

## 86-95 Suzuki Samurai E-Brake Kit by Low Range Off-Road (SKU# [SB-EBK-LR](#))

Revised 07-19-16

### Installation Instructions

**Important Notice:** In order for this kit to be installed and work properly there are some components of the existing parking brake assembly that will need to be kept in good condition because they will be reused with this kit. For a rundown on which component will be reused and which will not, go to page 3 titled "Parking Brake Assembly."



**CAUTION:** Safety glasses should be worn at all times when working with vehicles and related tools and equipment.



**FOR ADDITIONAL COPIES OF THESE AND OTHER INSTRUCTIONS GO TO:** [www.lowrangeoffroad.com](http://www.lowrangeoffroad.com) and click on the "INSTRUCTIONS" tab.

#### Suggested Tools:

- Power Drill
- 11/32" Drill Bit (supplied)
- Channel Lock Pliers
- Needle Nose Pliers
- Brass Hammer
- Torque Wrench: Foot-Pound
- Torque Wrench: Inch-Pound
- Combination Wrenches: 10,12,13,14mm and 7/16", 11/32"
- Sockets: 10 & 12mm
- Ratchet
- Red ThreadLocker (supplied)
- Standard Screwdriver
- C-Clamp Vice Grip Pliers



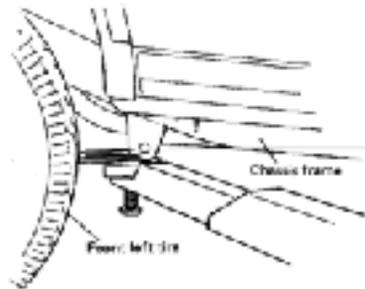
## Lifting and Supporting the Vehicle



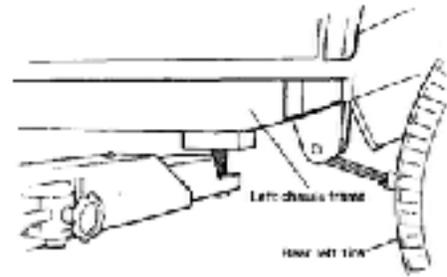
### Lifting Option 1

Lift and support the vehicle on a twin post lift.

**CAUTION:** Always follow the safety guidelines associated with the lift you are using.



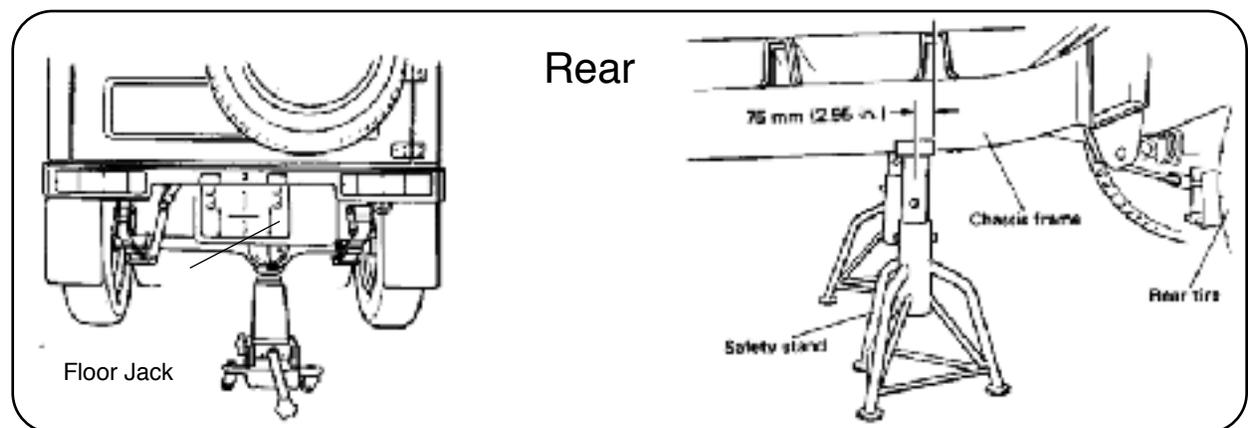
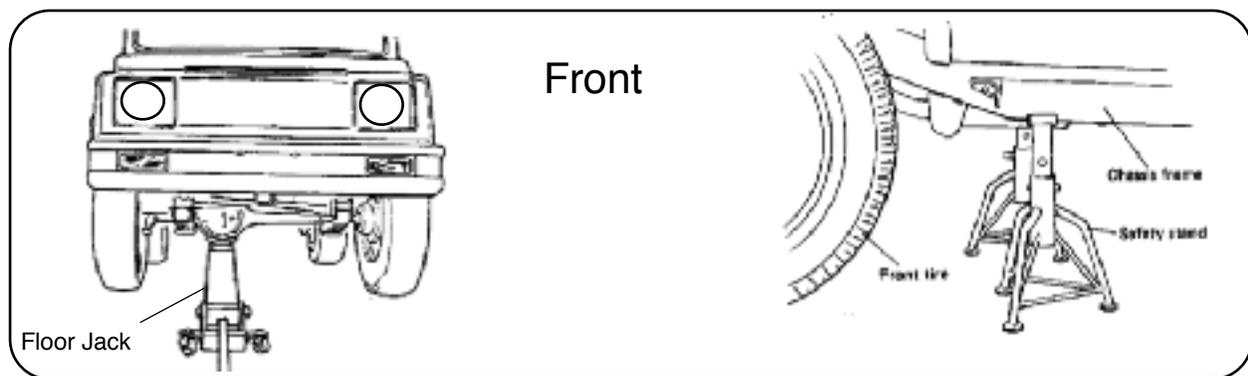
Front Support Location



Rear Support Location

### Lifting Option 2

We used a twin post lift for these instructions, but this job could also be done with a floor jack and (4) safety stands.





