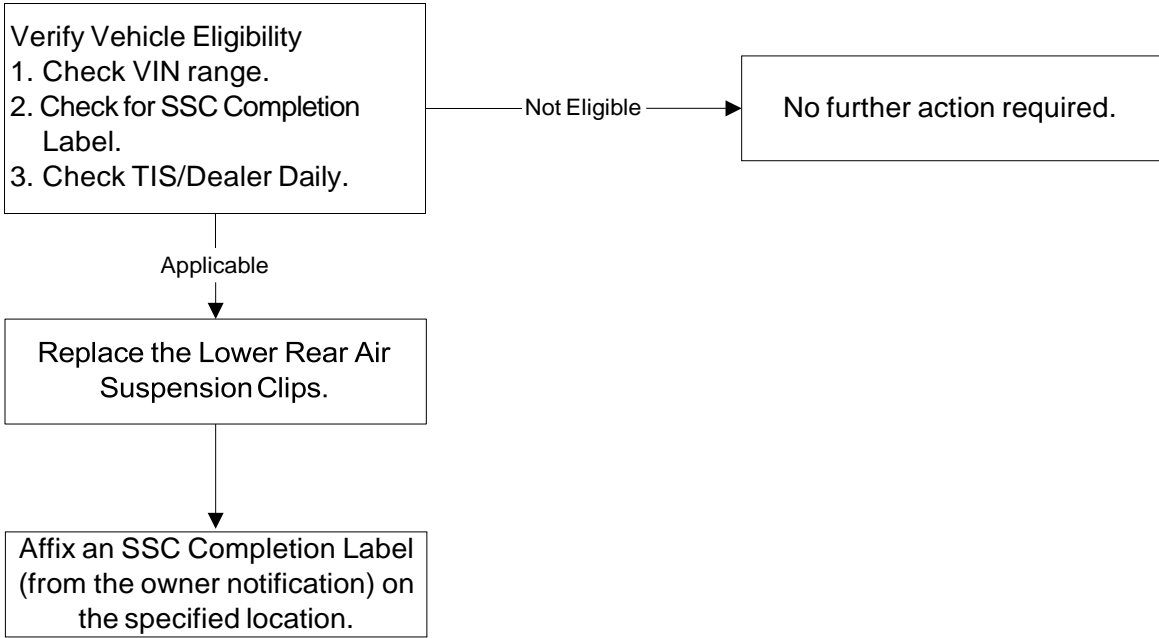
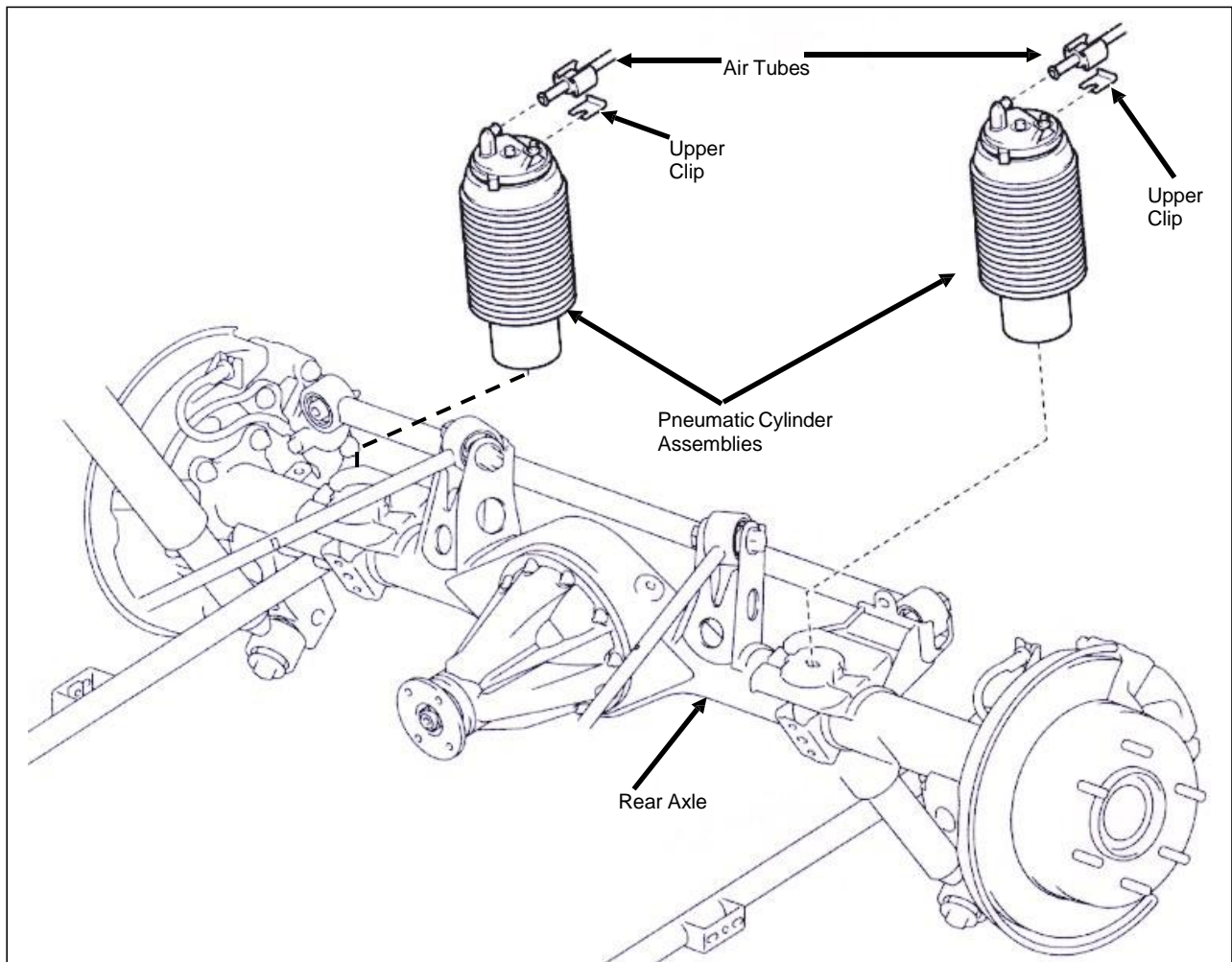


