

# Installation instructions

## For set # 16.3121

### 00-09 HONDA S2000

### Rear Control Arm Bushings



It is recommended that if you are unfamiliar with this type of work that you refer to a qualified service center specializing in this type of work. It is also recommended that if you choose to do this work yourself that a factory service manual be obtained for the proper procedures pertaining to removal, replacement and proper torque specifications for your vehicle. This instruction set is intended as a guideline for the safe installation of Energy Suspension's polyurethane bushings, once you have removed the factory components from your vehicle. Wheel alignment is almost always disturbed when suspension components are removed or replaced. It is recommended that you have the alignment checked on your vehicle at a qualified alignment shop. Energy Suspension recommends that you read over all the installation instructions and check all P/N's and quantities in the parts list before you start. Prior to installation, make sure that your car is in excellent mechanical condition and that there are no suspension or steering related problems. This part has been designed to work only with a car that is in good state of repair. No matter how carefully we design our parts, this is one area we have no control over and cannot be held responsible.

#### Parts list:

##### Ap1, 2000-2003

- 4 - 2904 (Upper control arm bushings)
- 4 - 15.10.654.39 (.875" x .500" x 1.850" sleeve)

##### AP2, 2004-2009

- 4 - 3535 (Upper control arm bushings)
- 4 - 15.10.682.39 (1.00" x .500" x 2.250" sleeve)
- 4 - 2910 (Lower tow control arm bushing)
- 2 - 15.10.657.39 (1.000" x .563" x 1.736" sleeve)
- 4 - 2906 (Lower pivot control arm bushing rr.pos.)
- 2 - 15.10.574.39 (1.000" x .563" x 2.000" sleeve)
- 4 - 2907 (Lower pivot control arm bushing frt.pos.)
- 2 - 15.10.658.39 (1.000" x .500" x 2.480" sleeve)
- 2 - 8381 (Lower control arm bushing strut.pos.)
- 2 - 8382 (Lower control arm bushing strut pos. T/W)
- 2 - 15.10.613.39 (1.000" x .500" x 1.960" sleeve)
- 2 - 9.11107 (grease)

#### Torque values:

- Upper arm flange bolts (97.6 lbf-ft)
- Upper ball joint castle nut (36-43 lbf-ft)
- Wheel sensor harness & brake hose mounting bolts (7.2 lbf-ft)
- Caliper bracket mounting bolts (79.6 lbf-ft)
- Stabilizer end link nut at control arm (22 lbf-ft)
- Lower pivot control arm damper flange bolt (47 lbf-ft)
- Lower pivot control arm ball joint castle nut (51-58 lbf-ft)
- Lower pivot control arm cam adjusting nuts & cam adjusting bolts (54 lbf-ft)
- Lower pivot control arm flange bolt at frame (90.4 lbf-ft)
- Lower tow control arm self-locking nut at frame (40 lbf-ft)
- Lower tow control arm ball joint castle nut (36-43 lbf-ft)

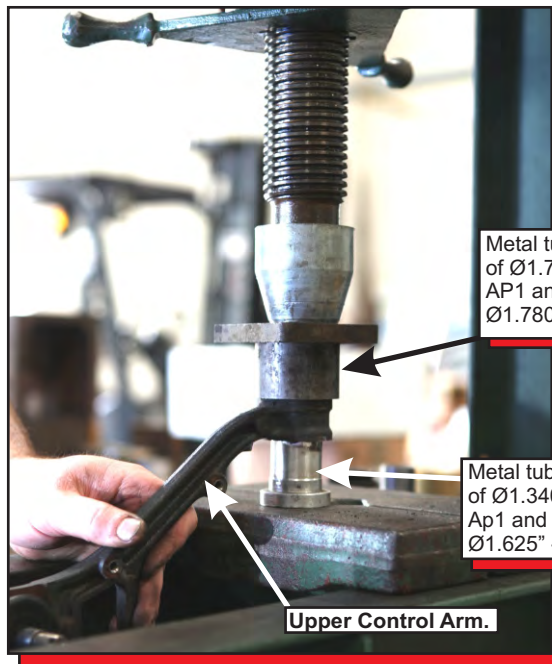
**Note:** Tighten castle nuts to lower torque spec, then tighten only far enough to align slot with pin hole. Always install new cotter pins.

#### Upper control arm AP1, 2000-2003

I.D. of rear upper control arm is Ø1.380". Using a hydraulic press, properly support bushing with metal tubing which has an O.D. of Ø1.340" - Ø1.375" and a larger metal tube with an I.D. of Ø1.780" - Ø1.800". Slowly press down on the control arm to remove the rubber bushing with bonded outer metal shell. Remove all sharp edges from I.D. Apply grease to all metal parts that will contact the new polyurethane bushings.

#### Upper control arm AP2, 2004-2009

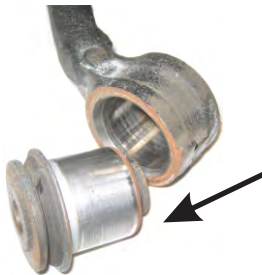
I.D. of rear upper control arm is Ø1.652". Using a hydraulic press, properly support bushing with metal tubing which has an O.D. of Ø1.625" - Ø1.645" and a larger metal tube with an I.D. of Ø2.00" - Ø2.125". Slowly press down on the control arm to remove the rubber bushing with bonded outer metal shell. Remove all sharp edges from I.D. Apply grease to all metal parts that will contact the new polyurethane bushings.



Metal tubing with an I.D. of Ø1.780" - Ø1.800" for AP1 and an I.D. of Ø1.780" - Ø1.800" for AP2.

