

2014 MK4 Panzer Plate Install Instructions

(For use with aluminum "Full Metal Jacket" side shields)

This is the install procedure for installing the Dieselgeek.com 2014 MK4 Panzer Plate Skid Plate and Dieselgeek "Full Metal Jacket" aluminum splash guards. 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

Included Parts list for "Full Metal Jacket" splash guard kit

1. One left and one right aluminum "Full Metal Jacket" splash guard
2. One small, custom aluminum angle bracket



Figure 11 - Small Angle Bracket

3. One small, silver colored 6mm bolt with integral washer for the small angle bracket above



Figure 12 - 6mm

4. Two sheet metal nuts (VW part number N 907 088 02)



Figure 13 - Sheet metal nuts

5. Two red plastic body plugs (Brock CPT-15)



Figure 14 - Red plastic body plugs

6. Four Dzus quarter turn receptacles (VW part number 8D0 805 960)

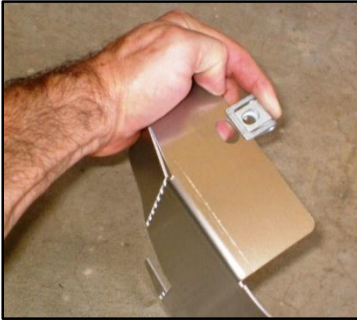


Figure 15 - Dzus quarter turn receptacles

7. Four Dzus quarter turn pins (VW part number 8D0 805 121)



Figure 16 - Dzus quarter turn pins

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

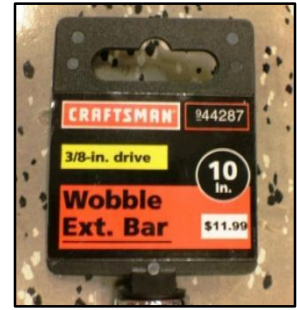


Figure 20 - Sears (Craftsman) wobble extension bar

17mm or 11/16 socket and universal joint adapter

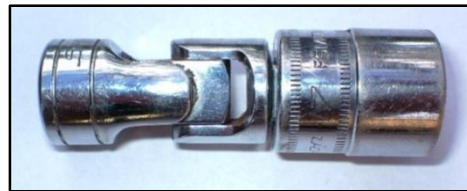


Figure 21 - Socket & universal joint adapter

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

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

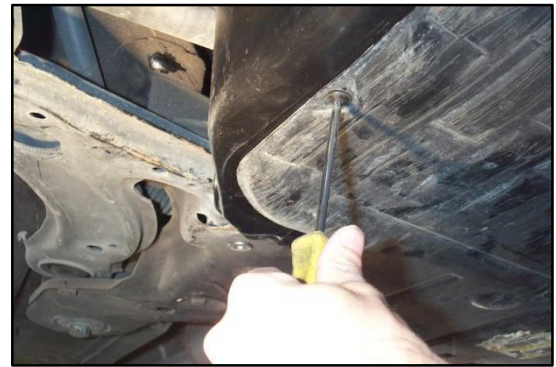


Figure 27 - Removing all of the Torx T25 screws



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)

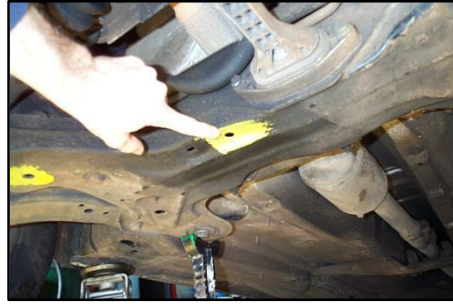


Figure 31 – Pre-existing 13mm holes on the car's subframe (center)

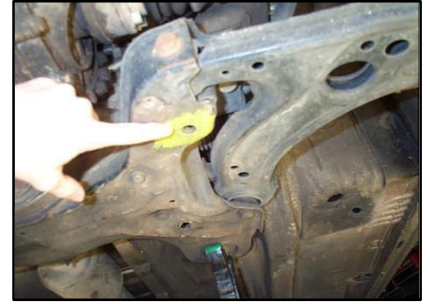


Figure 32 – Pre-existing 13mm holes on the car's subframe (driver's side)

