FAST & FURIOUS™

17

Build the Legendary

DODGE CHARGER R/T



UNIVERSAL

FANHOME

DODGE

FAST & FURIOUS

Build the Legendary
DODGE CHARGER R/T





JESSE, THE BRILLIANT MECHANIC

Throughout the *Fast & Furious* franchise, we have met many expert mechanics, but none has managed to leave such a deep mark on fans as Jesse, the first great mechanic that Dom Toretto had.

Jesse is one of the most important members of Toretto's original team in *The Fast and the Furious*. He is an anxious, delicate young man, who Dom has taken under his wing and looks after as if he were his kid brother. He sometimes calls him "Einstein", as he considers him to be an absolute mechanical genius. And he really does have a special gift. Just by opening the hood of a car, at a glance he can describe all the engine parts and weigh up its chances in a quarter-mile race. In the same way, with the necessary materials, he is skillful enough to rebuild and race-tune a car for the purpose of making it the fastest on the track.

A MECHANICAL EINSTEIN

In *The Fast and the Furious* we see Jesse for the first time when he arrives at Toretto's shop, along with the rest of the team, and surprises Brian O'Conner flirting with Mia. Shortly afterwards, he is also present at the first street race in which Brian races against Dom. Jesse is the first one to be surprised by how well Brian's 1995 Mitsubishi Eclipse has been prepared. But the importance of this hyper guy will be seen more clearly when, a few days later, Brian turns up at Toretto's garage with what remains of a beat-up 1994 Toyota Supra Mk IV to offer it to him as a replacement for the previous car he owned, which was destroyed in a hail of bullets by Johnny Tran's gang. Although Dom thinks it is just a pile of junk, Jesse is able to see beyond that and he is sure that with a big investment he could turn it into an unbeatable car.

When he starts rebuilding the Supra, Jesse becomes friends with Brian, who is so impressed by what the kid knows about mechanics that he eventually advises him: "Man, you should be going to MIT or something". To which Jesse replies, laughing, "Yeah, right," before revealing that as a child he was diagnosed with Attention Deficit Disorder (ADD). "Yes, that damn thing," he says. "I was good at math. Especially algebra. Everything else I failed. I dropped out of school …" The impulsiveness and the instability that the disorder caused in him marked his entire youth until he discovered mechanics as a kind of refuge. "It's just something about engines that calms me down."

THE CAR GODS

From what Mia tells Brian, we deduce that Jesse's skill repairing engines led him to become friends with Leon.

No engine can resist Jesse, the "Einstein" of mechanics, according to Toretto. The boy is capable of tuning any vehicle to turn it into a real racing car.

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: 978-1-4439-5160-9
FFN17: 20 12 30

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

Picture credits: NBCUniversal Archive; FCA Archive; Capristo; EuropeanAutoSource; Ragazzon

Fast & Furious Franchise © 2020 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. ©2020 FCA US LLC.

Printed in Poland

CUSTOMER SERVICES
United Kingdom
Call 020 3991 1199 or email support@uk.fanhome.com or ask your newsagent to reserve future issues for you to collect.

USA
Call 1-800-978-1455 or 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.

More information at www.fanhome.com

CHAD LINDBERG

Almost always with his hair disheveled, unshaven, and youthful appearance, Chad Tyler Lindberg is a movies and television actor, who got his most accomplished role playing the mechanic Jesse in *The Fast and the Furious*. Of Swedish, German, Irish and Scottish descent, Chad was born in Mount Vernon (Washington) on November 1, 1976. He discovered his vocation as an actor when he joined his college theater group, and he began working professionally in the second half of the 1990s, after moving to Los Angeles, playing small parts in such well-known series as *ER*, *Buffy the Vampire Slayer* and *The X-Files*. After that he also had opportunities to try his luck in the movies. After appearing in minor roles in *Mercury Rising* (1998), *City of Angels* (1998) and *October Sky* (1999), he was cast in *The Fast and the Furious* as Dom Toretto's mechanic, a role that made him extraordinarily popular. Later, he continued appearing regularly in films and television, enjoying great success with his role as Ash in the series *Supernatural*. It was in fact his liking for paranormal things – he considers himself to be a ghost hunter – that has also led him to take part in some reality shows about supernatural events, especially in Nick *Groff's Ghost Stalkers* (2014).

By chance, both of them met Dominic Toretto one night and since then they have been inseparable. Dom is fascinated by Jesse's skill as a mechanic, but he is also worried by his delicacy and he treats him like he was his elder brother. For example, when the whole team sits down to enjoy one of his well-known barbecues, Dom has to chide his mechanic because, like a child, he has picked up the food too early. "Because you were the first one to reach in to take a piece of chicken, you say grace," he rebukes him. As if it were a game, Jesse looks at the others out of the corner of his eye and starts to say: "Dear heavenly spirit. Thank you for providing us with direct port nitrous injection … four core intercoolers … ball-bearing turbos … and titanium valve springs. Amen." After his unusual grace, everyone bursts out laughing and Letty shouts. "He was praying to the car gods, man."

WITHOUT TAKING RISKS

Jesse is a special guy. You can see that just by the way he looks. His hair is disheveled, when it's not hidden under a cap, his fingernails are painted black, and he has a rather unkempt appearance. He doesn't care how he looks because where he most likes to be is in Toretto's garage, checking his friends' cars, or tuning the fantastic 1995 Volkswagen Jetta given to him by his father, who is now in prison. Engines, suspensions, exhaust pipes and tools are his comfort zone.

But being in Toretto's team also means being exposed to some awkward situations, even though Dominic always tries to keep him as far away from danger as possible. Thus, for example, when Dom sneaks into Johnny Tran's garage with Brian and Vince, Jesse stays outside, hiding in the Jetta and keeping watch. He alerts his companions when danger threatens: "Dom, there's a wolf-pack arriving. It's Johnny Tran and his rats," he tells his companions using a walkie-talkie and showing the scant regard he has for Jonny Tran.