## Removing the Park Brake Cable Assembly



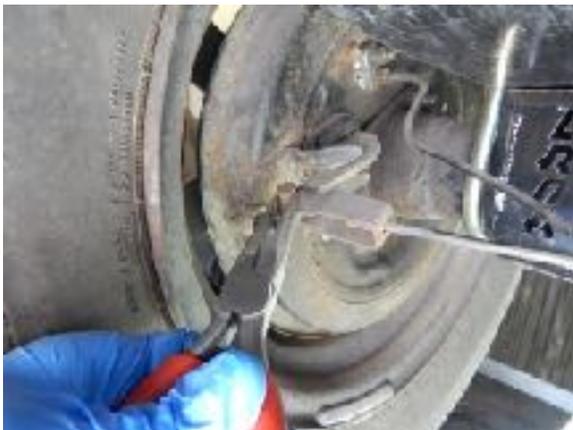
### Step 1

Place the park brake lever in the released (or down) position.



### Step 2

Beginning at the driver side rear wheel, disconnect the cable from the drum brake assembly by removing the clip and . . . . .



### Step 2 Continued

. . . . pin using needle nose pliers.

Note: This pin and clip will NOT be needed with this installation.



### Step 3

Remove the driver side cable bracket using a 10mm socket.



### Step 4

Remove the driver side cable bracket from the cable using needle nose pliers and a standard screwdriver.

Note: This part will NOT be needed with this installation.



### Step 5

Loosen the cable sheath attachment nut using a 14mm open end wrench.

Note: It may be necessary to hold the cable coupler using a crescent wrench or channel-lock pliers.



### Step 6

Remove the cable from the cable coupler.



### Step 7

Disconnect the cable band by holding the nut with a 10mm box end wrench and removing the bolt using 10mm socket.



### Step 8

Remove the band.

Note: This part will NOT be needed with this installation.



### Step 9

Disconnect the body cable bracket by removing the (2) bolts using a 10mm socket.

Note: The bracket will not be needed with this kit but you should leave the rubber grommet on the cable sheath. It will be needed later on.



### Step 10

There is no need to disconnect anything else associated with this section of the brake cable. Simply lay the cable aside for now. This section of cable will be needed later on in the installation. (See the illustration on page 3 titled "Parking Brake Assembly" for a rundown on which parts will be needed and which will not.)



### Step 11

Disconnect the cable coupler support bracket using a 12mm box end wrench.

Note: This part will NOT be needed with this installation.



### Step 11 Continued

Cable coupler support bracket removed.



### Step 12

Disconnect the center cable bracket using a 10mm socket.

Note 1: You may need to hold the bracket using channel-lock pliers as you break the bolt loose.

Note 2: This part will NOT be needed with this installation.



### Step 13

Disconnect the passenger side cable bracket using a 10mm socket.

Note: This part will NOT be needed with this installation.

