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76

THE ICONIC FORD FALCON XB GT

SCALE 1:8

Front Left Seat Back

Traction Attraction

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POST-APOCALYPTIC EDITION

THE ICONIC FORD FALCON XB GT

ISSUE 76

YOUR MODEL

You will be building a 1:8 scale replica of a customised 1973 Ford Falcon XB GT. Features include a lift-up bonnet that reveals a detailed engine, opening doors, wind-down windows and an 'active' steering wheel. A remote-control fob illuminates the main lights, brake lights and indicators.

Scale: 1:8
Length: 62cm
Width: 25cm
Height: 19cm
Weight: 7+kg

Ford Official Licensed Product

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NOT SUITABLE FOR CHILDREN UNDER THE AGE OF 14. This product is not a toy and is not intended for use in play.

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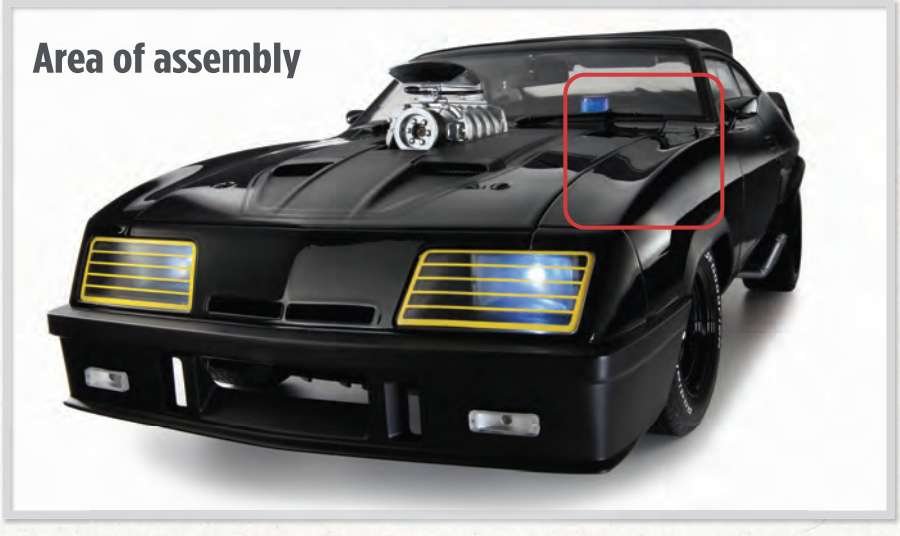
t=top, c=centre, b=bottom, l=left, r=right, u=upper

Stage 76: Front Left Seat Back

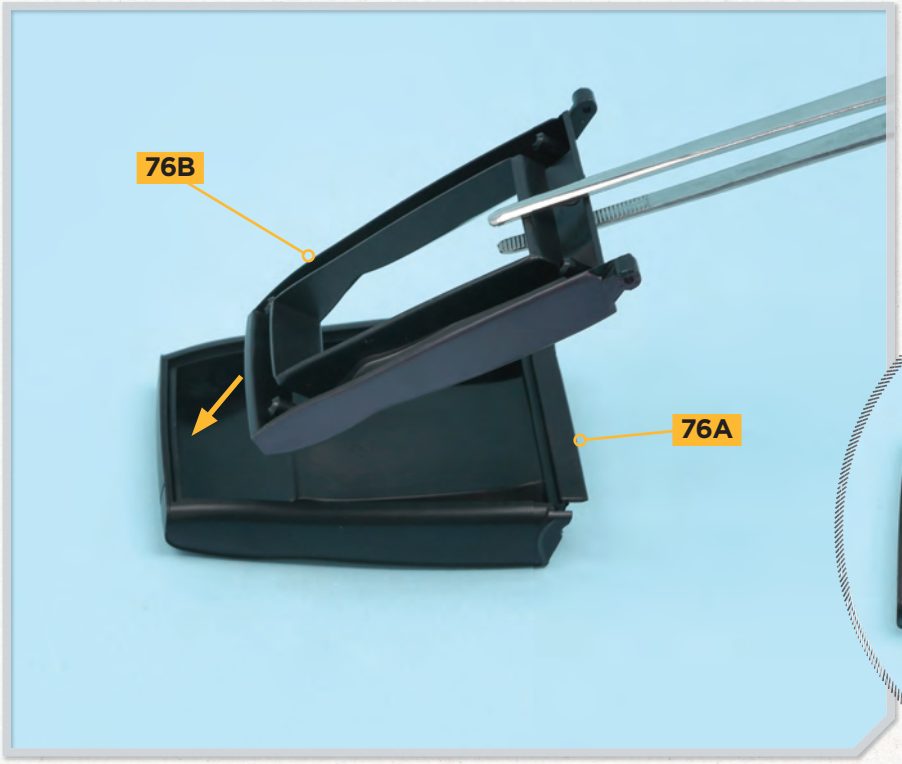
Continuing the assembly of the front left seat, the cover is fitted over the frame for the back of the seat.