TECHNICAL INSTRUCTIONS
FOR
SPECIAL SERVICE CAMPAIGN 30E
2003 MY TOYOTA 4RUNNER
REAR AIR SUSPENSION

I. OPERATION FLOW CHART



II. LOCATION OF AFFECTED PARTS



III. AFFECTED VIN RANGE

- Only vehicles on the attached VIN list are involved.

NOTE: Always consult Dealer Daily or TIS to confirm VIN eligibility and to assure the SSC is applicable. This will verify the vehicle is involved and has not already been completed by another dealer. TMS warranty will not reimburse dealers for repairs conducted on vehicles that are not affected.

IV. PREPARATION

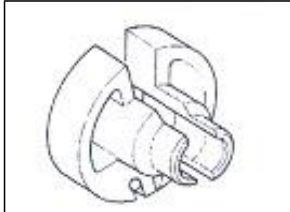
A. PARTS

Part No.	Part Name	Qty.
04003-10135	Lower Air Suspension Clip Kit	1

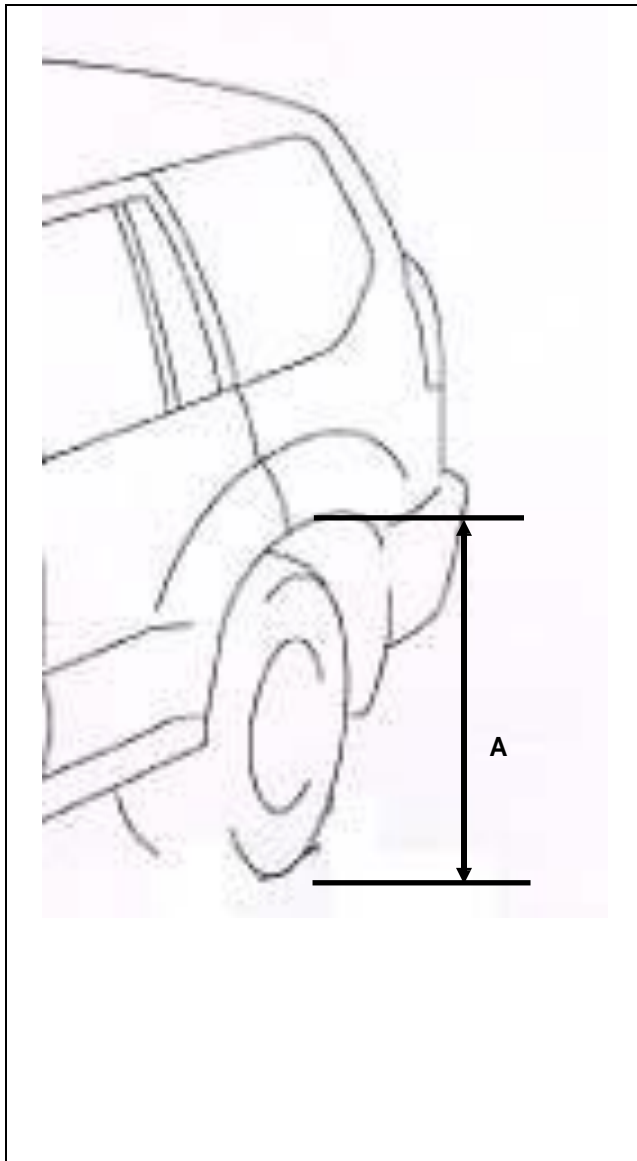
NOTE: If the Suspension Clip Kit is no longer available, dealers may order and install the right and left pneumatic cylinder assemblies. Reference the parts catalog for the correct part number.

B. TOOLS

- Standard Tools
- Toyota Scan Tool
- SST 09730-00010



V. WORK PROCEDURE



1. REAR PNEUMATIC CYLINDER ASSEMBLY REMOVAL

NOTE:

Prior to pneumatic cylinder removal, the following steps must be performed before lifting the vehicle to prevent damage to the pneumatic cylinders.

