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DODGE CHARGER R/T



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Build the Legendary DODGE CHARGER R/T



United Kingdom
Published by De Agostini UK Ltd c/o Royds Withy King, 69 Carter Lane, London EC4V 5EQ

USA
Published by De Agostini Publishing USA, Inc. c/o Becker, Glynn, Muffly, Chassin & Hosinski LLP, 299 Park Avenue, New York, New York 10171

ISBN: 978-1-4439-5229-3
FFN86: 22 04 27

ISSN 2631-9799 (Print)
ISSN 2732-4583 (Online)

Picture credits: NBCUniversal Archive; FCA Archives; Shuttestock; BMW Media

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Printed in Poland

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RAMSEY, THE QUEEN OF TECHNOLOGY

When the incredible technological device called the God's Eye and the person responsible for its existence, a real computing genius, is first mentioned in *Furious 7*, nobody imagines that the woman who goes by the name of Ramsey will be one of the most memorable and cunning characters in the franchise.

It is the government secret agent Mr. Nobody who first tells Dominic Toretto about the existence of a vitally important device: the God's Eye can simultaneously alter anything that is connected to a digital network, whether it's a cell phone, a tablet, an ATM or a computer, and extrapolate hundreds of bits of information to locate anybody, anywhere in the world, in a matter of seconds. It is undoubtedly the best and most effective tracker devised to date. In the wrong hands, however, it has the potential to be a deadly weapon and to make whoever possesses it incredibly powerful.

But news of the existence of the God's Eye has reached the streets and a dangerous mercenary called Mosi Jakande has kidnapped Ramsey, the person who developed the device. Toretto and his team offer to carry out a spectacular operation to rescue this computer hacker with the aim of using her technological masterpiece to locate Deckard Shaw before he can hunt them down.

ANOTHER MEMBER OF THE FAMILY

With this idea, a new female protagonist was added to the franchise, a part given to Nathalie Emmanuel, an actress who immediately earned the admiration of the director of *Furious 7*, James Wan.

"I feel very lucky to have been able to work with such a wonderful person," the film-maker says. "She brings a very authentic innocence to the character, something that is important. Ramsey is very intelligent, a bit of an outsider, but she is young and naïve enough to be manipulated by major forces operating around her."

Actress Nathalie Emmanuel played the role of Ramsey, a technology expert with a very personal outlook on life.

NATHALIE EMMANUEL

Born on March 2, 1989, in the English town of Southend-on-Sea, she practically grew up with the idea of becoming a great actress one day. Aged just 10, she appeared in a West End production of *The Lion King*, playing a young Nala. Later, when she was 17 she became one of the regular faces in the TV series *Hollyoaks*. Her incipient popularity allowed her to work on some BBC children's programs and to make the leap to the cinema in the thriller *Twenty8k* (2012). However, her authentic consolidation arrived when she won the part of Missandei, the trusted counselor of Danaerys Targaryen in the popular series *Game of Thrones*. At the same time, she joined the *Fast & Furious* franchise to play the character of the intrepid Ramsey, essential in the series from the seventh movie onwards, and she played Harriet in The Maze Runner. Apart from appearing in the movie *Holly Slept Over* (2020), Nathalie has remained closely associated with TV, voicing the character of Deet in the series *The Dark Crystal: Age of Resistance*, and playing Maya in the television version of *Four Weddings and a Funeral*.

After creating a valuable tracking device knows as "God's Eye", Ramsey was kidnapped by a group of dangerous mercenaries.

Nobody doubted for a moment that the choice of Nathalie to play Ramsey had been a great decision. For her, however, it represented a big challenge.

"Joining an already consolidated family and cast was, to begin with, very intimidating," the actress admits. "I was very nervous. On the first day I filmed with the entire main cast. I was hyperventilating in my caravan before stepping out to film. But I arrived on the set and everybody was charming. The work was done in a very relaxed way. I realised that there was nothing to worry about. Everyone welcomed me with open arms. I couldn't have wished for a warmer welcome. I was the new girl and feeling myself part of the team was very special for me."



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A WOMAN OF ACTION

The action in the film, however, was anything but relaxed for Nathalie, who immediately found herself involved in frenetic scenes that required her to perform a few acrobatics. Her character, Ramsey, is nothing like the clichéd image of a hacker who spends all their time in a tiny bedroom in front of a computer. She is a determined woman who speaks her mind and who, in a matter of seconds, is able to give a precise interpretation of her rescuers.

