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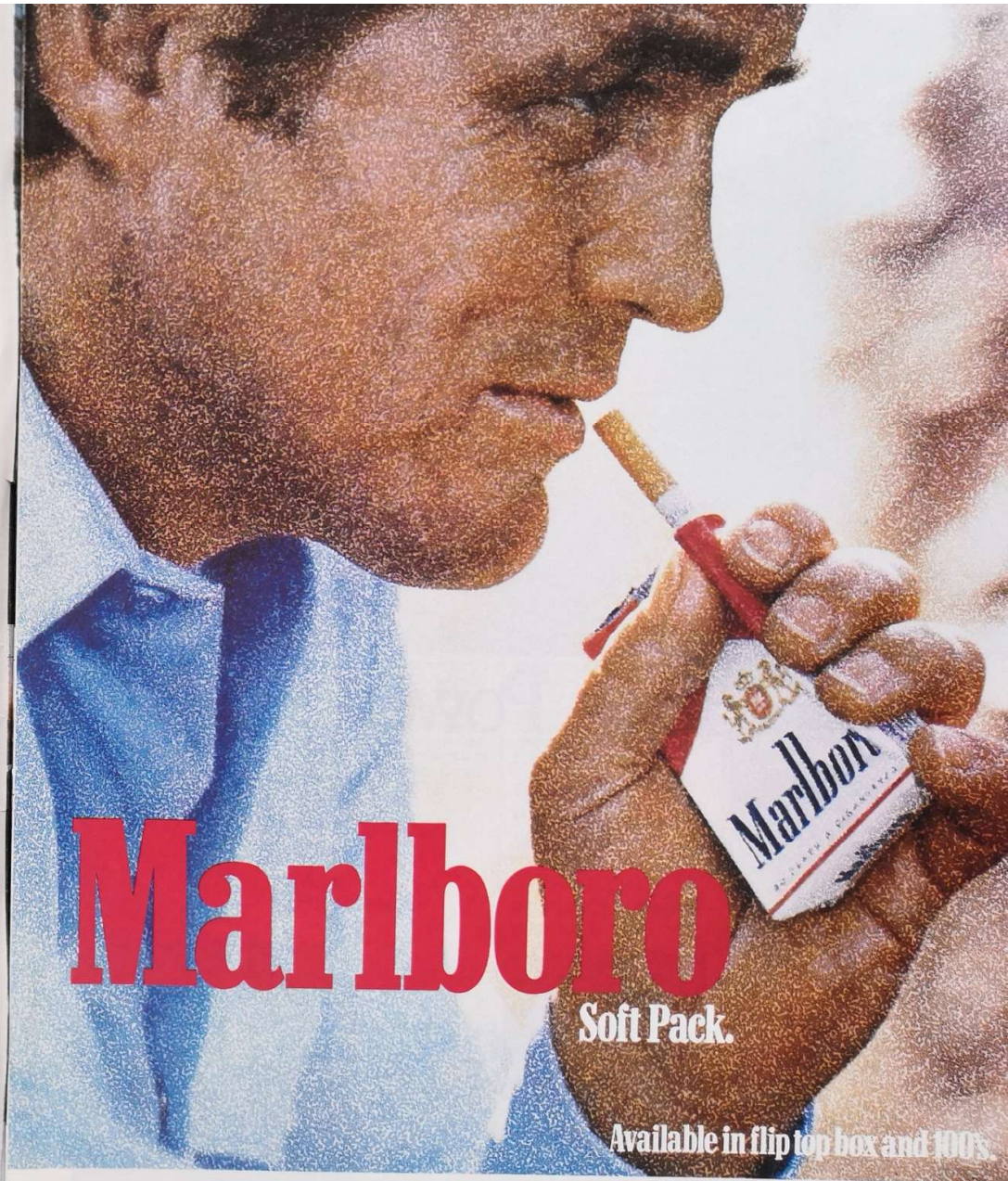
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THE HUNGRY HORSE



He hasn't had a good season so far, as he explains later to Franco Lini. But René Arnoux's win in Montreal makes up for all the preceding bad luck. Alain Prost has another hard luck story, while Keke, so often critical of Andrea de Cesaris, pays him homage in his column.

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ON JULY 19 1983**

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PRACTICE

Turbos rule, OK, on the Ile de Notre-Dame. And for the 17th time in his career, little René was on pole.

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THE RACE



Arnoux was there from start to finish, a lone ride for the prancing horse and its jockey. Behind, Cheever further confirmed his promise while Tambay cut Prost's championship lead. Only Rosberg (who else?) was able to mix it with the turbos.

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MISTER START

He's the man with the buttons at the ready, red to green is his colour code, but what a responsibility unleashing all that horsepower. Derek Ongaro, the man who starts all Grands Prix, explains what's behind the starter's lights.

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THE BORDERLINE CASE



Three days before he won the Canadian GP, René Arnoux told us that victory couldn't escape him for long. And he sorted out one or two little nagging doubts about his job with Ferrari. Read on.

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WAY UP NORTH



The Canadian Grand Prix organisers suggested a little cultural interlude between Detroit and Canada. Sadly, only three drivers were interested, but we went along.

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EXTRA, EXTRA



Poor Jacques Villeneuve was denied the ultimate honour of racing on the circuit named after his brother, despite his own and his team's efforts. Eddie Cheever and Danny the Kid both tried hard, with varying results.

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COCKPITS

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The paddock in Montreal



NEW BRABHAM

The new Brabham, which should be unveiled at Silverstone, but might not be if certain protests currently under way are accepted by FISA, is, or so says Gordon Murray, no radical departure, but a sort of B-car development of the current brand new model first seen in Brazil. "Over a few races," says Murray, "one gets to see short comings. For instance, we could be better at developing more tyre temperature and we think we know what to do about that. We've been doing a lot of wind-tunnel work to improve our aerodynamics, and we have new underwings and engine coverings already for the race in Montreal."

DEFLATION

Whether as an intentional joke or by sheer illchance, Michelin at Montreal had to call on Goodyear for help. Pierre Blanchet, the Michelin man par excellence, and known as the Old Rabbit, drives about the long trek between the garages and the pits, about 400 meters in all, in one of those electric carts which are such a feature of North American life. On Friday, two of his tyres were flat; either deliberately let down by some joker or, in a spirit of friendly competition, deflated by the Goodyear men. A somewhat crestfallen Blanchet had to get his cart back to the Goodyear garage and obtain their help to be back on the road. The burly Blanchet of course blamed Goodyear tyres, while Goodyear riposted that the Michelin people couldn't keep their cars running, much less their carts. All good fun.



ATLANTIC SALESMAN

We met Adrian Reynard, March's chief engineer last season, in the pits in Montreal during practice. "Grands Prix don't interest me any more, and I've got no desire to come back into Formula 1," he told us. It's hardly surprising when you realize that Reynard has built a Formula Atlantic (still called "Mondial Formula") which is selling like hot cakes in North America. "I've sold 60 to date, and I'm earning ten times more money than before." Reynard said with an understandably big smile.

But natural progression is one thing. As Murray points out, other factors are involved, the principal one at the moment being the protested Renault exhaust systems: "If it's ruled that we can have moving aerodynamic devices," said Murray, "and they're specific in clarifying the rule, then of course we'll have to incorporate that."

Murray is in the fortunate position of having studied such "devices" a long time ago: first with the famous fan-car we all saw at Anderstorp and then, from 1978 onwards, with continuing studies. These were: "other sources of moving aerodynamic devices, using the engine." To Murray, FISA's decision ought to be clear: "The only thing that

clouds the decision is that because it's Renault or Ferrari, one really has to sit in a FISA court before one realizes just how much political power they have within FISA. Rightly, in my book, they use it. If I had that sort of clout, I'd use it. Like a shot. If they can influence courts, they should."

On the subject of the Renault, Murray says: "one argument is that the engine bits are moving anyway and the gasses are there, so the influence isn't specific. In my experience, that's not how the arguments are settled. If a British team had done it, FISA would say, 'I'm sorry, but that's deliberate.' It's like with our water-tanks. They said, 'Yes, it's with the letter of the law, but we think you're doing it to gain an advantage.' It seems to be that if you go just one step further, and use the exhaust pipes, the crankshaft, the pistons and so on to produce a specific effect, they're going to penalise you. I don't mind if it is or it isn't deliberate; we just want the situation clarified. We're not about to go and build a whole new car incorporating our latest thinking and then have it thrown out."

What Murray doesn't want is to build the car and have FISA say to him: "The Renault's okay, but you've gone too far." What Murray does want is clarification on using "the engine bits" for, according to him, the Renault Formula is just the "tip of the iceberg." He says there are two ways to go: "some sort of fan or another sucking device. If Renault can do it, I don't see why we can't have all sorts of devices for cooling the gearbox or whatever." Murray's choice is a fan placed behind the engine, but driven off the exhaust gases or the turbine: "Another source of energy would be outside the rules."

He had much to say about the "primary function" clause, or Article 27; Brabham's protest is based on the fact that any sort of moveable aerodynamic device is illegal. But the new system is anyway not without its difficulties. As Murray says: "One of the dangers if we're allowed to use this is that in the old fan-car days, the centre of dynamic pressure was very near the centre of gravity; if you lost engine power, you lost it near the centre of downforce, and the dynamic centre of the car didn't change. What we'd get now would be all the downforce generated around the rear wheels, which is way behind the centre of gravity; if the driver lifted off sud-

denly on a high-speed corner for any reason, he is purely dependent on engine revs for the downforce he generates. Then you could have a huge, instantaneous change power that could be highly dangerous." So the argument is not concluded. FISA will rule, and, we hope, clarify. If the clarification serves Murray's purposes, then it is highly likely the new car might not be introduced so early.

CLARIFICATIONS

We were glad to have the opportunity to hear Bernard Ecclestone on the entire American scene: history is history and we ought to get it right, and the maestro's version of events was, to say the least, pungent.

Thus, Long Beach. "We have a contract with Chris Pook that calls for a Formula One race through 1984. Pook complained that he wasn't making any money, though I find that hard to believe. We met in December '82 and decided that if the '83 race wasn't a success, he would do a cheaper form of racing. He decided to do CART. You know, cheap's cheap. I was surprised to learn in January, which is before his race — he obviously got his times muddled up, travels a lot maybe, these time barriers destroy things — that he'd signed a contract with CART. We met on race morning, when he confessed to 82,000 paying spectators, to be told to my surprise that F1 still wasn't viable for him. The agreement was that if he didn't run F1 in '84, we would still be promoters, joint promoters, 50-50. Now I know the reason we're not: Pook's going to be the promoter of four CART races. That's obviously why he had to throw Long Beach in, which is an event we put on the map." We asked if he had any hard feelings. Ecclestone protested: "No, no, no, I was an idiot to believe his story, but I've been proven to be an idiot on many occasions."

Then, Las Vegas: "Our contract runs through the '84 race. They had an escape clause, which was if they couldn't rent the three-quarters of their track which is on land adjoining Caesars Palace. Unfortunately, the reason for the escape wasn't actually put in the contract, just the escape clause itself. They didn't want the reason



in, for fear the price on the land would go up. So at the end of last year they said, 'Ooh, we can't make it work, we can't make it pay.' The reason being that they didn't do any promotion. We wanted to do the promotion, all of it. But a condition was that Caesars Palace got television. They said they had a TV contract with MBO. When we got down to it, they never had a TV contract. They had a pay-or-play contract, which means they pay even if they don't televise. That's no good to us. We need the signal, not the money."

Detroit? "Run very professionally. Last year was a proving ground. It was a mistake to have stopped the race, but I told them beforehand that man would stop the race if it rained in Japan. We finally got rid of him."

And on to New York. "We made a contract for that race. No problems: except that it meant jumping the queue as regards getting the environmental problems rubber-stamped by the city. If we'd done the race, it was possible for someone to have come up with an injunction and stop it. To put all that money up front with someone having the chance to stop it would be a bit crazy. We'd rather wait a year. Mayor Koch phoned me in Detroit and gave me his personal assurance the race would take place next year."

Union problems, mafia problems? One might have to pay a bit more, Ecclestone acknowledged, but that was alright: "You pay to have it built slowly too," he said.

The investment in New York is huge: some ten million dollars. The ground is water-logged and, as Ecclestone said, "if the city gets its park dug up, it wants it done right. New York has to go first class, it can't afford shoddy work." How about the Meadowlands site in New Jersey? "Pook's going in there with CART maybe; we threw it out three years ago. New York's definitely not next year."

He doesn't like the talk about F1 being expensive: "We're in the rock-star world, we've got the best show in the world." So, couldn't the championship be prorated among the circuits? "I've been saying for five years that each circuit should pay the same for the world championship." So what was holding him up? "Nine European coun-

tries," says Ecclestone flatly. "They don't want to pay more. But slowly they must realize that if it becomes just a European championship, it devalues what they've got to sell." Some circuit owners are slow learners, we offered: "Some of them want to be slow learners," replied Ecclestone. "My efforts have pushed them into being professionals in the first place; the next push is to get them to be realistic professionals." And the Grand Prix d'Europe? "I've been saying for years we should have one: in some country that deserved it. Maybe just for one year. I want the Grand Prix itself to last forever, but it can be located anywhere." How about John Webb's proposed Commonwealth Grand Prix, a second race in England every year? "He wants two races in England; we want to cut races down, not have more of them." The ideal number? "Sixteen." Why? Because the cost goes up. "It's the cost of getting things done quickly that puts prices up." A lot of constructors want the championship limited to fourteen races, we put to him: "I'm in a minority with sixteen," Ecclestone agreed, "but then I always am."

