

TECHTOPICS

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Other Questions and Clarification

The answers to a few other questions bear repeating.

Q. - Are commercial vehicles covered by the Gold Card Lifetime Limited Warranty?

A. - No, commercial vehicles are not covered. The vehicle must be privately owned. The Gold Card Warranty does not apply to any radiator which has been installed in any commercial, governmental, off-highway, original-equipment or racing vehicle.

Q. - Are parts and labor covered?

A. - The cost of labor, antifreeze and any additional parts/service required to complete the installation of a replacement radiator is not covered by the Gold Card Lifetime Limited Warranty. This is typical of most manufacturer-backed national warranties for aftermarket products such as mufflers.

Q. - Is there any mileage limitation?

A. - No, miles are not limited.

Q. - Who can I contact with questions?

A. - Modine will answer your questions by phone between the hours of 8:00 a.m. and 4:00 p.m. central time. You can contact a Modine customer service representative by calling (414) 636-1222. Information or assistance regarding the Gold Card Warranty and/or warranty claims may also be obtained by writing to Modine.

Gold Card Service Center
Registration

It is not necessary for you to register to become a Gold Card Service Center. If you receive **ShopTalk**, your business has been included in the Gold Card Service Center consumer referral network. If you wish to confirm your registration, please return the postage-paid reply card found on the gatefold flap of this issue of **ShopTalk**.

You can also use this reply card to request a free package of Gold Card Lifetime Limited Warranty promotion materials. The reply card can even be used to notify Modine of an address change. If you wish to be removed from the Gold Card Service Center consumer referral network, just check the appropriate box, fill out the card and drop it in the mail.

New gasket tape makes job easier



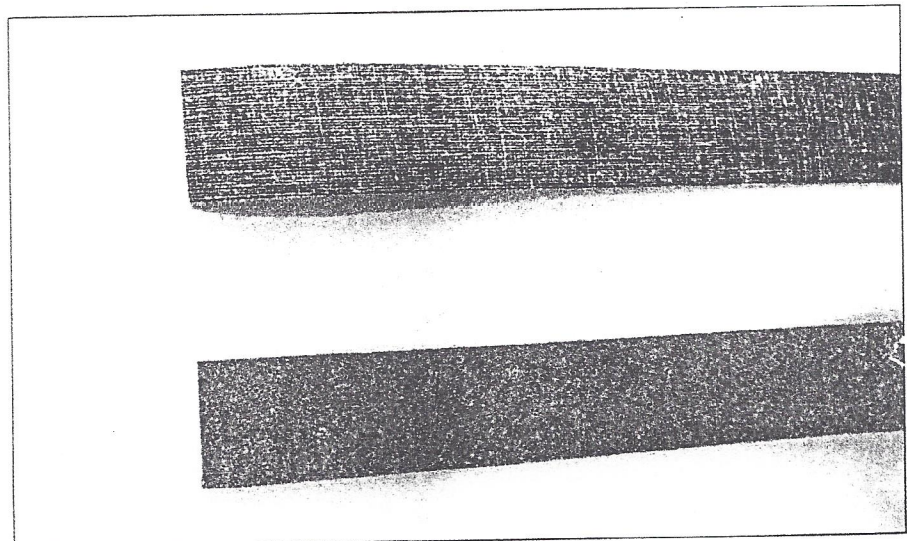
Larry
LeProvost

To bring you up to date on the latest developments in gasket tape, Modine is pleased to welcome back Larry LeProvost, a frequent contributor to these pages. Larry, executive vice president for the Johnson Manufacturing Company, is well-known as a speaker at industry seminars nationwide. Questions on any of the subject matter that follows can be directed to Larry at the Johnson Manufacturing Company in Princeton, Iowa, (319) 289-5123. The observations of guest contributors in ShopTalk do not necessarily reflect Modine's own viewpoint.

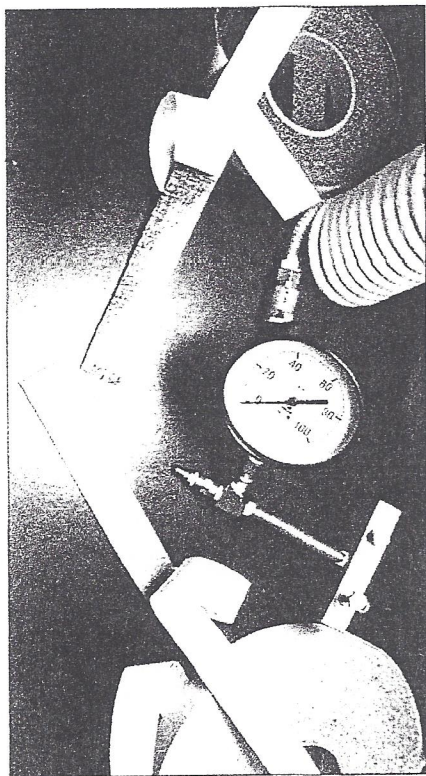
More than two years have passed since the TechTopics article entitled, "Tips for Gasket Tape Users" appeared in **ShopTalk**. During that time, according to Price Prichett's newest book, **MINDShift**, nearly 200 million people have been added to the world population, and something on the order of 25,000 new products have hit supermarket shelves. With changes of this magnitude taking place around the world, it should come as no surprise that TWO distinctly different types of gasket tape are now available.

