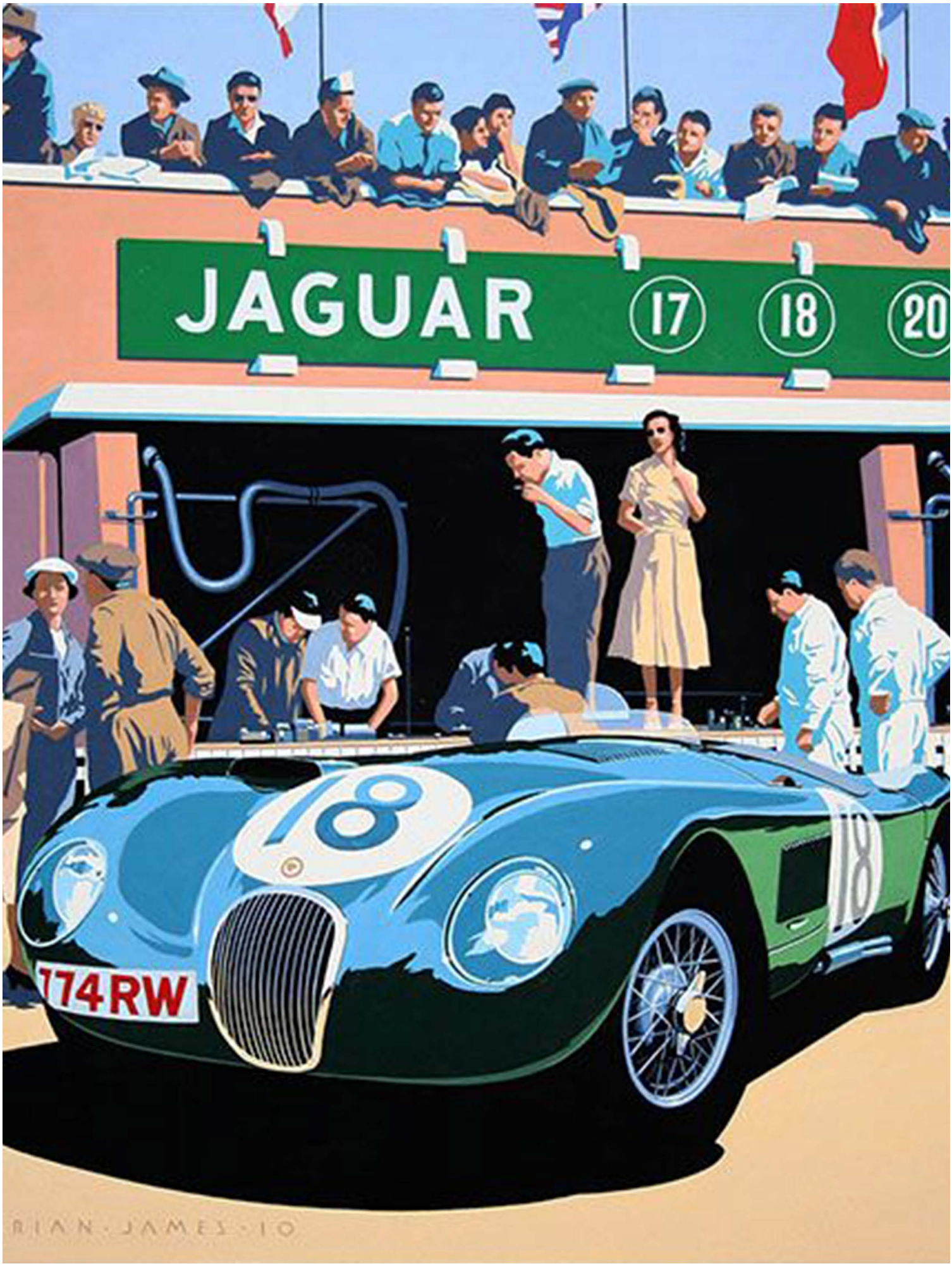
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C - Type Jaguar at 70

The C-Type (officially called the Jaguar XK120-C) was built specifically for motor racing and sold from 1951 to 1953. The "C" stood for "competition".