GOING FISHING

Besides Jacques Laffite, the sport now has another brand-new fishing champion. It seems that Keke Rosberg, his manager Ortwin Podlech and Charlie Crichton-Stuart of Williams went off to the Laurentian wilds for a bit of relaxation between Detroit and Montreal, and F1 being what it is, couldn't really make it through the three days without rigging up a competition of some sort.

In their case, it was a sort of improvised decathlon, including such excellent sports as tennis, stone-throwing, and fishing. Crichton-Stuart found himself in the odd position of leading the championship tables by being the only man to have actually landed a fish. Last you suppose that this was a feat of skill, let it be said that Charlie had to be told there was a fish on his line, he being totally unaware of the fact.

EUROPE IS NOT THE WORLD

We seem to be in a rash of chopping and changing. Races come, races go, and the truth is, everyone suffers. Mr Average Spectator suffers: he has made his travel plans. The charter flights suffer, hotel owners suffer, sponsors suffer. Most of all, the sport suffers, for the image that attaches itself to a constantly changing calendar is one of sheer unprofessionalism, which is the very opposite of the truth for, apart from American made-for-TV sports, there is probably not a sport in the world that is more professionally run than Formula One.

What concerns us, beyond the chopping and changing, is that the end result is an Europeanising of the Formula One scene. It's not that anyone wants to have more (or fewer) European races; it's just that it is all too convenient just to drop a new race — like the Grand Prix d'Europe — into a convenient slot at Brands Hatch. It's close to home, the British public is knowledgeable and will attend, it costs relatively little and solves a temporary problem.

But as Bernard Ecclestone argues cogently elsewhere in this issue (see Paddocks), F1 is a world championship, not an European one. We do not want to suffer what continues to happen in Endurance racing, where tiresome rivalries deprive the championship of all but one (Kyalami) non-European race. IMSA did that to Endurance racing and CART, among others, threatens to do it to F1.

Nor is Mr Ecclestone — or the public in general — the only one worried about what could grow into a trend. Jackie Stewart, with whom we talked in Montreal, was absolutely explicit: people want a world championship, he said emphatically. It is its global character that gives our sport its glamour, but also its strength, its acceptability to sponsors, to television and to the people who have to put up the money to make it all possible.

It has been proposed, and not at all light-heartedly, that our championship be parachuted down into Japan, Moscow, Mexico, Yugoslavia, Australia — you name it. Any extension of the sport to the far corners of the world is worthwhile and many of these are future realities; that is our particularity. But parachuting is not the appropriate technique. Circuits must be developed; they must be shown to be viable; an audience must be cultivated. F1 is not a one-off sport like Muhammad's ritual appearances in Zaire or Kuala Lumpur. It has a huge infrastructure and that infrastructure cannot be invented overnight.

Nor are the problems, as Mr Ecclestone rightly points out, purely financial. Granted, our price is high. Let us also grant that the results are spectacular. Mr Ecclestone is right to say that it is often the circuit owners and the sport's administration that need educating in modern realities. Once again we say, let the European circuits take up some of the financial slack and contribute to the financing of the sport in general. Poor-mouthing serves no one and it is our status as a world sport that brings the customers to the European circuits. It is high time Europe contributed to the rest of the world.



The paddock in Montreal



FOUL!

The umpteenth annual ill-organized, sometimes thirteen-men-on-a-team football game between the motoring press and the drivers ended in a 1-0 victory for the drivers, with the only goal being scored by Eddie Cheever. It was a controversial goal which the press claimed had never actually crossed the line and, as the referee was none other than Andrea de Cesaris, the spectators present assumed there was some reason to doubt the decision. The game was decided in extra time, which saw the press puffing. That didn't stop the family clown, Bruno Giacomelli, who claimed he'd never played the game before, putting on quite a show of shirt-tugging, general barging and Italian exuberance. Nor did it stop the British press, which claims to have a fine mid-field, from complaining they hadn't been invited to play. Equally picturesque was a driving competition on the way to the playing field between the team-bus, which got itself splendidly lost, and two cars driven

by unnamed Italian F1 drivers, a sort of weaving, duck-this-way-and-that affair which led to one of the cars mounting the pavement in spectacular fashion.

CANCELLATIONS

There were more than a few sponsors unhappy at Detroit to learn that the American F1 scene was steadily falling apart and that New York and Las Vegas no longer figured on the calendar. As should be obvious, a number of sponsors enter the sport with very specific marketing aims, and some of them are definitely tied to specific races. Amongst these, Benetton figures prominently. The Italian fashion house, which sponsors Ken Tyrrell, had made extensive marketing plans for the New York Grand Prix, which is, after all, a key marketing spot in the rag trade. Huge promotions had been planned, and Benetton was exceedingly unhappy to see its plans go up in smoke. For a while, the Benettons (three brothers run the company) were speaking of withholding part of their sponsorship money from Ken Tyrrell to show their displeasure. Finally, however, they relented, and Benetton president Luciano Benetton was quoted as saying that though Benetton were "obviously unhappy with the situation," they would "fulfill their contract with Tyrrell as, clearly, it was no fault of Ken's that the New York race was called off."

Others, we understand, were also considering similar protests and one of them, who did not wish to be identified, said that "the chopping and changing of the calendar, with races being dropped and new ones being shoved in with the wave of a wand, makes it hard to have sound commercial planning for all of us. It also," the spokesman added, "does not do the image of the sport any good."



UPDATE

We reported from Spa that an independent report would shortly be issued claiming that something was not altogether on the up-and-up with the Ferrari water-injection system, and that other similar systems were being queried. That report is now due to appear within the next two weeks and apparently claims, as we stated, that the devices increase the octane rating of the fuel used. FISA did check Ferrari fuel recently and said that it was indeed just that, fuel. The contention of the report is that the illegal octane-boosting is due to the action of the water while the engine is running and that testing the fuel afterwards sheds no light whatsoever on the question. We will keep you informed of the results.

RISING STAR

While thousands of his compatriots were watching Rene Arnoux winning the Canadian Grand Prix, our own tame Canadian, Allen Berg was doing some winning of his own. We're delighted to report that Allen won the latest round of the prestigious Marlboro British Formula Three championship at Silverstone on June 12, and he drove like a champion. Indeed, Allen could be said to be the man to break Ayrton Senna's long run of wins, but the man who has so far dominated the Marlboro championship this time decided to enter the European Formula Three round, and it proved to be a mistake. The brilliant Brazilian ended his phenomenal unbeaten run of wins in the chicane catch fencing,

SMELLY RUBBER

One manufacturer of the rubber, self-sealing fuel tanks used in F1 cars — there are official manufacturers in Europe and the United States, but they are not many — reports that he has been receiving an unduly large number of tanks back for repair or replacement, and his technical investigations (because the phenomenon is new) show that it is a chemical reaction in the molecule bonding of the fuel that is affecting and corroding the rubber itself and breaking it down. It is his firm conviction — and he is thinking of asking FISA — to look into the matter — that if the tanks have been working well for years and now no longer are doing so, then it must be something in the fuel that has changed. And indeed, as he points out, anyone at the track seeing fuel being poured into the tanks can observe a wide variety of colours. Not all fuel used is the same, he says, and the funny thing is, it is the turbo cars that are causing problems with the tanks.



Allen, meanwhile, was doing an excellent job in the Marlboro round run concurrently, and his entrant, Eddie Jordan, whose base is within the Silverstone perimeter, had one of those days of which one dreams. As well as Allen winning the national round, Martin Brundle drove a superb race in another Jordan-run car to win the Euro round, being followed home by former Grand Prix driver Tommy Byrne in yet another Jordan Ralt. Well, GPI was thrilled to be part of this winning team. Well done everyone.

ARROWS-GPI



Now it's official: Grand Prix International will be the co-sponsor of the Arrows A6 Cosworths to be entered by Jackie Oliver and Alan Rees for Marc Surer and Thierry Boutsen at the British Grand Prix at Silverstone next July 16. A simple and light car designed by Dave Wass, the Arrows A6 is one of the most competitive of the atmospheric-engined cars and the team has remarkable drivers: Marc Surer has had an excellent start to the season, driving with great style, while Thierry Boutsen, the newcomer, has only needed three races to get on equal terms with Surer!

JMB : OPTIMISM

While Bernie Ecclestone was telling our men in Canada about the current state of Grand Prix racing and the World Championship, FISA president Jean-Marie Balestre was in Madrid telling the Spaniards how pleased he is with the current state of F1. Of particular interest to the Spaniards was talk of four reserve locations for Grands Prix in 1984. He named three of these: the proposed event past our front door in the Champs Elysees in Paris which is currently gaining governmental and ministerial agreement, an event in Japan and another in Australia. However, Balestre did not mention the fourth location, and for some reason, the Spanish didn't ask him. However, we believe this fourth

location to be a street circuit now in the advanced planning stage through the streets of Fuengirola on Spain's Costa del Sol. This is in the heart of the tourist area, and the two British promoters have already been in touch with Bernie Ecclestone and have planned various interesting features, such as free hotels for teams, and pits that are right beside the beach. We understand that a Formula Two race is being planned for June 3 next year in order to try out the circuit with the Grand Prix planned for September the same year if all goes well. However, perhaps the Spaniards were being diplomatic

...AND WARWICK-GPI

We had announced that Grand Prix International was entering, with the Kremer brothers, a Porsche CK5 in the Le Mans 24 Hours, with the driver team of Jones, Galliard and Jelinski. Alan was extremely enthusiastic, having enjoyed immensely with his first endurance venture in the Silverstone 1000 kilometers in a Kremer GPI 956. So he was very sad to have to phone us from Australia to tell us that because of major problems there, he could not return to Europe until the end of June. We called Derek Warwick who immediately agreed to join our team. He is in no way a 'last minute replacement' because he's a rising star of F1 and has a lot of turbo experience. We take this opportunity to remind you that the second edition of Grand Prix Endurance for this year is now on the stands, covering the first rounds of the championship at Monza, Silverstone and the Nurburgring, and containing a number of features including studies of Bob Wollek, and the Lancia-Ferrari and March teams, as well as our usual spread of top-quality colour photos. The third number of our Endurance racing edition will be devoted entirely to Le Mans, and will be on sale early in July.

in not asking the FISA president about the GP: the national federation is behind the new circuit. RACE, who had invited Balestre to hand out the prizes at the Jarama F2 race, naturally encourage the use of Jarama as host to the Spanish Grand Prix.



use : he tipped it over that mop top, further dampening it.

"How many times have I won now? Five, six wins? I don't even know myself but I know that from 17 pole positions, it's too few."

There wasn't much to say about the race : he'd led virtually from start to finish, only losing the lead during the fuel stops. Here was another happy winner without much of a story to tell. But once he'd been mobbed by the crowd and answered the odd question in the press office, he made it back to the Ferrari motorhome to talk about race philosophy, close to his thoughts at that moment.

"In tennis, all you need is a racket and balls. End of story ; no unknown factors, no weird phenomena. But in Formula One, you can lose a race because a tuppenny ha'penny piece of filter or something breaks and screws up everything. And you lose the race. That's what happened to me last week and my disappointment was in proportion to my hopes for the race. Running a Formula One car is a team operation and everyone pulls their weight : engineers, mechanics, drivers. But when things don't work, you mustn't get down-hearted. If you do, you're finished."

But while the winner was as happy as a sandboy, no problems, not even tyres, his teammate in third place had won enough points to put him second in the World Championship.

"Damn that vapour-lock. Rene and I should have been first and second but for the heat. Between the 20th lap and my fuel stop, I lost seconds by the bunch out of the chicane because the engine wouldn't pick up."



ANDREA DE CESARIS

By the second lap, I was already showing 120 degrees in the engine; the engine was pulling back; it was as if I were constantly braking. People started to catch up and pretty soon I was losing 1500 revs. I knew Keke was faster, I could see him moving outside me on the straight, sooner or later I knew my engine would drop more revs. At every curve he was right up on me and at the hairpin, his front wheel hit my rear right wheel. I kept hoping the weather wouldn't change or my water would cool down, but the engine heat never went down. I made a pretty good start, but I had to brake behind Tambay who made a slow start. Otherwise the car was good: only the engine wasn't up to it and at the end I was slower than the Cosworths, which is saying a lot: that shouldn't happen to a turbo, when you have problems enough coming out of braking and out of the curves. I made a good pit stop, but I knew the engine wouldn't last the race, which is a little bit frustrating. It was a very hard race physically: a hot engine is not a comfortable thing. Nor is knowing that you could do better if your engines lasted. I am not really worried: one of these days everything will work at the same time and during one race and I'll win.