THE WORST DECISION

It is this clear animosity he feels for Johnny Tran that will lead him to make the worst decision of his life. Brian discovers it when he arrives at the eagerly awaited Race Wars and finds Jesse more nervous than usual. When he tries to find out why, the mechanic tells him: "Throwing down the pink slip, like you," in reference to the first race between Brian and Dom. This puts the undercover cop on his guard. "The pink slip to what? The Jetta? You can't bet your dad's car!" But Jesse has made the decision and nothing can stop him. "It's all right, I ain't losing. This fool is running a Honda 2000. I'll win. That way, me and my dad can roll when he gets out of prison. It's all good."



Modifying engines for maximum performance is Jesse's primary job at Toretto's workshop.

A few seconds later, Brain discovers that the situation is more complicated than it seems. Jesse is going to be racing none other than Johnny Tran. "Jesse, don't do it," the undercover agent begs him. "I bet you he's got more than $100,000 under the hood of that car." But Jesse won't listen to reason.

The race judge gets things underway and the cars shoot away at top speed. In the first few moments, the Jetta and the Honda are neck and neck. But Jesse decides to take the lead and presses the nitrous button on his steering wheel. Immediately, the Jetta is propelled forwards some meters in front of his pursuer. However, there's still a long way to go. Johnny Tran smiles when he sees that Jesse has gone too soon. Now it's his turn. When he activates the nitrous, his Honda easily overtakes the Jetta and he crosses the finish line first.

Jesse's distraught face says it all. He has just lost his most prized possession: his father's car. Unable to accept it, he turns around and drives off in the car. But you can't get away from Johnny Tran so easily.

A TRAGIC OUTCOME

After events happened very quickly and Brian revealed his true identity, Dom decides to go looking for Jesse, who's been missing since the day of the race. Brian, who has gone to Toretto's house looking for the group, blocks his path. "Brian, I got to find Jesse before Tran does," Dominic tells him, visibly shaken. "I'm all the kid's got." Brian tries to stay cool and avoid a gang fight in the streets of Los Angeles. "I'll call in his plates. The police will pick him up way before Johnny even gets near him," he says.

While they are talking, Jesse appears in the Jetta. Toretto goes crazy, like when a father sees that his son is making a huge mistake. "Jesse! What were you thinking, man?" The mechanic swallows hard and gesticulates, with his eyes full of tears. "I don't know, I panicked. I'm sorry. I'm scared! I don't know what I'm doing. Will you please help me?"

Suddenly, two motorcycle riders burst into the street. It's Johnny Tran and his cousin. The sound of their automatic guns startles the local people. Toretto throws himself to the ground to avoid the bullets. Jesse doesn't have time. He is hit several times before he can understand what's happening. Then he collapses. Dom runs to him and embraces him. Mia also comes running, letting out a piercing scream. But there is nothing they can do to help him. In Dominic's eyes, sadness turns to the desire for vengeance.



With his ingenuity, every last piece can be tuned to create a faster car. In the image: Vince and Mía Toretto in full reconstruction.



THE DODGE BRAND IN CANADA

Canada has close commercial ties with the USA, to the extent that both countries habitually consider themselves to be a single market. The Dodge brand has been selling its products and manufacturing cars in Canada almost since it was created and has even made specific models for this country, especially in the inter-war years.

In May 2018, the Brampton factory produced the last unit of the Dodge Challenger SRT Demon after supplying more than 3,000 units of this model to the US and Canadian market.

Present in Canada as a brand of the Chrysler group, Dodge manufactured specific models for the local market during the period of the Great Depression. In 1932 the Dodge DM was launched, a model with Dodge bodywork but which changed the original six-cylinder engine for a four-cylinder Plymouth one. The DQ and DP models, Plymouth vehicles with a Dodge radiator grille, were subsequently launched. This policy of renaming cheaper models manufactured by Plymouth as Dodge continued until 1959. The cars were manufactured in Canada, at the plant in Windsor, Ontario, and they were slightly different to their American equivalents. The plant was enlarged in the 1960s with new buildings and it exported cars to Australia thanks to both countries belonging to the Commonwealth, which made trade cheaper.



The Prime Minister of Canada, Justin Trudeau (in the center, with a tie) talks to the employees of the Windsor factory in Ontario during his visit in May 2018.

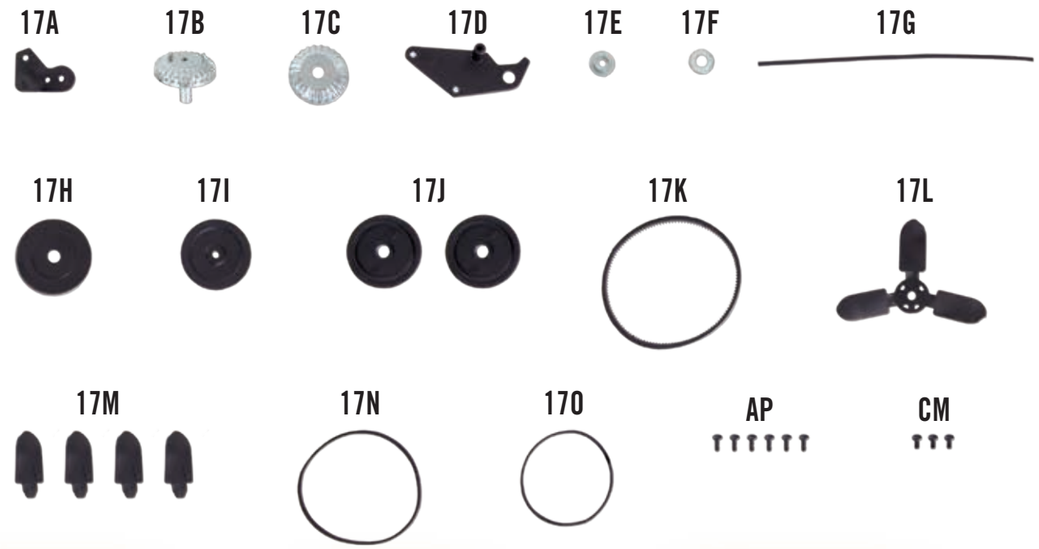
The success of Valiant (a Chrysler brand for some foreign markets) in Canada eclipsed Dodge in the 1960s, until 1965, when the US-Canada Automotive Trade Pact was signed. This put and end to the differences between the models sold in both countries and the free circulation of parts was permitted, which favoured the renewal of the Canadian industry. The Windsor plant currently manufactures the Chrysler Pacifica and the Dodge Grand Caravan, while the one in Brampton, opened in 1986, produces the Dodge Charger and Challenger, as well as the Chrysler 300.



