Kawasaki

Kawasaki Motors Corp., U.S.A.

Contact:
Kawasaki Media Relations
949-770-0400 ext. 2777
pr@kmc-usa.com
www.kawasaki.com

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2015 KAWASAKI NINJA® H2™

Built Beyond Belief

The launching point for the development of the Ninja® H2™ was a strong desire to offer riders something they had never experienced before. Convinced that an extraordinary riding experience would not be found by merely building on the performance of existing models, the design team committed to developing the "ultimate motorcycle" from a clean slate.

The bike needed to deliver intense acceleration and ultra-high top speed, coupled with supersport-level circuit performance. To realize this goal, help was enlisted from other companies within the Kawasaki Heavy Industries (KHI) Group, precipitating an unprecedented level of inter-company collaboration.

Ninja H2 development pursued two paths. The first was the Ninja H2™R, which is a closed-course model that allowed the unadulterated pursuit of performance without the limitations of street homologation. This motorcycle is followed by the Ninja H2 street model, which is based closely on the H2R but meets all market regulations. The results are incredible, with both models offering a sensory experience surpassing anything else that riders can find today.

A supercharged engine closely based on the same powerplant as the approximately 300hp Ninja H2R powers the Ninja H2. High output notwithstanding, the compact design is on par with power units found in supersport liter-class models. The key to achieving this incredible performance lies in the supercharger – a motorcycle-specific unit designed completely in-house with technology from the Gas Turbine & Machinery Company, Aerospace Company and Corporate Technology Division.

HIGHLIGHTS OF THE 2015 KAWASAKI NINJA® H2™:

- Street model based on 300hp closed-circuit Ninja H2R
- 998cc four-cylinder engine fitted with Kawasaki supercharger for intense acceleration
- Supercharger uses planetary gears, spins at up to 130,000rpm and develops up to 35psi boost pressure
- Dog-ring transmission allows fast shifting and works with standard quick shifter
- Bodywork developed in conjunction with Kawasaki Aerospace Company to generate downforce, finished in special Mirror Coated Black paint
- Kawasaki River Mark used to indicate combined Kawasaki Group technology
- Trellis frame used for first time to provide strength, controlled flex and air circulation
- Single-sided swingarm used for first time, mounted to engine as a stressed member
- KYB® AOS-II Air-Oil Separate cartridge fork, adjustable KYB mono-shock rear shock
- 330mm front discs with four-piston Brembo® calipers
- Multi-mode KTRC Kawasaki Traction Control, KLCM Launch Control Mode, KEBC Engine Brake Control, KIBS Intelligent Anti-Lock Braking, KQS Quick Shifter

KHI Group's technology was not limited to the supercharger. Advanced technological know-how shared from other Group companies is found throughout the innovative engine and chassis design. For example, the aerodynamic mirror mounts were designed with assistance from Kawasaki's Aerospace Company to add stability for high-speed riding. This highlights the inter-company collaboration, and the level of technology poured into the model was the reason the Kawasaki River Mark* is prominently displayed on the upper cowl.

When it came time to name this model, "Ninja" was an obvious choice because it is synonymous with Kawasaki performance, and is shared by legendary models over the years. It is also named for another iconic model: the "H2" (also known as the 750SS Mach IV), which was powered by a two-stroke 748cc triple and boasted the sort of intense acceleration that made it a worldwide sensation. For a motorcycle that delivers supersport-level handling coupled with the kind of acceleration no rider has experienced before, Ninja H2 was the perfect name. And so Kawasaki is again ready to unleash a new sensation upon the world.

*The Kawasaki River Mark is a long-time symbol of the KHI Group dating back to the 1870s. As a policy, its use on products is rare and limited to models with historical significance. But permission was granted for the Ninja H2 to use this special symbol.

THE QUEST FOR POWER

In order to offer intense acceleration, it was essential that the engine was able to produce big power. While a large-displacement engine could easily provide high output, the engineers preferred it to be compact to help ensure a lightweight, compact motorcycle.

Using a supercharged engine enabled these engine design requirements to be met. Aside from minor differences in the engine, as well as an intake and exhaust system tailored for street use to meet noise and emissions standards, the supercharged engine is essentially the same as the closed-course Ninja H2R. It delivers intense acceleration unlike anything you can experience on a naturally aspirated bike. Designed in-house, the immense potential of the compact, highly efficient engine is a testament to the technology possessed by the KHI Group.

