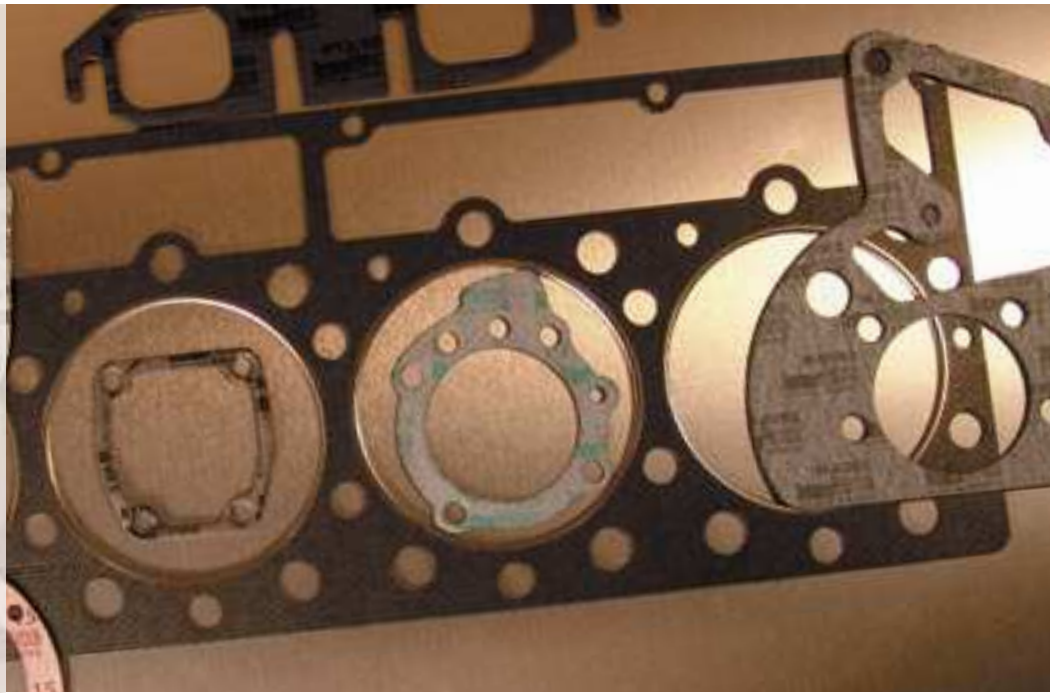
Choosing and Using Gaskets Correctly



If you want to see a customer really blow a gasket, try messing-up a gasket job. A flaw in a paint job brings complaints. But a flawed engine or intake manifold job will result in a big-time loss of credibility with customers, not to mention a time-consuming make-good.

Gaskets are used anywhere a positive seal is needed between parts of a system. In today's market, however, there are a number of newer materials and gasket formulations that make the job both easier to do and more reliable for the buyer.

Selecting a gasket for an application involves consideration of literally hundreds of factors. It is essentially the task of describing the bolted joint in the technical terms for which there are gasket material performance test properties available. In this way, gasket material performance capabilities can be compared to the requirements of the joint and different gasket materials can be compared to each other to determine the best fit to the application. The gasket material and thickness are specified simultaneously.

Beware of suppliers that intend to sell lower priced gaskets made with the wrong material for the application; it is known that some automobile gaskets have been sold to fulfill diesel engine needs. This kind of mistakes could certainly cost you money and time.

CTP in association with Interface Solutions provides different types of gasket materials, encompassing a wide range of price points, performance capabilities, and intended uses. As material technologies evolve, new groups of products are introduced, which are intended to replace older technology. New products are always expected to offer performance advantages over the products they replace, and can often offer price advantages as well. In order to ensure customer satisfaction, computer programs are used to calculate all of the necessary parameters of the joint and, compare these characteristics to performance properties of gasket materials.

Gasket Basics

Regardless of the application, there are certain general procedures a technician should follow any time a gasket is being replaced. The specifics change depending on the different areas of the machine a technician is working on.

First of all, the basics. One of the key requirements when rebuilding an engine is to keep everything as clean as possible --- this means both the gaskets themselves and the gasket mating surface on the engine parts. All surfaces must be free of dirt, water, oil or grease. Note that water can be just as much a problem as old adhesive material. Be sure to remove all of the old gasket material that may be sticking to the oil pan, cylinder heads or intake manifold.

The area should be free of burrs. Next, be sure the gasket mating surface is flat. There should not be any warpage in excess of 0.0025 inches to 0.003 inches in any direction. To check the cylinder block for warp, run a straight-edge across the gasket surface of the deck. Measure across the width and length at several points to get a good reading.

It is important to keep the gaskets themselves clean throughout the installation process. Gaskets should not be taken out of their packaging until they are ready to be installed. Of course, no gasket should ever be reused.