

MUSCLE CAR RESEARCH LLC

Published on Muscle Car Research LLC (<https://www.musclecarresearch.com>)

[Home](#) > 1967 - 1978 Ford Drum Brake Pressure Differential Valve Rebuild

1967 - 1978 Ford Drum Brake Pressure Differential Valve Rebuild

Submitted by SAH on Sun, 06/20/2010 - 09:05

This document describes how to rebuild 1967 - 1978 Ford drum brake pressure differential valves (made by Weatherhead) by replacing the internal parts that typically wear out after years of service. Tools needed:

- | | |
|---|--|
| <ul style="list-style-type: none">• 5/8" socket or box wrench• 9/16" open end or box wrench• Needle-nose pliers• Dental pick (or other small, pointed tool)• .45 caliber bore brush | <ul style="list-style-type: none">• Clean brake fluid• Liquid ammonia• Isopropyl alcohol• Steel wool• Cotton swabs |
|---|--|

The rebuild kits provided by Muscle Car Research LLC includes the following parts:

- O-ring and/or X-ring seals as appropriate
- Copper crush washer

The Weatherhead valve is identified by a Weatherhead logo (a "W" with an arrow through it) and a Ford engineering number that is stamped into the body of the valve. These instructions apply to the following pressure differential valves (identified by both service part number and engineering part number):

Service Part Number	Engineering Number(s)
C7ZZ-2B257-A, -C	C7ZA-2B257-A, -C, -D
C7OZ-2B257-C	C7OA-2B257-E
C8OZ-2B257-A	C8OA-2B257-E1, -E2, -H1, -H2, -K, -K1, -K2, -M
C8ZZ-2B257-B	C8ZA-2B257-F1, -F2, -H1, -H2, -K1, -K2, -M
D0OZ-2B257-B	D0OA-2B257-B, D2ZA-2B257-AA

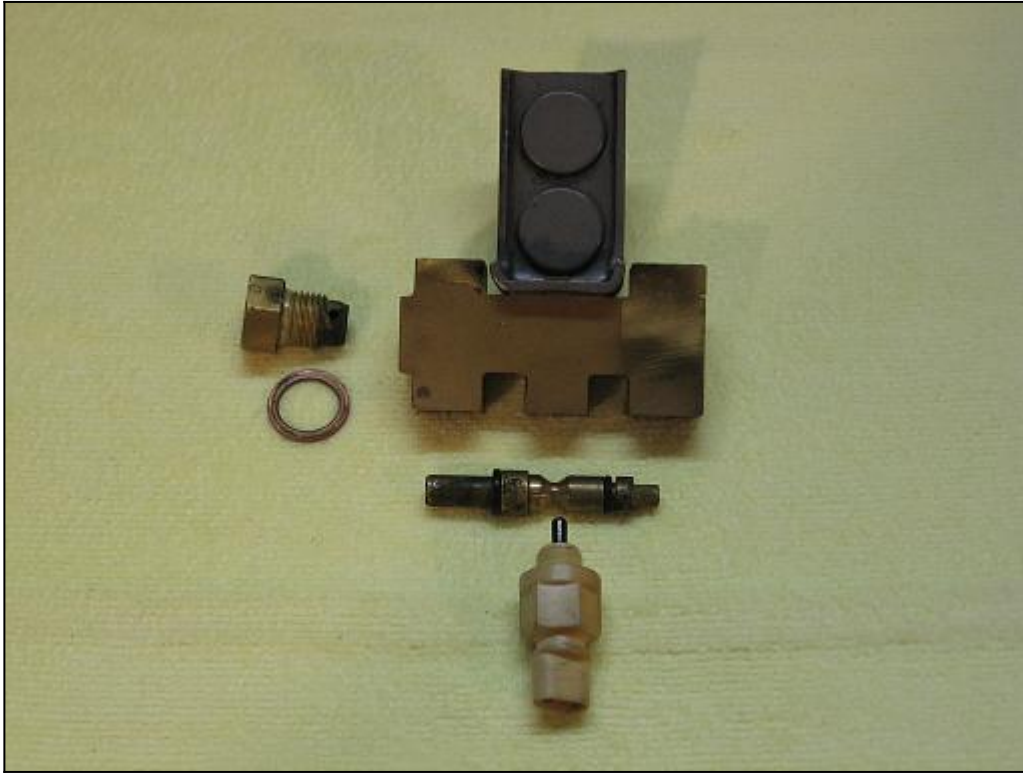
Arrange your valve, tools, and rebuild kit on a clean work surface. Let's get started! The first step is to inspect the valve and make sure that the exterior is undamaged. Check the port

threads for damage. Make sure the valve is securely attached to the mounting bracket. The large bolt on the bottom of the valve is often rusty and pitted, but it can typically be reused if you don't have a better one. A loose mounting bracket can be tightened up by lightly tapping the brass mounting tab with a ball peen hammer. If any of the brass port threads are stripped or damaged you're better off finding another valve. If your valve passes the exterior inspection you're ready to disassemble it and inspect the internal parts.



