

The Maserati project – 1966-67

Mario Tozzi-Condivi was a salesman – a very good one. Tall, angular, a heavy smoker, he could charm customers out of the trees. He had known Ray Salvadori for years, and had worked for his Elmbridge Motors dealership in the late-Fifties, first as a salesman but soon a director. He was an Italian who had come to England soon after the war. On Roy's introduction he had acted as Cooper's go-between when they began taking the Bob-tail sports cars to venues like Imola and Rome in 1956. He was uniquely well-connected to obtain the best possible starting money and bonuses. 'I was in the Italian Air Force and at the end of the war Dr de Minicis of the Italian Auto Club and I were stranded for a week together in a village up in the mountains. . . . Now I could call him and he'd tell me who I should speak to in the organizing clubs, and how much they could *really* afford. . . .'

Roy had great respect for his salesman's abilities: 'I asked him once what his ambition was and he said he wanted to have *me* working for *him*. . . . I couldn't help but think one day it might just happen.'

Tozzi-Condivi had known Adolfo Orsi, owner of Maserati, since 1947, when the industrialist had wanted a contract man in Britain to promote imports of Maserati batteries, spark plugs, horns, machine tools and, yes, maybe also their early attempt at a production GT car. Eventually the British concession went to a trader in Lancashire while, through Fangio, Maserati concluded a massive contract with the Perón regime in Argentina to supply machine tools. When Maserati collapsed in 1958 it was largely due to Perón's fall and the new Argentine authorities reneging on the deal. Maserati did eventually get its money, but it was a slow and painful process and meantime engineers Alfieri and Selmi had designed and built the prototype 3500GT production car in an effort to remain viable. At this point the British concessionaire set off for pastures new, and Adolfo Orsi contacted Tozzi-Condivi again to take over the franchise. He did so in conjunction with Clifford Taylor of Taylor & Crawley, a major London motor trading company. Clifford's son Mike Taylor raced Cooper and Lotus cars. Tozzi-Condivi later bought-out Taylor's half-share on behalf of his new company – the Chipstead Motor Group. This was an organization which Salvadori's former salesman had formed 50:50 with another businessman named Peter Hodge, who ran Chipstead Motors. They were

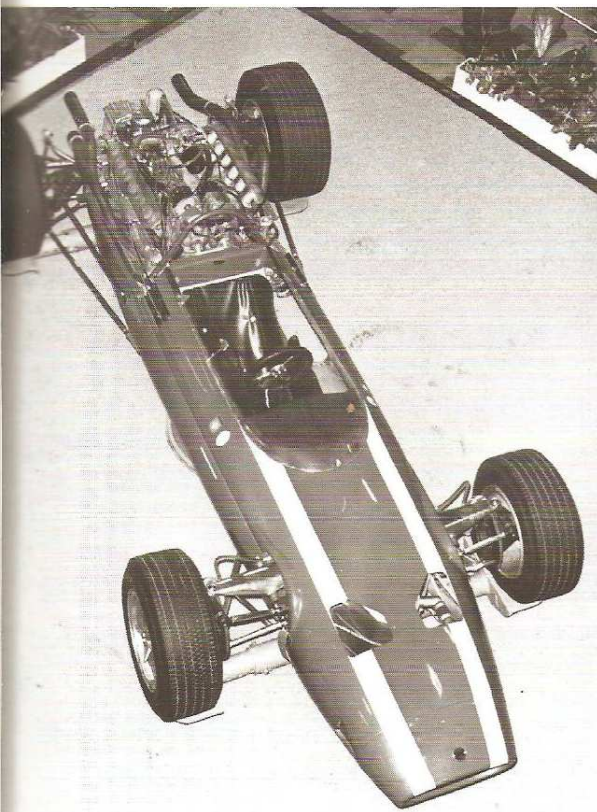
joined by Jonathan Sieff, grandson of Lord Sieff of the Marks & Spencer retail chain-store empire. He had done some racing in a variety of cars, but had been grievously injured in a Lotus Elite crash during practice for the 1961 Le Mans 24-Hours race, and retired from competition thereafter.

They were keen to expand and looked around for companies to buy. Tozzi-Condivi knew that Salvadori might be receptive and made an offer for his motor trading businesses, which Roy accepted. 'It was a most satisfactory arrangement,' he told me in 1983, 'I was relieved of most business worries, I was retained on a service contract and enjoyed working with Mario, Peter Hodge and Jonathan Sieff; they were very nice people and it worked out very well. . . .'

Then Charles Cooper died in October 1964, and John – still feeling the lingering after-effects of his road accident – was obviously uncomfortable and unsure how to approach the future. Roy talked to him about selling – 'I have and I've got a super deal' – and the Chipstead people were very interested in buying. Cooper had a fine reputation, and was making good money from racing in addition to the Mini-Cooper royalties. The production racing car business was also quite successful. Some surviving figures show that in 1962 car exports from Hollyfield Road totalled £65,262 15s. 3d, spares exports adding another £28,483 15s. 8d. In 1963 the rise of Lotus and Brabham competition saw car exports slashed to £33,424 15s. and spares down to £14,040 17s. 5d, while home car sales were up to £13,016 3s. 3d. With the advent of Formula 3 and Jackie Stewart's success in 1964, car exports had soared again, to £45,953 1s. 9d, while home car sales added £16,867 9s. 3d – spares exports totalling £9,620 13s. 6d. The graph was volatile, but the company had all the prerequisites to be an imposing feather in Chipstead's cap.

John: 'When I decided to sell to Jonathan Sieff I knew that potentially he had Marks & Spencer behind him, 3-litre Formula 1 was going to be very expensive by our standards, and through Tozzi-Condivi they had the Maserati tie-up and there could be a captive source of engines to replace Climax. There was also the unspoken possibility of commercial 'St Michael' sponsorship from M&S, if only their directors would wear it . . . which we subsequently discovered they wouldn't, but at the time it all felt right – good vibrations: know what I mean?'

THE MASERATI PROJECT – 1966–67



Big, beefy, but not brutal – the Cooper-Maserati T81 was the first monocoque Cooper to see public limelight, and during that first season of 3-litre racing in 1966 they rapidly reached fully competitive development. This is Jo Bonnier's private car – 'F1/5/66' – on display in Sweden. Here the inboard-of-upright front brake disc mounting is evident, along with top-ducted nose to allow hot radiator air to escape, rear horn extensions of monocoque pontoons to support the big 60-degree V12 engine, modern double-radius rod rear suspension and electronic ignition and injection gubbins packing the engine valley. This car was sprayed orange with white stripes. It survives today in the displays at Donington Park, near Derby, England

The Cooper Car Company was sold to Chipstead for something over £200,000. John retained title to the property and took a service contract to continue working for the company. It was all made public at the end of April 1965, only six months after Charles's death.

On 27 April, 1965, Peter Cattle of Bullock & Turner Ltd, public relations consultants, issued a press release headed

'COOPERS AND CHIPSTEAD MERGER'. It read as follows:

'We have merged with the Cooper Car Company and Coopers Garage because we feel that we are complementary organizations.' That was how 31-year-old Mr Jonathan Sieff, Chairman of the £500,000 Chipstead Motor Group, explained the deal signed at the weekend with his company by Mr John Cooper, head of Coopers.

'Chipstead have the administrative and marketing set-ups to take a great many of the worries off John Cooper's shoulders,' Mr Sieff went on. 'We believe there is an even greater market potential for the Mini-Cooper which has so far been untapped.'

'With Roy Salvadori to help him with the racing administration, John can also forget many of these worries, too, and can concentrate on the development of Formula One, Two, Three and sports cars and – perhaps most important of all – on the development of the Mini-Cooper.'

