FAST & FURIOUS™

93

Build the Legendary DODGE CHARGER R/T



UNIVERSAL

FANHOME

DODGE OFFICIAL LICENSED PRODUCT

93_FF_KARA_ARIES_UK.indd 1 13/5/22 9:57

FAST & FURIOUS

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: 978-1-4439-5236-1
FFN93: 22 06 15

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

Picture credits: NBCUniversal Archive; FCA Archives; Shutterstock

Fast & Furious Franchise © 2022 Universal City Studios LLC.
All Rights Reserved.

Dodge, HEMI and related logos, vehicle model names and trade dress are trademarks of FCA US LLC and used under license by Premium and Collectibles Trading Co. Ltd. ©2022 FCA US LLC.

Printed in Poland

CUSTOMER SERVICES
United Kingdom
Email support@uk.fanhome.com or ask your newsagent to reserve future issues for you to collect.

USA
Email support@usa.fanhome.com

The price of this issue includes the magazine and the attached pieces for model assembly.

TO OUR READERS
The publisher reserves the right to modify any components as required during the course of the collection. Not suitable for children under the age of 14. This product is not a toy and is not designed or intended for use in play. The collection is complete in 110 parts. Items may vary from those shown.

WARNING
Any reproduction, even partial, of the contents of the magazine is prohibited without permission from the Publisher. the model and the magazine that accompanies it are strictly for private use, and within the family, in accordance with Article L122 - 5 10 of the Code of Intellectual Property. Any reproduction other than that provided for in Article L122 - 5 20 of the Intellectual Property Code is prohibited. The magazine and/or elements of the collection may not be distributed, loaned, resold, rented or exploited for commercial purposes. All rights reserved.

The driving sequences in the Fast & Furious motion pictures were filmed with professional stunt drivers, under carefully-controlled conditions, for entertainment purposes only. No attempt should be made to duplicate any of the racing activities or sequences depicted therein. Universal neither condones nor endorses the use of this or any related product in any manner whatsoever other than in strict accordance with applicable federal, state and local laws and speed limits.



KARA, THE LOYAL BODYGUARD

Women play an essential part in the *Fast & Furious* franchise, always demonstrating their physical and mental strength. Some examples of this can even be found in the minor roles, such as the one played by the popular fighter and actress Ronda Rousey in the seventh movie in the series.

One of the most impactful sequences in *Fast & Furious 6* was where Letty Ortiz confronted the agent Riley Hicks, played by well-known mixed martial arts expert Gina Carano, in hand-to-hand combat. Both of them threw themselves into it so energetically that the fight was a game changer for the series, and it intensified fans' expectations of what was to come. Although nobody believed it could be surpassed, the director of *Furious 7*, James Wan, proposed just that with another top-notch fight.

THE PRINCE'S PERSONAL BODYGUARD

When Dom Toretto and his team manage to sneak into the birthday party of a millionaire Arab prince, being held in a luxurious suite right at the top of a skyscraper in Abu Dhabi, nobody is thinking about having fun. The objective

After the success of her fight with Riley in the sixth movie of the *Fast & Furious* saga, Letty Ortiz once again showed her hand-to-hand combat expertise by taking on the fearsome Royal bodyguard, Kara, played by Ronda Rousey.



CARS DON'T FLY

is to locate as quickly as possible the incredible Lykan Hypersport that the prince keeps in the apartment, and to remove the device known as the God's Eye. The whole group hopes to carry out a rapid, clean removal operation, barely attracting attention. But none of them can imagine how complicated things are going to get.

Letty takes up her position on a terrace from where she can see the whole party and raise the alarm if they are discovered too early. And that is precisely what happens. The team did not count on the prince having a private security team, his own royal guard, composed of a group of uniformed women under the command of the millionaire's personal bodyguard, Kara. Letty has no option but to intervene and confront this small army. Thus, bare-fisted, she knocks out the members of the royal guard without too much trouble. Doing the same to Kara is another matter altogether. The fight intensifies, becoming an authentic clash of the titans.

AN EXTRAORDINARY WOMAN

Although Kara appears only briefly in *Furious 7*, it was very important to choose the right actress for this role, given that James Wan had an incredible sequence in mind.

93_FF_KARA_ARIES_UK.indd 2 13/5/22 9:58

RONDA ROUSEY

Ronda Jean Rousey was born on February 1, 1987, in Riverside, California. Complications at birth damaged her vocal cords, which prevented her from talking properly until she was six years old. This problem may well have forged in her a strong combative nature. As well as being an excellent swimmer, she followed in her mother's footsteps in judo. Aged just 17, she became the youngest judoka to take part in the Olympic Games, in Athens in 2004. After winning numerous championships, she specialised in mixed martial arts and began taking part in many televised fights along with other popular female fighters. In 2014, she made the leap to the big screen, appearing in the action movie *The Expendables 3*, just a year before she played the implacable Kara in *Furious 7*. Since then, as well as remaining one of the most popular faces on television fight shows, she has appeared in other movies, like *Entourage* (2015), *Mile 22* (2018) and *Charlie's Angels* (2019).

After a careful selection process, the name of Ronda Rousey came up, an explosive mixed martial arts fighter, and the women's UFC bantamweight champion. Despite having very little previous experience in front of the cameras, in the film *The Expendables 3*, James Wan was determined to have her and it was soon obvious that he had not made the wrong choice.

"Ronda Rousey changes the rules of the game. She's fantastic," Michelle Rodriguez, the woman who plays Letty Ortiz in the movie, says enthusiastically. "She's incredibly strong, she lifted me above her head just like that."