ASSEMBLING THE ENGINE BLOCK (V)

In this assembly session, you will install the alternator with its pulley and belt, the crankshaft pulley, and the supercharger and water pump belts.

PIECES FOR THIS STAGE



17A Alternator bracket 1
17B Alternator piece 1
17C Alternator piece 2
17D Alternator bracket 2
17E Alternator pulley (piece 1)
17F Alternator pulley (piece 1)
17G Alternator wire
17H Crankshaft seal
17I Crankshaft pulley (piece 1)
17J Crankshaft pulley (piece 2) (x 2)
17K Supercharger belt
17L Cooling fan base
17M Cooling fan blades (x 4)
17N Alternator belt
17O Water pump belt
AP Screws 1,7 × 4 mm, (x 6)*
CM Screws 1,7 × 3 mm, (x 3)*

* 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.

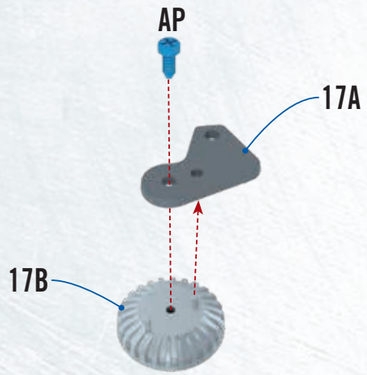
ASSEMBLY AREA



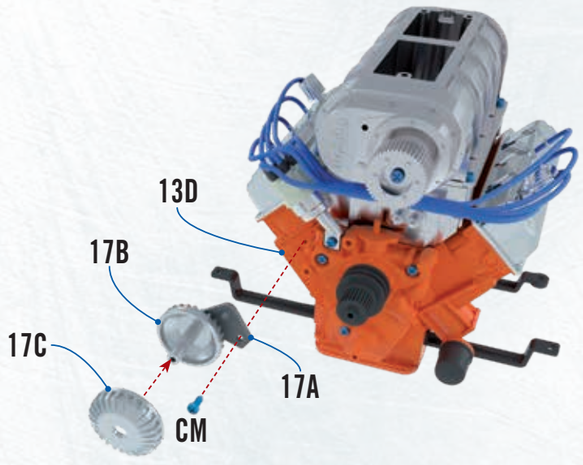
ENGINE BLOCK

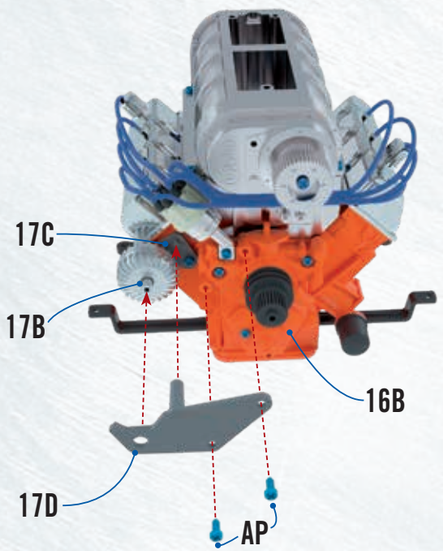
Assembling the engine block (V)

17.1 **START ASSEMBLING** the alternator by joining piece 1 **17B** and bracket 1 **17A**. Position the pieces the same way as those shown in the illustration. Join them together with an **AP** screw. ▼



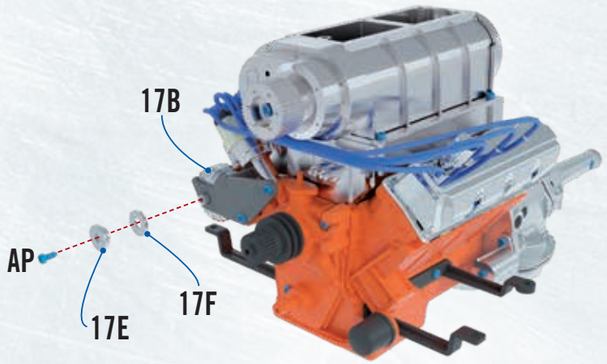
17.2 **PLACE** piece 2 **17C** on top of piece 1 **17B**. Then put the completed alternator onto the right side of the engine block, aligning the free hole in bracket 1 **17A** with the hole in the front of the right bank of the engine block **13D**. Attach with a **CM** screw. ▼

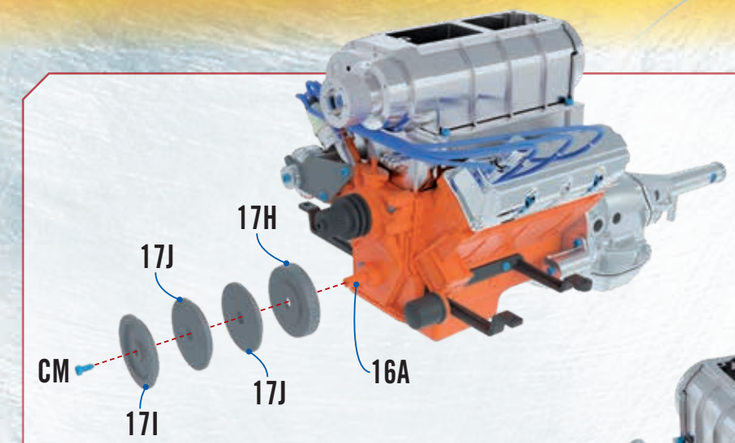




17.3 **POSITION** bracket 2 **17D** onto the completed alternator, inserting the protruding shaft on alternator piece 1 **17B** into the largest hole in bracket 2. The two holes on the side of the bracket must be aligned with the two holes in the water pump **16B**. At the same time, the long shaft on bracket 2 fits onto the small pin on bracket 1 **17A**. Join with two **AP** screws. ◄

