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Inspired by Formula 1 Performance – all-new 2015 Alfa Romeo 4C Developed with State-of-the-art Material and Technological Solutions

- Formula 1 derived technologies: Alfa Romeo 4C engineers leveraged advanced materials and technological solutions to create an all-new ultra-lightweight four-cylinder coupe with supercar-level performance
- A high-tech beating heart: 237 horsepower all-aluminum 1750 cc direct-injection turbocharged engine with intercooler, dual variable-valve timing and advanced scavenging technology
- Rapid-fire shifting: Alfa TCT twin-clutch transmission provides the driver with the control of a sequential gear selection and calibration modes to deliver blistering fast gear changes
- Alfa Romeo 4C's exotic carbon fiber monocoque with "pre-preg" technology and extensive use of aluminum create a competition-ready architecture and chassis
- Alfa DNA selector enables the driver to optimize the Alfa Romeo 4C to the level of driving performance and capability needed through four powertrain and chassis control calibration modes: Dynamic, Natural, All-weather and Race

April 15, 2014, Auburn Hills, Mich. - Utilizing state-of-the-art technologies and materials derived from Formula 1 and advanced supercars, the all-new 2015 Alfa Romeo 4C is powerful and ultra-lightweight – enabling the mid-engine coupe to maximize its 1750 cc turbocharged engine's output for supercar-level performance with a unique driving feel.

Authentic supercar performance
Thanks to its strategic use of advanced powertrain and materials, the Alfa Romeo 4C demonstrates its performance credentials with a top speed of 160 miles per hour (mph), 0-to-60 mph acceleration blasts in the mid-4 second range, 1.1 g of side acceleration on corners and 1.25 g of maximum braking deceleration.

All-aluminum direct-injection 1750cc turbo engine
The engine is the beating heart of any Alfa Romeo, and for the Alfa Romeo 4C, it beats to an all-new 1750 cc direct-injection 237 horsepower aluminum engine. Powertrain engineers designed this turbocharged engine to deliver exceptional performance and drivability in any circumstance, be it on the racetrack or city streets.

To meet their objective, Alfa Romeo engineers made this new power plant aggressive and efficient, thanks to cutting-edge technical solutions that included direct-injection, intercooler and dual (intake and exhaust) continuous variable-valve timing (VVT). Intake and exhaust systems for the Alfa Romeo 4C's mid-engine layout were optimized for maximum responsiveness. For added refinement, this high-output engine includes a crankshaft with eight counterweights.

A new generation turbocharger features a pulse-converter exhaust manifold to exploit pressure waves to boost torque at low-engine speeds. Additionally, a waste gate valve adjusts turbo pressure and improves the 1750 cc engine's efficiency by minimizing pumping losses.

Advanced scavenging technology enables the all-new Alfa Romeo 4C to maximize torque at low-engine speeds and deliver more response to driver input. This advanced engine technology utilizes a control unit to determine precise valve-overlap times and angles – to create a through-flow of air from the inlet manifold to the exhaust manifold. By improving the scavenging of the combustion chamber, this direct flow increases combustion efficiency and turbine

speed, all while eliminating turbo lag. As a result, torque delivery is generous, with a peak of 258 ft.-lb. (350 N·m), 80 percent of which is available at only 1,700 rpm.

Like all serious competition cars, the Alfa Romeo 4C includes an automatic after-run pump to cool down the system and protect the turbocharger from oil stagnating at very high temperatures. The after-run pump avoids thermal stress and engine damage by continuing to circulate oil until it has sufficiently cooled.

Alfa TCT twin-clutch transmission
The 1750 cc turbo engine is teamed with an Alfa TCT twin-clutch transmission that has been specifically tuned for the all-new Alfa Romeo 4C. With its uniquely calibrated software, gearshifts are most aggressive in the sporting modes or through gear selection in sequential mode using paddle shifters located behind the steering wheel.

Enabling the Alfa Romeo 4C to deliver the best performance in accordance with road conditions and driving style, the Alfa TCT adopts optimized operating logic and communicates with the Alfa DNA selector, braking system, engine management system and electronic stability control (ESC) system. For example, in automatic mode, the shifting logic differs according to the Alfa DNA setting.

The Alfa Romeo 4C also includes a “launch control” mode available in the Alfa DNA’s “Race” mode setting. Using the accelerator and paddle-shift lever in a designated sequence - as soon as the driver releases the brake, the system automatically controls the gearbox and power delivery for the utmost acceleration possible.