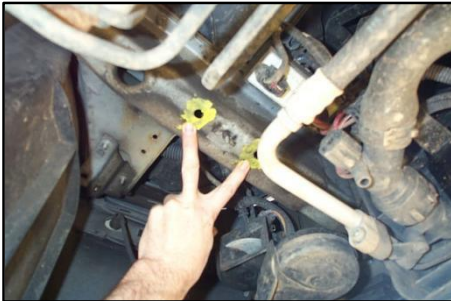


Figure 33 - Driver side frame rails



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

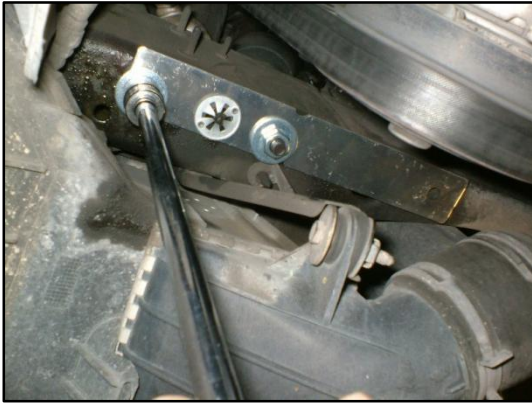


Figure 46 - The star washer will help keep the rivnuts firmly against the frame rail when you tighten the nuts



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 aluminum engine bay side panels or Full Metal Jacket "side skirts" should be installed.

If you did not buy our "Full Metal Jacket" aluminum side shields you should now switch to the install manual "for those reusing stock plastic engine bay side shields" instead.

The first step in installing the aluminum side panels is to first install the big red plastic plugs into the underside of both the left and right frame rails. This is done by simply inserting a plug (Figure 50) into the hole and pushing it all of the way in with the palm of your hand (Figure 51). The rim of the plug (Figure 52) should be the only thing protruding from the frame rail. The next step is to loosely thread the supplied sheet metal nuts (Figure 13) onto the left (Figure 53) and right (Figure 54) rear studs where the plastic side panel's star washers were used previously. Here is a picture (Figure 55) of the driver side frame rail ready to accept an aluminum side panel. The final general step is to slide all four Dzus receptacles over the oblong holes (Figure 56) in the bottom flanges of the side panels. Here is a picture (Figure 57) of both clips properly installed on the passenger side panel. The flat sides of these clips will face the ground (and skid plate) after the install.

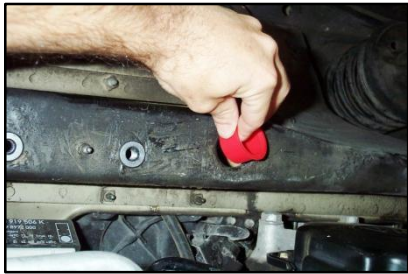


Figure 50 - Inserting a plug into the hole



Figure 51 - Pushing it all of the way in with the palm of your hand

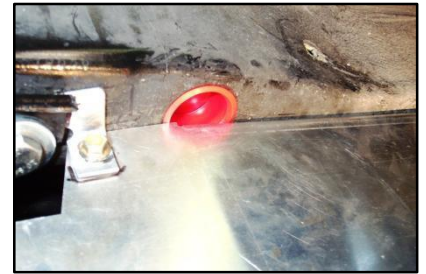


Figure 52 - The rim of the plug should be the only thing protruding from the frame rail.

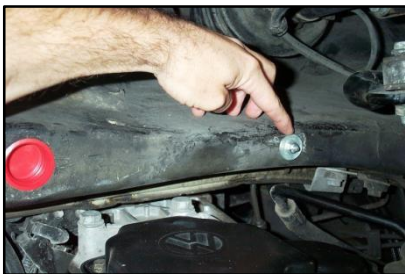


Figure 53 - Left rear stud



Figure 54 - Right rear stud



Figure 55 - Driver side frame rail ready to accept FMJ panel

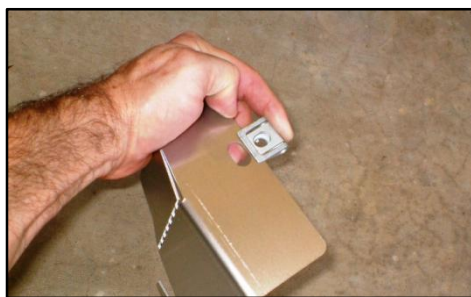


Figure 56 - Slide the Dzus receptacles over the holes in the bottom flanges of the side panels



