

Air Lift[™]
PERFORMANCE

Kit 75553
Lexus LS430
front application



INSTALLATION GUIDE

For maximum effectiveness and safety, please read these instructions completely before proceeding with installation.

Failure to read these instructions can result in an incorrect installation.

PERFORMANCE SUSPENSION PARTS

Introduction

The purpose of this publication is to assist with the installation, maintenance and troubleshooting of this Lexus performance kit.

It is important to read and understand the entire installation guide before beginning installation or performing any maintenance, service or repair. The information includes a hardware list, tool list, step-by-step installation information, maintenance tips, safety information and a troubleshooting guide.

NOTATION EXPLANATION

Hazard notations appear in various locations in this publication. Information which is highlighted by one of these notations must be observed to help minimize risk of personal injury or possible improper installation which may render the vehicle unsafe. Notes are used to help emphasize areas of procedural importance and provide helpful suggestions. The following definitions explain the use of these notations as they appear throughout this guide.

 **DANGER**

INDICATES IMMEDIATE HAZARDS WHICH WILL RESULT IN SEVERE PERSONAL INJURY OR DEATH.

 **WARNING**

INDICATES HAZARDS OR UNSAFE PRACTICES WHICH COULD RESULT IN SEVERE PERSONAL INJURY OR DEATH.

 **CAUTION**

INDICATES HAZARDS OR UNSAFE PRACTICES WHICH COULD RESULT IN DAMAGE TO THE MACHINE OR MINOR PERSONAL INJURY.

NOTE

Indicates a procedure, practice or hint which is important to highlight.

IMPORTANT SAFETY NOTICES

The installation of this kit does not alter the Gross Vehicle Weight Rating (GVWR) or payload of the vehicle. Check your vehicle's owner's manual and do not exceed the maximum load listed for your vehicle.

Gross Vehicle Weight Rating: The maximum allowable weight of the fully loaded vehicle (including passengers and cargo). This number — along with other weight limits, as well as tire, rim size and inflation pressure data — is shown on the vehicle's Safety Compliance Certification Label.

Payload: The combined, maximum allowable weight of cargo and passengers that the vehicle is designed to carry. Payload is GVWR minus the Base Curb Weight.

 **WARNING**

DO NOT INFLATE AIR SPRINGS WHILE OFF OF THE VEHICLE. DAMAGE TO ASSEMBLY MAY RESULT AND VOID WARRANTY.

 **CAUTION**

DO NOT WELD TO, OR MODIFY LIFESTYLE STRUTS/SHOCKS IN ANY WAY. DAMAGE TO UNIT MAY OCCUR AND WILL VOID WARRANTY.