- a. Place vehicle in bay.
- b. With engine running. Place height control to the **HI** position.
- c. The height control indicator light will stop blinking after the vehicle reaches maximum height.
- d. Measure and record the distance from the floor to the fender well on the left and right side of the vehicle.
- e. Subtract 10 mm from the lowest figure.

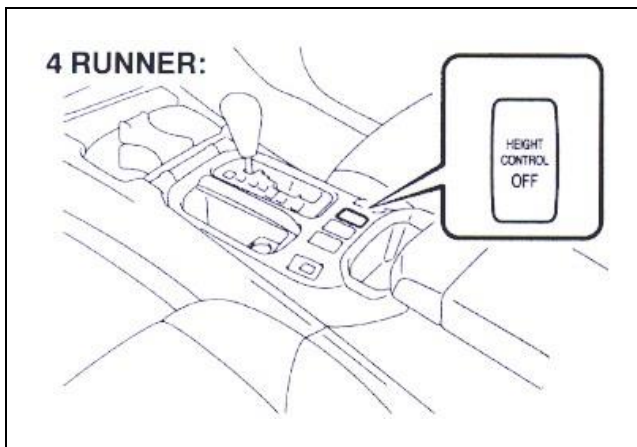
Measurement A&B	
Example	
Left	Right
900 mm	890 mm
	-10 mm
	880 mm

Measurement A

Measurement B

NOTE:

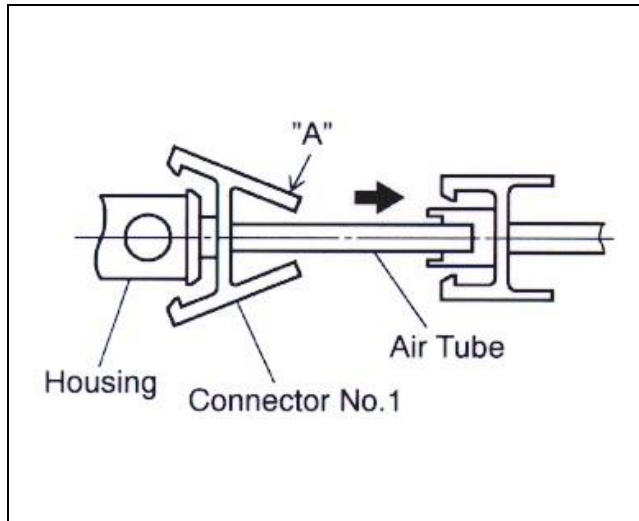
Measurement B will be used for vehicle reassembly.



- f. Prior to lifting the vehicle turn height control to normal.
- g. Turn height control "**OFF**".
- h. Turn off vehicle.
- i. Raise the vehicle on lift.

NOTE:

Do not lower the rear axle assembly. Do not perform this repair with the shock absorber removed from the vehicle.

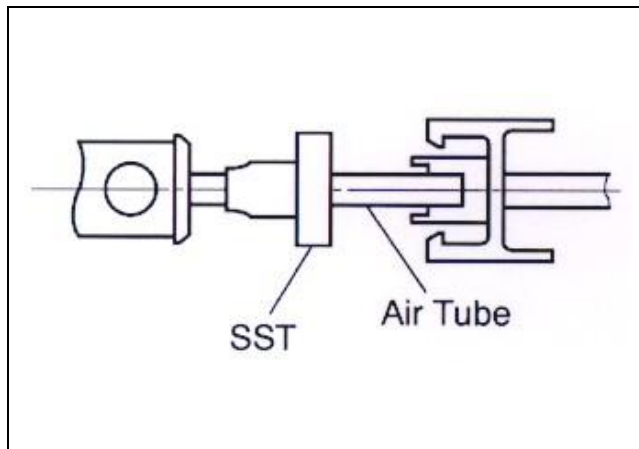


- c. Disconnect the height control air tube from the left and right pneumatic cylinder assembly.

NOTE:

Only disconnect and connect the air tube by hand to avoid damage and dirt from entering the air tube.

- 1). Pinch "A" of the No. 1 connector and remove it from the housing as shown.



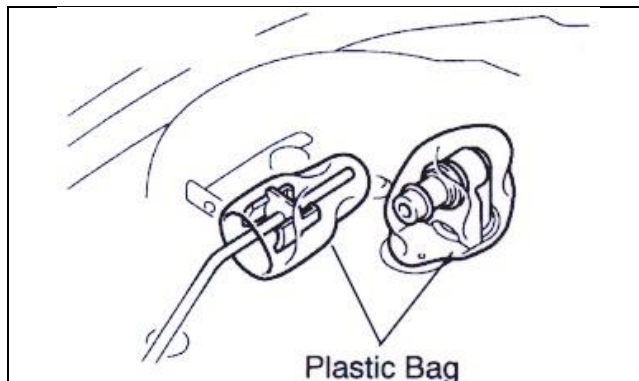
- e. Place the SST on the air tube.

- 1). Insert the SST into the housing to expand the claw of the tube connector.
- 2). Remove the tube with the SST inserted.

