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How to do manual transmission gear oil change: a5/mk5 VW Jetta TDI 2005, 2006

[Back to the mk5 "how to" index page](#)
difficulty: 2/5

Introduction

Changing your transmission gear oil every 70-90,000 miles (depending on use) will help keep the car's transmission shifting smoothly and prevent excess wear. Unlike earlier VW 5 speed transmissions, you cannot just drain and fill the transmission fluid level back to the inspection/fill hole. Volkswagen changed the transmission angle so the fill hole on your 5 speed mk5 Volkswagen Jetta TDI 2005.5-2006 is too low to allow all the fluid back in the normal way. For this reason, measure the amount drained to confirm that you drained 1.8 liters. This way you can add the fluid back to the correct.

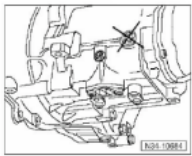
The early 2005.5-2007 Bentley service manual doesn't mention this but it's in a TSB for 2005-2006 New Jetta 5 speed 0a4 : gqq manual transmission (the one on your TDI). This procedure was corrected for the 2005-2010 edition Bentley service manual. Click the thumbnail below to view the TSB if you only have the early edition for 2005-2006.

If you're sure you got the full amount of old oil out, you could tilt the car by putting the front on jack stands and then add back the specified quantity instead of following the fill procedure recommended in the TSB. Make sure that if the car is tilted, that the wheels are chocked and the car is stable and won't fall down. See the full legal disclaimer in the TOS Agreement.

The TSB was originally to correct a humming noise from the differential in the transmission by adding a new gear oil.

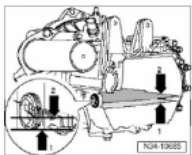
Service

0A4 Manual 5 Speed Transmission, Draining and Re-filling



If the vehicle exhibits this condition, drain and re-fill transmission as follows:

- It is no longer possible to accurately check transmission oil level in the same manner as previous model years.



- The engine/transmission angle has changed and therefore the lower edge of the oil fill hole -1- is located below the new oil level -2-.

To properly check oil level, transmission must be drained completely and re-filled.

Related links: to adjust your shifter, see [1000q: how to adjust your shifter](#).

Parts

17mm allen wrench
torque wrench
catch pan
torx bit for shifter pin cover
gravity pump (siphon), or compressed air tank, hose and nozzle, or some other fluid pump
1.8 liters (1.9 quarts) of gear oil (the transmission and differential share the same oil in the manual transmission) G52 VW gear oil
(22 or 23 mm deep socket for the reverse sensor)

VW G52 gear oil has been shown to be thinner than most 75-90w oils. It may result for smoother shifting and better fuel economy. This is not the same G50 gear oil used in older cars. Many VW transmissions should only use a GL-4 gear oil, not a GL-5 gear oil which includes Mobil 1 75-90 GL-5. Many people have had good results with [Redline MTL](#) or MT 90, or Royal Purple Max gear. Since VW is always changing the official recommendation on correct gear oil, try a few and see what you like. I prefer Redline MTL for cold climates since it results in positive shifting in cold conditions and is thinner than most 75-90. Its viscosity is close to the OEM gear oil and it's GL-4.

