

Minutes of the Motorcycle Development Meeting
held on Thursday, 12th July, 1962.

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

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Matters arising:-

1.- Spindle Mounted Front Mudguard:-

The spindle mounted front mudguard is satisfactory on test, and is being incorporated in the schedule for the 1963 models.

2.- 750 cc Engine:-

Performance: The results of the speed and acceleration tests were satisfactory.

Oil Consumption: Experiments have been carried out with a scraper ring having an expander ring behind it. There has been a considerable improvement in oil consumption, but experiments are to continue to ascertain the rate of wear.

Oversize Pistons: According to Westwood there is no provision for boring the cylinder out oversize. An experiment is to be made with a 750 cc cylinder barrel .020" oversize to see if this distorts under pressure. A pair of cylinder barrels are to be bored to oversize, and will be fitted to the test 750 cc. Mr. Wilson-Jones is to obtain two .020" pistons, and Mr. Baker is to obtain two oversize barrels from Westwood.

Push Rod Seals: Samples were received two weeks ago of a new rubber mix oil seal, which Messrs Peradin thought would be more satisfactory. These have been tested on the bench, and appeared to be more durable under running conditions. Westwood have been notified that this latest type should be adopted as soon as possible.

Carburettor Connecting Pipe: Complaints have been received from the U.S.A. that the jubilee clips cut into the rubber tubing connecting the carburettors, and it has been decided to fit a plastic pipe to all 750 cc machines dispatched from the works in future.

Overhead Rocker Oil Pipe: A complaint had been received from America that the plastic rocker pipe disintegrated and leaked at the ferrule and banjo unit. Major Mountford reported that Westwood

were dealing with this matter.

Heat Insulating Washer for Carburettor: Complaints from America intimate that the carburettor temperature was higher than experienced during tests in this country, so arrangements have been made to fit a Tufnol plate between the carburettor and the cylinder head. To correct the new position of the carburettor, it has been found necessary to redrill the magneto attachment holes in the adaptor plate thus swinging the magneto round and allowing the advance/retard cable adjuster to clear the nearside carburettor.

A quantity of 350 Tufnol washers used on the 250 cc engines have been sent to Westwood to be made suitable by the bore size being increased to an $1 \frac{3}{16}$ ". These are to be fitted on all future deliveries.

Charging Rate: Complaints have been received from America that the charging rate was too high. The matter has been taken up with Messrs. Lucas, who have provided us with a low output RM 19 alternator. This trouble has apparently been experienced by other manufacturers exporting machines to the U.S. Market. With regard to the machines in America, dealers are being notified to check.

Gearbox: Major Mountford reported that the high gear pinions on gearboxes recently supplied by Albions did not have an undercut in the high gear pinion owing to a machining operation being omitted at Albions. He reported that action is being taken to check and modify all gearboxes.

Electrical Timing: Complaints have been received from America that the electrical timing was in some cases more than $\frac{1}{2}$ " before T.D.C., and it had been ascertained that the contact breaker gap varied considerably on certain magnetos. This matter was being taken up with Messrs. Lucas, who had a fitter at the Works today, and Mr. Booker will report in due course.

Five Speed Gearbox: The gearbox was sent back to Albions for examination, and was returned to us dismantled. It was found that the oil leak had taken place past the oil thrower. Messrs. Albions can obtain an oil seal to replace the thrower, and it was agreed that they should do this. It was also noted that severe wear on the low gear layshaft pinion and high gear mainshaft pinion, and that two teeth on the high gear pinion were chipped. Mr. Wilson-Jones suggested the use of coarse pitch teeth on the main gears. Albions are to be asked to rebuild the gearbox as soon as possible.

Clutch:- There are still a number of complaints of clutch drag on 750 cc, and it is therefore urgent that some alteration is made to the design of the clutch. Mr. Jack Booker and Mr. Wilson-

Jones will come up with some suggestions regarding the modifications to the clutch.

2.- Silencing:-

It was agreed that the new silencer should be fitted on the 250 cc machines with the minimum of delay, and the old silencer would be used on British Constellation and Interceptor models. Mr. Wilson-Jones promised to make suggestions regarding an entirely new design of silencer within the next few days.

3.- New 350 cc Bullet:-

The pistons have now been approved, and the production of the engines will proceed.

4.- 175 cc Model:-

Mr. Thomas promised to submit a design for the frame within the next seven days. Mr. Baker repeated his promise that the 175 cc engine would be built before the end of September.

5.- The Scooter:-

To be assembled and stored.

6.- Batch Tests:-

No programme until next Meeting.

7.- Overolling on 250 cc Engines:-

It was reported that the manufacture of the two new pumps referred to in Minute No. 9. of the last Meeting was proceeding.

An experiment is being carried out with a piece of Nitryl rubber replacing the crankshaft oil seal. Reference the notes of the last Meeting held on the 26th June - the original sample of Nitryl rubber proved unsatisfactory - the oil pressure at the back forced the rubber out against the sprocket retaining nut, and made it unuseable in a very short time. It was thought that if the rubber was contained in a housing, the result might be satisfactory, so a steel packing piece was put behind the block so that the face of the rubber block was just flush with the housing and a steel washer interposed in between the outer face of the rubber and the retaining nut. This ran for longer, but trouble was still experienced through the rubber being forced out of its housing by the pressure. Mr. Wilson-Jones is therefore obtaining samples of a much harder type of Nitryl rubber, and the experiments will continue. Mr. Thomas suggested the fitting of a release valve in

in the feed system, and using a 3/16" feed plunger, and will provide a drawing of how this could be done. It was queried whether the modified type of oil seal, which reverted to the original section had been received for test from Messrs. Burtonwood. Mr. Booker suggested that a Nitryl bush contained in a steel housing which would press into the cover should be tried.

250 cc Pistons:- The position as regards pistons is as stated in Major Mountford's reports of the 2nd and 6th July. It appeared from tests at M.I.R.A. and on the road that the light Constellation pistons could be machined to the new valve pockets, and would be suitable for the 250 cc when stocks of heavy pistons have been used. Tests are to continue until the last possible moment before a decision is to be made. Mr. Wilson-Jones is to urge a reply from Messrs. Hepworth and Grandage regarding parts, and delivery of the new design of piston for the 250.

250 cc Clipper Pistons:- The possibility of using the Constellation pistons, which have been machined with the wrong valve pockets with an aluminium compression plate and two paper washers is to be investigated. NB - This engine does not have the high lift cams.

8.- Siba Self Starter:-

Tests are to continue. In the meantime, information regarding this development might be released to the Press.

9.- Lucas Self Starter:-

Work is proceeding with the fitment of a Lucas Constant Mesh Starter, and a report will follow.

10.- Miller Lighting Set:-

Mr. Wilson-Jones' report was noted.

11.- Molybdenum Pistons:-

No further action is to be taken on this project.

12.- Clutch Drums:-

No action is to be taken.

13.- Morse Chasing:-

These tests are to continue.

14.- PTFE Bearings:-

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The need for an alteration to the type of bearings on the leading link brake anchorage no longer exists. No further action.

15.- Light Alloy Cylinder Barrels & Shorter Brake Linings:-

Deferred until next month.

J. J. Booker
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(J. J. Booker.)

Experiments to continue

REOC - not for sale