The Alfa DNA selector with “Race” mode
The all-new Alfa Romeo 4C features the brand’s innovative Alfa DNA selector – enabling the driver to optimize the right level of performance through four modes. With a touch of the Alfa DNA selector, the character of the Alfa Romeo 4C can be changed to (in order of increasing capability):

- **All-weather** – designed to ensure maximum control under adverse weather conditions, this mode enables the Alfa Romeo 4C to respond gently to accelerator input. The anti-slip regulation (ASR) system selects special engine and brake control logic and, in the event of loss of grip, modifies power to prevent skidding or loss of traction
- **Natural** – this mode enables the Alfa Romeo 4C to deliver grand touring comfort and smooth drivability. The Alfa TCT gearbox utilizes an “auto-up” function when engine speed approaches the rev limiter. The Alfa Electronic Q2 differential operates more passively, only engaging if one of the rear wheels loses grip
- **Dynamic** – in this mode, the Alfa Romeo 4C provides the driver with improved driving performance. A more aggressive powertrain calibration enables the engine to be more responsive, while the Alfa TCT gearbox delivers 25 percent quicker gear changes. Additionally, the electronic stability control (ESC) system is less intrusive, enabling the driver more lateral drift before intervening
- **Race** – is the most extreme performance mode, putting the driver in total control of the car under race conditions. ESC is deactivated and only intervenes to prevent loss of control during fierce braking. ASR is also deactivated, allowing the driver to control traction through the accelerator pedal. Alfa Electronic Q2 differential control system remains active for fast exits out of corners or bends
    - In Race mode, launch control function can be activated, allowing the Alfa Romeo 4C to deliver supercar-level 0-to-60 mph acceleration blasts in the mid-4 second range

For driving convenience in Dynamic, Natural or All-weather modes, the Alfa TCT gearbox can utilize an “auto” mode.

Last, the innovative full-color 7-inch thin-film transistor (TFT) digital instrument cluster changes to match each configuration, showing only information relevant to the chosen mode, and in a corresponding color: yellow for Race, red for Dynamic, gray for Natural and blue for All-weather.

Ultra lightweight architecture derived from Formula 1
The all-new Alfa Romeo 4C features a combination of state-of-the-art materials to achieve extraordinary stiffness and strength.

To create the ultra-lightweight architecture needed for maximum performance and dynamic efficiency, Alfa Romeo engineers designed a monocoque chassis made entirely of carbon fiber. Taking a page from Formula 1 and only the most advanced supercars, the engineers utilized “pre-preg” technology – a formulated heat-cured resin matrix

system that features reinforced manmade carbon fibers. Additionally, Alfa Romeo 4C's "pre-preg" monocoque features carbon fiber that runs in the same "unilateral" direction enabling it to be five times stronger than conventional materials that are "isotropic," or have the same strength in all directions. The result is a monocoque formed around the driver and passenger that delivers extraordinary stiffness and strength. Attached to the Alfa Romeo 4C's monocoque are front and rear cell structures, roof reinforcements and an engine mounting frame made from lightweight aluminum.

On the exterior, the Alfa Romeo engineers continued the use of state-of-the-art materials by creating the bodywork entirely of SMC (Sheet Molding Compound), a low-density, high-strength composite material that is 20 percent lighter and dimensionally more rigid than steel. Providing the ability to create complex shapes while saving weight by 20 percent compared to steel are PUR-RIM (injected polyurethane) fascias and rear spoiler.

Engineers even optimized the Alfa Romeo 4C's windshield and side windows by using 10 percent thinner glass and a 4 mm thick windshield to reduce weight by up to 15 percent.

Last, two sport seats feature a carbon fiber and fiberglass structure reinforced-composite to deliver the strength and seating position needed for performance driving.
As a final result of the Alfa Romeo 4C's combination of hi-tech materials, the coupe features the best possible torsional stiffness and strength characteristics, as well as an optimized center of gravity, which gives the advantage of increased agility and drivability on the most challenging roads.

Maximum road-holding suspension
The all-new Alfa Romeo 4C adopts race-derived solutions to ensure maximum agility and road holding performance. The front suspension is comprised of a "superimposed" double wishbone configuration for direct and unfiltered feedback. At the rear, an advanced MacPherson suspension ensures superb road-holding attributes – even in the most extreme of maneuvers. Both front and rear suspensions are made from aluminum and high-strength steel.

For the North American market, the all-new Alfa Romeo 4C is designed with stiffer springs, larger front- and rear-sway bars, and re-tuned shock absorbers.

Enthusiast-desired "manual" steering
In line with this Italian coupe's ultra-lightweight design and desire for maximum agility and road feel, the Alfa Romeo 4C exclusively removes the conventional power steering system altogether. Through a manual steering system and 15.7:1 quick-ratio steering, the Alfa Romeo 4C provides the driver with maximum feel-of-the-road. Furthermore, an appropriate steering-wheel load is maintained thanks to the low overall weight of the car.

Powerful stopping power, up to 1.25 g of braking deceleration
The Alfa Romeo 4C's brake system is designed for track use, where decisive braking even under the most intensive conditions is required. To deliver maximum stopping power and 1.25 g of braking deceleration, this Alfa Romeo is equipped with four self-ventilating perforated discs and Brembo four-piston aluminum calipers at the front axle.

Staggered wheel and tire fitments for precise handling
Ensuring maximum grip, and keeping the all-new Alfa Romeo 4C planted firmly to the road, are staggered diameter and width performance wheels and tires. Both the standard 17-inch front and 18-inch rear, or the optional forged 18-inch front and 19-inch wheel and tire combinations feature a larger rear wheel to deliver crisp handling.

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