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DODGE CHARGER R/T



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FAST & FURIOUS

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THE TRIP TO ABU DHABI

After travelling halfway round the world, *Furious 7* included an exotic location that was used as the setting for one of the most explosive sequences in the franchise. The capital of the United Arab Emirates was converted into the scene of an opulent party that ends in an absolutely thrilling action scene.

After the exciting rescue of Ramsey in the Caucasus Mountains, Dominic Toretto and his team find themselves following the trail of the God's Eye to the city of Abu Dhabi, the capital of one of the wealthiest countries in the world. We see our heroes driving on the desert roads in vehicles fit for the occasion: a burgundy 2015 Dodge Charger for Dom, a blue 2014 McLaren P1 for Brian, a black 2014 Dodge Viper for Letty, a yellow Ferrari 458 for Tej, and a white 2012 Bugatti Veyron for Roman – a truly deluxe parade.

In the course of filming each movie, automobiles had been incorporated that were to some extent associated with the filming location. It was inevitable that, if the team went to the Middle East, fast cars worthy of exhibition, some of which are produced there, like the exclusive Lykan Hypersport, would be included.

With its spectacular skyscrapers, the capital city of the United Arab Emirates became the backdrop for part of the exciting action in *Fast & Furious 7*.

The trip to Abu Dhabi

"When I found out that we were coming to Abu Dhabi I said 'Yeah, it's the perfect place for us'," says Ludacris, who plays Tej Parker. "Here, the term wealth is a euphemism. The amount of high-end vehicles and super sports cars in the streets is a real eye-opener."

LUXURY LOCATIONS

"The locations in Abu Dhabi are incredible," the director of the film, James Wan, says. "They add a lot of value to the production of the film and make it truly exotic. We wanted to achieve a balance between the opulence in this part of the world and what is more traditional and cultural so that we could transmit a little of that flavor in the movie. It's a little bit different to what fans of *Fast & Furious* have seen up to now, but it continues in line with the natural development of the franchise."

Abu Dhabi offered the filmmakers the chance to inject more striking local elements in the franchise. In the course of two weeks in April 2014, the crew filmed in areas around the city, in the Liwa Oasis.

"We were lucky to find a beautiful tarmacked highway that goes 30km into the desert," explains locations manager Lyall Gardiner.

They also filmed in the center of the capital and in well-known locations like the Sheikh Zayed Grand Mosque, the old royal palace which is now the Emirates Palace Hotel, and the Yas Marina. Another place that played a key part in the film was the skyscraper complex known as Etihad Towers, a group of five buildings that rise between 218 and 305 metres. The tallest one was the setting for the luxurious party that Dom and his team attended in an attempt to get hold of the God's Eye, kept in an incredible apartment on the 80th floor.



UNEXPECTED GUESTS

In what is possibly one of the most enjoyable moments in Furious 7, and in the whole franchise too, Toretto's group turn up at the prince's elegant, crowded party dressed for the occasion, in suits and gowns made by internationally renowned designers like Tom Ford and Hervé Léger. Trying to attract as little attention as possible, despite Roman's irrepressible enthusiasm, Dom and Brian find the attic apartment where the multimillionaire has hidden his most highly prized possessions. One of them is the brand-new red Lykan Hypersport, inside which the God's Eye is hidden. While both of them try to remove the device, the others keep watch, mingling with the party guests.

To film the scene, hundreds of extras were hired who, in party dress, moved around the huge space in amongst a dance troupe completely covered in gold paint who were moving to the beat of the music played by the DJ, the well-known rapper T-Pain.

It took a whole week to prepare and film the party. The most complicated part was choreographing the movements of the extras. Especially when, with the party in full swing, Dom bursts in at the wheel of the Lykan, prepared to take it with him before the prince's personal bodyguards, or his archenemy Deckard Shaw, who also shows up to make things difficult for our heroes, can stop him.

PLANNED DOWN TO THE LAST DETAIL

The set that was constructed for this exciting moment, when the party is turned into an improvised racetrack and shooting range, was devised with enough room to be able to move the extras around without anyone actually being placed at risk. The stunt performers made it their job to maneuver the Lykan across the marble floor while the elegantly dressed guests run here, there and everywhere. Achieving what on screen looks like a moment of total chaos, on the contrary demanded extremely detailed planning in which every member of the cast and crew knew exactly where they had to be at all times.

The crazy sequence ends with the greatest action scene in the film: surrounded by his enemies, Toretto sees no way out other than crashing through the glass attic window in the Lykan and launching it over to another of

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MIKE WASSEL

A big name in the world of visual effects, Mike began his career specialising in a very specific area, matte painting, a technique that makes it possible to very realistically recreate matte-painted landscapes or settings and then combine them with live-action footage. His mastery of this technique enabled him to work on such popular productions as *Wolf* (1994), *From Dusk till Dawn* (1996), *The Mask of Zorro* (1998) and *The Gift* (2000). In 2001 he joined the visual effects crew on *The Fast and the Furious*. Ever since then, he has maintained close ties with the franchise, participating in virtually all of the movies in the series. Outside of this, as visual effects supervisor Mike has contributed with his enormous artistic talent to creating some of the fantastic worlds that we have enjoyed on the big screen, like those in *The Chronicles of Riddick* (2004), *Hellboy II: The Golden Army* (2008), *R.I.P.D.* (2013) and *Shazam!* (2019).

the skyscrapers in the complex. Despite the filmmakers' wish to film the dangerous scenes with the cars for real, on this occasion it became essential to rely on the brilliant magic of the visual effects supervisors Michael J. Wassel and Kelvin McIlwain, who achieved absolutely spectacular results.

The presence of the *Furious 7* cast and crew in Abu Dhabi aroused enormous interest. Many personalities in the city, including some members of the country's royal family, wanted to come and personally greet the actors. The entire film crew was surprised by the warm welcome they were given.

"I didn't know there was such great interest in car culture in this part of the world," the director James Wan admits. "They love the *Fast & Furious* franchise. It was great for us to be able to penetrate in their culture and show the rest of the world what Abu Dhabi is like."

