Cars in profile

August 1973

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Jaguar D-type

by John Appleton

About the Author

John Appleton has been involved with motor cars in general and Jaguars in particular for as long as he can remember. Now writing freelance, he was at one time on the editorial staff of *Motoring News,* and later edited *Jaguar Journal.*

Publishers note

Due to production difficulties the Cars in Profile Series will be published on a bi-monthly basis.

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Front Cover Illustration: First race for the D-type – Le Mans, 1954.

Conversion tables

1 litre = 1,000 cc. = 61·0253 cu. ins. = 0·2199 Imperial gallon = 0·2642 U.S. gallon

1 Imperial gallon = 8 pints = 1·16 U.S. gallon = 277·420 cu. in. = 4·5459 litres

1 U.S. gallon = 4 quarts = 231 cu. in. = 3·785 litres

1 inch = 25·40 millimetres 1 mile = 1·609 kilometres

1 kilometre = 0·6214 mile

Horse Power

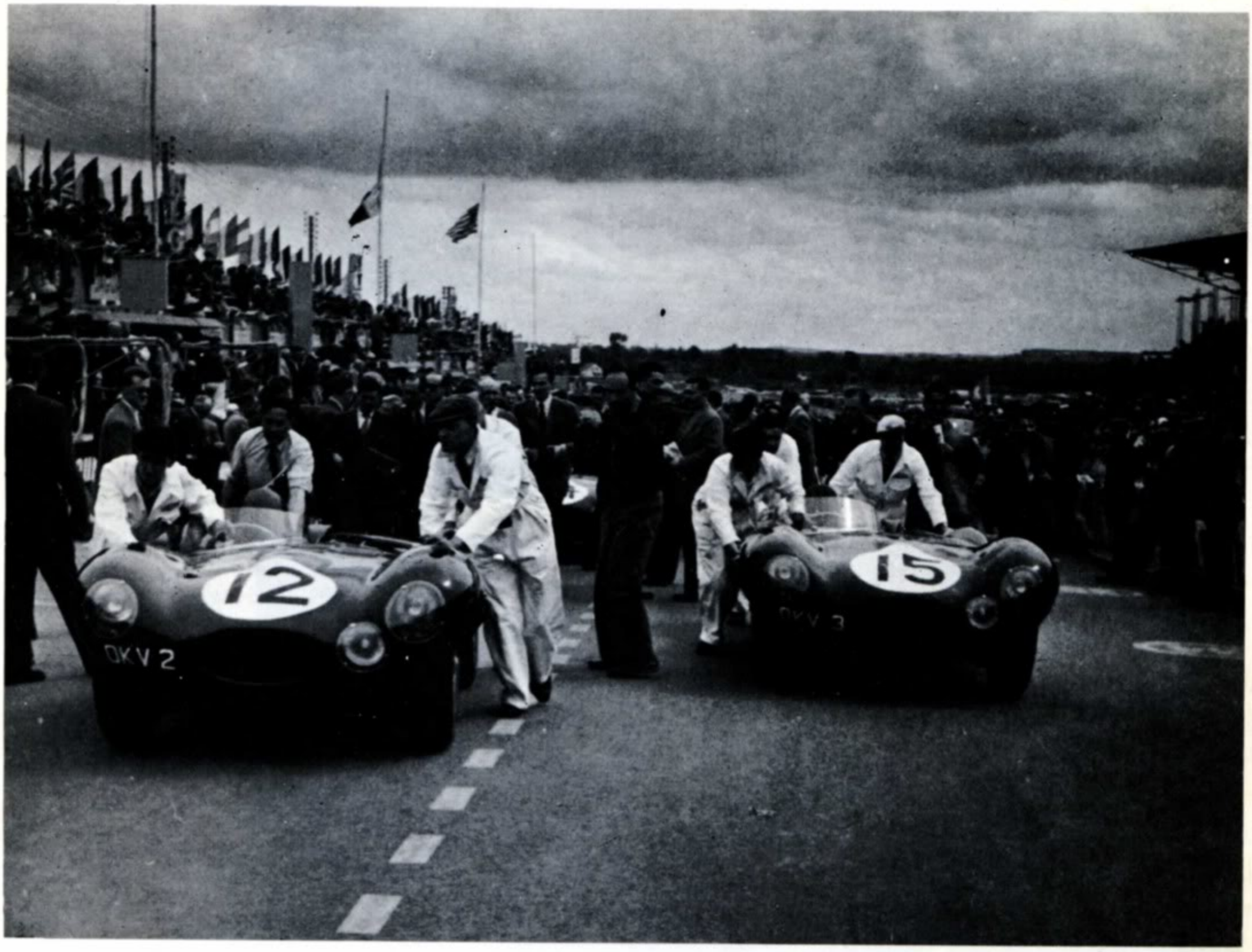
In the English-speaking countries (British Commonwealth and U.S.A.) horse-power represents a slightly higher power than metric horse-power expressed as the German PS *(Pferde Staerke)*, or the French CV *(Cheval vapeur)*, in the ratio of 1·0139:1.

Power Outputs

If a brake horse-power (b.h.p.) figure is quoted net in German D.I.N. *(Deutsche Industrie Norm)* or British B.S.Au., then this net power is delivered by the engine to the transmission. If, however, power is quoted gross, or American S.A.E. (Society of Automotive Engineers), this power is delivered by the engine, out of the car, and tested under ideal conditions, being devoid of such power-consuming accessories as fan, water pump, dynamo, exhaust system etc.

Glossary of Anglo/American Motoring Terminology

English	*American*	*English*	*American*
Bonnet	Hood	Paraffin	Kerosene
Boot	Rear Trunk	Petrol	Gasolene/Fuel
Capacity	Displacement	Petrol tank	Gas tank
Carburettor	Carburetor	Side-valve	L-head
Coupé de ville	Town car	Silencer	Muffler
Dickey	Rumble seat	Sparking plug	Spark plug
Dip switch	Beam switch	Three-light	Three-window
Drophead	Convertible	Tourer	Phaeton/touring
Dynamo	Generator	Track	Tread
Fixed head	Hardtop	Two-stroke	Two-cycle
Four-seater	Four-passenger	Tyre	Tire
Hood	Top	Windscreen	Windshield
Kerb	Curb	Wings	Fenders



The team cars being pushed to their starting positions on race day, Le Mans 1954.

The Jaguar D-type

by John Appleton

With the C-type's two Le Mans victories in three years, much was expected of Jaguar as the 1954 season approached.

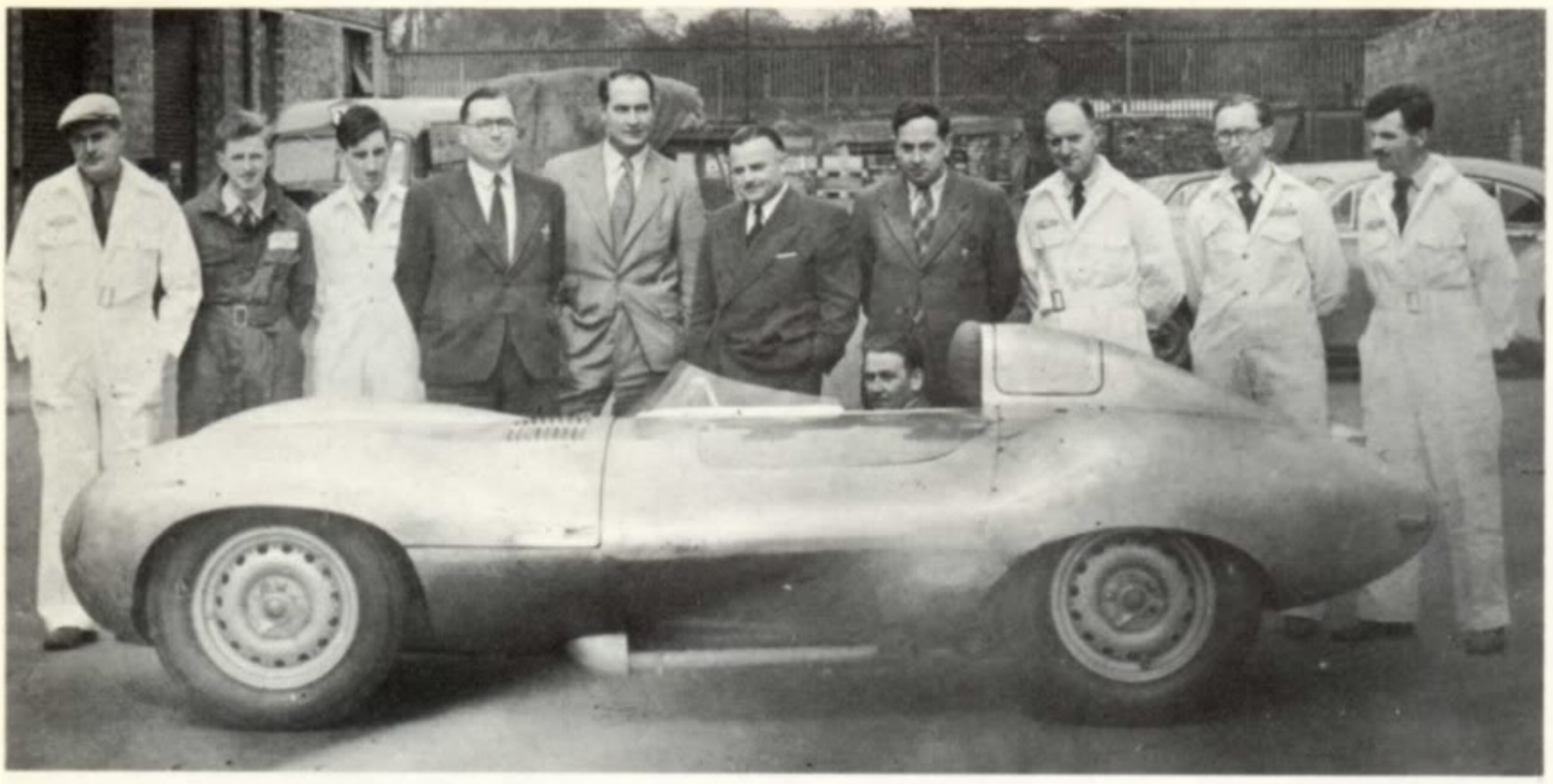
In October 1953 Jaguar test-driver Norman Dewis had achieved nearly 180 m.p.h. at Jabbeke with a C/D prototype, but that performance had been somewhat overshadowed by his 172.4 m.p.h. in a similarly 'bubble-topped' XK120 roadster on the same occasion – the highest speed ever recorded for this model.

At a Le Mans practice session in the Spring of 1954 the C/D hybrid (without its cockpit 'bubble') made its only other public appearance, along with an even more compact prototype. In the latter, Tony Rolt recorded a best lap at 115.6 m.p.h. and a maximum speed of 169 m.p.h. on the Mulsanne straight. On a circuit it was the quicker car by far. In true Jaguar tradition, the new model still had not even been given a name. (The first chassis is still stamped 'XKC401'). Only when it made its bow in the actual race at Le Mans two months later did it acquire its name – the D-type.

The 1954 Cars

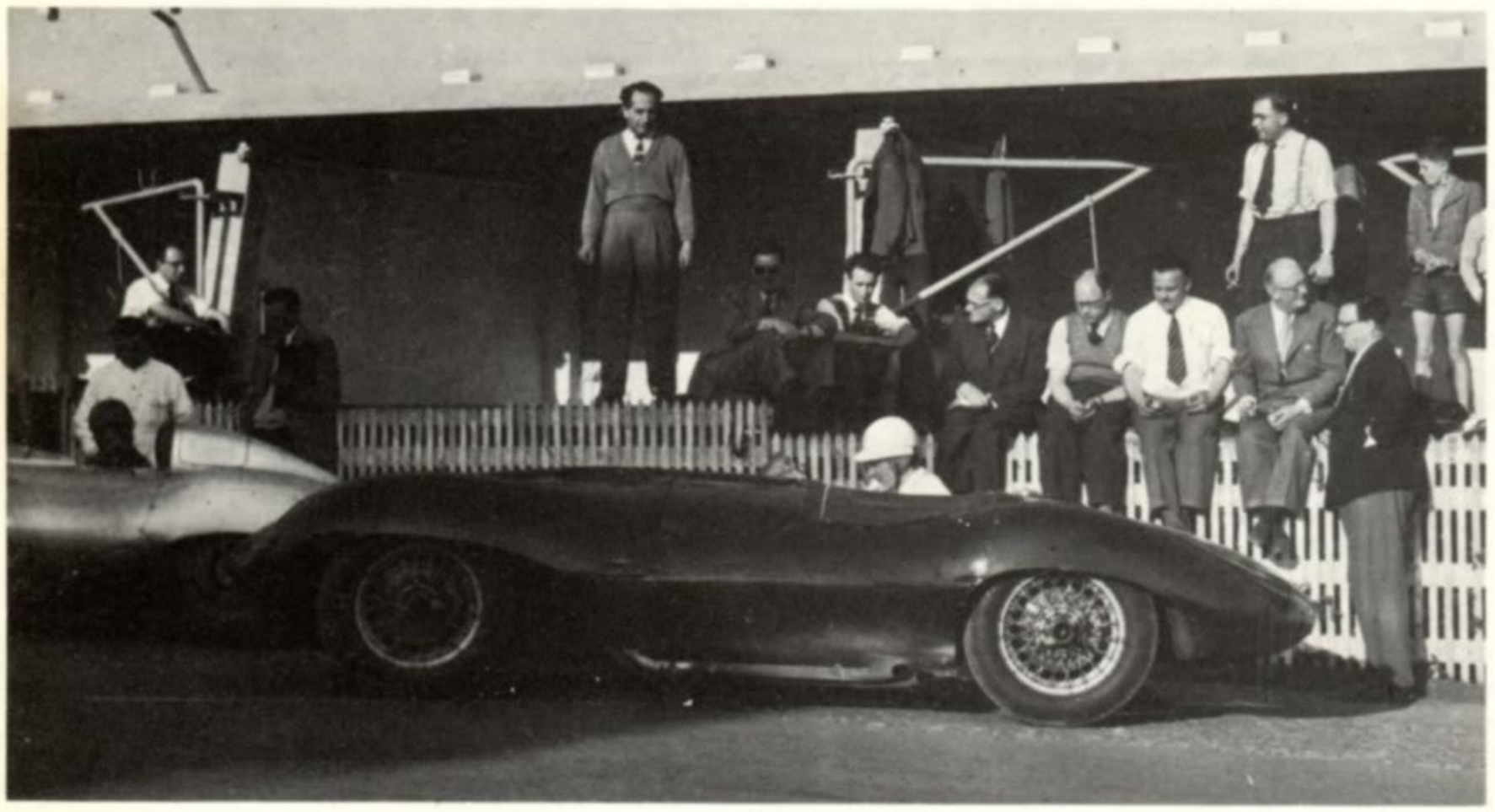
Whilst the C-type Jaguar structure could be called a space-frame, the D-type was distinctly *monocoque* in its construction. The shape, created by Jaguar's aerodynamicist Malcolm Sayer, was unlike that of any previous Jaguar, yet somehow still could not be mistaken for any other *marque*.

Its focal component was a central elliptical 18-gauge magnesium-alloy 'tub' laid on its side, with two holes cut in it – a large one for the driver, and a smaller one for the theoretical passenger. Bulkheads front and rear gave this centre-section intrinsic strength. Attached by



The 1954 D-type prototype, XKC401, with some of its creators (left to right): Arthur Ramsey, Keith Cambage, Gordon Gardner, Bob Knight, Malcolm Sayer, William Heynes, Norman Dewis (in cockpit), Phil Weaver, Joe Sutton, Bob Penney and Len Hayden.

Private practice for Peter Walker (nearest camera, in the one-off 1953 'Jabbeke' car) and Tony Rolt (prototype D-type) several weeks before the 1954 Le Mans race. This and the lower photograph were taken during interludes between races which formed part of a local rally—hence the many spectators.



