

INSTALLATION GUIDE

PastPower Innovations Rear Subframe Swap Kit

P/N: SU056-0033



CAUTION:

The installation of this product requires detailed knowledge of automotive components, as well as an understanding of welding and fabrication techniques. We recommend that this installation procedure be carried out by qualified personnel at an automotive facility that is equipped to perform the task.

Installation of this product requires that the car be elevated. Ensure that the vehicle is properly supported. Failure to do so can result in serious injury or even death.

When performing any mechanical work on your vehicle, ensure that proper eye protection and all other safety apparel deemed necessary is worn to protect yourself from debris, welding sparks and other hazards.

WARNING!

Improper installation of this kit can cause adverse vehicle handling characteristics which can result in serious injury or death.

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What's In the Box:



1x Centering Bar



2x Subframe Mounting Studs



2x Retainer Channels



2x Subframe Extension Gusset

Top



2x Subframe Extension Gusset

Bottom



2x Front Bushing Retainer



2x Front Subframe Extension

Before You Begin

Congratulations on your purchase of this S-Chassis Rear Subframe "Do-It-Yourself" Kit, from us at PastPower Innovations! This kit helps significantly in providing the pieces to allow for the installation of a 1989-94 Nissan 240SX "S13 Chassis" rear subframe into your 1984-89 Nissan 300ZX "Z31 Chassis" automobile.

In addition, the kit will assist in the use of 1995-98 Nissan 240SX "S14 Chassis" subframes, as well as 1990-96 Nissan 300ZX "Z32 Chassis" subframes - however, those will require slightly more work which falls outside of the scope of these instructions.

Before you begin the installation process, confirm that the kit has arrived with all the necessary components to complete the swap. If you are the original purchaser of this kit, and any component listed in Section 1 "What's in the Box" is missing, please contact PastPower Innovations to receive the necessary parts.

To fully take advantage of the benefits that swapping rear subframes offers, it is advisable to first obtain all necessary aftermarket subframe bushings, single-sided rear upper control arms, rear lower control arms, camber arms, and toe arms. If you are undergoing this conversion, PastPower Innovations assumes you have done the proper due diligence on the pros/cons of this procedure. If you have not adequately researched this swap - **WE HIGHLY SUGGEST THAT YOU DO SO!**

Swapping rear subframes also requires the use of a new driveshaft and rear differential. We do not recommend a particular setup, however, commonly used rear differentials are those from Nissan S13, Nissan S14, Infiniti Q45, or Infiniti J30.

Note: It is possible to use the factory S-Chassis arms with this kit. However, the double-sided rear upper control arm cannot be used.

Note: Using a differential other than a S13 may require the use of different axles.

Preparation

Warning!

It is essential that the subframe to be used is properly cleaned and free from paint, grease, dirt, and other road grime. Failure to do so can result in poor weld quality which can lead to serious injury during vehicle operation.

Step 1:

Remove the factory Nissan 300zx (Z31) subframe, fuel tank, filler neck, and exhaust. Consult the Nissan 300zx (Z31) factory service manual for the proper removal procedure of these components.

Step 2:

Remove all components from the Nissan 240sx subframe including OEM rubber bushings.

Note: It is advisable to place hardware into marked bags or containers.

Step 3:

Thoroughly clean the Nissan 240sx subframe so that it is free of grease. It is highly recommended that the subframe undergo media-blasting to strip all paint, though it is not a necessary process.

Step 4:

Cut the front mount of the subframe as seen in Figure 1. This is done to prepare the subframe for welding of the front subframe extension and front bushing retainer.

NOTE: DO NOT WELD AT THIS POINT

Step 5:

Install new rear subframe bushings. The bushings will need to be installed by using a press as they are a press-fit component. If using a Nissan S14 subframe, subframe conversion bushings must be used.



Figure 1: Subframe Preparation

Subframe Mounting Stud Installation

Step 1:

Test fit the rear bar onto the Z31 chassis by using the factory rear differential studs.