'So far as Chipstead are concerned, we get a ready-made, first-class racing set-up which we have never had.'

'Since the BMC Mini was given a high-performance Cooper engine in 1961, Mini-Coopers have become among the leading sports saloons in the world. They won the last two Monte Carlo Rallies and scores of other awards.'

'One of our main objectives at Chipstead, in the closest possible association with John Cooper, will be to bring the links with BMC even closer,' said Mr Sieff.

'Let there be no doubt that Cooper will continue in World Championship motor racing this year and next, when the new 3-litre Grand Prix Formula begins. It is our intention to expand our motor racing interests in all forms.'

Mr John Cooper, who will remain in sole control of the technical side of the Cooper Car Company – which stays as an entirely separate entity within the Chipstead Group – stated, 'This joint venture with my long-standing friends at Chipstead will relieve me of administrative headaches and let me devote my energies to the construction of racing cars and to my very special interest in furthering the competition development of the BMC Mini-Cooper.'

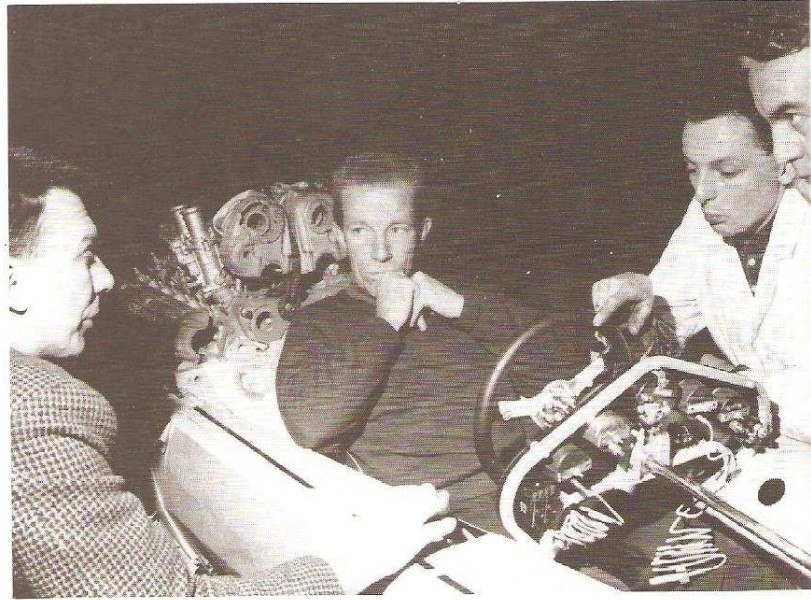
'I am sure that future developments will bring our links with BMC even closer.'

'The appointment of 42-year-old Chipstead executive and veteran racing driver Roy Salvadori as a racing administrator with Coopers takes him back to the scene of some of his former triumphs. At one time he was number one works driver with Coopers.'

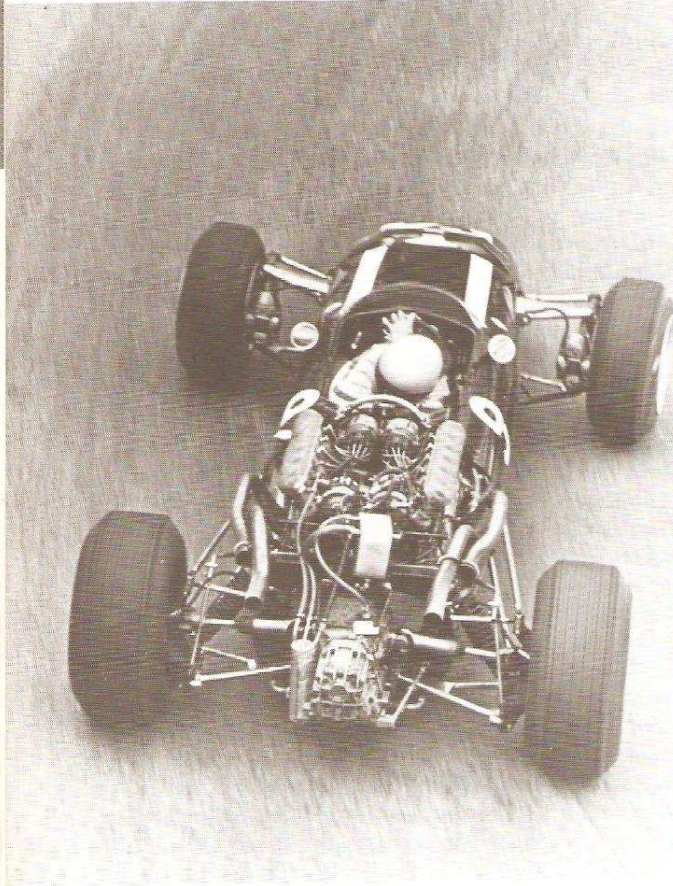
An *Autosport* editorial read:

'The acquisition of the Cooper Car Co, Ltd, by the Chipstead Motors Group [*sic*] should lead to an even more competitive representation of Coopers in both formulae and sports-car racing. While John Cooper will remain in charge of motor racing activities, he will have the assistance of that very experienced driver Roy Salvadori in planning for the future. Chipstead's chairman, Jonathan Sieff, has stated that the group's

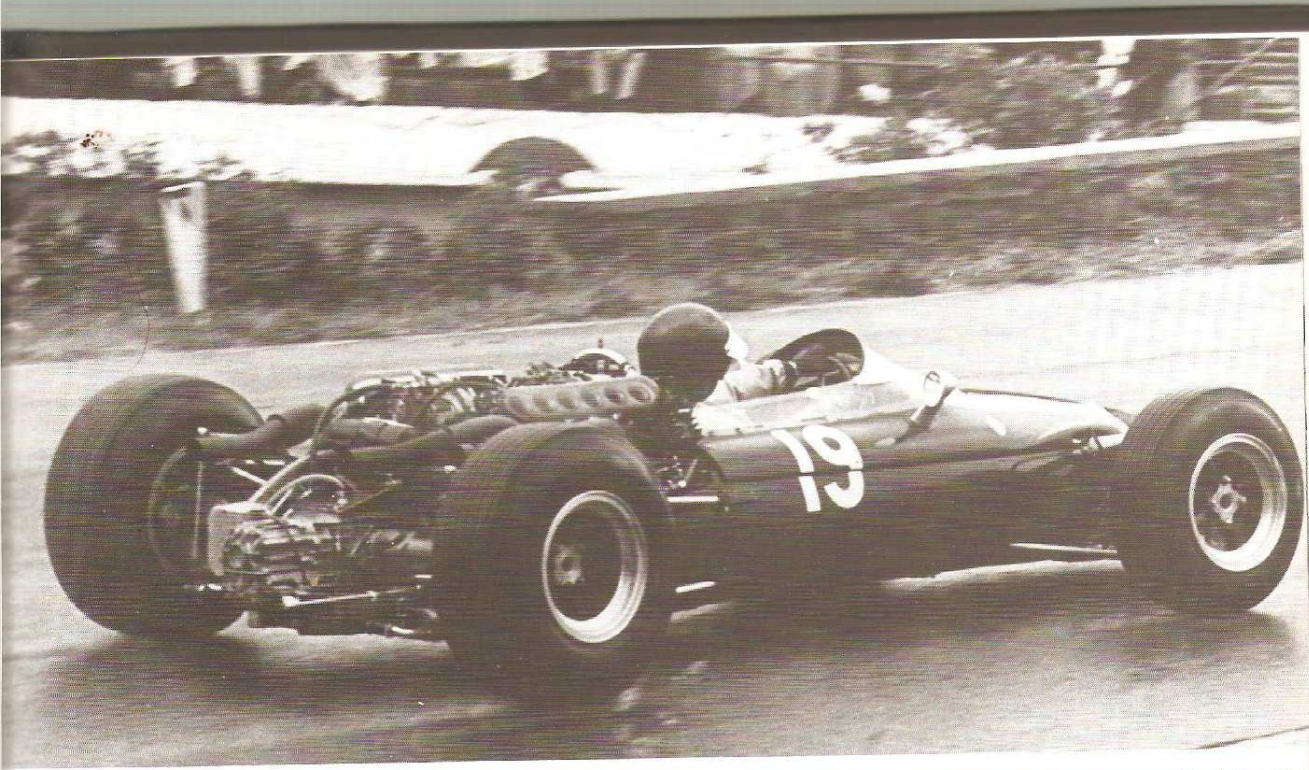
On loan from Honda, works development driver Richie Ginther tries the prototype T81 for size in the new Canada Road works at Byfleet, 1966, discussing progress with new chief designer Derrick White (left) while youthful mechanic Ron Dennis looks on (right). The engine is a Maserati slave unit, half-dismantled here, on Weber carburettors and coil-ignition whereas the finalized team and customer cars ran fuel injection and electronic ignition. Ron Dennis would later work for Brabham, then run his own Formula 2 teams before taking control of the Formula 1 team which had been founded by Bruce McLaren, into the 1980s



