

BURNOUT

VOLUME 3
1ST ISSUE



DEPARTMENT OF AUTOMOBILE ENGINEERING



READY



EDITORIAL PAGE

"Scientists investigate that which already is;

Engineers create that which has never been "

– Albert Einstein

In the age of globalization, we in India have a fantastic opportunity to use them out to construct a strong economy, which is critical for the nation's development. This is largely due to the efforts of engineers and scientists who are able to comprehend the ground reality, with grassroots exposure, clarity of basic engineering concepts, and the ability to put all of this into a collective perspective in order to find technical solutions to all of society's vexing problems. However, over the last several years, India's technical education has grown significantly, with thousands of engineering institutions springing up around the country, generating millions of graduates each year. Tamilnadu, for example, generates more engineering graduates than the United States. Because the primary focus is on quantity, engineering education has been of poor quality. There are severe concerns concerning engineering graduates' employability. When one is immersed in the existing educational system, it is difficult to see and comprehend the question "Who is a true engineer?"

One of the main goals of the Department of Automobile Engineering, which has geared up the student population to become industry ready, is to include them in inter disciplinary activities concentrating on both technical and non-technical events. When the mind set of engineering as a tool to find a job, get money, and settle down in life shifts, true engineers emerge. Real engineers are individuals who see engineering as an important aspect of their professional development in order to fundamentally meet the demands of the society in which they live. They consider how their knowledge and abilities may be applied to benefit society as a whole. Only by establishing a genuine passion for engineering can this gap between engineering graduates and engineers be bridged. So, instead of merely graduating with an engineering degree, become an engineer who is socially relevant and joyful. Build a profession that is worth having and a life that is worth living.

EDITORIAL TEAM

FACULTY EDITORS

DR. C. SABARINATHAN, HOD

MR.M. SAMUEL GEMSPRIM, ASST. PROFESSOR

STUDENT EDITORS

IV YEAR

MATHIYARASAN.T

KRITHIK ANAND.V

III YEAR

GJENDRA SHIVAN.K

SASIKUMAR.S

II YEAR

NAGALAKSHMI.S

KABEEN SAKTHI.V

GOKUL.G

ASHWIN.KM

AMBADI.A

I YEAR

ROSHAN ASHRAF.SH

DHEEBA RAAJ.G

CONTENTS

- COVER PAGE
- EDITORIAL INFO
- DEPARTMENT VISION AND MISSION
- PEOS & PSOS
- ARTICLES BY STUDENTS
 - LEGACY OF INDIA
 - YAMAHA RX SERIES
 - MOTORIST OF THE SEASON
 - CHARLES ROLLS
 - HENRY ROYCE
 - TRIBUTE
 - BMW 3 SERIES
 - BMW M DIVISION
 - HTP WINWARD MOTORSPORT
 - KAWASAKI NINJA H2
 - STUDENTS CREATION
 - MOTOGRAPHY
 - NATUROGRAPHY

DEPARTMENT OF AUTOMOBILE ENGINEERING

VISION

“The Automobile Engineering Department Strives to be renowned globally for stupendous education to well qualified engineers, who are innovative, entrepreneurial and successful in advanced fields of Automotive Engineering”

MISSION

To inculcate complete and fashionable principles of Automobile Engineering and developing skills that will enable graduates to become leaders who can make noteworthy contributions to their profession and to the social environment, Instilling the highest ethical standards and sense of professionalism.

PROGRAMME EDUCATIONAL OBJECTIVES

PEO1	The programme will prepare graduates for successful carrier in Plan, design, create, construct, develop and maintain to improve automobile engineering systems and research at are technically sound, economically feasible and socially acceptable to enhance quality of life.
PEO2	The programme will prepare graduates for applying analytical and computational modern techniques to address the challenges occupied in the core and allied engineering streams.
PEO3	The programme will prepare graduates with leadership skills, entrepreneurial and self- learning capabilities to excel in their profession.
PEO4	The programme will prepare graduates with exhibit professionalism, ethical attitude, team spirit and pursue lifelong learning to achieve career and organizational goals.

PROGRAMME SPECIFIC OUTCOMES

Graduate using the knowledge of basic science, professional theory, advanced software and tools for diagnosis the systems for technical and social perspectives through a broad area in automotive sector.