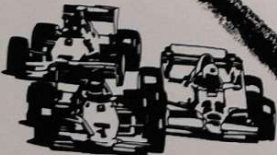
ALAIN PROST

When my race car's engine broke on Friday afternoon, I took over the spare and found out that, despite the fact that it's meant to have a monocoque less stiff than my usual car, it is actually easier to drive but still being precise and reacting well to changes of direction. That may seem a contradiction in terms, but it's possible that my own car has somehow altered, although just how, we don't know yet. Immediately after the start, I realised that it would be hard to win. The engine wasn't sharp at all, and as from the fifth lap, the rear tyres went off badly. When I stopped for fuel, exactly the same kind of tyre was fitted, yet these were fine. Instead, I began to have gearbox trouble: it was jumping out of gear. And then I had a puncture on the front left on the 55th lap and it took 25 seconds to fit a new one. But it isn't a disaster. I scored two points. Piquet didn't score at all, and I'm still in the lead of the World Championship. With four other drivers within five points of one another, I think the next few Grands Prix are going to be hard-fought.

After he'd stopped for tyres and fuel, the man from Cannes found himself behind Eddie Cheever and reckoned that he would soon be able to overtake the Renault and score a significant double for the Scuderia.

"I was going as quick as I could, but little by little, the tyres began to fall apart and the oversteer got worse and worse. The Renault just got smaller and smaller as Eddie pulled away. But by this time, I knew that Nelson Piquet was no longer running, so it seemed a better idea just to take it easy and pick up some useful championship points. It wasn't that easy though because when I saw my right rear tyre in the mirror, it looked more like a lump of gruyere!" Blistered and shredding rubber, his Goodyear Cs turned out to be a worse choice than the Bs that Arnoux had fitted at his fuel and tyre stop.

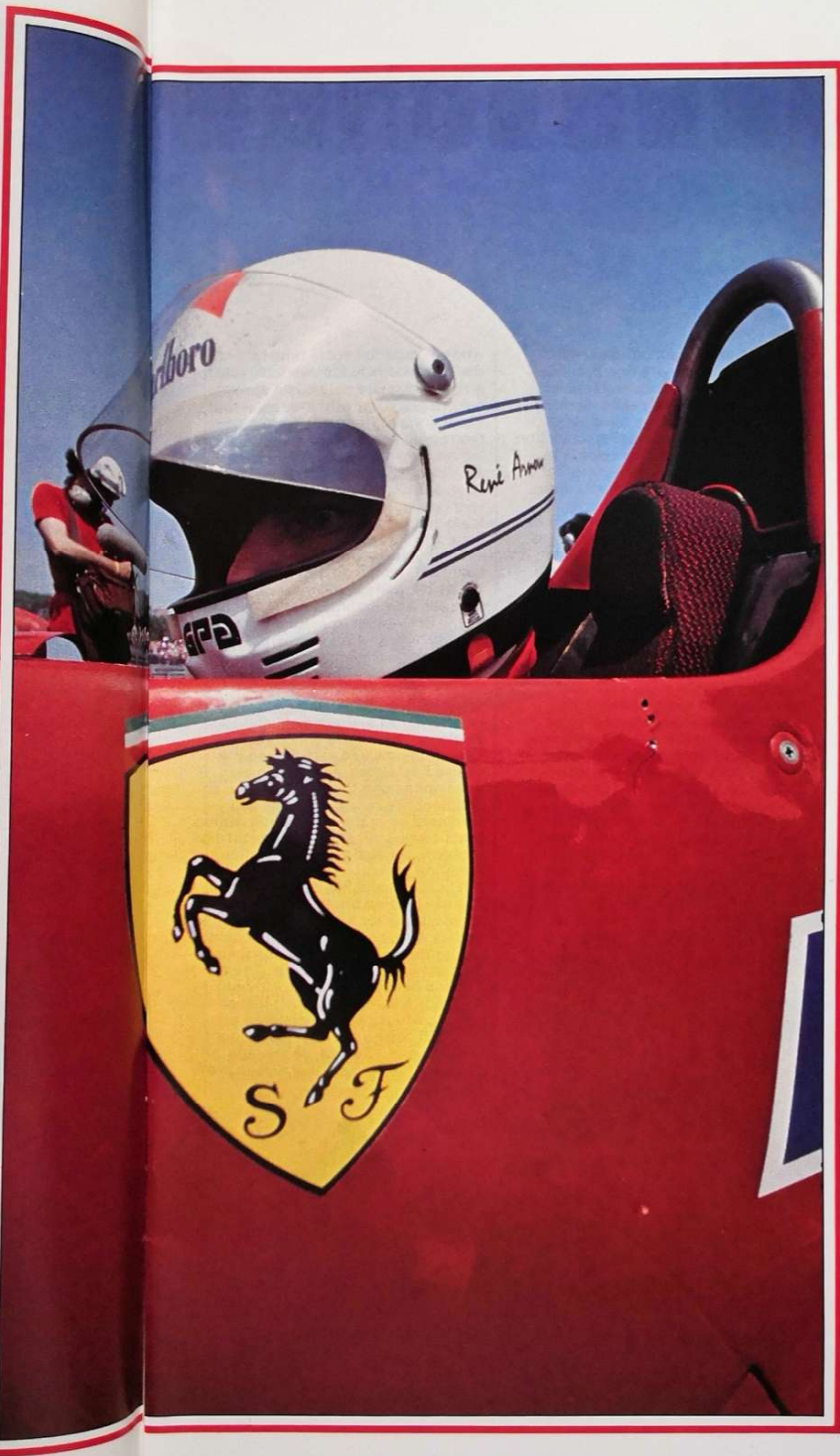
So the Imola winner now has 27 points, while the Montreal winner has 17. The men from the Prancing Horse are hungry for



more, and to this end, there will be no holidays for them during the upcoming enforced gap between races, caused by the cancellation of the Swiss Grand Prix. Instead, they'll be testing the new C3 at Fiorano which is designed to be even better than the current car. So the Ferrari men will be hungry to take points off Renault and Brabham during the forthcoming races. But Patrick is superstitious when it comes to the future World Champion. He feels that Nelson Piquet, already a World Champion, is able to be sufficiently relaxed to take disappointments and successes in his stride which could just allow him to win the title again...

Did Arnoux read in his stars that a prancing horse crossing a maple leaf was favourable? He was certainly confident of victory. Now he'll have to capitalise on his win.

Preceding page: Ferrari is colour-coded: red cars, red engines and the drivers' red overalls. The whole ensemble caused a champagne explosion in Montreal. (photos: B. Asset and DPPI)



KEKE'S COLUMN

I had three days off between Detroit and Montreal : hundreds of kilometers from anywhere. It was good and I needed the rest: fishing, tennis, just getting away from it all. I didn't get rid of my cold, however, and it's about time I got healthy. Detroit was good for me sure ; people say, you're in striking distance of the leaders, that's fine, but striking distance is a long way off. I got six points, I didn't even get disqualified, so it can't be bad.

Montreal has always been a bad track for me, I don't know why. This is the best year I've ever had here. Last year we wrecked it by porpoising, I lost a championship once when a spark plug fell out, I had a bad crash in a Wolf when the skirts stuck and I hit the armco pretty hard ; not exactly the best record. Maybe it'll all change for me. Practice was straightforward : nothing brilliant, nothing disastrous : eighth or ninth on the grid is what you would expect here. Turbo power is growing like a spring flower ; you can see it happening. Qualifying is getting more and more impossible. Put it this way, it's nice to be in the top ten, because it's not going to happen again for a while. From now on, it's going to be twelfth, thirteenth.

When it came to the race, everything went wrong that could have: my foot was hurting, my head was hurting, the car was wrong. I had a brush with de Cesaris, and I know when you say that name, people just assume it was his fault. I want to say this time it wasn't. Andrea drove fantastically well ; he never moved an inch from his line; he never once tried to shut the door. I had to make a move one day, to show him I'm serious, so I went inside at the hairpin. I had my front wheel level with his rear wheel and I thought, if he turns in, well I back off, and even if he goes, maybe he spins off. He stuck to his line and threw me up in the air. He was holding me up, sure, but he was just that much quicker on the straights. Someone else might have given me a way through, but Andrea never prevented me. If it's yours, go and take it ; I didn't have the guts to take it, the brakes weren't up to it. Otherwise the car was good, I was a bit hard on the gears but that was because I couldn't handle the pedal any more because of my foot. The worst was the heat and trying to get a drink, however, like being on the Sahara and seeing a mirage. You can't get enough to drink. Every time I tried to get the pipe into my mouth I had to get another gear and it fell out ; then it got stuck in my helmet ; then the water ran out. When Jacques got by me, I was trying to get a drink; you've got to have it or it drives you crazy. Me, it drove crazy.

Keke Rosberg



Last year, the Canadian public was still suffering the trauma of Gilles Villeneuve's death and a public transport strike didn't help bring the crowds to l'Île Notre-Dame. Not so this year. The growth in interest has been exponential and even before first practice, more seats had been sold than on the eve of the race last year. While there are no major alterations to the circuit itself, Norman Legault and his fellow-organizers have followed the example of Caesars Palace and Detroit in putting up a stand overlooking the refuelling pits; the plain wooden

cabins which used to house team equipment and serve as garages have been pulled down. They were never beautiful, but the result now is that teams must work in the open air, a long way from their garages, a solution that is all very well if the weather is fine, but Montreal, even in June, is not known for the stability of its weather, nor are the temperatures exactly Californian. On the more positive side, however, a fine new control tower, to hold race officials, timing, television and radio has been built, completing the transformation of the Gilles Villeneuve circuit into a permanent installation.

As the first untimed practice started on Friday morning under a sky rapidly clouding over, all eyes were on Jacques Villeneuve, the younger brother of the unforgettable Gilles. The local media did not seem to be fully aware that the RAM 01, absent at Detroit, is hardly the easiest car in which to seek to qualify. The 28 drivers

who set out took some time to bring their times down, for the track, idle for a year, was extremely dusty and grip hard to come by, with the result that excursions off the track were more than likely. Extremely unlucky a week before, Ferrari, whose faithful old 126C2s are running their last race here, struck hard and quickly. On his very last lap, Tambay nosed past his team-mate Arnoux to register the best time. His 1'30"759 was .379 of a second faster than Patrese, whose spare car, forced on him by necessity at Detroit, had been converted into his race car. The Brabham-BMW finished ahead of Cheever, the 'King of the Atmospherics', alias Rosberg, Piquet, Prost and de Cesaris, who had to go out in his spare after a fuel injection failure in his race car. Followed: Laffite, Winkelhock, using his second generation ATS, Giacomelli and Boutsens. There were only three Cosworth-powered cars among the twelve best times, and the Ligiers were not among them: Boesel had an incipient fire out on the track and soldiered on in the spare while Jarier's practice was cut short by a mechanical problem, yet again, in the injection metering unit.

First official practice began at 1 p.m. The sky cleared briefly, but the forecast was for brief showers and the drivers were consequently impatient to mount their qualifiers and use them to the best possible advantage. The two Ferraris headed the queue out onto the track and repeated their feat at Detroit: Arnoux soon registered a 1'29"955 and on the next lap brought that down to 1'28"984, an average speed of 110.79 mph; that was to prove



unbeatable. The track was by now safer and each did his valiant best. Behind Arnoux, Piquet managed to make second, but was soon overtaken by Tambay while Piquet himself was now threatened by Cheever and Patrese. Some 17 minutes into practice, a few drops of rain fell on the track, but they dried immediately and Prost, who was out on his best lap, had the ill-fortune to have his engine give way half way through.

As he worked his way back to the pits on foot, the Ferraris were putting on their second sets of qualifiers. Arnoux did

nothing sensational with them, but, despite heavy traffic, Tambay managed to lower his time to 1'28"992, 8/1000ths of a second off pole. We were by then at the halfway mark, and while Renault was reading Prost's spare, de Cesaris came back into the pits on fire after his engine had broken. By the time the fire extinguishers had come into action, literally drowning the Alfa Romeo in a thick layer of white foam, rain had started to fall. Within two minutes the track was soaked and one by one the cars came in to sit under tarpaulins. Luckily, bright sunshine followed and the track quickly dried. Both Renault and Brabhams set out then to reduce the huge gap created by the Ferraris. Prost, who discovered that his spare has a less rigid chassis than his race car and is easier to drive on this circuit, soon set a 1'29"942, still a full a second behind the Ferraris. The

Brabhams, behind Cheever, fail in the attempt: Piquet could not improve on his first time and Patrese, who had already shot his wad, wound up against the guard-rails after a spectacular spin: just before the end of the session and on the bumpy curve which follows the grandstand straight, his car did a half-spin, went across the

laps. Behind those three came: Prost, de Cesaris, Cheever, Winkelhock and Patrese who had to use his spare after encountering problems with his transmission. Rosberg was ninth and Boutsens, who'd gone out on full tanks, broke an engine. Villeneuve, on the other hand, greatly improved his Friday times.

