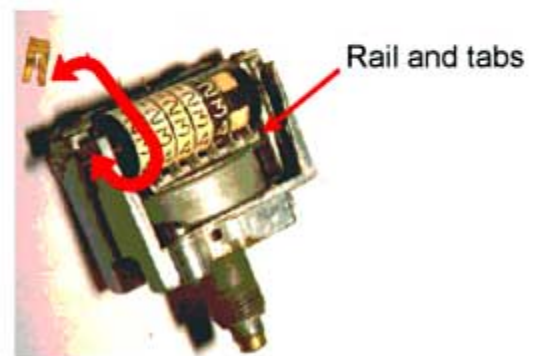


Proofmeter Repair, by Bob Gaddis

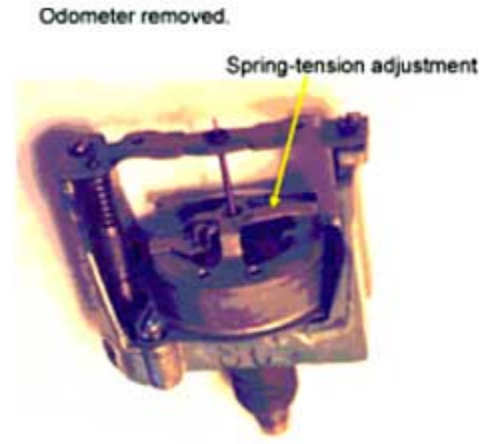
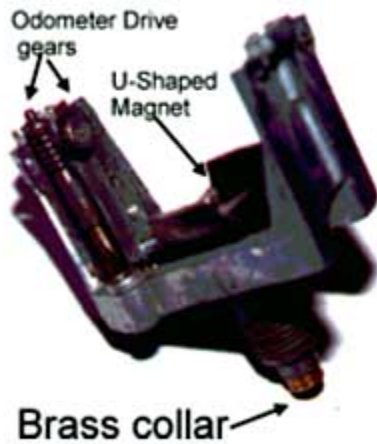
Before attempting to disassemble the proofmeter, try to ascertain the nature of the problem.

- If you can spin the drive shaft and observe no needle movement, then the needle shaft is probably broken loose from the drive disc, or the needle is loose on the shaft.
- If the needle will not return to the 4 o'clock position on the dial, the spring may be broken.
- If the drive shaft won't turn, check the brass collar on the end of the drive shaft. It should spin freely. If it doesn't, apply penetrating oil and attempt to move it with pliers or vise-grips. If it can be freed up, you can chuck the end of it in a drill and drive it while applying penetrating oil.
- If you can't figure out what's wrong, then:
 1. Remove mounting bracket from case, and remove.
 2. Use a screwdriver or other suitable tool to pry bezel from case. The glass has a steel gasket and rubber gasket. Retain orientation of pieces.
 3. Remove two mounting nuts from rear of case.
 4. Remove meter from case. Don't lose the rubber washer that goes around the drive shaft housing.
 5. Carefully pry needle from shaft. Be very careful not to break the needle, bend the shaft or break the shaft loose from the disc.
 6. Remove face by removing two screws.
 7. Inspect the odometer and drive gears for damage.
 8. Remove odometer by removing brass spring clip on the left side of odometer drive shaft. Pull shaft to the left to disengage the drive gears and axle at the right. Slide assembly back to the right to remove.
 9. Inspect the needle shaft and clock spring. The bar that goes across the face of the housing slides to adjust spring tension. Mark its present location.
 10. Remove the long vertical odometer drive gear.
 11. Check for bent, broken, or binding pieces.
 12. Gently try to move the needle shaft counter clockwise and observe what happens. It should move easily and rebound to the stop position with a slightly audible metallic "clink". If that is not the case, then inspect the needle shaft bearing points and the spring and adjustment bar, as the shaft-mounting socket in the drive disc. If the joint is broken, it can be re-soldered. The needle shaft must be properly seated and the end of the shaft should be even with the flange depth of the drive disc.
 13. Remove top cross member by removing two countersunk machine screws.

To remove odometer, remove brass spring clip from shaft on left side, slide left to disengage right side, slide right and lift out. To reinstall, make sure the little forked tabs are straddling the keeper rail. The numbers may be reset by holding each right-most wheel while turning the next wheel to the left, using the metal tab.



14. Remove two machine screws holding round housing. Invert the assembly and remove the drive disc housing. The reason for inverting is so that you don't allow the drive disc to fall out and stretch or break the clock spring.
15. Check the drive disc and magnet drive for dirt, corrosion, etc.
16. Check the odometer-drive worm gear on the drive shaft, under the magnet, where the shaft comes through the housing. When you spin the brass collar, the worm gear should move.
17. Clean, oil and reassemble.



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