

Ninja H2 Ninja H2R 2017



Kawasaki

Kawasaki motorcycles are a distillation of the most advanced technology the world has to offer.

Representing a unique engineering heritage and a wealth of technological expertise combined with passion, performance and individuality, Kawasaki motorcycles are not just about high performance. They are a crystallisation of advanced technology arising from the collective efforts of the Kawasaki Heavy Industries Group, whose activities span a wide range of business domains including Land, Sea and Air Transportation Systems, Energy & Environmental Engineering and Industrial Equipment.



Kawasaki motorcycles possess both power and grace so are often recognised as being different to other bikes. This results from certain guiding principles adopted at the design stage. Rideology is Kawasaki's rider-centric development philosophy focused on how the riding experience offered by a Kawasaki is crafted, ensuring that our machines are fun to ride and rewarding to control. This approach has been the force behind many of our legendary machines, and in our pursuit of all possibilities it will continue to guide the future creation of Kawasaki motorcycles.

In 1971, Kawasaki's H2 road bike took the world by storm. Its 748 cm³ 2-stroke In-Line Triple engine delivered the world's fastest, most intense acceleration, causing a great sensation among riders.

REDEFINING THE NORM

That sensation is set to be repeated with a new pinnacle road sports model whose design colours outside the lines in the pursuit of performance. Resurrecting the legendary H2 name from Kawasaki's illustrious history, the Ninja H2 will once again redefine the standards by which motorcycles are judged.

For 2017, an upgraded Ninja H2 benefits from numerous updates, including Kawasaki's most advanced electronics package, and suppler suspension action care of a high-grade Öhlins TTX rear shock. Further, the standard model is joined by the Ninja H2 Carbon, a limited edition model featuring a carbon-fibre upper cowl. Ninja fans can look forward to an even more exhilarating experience.



BUILT BEYOND BELIEF

A machine apart, the new Kawasaki Ninja H2 and H2R are the embodiment of Kawasaki's passion for performance, for the search for technical excellence and desire to achieve road riding perfection. Equipped with a Supercharger designed and constructed entirely in-house, the Ninja H2 and H2R will delight connoisseurs with a visual feast of craftsmanship details plus a new standard of road bike acceleration.



FUNCTIONAL BEAUTY

Dissimilar to any other motorcycle from the past, the Ninja H2 and H2R's exceptional form evolved as a result of a focused mission to gain any possible high speed riding advantage. Whether for reducing wind resistance, generating downforce, directing fresh air towards the engine, helping hot engine air escape, or lightening the burden on the rider - the shape of every piece of its bodywork has a reason. In a perfect example of form following function, the Ninja H2 and H2R's stunning new design was sculpted for performance.



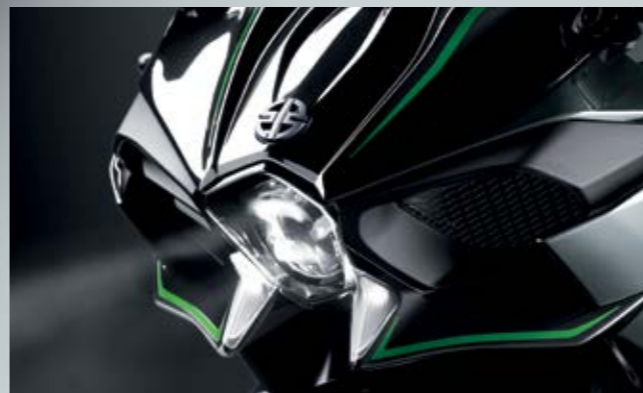
Ninja H2R

Ninja H2

Ninja H2 Carbon

SHAPED FOR SPEED

As speed increases, wind resistance increases exponentially. To be able to operate in the ultra-high speed range, 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 minimised drag and added control when riding at ultra-high speed. Assistance from Kawasaki's Aerospace Company was enlisted in creating the aerodynamically sculpted bodywork to ensure maximum aerodynamic efficiency.



DOWNFORCE GENERATION

In order to maintain both straight-line stability and the control to change direction while running at high speed, the Ninja H2 and H2R feature a number of aerodynamic devices to ensure the front wheel has strong contact with the ground.

