

A Phone rings in the Midlands

"Hello, Norman?"

"Hi, Scott. How are ya?"

"Good thank you. Am I disturbing you? Do you have a moment to chat?"

"Yes, I've got a spare bit of time now. I'm just relaxin for the evening."

"I wanted to see if you had a moment, to see if you could tell me what the evolution was from the XK120 to the XK140, with the C-type head. I was wondering if perhaps you could give me some insight into that?"

"Well it was just the modified head that went onto the standard bottom half; piston, crankcase, and that, you know. And increased, just give us a bit more brake horsepower. Increase the performance, you know."

"Now that was the same head that was on the Cs' as they ran in competition?"

"That's right, yes."

"Now wasn't the engine moved slightly in the chassis with the 140s?"

"Yes, I think we moved it forward.

Slightly. Just to give us a bit more body length in the cockpit pit like...for the seating arrangement. I think you'll find the actual style changed slightly from the 120.

Also we made a proper coupe'...fixed head type, of it you see. Also the interior was very much improved over the 120."

"So there was a difference in the basic shape? Speaking specifically of the roadster itself?"

"That's right, yes. Mainly there was a slight change to make it into a fixed head coupe', you see."

"So, basically all the changes looked to the new drop head and the fixed head, as opposed to the roadster though, but the roadster shapes had changed because of it?"

"Yes, that's right. There weren't sort of big major changes. They were just little bits here and there. Slight changes, you know. Lyons did this styling bit himself on those sort of things. And he just changed a few bits here and there in the shape. He wanted to have this fixed head variation as well."

"The decision to use the C-type head, for the MC model, who made that decision? How did that come about?"

"Well it was thought necessary to make the performance that much better. They wanted to improve the performance over the 120. I forget what the top speed was of the 140. I'm just trying to think what we got out of that. I think we put it up quite a bit."



"Did you do all the testing on the development of the 140?"

"Yes I did, Yes."

"Now where was most of that done?"

"Most of that was done on the MIRA test track. The motor industries test track."

"Now were some of the...because I know that you had focused, during that period, where focusing extensively on aerodynamics relative to the development of the D-type. Was the 140 benefited at all from these aerodynamic tests, in the shapes as they changed?"

"It was slightly improved over the 120."

"Did you do any of the 'yarn' testing at all with the 140?"

"Sorry?"

"Remember you were telling me about the testing with the yarn lengths; where you would tape the yarn lengths on the bodies of the D to test the aerodynamics?"

"Oh, the wool tufts! Yes, we did the same principal on that. That's right."

"Consequently all of that data was provided by Sayer to Lyons as he did the design evolution of the body shape changes? For the 140?"

"That's right. I'll just run through it slightly with you. What you could say was that the 140 was on the same underpin-

nings as the 120. On the chassis side. But then you see, the change on the cylinder head that got us up to 190-brake horse. It was what we call the AC type cylinder head. That meant it had larger exhaust valves. Sorry, the 190 was the 120 head, by moving it to the larger exhaust valves gave us 210 brake horse. The engine was moved three inches forward.

"I just found a few notes I'm just trying to scramble through...an old handbook of mine. Yes, it was moved three inches."

"Did moving the engine forward effect the handling on the 140?"

"There was a large improvement in the handling capabilities by moving the engine a bit, it did alter the front to back weight ratio slightly. And I think that really was in its favor to myself. Gave just that bit of stability on the front end.

"The other significant thing was the adoption of rack and pinion steering. Because on the 120 you had the recirculating ball system."

"Now how did the decision for rack & pinion come about?"

"Well we'd already built our first, what we call our prototype C-D car. Which was the one, we only built the one, in between the C & the D. You've probably seen pic-

tures of that?"

"Indeed. Yes."

"We never did race it, but I took it to Jabbeke. That was in 1953. Put the record up with that car. I think it went up to 178 or 181 was the best one way run."

"And that was first application of the rack & pinion?"

"The rack & pinion, yeah."

"At that same Jabbeke event you took the bubbled... it was a 120 wasn't it?"

"That was still a 120 body, chassis...as a 120. We did some slight modifications. That was to undershield it right from the front to the back. Completely seal it underneath. We took the off-side headlamp out. And made a direct entry of cold air, ram air, into the carburetors. Then of course we had the Perspex bubble. We completely sealed the whole cockpit, passenger side. That was all paneled in and sealed. So there was just the bubble protruding above any of the bodywork."

"Now, this was the event when you told Heynes you couldn't see out of the car?"

"Yes (chuckling), yes."

"The other thing we could say, which we would say on the 140, which presented itself, which I just mentioned about the better handling, we retuned the suspension. We

had the torsion bars, but we went off the lever type, lever arm dampers, and we went onto telescopic. That made a big improvement on the control of the ride condition. You know, rise and fall, bump and rebound."

"Now that was done on the Jabbeke car first?"

"Yes, that was done on the Jabbeke one yes."

"What engine did it have?"

"It had the three point four, but with the C-type head."

"It did. It seems to me that, in putting that car together, you were pretty much putting together the test car for the new 140..."

"Well...the idea (behind the Jabbeke run) was that Pegasso had been out there and took the record you see. Pegasso were a firm in Spain who built a sportscar..."

"Exactly."

