

ULTRASONIC INSPECTION COMMERCIAL VEHICLE HEAVY EQUIPMENT



APPLICATIONS

The most common areas for commercial vehicle ultrasonic inspections are:

- **Compressed air & brake systems**
 - Brake actuator pots, Compressed Air Lines , Flex-Lines, Air Fittings, Air Valves, Air Drains, Air compressor (leaks, internals, Fittings), Air Reservoirs, Glad-Hand seals, Air-Actuators
- **Exhaust System for leaks**
- **LNG & CNG systems for system & storage leaks**
- **Vacuum Systems for leaks**
- **Engine internal diagnostics**
- **Bearings for pre-failure wear**
- **Air & Water leaks into cab & cargo areas**
- **Door, Window, Floor, & roof seals for water, air or exhaust entry points**
- **Hydraulic system diagnostics of valves, seals, & pumps for internal leakage**
- **Wheel, rims, valve stems, & tires for air leaks**

Many of the above systems checks can be done effectively and quickly during a level II walk around inspection. **Ultrasonic testing will significantly reduce testing & diagnostic times.**

How Ultrasonic Detection Works

Compressed gases, when leaking produce a turbulent flow with strong ultrasonic components. By scanning fittings, a leak will be heard as a distinct "hiss". Due to the high frequency, short wave nature of ultrasound, the sound will be loudest at its point of origin. The Microsonic unit translates the ultrasonic leak signals into recognizable audible signals where they are heard through headphones and seen as intensity increments on a meter. A unique test **incorporates** a patented ultrasonic transmitter called a Tone Generator. This device is placed in a cabin, tank or container where it floods the area with an intense ultrasonic signal. The generated ultrasound will deflect off solid seals but will flow through a leak path.

Detection Methods

Pressurized air, gas & fluid leaks produce turbulence with high frequency components. To locate air, gas or fluid leaks under pressure, simply scan the test area with the hand held EFI Microsonic detector. If a leak is present, ultrasonic sound not audible to the human ear is produced. This high frequency sound will be "heard" by the EFI detector and converted into an audible "hissing" sound heard through the systems headphones. Simply follow it to the loudest point. If it is difficult to discriminate the leaks location, reduce the sensitivity and continue to follow to the loudest point.

TO FIX IT.....FIRST YOU HAVE TO FIND IT!