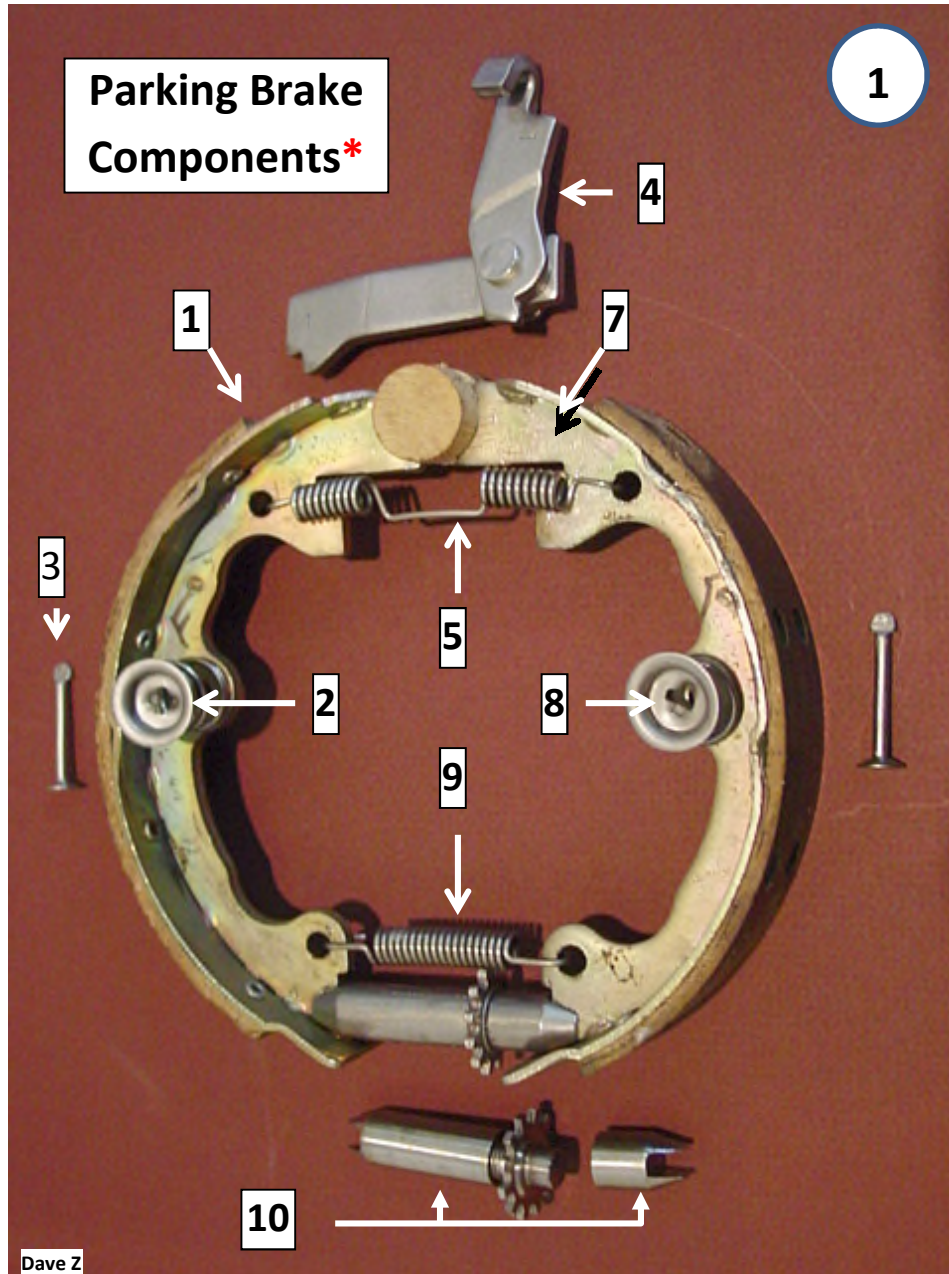


CORVETTE PARKING BRAKE REBUILD '65 TO '67 (AND BEYOND)

Tim Welsh and Dave Zuberer

The information here was compiled by Tim Welsh (Buns) and Dave Zuberer (DZVette) and is based on our experiences in changing out the parking brake shoes on disc-brake-equipped mid-year Corvettes.

The factory service manual states that you must remove the spindle to service the parking brake (see excerpt from service manual below and pg. 10), but that is not entirely accurate. It can be a daunting job but once you have done one side, the other will be easier. It is a **steep** learning curve but a “doable” job.



*Numbered as per the GM diagram

1. Parking Brake Shoe
2. Hold-down spring and cap
3. Hold-down pin
4. Actuating Lever
5. Retractor Spring

6. Backing Plate (not shown, see Fig. 12)
7. Parking Plate
8. Hold-down spring and cap
9. Adjusting Screw Spring
10. Adjusting Screw Assembly

Step-by-Step

Start by removing the wheel, rotor and caliper and backing off the parking brake cable. If the rotor is still riveted, you will have to drill the rivets to release the rotor. **Be sure to mark the position of the rotor on the hub.** You can put a circle around the stud and paint the tip of the stud as index marks for reassembly or put marks on the hub and rotor as in Fig. 6.

