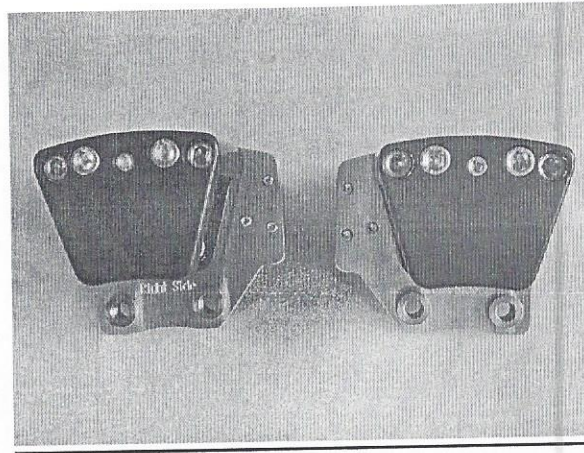


Installation instruction for IPSCO parking Brake Calipers



WARNING

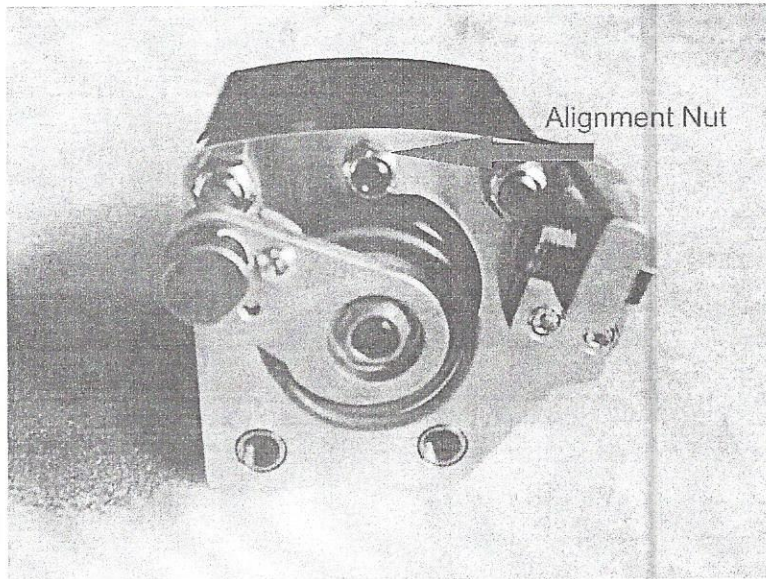
Modification of your vehicle with the parts identified above may alter its stock performance; the buyer hereby expressly assumes all risks associated with any such modification.

DISCLAIMER OF WARRANTY

Seller disclaims any warranty express or implied with respect to the parts sold hereby whether as to merchantability, fitness for particular purpose, or any other matter. IPSCO assumes no liability expressed or implied for the improper installation or use of this product or its components. IPSCO is NOT responsible for any damage, consequential or otherwise for equipment failure after installation

1. Caliper should be centered over the rotor with about .010" to .015" clearance between the inside pad and the inside face of the rotor. (Caliper has springs pushing Caliper away from the rotor to prevent the caliper pads from dragging on the rotor when the caliper is not engaged.) Using a .010" to .015" feeler gauge, place the feeler gauge between the inside face of the rotor, and the inside face of the parking brake pad. Now adjust the alignment nut located in the center of the caliper located between the two mounting bolts (See Picture Below) using a ½"

wrench adjust the caliper in or out to so that the feeler gauge slips in and out freely. Check to make sure the clearance on the outside pad to outside rotor face has a minimum of .010", but not more than .040". *Note: a little movement of the nut moves the caliper a lot.*



Trouble Shooting Problems

Brake will not hold car – check that there is only .010 to .020 of clearance between inside parking brake pad and inside face of rotor surface, adjust cable length to set inside pad. If you have more than .050 clearance on the outside pad contact IPS for assistance.