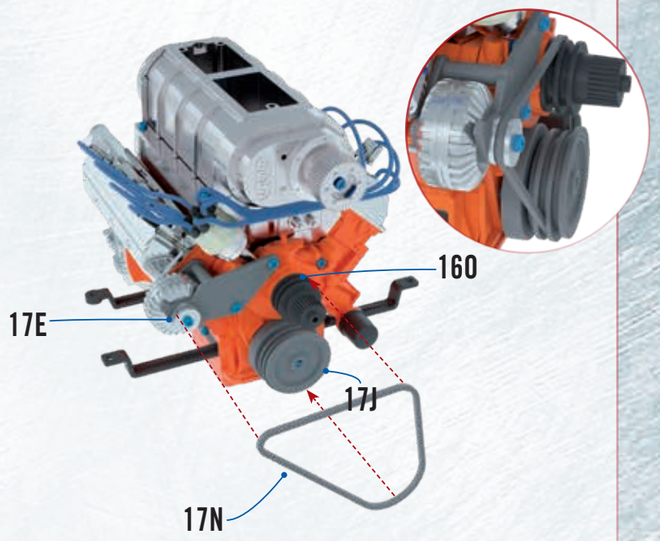
17.4 **MOUNT** the alternator pulley by joining the pieces in the following order: first, piece 2 **17F** and then piece 1 **17E**. Attach the pulley to the shaft on the alternator **17B** with an **AP** screw. ►

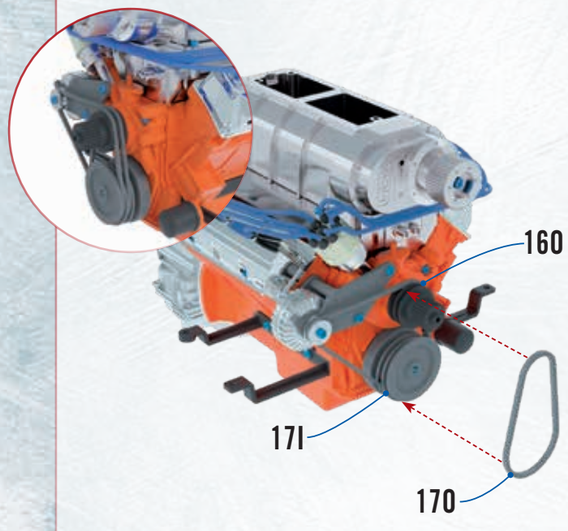




17.5 **BUILD** the crankshaft pulley by sliding its components onto the shaft sticking out of the timing cover **16A**, in the following order: crankshaft seal **17H**; both parts of piece 2 **17J**; piece 1 **17I**. Join the parts together with a **CM** screw. ◄

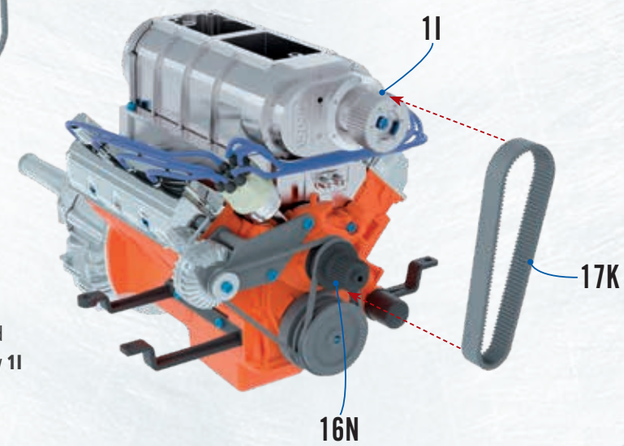
17.6 **MOUNT** the alternator belt **17N** over the alternator pulley **17E**, between the two parts of piece 2 of the crankshaft pulley **17J** and over the inner groove of the fan belt pulley **16N**, as shown in the detailed picture. ►





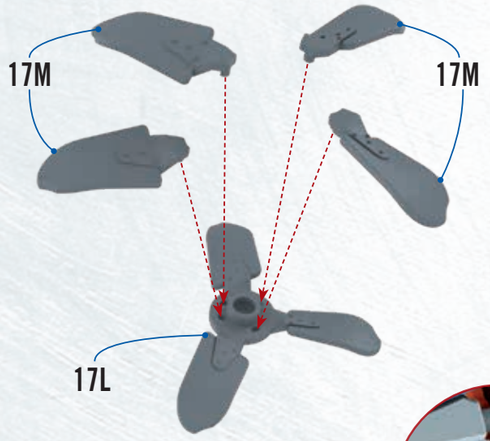
17.7 **NOW ATTACH** the water pump belt **17O**, which must go around the outer groove on the fan belt pulley **16N** and the outer groove on the crankshaft pulley (piece 1) **17I**. ◄

17.8 **TAKE** the toothed supercharger belt **17K** and position it over the toothed supercharger pulley **1I** and under the toothed fan belt pulley **16N**. ►

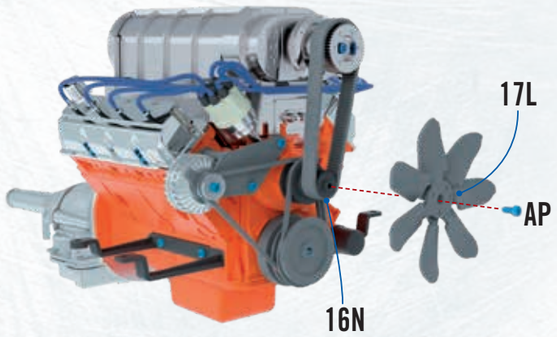


Assembling the engine block (V)