The C-Type was successful in racing, most notably at the Le Mans 24 hours race, which it won twice.

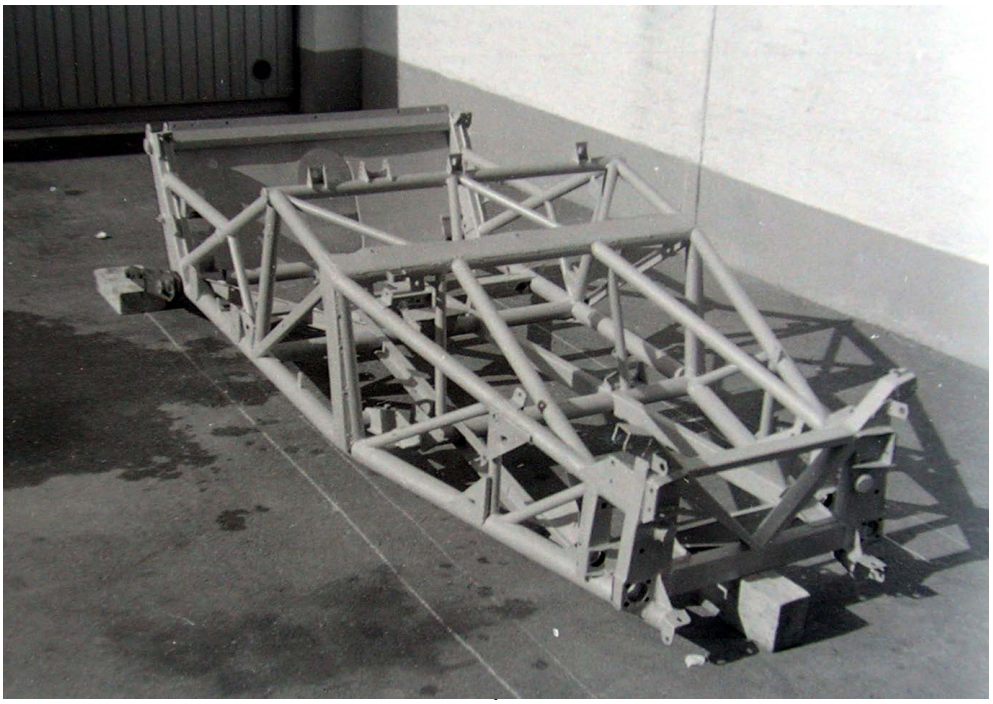
XK120

The XK120 was fast and it could handle. This was reinforced in 1950 when three road going alloy-bodied models were entered in the Le Mans 24-hour event.

Although the teams were private, they received factory support; it seems Jaguar was keen to see what the cars could do in this most demanding of races without officially having its name associated, just in case it all went badly wrong. In the event, it didn't.

Although one car failed to finish, and the other two came in 12th and 15th, the car that dropped out, namely the Jaguar of Johnson/Hadley, was catching the leading car with less than 3 hours to go. The clutch finally let go, after the drivers had been using 'engine-breaking' to slow the car due to a lack of brakes.

William Heynes, Jaguar's Chief Engineer, and Service Manager 'Lofty' England were at Le Mans — and were impressed by what they'd seen given that the XK120's were up against purpose built sports cars and racing prototypes.



The space frame chassis designed by Heynes was built from lightweight multi-tubular triangulated sections. Heynes was also responsible for the Disc Brake joint development with Dunlop in 1952 and later pioneered and introduced the system onto all Jaguar cars.