"The rescue scene was great fun to film," she says. "I had to pretend to be upset and frightened because my character has been kidnapped. She tries to control herself, but she can't. I loved that presentation because it shows a hacker who could have been a stereotype and isn't."

Although Ramsey really feels like she's in her element sitting in front of her computers, it's no problem for her to join Toretto's team. And the truth is that all of them seem delighted with her, especially Tej Parker, who finds in Ramsey a kindred spirit.

"I had to film some acrobatic scenes and I loved it because it was something I had never done before. I loved trying everything," confesses Nathalie. "I didn't do everything because some things were too dangerous, but I was able to do some acrobatics and feel like an action movie star. One day I had to jump from a moving vehicle. Obviously I didn't land on top of a car, but on an air mattress. It was as if all my childhood games had come to life and I was earning my living with them."

A QUESTION OF PRINCIPLES

Ramsey, as a hacker, is not motivated by financial interest. She is a principled woman, an activist who wants to use her knowledge to show up the fragilities of an unfair society. That leads her to immediately empathise with Dom and his people.

"Ramsey immediately admires our heroes," says the director, "because she can see who they really are. She feels their authenticity, how real they are. And although they occasionally break the law, they are people with a strict sense of honor. In the end, she fits in and becomes one more member of the family."

Ramsey integrates completely in Dom's team, as did Nathalie Emmanuel with the rest of the cast.

"You need to have a certain chemistry with the people you're working with so that this can be noticed on the screen," Nathalie says. "The cast of the *Fast & Furious* franchise includes great actors. But everything is more real if it comes from an authentic place. If there is this intimacy with the others, it shows up on screen."



At the keyboard of any computer, Ramsey can achieve astonishing things that contribute to the success of Dom Toretto's team.

MORE LOGICAL, LESS SENTIMENTAL

However, as would be seen later in *Fate of the Furious*, her sentimental bonds are not as strong as those of the others. When it looks like Toretto has betrayed them to join the ranks of the cyber-terrorist Cipher, Ramsey is perhaps the least surprised.

"Ramsey doesn't know Dom like the others do, she hasn't been with them for as long," actress Nathalie Emmanuel tells us. "The family has opened its arms to her, but she's someone who works on logic. For her it's the zeros and the ones, the calculations, that count, trying to understand what is happening using logic. Moreover, Ramsey is not as emotional as the others, she is the only one who really wonders if he has betrayed them."

Just like in the seventh movie, Ramsey works side by side with Tej, to whom she feels closer, in order to resolve a highly complex situation. Her role in the group becomes so crucial that her position is assured in the forthcoming movies.

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DODGE VIPER SPECIAL EDITION

To bid farewell to the fourth-generation Dodge Viper, in 2010 a project to personalise 50 units was agreed on so that the brand's different dealers could create their own limited edition of the Dodge Viper model. This initiative was called the Dealer Exclusive Program.

From left to right: the golden yellow Dodge Viper roadster, ordered by the dealership in Blair (Nebraska); the green one, which inverted the colors of the Dodge Viper SRT10 ACR, ordered by the dealer in Tomball (Texas); and the black and purple one, sold by the dealer in Roanoke (Illinois).

The brand's idea was give the dealers who had sold the most units of the Dodge Viper (not all of those in the network had access to the Dealer Exclusive Program) the possibility of creating a special unit, which they could offer to customers interested in owning this car in a unique configuration. Participation was voluntary and the brand gave them the freedom to choose from all the aesthetic and color combinations included in the program, numbered at more than 7,000 options by the brand.



All Dodge Viper vehicles in this special edition kept the standard 8.4-litre V10 engine.

These automobiles were part of the series, made up of about 500 units, which the brand manufactured in this model's last year of commercial life. All of them kept the same mechanical parts with a front-mounted longitudinal 600hp, 8.4-litre V10 engine. As well as the decoration, the participating dealers had to first choose the bodywork on which to order their special unit, given that the brand offered the possibility of ordering the car as a roadster or a coupé. To help with the sales of these vehicles, the company included on its webpage the list of the dealers who had these last exclusive Dodge Viper cars available..