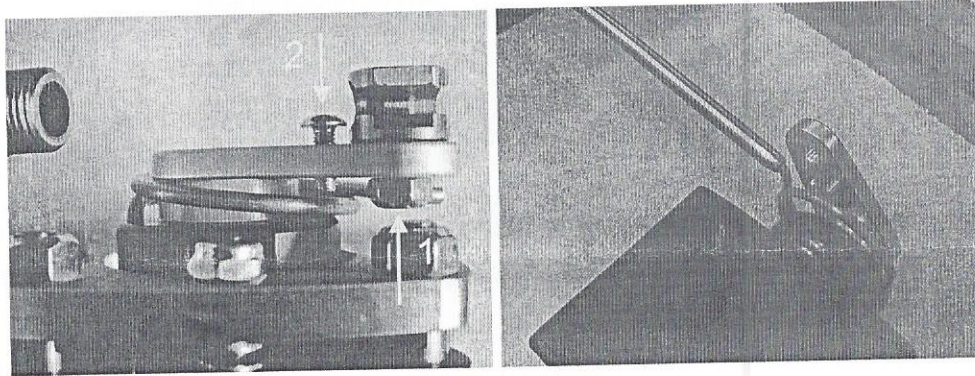
Vibration when driving slowly – pads are rubbing rotor, need to adjust inside and outside clearance.

Note: This brake has been designed to be used as a parking brake and it *is not intended to be used as a skid control brake*. As pad wear occurs, adjustment to cable length will be necessary, and should be checked on a regular basis.

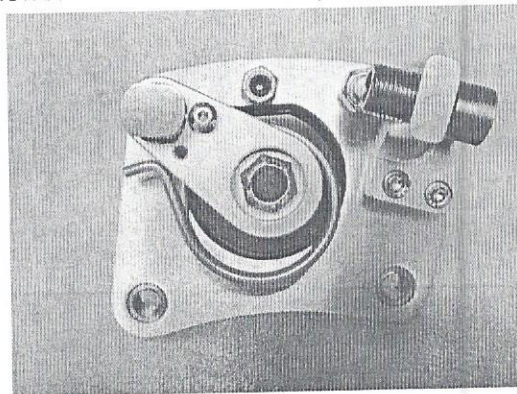
Caliper Arm Re-clocking Procedure

The Caliper actuating arm may be clocked in different positions to accommodate where the cable will be pulling from. The arm itself has a hex cut in it so you can change the arm angle or clock position in 60 Degree increments just by removing the arm nut, and rotating the arm to one of the six major positions. In addition the arm can be clocked by the internal screw allowing for two positions between the 60 Degree steps by following the instruction below. The arm spring will need to be rotated on the housing to follow where the new position of the arm is. The housing has 7 spring mount holes for relocation of the spring.

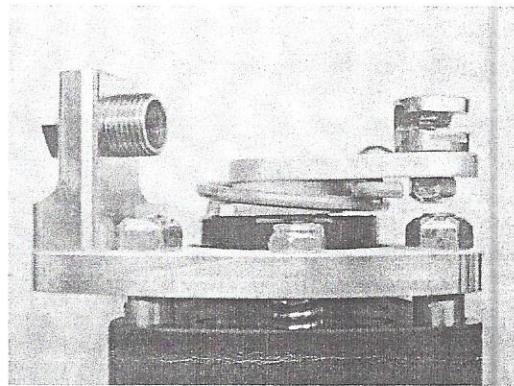
1. To remove the Caliper Arm Spring, you will need to remove the cable pivot by removing the pivot nut item #1 in picture below. Hold the cable pivot with a 5/8 wrench and remove nut using a 7/16 wrench. Now release the actuator arm spring by slipping a small tube over the spring end and while applying pressure to the spring back out the spring retainer screw (item #2) about 1/8". Now walk the spring end around the retainer screw. Be careful not to back the screw out more than the 1/8" due to the threads have been damaged by the spring riding on the screw.



2. Important: NOTE the position of the arm as you will want to get the arm back in this position. In the picture below the Arm is at about 10 to 11 O'clock position. The position of the arm is normally set for 11 O'clock on a left hand caliper, and 1 O'clock position for a right hand caliper. (As viewed from the rear of caliper).