"...And they went and took the record. So, we said, let's get back there and try and achieve it back. So we just did those slight modifications, and went over there and did it you see."

"I was looking at that famous picture of you getting out of the car, Heynes talking to you..."

"Yeah..."

"And I noticed how small the steering wheel was, and I was wondering whether you had gone over to the rack & pinion with that car."

"The reason for that was, we had to lower the steering column, and I was sitting on the floor almost, because that was the only way to get the bubble to meet the body. With a proper seat the bubble was four inches short of the body you see. So we took the seat out, and I had about three inch pad to sit on...And another piece made just to rest my back. Not my shoulders. Just the bottom part 'o me back. And of course the steering wheel was too big. And the column was too high. So we lowered the column and put a small steering wheel on it."

"Norman, it's amazing you don't have back problems."

Laughter... "I know. I wished I'd had the rack and pinion; because the steering would have been much more stable. You see when I was coming down there, I was weaving a little bit from side to side. And was lifting. I thought there was a little bit of movement. But People observing it said it was really moving off the center line quite a bit."

"And you were doing about a hundred

and seventy two, weren't you?"

"Yeah, that's right. If we'd had a rack and pinion I'm sure it would have been more positive and direct, you see. But there was that little bit of back play in the steering box. Which, at that speed became very prominent."

Laughter...

"But at the end of the day, you get the victory. That's the main thing Scott. So long as you come out on top that's great."

"And I think you were assisted by the fact that you could barely see out of it."

"Yeah, that's right. I could just see over the top of the scuttle. But then again, you're only in a straight line anyway," Norman said chuckling.

"So consequently all of that data that you and Sayer put together on the Jabbeke car was brought forward for incorporation into the 140?"

"That's correct. Yep."

"So basically then, the testing of the 140 happened after that."

"That's right, yep, yep..."

"And after that you actually took a 120 and altered the front end to deal with the rack & pinion, and then moved the engine forward..."

"Exactly..."

"And then took it out to MIRA and did all that testing. "

"Yes, did all the development testing. Then as I say, the body had already been altered by Sir William. Then when I got the fully fledged 140 body on it, then I really did the destruction tests..."

"How much testing did you do with the 140 at MIRA?"

"I probably did about a good...four months solid work. Apart from the aerodynamic tests with Sayer, and the drag tests and all that, you got all the brake testing, all the tire testing, and handling. Then we do what we call the Pave' test. That was the thousand miles on the Pave'. You probably have heard of the Belgium pave'. Which were like four inch square stone blocks. Part of their roads were made up of these granite blocks. They weren't very level at all. They were uneven. They were a real car breaker. And, so we laid out a track at MIRA simulating, it was exactly the same as the Belgium road...with these blocks you see, with pot holes in and ridges. And you drove at thirty mile an hour over that, it really put the car through its paces, plus the driver," Norman said chuckling darkly.

"So, it's really working the suspension,

maximum rebound and bump. Really hammerin' it. And a thousand miles on there... well you never got through a straight a thousand. I mean you used to break the suspension bits, exhaust stuff and everything like that, engine manages to break. So you just modify until you get it right. Then once you've got your thousand miles on the car, we used to say that's simulated a hundred thousand miles on the road.

"You could only sit there physically drivin', I could probably do about an hour. Then you needed to have a break, because it was shaking you just as much as the car. We used to never do it on your own. We used to have two people. We used to do an hour each. An hour on an hour off. Mainly what I had, cost wise, I didn't employ expensive people. Just have apprentices..."

Laughter

"Poor old apprentices. It was all part of there training,"

Laughter

"But they took it. They look back on it...I meet some of these guys who were apprentices with me, some of them are retired now. 'Norman, I always remember when you put me on that pave', Christ' they'd say, 'I never thought I'd get through it'. I said 'Yeah, but

you did it. 'Yeah' They'd say, 'I look back on it, god didn't I do something for old Dewis. He really put us through it.' I said 'Yeah, well we didn't pay ya big money.' It was all good stuff really," Norman said chuckling.

"Did you do any high speed looping around MIRA?"

"Yes, we did. Put it through its high-speed tests. I think through the timing lights at the MIRA test track I got about a hundred and twenty six."

"And that was with which body configuration? The coupe or with the roadster?"

"That was with the coupe. The coupe was a bit better with the drag figure than the open."

"As you can see what I was looking at, it seemed to me that Jabbeke event was another one of those events where you guys put together interesting combination of engineering, from which the next step came."

"That's right. I suppose really the Jabbeke car was probably the basic forerunner of the 140."

"What did you think when the 140MCs were finished?"

"Very good! Very good indeed. I mean, considering the time we're looking at, the era of the motor industry at that time. The 120 and the 140 were really a big break

through in the sports car version. I mean, you'd got sports cars yes, but, some of them were not very pretty, and, OK they've got a reasonable turn over of speed. But the 120 and the 140 really cracked it on the speed, performance. You know, of the sports car."

"So consequently the 120 had been designed by Lyons, as a sketch idea of course for the promotional presentation of the engine, for Earl's Court in '48, but as we move forward in history and we're looking at the development, or I should say, the aerodynamic analysis that you and Sayer did, you found it to be validly aerodynamic for its shape?"

"Yes, that's right."

Conversation with Norman Dewis

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