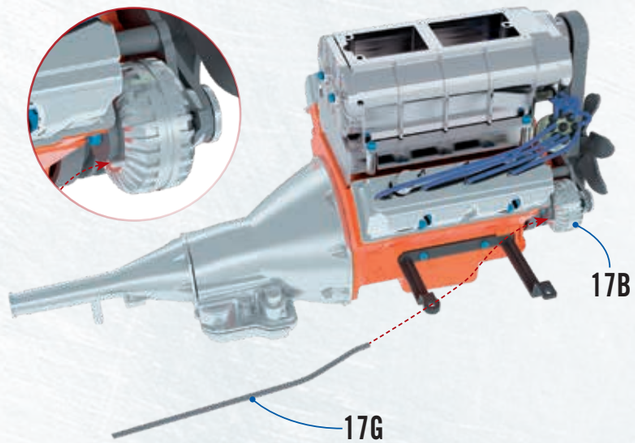
17.9 **BUILD** the radiator fan by mounting the four blades **17M** onto the cooling fan base **17L**. Each blade has a locating pin which must be inserted into the corresponding hole in the base. ▼



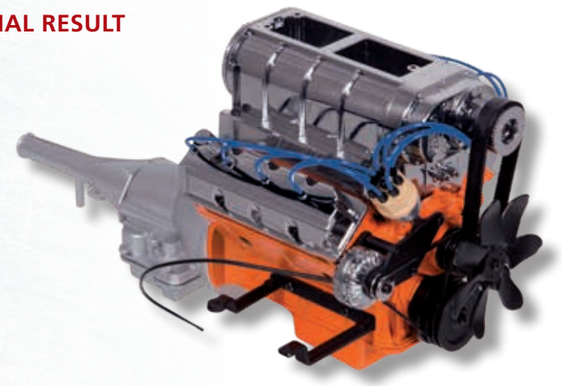
17.10 **PLACE** the completed fan onto the fan belt pulley **16N**. Fix it in place with an **AP** screw. ▼



17.11 **SLIDE** one end of the alternator wire **17G** onto the locating pin on the back of the alternator **17B**. ▶

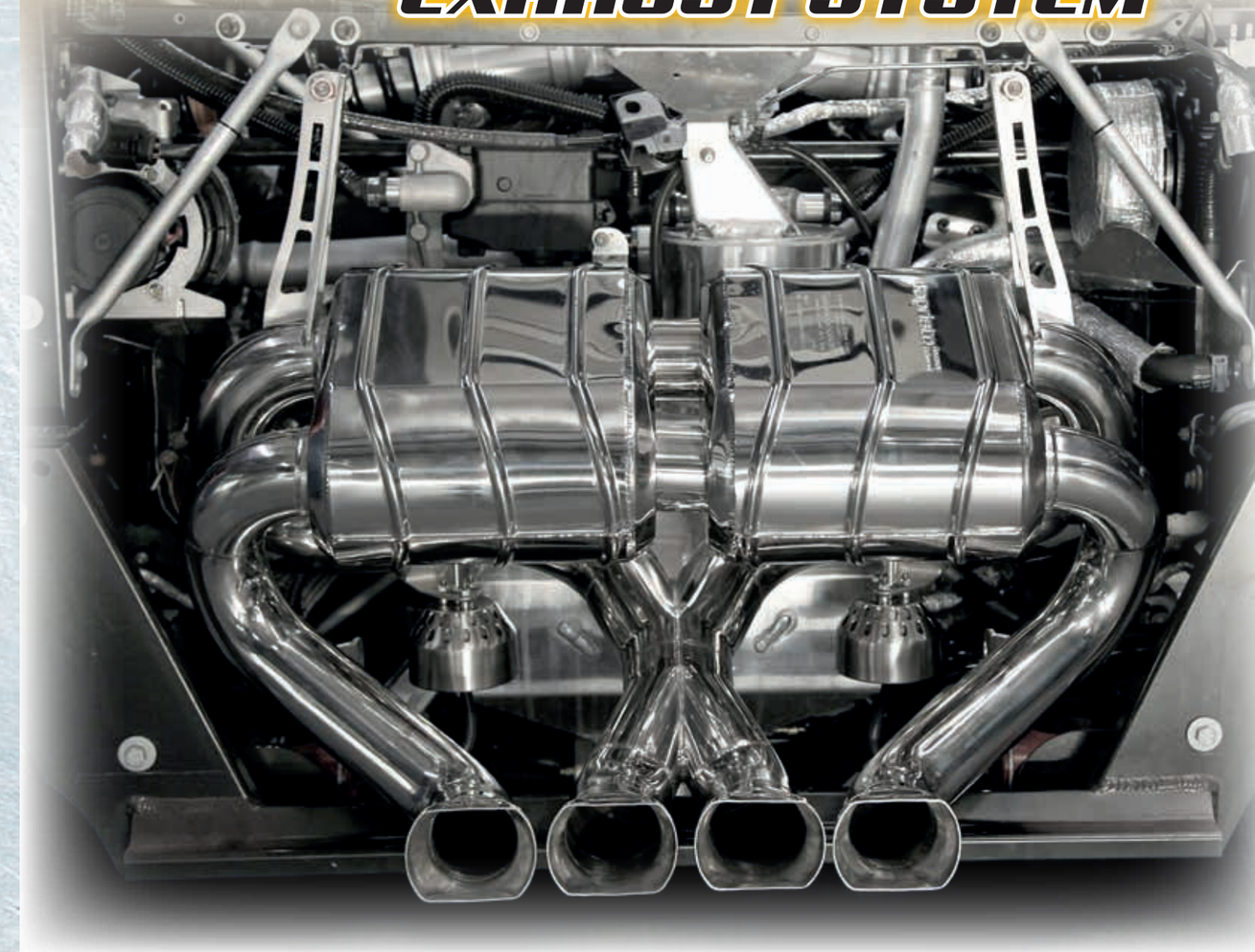


STAGE 17 FINAL RESULT



This photo shows the engine block with the new parts fitted in this stage: the alternator, the cooling fan, the pulleys and the three belts.