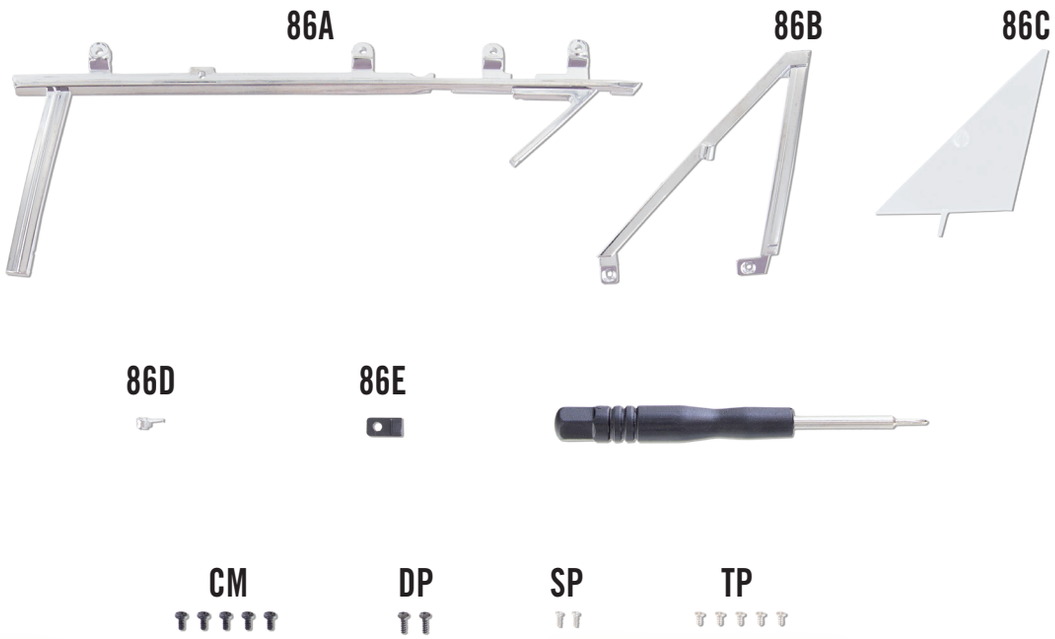
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THE LEFT DOOR WINDOW (1)

In this assembly session you will be working on the left door window.
Please follow our assembly instructions and accompanying illustrations carefully.

PIECES FOR THIS STAGE



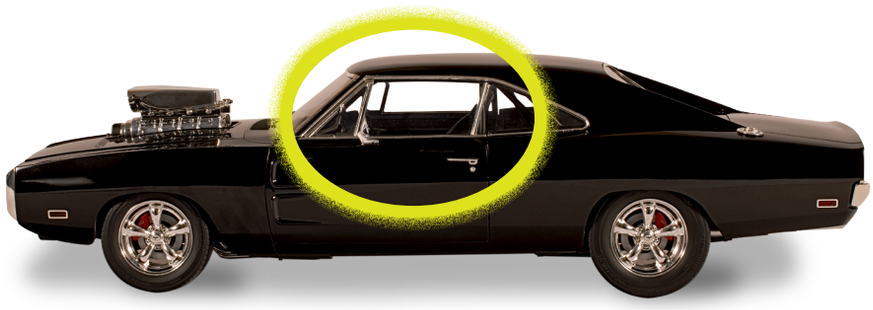
86A Chrome guide
86B Chrome deflector trim
86C Deflector glass
86D Deflector knob
86E Deflector mounting bracket

CM Screws 1.7 × 3mm (× 5)*
DP Screws 1.5 × 4mm (× 2)*
SP Screws 1.2 × 3mm (× 2)*
TP Screws 1.2 × 3mm (× 5)*
Screwdriver

*Some of the parts are spares.

Editor's note: The parts shown here may differ slightly from the parts supplied with this issue. This does not affect the quality or the assembly instructions in any way.