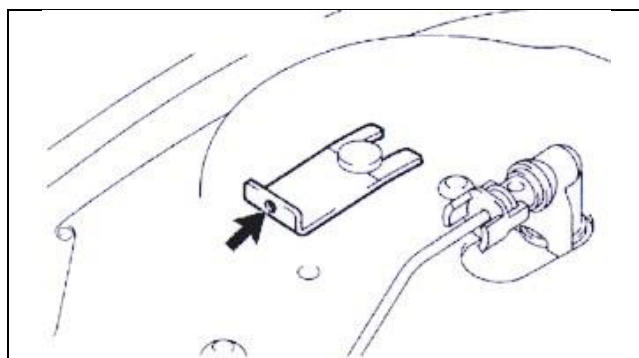
- d. Release the air from both pneumatic cylinder assemblies to retract them.

NOTE:

Do not force the removal of the tube.



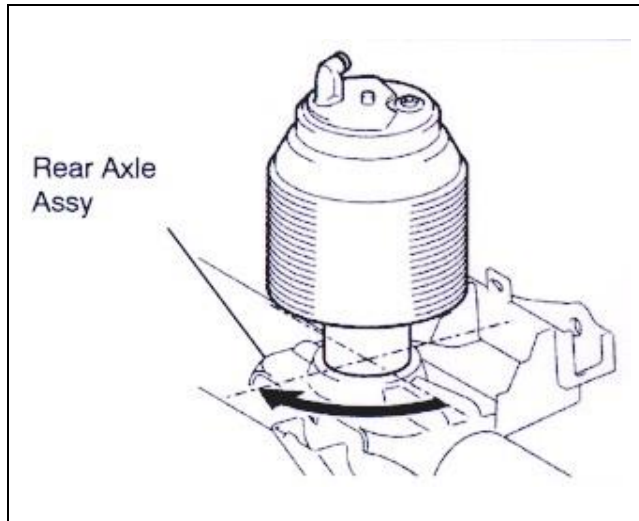
- f. Cover the left and right air tube and the pneumatic cylinder air tube port with plastic bags to prevent dirt from entering air suspension system.



- g. Remove the left and right upper clip on the pneumatic cylinders.

NOTE:

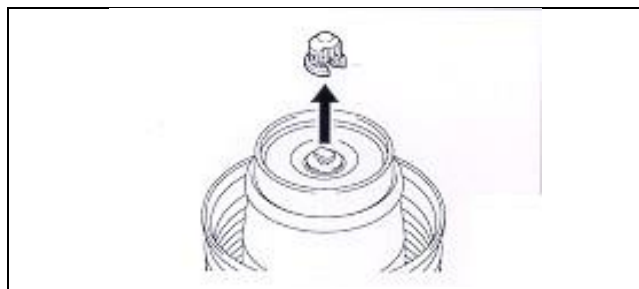
Thread a wire through the hole in the upper clip to aid in removal.



- h. Rotate the pneumatic cylinder assembly 90 degrees and remove it from the rear axle.

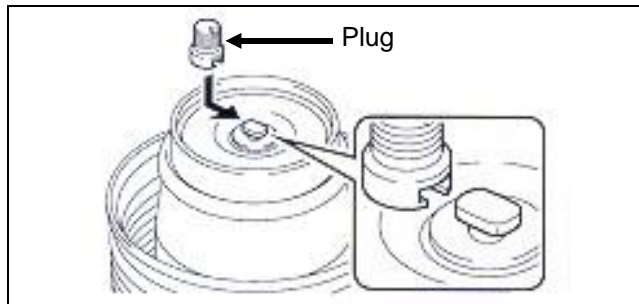
NOTE:

**Do not extend the pneumatic cylinder assembly.
Do not deform the rubber bellows.
Be sure to turn the pneumatic cylinder as one unit so that the middle does not twist.
Hold the top and bottom during removal to prevent the cylinder from extending.**

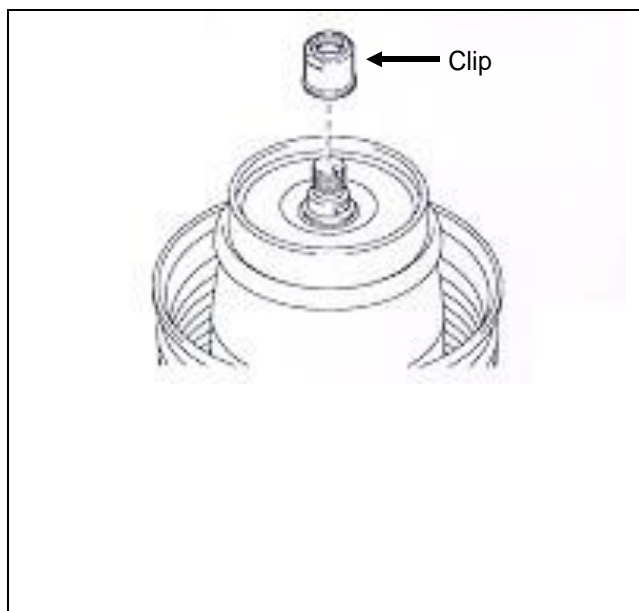


1. REPLACE THE LOWER AIR SUSPENSION CLIP

- a. Remove and discard the old plastic lower clip from the pneumatic cylinders.



- b. Slide the new metal plug onto the pneumatic cylinders as shown.



