PREVOST

MAINTENANCE INFORMATION

MI16-14

DATE :	JUNE 2016	SECTION : 16 - Suspension
SUBJECT :	**SUSPENSION HEIGHT ADJUSTMENT USING HEIGHT CONTROL VALVES**	

APPLICATION

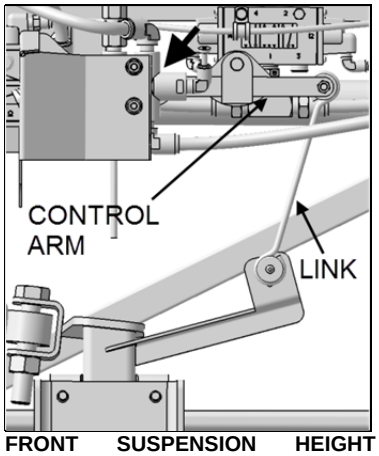
Model	
All models Model Year : From 2014	

DESCRIPTION

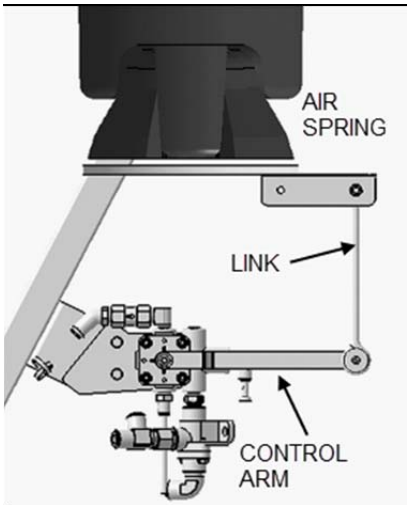
Use this procedure when a suspension height check or adjustment must be performed.

HEIGHT CONTROL VALVES

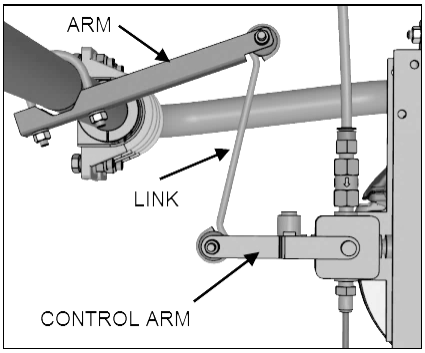
Three height control valves automatically control air volume in the suspension air springs at three separate locations to maintain a constant vehicle height regardless of load or load distribution.



FRONT SUSPENSION HEIGHT CONTROL VALVE (I-BEAM AXLE)



REAR SUSPENSION HEIGHT CONTROL VALVE – UNDER FORE UNDERFRAME AIR SPRINGS



INDEPENDENT FRONT SYSTEM HEIGHT CONTROL VALVE

The **two rear suspension height control valves** are mounted to the chassis and connected to the fore air springs of the rear underframe through a control arm and link.

One front suspension valve is mounted to the chassis and connected to the front axle through a control arm and link.

On IFS, one height control valve is located on the center of the front sway bar.

If an adjustment is required, change the position of the control arm. The control arm should be moved up to supply air and raise vehicle height and should be moved down to release some air from air springs and lower vehicle height. Make sure that air pressure is greater than 90 psi.