ASSEMBLY AREA

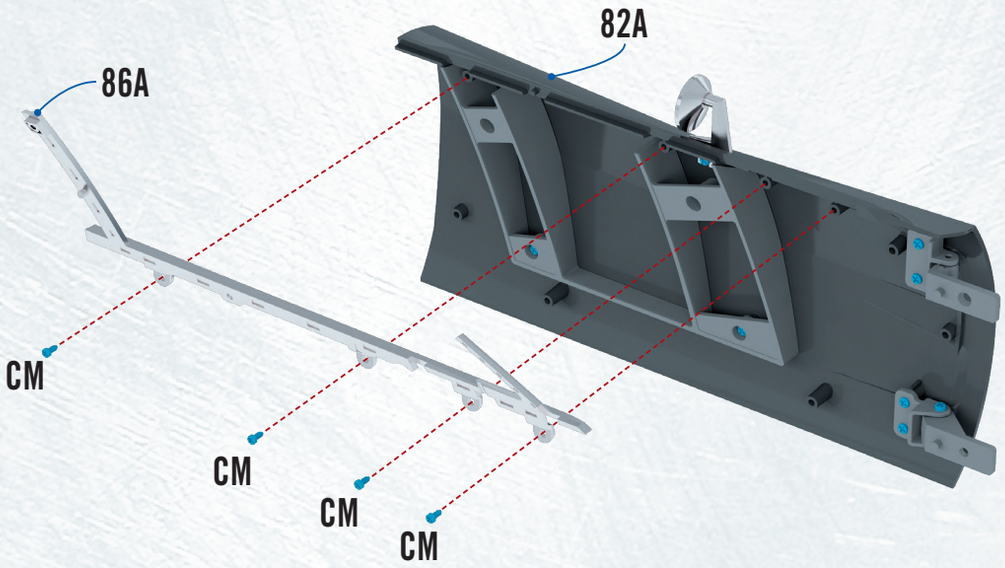


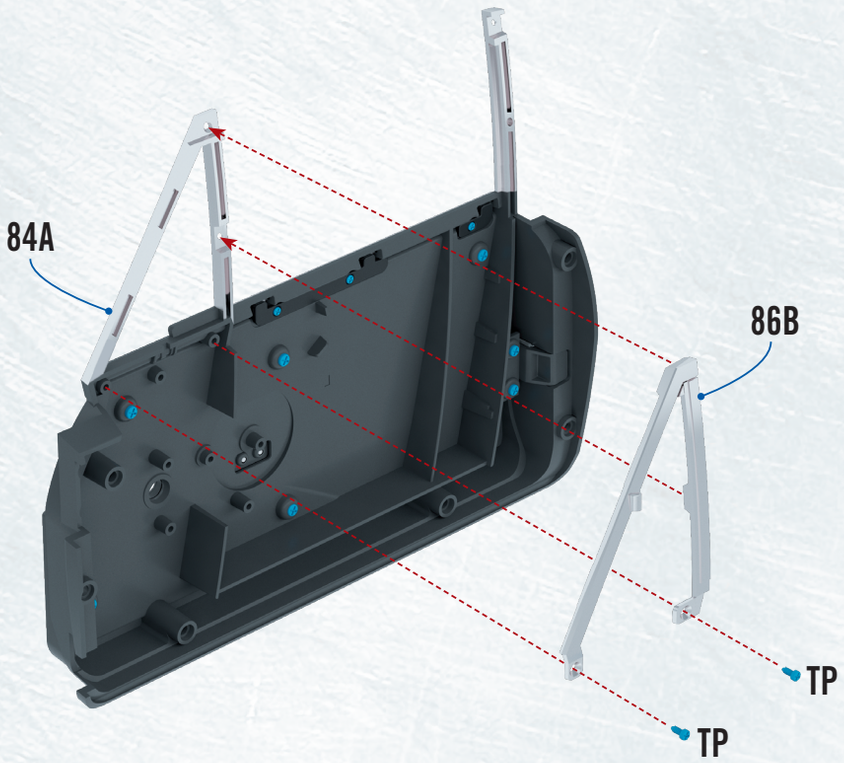
LEFT DOOR

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The left door window (I)

86.1 **ATTACH** the chrome window guide **86A** by aligning the holes with those on the inside of the left door **82A**. Secure with four **CM** screws. ▼