Figure 57 - Both clips properly installed on the passenger side panel

To prepare the driver side panel for install, place the small angle bracket (Figure 58) from the parts bag against the side panel where the oblong hole of the bracket meets the threaded insert at the top of the side panel. Thread the pointed 6mm bolt through the small bracket (Figure 59) and into the threaded insert until it is snug but do not fully tighten this bolt yet. Next, take the driver side panel and slip it up and in *between*

the front mounting post and the transmission. As you move it upwards you need to first slip the rear upper mounting tab's open slot onto the stud (Figure 60) where you loosely mounted the sheetmetal nut. Slide the side panel all of the way rearward on this stud and then push the upper flange of the side panel against the underside of the frame rail. Next, slide the side panel forward until the small bolted bracket (Figure 61) slips between the black mounting post and frame rail (Figure 62). The bolted bracket and the sheetmetal nut will hold the side panel up while we prepare to install the skid plate. If the bolted bracket cannot slip between the frame rail and the mounting post then you have the 10mm bolts for the mounting post too tight. Loosen them a little and try again. Here is a picture of the passenger side panel installed (Figure 63).



Figure 58 -Place the small angle bracket from the parts bag against the side panel



Figure 59 - Thread the supplied 6mm bolt through the small bracket and into the threaded insert



Figure 60 - Slip the rear mounting tab's open slot onto the stud

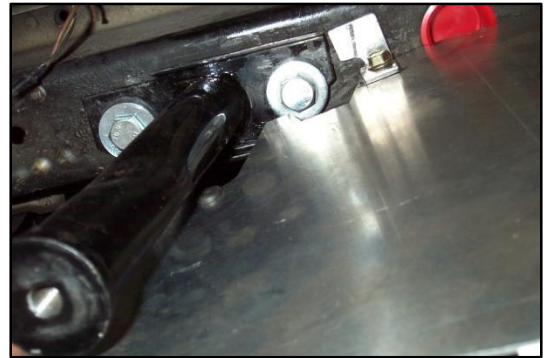


Figure 61 - Slide the side panel forward until the small bolted bracket slips between the mounting post and frame rail

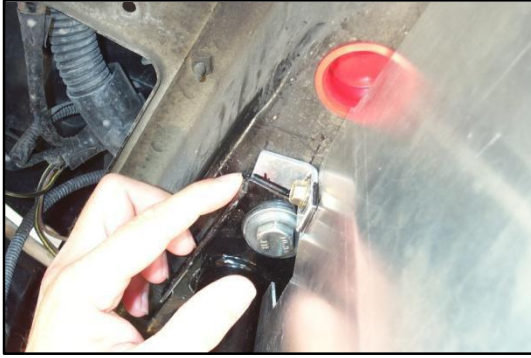


Figure 62 - Between the mounting post and frame rail

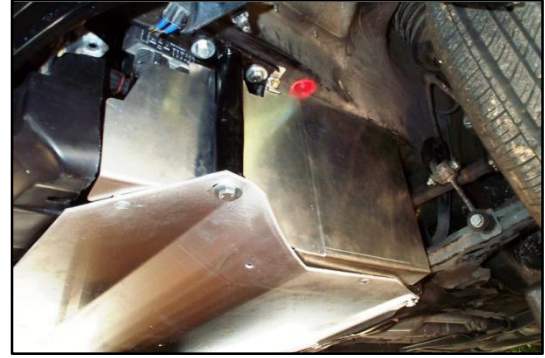


Figure 63 - Passenger side panel installed

Once the driver side panel has been "hung" you can move to the passenger side. Make sure the front mounting post bolts are loose by a couple of turns. **If you have a turbocharged New Beetle only**, you will need to bend the front perforated tab (Figure 64) at a 45 degree angle (Figure 65) to the flat sides of the panel so that it clears the intercooler duct. *If you have any New Beetle*, you may also choose to remove this tab completely if you wish as it is not used on the New Beetle. A hack saw is suitable for this task or you can bend it back and forth until it breaks off. File off sharp burrs.