Brilliant work by the special effects artists made possible Dom Torreto's spectacular jump from one of the city's skyscrapers to another at the wheel of the Lykan Hypersports car.



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DODGE LA FEMME

In 1955, the Dodge brand's marketing department decided to launch a model specifically aimed at women drivers, due to the confirmation that women were playing an important part in the purchase of new automobiles, and that they often bought them to be driven by themselves. Thus was born the Dodge La Femme.

The Dodge La Femme was only marketed in the color combination of the car in the picture and only with two-door hardtop bodywork.

The Dodge La Femme was not a specific model, but a Dodge Custom Royal Lancer with two-door hardtop bodywork, transformed with special fittings and renamed the La Femme with clear French connotations. Painted a two-tone combination of beige and pink, the upholstery in the La Femme simulated that of a carpet, pink being the predominant color. It had many accessories designed for women such as a matching bag that could be placed in different parts of the interior, compartments for an umbrella, a raincoat and a hat, and an extra mirror. All these features were designed and made by Evans of Chicago, specialising in ladies' fashion accessories. With an eight-cylinder engine, the Dodge La Femme was on sale for two years (1955 and 1956) and despite the fact that the company never released official sales figures, it is thought that about 2,500 units were sold. The commercial failure of the initiative was possibly due to the lack of promotion made by the brand and to the fact that the car was not physically available in dealers' showrooms because, as it had a package of optional features, it was only sold from the catalog.



The car was sold with different accessories designed by Evans, a firm that produced different ladies' fashion accessories.

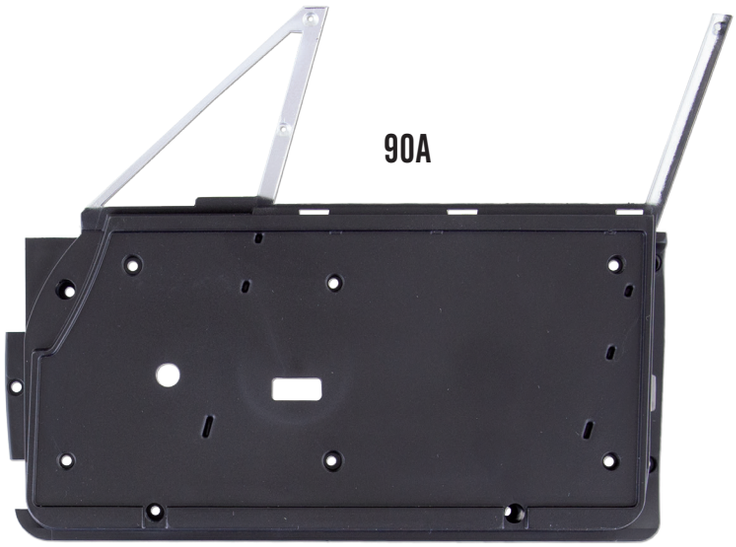
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THE RIGHT DOOR LOCK

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

PIECES FOR THIS STAGE



90A



90B

90C



90D



90E



AP

90A Inner section of the right door
90B Lock stem
90C Lock spring
90D Lock
90E Lock mounting bracket
AP Screws 1.7 × 4mm (× 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

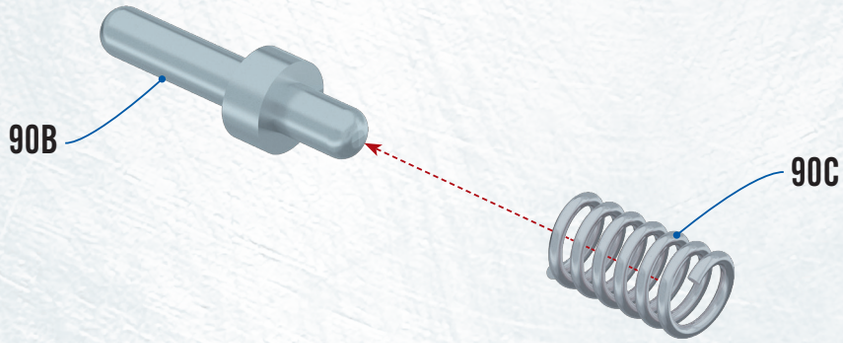


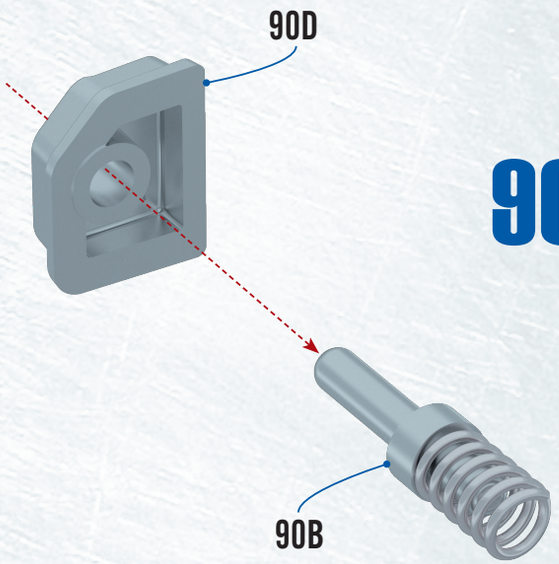
RIGHT DOOR

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The right door lock

90.1 **START ASSEMBLING** the door lock system by sliding the spring **90C** onto the shorter end of the stem **90B**; hold the two components together with your hands and move on to the next step. ▼



