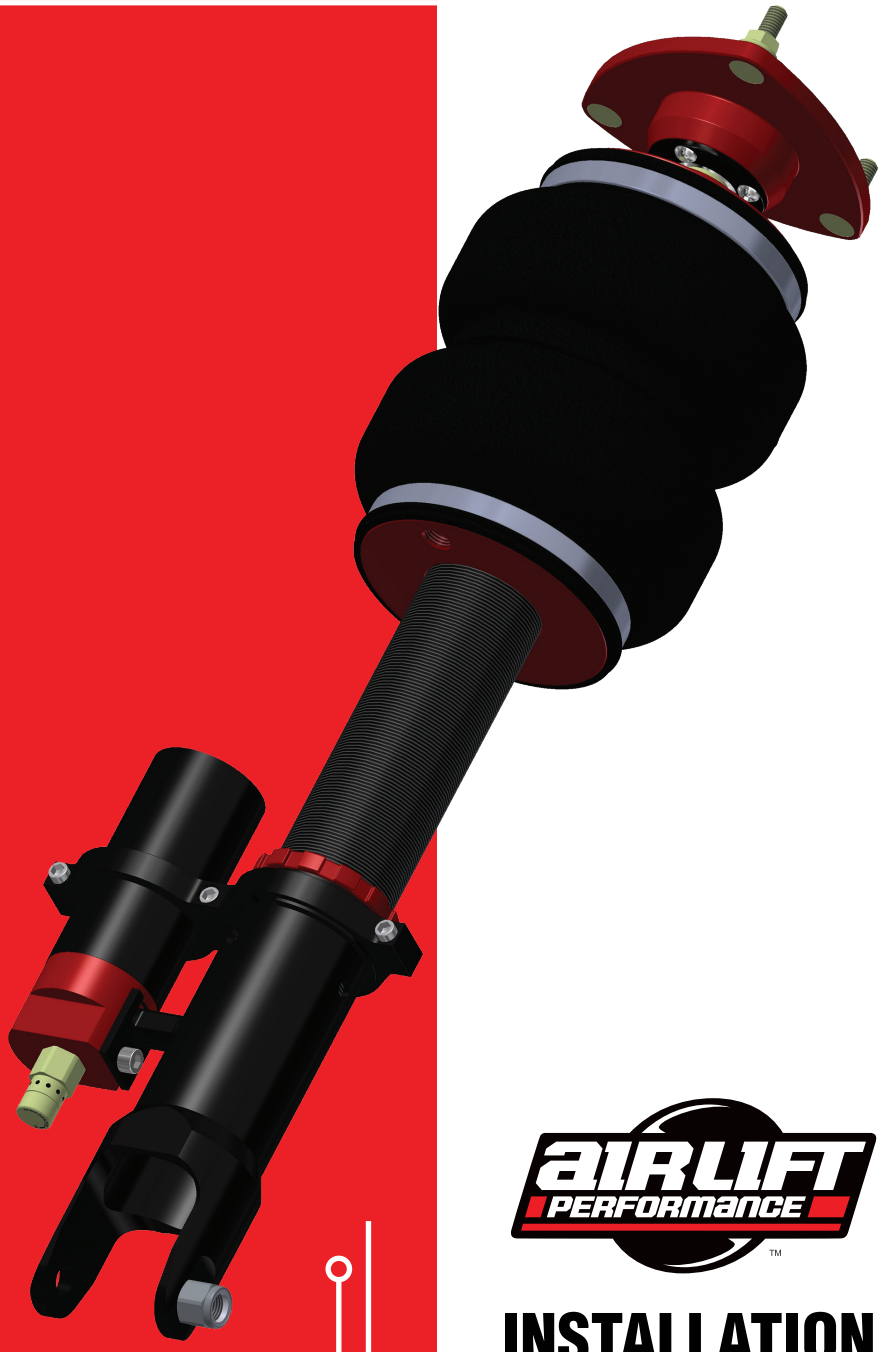
Air Lift™
PERFORMANCE

Kit 78618

Nissan R35 GT-R

Rear Application



AIRLIFT PERFORMANCE™

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 Nissan R35 GT-R 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, 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.