Sitting on the pit counter are Joe Wright and Harold Hodkinson of Dunlop, and William Heynes and William Lyons of Jaguar. Standing behind them (in shirt sleeves) Vehicle Development Engineer Bob Knight – now Jaguar's Technical Director in succession to Heynes who retired in 1969. Standing (right) is Eric Adlington of Temple Press, who assisted in the organisation of the Jaguar racing team on many occasions.

Argon arc-welding to the tub was a square and round section aluminium tubular frame containing the engine, to which was attached the front suspension. The unstressed bolted-on rear section of the car contained the fuel tanks and the spare wheel.

The engine was the well-proven triple-Weber carburetter 3442 c.c. Jaguar unit, now developing some 245 b.h.p. (gross) at 5750 r.p.m. Its main difference from the 1953 Le Mans engine was its dry sump lubrication – a feature that halved the sump-depth, thus contributing to a useful reduction in frontal area. A transverse shaft, worm-driven from the nose of the crankshaft, operated the two oil pumps – the pressure pump being on the offside of the engine and the scavenge pump on the near-side (the side on which the oil reservoir was mounted). An oil cooler was incorporated in the system.

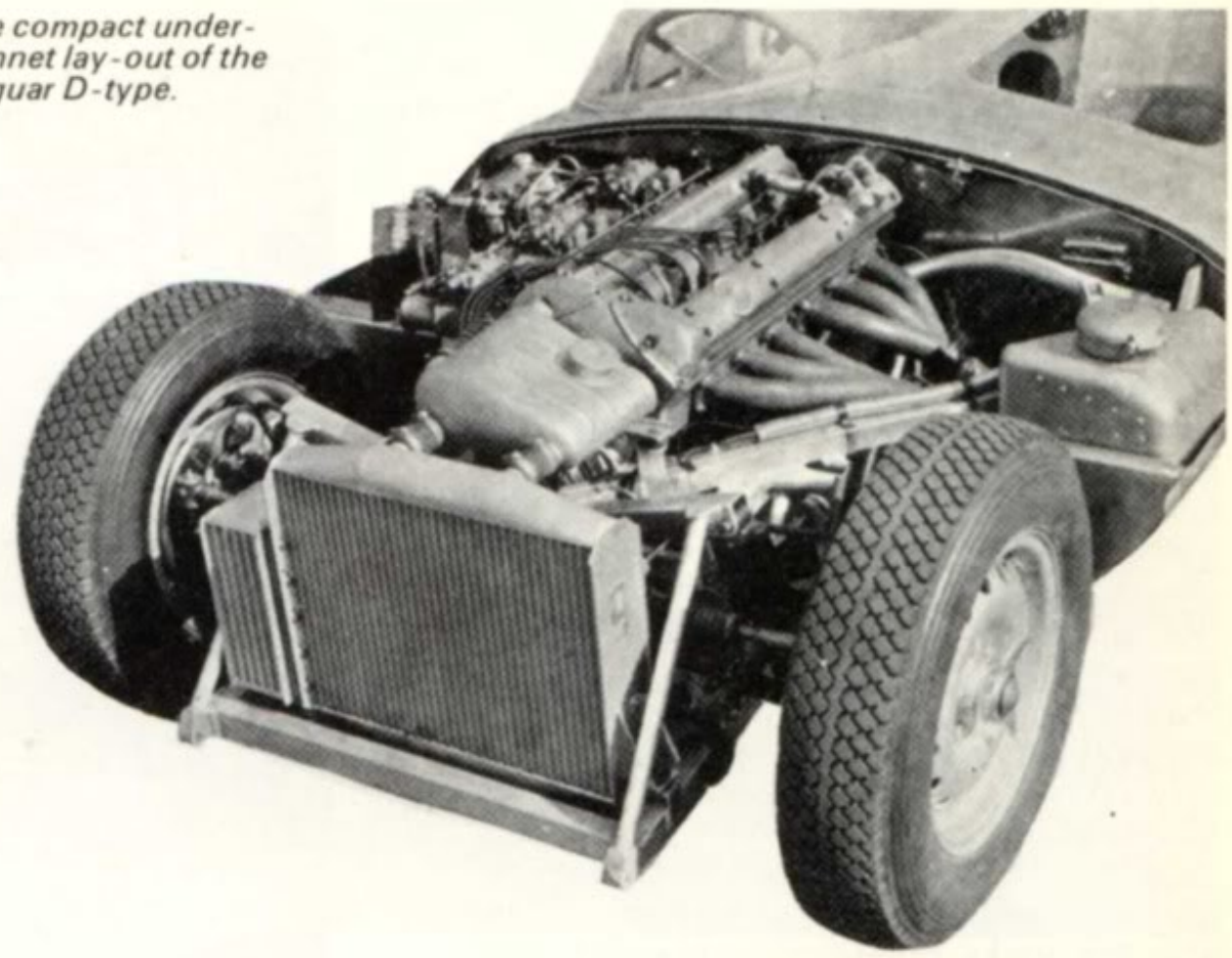
There was no flywheel as such. There was, however, a large torsional vibration damper mounted externally at the front of the engine, whilst the starter ring formed the outside diameter of the clutch casing. The clutch was a triple-plate unit with hydraulic operation.

The XK engine was born during the latter stages of the war, announced in 1948, and is still going strong today. Of this unit much has been written; it has six cylinders, seven main bearings, a cast-iron cylinder block and an alloy cylinder head, housing twin chain-driven camshafts. In the D-type it was mounted at eight degrees from the vertical, and the horizontal-barrel Weber carburetters were, therefore, mounted at an angle to compensate. A completely new Jaguar-designed 4-speed all-synchromesh gearbox was used. Engine-cooling was orthodox, except for the separation of the aluminium header tank from the radiator (also aluminium) to keep the height down.

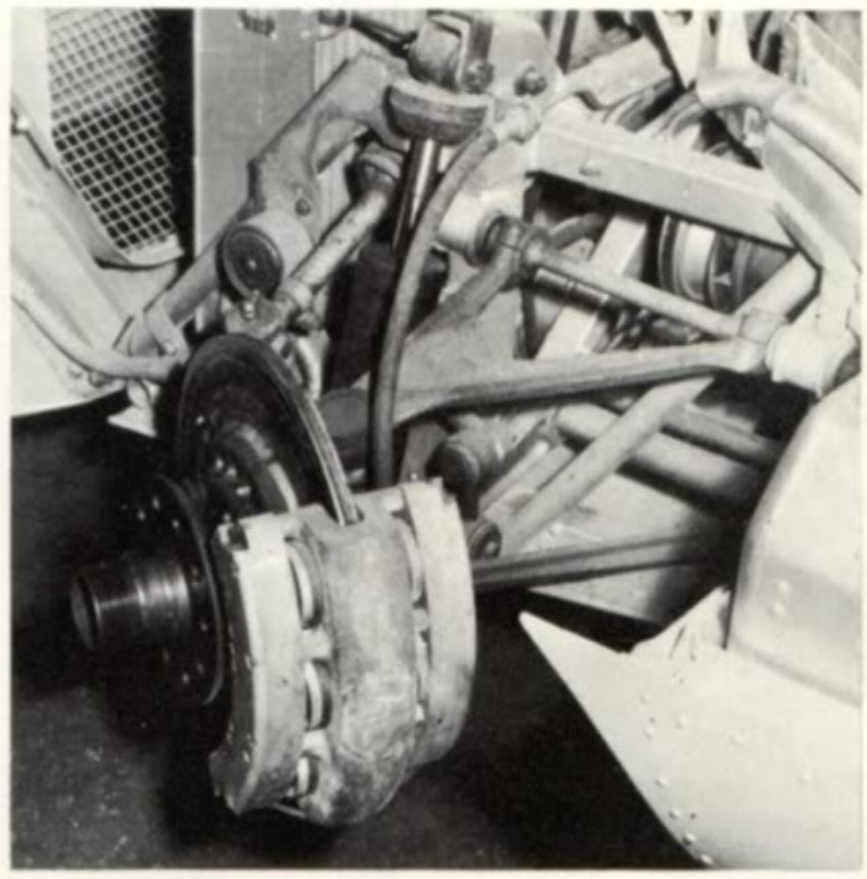
The Dunlop disc brakes were similar to those pioneered in 1952 and 1953 on the C-types. They had triple pads at the front and twin pads (plus single handbrake-operated pads) at the rear. Servo brake assistance came from a propeller-shaft-driven pump, of Plessey manufacture; a non-return valve between the pump's input and output pipes eliminated the possibility of air getting into the system when the car was reversed.

The two flexible fuel tanks (standard capacity: 37 gallons) were carried in alloy 'boxes' in the tail section. The quick-action filler-cap was built into the driver's head-fairing, on to which a stabilising tail-fin could be riveted.

The rack and pinion steering owed much to the XK140 (which replaced the XK120 as Jaguar's series production sports car in 1954) as did the suspension – independent at the front by double wishbones and longitudinal torsion bars which had a Vernier scale to permit quick riding-height adjustment. The production-type Salisbury rear axle was attached to the reinforced rear wall of the central 'tub' by four steel-plate trailing links which were in torsion during cornering; as with the C-type, the single rear torsion bar was mounted transversely, being 'pinned' in the middle. A central A-bracket controlled lateral movement of the 'live' rear axle.



The compact under-bonnet lay-out of the Jaguar D-type.



Detail of D-type front suspension and disc brake with triple pads.

Competition Shop foreman Phil Weaver warms up XKC401 at the Le Mans practice session, 1954, watched by team chief 'Lofty' England, now Jaguar's Managing Director. (Someone made a mistake about the registration number which, for the record, is OVC 501).

Success in Defeat

After their walk-over with the C-type in 1953, Jaguar were expected to do even greater things at Le Mans in 1954 – the D-type's first race.

Four cars were flown across the Channel by 'Silver City' and driven to the Sarthe circuit. Three were registered OKV1, 2 and 3, and bore the chassis numbers XKC402, 403 and 404 respectively – these numbers having been stamped on before the 'D' designation had been settled. The reserve car was XKC401, registered OVC501, painted dark green like the team cars; like the team cars it had a tack-on tail fin, which it had not worn for the practice runs in April.

It was a strong entry at Le Mans, including teams from Ferrari, Cunningham, Talbot-Lago, Gordini, and Aston Martin (not forgetting the latest V12 Lagonda from the same stable), all vying for outright victory. Besides the works entries there was a Belgian-entered Jaguar C-type, most of whose body and structural components had been flown out from Coventry after the works-prepared original had had an almighty excursion off the road from Cherbourg.

Gonzalez and Marzotto set the pace initially with their immensely powerful 4.9-litre Ferraris, but Stirling Moss ('D') gradually wore them down and as it began to rain steadily he moved temporarily ahead on the twenty-second lap. Shortly afterwards, the three works Jaguars began a series of unscheduled pit-stops because of chronic misfiring, eventually traced to blocked fuel filters caused by sediment from the official refuelling tanks which had not been used in practice. Loss of brakes and engine problems were, however, the final causes of the retirements of the Stirling Moss/Peter Walker and Peter Whitehead/Ken Wharton D-types respectively. Nevertheless, Moss had achieved a new record speed 'through the traps' on the Mulsanne straight – 278.208 k.p.h. (172.97 m.p.h.) compared with Gonzalez' best Ferrari figure of 257.69 k.p.h.

The Tony Rolt/Duncan Hamilton 'D' fought on through foul weather conditions, losing ultimately to the sole surviving 4.9 Ferrari (Gonzalez/Trintignant) by some 2½ miles or 105 seconds. It is noteworthy that although both the winner and the runner-up spent a long time in the pits, the Jaguar's total time at rest (extended by the necessity to repair the bodywork late in the race, when Rolt had been forced into a sandbank) appreciably exceeded that of the victorious Ferrari – including the latter's famous 'cliff-hanger' pit stop near the finish, when the engine proved difficult to re-start. Despite this defeat, the new Jaguar had made an impressive début, and the hastily-prepared C-type of the Belgians Roger Laurent and Jacques Swaters had backed-up well to finish 4th between the 5.4 Cunninghams of Johnston/Spear and Cunningham/Benett.

First Victory

At Rheims for the 12-hour race in July it was a different story – a total Jaguar victory, in fact.

The works drivers used the same cars they had had at Le Mans. Moss/Walker (XKC403) retired with propeller shaft failure, but not before effectively disposing of the Ferrari opposition which was not as strong as it had been at Le Mans. Early in the race, Tony Rolt (XKC402) was pushed down the Thillois escape road by Jean Behra's challenging 3-litre Gordini. Apart from a bashed tail, the effects of this 'shunt' did not make themselves felt seriously until the rear axle began to get noisy half-an-hour before the end. Hamilton brought the car into the pits to discover a hole (chafed by the bent rear inner framework) through which all the axle oil had been lost. The legendary chewing-gum cure was performed and, after more than twelve

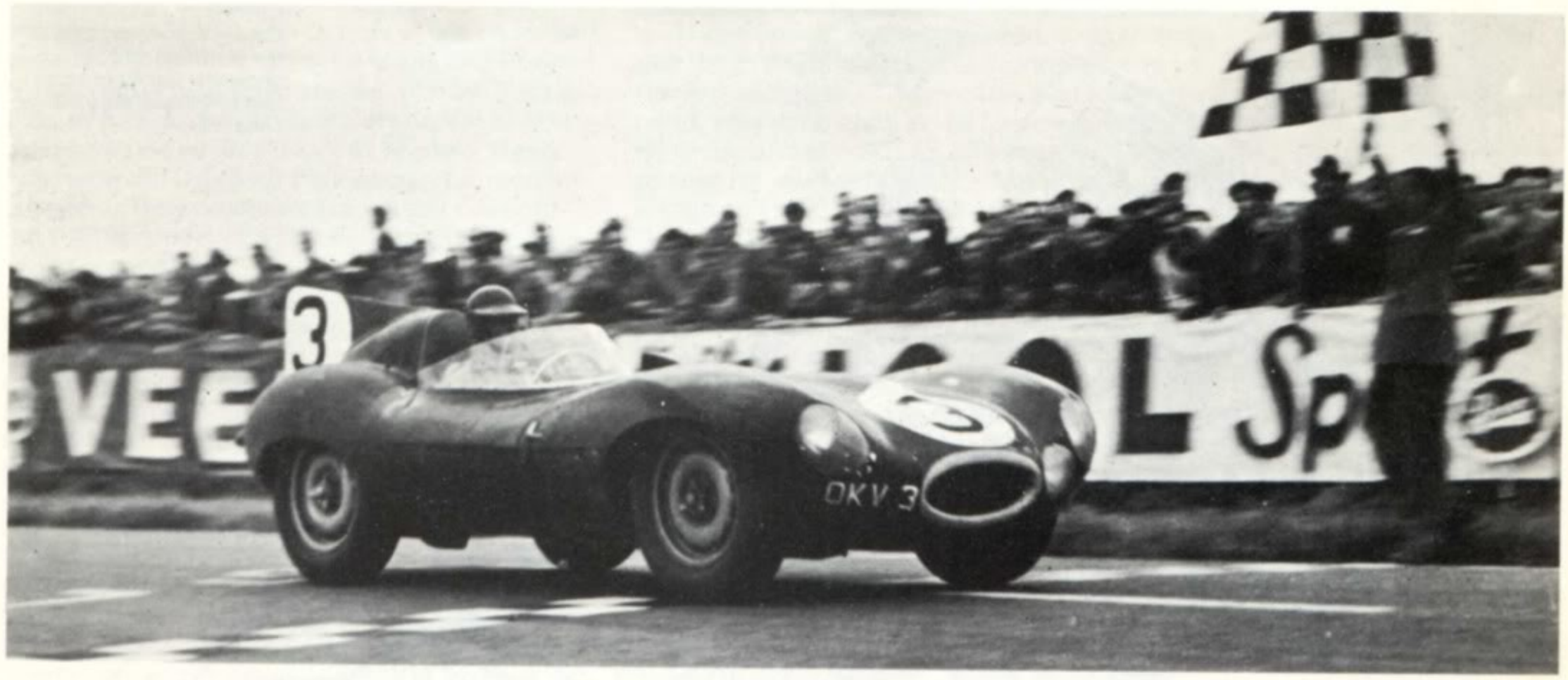
Le Mans 1954: (Sir) William Lyons and Ken Wharton show Froilan Gonzalez the new D-type, watched by Stirling Moss (extreme right) and Umberto Maglioli.