SUPERCHARGED 998cc IN-LINE FOUR

KHI-DESIGNED SUPERCHARGER

The supercharger used by the Ninja H2 was designed by Kawasaki motorcycle engineers with assistance from other companies within the KHI Group, namely the Gas Turbine & Machinery Company, Aerospace Company, and Corporate Technology Division. Designing the supercharger completely in-house allowed it to be developed to perfectly match the engine characteristics of the Ninja H2. The highly efficient, motorcycle-specific supercharger was the key to achieving the maximum power and intense acceleration the engineers wanted.

- One of the greatest benefits of designing the supercharger in-house and tailoring its design to match the character of the Ninja H2 engine was that engineers were able to achieve high-efficiency over a wide range of conditions – something that would not have been possible by simply using an aftermarket automotive supercharger.
- The importance of high efficiency in a supercharger is so that, as air is compressed, power-robbing heat gain is minimal. And while many superchargers are able to offer high-efficiency operation in a limited range of conditions, the KHI-designed supercharger for the Ninja H2 offers high efficiency over a wide range of pressure ratios and flow rates – so it is over a wide range of engine- and vehicle speeds. This

wide range of efficient operation (similar to having a wide powerband) translates into strong acceleration.

- The supercharger's high efficiency and minimal heat gain meant an intercooler was unnecessary, allowing savings in both weight and space.
- The supercharger is a centrifugal-type unit – ideal for high-RPM performance – with a cast aluminium housing.
- The unit is located centrally, behind the cylinder bank, in the best position to evenly distribute compressed air to all four cylinders.
- The supercharger uses engine oil for lubrication. By not requiring an independent oil source, it contributed to the compact, lightweight design.
- The supercharger is driven by a planetary gear train, which runs off the crankshaft. Designing the gear train using technology from Kawasaki's Aerospace Company resulted in a compact unit with minimal power loss.
- The gear train increases the impeller speed up to 9.2x the crank speed (1.15x step gear with an 8x planetary gear). This means at a maximum engine speed of approximately 14,000rpm, the impeller shaft is spinning at almost 130,000rpm.
- The impeller is formed from a forged aluminium block using a 5-axis CNC machine to ensure precision and durability. The 69mm impeller features six blades at the tip, expanding to 12 blades at the base. Grooves etched into the blade surfaces help direct the airflow.
- The impeller's pumping capacity is more than 200 liters/second (measured at atmospheric pressure), with intake air reaching speeds of up to 100m/s. After passing through the supercharger, air pressure is increased to as much as 2.4 times atmospheric pressure (35psi).

POWER UNIT DESIGNED FOR THE CLOSED-COURSE NINJA H2R

Despite it's familiar In-Line Four configuration, the Ninja H2 engine is loaded with technology developed specifically for this supercharged engine: some new, others with know-how from the Kawasaki Group.

Every component of the engine was chosen to achieve a certain function. In order to accommodate the higher air pressure from the supercharger, as well as to help ensure reliability at around 300hp of the closed-course Ninja H2R, the entire engine was designed to

be able to handle stresses 1.5-2x greater than a naturally aspirated liter-class engine. In fact, aside from its camshafts, head gaskets and clutch, the engine is exactly the same as the unit found in the Ninja H2R.

- The combustion chamber design is complemented by flat piston crowns. The shape, inspired by the pistons used in the Green® Gas Engine developed by Kawasaki's Gas Turbine & Machinery Company, also contributes to the engine's anti-knock performance.
- While the intake valves are stainless steel, the exhaust valves needed to be able to withstand the supercharged engine's high-temperature exhaust gases. So the exhaust valves are formed from two materials that are friction-welded at the center: Inconel – an extremely heat-resistant alloy – is used for the valve head and lower half of the stem; while heat-resistant steel is used for the upper half. The stems are tapered, varying in diameter from 4.5-5mm.
- A dummy head is used during the cylinder honing process. The more precise circular and cylindrical shape that results allows the use of low-tension piston rings, which help reduce mechanical loss.
- The pistons are cast, since they offer better strength than forged pistons under the very high temperatures generated by the high-performance supercharged engine. A unique casting process (similar to forging) sees unnecessary material removed, with hollows created to achieve the ideal thickness. This produces a piston weight on par with forged pistons.

DOG-RING TRANSMISSION

To facilitate smooth, quick shifting, a dog-ring-type transmission was selected. This is similar to the kind of transmission commonly found in MotoGP™ or Formula 1®, and was developed with feedback from the Kawasaki Racing Team.

