

2014 MK4 Panzer Plate Install Instructions

This is the install procedure for installing the Dieselgeek.com 2014 MK4 Panzer Plate Skid Plate Kits. These instructions are for **all** 1999 1/2 through mid-2005 Jetta, **all** 1999 1/2 through mid-2006 MK4 Golf, GTI and 2004 R32, and **all** 1998 through 2010 New Beetles, **regardless of the engine type, transmission type or body type (sedan, wagon or hatchback).**

Parts List for Panzer Plate

1. One aluminum skid plate
2. Two **identical** black powder-coated steel posts with a two-hole flanged foot.



Figure 1 - Black powder-coated steel posts

3. Nine 10mm x 35mm long bolts (with 1.5mm thread)



Figure 2 - 35mm long bolts

4. Ten 1 1/4 inch diameter, 3/8" or 10mm 1/8" **THICK** washers for all of the bolts above (one washer acts as a spacer for the rear center skid plate bolt)



Figure 3 - 10mm 1/8" THICK washers



Figure 4 - Spacer

5. Eight (8) gold colored steel rivnuts (All Panzer kits purchased after October 31st, 2013 include eight gold colored rivnuts. If you have a kit purchased before November 1, 2013, with gray-silver colored rivnuts, please use [these instructions](#)).



Figure 5 - Rivnuts

6. One 10 inch long, 1/8" thick rivnut install tool



Figure 7 - Rivnut tool

Tools Required

1. On all cars except 2.0 gasoline powered vehicles, there is one bolt that is tricky to reach using a standard 10" or 12" extension bar. (Figure 17)



Figure 17 - One bolt that is tricky to reach

Therefore, we recommend that you have one of the following special tools on hand to make this one bolt reachable:

10 or 12 inch "wobble" extension (Figure 18) Figure 19 shows a photo comparison to a standard extension which is available at Sears or most auto parts stores (Figure 20).



Figure 18 - 10 or 12 inch wobble extension



Figure 19 - Comparison to standard extension

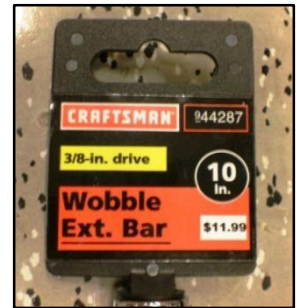


Figure 20 - Sears (Craftsman) wobble extension bar

17mm or 11/16 socket and universal joint adapter



Figure 21 - Socket & universal joint adapter

17mm or 11/16 universal joint socket



Figure 22 - Universal joint socket

17mm or 11/16 crow's foot socket



Figure 23 - Crow's foot socket

2. Socket wrench (longer handles are better)
3. Safety glasses (Or good health insurance)
4. Torque wrench for more accurate rivnut setting (beam type is better)



Figure 24 - Torque wrench (beam type)

5. Car jack and heavy jack stands and/or car ramps
6. 10mm open end wrench (the 10mm/13mm combo wrench from the VW tire change tool kit in your trunk works perfectly)



Figure 25 - Combo wrench (from the VW tire change tool kit in the trunk)

7. Two regular flat-bladed screwdrivers (Optimal, but not absolutely required: one stubby and one long screwdriver with relatively small blade)
8. Torx T25 screwdriver to remove stock belly pan screws
9. Any automotive grease
10. WD-40 or equivalent lubricant spray
11. A hack saw is useful for modifying your stock side skirts for skid plate use.
12. Phillips screwdriver

Getting a safe start

First, jack up the car and place the car on ramps or sturdy jack stands. For manual shift cars, set the handbrake and put the car in gear. For automatics, make sure the handbrake is set and make sure the car is in the "Park" position. Use the floor jack as a third "safety" jack stand (Figure 26) in the middle of the subframe. You can also do the install on a vehicle lift if you have access to one. At this point please put on your safety glasses. Once the car is safely raised into the air, remove your center factory plastic belly pan by removing all of the Torx T25 screws (Figure 27). Next, remove the engine bay side skirts by either simply pulling them downward or by unthreading the flat star speed nuts with a long screwdriver (two per side) by placing a flat bladed screwdriver in one of the star nut's radial slots (Figure 28) and turning the nut counterclockwise. On turbocharged cars and especially the TDI, it may be easier to remove the passenger side skirt after the 6mm nut (Figure 29) holding the rear of the intercooler hose is removed and the intercooler hose is pulled downwards. Be sure to reattach the intercooler hose to the frame rail as soon as the side skirt is removed.