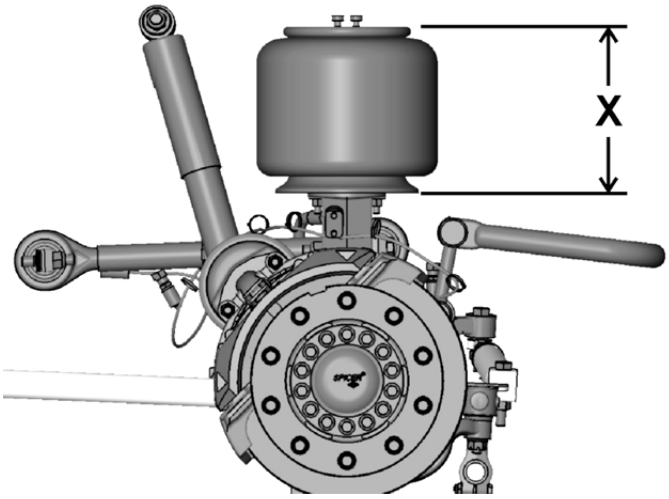
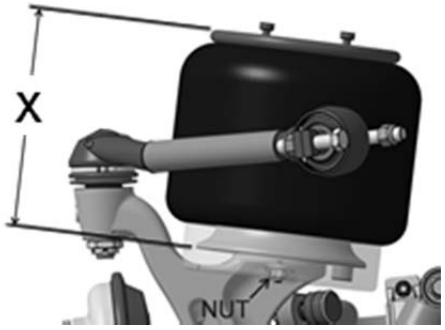
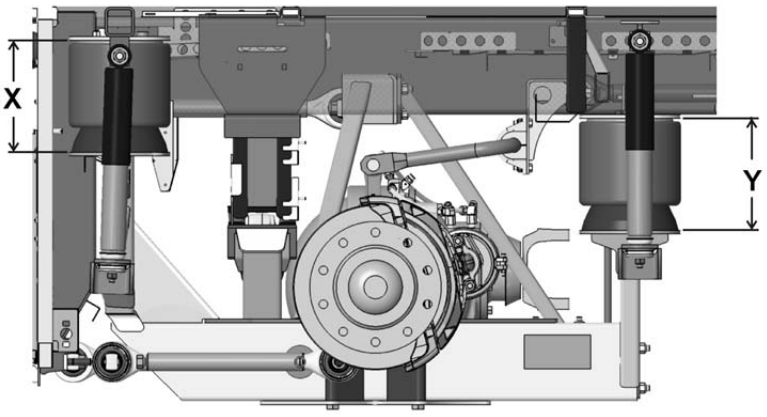
The appropriate vehicle body height is checked by measuring the clearance of all the air springs installed on the front and rear suspension. The tag axle, by its nature, doesn't need to be adjusted.

If an adjustment is required, begin with the rear suspension.

NORMAL RIDE HEIGHT

The normal ride height is obtained by measuring and adjusting **air spring** height of front and rear suspension.

TABLE 1 – PRESCRIBED AIR SPRING HEIGHTS

FRONT SUSPENSION (I-BEAM AXLE) 2 air springs	X = 11 ¾ ± ¼ inch (297 ± 6 mm)	
INDEPENDENT FRONT SUSPENSION (IFS) 2 air springs	X = 12 7/8 ± 1/4 inch (327 ± 6 mm)	
REAR SUSPENSION 4 air springs	FORE AIR SPRINGS X = 11 ½ ± 1/16 inch (292 ± 1.5 mm) AFT AIR SPRINGS Y = 11 ½ ± 1/4 inch (292 ± 6 mm)	

PROCEDURE

DANGER

Park vehicle safely, apply parking brake, stop engine. Prior to working on the vehicle, set the ignition switch to the OFF position and trip the main circuit breakers equipped with a trip button. On Commuter type vehicles, set the battery master switch (master cut-out) to the OFF position.

REAR SUSPENSION AIR SPRINGS ADJUSTMENT

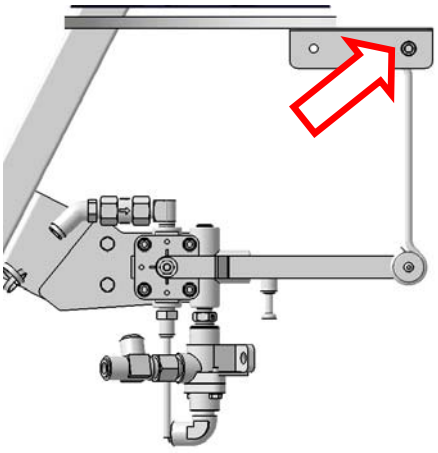
Measurement

1. Make sure that the air system pressure is at least **90 psi**.
2. Measure the drive axle air springs clearance **(all four air springs)**. To do so, measure the clearance between the round metal plate found above the air spring and the other round metal plate found under the air spring.
3. The clearance should be in accordance with the value of Table 1.

