

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

## 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.

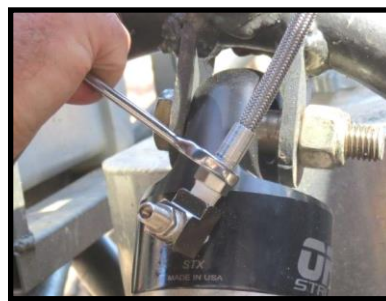
*Or you can weld tabs to your frame. Drill clearance for 3/8" cap screws.*



2.2 Level vehicle and Level-It to within  $\pm 1^\circ$  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

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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 anaerobic thread sealant on taper pipe fittings. Teflon tape will leak.
- Do not apply sealant 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.

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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. Uphill side will also be easier to compress.

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