Acquire the working knowledge and analyze new technical challenge and advancements in the automotive industry.

**ARTICLE BY
STUDENTS**

LEGACY OF INDIA

RX SERIES

YAMAHA RX – 135

The Yamaha RX-135 (also popularly known under the name RX-KING or RX-K or RXT simply RX is South East Asia, especially India, Indonesia, & the Philippines) is a two stroke engine motorcycle produced by Yamaha since the 1990's



OVERVIEW

- Manufacture – Yamaha Escorts Limited
- Also called –RX-King, RX-K or RXT,RX
- Production – 1980-2009
- Class – Commuter motorcycle
- Top speed – 120km/h (4-speed version) 130-140 km/h (5-speed version)

POWER TRAIN

- Engine –2 stroke, air cooled, reed valve, gasoline 7 port torque induction, producing 12hp (4 speed) & 14 hp (5 speed)
- Transmission – 4/5-speed manual

DIMENSIONS

- Wheelbase-1245mm
- Tire –18"
- L:1965mm ,W:740mm , H:1050mm.

CHRONOLOGY

- Predecessor – RX 100, RXG
- Successor – RX 135, RX-Z

YAMAHA RX -100



The Yamaha RX 100 was a two-stroke motorcycle made by Yamaha from 1985 to 1996 with technical collaboration and distributed in India by the Escorts Group. At the initial stage, Yamaha Japan was exporting all bikes from Japan to India. After 1990, Escort started production in India, with some parts being imported from Japan.

OVERVIEW

- Manufacture – Yamaha Escorts Limited
- Parent company –Escort Limited
- Production – 1980-1996
- Class – Commuter Sports
- Top speed – 110kmph

POWER TRAIN

- Engine –2 stroke single, 98.2cc (5.99 cu in) air- cooled, reed valve.
- Transmission – four-speed constant mesh, Multiplate clutch

DIMENSIONS

- Wheelbase-1240mm
- Tire – Wire spoke, F;2.50 x18
- L: 2040 mm W: 740 mm, H: 1060 mm.

CHRONOLOGY

- Predecessor – RD350
- Successor – RXG,RXZ,RX135.

YAMAHA RX -Z

Yamaha RX-Z 135 was a two-stroke naked bike manufacture by Yamaha Motor corporation. Debuting in april 1985, the RX -Z was very popular in Malayasia and Singapore and was sold for more than two decardes before the production was ended in 2011.

OVERVIEW

- Manufacture – Yamaha Motor Company
- Parent company –Yamaha Corporation
- Production – 1985 -2011
- Class – Sport bike

POWER TRAIN

- Engine –2 stroke single, 133 cc (8.1 cu in) two-stroke, bore 56×54 mm, compression: 7.0:1
- Transmission – 5-speed manual

DIMENSIONS

- Wheelbase-1240mm
- Tires – Wire spoke, F;2.50 ×18
- L: 1990 mm W: 725 mm, H: 160 mm.

CHRONOLOGY

- Predecessor – Yamaha RD125
- Successor – Yamaha FZ150i



MOTORISTS OF THE SEASON

ROLLS ROYCE

CHARLES ROLLS

Charles Stewart Rolls FRGS FRMETS MICE (27 August 1877 – 12 July 1910) was a British motoring and aviation pioneer. With Henry Royce, he co-founded the Rolls-Royce car manufacturing firm. He was the first Briton to be killed in an aeronautical accident with a powered aircraft, when the tail of his Wright Flyer broke off during a flying display in Bournemouth. He was aged 32.

Rolls was born in Berkeley Square, London, third son of the 1st Baron Llangattock and Lady Llangattock. Despite his London birth, he retained a strong family connection with his ancestral home of The Hendre, near Monmouth, Wales. After attending Mortimer Vicarage Preparatory School in Berkshire, he was educated at Eton College where his developing interest in engines earned him the nickname "dirty Rolls".

In 1894, he attended a private crammer in Cambridge which helped him gain entry to Trinity College, Cambridge in 1895, where he studied mechanical and applied science. In 1896, at the age of 18, he travelled to Paris to buy his first car, a Peugeot Phaeton, and joined the Automobile Club of France. His Peugeot is believed to have been the first car based in Cambridge, and one of the first three cars owned in Wales. An early motoring enthusiast, he joined the Self-Propelled Traffic Association, which campaigned against the restrictions imposed on motor vehicles by the Locomotive Act, and became a founder member of the Automobile Club of Great Britain, with which the Association merged in 1897.

