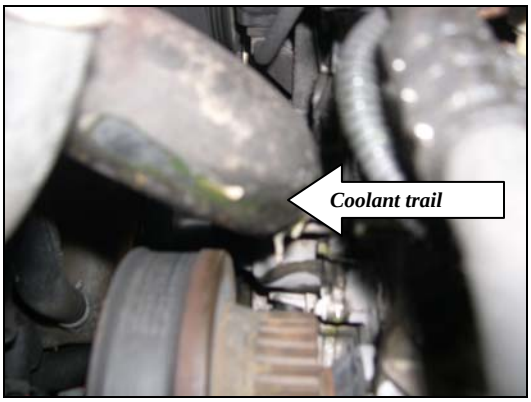
"Mustang How To"

Article by Lucien Boutin

V6 water pump replacement

Member Tim Reed owns a beautiful 2006 Convertible with a V6 engine and was experiencing coolant loss as well as some power loss while driving his Mustang. The car was not over heating but he had to add coolant quite often. Tim had me check it out and I found the water pump seal was weeping behind the pulley.

View from under engine near crankshaft pulley

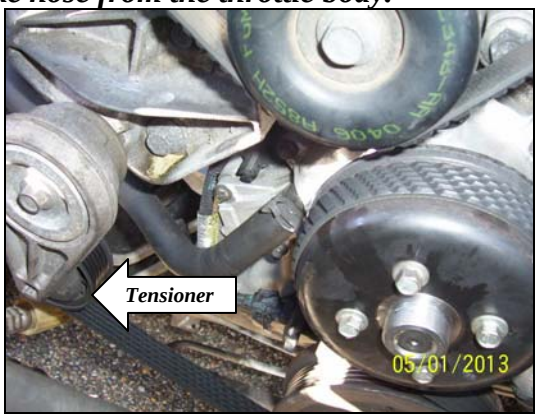


Coolant trail on lower radiator hose

Notice in the pictures the coolant trail on the oil pan and lower radiator hose. This job is pretty easy and takes about 1 hour to do. That said here is how to get it done.

The first thing is to make sure the engine is cooled before opening the radiator. Never open a radiator when hot as the coolant temperature is around 200 degrees and can cause serious injury. Always follow safety precautions for any job you attempt!! Open the radiator drain plug and drain coolant into a container for later use. Once empty the next step is to remove the air intake hose from the throttle body.

Location of clamp for air intake tube

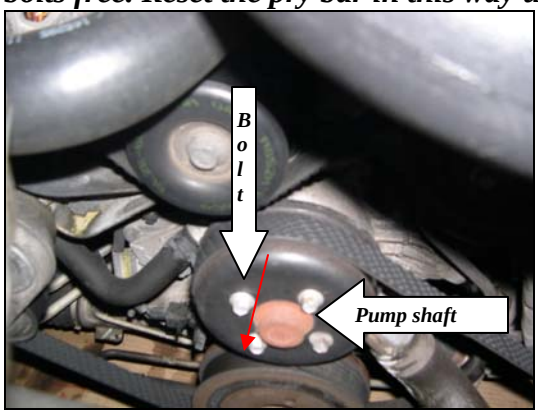


Serpentine belt tensioner

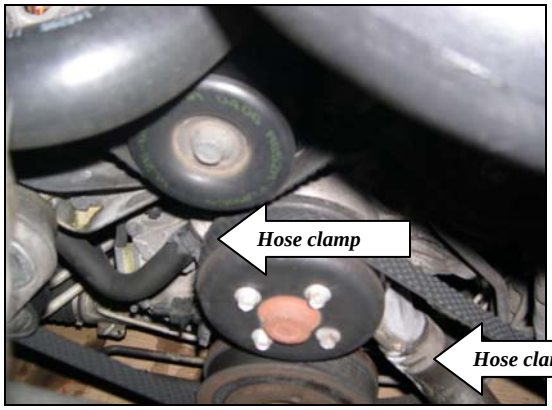
Undo the clamp at the throttle body and remove hose. Next is to remover the serpentine belt. Use a breaker bar or ratchet in the square hole of the tensioner to loosen the belt. The tensioner is spring loaded so be careful when taking off the belt. If you do not

have a diagram of how the belt is routed, make one or take a picture to show how it is run.

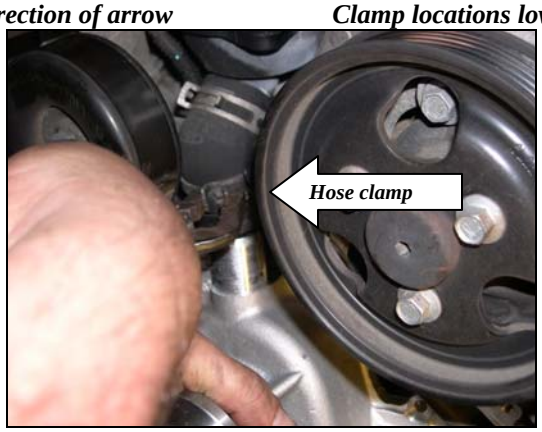
Next is to remove the water pump pulley from the pump. You can try this with the belt still on to help hold the pulley tight but it could still move and you will have a hard time to get the pulley bolts loose. The trick to this is to use a small pry bar wedged between the pump shaft and a pulley bolt to keep the pulley from turning while you break the bolts free. Reset the pry bar in this way until all the bolts are loose.



Set Pry bar following direction of arrow



Clamp locations lower radiator and bypass



Upper bypass clamp location

Once the pulley is removed you can now remove the hose clamps from the lower radiator hose, and both upper and lower bypass hoses. Remove both lower hoses. To remove the upper bypass hose you need to remove the 12 water pump bolts and slide the pump down off the upper hose and off the engine. Once the pump is removed it is time to carefully scrape off the gasket from the mounting surface of the engine timing cover.

Prepare the new pump and gasket for installation. I will let you in on a secret to keep the gasket from getting ruined and your frustration level down while installing the pump. To help hold the gasket in place during installation use rubber cement on the gasket surface that will mate with the pump housing and glue the gasket to the pump being sure all bolt holes in the gasket match the pump.

Side of gasket to be glued

Gasket installed on new pump

It is now time to install the new pump to the engine. Installation is reverse of removal. Make sure you tighten all bolts and install all clamps. Be sure to close radiator drain before you fill the radiator. Check your belt diagram for proper belt installation while being sure that the belt is seated properly in the pulley groves. Once this is done you can now refill the radiator with the coolant you drained if it is not contaminated or better yet refill with the proper 50/50 mixture of coolant. Do not over fill the reservoir as this will make a mess. Next start the car and let the engine come up to operating temperature while checking for any leaks. If you have one stop and fix it before you continue. Let the engine cooling fan cycle at least two times to insure that the system is free of any air pockets and be sure to top off the coolant to the proper level. You are now ready to enjoy a worry free drive.

Tim Reed's 2006 Convertible