EMBARGO: 12 NOON, TUESDAY SEPTEMBER 29

JAGUAR XK180

AN ENGINEERING HERITAGE

On the morning of Monday May 30th 1949, a twin-engined DC3 aircraft lumbered off the runway at London Airport. On board were Jaguar's founder, William Lyons – later to become Sir William, for his services to exporting – and a group of motoring journalists. They were on their way to Jabbeke, in Belgium, to observe the proof that the '120' designation of the new XK 120 was genuinely based on the car's maximum speed in miles per hour. By dinnertime they were back in London, and the following day's papers carried stories of how they had seen works test driver Ron Sutton cover the flying mile at a speed of 126.448 mph.

This speed though was set with the car's normal windscreen, hood and sidescreens in place. Jaguar's engineers knew that with a little adjustment, the car would go even faster. So they removed the weather protection and replaced it with a small curved screen in front of the driver. Sutton set off again and this time set a speed of 132.596 mph – before driving past the assembled journalists in top gear at just 10 mph!

The XK 120's record-breaking runs at Jabbeke were early proof that it is in the blood of Jaguar engineers to take their best and make it better. It is a philosophy that was to lead to wins in the world's toughest endurance race at Le Mans, world championships and some very exciting cars.

The XK 120 was conceived as an exhibition-piece, to draw attention to Jaguar's new 'XK' six-cylinder engine at the first post-war London motor show. The two-seater was

designed to gain publicity for the new engine because the saloon car for which it was intended was not yet ready for production. Jaguar needed to make its mark at the show and a hand-built sports car that would showcase the new engine was the best way to do it. The XK 120 was created and caused a sensation – such a sensation that Jaguar was forced to re-engineer the aluminium-bodied special in steel, so it could be produced in the numbers required to satisfy the world's demand.

By 1950, the XK 120 was being produced in sufficient quantities for a team of privately-owned cars to compete in the Le Mans 24-hour race, where two of them finished twelfth and fifteenth. Like many customer cars, the Le Mans 120s were prepared at the Jaguar factory and once again their performance encouraged the engineers to do better. The result was the XK 120C. The 'C' stood for 'Competition', and almost as soon as the new car made its first appearance, at Le Mans in 1951, it became known as the C-Type.

Developed around the XK engine, the C-Type was evidence of the way in which the science of aerodynamics was beginning to influence racing car design. Its shape was the work of Malcolm Sayer, who had come to Jaguar after working for the Bristol Aeroplane Company, and it combined efficiency and elegance in a blend which made it one of the best-looking cars of its time.

The C-Type was to win at Le Mans and go on to win the French classic again in 1953. In between, it achieved success across the world in the hands of both the Jaguar factory team and private owners and throughout its life it was to benefit from continuous improvement by the company's engineers. Perhaps the most important of those developments was the application of disc brakes, which were first used in the successful outing at Le Mans in 1953.

While the C-Type ruled the tracks, the XK 120 was spreading Jaguar's fame and beating sales records in markets across the world. The engineers were happy for their sales colleagues, but they wanted speed records too. In 1953, a Spanish Pegaso had gone to the Jabbeke straight – which was in fact part of the normal motorway

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between Brussels and the Belgian coast – and set a new record of over 150 mph. The men of Jaguar were stung into action and in October of that year they returned to the scene of their 1949 triumph.

They came with an XK 120 that had a specially-prepared engine and a body smoothed and streamlined to help it cut through the air as efficiently as possible. The headlamps were rounded, and the parking lamps were removed from their place on top of the front wings. The bumpers were removed, a metal cover hid the passenger seat, and in place of the racing screen of the 1949 car was an enclosed bubble canopy, similar to that of a fighter plane. Test driver Norman Dewis drove the car to a speed of 172.412 mph, proving to anyone who might have been tempted to question the fact that Jaguar had the fastest production sports car in the world. Once again, the engineers of Coventry had decisively made their point.

