



AIR BRAKE CONTAMINATION AND DIAGNOSIS

Air brake systems are subject to excessive oil contamination. As reliable as they are, vehicle compressors can and do fail. One form of announcing this problem to the diagnostic technician is the increasingly larger amounts of oil that is passed on to the wet tank. TMC RP617 deals with a procedure to clean air brake systems. However, reliability of the air brake system can be compromised if a thorough diagnosis is not performed on the vehicle to insure that timing and balance stay within required specifications. With this in mind BRAKEPRO LTD. Strongly recommends the timing and balance is maintained after cleaning a brake system.

OIL CONTAMINATION AND THE AIR BRAKE SYSTEM

Oil contamination in an air brake system is one of the problems that can arise that must be dealt with in a clear and concise manner. The rubber components in the valving system are made of a specific type of rubber that when exposed to oil contamination can cease to function properly. If this happens, the timing of the air brakes on any air-braked vehicle can be compromised and lead to poor or insufficient braking. Each valve within the air brake system is designed to operate on a specific pressure. The relay valves, at each position, have built into them through a rubber valve and spring a "crack Pressure" to determine when the valve will begin to function. This crack pressure allows for the application of one axle before another axle. This in turn allows the trailer to brake slightly before the tractor drive wheels. It also allows the tractor drive wheels to brake before the tractor steers through crack pressure and the treadle pressure to insure proper braking of the entire unit. If oil contamination swells up those crack pressure rubber valves, the timing can become improper and allow for brakes to apply or not depending on the amount of damage to the crack pressure valve and spring. Simply cleaning the valve does nothing to restore the proper crack pressure and therefore does not resolve the problem. Replacement of the valves, in many cases, is the only answer. Cleaning of the rest of the system can be accomplished if it does not re-contaminate the valve and cause the problem to re-occur.

ALWAYS INSURE THAT TIMING AND BALANCE ARE MAINTAINED

Using a suitable method of checking timing and balance and careful inspection of the operation of the air brake system after ANY CLEANING is strongly recommended. This will insure that the air brake system is within the specifications of the manufacturer of the air brake system. Likewise, the air compressor and the air intake system must be checked to insure that there are no restrictions that could cause the oil problem in the first place. Further, the air dryer must be reconditioned and serviced to insure that there is no oil in the Wet Tank after flushing and cleaning are done. It is difficult at the least to insure clean dry oil free air brake systems, but that is the requirement for safe operation.