DESIGNING THE CLASH

The chance to appear in the *Fast & Furious* franchise was a pleasant surprise for Rousey, who saw the possibility of demonstrating her skill as a fighter in front of the cameras while also bolstering her career as an actress. What's more, the whole team welcomed the famous sportswoman with open arms.

The new member of the cast discussed her character passionately with director James Wan, determined that her presence in the movie would not go unnoticed.

"Women can fight as well as men, even better," said Rousey on the film set, "and we're going to try to raise the level a little."

To achieve this, she had the help of an outstanding professional, Jeff Imada, a veteran fight choreographer who worked tirelessly, taking care of the tiniest details in this explosive fight between Letty and Kara.

"I've designed some fights between women," Imada explains, "but it was interesting that Ronda got involved because she has very specific training. Although she's playing a character, you want to see the specific kicks and punches that have made Ronda famous. We managed to incorporate them, fitting them perfectly in the language of film."

Besides Rousey's unconditional support, Imada once again had the habitual enthusiasm that Michelle Rodriguez brings to this type of sequence.

"Michelle is fantastic," the choreographer says. "And she is no novice in these scenes either. She's done boxing training, she's appeared in all the other films in the franchise, and in this movie she's taken a step further."

DRESSED TO KILL

One of the peculiar aspects of this fight between Letty and Kara is not just that it takes place in a luxury apartment but that they are elegantly dressed for the party and, despite that, they find themselves forced to fight.

"A character like Letty, in her 'prom queen' moment, needed to have a good fight," jokes actress Michelle Rodriguez. "But I took it very seriously because there are not many good fights between women. However, fighting wearing an evening gown and high heels was especially complicated. Throughout my career I've worn strapped T-shirts and jeans. What is this about putting on an evening dress? Nevertheless, I gave it everything."

For Letty, a spectacular red dress created for the occasion by the franchise's costume designer Sanja Milkovic Hays was used. For Kara, they chose a cream dress by designer Hervé Léger. In both cases suitable modifications were made, bearing in mind the actual use that was going to be made of the gowns.

"We designed the costumes especially for the fight," says Ronda, "so that it would allow me to do things like bring my knees up. The dancing shoes are flexible. The first thing I thought was 'My God, I could kill someone with these shoes.' That's how I think. Anyway, I always fight on tiptoe. My basic martial art is judo; you have to place all your weight on your toes. I was able to do many of those same movements very easily".

93_FF_KARA_ARIES_UK.indd 3 13/5/22 9:58



Two of the three types of bodywork available in the Dodge Aries range: the station wagon version with woodgrain side panels, and the four-door saloon behind.

DODGE ARIES

Launched in 1981 with three different types of bodywork, the Dodge Aries revealed a new front-wheel-drive platform that made it possible to offer great drivability in a very compact format. With these cars, reliable and highly suitable for family use, the Chrysler Group successfully negotiated a period of global crisis for the industry.

The third version of the Dodge Aries was this elegant two-door coupé. The Aries range had more features than its twin, the Plymouth Reliant.

The Dodge Aries was the first to be built on Chrysler's K platform, the result of long, costly investment in development, as it was the first front-wheel-drive car created by the Group in the United States. With a wheelbase of 2.54 metres, the Dodge Aries and its twin, the Plymouth Reliant, were sold with three types of bodywork, a four-door saloon, a five-door station wagon and a two-door coupé. The front-wheel drive and the engines used, all of them with four cylinders producing around 100hp, made it possible to obtain a more spacious interior than those in similar cars, and to offer the possibility of six seats (there were versions with a front bench seat for three occupants). With three different finishes, the Aries was manufactured until 1989, when it made way for the Dodge Aspen, continuing front-wheel drive in the brand. More than one million units were produced. Its reliability, its elegant but discreet look, and its good drivability were key points for ensuring successful sales of the model. It allowed the Chrysler Group to overcome the economic crisis in which it found itself in the late 1970s and the early 1980s after its operations in Europe had been unsuccessful.



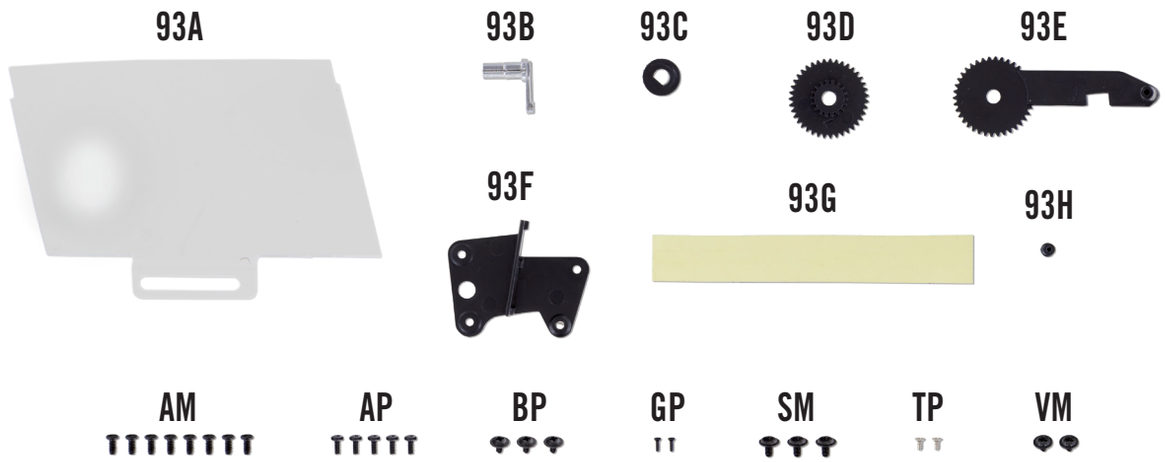
93_FF_KARA_ARIES_UK.indd 4 13/5/22 9:58



THE RIGHT DOOR WINDOW (II)