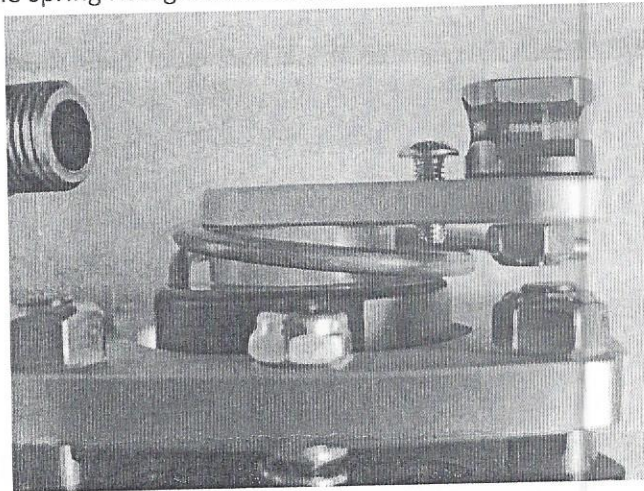
3. By rotating the actuator arm either clockwise (Left hand caliper) or counter-clockwise (right hand caliper) around in a circle, it will push the piston assembly out of the rear caliper housing. Put a little pressure on the Inside pad and rotate the arm until you feel or hear a click, you have just advanced the arm screw one position. Reverse the direction you are turning the arm and draw the pad back into the housing until it stops. Repeat this process until you get the arm where you want it positioned.
4. Using your small tube on the end of the spring, apply pressure to the spring and walk the end around the retainer screw, now thread in the retainer screw all the way. Release the pressure on the spring and press on the end of the spring to set it up tight to the retainer screw. Reinstall the cable pivot and nut removed in step 1. When done it should look like the picture below.



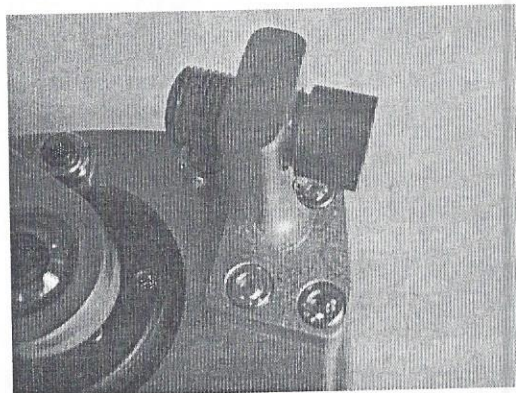
PAD Replacement Procedure

To replace the pads in the IPSCO caliper you will need to take the caliper apart. It is best to loosen the two middle bolts of the caliper while it is attached to the mounting bracket in the car.

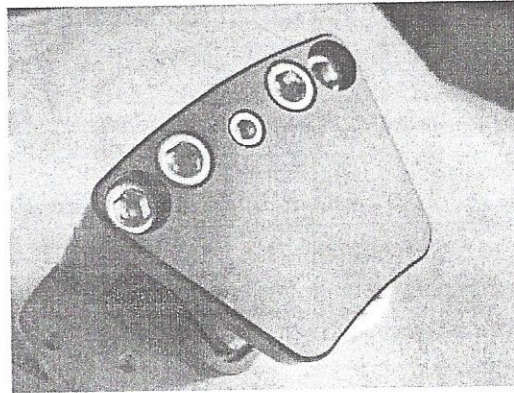
1. First you will need to remove the cable pivot using a 5/8" wrench outside and 7/16" on the inside nut.
2. Now release the actuator arm spring by slipping a small tube over the spring end and while applying pressure to the spring back out the spring retainer screw about .1/8" using a 1/8" Allen wrench. Now walk the spring end around the retainer screw. Be careful not to back the screw out more than the 1/8" due to the threads have been damaged by the spring riding on the screw.