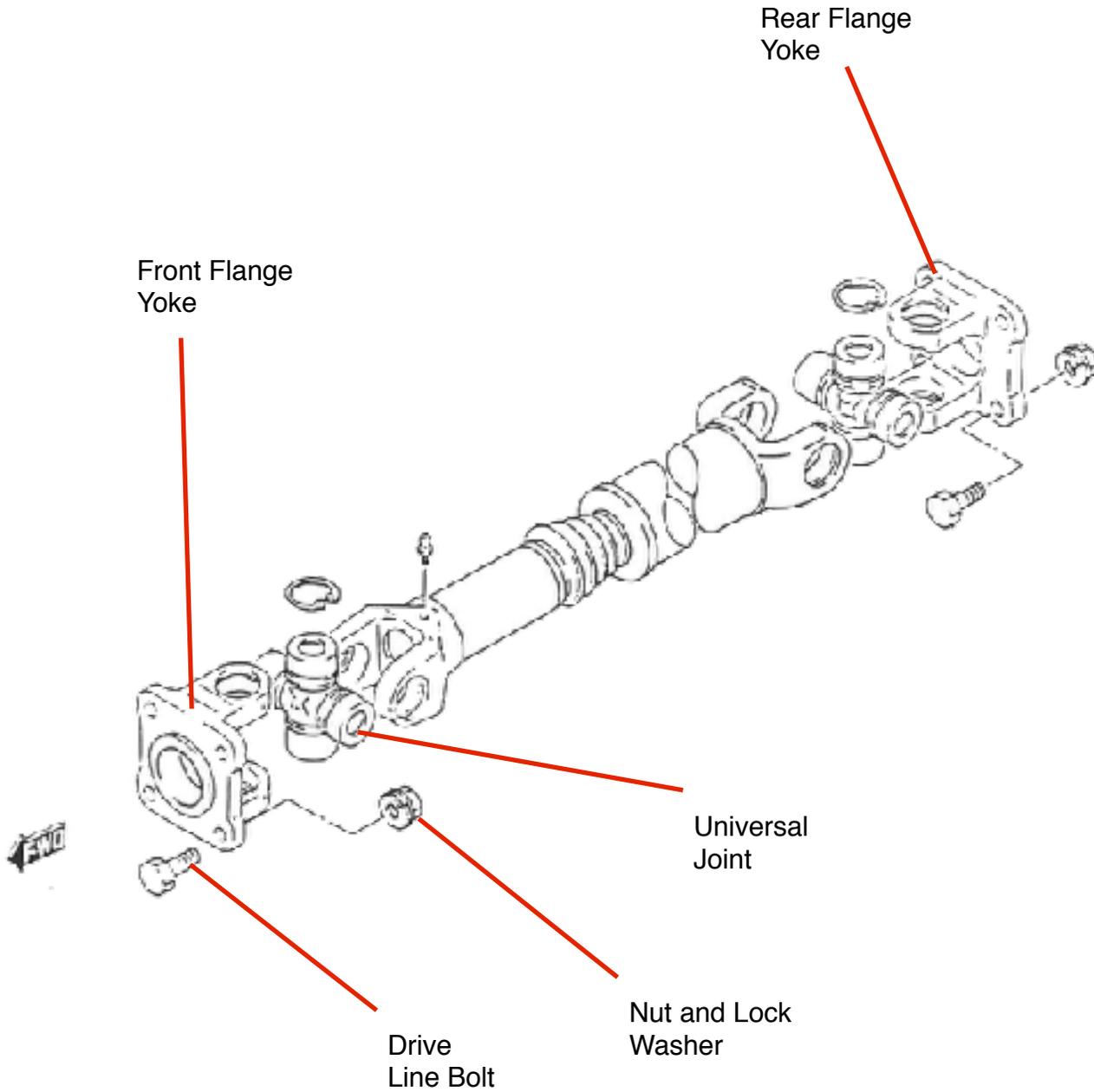


### Step 14

Disconnect the passenger side brake cable by removing the clip and pin.

Note: These parts will NOT be needed with this installation.

## Rear Drive Line Assembly



**Figure B**



## Disconnecting The Drive Line



### Step 15

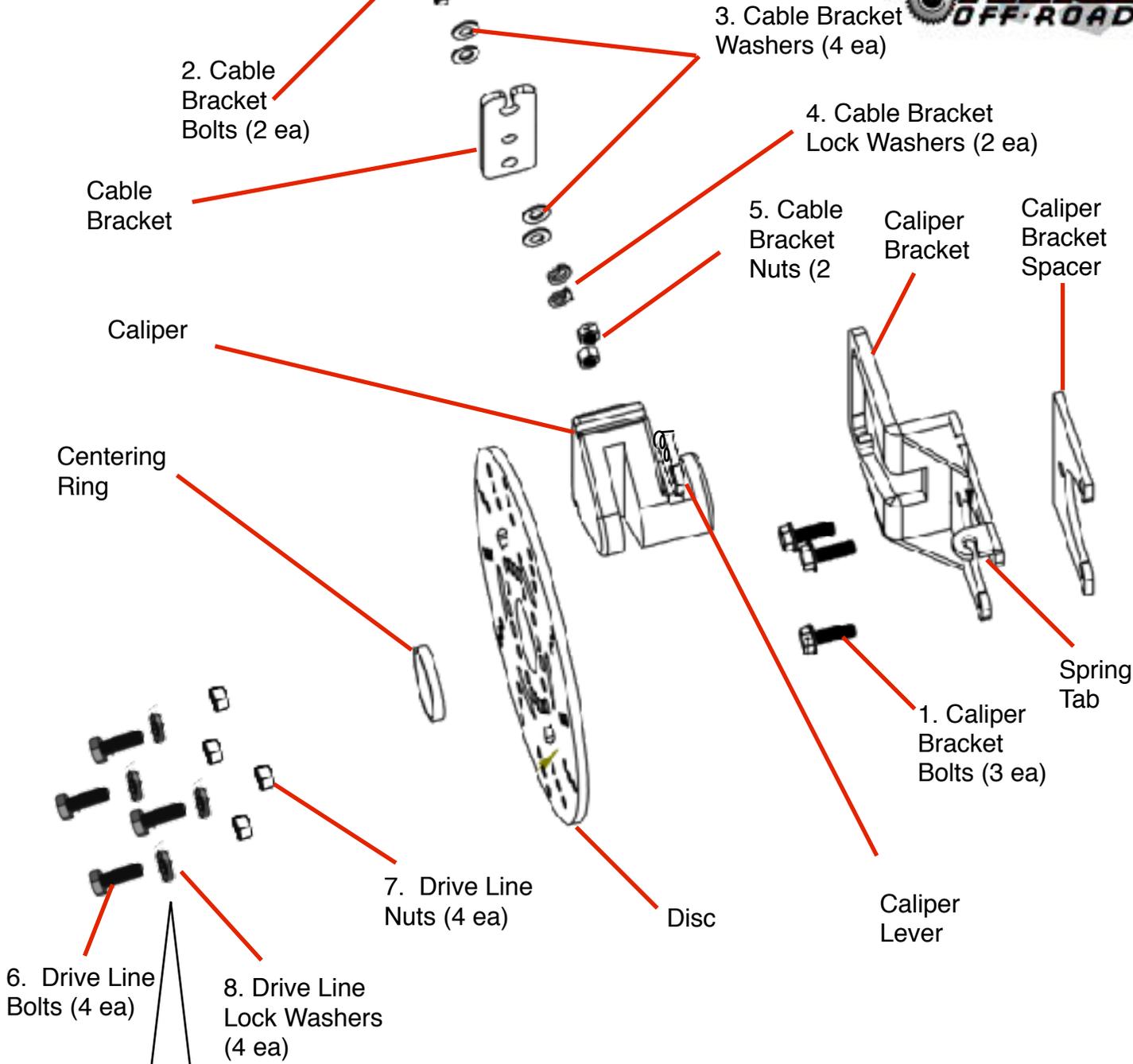
Disconnect the rear drive line from the transfer case flange by removing the (4) bolts using (2) 12mm box end wrenches.