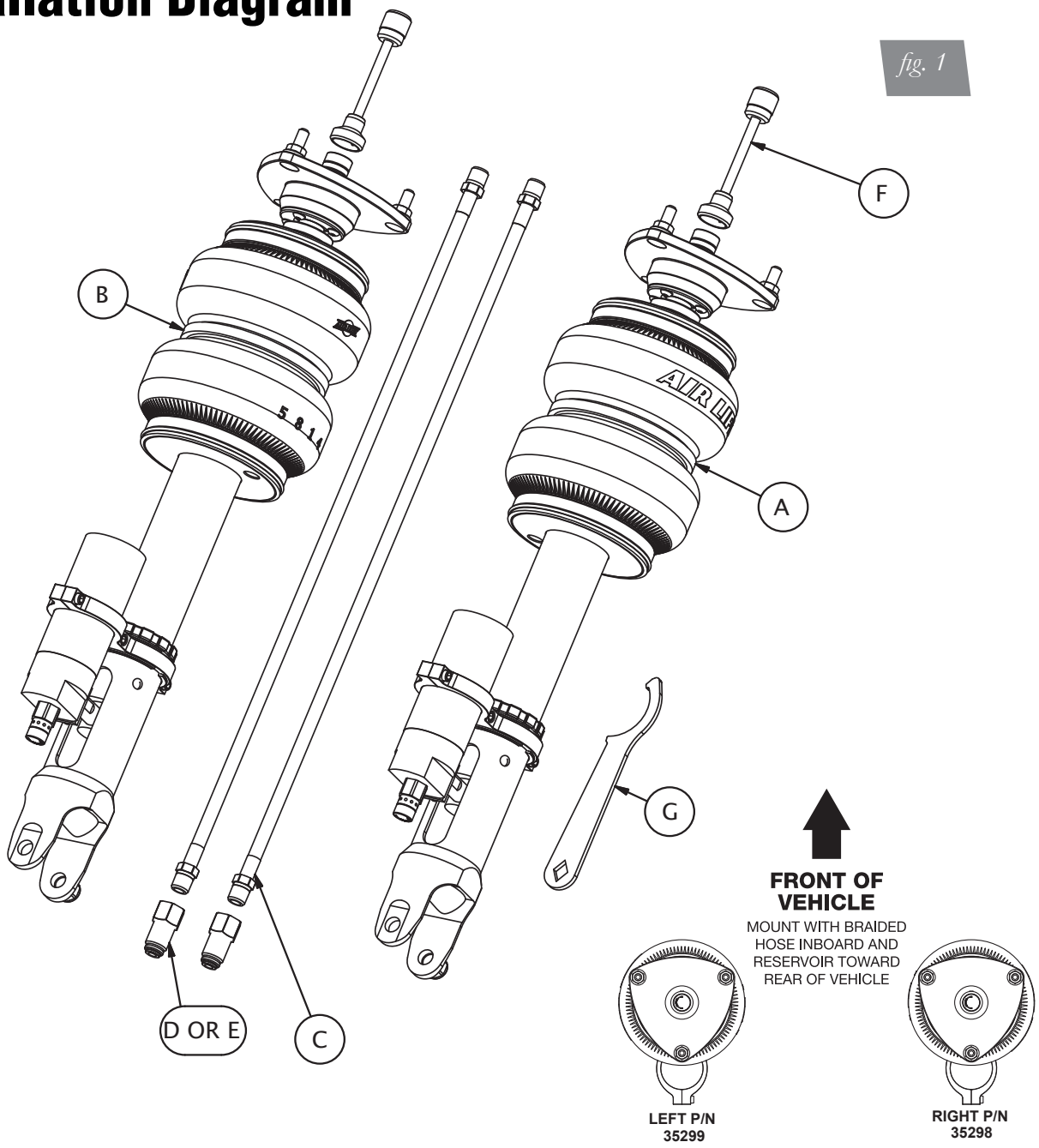
Payload: The combined, maximum allowable weight of cargo and passengers that the vehicle is designed to carry. Payload is GVWR minus the Base Curb Weight.