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

PIECES FOR THIS STAGE



93A Right door window glass
93B Window crank
93C Window cog 1
93D Window cog 2
93E Window cog 3
93F Window regulator cover plate
93G Window weatherstrips (x2)
93H Crank knob

AM Screws 2 × 4mm (× 8)*
AP Screws 1.7 × 4mm (× 5)*
BP Screws 1.7 × 3 × 5mm (× 3)*
GP Screws 1.2 × 3mm (× 2)*
SM Screws 2 × 4 × 5mm (× 3)*
TP Screws 1.5 × 3mm (× 2)*
VM Screws 1.7 × 2.5 × 5mm (× 2)*

* 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

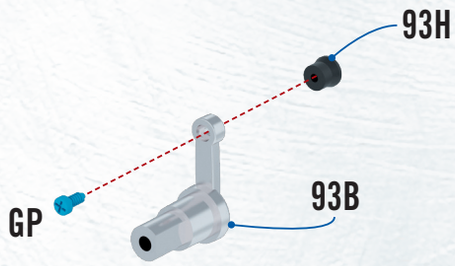


RIGHT DOOR

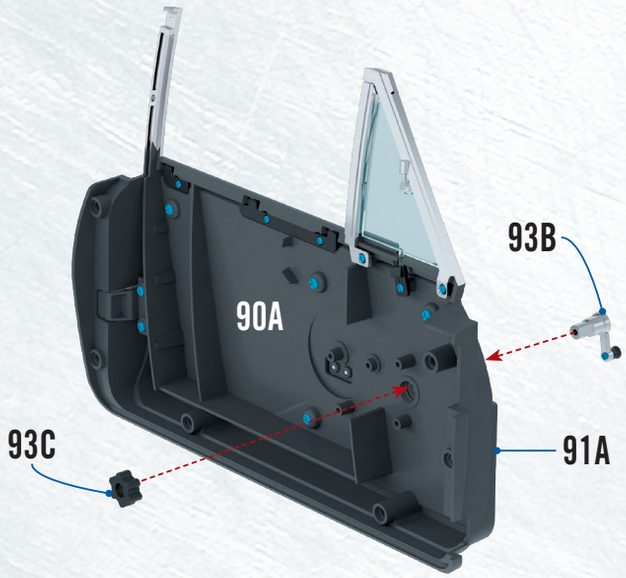
93_FF_KARA_ARIES_UK.indd 5 13/5/22 9:58

The right door window (II)

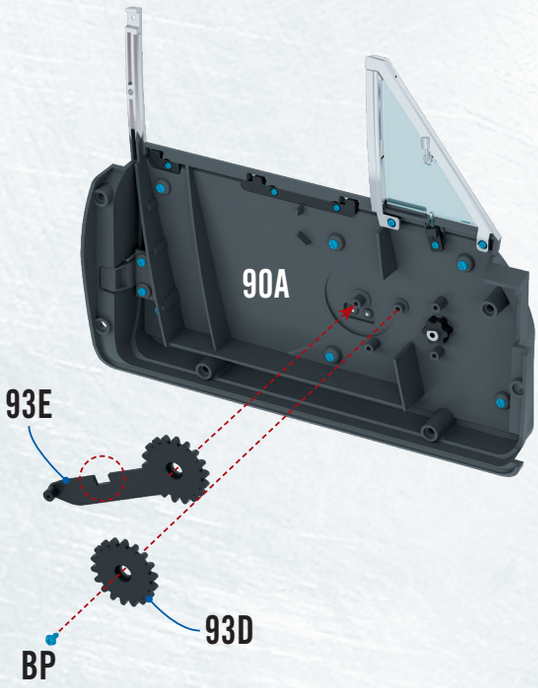
93.1 **ATTACH** the knob **93H** to the right door window crank **93B** and secure the pieces with a **GP** screw. ▶

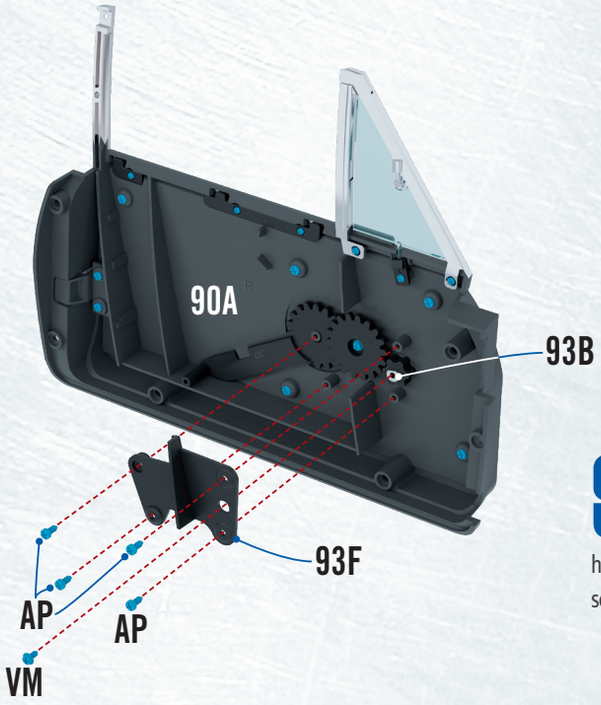


93.2 **INSERT** the crank **93B** into the hole on the inside of the door, as shown in the illustration. From the outside of the door, slide cog 1 **93C** onto the end of the crank. ▼