### Step 16

Tie the drive line back out of the way.

# Kit Parts



Note: Numbering references the fasteners in the table on next page.

**Figure C**



## Hardware

Item #	Description	Size	Qty
1	Caliper Bracket Bolts	M8X1.25X25	3
2	Cable Bracket Bolts	M8X1.25X80	2
3	Cable Bracket Flat Washers	M8	4
4	Cable Bracket Lock Washers	M8	2
5	Cable Bracket Nuts	M8X1.25	2
6	Drive Line Bolts (Early Model)	M8X1.25X35	4
7	Drive Line Nuts (Early Model)	M8X1.25	4
8	Drive Line Lock Washers (Late Model)	M8	4
9	Drive Line Bolts (Late Model)	M10X1.25X35	4
10	Drive Line Nuts (Late Model)	M10X1.25	4
11	Drive Line Lock Washers (Late Model)	M10	4
12	Master Link	#50	1
13	Spring		1



## Installing the Park Brake Accessories



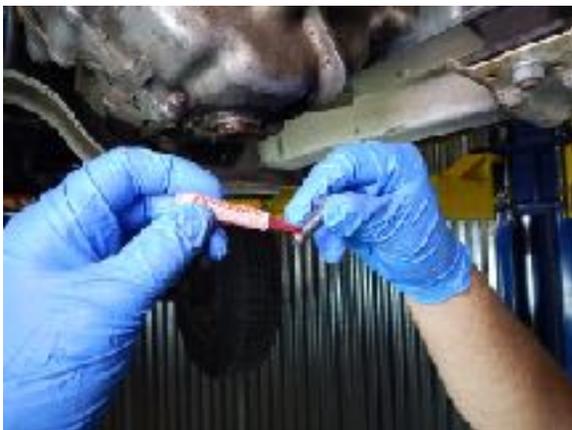
### Step 17

Clean out the flange in the area shown here using a flat blade screwdriver or gasket scraper. Insure there is no rust or debris that would hinder the installation of the centering ring. (See Next Step)



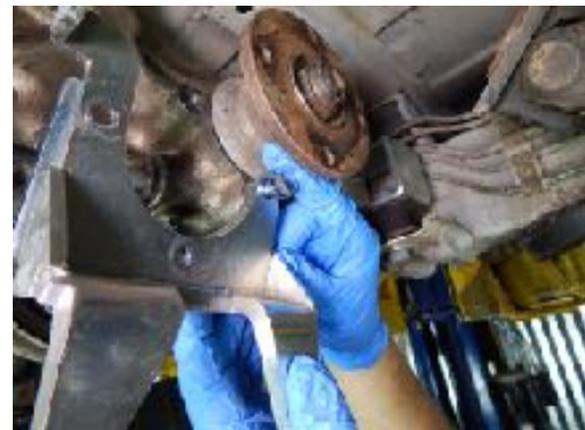
### Step 18

Using a brass hammer, tap the centering ring into place. This is a tight fit and it must be driven in evenly. It may take some patient persistence, but it will fit. Be sure the centering ring seats all the way to the back of the flange groove.



### Step 19

Apply 2 or 3 drops of the supplied red thread locker to the threads of one of the supplied M8X1.25X25mm bolts.



### Step 20

Position the caliper bracket on the output housing of the transfer case and start the bottom bolt.





### Step 21

Then rotate the bracket into place and start the 2nd and 3rd bolt in the same way. Don't forget to apply the thread locker to the threads.



### Step 22

Tighten the three caliper bracket bolts using a 12mm box end wrench in an increasingly tighter criss cross pattern until an estimated 15 ft. lbs. is reached.