The chin spoiler incorporated in the upper cowl design is not a cosmetic flourish; the downforce it creates contributes to high-speed stability. Also contributing to the downforce and high speed stability are the mirrors on the Ninja H2 and the "Vortex down control wings" on the H2R which are designed by Kawasaki's Aerospace Company.

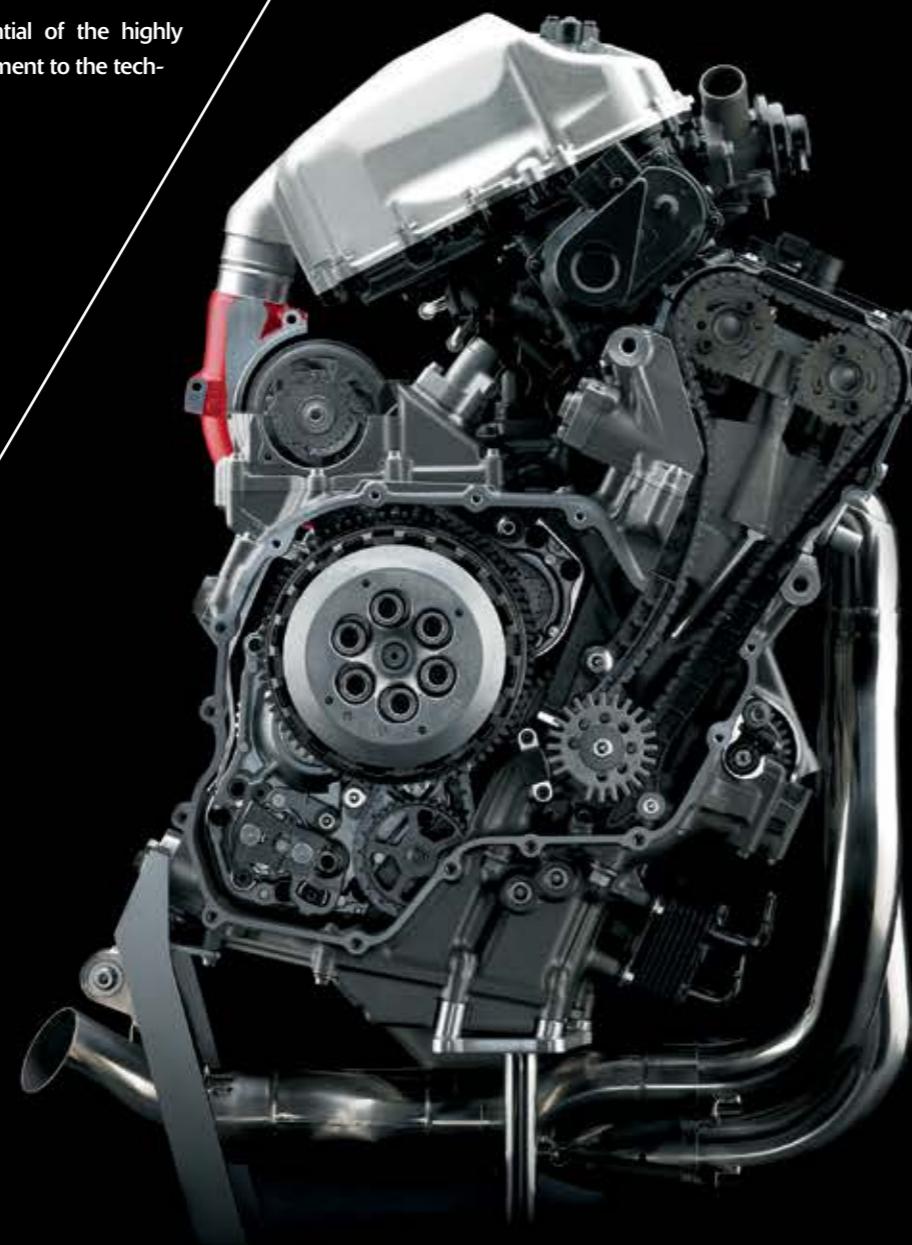


THE QUEST FOR POWER

In order to be able to offer intense acceleration and a top speed in a range that most riders have never experienced, it was essential that the engine be able to produce big power. While a large-displacement engine could easily provide a high engine output, to ensure a lightweight, compact overall package a compact engine was also desired.