Air spring height adjustment

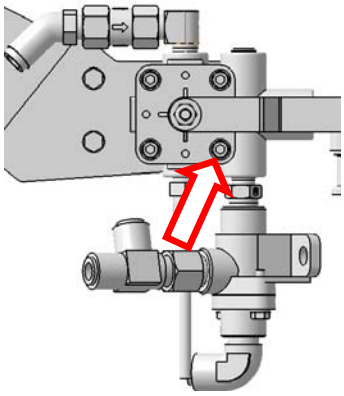
While proceeding with one side of the vehicle at a time, adjust the air springs clearance with the height control valve

4. It is necessary to adjust clearance on *"fill cycle"*.
    a) Disconnect the link. This link is equipped with a rubber bushing that allows easy disconnection.
    b) Lower the control arm to release some air from air springs.
    c) Raise the control arm to fill the air springs (the valve is now in “fill cycle”) and connect the link back in place.



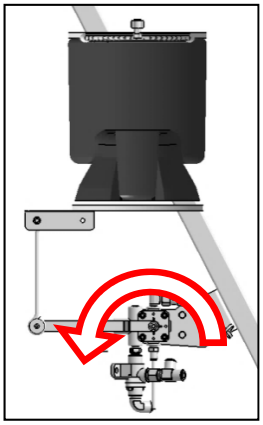
5. Loosen the lower mounting bolt shown.

   Take note that the bolt is equipped with a nylon insert. The bolt should be replaced after three (3) tightenings.

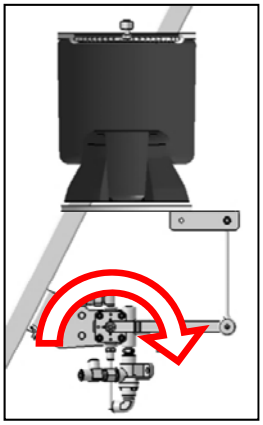


6. Rotate the valve body to increase or decrease the clearance as shown (the mounting bracket has a slotted hole).
7. Allow 15 minutes to the air system to settle before measuring the resulting clearance. Repeat previous step if necessary.
8. Tighten the lower mounting bolt once adjustment is done.
9. Repeat this procedure with the rear suspension height control valve located on the other side of the vehicle.

INCREASING CLEARANCE

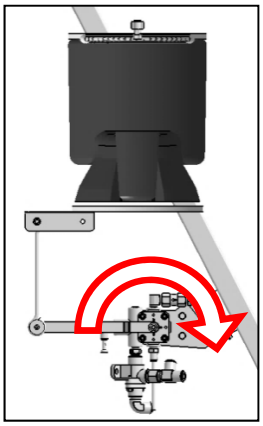


STREET SIDE

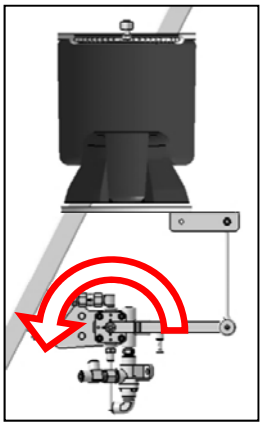


CURB SIDE

DECREASING CLEARANCE



STREET SIDE



CURB SIDE

FRONT SUSPENSION AIR SPRINGS ADJUSTMENT (I-BEAM AXLE)

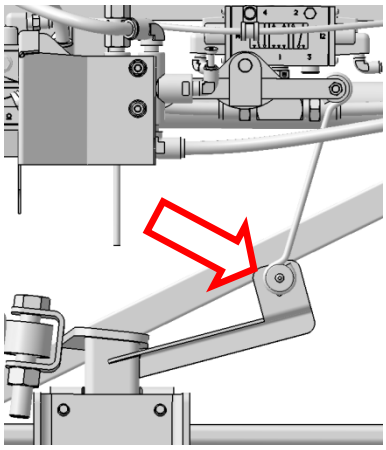
Measurement

1. Make sure that the air system pressure is at least **90 psi**.
2. Measure the front axle air springs clearance **(two air springs)**. To do so, measure the clearance between the support above the air spring and the lower end of the air spring *(if needed, use a small metal ruler to reach the lower end of the air spring)*.
3. The clearance should be in accordance with the value of Table 1.