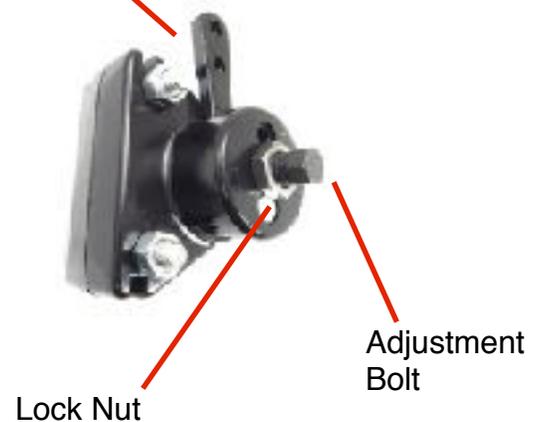


### Step 23

Loosen off on the lock nut and then the adjustment bolt until the caliper lever moves freely and the brake pads are wide enough apart to fit over the disc. (See Photo #1 below for part names)

Caliper  
Lever

Photo 1



Caliper  
Lever



### Step 24

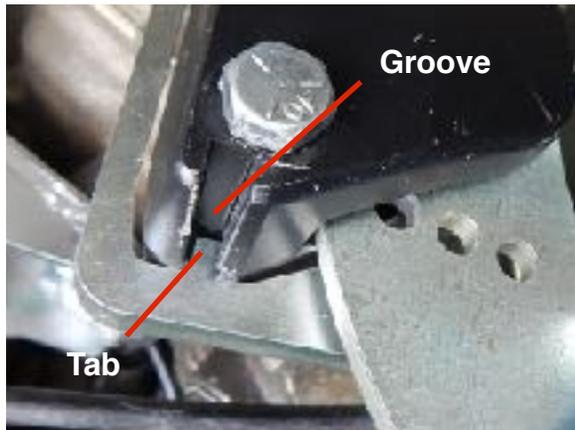
Slide the caliper over the disc with the caliper lever oriented upward.

Caliper  
Lever



### Step 25

Position the disc and caliper assembly with the caliper handle through the caliper adapter as shown.



### Step 26

Slide the caliper into the caliper adapter with the grooves of the caliper fitting the tabs on the caliper adapter.



### Step 27

Align the holes in the disc with the holes in the transfer case flange.

Note: Rotate the disc using a trial-and-error approach until the proper holes align.





### Step 28

Un-tie the drive line and position it against the disc adapter. Rotate the drive shaft until the correct holes are aligned with the holes in the disc and install the first bolt (M8X1.25X35 early model and M10X1.25X35 on the late model).



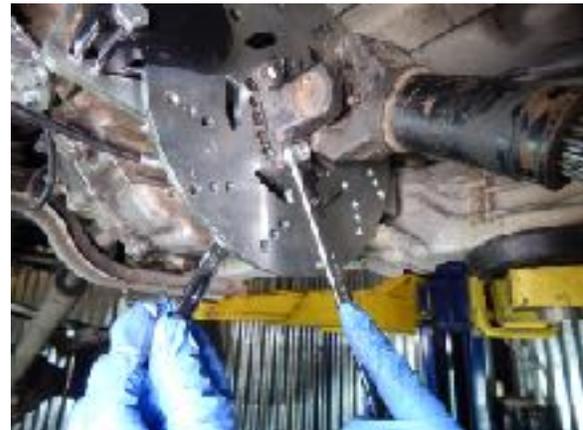
### Step 29

Install a lock washer, and a nut on the bolt you just installed. Leave the nut loose for now.



### Step 30

Install the other 3 bolts, lock washers and nuts.



### Step 31

Tighten the nuts using two 12 mm box end wrenches in an increasingly tighter criss-cross pattern until an estimated 20 ft. lbs. is reached.

# Rerouting and Securing the Park Brake Cable



**Notice:** If the park brake cable is not in good condition we recommend replacing it. Click [HERE](#) if you are interested in seeing what Low Range has to offer.

**Park brake cable goes through here.**



## Step 32

Retrieve the end of the park brake cable that was disconnected from the driver side rear wheel and run it over the exhaust, through the frame rail and over the frame as shown here. (See Figure D)

## Step 32 Continued

Pull the park brake cable through the frame rail toward the driver side of the vehicle as shown.



## Step 32 Continued

Continue pushing the park brake cable from inside the frame, while pulling from outside the frame. Be sure that the cable does not snag on anything or kink at any point during this procedure.

## Step 32 Continued

Continue pulling the cable until the metal shield is in the position shown here. The metal shield should be about 4" outside the frame. Just let the cable hang for now.