From the '65 Shop Manual
Supplement, ST 60 Sect. 5-5

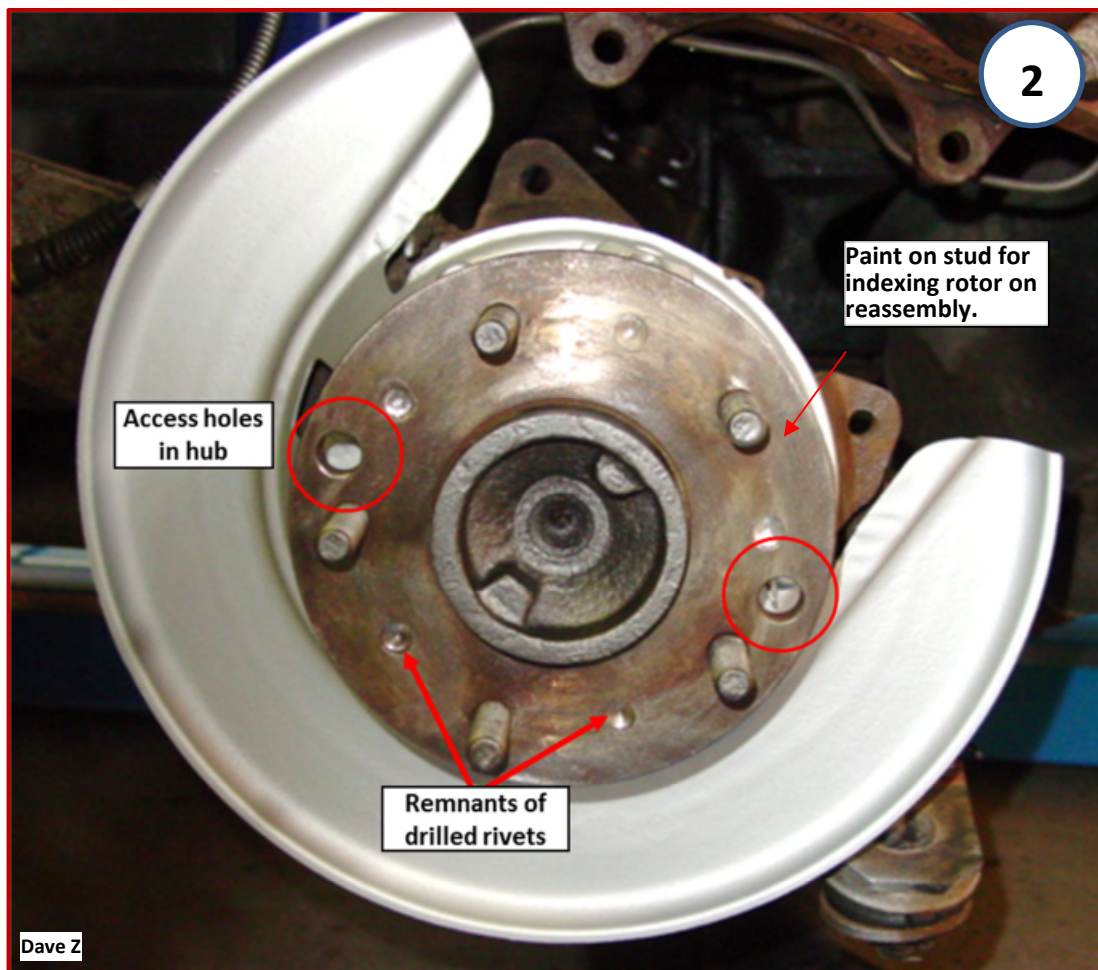
PARKING BRAKE SHOES (Fig. 8)

