JOHN CHERRY
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These are the only records I have, and

Dear John,

I have spent some time browsing through old records of "Development Meeting Minutes" and "Reports of Development work in progress" between the dates 8th August 1960 and 23rd January 1964. In can find no reference to the 75cc Swaign engine.

The first ~~reference~~ mention of a 75cc Machine comes as the last item (13) in the Minutes for the Development Meeting on Wed. 22nd Nov. 1962 and just says "Mr Thomas to report"

The minutes for the 30 Jan 1963 meeting refers to the Ducati 3 speed 48cc unit, an engine already in mass production, as a possible alternative to the Villiers engine which was still in an early development stage. However, it was decided to stay with the Villiers.

By the 15th May 1963 a dummy engine had been received from Villiers. Frame parts had been produced but not "built up". We were making the mould for the rubber block suspension in our own tool room

The report for 28 Nov 1963 states that the build had been completed and the machine had run approximately 1000 miles with the Villiers 75cc engine. The rubber block suspension appeared to be reasonably satisfactory. Engine performance was good but trouble was experienced with clutch operation which sometimes prevented easy gear changes.

After these remarks came the following note - "In view of the considerable sales of the touring type of 50cc Honda and Suzuki machines it is essential that as soon as possible Mr Thomas proceeds with his design for the version of the 75cc machine.

So, clearly the machine is the one in the photo I have with my baby son perched on the seat. The open body and conventional rear spring - came soon after and the six speed 75 or 98 a couple of years later. Soon the - the end, I'm afraid.

Minutes of Dev Meeting 9th May 1960 - 23 Jan 1964
Reports of Dev Work in Progress 24th Sep 1960 - 29 Jan 1963

Minutes of M/C Dev Meeting Wed 22 Nov 1962

Last Item - 13 75cc Machine
Mr Thomas To report. ←

Report of Dev work in progress Dec 1962
Layout of 75cc machine completed detailed arrangement drawings progressing

Dev Meeting Wed 30 Jan 1963
Item 11
2 alternative engines referred to - Villiers 4 speed (still in early development stage) and Ducati 3 speed 48cc unit
Last sentence :- "The machine which Mr Thomas has designed is to accommodate the Villiers unit and he will finish the design on these lines"

Side notes in pencil made by myself :-
Drawings of body completed - Frame & swinging arm parts made, Rims & Tyres in stock - wheels to be built
Mould for suspension being made in Tool Room
Forks to be drawn, Centre section support & petrol tank to be drawn

Dev Meeting 15 May 1963

Dummy 75cc engine received from Villiers but frame is not yet complete
Fibre glass main section expected within next 2 weeks to be delivered

Dev Meeting 28 Nov 1963

Machine run approx 1000 miles with Villiers 75cc engine and the rear suspension (rubber block) appears to be reasonably satisfactory
Engine performance appears to be good, trouble experienced with clutch operation. Gear operation sometimes uncertain probably due to clutch drag

Note - In view of the considerable sales of the touring type of 50cc Honda and Suzuki machines it is essential that as soon as possible Mr Thomas proceeds with his design for this version of the 75cc machine.

Last Dev Meeting recorded 21 Jan 1964 - no mention of 75cc machine.

The Enfield 75 or 98 machine came later

MOTORCYCLE DEVELOPMENT MEETING. JAN 18TH 1961
PRESENT MAJOR V.T. MOUNTFORD, J.J. BOOKER, P.A WILSON-JONES & R THOMAS.

R.T. submitted design for 350cc engine based on Crusader design. Meeting agreed to proceed with one prototype unit.

Discussion followed regarding design of a 200cc unit also based on Crusader. R.T. asked to proceed with design of a 198cc complete machine.

By T.H. March - two ~~alternatives~~ push rod layouts with alternative valve angles prepared

April Slow progress owing to preparation of model changes for 1962

July Design of 175cc push rod operated engine completed. R.T. asked to produce design for O.H.C. design

August My idea for a vertical camshaft design not accepted, asked to carry on with alternative design.

Sept Design gains general approval and agreed to make detail drawings

Oct General layout drawing of complete machine approved.

Dec Agreed to complete 6 sets of components, to complete 3 engines and 2 complete machines

NOV 1962 One engine on bench test 11 BHP AT 8000 RPM

JAN 1963 Bench testing proceeding with no serious mechanical trouble
Weaker Valve springs fitted
11·8 H.P. at 8,500 R.P.M.
Cost Office costing quantities of 1000 and 5000, using gravity and low pressure die castings.
March development report.
Engine on bench test completed 220 hours at speeds 6000 – 7000 RPM
Primary chain shed its rollers following broken chain tensioner. Experimenting with Nylon tensioner.
Heavy wear on cam followers, pads metal sprayed with Nickel - Chrome - Boron.
Camshaft and rocker gear re-designed with revised geometry and small cams.
Now satisfactory.
2nd Machine on road-test - broken exhaust rocker, considered due to faulty heat-treatment.

May '63
Road machine nearing after 5000 miles
Gearbox mainshaft bearing found to be loose in its housing, clutch sprocket nut loose allowing sprocket to chatter on the splines. Sprocket nut engagement lengthened and locking method improved.
Opinion of the meeting that from technical point of view, production should go ahead.

June '63 Costs prepared by Cost Office show that as the machine stands it is not an economic marketable proposition and the whole project will be reviewed at a late date.

It was agreed that the two main problems which had been prominent in the 250 cc Crusaders i.e tendency of some units to over oil at high speed and connecting rod failures, had been eliminated in this 175 cc unit by (1) designing it as a single oil pump system and (2) by the fitting of a steel connecting rod. In the event of any further machines being designed in the future, these alterations were to be borne in mind.

It was decided all castings and machined parts should be collected together and stored.