## Park Brake Cable Routing

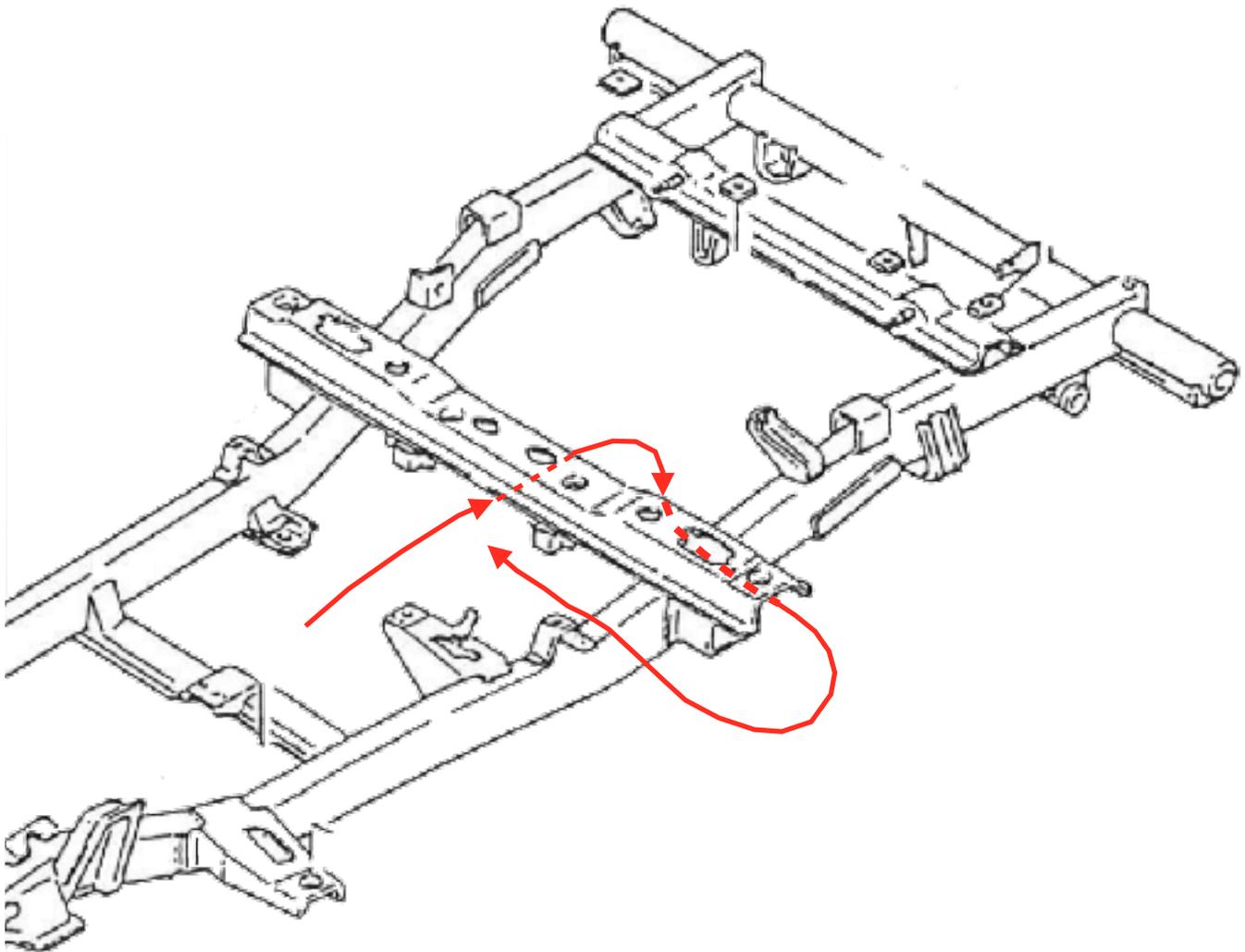


Figure D



### Step 33

Clamp the supplied bracket in place on the frame with the slotted hole oriented upward.



### Tech Tip 33

The top bolt hole should be about 3/4" below the top of the frame.



### Step 34

Drill the upper hole all the way through the frame using the supplied 11/32" drill bit. Be sure to keep the drill bit level so it comes out the other side of the frame in about the right place.



### Step 35

Install a flat washer on a 8X1.25X80mm bolt and install the bolt through the hole.



### Step 36

Install a flat washer, lock washer and nut on the bolt.



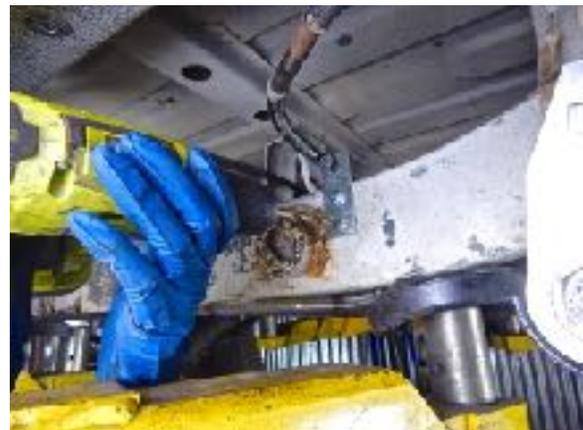
### Step 37

Remove the clamp.



### Step 38

Position the bracket in a true vertical position, and tighten the nut.



### Step 39

Insure the bracket is positioned properly (true vertical) and drill the bottom hole all the way through the frame as before.

Speedometer Cable



### Step 40

Install the 2nd 8X1.25X80mm bolt and flat washer through the hole.



### Step 41

Install a flat washer, lock washer and nut.