Installation Diagram

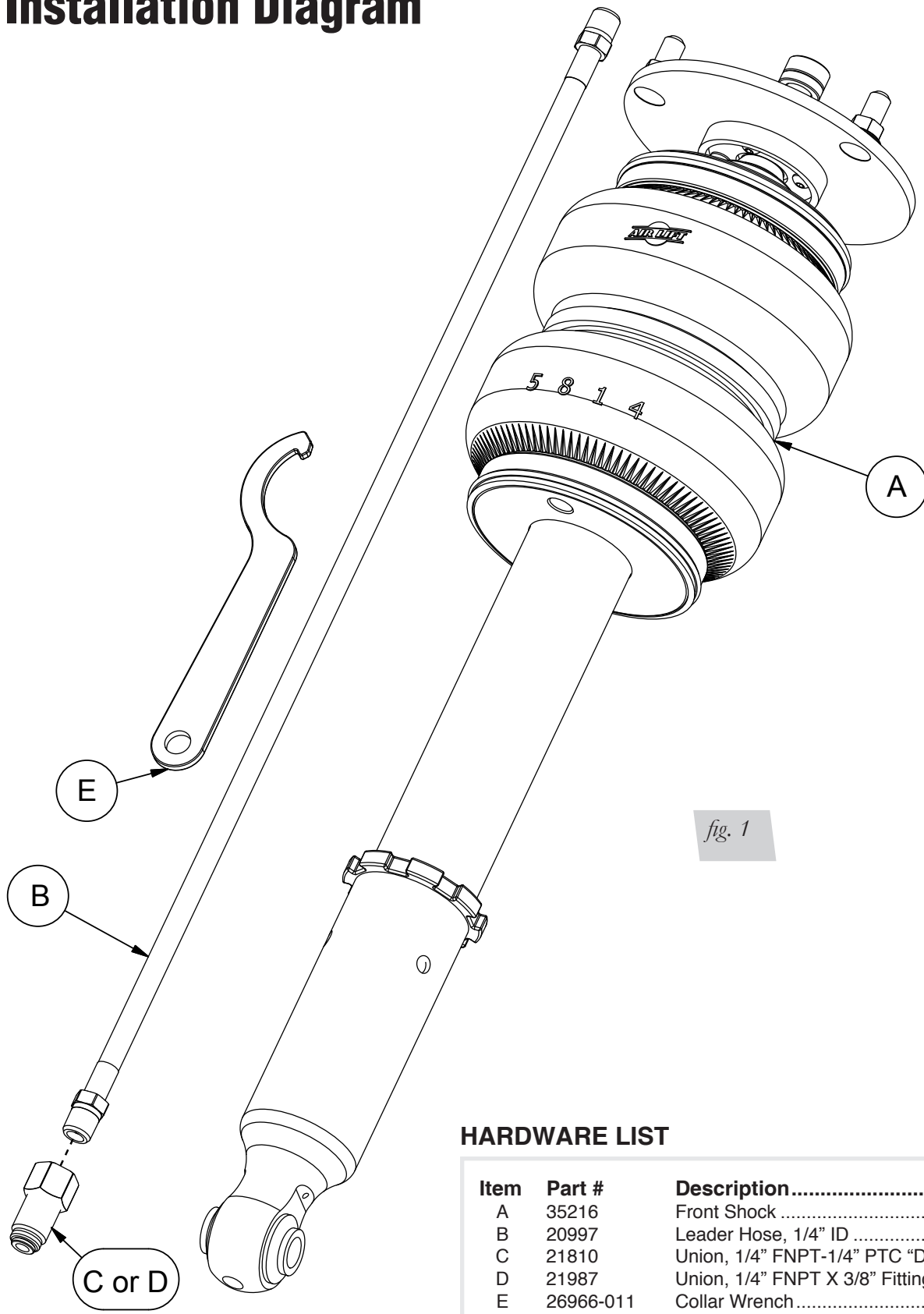


fig. 1

HARDWARE LIST

Item	Part #	Description.....	Qty
A	35216	Front Shock	1
B	20997	Leader Hose, 1/4" ID	1
C	21810	Union, 1/4" FNPT-1/4" PTC "DOT"	1
D	21987	Union, 1/4" FNPT X 3/8" Fitting "DOT"	1
E	26966-011	Collar Wrench	1

Installing the Air Suspension

PREPARING THE VEHICLE

1. Support the vehicle with jack stands or a hoist at appropriate lifting points.
2. Remove the front wheels.



fig. 2

STOCK SHOCK REMOVAL

1. Support the hub assembly with a jack to prevent over-extension of suspension components.
2. Remove lower shock bolt from lower arm link.



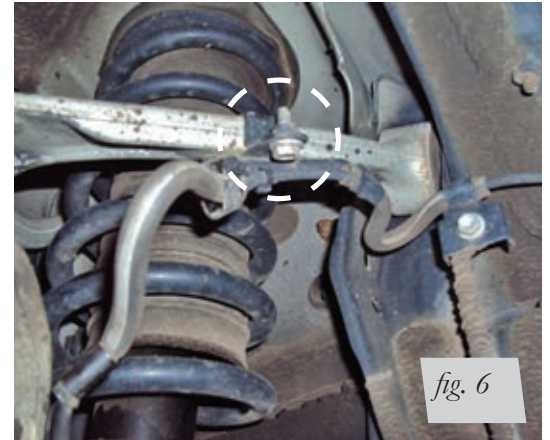
fig. 3



fig. 4

3. Unbolt the stabilizer bar from the end link.

4. Separate the headlight alignment mechanism from the lower transverse link and support the sensor arm to prevent over-extension.



5. Disconnect the wheel speed sensor wire and brake line from upper control arm.
6. Remove the locking pin and unthread the nut from the steering knuckle. Separate the ball joint from the steering knuckle.

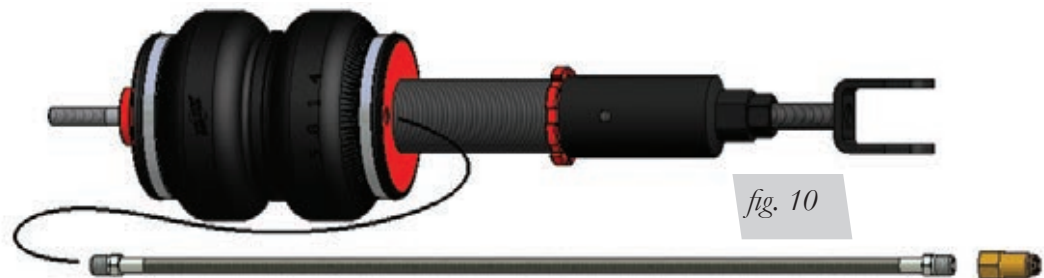


7. Within the engine compartment, remove the plastic covers to reveal the upper shock mounts. Unthread the three nuts from the mounts and remove the shock assembly from the vehicle.