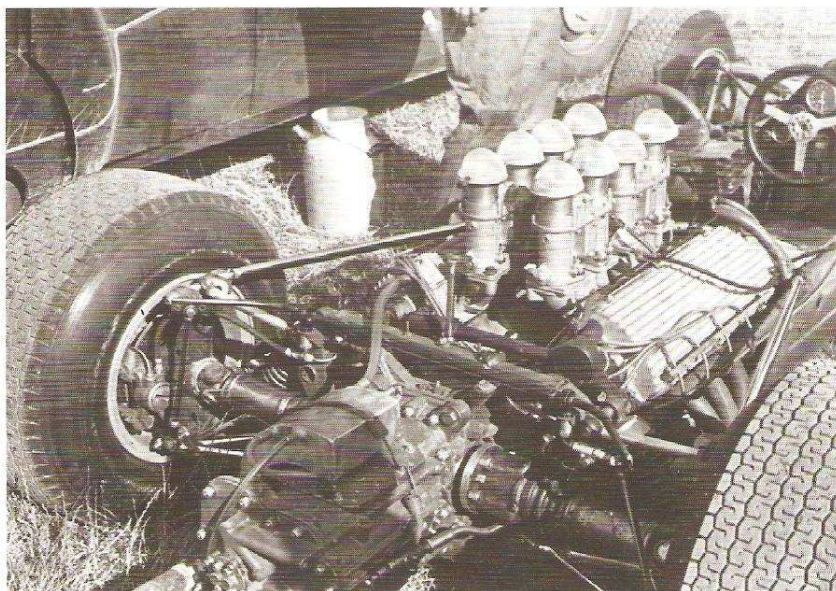
Left 3-litre Formula 1 racing was billed as the return of power. It certainly produced some impressive-looking mechanical assemblies, like the T81-Maserati seen here, Monaco 1966. Richie Ginther locking-over into Mirabeau Inferieur on the descent from the Station hairpin. Geoff Goddard's shot shows the twin-plug ignition (two distributors) of the V12 engine, protective gauzes over injection trumpets, three-into-one exhaust systems, ZF transaxle and lashed-on oil catch tanks. The front brake discs and calipers are visible out in the breeze while rears are buried within wheels. Note hefty half-shafts, right-hand gear linkage and rear anti-roll bar working hard!



Right 12 June, 1966, Belgian GP, Spa-Francorchamps: Jochen Rindt in his works T81 - F1/3/66 - drove a marvellous, instinctive race in awful conditions to lead the race before finishing second behind Surtees' Ferrari. The hefty Cooper-Maserati with its relatively modest power output (though good at that time) felt more stable on the slick surface than most. Catch-tank layout has changed on the transmission since Monaco. Note aluminium windscreen extension for the super-fast Ardennes public road circuit. But it wasn't all roses for the Cooper drivers. As the field tore into that first-lap downpour here at Burnenville Jo Bonnier spun into this embarrassing position with his private 'T81's front end hanging over an uncomfortably long drop. He edged his way gingerly back to safety over the hot, steaming engine. Jack Brabham and Lorenzo Bandini splash by on the right line. The pub on the inside gave a terrific close-up view of racing through the bar window. Racing as it was . . .



The Derrington-Francis 3-litre ATS V8 sports car-derived engine fitted into an ex-works 1965 'T77' F1 stressed-skin chassis for Swiss entrant Fritz Baumann was tried by Bonnier here in practice for the French GP at Reims-Gueux, July 1966. The Italian engine is mated to Colotti transmission, but the hybrid did little until 1967, when Silvio Moser took it on. The chassis plate is visible on the dash panel between the wheel spokes, but soft focus there makes it illegible . . .



policy will be to continue racing Coopers, as well as to establish an up-to-date sales and service organization for Mini-Coopers within its ever-expanding structure. Chipstead's main interest is in high-performance machines, and the board believes that a motor racing programme is the ideal method of furthering its policy. Coopers . . . could well return to their former glory in Grand Prix racing, backed by the finance and undoubted enthusiasm of the Chipstead concern.'

Rumours began immediately that Chipstead's Maserati ties would produce works Maserati-engined F1 cars for 1966. *Motoring News* – the British racing weekly newspaper – was at its wild and woolly best: ' . . . it is rumoured that the 3-litre Formula 1 Cooper will use two of the 1½-litre V12 Maserati engines.' One detects John's sense of humour in that 'leak'.

One immediate effect of the merger was predictable, a certain degree of ill-feeling among the Cooper old hands. One recalls: 'Suddenly we had all these new people walking about as though they owned the place . . . it was hard to realize they actually did. . . .' Chipstead split Cooper into two, the Car Company and Cooper Car Sales, which would market new and used performance cars of all kinds. John was made responsible for day-to-day management of the racing car works, plus preparation of the Formula 1 team cars, while Roy Salvadori ran the team as such, negotiating with the drivers, oil companies, tyre suppliers, etc. Major Owens ran team movements, bookings and so on.

Mario Tozzi-Condivi found the company was showing a good profit from its activities, but recalls alarm at the size of Climax's supply and service bills for their V8 engines: 'We were buying our engines, and there had to be a better way for the new formula. . . .'

So in preparation for 1966 he approached Adolfo Orsi and his son Omer during 1965 to suggest co-operation in a 3-litre Formula 1 project. Tozzi-Condivi was the lynch-pin, without him the Cooper-Maserati would never have come about.

'Adolfo was in favour, but naturally they were all terrified of the financial involvement because I was not going to commission them to develop an engine and then underwrite its cost. The Cooper Car Company Ltd would instead become sole concessionaires for a 3-litre Cooper-Maserati V12 engine and customers buying our cars would also buy their engines through us. The works engines would be Maserati's property. They would commit themselves to providing sufficient engines for three works cars, to development to keep them competitive and to all necessary servicing. We would pay them a fixed fee per rebuild, irrespective of the amount of work necessary. It was around £700 per rebuild, I think. . . . And they agreed. . . .'

Cooper paid Maserati an advance sum to launch the project and through the summer of 1965 *Ing.* Giulio Alfieri and his team in Modena's Viale Ciro Menotti dusted-down their old 1957 2½-litre V12 racing engine and set about a major updating programme.

