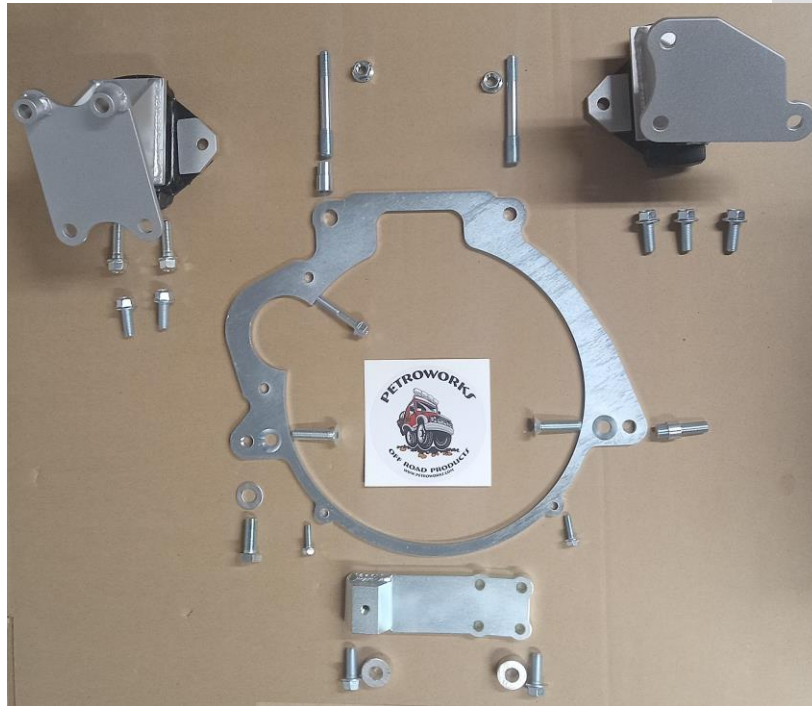


PETRO WORKS **PRODUCTS**



Petro Works 1.6 Adapter Kit



Congratulations on your purchase of our 1.6 adapter kit. This kit will work on all Suzuki Sidekick/Geo Tracker 1.6 8-valve and 16-valve motors used in the United States from 1989-1998. This kit is by no means all that is needed to complete this conversion. This kit is for installation of the motor and transmission.

Contents of Kit

- | | |
|---|---|
| 1 Transmission Adapter Plate | 1 Left Side Motor Mount |
| 1 Right Side Motor Mount | 1 Transmission Lowering Bar |
| 7 Motor Mount Bolts (5 short, 2 long) | 2 Tapered Allen Transmission Mounting Bolts |
| 4 Motor Mount Specialty Washers | 1 Step Spacer Stud (alignment) |
| 1 Starter Bolt | 1 Step Spacer Dowel (alignment) |
| 2 Dust Cover Screws | |
| 2 Step Adapter Plate Mounting Studs w/ Flange Nuts | |
| 1 Bolt and Washer for bottom Transmission Mount | |
| 2 Spacers with Bolts used to lower the bar under the transmission for clearance | |

NOTE:

The engine mounts come assembled and it is highly recommended that they not be unassembled for installation. It is best to lower the entire setup down between the frame rails and align the holes for the frame and the frame mount and get the mounting bolts started as the motor is lowered into the engine compartment. It can be difficult to align the frame mounts and engine mounts individually.

Tools needed/recommended:

12mm Wrench and Sockets
14mm Wrench
6mm Allen Wrench
Samurai Flywheel
Samurai Clutch
Sidekick/Tracker Starter

Engine Hoist
Original Frame Mount Bolts (4)
Samurai 1.3 Water Tube
Original Transmission Mount Bolts (rear)
Original Transmission Stud Nut (front of tranny)

NOTE

It is recommended that the engine and transmission be assembled together outside of the car. It is also very helpful to have someone help you install the entire setup when lowering the engine/transmission into the bay.

Right Side = Passenger Side of Motor

Left Side = Drivers Side of Motor

NOTE

New 2023 Motor Mounts



1. Remove the 2 mounting studs on the bottom of the transmission. This can usually be done with the 2 nuts that were originally on the transmission. Tighten them together and turn counter-clockwise to remove the stud.



Figure A

2. Locate the bag from the kit that contains the 2 mounting studs and their respective nuts. The short fat end of these studs need to be installed into the top mounting holes on the engine block. See **Figure A** for detail.