93.3 **ATTACH** cog 3 **93E** to the middle post on the inner section of the door **90A**, ensuring that the rectangular notch in the piece in question is facing upwards. Now attach cog 2 **93D** to the adjacent post and secure the piece with a **BP** screw. ▼



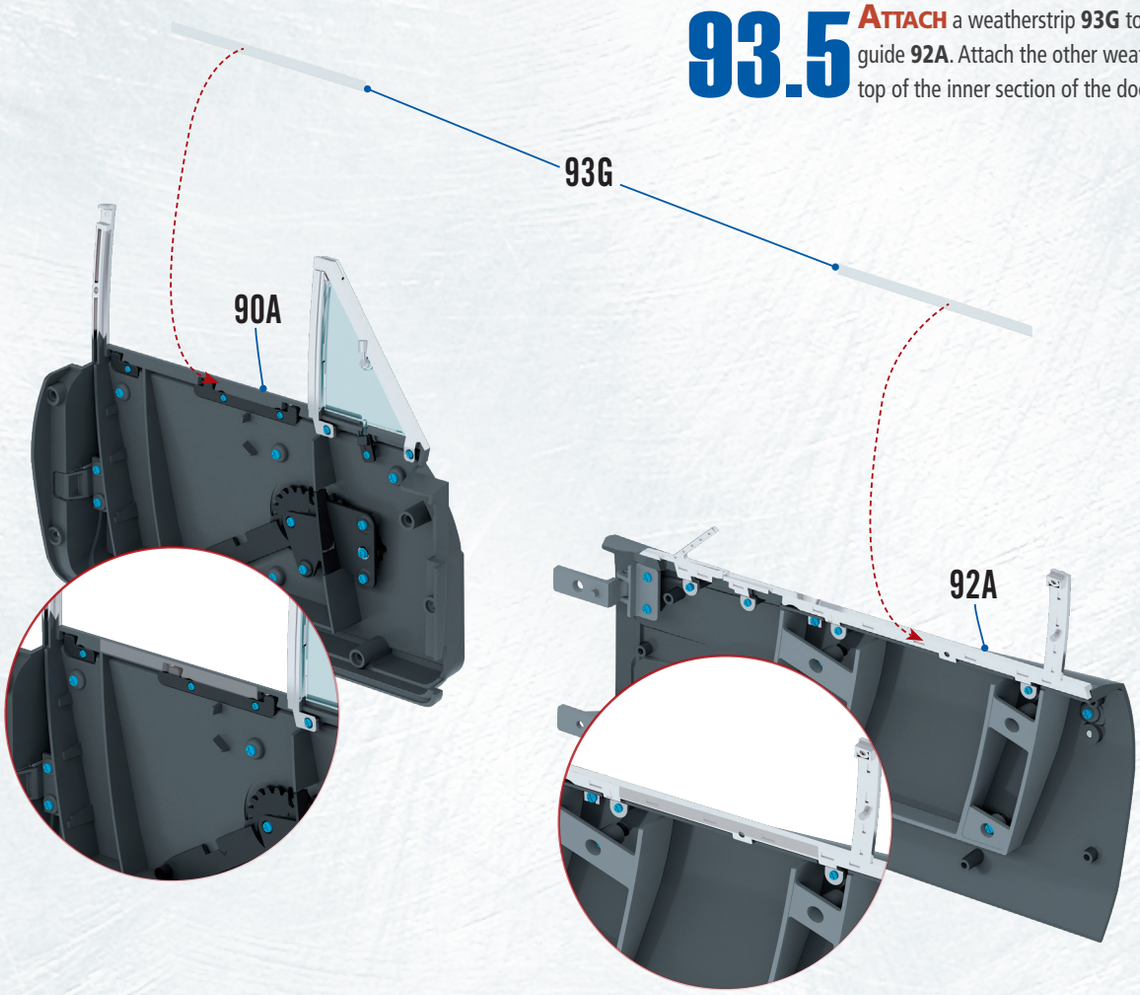


93.4 **PLACE** the window regulator cover plate **93F** over the cogs, aligning the five holes with the four holed posts on the inner section of the door **90A** and the hole in the crank **93B**. Secure the piece with four **AP** screws and one **VM** screw (for the crank). ◀