Removal

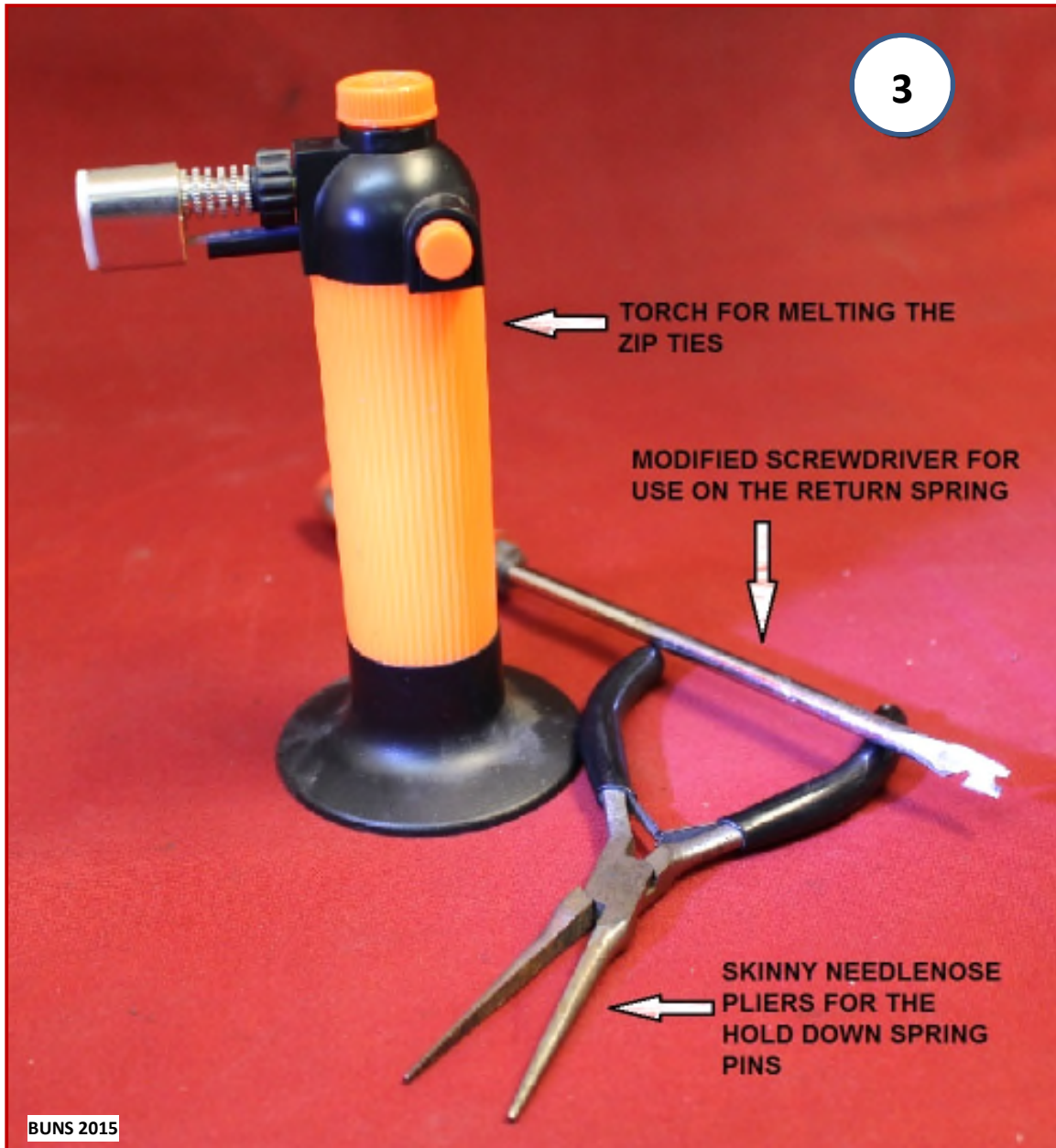
NOTE: It will be necessary to remove the disc assembly to change the shoes on the parking brake. This will necessitate the removal of the wheels, calipers and drive spindle, since the disc is riveted to the spindle. (Optional: knock off wheels – remove special adaptor.) Refer to Section 4 of this manual.

After removal of the disc, the shoes are removed in the following manner.

1. Remove retractor spring at the top of the shoes. Remove hold down springs on primary and secondary shoes.
2. The shoes can now be removed by pulling them away from the anchor pin.
3. Remove the adjusting screw spring and adjusting screw from the shoes.



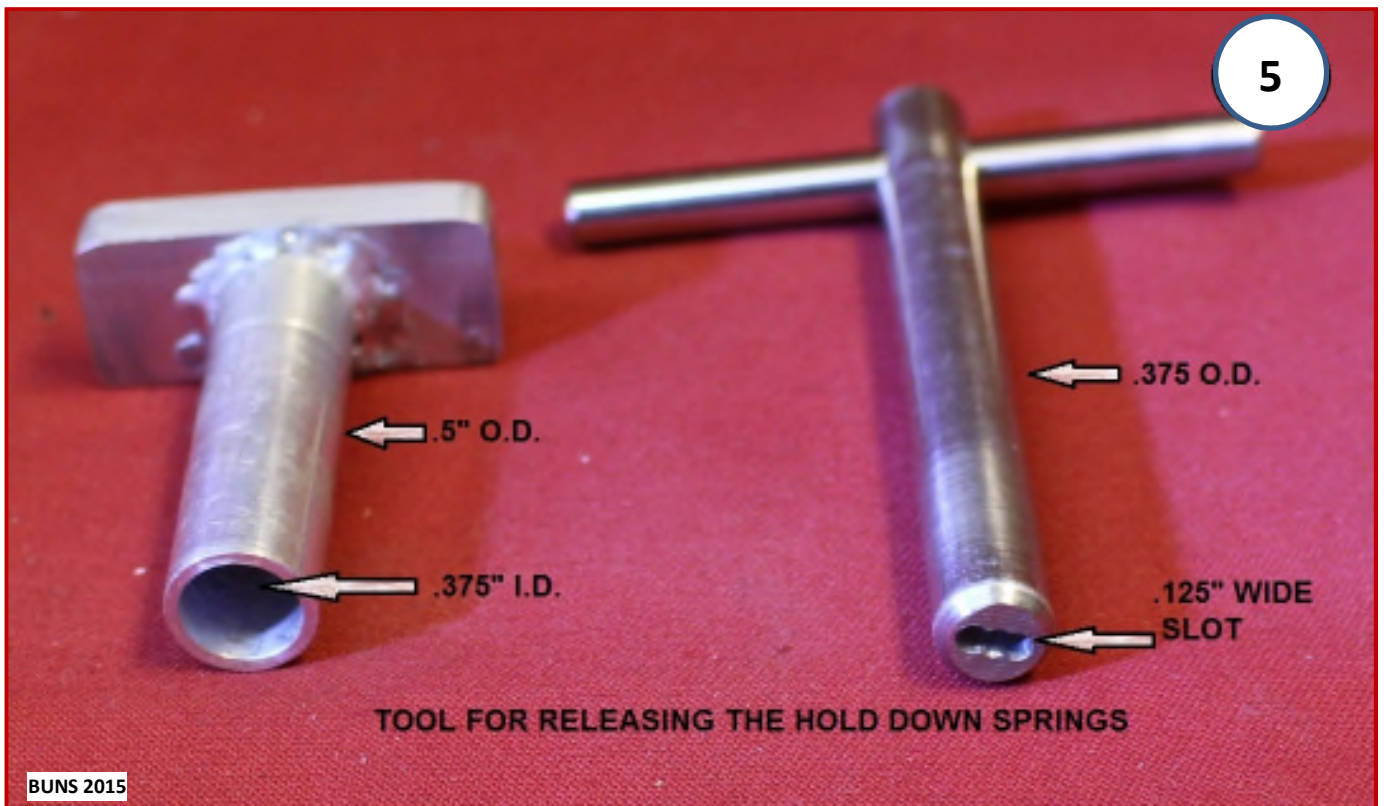
Next, remove the retractor spring (Part #5 in the GM Diagram - Figure # 12) shown in Figs. 1 and 12 using the modified screwdriver shown below (Fig. 3)