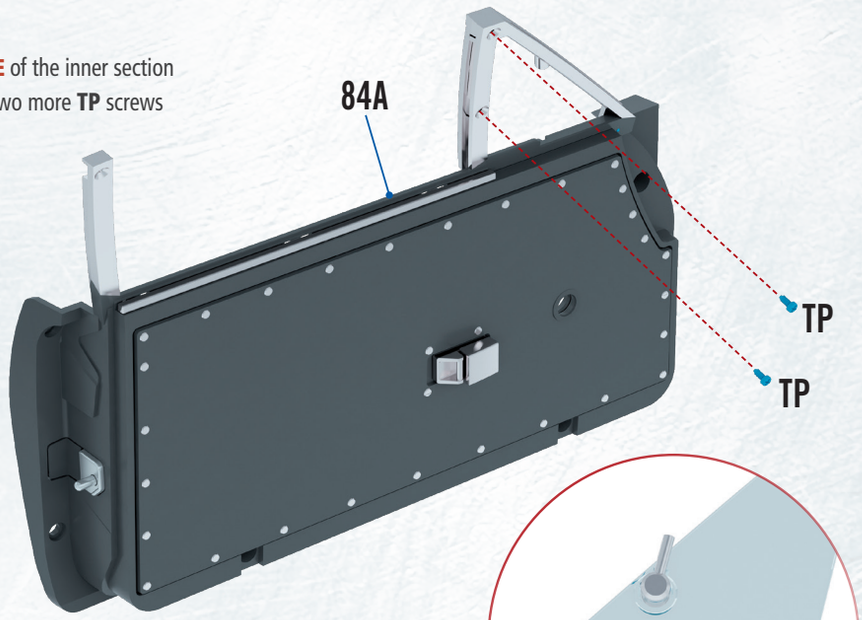


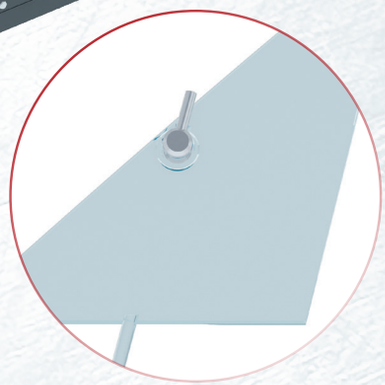
86.2 **ATTACH** the chrome deflector trim **86B** to the corresponding guide on the inner section of the left door **84A**. Insert two **TP** screws into the holes in the bottom of the trim. ◄

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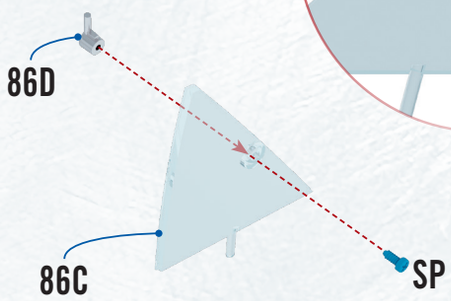


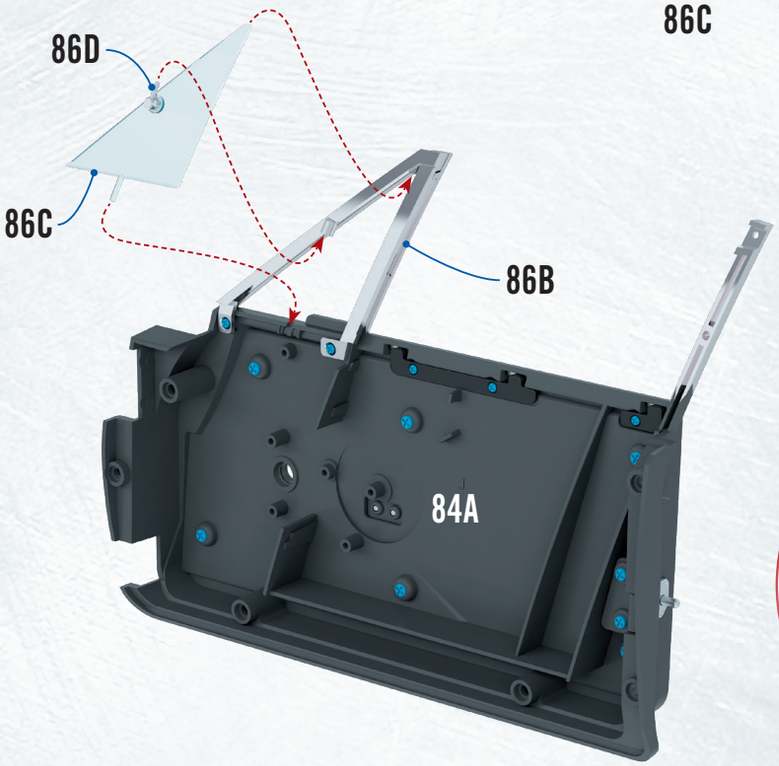
86.3 **FROM THE OTHER SIDE** of the inner section of the left door **84A**, insert two more **TP** screws to finish securing the trim. ▶