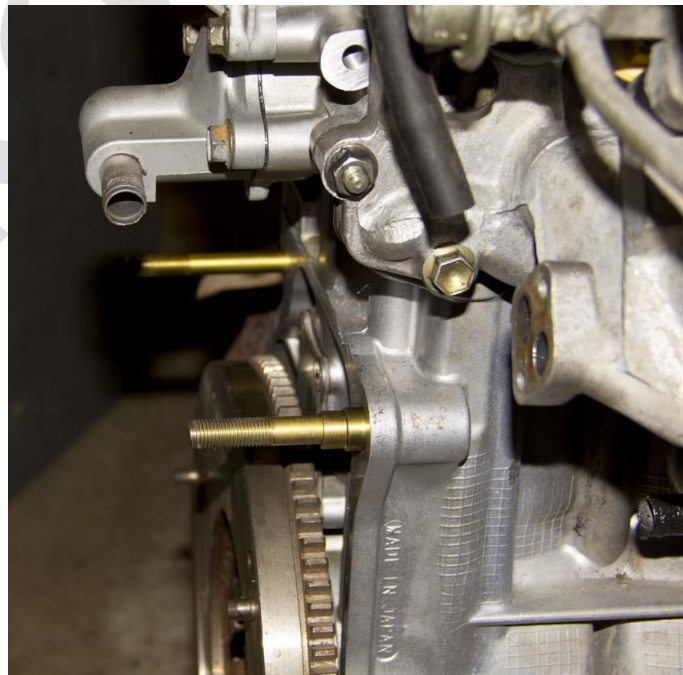


Figure B

3. The right side stud should be screwed all the way in so that the Alignment Dowel will fit flush (**Figure B**).

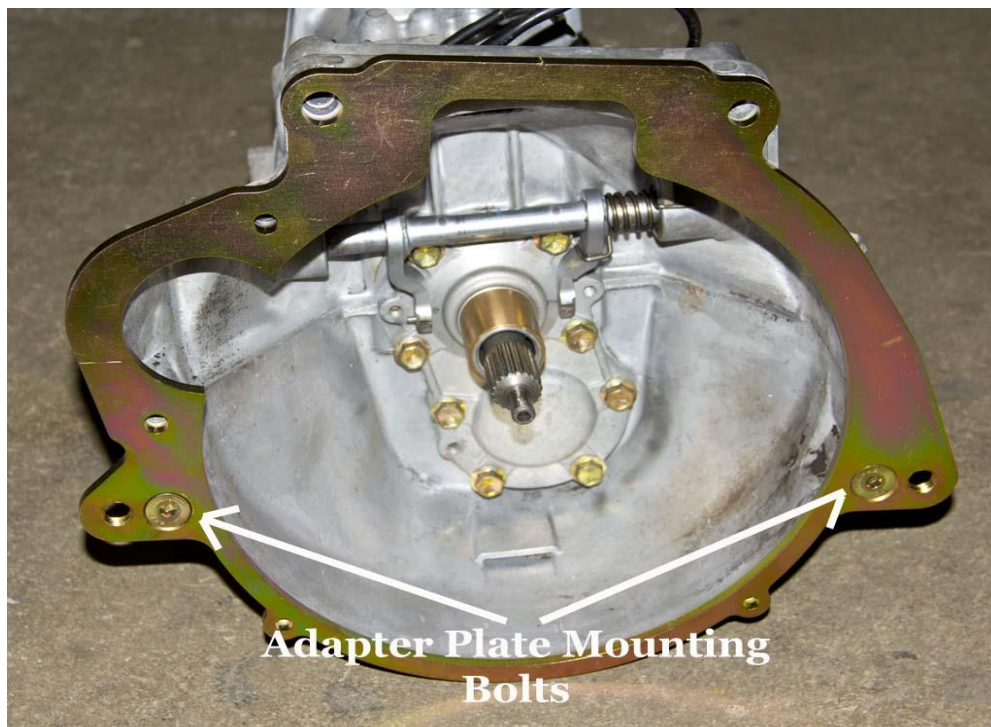


Figure C

4. On the Transmission, install the Transmission Adapter Plate using the 2 Tapered Allen Transmission Mounting Bolts using an 6mm Allen Wrench (**Figure C**).