Next, you will need to remove the hold down springs (Part Numbers 2 and 8). You can do this by compressing the springs with whatever you have available, and using a pair of skinny needle nose pliers through the access hole to turn the pin (Part Number 3). I built a tool to make this easier, but I have the equipment to do this. Figures 4, 5, 6.



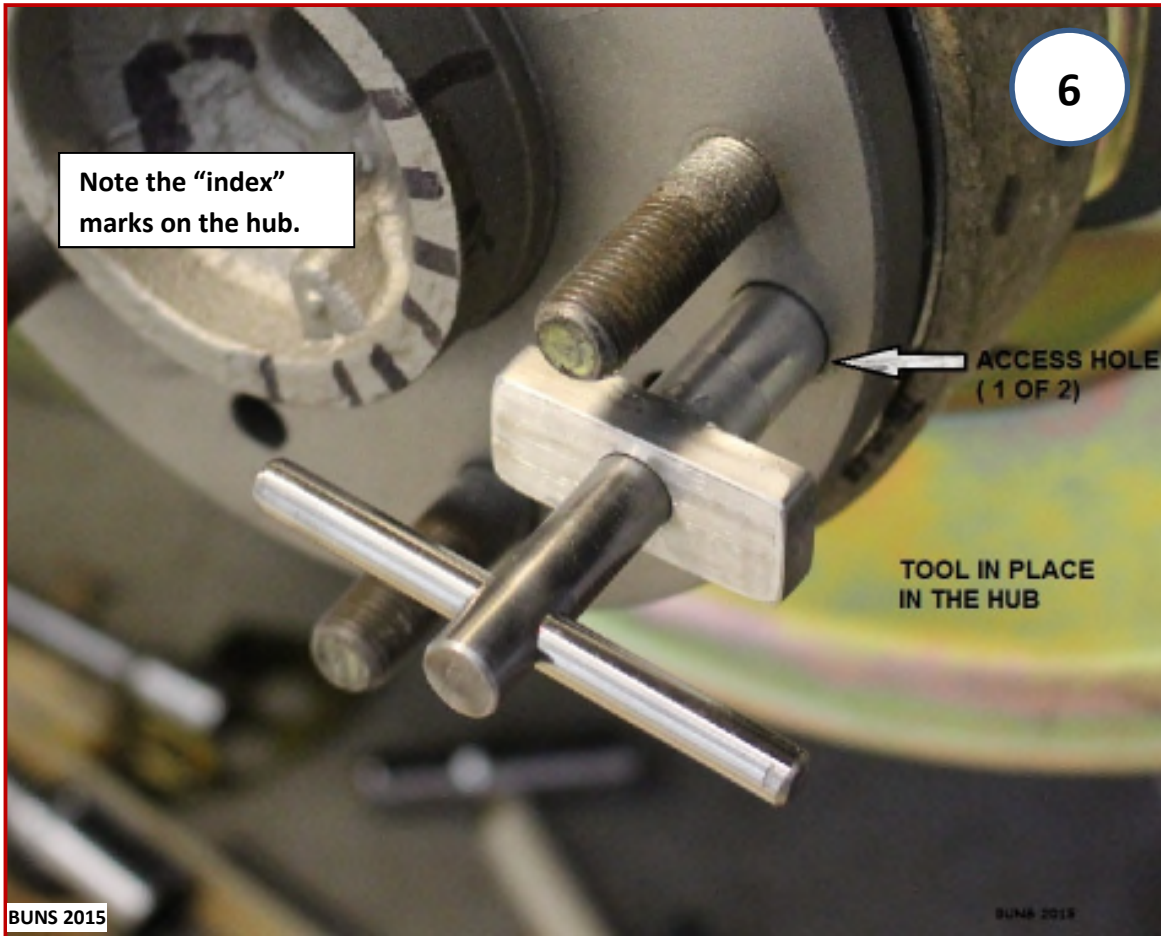
TOOL-HOLD DOWN SPRING



TOOL FOR RELEASING THE HOLD DOWN SPRINGS

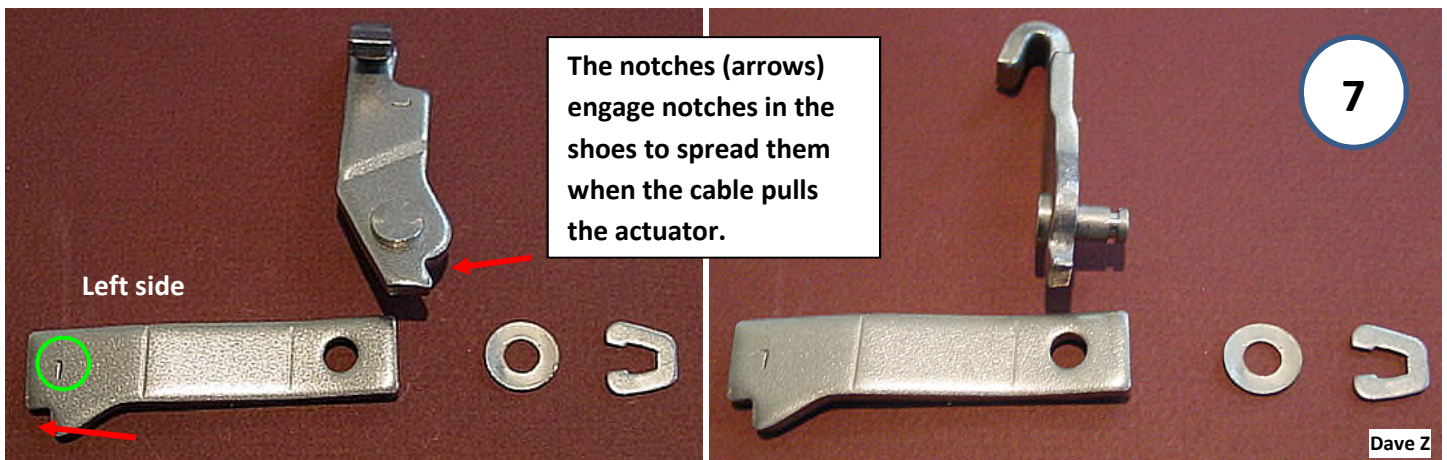
