

# Rapid Lesson Sharing



**Event Type:** Brake Failure on a Type Four Engine

**Date:** June 22, 2017

**Location:** Severity Detail on the  
Kaibab National Forest

***“My recommendations are to get this information out to the engine modules using these trucks to check the fittings to ensure they are tight. I would also advise if a loose fitting is found, it needs to be repaired by a mechanic shop.”***

**Engine Captain**

## ***What Happened?***

The engine, in its first year of use, was on its first ever off-Forest assignment.

Traveling approximately 25 mph across a flat section of dirt road, the driver heard an audible air leak coming from outside the cab.

The driver attempted to stop the vehicle using the service brake, but the brake bottomed out to the floor. Even though there were no alarms or low pressure warning lights, the driver immediately recognized something was wrong with the primary brake system and was able to use the emergency brake to bring the vehicle to a slow stop using the parking brake.

Due to this quick action, no injuries or damage to the engine occurred. Upon inspection, the Engine Crew was able to identify a loose air hose that was not connected to any metal coupling. Examination of the fitting found that the compression ring was loose and had not been pressed onto the air hose.

The coupling fitting was retightened and a brake check was performed. No further issues were found and the crew was able to get the engine to a certified mechanic.

The mechanic determined that the coupling was not properly tightened upon initial installation. After replacing the coupling, the mechanic identified that the other side was also loose. Additional inspections at the engine's home unit identified loose couplings on another engine with a similar design.

### **Equipment Type:**

2016 International 7400 SFA 4x4  
Type Four Engine with a Boise  
Mobile Equipment (BME)  
apparatus/pump package.

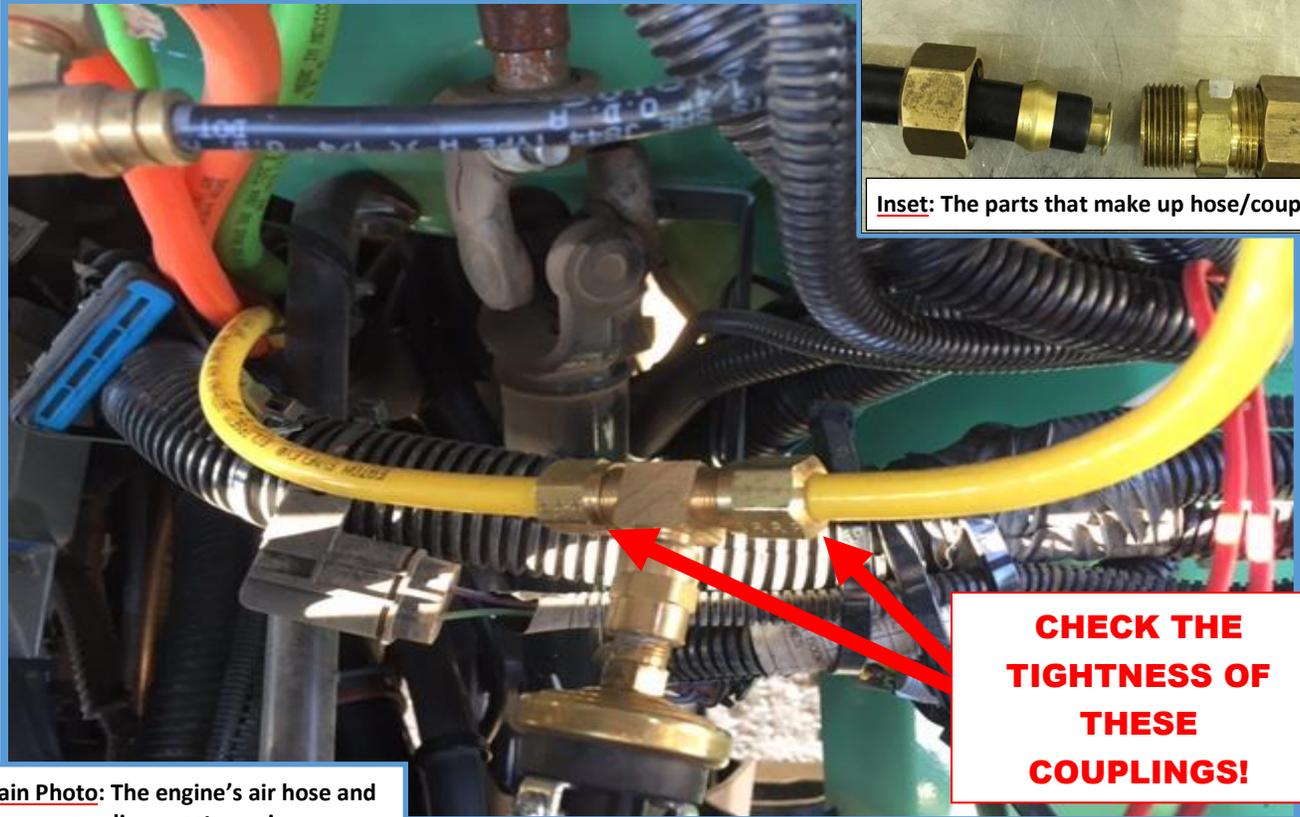
## **Lessons**

***There is a low probability of failure, but the severity of a failure could be significant.***

***How do I inspect my engine for loose fittings?***

The hose is connected to a low pressure sensor that Boise Mobile Equipment (BME) installs to monitor air pressure throughout the system. It is located in the main engine compartment on the driver's side.

A field inspection of coupler tightness can be easily verified by using a wrench. If the coupler is loose, then the repairs should be performed by a mechanic.



**Inset:** The parts that make up hose/coupling.

**Main Photo:** The engine's air hose and couplings post-repair.

**CHECK THE TIGHTNESS OF THESE COUPLINGS!**

Although the repair seems as simple as just tightening the coupling, the repair should be done by cutting off the end of the air line at the fitting and installing a new compression ring before properly tightening the coupling.

*This is not a repair that should be done by any of the modules because it directly affects the brake system and anyone with inexperience attempting this could do it improperly and create a new issue.*

If you find that your air hose couplers are loose, please contact R4 Fleet Manager Kelly Watson [klwatson@fs.fed.us](mailto:klwatson@fs.fed.us) or 801-625-5184 so she can develop a better understanding of what may be causing this problem.

BME has been notified and is looking into the problem and will issue further information if warranted.

**This RLS was submitted by:  
Forest Safety Manager**

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