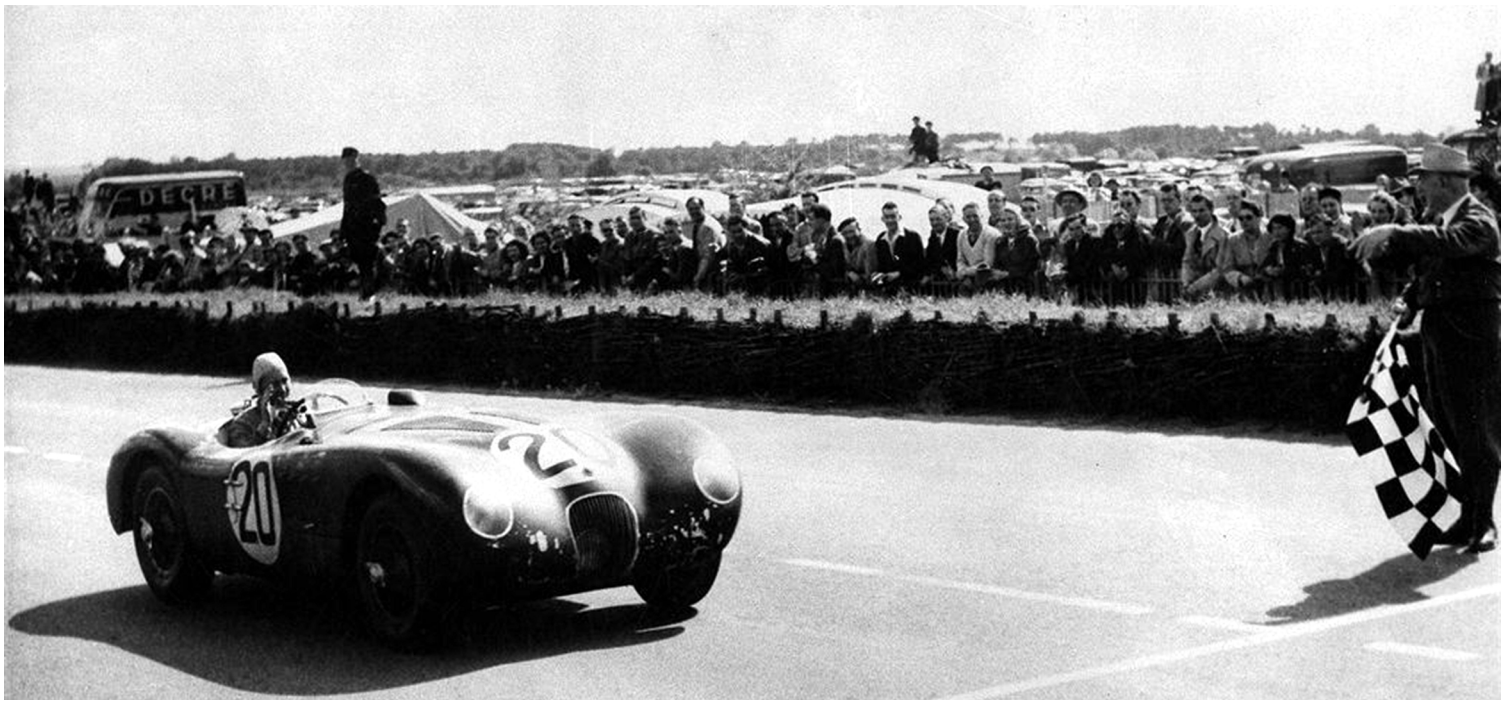
They left resolved to fix the brake problems that had troubled all three cars through the race and returned to Coventry convinced that, with development, an outright racer could be made of the XK120. "We felt that our standard mechanical components, put into a lighter chassis with a decent aerodynamic body would do the deal," Heynes commented later. "Nobody was using aerodynamics."

C-Type Conception

The car combined the running gear of the contemporary, road-proven XK120, with a lightweight tubular frame designed by Heynes, and an aerodynamic aluminium body, jointly developed by Heynes, R J (Bob) Knight and later by aircraft engineer and automotive aerodynamist Malcolm Sayer. A total of 53 C-Types were built, 43 of which were sold to private owners, mainly in the US.

