

Fitting a Boyer ignition to a magneto fired G80

This is not easy as no standard kit for the AJS/Matchless single is available. However, this operation shows how it could be done.

The bike, a 1957 G80S, was upgraded to 12V a few years back. Be aware that the Boyer will eat about 20 watts out of the system - make sure you have a sufficient powerplant at hand first.

Usually a Boyer conversion will render the mag useless, but this approach does not use the mag or its shaft for mounting and driving the kit. Instead the kit is mounted on the exhaust cam, replacing the mag chain sprocket without altering the sprocket shaft.

This means that in case of a Boyer break down, a power failure, or what ever no-spark situation could be imagined, the original sprocket, the AAU (automatic advance unit) and chain will take you home.

As said, no standard Boyer kit is available for the heavy AJS/Matchless singles. For this particular operation, a Boyer MK III kit for a BSA single was used.

This however requires some modification to the kit. First of all to make it fit the standard parts of the G80. Secondly to allow it to be fitted to the limited room available under the mag chain cover where the cam chain drive sprocket usually rests.

It would most likely be much easier to fit the kit on the mag shaft in the ATU bulge, but then considerable and destructive modifications would have to be made to the mag and/or the ATU.

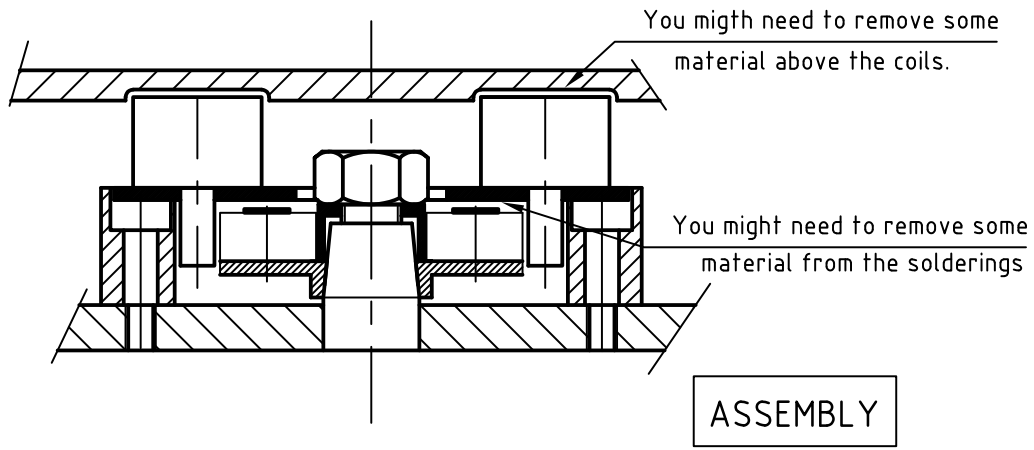
Modifications:

1. The mounting system of the Boyer rotor disk (with the small magnets) was altered to a hole tapered at the same angle as the exhaust cam sprocket shaft.
2. A spacer was made from stainless steel, as a more ferrodic material could disturb the magnetism of the rotor.
3. The screws mounting the mags to the rotor were ground down to gain more space. Everything counts here.
4. Holes for a small home made extractor were drilled.
5. A large base housing for the stator plate was made from a lump of alloy. Again to facilitate room in there, a recess in the base housing had to be made off-set.
6. Furthermore, a trifle of material was removed from the wall in the inner chaincover. This was however done in an earlier modification to allow more space for a sprocket extractor to fit with the mag chain in situ.
7. The coil and controller were fitted in front under the tank, hidden from critical eyes.

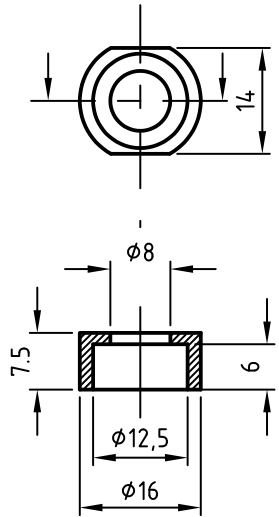
As said, not the easiest approach – but with a lathe and a drill stand at hand, it can be done in an evening.

All modifications were designed and practically brought to life by Ib Vestergaard in Denmark. Feel free to aim questions to him at iv@jampot.dk

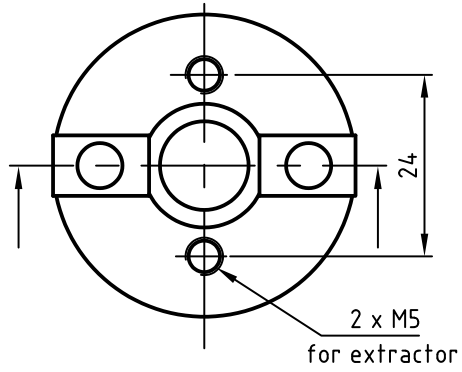
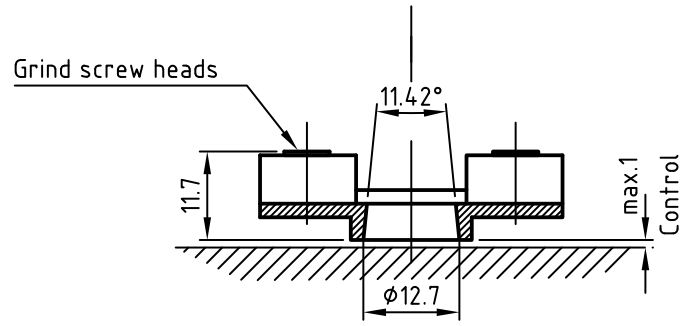
Good luck,
Christian Gyde,
17th january 2005