List of parts:

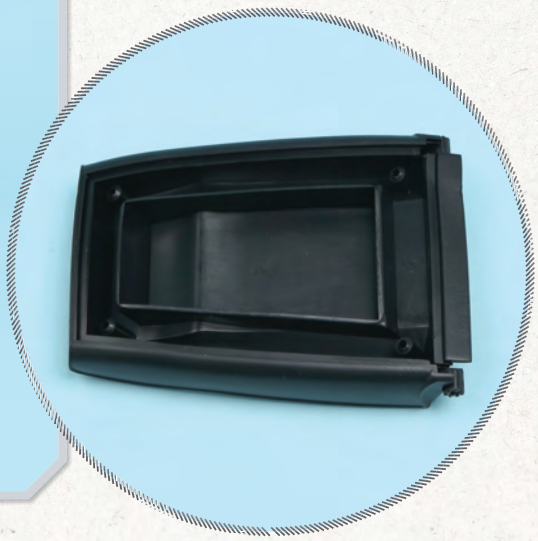
76A	Left seat back cover
76B	Left seat back frame

Stage 76: Front Left Seat Back



STEP 1

Take the seat back cover **76A** and the frame **76B**. Fit the frame into the cover. Ensure that all the sides of the cover fit over the frame so that the lip of the cover is in the rim of the frame.



COMPLETED ASSEMBLY

The cover has been fitted over the frame of the seat back.

Traction Attraction

From 1939 until the mid-1990s a small group of engineers pioneered the 4x4 technology that is still used in many cars today. This small team, Harry Ferguson Research Ltd, had a profound effect on industry and influenced the development of new cars, super cars and motor sport, as well as military vehicles.

A group of Jensen FFs at the British Motor Museum in Warwickshire celebrate the car's 50th anniversary.

The idea of fitting four-wheel drive into road cars as a safety feature came from racing driver Freddie Dixon. Just before the outbreak of World War II, Dixon and his friend Tony Rolt formed Dixon-Rolt Developments Ltd to pioneer the idea.

After the war, Dixon and Rolt employed former Aston Martin engineer Claude Hill (the man behind the groundbreaking Aston Martin Atom prototype) to progress their ideas.

Tractor manufacturer Harry Ferguson first met Freddie Dixon through the latter's participation in the Ulster TT race, which took place close to where Ferguson was born. Ferguson was impressed with what Dixon and Rolt were attempting to do and invested in their company.

The company was subsequently renamed Harry Ferguson Research Ltd (HFR). Shortly afterwards, in a stroke of genius, he publicly defined the technology that made it work, saying that cars needed "a diff' that diffed when it should diff', and didn't when it shouldn't". In other words, a differential that locked and unlocked automatically, or on demand.

At first, HFR designed prototype cars that Ferguson himself wanted the motor industry to license and build. These were rejected, partly due to Ferguson's difficult character and also because the four-wheel drive aspect was something for which manufacturers didn't see a market or need. Even victory for Stirling Moss in the 1961 Gold Cup at a damp Oulton Park, driving the company's Ferguson-Climax P99 four-wheel drive F1 car, failed to bring about a change. Fittingly, that win turned out to be the last time a front-engined car won an F1 race.

NEW DIRECTIONS

Sadly, Ferguson didn't live to see that win — he had passed away in 1960 — but the company continued; at that point over £2 million had been spent on development and although their ideas were much admired, they were not taken up commercially.

The team decided to change its strategy and developed a system that car manufacturers would be able to incorporate into forthcoming models. The mass production industry still

FF models at the British Motor Museum in Gaydon: far left, the only 4x4 Reliant Scimitar ever produced; far right a Ford Sierra XR4x4 V6, one of the first mass-produced cars to use FFD's technology.

rejected it, despite GKN Automotive coming on board as licensees to make the components at a viable price. The new technology was simply seen as being too expensive for the benefit it offered.

It was Jensen Motors who first produced a 4x4 production car. Having initially built a prototype four-wheel drive CV8 FF (Ferguson Fomula), the company launched the Jensen FF in 1966. Effectively a 4x4 version of their beautiful Chrysler V8 powered Interceptor, which had been styled by Federico Formenti at Touring of Milan. The FF was easily recognized by its dual side grilles and was the first production car in the world to incorporate the Ferguson Formula; full-time four-wheel drive and Dunlop Maxaret anti-skid braking. Its transfer case used Ferguson's patent mechanical 'Duolok' locking system. The FF was expensive, at £1,500 more than its 2WD sibling at £5,340, and just 320 units were built over its five-year production run despite the car winning plaudits from magazine road testers and having several celebrity owners, including golfer Tony Jacklin and drummer Ginger Baker. Tellingly, Porsche bought an early FF for evaluation, although it turned out to be 22 years before a 911 4x4 arrived on the market. This wave of positive reaction led to HFR producing many prototypes, and several small batches of cars, including the four-wheel drive Triumph Stags, Mustangs and Capris. The company also produced 22 4x4 MkIV Zephyrs with ABS braking for the UK police to evaluate.