By 1 p.m. the temperature had risen to between 38 and 40 degrees C. on the track and the sun was shining brightly. At first glance then, one would have expected few changes up front; indeed, by the one-third mark, only Patrese, of the front runnes had improved his times, any other

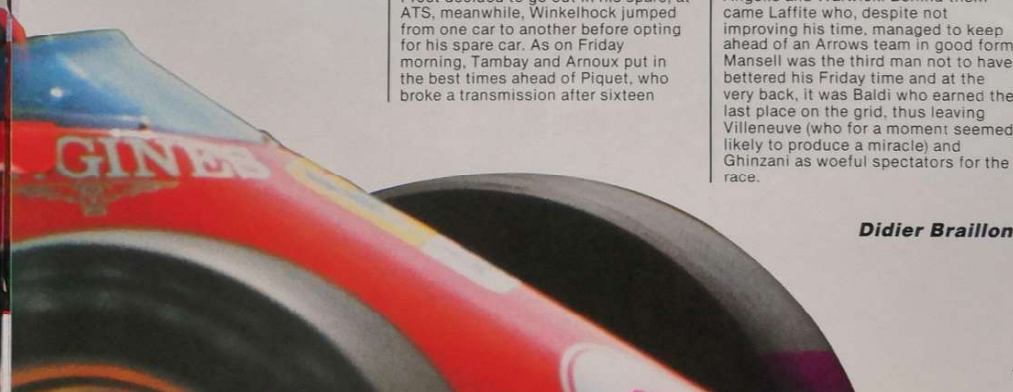
improvements being confined to the back of the grid. Bit by bit, however, better times started rolling in and Piquet nudged Prost out of third place behind the two Ferraris, though it was not long before Prost re-established his place. Tambay, who had missed a gear on his first set of qualifiers, now broke a turbo, thus making it impossible for him to improve his time as he went out in his spare. Arnoux, on the other hand, moved his own pole position time down to 1'28"729, or 111.11 mph. At the very end, when the track was practically deserted, all the front runners went out and had another try on their final set of qualifiers. Prost did best, getting second place, though still a second behind the Ferraris, and Piquet, very close behind, stole third from the defenceless Tambay.

Behind Tambay in fourth place came Cheever, Winkelhock and de Cesaris, all of them setting better times: as did Rosberg whose atmospheric pole position earned him only ninth place ahead of the turbos of Giacomelli, de Angelis and Warwick. Behind them came Laffite who, despite not improving his time, managed to keep ahead of an Arrows team in good form. Mansell was the third man not to have bettered his Friday time and at the very back, it was Baldi who earned the last place on the grid, thus leaving Villeneuve (who for a moment seemed likely to produce a miracle) and Ghinzani as woeful spectators for the race.

PRACTICE

track and hit the rails, wrecking its rear end. Thus behind the two Ferraris, two Renaults and two Brabhams, Rosberg managed to qualify seventh ahead of Winkelhock, de Cesaris, Laffite, Giacomelli and Warwick. Only the Williams cars among the atmosphericers made it into the first twelve, but just behind, in 13th and 14th places, the Arrows, led by Boutsens, placed well, while the heroes of Detroit, de Angelis and Alboreto, were both buried to the rear of the grid. Guerrero was still further back: he broke his drive-shaft after four laps. Which was nothing compared to the troubles his team-mate Cecotto had: the bike champion sat with Villeneuve among the unqualified.

As forecast, Saturday morning was bright and clear, and by the second untimed session, it was also warmish. After a quick check on the two cars, Prost decided to go out in his spare; at ATS, meanwhile, Winkelhock jumped from one car to another before opting for his spare car. As on Friday morning, Tambay and Arnoux put in the best times ahead of Piquet, who broke a transmission after sixteen



Didier Brailon

DÉPART

Labatt

ARRIVÉE

THE RACE

Frustrated at Detroit, the Ferraris made their comeback in style in Montreal, with only Cheever coming between Arnoux and Tambay to stop a Maranello one-two. It looked easy; in fact it was hell on wheels for all: heat and hiatus and survival for the fittest.



THE RACE

1. Arnoux may have messed up his starts at Monaco and Detroit, but he got it absolutely right at Montreal, leading straight from the green light. Prost, the two Brabhams, Tambay and Cheever follow. Ferraris, Renaults and Brabhams might have fought out a turbo war but for Arnoux's superiority. (photo: First Line)



2. Prost suffered from a down-on-power engine and a failing gearbox, and steadily he slipped back. Patrese was the first to challenge, taking second place into the first corner. Piquet overtook Prost on the fourth lap and Tambay followed seven laps later. But the World Championship leader finally picked up two points and neither Brabham finished. (photo: DPPJ)



3. Behind the six leading turbocars, de Cesaris, whose Alfa engine was overheating, and Rosberg fought for seventh place for five laps. But on lap 10, Keke tried to pass the Alfa driver at the hairpin. Andrea held into his line and the Williams bounced up in the air, over de Cesaris's rear wheel. But Keke still finished fourth and first non-turbo, while de Cesaris was let down by his engine. (photo: B. Asset)



4. Arnoux lost his lead for only five laps, while he was refuelling and waiting for the others to stop. So both Patrese and Tambay were also in front, but Rene retook his lead on the 39th lap. At the end, the little Grenoble driver had an advantage of 40 seconds over his nearest rival. (photo: DPPJ)



When the race rose in a thunderstorm, suffered the by-now-customary late Canadian start because Montreal was blacked out by an electrical storm towards Ottawa (and racing without television would be unthinkable) and stayed in heat to watch a runaway race won so handily by René Arnoux it didn't seem anyone else should have been on the track. He led — apart from three laps during the multiple pit-stops — from start to finish, winding up 42s ahead of Eddie Cheever, with Tambay cruising into third place behind him and Rosberg finishing fourth (six out of seven races in the points isn't bad!). The start, when it finally came, forty minutes late, was more of a reasonable, calm affair than we have seen in recent races. Arnoux, with Patrese close on his tail, made it to the first corner ahead of Prost and Piquet, an order of seniority and superiority that was to last some four laps before Prost, whose car was not yet in tip-top form, had to yield to Piquet. With the front running confidently, our attention was first engaged by an epic battle between Rosberg and de Cesaris: excellent fun for all between laps five and ten. The Alfa was ahead, and clearly slower; Rosberg was behind and clearly stalking his prey: sometimes in a way that suggested that the Italian was a pesky sardine and the Finn a mean green shark. Rosberg settled matters for himself when he tried to outbreak de Cesaris into a corner and found Andrea holding his line with what Keke himself admits was perfect correctness. Keke was briefly airborne, but no harm was done, except that Rosberg fell back to tenth behind Winkelhock and Laffite.

When Rosberg caught up and got himself back where he felt, as king of the atmospherics, he belonged, the order, remarkably steady, became: Arnoux, Patrese, Tambay, Cheever, Prost (overhauled by his teammate on lap 14) and Rosberg; and as Laffite moved up behind Rosberg, followed by de Cesaris and Watson, we settled into a period of absolute calm that lasted almost to the half-way mark, when the refuelling stops began.

For some, of course, the race was already done: Jarier lost gears throughout the first lap and quit; Surer burned his clutch at the start; de Angelis went for an accelerator; Mansell made the first of his five tyre stops and Lauda stopped

after a spin and a stall and had to hoof it home. Accelerator problems got Piquet, too, but otherwise, apart from Tambay trying on Patrese for size, all was noisily quiet on the Ile de Notre Dame.

Where the pit-stops and refuellings usually upset the balance of things altogether, Montreal was an exception. The crews are trained and everyone was exceptionally fast. De Cesaris was first in, but his engine blew on lap 43; his ill-fortune continues. Of the front-runners, Prost did his first quick change on lap 33 and changed his tyres again on lap 55. Laffite came in before Keke but his gearbox jammed and he stopped on lap 38. Arnoux came in four laps ahead of Tambay and both Ferraris were out again quickly. While Arnoux was in, the lead passed to Patrese for three laps, then to Tambay for one; but Arnoux was back in command by lap 39. At lap 40, then, the order is: Arnoux, Patrese, Cheever, Tambay, Prost, Rosberg (all on the same lap), and then Watson, Boutsen and Alboreto. Rosberg's pit-stop did not alter his severe braking problems and his Cosworth engine was simply not the equal of the turbos up in front of him. But there, a minor drama was taking place as Patrese, very strong and tenacious up to that point, began to yield ground, and in one lap, the 48th, he lost out to both Cheever and Tambay, though not without a struggle; fourth he stayed until lap 55, when Rosberg got past him. The writing was on the wall, and on lap 57 Patrese gave up the ghost, with his gears dropping on him like marbles from a kid's pocket.

The last real individual racing of the afternoon was a joyous little interchange between Watson and the talented Thierry Boutsen; it lasted some laps and Watson's number seemed up. But inexperience caught up with the young Belgian and, braking into a corner to get by Watson, he saw he wasn't going to make it, edged back wide under braking and knocked the left half of his front wing off. Prost's car was not a thing of beauty and he could count himself lucky to finish fifth behind Rosberg; his engine was feeble and in the later stages, he too had problems with jumping gears (as did Cheever, whose right hand was just a big sore at the end of the race); in the final stages he had a puncture and had to pit again, losing 25s. □

THE RACE

5. This was the man closest to Arnoux at the end: Eddie Cheever. He started carefully, overtaking teammate Prost on the 14th lap and then he overtook Tambay shortly before stopping for fuel. Patrese's retirement promoted him to second place, the second in his career. Renault's latest recruit is developing nicely. (photo: First Line)



6. Tambay had his problems, but he drove a race to finish, picking up four precious points which allowed him to draw equal with Nelson Piquet in the World Championship, just three points behind Alain Prost. He finished around 50 seconds behind teammate Arnoux, the legacy of a vapour lock in the early stages. (photo: First Line)



7. Wattie celebrated his being made a Member of the British Empire by scoring a point in Montreal. He joins Brabham, Moss, Surtees, Hill and Stewart as holder of this important decoration, but Thierry Boutsen tried very hard to pinch that one World Championship point. (photo: B. Asset)



8. It looked as though the battle would continue on the top rung of the rostrum, doing his bit with the champagne while Tambay is giving his teammate a shower, and Cheever prepares his revenge on both of them. Three turbo drivers on the rostrum led by Arnoux. His win is long overdue. (photo: DPPJ)



MISTER START

Up on the starter's platform, Derek Ongaro has his hands on the red-green button. It is the most critical moment of the whole race: hearts pounding, engines revving, adrenaline flowing. The safety of Formula One is in one pair of hands: and not just at the start.

by Keith Botsford



Most of us who watch the sport see a familiar stocky figure walking up and down the pit-lane talking to all and sundry: to drivers, to teams, to officials. Or see him by the control tower, or by Dr. Watkins in the rescue car. But circuit owners see him year in and year out long before the Family ever comes to town. Derek Ongaro, who as he himself says, has known the F1 scene for some years, at Lola, with Surtees and lately as the agreed supremo of circuit safety and official starter for the sport, is the man who has to adjust tracks to cars and cars to tracks and make sure that as little as possible goes wrong. No easy task, given the ever conflicting interests of the sport and the pressures on one individual who decides whether or not circuits are licensed for F1 racing.

For Ongaro, it all began in 1978, at Dijon: already, there were difficulties. "It was when Pironi went off in a big way," says Ongaro, "and there was quite an argument about who would do what. I was able to sort out the bits and pieces, get the track cleared and the race going again; and instead of holding the postmortem on the spot, as the French usually do, we held it afterwards. That got me off on a reasonable footing."

From that point on, you could say Ongaro never looked back. He began doing circuit inspections for new licenses. "With the experience acquired and a bit of help from friends, I went from just making sure things were up to scratch to actually making recommendations. Mostly it was a matter of talking to circuit owners and drivers. From Lola and going back to the Surtees days, I knew a lot of the people, so I didn't come in cold. Which was lucky. Some drivers were extremely sensible and helpful; some just played the game their way. It got to be a little bit of a game, to see if the drivers could build advantages for themselves into the circuit or not. It didn't take long to figure out who was doing what. We had a hard session with

Jody Scheckter in fact. I knew him well, and at Lola we'd supplied his first engine when he came into Formula Ford. He was a bit of a cuss to get along with, but I liked him, because basically he was honest. If he didn't like something, he would turn the place upside down; he was very rarely completely satisfied with anything, but I don't think he ever tried to take advantage of his position as head of the drivers' association. But he certainly liked to make use of his position as the man at the top, making the decisions."

The next step was for Ongaro to make inspections of the completely new circuits: Detroit, Vegas, Rio, places like that. "In Rio, there was a bit of a confrontation with Jean-Marie Balestre (of FISA) and Basil Tye (of the RAC, who was running against Balestre for the presidency of FISA) at the time, as to who should inspect the circuit. There was a three-day impasse and then suddenly it was decided I should go. That was probably the first circuit where I had a really free hand. I like to think it is one of the safest circuits we go to now."