Using a supercharged engine enabled both of these engine design requirements to be met: the Ninja H2 has a maximum output of 215 PS and its engine size is on par with other supersport litre-class power units. Aside from minor differences in the engine unit, and intake and exhaust systems tailored for street use to ensure it meets noise and emissions standards, the supercharged engine is essentially the same as the 326 PS engine of the closed-course Ninja H2R, delivering an intense acceleration unlike anything you can experience on a naturally aspirated bike.

Designed in-house, the immense potential of the highly compact, highly efficient engine is a testament to the technology possessed by the KHI Group.



The impeller is formed from a forged aluminium block using a 5-axis CNC machining centre to ensure high precision and high durability. The 69 mm impeller features 6 blades at the tip, expanding to 12 blades at the base. Grooves etched into the blade surfaces help direct the airflow. The impellers pumping capacity is over 200 litres/second, with intake air reaching speeds of up to 100 m/s. After passing through the supercharger, air pressure is increased to as much as 2.4 times atmospheric pressure.



1. The top injectors spray fuel onto stainless steel nets positioned over the intake funnels. This has an ordering effect, creating a more uniform fuel-air mixture as the fuel is sucked into the intake funnel. The net also promotes fuel misting, which helps to cool the intake air and increases filling efficiency.

2. 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 very compact unit, with minimal power loss.

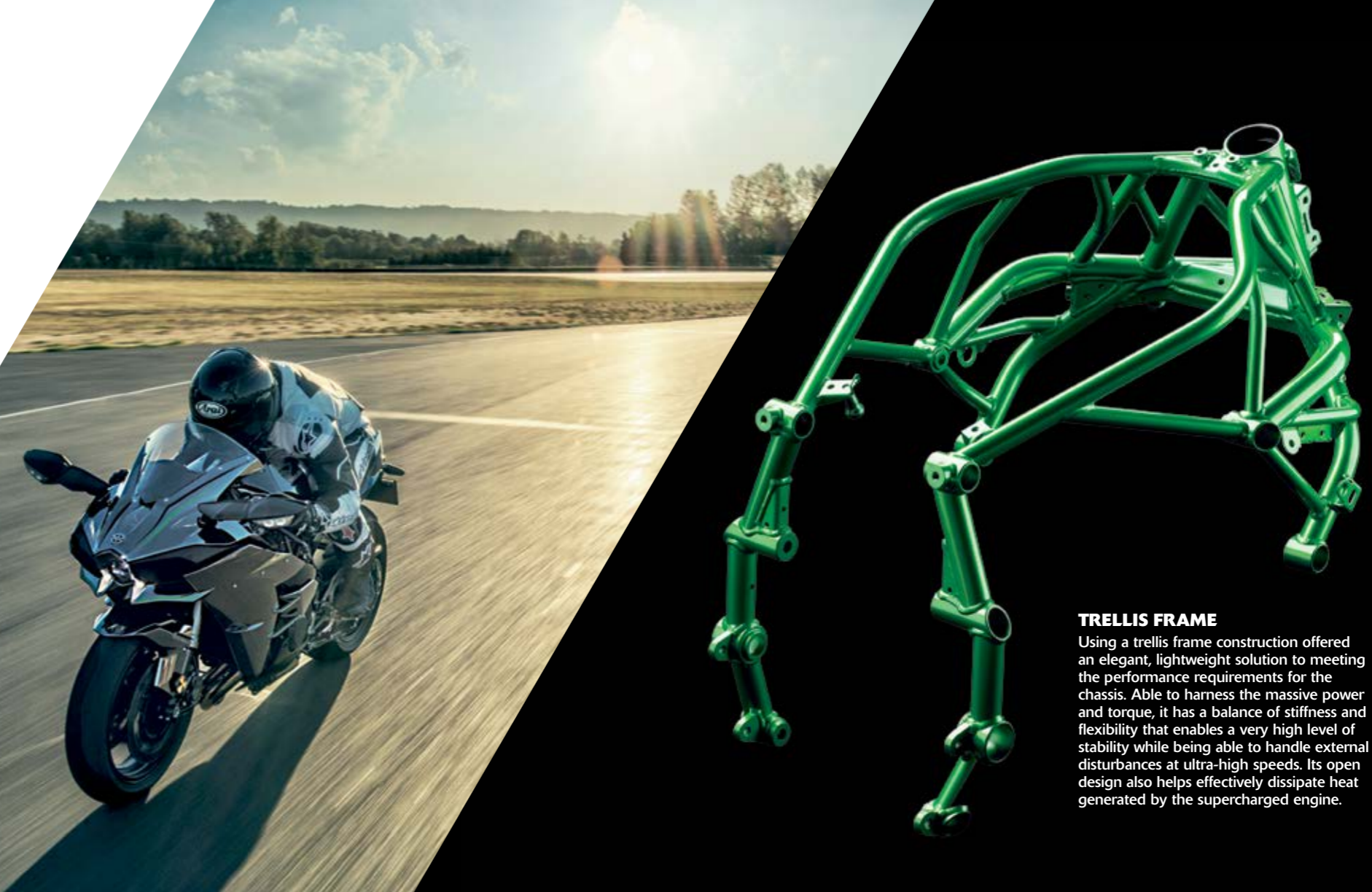
3. While the intake valves are stainless steel, the exhaust valves needed to be able to handle the supercharged engine's high-temperature exhaust gases. They are formed from two materials, friction-welded at the centre: inconel --an extremely heat-resistant alloy --is used for the head and lower half of the stem; heat-resistant steel is used for the upper half.