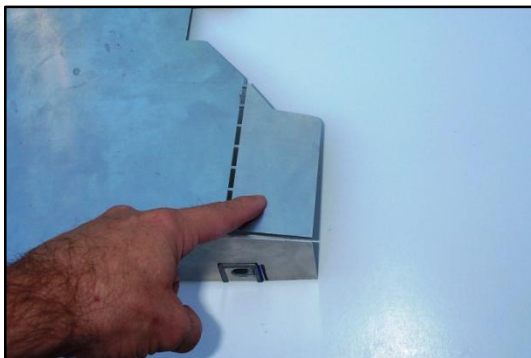


Figure 64 - Bend the front perforated tab



Figure 65 - 45 degree angle to the flat sides of the panel

To install the passenger side aluminum panel first slip the panel in between (Figure 66) the front mounting post and engine from the front of the car. Engage the rear mounting slot (Figure 67) onto the frame rail stud where the sheetmetal nut was loosely threaded on. Slide the side panel all of the way toward the rear of the car (Figure 68) on this stud. Notice that there is a doubled over piece of sheetmetal (Figure 69) on the passenger side panel's upper flange. This double thick tab or "double tab" must be slid into the small gap between the rear of the mounting post and the frame rail. To do this you must make sure that the side panel is as far as it can go in the rearward direction so that it can be pushed up against the frame rail behind the mounting post (Figure 70) (The double tab is **red** in this picture.). Once you have done this and the side panel is butted up against the frame rail behind the mounting post it can be slid forward and the doubled over tab can be slid in between (Figure 71) the mounting post and frame rail. This double thick tab and the sheetmetal nut at the rear will hold the side panel up while we prepare to install the skid plate.



Figure 66 - The panel in between the front mounting post and engine from the front of the car



Figure 67 - Engage the rear mounting slot onto the frame rail stud

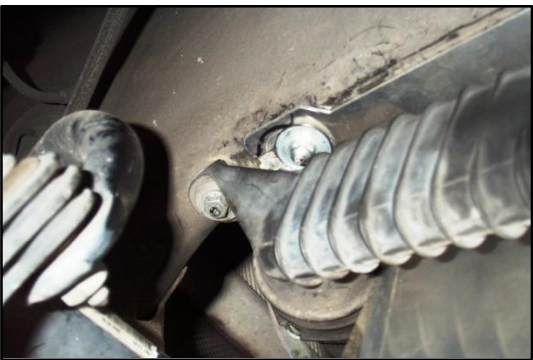


Figure 68 - Slide the side panel all of the way toward the rear of the car on this stud

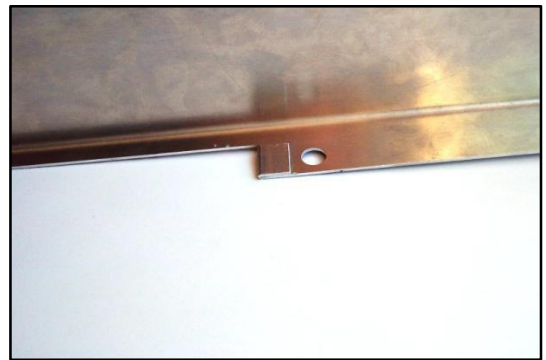


Figure 69 - Doubled over piece of sheetmetal

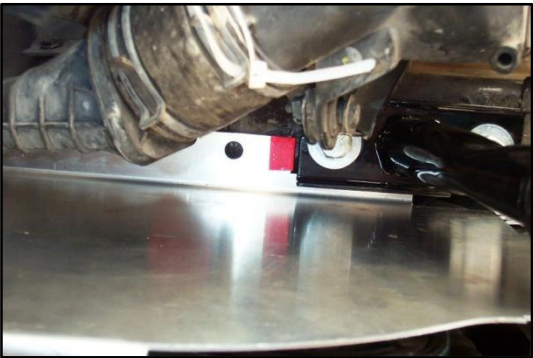


Figure 70 - Frame rail behind the mounting post (The double tab is red in this picture.)