Figure 26 - "Safety" jack stand

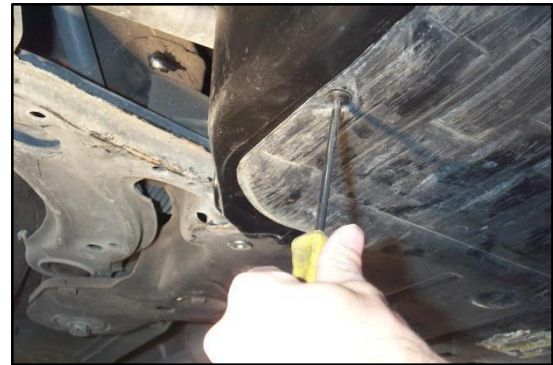


Figure 27 - Removing all of the Torx T25 screws



Figure 28 - Place a flat bladed screwdriver in one of the star nut's radial slots



Figure 29 - 6mm nut holding the rear of the intercooler pipe (10mm wrench required)

The rivnuts (Figure 5) are the steel anchors for the skid plate and provide the super strong and secure attachment points for the skid plate. During this procedure, you will install seven rivnuts into preexisting 13mm holes on the car's subframe (Figure 30, Figure 31, and Figure 32) and on the underside of the driver side (Figure 33) and passenger side (Figure 34) frame rails on either side of the engine bay. (The subframe is below and behind the engine and has the steering rack and sway bar mounted on top of it.) It is highly recommended that you install the first three rivnuts into the rear subframe since access is the best and you can get a feel for installing them without any obstructions. The rivnuts are locked into the body by setting them (Figure 35) with the procedure that follows.



Figure 30 – Pre-existing 13mm holes on the car's subframe (passenger side)



Figure 31 – Pre-existing 13mm holes on the car's subframe (center)

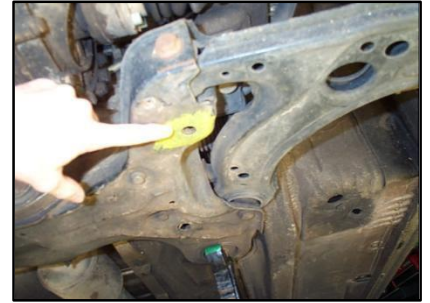


Figure 32 – Pre-existing 13mm holes on the car's subframe (driver's side)

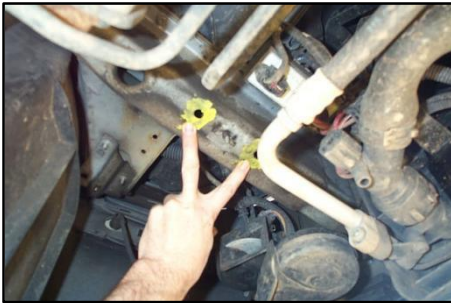


Figure 33 - Driver side frame rails



Figure 34 - Passenger side frame rails



Figure 35 - Rivnuts are locked into the body by setting them

The first step for installing the rivnuts is to apply grease to all nine of the 10mm bolts (Figure 36). Place 1 washer on 1 greased bolt. Insert a greased bolt through centered hole on rivnut tool (Figure 37). Next, thread a rivnut by hand onto the greased bolt until snug (Figure 38).



Figure 36 - Greasing the bolts



Figure 37 – Centered



Figure 38 – Thread Rivnut on

By using the rivnut tool as a handle, insert the rivnut into one of the rear outer 13mm subframe holes until its head is completely flush with the bottom of the subframe. Tighten the 10mm bolt (Figure 39) using a 17mm socket or hand wrench while counter holding with the aluminum rivnut tool. As you are tightening the 10mm bolt, be sure to maintain a gentle but steady upward pressure on the rivnut to ensure that its head is butted up against the subframe. As you are tightening the 10mm bolt, the threaded tubular section of the rivnut that is inside the subframe will slowly pull down toward the head of the rivnut and mushroom out and expand (Figure 40) inside the subframe to sandwich itself around the subframe hole (Since the mushrooming action takes place inside the subframe you will not be able to see it.). Tighten the 10mm bolt until it becomes noticeably harder to turn. At this point, you may either tighten about 1/2 to 3/4 turn beyond this point of greatly increased resistance to fully lock the rivnut in place or finish tightening the rivnut with a torque wrench set to 20 lb. /ft. Once this final tightening has been achieved, loosen and remove the 10mm bolt from your first expertly installed rivnut. Reload another rivnut in the same exact way as the first and then repeat the procedure for the remaining outside subframe hole.

