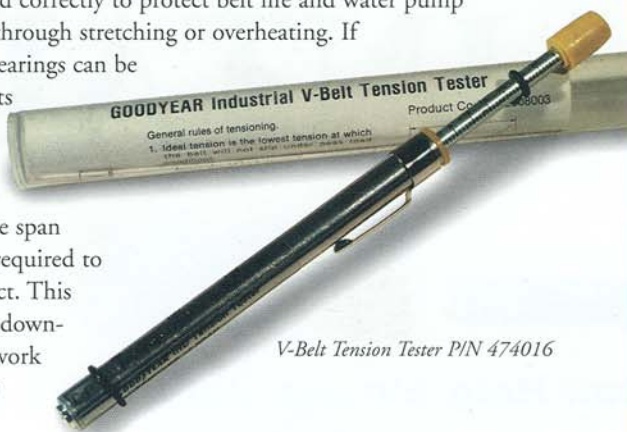




## How Tight Are Your Water Pump Belts?

The v-belts on the VHP engine need to be tightened correctly to protect belt life and water pump life, too. Incorrect belt tension will reduce belt life through stretching or overheating. If belts are significantly over tightened, water pump bearings can be affected, also. How are operators to know when belts are tightened to the correct tension? This can be accomplished with a v-belt tension tester, part number 474016. When the engine is shut down, the tester can be used to deflect the belt between the span of two pulleys. The gauge will indicate if the force required to deflect the belt through a specified distance is correct. This inexpensive tester such as this can save unnecessary downtime and parts replacement. It also takes the guess work out of maintaining correct belt tension for even the most experienced operators. ■



V-Belt Tension Tester P/N 474016

## Distributor has Cooling System CDs, Videos

Want to know more about cooling system maintenance? Your Waukesha Distributor has a complete set of training videos and CDs for your engine. The VHP Engine Operator Technology program, Form 476604 for instance, is a detailed training video developed specifically for engine operators who need to learn the requirements to maintain the VHP series engine's cooling system. The system description is explained, along with piping, flows, pump maintenance, belt tension, coolant filter maintenance, bleeding trapped air, coolant analysis, system performance evaluation, and much more. A review workbook is also included.

Other programs in the series are also available. Call your authorized Waukesha Engine Distributor. ■

## Service Tip: Use The Correct Antifreeze

This water pump seal failed in less than a week. The failure was attributed to a high concentration (531 PPM) of silicates formulated in the automotive type antifreeze used in the engine. Automotive antifreezes should never be used in your industrial engine because they are formulated to protect aluminum engines during periods when they are not operating. The silicates formulated in automotive antifreezes have been known to cause fouling deposits as well as to cause water pump seals to fail prematurely. ■



To prevent water pump seal failure, avoid using automotive antifreeze in your industrial engines.

### Answer:

A technician from the Waukesha Engine Distributor was called in to dig deeper into the problem. He began by removing the cylinder head and pulling the piston. The side of the piston had become scored and the rings stuck in the grooves, which is evidence of "coking." Discovering this, he pulled the cylinder sleeve for a closer look.

The outside diameter of the sleeve was coated with calcium mineral deposits, which caused a lack of heat transfer to the engine's cooling system that resulted in scored pistons and stuck rings.

Proper cooling system chemical treatments would have prevented the problem from occurring. Engine users often think of additives as anti-freeze enhancers and rust inhibitors. However, that "rust inhibitor" does more than simply prevent corrosion. A proper inhibitor will react with hard water elements, forming a soft compound that, for the most part, will remain in suspension thereby preventing hard, high-temperature deposits from forming. Any deposits that do form are soft in nature and can be easily removed with commercially available cleaning compounds. One such manufacturer that offers an excellent product is Union Carbide. Unfortunately, however, once hard deposits are formed there is very little chemical cleaning will accomplish.

For more information on Waukesha Engine coolant requirements, refer to Technical Data S-6699-7 available on our website.  
[waukeshaengine.dresser.com/coolant](http://waukeshaengine.dresser.com/coolant)



The Waukesha Maintainer, printed quarterly, is intended to enhance and promote communications to all areas of the Waukesha Engine Family.

Waukesha Maintainer  
Waukesha Engine  
Dresser, Inc.  
1000 West St. Paul Ave.  
Waukesha, WI 53188-4999  
Phone: 262-547-3311  
Fax: 262-650-5670  
[dan.vnuk@waukeshaengine.dresser.com](mailto:dan.vnuk@waukeshaengine.dresser.com)

Editor: Daniel R. Vnuk  
Design/Layout: Amy Kuhnau