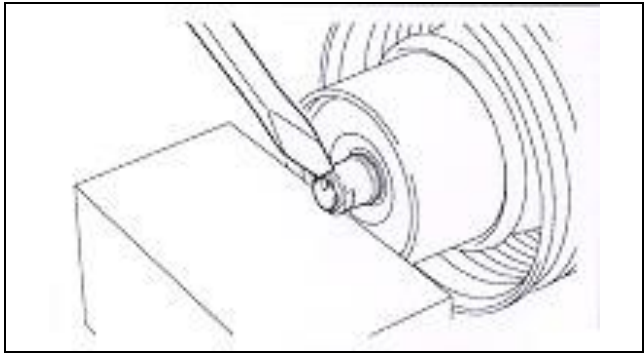
- j. Install the new lower clip on to the plug and center it on the pneumatic cylinders.
- k. Tighten the clip.

Torque:

15 N•m (155 kgf•cm, 11 ft•lbf)

NOTE:

**The notches on the clip should face away from the pneumatic cylinder.
Placing the pneumatic cylinders in a vise could damage it.
When installed correctly, the clip will tighten down the plug on to the pneumatic cylinder.**

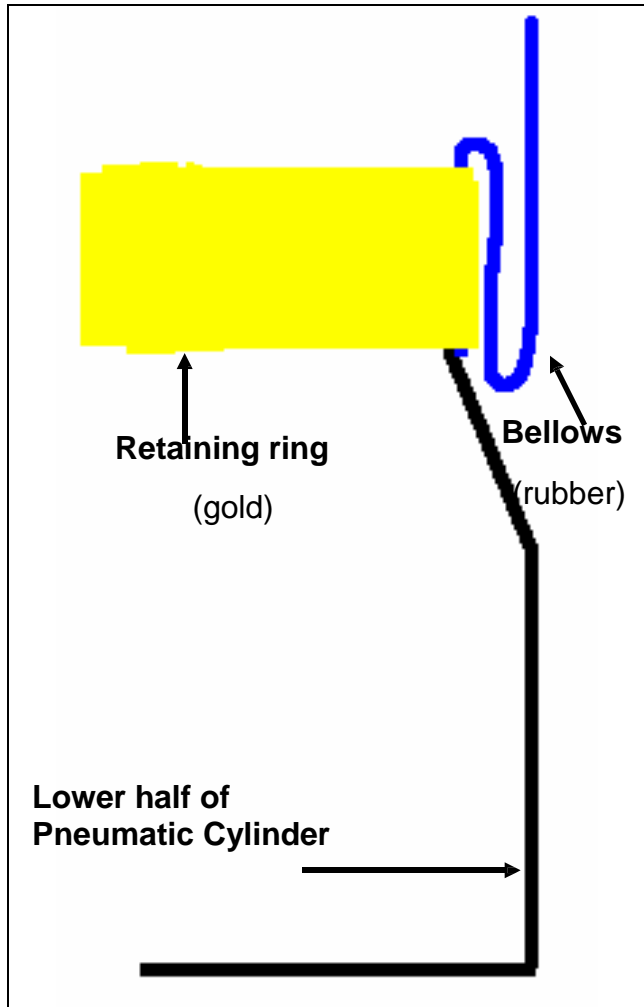


- i. Using a hammer and chisel, stake the holders as shown.

NOTE:

Support the pneumatic cylinder using a wooden block to prevent damage to the cylinder.

Do not hold the pneumatic cylinder in a vice.

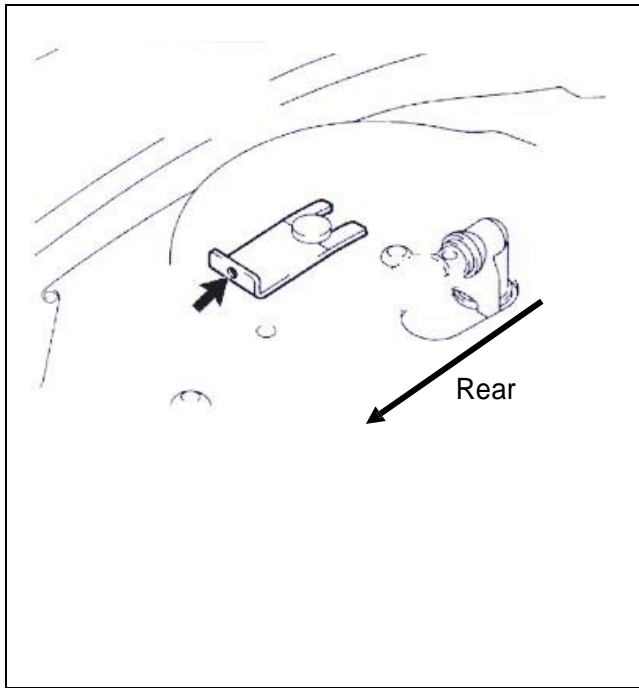


- j. Ensure that the pneumatic cylinder bellows is correctly positioned prior to reinstallation into the vehicle.

NOTE:

The bellows should not be bent or twisted.

- k. The lower part of the bellows needs to be rolled over the lower chamber. The gold metal retaining ring should not be visible.



