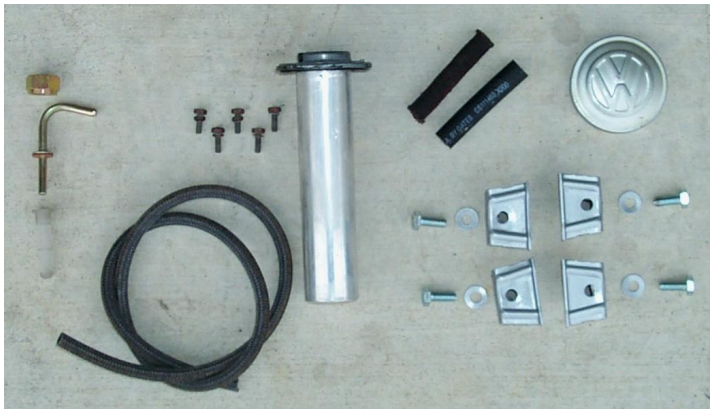
Step By Step: Complete Fuel Tank Restoration, Inside & Out

Over the past 40 years the fuel tank has been slowly developing rust especially if it has been stored for any period of time. It begins as surface rust and then the rust particles fall off into the fuel tank, collecting in the bottom and slowly getting flushed down the fuel lines into your fuel filters. Once you see clogged filters then it's time for a complete fuel tank restoration. This takes about $70 and four days to get this job done right. But it's also a fairly easy task that any T34 owner can do in their own garage with minimal tools & skills.



BUYING THE PARTS: From POR-15 (www.por15.com or 800 457 6715) buy their Fuel Tank Kit including Marine Clean (cleans residue & gunk), Metal Ready (removes the rust and leaves a zinc phosphate coating for the sealer to bond to), & US Standard Fuel Tank Sealer (forms a liner inside the tank filling-in any pinholes and cracks) for $53 total with shipping. From Home Depot or any hardware store buy four new bracket bolts (M8-1.25mm x 20mm) for $3 and Camper Mounting Tape (1.25" x 30 feet) for $5 which is a compressed foam seal for the rim of the tank. From your local VW supplier buy a new fuel tank kit (screen filter, gasket, nut, & tube for $8), fresh fuel hose ($1.50/foot), a 3.25" piece of fuel tank breather hose (10mm inner diameter), & a fuel sender gasket. A new Type III fuel sender will cost $75, so check your used one first (see "Testing Your Connections" paragraph). And buy rubber gloves to be safe when handling the chemicals.

REMOVING THE TANK: Try to leave less than a quarter tank of gasoline before you start. Open the front hood & remove the center mat and black paper covering to see the tank. Use a 13mm socket to remove the four bracket bolts. Put all your parts into a cardboard box so it'll be easy to find them again. Next pull up on the tank filler neck and pull the tank up so you can see the fuel line and remove it from the metal line into the body. Fold the fuel line back on itself to stop the gas from coming out. Lift the tank out of the car. Drain the excess gas into a bucket or container. Remove the sending unit from the top by taking out the six 8mm bolts. Remove the tube fitting from the bottom (and the remains of what once was the fuel filter screen).

CLEANING THE TANK: Add a metal chain inside the empty tank and thrash it liberally to remove any flaky rust, then dump the debris out and it'll be clear why you are doing this work. Day One: Combine Marine Clean with hot water in the tank for a couple hours to degrease, empty the brown sludge, rinse with the pressured hose, & let dry overnight. Day Two: seal off the openings with tape before pouring in the Metal Ready. This can sit all day if the tank is really rusty but it needs to be agitated regularly and no overnight treatments. Rotate the tank to cover all surfaces, let sit for a couple hours, then drained back into the container (reusable), rinsed with a gallon of hot water (not a high-pressure hose) and then let dry for several hours. Day Three: add the Sealer and rotate the tank to cover all areas. You've got 20 minutes before the goo begins to set, then drain and let dry 24 hours, fully cured in 4 days.

RESTORING THE OUTSIDE: While the tank is drying over the next four days, remove the rust and old paint on the outside of the tank with sandpaper. Paint the exterior surfaces first in a rust-preventative primer and then with a couple coats of gloss-black premium paint. Paint the four tank brackets with silver for a new look. The tank will be covered anyway with the cardboard mat & vinyl lining, but it'll look nicer and you'll know you did a complete job. Finally, sand-down your old fuel cap and paint it glossy silver and add a couple coats of clear-coat.

REPLACING FOAM INSULATION: Strip off the old foam insulation from around the perimeter of the fuel tank area. Cut the new foam strips and stick them into place. Leave spaces for the four mounting brackets. Connect the new metal tube & fuel hose before installing the tank. Once installed, connect the fuel hose to the main fuel line on the car. Install the new gasket under the fuel sender unit and connect the sender wire. Now you're almost done.

TESTING YOUR CONNECTIONS: to check if your sender is working properly remove the sender wire from the sender on the tank and with the ignition key ON touch the sender wire to a ground bolt on your T34. If the fuel gauge needle shows a full tank then your sender connections are good.

Replace the sender wire on the sender and it should register on your fuel gauge if there's fuel in the tank. If not then you may have a grounding problem. A bouncing fuel gauge needle is also a grounding problem. This is caused by poor grounding of the sending unit-to-tank or tank-to-body. You can spend an hour cleaning the electrical connections & metal contacts at the bolts, or you can simply run a short wire from the fuel sender to under one of the gas tank mounting brackets. This wire will be hidden by the cardboard tank cover as well as the trunk liner and the problem will go away.