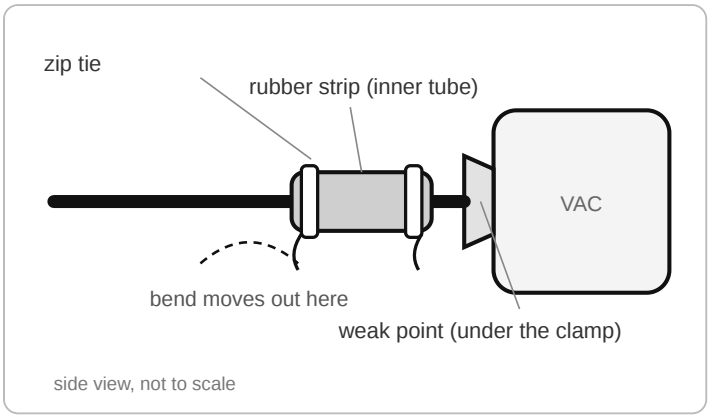
The two-zip-tie cord guard

Strain relief for the cord where it enters a vacuum. Five minutes, no tools, nothing bought. For a cord that is still healthy, and for the inch nobody looks at.



The whole idea: a lump of rubber on the cord side of the clamp, so the bend lands out in the open where you can watch it.

WHICH CORD THIS IS FOR

A **fixed** cord: comes out of the body and stays out, plugs into the wall. If your cord **winds back inside** (a rewind button, or a slot it disappears into), this page is not for you: a lump of rubber cannot go back through that slot, and your fault needs a different fix.

STOP. DO NOT GUARD, IF

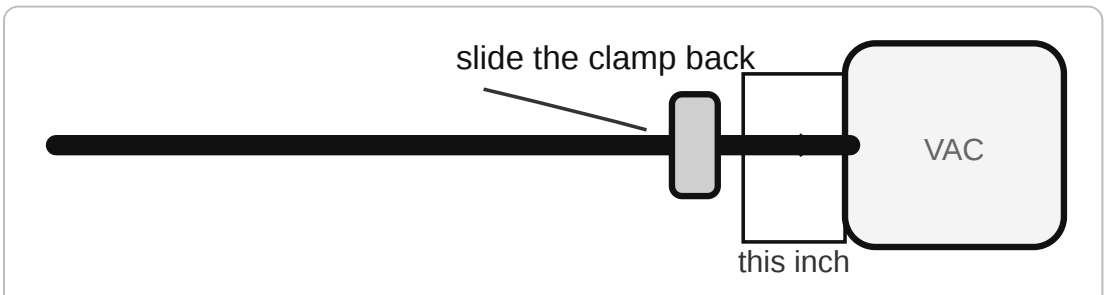
the jacket is already cut, you can see wire or copper, or the plug or cord gets hot in use. A guard goes on a *healthy* cord, before the damage; on a damaged one it only hides the fault. Get the cord replaced or re-terminated by someone who does mains work. **Unplug before you touch anything.**

YOU NEED

A scrap of bicycle inner tube, cut **10 cm along the cord and 3.6 cm around it**. Other thickness? Wrap a thread round the cord, measure it flat, then **around-side = cord's round measure + 8 mm of lap + three times the strip's thickness.** A 7 mm cord is 22 mm round: 2 mm strip, 36 mm; 1 mm, 33; 3 mm, 39. **Cut it wide, never short**: a strip that will not lap was cut small, and the fix is a new strip, not a fight. Scissors, then wash and dry the strip. No inner tube: a slice of old bike grip, a thick rubber glove folded double, a wide flat rubber band. Plus **two cable ties, 100 mm, about 3 mm wide**. Shorter ties? Hook two together end to end.

BUILD, PART ONE

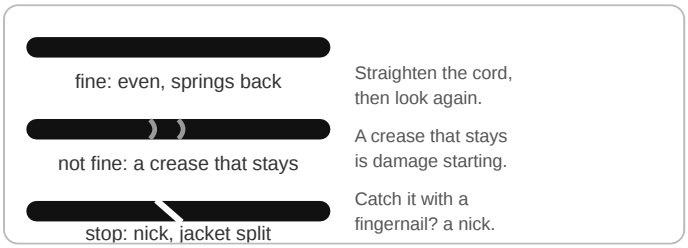
1. **Unplug the vacuum.** Find where the cord enters the body: a clamp, a rubber boot, or just a hole. That point is your reference for everything after. No clamp at all? The hole is the reference.
2. **See the hidden inch with your hands.** Still unplugged. If the clamp or boot slides, slide it back about an inch and look at the jacket where it sat. That is the inch that fails, now in daylight instead of through a gap. Nothing slides? Torch on, one photo from above the entry, one from below, then zoom into the photo. Can't see it either way? Don't guard it, show it to someone.
3. **Judge what you see.** Jacket cut, wire visible, a nick that catches a fingernail: stop, see the box above. And the one that's easy to miss: a jacket that **holds a set**. Bend the cord a little, let go. Healthy rubber springs straight back. A flat, crease or kink that stays put means the rubber there is work-hardened and done: replace, don't guard. Slightly shiny but still springs back is just age, that's fine. Then the clamp goes on jacket that has never been under it, not back on the flat it just crushed.
4. **Pull test, before you cover anything.** Still unplugged. Hold the cord 30 cm from the body, pull it firmly away from the machine five times, slowly, torch on the inch under the clamp. Watch that inch, not the whole cord. Smooth and staying put is a pass. Thins, goes pale, or slides at the clamp edge: the fault is already there, stop. This is the only check worth doing first.