1951. Leslie Johnson and Clemente Biondetti's XKC 001 outside Browns Lane headquarters. The three cars were finished only a few days before they were due to leave for Le Mans.

William (Bill) Heynes, Jaguar's Chief Engineer and visionary behind the revolutionary C-Type.



24 Hours of Le Mans race in 1951. Peter Whitehead crosses the line in C-Type XKC 003 for an historic win. His Co-driver was Peter Walker.

The C-Types used the road-going XK120's 3.4-litre twin cam straight 6 engine which produced between 160 and 180 bhp. The C-Type engines were initially tuned to produce around 205 bhp.

The early C-Types were fitted with SU carburettors and drum brakes. Later C-Types, produced from mid-1953, were more powerful, using triple twin-choke Weber carburettors and high-lift camshafts. They were also lighter, and braking performance was improved by using disc brakes on all four wheels.

The aerodynamic body was made of aluminium in the barchetta style (a class of open-top, two-seat sports cars). It was devoid of road-going items such as carpets, weather equipment and exterior door handles.

According to the Jaguar Heritage Registry, the cars were produced between May 1951, starting with XKC 001, and ending in August 1953 with XKC 054. The original alloy body was marked with the prefix K (e.g., K1037).

Le Mans 1951

The 1951 Le Mans cars were finished just a few days before the three cars were due to leave for France — being driven there, rather than transported. Up until that point, everything had been a closely-guarded secret; everyone expected Jaguar to just rock up with XK120s at Le Mans. But now, the lithe aluminium feline was revealed to the public. It was clearly a much smoother evolution of the XK120 shape, with the low-set trademark Jaguar grille further reinforcing the family resemblance. They must have looked extraordinary prowling along the roads from Coventry to Le Mans.

Driving the three cars for the race were Leslie Johnson and Clemente Biondetti (XKC 001), Stirling Moss and Jack Fairman (XKC 002), and Peter Walker and Peter Whitehead (XKC 003).

Despite the Jaguars holding first, second and third after four hours, Biondetti in XKC 001 dropped out with oil pressure issues and was followed by Moss around midnight, despite him setting a new lap record and at one point being twelve miles ahead of the second-placed car.

Walker and Whitehead's XKC 003 didn't fracture an oil feed pipe as its siblings had done and romped to victory with Whitehead at the wheel. It was an amazing achievement for cars that, just six months previously, had only existed on paper and in the minds of their design and engineering teams.

Also, a privately entered XK120, owned by Robert Lawrie, co-driven by Ivan Waller, also completed the race and finished a creditable 11th. This was the last XK120 to race at LeMans.

The first competitive outing for the disc-brake was this C-Type in the April 1952 Mille Miglia with Stirling Moss driving and Norman Dewis, then Jaguar's chief development engineer, navigating.

Le Mans 1952

In 1952, Jaguar, worried by a report about the speed of the Mercedes-Benz 300SLs that would run at Le Mans, modified the C-Type's aerodynamics to increase the top speed. However, the consequent rearrangement of the cooling system made the cars vulnerable to overheating, and all three retired from the race.

The Peter Whitehead-Ian Stewart and Tony Rolt/Duncan Hamilton cars blew head gaskets, and the Stirling Moss-Peter Walker car, the only one not overheating having had a full-sized radiator hurriedly fitted, lost oil pressure after a mechanical breakage.

After the previous year it was an utter disaster and in hindsight an unnecessary one as the Mercedes turned out to be not nearly as fast as feared. The Jaguars of the previous year could have easily outpaced them.

Testing by Norman Dewis at MIRA after the race proved that the overheating was caused more by the revisions to the cooling system than by the altered aerodynamics: the water pump pulley was undersized, so it was spinning too fast and causing cavitation; also, the header tank was in front of the passenger-side bulkhead, far from the radiator, and the tubing diameter was too small at 7/8 inch. With the pump pulley was enlarged, and the tubing increased to 1 1/4 inch, the problem was eliminated.