Air springs height adjustment

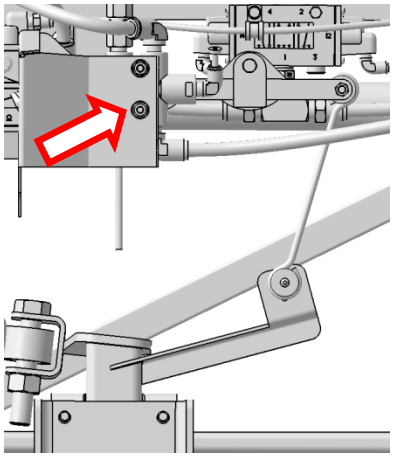
Adjust the air springs clearance with the height control valve

4. It is necessary to adjust clearance on *"fill cycle"*.
    a) Disconnect the link. It is equipped with a rubber bushing that allows easy disconnection.
    b) Lower the control arm to release some air from air springs.
    c) Raise the control arm to fill the air springs (the valve is now in “fill cycle”) and connect the link back in place.



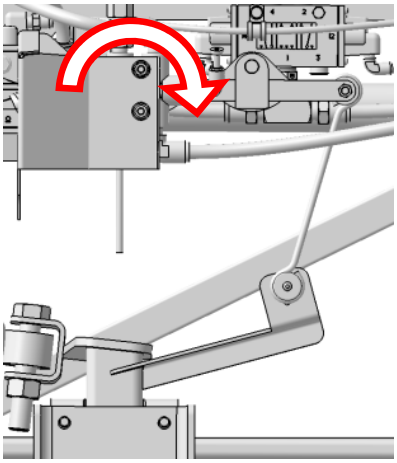
5. Loosen the lower mounting bolt shown.

Take note that the bolt is equipped with a nylon insert. This bolt should be replaced after three (3) tightenings.

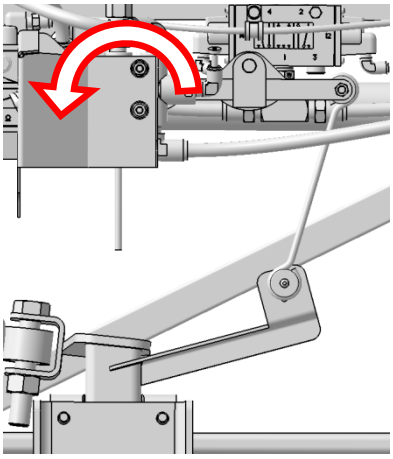


6. Rotate the valve body to increase or decrease the clearance as shown (the mounting bracket has a slotted hole).
7. Allow 15 minutes to the air system to settle before measuring the resulting clearance. Repeat previous step if necessary.

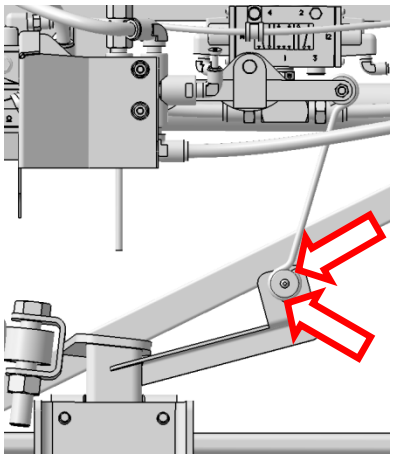
INCREASING CLEARANCE



DECREASING CLEARANCE



8. If rotation of the control valve is not enough to obtain the required adjustment, you can use one of the two (2) other holes.
9. Tighten the lower mounting bolt once adjustment is done.