The Las Vegas circuit around Caesars Palace was finally, however, the circuit where Ongaro met the greatest co-operation. "Literally, nothing was too much for them," he says. "On one occasion, I went for a temporary inspection some three months before the first race, and I said, there are a few walls we'd like moved quite a long way, providing it's done by the race, that'll be fine. We went and had some lunch and by the time we'd finished, the work was all done!"

What with the political battles raging around FISA and FOCA and a number of unfortunate incidents at circuits around the world - Monza in particular - there was a move to have a group of permanent officials who could move about the world with the Family to supervise safety. "You couldn't go as far as Clerk of the Course we were actually sitting at a Formula One Commission meeting and someone said: 'Why don't we begin by nominating an

Most red lights turn to green automatically. Derek Ongaro has that strange power of being able to do it himself! But it's a power and job that he takes very seriously and which he carries out with great skill. (photos: DPPJ and B. Asset)



official starter?" Then Ecclestone said, "that'll be Derek" and to my surprise—no one had even asked me—there was unanimous agreement.

"I think two things happened to make that possible. First, the drivers suddenly realized they had in me just one person they had to deal with, and most of us knew one another. The other is that I think I know the problems they have when they come up to the grid, whereas the local man would only see them once a year."

From that decision stemmed a number of consequences. For instance, agreement was reached on the staggered grid and the seven meter distance between cars. Which means, as Ongaro pointed out, "that if there is a problem, there is room for drivers to weave through. The man on pole gets a seven-meter lead, but that doesn't always mean he's going to make the quickest start. In my view, some drivers who have the temperament to make pole position don't necessarily have the temperament to make the fast starts."

Naturally, like every change in F1 rules, the changes weren't as easy to make as Ongaro makes them sound. A lot of drivers wanted more room between cars, and then there was pressure to have rolling starts: "I studied the history, investigated a bit, and found out that if you did rolling starts or pace car starts, and you did have an accident, it tended to be a pretty big one. So we managed to squash that one."

That in turn led to the next reform, which was first officially put to use at Ricard last year: what to do when a car stalls on the grid. "The system now is that if we see a driver stalled on the grid or waving his arms about, or the board marshals tell us there's a trouble, and it's before the red light comes on, then we simply show the start delayed board; and if it's after the red light goes on, then we use the flashing yellow lights, which means, cut your engines and stop."

It doesn't take much memory to recall that this year we have had two successive incidents involving the start, and in both of them a principal actor has been Andrea de Cesaris.

"The grid at Spa does bend a little around, as it does at Brands Hatch, but I moved myself down the start line a little way so I could see the back and placed a flag marshal at the back of the grid to tell me when the last car stopped after the warm-up lap. We also had a repeater halfway down the grid. Spa was difficult because the drivers dragged the warm-up out quite a lot; they were slow coming back. The last man came in, we saw him stop, I put the red light on, had a quick glance down the grid and saw Surer with his arms up and Laffite, almost alongside, also waving his arms and right at the back, I think Sullivan too. So I pushed the yellow-light button, which meant they should have stopped, but of course two or three of them were already away. The rest of them just rolled or ticked over. Well," adds Ongaro philosophically, "we've had all sorts of funny little incidents with de Cesaris in the last couple of years. I had to put that down to experience; and there was no way you could let the grid go with two cars stopped side by side."

Detroit, of course, though a repetition in some ways of Spa, was radically different. "It was halfway down the grid and before we'd even put the red light on, de Cesaris

had stopped his engine. I must be fair, I do not know what really happened: let's say his engine had stopped."

The point, as we shall see, is important. There are advantages to be gained by "stalling" on the grid. "It was quite obvious he couldn't start, so I put out the start-delayed board - upside down as it happens - but no problem. There's not many seconds and the man on pole is getting a bit pink under his helmet! It's me that's holding him up, not the man at the back of the field. My question is, if a man stops on the grid because he wants to - and I know that if I found I had problems out on the warm-up lap, I wouldn't mind having a five-minute delay - should he be required to start from the back of the grid? Should you penalize the genuine stall? After all, the race hasn't started. I don't know the answer."

Ongaro's solution, at least in the early stages, would be to consult the drivers. Perhaps beginning with Lauda. "I've got a lot of time for Niki," he says. "Particularly since he came back. He's been very sensible. We talk a lot and I talk a lot to most drivers. You need their co-operation."

More recently, there's been another problem: the agreement to take the starter motor off the cars: "If they had the starter motors on, perhaps there wouldn't be that situation, or the excuse for that situation." Detroit will of course be remembered for Patrick Tambay's stall at the start line: if only because it recalled, in horrifying detail, the incident in which Riccardo Paletti lost his life at Montreal. Says Ongaro: "I don't know what could be done. Once the green light is on, there's nothing anyone can do, there's no way of stopping anybody. He says he stalled his engine as he started to take off. Well, that happens; Piquet did that at Imola. You've got 25 other guys out there who are tee'd up for the light to change; if you left the red light on any length of time (that is, beyond the four to seven seconds that are now mandatory), they would go. Any change from the red light, they go. Strictly speaking, once the green's on - which is when Patrick got out of his car - that's up to the Clerk of the Course and his people. Hind-sight makes things so easy. They put a wrecker on the track, which was the right thing to do in the circumstances, wrapped a rope around his roll-bar for him to hold. If that had been me, I'd have dipped the clutch. Most people would. But he opted to take his exit. He didn't try to go on. It's entirely his choice."

Going back to Montreal and Paletti last year, Ongaro's judgment was a little harsher. "I've seen the videos countless times and studied every detail. The truth is, Paletti had his head down, he just wasn't looking at what he was doing. He came right down the grid, straight up Pironi's back. He just got up to third gear. I don't think an experienced grand prix driver should ever hit someone straight up the back. A glancing blow, a slide through, okay. But not straight up the back."

Recalling what happened at Zolder when an Arrows mechanic was hit by Stohr, Ongaro pointed out that accidents of that sort should not happen: "These men are supposed to be the best in the world. They are not just kids in Formula Ford or F3. There's not much you can do about human error. Of course, you get to know the dri-

It is just this sort of accident which Derek Ongaro strives to avoid. Incidents at the start, whether controllable or not, are things he feels for very strongly. (photos: B. Asset and DPPI)



vers: the start is a good test of temperament. I look down the grid and I generally know who's where and where the potential trouble is. I'm obviously not going to name them, but there are some drivers of whom you can expect trouble. If you had Niki and Wattie up at the front each time, no problem. But the Friday grid at Detroit, with Jarier and a few others, well, that could cause you a grey hair or two."

And just what is it like, being at the nerve centre of the universe when a race is about to start? "Let's put it this way, I watch the warm-up lap with a fair amount of tension. They come in, they come to a stop, and now I always have someone I know at the back of the grid to tell me when the last man's stopped, so I don't just rely on the board marshals. Some of the board marshals are not quite as slick as they ought to be, so I have to watch them as well. From the time I can see the last man has stopped, that's my biggest worry, that's when time seems to grow very short and sharp. If anything happens as the last man's rolling in to stop, that's when I've got to take a decision pretty quickly. So far I've been lucky."

"I count the cars through, I see what colour the last car is, look at the grid sheet, check it, I know the drivers at the front of the grid, you can tell fairly well who's going to cause the problems, particularly from third to fifth. That's a matter of temperament: there are some of them who are very easily triggered from the aggression point of view, some of them who're going to fight their way through, they'll bang wheels, they'll do anything. I know the ones I have to look at, and I know the ones I don't have to worry about. So when I saw de Angelis weave to the side at Detroit, I couldn't believe it. He's usually so quiet."

It shook me. He was alongside the man in front of him before the light was green! "I have the switches all marked. If they're not, I mark them and play around with them. The red-to-green is always one switch. The yellow light is another switch, a separate circuit, separate everything. If you have to go from red to yellow, you don't fiddle with the red switch, you go right to the other as quickly as you can."

I have an eye on the grid and a hand on the switch. Then I've got four to seven seconds to scan the grid, turn red to green or stop. It's not very long! Usually, I just hope they're all going to get away together. Strictly speaking, my responsibility ends there. But as a race isn't official until two laps are completed, I usually stay in that spot that long. After that, I go back to safety."

At that point, too, as Ongaro explains, the race is in the hands of the Clerk of the Course. "What happens then, depends very much on how experienced and how brave he is. Especially how brave."

There'd be a lot more Ongaro could tell about the pressures he lives under, but they are now part of his life, part of his routine. His job is to put his head down and do the sensible and the safe. No easy task. And no excuses if something goes wrong. And also, since his advent, safer circuits and safer starts: common sense and consultation and determination, that's Mister Start. □



A BORDERLINE CASE

He's 35, short, eyes in perpetual movement, an ingenuous expression on his face, and Rene Arnoux is undoubtedly one of the fastest drivers in the world. And a fortiori, in Formula One. He tops the charts in pole positions won, a symbolic title, but before Montreal, he had only four Grand Prix victories to his credit. He is, however, totally convinced: one day, he will be World Champion.

by Franco Lini



The interview which follows was one of the most difficult in my long career as a motor racing journalist. I have questioned drivers of various generations, famous and obscure: Ascari, Farina, Villorelli, Fangio, Clark, Stewart and so forth up to the contemporary drivers. I have talked to World Champions and to those who approached F1 as a hobby, without pretensions. But I have never had to chase after a driver for two full days, just to hear him mouth banalities. With Arnoux, I have achieved it. Not that Rene had any specific reasons. He quite simply disappeared into the blue between Detroit and Montreal, forgetting everybody and everything, everything in fact which might have recalled his most recent disappointment. In Detroit, he thought he had the race won. And once again, the machinery let him down. As if to convince himself, he repeats to you that this sort of incident is part of the



game, that he continues to have faith, to believe in victories to come, in a World Championship that he will win.

He arrived late in Montreal, and as usual found himself swept up in a flurry of meetings and appointments of various kinds. He had no time to waste settling in, or even to think about himself — which didn't seem to worry him overmuch. He had to welcome Jean-Claude Bouttier, the boxer, who was his main supporter when, 11 years ago, he won the "Volant Elf" final, the first step on the road that led to the Scuderia Ferrari. Tomorrow morning, he would be back in the routine of a Grand Prix: practice, testing tyres and aerodynamic configurations, making the wise, tiny changes in the set-up which little by little will let him nibble away tenths or just hundredths of seconds, before perhaps bringing him victory.

It's not the moment for him to come out with introspective psychological analyses or complicated speeches. Anyway, it's not his style. His life consists of simple things: races, with all they imply, and moments of rest with his blonde companion, between two Grands Prix or two testing sessions. So, given the lack of time, we dived straight into the heart of the matter and started our discussion with the 1983 season:

— Third at Long Beach, third at Imola, those are your only results. Why? "Huh, why ask that question? That's F1, that's all. Results are not decreed or programmed. It's obvious that I'm disappointed, not by Ferrari, but by this succession of bad luck. Engine trouble at Rio, tyres at Imola after I took the pole, then Spa, then the little wire which came undone at Detroit, those things happen. No point in beating your head against every wall within reach. I'm not looking for excuses, when I make errors, I admit them. I simply had unfavorable circumstances. Take tyres, for example: they went off at Imola just as at Spa and Detroit, they did their job perfectly. That's racing."

— Haven't you had certain problems integrating yourself with the Ferrari team which may have had repercussions affecting your behaviour?

"Absolutely not. I've had sufficient private testing sessions at Fiorano and at Paul Ricard to be integrated into the Scuderia. But I knew that for my first races, everything couldn't work perfectly. I was new to the team, sort of an apprentice. Absolutely normal."

The fact that you speak Italian must have helped your adaptation?

"Naturally, but I think that even if that hadn't been the case, the integration would have been almost immediate. The Scuderia is not biased, it is used to welcoming foreign drivers. At the beginning, you have to adapt your way of working, but that's not a problem. It's a homogenous team, united, of a competence rarely equalled."

And in comparison to Renault?

"At Ferrari, racing is not influenced by the repercussions on the sales of private cars. Furthermore, at Ferrari, there is a chief, whom you know. When he gives orders, everyone carries them out. Renault pursues different objectives. Everything is related to commercial ends, like the Regie itself, and as a driver, you feel it. Finally, at Ferrari, every part of the car is made at Fiorano. It's a sort of moral security."

We are at mid-season. Don't you have the feeling you are going through the same thing you went through at Renault? Meaning you are faced with a teammate scoring more points than you.

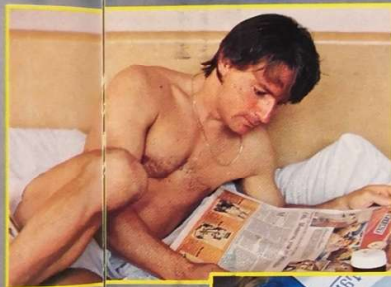
"Absolutely not. I know I can win, that I am able to win, like at Detroit. It's a long road to the end of the championship. Certainly it's irritating to lose nine points because of a tiny wire, but tears don't change anything. I wanted to win as much for Ferrari as for the nine points. I didn't make it, but it's not a tragedy. All hope isn't lost as far as the championship is concerned."

So only having eight points at mid-season doesn't make you doubt yourself?