However, the main drawback of the new body shape was that it reduced downforce on the tail to the extent that it caused lift and directional instability at speeds over 120 mph (193 km/h) on the Mulsanne Straight. These cars had chassis numbers XKC 001, 002 and 011. The first two were dismantled at the factory, and the third survives in normal C-Type form.

The ill-fated 1952 long-nose, long-tail C-Type Le Mans car at the Jaguar factory.

Le Mans 1953

In 1953, C-Types won again, and also placed second and fourth.

Based on the 1951 cars, the 1953 cars were upgraded and adopted thinner aluminium bodywork, revised electrical components and rubber fuel tank bags, leading to the unofficial designation of 'lightweight C-Types'. Indeed, they were around 50Kg lighter than their predecessors. However, the most significant change to the cars was the switch to Dunlop disc brakes, the only vehicles in the race to use disc brakes.

The original twin H8 sand-cast SU carburettors were replaced by three DCO3 40mm Webers, which helped boost power to 220 bhp (164 kW).

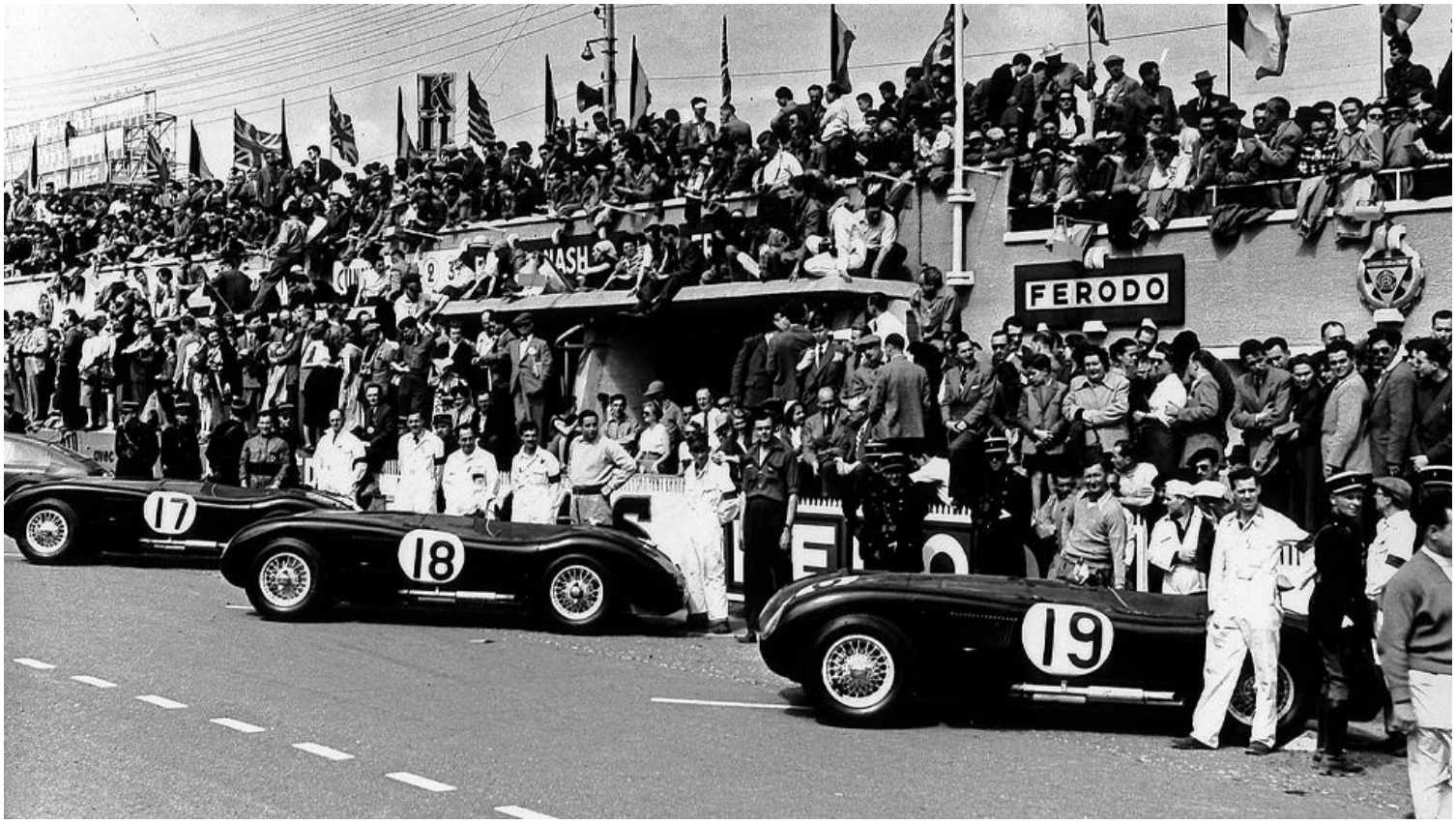
The team that went to Le Mans was the same as in 1952: Stirling Moss and Peter Walker (Car 17), Tony Rolt and Duncan Hamilton (Car 18), and Peter Whitehead and Ian Stewart (car 19). It was almost as if Jaguar wanted to prove that the previous year's ignominious failure had been nothing more than an unfortunate fluke. However, with a total of 69 entrants representing 19 different marques, Jaguar was going to have its work cut out to ensure success, even with its modified machines.

