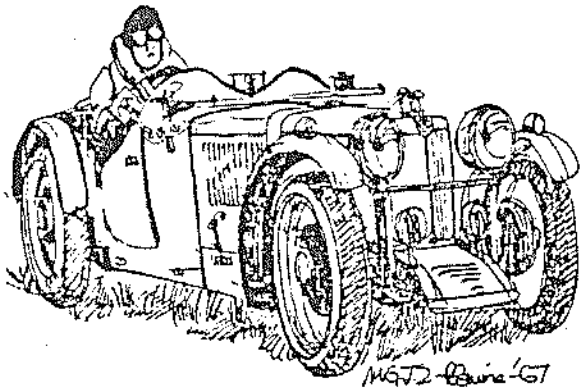


J2 TECHNICAL ARTICLE

Number 211

July 12, 1984

From Octagon Heaven

Source: Mac Reynolds
Thanks Larry Lee

VERTICLE DRIVE ALIGNMENT AND OIL LEAKS

VERTICAL DRIVE ALIGNMENT AND OIL LEAKS
MMM SERIES MG

- -

Whoever surrounded our MGs with this Blue Funk deserves to drive a 4-door Hudson Sedan all the rest of his miserable life.

But with thanks to the MMM Register of the MGCC, a cheerful zephyr, plus a few thoughts, we are free at last.

As a starting point, remove the camshaft, vertical drive shaft, dynamo and all the fittings in between. Throw away the damned Hyatt bearings, their sleeve, and buy a pair of Torrington #HJ-142216 Roller Bearings. Remove the head stud nuts and make sure you can slide the head in all directions at least 1/16" on its studs. If you can't, remove the two locating head studs (RR and LF) and grind some metal off the boss on each. Remove the head and gasket.

Place a new 1/64" gasket(w/o cement) between nose piece and block, and lightly snug up the bolts.

As the English have prescribed, machine a steel alignment rod about 4" long to 1.375" + .000" - .002" diameter with a point on one end.

So far, so good; but remember that most oil leaks are due to vertical drive misalignment, which in turn destroys the clearances and the bearings. So - to the scene of the crime:

The MGCC boys correctly tell us to have the vertical shaft hard chromed and ground to 0.6253" diameter - a necessary but expensive operation. Press onto the shaft a pair of Torrington inner races #IR101416 (the two steel thrust washers go on first!)

THE
LIGNMENT: First of all, make absolutely parallel the top of the block and the dynamo base surface by dimensioning as shown. If the nose piece won't rotate enough, pull out the locating pin. Cement the gasket and tighten the nose piece to the block.

Lay the head on the block (sans gasket), screw the dynamo tightly to its base, and drop your shiny new alignment rod down through the head and into the centering "pip" in the dynamo shaft. Cranking the engine at this time will determine if the dynamo armature shaft is bent.

SEMBLY: With its shim wet with cement, fit the oil housing (with a new oil seal ring) in place. Move fast now before the cement dries! Drop in the new Torrington bearings, replace the drive shaft, install drive fork, and carefully center the oil return threads in the housing; tighten up everything.

(continued on back side)

After you hook up the vertical drive flexible coupling, you may crank the engine and if you've done everything right so far, the coupling ring will have no wobble.

Sometimes, however, the forks aren't symmetrical and you must make it absolutely level with shim washers. (It is surely written somewhere that nothing is symmetrical) As a final check of your work, loosen the dynamo holding screws a bit, crank the engine, and dynamo should be rock-steady. Smile if it is.

Some Extra Thoughts -

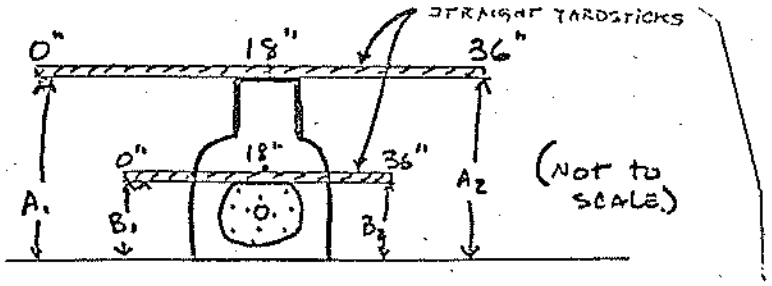
The oil housing is also a base for the vertical drive shaft downward thrust - a base for the bearings. The thickness of the shim between the housing and the head determines the gear mesh with the camshaft gear.

Unless you've lived in clover, the top dynamo bearing is shot; replace it.

Make sure the oil return threads on the upper fork are sharp and perfectly round, and will clear the oil housing by .002" - .003". If the housing hole is too large, sleeve it, or replace the housing. Be sure to get the oil return threads as far up into the housing as possible, with the fork arms just clearing the housing; shim the fork onto the shaft, if necessary.

The Blue Funk is blown away; the Sun is out; Good Motoring!

Mac Reynolds
15 Jan 75



Because the top & bottom of the block MAY not be PARALLEL, use the FORMULA: $A_1 - B_1 = A_2 - B_2$