Mopar's Gen II HEMI Engine Marks Its 50th Anniversary

Throughout 2014, Mopar will celebrate the 50th anniversary of the introduction of the iconic second-generation (Gen II) 426 Race HEMI engine to motorsports competition and its eventual initiation to production vehicles.

To kick off the year-long commemoration of the legendary engine, Mopar has created a 50th anniversary logo.

The design incorporates an elephant in reference to the engine's moniker, which resulted from the powerplant's imposing size, strength and power.

The logo also features the trademark HEMI-orange color that covered the engine and made it even more recognizable.

"Mopar is proud to mark the 50th anniversary of the introduction of the Gen II 426 HEMI, a revolutionary engine that inspired a long line of quality products in our brand's portfolio," said Pietro Gorlier, Mopar's president and CEO.

"The 426 HEMI is such a vital part of our heritage and a key ingredient in helping make Mopar what it is today.

"The success of the Race HEMI launched a unique brand of sought-after muscle cars that fans began to refer to as Mopars, and that is something we are very proud of."

While Chrysler engineers initially introduced the original hemispherical combustion engine design for passenger cars in 1951 and celebrated its 60th anniversary in 2011, the iconic and revolutionary second-generation HEMI engine, so closely associated with the muscle car era, made its memorable debut in 1964.

The new second-generation HEMI measured 426 cubic inches and was built specifically to win races. Two versions of this 426 race engine were built – one called the "Circuit" or "Track" engine and the other the "Acceleration" or "Drag" engine.

The Gen II 426 Race HEMI was first introduced at the Daytona 500 in February 1964 with legendary driver Richard Petty winning the race handily in his Plymouth, while a dominating performance by three other HEMI-powered entries gave four of the top five finishing positions to the new powerplant.

Petty drove to eight victories and earned the NASCAR championship in 1964 with HEMI-powered cars amassing 26 race wins. The HEMI used for the season was rated at 400 horsepower and had a compression ratio of 12.5:1.

That same year in National Hot Rod Association (NHRA) drag racing competition, Don Garlits broke the 200 mph barrier in the Gen II 426 Race HEMI-powered car traveling the quarter-mile straight-line distance in 7.78 seconds at 201.34 mph.

For the following season, NASCAR's sanctioning body changed the rules mandating that all engines used for its races must be available in production vehicles. This led to the withdrawal from NASCAR competition for the 1965 season and saw Chrysler engineers concentrate their efforts in drag racing.

A new lighter drag racing package, referred to as A-990, debuted in the NHRA Super Stock class in 1965 in Dodge and Plymouth vehicles with altered wheelbases, launching the popularity of Funny Cars.

To this day, a version of that engine still powers every single Funny Car and Top Fuel engine, regardless of being badged by other manufacturers.

With the introduction of the 426 "Street" HEMI in 1966 for production vehicles, the HEMI made a return to NASCAR racing.

During the next several years, vehicles with HEMI engines won countless races, numerous championships in various professional categories and were feared by competitors, said Chrysler spokesperson Pat Caporali.

With the availability of a Street HEMI, Chrysler no longer offered a special drag racing engine. Instead, drag racers were provided with the street version, which they could modify at their discretion.

The only exception was the limited edition 1968 Dodge Darts and Plymouth Barracudas that remained powered by the 426 Race HEMI, with only 75 of each model produced.

The heritage of those special vehicles is celebrated each year by Mopar with the HEMI Challenge that takes place in the Sportsman class at the NHRA's prestigious U.S. Nationals in Indianapolis. The HEMI Challenge made its debut in 2001.

In anticipation of the 50th anniversary of the 426 Race HEMI engine, Mopar also established the "Tom Hoover Sportsman Challenge" at the start of the 2013 season.

A winner is selected from the Sportsman Stock or Super Stock classes by amassing the most points at the wheel of a Chrysler Group vehicle in the course of a season during NHRA sanctioned races nationwide.

Ford Transit Connect Turned Into Rolling Workshop Van

When it comes to creativity, the folks from Minnesota take the cake – or, in this case, the grand prize of $10,000.

The Ultimate Maker Vehicle Challenge, a contest presented by Ford Motor Company and *Make* magazine (a do-it-yourself publication) offered the prize to the team that designed the "ultimate" Ford Transit Connect Wagon.

The winning design is called the Hackmobile, created by Minneapolis-St. Paul-area residents Jon Atkinson, Becca Steffen, Riley Harrison and Michael Freiert.

As members of Twin Cities Maker, a nonprofit community organization, the group bested 10 teams competing to create the best design.

Their idea was to design a Ford Transit Connect Wagon to transport a three-axis CNC machine the team calls the Fabber because of its use as a multipurpose tool in fabricating.

Aside from the Fabber, Hackmobile will have shelving and storage for tools – making it a mobile workshop for woodworking, metalworking and 3D fabrication.

The Twin Cities Maker operates a shop called the Hack Factory, where members build projects out of various materials, as well as hold classes for the community.

"The Blue Oval has always been about innovation, and that do-it-yourself spirit is alive and well today," said Sherry Kollien, Ford SEMA vehicle project manager.

Ford will soon build the Hackmobile. "The sky is the limit with vehicles like Ford Transit Connect," said Kollien, "and we're very excited to surprise the Hackmobile team and make their dream vehicle into a reality."

The 10 contestants in the Ultimate Maker Vehicle Challenge were given a budget and specific design-and-build criteria to work with before submitting their proposal.

Some of the designs submitted for Ford's Ultimate Maker Vehicle Challenge

They were encouraged to define a particular vision for the ultimate do-it-yourself Ford Transit Connect Wagon, Kollien said.