The works cars were supported by a standard production-body car entered by the 'new' Belgian Ecurie Francorchamps team.

Things didn't get off to a good start, with the infamous incident of Hamilton and Rolt being disqualified. Their car had been on track at the same time as another C-Type which had the same racing number (the spare car being used as a precaution to qualify Norman Dewis, the Jaguar test driver, as a reserve), and a protest raised by the Ferrari team.

Sir William Lyon, agreed to pay the ACO

In 1952, the C-Type achieved the first ever win for a disc-braked car at the Reims Grand Prix.



Jaguar's works C-Type racing team before the start of the 1953 Le Mans 24 Hours, in what would turn out to be the C-Type's greatest on-track moments. Car 19, the Peter Whitehead and Ian Stewart drove a very conservative and reliable race to finish 4th in their 3.4 litre car. Moss and Peter Walker were in car 17 and Duncan Hamilton and Tony Rolt in car 18. Car 19, the Peter Whitehead and Ian Stewart drove a very conservative and reliable race to finish 4th.

fine, and 'Lofty' England successfully pleaded his case to the official that no intention to cheat had been meant and it was an honest mistake and so they were reinstated. But Hamilton's account of the affair has become one of the great motor racing legends: Devastated by their disqualification, he and Rolt had gone into the city for the night to drown their sorrows at a local bar (allegedly) before the pair had found out they were driving after all, leading to the urban legend of Hamilton starting one of the world's greatest and toughest motorsport events while somewhat inebriated. Even without alcohol being a factor, the two had hardly got a restful night's sleep to relax them for what lay ahead.

What actually transpired, however, was one of the greatest Jaguar moments of all time. Despite initial rough running from all three cars, originally believed to be spark plugs, but eventually turning out to be fuel filters, Hamilton and Rolt had soon built up a commanding lead.

At one stage the windscreen on the leading Jaguar had been smashed by a bird-strike, and as result Rolt and Hamilton were suffering from wind buffering, but the pair kept up the pace nevertheless, with an average speed of well over 105 mph.

Duncan Hamilton and Tony Rolt won the race at 105.85 mph (170.35 km/h) – the first time Le Mans had been won at an average of over 100 miles per hour.

The Moss/Walker car was second with the Whitehead/Stuart car coming fourth (297) behind a Cunningham Chrysler 5.5L V8. Ninth was the privately entered C-Type, entered by Belgian motor racing team Ecurie Francorchamps for Roger Laurent and Charles de Tornaco, in their standard production C-Type.

