Filter Manufacturers Council

Technical Service Bulletin 98-3

Transmission Pan Gaskets and Installation Procedures

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There are many different types of transmission pan gasket materials and many different pan designs. All the components of the seal between the transmission and the pan are designed to work together. Some gaskets seal with considerably less flange load and, consequently less torque. It is important to use a gasket type that will work with the pan type in the application. Below is a summary of the more common gasket/sealant materials and the pan surfaces or types they are used with:

Gasket or Sealant Material	Pan Sealing Surface or Type
Pure Cork	Flat surface, raised or recessed ribs between pan holes
Cork/Rubber	Flat surface, raised or recessed ribs between pan holes
Cork/Rubber with Rubber Coating	Flat surface, raised or recessed ribs between pan holes, continuous ribbed pans
Neoprene Rubber	Flat surface, continuous ribbed pans
Formed Rubber	Lipped pans
Silicone Rubber Adhesive Sealant	Flat surface - for specified application only
Reusable Gaskets - Plastic/Rubber with Metal Torque Limiters	Flat surface - for specified application only

- Pure cork gaskets are rarely used. They have been replaced by the cork/rubber and Neoprene Rubber gaskets, which seal better and more consistently than pure cork. Pure cork tends to dry out, shrink and become brittle over time.

- The Cork/Rubber, Cork/Rubber with Rubber Coating, and Neoprene Rubber are the most commonly used gasket types. These cover a large range of pan surfaces and types.

- The Formed Rubber gasket is a special application gasket. These are used with the lipped style pans commonly seen in Mercedes, Volkswagen, and BMW Transmissions. The gasket is molded to shape and fits over the edge of the pan, the pan is then bolted up to the transmission and the seal made.

- Silicone Rubber Adhesive Sealant uses only a bead of sealant to make the seal between transmission and pan. Although original equipment

seal between transmission and pan. Although original equipment manufacturers use silicone sealant in these applications, most gasket types will work with these style pans as they are of the flat surface type. Applying the silicone sealant is time consuming and critical. Incorrect application of the silicone, and the seal could possibly leak.

- The Reusable gaskets are also molded to shape. They include metal cylinders located at each bolt hole location. The metal cylinders are used to limit the load applied to the gasket seal and eliminates the possibility of over torquing. These types of gaskets because of their rigid construction can be reused until they are damaged or begin to leak. Other gasket materials may be substituted in this application only if they are thick enough and seal as effectively as the reusable gaskets.

- Clean all mating surfaces. Remove any old gasket material, oil, or silicone sealant. Be careful not to scratch or otherwise damage the case flange surface.

- Check the pan for flatness. Straighten stamped pans, replace if necessary. Distorted cast aluminum pans should be replaced.

- Position gasket on the pan. Some gaskets have bolt holes, which are smaller than the remaining bolt holes. Insert bolts up through the pan and smaller holes in the gasket. The smaller holes will hold the bolts in place for easier installation. (If the application uses silicone sealant instead of a pan gasket, apply a 1/8-inch (3.175 mm) diameter bead of silicone all the way around the sealing surface of the pan, making sure not to leave any gaps). There are some pans which have a raised lip around the pan bolt hole. The pan gasket on these applications must be thick enough to compress and still not bottom out on the raised lip. In addition the bolt holes in these gaskets must be larger than the diameter of the raised lip on the pan.

- Replace pan on transmission case. Hand tighten the bolts, starting in the center, then continue to opposite sides, crisscrossing and working in sequence. With torque wrench tighten to manufacturers specifications, again starting in the center, and crisscrossing in sequence.

- With vehicle on level ground, refill transmission with correct type and quantity of transmission fluid recommended by the manufacturer or the vehicle.

- Start vehicle and check for leaks. Check dipstick for correct fluid level. Do not overfill.

Leakage can occur after an installation for a number of reasons, mainly due to such things as:

- Installation of the incorrect gasket type.
- Incorrect tightening of pan bolts.
- Using a gasket that is too thin for an application

- Using a gasket that is too thin for an application
- Using a warped or damaged pan.
- Gasket covering a raised lip around bolt holes.
- Use of sealant when not required.

The Filter Manufacturers Council urges everyone to dispose of all used filters properly.

For additional information, contact:

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