First victory of the D-type – Peter Whitehead crosses the line to win the 1954 Rheims 12-hour race, in which he shared the wheel with Ken Wharton. This car (XKC404) has always been very active and its career has included several successful African seasons when John Love owned it. Its present owner is Martin Morris.

Duncan Hamilton sets off in his desperate pursuit of the winning Gonzalez/Trintignant Ferrari. The mechanic is Frank Rainbow.
(Louis Klemantaski)

Duncan Hamilton storms after Gonzalez in the foul weather which typified Le Mans in 1954. This was the D-type's first 'official' appearance, and it finished second in a race full of drama.

First race for the D-type – Le Mans 1954. The works team were No. 15 XKC404 (OKV3), No. 14 XKC402 (OKV1) and No. 12 XKC403 (OKV2).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OKV 3


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14
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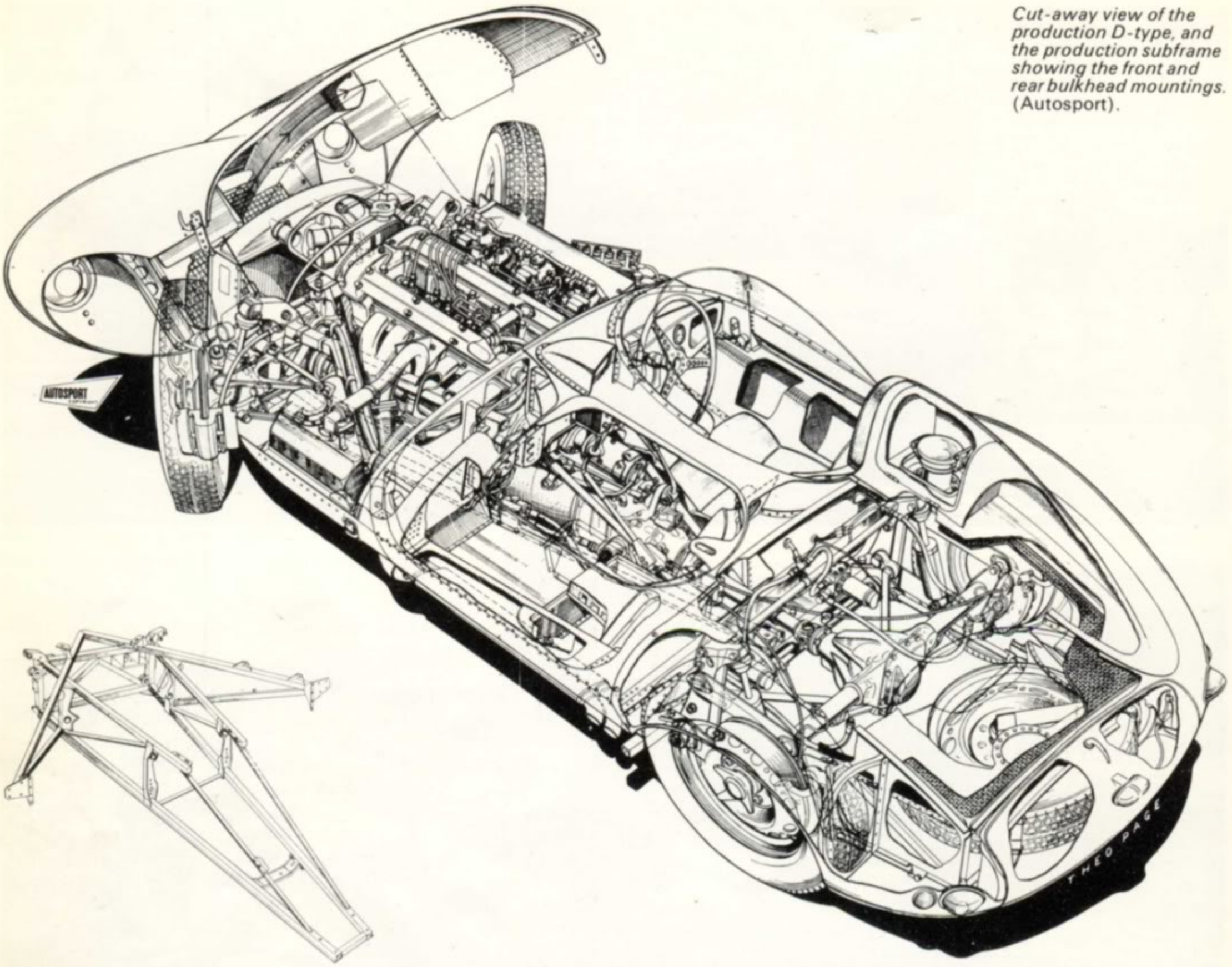


Cut-away view of the production D-type, and the production subframe showing the front and rear bulkhead mountings. (Autosport).

minutes at rest, Hamilton eased carefully out on to the circuit, bringing the car home second with minimal meshing of crown wheel and pinion. Meantime, Whitehead and Wharton (XKC404) had passed into an unassailable lead – a special achievement for Peter Whitehead, who had driven C-type to *its* first victory, too!

A D-Type '2½'

For the 1954 Tourist Trophy at Dundrod, the 7½ mile road circuit situated between Belfast and Lough Neagh, a new 'credit-lap' handicap system had been worked out by the Ulster Automobile Club. Jaguar, seeing its 3442 c.c. cars at a potential disadvantage, hedged its bets. The Rolt/Hamilton car (XKC402) was entered as a '3½'; but the ex-Moss/Walker machine (XKC403), which Whitehead and Wharton were to drive, had a special 2482 c.c. engine, as did a new car (XKD406 – the sixth and last of the 1954 D-types to be built) for Moss and Walker. The handicap system gave Rolt/Hamilton a target average speed of 86.62 m.p.h. whereas Whitehead/Wharton and Moss/Walker were expected to do only 82.77 m.p.h. It was not to be a 'Jaguar day', however; and despite a high-quality entry, with works teams from Ferrari, Maserati, Lancia and Aston Martin, it was a 750 c.c. DB Panhard that beat the handicappers. Fastest driver of the day was Mike Hawthorn, who put in a record lap of 92.38 m.p.h., sharing the wheel of the second-placed Ferrari 3-litre with Maurice Trintignant. The only other cars to exceed their target speeds were a 2-litre Maserati (Mantovani/Musso) and a 3.3 Lancia (Fangio/Taruffi). Next came Whitehead and Wharton in the 2½-litre D-type, who were, therefore, fifth ahead of another Lancia (Manzon/Valenzano) despite a puncture that had caused Wharton to stop and change one of the 'soft' Dunlop Stabilia tyres which were being tried out for the first time. The Rolt/Hamilton car went out with engine failure and gearbox trouble. Moss, who had been going gamely with the second '2½', drew up just short of the finishing line with a badly damaged engine (it had been rebuilt the night before, over-revving having caused a valve and a piston to meet during practice), and the car crept across the line eighteenth.

The 1955 Season Begins

During 1954, as for two years previously, Duncan Hamilton had supplemented his works drives with a full and successful programme in his own Jaguar C-types. Now in 1955, he had

made equally comprehensive plans for a new acquisition, OKV1 – the D-type in which he had already been runner-up at Le Mans and Rheims. In the Spring he gained several 'places' with it; then as he was due to drive a works car in May at Silverstone he lent OKV1 to Michael Head, who won the Djurgard Park sports-car race in Helsinki – thus depriving Hamilton of becoming the first driver of a privately-owned D-type to score a victory.

The latest cars were not due to appear before Le Mans so Jaguar's new team leader, Mike Hawthorn, fresh from his Sebring victory, was given OKV3 for Silverstone where he had established a commanding lead and broken the lap record when the radiator top hose 'blew'. Hawthorn nursed the car home fourth behind Parnell and Salvadori (Aston Martins) and Tony Rolt in OKV2. Hamilton, a bit off-form after rolling a G.P. Gordini in practice, was fifth in XKD406; sixth came Desmond Titterington, 'running-in' XKD502 for *Ecurie Ecosse*, ahead of Collins and Walker (Aston Martins) and Sparken (Ferrari). Jimmy Stewart crashed XKD501 in practice, and couldn't take part. A week later, on home ground, Titterington won the Ulster Trophy in XKD502. At the end of the month, Hamilton had *his* first win with the 'D' – in fact, two wins – at the Goodwood Whitsun meeting. Bob Berry – a seasoned campaigner, renowned for his exploits in a much-modified XK120 – was second both times, in OKV2, which had been bought immediately after Silverstone by northern enthusiast and trials-driver Jack Broadhead for Berry to drive.

Before the month of May was out, both *Ecurie Ecosse* D-types were clouted heavily, injuring their drivers, Desmond Titterington and Jimmy Stewart, whilst they were practising for the *Eifelrennen* at Nürburgring. Stewart, who hurt the arm which had been badly broken in an accident a year before, thus lost his big chance to drive a works Jaguar at Le Mans; apart from one lap in the cobbled-up Titterington car, he never raced again. Titterington, on the other hand, was soon back in the fray despite a broken nose and shoulder injuries but he, too, missed his works drive at Le Mans. In June, Hamilton and Berry took their D-types to Oporto, where they were third and fifth respectively in the G.P. of Portugal.

The 1955 'Long-Nose'

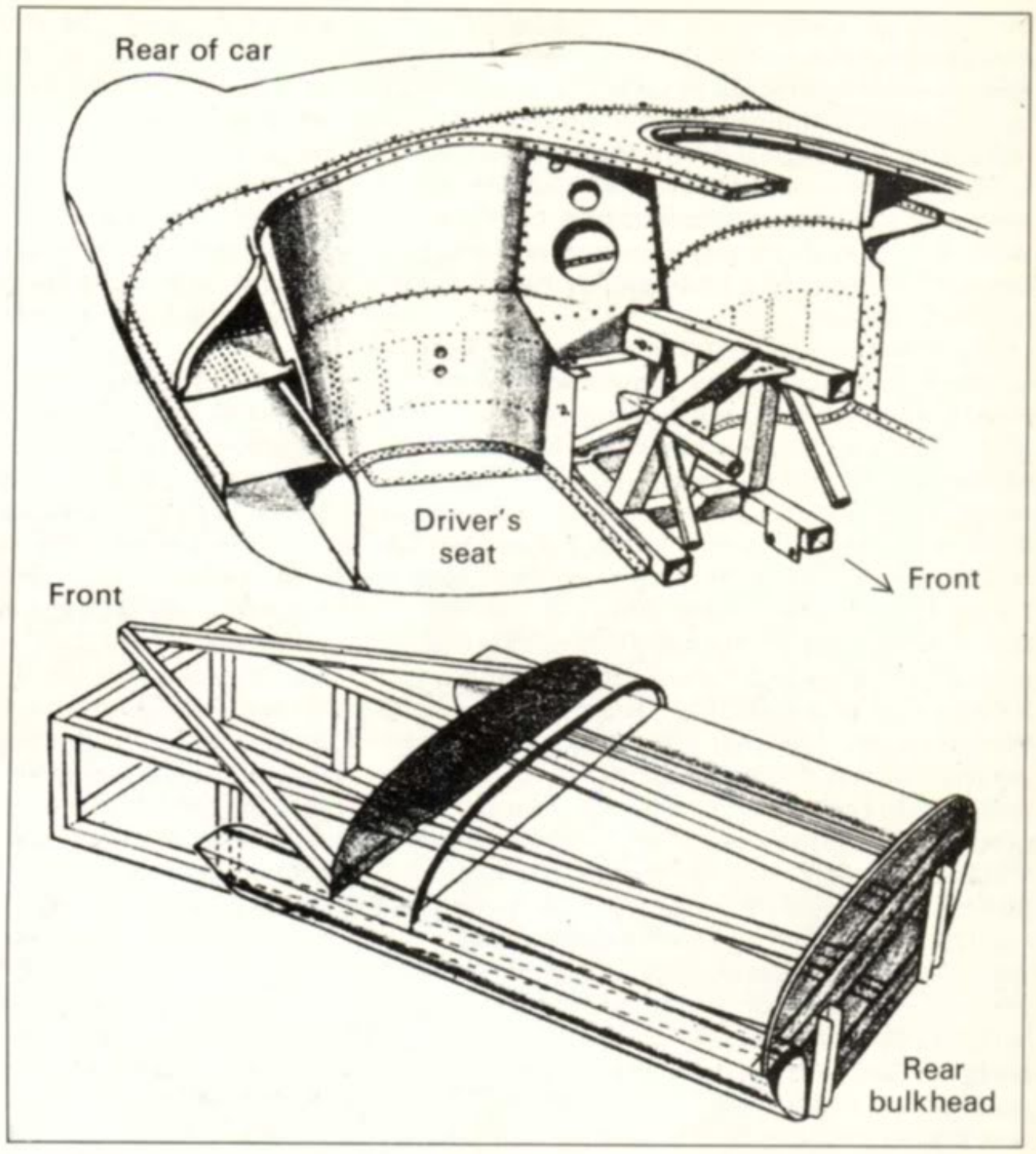
With the racing of the 1954 prototypes, lessons had been learned – and the inconvenience and cost of repairing accident damage, should it occur, was taken into consideration when proceeding to the next design stage. The magnesium-alloy front subframe of the 1954 cars had been integral with the central 'tub'. For 1955, however, a steel subframe was substituted; its layout was similar, but it was bolted to the centre section. Apart from the obvious improvement in serviceability, the new frame was actually lighter than the original – and it was simpler, too. On the 1954 cars, the longitudinal upper members aft of the front bulkhead had been carried through the cockpit to the stiffening plate at the back of the tub; and even then the right-hand member had been of smaller diameter, and lower, to give the driver 'elbow room'. Now, for 1955, these upper tubular square-section members were cut short, and two new circular-section tubes inserted at an angle, to mate with the two lower longitudinal members adjacent to the rear bulkhead. The subframe and body centre-section were bolted together, with four bolts in the rear bulkhead, a series of bolts along the floor of the centre section, and six bolts through each side of the front bulkhead where the triangulated frame outriggers butted up to it. Apart from the necessity to 'de-

Stirling Moss in XKD406 fitted with 2½-litre engine, at the hairpin, Dundrod, 1954.

rivet' the battery and oil tank compartments, it was now possible to separate the centre-section from the front subframe by sliding the latter forward.

Another important structural improvement was the mounting of the radiator and oil cooler on a tubular structure separable from the main load-bearing framework, the idea being to localise minor frontal damage as far as possible; this extension also provided the pivot round which the bonnet hinged. The new layout must have been of great assistance when *Ecurie Ecosse* sent their first two D-types back from Nürburgring to Coventry within a month of original purchase for major rebuilds, for it was not long before both cars were back on the circuits again.