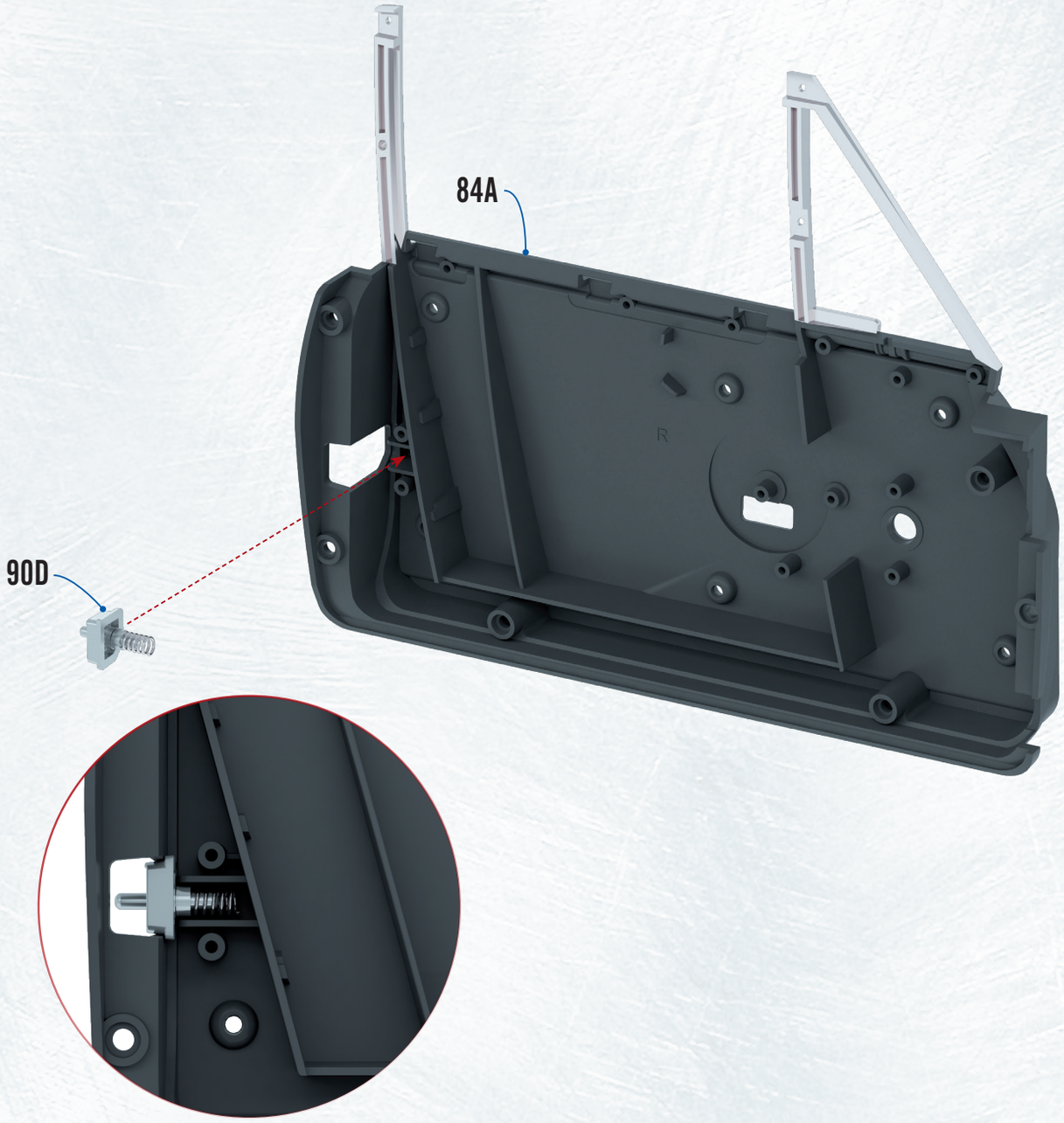


90.2 **INSERT** the free end of the stem **90B** into the hole in the middle of the concave side of the lock **90D**. ◄

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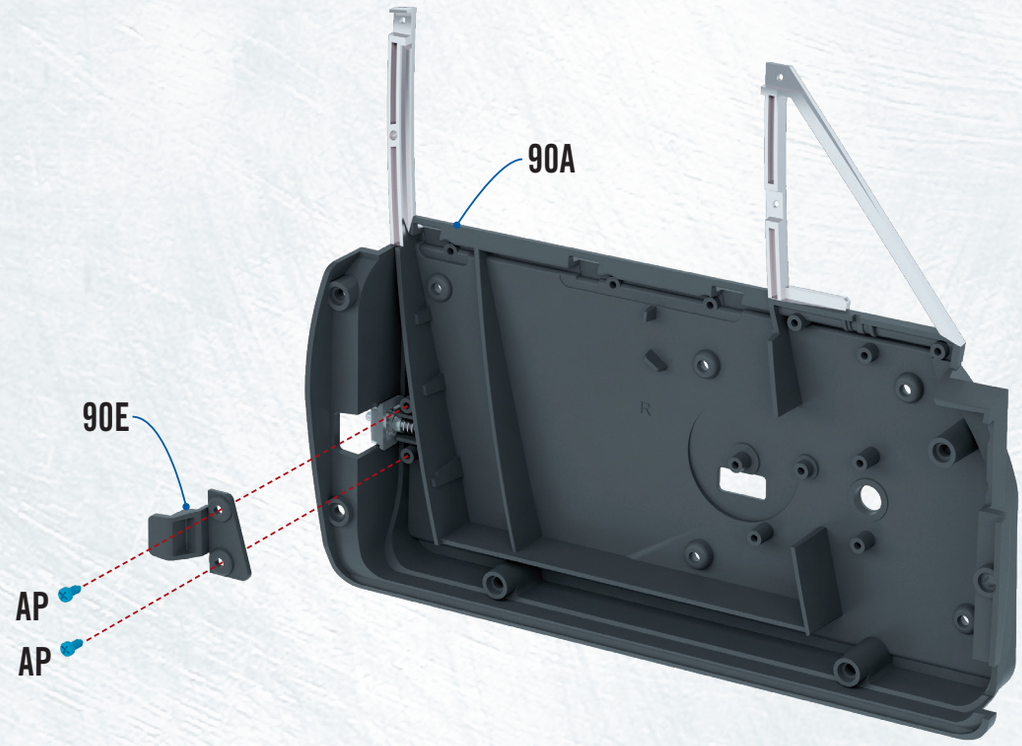


90.3 **INSERT** he completed lock **90D** into the housing in the inner section of the door **90A**, as shown in the illustration, making sure that the spring is facing the middle of the door.▼