Metal tubing with an O.D. of Ø1.340" - Ø1.375" for Ap1 and an O.D. of Ø1.625" - Ø1.645" for AP2.

Upper Control Arm.

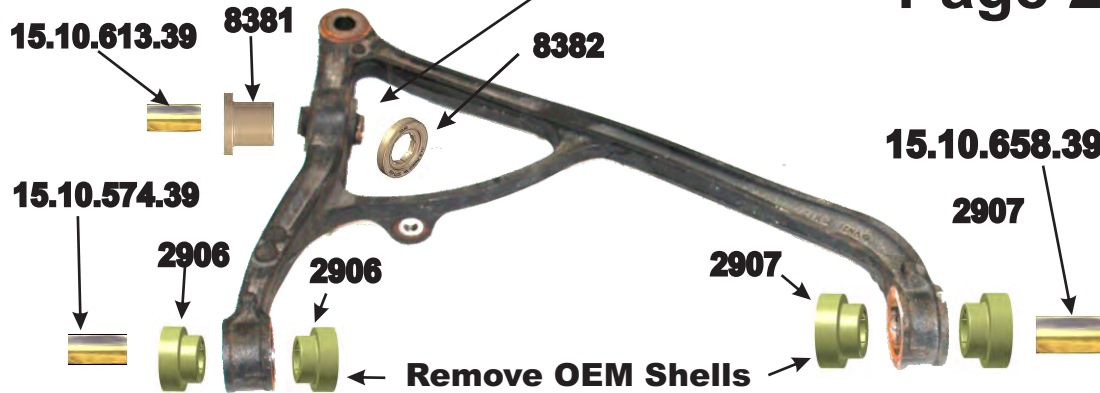


Factory bushing metal shell must be pressed out of upper control arm for Energy Suspension polyurethane bushings to fit properly.

## Lower Control Arm Part Locations

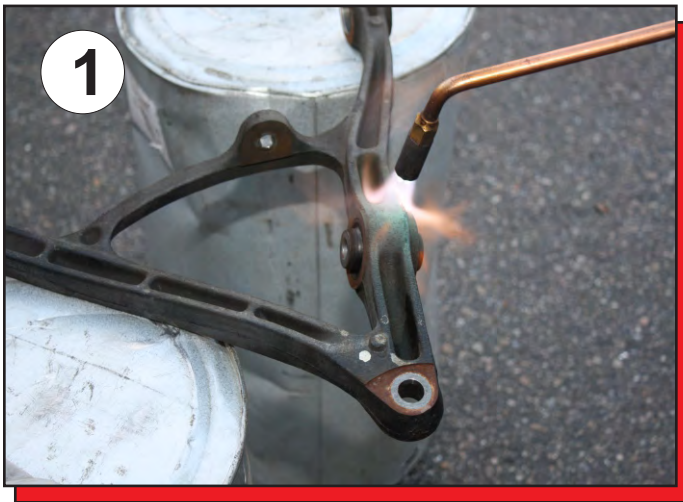
Re-use OEM Shell

Page 2 of 3



### Lower Control Arm:

Note: **Do not remove outer metal shell from lower control arm at strut position**, it must be reused for the bushings to work. Use caution and common sense when removing bushings. Be in a well ventilated area and have a fire extinguisher easily accessible. *You must be completely confident that neither personal safety nor vehicle safety will be jeopardized.* Use a propane or acetylene torch and, with a fairly hot flame, slowly heat evenly around the outside of the outer metal shell (Pic 1), just enough to break the bond with the rubber. Make sure to keep the flame moving and not to hold it in one spot for too long. Watch for bonding to melt from shell and see light smoke coming from the sides of the bushing the bond should be broken. At no time should there be any flames coming from the rubber. If there are any flames, you need to back off the heat. When removing the bushing and shell from the Front Position use a hammer and chisel between the metal flange of the OE bushing and the cast control arm.(Pic 2). Keep chiseling around flange until the bushing is out. Then press out the other half. I.D. of rear position is  $\text{\O}1.499$ ". Using a hydraulic press on the rear position, properly support control arm with metal tubing which has an I.D. of  $\text{\O}1.500$ " or bigger and a metal tube with an O.D. of  $\text{\O}1.490$ " -  $\text{\O}1.450$ " (Pic 3). Slowly press down on the rubber bushing with bonded outer metal shell. Remove any burrs and sharp edges with a file and emery paper as preparation for the new bushing (Pic 4). You want the edges as smooth and rounded as possible to ease installation and prevent cutting the bushing. Apply grease to the I.D. of the lower control arm and all sides of the bushing that will contact metal. Tighten all fasteners to factory specs. After installation is complete, Energy Suspension recommends an alignment be performed at a qualified alignment shop.



**Lower Tow Control Arm:**

Note: Outer metal shell surrounding the bushing must be removed from lower tow control arm. Use a hydraulic press to remove the outer metal shell and bushing assembly as a single piece. Observe all safety precautions while operating the press, as broken and/or worn O.E. parts may react hazardously under pressure.

I.D. of rear lower control arm is  $\varnothing 1.420''$ . Using a hydraulic press, properly support outer shell with metal tubing with an I.D. larger than  $\varnothing 1.420''$ . Use metal tubing with an O.D. of  $\varnothing 1.380'' - \varnothing 1.415''$  to press out the bushing. Slowly press down on control arm to remove the rubber bushing with bonded outer metal shell. Remove all sharp edges from I.D. Apply grease to all metal parts that will contact the new polyurethane bushings.