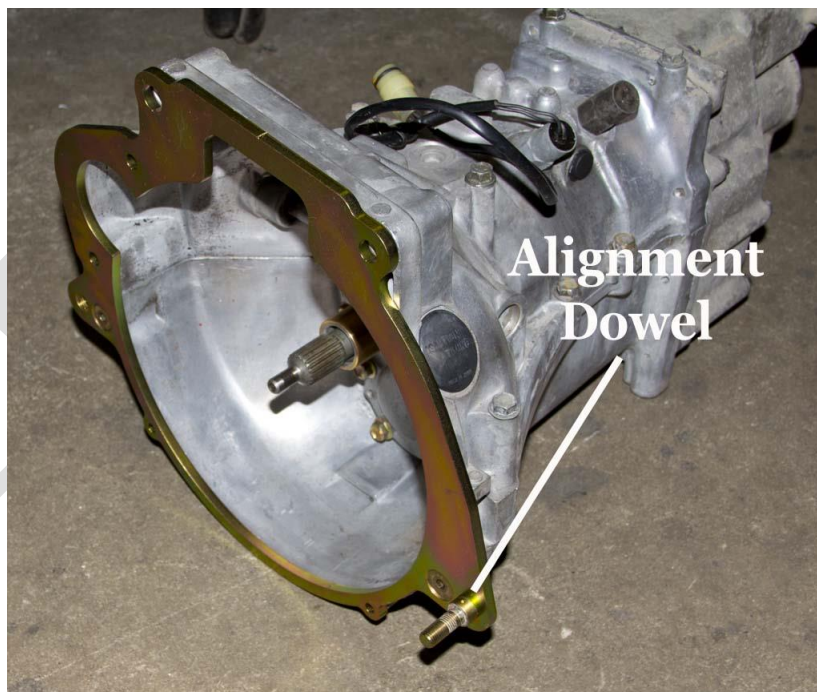


Figure D

5. Install the Alignment Stud (small stud that is threaded on both ends and has a spacer) into the bottom left hole and tighten it using the “Double Nut” method (**Figure D**).

6. Be sure to install the Throwout Bearing onto the Transmission and Clutch, and Clutch Cover onto the Flywheel. Since you are using a Samurai Transmission you need to use a Samurai Clutch and Samurai Flywheel. We recommend using the Petro Works Heavy Duty Clutch for the added horsepower.



Figure E

7. Carefully align the transmission to the mounting studs, and input shaft of transmission and slide onto the back of the motor. The two should match up perfectly with no gaps. You may have to give a little turn to the input shaft to align the clutch and shaft splines. See **Figure E**.



Figure F

8. Install the 2 provided Flange Nuts onto the upper studs and snug down (**Figure F**).

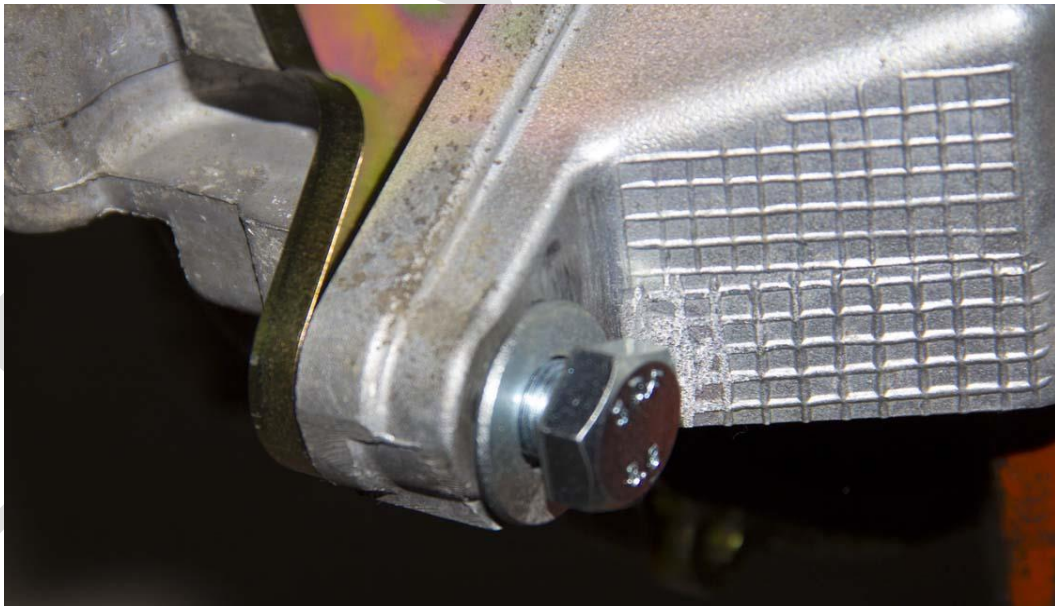


Figure G

9. Install the provided Bolt and Washer into the bottom right (as facing the back of the motor) through the motor and into the transmission adapter plate (**Figure G**).