Note: If the rear bar does not fit onto the studs, then the holes on the rear bar may need to be enlarged.

Step 2:

Once test fitment of the rear bar has been verified, remove the rear bar from the Z31 Chassis

Step 3:

Place the supplied subframe mounting studs into the 240SX subframe and lay the rear bar over the subframe and stud-head as seen in Figure 2.



Figure 2: Center Bar placed onto 240SX

Step 4:

Secure the studs into place on the rear bar by welding the studs from the top side ONLY, as seen in Figure 3 and Figure 4.

Note: It is recommended that welding be completed by using the TIG welding process. However, MIG welding will suffice if proper penetration is acquired.



Figure 4: Mounting stud welded from top using TIG process.



Figure 3: Mounting Stud welded and test fitted into 240SX subframe.

Front Extension Installation

Step 1:

Using a floor jack, or other lifting device, lift the 240SX subframe into position under the Z31 and align the rear bar with the Z31 differential mount studs. Support the subframe in this location.

Step 2:

Raise the front of the 240SX subframe into position to fit the front extension arms.

Note: The chassis floor of the Z31 may need to be clearance in order to clear the subframe hump. This can be done by using a hammer.



Figure 5: Locations which require notching

Step 3:

The Z31 chassis will need to be notched in order to achieve proper alignment of the front extension arm. Examples of chassis notching can be seen on page 10 of this guide.

Note: Proper alignment is crucial to maintain anti-squat properties present in the 240SX subframe. Deviation from the green “proper alignment” is not recommended.

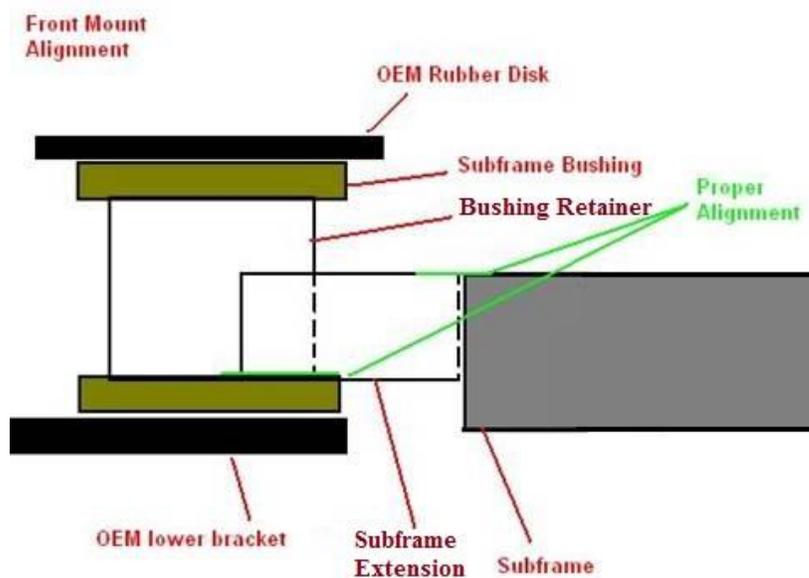


Figure 6: Proper alignment of extension arm

Step 4:

With chassis notching complete, install the subframe and align the Centering bar so that the front extension assembly can be tack welded into place while the subframe is installed and aligned onto the rear bar.



Figure 7: Extension Mockup

Step 5:

Tack weld the rear bar to the Z31 chassis and remove the subframe so that final welding of the front extension arms can be complete.



Figure 8: Extension Final Welding

Example of chassis notching



Centering Bar Installation

Step 1:

With the subframe removed and the centering bar welded in place, cut out the center of the bar so that only the ends remain.



Figure 10: Centering Bar before trimming



Figure 9: Centering Bar Cut

Step 2:

With the center of the bar cut out, you will notice that a gap is present between the Z31 chassis and the studs. The cut center section can be used as filler for this gap.