Since July '94, hundreds of hours were devoted to sampling, testing and evaluating gasket materials. One change in the manufacturing process provided the catalyst for launching this ambitious evaluation. The regular gasket tape used for many years can best be described as a cork and rubber compound having a fine cloth backing with an adhesive and release paper applied to the cloth side. Because the adhesive itself was previously applied wet, it fully saturated (and sealed) the cloth fibers before curing. This method of applying wet glue was abandoned, mainly for environmental reasons. Using the present dry transfer process, the adhesive is already cured on release paper before it is applied to the cloth side of the tape. This gives you much better control over the glue thickness and speeds up process time immensely, by totally eliminating the curing cycle. It does not, however, provide a way for the adhesive to permeate the cloth fibers. As a result, some fibers may act like tiny straws, permitting champagne air leaks to show up when you are testing a bolted unit. None of these champagne leaks actually leak liquid because the coolant seals the fibers.

In early 1995, it became apparent that some installers, upon seeing these champagne air leaks, began the practice of adding a gasket sealant; while others developed the tendency to "over torque" the bolts. Both of these practices can lead to a different problem, namely "crushing". Have you ever asked your computer software to

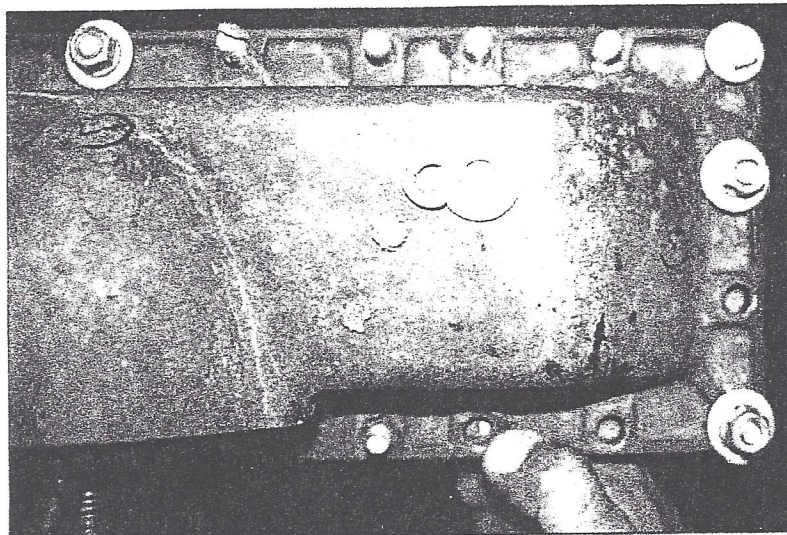


do more than it was designed to do, with less memory or disk space than it needs, and you have no backup copy? Then you know all about that sinking feeling in the pit of your stomach when you see those words, "fatal error has occurred", just before your system crashes. You run the same risk with gasket tape every time you use sealants or over torque the bolts. By the time you notice the tape extruding out from between the tank and header, it may have already started to split down the middle between the bolts. For that reason, installation recommendations have been included in every box of gasket tape since January '95. If you have not taken time to read this updated information, please do so before your next bolt-on job.



A test apparatus was developed that roughly determines at what point a "fatal error" occurs with gasket materials. A summary of these findings was presented at the 1995 NARSA National Convention in Las Vegas. Since then, testing of various gasket materials, with or without cloth, separately or with a sealant, such as RTV silicone has continued.

As a result of this work, a premium gasket tape that can best be described as a special oil resistant, synthetic rubber and cork compound was introduced. This tape is distinguished by its light green color. Due to its inherently good integrity and compressibility, premium gasket tape does not need to incorporate a cloth backing for support. This is one change that may save you a lot of time. After installing the tape and putting the tank in place, you can often press bolts through this material by just using your upper forefinger, or gently tap them through with a hammer.



Usually the excess material pops out, clearing each hole as you insert a new bolt. You should no longer have to pre-cut, drill or punch every hole first, as still recommended for regular gasket tape with the cloth backing. Note however, this material does not tear evenly, so it is highly recommended that you cut it with a knife or scissors when making your overlap joints at each corner. Also, avoid stretching the material when you attach it to the header.

Note: Installation recommendations are different for the two types of gasket tape, and these recommendations are updated from time to time. Since the premium gasket tape may still be new to you, please note the following eight points when installing it:

Attention: Premium Gasket Tape Users!

For best results:

- (1) Remove backing and apply gasket tape to a clean, dry header or tank surface. Sand blasting the header and tank surfaces reduces extrusion of gasket tapes.
- (2) Push bolts carefully through holes to avoid tearing gasket tape. The new premium gasket tape does not have a cloth backing. Use care not to stretch tape.
- (3) Do not apply a separate adhesive or

- RTV silicone as this may cause extrusion, crushing, and possible failure of gasket tape.
- (4) Overlap the short end pieces by 3/8" on each long side piece and at all corners; do not use full overlap.
- (5) Do not over torque the bolts! Most applications call for 13 to 15 foot pounds of torque evenly applied to all bolts. Add 5 pounds of torque when using 1/8" thick gasket tapes. It is never a good practice to exceed 20 foot pounds of torque for 1/16", or 25 foot pounds for 1/8" materials, as crushing (extrusion) of the tape may occur.
- (6) Gasket tapes relax (lose some of their memory); so after 15 minutes, retorque all bolts a second time using the original torque setting.
- (7) Using new grade 5 bolts, flat washers, lock washers and nuts greatly optimizes running torque.
- (8) **Caution:** On low-flow radiators where RTV is used to seal the baffle, allow sufficient time for the silicone to cure before introducing coolant into the radiator.