Minutes of Motorcycle Development Meeting

held on 6th October, 1960.

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

Matters arising:

1.- SILENCERS: It was agreed that the arrangement at present being used for production - i.e. a single spiral baffle welded to the centre rod with sufficient outside diameter clearance for assembly - was not altogether satisfactory from the point of view of silence, and that further development was required.

(i) Immediate: To improve the silencing to a reasonable degree.

(ii) Long term: To produce a silencer which will conform with the M.O.T. requirements.

For the immediate requirements a series of spiral baffles were suggested. Various suggestions for the longer term tests such as heavier gauge material, fluting of body, the use of glass wool etc., were put forward, and tests will be continued.

2.- Rear mudguard dualseat assembly: Regular deliveries of the mudguard and dualseat are now being made, and assembly is reasonably satisfactory. Delivery of a sample mudguard from Elms Metals is due in the near future. This is to be tested at M.I.R.A. as soon as available.

3.- New Front Fork: The weaker front fork spring has been tried and found satisfactory on Constellation machines. The use of B quality 7 gauge tube is to be adopted for all four stroke front forks.

It will be necessary to carry out tests with the undamped Crusader type fork, although it would appear that there is ample room to accomodate a suitable type of spring.

4.- Mr. R.Thomas showed an outline drawing of rear mudguard and part enclosure for 250 cc machine. It was agreed that he should proceed with this design bearing in mind that with the smaller machine it would be desirable to keep the width of the assembly to the minimum.

5.- Castings for the new type front fork should be delivered during the week ending October 14th. This fork utilizes a headlamp containing switches, speedometer etc.

6.- Lubrication of Constellation machines: A number of tests have been carried out with standard speed oil pump shaft, slow speed shaft, and also with various breathers, but none of the results achieved appear to effect any worthwhile improvement.

The main problem would appear to be due to dispersal of the oil at high engine speeds, which prevents the collection of this oil in the well where the return pump can deal with it. As the louvred plates have made some improvement an extension of these right up to the cylinder barrels at the back of the crankcase is to be tried. It was also suggested that instead of louvred plates, the pierced plate, as used in the construction of silencers, should be tried.

An engine is to be tested with both these alternatives during the week ending October 14th.

Mr. Young reported favourable results from preliminary tests of a large diameter breather located in the side of a twin cylinder engine. After further tests this engine is to be sent to Redditch for thorough testing.

7.- Alluminium Alloy Cylinder Barrels: Mileage tests on the Crusader Sports and Constellation machines fitted with Cross Pistons are being continued.

Mr. Wilson-Jones reported that the Ionic Plating Company are to produce samples of plated pistons and that he will urge this, so that tests may be started as soon as possible.

Mr. Baker reported that machining of the sample Hyper-Entectic pistons was in hand, and as the LM4 alloy cylinder barrel castings

are expected during the week ending October 14th, a test of a Hyper-Entectic Piston in an LM4 Barrel as suggested by Mr. J.Murcott should be possible during the next week or two.

8.- Connecting Rod Bolts: Mr. Wilson-Jones is to obtain sample bolts from Messrs. Unbrako, and also obtain comparative cost of these bolts against that of standard bolt.

9.- Some trouble is being experienced in Service with the clutch fitted to the Super Meteor - particularly on machines fitted with sidecar when used under conditions necessitating frequent use of the clutch. The question as to whether the correct handlebar lever is being fitted was raised. The correct lever has operating centres of 1 1/16". Mr. Baker is to check this.

Care should be taken to ensure in the test shop, that machines are not passed if there is any trace of clutch drag.

Another trouble experienced is with the clutch operating rod. This tends to rotate when the clutch is lifted causing excessive wear at the operating end. It was suggested that if a ball is located between the clutch end of the push rod and the "mushroom", the rotation of the "mushroom" will not be transmitted to the push rod. This is to be tried on a machine on mileage test.

10.- Oiling troubles on 250 cc machines: The need for an oil filter on the suction side of both feed and return oil pumps was discussed. A gauge type filter is to be designed, and a prototype tested as soon as possible.

11.- A number of cases of split pin failure on Crusader Sports machines has been reported, and the question of the fit of the pin in the hole drilled in the bolt is to be investigated. A connecting rod fitted with wire thread inserts is at the moment being made. This is to be tested as soon as possible.