KEEP YOUR COOL

YOU MIGHT NOT LIKE OPERATING UNDER PRESSURE, BUT YOUR **AIR CONDITIONING SYSTEM** DOES. LEARN THE PM TIPS THAT WILL KEEP YOUR SYSTEM WORKING WHEN THE HEAT IS ON.

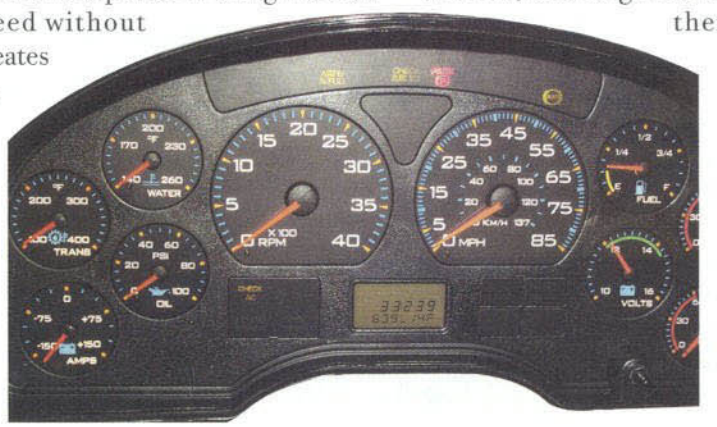
BY JOHN BAXTER

The most critical issue in air conditioner maintenance is keeping the system full of refrigerant, which in newer trucks is R-134a. The task is so important because the system operates under high pressure, making it prone to leaks. Over time, leaks can create problems much more severe than simply needing a refrigerant refill.

Even a slight loss of refrigerant will make the system pressures unstable, causing the clutch to start cycling several times a minute. Short-cycling is a big problem because the clutch has to slip a bit to bring the compressor up to speed without shock. Slippage creates heat. As a result, the clutch's wear and operating temperature depend mostly on how frequently it has to engage. So the result of short-cycling is often heat, wear and premature clutch failure. The heat will often destroy the compressor by attacking the compressor shaft bearings.

Keeping a system fully charged is the most critical aspect of getting optimal performance.

As the charge leaks more, pressure drops so much on the low-pressure side of the system (where the evaporator is) that a vacuum is created. This draws in humid, outside air, adding moisture to the system. Under these conditions, the system's desiccant dryer will quickly saturate, resulting in severe corrosion problems and then component failures – unless you catch the problem in time. So, keeping



International's High Performance trucks have a sophisticated air conditioner monitoring system that monitors such things as operating pressures and engine fan operation.