THE CUSTOM EXHAUST SYSTEM



The performance and sound of an exhaust system are the results of both the design and the material used to manufacture it. As you will see, various different materials can be used, each with its own advantages and disadvantages.

Since the early days, standard car exhaust pipes have been made of steel, which is cheap and malleable and very useful when bending tubes into shape. However, it has several drawbacks, of which the biggest is rust. To overcome the corrosion problem, steel exhaust pipes either have to be coated with zinc, or they have to use thicker materials, which makes them heavy.

Today most sports exhaust systems are made of AISI 304 stainless steel, an alloy with a chromium content ranging from 10% to 20% that is extremely resistant to corrosion. AISI 304 is very tough but malleable and is used for the manufacture of objects as diverse as cutlery, surgical instruments, guns and of course, exhaust systems. It is also a comparatively light material that

Although the most widely used type of stainless steel is AISI 304, some manufacturers prefer AISI 309, which has greater strength and durability. It is often used in the most prestigious supercars, where the highest quality is required.



In more advanced systems, there is a control unit that manages the opening of specific valves on the exhaust to vary the intensity of the sound.

withstands the passage of time well. Its only drawback, perhaps, is its cost.

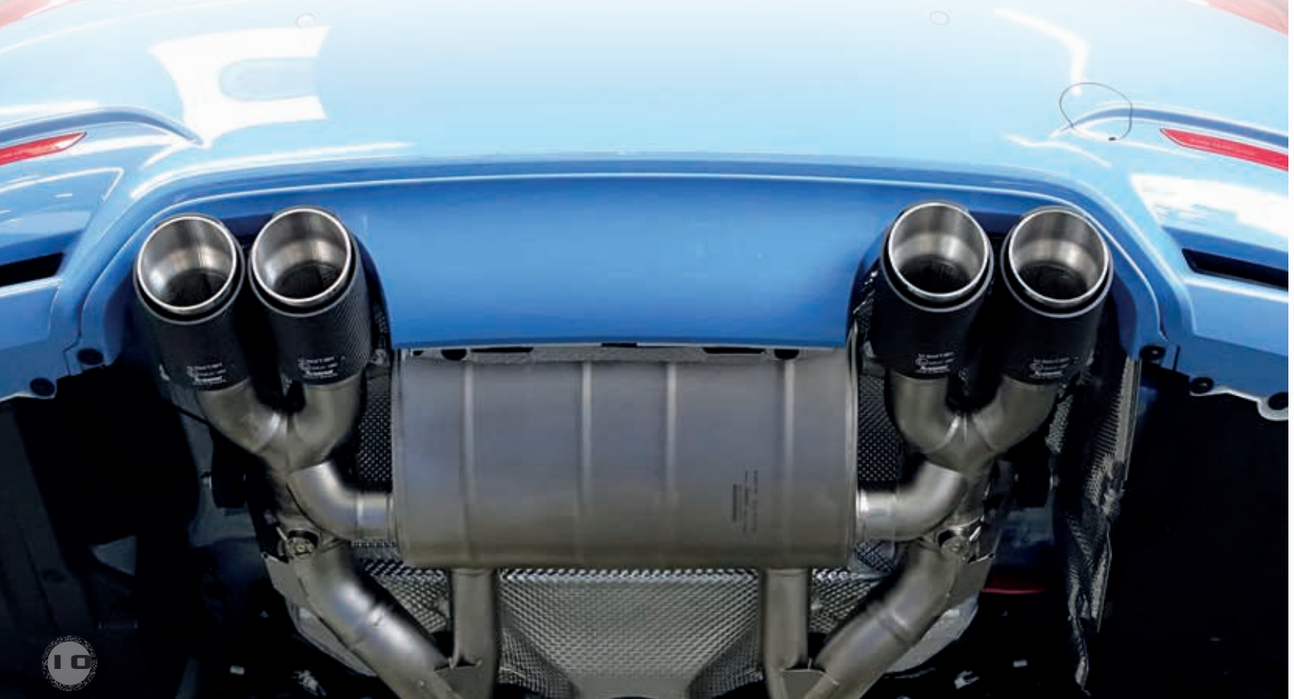
Higher quality metal inevitably leads to a more expensive product. But stainless steel exhaust systems are still reasonably accessible in price, and considering the benefits, they are worth the extra money. The final section of an exhaust pipe made of stainless steel could cost you around £250, while you might find a complete kit, including manifolds, for between £1,500 and £2,500, depending on the make of your car.

STAINLESS STEEL OR TITANIUM?

If you are looking for an alternative to stainless steel, you could also consider titanium, a very strong, light material that allows you to build lightweight exhaust systems. In some cases, the weight of the exhaust system can be reduced by 40% to 45% (about 7kg on average) compared to stainless steel systems. As the vehicle is lightened, the power-to-weight ratio improves, and that will help the car's performance. Titanium is also used extensively in the aerospace industry, and resists corrosion and high temperatures very well – almost as well as platinum – and it dissipates heat better. Also, having a much less dense structure than steel, it generates a high, metallic sound with its own particular charm. Manufacturing exhaust systems with titanium is not much more complicated than working with stainless steel. It uses the same tools and processes that are used for steel exhausts. Its only weak point is undoubtedly the cost, although that really depends on your budget. A full titanium exhaust system can easily set you back £4,000 or £5,000.