Figure 11: Centering bar cut and gaps filled.

Step 3:

Weld the centering bar securely to the Z31 chassis



Retainer Channel Installation

Step 1:

Weld the supplied rear retainer channel supports to the chassis.

Note: It is best to use plug weld technique on the ½" holes when welding the C-Channel to the chassis.

Note: It is recommended to coat all bare metal with a rust preventative to prevent rust.



Figure 132: Plug weld technique used to secure retainer channel

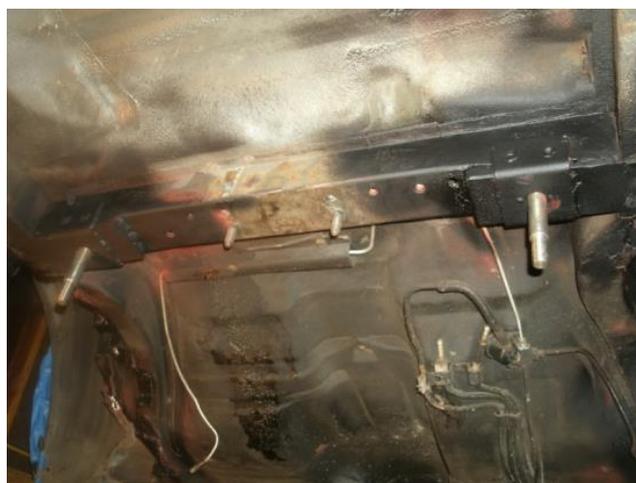


Figure 123: Rust preventative applied

Final Assembly

The subframe should now be secured under the Z31 chassis. Final assembly can now take place and camber arms, toe arms, and other components can be installed to ensure proper clearances. If there are any issues with clearance, remove components and further notch the chassis until clearances are met.

Using the 240SX subframe will now require a new custom E-brake to be used. The exhaust will also need to be modified for fitment with the 240SX subframe.

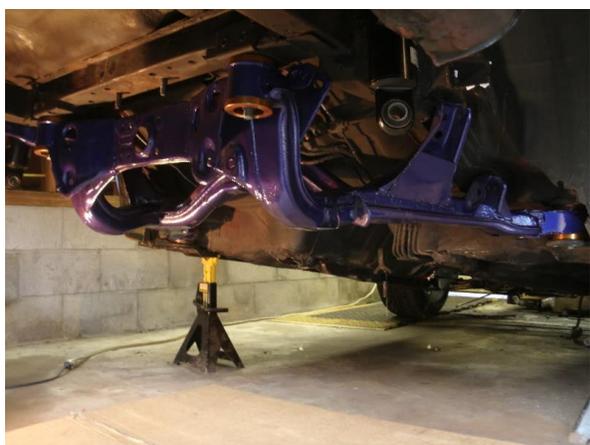


Figure 14

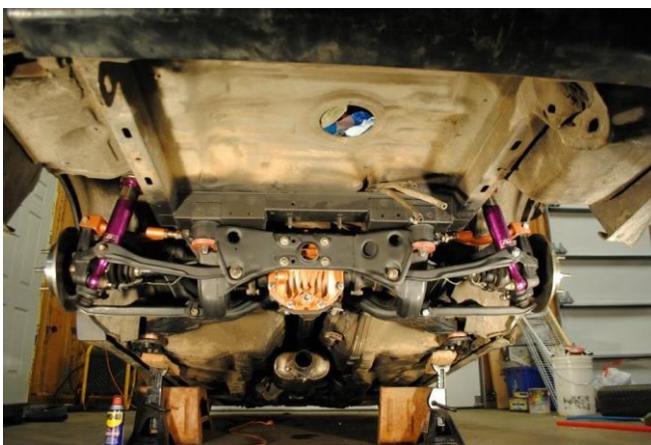


Figure 15: Completed subframe assembly