The first eight 1955 D-types were all specially built for the works team, or for teams of known Jaguar racing experience. As mentioned earlier, *Ecurie Ecosse* received XKD501 and 502, in May. XKD503 was prepared as the Belgian entry at Le Mans. These three were of standard dimensions, whereas the five works cars (XKD504 to 508) had 'long nose' bodywork. Malcolm Sayer had been receiving enthusiastic co-operation from the technical staff at R.A.E. Farnborough, and it is a tribute to his original 1954 body design that the only improvements they were able to suggest related to such details as airtight riveting, wax-filling of body joints before a race, and paying particular attention to paint finish on the front portion of the bonnet. (Attention was even drawn to the R.A.F.'s special thin low-drag paint finish, when estimating that a white circle for a racing number could cost up to 4 m.p.h. at 160 m.p.h!) An idea to cut out unnecessary air-flow through the radiator at high speed, by controlling the bonnet louvres, was too complicated to adopt. The 1955 factory cars were, nevertheless, given an even sleeker bonnet, which lengthened the car by 7½ inches and incorporated two brake-cooling ducts; the single spot lamp of 1954 was omitted, the headlamps now being fitted with 100-watt bulbs fed from a larger dynamo and battery. The cockpit of the works 'long-nose' cars had a wider wrap-round screen, which maintained its height to merge into the driver's headrest; integral with this headrest was a smooth new fin, which extended to the extreme



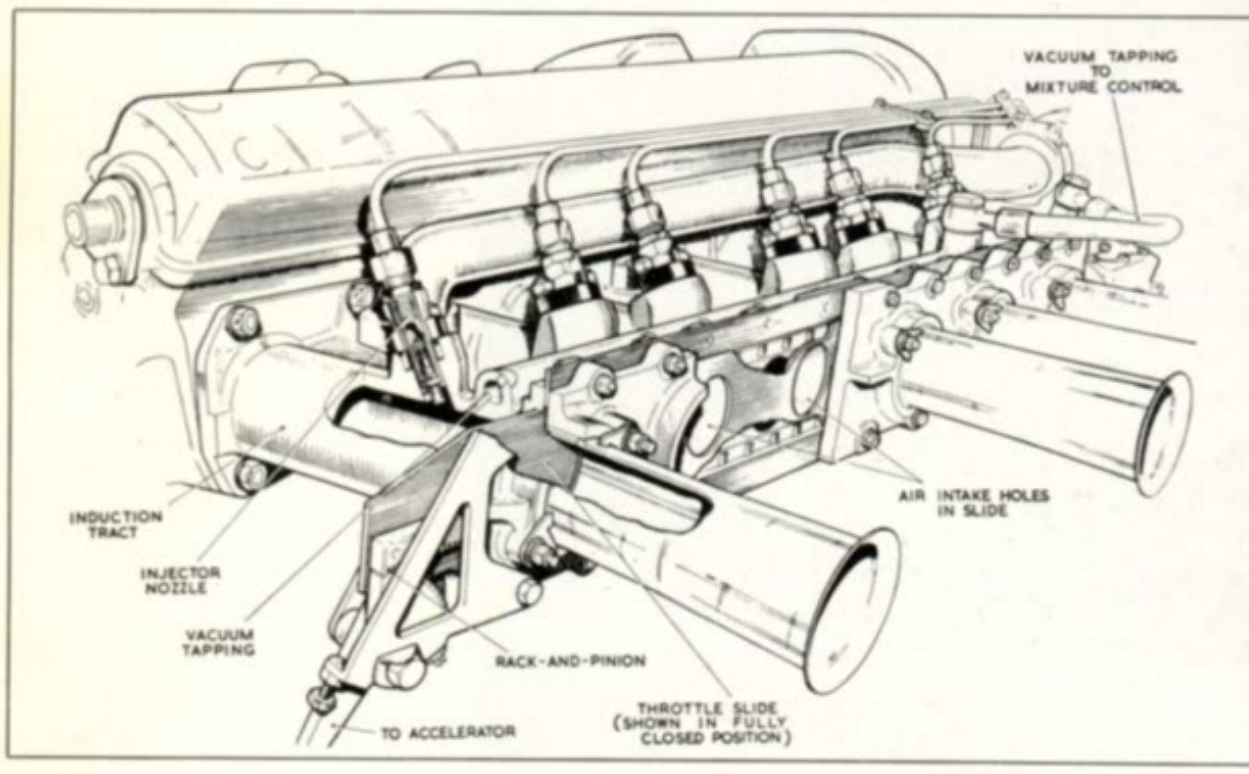
rear of the body; the exhaust pipes came out at the rear of the car.

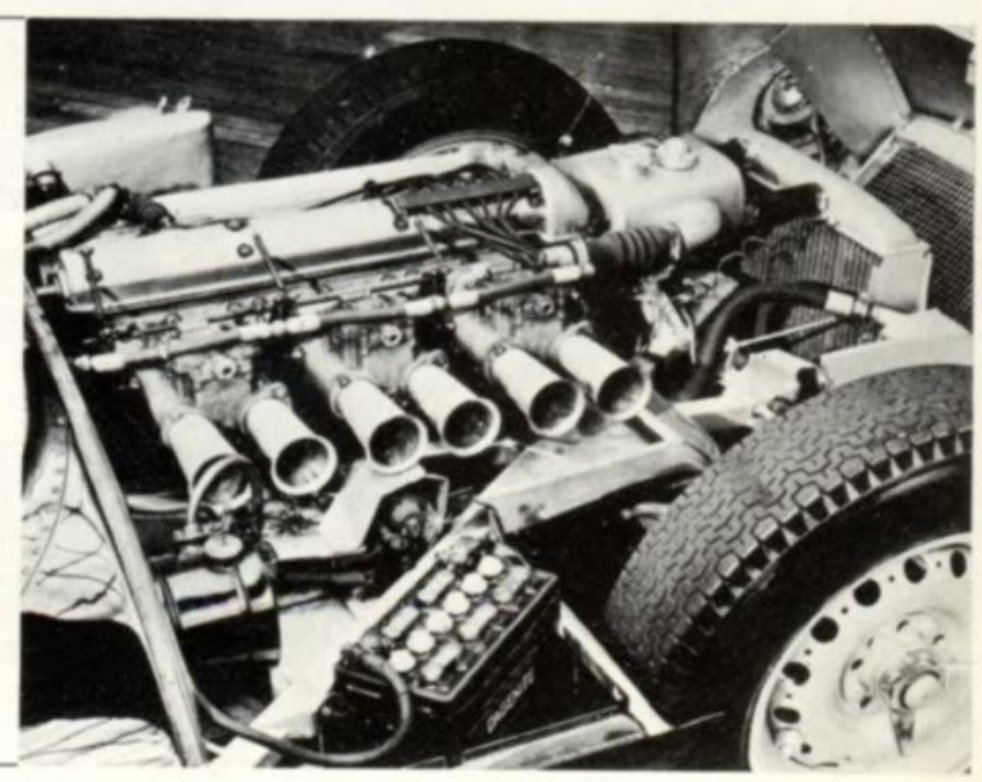
The 1955 production D-type retained the same basic specification and the 'short nose' profile (fin 'optional') of the 1954 cars, whereas 1955 factory cars now produced around 270 b.h.p. gross between 5,500 and 6,000 r.p.m. This was achieved largely by cylinder head modifications; the inlet valves were increased from 1⅞ to 2 inches diameter and the exhaust valves from 1⅝ to 1 11/16 inches. To prevent valve overlap, the exhaust valves were inclined to 40 degrees whilst the inlets were kept at the standard angle of 35 degrees.

Suspension was changed very little, although

Diagrams showing the main structural features of the original D-type. On production cars, the upper tubular members were angled downwards at the rear, mainly to give the driver more elbow-room, as shown in the smaller drawing on page 6. (Autocar).

Two ways of breathing: three twin-choke Weber carburetters were normal D-type wear, but Lucas fuel injection became a feature of some of the later 'long-nose' cars.





1955 Jaguar works 'long nose' D-type, chassis No. XKD 505, winner of Le Mans 1955 at 106·99 m.p.h. (172·19 k.p.h.), driven by Mike Hawthorn and Ivor Bueb. (See page 256 for profile view).

Note: One of the major changes in the Le Mans regulations from 1956 involved increased windscreen width and height – hence the considerable differences between the cars illustrated on this page.

1956 Jaguar ex-works *Ecurie Ecosse* 'long nose' D-type, chassis No. XKD 606, winner of Le Mans 1957 at 113·85 m.p.h. (183·46 k.p.h.), driven by Ron Flockhart and Ivor Bueb. (See also centre spread).

0 2ft

the U-bolts which had originally been used to attach the A-bracket to the rear axle were now replaced by a bracket welded to the axle casing.

Jaguar v Mercedes-Benz

The disastrous crash at Le Mans completely overshadowed the Mercedes-Benz v Jaguar duel in which two of the greatest drivers – Juan Manuel Fangio and Mike Hawthorn – fought on equal terms in two of the greatest sports-racing cars, and in which the Hawthorn 'D' created a new lap record at 122.39 m.p.h. After 2½ hours came the worst accident in motor racing history, when a Mercedes-Benz was projected into one of the most crowded spectator areas; many people – including the driver, 'Levegh' – died. The race – quite rightly, one feels – was not stopped, and no competitors withdrew until the two remaining members of the Mercedes-Benz team received instructions from their directors in Germany, early on Sunday morning and with the Fangio/Moss car in the lead, to pack up and go home. Despite heavy rain towards the end, Mike Hawthorn and Ivor Bueb won at the record speed of 106.99 m.p.h. in XKD505. The Belgian-entered car (XKD503) was driven by Johnny Claes and Jacques Swaters into third place; the other Jaguars retired. At dusk, Phil Walters and Bill Spear had the engine of XKD507 blow up, probably because a piece of the air-box, which was breaking up, got sucked under a valve (this car was entered by Briggs Cunningham, and appeared in American colours). XKD508, shared between Norman Dewis (replacing the injured Desmond Titterington) and Donald Beauman, went into the sand at Arnage when in fifth place; Beauman stood a chance of digging it out until Colin Chapman's Lotus ran into the Jaguar. In the morning, Rolt and Hamilton retired XKD506 due to oil-loss from the gearbox. The four works cars were fitted with ZF differentials and used Dunlop 'Stabilia' tyres on 16 inch rims, whereas the 'Belgian' car had Dunlop R1 tyres on 1954-type 17 inch rims. The 'spare' car, XKD504, was destined to become the test vehicle for petrol injection.

Racing wasn't quite the same for the remainder of that season. Jaguar was denied the chance of a fourth successive victory at Rheims, the 12-hour race – like many others – being cancelled.

Only one works car (XKD506) took part in the British G.P. meeting at Aintree in July but Hawthorn – after leading initially – was picked off by the four Aston Martins, despite using the latest R4 Dunlop tyres.

In Europe, Duncan Hamilton retired at Lisbon in OKV1, which he then lent to Michael Head who was 6th in the Swedish G.P., a race dominated by Mercedes.

The two rebuilt *Ecurie Ecosse* D-types won several races before the season ended, driven by Desmond Titterington and Ninian Sanderson who also drove together in XKD501 to take a close second place in the Goodwood 9-hour race, splitting two works Aston Martins. In this event Bob Berry and Norman Dewis brought Jack Broadhead's 'D' home fifth behind one of the HWM-Jaguars, kicking themselves for underestimating the 'pace' of the event and finishing considerably quicker than they had begun.

The Last of the Great T.T. races

Jaguar's final works entry of 1955 was a single car in the Tourist Trophy race at Dundrod. XKD505 was prepared, complete with a de Dion rear suspension (which had previously been fitted to the 'development car', XKC401) and a Tecalemit filter between the engine and the oil cooler; but the outer Metalastik drive-shaft couplings gave trouble, so the car was withdrawn in favour of XKD506, to be driven by Mike Hawthorn and Desmond Titterington. The only other D-type was Broadhead's in which Bob Berry shot away first. However, Stirling Moss (Mercedes-Benz 300SLR) was leading Mike Hawthorn after one lap. Berry lost his third place when a deflating tyre took him over the bank at Quarry Corner on lap two, thus depriving Sanderson of a drive. So once again it was Mike Hawthorn *versus* the might of Mercedes.

During the dry early stages, Moss led while

Mike Hawthorn (XKD 505) and Juan Manuel Fangio 'on the limit' in their magnificent race at Le Mans in 1955.

Desmond Titterington (XKD506) accelerating away from the hairpin at Dundrod during another great Jaguar v. Mercedes struggle–the 1955 Tourist Trophy. Mike Hawthorn broke the lap records at both Le Mans and Dundrod that year.

Hawthorn and Fangio (Mercedes) repeated their classic Le Mans duel. It was in his successful effort to regain second place on lap 17 that Hawthorn set an all-time 'four-wheeler' record for Dundrod at 94.67 m.p.h. This narrow circuit had many fast bends and gradients, suiting the Jaguar which was nicely geared with a 3.31 to 1 rear axle ratio and 17-inch (1954-type) wheels; these were shod with Dunlop 'Stabilia' tyres which Jaguar had proved best suited to Dundrod's abrasive new surface a year earlier – experience which Mercedes lacked, resulting in tyre trouble, including a rear tread ripping through the bodywork of Moss's car. The German team's longer pit-stops – during which more than the permitted number of mechanics worked on the cars – put local man Titterington ahead at 30 laps. John Fitch had taken over from Moss, Karl Kling from Fangio, and André Simon from Wolfgang von Trips; and the Jaguar was increasing its lead over the three silver cars as the rains came.

Fitch, losing seconds every lap, was soon brought in, and Moss sent out again to reduce the deficit – which, of course, he did! This great driver's mastery of Mercedes swing axle suspension and wet conditions took him past Hawthorn on lap 56. With the rain the Jaguar lost the advantage of its better dry-road tyre wear – indeed, the 'Stabilia' did not grip well in the wet – and, although Hawthorn led again briefly during Moss's final pitstop, the Mercedes went ahead for good on lap 61.

As Hawthorn went through Quarry for the 83rd time the crankshaft broke, and the Jaguar waltzed up a convenient escape road. Moss alone completed 84 laps, passing the chequered flag one lap ahead of Fangio. In effect third – but unclassified on the rules of the day – were the heroic Hawthorn and Titterington. *Officially* third, however, was the von Trips/Simon Mercedes (82 laps) followed by the Walker/Poore Aston Martin (81 laps). The next four places were filled by Maserati, Ferrari, Maserati and Aston Martin, all on 79 laps. With a full Jaguar team to harry the German cars, the result might have been very different!

On the same weekend Duncan Hamilton (XKC402) won the 50-mile BRDC/BRSCC 'Grand National' Sports Car Race, held on a rarely-used 2½-mile version of the Silverstone 'Club' circuit. Hamilton's other ex-works D-type (XKD406) was second in this event, driven by Michael Head, who was again second (to George Abecassis' HWM-Jaguar) at Goodwood the following Saturday. A day later, Hamilton spun 402 at Snetterton to win a race backwards! This time he had lent XKD406 to George Abecassis who was dutifully second, ahead of another unusual combination – Reg Parnell in the Sopwith Cooper-Jaguar. Hamilton's season ended with both his cars retiring, for unspecified reasons, at Castle Combe in October.

