Inspection Bulletin
North American Standard Inspection Program

2015-03 – Safety Inspection Procedures for Vehicles Equipped with Air Suspension

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Summary

This Inspection Bulletin provides critical safety information for inspectors when working around and under vehicles equipped with some air suspension systems that may lower and reduce clearance between the vehicle and the ground in cases of suspension air pressure loss.

This information is critical to ensure officer safety while under a vehicle during Level I or Level V Inspections.

Background

With the evolution of air ride suspension and the necessity to actively reduce vehicle frame height for multiple reasons, such as to reduce air drag for better fuel economy or to accommodate specialized applications like a container chassis, an added safety concern arises for inspectors who go underneath vehicles. When the air suspension deflates, some components may not leave adequate space under the vehicle.

Some air suspension systems may be equipped with automatic or manual suspension air dump functions that release the suspension air pressure and lower the vehicle. It is very important that officers learn to identify those air suspensions and follow the steps described in this bulletin.

Currently, there are few vehicles equipped with the type of air suspensions that are cause for concern, but the progress toward more fuel-efficient vehicles will cause their numbers to increase. Level II and Level III inspections can still be conducted with common safety procedures. Level I and Level V inspections can also be safely conducted over inspection pits/half pits or on proper inspection ramps.

Furthermore, some of these suspensions are equipped with a ride height lock. Most are fully automated but some may be manually engaged at the beginning of an inspection to ensure constant vehicle height. An example of an air suspension and a ride height lock is shown in the image below. This is one type of ride height lock but there are other designs on the market.

Ride Height Lock

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Safety Steps When Inspecting Air Suspension Vehicles

1. During the walk-around inspection of the vehicle, follow a good safety practice by not inserting body parts between vehicle components and the tires or other axle components. Pay attention to the components under the vehicle such as air tanks, valves and spare tire(s) to ensure that even with a deflated suspension, there would be sufficient residual space under the vehicle for officer safety.

2. If there is a potential that there will not be enough space under the vehicle if the air suspension is deflated, request the driver to deplete the air from the suspension by activating the suspension air dump valve if the vehicle is so equipped.

3. If there is no area where clearance for the inspector is of concern, conduct the inspection as usual.

When Possible Clearance Beneath the Vehicle Remains a Concern

4. If it is possible to deplete the air in the suspension without affecting the brake system, the officer may do the under-vehicle portion of the inspection with a deflated air suspension (it was previously inspected while inflated during the walk-around).

5. In instances where Step 2 and Step 4 cannot be implemented, the officer may note/mark the area of insufficient residual space with a noticeable object (e.g., cones on the side, portable scale, etc.) and conduct the inspection of the critical inspection items under the vehicle while avoiding the area of concern.

6. If equipped with proper jack stands, the officer may use them according to jurisdictional guidance.

7. If there is no way of conducting the under-vehicle part of the inspection in a safe manner, limit the vehicle inspection to a Level II.

   (Reminder: the axles and its components height are not affected by suspension air pressure loss, unless it's a lift axle.)