Members of the public were allowed to vote once a day for as few or as many entries as they liked, judging the concepts based on overall design and customization, as well as maker spirit, Kollien said.

The 2014 Ford Transit Connect – which features class-leading configuration options and goes on sale early next year – has been named International Van of the Year 2014. Its versatility has ignited the creative spirit of so many owners that Ford refers to it as their moment of Vandemonium, said Ford spokesperson Kristina Adamski.

The 2014 Ford Transit Connect comes in two distinct models – the traditional, hard-working, panel-side hauler cargo van; and the all-new wagon model, a stylish, spacious and fuel-efficient people mover, Adamski said.

Transit Connect Wagon features sliding doors and flexible, fold-flat seating for up to seven.

The do-it-yourself challenge is part of Ford's Makers and Movers campaign with *Make* magazine highlighting Transit Connect Wagon, Adamski said.

Throughout the campaign, owners who have used their talents to customize the vehicle have been showcased in stories and videos on Makezine.com. The profiles show how Ford has manufactured a vehicle that can be modified for an individual's tastes and passions.

Sun's Rays Power Ford's Concept Vehicle

Ford has developed a way to let the sunshine in – literally.

Ford introduced the C-MAX Solar Energi Concept to the world at the 2014 Consumer Electronics Show in Las Vegas Jan. 7.

The Ford concept is a first-of-its-kind sun-powered vehicle with the potential to deliver the best of what a plug-in hybrid offers without depending on the electric grid for fuel.

Instead of powering its battery from an electrical outlet, Ford C-MAX Solar Energi Concept harnesses the power of the sun by using a special concentrator that acts like a magnifying glass, directing intense rays to solar panels on the vehicle roof.

The result is a concept vehicle that takes a day's worth of sunlight to deliver the same performance as the conventional C-MAX Energi plug-in hybrid, which draws its power from the electric grid.

Ford C-MAX Energi gets a combined best miles per gallon equivalent in its class, with EPA-estimated 108 MPGe city and 92 MPGe highway, for a combined 100 MPGe.

By using renewable power, Ford C-MAX Solar Energi Concept is estimated to reduce the annual greenhouse gas emissions a typical owner would produce by four metric tons.

"Ford C-MAX Solar Energi Concept shines a new light on electric transportation and renewable energy," said Mike Tinskey, Ford global director of Vehicle Electrification and Infrastructure.

"As an innovation leader, we want to further the public dialog about the art of the possible in moving the world toward a cleaner future."

C-MAX Solar Energi Concept is a collaborative project of Ford, San Jose, Calif.-based SunPower Corp. and Atlanta-based Georgia Institute of Technology.

The Concept vehicle debuts as Ford caps a record year of electrified vehicle sales. Ford officials expect to sell 85,000 hybrids, plug-in hybrids and all-electric vehicles for 2013 – the first full year its six new electrified vehicles were available in dealer showrooms.

C-MAX Energi is Ford's plug-in sales leader, with sales of more than 6,300 through November. Ford sold more plug-in vehicles in October and November than both Toyota and Tesla, and it outsold Toyota through the first 11 months of 2013. Plug-in hybrids continue to grow in sales as more customers discover the benefits of using electricity to extend their driving range.

C-MAX Hybrid over the last year has been a key driver in helping Ford sell more hybrids than any other automaker in the United States, second only to Toyota, said Todd Nissen, Ford's sustainability communications manager.

C-MAX Hybrid continues to bring new customers to the Ford brand, with a conquest rate of 64 percent and drawing nearly half of its sales from import brands, said Nissen. Conquest rates are even higher in key hybrid growth markets like San Francisco, Los Angeles and Washington, D.C.

SunPower, which has been Ford's solar technology partner since 2011, is providing high-efficiency solar cells for the roof of Ford C-MAX Solar Energi Concept. Because of the extended time it takes to absorb enough energy to fully charge the vehicle, Ford turned to Georgia Institute of Technology for a way to amplify the sunlight in order to make a solar-powered hybrid feasible for daily use.

Researchers developed an off-vehicle solar concentrator that uses a special Fresnel lens to direct sunlight to the solar cells while boosting the impact of the sunlight by a factor of eight, Tinksey said.

Fresnel is a compact lens originally developed for use in lighthouses. Similar in concept to a magnifying glass, the patent-pending system tracks the sun as it moves from east to west, drawing enough power from the sun through the concentrator each day to equal a four-hour battery charge (8 kilowatts).

Ford is testing a C-Max that uses solar panels to produce power.

With a full charge, Ford C-MAX Solar Energi Concept is estimated to have the same total range as a conventional C-MAX Energi of up to 620 miles, including up to 21 electric-only miles, Tinksey said. Also, the vehicle still has a charge port, and can be charged by connecting to a charging station via cord and plug so that drivers retain the option to power up via the grid, if desired.

After C-MAX Solar Energi Concept wass shown at CES, Ford and Georgia Tech began testing the vehicle in numerous real-world scenarios, Nissen said. The outcome of those tests will help to determine if the concept is feasible as a production car.

By tapping renewable solar energy with a rooftop solar panel system, C-MAX Solar Energi Concept is not dependent on the traditional electric grid for its battery power, Nissen said.

Internal Ford data suggest the sun could power up to 75 percent of all trips made by an average driver in a solar hybrid vehicle. This could be especially important in places where the electric grid is underdeveloped, unreliable or expensive to use.

The vehicle also reinforces MyEnergi Lifestyle, a concept revealed by Ford and several partners at the 2013 CES, Nissen said. MyEnergi Lifestyle uses math, science and computer modeling to help homeowners understand how they can take advantage of energy-efficient home appliances, solar power systems and plug-in hybrid vehicles to significantly reduce monthly expenses.