

Vanagon DIY Guide

Replacing & Testing the Ignition Switch

Tools:

- Ignition key
- Sharpie (or similar) marking pen
- Torque wrench
- Socket wrench (and any adapters/extensions you may need)
- 24mm socket
- 10mm wrench (your choice; for battery disconnect)
- 6mm Allen wrench
- Philips screwdriver
- Small slot/flathead screwdriver
- Plastic pry tool (trim removal-type tool; optional, but useful in removal of center steering wheel pad)
- Deadblow hammer (optional, but helpful)
- Vice Grips, or tri-leg puller tool
- Multimeter for checking continuity (only needed if testing the ignition switch)

Parts:

- New ignition switch (part #171905865; or 111905865L)
- Grease (optional)

Replacing the Ignition Switch



Disconnect the main battery using 10mm wrench. Use a towel, or something similar, to keep the battery ground terminal from touching the connector.



Insert key into ignition switch – leave in *off* position.

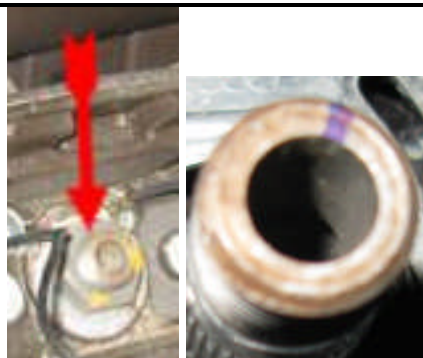


Remove the 2 Philips screws holding the steering column covers together and remove lower cover.

****If you wish to verify your ignition switch going bad, stop here and skip to page 3.****



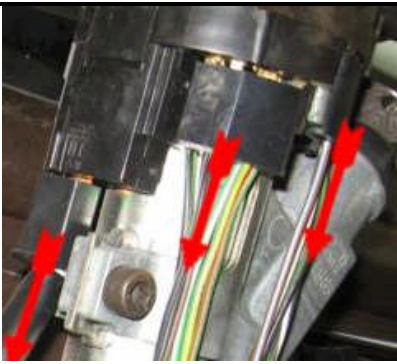
Carefully pry out center horn button pad (3 tabs across the top and bottom). Disconnect horn wires from button pad.



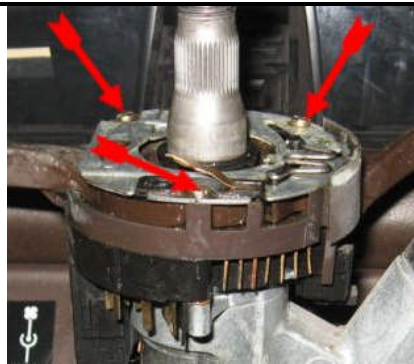
Loosen and remove steering wheel retaining nut (24mm – red arrow). Mark the steering wheel and shaft at the splines with your Sharpie pen so that you can put the wheel back on in the exact same spot. Reinstall the 24mm nut just a couple of turns.



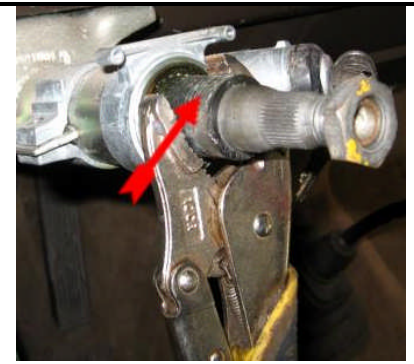
Smack the back of the steering wheel with your hand, or deadblow hammer. Once it breaks loose, remove 24mm nut and steering wheel. Using a small flat screwdriver, gently pry the upper column cover's retaining tab up and over the key lock cylinder and remove the cover (slide it off the wiper stalk).



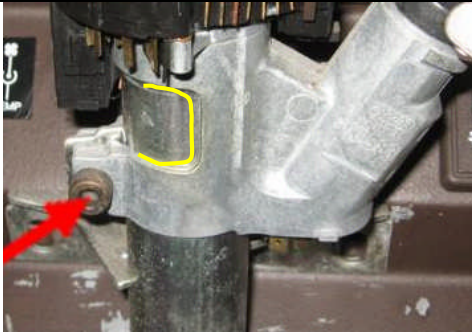
Remove electrical connections from all switches.



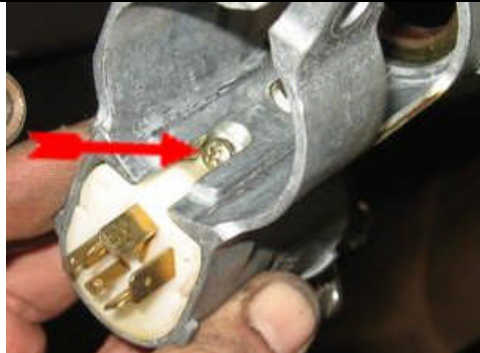
Remove the 3 slotted screws from the wiper/turn assembly and remove them both from the steering column.



Using Vice Grips and a twisting-pulling motion, pull the spacer sleeve off the column shaft (**this spacer sleeve is plastic!** – do not use a really tight grip, or you'll ruin the spacer); or, use a proper puller tool.



Using a Sharpie pen, mark on the steering column shaft where the lock cylinder housing sits (yellow line; do top and/or bottom, your choice). Remove the 6mm Allen bolt and pull lock cylinder assembly off the shaft (you may need to pry the bolt-side mounting tabs apart just a bit).



Remove the Philips screw from the ignition switch. Install the new switch and screw.