Rolls was a keen cyclist and spent time at Cambridge bicycle racing. In 1896, he won a Half Blue and the following year became captain of the Cambridge University Bicycle Club.



Rolls graduated from Cambridge in 1898 and began working on the steam yacht Santa Maria followed by a position at the London and North Western Railway in Crewe. However, his talents lay more in salesmanship and motoring pioneering than practical engineering; in January 1903, with the help of £6,600 provided by his father, he started one of Britain's first car dealerships, C. S. Rolls & Co. based in Lillie Hall, Fulham, to import and sell French Peugeot and Belgian Minerva vehicles.

Rolls was introduced to Henry Royce by a friend at the Royal Automobile Club, Henry Edmunds, who was also a director of Royce Ltd. Edmunds showed him Royce's car and arranged the historic meeting between Rolls and Royce at the Midland Hotel, Manchester, on 4 May 1904. In spite of his preference for three or four cylinder cars, Rolls was impressed with

the two-cylinder Royce 10 and in a subsequent agreement of 23 December 1904 agreed to take all the cars Royce could make. These would be of two, three, four and six cylinders and would be badged as Rolls-Royces.

The first Rolls-Royce car, the Rolls-Royce 10 hp, was unveiled at the Paris Salon in December 1904, although in the early advertising it was the name of Rolls that was emphasised over that of Royce. In 1906 Rolls and Royce formalised their partnership by creating Rolls-Royce Limited, with Rolls appointed Technical managing director on a salary of £750 per annum plus 4% of the profits in excess of £10,000. Rolls provided the financial backing and business acumen to complement Royce's technical expertise. In 1907 Rolls-Royce Limited bought out C. S. Rolls & Co.

Rolls put much effort into publicising the quietness and smoothness of the Rolls-Royce, and at the end of 1906 travelled to the US to promote the new cars. The company was winning awards for the quality and reliability of its cars by 1907. But by 1909 Rolls' interest in the business was waning, and at the end of the year he resigned as Technical managing director and became a non-executive director.

PIONEER AVIATOR



Rolls was a pioneer aviator and initially, balloonist, making over 170 balloon ascents. In 1903 he won the Gordon Bennett Gold Medal for the longest single flight time.

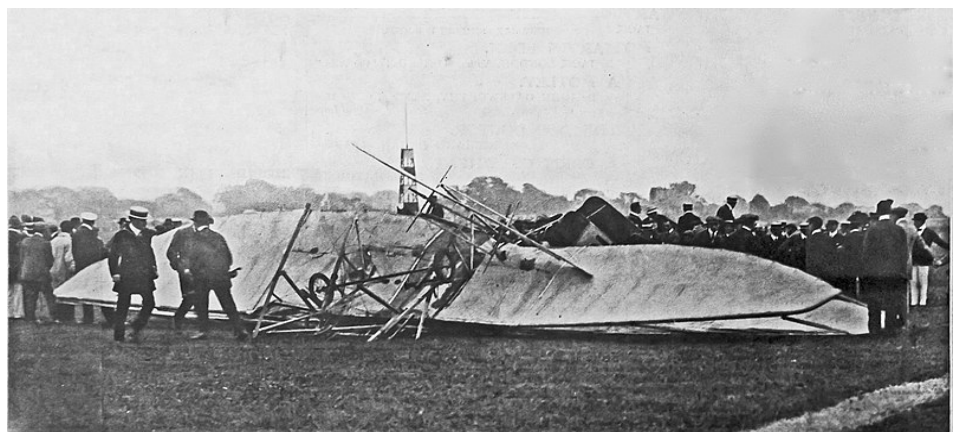
By 1907 Rolls' interest turned increasingly to flying and he tried to persuade Royce to design an aero engine. He became the second Briton to go up in an aeroplane. Piloted by Wilbur Wright their flight on 8 October 1908 from Camp d'Auvours, eleven kilometres east of Le Mans, lasted four minutes and twenty seconds.[10] He bought one of six Wright Flyer aircraft built by Short

Brothers under licence from the Wright Brothers and from early October 1909 made more than 200 flights. Founder in 1901 with Frank Hedges Butler of the ballooning club that became the Royal Aero Club in March 1910 he was the second person they licensed to fly an aeroplane. He became the first man to make a non-stop double crossing of the English Channel by plane taking 95 minutes on 2 June 1910 For this feat, which included the first eastbound aerial crossing of the English Channel, he was awarded the Gold Medal of the Royal Aero Club. There is a statue in Monmouth to commemorate the flight and another, by Kathleen Scott, in Dover.