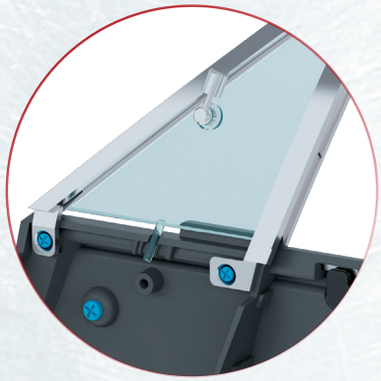


86.4 **INSERT** the round end of the knob **86D** into the hole in the deflector glass **86C**. The knob lever must be pointing upwards. Secure the knob with an **SP** screw. ▶



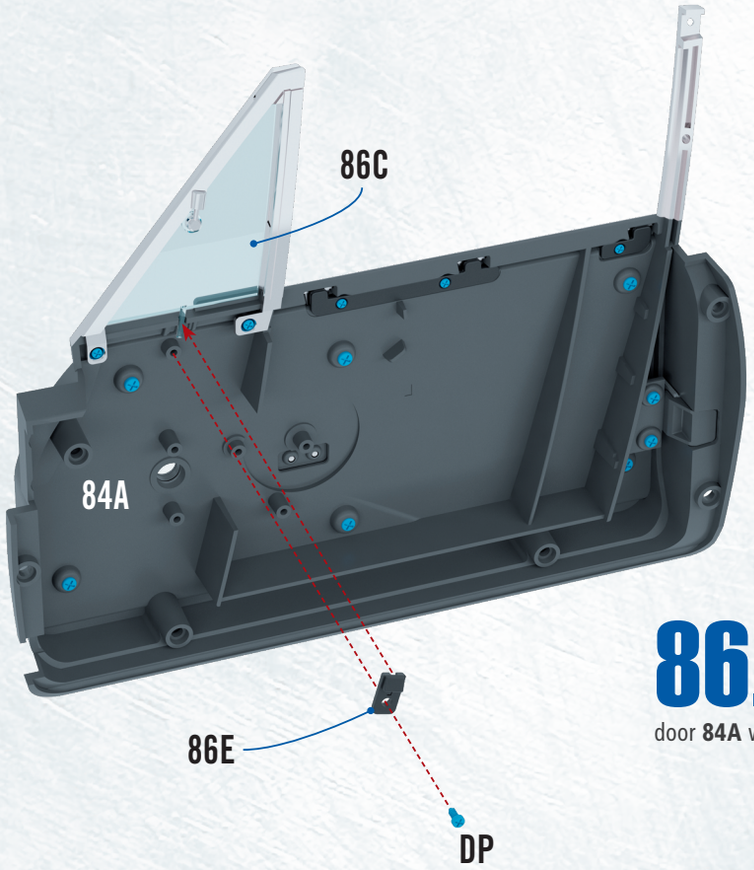


86.5 **INSTALL** the deflector glass **86C** into its trim **86B**, making sure that the lever on knob **86D** is inserted into the cylindrical housing on the trim, and that the pin on the bottom of the glass goes into the corresponding tab on the inner section of the left door **84A**. ◀



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The left door window (I)



86.6 **HOLD** the glass **86C** in place and position the mounting bracket **86E** on the bottom pin. Secure the pieces to the left door **84A** with a **DP** screw. ◄

RESULTS OF STAGE 86



You have finished working on the left door for now. Keep it in a safe place for the following assembly sessions.

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FUELLING THE ENGINE



Fuel supplies power to the engine. The fuel system, the method by which the fuel is sent to the cylinders and then mixed with air, is a critical component for a car's efficient performance. We shall examine how it works.

As we have seen previously, with the exception of some motorcycle and scooter engines, carburettors have long since been abandoned. These are very cheap devices, which is why they are still used. However, they have the limitation of not being able to efficiently control the air-fuel mixture, with all the problems that result from the point of view of the production of pollutants. That is why they have

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Fuelling the engine



Some high-performance engines use two injectors per cylinder, positioned at two different points, often one above and one below the throttle valve. They do not normally open simultaneously. In fact, the second one opens only when the rotation speed exceeds a certain value.

been replaced, in most cases, by fuel injection, which offers great benefits for both performance and emissions efficiency.

INDIRECT AND DIRECT INJECTION

Technicians have always debated whether it is better to inject the fuel into the intake ducts or whether it is better to inject it directly into the cylinders.

