

BSA SERVICE SHEET No. 712X

ALL GROUPS FLYWHEEL BALANCING (STATIC)

Revised and Reprinted October 1956.

Revised May 1958.

Flywheel balancing should not be undertaken except by an expert mechanic, who is fully equipped with the tools described in this Service Sheet.

Unless very great care is exercised, excessive engine vibration may result from any change of balance, and unless extreme care is practised in flywheel drilling, flywheels may be seriously weakened.

All flywheel assemblies are accurately balanced before leaving the Works and there should be no need to re-balance when fitting new big end assemblies unless the difference in weight between the old and new assembly is more than 1 to 1½ ozs.

When a fabricated crankshaft is employed as on the "C", "B" and "M" Group models, the method of flywheel truing is described in Service Sheet No. 607.

The equipment required for balancing is a drilling machine and knife edge rollers (see Fig. X10) which must be set up perfectly horizontal and sufficiently high to allow the flywheels to revolve with the Con Rod hanging.

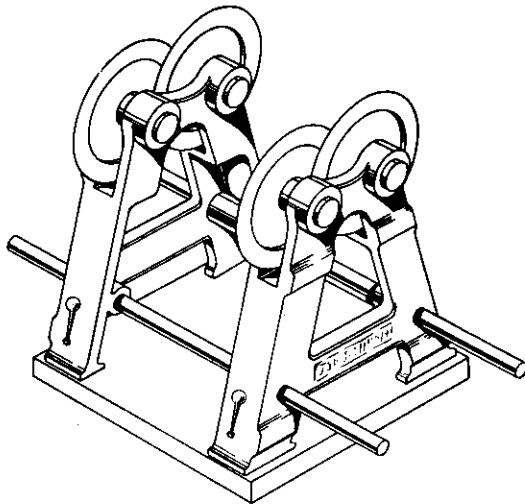
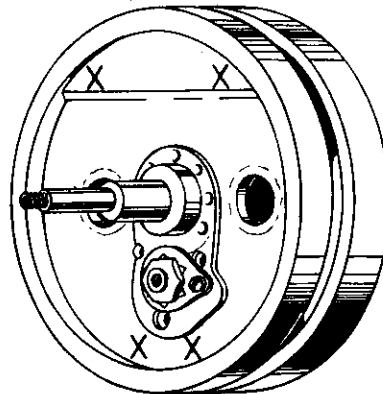


Fig. X10. Knife Edge Rollers.



X, DENOTES SUGGESTED DRILLING POINTS.

Fig. X11. "B" and "M" Group Flywheels.

For balancing purposes a small weight equivalent to part of the reciprocating weight must be attached to the small end of the Con Rod. A table of these weights is given below.

Place the assembly on the knife edges and allow to revolve till it stops, mark the lowest spot with chalk and check again two or three times.

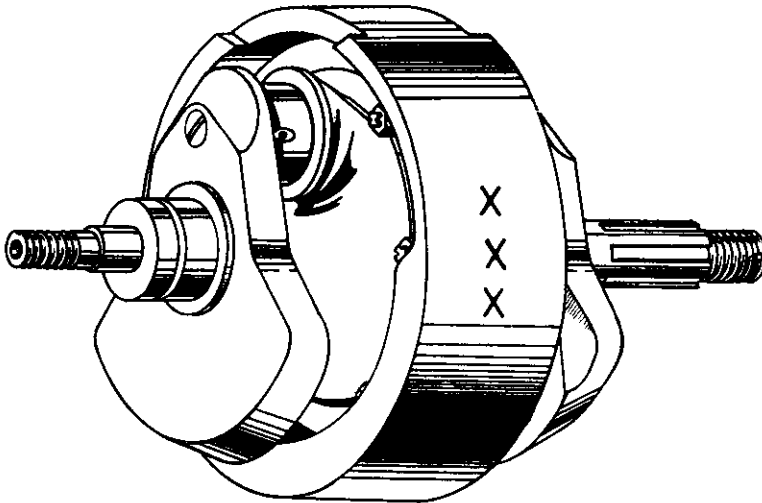
To find the amount of the out-of-balance apply plasticine to the rim of the wheels diametrically opposite the heaviest point until the wheels remain stationary when placed in any position.

The wheels must now be drilled at the heaviest spot to remove metal equal to the weight of plasticine. Care must be taken to drill each wheel equally (see Fig. X11).

BALANCING "A" GROUP FLYWHEELS.

A group flywheels are treated similarly to the single cylinder models except that the Con Rods are not fitted, a balance weight being attached to each crank pin. These are available as Service Tools, 61-3310 for A7, 61-3312 for A7 after Engine No. AA7-101, 61-3311 for A10 and 61-3497 for A10 Road Rocket. New bolts and nuts must be used to secure the flywheel and the ends of the bolts peined over after locking.

Drilling is carried out on the periphery of the flywheel instead of the webs and care must be taken to keep the holes central and not too deep, the maximum depth should not be more than 3/16" (see Fig. X12). It is preferable to start with a smaller diameter hole which can be opened out if necessary, rather than a large diameter to then find that too much metal has been removed.



X, DENOTES SUGGESTED DRILLING POINTS.

Fig. X12. "A" Group Crankshaft.

Model	Weight attached	Model	Weight attached
A7	2 @ 19 ozs. 10 drams	B32 Competition ...	5 ozs. 4 drams
A7 after AA7-101 ...	2 @ 16 ozs. 12 drams	B34 Competition ...	9 ozs. 9 drams
A10	2 @ 18 ozs. 10 drams	B32 Gold Star ...	6 ozs. 5 drams
A10 Road Rocket ...	2 @ 19 ozs. 8 drams	B34 Gold Star ...	11 ozs. 4 drams
C Group	3 ozs. 5 drams	M20	7 ozs.
B31	4 ozs. 6 drams	M21	5 ozs. 10 drams
B33 and M33	8 ozs. 8 drams		

Note:- Service Tool No. 61-3497 should be used on Crankshaft No. 67-1218 which is fitted to the Super Rocket and A10 machines after Eng. No. CA10R-4650 and DA10-101 respectively.