

Note 86



The mid-1971 Tyrrell improvement

The authorised biography of Ken Tyrrell (896, pp159-160) has him ascribing the sudden gain in his car's performance in the 1971 French GP to the addition of an airbox, plus better handling with the first use there of a full-width nose (although saying that the latter did not add much speed). Both these features were copied from the Matra, which had them from the first 1971 race. The shortening of the DFV primary pipes is not mentioned.

This explanation overlooks the fact that the Tyrrells first ran with airboxes in the preceding Dutch GP at Zandvoort. There, the No 1 driver (Stewart) was 0.28% slower on the grid than the Ferrari. As the race was wet and Stewart spun on unsatisfactory tyres and lost ground, while the No 2 (Cevert) had an accident, there was no other data on the airbox gain. Ref (896) puts this as +200 to +300 RPM out of each corner when Cevert was testing at Zandvoort and says he was told not to do a full lap at full throttle so as to conceal the advantage before the next race. Presumably the race practice followed this testing and it is probable Stewart would have used all that the car could give.

At the French race Stewart's grid speed was 0.74% faster than the Ferrari, so 1 % of lap speed had been gained somehow. The candidates for the cause were the DFV improvement and the wide nose, but not the airbox. If 1 % of lap speed was 4% of power at least, about 20 HP, this coincides with the 5" shorter pipe gain on the engine.

An interesting feature of the introduction of airboxes was that Ferrari also had them at Zandvoort - but the entry was directly behind the driver's helmet - which would have reduced inlet pressure, not improved it! They made no change for the French GP.