After these first two rivnuts have been successfully installed in the rear outside subframe holes, repeat the process for the remaining middle subframe rivnut by reloading the rivnut into the *offset* (Figure 41) hole of the rivnut tool. Install this rivnut into the rear center hole (Figure 42) of the subframe. Again, you must use the offset rivtool hole for this one.



Figure 39 - Tighten the 10mm bolt



Figure 40 - The rivnut will mushroom out and expand



Figure 41 - Offset hole



Figure 42 - Rear center hole



Figure 43 – Loaded for the Frame Rail

Installing the four remaining rivnuts into the underside of the left and right frame rails is pretty much the same as installing them into the subframe and the newly redesigned rivnut tool makes it even easier than ever. You will use the end of the rivnut tool with the offset hole to install the remaining four rivnuts (Figure 43). Also, you will be loading two rivnuts at a time on the rivnut tool to install them into each of the frame rails. First, insert two greased bolts with washers through the rivnut tool on the side opposite of the stamped letters (Figure 44). Thread two rivnuts onto the greased bolts.

Leave the rivnuts slightly loose so that they can move. This will allow you to align the two rivnuts with the two holes in the frame rails. Next, reach up with the loaded rivnut tool and insert the two rivnuts into the two holes on the underside of the passenger side frame rail. The "tail" of the rivnut tool will go toward the rear of the car (Figure 45). **Helpful hint:** A star washer from your plastic side panels (if you have them) can be used to hold the rivnut tool firmly up against the frame rail as shown in the previous picture. Tighten the star washer with your fingers by rotating it clockwise. The star washer will help keep the rivnuts firmly against the frame rail when you tighten the bolts (Figure 46). Tighten both of the 10mm bolts with a ratchet, 12 inch extension bar and 17mm socket until you reach the point of greatly increased resistance. Finish the process by tightening 1/2 to 3/4 turn past the point of greatly increased resistance or by using a torque wrench set to 20 ft.-lbs. After both bolts have been torqued, remove the bolts, washers and rivtool. Repeat this process on the other side of the car in the driver side frame rail (Figure 47 - New Beetle shown, Golf/Jetta similar). On New Beetles there may be a power steering-related bracket very near the rivnut holes so you will need to insert the rivnuts into the holes first before threading in the two greased 10mm bolts. Also, you may need to flip the rivnut tool over on the driver side to get the needed clearance for the power steering bracket.



Figure 44 - Insert the bolts through the rivnut tool on the side opposite of the stamped letters



Figure 45 - The "tail" of the rivnut tool will go toward the rear of the car

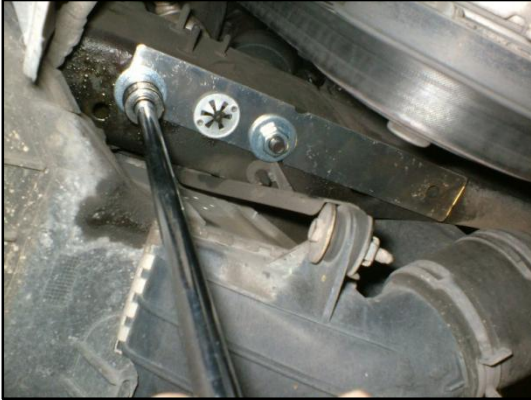


Figure 46 - The star washer will help keep the rivnuts firmly against the frame rail when you tighten the nuts



Figure 47 - Repeat this process on the other side of the car in the driver side frame rail

After all four of the rivnuts are installed into the frame rails, you should spray the female threaded hole (Figure 48) of both of the front mounting posts with WD-40 or equivalent spray prior to mounting. You then attach the front mounting posts to the underside of the frame rails using two greased 10mm bolts and a thick washer each. The posts should be oriented with their legs angled slightly forward in the car (the post is not welded perpendicular to the base plate (Figure 49)). The skid plate will not fit otherwise. Leave the mounting post bolts slightly loose as this slack will be used to align the plate after it is mounted. You will tighten all of the bolts fully only after the plate and side panels have been mounted.

Remember, the four mounting post bolts should not be completely tight at this time as the little bit of slack will be used to align the plate when is mounted.