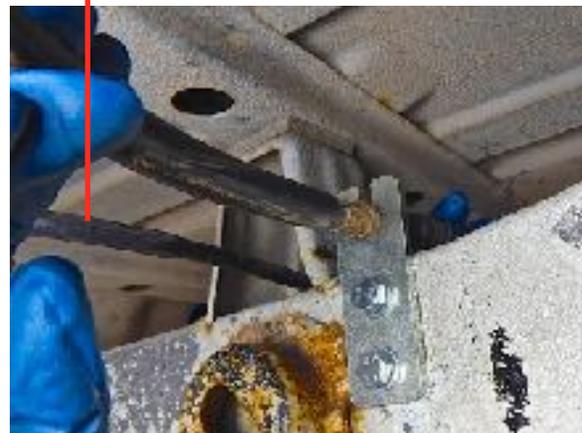
Speedometer Cable



### Step 42

While holding the bolt using a 13mm box end wrench, tighten the nut using a second 13mm wrench or socket.

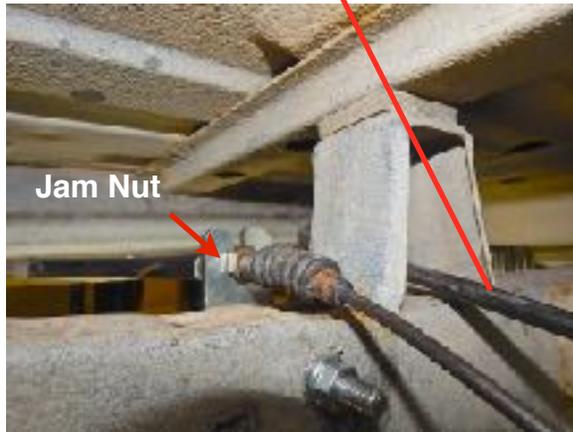
Speedometer Cable



### Step 43

Loop the cable around and install it in the bracket as shown here.

Speedometer Cable



### Step 44

Tighten the jam nut using a 14 mm open end wrench.

## Attaching the Park Brake Cable to the Caliper Lever



### Step 45

Insure the park brake lever is in the down (or released) position.



### Step 46

Grip the cable at the rear of the threaded section with vice grip pliers. While holding the cable with the pliers, loosen (turn counter clockwise) the adjustment nut using a 14mm deep socket or ratcheting box end wrench. Loosen the adjustment nut until you can no longer see the end of the park brake cable. This is usually loose enough. The objective is to insure there is enough slack in the cable so as to be able to connect the other end (cable link) to the caliper lever.



### Step 47

Position the park brake cable link over the caliper lever and align the cable link hole with the **TOP** hole of the caliper lever. (See Photo 2)



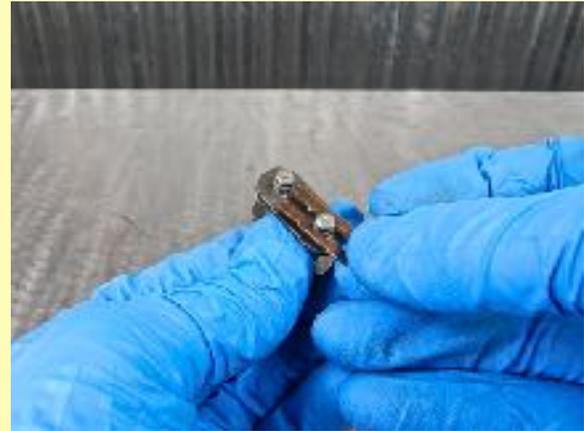
Photo 2

## Tech Tip: Installing a Chain Master Link



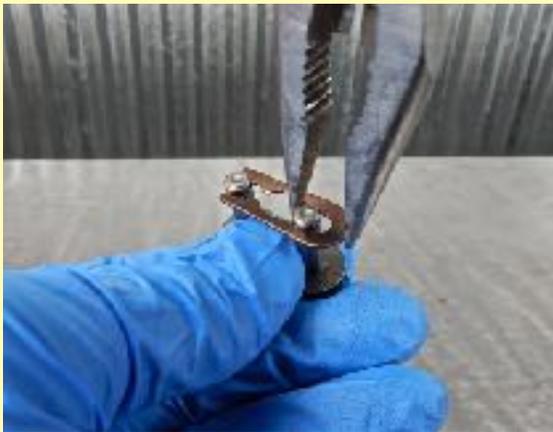
### Step A

Place the master link plate on the 2 posts.



### Step B

Position the lock on the bottom post as shown.



### Step C

Snap the lock into place using needle nose pliers.



### Step D

This shows the lock properly installed.





### Step 48

Insert the master link through the caliper lever and park brake cable link as shown.



### Step 49

Attach the supplied spring to the other end of the master link. Install the master link plate over the master link pins and install the master link lock.

Note: It is very important that the other end of the spring (passenger side) is oriented with the hook downward.

Master link side of spring does not matter whether it is up or down.



Bracket (or passenger) side of spring should be oriented downward.

Hook Downward.



### Tech Tip 49A

This shows the proper orientation of the spring.

### Tech Tip 49B

This shows the proper set up for the spring and master link on the caliper.





### Step 50

Take a piece of electrical wire (strong cord or a coat hanger) and make a loop in one end. Place the hook of the spring in the loop of the wire.



### Step 51

Run the wire over the passenger side frame and have an assistant pull on the wire, lengthening the spring.