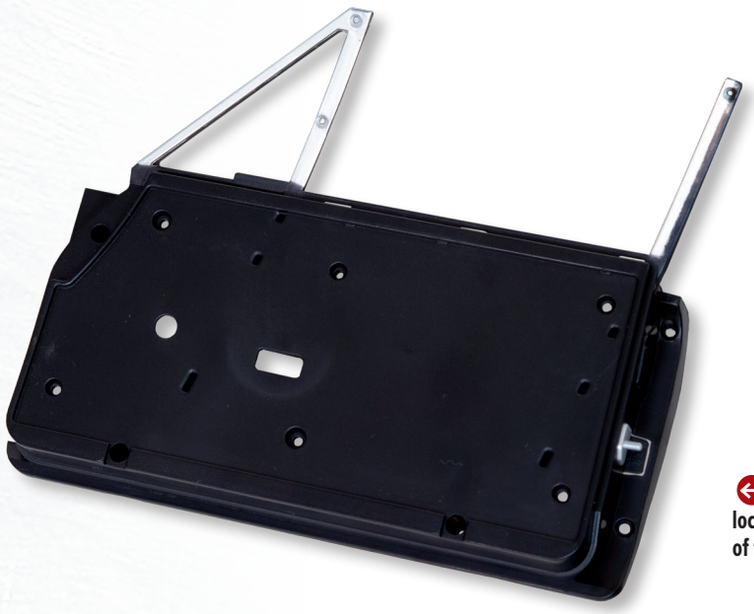
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The right door lock



90.4 **COVER** he lock and spring with the mounting bracket **90E**, as shown in the illustration, and attach the latter to the inner section of the door **90A** with two **AP** screws. ▲

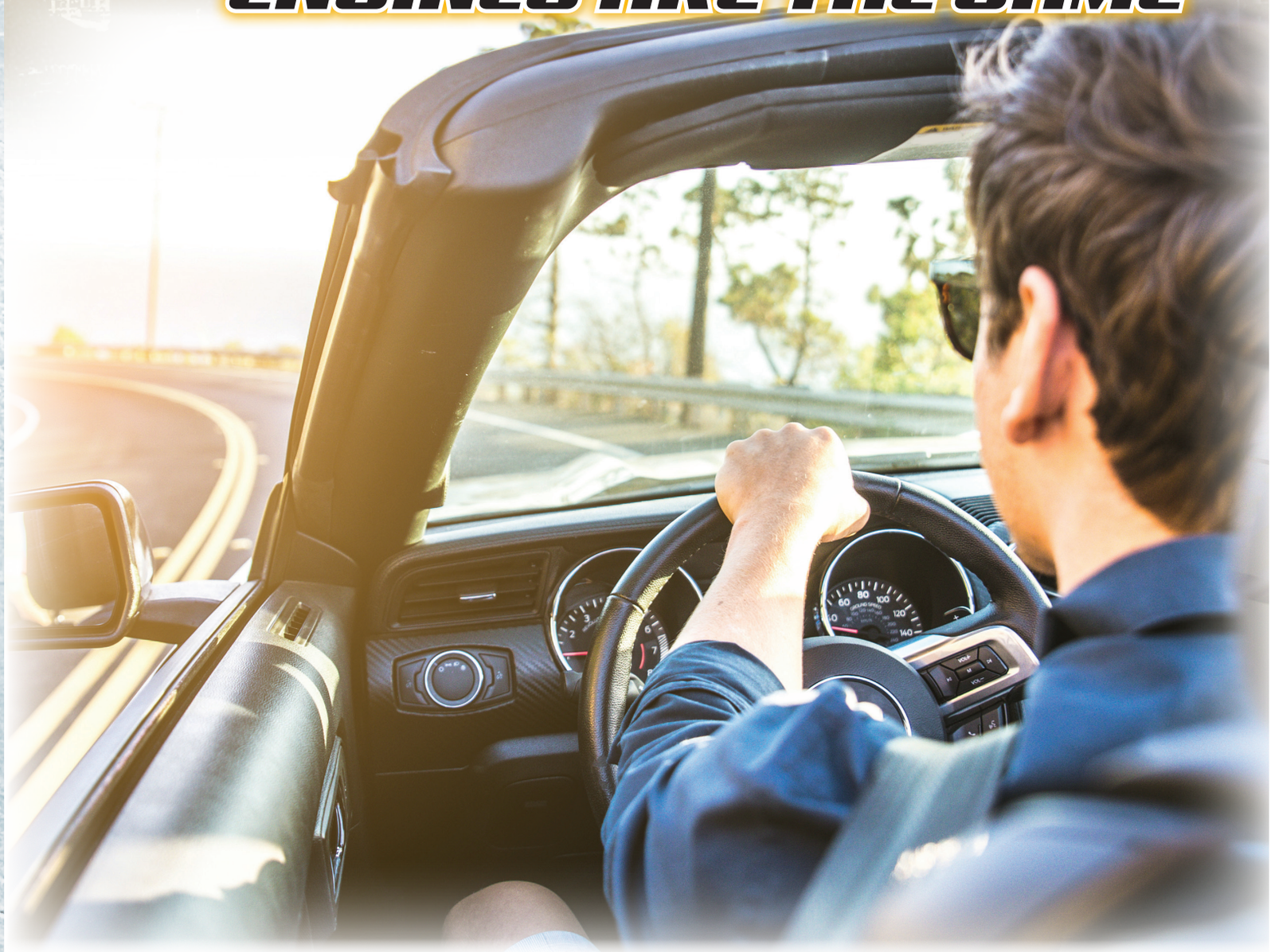
RESULTS OF STAGE 90



You have now installed the lock mechanism on the inner section of the right door.

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NOT ALL HYBRID ENGINES ARE THE SAME



The number of hybrid engines on the market is constantly increasing. However, beware - they are not all the same! Moreover, there is a lot of confusion regarding the cars that adopt this technology. The differences between them are considerable, especially in terms of fuel consumption and emission reductions. Here are the facts:

When talking about hybrid, we must be very precise in how we describe it. Everything seems simple in the commercials: The word "hybrid" is associated with virtually all models that achieve a reduction in consumption and emissions.

The truth is that there are various types of hybrid cars with very different characteristics. The hybrid engine is nothing more than a system in which one or more electric motors boost an internal combustion (IC) engine. There are currently three types of hybrids on the market: Mild hybrids, Full hybrids and Plug-ins hybrids.