⚠ 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 PERFORMANCE 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	35298	ASM, Shock, R-35 GT-R, RR..... 1
B	35299	ASM, Shock, R-35 GT-R, LR 1
C	20997	Leader Hose, 1/4” ID 2
D	21810	Union, 1/4”FNPT X 1/4” PTC, DOT 2
E	21987	Union, 1/4”FNPT X 3/8” PTC, DOT 2
F		Flexible Adjuster Extension 2
G		Spanner Wrench..... 1

Installing the Air Suspension

PREPARING THE VEHICLE

1. Unclip the rear seat bases and remove the bases from the vehicle (fig. 2).


fig. 2

2. At the base of each rear seat back, remove the bolt shown in Figure 3, then push upward on the seat back. Remove both seat backs this way (figs. 4 and 5).


fig. 3


fig. 4


fig. 5

3. Unclip and remove the center cup holder between the rear seat locations.
4. Unbolt the two bolts at the base of the rear center speaker cover (fig. 6). With the two lower bolts removed, carefully unclip the speaker cover from the rear support and remove from the vehicle (fig. 7).


fig. 6

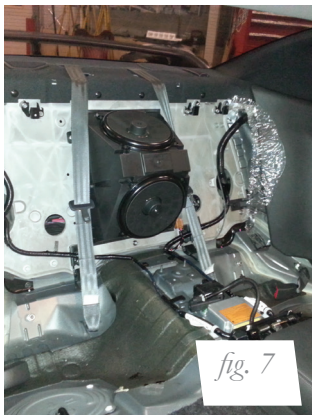


fig. 7

5. Remove both side sills (figs. 8 and 9).


fig. 8


fig. 9

6. Remove the weather-stripping from the rear most portion of the door opening (fig 10).


fig. 10

7. Unclip the rear side panel from the rear support and side (figs. 11 and 12). Remove it from the vehicle (fig. 13).


fig. 11


fig. 12


fig. 13

8. Remove the upper side trim by unthreading the screw beneath the hanger, unbolting the seat belt from the pillar and unclipping the remaining plastic retention clips (figs. 14a-14i).


fig. 14a


fig. 14b


fig. 14c


fig. 14d


fig. 14e


fig. 14f

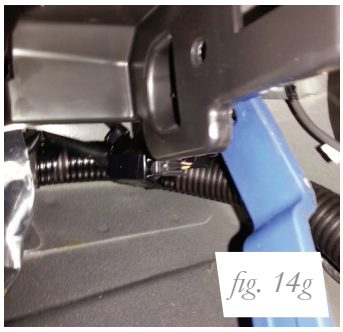


fig. 14g


fig. 14h


fig. 14i

9. Remove all the plastic screws holding the rear parcel shelf (figs. 15-17) and pull the shelf straight forward, then down (fig. 18).

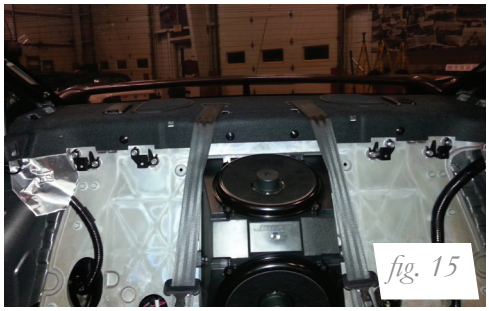


fig. 15


fig. 16


fig. 17


fig. 18

10. Disconnect the Electronic Damping Control on each rear shock (figs. 19 and 20). This may be located beneath a foil shield with an adhesive backing (fig 21); remove it if necessary.


fig. 19


fig. 20


fig. 21

REMOVING THE REAR SUSPENSION

1. Elevate and support the vehicle with a hoist or jack stands (fig. 22).

fig. 22

2. Remove the rear wheel and support the hub assembly (fig. 23).


fig. 23

3. Remove the three upper shock mount nuts (fig. 24).


fig. 24

4. Remove the lower shock bolt and extract the stock rear shock assembly (fig. 25) from the vehicle.


fig. 25

5. AIR SUSPENSION INSTALLATION

1. Begin by installing the leader line into the air spring (fig. 26). Apply thread sealant to the threads of the leader hose. Tighten the appropriate fitting to the airline 1 3/4 turns beyond hand-tight. Tighten the leader line into the air spring 1 3/4 turns beyond hand-tight.