Late in the year a prototype engine was taken out on test in the rear of a lashed-up spaceframe car actually based on the one-off T80 frame, which had been standing around waiting for the still-born flat-16 Climax engine. Mike Barney's last job for Cooper was to help complete this car. Then he left for McLaren's. While this hack tested suspension, tyres and other ideas, *Ing.* Alfieri developed fuel injection to supplant the test V12's carburettors, and transistorized electronic ignition to replace the remarkable array of coils and

contact-breakers arranged on the test car's tail. Derrick White, with his vast Jaguar E type experience behind him, was detailed to produce a robust and practical monocoque car to carry this powerful but thirsty new engine. Amongst his papers he noted '14 weeks to design and build. 15 weeks develop design & build 5 (cars)'. To stiffen the team with experience of monocoque racing car construction, Tony Robinson — late of Equipe Moss Cooper-Alta, etc. — was enlisted from the now-defunct British Racing Partnership BRP team; with whom he had helped design and build both Formula 1 and Indy monocoque cars.

The prototype 3-litre Cooper-Maserati T81 made its bow at the Racing Car Show in January 1966. It was the first fully-fledged British 3-litre to make its bow and attracted intense interest, though by 1½ litre standards it looked enormous.

The monocoque tub followed Lotus practice in forming an open-topped 'bath-tub' with two stressed-skin booms either side united by a stressed floor and three widely spaced bulkheads. The booms extended the full length of the wheelbase and were skinned in duralumin, save for the inner skins in the engine bay, which were in steel to protect the fuel bags within; there being a single 25-gallon cell each side. These cells were actually so long that the booms had to be free of internal obstruction, only a midship bulkhead fabricated from top-hat section steel like the ribs of a boat providing stiffening.

The front suspension hung from a hefty front bulkhead comprising two steel diaphragms sandwiching inboard coil/dampers. A midships beam braced the booms apart and provided front engine mounts, while a sloping seat-back panel was riveted to the top of the beam and to the side skins and floor to stiffen the tub. Behind this bulkhead assembly the side booms tapered rearwards to a box-section steel ring, which anchored the rear springs and suspension links. The Maserati V12 and ZF five-speed transaxle sat on two dural bearers front and rear, while two lugs cast on the final-drive cover bolted through the rearmost ring bulkhead. These rigid fixings allowed the engine/transmission assembly to stiffen the chassis structure.

Suspension followed 1½-litre practice, but was all new in detail. Redesigned cast-magnesium hub carriers were required to accommodate the extra braking torque in such a fast and heavy car, and to accept a new brake layout in which the discs were stepped inboard of the upright and wheel at the front to expose them and their calipers to direct, uninterrupted airflow. At the rear the carriers were designed to place the wheel bearings as near the rim centreline as possible to minimize overhang loadings and reduce angular movements at the drive-shaft UJs by permitting the longest-possible shafts.

The inboard front suspension retained Cooper's normal anti-dive angularity, while the split lower wishbones used a trailing torque stay aft of the lateral link instead of ahead of

it as in the 1½s. As compression members they now fed loads direct into the meat of the tub, anchored in small channel sections riveted into the side booms. The deep rocker arms themselves were steel sheet fabrications.

At the rear, a reversed lower wishbone was used with single lateral top link, twin radius rods and outboard coil/dampers. Adjustable length on the top links determined wheel camber and roll-centre height, while the trailing radius rod lengths determined toe-in.

White's adoption of 'inboard-outboard' front brakes driven by live stub axles gave extra freedom of front-wheel diameter, since the discs no longer had to be housed within the rims, as well as offering better cooling. The ploy was bulky, but no heavier than normal because the conventional hub was eliminated and the upright itself was lighter. White cited reduced unsprung weight with 13 in. front wheels and improved brake cooling as advantages of the system.

The wheels themselves were new castings on the old spoked magnesium theme, 8 in. wide fronts and 10 in. rears. Front brake discs were fully 10.75 in. diameter, rears 10.3 in., cooling airflow through the spoked wheels being especially vital there.

Ing. Alfieri had modernized his late-Fifties V12 engine by broadening its notoriously top-edy original torque curve with different ports and revised cam profiles. Whereas the original 68.5 × 56 mm 2½ litre F1 engine of 1957 had been stressed to 10,000 rpm, the 68 mm stroke 3-litre sports-car version revved lower, to around 8500. Now Alfieri cut that stroke to 64 mm and enlarged the bores to 70.4 mm to reproduce the original 10,000 rpm limit with the increased capacity.

It was a classical 60-degree V12 with twin gear-driven ohc per bank and two valves per cylinder. Initially ignition was by two Marelli double-deck distributors coupled to Lucas transistorized systems. The test hack used 24 coils, one for each plug, with matching contact breakers in banks. Lucas initially provided two six-cylinder fuel-injection metering units, later replaced by a proper 12-cylinder system. Unusually, Alfieri adopted separate Dell'Orto motorcycle-type piston slides to control air intake. They were made by Maserati anyway, so were there on the shelf, but problems were anticipated with eddying in the tracts at part throttle. Their friction area was also considerably greater than a conventional throttle slide as used with injection systems on BRM and Ferrari engines. The linkage for 12 individual slides was also enormously complex and potentially troublesome.

Initially there were no power figures released, but into the 1966 season they began talking of an honest 360 bhp at 9200 rpm. This was transmitted via a Lockheed 7¼ in. dry-plate clutch to the Ford GT40-type ZF 5DS25 transaxle. Wheelbase was 8 ft 2 in.; front track, 5 ft; rear track, 4 ft 9½ in.

The spaceframe test car based on the T80 flat-t6 frame

is Registered as tax exempt on 30 November, 1965, given the chassis number *FI/1/66* and was fitted with Maserati V12 engine No *9001*. In fact the car had been out on test at Goodwood earlier that month, driven by Roy Salvadori and Denny Hulme, who quickly scotched rumours that he was signing for Cooper, and confirmed he would stay with Brabham. Jochen Rindt tested later in the year. In addition to the works monocoque cars three would be supplied to customers; Rob Walker again – *2/66* with engine *9006* – a second car to the Swiss Scuderia Felipe Pemeti emerging in French blue for wealthy public works contractor Guy Ligier to drive as a private entry – chassis *4/66*, engine *9005*; and finally to Jo Bonnier, genuinely Swiss-based, chassis *6/66* engine *9007*.

There were to be nine World Championship rounds that year and four minor F1 races. The cars were the first proper 3-litres to appear in quantity, but were too late for the first minor F1 South African GP at East London on New Year's Day. The team moved from Surbiton into its cavernous new HQ at Canada Road, Byfleet, while the private cars made their debut at Syracuse on 1 May, with both the Walker and Ligier cars appearing, the dark-blue British-entered machine being driven by Jo Siffert. Ligier spun his into a wall during practice, its right-front suspension being repaired with Walker spares. It was suspected that the rear torque arm of the lower wishbones was whipping under braking, so the Walker machines were stripped of their chrome and had bracing ribs brazed along both sides. While Surtees's new 3-litre V12 Ferrari took pole position, Siffert was third fastest and Ligier fifth in the small field.

In the race Siffert suffered misfiring until a half-shaft broke, and after a pit stop to correct ignition faults Ligier finished sixth, but outside the time limit and 17 laps behind Surtees's winning car.

André Wicky, the Swiss privateer, ran an ancient Cooper with 2-litre BRM V8 engine in this race, but qualified *37.4 sec slower* than Surtees and retired at the start as his battery refused to start the engine. . . . Roberto Bussinello, the Alfa Romeo test driver, was entered by Alf Francis in one of the 1965 works Coopers now fitted with a 3-litre ATS engine, but it failed to appear.