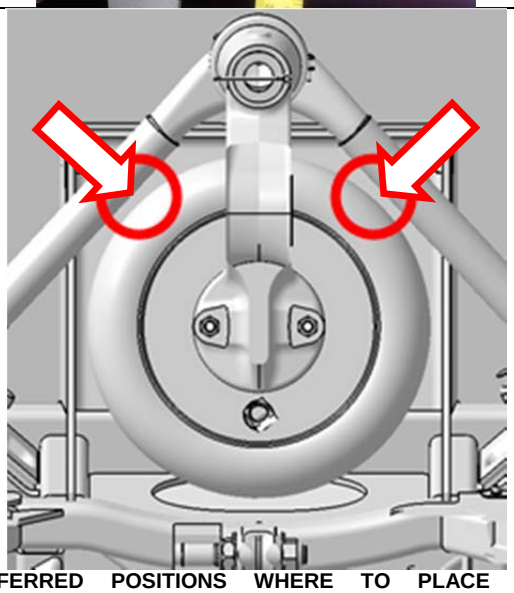


INDEPENDENT FRONT SUSPENSION ADJUSTMENT

Measurement

1. Make sure that the air system pressure is at least **90 psi**.
2. Measure that the air springs clearance **(two air springs)**. To do so, measure the clearance between the support found above the air spring and the lower end of the air spring *(if needed, use a metal ruler to reach the lower end of the air spring)*.
3. The clearance should be in accordance with the value of Table 1.

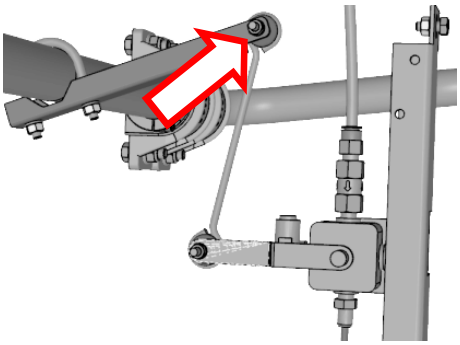
4. Take the measurement where indicated on the image preferably.



PREFERRED POSITIONS WHERE TO PLACE THE MEASURING TAPE

Air springs height adjustment

Adjust the air springs clearance with the height control valve



5. It is necessary to adjust clearance on *"fill cycle"*.
    a) Disconnect the link. It is equipped with a rubber bushing that allows easy disconnection.
    b) Lower the control arm to release some air from air springs.
    c) Raise the control arm to fill the air springs (the valve is now in “fill cycle”) and connect the link back in place.

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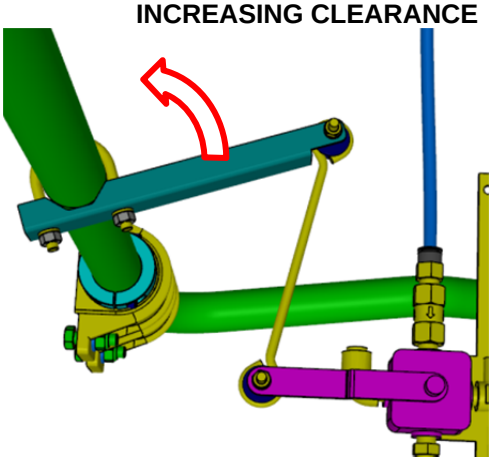
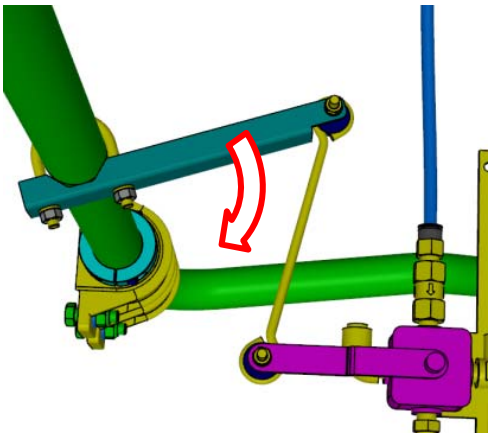
6. Using a hammer, tap gently on the arm secured to the sway bar. Even if the fasteners are properly tightened, it will rotate around the sway bar. Rotate the arm secured to the sway bar to increase or decrease the clearance as shown.
7. Allow 15 minutes to the air system to settle then measure the new clearance. Repeat previous step if necessary.

INCREASING CLEARANCE



DECREASING CLEARANCE



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