- Unlike a standard motorcycle transmission, where the shift forks slide the gears into position, the gears remain in place in a dog-ring transmission. Only the dog rings move, sliding into position to engage the desired gear.
- Because the dog rings are lighter than transmission gears, this type of transmission offers a significantly lighter shift effort. Shift feel is also improved, and a much quicker shift is possible, facilitating quicker acceleration.

HYDRAULIC CLUTCH & BACK-TORQUE LIMITER

A high-quality hydraulic clutch offers less maintenance, ensuring the initial bite point can be maintained. By using Brembo® components, superb linearity and smooth actuation are further benefits.

- Brembo parts are used for both the clutch lever's radial-pump master cylinder and the clutch release mechanism. They receive extra attention from Brembo before being shipped to Kawasaki. Each part is examined and adjusted to eliminate any ineffective (idle) stroke, resulting in superb control.
- The back-torque limiter contributes to stability by helping prevent wheel hop when downshifting. The back-torque limiter is also adjustable.

MAXIMISING AIRFLOW EFFICIENCY

All engines need to breathe but considering how the air is supplied is also a concern. To maximise the performance of the supercharged engine, airflow efficiency was of paramount importance. How air enters the supercharger, how the compressed air enters the engine, and how the combusted fuel/air mixture is discharged were all carefully analysed for maximum efficiency to ensure the airflow characteristics would create the desired engine character.

RAM AIR INTAKE

- Air supplied to the supercharger enters via a single Ram Air intake in the left side of the upper cowl. The total frontal area is approximately 3x the area of the supercharger inlet.
- A Ram Air duct was designed to take the fresh air to the supercharger in as straight a line as possible. Its shape was created to match the impeller characteristics, further contributing to the engine's output.
- For optimum efficiency for the Ninja H2 engine, the air cleaner is positioned directly before the supercharger.

ALUMINIUM INTAKE CHAMBER

- The intake chamber has a large volume (6 liters), and is ideally shaped for high efficiency and engine output.

- Being constructed from rigid aluminium offers two advantages:
  1) aluminium offers excellent surface heat dissipation, helping to keep the intake air cool;
  2) the rigid structure helps to ensure airtight performance of the pressurized air at approximately 2-bar (29.4psi).
- Inside the intake chamber, newly developed Kawasaki technology contributes to the engine's high performance. The top injectors spray fuel onto stainless steel mesh positioned over the intake funnels (patent pending). This has an ordering effect, creating a more uniform fuel/air mixture as the fuel is drawn into the intake funnel. The mesh also promotes fuel misting, which helps cool the intake air and increases filling efficiency.

ELECTRONIC THROTTLE VALVES

Kawasaki's fully electronic throttle actuation system enables the ECU to control the volume of fuel (via fuel injectors) and air (via throttle valves) delivered to the engine. Ideal fuel injection and throttle valve position results in smooth, natural engine response and the ideal engine output. The system also makes a significant contribution to reduced emissions.*

* The system enables more precise control of KTRC (Kawasaki Traction Control), and facilitates implementation of other electronic systems like KLCM (Kawasaki Launch Control Mode) and KEBC (Kawasaki Engine Braking Control) – see below.

INTAKE & EXHAUST PORTS, CAMSHAFT PROFILES

- The intake ports are polished to ensure smooth flow and minimize resistance.
- Straight exhaust ports – one for each exhaust valve – do not converge in the cylinder head. The straight-line design enables the most efficient egress of air from the combustion chamber, also contributes to efficient chamber filling.
- Camshaft profiles were optimized for the Ninja H2 engine and are tuned to offer strong low-speed torque.

EXHAUST SYSTEM

- The entrance to the header pipes is oval to match the two exhaust ports per cylinder. Partly formed by hydroforming, each header pipe tapers from an oval to a round cross-section. The collector pipes are also hydroformed.
- Designed to suit the output and characteristics of the Ninja H2 engine, the stainless steel header pipes have a diameter of 45mm. For the ideal exhaust pressure, all four header pipes are connected.
- The exhaust system also includes a compact under-engine pre-chamber, with double-wall construction for rigidity. This construction helps reduce radiating noise and high frequency exhaust noise.
- The single right-side silencer ensures noise and exhaust gas emissions meet market regulations.