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Not all hybrid engines are the same

MILD HYBRID

As the name suggests, in this type of hybrid, the electric motor is only auxiliary since it would not be able to power the vehicle on its own. It is also called a "light hybrid". This is the simplest form of hybridisation and, at the same time, the most popular due to the simplicity of its implementation.

A small electric motor is connected to a lithium battery (and the internal combustion engine). It operates on 12 volts, or 48 volts for those looking for a higher-performance car. It only intervenes in the start-up phase, during acceleration from a standstill, and in the driving conditions in which the vehicle requires more torque. In this way, the IC engine is less stressed, and consequently, fuel consumption is reduced.

In mild-hybrid cars, the standard alternator, which supplies energy to the electrical parts, is replaced by a device called a motor/generator. In addition to generating current, it helps the IC engine by providing it with drive torque. Electrical energy is recovered during deceleration and braking. The IC engine always provides power, except when the car is momentarily stationary - for example, in the queue at a traffic light - and when decelerating.

This combination reduces fuel consumption by between 10 and 15% compared to an IC-only vehicle. The saving is modest compared to a Full Hybrid. However, it usually guarantees free access to areas with reduced-pollution traffic zones, a reduction in the cost of parking in the city, and tax concessions (which may vary from country to country).

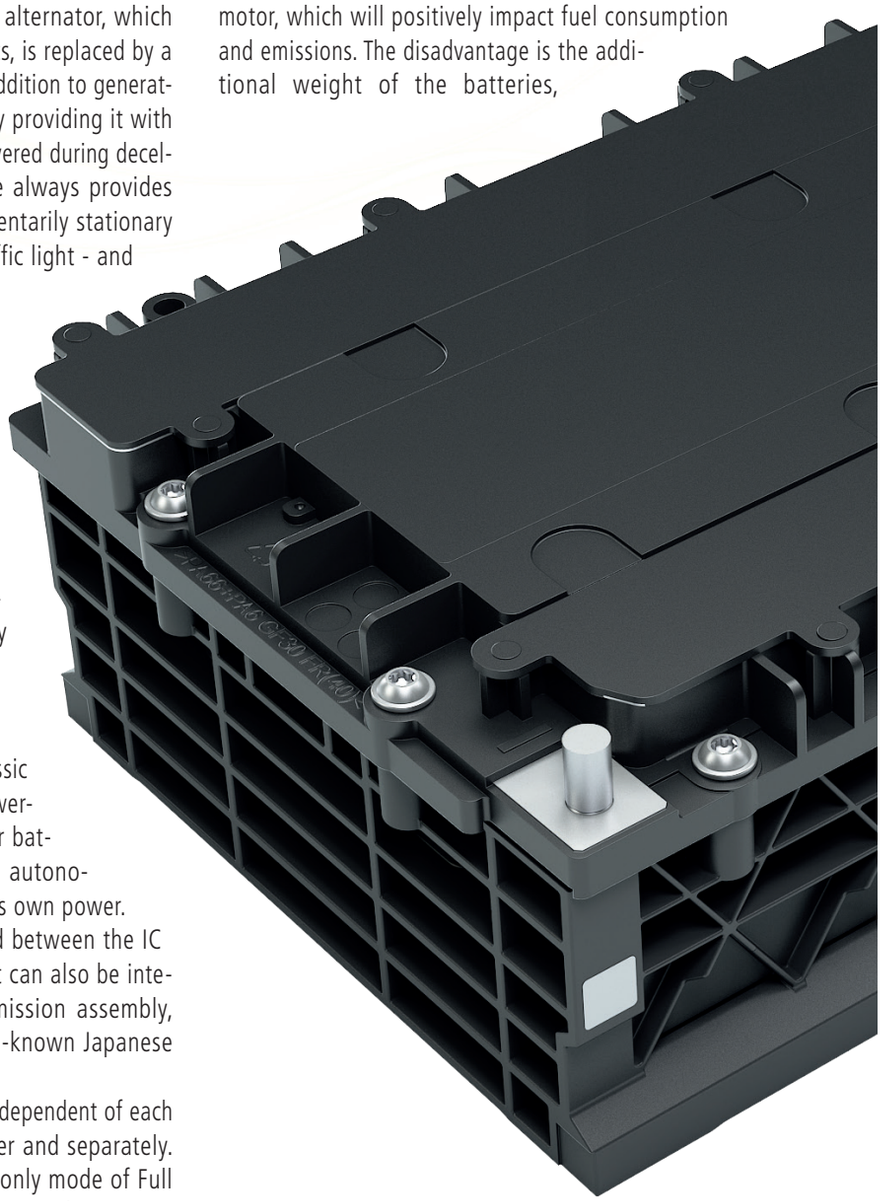
FULL HYBRID ENGINES

In Full Hybrid cars, alongside the classic IC engine, there is a much more powerful electric motor, powered by larger batteries, which can operate entirely autonomously and can drive the car with its own power. The electric motor is usually located between the IC engine and the gearbox. However, it can also be integrated into the mechanical transmission assembly, as in the scheme adopted by a well-known Japanese manufacturer.

The two power units are entirely independent of each other and can operate both together and separately. Generally, the range in the electric-only mode of Full Hybrids is somewhat limited. However, as this is not a purely electric vehicle, the driver does not need to worry about range autonomy. Being also equipped with a classic IC engine, the Full Hybrid can be refuelled like any other vehicle.

The electric motor is powered by a hybrid battery that charges while driving, without ever having to plug it into a power outlet. The Full Hybrid system uses the excess IC engine power, and especially regenerative braking, to recover energy to keep the battery charged so that the electric motor can activate whenever it is needed.