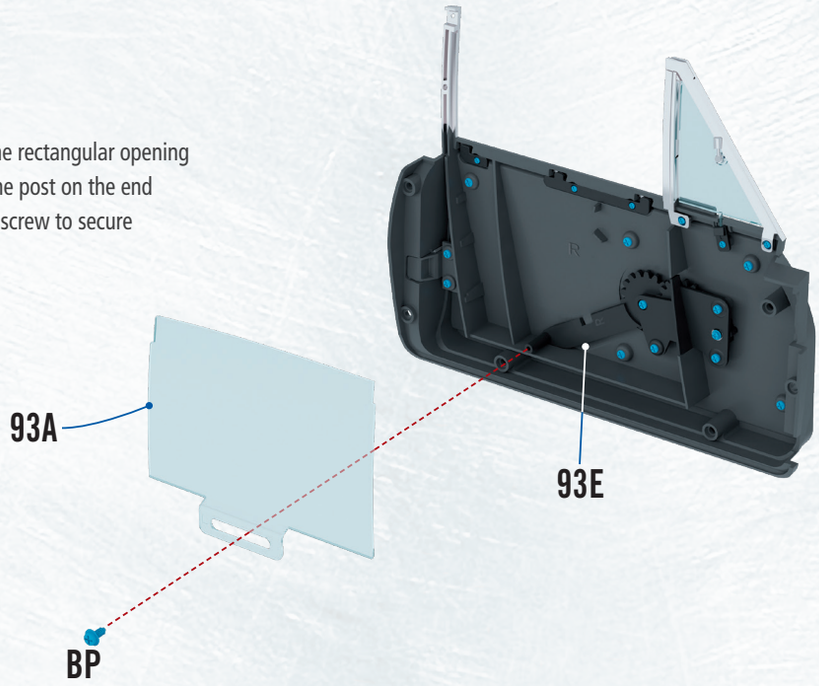
93_FF_KARA_ARIES_UK.indd 6 13/5/22 9:58



93.5 **ATTACH** a weatherstrip **93G** to the window guide **92A**. Attach the other weatherstrip to the top of the inner section of the door **90A**. ▼

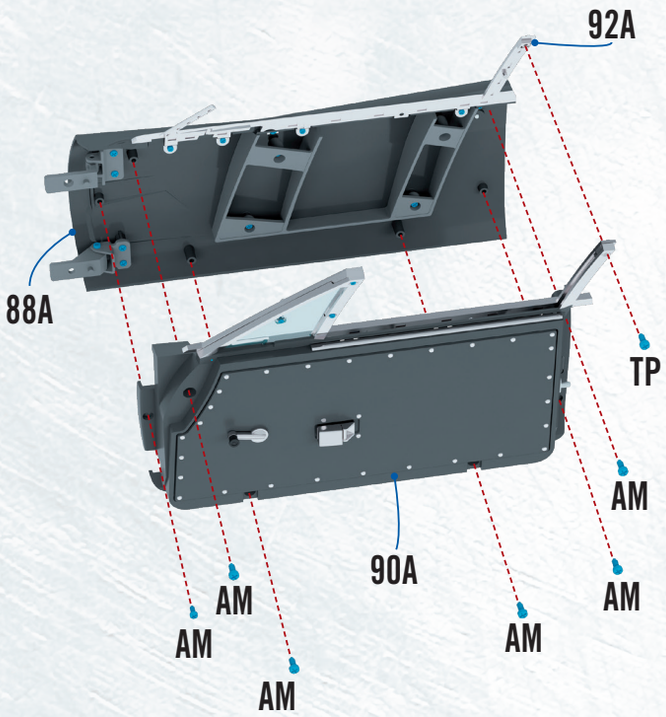


93.6 **ALIGN** the tab with the rectangular opening in the glass **93A** with the post on the end of cog 3 **93E**. Use a **BP** screw to secure the glass to the post. ▶

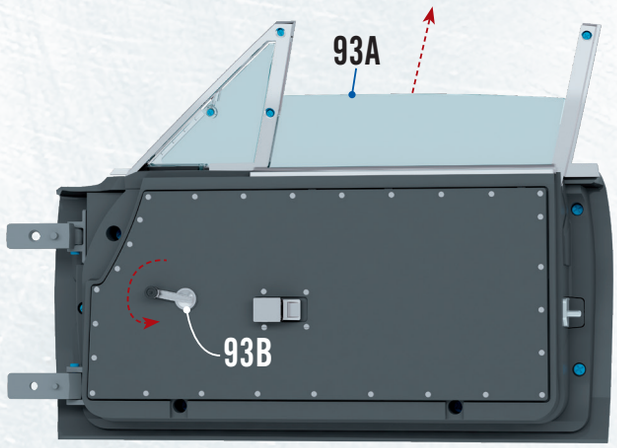


93_FF_KARA_ARIES_UK.indd 7 13/5/22 9:58

The right door window (II)

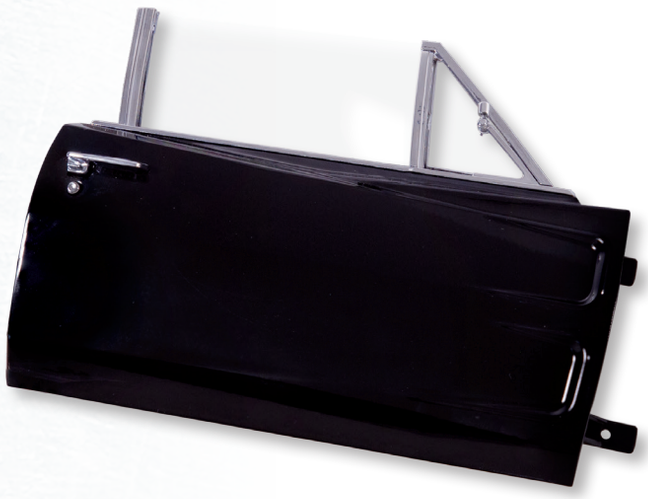


93.7 **JOIN** the two parts of the right door together, aligning the holes and post. Secure the pieces with six type **AM** screws, and one type **TP** screw for the top of the window guide **92A**. ◄



93.8 **YOU CAN NOW** test the window lift mechanism, which lifts and lowers the window by simply turning the crank. ►