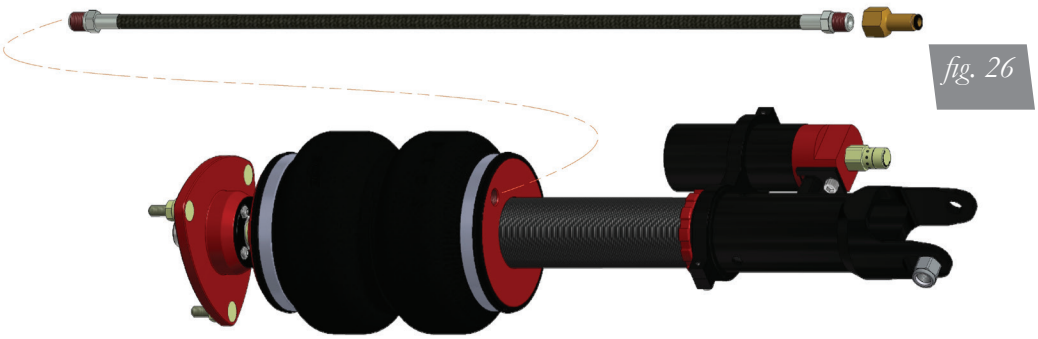


fig. 26

2. Remove the paper gasket from the factory shock upper mount and place onto the new shock assembly (fig. 27).


fig. 27

3. Add the damping adjuster flexible adjuster extension (fig. 28) to the top of the shock. Ensure the main damping adjuster knob is tight on the shock rod before sliding adjuster extension over knob and tightening set screw.

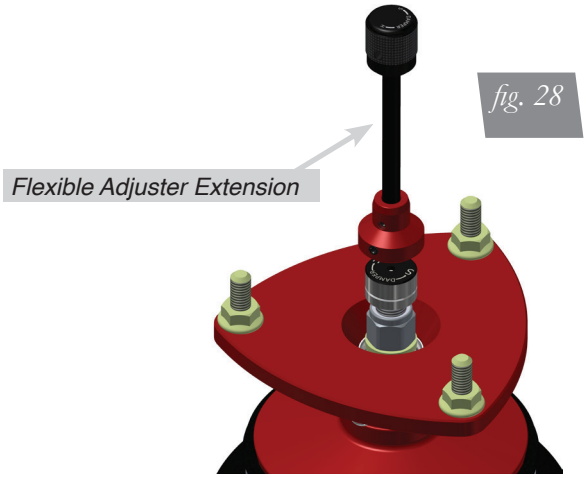


fig. 28

4. Attach the shock assembly to the shock tower with the three upper mount nuts. The external reservoir should be directed toward the rear of the vehicle and braided air line inboard (figs. 29 and 30). Torque to 27 Nm (20 ft-lbs.)

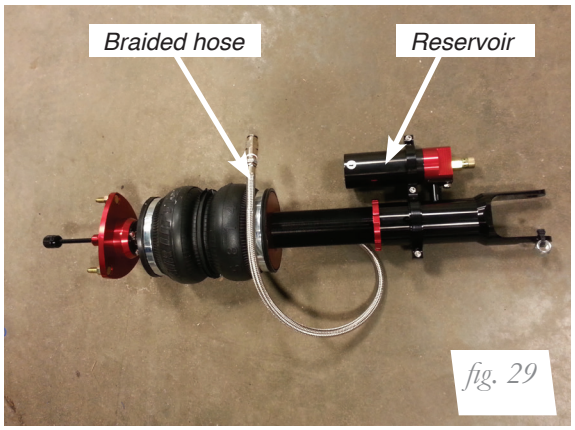


fig. 29


fig. 30

5. Lift the hub assembly and install the lower shock mount bolt (fig. 31). Do not torque at this time.


fig. 31

6. Alter the rear parcel shelf so that the flexible damping adjuster can be accessible from within the vehicle cabin.

7. Reinstall the interior by reversing the steps 1-9 of Preparing the Vehicle.

8. With the suspension fully compressed, take a measurement from the fender to some reference point – typically the center of the axle. Record this measurement as Max Compression.