As you might imagine, Full hybrids perform best in urban driving, where the stop/starts and the regenerative braking system will charge the battery. In fact, in the city, a Full Hybrid car will mostly use its electric motor, which will positively impact fuel consumption and emissions. The disadvantage is the additional weight of the batteries,



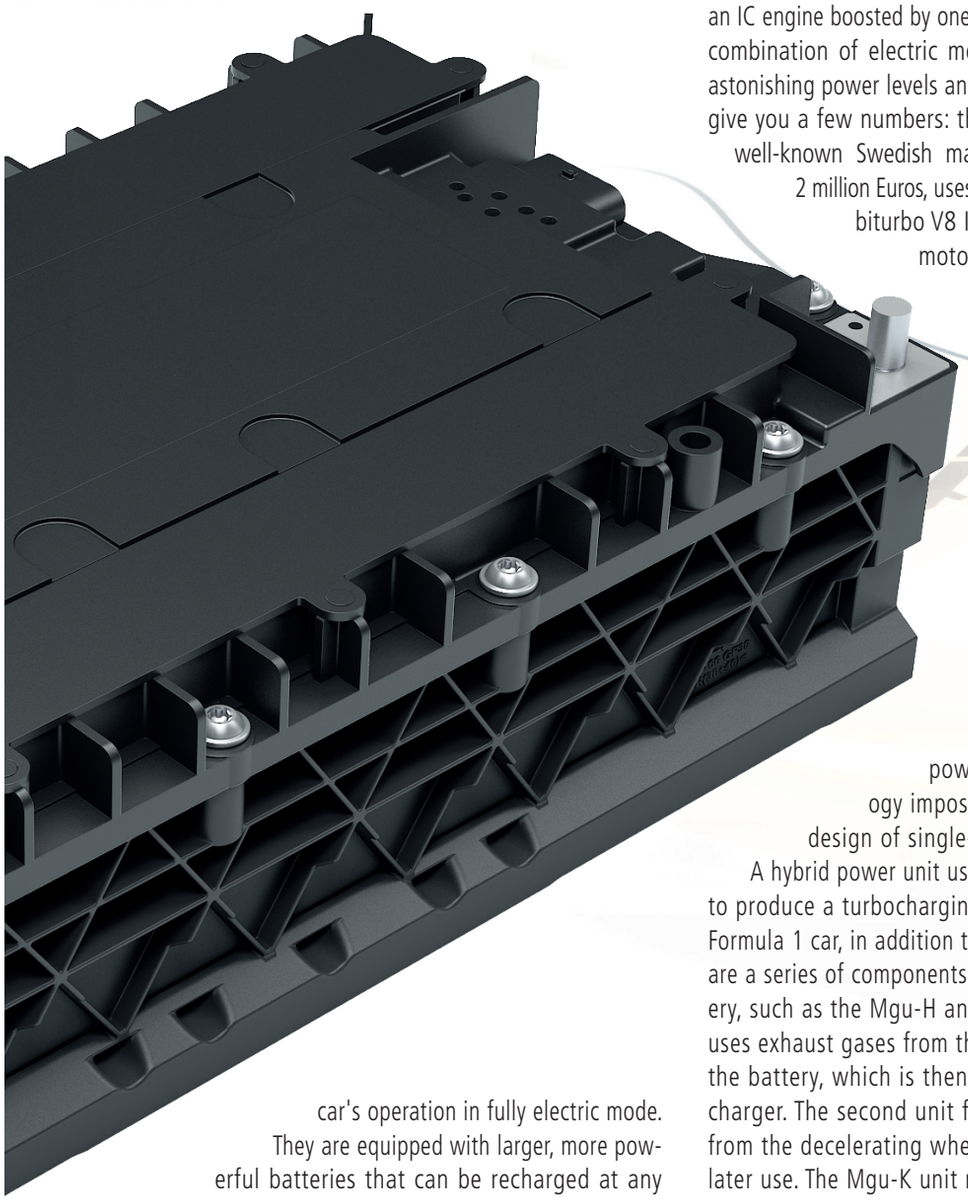
Mild Hybrid cars are equipped with 12 to 48V batteries, which are the critical element of these hybrid propulsion systems. A traditional vehicle wastes kinetic energy every time the driver brakes. In contrast, in a hybrid car, some of that braking energy is stored in the battery and returned later when the driver accelerates. This reduces fuel consumption and emissions.

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which affects consumption when only the IC engine is active. This is the case, for example, on long journeys on the motorway – even though the electric motor is ready to kick in as soon as additional torque is required.

PLUG-INS

The plug-ins, also called PHEV (Plug-in Hybrid Electric Vehicle), represent the last step before a fully electric car. The goal is to increase the autonomy of the hybrid



car's operation in fully electric mode. They are equipped with larger, more powerful batteries that can be recharged at any electrical charging point.

The basic structure is the same as Full Hybrid cars, but in this case, the battery has more power available so that the vehicle can travel in 100% electric mode for up to 50-60km. When the battery has run out of charge, the engine intervenes, and the behaviour is identical to that of a Full Hybrid car.

In this case, consumption and emissions are significantly reduced. The electric motor can also make a significant contribution over long distances, eliminating the main limitation of a Full Hybrid.