Two weeks later, May Silverstone saw Jochen Rindt and his new team mate Richie Ginther – on loan until the 3-litre Honda would be ready – give the new works T81s their debut. Jack Brabham's low-powered, uncomplicated, beautiful-handling Repco V8 car ran there and won handsomely. The car espoused all the old Cooper virtues, and some. . . . Bonnier, Ligier and Siffert were also running and all the T81s had reinforced front wishbones after the Syracuse failure. Rindt's car handled peculiarly in the race and dropped from third to fifth at the finish. Bonnier's orange car inherited third place, while Ginther's went out with overheating and Siffert and Ligier both broke their precious engines in practice. Rob Walker's man was loaned the spaceframe T80 hack for the

race, but its clutch failed, while poor Ligier could not start at all.

Monaco followed and the start of 3-litre World Championship racing. Four T81s appeared; the works cars for Rindt and Ginther, plus Ligier and Bonnier. Walker's team, now co-sponsored by stockbroker Jack Durlacher, ran Siffert in their old Brabham, now fitted with a 2-litre BRM V8 engine. It should be a good proposition around Monte Carlo streets, in the 1957–58 Cooper-Climax mould. The T81s ran with the extension piece removed from their nose cowls for greater cooling area and less vulnerability in traffic, and with cut-down screens. They still proved too cumbersome for the tight course, and qualified poorly, but both privateers survived to the finish, though too far behind to be classified after lengthy stops with ignition and injection maladies. Rindt ran as high as third until his engine broke, while Ginther survived until lap 80 in fifth place when a drive-shaft broke.

Spa-Francorchamps was a more suitable circuit, and all five T81s then extant appeared; two works and three private. After the half-shaft pounding at Monaco, redesigned components appeared on all the cars, and while Surtees's Ferrari took pole, Rindt was next up, followed by Bonnier, Ginther, Ligier and Siffert in the Cooper-Maserati pecking order.

But on the opening lap of the Grand Prix the pack ran into torrential showers and nine cars went missing. Bonnier's T81 fetched-up dangling its front end over a consider-

Back on form – the revamped Cooper team with its Maserati-engined cars proved truly competitive again from the German GP, here at Nürburgring, 7 August, 1966. This is John Surtees who played such a large part in the team's transformation, splashing past the Startplatz and Sporthotel grandstand into the Südkehre roundabout corner. The detachable nose cone is visible here, quickly providing enlarged cooling intake, the screen is cut low and the mirrors have tripod tube mountings unlike the Rindt-Spa faired type. 'John the Great' started second fastest qualifier, and finished second ahead of Jochen, third. Jack Brabham won in his own team car

Winning again! – Surtees in the open-nosed 'T81' – F1/6/66 – on Mexico City's Magdalena Mixhuca circuit en route to winning the Mexican GP, closing round of the year's World Championship series, 23 October, 1966. The car is running faired mirror mounts and shaped aluminium draught-includers over the injection stacks. Broadsiding luridly in John's make, just like the old days, is Jack Brabham – having already clinched his third World Championship Drivers' title – with Jochen Rindt next up, the nose fuel pump mounting visible in his car's radiator intake. Strange experience for Brabham to be sandwiched by two works Coopers – even stranger to be beaten by one of them . . .



able vertical drop on the outside of Burnenville Curve, the Swede having to inch his way gingerly to safety over the steaming engine. Siffert crashed Walker's car and Rindt spun mightily in Surtees's spray through the Masta Kink – the latter stages of his high-speed gyration featuring in MGM's awful feature film *Grand Prix*. The Austrian nervelessly gathered it all up and rejoined sixth behind Ginther and Ligier. By lap three he was third and then forced past the works Ferraris to lead the Grand Prix. . . .

Surtees sat back, content to let the Cooper driver set the pace. By lap 8 they had lapped Ginther, but by lap 20 the rain had eased, there was less spray and Jochen was in trouble with his ZF diff faltering, causing queasy handling on the damp surface. Surtees could now see where he was going and regained the lead to win easily, with Rindt second for Cooper and Ferrari's rival firm in Modena. Richie was fifth and Ligier was still running at the finish, but too far behind to be classified after a stop to adjust the clutch and lower tyre pressures.

Jochen had shown the Cooper-Maserati's potential in practice and drove splendidly in daunting weather conditions. It was no disgrace to be beaten by John Surtees and the V12 Ferrari. Spa had always been kind to works Coopers. . . .

In the three weeks preceding the French GP at Reims on 3 July, Ginther was recalled by Honda, whose new V12 car was ready for testing in Japan. Roy called on Chris Amon – McLaren's spare driver, still without a car – to take over the second Cooper-Maserati.

Then Surtees unexpectedly became available after long-simmering troubles had erupted at Ferrari. John left the team he had served so brilliantly during the preceding three and a half years and Mario Tozzi-Condivi received the intelligence from Modena in a 3 a.m. telephone call . . . from a

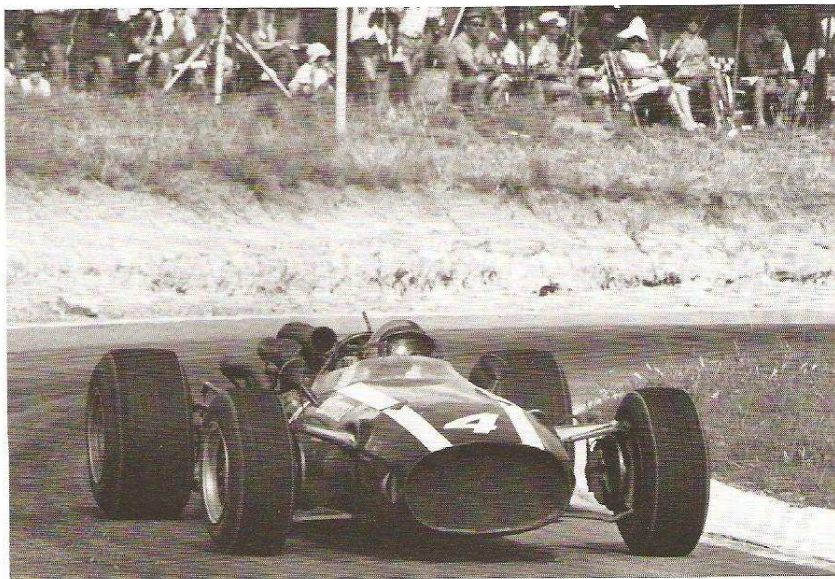
very reliable source. He told me Surtees was leaving Ferrari and would be available for Formula 1. I called my co-directors and got them out of bed to meet me at Canada Road at 5 a.m. that morning, and I beat down all resistance and had a new team car built that week. Roy was part of this plot, and we just built the extra car and made it known generally we had a spare chassis available and then waited for the phone to ring. . . .

Contacts were made and once problems of clashing fuel company contracts had been resolved Cooper and Maserati delightedly welcomed *Il Grande John* into their fold. Jochen would retain his regular car at Reims, Surtees took over Ginther's and Amon was given the brand-new spare – 7/66 with engine 9010 signed-off on 27 June, just six days before the race. Bonnier's T81 was still under repair and he reappeared in Alf Francis's rather dubious Cooper-ATS V8 special instead. Siffert and Ligier were out in their usual cars.

Ferrari missed the first practice session and amidst the golden cornfields it was a glorious day again for Cooper as Surtees and Rindt set the pace, their raucous V12s singing exultantly across the Champagne country. Alfieri had bolted together a '370 bhp' engine for Surtees, but Bandini's Ferrari stole pole from him by 0.6 sec with Parkes's Ferrari third and Brabham and Rindt on row two. Amon suffered brake and sticking throttle problems, while Bonnier judged the Cooper-ATS unraceworthy and took the spare Brabham with 2.7 FPF instead for the race.