Figure 71 - The double tab can be slid in between the mounting post and frame rail

Installing the Panzer Plate

Before you lift the plate into place, place washers onto the remaining five bolts and make sure they are within reach under the engine bay. If you have not done so, spray the female threaded hole (Figure 72) of both of the front mounting posts with WD-40 or equivalent spray since they are degreased during the coating process and have very sticky threads if left dry. Thread a greased bolt in and out of the mounting posts to make sure the threads are well lubricated prior to installing the skid plate. To install the plate, lift the skid plate up into place while supporting the center of the skid plate. Loosely thread two of the 10mm bolts into opposite corners to hold up the skid plate. Next, slip the last extra thick washer (Figure 73) 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 two bolts. After all of the bolts have been threaded a few turns each to make sure they are threaded correctly, tighten the bolts about 50% of the way with a 17mm socket. Next, slide the driver and passenger side panels forward or rearward until the top of the curved section matches up with the curvature of the skid plate (Figure 74). There will be a small gap as the panels curve toward the ground to allow for flexing of the skid plate as it strikes objects in the roadway. Finally, insert one of the supplied Dzus 1/4 turn screws (Figure 16) through one of the skid plate holes, engage the female receptacle in the side panel and turn the screw 90 degrees (Figure 75) with your stubby or regular length flat head screwdriver. Please note that you can slide the side panel's Dzus receptacle (Figure 76) left or right in its slot if it is not where it needs to be. Repeat for the other three Dzus screws on left and right sides of the plate.



Figure 72 - Spray the female threaded hole of both of the front mounting posts with WD-40 or equivalent spray



Figure 73 - The last extra washer between the skid plate and the rear center bolt hole



Figure 74 - Slide the driver and passenger side panels forward or rearward until the top of the curved section matches up with the curvature of the skid plate



Figure 75 - Turn the screw 90 degrees clockwise with your stubby or regular length flat head screwdriver



Figure 76 - You can slide the side panel's Dzus receptacle left or right in its slot if it is not where it needs to be

Once the side panels are matched up and fastened to the skid plate, finish tightening the five 10mm bolts that go through the Panzer plate and torque them to 20 ft.-lbs. Next, tighten all four of the front mounting post bolts to 20 ft.-lbs using your 12 inch long extension (Figure 77) and 17mm socket. Finish the tightening the left (Figure 78) and right (Figure 79) side panel sheetmetal nuts with a short open end 10mm wrench. Do not over tighten them. Lastly, tighten the 6mm bolt (Figure 80) on the driver side panel but likewise don't go crazy with it since it is going into an aluminum threaded hole. Here is a picture (Figure 81) of the passenger side with the intercooler tube removed only for picture clarity. Here is a picture (Figure 82) of the driver side on quite a dirty New Beetle!



Figure 77 - Tighten all four of the front mounting post bolts to 20 ft.-lbs using your 12 inch long extension and 17mm socket



Figure 78 - Finish the tightening the left side sheet metal nut with a short open end 10mm wrench



Figure 79 - Finish the tightening the right side sheetmetal nut with a short open end 10mm wrench



Figure 80 - Tighten the 10mm headed bolt on the driver side panel but likewise don't go crazy with it since it is going into a 6mm aluminum threaded hole



Figure 81 - Passenger side with the intercooler tube removed only for picture clarity



Figure 82 - Picture of the driver side on quite a dirty New Beetle!

Congratulations! Your Panzer Plate and aluminum side panels are installed! It is a great idea to mark all unions between the side panels and the upper mounting points to make future reinstallation super easy and fast. To do this, use a pointed permanent marker to mark the area around the left and right sheet metal nuts (Figure 83) and little bolted bracket on the driver side (Figure 84) and double tab (Figure 85) on the passenger side.

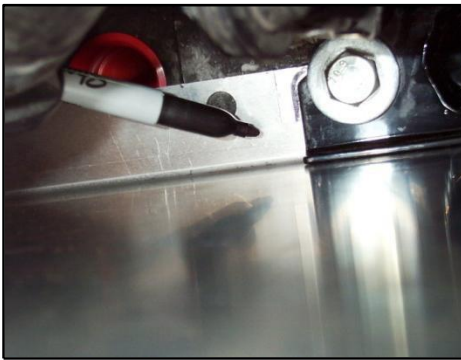


Figure 83 - Mark the area around the left and right sheet metal nuts



Figure 84 - Mark the little bolted bracket on the driver side



Figure 85 - Mark the double tab on the passenger side

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 -