5 X HOLES ³⁄₈" φ.

2 OFF! STIFFENING STRIP MADE FROM ¼ x ⁹⁄₁₆ M.S OR NEAREST.

TONY LAKE   01604   529104.

½ SCA[LE]

MGV8 sump gaskets

A thread on the V8 Bulletin Board in May 2016 discussed the suitability of several sump gaskets for the RV8. One contributor, Tony Lake, mentioned how a problem with the pressed steel sump is the light steel section used. He noted "the V8 sump is one of the best candidates I've seen for leakage, along with the valley cover". He then mentioned he had some sketches of the stiffening pieces he had made to overcome the problem and solve the leaks.

Tony Lake's contribution to the thread was "one of the problems with the pressed steel sump is the light steel section used to facilitate a relatively deep draw. Although the flange is rolled over it is not very stiff so clamping load midway between bolt holes drops pretty much to zero, so it is not surprising that leaks occur.

I built another 3.5 engine for my Factory MGBGTV8 five years ago. A local machinist made up some **longitudinal stiffening pieces to fit inside the sump flange**, just like the stiffening piece that fits at the rear of the sump. I used 0.25"x .56" mild steel strip. That allows 0.25" longer bolts to be fitted which provides more stretch for the same torque and gives a bit more margin to deal with the different rates of expansion of steel and aluminium.

I used the **fibre gasket**; the design with a hard insert is superior because it provides controlled compression on the gasket material around the bolt holes, but I fear that with the same weak flange leakage is still a risk. Now 20,000 miles on and the sump is still as dry as is the front oil seal but the rear seal is now leaking - woe is me.

Gasket designers don't usually specify sealant to make their products work. I'm **not**

sure they look at flange stiffness in sufficient detail to ensure leakage really is a thing of the past. Fuji film is a pressure sensitive paper that visually displays load distribution on a flange between mounting bolt holes - quite clever. The result looks like a badly printed banda copy; remember them? A poor design has good solid colour at the bolt holes fading to nothing at the mid-point. Fuji film fits at the stiffest surface under the gasket, in this case the block, and quickly confirms why joints leak.

The V8 sump is one of the best candidates I've seen for leakage, along with the valley cover. If anybody is interested I've got a sketch of the stiffening pieces I had

made, all the dimensions are good old simple imperial fractions.

Copies of two sketches – a short stiffening piece and a long stiffening piece are available via the links below.
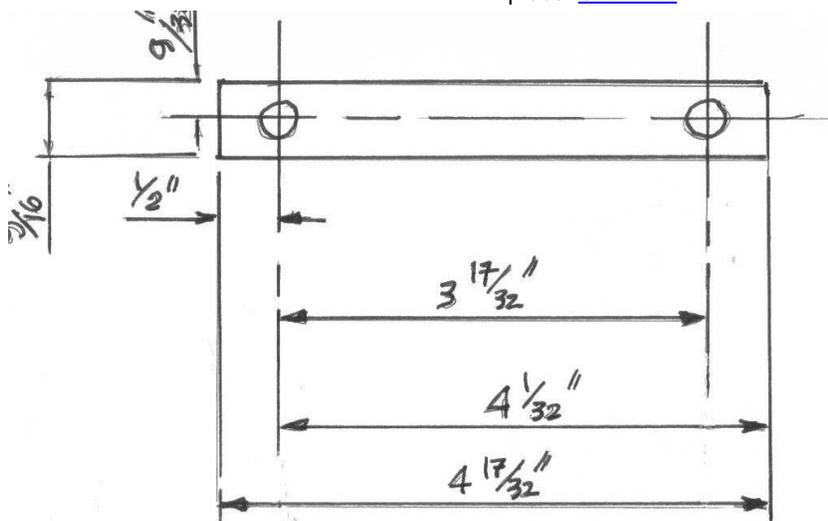
Peter Garton added "may I suggest you obtain the rubber version of the sump gasket and try again. Racetech Direct in Henley can supply it, I think the part number is. RD2087A.

Geoff King noted "the supplier and part number for the rubber type of sump gasket Peter mentions is correct. See the Race Direct website. I hope the Jaguar service workshop (used by Peter Garton in Germany) didn't use sealant on a gasket; if they did the chances are sooner or later it will leak. As I mentioned when this was discussed on the V8BB last October 2015, all that is required is the smallest amount of an **anaerobic sealant**, such as Loctite 518, the mechanic can apply where the vertical front cover joins the horizontal sump and crankcase face.

Oil leaks from the sump leak are generally caused by distortion of the pressed steel sump and/or overtightening of the bolts. When a leak occurs the natural reaction is to tighten the bolts, this distorts the sump further and tends to increase the leak. The solution is to remove the sump and clean any sealant off and correct any distortion of the joint face before reassembly with a gasket or sealant – but not both. A Range Rover 3.5/3.9 gasket will fit the RV8; it's the same engine of course.

See larger copies of each sketch at: short stiffening piece and a long stiffening piece. Sketches

3 ¹⁷⁄₃₂"

4 ¹⁄₃₂"

4 ¹⁷⁄₃₂"

2 X HOLES ³⁄₈" φ

FULL SCALE

LAKE STIFFENING STRIP MADE FROM ½" x ⁹⁄..." M.S OR NEARE[ST]