KEEPING THE ENGINE COOL

Cooling performance can be a substantial limiting factor for engine output, so maximizing the cooling efficiency was a key consideration when designing the engine. In addition to ensuring that intake air remain as cool as possible, the heat generated by the high-output engine needed to be dissipated, and engine components themselves need to be kept cool to ensure efficient operation. The extensive pursuit of cooling performance led to a highly complex engine layout, both for the lubrication system (oil is used for cooling as well as lubrication) and the cooling system itself.

CYLINDER HEAD

A number of considerations were given to the aluminum cylinder head design to provide the necessary cooling performance. The large coolant passageways result in excellent cooling for the combustion chamber.

- The water jacket extends between the twin exhaust ports of each cylinder, while large coolant passageways around the spark plug holes and valve seat areas offer superior cooling. The steel spark plugs and valve seats have a greater tendency to retain heat than the aluminum cylinder head, so cooling them is very important and makes a big difference to temperature control.

OIL JETS

In the interest of keeping the engine compact and simple, a single lubrication system provides cooling oil for the engine components, supercharger and the transmission.

- Oil jets lubricate the supercharger chain in two places – at the contact points where the chain meets the upper and lower gears.
- In addition to the two oil jets, the supercharger drivetrain's lower gear has an oil passage.
- Inside the engine, there are two oil jets per cylinder to ensure the hot pistons are effectively cooled.
- Transmission oil jets (used for the first in a Kawasaki motorcycle) enable a compact transmission with high durability.

LUBRICATION SYSTEM COMPONENTS

Because the lubrication system is servicing so many components, oil volume is 5.0 liters (1.3 gallons) –that is about 35% more than usually seen in an engine of the same displacement.

RADIATOR

- The radiator's size and capacity is on par with those found on current liter-class supersport motorcycles, but it offers superior cooling performance because it flows approximately 1.5x more air than other bikes. This was found to be more effective than simply increasing the size of the radiator.
- Airflow is facilitated by the compact side-cowl design, and leaving the lower part of the engine open (except for the small under cowls) to the air was designed to extract hot air.

LIQUID-COOLED OIL COOLER

- A liquid-cooled oil cooler adds to the extremely high cooling performance necessary for the high output engine.

HIGH-SPEED STABILITY & LIGHT HANDLING

Designed for the performance parameters of the closed-course Ninja H2R and shared with the street-going Ninja H2, the objectives for the chassis were to ensure superb composure at ultra-high speeds, while offer cornering performance to allow the rider to enjoy riding on a circuit, and finally to be very accommodating. Ordinarily, high-speed stability can easily be achieved with a long wheelbase, but a shorter wheelbase was selected to achieve the compact overall package and sharp handling that were desired. So the frame needed to not only to be stiff, but also to be able to absorb external disturbances, which could otherwise unsettle the chassis when encountered when riding at high speed. A new trellis frame provided both the strength to harness the incredible power of the supercharged engine, and the balanced flex to achieve the stability and pliability for high-speed riding.

INNOVATIVE CHASSIS DESIGN

TRELLIS FRAME

Using a trellis frame construction offered an elegant, lightweight solution to meeting the performance requirements for the chassis of the closed-course Ninja H2R. Able to harness the massive power of its engine, it has a balance of stiffness and flexibility that enables a high level of stability while being able to handle external disturbances at high speeds. Its open design also helps dissipate heat generated by the supercharged engine.

- Development of the trellis frame made good use of the latest analysis technology and substantial test rider feedback.
- Pipe diameter, thickness and the bend of each piece of the trellis frame were carefully selected to obtain the necessary stiffness for each part of the frame. The trellis pieces are primarily made from high-tensile steel.

SWINGARM MOUNTING PLATE

This innovative new chassis mechanism allows the engine to act as part of the frame.

- The Swingarm Mounting Plate bolts to the back of the engine. The swingarm pivot shaft goes through this plate, essentially allowing the swingarm to be mounted directly to the engine.
- Thanks to the Swingarm Mounting Plate, the frame does not need to use crossmembers for stability. This contributes to the frame's low weight.

SINGLE-SIDED SWINGARM

The Ninja H2 features Kawasaki's first single-sided swingarm.

- Having a single-sided swingarm allows the exhaust silencer to be mounted closer to the bike centreline, ensuring a high bank angle for sporty cornering.

CHASSIS GEOMETRY

To ensure fun at high-speed as well as on the racing circuit, a compact package was desired. So the chassis geometry is very similar to that of a liter-class supersport model.