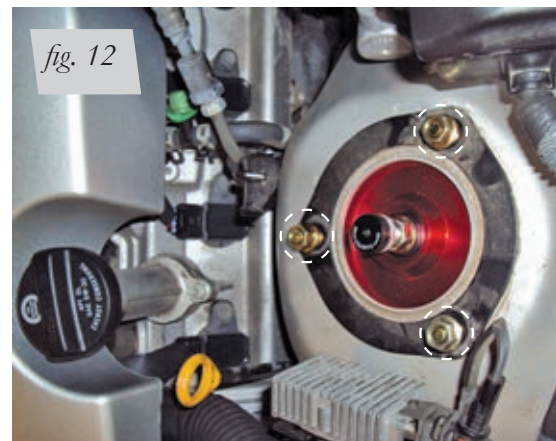


AIR SUSPENSION INSTALLATION

1. Begin by installing the leader line into the air spring. Wrap the threads of the leader hose with Teflon tape or thread sealant. Tighten the appropriate fitting to the air line 1 ¼ turns beyond hand tight. Tighten the leader line into the air spring 1 ¼ turns beyond hand tight.



2. Insert the shock assembly into the shock tower and attach the upper bracket to the chassis. The shock should be installed so that the air spring air port is directed towards the engine compartment. Torque the upper bracket nuts to 58Nm (43ft lbs).



3. Reinstall the upper arm assembly ball joint into the steering knuckle. Torque the nut to 87Nm (64ft lbs) and insert a new locking pin through the nut and ball joint.



4. Attach the shock fork to the lower arm link. Do not torque the attaching bolt at this time.
5. Clip the wheel speed sensor wire onto the bracket on the shock body. Also secure the brake line to this bracket.



6. Reconnect the sensor control link. Torque to 5.4Nm (48in lbs). Also reattach the stabilizer bar end link. Torque to 55Nm (41ft lbs).
7. Reinstall all previously removed plastic covers within the engine compartment.



8. Fully compress the suspension using a jack. With the suspension compressed, review the best routing for the leader hose that is clear of all suspension components and axle. Routing should also allow for the suspension to extend without kinking the line or rubbing on other components. Also check other clearances to all components.
9. With the suspension fully compressed, take a measurement from the fender to some reference point, typically the center of the axle. Record this as maximum compression (MC). Cycle the suspension to maximum extension (ME) and record the measurement from the same reference points. Take the difference between the ME and MC numbers

previously recorded and divide the result by two. Add that value to the MC number and then set the suspension height to that point. This position gives 50% stroke in either direction and is a good starting point for ride height. At this position, torque the lower shock bolt, and upper and lower control arm bolts to manufacturer's specifications (Table 1).

Step 1:

$$\frac{ME - MC}{X}$$

Step 2:

$$\frac{X}{2} = Y$$

fig. 18

Step 3:

$$\frac{Y + MC}{Z}$$

Answer:

Z = DESIGN HEIGHT

Torque Specifications		
Location	Nm	ft. lbs.
Upper arm to chassis	53	39
Upper arm ball joint to steering knuckle	87	64
Shock upper bracket to chassis	58	43
Shock lower eye mount to lower arm	157	116
Lower arm to stabilizer link	55	41
Lower arm camber to adjustment bolt	172	127
Lower arm bracket bushing nut	137	101
Wheels	103	76

Table 1

DAMPING ADJUSTMENT

The shocks in this kit have 30 settings or "clicks" of adjustable compression and rebound damping characteristics. Damping is changed through the shock rod using the supplied adjuster or a 3mm hex wrench. Turn the adjuster clockwise to harden the damping settings. Turn the adjuster counterclockwise to soften the damping. Each shock is preset to -15 clicks. This means that the shock is adjusted 15 clicks away from full stiff. Counting down from full stiff is the preferred method of keeping track of or setting damping. This setting was developed on a 2004 LS430 and may need to be adjusted to different vehicles and driving characteristics.



fig. 19



fig. 20

ALIGNING THE VEHICLE

1. Using the control system, set the vehicle height to the new custom ride height.
2. If the custom ride height is lower than stock, we recommend loosening all pivot points (bolts, nuts) on any control arm, strut arm or radius rod that contains bushings (fig. 3). Once they have been loosened, re-torque to stock specifications (Table 1).

NOTE

It may be necessary to cycle the suspension to loosen the bushing up from its mount. This will help re-orient the bushing at its new position based on the custom ride height.
