

Issue 6

WATSON DIESEL INC.

In a past issue of our newsletter we discussed preventative maintenance that could be performed by the customers in their shop, including oil changes, chassis lubrication etc. This month we will discuss some preventative maintenance that should not be done by the customer but by a trained technician. To use an analogy, if one of my technicians were to go out and try to plow & cinder a road or grade a road and clean ditches, they would probably do more damage than they would good! My guys can shovel a sidewalk ok but they probably shouldn't try to plow a road. By the same token if a road guy were to try his hand at doing internal engine work, the same result would probably occur. We all need to know our limitations.

All of that out of the way, we are going to talk about an often overlooked maintenance item called "The Tune-Up". It is otherwise known as "running the overhead". Whatever we call it, it is simply setting the engine valves, injectors, and engine brakes back to OEM specifications. Most engine manufacturers recommend that this be done about every 30,000 miles or 2000 hrs. This is probably the most overlooked and yet most beneficial maintenance operation that you can do. Pound for pound you get more bang for your buck by doing a "tune-up" than any other operation. You get huge returns on your investment in 4 different ways. Number 1 is an increase in fuel mileage. Number 2 more power. Number 3 a smoother running engine, and number 4 longer engine life. And here is why. During normal engine operation the valves, both intake and exhaust, have a tendency to recess up into the cylinder head as the valve face and valve seat wear into each other. This upward movement causes a decrease in the valve to rocker arm clearance. This decrease in clearance causes two problems. In extreme cases the valve will eventually be held off of the valve seat causing a lack of heat transfer from the valve into the valve seat. This can eventually cause valve failure from the heat not being transferred into the seat and then into the cylinder head creating the potential for a "burned valve". The second problem is that the change in clearance effects the timing of the valves opening and closing in relation to the position of the piston in the stroke. On the flip side if you were to have an engine with excess valve clearance, when the valve goes closed as the cam follower runs down the ramp of the camshaft lobe, the excess clearance allows the valve to "snap" shut instead of gently seating back onto the valve seat. This can cause extreme pressure on the valve face where it meets the valves stem and could result in a valve head popping off and going through the engine. Not good! On the other hand, the injectors (if the engine has injectors that are opened by the camshaft instead of injection nozzles that are a hydraulically actuated unit) have a tendency to become too loose due to the normal camshaft to rocker arm or follower. This condition causes the injector to fire later in the compression stroke resulting in power and fuel mileage issues.

Another benefit from the "Tune-Up" is that the technician, while having the valve cover off, will be looking for other things that could be going bad. Like a broken valve spring, worn engine brake components, worn valve train components such as camshaft lobes and followers. If you have a "non-electronic" engine we will be able to check the injection pump timing that can be out of spec due to simple gear train wear.

At Watson Diesel, Inc. we have a special insight into these "valve train matters" as we have spent the last 30 years rebuilding cylinder heads for heavy duty diesel engines at our rebuild facility. So remember, don't just think of Watson Diesel, Inc. as the choice for your next new truck up-fit or refurb, but as your full service facility for your truck needs. Our ASE certified technicians are some of the best in the region.

So as spring approaches, think about the "tune-up" before the upcoming road repair season or before next winter. Call our shop or Jeff Pepper in sales, and talk to them about scheduling your truck in. It is never too late to start a good solid preventative maintenance program, and a good program starts with us.