A VERY SPECIAL ALLOY

Considered a "Super Alloy", Inconel is a family of austenitic nickel-chromium-based superalloys. Austenitic

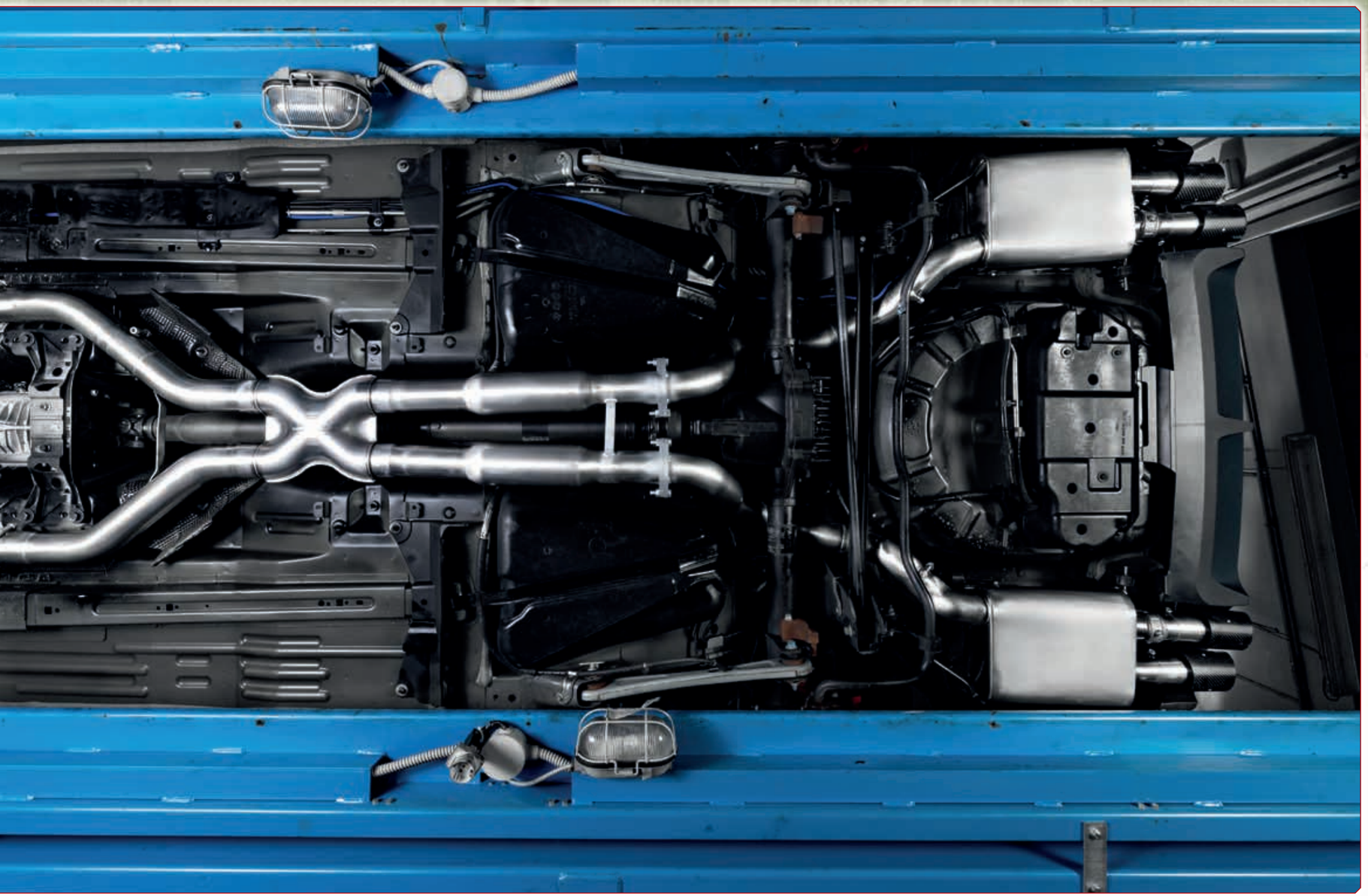


Titanium, much lighter than steel, allows weight to be reduced by up to 45% (about 7kg in the case of exhaust systems). It only has one disadvantage: the price.

Hydroforming

In recent times, some manufacturers have been making their exhaust systems using a process known as hydroforming. Stainless steel tube is enclosed in a shaped die. The die might take the form of a silencer with lengths of exhaust pipe attached to each end. Pressurised liquid is injected into the piece, which forces the walls of the tube outwards until they assume the shape of the surrounding die. The pressure can go up to a few thousand bars, and it causes the tube to calibrate against the die with a high degree of precision. Calculations take into consideration the initial tube material properties and its potential for shaping and bending. The end product would be a silencer with its two connecting sections of exhaust pipe all hydroformed as a single piece, with no seams and no welding. Thanks to this process, as well as using the best possible materials, the weight of the finished product can be reduced while ensuring exceptional strength, durability and performance.





Sometimes, upgrading an exhaust system requires a complete redesign. The choice of materials and the design of shapes and dimensions are defined by the needs of the car and its owner. But sometimes the ideal system is a compromise between cost and perfection.

steels are non-magnetic stainless steels that contain high levels of chromium and nickel and low levels of carbon. Its very high melting point is its main asset, which is why it is widely used in the aerospace and atomic energy industries, where it is used to manufacture reactor cores.

For many years, the exhaust systems of Formula 1 cars have been made with Inconel 625, a material that makes it possible to manufacture extremely thin-walled, light pipes with very high heat resistance. It is also used to make exhaust systems for some of the world's top supercars. Various aftermarket exhaust kits are made of this alloy. The price, as you might imagine, is out of most people's reach. But for the owners of luxury supercars, it is just an accessory, and they probably do not mind spending up to £20,000 for the best.