HYBRID SUPERCAR

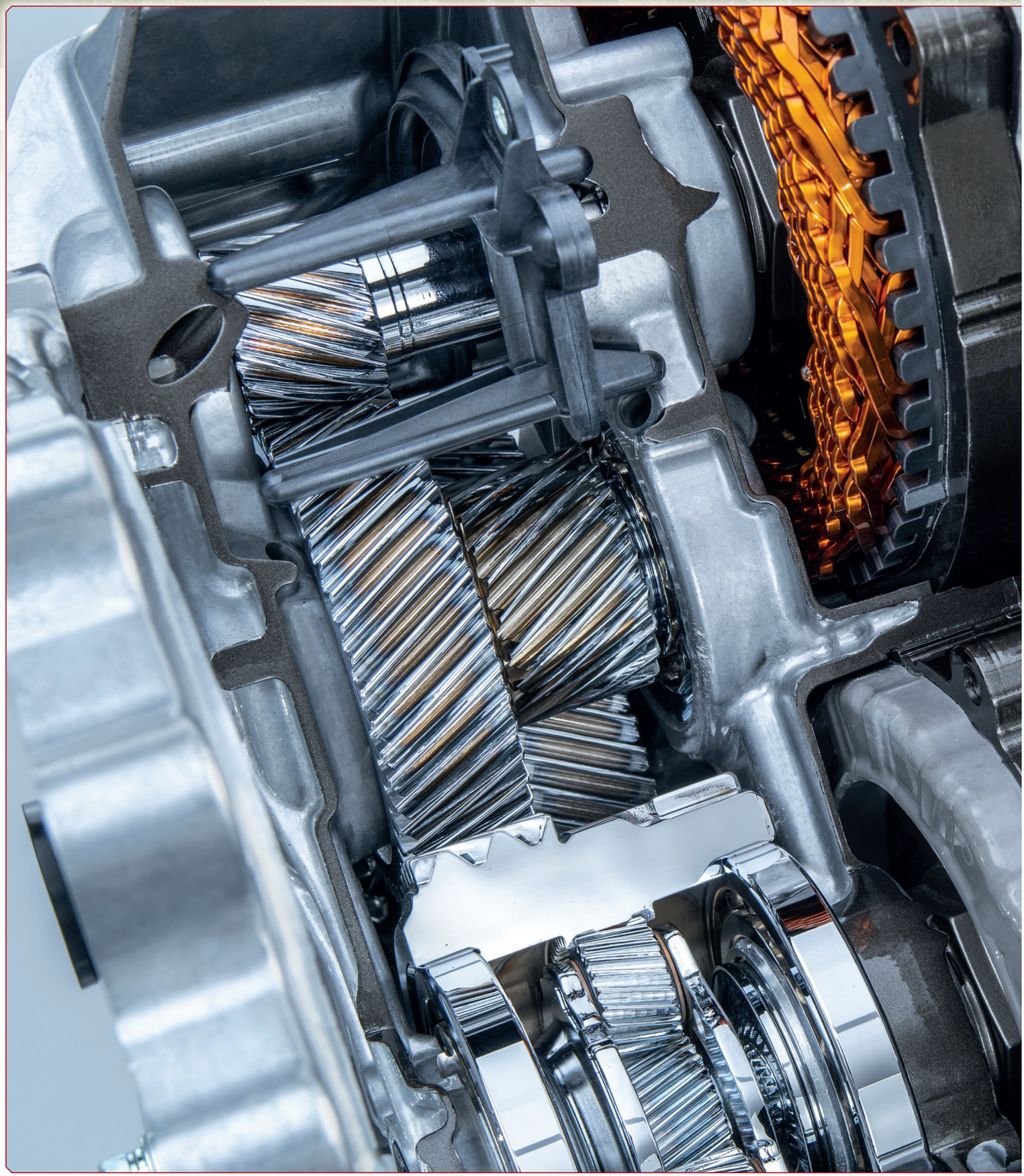
Do not imagine that the hybrid is only the prerogative of city cars. Since 2013, even the most famous manufacturers have used the technology in supercars powered by an IC engine boosted by one or more electric motors. The combination of electric motors and IC has achieved astonishing power levels and incredible performance. To give you a few numbers: the hybrid sports car from a well-known Swedish manufacturer, costing around 2 million Euros, uses a combination of a 5.0-litre biturbo V8 IC engine and three electric motors. It produces total energy that exceeds 1,500 horsepower. The 0 to 100km/h acceleration is less than 3 seconds, and the electronically limited top speed is 403 kilometres per hour!

THE HYBRID IN COMPETITION

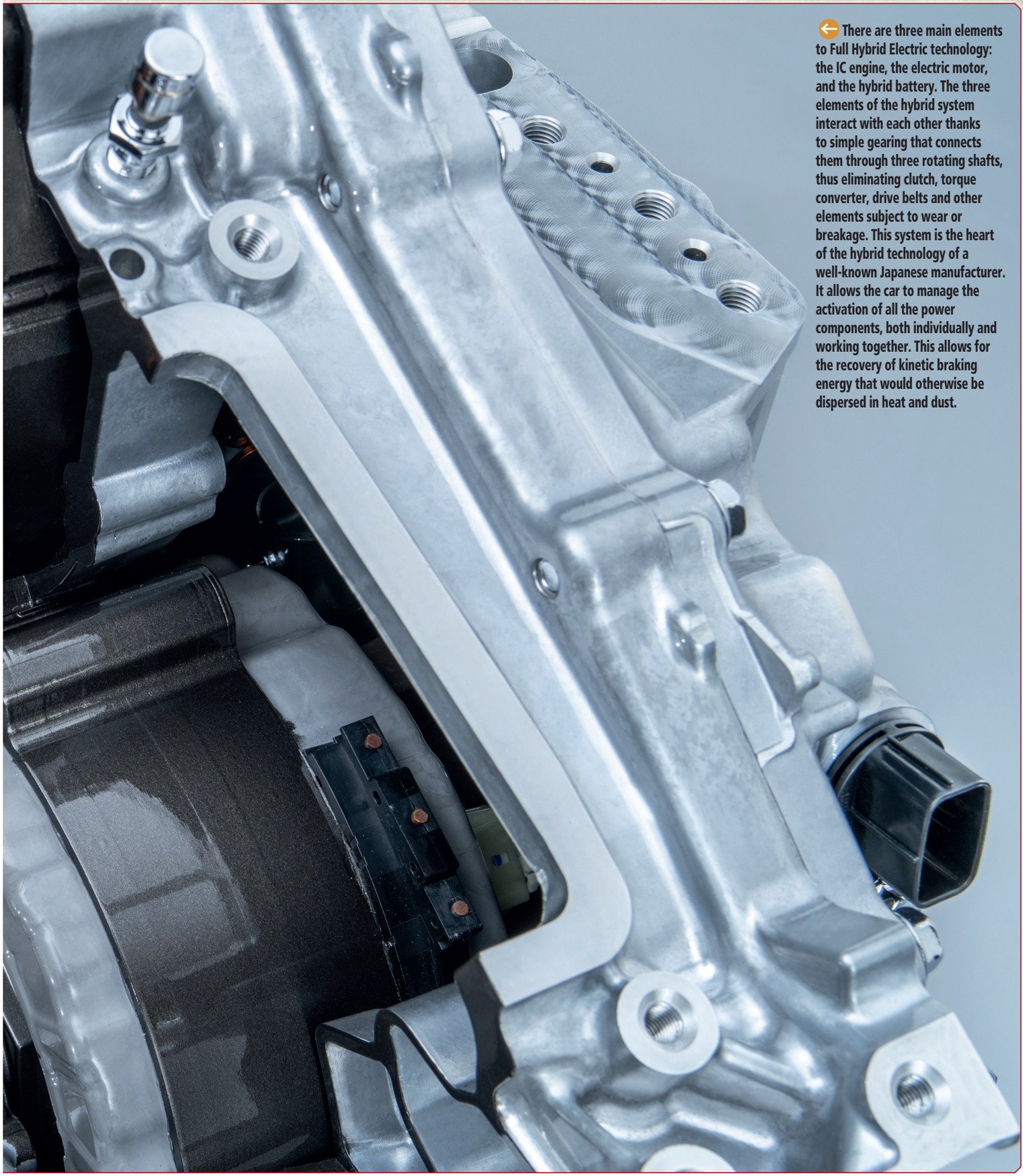
Hybrid engines arrived in Formula 1 in 2014. From that moment on, we started talking about hybrid power units. The new technology imposed a radical change on the design of single-seater racing car engines.