3. REINSTALL THE PNEUMATIC CYLINDER ASSEMBLIES

- a. Reinstall the left and right pneumatic cylinders.

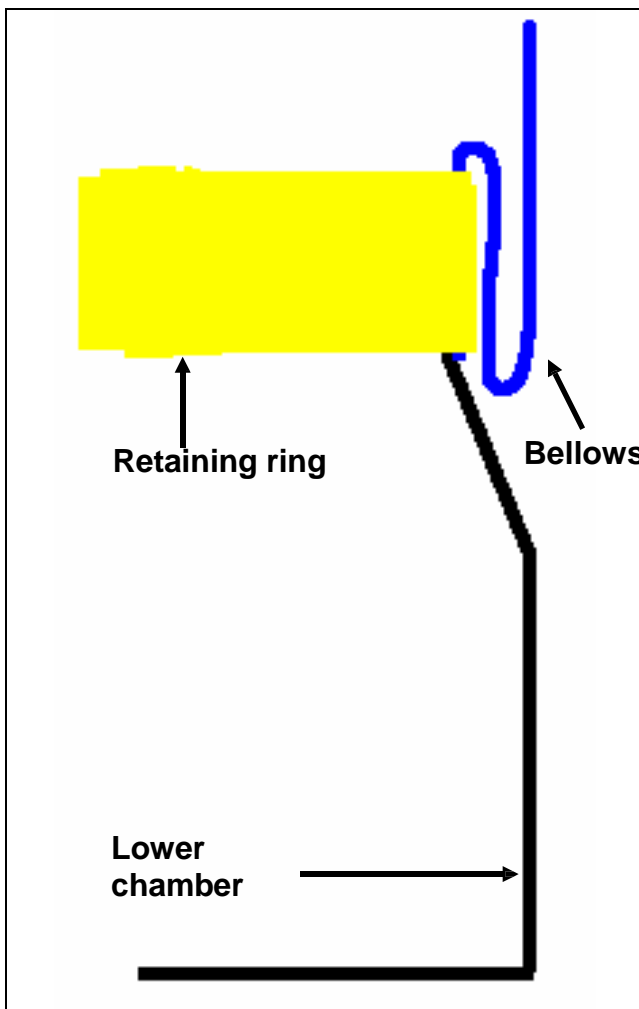
NOTE:

The air tube port faces the rear of the vehicle.
 The left and right pneumatic cylinders are not interchangeable.
 The top of each cylinder is marked L or R.

- b. Reinstall the left and right upper clip.

NOTE:

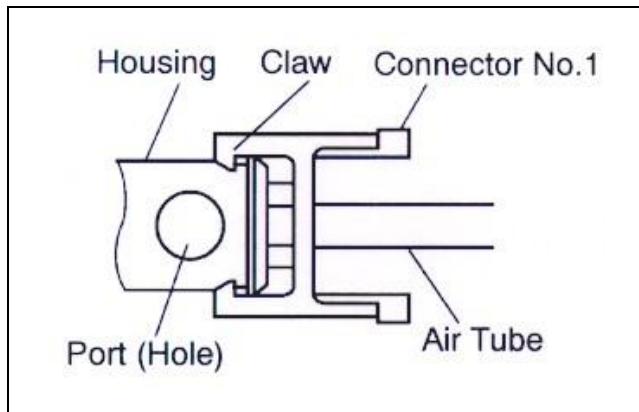
Ensure that the upper clip is properly installed onto the cylinder.



- c. Inspect and correct the bellows for proper position. The bellows must be rolled over the lower chamber and not be bent or twisted.

NOTE:

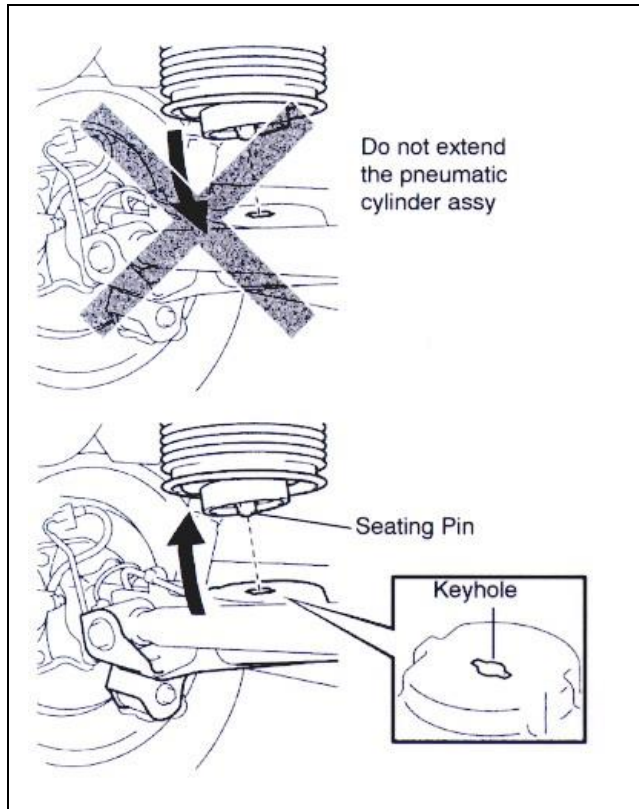
Prior to operating the air suspension system. Inspect the bellows for proper position by lifting the pneumatic cylinder dust cover and ensuring that the bellows are not twisted or bent. This should be performed prior to any air being pumped into the pneumatic cylinders.