4. Cast pistons offer better strength than forged pistons for the very high temperatures generated by the high-performance engine. A unique casting process (similar to forging process) sees unnecessary material removed and hollows created to achieve the ideal thickness. This enables a light weight on par with forged pistons.



HIGH-SPEED STABILITY

The objectives for the Ninja H2's chassis were to ensure unflappable composure at ultra-high speeds, offer cornering performance to be able to enjoy riding on a circuit, and finally to have a highly accommodating character. 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 also desired. The frame needed not only to be stiff, but also to be able to absorb external disturbances, which, when encountered while riding in the ultra-high speed range, could easily unsettle the chassis. 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.



TRELLIS FRAME

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

ÖHLINS TTX36 REAR SUSPENSION

The addition of Öhlins' highly acclaimed TTX shock offers enhanced cornering performance and rider confidence. The remote preload adjuster makes it easy to adjust settings to suit rider preference.



1. KYB AOS-II racing suspension makes its debut on an on-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 an on-road motorcycle. **2.** Dual radial-mount Brembo M50 monobloc calipers deliver superb braking performance. Given the ultra-high speed performance the Ninja H2 and H2R are capable of achieving, the brakes chosen are the best available for production based machines. Specialist tuning ensures that all possible play is removed from the system. **3.** Kawasaki's electronic steering damper was jointly developed with Öhlins. Unlike a mechanical steering damper, the damping characteristics are changed electronically according to vehicle speed and the degree of acceleration or deceleration. **4.** 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.

MAN-MACHINE INTERFACE

Although the Ninja H2 and H2R's high performance cannot be denied, since it was not intended to be a race bike designed to turn quick lap times as efficiently as possible, it did not need the spartan accommodation found on most purpose-built supersport models. The riding position, ergonomics and cockpit layout were all 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 one not of austerity, but rather plush quality, high-tech control, and an impeccable fit and finish.



KTRC (Kawasaki TRaction Control)

The KTRC system used on the Ninja H2 and H2R 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 designed to manage output when a sudden slip occurs. The new system offers both enhanced sport riding performance and the peace of mind to negotiate slippery surfaces with confidence.



KLCM (Kawasaki Launch Control Mode)

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



KIBS (Kawasaki Intelligent anti-lock Brake System)

Kawasaki's supersport style ABS is standard equipment on the Ninja H2 and H2R. This is the same base system used on the Ninja ZX-10R, with programming and settings revised to suit the performance parameters of the Ninja H2.