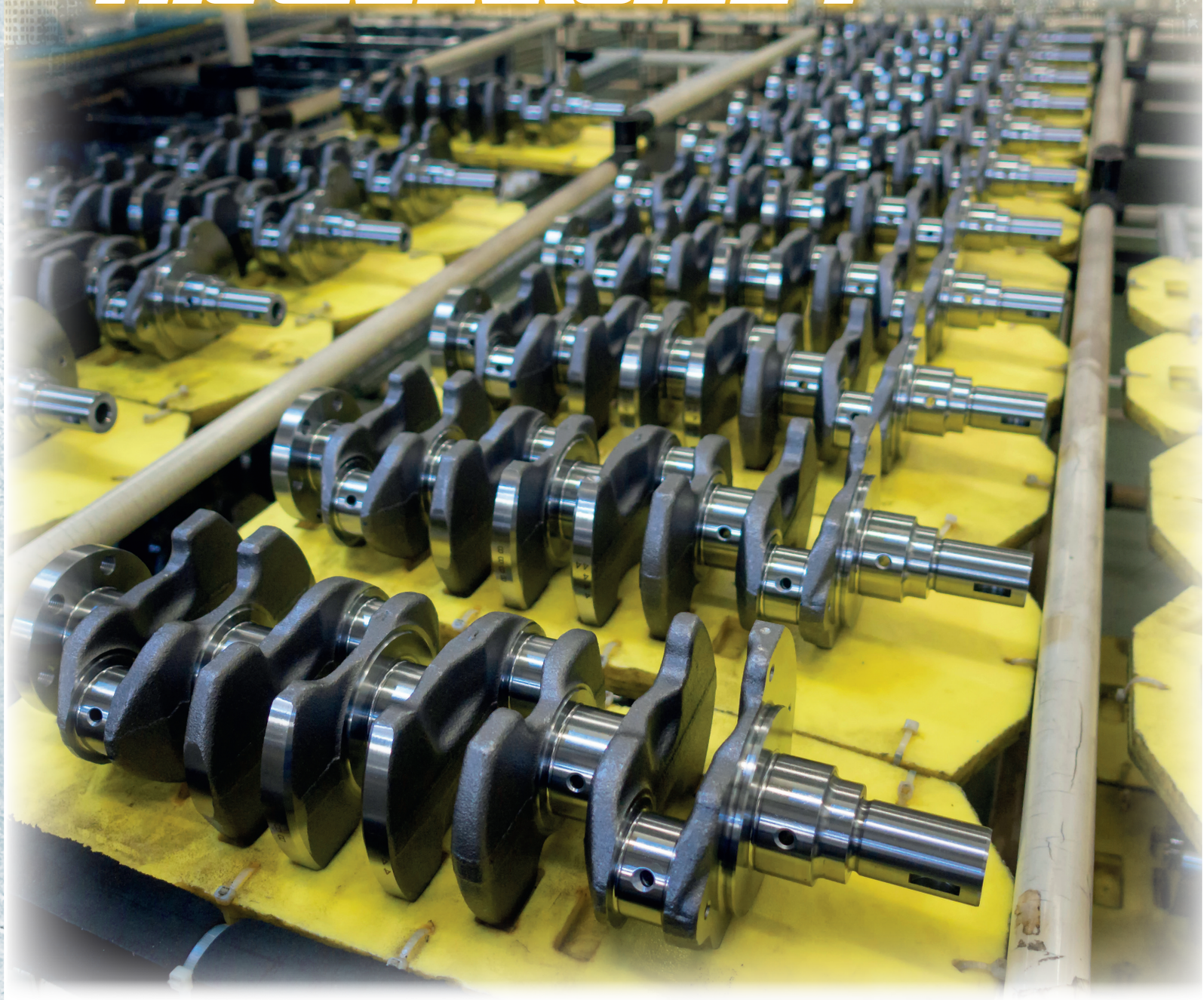
RESULTS OF STAGE 93



You have now attached the window and the regulator to the right door. Keep everything you assembled, and the unused SM screws, in a safe place.

93_FF_KARA_ARIES_UK.indd 8 13/5/22 9:58

THE CRANKSHAFT



Inside the engine, there are two types of moving parts. First, those that have an alternating rectilinear movement, such as pistons. Then there are rotating parts equipped with pulleys or gear wheels, among which are the crankshaft and camshafts. We have already discussed camshafts in these articles. Now let us look at how to work on the component that transforms the alternating rectilinear movement of the pistons into rotational motion.

The crankshaft, which consists of a series of cranks, known as journals and crankpins, is subjected to an enormous flexing force. The crankpins pull and push these elements alternately with a force that reaches very high levels, especially when the engine operates at high revolutions, and the gas valves are wide open.

Since the inertial forces are constantly changing, and at the same time the applied forces are enormous

93_FF_KARA_ARIES_UK.indd 9 13/5/22 9:58



Crankpins and crankshaft journals typically undergo an induction hardening process, a heat treatment that greatly increases surface hardness. Alternatively, the shaft can be subjected to a thermochemical treatment, such as gas nitriding or a molten salt bath.

and happen very quickly, the crankshaft must withstand tremendous torque, especially during acceleration. Imagine, for example, the combustion phase of the first cylinder, the force of which must be transmitted to the flywheel located at the other end of the crankshaft. Under these circumstances, the connecting rods "open" and "close" continuously while the shaft rotates, twisting and untwisting at the same rate while developing a remarkable centrifugal force.

THE MATERIALS

Nodular cast iron crankshafts are mainly used in mid-range production cars. Despite their low cost, they have good mechanical characteristics and are very suitable for

93_FF_KARA_ARIES_UK.indd 10 13/5/22 9:58



engines that are not too powerful. However, they are unsuitable when performance and displacement increase considerably. For high-powered engines, which subject the crankshaft to much greater forces, forged steel or even carbon steel is used. These have superior characteristics, although a much higher price means that they are more often reserved for supercars and competition cars. Regardless of the material chosen, the manufacture and tuning of crankshafts requires a very precise finishing process to give the crankpins and journals a high surface hardness.