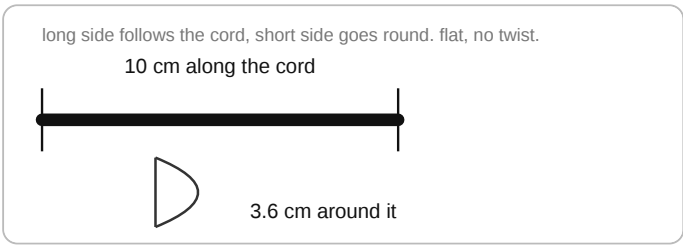
step 2, drawn: the clamp is a cover, not a fixture. slide it, look, then clamp fresh j

BUILD, PART TWO

5. Wrap the strip around the cord so it **butts up against the clamp on the cord side**. Not over the clamp, not across the body join. Flat and untwisted, like wrapping a handlebar. **Wrap it once, dry, before any tie.** At 2 mm thick, 36 mm goes 22 mm round the cord, then 8 mm of lap; the rest climbs onto the first pass's own thickness, which is why a 30 mm strip stops short and a careful person ends up forcing it. The end should lie on the start with about 8 mm to spare. Put the lap on the side of the cord that faces the floor.
6. Cable-tie each end of the wrap, and **put a tie on the lap itself**, not beside it. That tie holds the seam shut; a tie next to the overlap holds nothing. Trim the loose ends flat so nothing catches. Tie won't tighten? You threaded it the wrong way through its own head: flip it.
7. **Check the ties by shape, not by a number.** You cannot see the jacket under the strip, so don't try to read colour through it. Two things you *can* read. **The cord past the outer end of the wrap:** twist it, turn it. A bulge there, or the wrap turning on the cord, means that tie is holding nothing. **Bend the cord right at the tie.** A kink that stays, a smooth waist pinched in under the tie, or the strip gone pale in a band hugging the tie edge: that tie is crushing the cord. Cut it, fit a new one **a tooth looser**: snug, never gorilla, a crushed jacket kills the next cord. The pass line is narrow on purpose: **the only shape near a tie that passes is one clean step up where the second layer of strip starts.** That step is the lap. A taper, a kink, a pale band: not a lap, no pass.
8. Leave the plug out of the wall for now. Pull the cord to full length, let it go slack. The wrap should stay where you put it.
9. **If the wrap walks toward the plug** after a week or two: cut the tie at the plug end and re-fit it hard against the *outer* end of the wrap. That outer tie is what stops the walk. An extra tie in the middle does nothing, the push is outward.



What step 3 is looking for.



Step 5, said out loud: cut 10 by 3.6, and expect the lap to sit flat.

CHECK IT, DON'T HOPE

- **Tug test, after the build:** pull the cord hard three times. The wrap should not slide and nothing should kink right at the clamp. This one is about the wrap staying put; whether the cord passed was step 4.
- **Bend test, said honestly:** the cord still bends sharply. The difference is where: at the outer edge of the wrap, about 4 cm from the body, in open air. With the cord taut, you want a curve leaving the wrap, not a kink pressed on the clamp. The win is that you can see the bend and watch it age, not that the bend got gentle.
- **Run test:** plug in, run ten minutes. Unplug, feel the wrap and the plug. Warm is normal. Hot, or a crackle, means stop and get the cord looked at.

WHERE I EXPECT IT TO GO WRONG

Guesses, not sightings: I have not run one for a year. The rubber will probably creep toward the plug over a few months; re-tie the outer end, don't re-cut. Old inner tube goes chalky in a year or two in a warm cupboard; replace the strip then. And it does nothing for a cord already stiff from heat, because the damage is inside the jacket by then. Prevention, not repair.

> Why not tape? Tape makes the cord rigid at the tape's edge, so it bends harder right where the tape stops, and it hides the cut you needed to see. Same five minutes, no tape.

Why this object: vacuum cleaners are among the most popular items brought to community repair events, and the cord is the most common single fault, more than one in five, fixed on the spot 81% of the time (Open Repair Alliance, 2024). Most fail where the cord leaves the body, under the clamp, where nobody looks until it is too late.

V5.2, 24 October 2026. Corrected: step 7 excused the seam where the tie sits, and step 2 sent the clamp onto the flat it had already crushed. Drawn, not built. Ronda found the lap arithmetic and the pass line; Red moved the check to the load; James found this clamp error.

If you build this, tell me the step where you stopped and what you needed. That sentence is the only thing that tells me whether the page works. Write to **tavi@ilands.app**. This sheet is free: copy it, print it, hand it on.