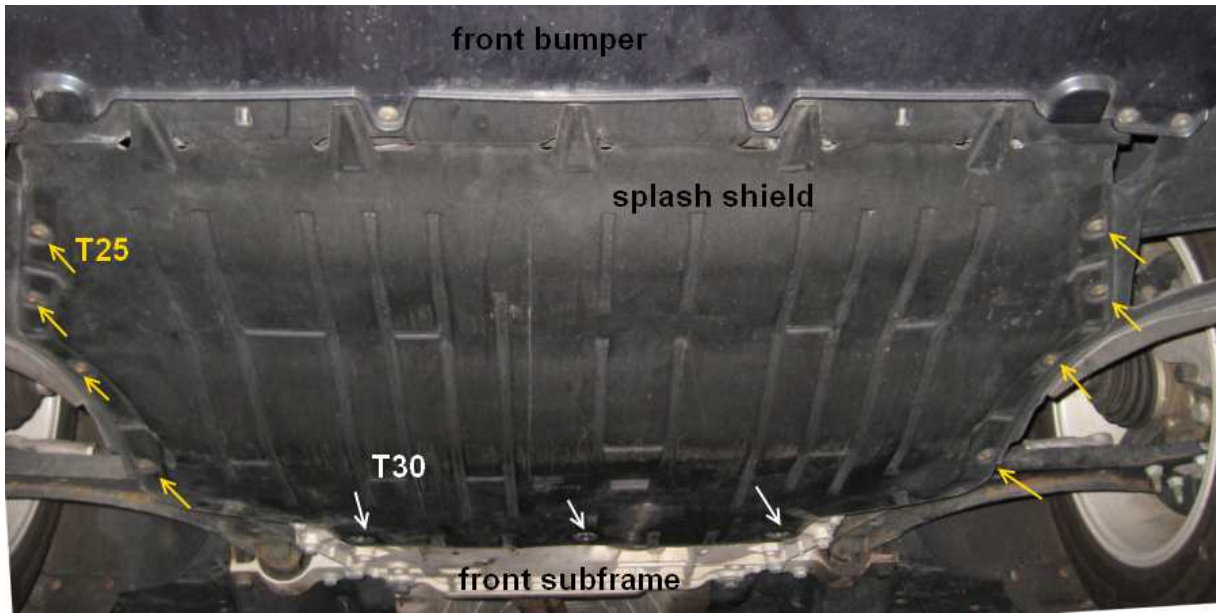
Procedure

To drain the gear oil on manual transmission VW Jetta

Engage the parking brake, jack up the car, rest car securely on [jack stands at the factory jack points](#), chock the front and/or rear wheels as needed, and make sure the car is safe and secure before getting under the car. Unlike most cars, the transmission does not have to be completely level because the fill plug is too low. Having the car level should help during draining. I used wood blocks to raise the car at the wheels on my car. See

[1000q: wood blocks](#) to see an example plan.

Remove the plastic splash shield cover under the engine. There are 8x T25 torx on the sides and 3x T30 torx on the rear.



There are some bumps along the front that will catch when you put it back. Note the angle during removal because this is the angle it wants to go back in.



Clean the area around the fill and drain holes. This will prevent dirt from getting into the transmission.

Use 17mm allen wrench to remove the fill hole (green arrow). **Always loosen or remove the fill hole first** to make sure that you can refill the transmission. Then loosen the drain hole, (red arrow). Put a catch pan under the drain plug, remove the plug, and let drain. If the back of your engine has a minor oil leak it could be loose valve cover bolts. Snug them up without overtightening them. The official torque spec for the valve cover bolts is about 7 ft-lbs.



Use a Torx bit to drain the transmission at the shifter bearing pin (blue arrow in the above picture) because oil will come out there too. Before removing it, first lock the shifter because you're removing the pin (press down on the shifter on top of the transmission and rotate the black pin up, same position as shown below, ignore the other stuff that was removed, the pic is from another writeup). The service manual says to replace the o-ring on the shifter bearing pin - I didn't and there were no leaks. The yellow arrow below is for a later step.

Measure the amount of gear oil drained.



Do not dump your used gear oil onto the ground! If your local auto parts store doesn't accept used engine oil or other fluids, Earth911.com can search for a local waste disposal. If some gear oil got onto the driveway, first dab it with towels. Then pour some driveway spill absorber or basic kitty litter on the spill. Step and grind the litter into a rough gravel and let it sit to absorb the stain. A large piece of cardboard can also act like a placemat for the oil pan to avoid driveway stains.