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The tool is operated by pushing on the T-handle tube (A) to compress the hold-down spring while engaging the tip of the pin with the rod (B) to turn it to release the slotted cap from the pin. One might make a similar tool using brass tubing of appropriate size (hobby shops or big box stores) and a slotted piece of doweling to turn the pin.



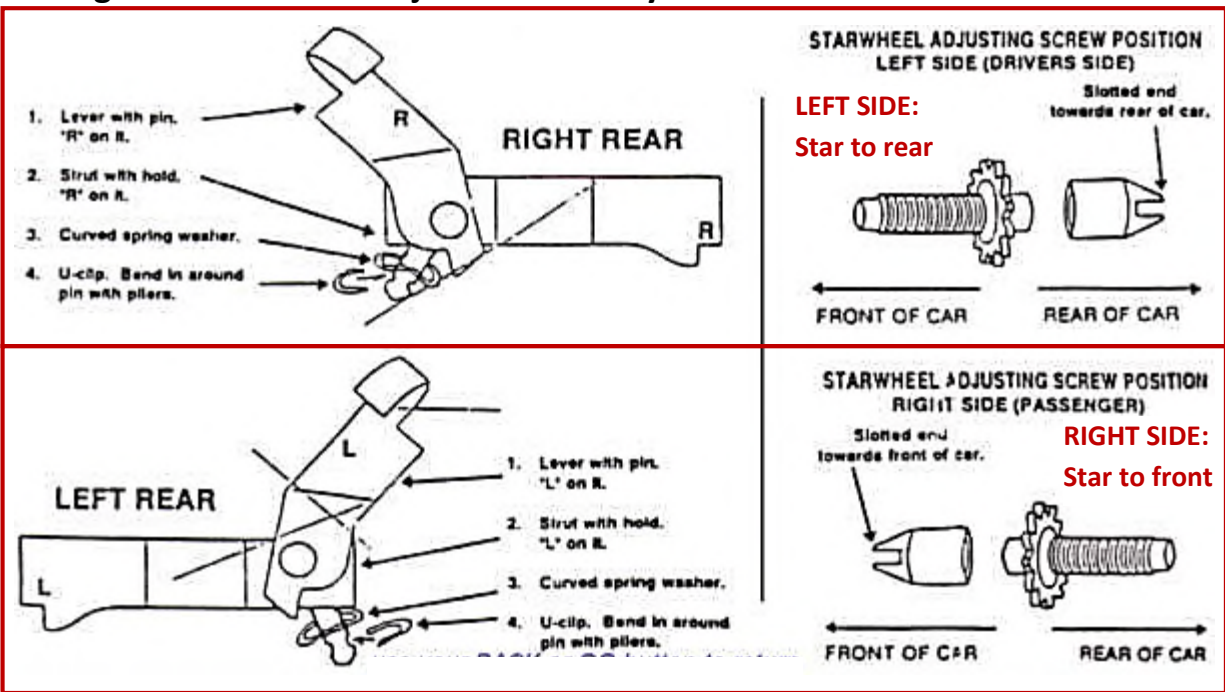
You can now remove the shoes by spreading them apart at the top and lowering them down. Remove the bottom spring and adjuster (Part Numbers **9** and **10**).