STOPPING, GOING & TURNING

FRONT SUSPENSION

KYB® AOS-II racing suspension makes its debut on a road bike.

- Based on the Air-Oil Separate cartridge fork developed for motocross racing, this is the industry's first use of this high-performance racing suspension on a road bike.
- Designed for low friction, the 43mm front fork offers superb action, with a smooth initial action followed by strong damping at the end of the stroke.
- As the suspension works, a large 32mm free-floating piston at the bottom of the oil-damping cartridge pumps oil up to a sealed area between the inner and outer tubes. The oil in this area provides a friction-reducing film on which the tubes can slide against each other, resulting in an extremely smooth action.

Rear Suspension

Fully adjustable KYB mono-shock rear suspension offers superb stability.

- The top of the rear shock mounts to the Swingarm Mounting Plate. Again, doing away with the need for frame crossmembers.
- The bottom of the rear shock is mounted via a revised Uni-Trak® linkage that offers excellent feedback for rear tire grip. The new linkage, situated below the swingarm, also mounts to the Swingarm Mounting Plate.

BRAKES

Given the Ninja H2's high-speed potential, the brakes chosen were the best available for a production motorcycle. Special tuning then ensured that all play was removed from the system, so that when the brakes applied they respond immediately.

- A pair of massive 330mm Brembo semi-floating discs, with a thickness of 5.5mm, delivers superb braking force.
- Grooves running down the center of the outer edge of the discs increase their surface area for greater heat dissipation.
- Dual radial-mount Brembo cast aluminum monobloc calipers grip the front discs. The rigid, opposed four-piston calipers with 30mm pistons contribute to the Ninja H2's superb braking force, as well as a high-quality image.
- A Brembo radial-pump master cylinder and reservoir receive extra attention before being shipped to Kawasaki. Each part is examined and adjusted to eliminate any play in the lever stroke.
- A large 250mm disc generates strong braking force at the rear.

ORIGINAL WHEEL DESIGN

Cast aluminum wheels were designed specifically for the Ninja H2.

- The star-pattern five-spoke wheel design was selected based on analysis and testing to determine the optimum balance of rigidity for high-speed performance.
- The analysis technology used in the wheel development comes from Kawasaki's World Superbike involvement.
- Knurling on the inside of the rear wheel rim helps prevent tire slipping on the wheel that could be caused by the massive torque generated by the engine.

HIGH-SPEED TIRES

To ensure sufficient tire durability when riding at high speed, high-performance tires must be used.

- A massive 200mm rear tire transmits the Ninja H2's power to the tarmac.
- The Ninja H2 is able to use high-performance street tires.

SHAPED FOR SPEED

As speed increases, wind resistance increases exponentially. To enable high-speed operation, a combination of high power and slippery aerodynamics was needed. With power requirements taken care of by the supercharged engine, the next step was to design bodywork that both minimal drag and good control when riding at high speed. Assistance from Kawasaki's Aerospace Company was enlisted in creating the aerodynamically sculpted bodywork to ensure maximum aerodynamic efficiency.

AERODYNAMICS

AERODYNAMICALLY-DESIGNED BODYWORK

It is no accident that when viewed from the side, the Ninja H2 does not have the aggressive forward-canted stance of most modern supersport motorcycles. While supersport bikes use their front-leaning attitude to aid quick steering, at the speeds for which the closed-course Ninja H2R was designed, such a posture would create drag, which would hinder top speed aspirations. Therefore, the H2 stance is very neutral, almost flat – like a Formula 1 car – to make the body as aerodynamically sleek as possible.

- The aerodynamically shaped upper cowl uses lips and lines to direct airflow over its surface.
- The upper cowl locates the Ram Air intake in the most efficient position.
- Compact side cowls and under cowls were designed to assist heat dissipation.
- The rear cowl has an extremely compact three-piece design. The center portion is taller, creating an aerodynamic form that helps smooth airflow as it passes the rider. Wind is also able to pass between the center and side pieces, further reducing air resistance.

GENERATING DOWNFORCE

In order to maintain both straight-line stability and the ability to change direction while running at high speed, the Ninja H2 features a number of aerodynamic devices to ensure the front wheel has strong contact with the ground.

- The design of the upper cowl incorporates a chin spoiler. Rather than being a cosmetic flourish, it produces downforce that contributes to high-speed stability.