With feedback from the IMU, KIBS is able to incorporate a new function: corner braking control. Should riders use the brakes beyond the entrance to a turn (i.e. trail braking) or mid-corner (e.g. to avoid an obstacle), brake force is modulated to counter the tendency of the bike to stand up under braking. This assists riders in tracing their intended line through the corner instead of running wide.



Kawasaki Engine Brake Control

The Engine Brake Control system allows riders to select the amount of engine braking they prefer. When the Engine Brake Control system is activated, the engine braking effect is reduced, providing less interference when riding on the circuit.



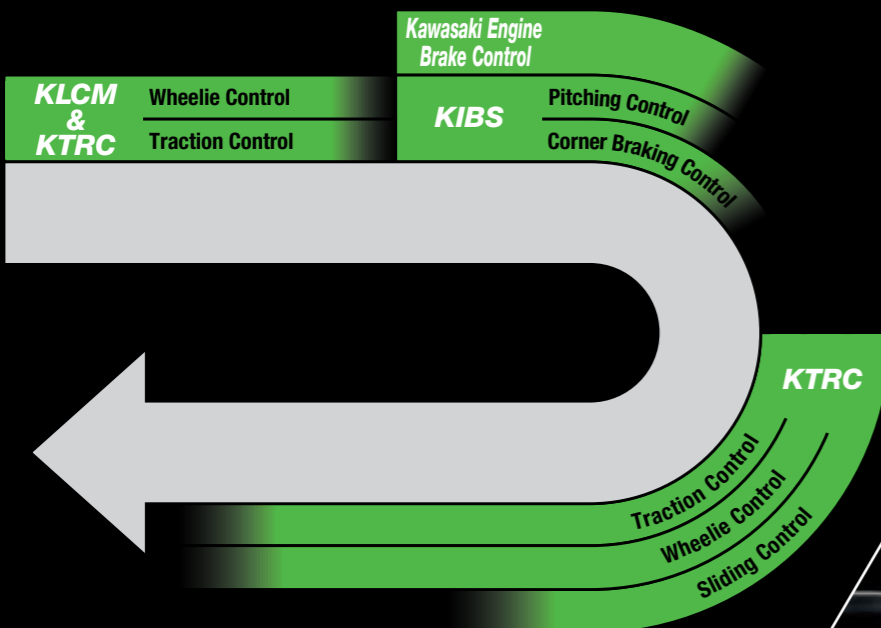
KQS (Kawasaki Quick Shifter)

Kawasaki's quickshifter on the Ninja H2 and H2R operates both for up and downshift. KQS means that gear changes can be made under hard acceleration without the need to engage the hand clutch lever.



IMU - Inertial Management Unit

The use of Bosch's compact IMU allows an additional layer of precision to be added to the already high-level KTRC, KLCM and KIBS.



KCMF - KAWASAKI CORNERING MANAGEMENT FUNCTION

The strength of Kawasaki's cutting-edge electronics has always been the highly sophisticated programming that, using minimal hardware, gives the ECU an accurate real-time picture of what the chassis is doing. Kawasaki's proprietary dynamic modelling program makes skilful use of the magic formula tyre model as it examines changes in multiple parameters, enabling it to take into account changing road and tyre conditions. The addition of a Bosch IMU (Inertial Measurement Unit) and the latest evolution of this advanced modelling software bring the electronic management systems on the Ninja H2 and H2R to the next level—changing them from setting-type and reaction-type systems to feedback-type systems—to deliver even greater levels of riding excitement. KCMF monitors engine and chassis parameters throughout the corner—from entry, through the apex, to corner exit—modulating brake force and engine power to facilitate smooth transition from acceleration to braking and back again, and to assist riders in tracing their intended line through the corner. On the Ninja H2, KCMF oversees the following systems:

- KTRC (including traction, wheelie and sliding control)
- KLCM
- KIBS (including pitching and corner braking control)
- Kawasaki Engine Brake Control

