



DEXTER Backup Solenoid Replacement

Installing a replacement electric backup solenoid

This is a fairly straightforward job, and takes an hour or two at the most, including bleeding the brakes. A separate set of instructions is available for bleeding the air out of the brake lines when done. If the trailer has a swing (folding) tongue and you fold the trailer tongue open, you can see the solenoid and how it is connected. On a non-swing tongue trailer, you will have to work from underneath the tongue, so be sure the trailer tongue is securely supported before climbing under.

1. Have some rags handy to catch any brake fluid and keep it off trailer paint. Disconnect the brake line going from the solenoid to the trailer. If it is a brake hose, you may have to loosen the hose to metal brake line joint on down the line so the hose will swivel out of the solenoid as you loosen it. When the hose is disconnected, plug the end of it to keep brake fluid from running out with a golf tee or other plug. This will save time later during bleeding the brakes.

2. Disconnect any ground wire to the solenoid base and the blue signal wire going to the solenoid.

3. Remove the snap rings from one side of the two 3/4" diameter slider pins for the brake actuator. With a punch or other driving tool, drive the slider pins out the other side of the actuator. Set the pins and snap rings aside for re-use.

Tip: These pins hold the inner workings of the inner slide together, so handle gently and slide the inner member forward and out of the outer member housing, keeping it together. Put the pins back in as soon as you can. Don't flip the assembly over after pulling it out, or the rollers and other parts may fall out. A nice trick: If you can easily make some (slightly shorter) temporary assembly pins out of approximately 3/4" round dowel, exactly 3 inches long, use them to drive the original pins out, and leave them in place to hold the actuator inner slide together as you pull it out and work on it.

4. Once you have the actuator out on a workbench to replace the solenoid:

a. Cut the zip tie holding on the rubber hose to the solenoid bypass line.

b. Gently pull off the hose from the solenoid. Leave the other end of the hose connected to the master cylinder.

c. Unthread the solenoid and pipe nipple out of the back of the master cylinder, by gripping on the brass body bottom with a pair of channel lock or vice grip style pliers.

d. Apply a very thin coat of pipe compound or blue Loctite to the second/third male pipe threads prior to assembling the solenoid/pipe nipple back into the master cylinder. Don't get any compound inside. The tightening torque is only 10 foot pounds/120 inch pounds, which is practically just snug with a pair of channel lock or vice grip pliers on the brass solenoid body. When done, the solenoid should be upright. These are brass/aluminum parts so don't overtighten, or damage with the vice grips/pliers. Generally, when you rethread the new solenoid and pipe nipple into the back of the master cylinder, it should take the same number of turns to tighten back into the master cylinder as it did to remove.

e. Reconnect the rubber hose to the solenoid bypass line, and secure with a new zip tie.

5. Reinstall the actuator inner slide into the trailer, being careful to keep the pieces in place. Install the front pin first. You may have to wiggle the pin slightly to line up any rollers and the shock in the front. Once that pin is in, pull the actuator all the way to the front of the slide, and install the rear pin. Again, you may have to wiggle the pin around to align the rear rollers and master cylinder. If you have some major alignment issues with the pin, don't force it. Something is out of place and needs to be fixed.

6. Reinstall the main brake line to the back of the solenoid. It seals with a double flare into a brass fitting, and only needs to be snug. It is much easier to tighten it some more if you have a leak than to strip or break off a fitting.

7. Reconnect the blue signal wire to the solenoid. If the solenoid does not have a ground wire factory installed to the bottom of the solenoid body, it is a great idea to add one now for future long term wiring reliability. Zip tie and secure the wiring as required.



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8. Bleed the air out of the solenoid and main brake line to the first branch/caliper on the line. Bleeding directions should be attached separately. If in question on the brake bleeding, you can bleed all calipers to get the most responsive brakes.

9. Important: Now that you are done, be sure and depress the brake release lever one more time on the bottom of the actuator to be sure the brakes were not inadvertently left on by the bleeding operation. Be sure any swing tongue hose is not kinked, and folds neatly into the tongue when shut.

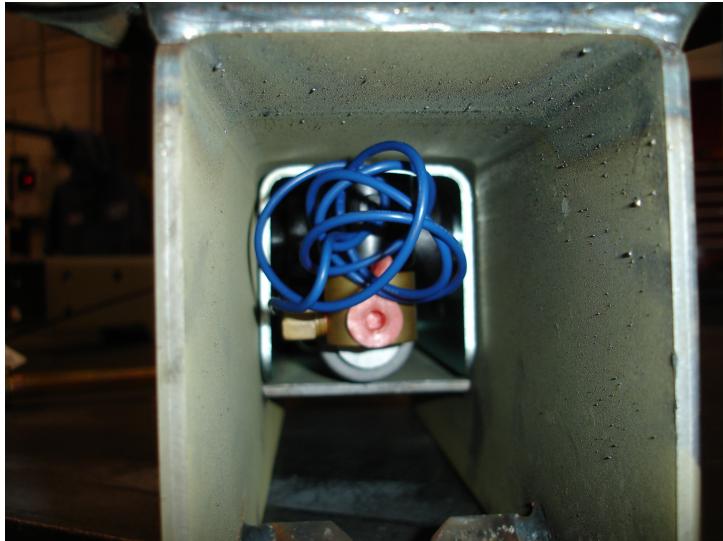
10. Road test the trailer to be sure the bleeding was complete and the wiring was correct.

Please feel free to contact us at Dexter at 1-800-854-1905 or warrantytn@dexteraxle.com





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Note: The above photos and procedure assume the actuator has to be removed from the front of the trailer tongue for service, which is the most common arrangement. However, on our heavy duty A160 actuators, and some trailers, the solenoid is directly accessible for service. Also on some five inch swing tongues, it is possible to temporarily remove the actuator safety pin and lanyard, $\frac{3}{4}$ " actuator slider pins, and swing tongue bolt/pin; take the swing tongue apart, and slide the actuator backward and out the rear of the swing tongue housing without disconnecting the brake line. It is then possible to replace only the black electric solenoid and plunger without disconnecting brake lines and bleeding brakes, saving a lot of time. A procedure for servicing the electric part of the solenoid and plunger (which are all of the working parts of the solenoid assembly) follows: