

Minutes of the Motorcycle Development Meeting
held on April 19th, 1961.

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Present:- Major V.T. Mountford
Mr. J.J. Booker
Mr. R.A. Wilson-Jones
Mr. R. Thomas
Mr. G.H. Baker

Matters arising:-

1.- Silencing:-

Mr. Baker reported that from the production point of view it is not possible to increase the gauge of tab washers. The Service Department reported that troubles are negligible to date.

As the results of tests it would appear that the copper asbestos washer is the most satisfactory solution, and this will be adopted. (No scrap - no delay basis as soon as we have used up existing stocks.) Tests are to proceed with woven asbestos rings - samples of which have been received.

Mr. Wilson-Jones is to proceed with various types of silencers; details of which are given in his latest report. As the result of comment at the previous meeting, a silencer was built up with the body brazed to the conical section. This silencer is at present running on a 250 cc, and is to be put on a 750 cc machine to test the brazing. As soon as possible tests are to be run to obtain comparative power figures. One or two silencers of this type are to be made by Mr. Baker.

2.- Heavy Gauge Front Forks:-

All types of springs for this front fork have been tested and found satisfactory. NOT M/MINOR S/CAR.

3.- New Fork Head Clip:-

Major Mountford reported that as far as Clipper type casquettes were concerned, we have sufficient stocks to carry us well into the 1962 Season, and therefore the position with regard to the new ball head clip on Clipper machines will be reviewed at a later date. In the meantime, the development of this should continue.

4.- New Pressed Steel Fork Head for Leading Link Fork:-
Crusader - Super Sports.

Mr. Thomas reported on the design of the pressed steel casquette. This design is to be proceeded with, and various costs were discussed. When the design is completed Mr. Thomas will send drawings to Elms Metals to produce a sample within one week on receipt of the drawings (14 - 21 days from this date).

Testing of the leading link fork is urgently required, and should be completed within the next 21 days. (It is Item 14 on Mr. Wilson-Jones' report).

In view of the long delivery period required for stampings, it was agreed that the ordering of tools, stampings etc. should be put in hand without delay.

5.- Lubrication on 700 cc Engines:-

There was considerable discussion over the advantage of single start oil pumps and the double start type. The decision to adopt the single start type remained. It was reported that the various modifications to the oiling system, which are to be adopted and which up to date have been carried out on various engines are to be made on the deep sump crankcase model. At the same time is to be converted to 750 cc. It is hoped that this machine will be ready for test within 10 - 14 days.

6.- Cross Cylinders and Pistons:-

Drawings have been received from Mr. Cross showing his design for 750 cc piston. It was also agreed that it was not possible to use the Cross type cylinder head joint on the 750 cc engine owing to the proximity of the tube seal. The copper gasket will therefore be used on this model.

7.- Chrome Plated Cylinder Bores:-

A reasonable quotation had been received from Messrs. Monochrome for chromium plating alloy cylinder barrels, and it was agreed that that these barrels should be obtained and machined by us and sent to Messrs. Monochrome for plating - castings have been ordered and are due at any time. Two of these are to be machined to the correct dimensions for chromium plating and sent to Messrs. Monochrome as soon as possible. Reference molybdenum spraying - no further action will be taken.

8.- Slotted Clutch Plates:-

These are to be taken from the experimental machine and fitted to the works combination. Three further sets of these slotted plates

are to be produced for use if necessary on customers' machines.

9.- Oil Filter on 250 cc Machines:-

Mr. Thomas reported that a satisfactory nylon filter has now been agreed upon, and an order will be placed immediately.

10.- Batch Tests:-

Mr. Wilson-Jones reported that these have been carried out on the 350 cc and 500 cc Bullet with the following results:-

| | Mean Speed | Best one Way Speed |
|---------------|--------------|--------------------|
| 500 cc Bullet | 91.52 m.p.h. | 95.17 m.p.h. |
| 350 cc Bullet | 78.28 m.p.h. | 84.13 m.p.h. |

11.- Reynolds 250 cc Frame:-

Nothing to report.

12.- Nylon Roller Cage:-

Sample has been received and approved today by inspection. Quantities will be delivered in 6 - 8 weeks.

13.- Five Speed Gear Box:-

This is satisfactory, and orders have been placed for the 250 cc Super Sports. Consideration should be given to the possibility of the use of a five speed on a Constellation either as standard or as an optional extra.

14.- The Scooter:-

The Scooter engine will now be retested fitted with a Zenith carburettor as soon as possible. The gear change mechanism is at the moment being modified, and the complete scooter will be road tested as soon as possible. In the meantime a second prototype with a modified frame to give less width is being produced. This is to incorporate the repositioning of both batteries.

15.- Bottom Link Front Forks:-

This has been dealt with under No. 4.

16.- 350 cc Crusader Engine:-

It was agreed that the most important thing is to get the engine fitted into a frame and road tested. Some bench tests have been carried out on this machine, and the results reasonably satisfactory. (15 b.h.p. through the gear box)

17.- Under 250 cc Engine:-

Mr. Thomas reported that as the result of work, which he has had to carry out on modifications to the frame for the 1962 Season, he has been unable to carry out any work on the under 250 cc engine, but he hopes that within a week he will be able to commence work on this.

Mr. Wilson-Jones suggested that the 175 cc engine might be designed to advantage as an over head camshaft type. After some discussion it was agreed that Mr. Thomas should proceed with preliminary layouts of both a push rod and over head camshaft types of engine.

18.- Gross Cylinder Head Joint:-

It was confirmed that this is not to be fitted to the 250 cc engines.

19.- New Rear Brake Cover Plates:-

These should be adopted on all 7" rear brakes as soon as possible. If at all possible the introduction of these should coincide with the start of the 1962 Season.

20.- Modification to Oil Pump Spindles:-

There being no record of any trouble on single cylinder machines, it was decided not to make any alteration to the present design.

21.- Bottom Link Forks with Bonded Rubber Suspension:-

Mr. Baker is proceeding with this fork, and it is hoped that within fourteen days it will be possible to road test it.

22.- Siba Self Starter:-

Reasonable results have been obtained with the 12 volt system although it is felt that there is no sufficient margin to allow starting during unfavourable conditions. It has been decided to convert it to a 24 volt starter. This only entails the use of a change over switch and additional batteries. It has been suggested that larger capacity 12 volt batteries might give the additional margin required - i.e. 2 Police type 6 volt batteries. These will be fitted to a machine as soon as possible.