9. Cycle the suspension to Max Extension and record the measurement from the same reference points.

10. Add ME and MC then divide by 2. Set the suspension to this point. This position will give 50% stroke in either direction and is a starting point for ride height (fig. 32).

Formula for Calculating Ride Height
(ME+MC)÷2=MID STROKE

fig. 32

11. With the suspension at this position, loosen, then re-torque the lower control arm bolts to manufacturer's specifications.

Torque Specifications		
Location	Nm	lb-ft
Lower shock mount bolt/nut	75	55
Upper mount nut	27	20
Air Fitting (with sealant)	1.5-3.0 turns beyond hand tight	
Lower damper locking collar	.5 turns beyond hand tight	
Reservoir collar bolts	5	44 in-lbs.
Wheel studs	131	97

Table 1

DAMPING ADJUSTMENT

There are two forms of damping adjustment with this Nissan R35 GT-R suspension kit.

Rebound adjustment is controlled by the adjuster on the shock rod, located within the passenger compartment (fig. 33). Turn the damping knob clockwise to “harden” the suspension rebound. Turn the knob counterclockwise to “soften” the suspension rebound. The Air Lift setting is -13R (13 clicks away from full Hard). This was developed on a 2009 GT-R and may need adjustment to meet vehicle differences or driving demands.

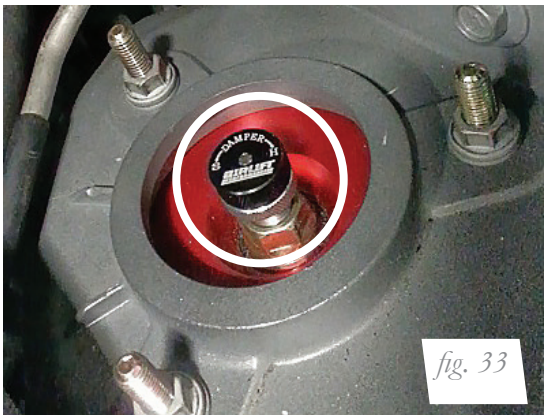


fig. 33

Compression damping is adjusted through the remote reservoir attached to the shock body. Turn the damping knob on the reservoir (fig. 34) clockwise to “harden” the suspension compression setting. Turn the knob counterclockwise to “soften” the suspension compression setting. The Air Lift setting is -18C (18 clicks away from full hard). This was developed on a 2009 GT-R and may need adjustment to meet vehicle differences or driving demands.

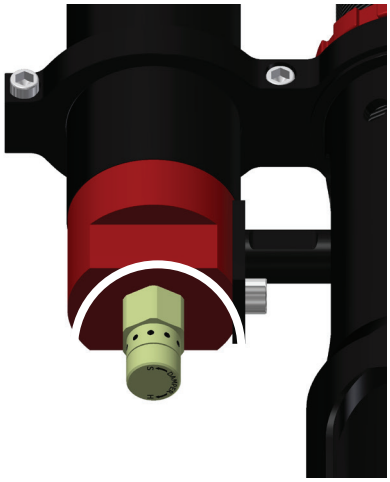


fig. 34

THREADED HEIGHT ADJUSTMENT

The shock assembly can be adjusted by threading the damper cartridge in or out of the lower mount. To do this, the collar holding the external reservoir must be loosened first!

⚠ CAUTION

FAILURE TO LOOSEN THE THREE ATTACHING BOLTS (FIG. 35) OF THE RESERVOIR COLLAR CAN RESULT IN THE ATTACHING TUBE TO DETACH OR BECOME SIDE-LOADED, CAUSING A LEAK OR PREMATURE FAILURE OF THE DAMPER.