"Of course not. I already had a similar period at Renault when we broke engine after engine. But I never got discouraged. And today, I can smell victory. So why do you think I should have doubts?"

No anger either?

"No, I'm disappointed, that's all. The cars are strong and well prepared. It's just a problem of unfavorable circumstances." But your teammate is, after all, continuing to score points which perhaps you will need?



From his hotel window, Rene Arnoux looks over the Detroit track. Once again he led the race, once again his bad luck struck. Happily for his morale, victory was to come his way just a week later in Montreal. (photos: B. Asset)

"Good for him. I don't see things that way. I haven't lost all chances in the championship and that's what's important." The atmosphere at Ferrari must be very different from that you experienced at Renault, when the climate was sour? "One must not exaggerate. It was a question of a simple problem between Prost and me. I got on extremely well with the mechanics and I don't think they had anything against me, on the contrary. But with Prost, well, we were two roosters in a hen house. I accepted the situation which, as I saw it, was part of racing. But that wasn't the case for Alain. He only wanted there to be one rooster..." It seems to me that you are not very popular in France, that the polemics of last year went against you and in favour of Prost. "In my opinion, it's exactly the opposite. People I meet tell me that in my place, they would have acted as I did. I think I'm

"I don't remember having had that problem. The atmosphere that exists in F1 is what it is, I'm not going to change it. In any event, what concerns me is the atmosphere that exists in my team. It's excellent. As for the rest... I've had two days holiday, now I'm delighted to see my mechanics again, to think that tomorrow I'll be at the wheel of my car and that on Sunday, there'll be another Grand Prix." So the lack of human relationships in F1 doesn't worry you? "You mean relations between drivers? It's true there are differences with the past. But I think that it's the same in F2. Everything has become more professional, even in F3. I realized it at Monaco. The drivers have much better equipment at their disposal than they used to. Human relationships have suffered, but not the spectacle. As for F1, the stakes now are too important. There was a time when Ferrari



popular with French people because they know the difficulties which I had to overcome to get into F1, my past as a mechanic in Italy."

Just speculation: if you had to leave Ferrari, where would you go?

"Oh, there's not a wide choice: Brabham, Renault, McLaren, perhaps Williams if Frank finds a good turbo. In fact, the teams which have a chance of winning the World Championship. Of course, other teams can win races, like Tyrrell with Alboreto in Detroit, but not the championship. That said, I don't ask myself questions like that. I hope to stay at Ferrari. But does one ever know?"

The atmosphere in F1 is different to that in F3 and F2. When you came into the top formula, didn't you have trouble adapting to its very special atmosphere?

raced in F1, in sport-prototypes and in Grand Touring. Now that would be impossible. A lot of people criticize F1 for swallowing too much money, of polarizing public attention. On the contrary, I think it's good the way it is."

You don't want to drive in other branches of the sport?

"No. At Ferrari, what with races and private testing, there isn't even the time left to go fishing. From the outside, that may seem boring, but everything depends on the atmosphere in a team. In an English team, it's possible that I'd find such a routine hard to take, because I don't think I could fit in as well as I do at Ferrari. When you have to swallow such a programme of testing, you must not be constrained or forced, nothing good would result." What are your hopes for the rest of the season?

It's an old love story, René Arnoux and the Prancing Horse. It dates from the time when when a young mechanic from Grenoble learned the tricks of his trade in a garage in Turin, and dreamed of competition. Love stories sometimes end happily, this time with victory in Montreal. (photos: B. Asset)



"Our cars should be in good shape for Montreal, I say 'should' because F1 is often illogical. Thereafter, we will have the new C3 which will be superior to the C2 on fast circuits. I hope to win my first race for Ferrari soon, because I'm still thinking about the World Championship." You've been racing in F1 since 1978. After two unhappy experiences with Martini and Surtees, you joined the Regie Renault in 1979. With your experience, do you prefer the current cars to those of the ground effect era?

"I really liked driving the ground effect cars but physically, we drivers couldn't keep up for long with the progress of the cars. The problem was less driving than enduring at the end of last season. It wasn't reasonable to keep going on that road. But it must not be forgotten that we are almost as fast as we were last year, even if we don't go as fast on the straight. More or less pleasant to drive? You know, pushing back the limits of a car, whether or not it has ground effect, gives the same satisfaction. People who think that with the suppression of ground effect driving will become spectacular again are mistaken. To set a time, as to win, a race, you need a fluid driving style."

That's an opinion a lot of drivers share. Now we have to get on to a subject on which much was written last year: your refusal to obey orders at Castellet. If you were confronted with the same problem again, to let your teammate past when you were leading a race, what would your reaction be?

"You must always put the facts in context. Last year, the Castellet incident was only the consequence of what had gone on between Prost and me during the year. I understand perfectly that a driver must bend to the demands of a team, that a team manager can be obliged to make a choice which favors a driver. But at Ferrari, that is only conceivable within two or three races of the end of the season. Last year, the French Grand Prix was at mid-season. I still had a chance to win the championship, even if it was slim."

So you felt humiliated to have to submit to orders which you felt were unjust?

"Exactly. I'm not in the habit of refusing to do what seems to me to be just. A driver races to win, he's not prepared to accept second place with a smile, especially after having let his teammate go through. During a race, a teammate is a driver like the others, an opponent against whom you must fight. We're all that way, don't have any illusions. It's normal that a constructor wants to win the championship, and if I can help Ferrari, believe me I will."

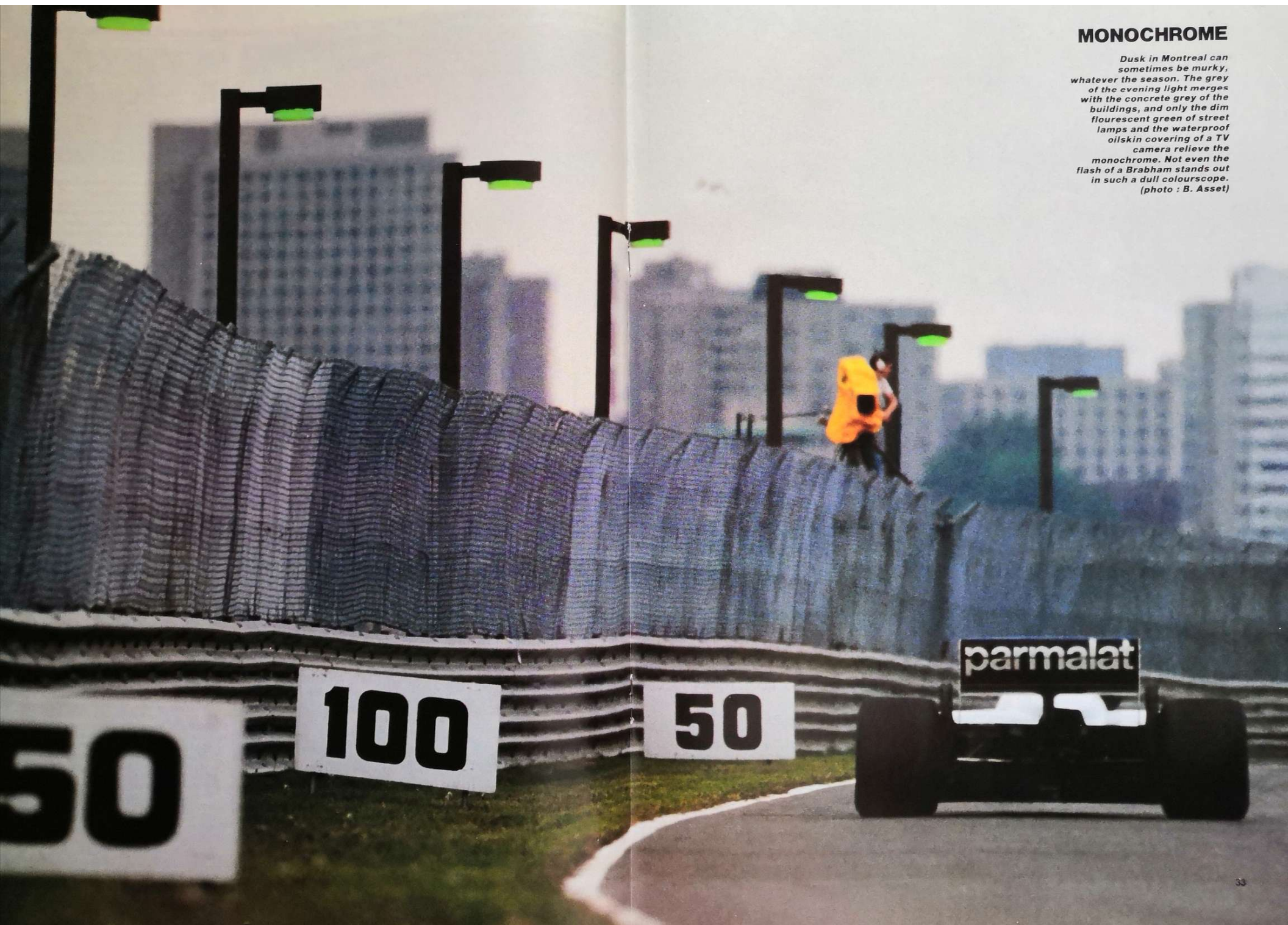
If after the German Grand Prix, Patrick was better placed than you in the championship, you would help him as Villeneuve helped Scheckter?

"Absolutely, even if I'm leading." To finish up, I'd like you to clarify that the incidents at Ricard last year showed discord between Arnoux and Prost, not between Arnoux and Renault.

"That's right. I always got on with Gerard Larrousse and all the team, throughout the years. But with Prost, it had become impossible. He doesn't know the meaning of the word 'reciprocal'. So it was every man for himself. I didn't mind racing for Renault, but for Prost..."

MONOCHROME

Dusk in Montreal can sometimes be murky, whatever the season. The grey of the evening light merges with the concrete grey of the buildings, and only the dim fluorescent green of street lamps and the waterproof oilskin covering of a TV camera relieve the monochrome. Not even the flash of a Brabham stands out in such a dull colourscope.
(photo : B. Asset)





WHEELS ON FIRE

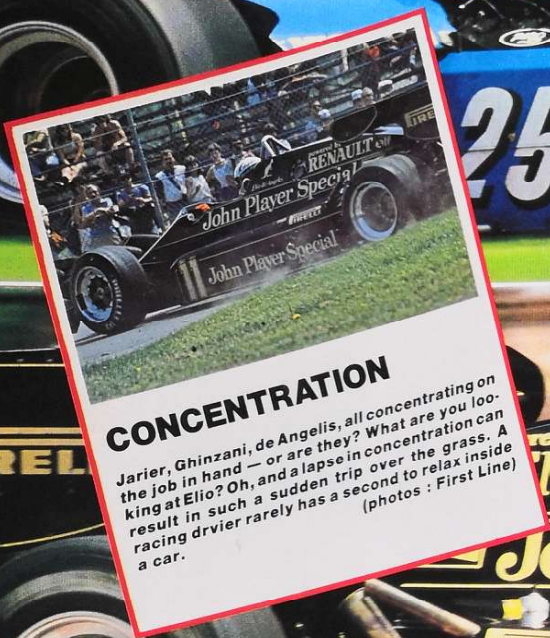
Power it may have, but asking too much of one of Alfa Romeo's powerful V8 turbos can sometimes end in disaster. The speed is there, but not yet the reliability. Andrea de Cesaris brought his fiery chariot back to the pits for the local firemen to extinguish. (photos : B. Asset)

MAGNETI MARELLI



Agip

CHAMPION



CONCENTRATION

Jarier, Ghinzani, de Angelis, all concentrating on the job in hand — or are they? What are you looking at Elio? Oh, and a lapse in concentration can result in such a sudden trip over the grass. A racing driver rarely has a second to relax inside a car.

(photos : First Line)





RESPECT, PLEASE

A symbolic wall of tyres protects one of Her Majesty's recently honoured subjects: John Watson. He was made a Member of the British Empire while in Montreal; no doubt elevating his earning power considerably... But young Boutsen had no respect for Wattie when trying to deprive him of sixth place, and the honour of a World Championship point.
(photos: B. Asset)



UPS AND DOWNS

Racing, of course, is what it's all about. Here Danny Sullivan and Riccardo Patrese appear to be fighting for some special honour — but in practice? In the race, both had reason to remember Montreal, Danny because he thoroughly enjoyed his drive after a pit stop, and Riccardo for the disappointment of losing a certain second place. Neither drive scored a point. (photo: B. Asset)



EDDIE SENIOR

At 26, Eddie Cheever may not seem one of the more experienced drivers in F1, but it was way back in 1978 that he first drove a Formula One car: the Hesketh in South Africa. Now with Renault, Eddie is putting his experience to good use; he says that he still isn't quite used to the turbo. Watch out when he is... (photos: B. Asset)



SENSITIVE

The Alfa Romeo emblem is steeped in history: Enzo Ferrari was racing Alfa Romeos long before he was racing Ferraris. But just at the moment, that emblem needs to be cosseted. The cars need reliability and not a little luck. Mauro Baldi, the less successful of the two Euroracing drivers, knows more than anyone that he has to treat his sensitive horsepower-laden charge with care.