Re-installation is essentially reverse of removal.

However...

Tip #1:

- After installing the lock cylinder housing, slide the spacer sleeve back onto the shaft, with notches at the bottom. Put a crescent wrench the size of the spacer sleeve on top of the sleeve and use a deadblow hammer on the wrench to drive the sleeve back into position.

Tip #2:

- When reinstalling the wiper/turn switch assembly, be sure the turn signal stalk's hook is mounted into the loop on the wiper assembly's sliding gizmo (yellow arrow). If you don't, you won't have hi-beams and will have horn issues.



Tip #3:

- Speaking of the wiper/turn switch assembly, make sure the horn ring tab and mount aren't sliding around; if either is, the tab may come in contact with the mounting screw, which will lead to the horn honking as soon as you turn the key, and you won't be able to torque the nut all the way. If it's moving around, epoxy it into place (do not use any adhesive that contains metals, such as JBWeld).



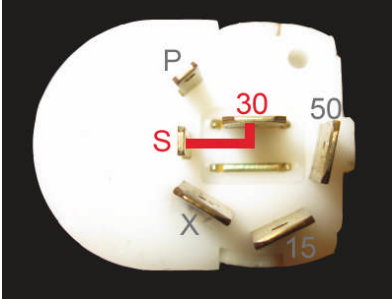
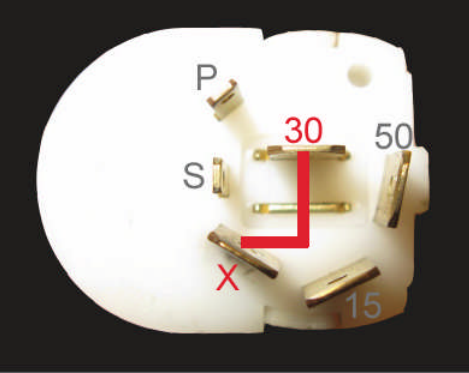
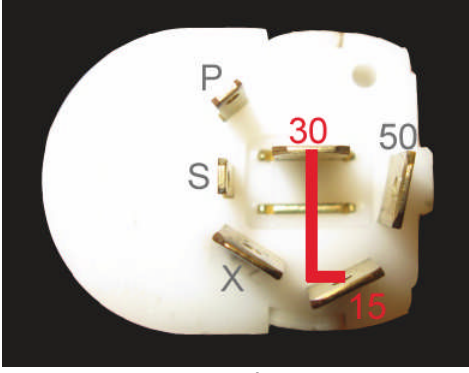
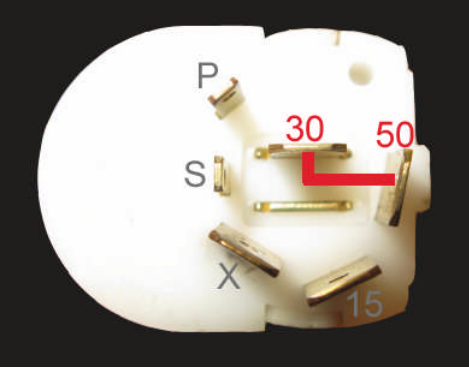
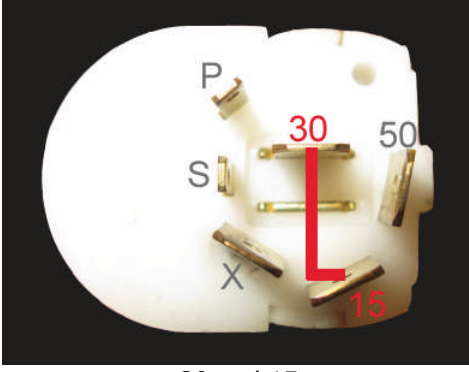
Tip #4:

- Speaking of the horn, you might take a moment to clean the horn contact ring and tab. Afterward, put a dab (just a dab!) of grease around the horn ring, then reinstall the steering wheel.
- The steering wheel nut torque spec is 50 Nm (36 ft. lbs.).
- Before reinstalling the horn pad, reconnect the battery and turn the key to ON; turn the steering wheel in both directions and operate the switches. If everything is okay, turn the key to START. If all is hunky-dory, re-connect horn wires and re-install horn pad (test the horn buttons afterward, to verify proper operation).

All but two photos in the above instructions provided by Ben at <http://benplace.com/dash.htm> .

Testing the Ignition Switch

The ignition switch: Terminal 30 brings power into the ignition switch from the battery. Terminal 15 provides power to the ignition system and other parts of the electrical system when the ignition key is in the ON or START position. Terminal X supplies power through the load reduction relay; it has power when the ignition switch is in the ON position, but has no power when the switch is moved to the START position. Terminal S is for the seatbelt warning system. The table below lists ignition switch continuity checks (disconnect the battery, remove the lower steering column cover and unplug the ignition switch; use your ignition key to move the switch into each position during test). A switch that fails any of these continuity tests is faulty and should be replaced; go back to page 1 and continue with replacement instructions (be sure to put key back to OFF position).

Switch Position	Continuity Between Terminals	
Ignition OFF	 <p data-bbox="987 758 1097 785">30 and S</p>	
Ignition/battery ON	 <p data-bbox="716 1165 826 1192">30 and X</p>	 <p data-bbox="1260 1165 1370 1192">30 and 15</p>
START	 <p data-bbox="711 1572 829 1600">30 and 50</p>	 <p data-bbox="1260 1572 1378 1600">30 and 15</p>