

3rd October, 1962

REPORT OF MEETING TO DISCUSS THE FITTING
OF SIBA DYNASTARTERS TO CRUZAHK SPORTS
ENGINES FOR USE IN BOND THREE -WHEELERS

Present :- Major V.T. Mountford, Managing Director
Mr. J.A.B. Lovekin, Westwood
Mr. R.A. Wilson-Jones, Chief Engineer

Subject :-

Two alternative layouts of the Siba Dynastarter were considered and also two methods of mounting each type.

The alternative layouts of the Dynastarter were :-

- (1) The original design which has the rotor mounted outside the stator coils which are attached to the outer face of the main crankcase casting.
- (2) An inverted type now offered by Siba in which the rotor is mounted back-to-front and the stator coils are carried on a separate external cover which as shown on the Siba drawing also houses a contact breaker.

The two methods of mounting type (1) Dynastarter which were considered were :-

- (a) The method which we have been testing for the past six months in which the rotor is carried on a steel extension to the crankshaft carrying an outrigger bearing. This was adopted for experimental purposes because it required the minimum alteration to crankshaft and crankcase. Some trouble, however, has been experienced with the crankshaft extension and it would appear that a larger taper at each end of this extension is desirable. This, however, is not feasible, at any rate at the inner end.
- (b) A method shown on one of Mr. Thomas' drawings on which the outrigger bearing is dispensed with and the rotor carried on a large diameter long taper on the end of the crankshaft. This needs the crankshaft casting to be made about $1\frac{3}{4}$ in. longer and also requires a small die alteration for the crankcase casting. Although this arrangement reduces the overall width as compared with the arrangement (1a) by some $\frac{1}{4}$ in., the estimated mass centre of the rotor over-hangs the nearest crankshaft bearing by about $2\frac{1}{2}$ in.

The Siba drawing of the inverted type (2) Dynastarter shows this with a small diameter taper and an outrigger bearing. In view, however, of our experience with this size of taper and the fact that this engine employs a rigid one-piece crankshaft carried on two well spaced bearings, it was decided that the outrigger bearing could be dispensed with and that the size of the taper should be increased to that shown on the arrangement (1b). With the inverted

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Dynastarter the distance from the nearest main bearing to the outer edge of the rotor is $\frac{1}{2}$ in more than with arrangement (1b) and the overall width of the engine is increased by about $\frac{13}{16}$ in. as compared with (1b) although it is still no wider than with arrangement (1a) which has been tried. The amount of over-hang from the estimated mass centre of the rotor to the nearest bearing is, however, only $2\frac{1}{8}$ in. as compared with $2\frac{1}{2}$ in. for arrangement (1b). The increase in length of crankshaft for the same length of taper and thread is the same as for arrangement (1b). No die alteration is needed for the crankcase.

Decisions :-

It was decided to use the inverted type (2) Dynastarter without contact breaker or steady bearing.

This is to be mounted on a large diameter taper as shown on Mr. Thomas' drawing for arrangement (1b) - possibly shorter. Messrs. Siba to be asked to supply the stator mounted on a plain round domed cover.

Mr. Wilson-Jones to find out what alterations, if any, would be needed to the jigs to accommodate the extra length of shaft. Mr. Lovekin to deal with Messrs. Siba Electric regarding the modifications required to the Dynastarter, i.e. larger taper, omission of steady bearing and contact breaker.

Mr. Lovekin to prepare a drawing of the new "generator cover" to replace the standard cover plate, Part No. W38858A, and to obtain quotations for patterns and/or dies and castings from Messrs. Surecast, Lavenders and Great Bridge Foundries. Copies of these quotations to be send to Redditch.

.....*R.A. Wilson-Jones*.....
R.A. Wilson-Jones

Copies sent to:- Mr. V.L. Young
Mr. R.E. Thomas