Now would be a good time to inspect the **actuating lever** (Part Number **4** and **Fig. 7 below**). Most rebuild kits come with new ones but they are a pain to replace. If you can get some lubrication on the pivot and it moves freely **you could** leave it but that is your call. If it is rusty you would be better off to replace it.



If you are replacing the actuator lever **BE SURE TO SQUEEZE THAT "C" CLIP FIRMLY** to engage the groove in the pivot pin. These parts are from a stainless steel replacement kit.

Be sure to align the star-wheel adjusters correctly for each side as shown here:

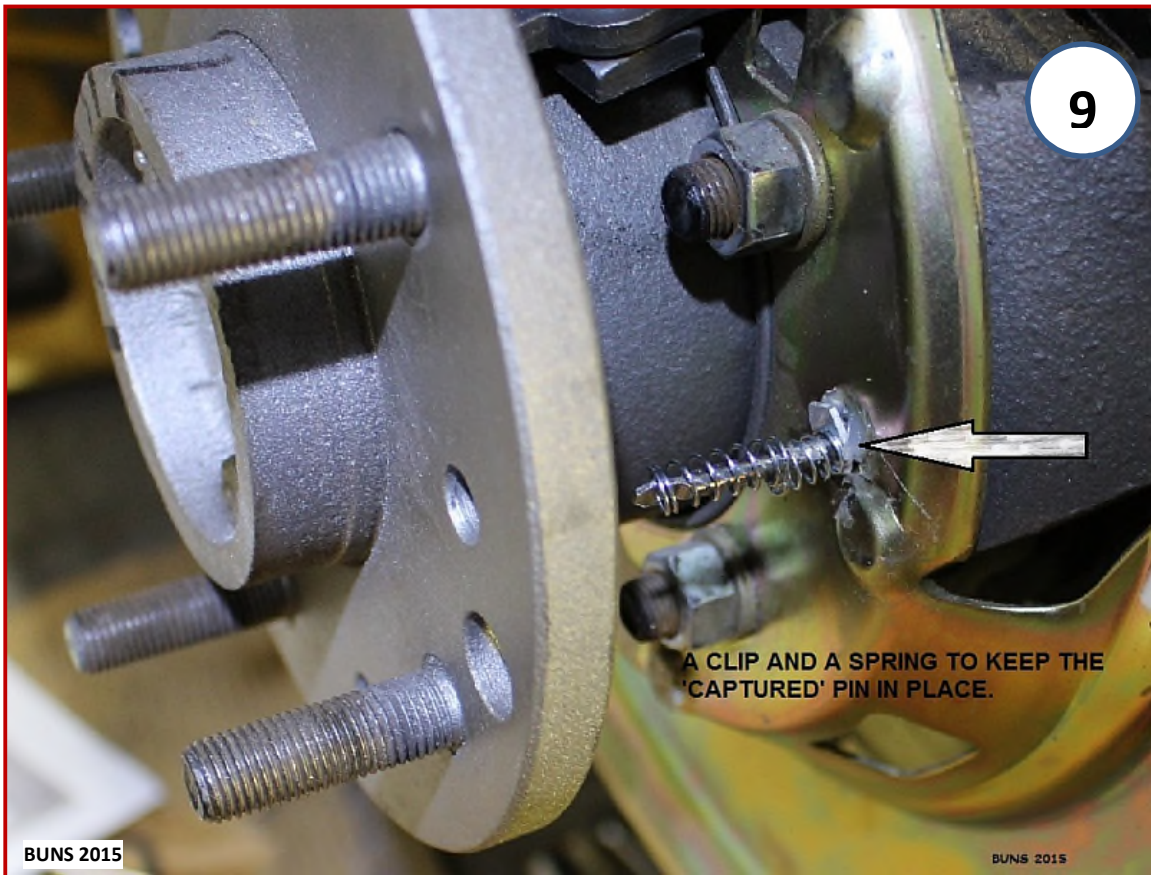


Source: <http://rowleycorvette.com/images/diagram2.jpg>

Reassembly

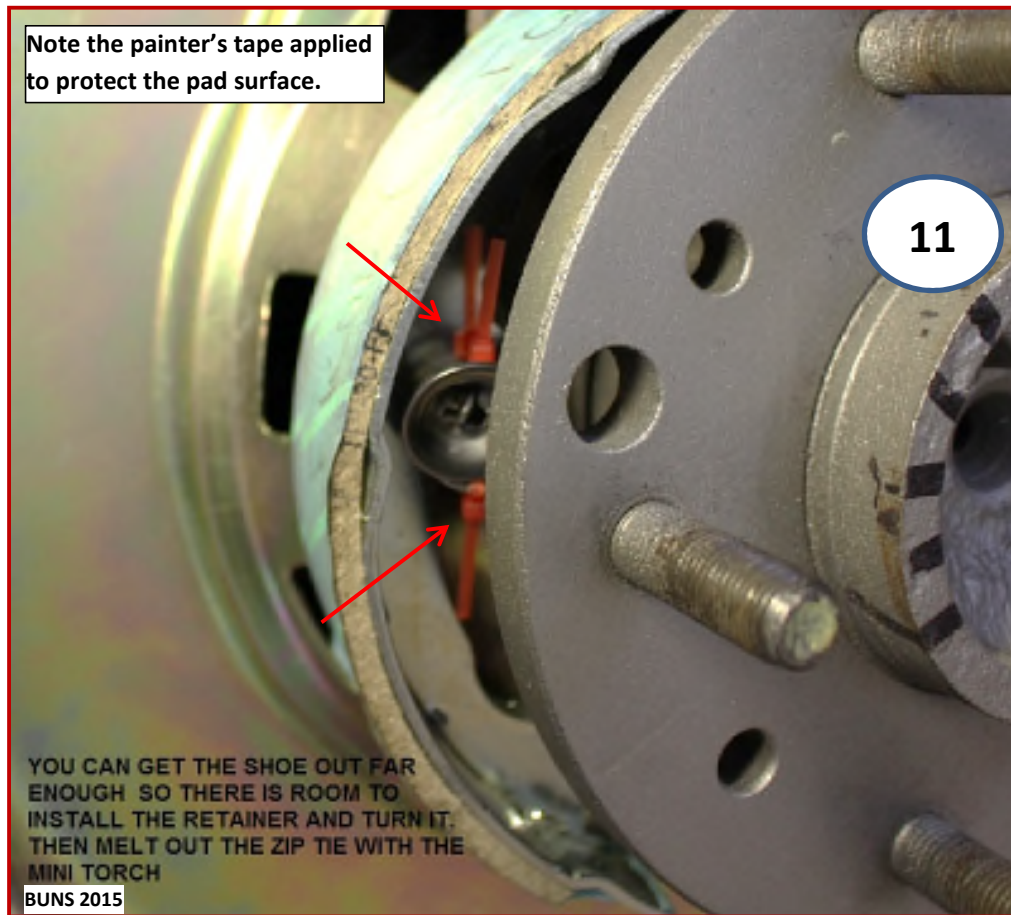
Someone (see Rowley Corvette Tech paper) came up with the idea of using a dab of silicone on the base of the hold down pins to keep them in place (Fig. 8). This helps when installing the shoes over the pins, but the rear pin is captured by the caliper bracket so you can't stop it from moving back when installing the hold down spring and cap. I remedied this by installing a spring and a small clip to keep the pin in place. (Figure 9).





Put a light coat of lubricant on the raised pads on the backing plate and the inside of the adjuster screw assembly (#10). Attach the adjusting screw spring (#9) to the bottom hole in each shoe, and then insert the adjuster between the shoes. **IMPORTANT: On the driver's side brakes the star wheel goes next to the rear shoe. On the passenger side the star wheel goes next to the front shoe (see chart above).** Spread the shoes at the top and install them on the backing plate making sure the pins enter the holes in the shoes. Now take some needle-nose vise grips and compress the hold down springs and secure them with the zip ties as shown in Figure 10. Pull one shoe out as far as you can. I used tape to hold them in place. Install the hold down spring and cap over the pin and turn it 90 degrees. Use the torch to melt the zip tie then remove the remnants with the needle nose pliers (Figure 11). Do the same to the other shoe. **Note: replacing these hold-down springs is probably the trickiest part of this job (as you can see in the Van Steel videos (see references))!**