- Further contributing to high-speed stability, the Ninja H2 features mirror mounts with airfoil cross-sections. Like the wings on the closed-course Ninja H2R, the mounts were also designed by Kawasaki's Aerospace Company. The trailing edges are equipped with Gurney flaps that increase the effectiveness of the simple airfoil shape, allowing greater downforce to be generated by the small surface.

MAN / MACHINE INTERFACE

Although the Ninja H2's high performance cannot be denied, since it was not intended to be a race bike, designed purely to turn quick lap times, so it did not need the spartan accommodations found on most purpose-built supersport models. The Ninja H2's man / machine interface enables riders to enjoy the bike's performance with a degree of comfort. While the riding position, ergonomics and cockpit layout were designed first and foremost to put the rider in the best position to control this amazing machine, the impression from the rider's perspective is not one of austerity, but is more about quality, high-tech control and the impeccable fit and finish.

SEATING FOR ONE

RIDING POSITION & ERGONOMICS

With the kind of riding the Ninja H2 was designed for, and a desire for a compact package resulted in a riding position similar to that of a supersport bike without being quite as aggressive. As enjoyment of the intense acceleration and high-speed capability was the first priority, a solo seat for the rider is the only seating provided.

- The riding position was designed for high speed and circuit riding. The rider triangle is similar to that of the Ninja ZX-10R, but more relaxed.
- To help support the rider during intense acceleration, hip-supporting pads flank the rear of the seat. The hip support is adjustable 15mm backward to suit the rider's size.

INSTRUMENTATION & CONTROLS

The advanced, high-tech design of the instrumentation conveys the image of piloting a fighter jet. Handle control switches put all mode selection and display options at the rider's fingertips.

- The new instrumentation design combines a full digital LCD screen with an analog-style tachometer.

- The LCD screen uses a black / white reverse display (white characters on a black background), contributing to the high-quality image.
- In addition to the digital speedometer and gear position indicator, display functions include: odometer, dual trip meters, current mileage, average mileage, fuel consumption, coolant temperature, boost indicator, boost (intake air chamber) temperature, stopwatch (lap timer), clock and the Economical Riding Indicator.
- The tachometer design uses an actual needle, but the black dial "face" looks blank until engine speed increases. Backlit RPM numbers light up to chase the tachometer needle as it moves around the dial.
- Compact new switch design allows all instrument functions to be controlled from the handles.

ELECTRONIC RIDER SUPPORT

Complementing the Ninja H2's incredible engine and chassis performance, advanced electronics work behind the scenes to provide rider support. Depending on rider preference, many of the systems may be turned off. And while the high-performance engine was designed to be accommodating even without the benefit of electronic assistance, when electing to fully experience the Ninja H2's intense acceleration or high-speed potential, these systems are available to provide an extra degree of rider confidence.

ENGINE & CHASSIS MANAGEMENT SYSTEMS

KTRC (KAWASAKI TRACTION CONTROL)

The new KTRC system used on the Ninja H2 combines the best elements of Kawasaki's earlier traction control systems. Multi-level modes offer riders a greater number of settings to choose from, with each mode providing a different level of intrusion to suit riding conditions and rider preference. And all modes are designed to manage output when sudden wheel slip occurs. The new system offers both enhanced sport riding performance and the peace of mind to negotiate slippery surfaces with confidence.

- Riders can choose from three modes, each offering a progressively greater level of intrusion. Each of these mode also has three rider-selectable levels, adding more or less intrusion (rider preferences for each mode are programmable for on-the-move

selection), giving a total of nine possible settings. Riders may also elect to turn the system off.

- Mode 1 is for the circuit, Mode 2 for the street, and Mode 3 for wet pavement conditions. A Rain Mode is also available.
- Using complex analysis, the system is able to predict when traction conditions are about to become unfavorable. By acting before slippage exceeds the range for optimum traction, it means that drops in power can be minimized, resulting in smoother operation.
- Rain Mode can be turned on and off independently from KTRC. Activating Rain Mode sets KTRC to Mode 3+, and limits power output, torque and response. Similar to a Low Power setting, maximum engine output is less than 50% of full power, with a gentler throttle response.

KLCM (KAWASAKI LAUNCH CONTROL MODE)

Designed to assist the rider by optimizing acceleration from a stop, KLCM electronically controls engine output to prevent wheelspin and minimize wheelies when launching.

- Riders can choose from three modes, each offering a progressively greater level of intrusion. Each mode allows the rider to launch from a stop with the throttle held wide open.