Since the first practical injection systems came from those used on diesel engines, direct injection was established as the favoured option. It is no coincidence that the German aviation engines used during the Second World War followed this pattern. They were the first four-stroke engines built in series and fuelled by injection. However, in this case, the variations in speed and load were not sudden and continuous as in automotive use, the speeds of rotation

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were not high, and the engine sizes were considerable. After this first positive experience, direct injection was also used in two-stroke engines and in some racing cars.

With the arrival of the 1950s, indirect injection began to be the system of choice, except for the world of racing, such as the Formula 1 engines of that period.

However, with standard production cars, engineers soon realised that injecting fuel into the intake ducts could produce similar or even better results in a much easier and more economical way.

Moreover, at the time, the difficulty of obtaining a complete and uniform air-fuel mixture and total fuel vaporisation before ignition seemed insurmountable. Not to mention the difficulty of making the injector itself, which had to be able to withstand very high temperatures caused by gases during combustion, as well as sudden changes in pressure.

For this reason, starting from the second half of the 1960s, indirect injection also took hold in the world of racing and spread to production engines. Obviously, the first systems used were not very refined, but the results were encouraging, although the production costs were still significantly higher than those of carburettors.

AIR-FUEL MIXTURE

Among the first problems that the designers had to face was that of controlling the composition of the air-fuel mixture under the variable usage conditions. Dosing the quantity of fuel supplied by the injectors did not seem difficult, but this was not enough: they needed to know precisely how much air was drawn (or sent) into the cylinders in order to be able to maintain the correct mixture ratio at all times. Devices were invented to solve the problem, from the first rudimentary mechanical airflow sensors (debimeters) to those with a hot wire that directly detects the mass flow, and then sensors that detect the quantity of oxygen present in the exhaust gases, thus allowing the control unit to know the mixture dosage.

CONTINUOUS, INTERMITTENT, OR VARIABLE

In the early days, an injector for each cylinder was used on higher performance engines (racing cars have always used this solution). However, for obvious economic reasons, car manufacturers preferred single-point injection for standard series cars, with a single injector placed upstream of the intake manifold to feed all the cylinders of the engine.

Soon, they moved on to multi-point injection, with an injector for each cylinder. This system offered various possibilities: On four-cylinder engines, the injectors of all cylinders can open simultaneously at each revolution, or two at a time every two revolutions. Alternatively, they can each open every two revolutions at just the right moment, i.e. exactly when the intake valve is opening. In the latter case, which is now the dominant choice, we refer to sequential and phased injection. With intermittent injection, the fuel delivery is normally regulated by controlling the opening duration of

the injectors and the pressure with which the fuel reaches the engine remains constant.

CHECK THE INJECTION

Modern injection systems are controlled by an electronic control unit (ECU) which, on the basis of its mapping, manages the correct quantity of fuel that the injectors must introduce according to the combination of engine load and engine speed (i.e. under any operating condition) and it also controls the opening time of the injectors themselves. In many cases, the control unit also controls the ignition and therefore also has a map in its memory that allows it to know the optimal ignition advance in any situation and issues the appropriate instructions to the system. It is common for the ECU to have multiple maps, both for ignition and for injection. There can be one for each pair of cylinders or even one for each cylinder, and they can be different depending on the gear that is engaged. This system is widely used in the world of competition, both for motorcycles and cars. How many times have we heard race engineers on the radio telling the driver which "mode" or map to use to increase performance or to limit fuel consumption at certain moments in the race? In fact, even mid-range/high-end series vehicles have the ability to "choose" the engine response, with different driving modes that often have names like "eco", "comfort", and "sport".

PERFORMANCE AND SENSORS

Nowadays, the mapping of engine control units is developed with some emphasis on the control of emissions and noise pollution. The maps stored in the ECUs control, for different operating conditions, the quantity of fuel to be injected and/or the optimum injection advance for controlling pollutants and noise. However, when it comes to performance, things are different.

In many cases, ECU remapping is a quick and painless way, with the necessary precautions, of course, to improve the performance of your car. At any speed, the highest power is obtained by feeding the engine with a rich mixture, while the stoichiometric mixture is optimal for exhaust emissions. In all modern cars, the control unit has several sensors inside the engine that allow it to keep everything under control. In addition to the lambda sensor, there is a knock sensor that warns when the situation is becoming critical, allowing it to reduce the ignition advance or the boost pressure in turbo engines so that pre-ignition does not occur. The water and air temperature sensors and the supply air pressure sensors are also indispensable: for example, if you travel in the mountains, the latter is significantly lower than that at sea level, as the air is thinner. Consequently, the control unit instructs the injectors to emit less fuel.