DEATH

Photograph on the front page of the Illustrated London News, 16 July 1910, showing the wreckage of the plane crash which killed Rolls

On 12 July 1910, at the age of 32, Rolls was killed in an air crash at Hengistbury Airfield, Southbourne, Bournemouth when the tail





of his Wright Flyer broke off during a flying display. He was the first Briton to be killed in an aeronautical accident with a powered aircraft, and the eleventh person internationally. His was also the first powered aviation fatality in the United Kingdom.

His grave lies at the churchyard of St Cadoc's Church, Llangattock-Vibon-Avel, where many of the Rolls family lie buried in various family tombs. His grave is just below Llangattock Manor and bears the inscription:

"Blessed are the pure in heart for they shall see God."



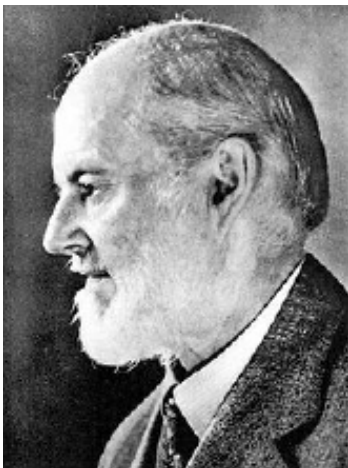
A statue in his memory, in which he is seen holding a biplane model, was erected in Agincourt Square, Monmouth. A further memorial to him was unveiled in 1981 in the bottom playing field of St Peter's Catholic School, Bournemouth, which was developed on the site of Hengistbury Airfield. There is a stained-glass window in All Saints' Church, Eastchurch on the Isle of Sheppey, dedicated jointly to Rolls and to fellow pioneer aviator Cecil Grace.

HENRY ROYCE

Sir Frederick Henry Royce, 1st Baronet, OBE (27 March 1863 – 22 April 1933) was an English engineer famous for his designs of car and aeroplane engines with a reputation for reliability and longevity. With Charles Rolls (1877 – 1910) and Claude Johnson (1864 – 1926), he founded Rolls-Royce.

Royce's health broke down in 1911 and he was persuaded to leave his factory in the Midlands at Derby and, taking a team of designers, move to the south of England spending winters in the south of France. He died at his home in Sussex in the spring of 1933.

Royce was born in Alwalton, Huntingdonshire, near Peterborough in 1863 to James and Mary Royce (née King). He was the youngest of their five children. His father ran a flour mill which he leased from the Ecclesiastical Commissioners but the business failed and the family moved to London. His father died in 1872 and Royce had to go out to work selling newspapers and delivering telegrams after only one year of formal schooling.



In 1878 he started an apprenticeship with the Great Northern Railway company at its works in Peterborough thanks to the financial help of an aunt. After three years the money ran out. After a short time with a tool-making company in Leeds he returned to London and joined the Electric Light and Power Company. He moved to their Liverpool office in 1882 working on street and theatre lighting.

In 1884, with £20 of savings, he entered a partnership with Ernest Claremont, a friend who contributed £50, and they started a business making domestic electric fittings in a workshop in Cooke Street, Hulme, Manchester, called F. H. Royce and Company. In 1894 they started making dynamos and electric cranes and F. H. Royce & Company was registered as a limited liability company. The company was re-registered in 1899 as Royce Ltd, with a public share flotation and a further factory opened in Trafford Park, Manchester.

Following a decline in trade after the Second Boer War, and the arrival of increasing competition by cranes and dynamos from Germany and the United States, Royce began considering the motor car as a potential new product for the company. With his fascination for all things mechanical he became increasingly focused on motor cars and bought first, in 1901, a small De Dion and in 1902 or 1903 a 1901 model two-cylinder Decauville. This did not meet his high standards and so he first improved it and then decided to manufacture a car of his own which he did in a corner of the workshop in 1904.