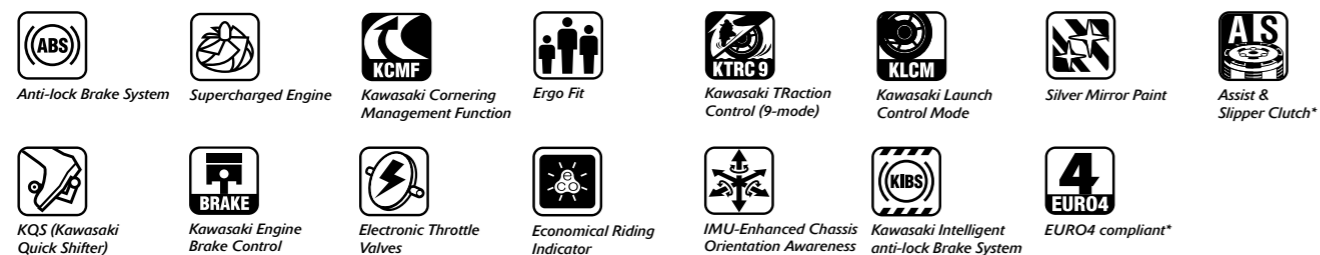


2017 NINJA H2 / NINJA H2R Specifications

MODEL	Ninja H2 / Ninja H2 Carbon	Ninja H2R
Engine type	Liquid-cooled, 4-stroke In-Line Four with Supercharger	Liquid-cooled, 4-stroke In-Line Four with Supercharger
Displacement	998 cm ³	998 cm ³
Bore x stroke	76.0 x 55.0 mm	76 x 55 mm
Compression ratio	8.5:1	8.3:1
Maximum power	150.8 kW (205 PS) / 11,000 rpm	228 kW (310 PS) / 14,000 rpm
Maximum power with RAM air	158.3 kW (215 PS) / 11,000 rpm	240 kW (326 PS) / 14,000 rpm
Maximum torque	133.5 N·m {13.6 kgf·m} / 10,000 rpm	165 N·m {16.8 kgf·m} / 12,500 rpm
Valve system	DOHC, 16 valves	DOHC, 16 valves
Fuel system	Fuel injection: Ø 50 mm x 4 with dual injection	Fuel injection: Ø 50 mm x 4 with dual injection
Lubrication	Forced lubrication, wet sump with oil cooler	Forced lubrication, wet sump with oil cooler
Transmission	6-speed, dog-ring	6-speed, dog-ring
Final drive	Sealed chain	Sealed chain
Clutch	Wet multi-disc, manual	Wet multi-disc, manual
Frame type	Trellis, high-tensile steel with Swingarm Mounting Plate	Trellis, high-tensile steel with Swingarm Mounting Plate
Tyre, front	120/70ZR17M/C (58W)	120/600 R17
Tyre, rear	200/55ZR17M/C (78W)	190/650 R17
Suspension, front	43 mm inverted fork with rebound and compression damping, spring preload adjustability and top-out springs	43 mm inverted fork with rebound and compression damping, spring preload adjustability and top-out springs
Suspension, rear	New Uni-Trak, Öhlins TTX36 gas-charged shock with piggyback reservoir, compression damping, rebound damping, preload adjustability and top-out spring	New Uni-Trak, Öhlins TTX36 gas-charged shock with piggyback reservoir, compression damping, rebound damping, preload adjustability and top-out spring
Brakes, front / Front brake type	Dual semi-floating 330 mm Brembo discs. Caliper: Dual radial-mount, Brembo M50 monobloc, opposed 4-piston	Dual semi-floating 330 mm Brembo discs. Caliper: Dual radial-mount, Brembo M50 monobloc, opposed 4-piston
Brakes, rear / Rear Brake Type	Single 250 mm disc. Caliper: Brembo, opposed 2-piston	Single 250 mm disc. Caliper: Brembo, opposed 2-piston
L x W x H	2,085 x 770 x 1,125 mm	2,070 x 850 x 1,160 mm
Wheelbase	1,455 mm	1,450 mm
Ground clearance	130 mm	130 mm
Seat height	825 mm	830 mm
Curb mass	238 kg	216 kg
Fuel capacity	17 litres	17 litres



Key to feature icons



* Only for Ninja H2 and Ninja H2 Carbon.