Figure 48 - Spray the female threaded hole of both of the front mounting posts with WD-40 or equivalent spray



Figure 49 - The post is not welded perpendicular to the base plate

Once all seven of the rivnuts have been installed, the vertical plastic engine bay side panels or side skirts should be installed.

If you bought our "Full Metal Jacket" aluminum side shields you should now switch to the [FMJ install manual](#) instead.

You may use your existing plastic side splash guards with the Panzer Plate if the two bottom screw mounting points are still intact. The side skirts are recommended keep water and dirt out of the engine bay and to reduce engine noise and protect the engine drive belts. The required modifications to allow use of your existing original plastic side skirts are easy to do by simply cutting them with a **hack saw or Dremel tool as described below.**

Modification of Original Equipment Engine Bay Side Panels

To modify your existing side skirts, there are a total of five cuts required per side skirt. The first four cuts will remove the yellow shaded area in this picture (Figure 50). Cut A should be the first cut made with a hack saw. It is 2 inches beyond and parallel to the last gusset (marked with D in the picture). Cut B should be the second cut made with a hack saw. To make cut B, simply cut right down the 90 degree crease in the skirt to the point 2 inches beyond the last gusset which is also the end point of cut A. The last two cuts C and D are simply to finish removing the gussets. It is not necessary to cut them very close to the side of the side skirt. The finished product of the first four cuts looks like the photo (Figure 51). The final cut is simply removing the tail section (Figure 52). Repeat the five cuts for the other side skirt.

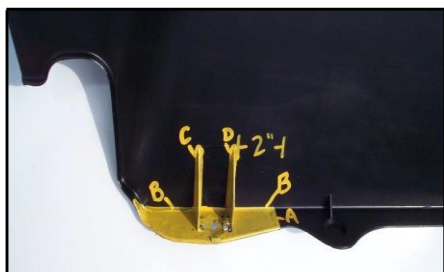


Figure 50 - The first four cuts will remove the yellow shaded area.



Figure 51 - The finished product of the first four cuts



Figure 52 - The final cut is simply removing the tail section

Install the side skirts by sliding the front rounded edge into the slot in the radiator support (Figure 53) and then pushing their star nuts onto the threaded stud (Figure 54) on the bottom side of the frame rail. You can tighten the star nuts further by placing a flat bladed screwdriver in one of the star nut radial slots (Figure 55) and turning the nut clockwise. On turbocharged cars and especially the TDI, it can be slightly tricky to install the side skirt on the passenger side of the car with the lower intercooler hose rear mount still attached to the frame rail (with a 6mm nut). Removing the hose mount does make it a little easier to install the side skirt but it is not absolutely necessary to do so.



Figure 53 - Sliding the front rounded edge into the slot in the radiator support



Figure 54 - Pushing their star nuts onto the threaded stud on the bottom side of the frame rail



Figure 55 - Tighten the star nuts further by placing a flat bladed screwdriver in one of the star nut's

Installing the Panzer Plate

Before you lift the plate into place, make sure that the remaining five 10mm bolts with thick washers are placed within reach under the engine bay. To install the plate, center the plate on your chest and lift the skid plate up into place and while supporting the center of the skid plate. Loosely thread two of the 10mm bolts into opposite corners to hold up the skid plate. These two bolts will hold up the skid plate while you are installing the three remaining 10mm bolts. Next, install the last extra washer supplied with the kit as it acts a spacer between the skid plate and the rear center bolt hole. After the spacer washer is in place, thread a bolt through this skid plate hole and into the center rear rivnut. Finish threading the remaining three bolts. After all of the bolts have been threaded a few turns each to make sure they are threaded correctly, finish tightening them with a 17mm socket and torque them to 20 ft-lbs. The passenger rear of the skid plate will distort slightly as you tighten the passenger rear bolt. This is o.k.! Next, finish tightening all four of the mounting post bolts to 20 ft-lbs using your 12 inch long extension and 17mm socket. Once all nine of the 10mm skid plate bolts are fully tightened, attach the side skirts to the skid plate with the four Phillips screws provided with the kit. The long Phillips screws and small fender washers are for the front side skirt holes. Use the short black Phillips screws for the rear side skirt holes.



Figure 56 - Slip the last extra washer between the skid plate and the rear center bolt hole

**If you want to learn how to bulletproof your Panzer Plate's oil drain cover, you should check out this YouTube video: https://www.youtube.com/watch?v=otfY7yv_bY&feature=plcp

- End of Instructions -