| Rev. | Date | ECN No. | Comment | Title |
|---|---|---|---|---|
| 0 | 11/19/2019 | E-1183 | Initial Release | **Level-It Pneumatic Sway Assist Installation & Tuning** |
| 1 | 3/27/2020 | E-1195 | Instructions Revised | |
| 2 | 6/4/2024 | E-1233 | Oil Fill Revised | |
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## Procedure

**1** **WARNING!** Vent pressure from shock/strut upper chambers before installation. Lower chamber pressures, if so equipped, do not need to be vented. Read all instruction before proceeding.

**2** **Installation**

2.1 Mount Level-It unit either to a horizontal bar or crossbar *at least a few inches above the strut upper cap input fittings* using the mounts provided. Hose fittings must be on the bottom side of the Level-It unit.

*Or you can weld tabs to your frame. Drill clearance for 3/8" cap screws.*

2.2 Level vehicle and Level-It to within ±1º before final tightening of the Level-It unit.

2.3 Tighten mounting brackets to vehicle bar and brackets to Level-It unit in an alternating pattern to relieve any binding. Recheck unit level.

2.4 Attach T-fittings either at the strut upper caps or at the Level-It unit, depending where you would like to have the Schrader valves located for easiest access. The Schrader valve will be installed into the T-fitting.

2.5 For integral or remote reservoir *(not piggyback)* struts, order PA-235-D adapter kit to provide needed clearance between T-fitting and compression damping knob. The vent

tube installed in the reservoir Schrader valve will need to be removed and reinstalled into the adapter kit pipe nipple. Remove reservoir Schrader valve with strut upside-down to avoid losing oil from the reservoir.

2.6 Remove the caps from the two elbow fittings at bottom of Level-It unit. The elbow fittings can be replaced with the provided T-fittings if you choose to mount the Schrader valves at the Level-It unit instead of at the strut.

2.7 Install and tighten the fittings and hoses, left-side hose to left-side Level-It cylinder, then right side in same manner.

- Use high-pressure anerobic thread sealant or Teflon tape on taper pipe fittings.
- No sealant or tape at the metal-to-metal seal of the swivel hose end and flare fitting. *Do not overtighten the JIC flare fittings to avoid cracking them.*

2.8 Secure hoses with zip ties or other suitable method. Coil any excess hose length.

**Warning!**

- *Keep hoses away from direct contact with hot components.*
- *Do not cross hoses from left-side shock/strut to right-side Level-It cylinder.*

## 3 Pressurize Shocks/Struts

3.1 With all fittings and hoses secured, pressurize both right and left-side shocks/struts evenly to lift vehicle to desired ride height.

3.1.1 **Warning!** *If vehicle is raised unevenly, one side higher or more than the opposite side, the low-side Level-It valve will close and not allow gas pressure into its cylinder, making it difficult to achieve level ride. If a nitrogen fill kit that can pressurize and raise both sides simultaneously and evenly is not available, use a floor jack or lift to raise the vehicle, then pressurize each side.*

3.1.2 With vehicle now at desired ride height, it is best that right and left-side pressures be shared and open to each other to properly level the vehicle.

3.1.3 With shared pressure between right and left sides, rock or hold the vehicle level until piston shaft extension is equal. Then block and isolate right side from left side pressures. *It is important that both gas pressure and gas volume be equal left and right.*

3.1.4 Once pressurized and level, 100cc oil (included in Level-It) from each Level-It cylinder will transfer automatically to each shocks/struts while driving and cycling the suspension.

## 4 Tuning

4.1 The Level-It unit comes with the proper amount of oil (100cc in each cylinder); however, oil can be added or removed to tune the spring rate of the shock/strut.

4.1.1 Add up to 100cc oil to each shock/strut to stiffen spring rate and increase resistance to body roll. *Too much added oil will make the uphill-side struts more difficult to compress, causing push-off.*

4.1.2 Any amount, or all oil may be removed from the Level-It unit (100cc) or strut to soften the spring rate and soften overall ride.

4.1.3 Oil in the Level-It cylinders will automatically transfer to the shock/strut after a few pumps of the piston shaft, but only if the hose fittings are oriented at the bottom of the unit and the Level-It unit is mounted above the struts.

4.1.4 An additional tuning enhancement would be to have a local hose supplier shorten the hoses to avoid having to coil any excess hose length. This reduces the compressible gas volume on the downhill, or load-side struts, effectively increasing the spring rate on the downhill, load side.

## 5 End