To refill the fluid

Clean the drain plug and put it back. Torque to 22 ft lbs. There is no torque spec mentioned for the shifter bearing pin so good and tight should do it. It's not very tight so don't kill it and strip the bolt. Rotate the black pin back down to unlock the shifter. Note - I found that even after unlocking the shifter, I found that the shifter was jammed. Stepping on the clutch and moving the shifter should free it. If you wish to adjust the shifter, see [1000q: shifter adjustment FAQ](#).

Again, your 5 speed transmission fill hole is too low to get the correct fluid level. After measuring how much gear oil was drained, rest the front of the car on jack stands so that it's tilted back. Chock the rear wheels and make sure it's safe and secure before getting underneath the car. I used wood blocks to raise the front, see the top of the page for the link. Then add enough fluid so that it's back to 1.8 liters (1.9 quarts). Torque the fill plug to 22 ft lb.

There are a few ways to get the gear oil back in. You can use a gravity pump or siphon, where the bottle is higher than the fill hole and connected with a hose. You can also use a hand pump designed to force fluid out of a container. I recommend snaking a funnel and hose into the transmission fill hole from above. This also wastes the least oil.

If gear oil starts to drip out of the fill hole before you've added 1.8 liters and you're sure you removed 1.8 liters, the hole is too low - you have to top it off. First tighten the fill plug and then remove the reverse switch. Insert a 3/8" (10mm) fill hose through the hole shown below and top it off through that hole. This is the factory method.

To remove the reverse switch, remove the air intake box (see [1000q: air intake box removal](#) for details) and look at the shifter assembly. Remove the sensor plug (yellow arrow in the above picture) and then remove the sensor (shown below). I used a 7/8 deep socket so the sensor is either 22 or 23mm. Your socket or wrench must clear the sensor's wiring plug.



Another method to refill the gear oil is to use compressed air to force the fluid into the fill hole. It's not possible to use a funnel on many cars so I originally made this for my Audi and on other cars where the fill hose has to go up. It can also quickly move the fluid into the transmission if you're using a small hose through the reverse switch hole. The basic idea is that you use compressed air to force fluid out of the container and through the hose.

Insert a short length of hose through the cap. The backup sensor hose should be a max of 10mm diameter. If the hose is too narrow the oil will move too slowly due to the restriction and you'll build too much pressure in the bottle. The end of the hose should reach the bottom corner of the bottom or else it will foam. The hole in the cap should be round and tight for a good air seal. Also poke a hole in the top of the bottle (green arrow).

The fill hole end has a coat hanger bent into an s-shape (so it stays in place) with a hook at the end. I did this so that I could use the same hose for both manual and automatic transmissions and to minimize dripping at the end of the hose. Some Audi transmissions have a cap on the fill hose which requires a 90° bend at the tip. I put a green arrow to show an appropriate location for the air nozzle hose and used a green line to show the hose inside the bottle. If the air intake hole is below the fluid level, obviously the fluid will leak out.



Regulate the air pressure down to a reasonable amount. If the air pressure is too low the fluid won't move and if the air pressure is too high the bottle

could pop. Start low to avoid this situation.

Apply compressed air through the hole and it will force fluid up the hose and into the transmission. Apply gradually increasing amounts of pressure until the fluid is gone. If the bottle stretches a little that is okay. If you think it's going to pop, stop applying pressure. I put my gloved hands around the bottle cap and nozzle to prevent any fluid from hitting me in case the bottle cap blows off. As always, wear protective safety goggles.

Like this tip? There are many more tips for the mechanic at [1000q: mechanics tips and garage organization](#). Here's a picture showing how it works on another model of car.



When you go to the next bottle, just move the cap to the next bottle and poke another air intake hole in the next bottle. Don't let the hose touch the ground because it will get dirty. If it gets dirty thoroughly wipe it off. After you're done, hang the hose with a paper towel or two on the end and let it drip dry.

Have any more questions would you like to add a comment on how you flushed the gear oil on your manual transmission Volkswagen? Please post in the [myturbodiesel.com VW TDI discussion forum](#).

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