Until a few years ago, injectors were almost all single-jet. However, in recent years, injectors with multiple holes (up to twelve) have become increasingly popular. These favour a homogeneous distribution of fuel in the intake air.

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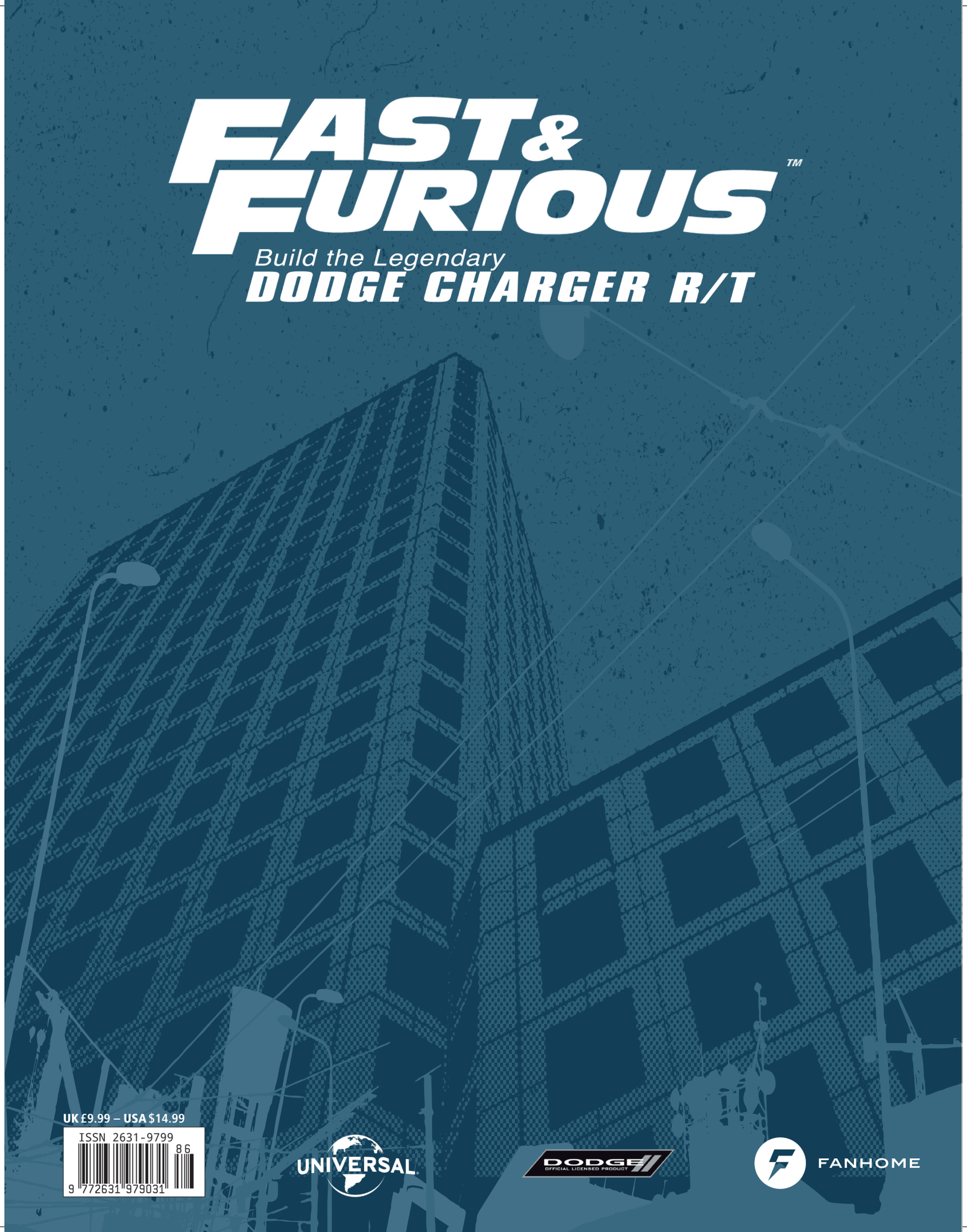


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