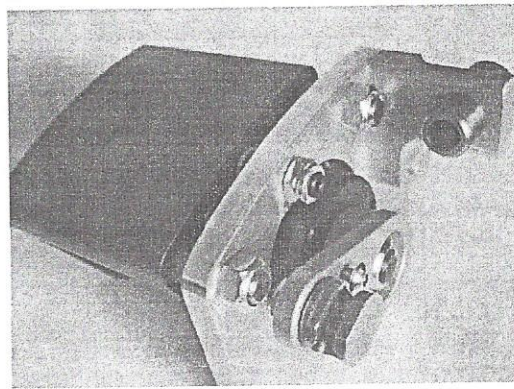
3. Remove the three screws holding the Cable mount bracket, and take off the bracket. Depending on which type of Cable mount you have you may have to remove the adjust nut before you can get to all three screws.



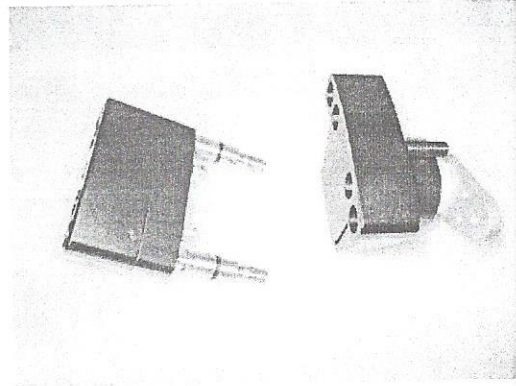
4. Loosen the two large center bolts in the caliper housing. It is best to loosen the two middle bolts of the caliper while it is attached to the mounting bracket on the Car as they are Loctite and torqued very tight.



5. Remove two 3/8-16 lock nuts located on the two upper guide dowel pins.

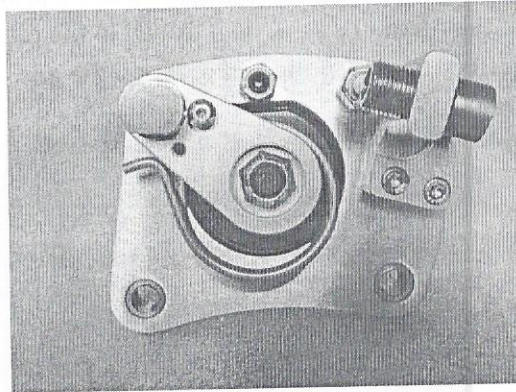


6. Remove the two large center bolts loosen in step 3.
7. Now you can split the caliper housing by pulling on the front half of the housing. It will help if you press on the two guide dowel pins as you are pulling on the housing.

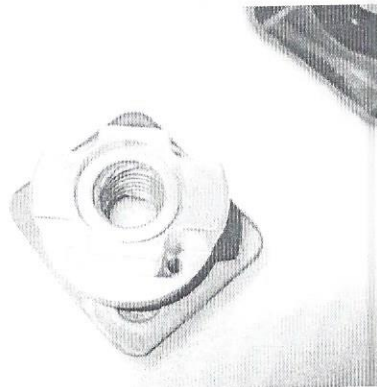


8. With the housing split you can change out the front pad using a 7/16 socket on the inside nut and a 3/16 Allen wrench on the outside socket head cap screw in the center of the caliper. Once screw has been removed you can take the pad out and install the new outside pad. Note the mounting ear on the new pad will be bent backwards just a little so when you install the screw and nut it will flatten out hold the pad flat in the pocket.

9. Important: NOTE the position of the arm as you will want to get the arm back in this position. In the picture below the Arm is at about 10 to 11 O'clock position. The position of the arm is normally set for 11 O'clock on a left hand caliper, and 1 O'clock position for a right hand caliper. (As viewed from the rear of caliper).
10. Once the housing has been split you can rotate the actuator arm either clockwise (Left hand caliper) or counter-clockwise (right hand caliper) around in a circle which will push the piston assembly out of the rear caliper housing.