In the race Cooper came down with a bump. Poor Surtees was in trouble from flagfall with fuel vaporization and was struggling 13th before stopping. Amon, Siffert and Ligier also stopped to have water splashed over their overheating fuel pumps, tucked away out of the airstream by the gearbox.

Last victory – Pedro Rodriguez driving his reliable race at Johannesburg's Kyalami circuit, South African GP, 2 January, 1967, which brought him victory – Cooper's last in Formula 1. The fuel pump has retreated once again to the tail, fed with cooling air through that huge flexible trunk sprouting between the injection gauze and roll-over bar. The car is chassis F1/6/66 again



Rindt stopped too, but managed to salvage fourth place, while Amon was eighth, Ligier again unclassified, and Surtees and Siffert both retired.

This was a shattering end to such high hopes, and John Cooper's observation that the fuel pumps should be mounted in the nose aperture to keep cool caused some bitterness among the Chipstead directors; it was too late to say so now, but he felt they hadn't been listening earlier; '... by this time the design was by committee and I'd always wanted the fuel pump moved from on top of the gearbox into the nose.'

At Brands Hatch for the British GP the T81s again proved too big and cumbersome, until the surface became slick and damp, when the works pair Surtees and Rindt ran briefly 2–3 as the cars' weight made them feel stable and relatively secure. As the surface dried so they dropped back, Jochen finishing fourth and Surtees dropping out when diff failure made his car uncontrollable. Ligier and Siffert tailed in at the finish, while Chris Lawrence was last in the J. A. Pearce Cooper-Ferrari special, conected by levering an sohc Ferrari 250GT V12 engine into the rear of the old works F1-2-64 frames.

The Dutch GP followed a week later at Zandvoort, where the fast swerves through the sand-dunes didn't suit the cars at all. Bonnier's was repaired and running again, but Jochen bent his works car early in the race when he found the wrong gear, and it was later savaged again as Parkes's spinning Ferrari landed beside it in the catch-fencing. Surtees suffered electrical trouble, Siffert's engine broke and Bonnier and Ligier finished 7–9. The works cars broke two engines in practice, an expensive weekend for Maserati. . . .

Only four T81s ran at Nürburgring in the German GP as the Walker-Durlacher team failed to agree terms with the organizers. Lawrence reappeared in the metallic pale-green Cooper-Ferrari special. In practice Guy Ligier uncharacteristically crashed and was thrown out of his severely damaged car with a broken knee and abrasions.

Surtees was on top form on this difficult circuit and qualified second to Clark's nimble 2-litre Lotus-Climax on pole. Rindt was in row three. Rain fell at the start and John was the early leader, coming to grips with his now well set-up car, before Brabham slithered by. With only two of the 14.2-mile laps to run John was still second, just 2 sec behind the former Cooper team leader, but then his clutch pedal refused to return and as the fuel load diminished so the lightened T81's handling deteriorated, and Surtees had to settle unhappily for second place at the finish. Meanwhile Jochen held third virtually all the way. Bonnier was in trouble with the Firestone tyres on his car, against the works on Dunlop, and he gave up. Lawrence was running last until lap 11, when a front suspension ball-joint failed under braking. He fought the car to a safe halt. Cooper-Maserati relished their 2–3 finish, for Ferrari had languished way behind them.

The unfortunate Guy Ligier was out of racing for the rest of the year, and his car was damaged beyond repair. Mean-

while Alfieri's men in Modena set about preparations to outdo Ferrari in the Italian GP. Revised works engines emerged with inlet ports inclined inwards to make the whole unit more compact. Surtees tried an original spec V12 with Marelli ignition at Monza on the Saturday and split the Ferraris, while Siffert's engine threw a rod and a replacement V12 was borrowed from the works. Bonnier was in fuel injection-pump trouble. John finally qualified fourth fastest and Rindt eighth.

In the GP, Surtees led the third lap across the timing line but could not match the Ferraris for sheer pace. His car then began handling peculiarly because leaking fuel was spraying onto a rear tyre, and as it grew worse he retired. Rindt finished fourth, despite having the left-front tyre deflate completely and leave the rim as he approached the finish line — the car scuttering off onto the grass verge with the wheel locked. Bonnier's throttle linkage put him out on lap 4, while Siffert's second engine of the meeting went bang on lap 47. It was not a good day for Cooper-Maserati. John Cooper was responsible for the preparation of the cars at that time and 'it is true I did have a clash with Condivi at the Italian GP, because of the leak in Surtees's fuel tank. . . .' Sir George Harriman wanted him to concentrate upon Mini-Cooper race preparation in any case, and he would miss several GP races into 1967.

Alfieri's latest-spec engine had the distributors arranged in tandem within the vee, driven back-to-back instead of sitting side-by-side above the engine. The unusual barrel throttle system survived, but one engine appeared with Lucas injection upstream of the throttles and another downstream. Alfieri would try anything; he bubbled with quiet enthusiasm and there was no doubting that Maserati's heart was in the project, as Salvadori emphasizes: '... but they had their problems with strikes at the works, and lost time could never be adequately made up. Heini Mader, Siffert's former mechanic, worked for us at the Maserati factory, would go with Bertocchi to watch the engines on the dyno and oversaw much of the rebuilding and preparation there. Alfieri was a wonderful type and gave as much time to the project as he could, but he was involved in other work — like the Citroën-Maserati — and eventually the F1 engine was overtime, most of the work going on outside conventional business hours. . . . All things considered, it did well. . . .'

Chris Lawrence ran the Cooper-Ferrari in the sparsely supported Oulton Park Gold Cup on 17 September, finishing fifth and last, and then at Watkins Glen Surtees ran an original-head V12 and Rindt the latest type. John was truly competitive, hounding Brabham and Bandini, only to be put off the road by a back-marker as he tried to lap him. The Cooper driver lost three laps limping back to the pits for a check-over, but there were many retirements and he soared back through the field to finish third behind Jochen — another Cooper 2–3, and fourth too as Siffert finished there.

In Mexico City the works fielded their third car for local ace Moises Solana using a late-style engine, and after carefully adapting mixture and injection settings to suit the high-altitude Mexico City circuit, Surtees qualified strongly on pole with Rindt fifth. In the opening laps John's engine fluffed off-song 'until it got really hot, when it cleared and ran like a bird'. In two laps he caught and passed his team mate, then closed on Brabham and in another lap was leading. He held that lead to the chequered flag, Brabham – the year's new World Champion – settling for second place. It was Cooper's first Formula 1 race victory since Reims in 1962; back home John Cooper heard the news with mixed feelings. He was delighted, but it would have been nice to be there. . . .

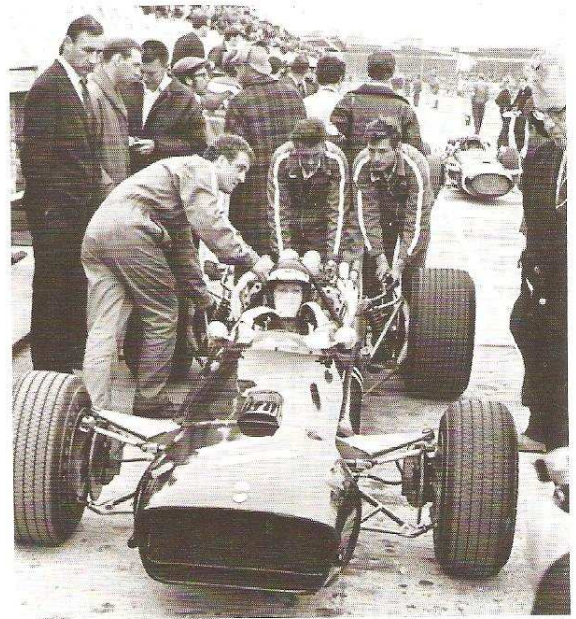
Both Rindt and Siffert were put out by left-front suspension ball-joint failures, and Solana retired with no oil pressure after an early stop to complain of overheating. Jo Bonnier was sixth for his World Championship point of the season.