Install the retractor spring (#5) to one shoe. Line up one of the access holes with the spring hole in the other shoe, then use the modified screwdriver to stretch the spring, **using another screwdriver through the access hole to push it into the spring hole in the shoe.** I ground a small amount off the end of the spring to make the spring insertion easier. **Make sure the notches in the actuating lever are properly positioned in the notches in the shoe** (see Fig. 7 above).

Install the rotor on the hub making sure the access holes in the rotor line up with the holes in the hub, or you won't be able to adjust the shoes. This should not be a problem if you realign the index marks you made before removing the rotor. Install 3 or 4 wheel nuts on the studs (**bevel out**), and turn the rotor until you can see the star wheel through the access hole. Insert an adjusting tool or screwdriver through the hole and **push down on the adjustor star wheel (i.e., rotate the teeth toward the floor) to expand it.** Do this until the rotor will not move, then back it off until you feel a slight drag. Tighten the cable at the equalizer making sure the rotor still moves. Replace the caliper and wheel. The new shoes will need to be burnished in to the rotor, so you will need to re-adjust the shoes after doing this.

The reason for burnishing in the new shoes is quite simple. You need the new shoes to have as much contact area with the hat ("drum") on the rotor as possible. On a car with drum brakes this is accomplished every time you step on the brake pedal while moving. If you apply the parking brake with the car not moving, you have accomplished nothing. The chances of new shoes having the same arc as the hat are slim to none.

Now get the car back on the ground and go for a drive. Get it up to about 30 MPH and pull on the parking brake lever. Do this several times, but let them cool off before doing it again.

Some good info here: [Brake Pad Bedding Explained \(Corvette Central\)](#)

After the burnishing the new shoes, you should remove the wheels and adjust the parking brake according to the factory manual.

