprocket.



Removing the rear roller end bracket bolt.



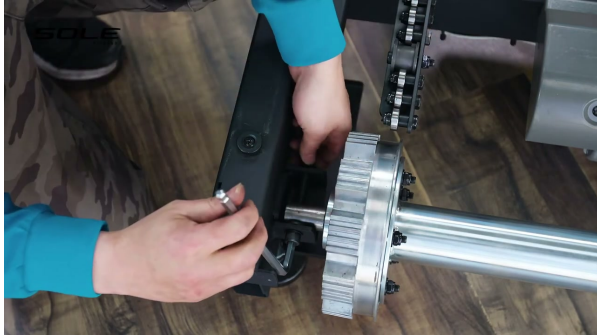
Two-person removal: sliding the roller/axle assembly out.



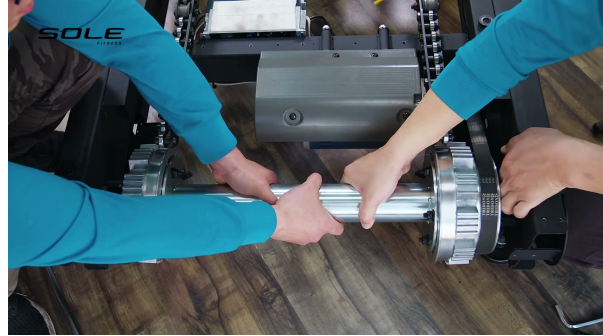
Rear roller/axle assembly fully removed from the frame rails.

5. Front Roller & Drive Pulley

- 1 Remove the front roller end bracket bolts the same way as the rear roller.
- 2 Note the drive belt/pulley orientation on the motor side before sliding the front roller out.
- 3 Transfer the drive pulley to the new front roller if replacing the roller itself, not just the belt.



Front roller end bracket.



Front roller/drive pulley assembly.

6. Motor Control Board (MCB)

The MCB sits in the motor compartment under the deck, near the drive motor. Replace this for speed/incline response issues, error codes, or tripped breakers under load.

- 1 Unplug and lock out power before opening the motor compartment.
- 2 Photograph or note every wire/connector position before disconnecting the old board.
- 3 Swap in the new board, matching every connector exactly as noted.
- 4 Power on and confirm speed/incline response before closing the compartment back up.



Motor control board (MCB) and wiring harness in the motor compartment.

7. Drive Motor

- 1 Disconnect the motor's wiring and drive belt/pulley before unbolting it from its mount.
- 2 Transfer the drive pulley to the new motor if it isn't already included.
- 3 Reinstall, reconnect wiring, and re-tension the drive belt before testing.



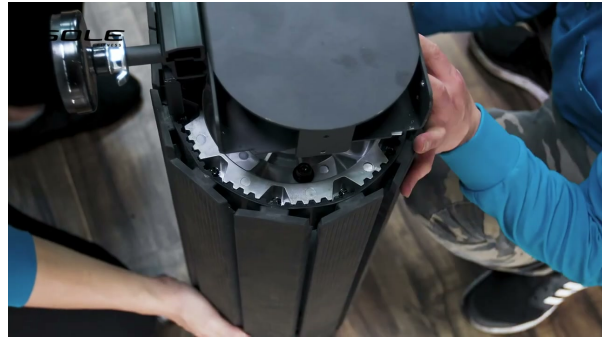
Drive motor removed from its mount.

8. Incline Motor & Lift Mechanism

- 1 Set the deck to its lowest incline position before disassembly if the unit still powers on.
- 2 Disconnect the incline motor's wiring and detach the lift arm/screw attachment point.
- 3 Install the new incline motor and reattach the lift arm exactly as noted.
- 4 Run the incline through its full range after reassembly, checking for grinding or uneven movement.



Incline motor/actuator being seated in the mast.



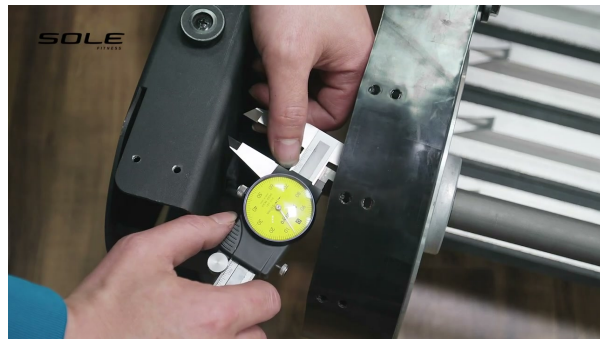
Incline gear housing fitted into the mast tube.

9. Reassembly & Final Calibration Check

- 1 With both rollers back in the frame rails, fit the belt/chain over both roller sprockets before tightening anything down.
- 2 Set initial belt tension evenly on both sides, then fine-tune for centered tracking at low speed.
- 3 Use a dial caliper to check roller/belt clearance against spec before closing up the deck covers. This is what catches a roller that's still slightly out of alignment.
- 4 Reinstall all covers, the motor hood, and the console last.
- 5 Run the belt at low, then normal, then high speed. Confirm straight tracking, no new noise, and no error codes before leaving the job.



Both rollers mounted in the bare frame, belt/chain spanning the deck.



Final dial caliper check at the rear roller before closing up.