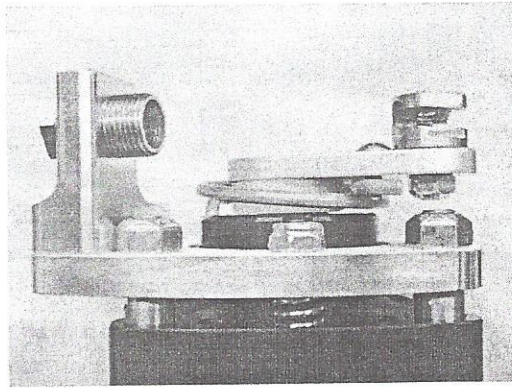


11. Now remove the two 6-32 socket head cap screws from the back side of the piston that hold the pad to the piston. You will need a 7/64 Allen wrench for this. Place the new pad down on its face with the curved edge up. Place piston on the pad so that the side set screw in the piston is facing about 1 to 2 O'clock position toward the top curved edge (the two holes will be straight up & down at this point that get the screws installed in). Put a small drop of red Loctite on each of the two screws and install screws. Do not over tighten the screws as they are not that big. They are used only to keep the pad attached to the piston.



12. Re-install the piston by placing the piston assembly into the caliper with the flat bottom edge of pad facing down. Turn the actuator arm clockwise or counter clockwise to draw the piston into the caliper housing. Note where the actuator arm is positioned, if not in the correct position you will need to put a little pressure on the piston assembly and rotate the arm to back out the piston until you feel or hear a small click. Once you feel or hear the click reverse the direction you are turning the arm and draw the piston back

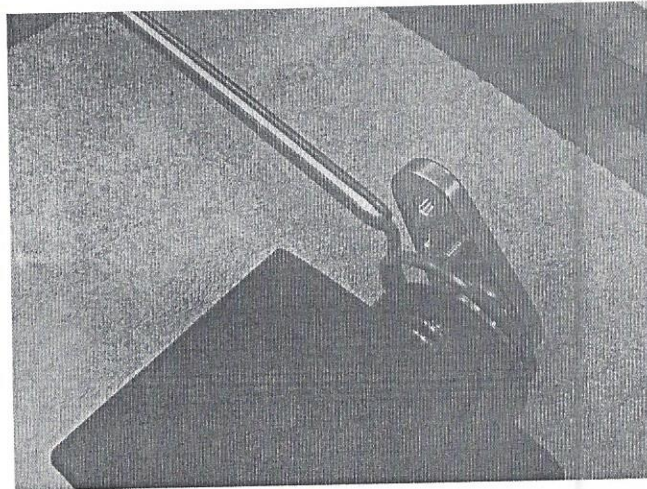
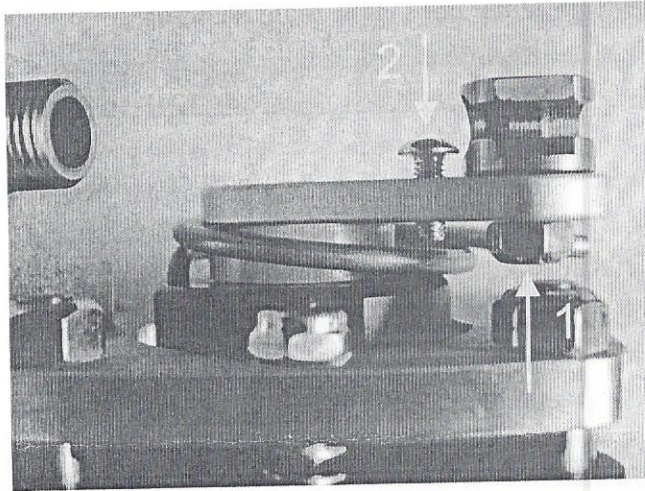
- into the housing until it stops. Repeat this process until you get the arm back where it was before doing step 8.
13. Slide the two calipers housing back together, and install the two large center bolts with a drop of red Loctite on the last $\frac{1}{4}$ " of threads.
 14. Install the two 3/8-16 lock nuts removed in step 5. You will need to hold the outer Socket head cap screw while tighten the nuts.
 15. Now tighten the two inner bolts removed in step 6.
 16. Re-install the cable mount bracket using the three $\frac{1}{4}$ -20 screws with small drop of red Loctite applied to the screw threads.
 17. Using your small tube on the end of the spring, apply pressure to the spring and walk the end around the retainer screw, now thread in the retainer screw all the way. Release the pressure on the spring and press on the end of the spring to set it up tight to the retainer screw.