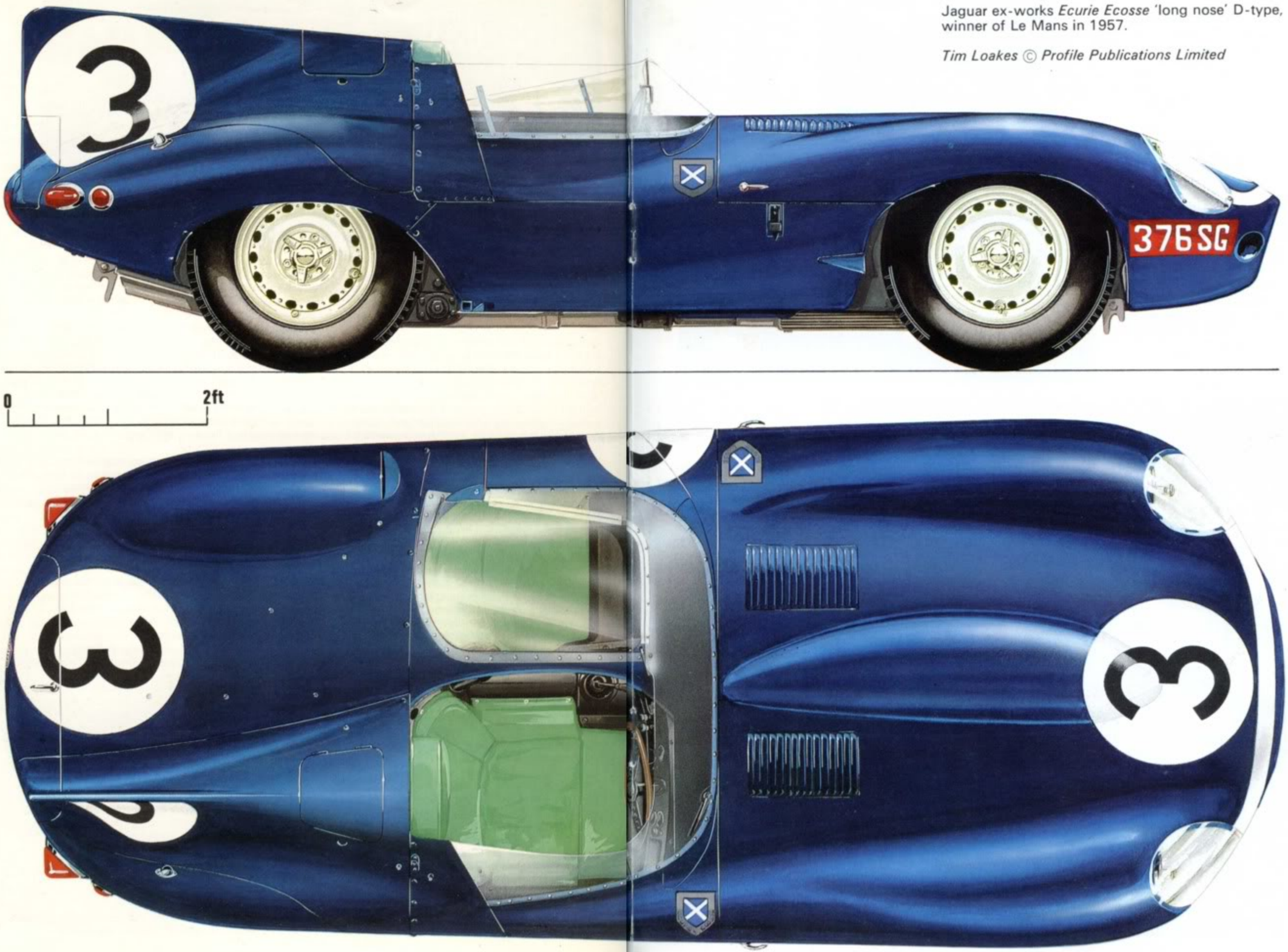
Two production D-types appeared on the club scene before British racing came to an end for another year. Ian Baillie (XKD511) failed to amaze, but Alex McMillan did well at the final Silverstone meeting, scoring three wins and best lap of the day in Gillie Tyrer's car, XKD517.

Production and Testing

With its bolted-on subframe – as opposed to the original all-Argon welded construction – the D-type lent itself quite readily to a form of 'assembly line' production. After only a few cars had been produced, however, it was apparent that the production and engineering departments would have to share the work of preparing the cars for general sale.

The 'D' production line was situated in the main hall at Jaguar's Allesley, Coventry, works – adjoining the Mk. VII and XK140 trim and final lines. The central 'tub' was jigged up, the subframe and suspension units fitted, turning the whole into a rolling 'chassis' at an early stage. After assembly, the D-type was passed to the experimental department where thorough checks were carried out prior to extended testing at the nearby Motor Industry Research Association (M.I.R.A.) establishment. The first 'D' to go through the full 'production' system (XKD509) was given its first test run – 60 laps (some 200 miles) round the M.I.R.A. outer circuit – in July 1955. The first 'line-built' D-type to be despatched to a private customer was XKD514, in August. This owner, Sir Robert Ropner, has used it as a road car ever since!

Jaguar ex-works *Ecurie Ecosse* 'long nose' D-type, winner of Le Mans in 1957.



During 1955 and 1956, sixty-seven D-types were made and tested on the 'production' system. Between them they covered over 20,000 test miles. Every car was tested at least twice, and the 'record' achieved by a single production car (XKD525) was some 650 miles in eight tests before passing final inspection.

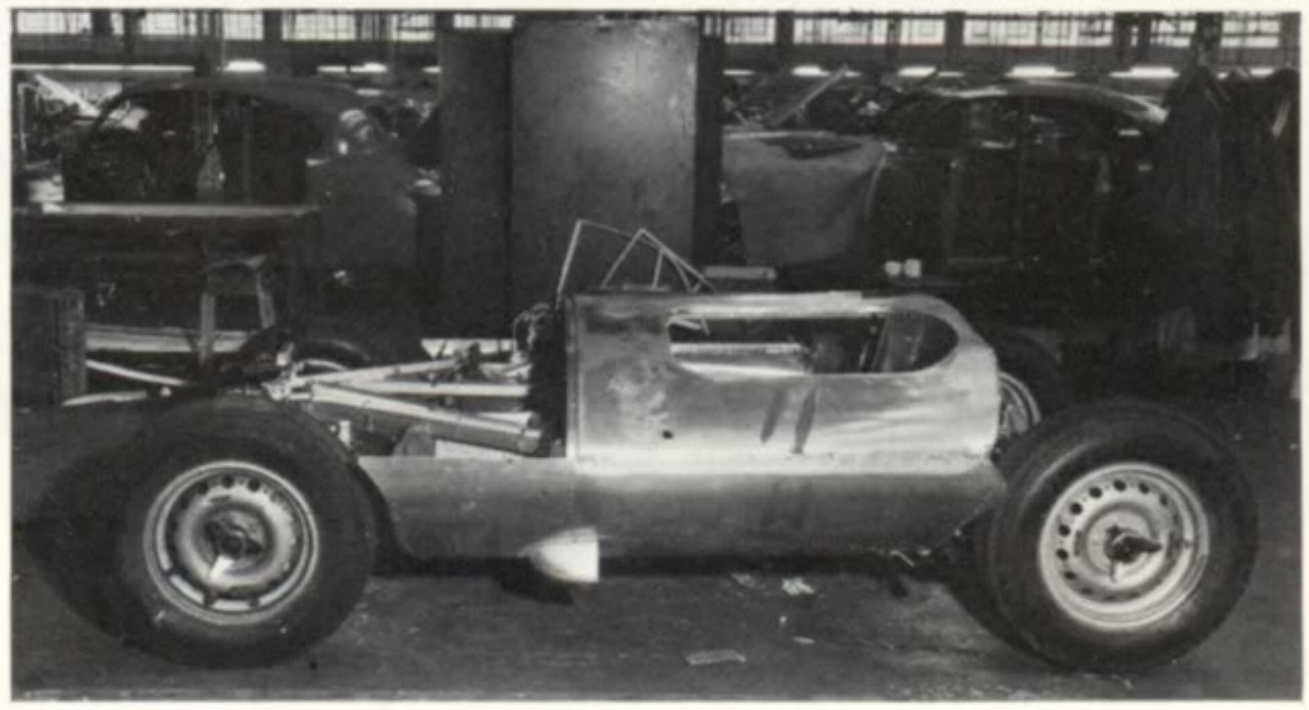
Of the 67 cars to go through the 'production' system, 42 were sold – as follows: 18 to U.S.A., 10 in Britain, 3 to Australia, 2 to France, 1 each to Cuba, Finland, New Zealand, Spain, San Salvador, East Africa, Mexico, Belgium and Canada. Of the remaining 25, 9 were either destroyed in the factory fire or dismantled, and 16 fitted out as road cars, as described later.

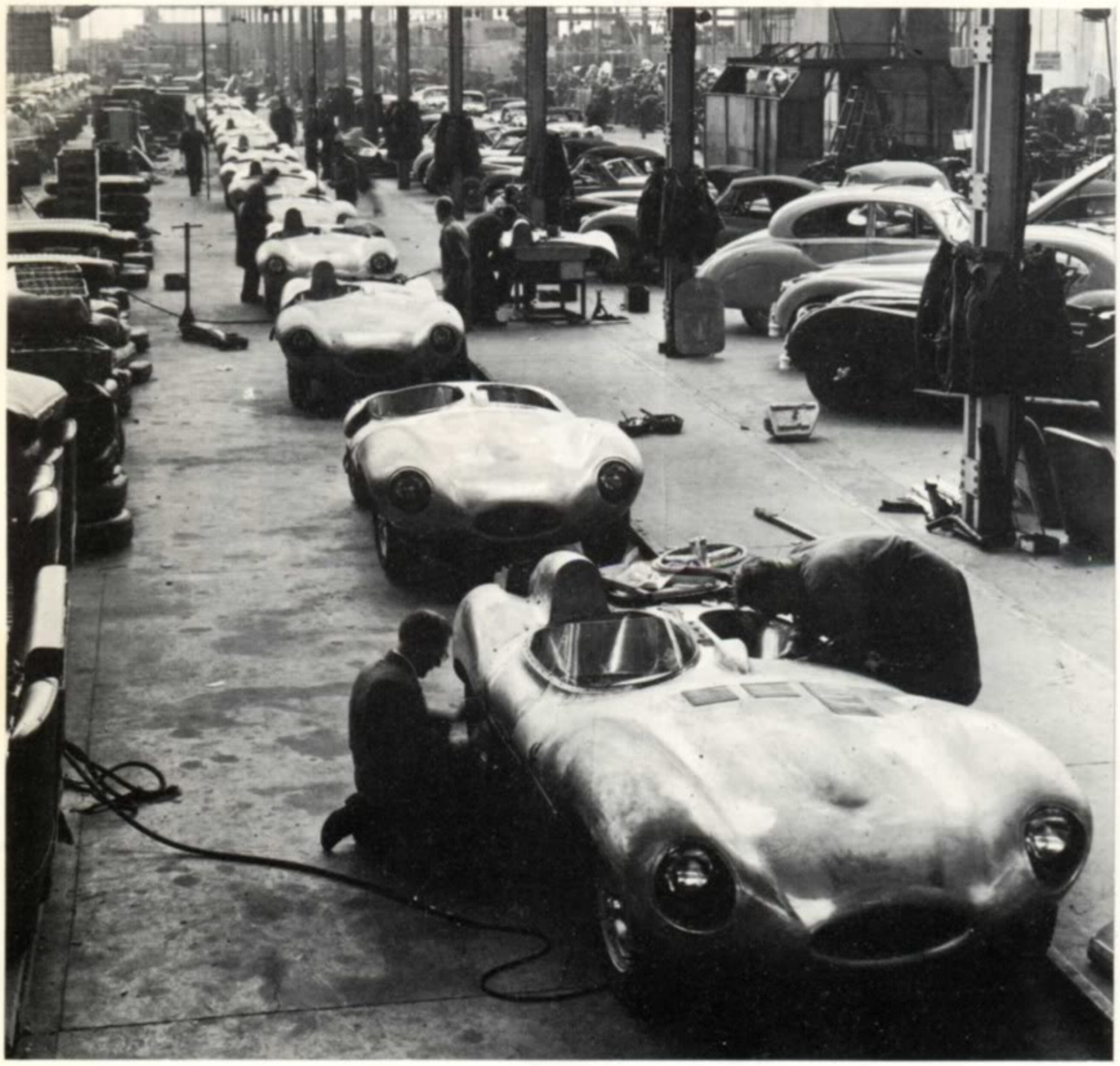
Although not everyone's idea of a production car, the D-type was a serious attempt to produce a 'limited edition' economically – a fact borne out by a nominal price of £3878 and publication of a comprehensive fifty-five page service handbook for owners.

1956 – The Final 'Works' Year

The 1955/6 off-season was one of great activity in the Jaguar competition shop, and much testing was carried out (at M.I.R.A., Silverstone or Goodwood, depending on the purpose of the test) particularly with the original 'fuel injection' car (XKD504) and the 'de Dion' car (XKD505). In the meantime, a final batch of

Doug Chivas en route to victory in a G.T. event in XKD526, one of the two D-types to be sold in Australia. The attractive coupé top was fitted by Leaton Motors of New South Wales. Other drivers to gain successes with this car included Bill Pitt and Frank Matich.





Truly a production car! The D-type takes shape on its own assembly line in 1955/56, alongside the more mundane XK140 and MkVII at Jaguar's Allesley, Coventry, works. The D-type's body panels were made by Abbey Panels of Coventry. This part of the factory was gutted by fire in February 1957.

Works team cars were tested by Norman Dewis, whereas virtually all 'production D' testing was done at M.I.R.A. by Les Bottrill, who later emigrated, to join Jaguar's U.S.A. organisation.

six new long-nose D-types was laid down, powered by the 3.4-litre XK engine, featuring the '35/40' cylinder head, and developing some 275 b.h.p. gross at 5750 r.p.m. Modifications included extra 'breathing space' in the oil return tank and a felt element filter in the lubrication system. Transmission was not altered significantly, but detail improvements were made to the suspension. The front anti-roll bar diameter was increased by one eighth of an inch whilst, at the rear, a $\frac{3}{4}$-inch anti-roll bar was added between the two upper trailing arms; these modifications to improve roll-stiffness had been tried out successfully on XKD506 in the 1955 Ulster T.T. The body retained its super-smooth 1955 'works' shape, but a reduction in the gauge of some of the unstressed panelling and bracketry resulted in a weight reduction of 50 to 60 lbs. per car.

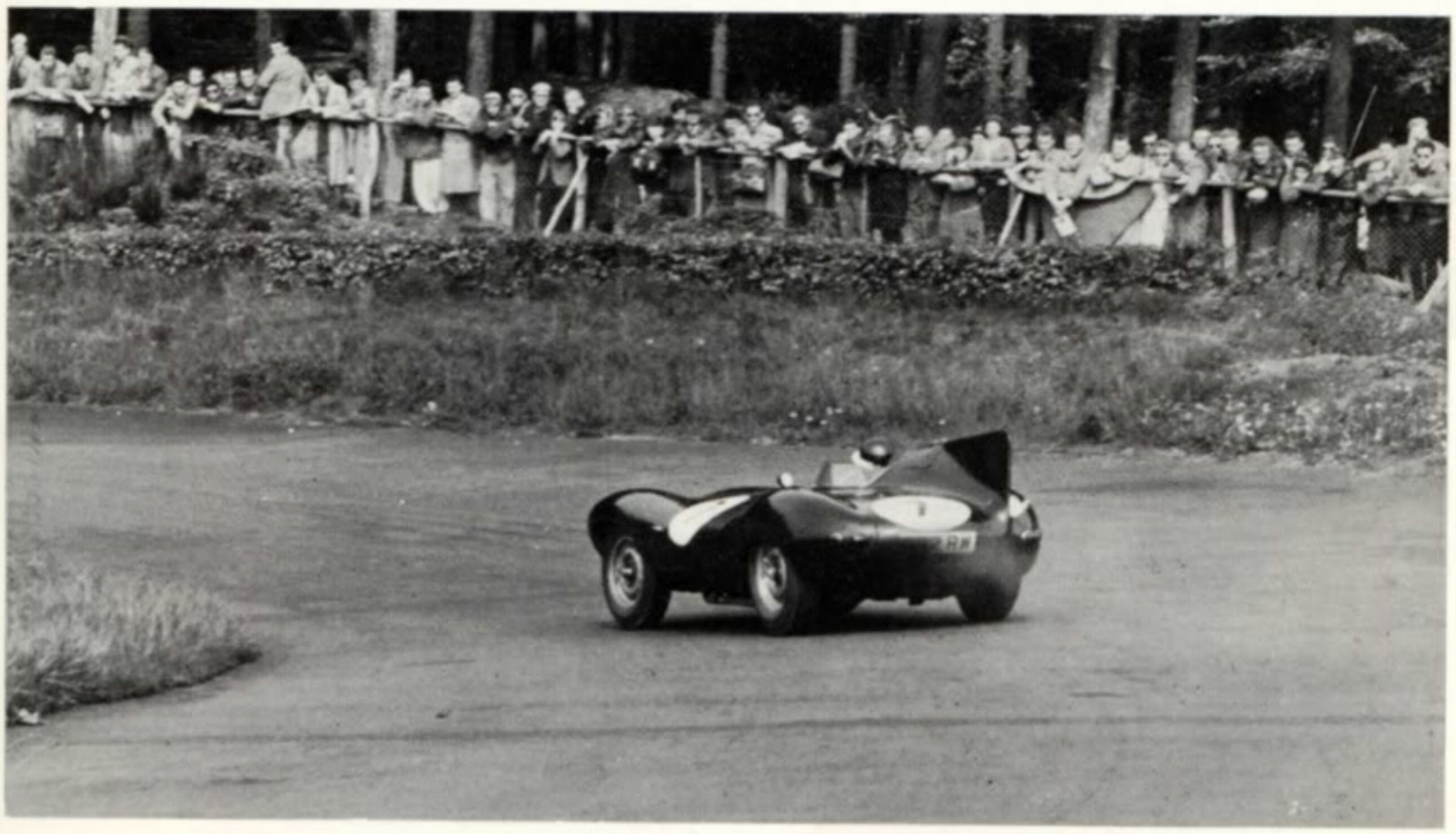
As in previous years, factory participation during 1956 was strictly limited – the concentration of effort being reserved for Le Mans.