### Step 52

Hook the spring on the caliper spring tab as shown here. Once the spring is connected, relieve tension on the wire and remove the wire (cord or coat hanger).

## Adjusting the Park Brake



### Step 53

If it is tight, loosen (turn counter clockwise) the caliper adjustment lock nut using 11/16 open end wrench. (See Photo 3)

Caliper Lever

Adjustment Bolt

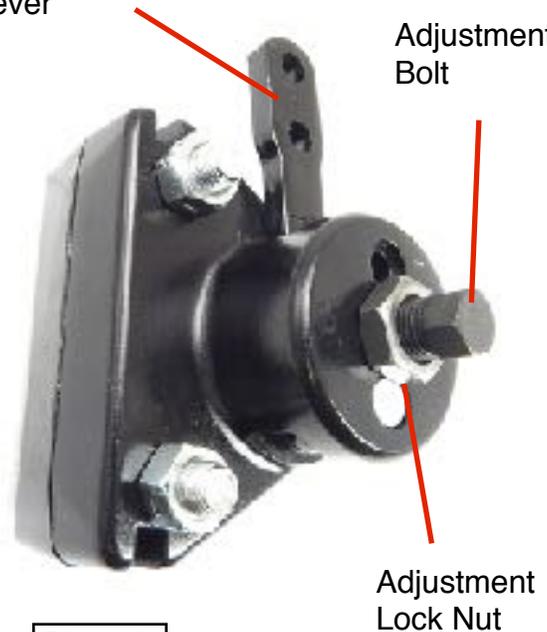


Photo 3

Adjustment Lock Nut



### Step 54

Tighten the adjustment bolt (clockwise) using a 7/16" box end wrench until it becomes snug against the caliper lever. Just snug is enough for now.

Note: Make sure the lock nut remains loose during this step.



### Step 55

Loosen the adjustment bolt (Counter Clockwise) 1/4 to 1/3 of a turn.



### Step 56

While holding the adjustment bolt, tighten (clockwise) the lock nut.



### Step 57

Set the park brake by pulling up (at 44 lbs or 20 Kg) on the lever. It should get tight between 3 to 8 clicks. If it clicks more than 8 times before getting tight, tighten the park brake adjustment nut. If it gets tight at less than 3 clicks, loosen the adjustment nut. See next Tech Tip.

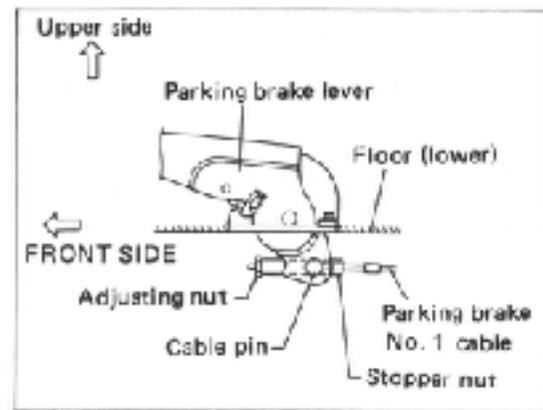


### Tech Tip 58

To adjust the park brake cable, loosen the stopper nut, hold the park brake cable with vice grip pliers and turn the cable adjusting nut using a 14mm box end wrench (See Figure E). Remember to tighten the Stopper nut when finished.

To tighten the cable: Turn the adjustment nut clockwise.

To loosen the cable: Turn the adjustment nut counter clockwise.



**Figure E**





## Step 59

Test the park brake by setting it (pulling the lever up with about 44 lbs of force).

Standard transmission: It should stall the engine with the engine at idle, transmission in 1st and letting the clutch out.

Automatic transmission: It should keep the vehicle stationary with the engine idling, shift lever in drive and foot off the brake.



## Congratulations!

You have successfully installed a LROR Samurai E-Brake Kit. We hope these instructions have been helpful. If you have suggestions on how to make these instructions (or products) better, please email us at: [sales@lowrangeoffroad.com](mailto:sales@lowrangeoffroad.com)



As always, If you experience any difficulty during the installation of this product please contact Low Range Off-Road Technical Support at 801-805-6644 M-F during regular store hours. Thank you for purchasing from Low Range Off-Road.



These instructions are designed as a general installation guide. Installation of many Low Range Off-Road products require specialized skills such as metal fabrication, welding and mechanical trouble shooting. If you have any questions or are unsure about how to proceed, please contact our shop at 801-805-6644 or seek help from a competent fabricator. Using fabrication tools such as welders, torches and grinders can cause serious bodily harm and death. Please operate equipment carefully and observe proper safety procedures.

Rock crawling and off-road driving are inherently dangerous activities. Some modifications will adversely affect the on-road handling characteristics of your vehicle. All products sold by Low Range Off-Road are sold for off road use only. Any other use or application is the responsibility of the purchaser and/or user. Some modifications and installation of certain aftermarket parts may under certain circumstances void your original dealer warranty. Modification of your vehicle may create dangerous conditions, which could cause roll-overs resulting in serious bodily injury or death. Buyers and users of these products hereby expressly assume all risks associated with any such modifications and use.

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