THE RACING WORLD

In the late 1960s the motor racing world, including big names Matra/Tyrrell, BRM, Cooper, Brabham and Lotus, also experimented with four-wheel drive racing cars for both F1 and Indianapolis, often using FF technology. However, it never showed a clear advantage on a dry track because it added weight and driveline inertia. Rallying eventually proved to be a different story. However, FFD's invention of the game-changing Viscous Control (VC), which used a viscoelastic liquid silicone (the main ingredient of the child's toy, 'Silly Putty'), came too late in the day to change HFR's fortunes. The company ceased work on four-wheel drive ideas in 1971. Tony Rolt then formed FF Developments (FFD) and in 1980 was joined by his son Stuart. Together father and son built a successful, but initially relatively

Demonstration model

Ferguson Formula's Opel Monza demonstrator, photographed with the parts needed to convert it to four-wheel drive. *The Motor* magazine ran a back-to-back test of the car against an Audi Quattro and pronounced the Monza to be superior in many ways. The car was used by Stuart Rolt (son of Tony Rolt) as the company demonstrator. The same car is shown in the centre of the photo at the top of the page.

small-scale, business converting various cars to four-wheel drive, sometimes as one-off builds for wealthy customers, and often for car manufacturers considering the adoption of the system. FFD also built small batches of cars for the police or the military. One of the most successful was a four-wheel drive version of Opel's well-regarded 1980s Senator and the related Monza coupé. Having previously converted a small fleet of Opel Admirals for the British Commanders-in-Chief Mission to the Soviet Forces in Germany (BRIXMIS), FF was tasked to develop the Senator for use over rough terrain. Their body shells were strengthened by Opel Rallye Sport and fitted with heavy-duty suspension. The BRIXMIS soldiers drove the Senators from Germany to FFD for the conversion work and enjoyed driving them back; one return run was apparently conducted at an average speed of 110 mph! The off-road capabilities enabled the vehicles to get close to Russian-held areas and as well as daily tasks, they were also used by soldiers to carry out an unusual task — Russian soldiers often 'recycled' their printed military orders by using them as toilet paper. The BRIXMIS teams collected the sewage and washed the paper so the orders could be read!

The arrival of the Audi Quattro finally demonstrated the advantages of four-wheel drive and the motor industry beat a path to FF's door. VW, Volvo, Nissan, Lancia, Jeep, Land Rover, and many others adopted FFD technology. This led to a huge boom in four-wheel drive use and FFD, as the widely respected experts in the field, were able to expand. The list of cars using FFD technology includes the Ford Sierra Cosworth 4x4 and Escort Cosworth, the RS200 Group B car, the Nissan Pulsar GTI-R, Lancia Delta Integrale, Mazda 323GTX, Land Rover Freelander, Panther Solo 2, Peugeot 205 T16 and MG Metro 6R4.

FF gradually moved into general driveline and transmission work. In 1994 it was taken over by Ricardo, but FF continues as the highly successful transmission division of that company, producing transmissions for vehicles such as the McLaren F1 sports car, the Bugatti Veyron and the Audi Le Mans prototypes . ■

The Ferguson P99 F1 car racing at a Goodwood Revival meeting: its Coventry Climax 2.5-litre engine was set at an angle so the propshaft could run down one side of the cockpit.

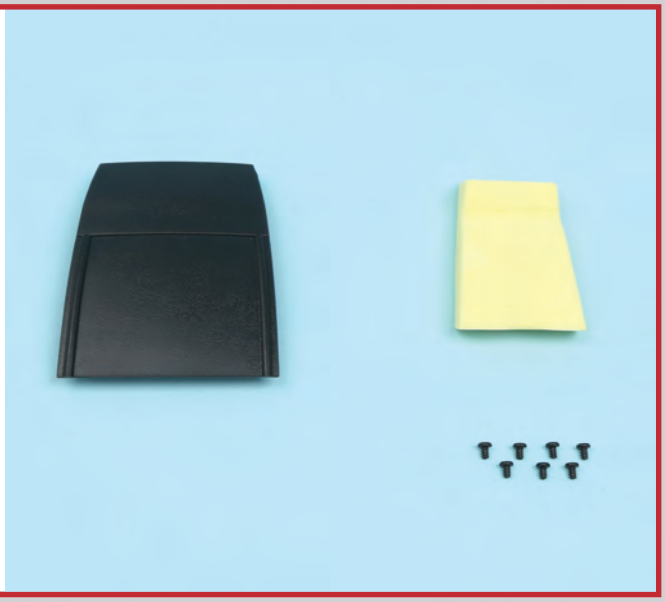
The Ford Cosworth-powered Panther Solo 2 is a rarity because various issues stymied its production before it had a chance to really get going; fewer than 25 units were made. It featured an FFD Viscous Coupling 4x4 system and transfer box adapted from the Sierra XR 4x4 unit. Motoring journalists noted that the finished cars were poorly built, but all praised its handling and brave concept.

COMING IN ISSUE 77

- **ASSEMBLY GUIDE**
  The rear of the passenger seat back is attached to the seat assembly from the previous issue and both front seats are fixed to the floor panel.

NEW PARTS

Left passenger seat back panel and foam, plus seven screws.



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