The first of the new cars, XKD601, with fuel injection, went as 'team leader' to Sebring, where the Works/Cunningham entries ran into serious brake trouble (see page 22).

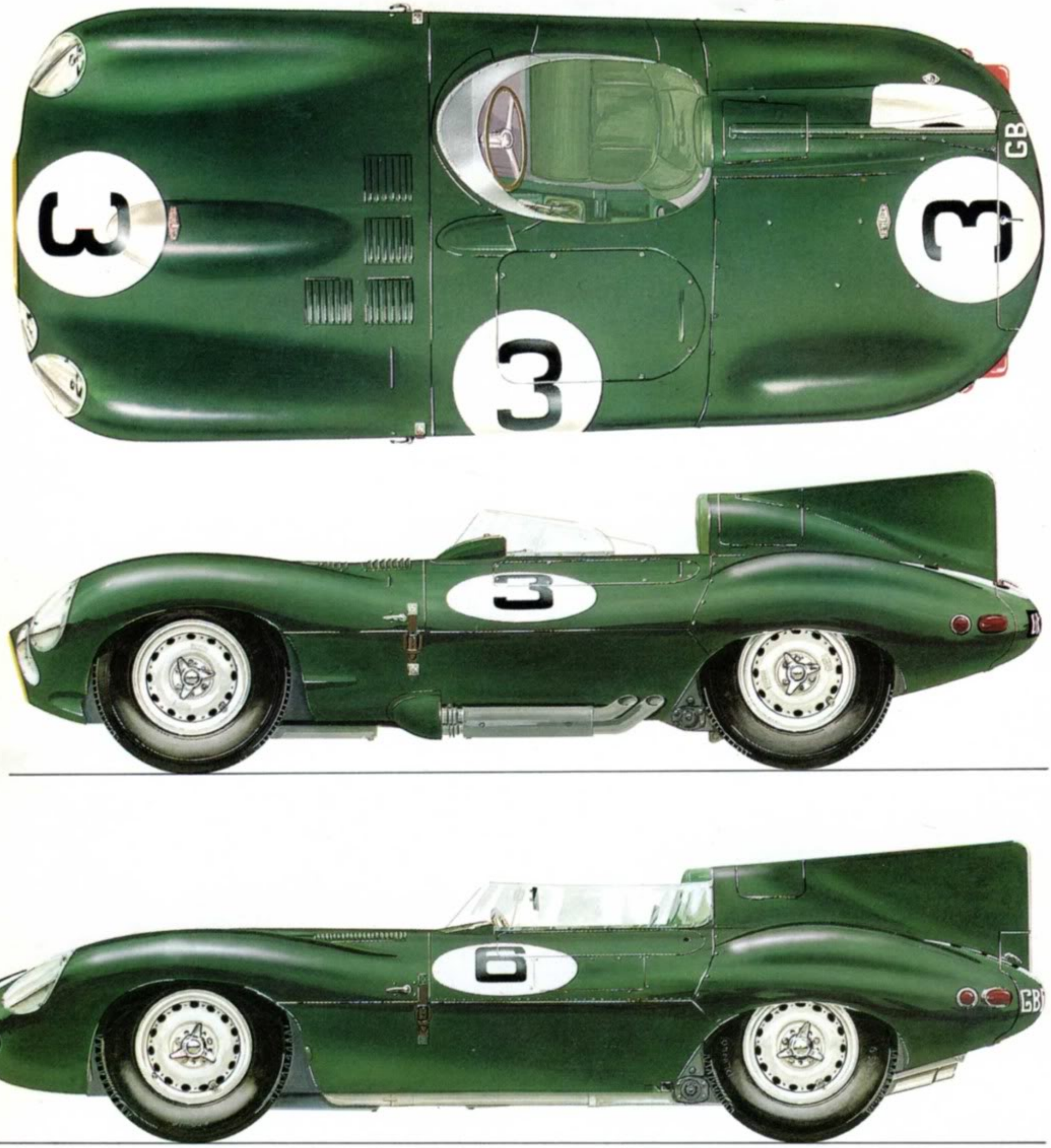
Two more cars were ready for the May meeting at Silverstone, which was significant in being the only occasion Jaguar's de Dion rear suspension was actually raced – fitted to XKD604, entrusted to Titterington. Apart from Hawthorn (XKD603) and Salvadori (Aston Martin), he was the only driver to break 1 min. 50 sec. per lap in practice. On the opening race lap Titterington, third to arrive at Club Corner, spun and was rammed by Peter Collins (Aston Martin); XKD604 was a write-off, but no-one was hurt. Meanwhile, Mike Hawthorn broke the sports car record in 1 min. 47 sec. (98.5 m.p.h.) but failed to catch Salvadori (Aston Martin) and, after one pit-stop, retired for good with the steering stiffening-up; subsequently, the trouble was traced to one of the top ball-joints 'picking-up' on its wishbone seating. At Silverstone, XKD504 had its only race ever as a works car, fitted with triple Webers instead of its usual fuel injection test equipment; Jack Fairman's run in it was, however, curtailed when a drive-shaft failed.

At Nürburgring in the 1000 Km. race later in the month Mike Hawthorn and Ivor Bueb shared the ex-Sebring PI car (601). Hawthorn led away from the start, to be passed first by Fangio (3.5 Ferrari) and then Moss (3.0 Maserati); after a lap, however, it was Moss leading from Hawthorn, Fangio and Collins (Aston Martin). When Titterington took over from Hawthorn he retained the Jaguar's stabilised third position; however, during his second spell Hawthorn, in fourth place, had a *contre-temps* with a Porsche and had to stop, unbend bodywork and plug fuel leaks – particularly annoying for him, since he had previously been called in and given a lecture about passing slower cars on the 'wrong' side, whether they were in the way or not. Shortly before the finish, a half-shaft failed while the Ulsterman was driving and the Jaguar's race was run. Only two works cars had been sent to Nürburgring and Paul Frère had crashed the other one (XKD603) in practice. A replacement had been driven out from Coventry, arriving too late for practice; so Frère had started from the back of the grid – only to retire with a broken gearbox after six laps (having worked up to sixth place) depriving Hamilton of his turn at the wheel.

After these disastrous outings, Jaguar's fortunes could not get much worse; so the team's walkover in the revived Rheims 12-hour event provided some much-needed pre-Le Mans confidence. The factory cars finished 1st, 2nd and 3rd at Rheims driven by Hamilton/Bueb (605), Hawthorn/Frère (601) and Titterington/Fairman (603) respectively. Afterwards team chief 'Lofty' England gave Duncan Hamilton his 'notice' for breaking the lap record in the PI-equipped car, despite a repeatedly-shown 'slow' signal! (The hatchet was buried some time later when England received a mortar-board and cane addressed 'To teacher with love').



1956 Nürburgring 1000 kms: Hawthorn's fuel-injected, 3.4-litre D-type XKD601 eventually retired with half-shaft failure when lying fourth, having led initially. (Henry N. Manney III)



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1954 Jaguar D-type, chassis No. XKD 404 (originally XKC 404) – the first D-type to win a race (Rheims 12 hours, 1954 at 104·54 m.p.h. [168·17 k.p.h.] driven by Peter Whitehead and Ken Wharton). This is one of the original batch of six, but is similar in appearance to the 1955/6 production cars. Its 'tacked-on' fin was an 'optional extra' on production D-types.

Another view (see also page 249) of the 1955 Le Mans-winning 'long nose' D-type. In comparison with the 'short nose' car above, note the integral fin and streamlined wrap-round cockpit screen.

Transfer badge as fitted to some D-types.

Jinx at Le Mans, 1956

Le Mans 1956 was Jaguar's final fling as a sports-racing car team. The D-types looked very different, for the regulations now required a full-width windscreen of some eight inches minimum depth, a passenger-side door and removal of the metal passenger-seat cover – the latter being cunningly replaced by a streamlined flexible 'Vybak' transparent cover stretching from the top of the screen to meet the bodywork aft of the seat. The cockpit had to be modified slightly to meet new minimum-width requirements; a 28-gallon tank replaced the previous 37-gallon one to meet new regulations which had the effect of limiting fuel consumption to between 11 and 12 m.p.g.; and separate double-filament stop/tail lights were fitted. The combustion chambers were modified for economy and the disc brakes now had quick-change pads.

Things went wrong from the beginning of practice, when Titterington put XKD606 off among the trees at Indianapolis corner, damaging it sufficiently to warrant the use of a spare car (XKD603) in the race.

It was drizzling as the flag fell at four o'clock on race day and as Paul Frère (XKD603, Webers) and Jack Fairman (XKD602, Lucas PI) approached *Les Esses* for the second time in fifth and sixth positions, they both lost control. Frère smote the wall hard with the tail of his car, but Fairman managed to stop without hitting him. Nevertheless, de Portago (Ferrari) arrived on the scene equally out-of-control and collected the front of the Fairman car before it could move off – the result, three retirements in quick succession! So neither Titterington nor Wharton (back in the team to replace Hamilton) got a drive. Subsequently, the two wrecked cars—although basically driveable —were cannibalised to make a 'new' XKD603.

All was not yet lost, however. During practice, the Hawthorn/Bueb PI car (XKD605) had had a niggling misfire and so, as a precaution, the engine and fuel system were changed for the race – everything relevant, in fact, was changed except the fuel lines, which would have been tricky to fit in the time available. In the race, Hawthorn shot off into an unassailable lead, only to come into the pits after several laps for the first of numerous visits. After seven hours of racing the infuriating misfire was traced to a tiny crack in a fuel line, causing the pressure in the fuel injection system to drop. When the trouble was found, it was quickly remedied and the car went perfectly for the rest of the race, picking up from 20th place (22 laps down) at midnight to 6th (20 laps behind the winner – another Jaguar, happily!) at the finish. Hawthorn put in the fastest lap, but the 1956 D-type's increased frontal area reduced his lap speed by some 6½ m.p.h. to 115.8 m.p.h., and his speed on the straight by about 20 m.p.h., compared with 1955. An *Ecurie Ecosse* victory saved the day for Jaguar.

The Jaguar sports-car team was then disbanded. Of the six 1954 team cars, the original one (XKC401) was retained by Jaguar for test and exhibition work, and is usually on view in the National Motor Museum at Beaulieu, Hampshire. (It was driven to Le Mans and back, complete with passenger, as recently as 1971). XKD505 was also kept for some time by the factory for test purposes, and was at one stage

Great Days for Ecurie Ecosse: Ninian Sanderson leaps aboard after a pitstop, Le Mans 1956. With Ron Flockhart he won the race after the works cars had run into trouble. (Motor)

fitted with a fully independent rear suspension system nearly 45 lbs. lighter than the unsuccessful de Dion unit. (This car was sold to Hamilton in 1958). XKD605 became the first works car to be bored out to 87 m.m., giving a capacity of 3781 c.c. following Alfred Momo's work on this in the U.S.A. during 1956; it was entered by Briggs Cunningham for Sebring and other 1957 events, and subsequently, brought back to the works. It is now on loan to the Biscaretti Museum in Turin. All other works cars were cannibalised or sold.

Whilst being keen to help private owners race successfully, Jaguar had to think about its own future. Concentration on production after so many vigorous seasons as a racing team worked wonders. In May 1957 Chief Engineer William Heynes, and Sir William Lyons himself, were already making their first tentative test runs in the number-one prototype of a new sports car destined for announcement nearly four development-years later as the classic E-type.

Meanwhile, early in 1956, *Ecurie Ecosse* acquired a third D-type (XKD561) and launched into another outstanding season which provided them with nine victories, eight 2nds and nine 3rds – mostly provided by Ron Flockhart, Ninian Sanderson, John Lawrence and Desmond Titterington. Scotland's team scored its first big overseas win in May when Ninian Sanderson (XKD502) won at Spa-Francorchamps. This was followed by the superb Flockhart/Sanderson victory at Le Mans in XKD501, after a race-long duel with the Moss/Collins Aston Martin. Roger Laurent and 'Freddy' Rousselle were 4th in a new works-prepared production D-type (XKD573).

At Rouen, Titterington's *Ecurie Ecosse* D-type had a Wilkinson-modified engine of just under 3 litres, to meet the regulations. It came seventh.

Duncan Hamilton had another good year, too, despite his 'dismissal'. In his own cars, he won the *Coupe de Paris* at Montlhéry and was runner-up on Belgium's Chimay road circuit, where Lord Louth (XKD512) was fifth. When he was driving for Ferrari, Hamilton lent his Jaguars to various drivers including the Whitehead brothers who gained a solid fourth place in the Swedish Grand Prix at Kristianstad with old OKV1 (XKC402). After three 3rds early in the season, Bob Berry's moment of glory came at the Goodwood Whitsun meeting when he beat all comers in the 26-lap unlimited sports car race; but hopes for a second victory were dashed later in the programme when Berry (OKV2) cartwheeled into touch at St. Mary's whilst heroically leading the *Formule Libre* event.

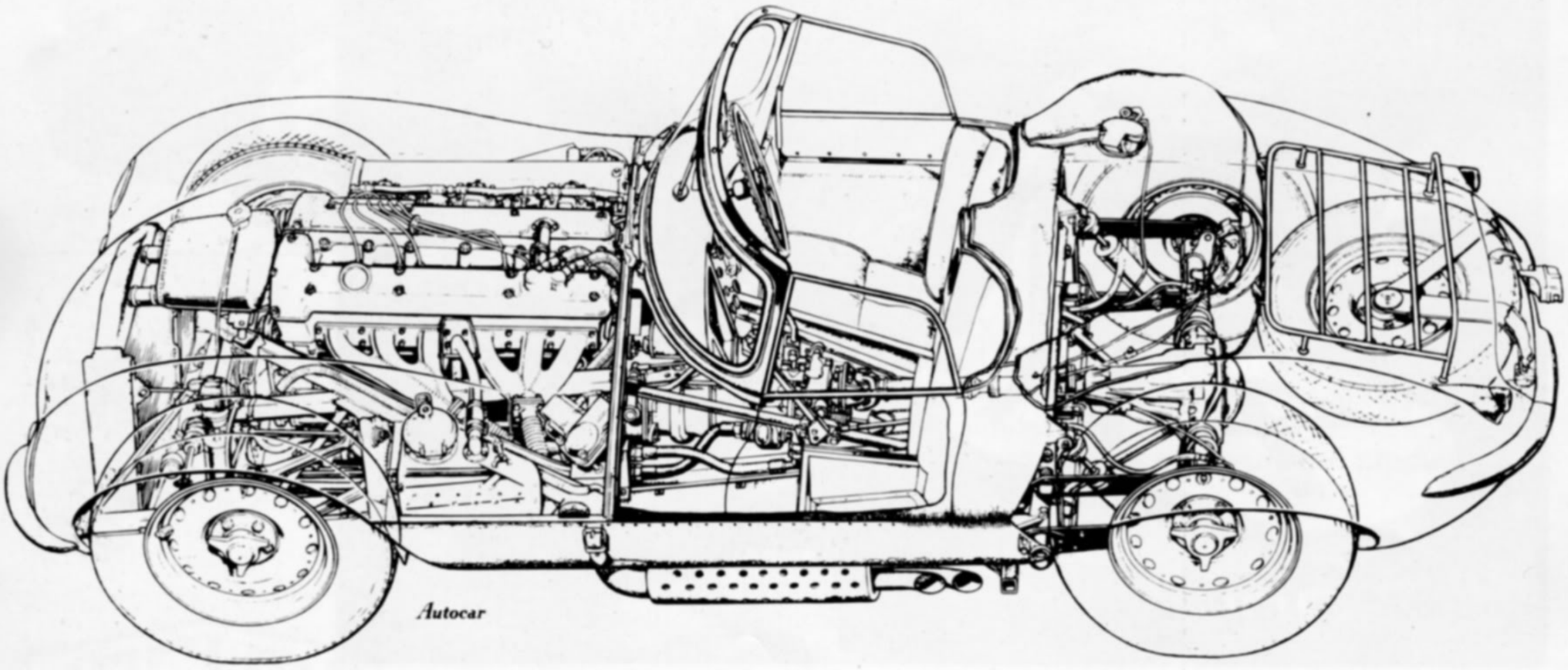
The Jaguar XKSS

Towards the end of 1956 several production-line D-types, fully-tested but with unfinished bodies, were passed to the coachwork section of the factory service department. At the beginning of 1957, a new model – the XKSS – was created. The division between the seats was cut away, the headrest removed, and a deep full-width windscreen fitted. The spartan interior was trimmed to look a little cosier, a luggage rack mounted on the tail, and hood and sidescreens fabricated; the hood had to be lowered before the fuel tank could be topped-up safely. As with the 1956 Le Mans cars, the passenger was given his own door.