(photos: B. Asset)





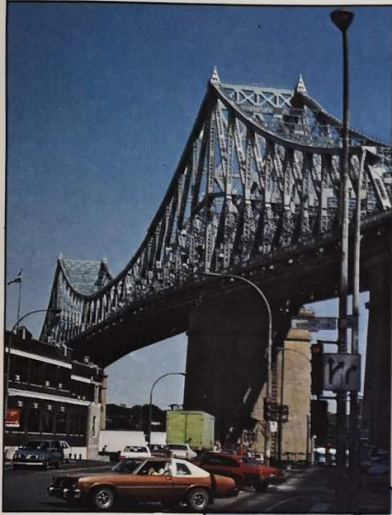
LOST CAUSE

Sad to say, racing with a normally aspirated engine is unfashionable, and not too successful. True, the Williams team, and Keke Rosberg in particular, continues to prove that you don't need a turbo to score points, but only luck brings a non-turbo powered car more than three points. But once teams such as McLaren, Tyrrell and the super-reliable Williams equipe get turbo engines, the likes of Renault, Ferrari and Alfa Romeo had better look out.

(photos : B. Asset, DPPI, Autopresse)



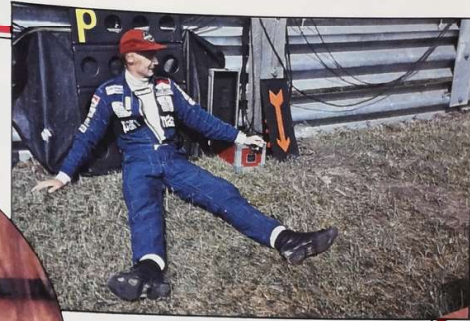
Postcard from Montreal



Montreal, almost French. Five engines in Renault colours!



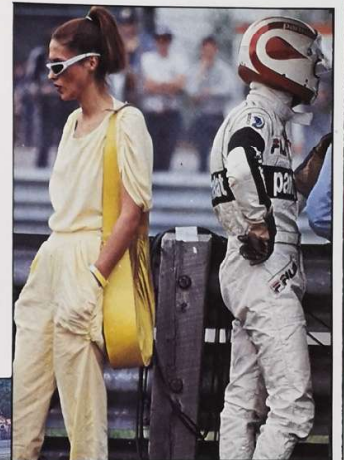
A man with a message



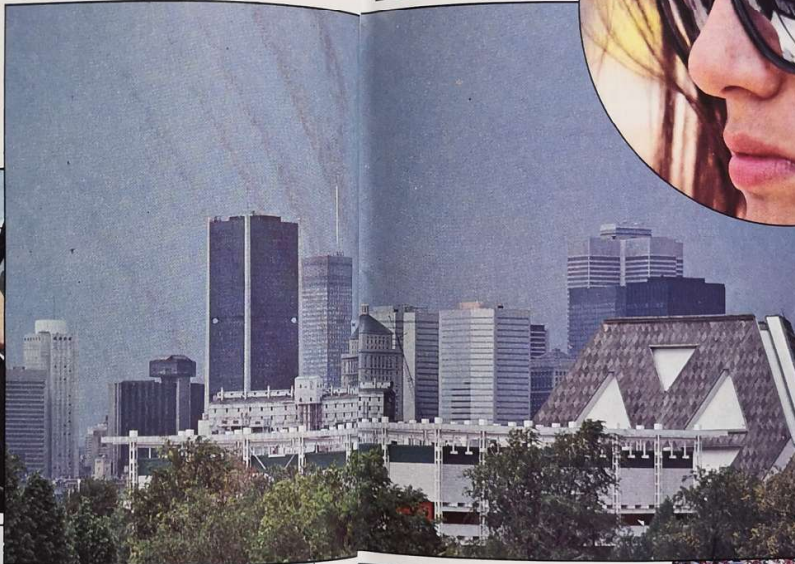
Someone at Niki's strings!



Yellow is for Renault - and Prix Citron



Nelson reads Sylvia and Gordon the Non-Alboreto bits from GPI



Jatouille: dreams of past or future?

The winner, showing form

Sage training for the Tour de France



Pianists like Elio don't necessarily appreciate all music

WAY UP NORTH

In the upper reaches of James Bay, where Quebec gives way to Greenland, man has been carving a technological wonderland out of the wilderness. Up there in bear country, man has been mining new wealth: the white gold of water and power.

by Didier Brailon

So what do you think drivers and journalists do between the Renaissance Centre in Detroit and the Ile Notre Dame circuit in Montreal?

The vast majority rest up at a Hyatt or a Meridien and try to slink out of a season that's running *molto allegro*. Some, like René Arnoux or Jacques Laffite, hide away in the Laurentians to fish or, in Garbo's immortal words, to be alone. Nigel Mansell, Roberto Guerrero and Thierry Boutsen joined a party of journalists for an adventure in the Far North laid on by their hosts of the Province of Quebec. The object of their exploration, complete with white hard hats, was the huge hydro-electric complex at James Bay, which, with only one part completed, is already the second largest such installation in the world, just behind the three-nation system at Itaipú in South America.

James Bay is 1200 kilometres north of Montreal and the thaw there lasts barely eight weeks, while winter temperatures can go down to minus 55 degrees centigrade. The area is huge, about one-third the size of France; vegetation is sparse and the bare, rolling hills are interrupted only by lakes and rivers innumerable. It is country where a pine takes fifty years to grow to the size of a Christmas tree and where the brown bear, the lynx, the caribou, the occasional moose and the quick fox reign supreme.

There man has built a series of gigantic dams and dikes to tame the rivers' flow northwards towards the Arctic while still respecting the grandeur and peace of a world inhabited only by some ten thousand indigenous Indians and half that many Inouit, or Eskimos. The first stage, which required a decade of labour from 20,000, is now complete and the last of the great power stations of "La Grande", number four, will come on stream soon. Then the whole region, apart from a few hundred maintenance wor-

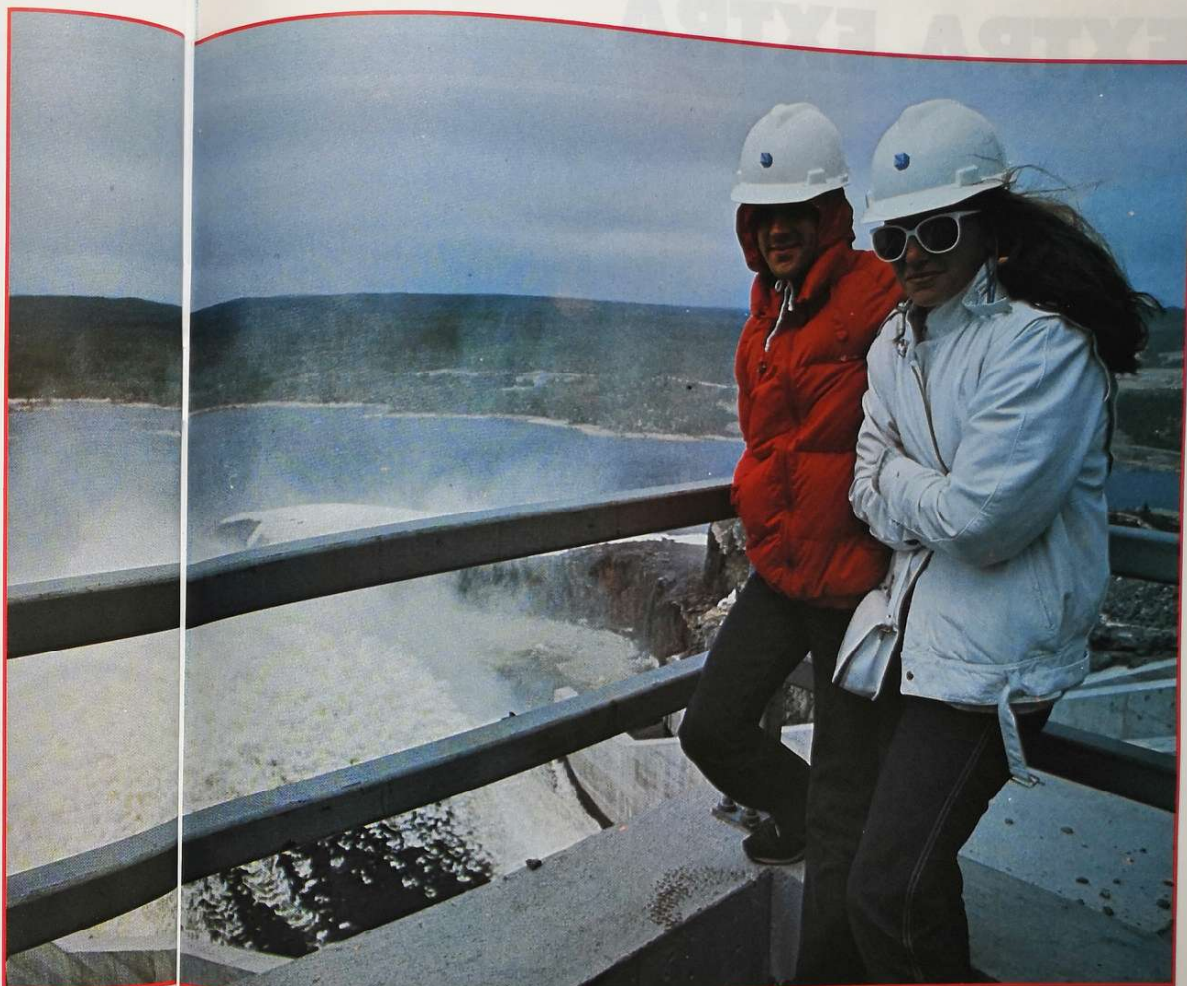
kers, will return to icy silence.

For those drivers who have an engineering bent, the project aroused an enthusiasm and warmth normally well-hidden. To extract 10,000 megawatts of power while respecting nature is no mean feat. But grandeur was its natural scale: 100-meter high dams, turbines bigger than gas storage tanks sunk into granite, spillways billowing water that promptly turned to snow. Enough to dwarf the imagination.

Hence, as we came back in an old Convoir converted into a turbo-prop and able to land on a dirt runway instead of slick concrete, everyone reverted to the miniature: pocket books, old jokes, steak sandwiches and pocket electronic games in which little monkeys sought to rescue bigger ones while avoiding crocodiles, Taran, sharp-nosed and predatory birds. In just a single day, drivers and the press had encompassed the two dimensions of our planet: pocket Donkey Kong and reservoirs like great tubs in which even King Kong would have been lost. □



The drivers showed little interest in the magnificent hydro-electric achievements at James Bay in northern Canada. Only Nigel Mansell and Roberto Guerrero and their wives, and Thierry Boutsen with a friend, joined the journalists—whose stock in trade is curiosity—in the plane chartered by our Canadian friends for the trip.
(photos: B. Asset)



EXTRA, EXTRA

A KID AT PLAY

"I don't even know how many cars I overtook under braking at the hairpin. There was Watson and two or three others..." Tamba? "No, he knew I was miles behind. He just left the door open."

Danny Sullivan looked as though he'd just taken a shower wearing his overalls. He was soaked in sweat but gulping from a plastic bottle of water to replace the fluid. All around him were the green and pink uniforms of the Benetton team, fashionably attired for what was the first really hot day of the Montreal summer.

But the 'Kentucky Kid' was the centre of attention. He'd only finished ninth, and that was two laps behind winner René Arnoux, but in the meantime, he'd driven like an ace after a pit stop. He'd ended up only 25 seconds behind teammate Michele Alboreto, set eighth fastest lap overall, second fastest of the normally aspirated cars behind the inevitable Rosberg and first of those not to stop for fuel. And all this had been accomplished despite having what seemed an interminable pit stop. Something had broken in the rear wing and Danny had had to pit on the 17th lap, dropping to last place.

"I felt that the handling had changed slightly."

reported Danny, "the car seemed to wander but I couldn't see anything wrong in my mirrors and couldn't work out what was causing the problem."

Once back on the track again, the American showed his talent. He had nothing to lose, and everything to gain. The green Tyrrell began to take on some incredible angles. Coming out of the hairpin, Danny would have it in a wild, power oversteering slide, all four wheels scratching for grip, the driver juggling with the wheel on opposite lock. And there were times when it seemed he just wouldn't get round the hairpin, so late was he braking. But rather than being exhausted by the effort, Danny smiled at the memory afterwards.

"It was tremendous fun, very enjoyable. I didn't move up one place because the people in front of me were too far ahead, but even unlapping myself was enough to make me happy." Sullivan was clearly in a personal top gear at Montreal, and his performance certainly pleased Ken Tyrrell. Danny had an encouraging start to the season with excellent races at both Long Beach and the Race of Champions at Brands Hatch, perhaps even over-shadowing the much lauded Michele Alboreto. But since then, the 'Kid' has settled in at a reduced rhythm, partially due to a wrong choice of front suspension set-up. But the downward trend had been corrected a week earlier at Detroit, and since then, the 011s had had yet another new lease of life. Had the car been utterly competitive at Mon-

treal? The truth is that the driver didn't really know!