Figure H

10. Using one of the original Flange Nuts from the transmission, install onto the stud coming through the motor block on the bottom left side (**Figure H**).
11. Install the Engine/Frame Mounts on the respective sides of the motor with supplied hardware. Right side mount has 3 bolts (**Figure I**); Left side has 4 bolts (**Figure J**).



Figure I

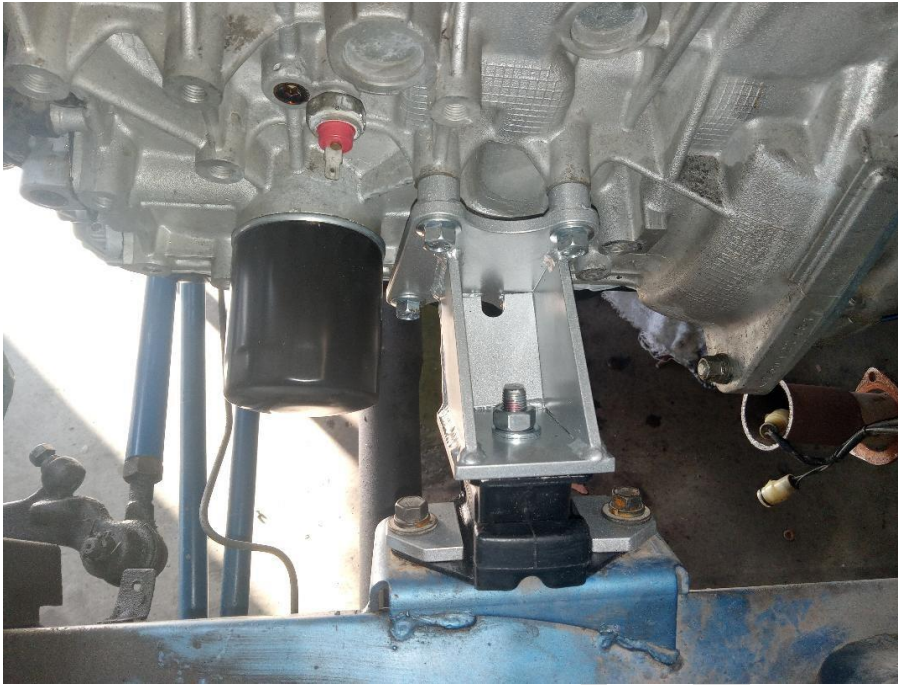


Figure J

12. Lower entire assembly down into the engine bay. As the frame side mounts get closer to their mounting locations have your help start to align the frame mounts to the frame and start to install the original mount bolts into the frame.



Figure K

13. Before tightening down all the bolts on the frame mount, install the Rear Transmission Mount into the stock location as shown in **Figure K**.

14. Tighten all bolts.



Figure L

15. Install the lower front transmission cross member (black bar under the transmission bell housing) using the 2 supplied spacers and new bolts (**Figure L**).



Figure M

16. Install the Transmission Dust Cover using the 2 supplied longer dust cover bolts (**Figure M**).

17. Congratulations you have completed the 1.6 motor installation. Now it is time for the fun part. Wiring it all in and getting it running.

Petro Works can provide you with all the other miscellaneous items you may need that are recommended to complete this installation correctly (i.e., heavy duty radiator, heavy duty clutch, wiring harness, speed sensor/check engine light modification, external high pressure fuel pump or Petro Works 15 g fuel tank with internal pump).

Things to Consider

Wiring Harness:

There are other modified wire harnesses available. However, we feel that our harnesses are the best value for the money. We can modify your 1.6 8V, 1.6 16V OBDI and OBDII harness to SMOG certification in all 50 states Including California. All harnesses are steamed cleaned in our commercial parts washer; all connections are professionally put together with solder and shrink tube; the donor harness is cut down to fit cleanly into your car and not looped back into the harness and taped over; we do not use miles of cheap Harbor Freight tape, all electrical tape used is quality 3m Scotch 33+ electrical tape. All harnesses are fitted into split loom for ease of access to your wires not bound in miles of tape. Remember, you get what you pay for!

Motor Components

Don't forget while you have the motor out, it is a good time to install all new

Plugs
Wires
Cap
Rotor
Oil
Oil Filter
Thermostat
Radiator hoses
Intake and Exhaust gaskets
Clean out all the EGR ports

Clean out the water jackets in the intake
Switching to a 3 Core or Aluminum Radiator
Transmission Oil
Upgrade your Clutch or change it out
Pilot Bearing
Throwout Bearing
Resurface your Flywheel
Check/Change Intermediate Driveshaft U-Joints
Rebuild Your Transmission