In this race Richie Ginther's Honda V12 set fastest lap, and mindful of the Japanese concern's slowish start in motorcycle racing before total domination, John Surtees signed for them for 1967–68 Formula 1. Salvadori had to find a new team mate for Jochen Rindt in the 1967 season, when 11 GPs would make up the World Championship and there were six minor F1 events on the calendar.

The season's frustrations were more than offset by the World Championship placings at its end, which saw Jack Brabham World Champion driver and constructor, but John Surtees was runner-up with his Ferrari and Cooper-Maserati points, and Jochen Rindt was third overall purely for Cooper-Maserati. The marque was third in the Constructors' competition, just one point behind Ferrari, though 12 behind Repco Brabham. In these terms it was Cooper's best season since 1962. . . .

Cooper's second – and final – season with Maserati power was summed-up by David Phipps in the annual *Autocourse*: 'The Cooper-Maserati was handicapped by low power, high weight and slow development. . . . For most of the season the cars were much the same as in 1966 – except that they were not so reliable. Rindt finished two races, compared with six in 1966. . . .'

In his search for available drivers Roy had offered the Mexican Pedro Rodriguez a one-off outing in the South African GP at Kyalami on 2 January. After the Mexican success there was optimism among new chief mechanic Trevor Orchard's crew at Canada Road. Kyalami was another high-altitude circuit. Both cars for Rindt and Rodriguez used old-style headed engines and Marelli coil ignition. Rodriguez took over the Surtees Mexico car – 6/66 – and Rindt retained his usual mount. Siffert and Bonnier were running their usual T81s while John Love appeared in his ex-McLaren Tasman Cooper-Climax 2.7, and was second quickest in the Friday practice session. The works car noses were cut back to improve cooling and their mechanical fuel pumps were reversed



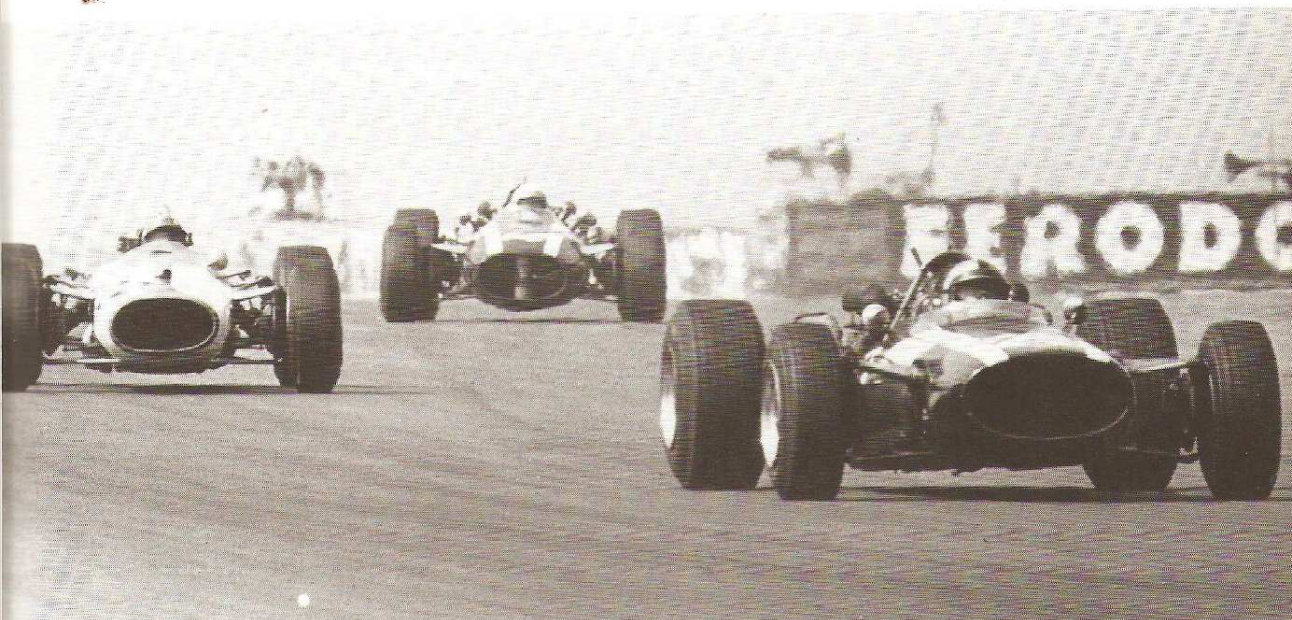
and spaced outboard behind the engine, with flexible ducting to feed cooling air around them. It worked well; Pedro qualified fourth fastest, but Love was ahead of Rindt – only 1.1 sec covering the three Coopers – two V12s and the ancient but impeccably well-prepared four-cylinder.

In the GP, both Siffert and Bonnier broke their engines; by lap 24 Jochen was third behind two Brabhams, but on lap 39 his engine dropped a valve. Pedro had fallen back, behind Love's incredible 2.7, Gurney's Eagle and Surtees's Honda. Then Brabham's leading car stopped with fuel vaporization. His team mate Denny Hulme led with Love second from Gurney, but then the Californian's suspension broke. So Surtees and Rodriguez were running 3–4. With 21 laps to go Hulme abruptly cut off into the pit lane with brake failure and the impossible was happening; John Love was leading what was virtually his home Grand Prix in one of the local cars! The Honda went out and Pedro was second and Love – handicapped by the Tasman Cooper's tight fuel capacity – had to stop to refuel. While he was stationary, the Mexican works driver sailed by to win by 26.4 sec from the disappointed, but wildly fêted, Rhodesian. It had been a confused race of attrition, but Cooper-Maserati had now won two consecutive GPs, the first round of the new World Championship, their new driver led the Drivers' standings and they had seen another Cooper 1–2 at World Championship level, quite like old times. . . .

From this point forward it was all downhill.

At Monaco the works team re-emerged with the spare chassis carrying Alfieri's latest engine, using the 1966 *Tipo 9* bottom end with new *Tipo 10* three-valve-per-cylinder Heron

THE MASERATI PROJECT – 1966–67



British GP, Silverstone, 15 July, 1967 – Cooper trio at Maggott's Curve with Rodriguez's T81B –F1/6/66 showing the way to Moser's Baumann-owned ATS V8-engined special, carrying inboard-of-the-upright front disc brakes like the T81s, and in rear Alan Rees enjoying his guest drive in the spare works T81 – F1/3/66. Silverstone can't have been hotter than Kyalami, but those pumps are back in the nose. In the pit-lane, vastly different to that which witnessed the Cooper victory in 1960, Jochen sits ready to start practice in the dramatically ugly magnesium-skinned T86 prototype. Roy Salvadori has an expression of apparent distaste at left, next to him are Bob Marston and crew-cut Derrick White, behind him Jabby Crombac with, in cape and deer-stalker, John Bolster. Ron Dennis is at the right-rear wheel from this angle, with Siffert trundling Walker's Torrey Canyon into view beyond

heads. Included angle between the valves was now so narrow that both camshafts could be enclosed by a single cover. The inlets were re-sited within the vee in true cross-flow form with the exhausts outboard. Twin spark plugs per cylinder lay beneath the exhaust ports in the side of the combustion chamber instead of more conventionally in the centre. Internal-toothed flexible belts drove from the front of each inlet camshaft to 12-pole distributors fed by Lucas transistors. All three works cars ran ZF transaxles with new one-piece half-shafts with rubber doughnut couplings to provide plunge. Designers White and Marston had also developed an experimental smaller, lighter radiator, and new fabricated magne-

sium dish wheels, but they remained unused at this meeting.