Disc brakes were novel in 1953, and Jaguar's win, partly due to their superiority, set off a scramble to include discs in production cars.

The three celebrity 1953 Le Mans Cars were sold to Ecurie Ecosse and continued to notch up success in production races.

Le Mans 1954

Although Jaguar entered three 3.4 litre D-Types for 1954, the C-Type was not completely finished and Belgian Ecurie Francorchamps were back again. Although not as fast as the D-Types, the C-Type had proven reliability, and like the D-type, it had disc brakes.

Briggs Cunningham, an American sportsman and entrepreneur, tried to secure the new Dunlop disc brakes for his cars, however, Jaguar used its contract-right to veto the deal and would not allow Dunlop to supply anyone else with disc brakes, including other British teams like Aston Martin and Bristol.

[However, Gordini, entered cars using French-made Messier disc brakes with one of their cars finishing 6th overall].

The race was narrowly won by a 5.0 litre V12 Ferrari, just ahead of Duncan Hamilton and Tony Rolt in their 3.4 litre D-Type. It was reported as a thriller right to the end, producing the closest finish for the race since 1933.

Although the two other D-Type's suffered mechanical problems, the Belgian 3.4L C-Type of Roger Laurent and Jacques Swaters had ran like clockwork and finished 4th. This was the last C-Type to race at Le Mans 24 hour race.

Legacy

The C-type was an important car for Jaguar for many reasons, not least of which because it was the first Jaguar styled by design legend and aerodynamicist Malcolm Sayer, who joined Jaguar in

British racing driver Duncan Hamilton, centre, poses alongside his co-driver Tony Rolt and their wives, in their winning Jaguar, after winning the Le Mans 24 race in 1953. Hamilton finished with a smashed windscreen and broken nose after he hit a bird at 150 mph on the Mulsanne straight.

early 1951. Sayer would go on to design the D-type, the XKSS and the famous E-type. Echoes of his designs can easily be spotted on today's models.

As noted, the C-Type is also honoured for the development and use of disc brakes. Moss's disc-equipped C-type was the first car ever to race with this now-common technology, at the Easter races in March 1951 at the UK's famous Goodwood circuit. The improvement in stopping power was dramatic.

The C-Type directly impacted on Jaguar's road cars, and by 1958 the disc brakes were available on all production models. It would be two decades before they were common on most popular brand cars.

Value

When new, the car sold for about US$6,000, approximately twice the price of an XK120.

1953 Le Mans. When the starters flag fell, as usual, Stirling Moss was lightning-quick out of the blocks and led the cars away. However, a misfire after only 20 laps to replace a clogged fuel filter dropped the car down to 21st. By morning they were 4th and back in the race following an epic drive through the field. Moss and Peter Walker eventually finished a creditable second.

A C-Type once owned and raced by Phil Hill sold at an American auction in August 2009 for US$2,530,000 and another C-type was sold at the Pebble Beach auction in 2012 for US$3,725,000.

In May 2016 an unrestored C-Type that raced at Le Mans sold for £5,715,580, and in August 2015, an ex-Ecurie Ecosse Lightweight C-type, chassis XKC052 and the second of only three works lightweights, driven by Peter Whitehead and Ian Stewart to fourth at the 1953 Le Mans 24 Hours, fetched US$13.2 million (£8.4 million) at auction in California. ■

Editor: The information and photographs for this story were gathered from the Jaguar Daimler Heritage Trust and several other publications, including UK Classic Jaguar Magazine.

Malcolm Sayer, a mathematician and aerodynamicist by training, used complex longhand calculations to form his shapes in the days before computer aided design. While the cars he created were beautiful, (the Museum of Modern Art has an E-type in its collection) he thought of himself as a scientist instead of a stylist.

To watch the video about his achievements goto: *Malcolm Sayer - Aerodynamic Wizard*