- d. Reconnect the height control air tubes.
 - 1). Reinstall connector No. 1 into the housing until a “click” is heard.

NOTE:

After installing connector No. 1 carefully tug on the air tube to ensure that the connector is properly engaged.

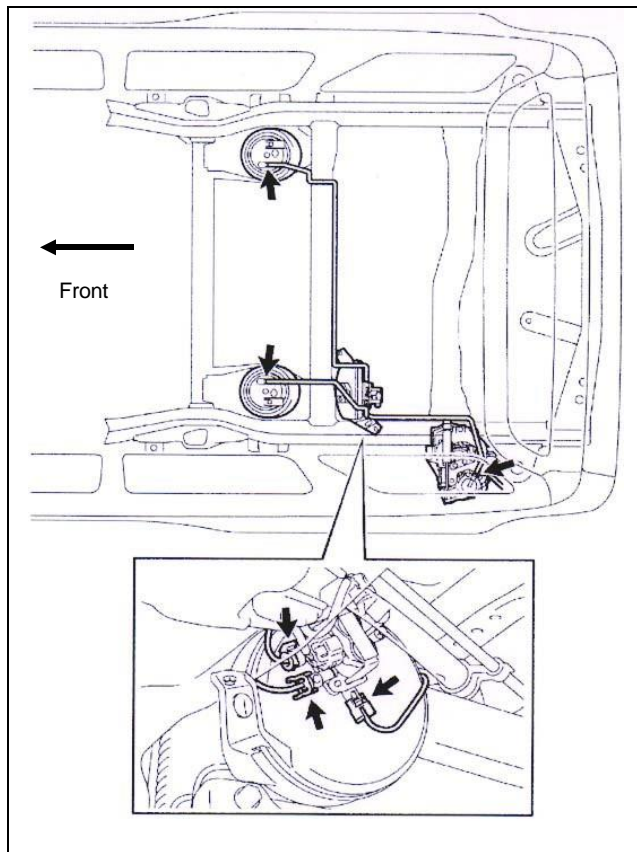


- e. Lower the vehicle until the tires touch the ground.
- f. Continue lowering the vehicle until the bottom of the pneumatic cylinders touches the rear axle.
- g. Align the seating pin on the pneumatic cylinders with the rear axle and install the cylinders onto the rear axle.
- h. Lower the vehicle to measurement **B** (taken in Step 1).

NOTE:

Do not extend the pneumatic cylinders to engage the cylinder onto the rear axle. That will damage the cylinders. Ensure that the pneumatic cylinder diaphragm has not been deformed or wrinkled. Ensure that the seating pin is correctly seated into the rear axle.

- i. Start the vehicle.
- j. Switch the vehicle height control “**ON**”.
- k. Set vehicle height control to the “**HI**” position.
- l. After the compressor has stopped switch the height control “**OFF**”.
- m. Turn vehicle “**OFF**”.



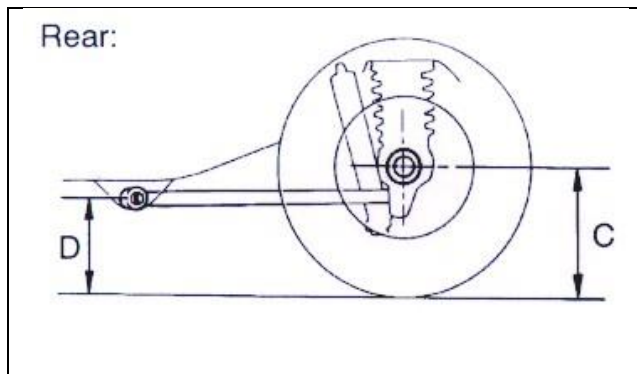
4. CHECK AIR TUBE CONNECTIONS AND BELLOWS

- a. Raise the vehicle.
- b. Apply soapy water to the connections shown and check for any leakage.
- c. Carefully inspect the bellows to ensure they are not twisted, bent or wrinkled.

NOTE:

The bellows are under pressure and you could be injured if the bellows tears or the retaining ring disengages. If the bellows are twisted, bent or wrinkled release the air pressure and reposition the bellows and repeat steps 3i to 3m.

- d. Lower the lift clear of the vehicle. Be careful as the pneumatic cylinder assemblies could be damaged if not aligned correctly.



5. ADJUST VEHICLE HEIGHT

- a. Place the vehicle on a level surface.
- b. Place the height control switch to **NORMAL**.
- c. Turn the height control to the “**OFF**” position.
- d. Turn the vehicle **OFF**.
- e. Measure the vehicle height as shown on the left and right sides. (C-D measurement).

NOTE:

When adjusting the vehicle height do not load and unload the vehicle this will cause the vehicle height to change.

