

## SHK-001-Ford Kit Instructions

This kit has been assembled to address the persistent leak where the outlet hose connects to the coolant reservoir in 2011-16 Ford F150 (5.0L V8, 3.7L V6, and 3.5L EcoBoost V6) and 2015-17 Ford Expedition / Lincoln Navigator (3.5L EcoBoost V6). The original design from Ford uses a rigid plastic hose end fitting which is connected to the reservoir with a retaining clip. This design allows quick assembly at the factory, but there is no way to compensate for wear or compression with age. Eventually, this connection becomes loose and leaks.

**Note:** This kit will not repair a cracked reservoir. It is only intended to fix a leaking connection.

### Kit Contents



1. 90 Degree Reducing Elbow, 1" ID to 3/4" ID (color varies depending on which kit you ordered)
2. Aluminum Hose Joiner, 3/4" OD
3. Small Hose Clamps (x2)
4. Large Hose Clamps (x2)

You will also need:  
 Flat-blade screwdriver  
 Sharp knife  
 Needle-nose pliers  
 Drain pan (2 qt or larger)  
 Fresh coolant

Optional:  
 Pot of boiling water  
 Cooling system pressure tester

### Before you begin

Please read the directions on the back of this sheet all the way through before starting work. Make sure you thoroughly understand each step. If you have any questions, please call.

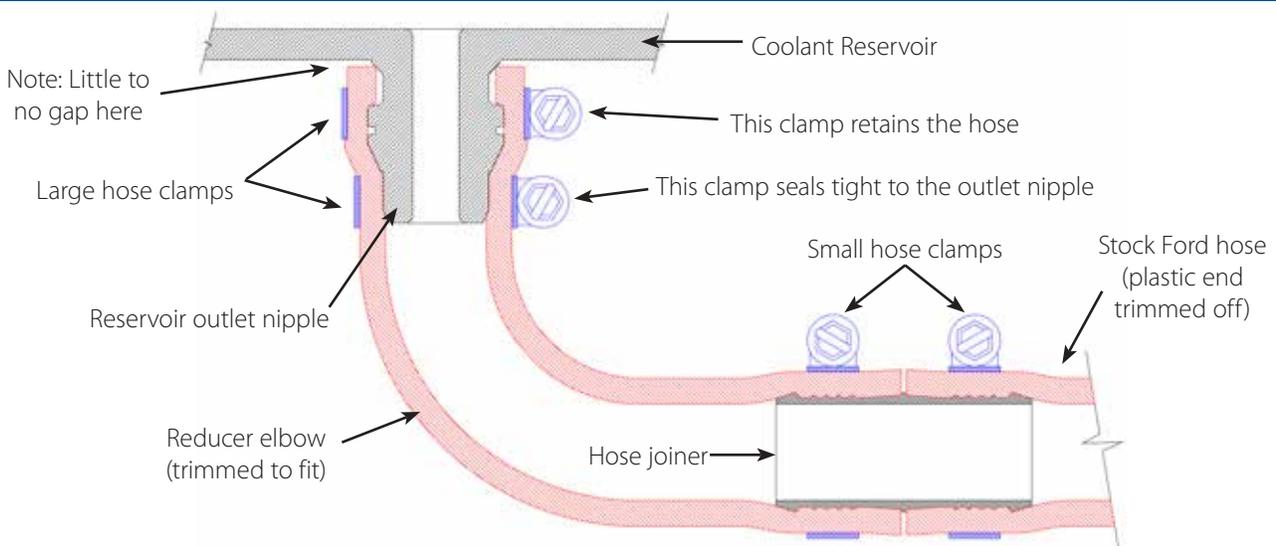
If you hold the elbow up to the reservoir, you will see that the legs are longer than required. We leave these legs extra-long to fit all variants. Our fabric-reinforced silicone hose is easily cut to length with a sharp knife.

Estimating how much to cut off will require a judgement call on your part. We encourage getting a second opinion from someone whose opinion you trust (please, not that random stranger walking by in big floppy shoes carrying a bucket of confetti).

**Note:** We recommend cutting the hoses a little longer than you think you need. Trim off a little at a time, test fitting after each cut. It is easy to cut a little more off of a hose that is too long. It is difficult to add length to a hose that has been cut too short.

*We are grateful to the members of the F150 community forums who helped us develop this kit!*

### Completed Installation Cutaway View



## Step-by-Step Instructions

You do not need to raise your truck or remove any wheels or body parts for access.

We recommend performing this repair in pleasant weather (between 60°F and 90°F) with the engine completely cool. People with average mechanical skills are usually able to perform this repair in less than an hour.

**Safety Tip:** To prevent engine damage and possible injury, disconnect the negative battery terminal before starting work. This is especially important if anyone else has access to the truck keys, or if the key fob is in your pocket.

1. Position your drain pan under the truck below the coolant reservoir. Disconnect the lower hose from the reservoir by using your needle-nose pliers to remove the retaining clip (pry the clip out with your screwdriver if needed). You do not need to wait for the reservoir to drain all the way before proceeding.
2. Cut the stock hose just behind the plastic retaining collar to remove the plastic hose end. Leave the hose as long as possible for now. You can always trim it a little shorter.
3. Hold the reducing elbow in position to estimate how much to cut off of the elbow and the stock hose. Start by marking both hoses a little longer than you think they should be. **Note:** You must leave a minimum of 1" straight section on the 3/4" ID leg to accommodate the hose joiner. You must leave a minimum of 2" straight section on the 1" ID leg to accommodate the outlet nipple. Trim the hoses a little at a time, test-fitting after each trim.
4. Insert the hose joiner into the 3/4" leg of the elbow. Push the joiner in until the leg of the elbow meets the rib in the center of the joiner, then secure this connection with one of the small hose clamps. Hint: Orient the hose clamp so you can get at the screw slot **after** the elbow is installed in your truck.
5. Slip the two large hose clamps over the 1" ID leg, but do not tighten them yet. Push the 1" ID leg of the elbow over the outlet nipple on the reservoir. The elbow must be pushed on all the way, until the hose meets the reservoir body. This can be made easier if you soften the hose by dipping the 1" ID leg in boiling water for 15 to 30 seconds first. Be careful not to push so hard that you crack the reservoir!
6. Install one large hose clamp just above the large ridge on the outlet nipple. Install the other large hose clamp on the straight section of the nipple below the clip slot. Do not position the lower clamp on the tapered section of the nipple.
7. Slip the second small hose clamp over the stock hose, then insert the hose joiner into the stock hose. Push the joiner in until the hose meets the rib in the center of the joiner. Secure this connection with the hose clamp.
8. Fill the reservoir to the proper level with coolant and check all connections for leaks. Use a cooling system pressure tester if you have one.
9. Reconnect the battery and start the truck. Run the engine for 5 minutes while watching all connections for leaks.
10. Turn the engine off and let it cool completely, then refill the reservoir to the proper level.
11. Bring the screwdriver and coolant with you and go for a short (5 to 10 minute) test drive. If you have any reason to suspect a leak or disconnected hose, STOP, turn off the engine, and check! Fix the problem before driving any farther.
12. Let the engine cool and re-check everything. Refill the reservoir as needed.
13. Check connections and coolant level after each trip for the next few days. When you have completed 4 complete heat cycles (up to operating temperature, then back down to stone cold) with no leaks and no drop in the coolant level, consider the job done.
14. Recycle any drained coolant properly. Please do not dump it inappropriately.



Before

See other side for a cutaway view of the completed installation

After