KEBC (KAWASAKI ENGINE BRAKE CONTROL)

The KEBC system allows riders to select the amount of engine braking they prefer.

- When KEBC is activated (by selecting "LIGHT" in the KEBC settings), the engine braking effect is reduced, providing less interference when riding on the circuit.

KIBS (KAWASAKI INTELLIGENT ANTI-LOCK BRAKE SYSTEM)

Kawasaki's supersport-style ABS is standard equipment on the Ninja H2. This is based on the same system used on the Ninja ZX-10R, with programming and settings revised to suit the performance parameters of the Ninja H2.

- High-precision brake pressure control enables the system to avoid reduced brake performance due to excessive pressure drops, allows lever feel to be maintained when KIBS is active, and ensures ABS pulses feel smooth (not heavy).

- High-precision brake pressure control also offers a number of sport riding benefits:
    1. Rear lift suppression
    2. Minimal kickback during operation
    3. Accounts for back-torque

KQS (KAWASAKI QUICK SHIFTER)

The Ninja H2 is the first Kawasaki motorcycle to be fitted with a standard quick shifter.

- Complementing the engine's strong power and the dog-ring transmission, a contactless-type quick shifter enables rapid upshifts for seamless acceleration.

ÖHLINS ELECTRONIC STEERING DAMPER

Unlike a mechanical steering damper – in which the settings, once fixed, must cover all riding conditions and speeds – the damping characteristics are changed electronically, according to vehicle speed, and the degree of acceleration or deceleration.

At low speeds, the settings were chosen so that damping does not interfere with the bike's intrinsic lightweight handling. At high speeds, damping increases to provide enhanced stability.

- Kawasaki's electronic steering damper was jointly developed with Öhlins, one of the most popular and respected steering damper manufacturers.
- The electronic steering damper provides just the right amount of damping based on what the bike is doing. Using input from the rear wheel speed sensor (provided via the engine ECU), the electronic steering damper's ECU determines the vehicle speed as well as the degree the bike is accelerating or decelerating.

STYLING & CRAFTSMANSHIP

Wanting to ensure a bold design worthy of a model that carries both the "Ninja" and "H2" names, the prime styling concept for the Ninja H2 was "Intense Force" design. As a flagship for the Kawasaki brand, it required presence, and styling that reflected its incredible performance. But the design is much more than cosmetic. While its edged styling certainly looks the part, the Ninja H2 also possesses a functional beauty: each piece of its bodywork was aerodynamically sculpted to enhance high speed stability; the cowling design also

maximizes cooling performance and heat dissipation, aiding the engine's incredible output; and the Ram Air duct is ideally positioned to bring fresh air to the supercharger.

More than any motorcycle Kawasaki has built to date, the Ninja H2 is a showcase of craftsmanship, build quality and superb fit and finish – right down to the high-tech mirrored-finish black chrome paint specially developed for this model.

INTENSE FORCE DESIGN

STYLING & CRAFTSMANSHIP DETAILS

- Machined surfaces on the wheel spokes and painted rims contribute to a high-quality finish.
- High-level attention to detail is evident in the numerous machined fastener designs (such as the steering stem and rear hub nuts).
- Welding bead quality for the trellis frame is uniformly high, contributing to the Ninja H2's superb fit and finish. Depending on the weld, some are efficiently and precisely welded by Kawasaki robots, while others are welded by expert Kawasaki craftsmen.

LIGHTING EQUIPMENT

The Ninja H2 is equipped with all the lights needed for street-legal operation. And with the exception of the bulb illuminating the license plate, all lighting equipment on the Ninja H2 uses LEDs.

- The bright, compact LED headlamp is positioned low, at the front of the upper cowl, contributing to the "Intense Force" design.
- The design of the LED front position lamps brings to mind the fangs of a predator.
- The elegant LED tail light is flanked by surface-emitting LED position lamps.
- New LED rear turn signals designs feature an inner lens, surface texturing and surface-emitting LEDs that contribute to the bike's high-quality image.

HIGH-TECH PAINT

The mirrored-finish black chrome paint used on the Ninja H2 – known as Mirror Coated Black – was developed by Kawasaki specifically for motorcycles. The highly reflective surface adds to the bike's stunning design.