MODIFICATION

An increase in power leads to an increase in the speed of rotation, the inertial forces, and also the violence of

the single useful phase and the pressure of the gases during the expansion phase. In supercharged engines, although the speed of rotation does not increase, during the useful phase of the cycle the force that the pistons transmit to the shaft through the connecting rods is greatly increased.

Considering these conditions, it is not surprising that the crankshaft requires special attention when preparing a high-performance engine. The greater the performance, the greater the stresses to which the various components of the engine will be subjected. The crankshaft needs to respond at all times and guarantee reliable behaviour. It needs to be immensely strong since if it were to break, the engine would be destroyed.

Here it must be clarified that any modification of the crankshaft is not aimed at increasing the engine power, but at ensuring the component's perfect operation.

This issue changes if you want to increase the displacement by installing a new shaft with a longer stroke than the original. In this regard, it should be remembered that the distance between the axes of the journals and the connecting rod - that is, the radius of the crankpins - determines the piston stroke. Bear in mind that the crankshaft is a heavy component and therefore there can be certain advantages to reducing its mass, provided that the robustness of the component is not affected. This reduces the weight of the component and the rotating masses and accelerates the engine.

It is important to pay attention to certain 'aerodynamic' details inside the engine: A shaft with smaller counterweights and with a suitably conical shape allows the loss due to the 'oil brake' effect to be reduced. This can be quite significant at high revs.

ISSUES THAT SHOULD NOT BE UNDERESTIMATED

The crankshafts of modern cars hardly suffer from wear, even after considerable mileage. However, the stresses and kickbacks to which it is subjected can seriously affect it, which is why it is advisable to check it thoroughly if you decide to disassemble the engine for tuning purposes.

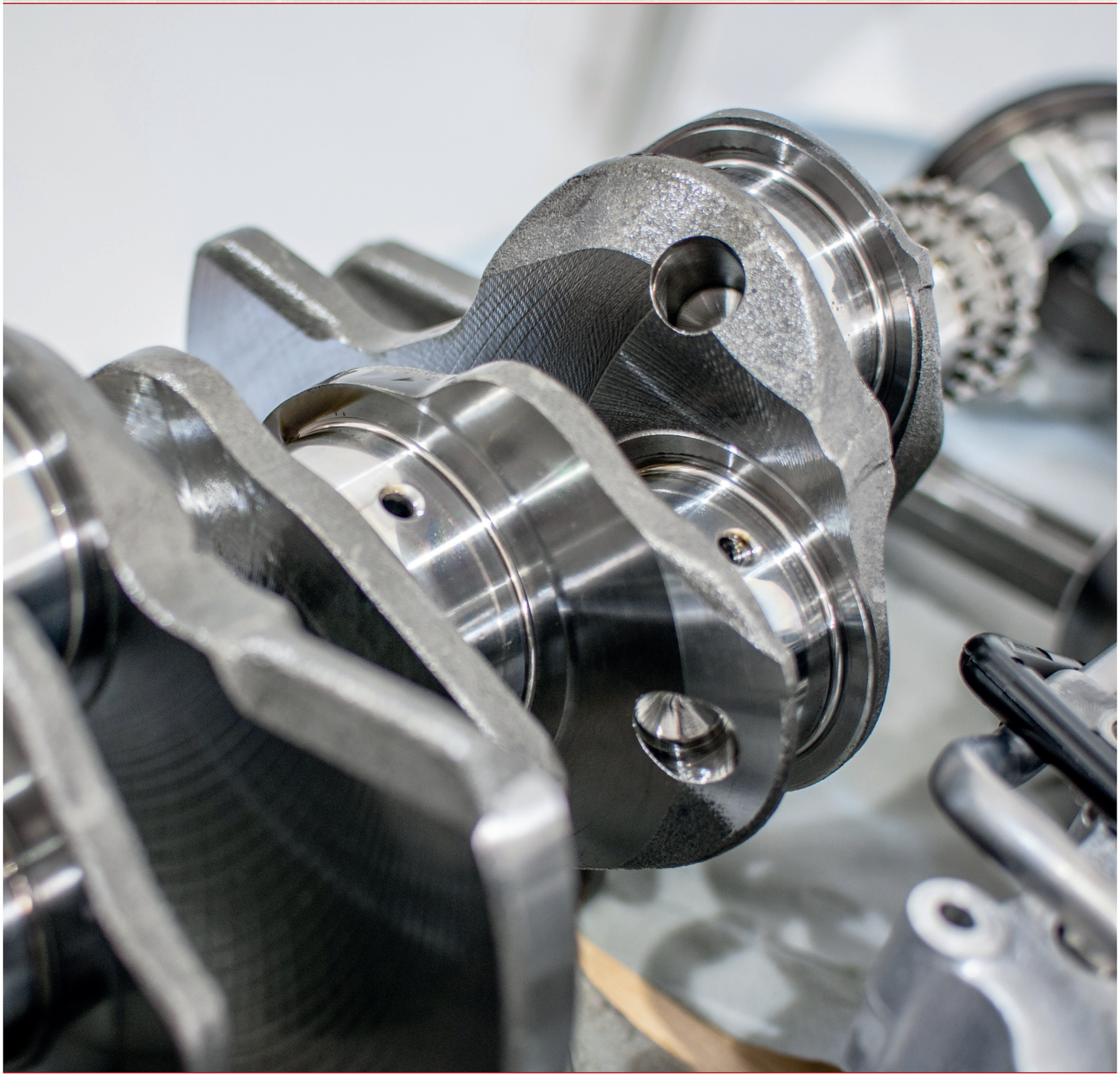
This operation must not be overlooked even if a new crankshaft is fitted. It needs to be carefully examined. Initially, a visual check will identify any signs of impact damage and above all any surface imperfections. Next, with the help of a micrometer, the diameter of the crankpins and journals should be checked. The task must be carried out at several different points and in several directions to assess any tapering of the journals and pins. You should also make sure that the journals are perfectly aligned.