Siffert was faster than both works cars, Rodriguez's car ran badly and Rindt hit a kerb 'harder than usual' and broke a rear wheel and wrenched the chassis. He stayed with the leading group until his gearbox failed, while Pedro nursed his car home on 10 cylinders to finish fifth. His crew were reluctant to call him in for attention, knowing how cantankerous the V12 could be in restarting when hot.

A new lightweight T81B was assembled with aluminium instead of duralumin skins and a Hewland transaxle, plus the magnesium disc wheels for Rindt in the Dutch GP. While Jim Clark and Graham Hill set new performance standards with their Lotus-Cosworth Ford DFVs on their debut, the Cooper-Maserati pair were undismayed and lined-up on the second row of the grid. Rindt's car became too unmanageable to drive and Pedro's broke its gearbox. Jochen was then fourth at Spa and Pedro blew-up after dicing with him. Salvadori was far from pleased. . . .

On the laughably tight Bugatti circuit at Le Mans for the French GP the T81 and T81B were outpaced; Jochen broke a piston after a wild early spin and Pedro coasted into the pits with fuel spouting from the pressure gauge piping. At Silverstone for the British GP a new Cooper-Maserati T86 made its debut, its magnesium-elektron-skinned monocoque a lower, lighter, narrower version of the T81. Suspension was similar and the flat-scuttled car had quite the ugliest nose treatment ever seen in the 3-litre Formula. The car was powered by the 36-valve *Tipo 10* engine mated to a Hewland transaxle. Overall the T86 saved some 112 lb against the T81. Rindt was half a second quicker in it than Rodriguez in the

T81B but could see oil smoke in his mirrors during the race. He stopped to investigate, but it was only catch-tank overflow spraying onto the hot exhausts. After rejoining his engine 'made nasty noises', so he parked. Rodriguez finished fifth, lapped, while Alan Rees made a one-off appearance in the third works car and placed ninth. He told me the car was 'big and bulky, but really very nice to drive. . . .'

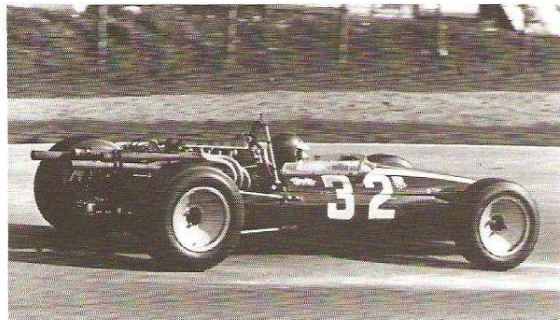
For Nürburgring, the team prepared the T86 and T81B for Jochen plus two T81Bs for Rodriguez, all with Hewland gearboxes. In practice the flywheel on Jochen's spare car disintegrated, smashing the crankcase and starter and gashing the tub. The T86's steering failed in the race, while Pedro was a distant eighth.

On 27 August, before the Italian GP, a new Canadian race was added to the World Championship programme, at Mosport Park. Rodriguez had hurt himself in an F2 accident at Enna and Richard Attwood took his place alongside Rindt. A plague of disintegrating starter rings afflicted the Cooper-Maseratis and in torrential rain they proved almost unmanageable on race day; Jochen's electricians drowned and Attwood splashed home tenth.

In testing, the T86 had shown a disturbing tendency to lift at speed and after the initial palliative of adding 30 lb of lead, a front-end spoiler was fitted for Monza. Jacky Ickx made his F1 debut in the second car, both machines using 36-valve engines with revised combustion chamber form. Both cars used Hewland transaxles and had the rear brakes inboard of the uprights. Jochen drove his heart out to finish fourth, Ickx was sixth and both Cooper-Maseratis finished ahead of Amon's lone and disconsolate Ferrari!

Roy took Ickx with Rindt to the US GP, where the T81B used a 36-valve twin-plug engine and the T86 a new 36-valve three-plug! While the more conventional engine carried its

Grand Prix debut – Jacky Ickx had been making a terrific reputation for himself in Formula 2 and won this maiden F1 drive in the works T81B – F1/1/67 – Italian GP, Monza, 10 September, 1967. He finished sixth and took his first World Championship point. The cast-magnesium disc wheels carry Firestone tyres, tyre company and BP fuel sponsorship revealed by the cockpit side stickers



plugs in pairs on the outside of the vee, the 36-plug unit carried its extra dozen down the inside of the vee. Keith Duckworth, designer of the epochal new Cosworth-Ford V8, snorted, 'If one plug per cylinder isn't enough to make it go Bang then something's radically wrong!' His eight-cylinder would always use only eight plugs. . . . The Maserati engine was betraying its 1950s' roots.

In the race, Ickx and Rindt both retired with chronic overheating and burned pistons. Jochen's close friend Heinz Prüller told the tale: 'When his mechanic asked what was the matter with the engine Jochen said, "This time it blew up really spectacular! When I realized it was about to go, I gave the accelerator pedal an extra kick and shot the revs up to 12,000, just to make quite sure. . . ."' It was the Austrian charger's last appearance for Cooper; Salvadori was standing behind him at the time, with his sound right ear cocked, not – as was usual – the deaf left one. . . . Jochen would drive for Brabham in 1968.

Pedro Rodriguez ran the lone works car in the Mexican GP, the older T81B, and Alfieri recommended using the 36-valve, 36-plug V12, so all the extra coils had to be accommodated on the older car. The Bonnier and Siffert T81s were also present for this race, having been quietly picking up occasional finishes during the year, while Guy Ligier had re-emerged before selling his repaired T81 and replacing it with a Brabham. After losing his original car 4/66 at Nürburgring in 1966 he had bought 7/66 ex-works to carry his engine in the new year. But he crashed it at Brands Hatch during practice and appeared only in the International Trophy, Belgian and French GPs before buying the Brabham. Pedro finished sixth, Bonnier 10th, and Siffert retired when a small plastic oil pipe collapsed and blocked feed to one camshaft.

The Cooper-Maserati requiem came at Kyalami in the South African GP of 1 January, 1968. Fortunes had sagged dramatically; the heavy, fuel-thirsty Maserati V12 was to be replaced by a new BRM 12-cylinder, but none were yet available. John Cooper had signed-on the ex-Ferrari driver Ludovico Scarfiotti and Brian Redman for this new year, and they drove the T86 and aluminium-hulled T81B respectively, while Siffert and Bonnier ran their usual cars and the Love Tasman 2.7 was entrusted to local man Basil van Rooyen. On only the second race lap Scarfiotti's legs were scalded when a water pipe burst, and two laps later Redman stopped with overheating, later to retire when an out-of-line camshaft caused a massive oil leak. Bonnier lost a rear wheel, replaced it and continued before being beset with the traditional overheating. Siffert's Walker-Durlacher car – affectionately labelled *Torrey Canyon*, after the stranded supertanker whose oil had polluted miles of British coastline the preceding year – finished seventh behind Beltoise's tiny Matra F2, running under ballast in Formula 1. Van Rooyen retired when his FPF engine blew a head seal and the penultimate chapter in Cooper's racing history had ended.