- In the shade, the paint appears black, but once in the sunlight its highly reflective surface takes on the appearance of the surrounding scenery.
- While this kind of paint has been used by top custom builders, this is the first time it has appeared on a mass-production vehicle in either the automotive or motorcycle industries.
- The reflective surface is created by inducing a silver mirror reaction (a chemical reaction between a solution of silver ions and a reducing agent) that forms a layer of pure silver. Each layer of the paint is carefully finished by hand by Kawasaki craftsmen to ensure a brilliant, lustrous surface.

KAWASAKI RIVER MARK

Special permission was obtained to use the River Mark on the Ninja H2. Its use is reserved for models of historical significance.

HIGH-PRECISION PRODUCTION

Unlike a regualr mass-production model, the high-precision production of the Ninja H2 requires greater hands-on participation by skilled Kawasaki craftsmen. So each step, from metalworking, treatment, welding and painting to assembly, fine-tuning and inspection is carefully attended to create a product of superior quality. Within Kawasaki's Akashi Factory, production takes place in an area dedicated exclusively to the Ninja H2.

COLOR

The Kawasaki Ninja H2 is only available in its very special Mirror Coated Black paint.

ABOUT KAWASAKI

Kawasaki Heavy Industries, Ltd. (KHI) started full-scale production of motorcycles over a half century ago. The first Kawasaki motorcycle engine was designed based on technical know-how garnered from the development and production of aircraft engines, and Kawasaki's entry into the motorcycle industry was driven by the company's constant effort to develop new technologies. Numerous new Kawasaki models introduced over the years have helped shape the market, and in the process have created enduring legends based on their unique

engineering, power, design and riding pleasure. In the future, Kawasaki's commitment to maintaining and furthering these strengths will surely give birth to new legends.

Kawasaki Motors Corp., U.S.A. (KMC) markets and distributes Kawasaki motorcycles, ATVs, side x sides, and Jet Ski® watercraft through a network of almost 1,200 independent retailers, with close to an additional 7,400 retailers specializing in general purpose engines. KMC and its affiliates employ nearly 3,100 people in the United States, with approximately 300 of them located at KMC's Irvine, California headquarters.

Kawasaki's tagline, "Let the good times roll. ®", is recognized worldwide. The Kawasaki brand is synonymous with powerful, stylish and category-leading vehicles. Information about Kawasaki's complete line of powersports products and Kawasaki affiliates can be found on the Internet at www.kawasaki.com.

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2015 Kawasaki Ninja® H2™ Specifications*

SPORTBIKES SPEC TEMPLATE	Ninja H2
Engine	Liquid-cooled, 4-stroke In-Line Four
Displacement	998cc
Bore x Stroke	76 x 55mm
Compression Ratio	8.5:1
Fuel System	Fuel injection: 50mm x 4 with dual injection
Intake System	Kawasaki Supercharger
Cooling System	Water-cooled
Lubrication	Forced lubrication, wet sump with oil cooler
Ignition	Digital
Transmission	6-speed, return, dog-ring
Final Drive	Chain
Frame Type	Trellis, high-tensile steel, with Swingarm Mounting Plate
Rake/Trail	24.7° / 4.3"
Fuel Capacity	4.5 gallons
Front Suspension / Wheel Travel	43mm inverted fork with rebound and compression damping, spring preload adjustability and top-out springs / 4.7
Rear Suspension / Wheel Travel	New Uni-Trak with gas-charged shock, piggyback reservoir, dual-range (high/low-speed) compression damping, rebound damping and preload adjustability, and top-out spring / 5.3"
Front Tire Size	120/70 ZR17 M/C (58W)
Rear Tire Size	200/55 ZR17 M/C (78W)
Front Brakes	Dual radial-mount, opposed 4-piston calipers, dual semi-floating 330mm discs
Rear Brakes	Opposed 2-piston calipers, single 250mm disc
Overall Length	82"
Overall Width	30.3"
Overall Height	44.3
Overall Height Windscreen Lowered/Raised	N/A
Ground Clearance	5.1"
Seat Height	32.5"
Curb Weight**	524.7 lb
Wheelbase	57.3
Color Choices	Mirror Coated Black
MSRP	TBD
Warranty	TBD
Kawasaki Protection Plus (optional)	TBD
Wholesale Distributor	Kawasaki Motors Corp., U.S.A. 9950 Jeronimo Road, Irvine, California 92618 949-770-0400 www.kawasaki.com

*Specifications are subject to change. Media are encouraged to visit www.kawasaki.com for most current specifications.

**Curb weight includes all necessary materials and fluids to operate correctly, full tank of fuel (more than 90 percent capacity) and tool kit (if supplied).