SOUND ON DEMAND

Increasingly restrictive regulations on noise pollution have taken some of the fun out of tuning exhaust systems. But some enterprising manufacturers have created a product to tune exhausts to produce a throaty roar on demand. They install electronically controlled valves into the exhaust system that open and close by remote control, allowing the exhaust systems to have "à la carte" sounds and noise levels. There are essentially three types of valve opening controls: OEM, On/Off, and with programmable options. OEM control is when the car has a factory-installed exhaust system equipped with one or two valves. In this configuration, opening and closing is managed automatically by pre-programmed electronics. The On/Off control configuration involves the installation of a remotely controlled unit specially developed by the valve manufacturer. It is interposed between the standard OEM electronics and the valve actuator, allowing the driver to open or close the valves by pressing a button on a remote control sender unit. Lastly, the programmable control unit is the one that is the most fun to use. It allows the driver to control different modes which vary according to the programmed sound and backpressure values. This unit has a pressure sensor that reads the gas pressure value inside the exhaust line and depending on the chosen mode, automatically opens and closes the valves to produce the desired sound and volume.

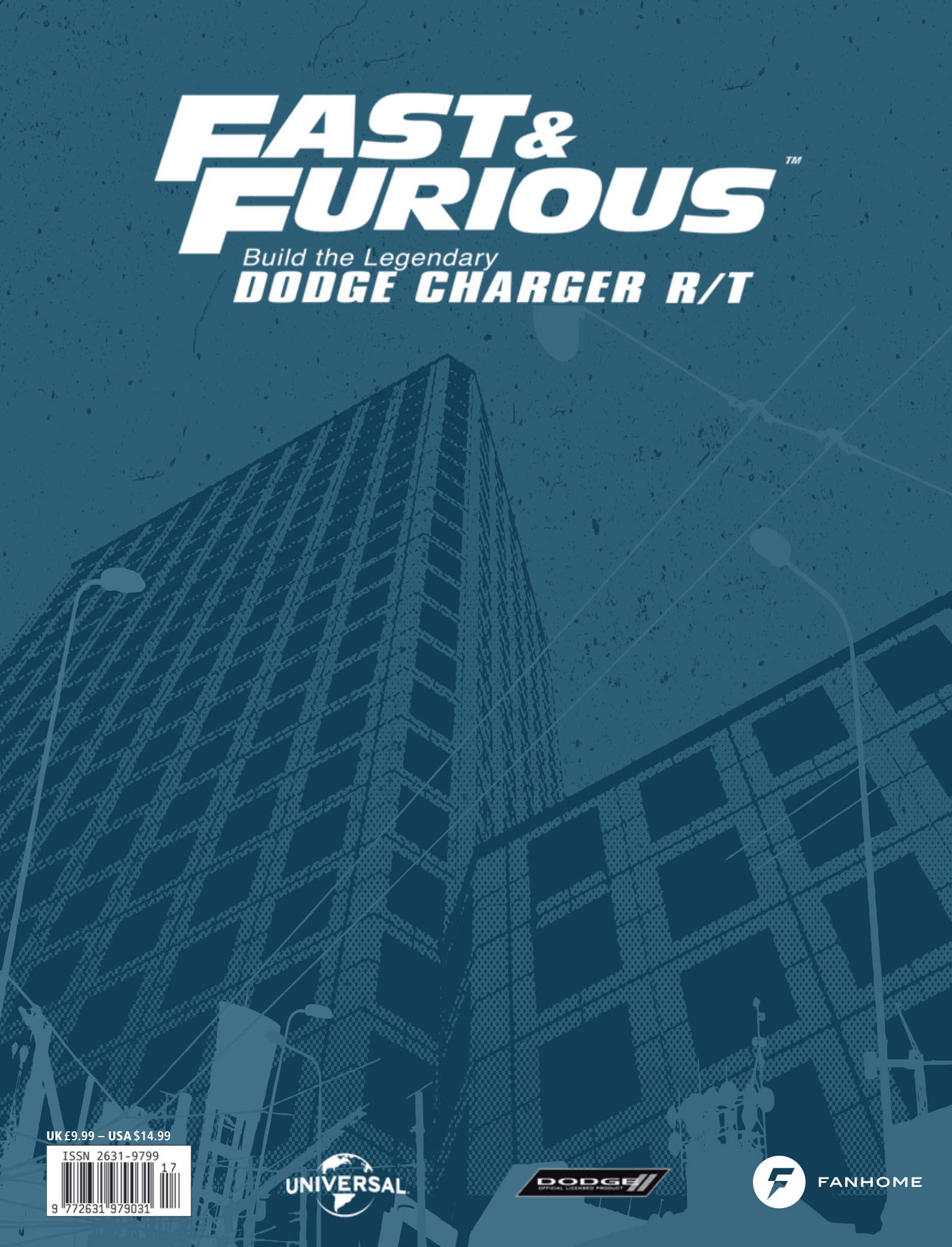
Valves fitted to exhaust systems are subjected to considerable thermal and mechanical stresses. The system is responsible for the evacuation of the gases produced by the car engine which, at the manifold, can reach temperatures of around 600°C in a powerful car. So it is essential to have a system that withstands both high temperatures and the vibration that is generated over time. The valves must not only function reliably, but they must guarantee the correct flow of gases. The most up-to-date models have some built-in features that offer the maximum benefits reliably and safely. In particular, three components are worth noting: thermal protection, anti-vibration suspension, and heat-resistant bearings. With the first, a thermal shield, made of T309 stainless steel, creates a barrier between the valve and the exhaust system and facilitates heat dissipation to reduce the thermal impact on the valve. Then, at the two ends of the butterfly-valve shaft support, located inside the exhaust line, there are pre-calibrated springs that dampen and reduce vibrations that could be transmitted to the shaft. The springs are designed to ensure that the shaft stays aligned at all times. The butterfly valve shaft itself must rotate smoothly, and resist the effects of elevated temperatures. Floating bearings at each end of the shaft compensate for thermal variations. The bearings are made of silicon carbide and can be replaced in case of wear, without having to change the entire valve.

The choice of material is often linked to economic possibilities. Stainless steel is usually the preferred option, as it is highly resistant to corrosion and has a reasonably low price. But if you have a larger budget, you might opt for titanium. But leave the Inconel to the supercars.



FAST & FURIOUS™

Build the Legendary DODGE CHARGER R/T



UK £9.99 – USA $14.99

ISSN 2631-9799

UNIVERSAL

DODGE

FANHOME