A hybrid power unit uses the electrical component to produce a turbocharging effect. In a single-seater Formula 1 car, in addition to the main IC engine, there are a series of components dedicated to energy recovery, such as the Mgu-H and the Mgu-K. The first unit uses exhaust gases from the engine to feed power to the battery, which is then used to power the turbocharger. The second unit feeds waste kinetic energy from the decelerating wheels back to the battery for later use. The Mgu-K unit represents the evolution of the KERS technology used in the older generation of Formula 1 cars that made available the kinetic energy dispersed in braking. The next generation of engines for Formula 1 cars, which is expected to be introduced by 2026, will also be hybrid.

Not all hybrid engines are the same



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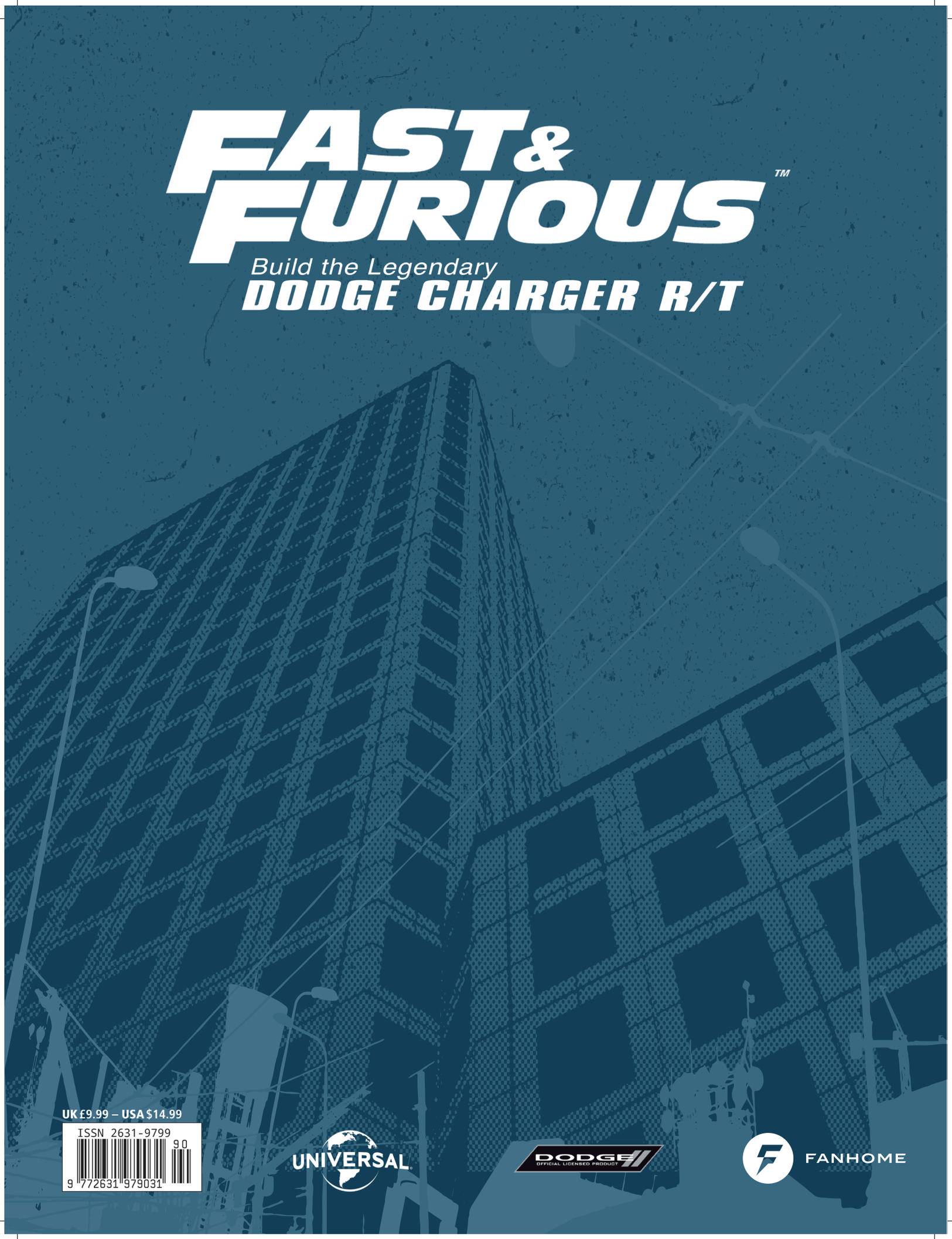


There are three main elements to Full Hybrid Electric technology: the IC engine, the electric motor, and the hybrid battery. The three elements of the hybrid system interact with each other thanks to simple gearing that connects them through three rotating shafts, thus eliminating clutch, torque converter, drive belts and other elements subject to wear or breakage. This system is the heart of the hybrid technology of a well-known Japanese manufacturer. It allows the car to manage the activation of all the power components, both individually and working together. This allows for the recovery of kinetic braking energy that would otherwise be dispersed in heat and dust.

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