Sixteen of these road-equipped versions of the D-type were completed before the whole service department and one end of the factory (where the D-type production line had once been) were gutted by fire in February 1957. (Later that year, two more D-types were converted to full XKSS specification, but they retained their original 'XKD' chassis numbers). The XKSS, which had been intended for production sports car racing in America, never

There was a tendency for XKSS owners who went motor-racing to make their cars look like D-types again! Here the car of Hong Kong driver Martin Redfern goes into the lead in the 1960 Macau Grand Prix, ahead of Grant Wolfkill (Porsche) and Jan Bussell (Ferrari) who were to finish second and third respectively, behind the Jaguar.

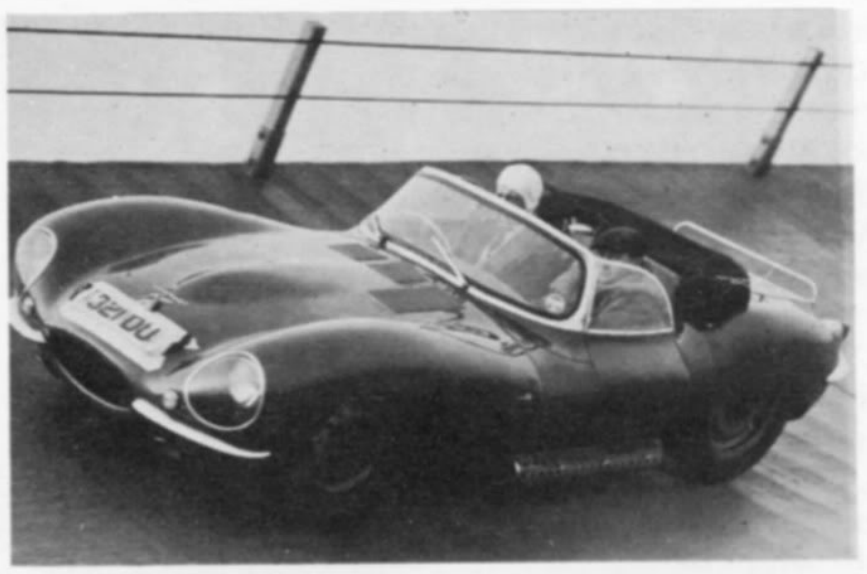
Cut-away view of the XKSS. (Autocar)



looked like becoming a production reality after the fire.

Only one XKSS stayed in Britain; John Coombs won his class with it in the Brighton Speed Trials, and the Basil Boothroyd/Russell Brockbank partnership undertook an entertaining road test of it on behalf of *Punch* – discovering, amongst other things, that the passenger compartment was 'gouged out like a small hole in stiff, hot porridge'. Ultimately, this car was converted into a D-type! – as were several other XKSSs, making 'real' ones more rare than ever.

Another XKSS went to Hong Kong, and did well in local events – its best successes being victory in the 1959 and 1960 Macau Grands Prix. Two XKSSs went to Canada, and achieved considerable success in a country where sports car racing was still in its (comparative) infancy. The other twelve XKSS Jaguars all went to the U.S.A., where 'John' Gordon Benett drove one to its first win at Mansfield, Louisiana, in Spring, 1957.



Norman Dewis accompanies H.R.H. The Duke of Kent around the M.I.R.A. circuit in a fully road-equipped XKSS.

The Great Hat-Trick

For 1957, *Ecurie Ecosse* retained one 'short-nose' car (XKD501) and acquired three works cars (XKD504, 603 and 606), concentrating upon World Championship events – an ambitious idea, but not a very successful one although the team did achieve a 4th at Buenos Aires (XKD603 – Ninian Sanderson/Roberto Mieres). However, Ron Flockhart (603) and John Lawrence (504) took first and second places in a two-hour race at St. Etienne in mid-season as a prelude to the greatest *Ecosse* victory of them all – Le Mans 1957.

The Jaguar 'hat-trick' at Le Mans is now part of motoring history, but a 'recap' is nevertheless essential to any story of D-type achievements. Briefly, five privately-owned D-types were entered for Le Mans and they all finished in top positions. *Ecurie Ecosse* swept the board, Flockhart/Bueb (XKD606, 3.8 litres, PI) winning from Sanderson/Lawrence (XKD603, 3.4 litres, Webers) at a record average speed that was to remain unbeaten until 1961. Jean Lucas and Jean-Marie Brussin (XKD513) were 3rd, Paul Frère and 'Freddy' Rousselle (XKD573) 4th; 6th, after a long pitstop to deal with a hole burnt into the floor by the exhaust pipe of his latest ex-works car (XKD601), came Duncan Hamilton, who had Masten Gregory as his co-driver. With Lotus cars finishing one-two on Index of Performance, this was Britain's greatest day at Le Mans.

A week later, *Ecurie Ecosse* was the lone European team to take on the Indianapolis-type single-seaters in a 500-mile race, run anti-clockwise round the banked Monza circuit. The three long-nose cars of Fairman (603), Lawrence (606), and Sanderson (504) pounded their way round with such reliability that they were 4th, 5th and 6th respectively at the end of the day. (An attempt to repeat this performance a year later was not so successful).

In the U.K., 1957 was turning out to be the year of the Lister-Jaguar as far as big-league sports car racing was concerned. Nevertheless, despite the absence of *Ecurie Ecosse* from the

◀ *Although it was designed as a road car, the E-type owed its whole concept to the 'D'. The first prototype was running as a 2½-litre in 1957; it is seen here at M.I.R.A.*

The Scottish D-types finished 1st and 2nd in line astern at Le Mans in 1957. For both Ron Flockhart and Ivor Bueb, this was their second Le Mans win. (Bueb in 1955; Flockhart in 1956). ▼

home front, D-types – particularly Hamilton's and Murkett's (the latter driven by Henry Taylor) – were obtaining good results in the face of more modern opposition.

From 1958, the 'D' had to have a 3-litre engine to be eligible for Le Mans, but none was destined ever to finish there again, although *Ecurie Ecosse* and others took D-types over to the French classic up to 1960, always being well-placed until engine failure brought the effort to an abrupt halt. Hamilton and Bueb would have been 2nd at Le Mans in 1958 with XKD601, but Hamilton spun off in the rain not many hours from the finish, wrecked the car, and injured himself quite badly at the same time. When he was up and about again, he bought XKD505 (which was still being used by the works as a test car) for a final fling in motor racing before retiring after a colourful career.

Most successful of the club 'D' drivers in 1958 was a certain James Clark, who acquired much of his brilliance from the experience he gained from the Border Reivers team's ex-Murkett car (XKD517); his greatest achievement with this car was to become the first person to lap an unbanked British circuit (Full Sutton, Yorkshire) at over 100 m.p.h. in a sports car.

The Jaguar D-type has continued to provide enjoyment for amateur drivers, right up to the present day, and features prominently in historic car racing. Indeed, the value the model has acquired with age ensures that those examples still in existence will be kept for posterity.

The D-type in the U.S.A.

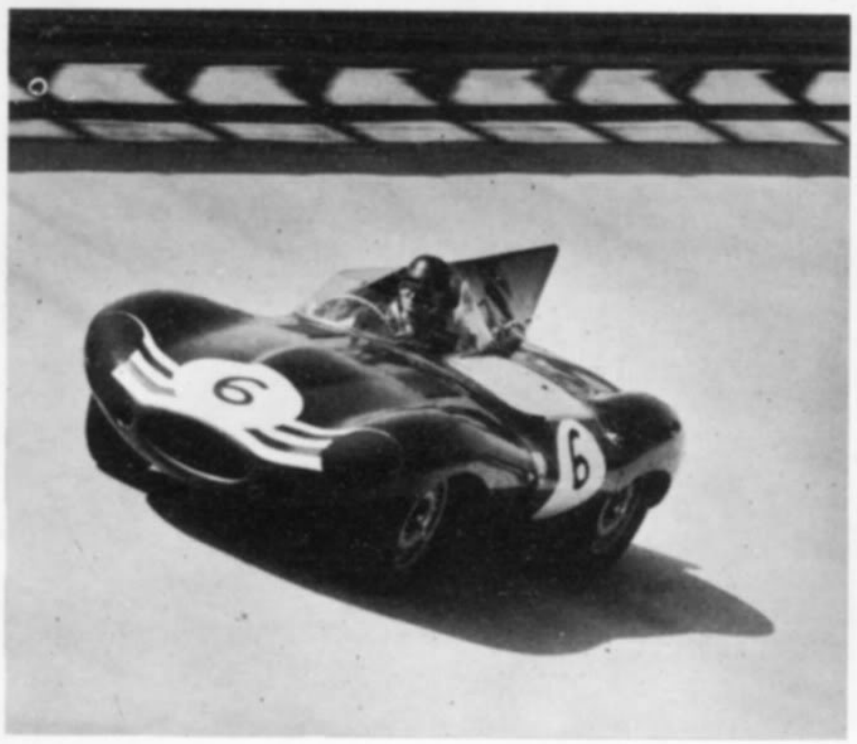
By the mid-1950s the *marque* 'Jaguar' had established itself in the North American market where demand for the Mk. VII saloon and, to an even greater extent, the XK series of sports models had been insatiable since the original C-type had crossed the line first at Le Mans in 1951, and word had been beamed around the world.

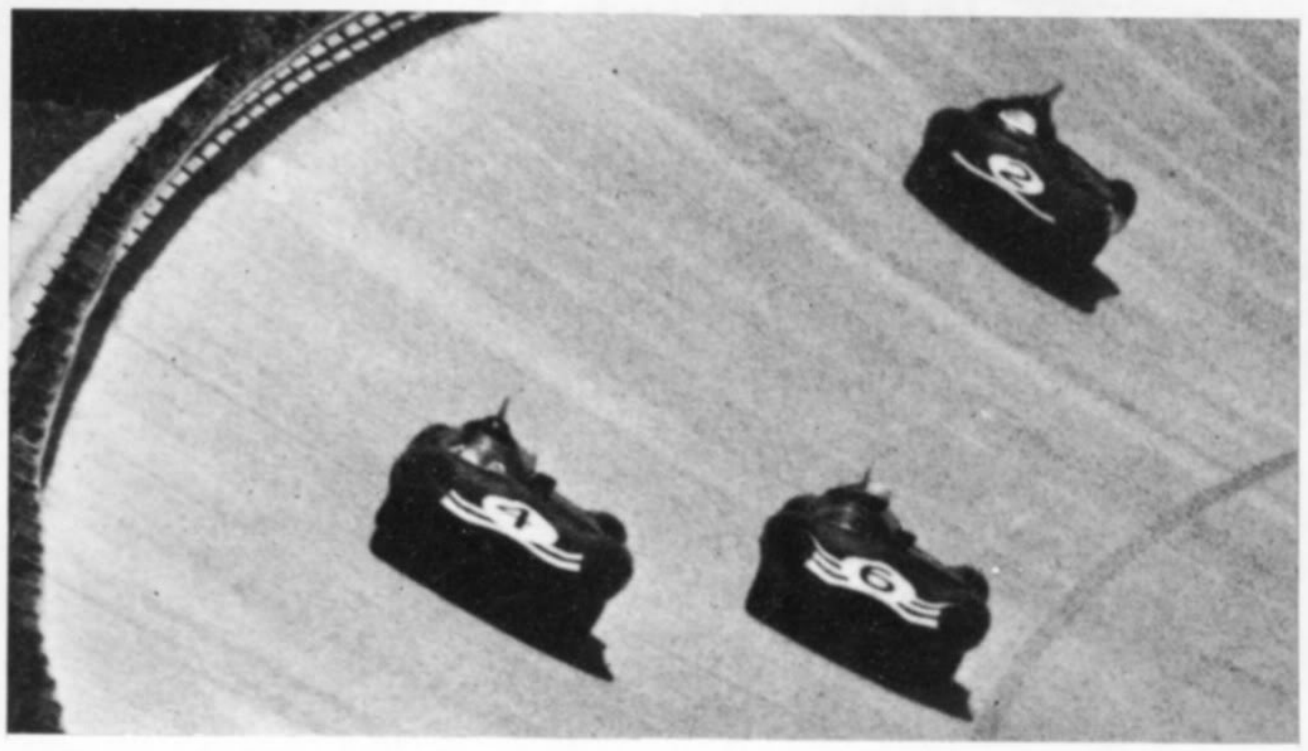
Privately-owned C-types were still enjoying a measure of success in the U.S.A. when the D-type first appeared there in January 1955. This car (XKD406), the sixth of the 1954 D-types, had been built as a 2½ litre for the T.T.; then it was given a 3½ engine. It was entered for Sebring 1955, under the auspices of Briggs Cunningham, and Len Hayden was sent out from the works to look after it. Briggs Cunningham, Bill Lloyd, Bill Spear, and Phil Walters all drove the car during a team test day at Sebring that January, when the most serious problem was disc distortion – a problem which was to manifest itself in the race, too. All the drivers except Bill Spear over-revved, through missed gearchanges, but without serious consequences.

Before the race, however, came the Daytona speed trials in February. There Phil Walters took the D-type through the measured mile at 164.136 m.p.h. – some 10 m.p.h. quicker than the Ferraris (4.9 and 4.5 litres respectively) of Jim Kimberly and Jack Rutherford. In fact, the only car to travel along the Florida shore quicker than the 'D' was an old Grand Prix 4.5 litre Ferrari, bravely driven at over 170 m.p.h. by Boris ('Bob') Said. A 2.79 to 1 (Le Mans) axle ratio enabled the 'D' to achieve its best speed at

Mike Hawthorn and Phil Walters look happy enough after winning the 1955 Sebring 12-hour race, but Briggs Cunningham (right, with lap charts in his hand) still has to prove that the Jaguar won! The next year he employed a whole army of time keepers!