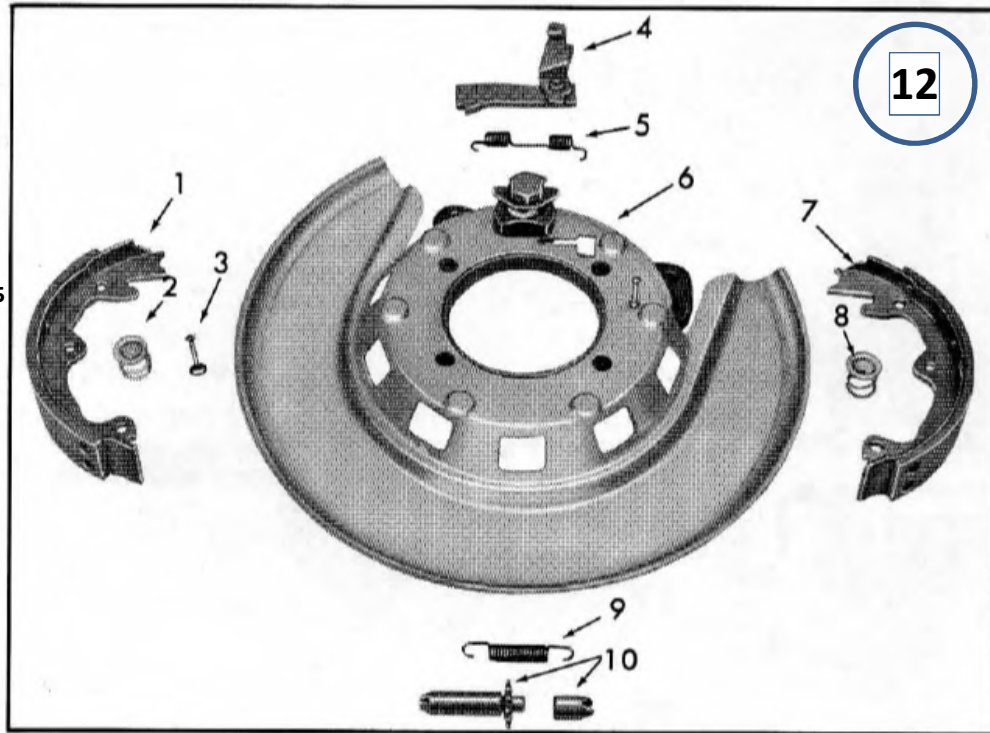


Fig. 8 - Exploded View of Parking Brake Shoes

- | | |
|-----------------------------|------------------------------|
| 1. Parking Brake Shoe | 6. Backing Plate |
| 2. Hold Down Spring and Cap | 7. Parking Plate |
| 3. Hold Down Pin | 8. Hold Down Spring and Cap |
| 4. Actuating Lever | 9. Adjusting Screw Spring |
| 5. Retractor Spring | 10. Adjusting Screw Assembly |

PARKING BRAKE SHOES (Fig. 8)

Removal

NOTE: It will be necessary to remove the disc assembly to change the shoes on the parking brake. This will necessitate the removal of the wheels, calipers and drive spindle, since the disc is riveted to the spindle. (Optional: knock off wheels – remove special adaptor.) Refer to Section 4 of this manual.

After removal of the disc, the shoes are removed in the following manner.

1. Remove retractor spring at the top of the shoes. Remove hold down springs on primary and secondary shoes.
2. The shoes can now be removed by pulling them away from the anchor pin.
3. Remove the adjusting screw spring and adjusting screw from the shoes.

1. Put light coat of lubriplate on pads on backing plate and on the threads of the adjusting screw.
2. Attach adjusting screw spring to the bottom hole in each shoe.
3. Insert the star wheel between the shoes. (On left hand brakes, the star wheel goes next to the rear shoe; on right hand brakes, the star wheel goes next to the forward shoe).
4. Install the shoes on the backing plate by spreading them and placing them around the anchor pin.
5. Install the hold down springs on the hold down nails.
6. Install retractor spring on one shoe and stretch to other shoe.

CAUTION: Make sure that the lever assembly which spreads the shoes is located so that the notches on the lever fit against the shoes.

7. The disc is now replaced as outlined in section 4 of this manual.
8. Install the caliper and bleed brakes as necessary.
9. Adjust the parking brake as previously outlined in this section.
10. Install wheels and lower vehicle.

**From the '65 Shop Manual
Supplement, ST 60 Sect. 5-5**

General Motors Corp., 1964

References:

- **1965 CORVETTE SHOP, MANUAL SUPPLEMENT**, Section 5: Brakes, General Motors Corp., 1964
- **'65-'82 CORVETTE PARKING BRAKE HARDWARE & SHOE INSTALLATION**. Rowley Corvette Supply Inc.
http://rowleycorvette.com/corvette_repair.html
- **1967-1982 Corvette Parking Brake Rebuild**
<http://www.corvettemagazine.com/tech...brake-rebuild/>
- **C2 Corvette Restoration – The Ultimate Brake Guide**, Chevy DIY Website
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- **YouTube videos by Van Steel Corvette:**
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63-82 Corvette Parking Brake How to - Part 2: [Link to Part 2](#)
- **1967 Corvette Parking Brake Rebuild.** Steve Gansky. Delaware Valley NCRS Chapter Newsletter. Feb. 2013. Pgs. 7-10.
http://www.delvalncrs.org/files/Del_Val_NCRS_Newsletter_Feb_2013.pdf
- **Disc Brake Parking Brake Springs: the easy.** Robert Pelland, The Corvette Restorer, Vol. 28, No. 3, Winter 2002. (He has some tips on how to install the Retractor Spring using a zip tie to drag the spring across to the second mounting hole in the other shoe.)