COLLECTIVE TECHNOLOGY OF THE KAWASAKI HEAVY INDUSTRIES GROUP

The origins of Kawasaki Heavy Industries (KHI) go back to the Kawasaki Tsukiji Shipyard founded by Shozo Kawasaki in 1878. When he was running his shipping business, he created a flag with a stylised version of the character "river"—the first character in the name Kawasaki—which he flew from the ships he owned. The emblem came to be called the "River Mark" and was adopted as the symbol of the KHI Group, which prized technology, originality and innovation.

The "River Mark" is proudly displayed on the Ninja H2's upper cowl. It is proof that the Ninja H2 is a product of the collective technology of the KHI Group. Its supercharger was designed with know-how gained from the gas turbine used to power 30 MW cogeneration systems. The piston crown shape was determined with experience gained from the V18 Green Gas Engine power plant, which boasts a generating capacity of 7.5 MW. And its aerodynamic

mirror stays were designed by Kawasaki's Aerospace Company using the latest CFD analysis technology.

The Ninja H2 is not merely a high performance motorcycle. It is a crystallisation of advanced technology born from the collective efforts of the KHI Group, whose activities span a wide range of business domains including Land, Sea and Air Transportation Systems, Energy & Environmental Engineering, and Industrial Equipment.

2017 Ninja H2R Cautions

Vehicle

The Ninja H2R is a closed course riding use only model and is not manufactured for use on public roads, streets or highways. All usage of this vehicle should be limited to riding on a closed course. The H2R was designed to carry the operator only. Do not attempt to ride with a passenger. Do not ride this vehicle in the rain.

Parts

Parts designed specifically for the H2R are for closed course riding use only and cannot be purchased without proof of H2R ownership (product registration, VIN confirmation, etc.).

Exhaust Sound

The exhaust sound level of the H2R at the time of factory shipment is 120 dB/A using Auto Cycle Union (ACU guidelines). It is the owner's responsibility to confirm that noise regulations of closed courses permit vehicles reaching this level of exhaust sound. Changes to the exhaust system may alter performance and sound level.

Usage, Maintenance and Warranty

As a closed course riding use only model, specific procedures must be followed when riding and maintaining the H2R:

- **Vehicle Tyres:** The standard tyres are designed exclusively for use on a closed course. These specialty tyres are not designed for oval or partial oval course use and may not be suitable for other courses or conditions. Kawasaki recommends that you follow the tyre manufacturer's instructions and warnings, and that you consult the tyre manufacturer to select the appropriate tyres for the course or riding conditions. Computer-controlled systems such as KIBS, KTRC, etc are tuned to the standard tyres. Use of tyres other than the standard tyres could affect performance of these systems. Standard Tyres:
 - o Front: Bridgestone, Racing Battlax V01F Soft
 - o Rear: Bridgestone, Racing Battlax V01R Medium
- **Tyre Warmers:** To prevent loss of tyre grip, always use tyre warmers to heat tyres prior to riding the H2R. Cold tyres do not provide sufficient grip and may cause loss of vehicle control and/or a crash, which could result in injury or death.
- **Vehicle Storage:** When storing the H2R, always use front and rear motorcycle stands that keep both tyres off the ground. This will prevent tyre deformation and adverse impacts on performance.
- **Vehicle Maintenance:** In addition to regular periodic maintenance, service inspections are required every 15 hours of engine operation above 8,000 min-1 (rpm). These service intervals are monitored through the vehicle's ECU with service messages displayed on the multifunction meter. (See Owner's Manual for additional information)
- **Vehicle Warranty:** The H2R is sold "As is" with no warranties, express or implied. The purchaser accepts all responsibilities concerning cost of service, maintenance and repairs.

Always ride responsibly. Respect the law and the environment. Always ride within the limits of your skills, your experience, and your machine. Wear an approved helmet and protective clothing. Adhere to the instructions and maintenance schedule in your owner's manual. Never drink and ride. Specifications have been achieved by production models under standard operating conditions. Data are intended to describe motorcycles and their performance capabilities fairly but may not apply to every machine. Specifications likely to change without notice. Specifications, products and illustrated equipment may vary by market. The actions depicted here took place under controlled conditions with professional riders. Never attempt any action which is potentially dangerous. Valuable K-Care customer programmes are available exclusively for products officially imported by Kawasaki Motors Europe N.V. and sold through its official network.

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