Disassemble valve:

Use the wrenches or sockets to remove the brass fitting and warning lamp switch. Remove the piston using the needle nose pliers. If the piston doesn't come out easily it may help to soak it overnight with penetrating oil. Here's what you'll see (hopefully yours isn't quite so dirty):



Inspect the bore once the piston has been removed. If the bore isn't perfectly smooth you should either replace the body or have the bore professionally sleeved.

Remove old rings:

Remove the old rings from the piston. A dental pick makes it easy to get under them.

Clean parts:

Soak the brass parts, including the body of the valve itself, for a few hours in a container of liquid ammonia. Ammonia does a great job of removing tarnish from brass, but be careful of the smell! Remove the parts, flush with water, and polish with steel wool. Clean the bore of the valve with the bore brush and make sure that the bore is perfectly clean - any dirty residue that lingers in here can cause a leak! Finish cleaning the brass parts using alcohol and cotton swabs.

Install new rings:

Install the new seals from the kit to replace the rings shown in the picture below. Dip each seal in clean brake fluid to lubricate it prior to installation. Be careful to not twist the seals when installing them.



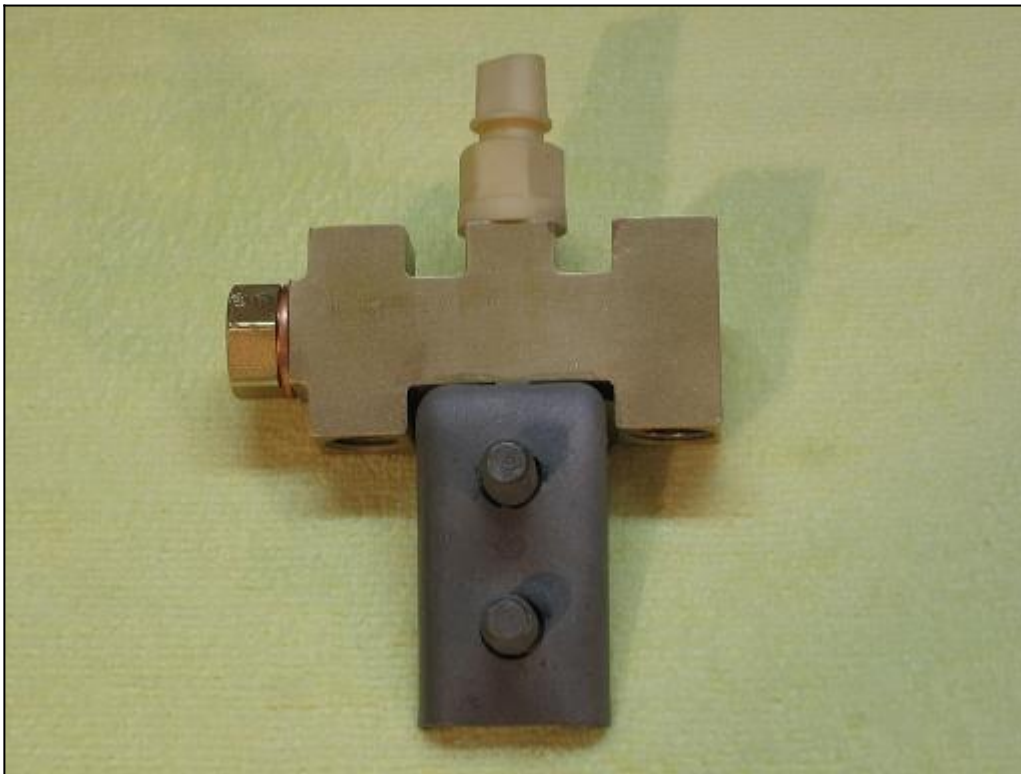
Reassemble valve:

Align the piston as shown in the picture below.



Insert the piston only as far as it takes to align the groove in the piston with the warning lamp switch port in the valve body (the middle port on the body in the picture). The piston should move with moderate pressure. Remove the piston and check for twisted seals if it seems too tight. The probe on the switch needs to fit in the groove without touching the sides of the groove. If you make a mistake here your brake warning lamp will be lit and you'll need to center the valve by bleeding the brakes as described in your Ford service manual. Install the brass fitting on the top of the valve and tighten only enough to form a positive seal with the copper crush washer.

That's it! Your finished valve should look like the one pictured below.



Now you can reinstall the valve in the car and reconnect the brake lines to the valve. Start each line by hand as best you can to ensure that the fittings are threading in straight and smooth. Be careful - it's easy to cross-thread the fittings and damage the soft brass threads. Tighten each fitting with a flare nut wrench. You may need to tighten, loosen, and retighten each fitting multiple times to obtain a leak-free seal. Add brake fluid, bleed the brakes, and check for leaks.

Article Tags:

- [tech-article](#)

Source URL: <https://www.musclecarresearch.com/valve-rebuild-weatherhead-drum>