18. Install Caliper back on car and tighten the two middle 3/8-16 socket cap screw to 60lbs.

Caliper Spacer Block R & R

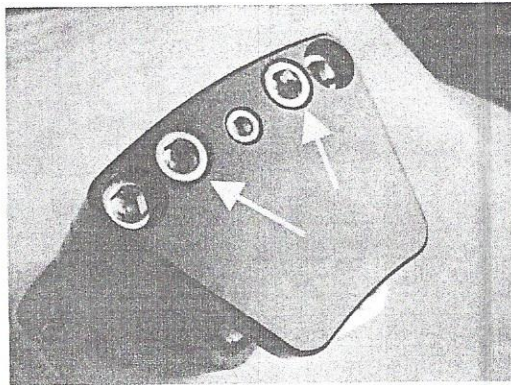
1. To remove the center spacer block you will need to remove the cable pivot by removing the pivot nut item #1 in picture below. Hold the cable pivot with a 5/8 wrench and remove nut using a 7/16 wrench. Now release the actuator arm spring by slipping a small tube over the spring end and while applying pressure to the spring back out the spring retainer screw (item #2) about 1/8". Now walk the spring end around the retainer screw. Be careful not to back the screw out more than the 1/8" due to the threads have been damaged by the spring riding on the screw.



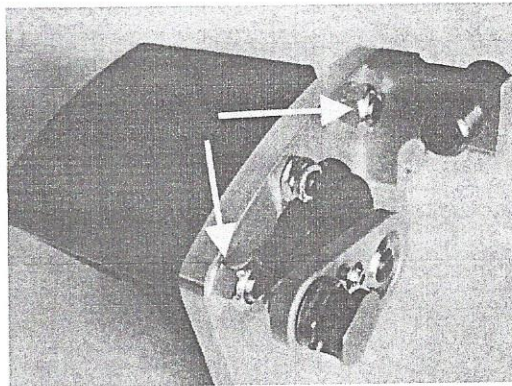
2. Remove the three screws holding the Cable mount bracket, and take off the bracket.



3. Loosen the two large center bolts in the caliper housing.

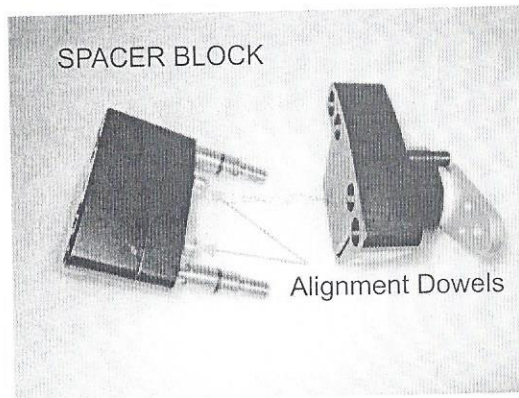


4. Remove two 3/8-16 lock nuts located on the two upper guide dowel pins.



5. Remove the two large center bolts loosen in step 3.

6. Now you can split the caliper housing by pulling on the front half of the housing. It will help if you press on the two guide dowel pins as you are pulling on the housing.



7. Once the housing has been split you can pull the center spacer block off the housing alignment dowels and over the guide dowels. Now remove the two housing alignment dowels.
8. Install the two new alignment dowels in the two center holes in the inside housing. Now slide the new spacer block over the alignment dowels. Slide the two calipers housing back together, and install the two large center bolts with a drop of red Loctite on the threads.
9. Install the two 3/8-16 lock nuts removed in step 4. You will need to hold the two outer Socket head cap screw while you tighten the guide dowel nuts.
10. Now tighten the two inner bolts removed in step 5 and torque to 50ft/lbs. This would be easiest when the bracket is mounted on the car.
11. Re-install the cable mount bracket using the three 1/4-20 screws with small drop of red Loctite applied to the screw threads.
12. Using your small tube on the end of the spring, apply pressure to the spring and walk the end around the retainer screw, now thread in the retainer screw all the way. Release the pressure on the spring and press on the end of the spring to set it up tight to the retainer screw. Reinstall the cable pivot and nut removed in step 1. When done it should look like the picture below.