"You know, once the light goes green, it's just you and the rest out there, and you're just driving as hard as you can to beat them with whatever you've got. And after about 20 laps, I just forgot everything else and tried as hard as I could. That's the way I look back on this race. I had nothing to lose, and absolutely no car worries. The tyres were fine until I locked up a wheel and put a flat spot on one of them. Otherwise it was just go as hard as possible, attacking for a hundred minutes, man and car. I tell you, I've never had such a good time since I began driving in F1."

A little later, however, Tyrrell-Cosworth No 4 was disqualified. It was four kilos under the weight limit, but it didn't really matter. The 'Kid' had had a great afternoon.

Didier Brailon



STEADY EDDIE

It was Eddie Cheever's second second place, and the amiable young American with the politician's profile must be thinking his first victory cannot be far behind. The first of his two seconds was at Detroit last year, in a race that turned out to be freakish in more ways than one, and it takes nothing away from Eddie to say that that result, in a Ligier, behind Watson and ahead of Pironi, belongs to another era. Cheever is now in the big time and chez Renault: a place where he still has much to learn and in a turbo-powered car which demands much fine tuning and takes good results, now, for granted. First view of Eddie after the podium ritual was of his leaping from a truck for the post-race interview ordeal: he wouldn't shake anyone's hand for the obvious reason that his right hand was one huge appalling blister. "It didn't hurt me so much as the race ended," he said, "but when I stopped and took my loves off, then it started hurting like hell." A few boring questions ("How does it feel to win in Montreal, I mean, come second?") and a few polite answers later ("I like Montreal and it is special to win on a circuit named

after the immortal etc etc Gilles Villeneuve") he went off to get his hand bandaged and to have a tetanus shot he hadn't had recently enough. A little chat with Larrousse, a few exchanged technical confidences with a glum and exhausted-looking Prost in the motor home and Eddie was off and running: "After finishing second, I guess I can stand a shot," he laughed.

So how was the race itself? "Michelin has a new tyre called the 435Z which is mounted on the front; I didn't get a chance to try it this morning. It was a definite improvement, but I found it difficult to balance my car properly. The car was a bit tricky to drive, because I was turning in too well. I chose the right tyres for the rear, a hard and a medium; I took my time. At the beginning, I wasn't thinking of finishing second; I was just hoping to do as well as I could. Then I kept passing people, doing better and better, my tyres getting stronger and stronger. It's a pity I started so far back; I lost some time getting past people: back markers especially, who are having little private races of their own in groups of three and four.

"I had some problems in the later stages as I was using my gearbox too much under braking and I started missing fourth and fifth gears, so I had to hold the gear in with my hand. Otherwise it was a lovely race

as far as I'm concerned. I love passing people, I made a good pit stop, my grip was very consistent. The only thing that pisses me off is that when I'm in second, no one ever seems to stop ahead of me. Look at Alboreto; he's second in Detroit and Piquet runs into trouble. Why didn't it happen to Arnoux?

"But I'm happy. No excuses about what's gone wrong before, but really, this is the first time I've felt the car was solid underneath me and my grip wasn't deteriorating. The trouble with the turbos is that it takes a lot of experience to set them up properly. Maybe that's not the best part of my technique; you know, I sort of like to bull my way through. But I do feel I'm getting better. I just have to learn how to use my power. More finesse. Not just bullying."

So the lessons are being learned. It was a solid race and a solid result, with fast circuits coming up. Steady Eddie was feeling the first flush of genuine optimism.

Keith Botsford

ALFA ROMEO-EURORACING

183T/02 : Andrea de Cesaris (I)
183T/04 : Mauro Baldi (I)
183T/01 : spare



Four engines of the new type used by de Cesaris at Detroit were brought to Montreal, and it was one of them which broke, causing a small fire, on Friday afternoon, after having had injection problems in the morning. De Cesaris, who was the

victim, had been trying a rear cover cut away at the front to expose the engine. De Cesaris used the same cover on Saturday and Baldi's car had the same design for the final session.

ARROWS-COSWORTH

A6/2 : Marc Surer (CH)
A6/3 : Thierry Boutsen (B)
A6/1 : spare

No modifications, the next step still being planned for Silverstone where the monocoque used by Boutsen will have been reskinned to make it more rigid. The Belgian broke a new engine on Saturday morning but it was changed in time for final qualifying, during which he stopped, out of fuel, after using both sets of qualifiers.



ATS-BMW

D6/02 : Manfred Winkelhock (D)
D6/01 : spare



No changes, but Winkelhock started practice with the second generation D6/01 which appeared at Detroit, to try and make it his race car. Saturday morning he thought again, hesitated for a long time and finally used D6/02 for the afternoon qualifying session and for the race.

BRABHAM-BMW

BT52/3 : Nelson Piquet (BR)
BT52/2 : Riccardo Patrese (I)
BT52/4 : spare

Patrese had raced the spare BT52/2 in Detroit because of a fuel leak in his usual race car, which was made the spare for Montreal. The BT52s had a new type of engine cover, lon-



ger and more curved, giving more room for the rear wing to work. They had carbon fibre blades horizontally under the housing of the angled side radiators and very short lower sidepods, stopping in front of the rear suspension; they had been tested by Piquet at Silverstone before the North American tour. The protest lodged by Brabham against the Renault exhaust system, which allegedly increases ground effect by exhausting air under the car along the boundary layer, is designed to find FISA's reaction to the system and to find the limits of the rules on the matter. Brabham apparently is preparing a system even closer to the limit, with a turbine driving a fan "upstream" of the exhausts. This apparently will be used with a special aluminium block BMW. Saturday morning Piquet and Patrese both broke transmissions and the Italian qualified in the afternoon in the spare BT52/4, which thus became the race car again.



FERRARI

126C2/065 : Patrick Tambay (F)
126C2/064 : René Arnoux (F)
126C2/063 : spare



The simplistic double-tube system to cool the gearbox oil radiator and the battery has been improved; now a NACA duct on the left hand side cools the radiator and another NACA duct on the right side cools the battery. The 126C2s, theoretically in their last race, had their piece rear wings while a four-flap system had been used at Detroit. On Saturday afternoon Tambay broke a turbo and had to use his second set of tyres on the spare.

LIGIER-COSWORTH

JS21/04 : Jean-Pierre Jarier (F)
JS21/03 : Raul Boesel (BR)
JS21/02 : spare

day. He broke a gearchange linkage support Saturday morning, but everything was back in shape for the afternoon session.



It has been confirmed that Ligier's hydraulic suspension has been used for the last time. Friday morning, Boesel had a fire start, and used the spare for the rest of the

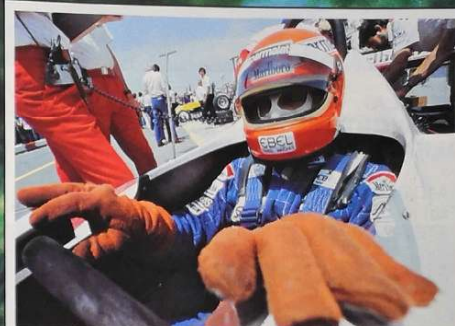
LOTUS-RENAULT & COSWORTH

93T/1 : Elio de Angelis (I)
92/10 : Nigel Mansell (GB)
93T/2 : De Angelis spare
92/05 : Mansell's spare



In parallel with Gerard Ducarouge, who is supposed to show revolutionary changes at Silverstone, Peter Wright is still working on the special suspension system, which gave

such bad results at the start of the season that it was quickly dropped. Mansell will also have a Renault turbo engine at Silverstone. At Montreal, neither the 93T nor the 92 were modified.



MCLAREN-COSWORTH

MP4-1C/08 : John Watson (GB)
MP4-1C/07 : Niki Lauda (A)
MP4-1C/05 : spare

No changes. Lauda was to give the McLaren-TAG/Porsche its first test

on the Friday after Montreal on the Weissach proving ground. No information has come out officially but it appears that the engine, while very powerful, has some electronic problems at the moment. It has already been tested in a Group C Porsche. Watson broke an engine on Friday morning and used the spare for a while. On Saturday, the McLarens used carbon fibre brakes which had been taken off the previous afternoon because of the risk of rain.



Cockpits



OSELLA-COSWORTH & ALFA-ROMEO

FA1D/01 : Corrado Fabi (I)
FA1E/01 : Piercarlo Ghinzani (I)
FA1D/02 : spare

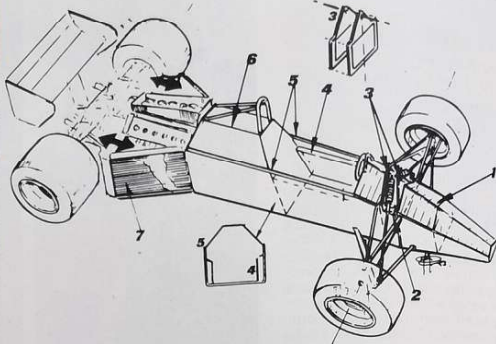
No changes. Ghinzani had a second rear wing on Friday afternoon, as in Detroit. Fabi used the same system on Saturday morning and qualified without problems, but his teammate broke his clutch in the morning and was out. The new Osella-Alfa Romeo, of which we publish drawings, will appear at Silverstone.

During the North American tour, the chassis of the future Alfa Romeo V12 car, drawn by Tony Southgate and built by John Thompson in Britain, was received by Osella in Turin. Its main

characteristic is an original design of monocoque with a novel front suspension.

OVERALL VIEW

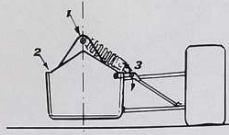
(1) The upper part of the carbon fibre monocoque.
(2) The small rockers attach to the pullrod links at one end, and a frame work at the other (3). Inside these frameworks are mounted the shock absorbers, mounted above the monocoque and tilting.



- (4) The inner skin of the chassis in carbon fibre.
(5) The outer skin of the chassis in honeycomb. This part, high and flat, supports the top of the bodywork.
(6) The fuel tank, enclosed in the outer skin of the chassis and with no sharp angles on its sloping front.
(7) The radiators, similar to those of the FA1E. But Southgate is studying a version located further ahead which would allow Renault type exhausts to be used.

FRONT SUSPENSION

- (1) The central attachment point of the inclined shock absorber, whose base pivots on the rocker (3) linked to a pullrod working on the lower wishbone. (2) The junction point between the upper part of the chassis in carbon fibre and the lower part in honeycomb, of geometric form.



RAM MARCH-COSWORTH

RAM 01/3 : Jacques Villeneuve (CDN)
RAM 01/2 : spare



Back in Grand Prix racing after missing Detroit, the RAM 01s were only slightly modified in comparison with Spa. There were new front and rear wings, the latter being Williams type with lateral panels joined by a transverse tube, and a different engine cover on the spare. It had

grills over the inlet pipes instead of NACA ducts. With a new engine on Saturday, Villeneuve was on the fringe of qualifying but missed by a few tenths of a second after improving his times spectacularly.



THEODORE-COSWORTH

183/16 : Roberto Guerrero (COL)
183/18 : Johnny Cecotto (YV)
183/17 : spare

Guerrero used American Fox gas shock absorbers at Detroit, a change which escaped us last week. They are of the same type as those on the Theodore Indy car, with the gas chamber separate from the shock column, and both drivers used them at Montreal. Guerrero broke a half shaft Friday afternoon, but caught up on Saturday.



RENAULT

RE40/03 : Alain Prost (F)
RE40/02 : Eddie Cheever (USA)
RE40/01 : spare

No changes. Prost broke an engine in the middle for the first time in session and continued with the spare, which he found was easier to drive because the chassis was less rigid. Saturday, after briefly trying his race car in the morning for comparison, he had the spare set up for the race.



Cockpits

TOLEMAN-HART

TG183B/02 : Derek Warwick (GB)
TG183B/03 : Bruno Giacomelli (I)
TG183B/01 : spare

No changes. The Tolerhans may have modified aerodynamics at Silverstone and Giacomelli will undoubtedly have an engine with dual ignition, similar to that used by Warwick.



TYRRELL-COSWORTH

011/4 : Michele Alboreto (I)
011/5 : Danny Sullivan (USA)
011/6 : spare

No changes. Alboreto had a special Cosworth DFY on Friday and used it again on Saturday until it broke in the middle of the second timed session, which he finished in the spare.



WILLIAMS-COSWORTH

FW08C/09 : Keke Rosberg (SF)
FW08C/08 : Jacques Laffite (F)
FW08C/07 : spare

No changes. Williams revealed that an exhaust system similar to that

used by Renault, improving ground effect by exhausting air under the car, had been tried in the windtunnel before Detroit. The increased downforce was estimated at 25 % but it seems the technique has been judged as dangerous for the time being because of the sudden loss of downforce when the driver lifts off the power. Furthermore, the use of "Renault type" exhausts on a Cosworth apparently caused a noticeable drop in power.



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*FROM MOTOR MAGAZINE. 5-SPEED MANUAL TRANSMISSION STANDARD. AUTOMATIC TRANSMISSION IS A NO-COST OPTION.

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