Back in the racing department in Coventry, the engineers were working on something to follow the C-Type. Once again a combination of Sayer's aerodynamics and the XK engine created a classic, the D-Type. The D-Type's first appearance was at Le Mans in 1954, when it was beaten by just 2.5 miles – out of a total distance of 2,523.5 miles. Second place in its first race was pretty good, but this was just the start of the D-Type's racing career.

In the following three years it was to score a hat-trick of victories at Le Mans and amass uncountable wins in the hands of private owners.

Building racing cars for sale was not unusual in the Fifties but in 1956 Jaguar created a stir when it introduced a version of its race-winning D-Type which was adapted for road use and totally 'street-legal'. This was the XKSS, a D-Type with a full-width windscreen protecting both the driver and a passenger, who would be in the fortunate position of enjoying at second hand all the speed and performance of the most potent sports car of its day.

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The XKSS had doors, fixed sidescreens and a hood, which when folded was protected by a neat cover. There was even provision for carrying luggage – although it came not in the form of a boot, but of a small rack mounted behind the cockpit! Sadly, the XKSS was to have the shortest production run of any Jaguar. It was announced on January 20th 1957, but on February 12th much of the Browns Lane plant was gutted by fire. All the production tools for the car were destroyed, and the 16 cars that had been built were the only XKSSs ever made.

Although the D-Type's final victory at Le Mans came in 1957, the factory participation in racing ceased at the end of the 1956 season. The reason was simple; Jaguar was – and still is – a company that worked with a small team of highly-skilled and tightly-focused engineers. Sir William Lyons wanted to translate the track success of the C and D-Types into a road car, and the company needed to devote all its engineering efforts to that end.

The result came in 1961, when the world was stunned by the arrival of the E-Type.

Created as a direct descendant of its racing forebears, the E-Type was developed through a third, less well-known generation after the C and D-Types, a car known as 'E2A'. E2A was another example of the Jaguar engineering principle of taking the best and making it better – except that in this case, 'the best' still only existed as a prototype. The prototype was that of the E-Type, known internally at Jaguar as E1A. Since 1957, E1A had been carrying out a rigorous programme of testing in preparation for the launch of the new road car in 1961.

One of the most exciting aspects of the E-Type was its radical new independent rear suspension, and in 1960 it was decided to test this new development on Jaguar's toughest test track – the 24 Hours of Le Mans. The problem was that Jaguar was not officially involved in racing and the E-Type did not officially exist, so the car had to be entered by an old and trusted customer, the American Briggs Cunningham.

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Driven by Walt Hansgen and Dan Gurney, the car failed to finish, but it was the engine – a 'small' version, of 3 litre capacity rather than the 3.4 litres which was the XK's ideal 'fighting weight' – which gave up the ghost. The two aspects of the design which E2A was mainly designed to prove, the rear suspension and the aerodynamic shape, performed perfectly, with the car running close to 190 mph on the long Mulsanne straight.

By March 1961 the E-Type itself was a reality. The combination of Malcolm Sayer's shape and Sir William Lyons' eye for detail was an immediate triumph, and by April 1961, the car was already being raced by customers with help and encouragement – but without direct involvement – from the Jaguar factory.

But once again, the engineers and designers wanted to see how far they could go with the production car as a base. The result was a number of so-called 'lightweight E-Types' developed at the Jaguar factory so that they could be raced by a small group of faithful customers.

The last of a dozen of these cars has just been sold for almost $900,000 in America. Laid-up in a California garage since 1964, it is now being returned to Britain to undergo restoration. When that process is completed, the car will race once more.

The Lightweight E-Type was the final expression of the Jaguar engineers' creativity on the base of the XK engine, although the power unit remained an integral part of Jaguar production until the late Eighties.

Now, fifty years after the first appearance of the aluminium-bodied XK 120, the company's designers and engineers have made their own tribute to Jaguar's heritage in the shape of XK180. It is a Jaguar that combines technology and performance for the new millennium with half a century of pride in the letters 'XK'.

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FOR FURTHER INFORMATION: Communications and Public Affairs

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