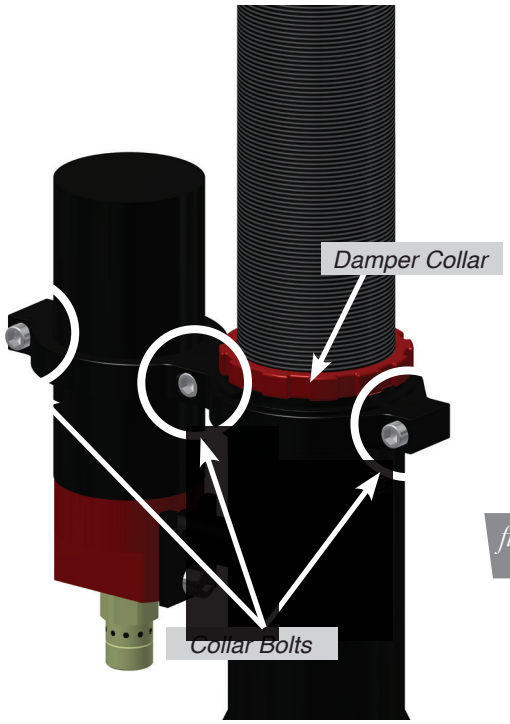


fig. 35

1. Loosen the three reservoir collar bolts.
2. Loosen the damper collar.
3. Make the threaded height adjustment.
4. Tighten the damper collar 1/2 turn beyond hand-tight.
5. Tighten the reservoir collar bolts evenly to 5 Nm (44 in-lbs.)

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. Once they have been loosened, re-torque to stock specifications.

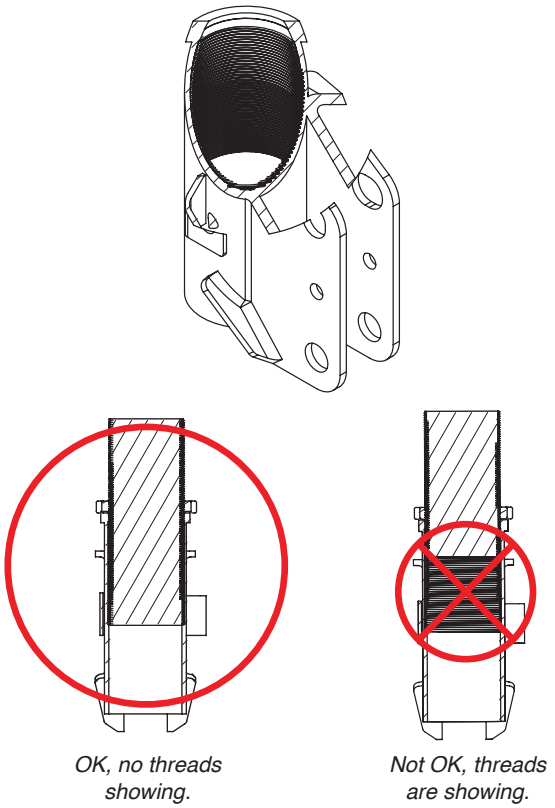
NOTE

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 and increase life of the bushings based on the custom ride height.

⚠ CAUTION WHEN ADJUSTING HEIGHT UPWARDS, MAKE SURE THAT THE STRUT BODY ENGAGES ALL THE THREADS OF THE LOWER MOUNT (FIG. 36). WHEN ADJUSTING DOWNWARDS, MAKE SURE THERE IS ADEQUATE AIR SPRING CLEARANCE TO THE TIRE/WHEEL ASSEMBLY. CLEARANCE MUST BE CHECKED WITH SYSTEM FULLY DEFLATED AS WELL AS FULLY INFLATED TO ENSURE THAT NO RUBBING OCCURS. FAILURE TO MAINTAIN ADEQUATE CLEARANCE CAN RESULT IN AIR SPRING FAILURE AND WILL NOT BE COVERED UNDER WARRANTY.

⚠ CAUTION DO NOT ADJUST HEIGHT BY SPINNING AIR SPRING ON STRUT! DOING SO MAY CAUSE AN AIR LEAK AND COMPROMISE THE ASSEMBLY.

FOR STRUTS:



OK, no threads showing.

Not OK, threads are showing.

FOR SHOCKS:

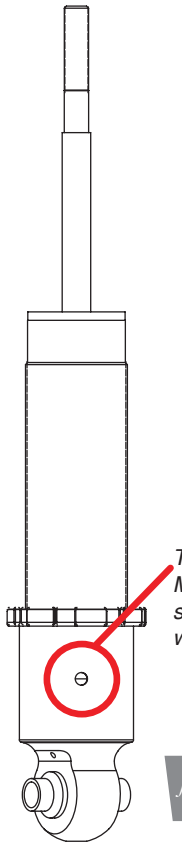


fig. 36