ASSEMBLY



BUSHING
Stainless steel

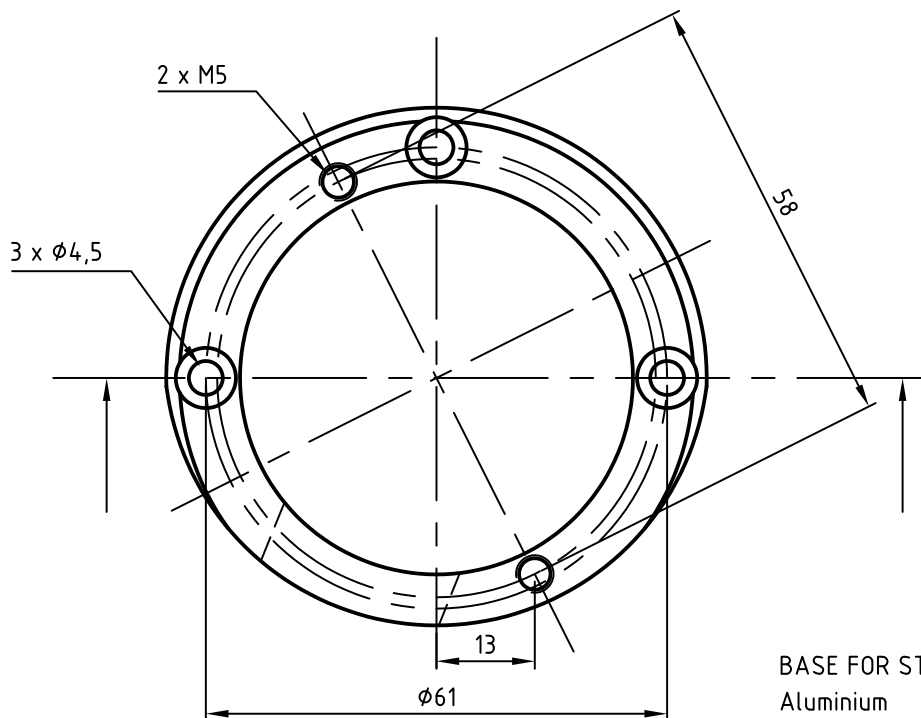
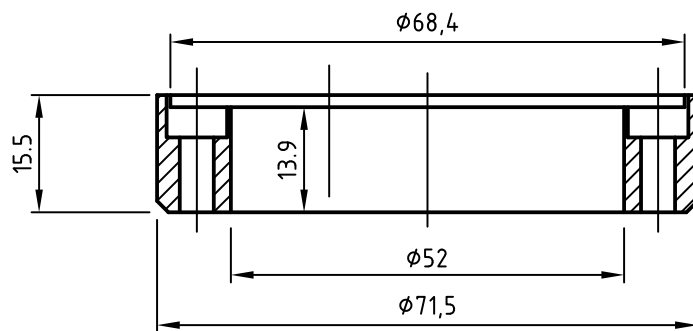
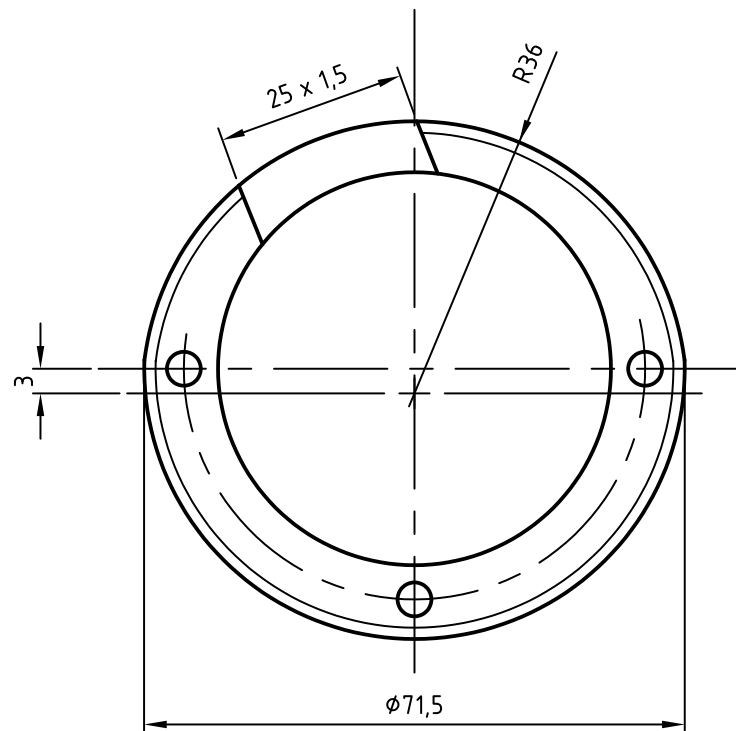


ROTOR
Modification

lb Vestergaard
www.jampot.dk

	Before doing this you must convert to 12V and have enough extra power (20W) for the system.	Scale: 1:1	Date: 07.01.05.IV
	AJS / Matchless single with magneto. ADAPTOR FOR FITTING Boyer Bransden Mark 3 KIT00051 (TRI/BSA single)	Form.: A4	Drawing no. Boyer-01 /1 (two drawings)

lb Vestergaard
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BASE FOR STATOR
Aluminium

			Scale: 1:1	Date: 07.01.05.IV
			Form.: A4	
	AJS / Matchless single with magneto. ADAPTOR FOR FITTING Boyer Bransden Mark 3 KIT00051 (TRI/BSA single)		Drawing no. Boyer-01 / 2 (two drawings)	