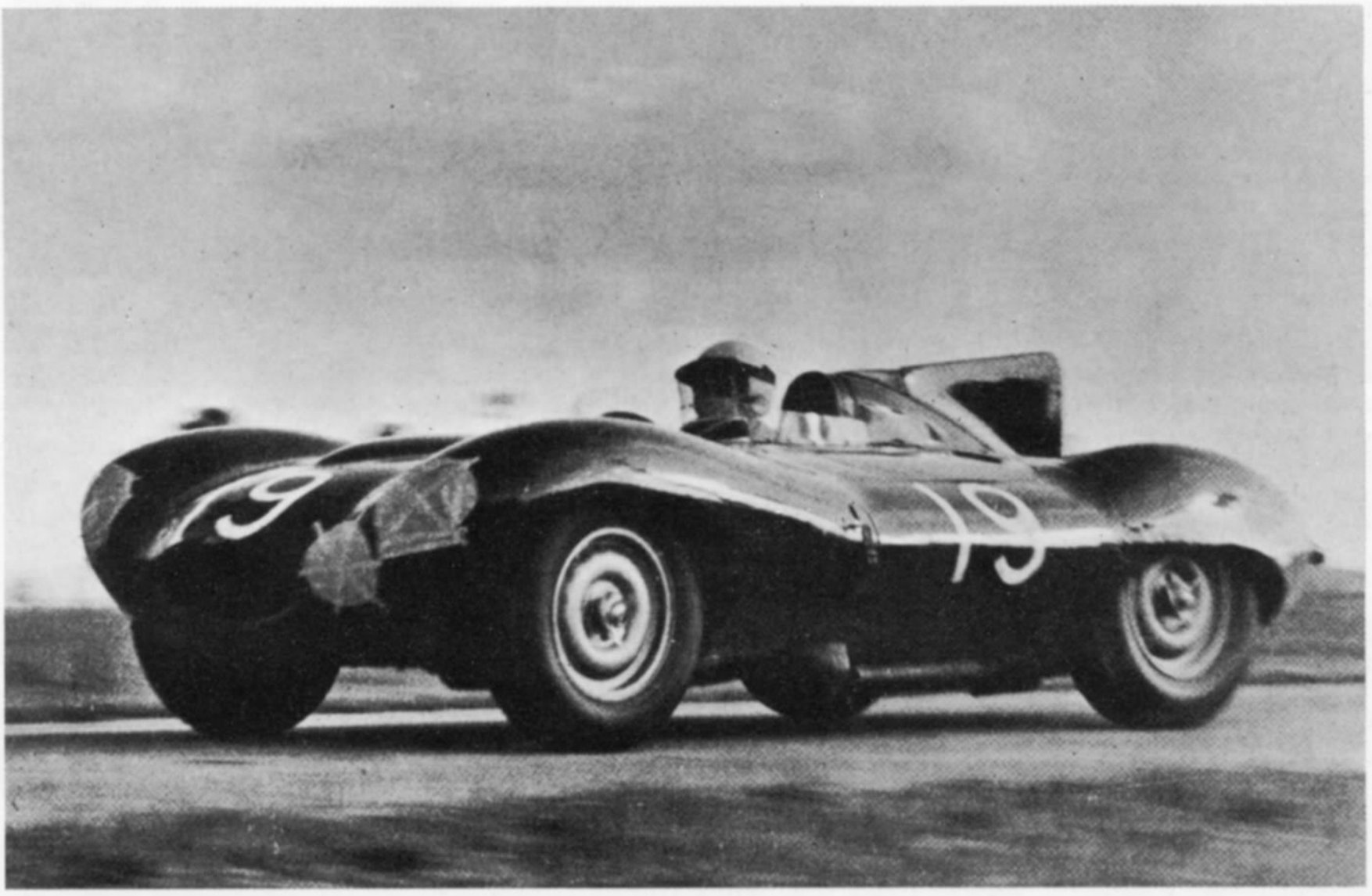
The amazing 500-mile race at Monza, 1957, in which Jack Fairman (4), John Lawrence (6), and Ninian Sanderson (2) finished fourth, fifth and sixth respectively – driving strictly to team orders, against the might of the U.S.A.





rather less than 5,500 r.p.m.

Briggs Cunningham entered a variety of cars for the Florida 12-hour race, including his new Cunningham C6R. Other serious opposition to the Jaguar came from a host of Ferraris (from 2.0 to 4.9 litres) and a brace of Maseratis. Mike Hawthorn, having his first Jaguar race, took the lead on lap 1 and, except when passed briefly by Piero Taruffi's Ferrari during the second hour, held a useful lead until he handed over tc Phil Walters. During his first spell at the wheel, Walters was credited with a new lap record for the 5.2 mile circuit at Hendricks Field, near the small Florida town of Sebring. As the race pro-



Sebring, 1955: Phil Walters and XKD406 en route to victory.

Sherwood Johnston, 1955 Watkins Glen Grand Prix victor, brings the 'long-nose' XKD507, in Briggs Cunningham's blue-and-white livery, into the 'winner's circle'; handing him a 'cuppa' is Alfred Momo (in checked shirt).

gressed, the Jaguar began to suffer from a loss of cooling, lubrication and braking effectiveness; and meanwhile Phil Hill and Carroll Shelby in Allen Guiberson's 3-litre Ferrari drew closer and closer. The Cunningham pit, however, had the situation in hand and despite a number of unscheduled pit-stops, Phil Walters took the somewhat-weary 'D' across the line shortly after 10 p.m. with less than half-a-minute's advantage over the Hill/Shelby Ferrari after twelve hours of racing. This close and dramatic race lost much of its savour when a protest over the official lap-scoring threw the result into temporary confusion. It was more than a week before official confirmation was given to this excellent win by Hawthorn and Walters, so the immediate impact of the Jaguar's victory was lost.

It was not until the Autumn that a 'D' raced again in America. The ex-Spear/Walters Le Mans car (XKD507) was shipped to New York for the use of the Cunningham team and, early in September, Sherwood Johnston brought it to the inaugural meeting at "Road America", a brand-new circuit replacing the old road course at Elkhart Lake, where he finished just behind Phil Hill's Ferrari after a most exciting duel.

A week later, in the Watkins Glen Grand Prix Johnston (XKD507) led throughout; Bill Spear and Bill Lloyd (Maseratis) were 2nd and 3rd, Spear making the best lap of the day in his vain efforts to keep up.

The last major East Coast meeting of 1955 took place at the Hagerstown, Maryland, aerodrome adjoining the Fairchild aircraft works. As at Elkhart Lake, Hill and Johnston hid from the other contestants in the 100-mile event for the President's Cup. Johnston's D-type passed Hill's Ferrari on Lap 3 and held a small but positive lead until the end. Third home was Spear's Maserati 300S. This victory assured Sherwood Johnston of the 1955 S.C.C.A. National Championship for modified sports cars (Class C).

Sebring 1956 marked the début of the fuel-injected D-type – XKD601, the first of the lighter 1956 cars to be completed. Driven by Mike Hawthorn and Desmond Titterington, it dominated the early stages of the race until its brakes wore out. The other two works cars – XKD506 (Johnston/Spear) and XKD508 (Hamilton/Bueb) – also had trouble, as did the regular Cunningham D-type (XKD507) driven by Benett and the patron himself; so it was left to Jack Ensley/Bob Sweikert (XKD538, third) and Alfonso Gomez Mena/Santiago Gonzales (XKD521, eighth) to provide the best Jaguar results.

Shortly afterwards, Walter Hansgen – in XKD529, owned by Boston engineer Lindy Hansen – trounced the 'official' Jaguars at Cumberland, Maryland. Cunningham immediately brought Hansgen into his team, (which now consisted of XKD506, 507, 508, and Cunningham's 'personal' car XKD525) and was rewarded with two splendid seasons (1956 and 1957) in which his new recruit won the Class 'C modified' Championship, also taking the 'Driver of the Year' title in the latter year. 1957 was, in fact, the D-type's greatest year in the U.S.A., the Cunningham team being aided by the loan of an additional works 3.8-litre Pl car – XKD605 – after Hawthorn and Bueb had nursed it to third place at Sebring with a near-seized rear axle.

Among the most successful of the other 'American' D-types during 1956/7 were those of Ernie Erickson (503), Lou Brero (509), Jerry Austin (527), Pearce Woods (528), Loyal Katskee (536) and Jack Ensley (538 and 553). It was, however, the Cunningham team leader, Walt Hansgen, who stood head and shoulders above other transatlantic drivers of D-types.

Briggs Cunningham, the Momo Corporation, and Jaguar's New York subsidiary company, were all closely linked. Alfred Momo had first crossed the Atlantic from his native Italy in the 1920s, for Fiat. Although he did return to Italy for a while he soon settled in the U.S.A. for good, working for Rolls-Royce at Springfield first of all. Eventually, he became his own master, and his business grew with the popularity of sports car racing; his fine workshops in Queens, N.Y., were, in effect, the headquarters of Cunningham's racing activities. (The Cunningham car itself was a separate operation, it being manufactured at Briggs Cunningham's West Palm Beach, Florida, works. By the late '50s, however, Cunningham cars were no longer in production).

The Cunningham team retained Jaguars in 1958, but soon supplemented them with the latest Lister-Jaguars. Sebring 1958 was disastrous for Jaguar-powered cars; their new 'regulation' 3-litre engines all failed.

In 3.8 litre Lister-Jaguars, and occasionally D-types, Hansgen was again virtually unbeatable in 1958, once more winning the U.S.A. National title – which he did yet again in 1959. (XKD605 came back to Coventry before being loaned to the Biscaretti museum in Turin, where it rests today).

The D-type continued to be successful in minor races in America until well into the 1960s but its last *big* victory there came at Pomona in 1958, when Carlyle Blackwell shared the wheel of his ex-Pearce Woods car with Ken Miles (probably this expatriate Englishman's only 'D' drive ever) to give the Jaguar *marque* its fourth successive Californian six-hour race win.

Some D-type owners sought to update the performance of their cars by boring-out from 3.4 to 3.8 litres and/or by fitting Chevrolet or Ford V8 power units, but to little avail – although Bill Krause (whose XKD519 was converted first of all to 3.8 litres and then became Chevrolet-powered) was one of several D-type enthusiasts who gained 'places' through perseverance.

Several D-types changed hands and continued to make news. For example, the original Hansgen car (XKD529), now 3.8 litres, was taken to Bonneville in 1960 by its new owner, Tom Rutherford, who was timed at 185.47 m.p.h., utilising a 2.53 to 1 axle ratio – a creditable figure and as near as he ever got to the 200 m.p.h., for which he was always aiming.

1960 marked the end of the D-type's career in competitive events. As a 'last fling', Jaguar prepared a 3-litre 'one-off' motor car for Briggs

Cunningham to enter at Le Mans. After showing great potential in practice, this car (which was in fact a direct predecessor of the E-type) retired with a variety of problems in the race itself. After this debacle the car, identified by the number E2A, was brought to America with a 3.8 litre engine, and made its mark at the August 1960 Bridgehampton meeting; there Walt Hansgen drove it to victory ahead of Bob Grossman (Lister-Jaguar) and Bill Kimberly ('Birdcage' Type 60 Maserati).

Later, Hansgen took E2A to third place in the Elkhart Lake 500 mile race, behind a Type 61 Maserati and a Testa Rossa Ferrari – a wet race in which Hansgen lost time by spinning. Jack Brabham had a race in the car, too, but not so successfully.

By 1960 even the Listers were becoming out-dated and Hansgen, as Cunningham's number one driver, was being given Birdcage Maseratis to drive. (This great driver finally lost his life in a Ford at Le Mans in 1966).

Briggs Cunningham's enthusiasm was a major factor in the good Jaguar results achieved in the U.S.A. Besides building his own cars in the early '50s he was always prepared to buy and race almost anything else competitive. The quantity and quality of his entries helped to build up American post-war sports car racing to an undreamed-of level. As President of the Jaguar distribution organisation around New York, and as D-type sponsor *par excellence*, Briggs Cunningham's efforts to build up the Jaguar name added credence to the Le Mans performances achieved by 'Lofty' England for the works and David Murray for *Ecurie Ecosse*, which on their own might have seemed slightly rarified to the American customers upon whose wooing the success of Jaguar has depended.

Acknowledgments

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BASIC SPECIFICATION OF PRODUCTION D-TYPE

ENGINE 6 cylinders in line; twin overhead camshafts driven by two-stage chain; alloy cylinder head with hemispherical combustion chambers; cast-iron cylinder block, alloy pistons (9:1), steel connecting rods; dry sump lubrication (3½ gallon oil tank) + oil cooler.
Bore & Stroke 83 m.m. × 106 m.m. (3.27 × 4.12 in.)
Capacity 3442 c.c. (210 cu. in.)
Carburation 3 × 45 m.m. dia. twin-choke Weber DCO3
Fuel supply Twin S.U. pumps from flexible tanks (37 gallons total fuel capacity)

TRANSMISSION
Clutch Triple-plate, six-spring, hydraulic operation Borg & Beck.
Gearbox 4-speed all-synchromesh; 4th = 1:1, 3rd = 1.28:1, 2nd = 1.645:1, 1st = 2.144:1, reverse = 2.194:1
Final drive Hypoid bevel, choice of ratios (3.54:1 = standard)

SUSPENSION
Front Independent by wishbones and torsion bars
Rear Trailing links and transverse torsion bar

BRAKES Dunlop disc, three-pad front, two-pad rear (+ handbrake)

STEERING Rack and pinion

WHEELS & TYRES Dunlop 16 in. × 5½ K light alloy centre-lock; Dunlop Racing, 6.50–16 in.

ELECTRICAL 12 volt battery, 38 amp.-hours at 10 hour rate or 43 amp. hours at 20 hour rate

INSTRUMENTS Revolution counter, oil pressure gauge, water temperature gauge, ignition warning light

DIMENSIONS
Overall length 12 ft 10 in
Overall width 5 ft 5 3/8 in.
Wheelbase 7 ft 6 5/8 in.
Track 4 ft 2 in. (front), 4 ft 0 in. (rear)

PRODUCTION D-TYPE AXLE RATIOS

The usual axle ratios were:

Final Drive Ratio	R.P.M. In Top at 100 m.p.h.	M.P.H. In Top at 5750 r.p.m.
2.93:1	3450	166
3.31:1	3900	148
3.54:1	4170	138
3.92:1	4630	124

N.B. The 3.54:1 unit was regarded as the standard one. Other ratios offered were 4.09, 4.27, 4.55, and the 'Le Mans' ratio 2.79:1. The later works and *Ecurie Ecosse* cars ran at Le Mans with 2.69:1 (ZF) units.

JAGUAR XK COMPETITION ENGINE PERFORMANCE DATA, as prepared for fitting to D-types.

Identification	1954 'Works' Le Mans	1954 T.T. Conversion	1955 'Works' Le Mans	1955/56 Typical 'D' Production	1956 'Works' (Fuel Injection)	1956 'Works' (Carbs.)	1957 'Works' Sebring	1957 'Ecurie Ecosse' Conv.	1958 'Works' Conversion	(See footnote) 1960 Alloy Block Le Mans	(See footnote) 1964 Alloy Block Le Mans
c.c.	3442	2482	3442	3442	3442	3442	3781	2954	2986	2997	3781
Bore (m.m.)	83	83	83	83	83	83	87	83	83	85	87
Stroke (m.m.)	106	76.5	106	106	106	106	106	91	92	88	106
C.R.	⏢ 9:1	9.66:1	⏢ 9:1	9:1	9.19:1	9.05:1	⏢ 10:1	9.17:1	10.25:1	⏢ 10:1	⏢ 10:1
Camshaft Lift (in.)	3/8	3/8	7/16	3/8	7/16	7/16	7/16	3/8	7/16	7/16	15/32
Inlet Valve Dia. (in.)	1 7/8	1 7/8	1 29/32	1 7/8	2	2	2	1 7/8	2	2 3/32	2 3/32
Exhaust Valve Dia. (in.)	1 5/8	1 5/8	1 11/16	1 5/8	1 11/16	1 11/16	1 11/16	1 5/8	1 11/16	1 11/16	1 11/16
Valve Angle (deg.)	35/35	35/35	35/40	35/35	35/40	35/40	35/40	35/35	35/40	35/40	35/40
Fuel Supply	carbs.	carbs.	carbs.	carbs.	P.I.	carbs.	P.I.	carbs.	carbs.	P.I.	P.I.
Gross B.H.P.	245/250	193	270	246	272	277	306	234	254	293	344
at R.P.M.	5750/6000	6000	5750/6000	5500/6000	5750	6000	5500	6100	6300	6750	6500
Torque (lb. ft.)	243/248	173	256	242	270	267	312	215	230	234/236	314
at R.P.M.	4000/4500	5000	4500	4000/4500	4000	4600	4500	4600	5500	5500/6500	4750

N.B. Although not fitted to D-types, the alloy-block engines were developed from D-type racing experience – hence the inclusion of the 1960 and 1964 figures. The 1960 figures refer to the engine fitted to E2A. The final column shows the highest figure ever recorded by Jaguar for an 'XK' engine; for this bench test the engine (from Peter Lindner's lightweight E-type) had a specially-tuned exhaust.