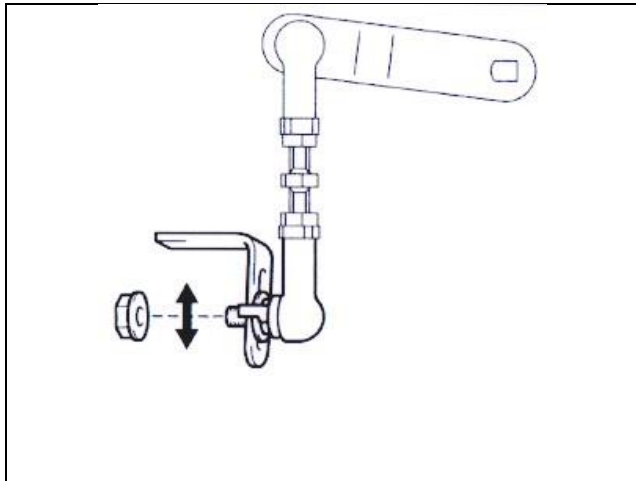
The maximum allowable difference between the left and right is 10mm (0.39 in).

R e a r	
C - D	
4 X 2	4 X 4
81.4 m m (3.20 in.)	78.9 m m (3.11 in.)

- e. If the vehicle height is not within specifications, lift the frame of the vehicle.
- f. Using the Toyota Scan Tool.
 - 1). Turn the ignition switch to the "ON" position.
 - 2). Measure the left and right vehicle height sensor values.

NOTE:

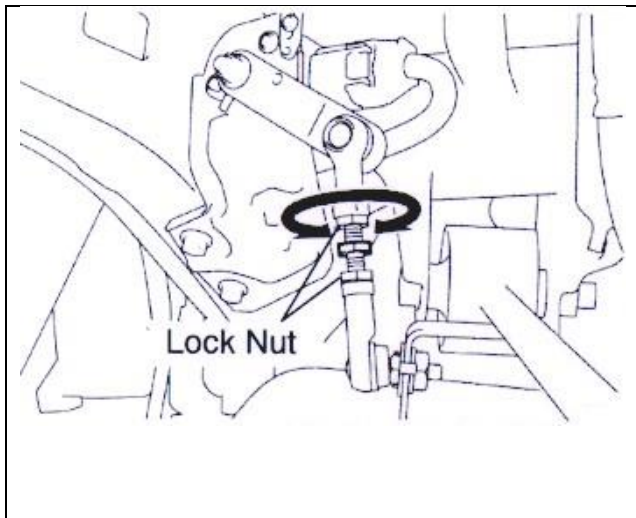
Maximum difference between measurement C – D and the sensor values can not exceed 5 mm (0.20 in). Maximum difference between the left and right is 5 mm (0.20).



- f. If the vehicle height differs beyond the specifications, the height control sensor needs to be adjusted.
 - 1). Loosen the nut.
 - 2). Slide the height control sensor up and down.
 - 3). Adjust the vehicle height (C – D measurement) while monitoring the scan tool values.
 - 4). Tighten the nut.

Torque:

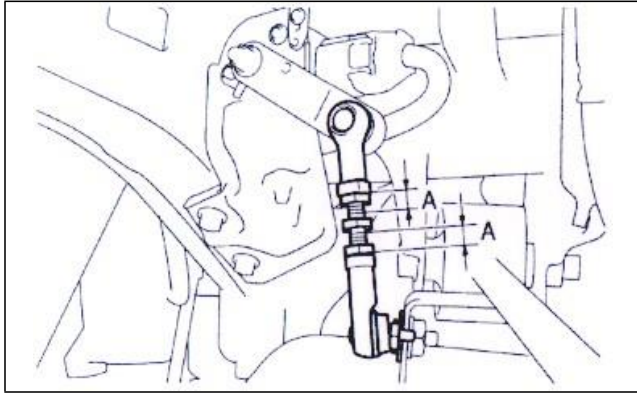
5.4 N•m (55 kgf•cm, 48 in•lbf)



- g. If the vehicle height cannot be corrected as outlined in step f. Adjust the height control sensor link.
 - 1). Loosen the 2 lock nuts for the height control link
 - 2). Adjust the vehicle height (C – D measurement) by turning the link while monitoring the scan tool values.
 - 3). Tighten the 2 lock nuts.

Torque:

5.4 N•m (55 kgf•cm, 48 in•lbf)



- 4). Check that measurement “A” is within the standard value.

**Standard Length:
6.5 – 15.0 mm (0.26 – 0.59 in.)**

- h. Operate the vehicle height control system:
- Normal to High
- then
- High to Normal
- i. Measure the left and right vehicle height again (C – D measurement)
- j. Check that vehicle height and left & right measurements are with in specifications.

NOTE:
If the values are still out of specifications repeat steps e to i.

VI. SSC COMPLETION LABEL INSTALLATION

1. After completing the repair and before returning the vehicle to the owner, an SSC completion label that is enclosed in the owner’s notification letter must be affixed to the left front door hinge post near the check strap.
2. The label is to be filled out as follows:
 - Write in SSC 30E.
 - Write in the date the repair was performed.
 - Write in your dealer code.
3. Additional SSC completion labels, in sheets of 50 (P/N 00410-01917), may be ordered through the non-parts system on a 1450 order form or through the TDN system.

SSC	Date
DEALER CODE NO.	
00410-01917	