SOME MODIFICATIONS

Although a mass-produced crankshaft is suitable for road use, it is too heavy for racing. It does not need to be replaced with a lighter one. Using a specialised tuner will result in a lighter part with more aerodynamic geometry through a

93_FF_KARA_ARIES_UK.indd 12 13/5/22 9:58



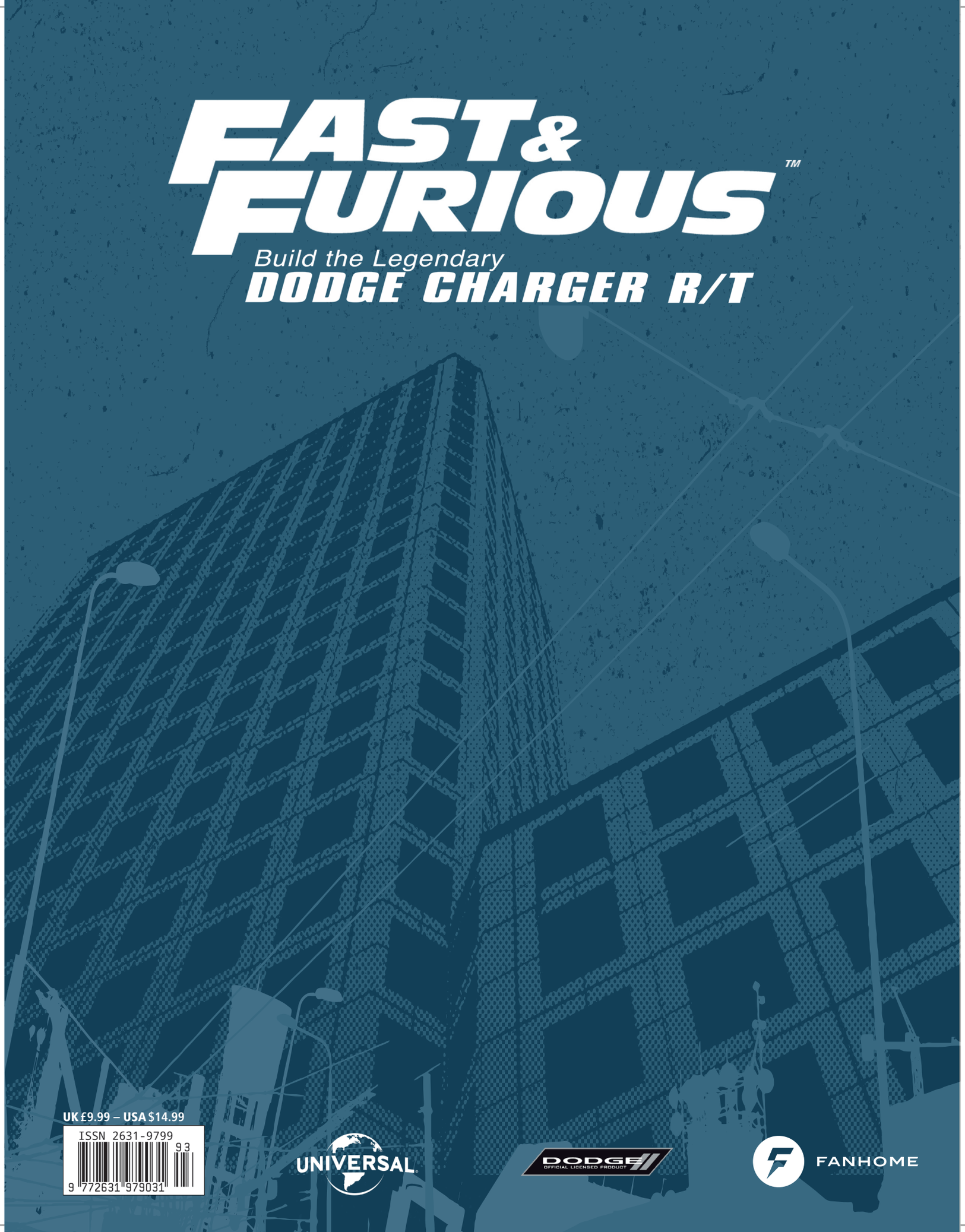
variety of machining operations centred on the journals and counterweights. The task, as can be expected, requires knowledge, experience and skill, since an error or an oversight, however small, could have fatal consequences. Material should be removed only in the proper places and in the correct quantity. After finishing machining, the workpiece must be polished, removing burrs and any marks left by the tools. The bearings are very delicate and must be carefully protected before carrying out these operations. Once the work is finished, the crankshaft will have to be balanced.

The crankshafts used in prototype and racing car engines are made from a solid bar of high-strength steel that is worked with machine tools.

93_FF_KARA_ARIES_UK.indd 13 13/5/22 9:59

FAST & FURIOUS™

Build the Legendary DODGE CHARGER R/T



UK £9.99 – USA $14.99

ISSN 2631-9799

UNIVERSAL

DODGE OFFICIAL LICENSED PRODUCT

FANHOME

93_FF_KARA_ARIES_UK.indd 14 13/5/22 9:59