Two more cars were made. Of the three, which were called Royce and had two cylinder engines, one was given to Ernest Claremont and the other sold to one of the other directors, Henry Edmunds. Edmunds was a friend of Charles Rolls who had a car showroom in London selling imported models and showed him his car and arranged the historic meeting between Rolls and Royce at the Midland

Hotel, Manchester, on 4 May 1904. In spite of his preference for three or four cylinder cars, Rolls was impressed with the two-cylinder Royce 10 and in a subsequent agreement of 23 December 1904 agreed to take all the cars Royce could make. These would be of two, three, four and six cylinders and would be badged as Rolls-Royce.

The first Rolls-Royce car, the Rolls-Royce 10 hp, was unveiled at the Paris Salon in December 1904. In 1906 Rolls and Royce formalised their partnership by creating Rolls-Royce Limited, with Royce appointed chief engineer and works director on a salary of £1,250 per annum plus 4% of the profits in excess of £10,000. Royce thus provided the technical expertise to complement Rolls' financial backing and business acumen. By 1907 the company was winning awards for the engineering reliability of its cars.

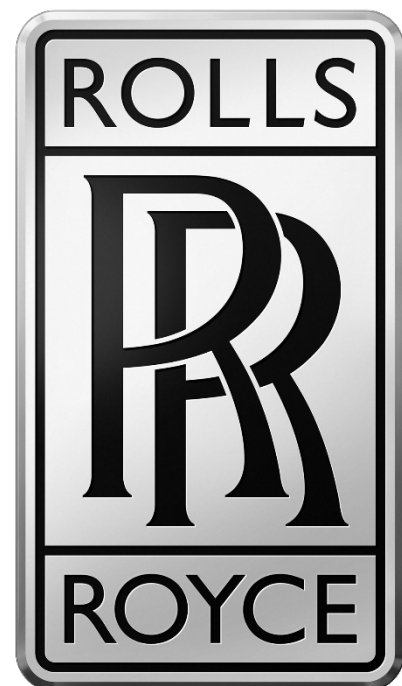
The Rolls-Royce Eagle was the first aircraft engine to be developed by Rolls-Royce Limited. It was introduced in 1915 to meet British military requirements during the First World War and proved to be one of only two aero engines made by the Allies that was neither a production nor a technical failure.

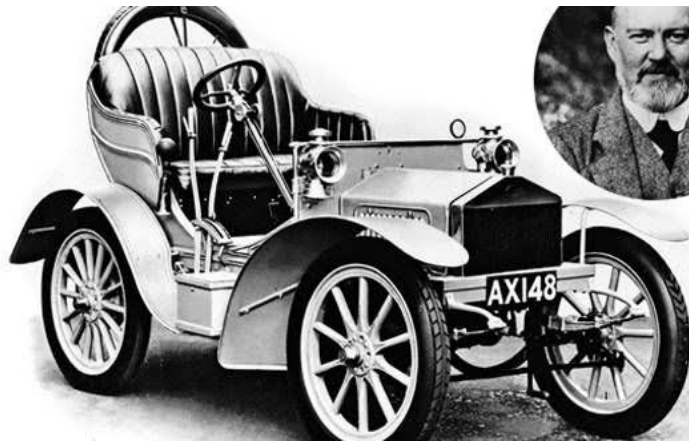
Royce & Company remained in business as a separate company making cranes until 1932 when it was bought by Herbert Morris of Loughborough. The last Royce-designed crane was built in 1964.

The partnership ended when Rolls died in 1910 in a crash of his Wright Flyer aircraft.

DEVELOPMENT OF ROLLS-ROYCE

Royce had always worked hard and was renowned for never eating proper meals which resulted in his being taken ill first in 1902 and again in 1911. Ill health had forced his move away from Derby in 1912. In the same year, he had a major operation in London and was given only a few months to live by the doctors. In spite of this he returned to work but was prevented from visiting the factory, which had moved to larger premises, fitted out to detailed plans by Royce, in Derby in 1908. He insisted on checking all new designs and engineers and draughtsmen had to take the drawings to be personally checked by him, a daunting prospect with his well-known perfectionism. He had a villa built at Le Canadel in the south of France and a further home at Crowborough, East Sussex. In 1917, Royce moved to the village of West Wittering, West Sussex.



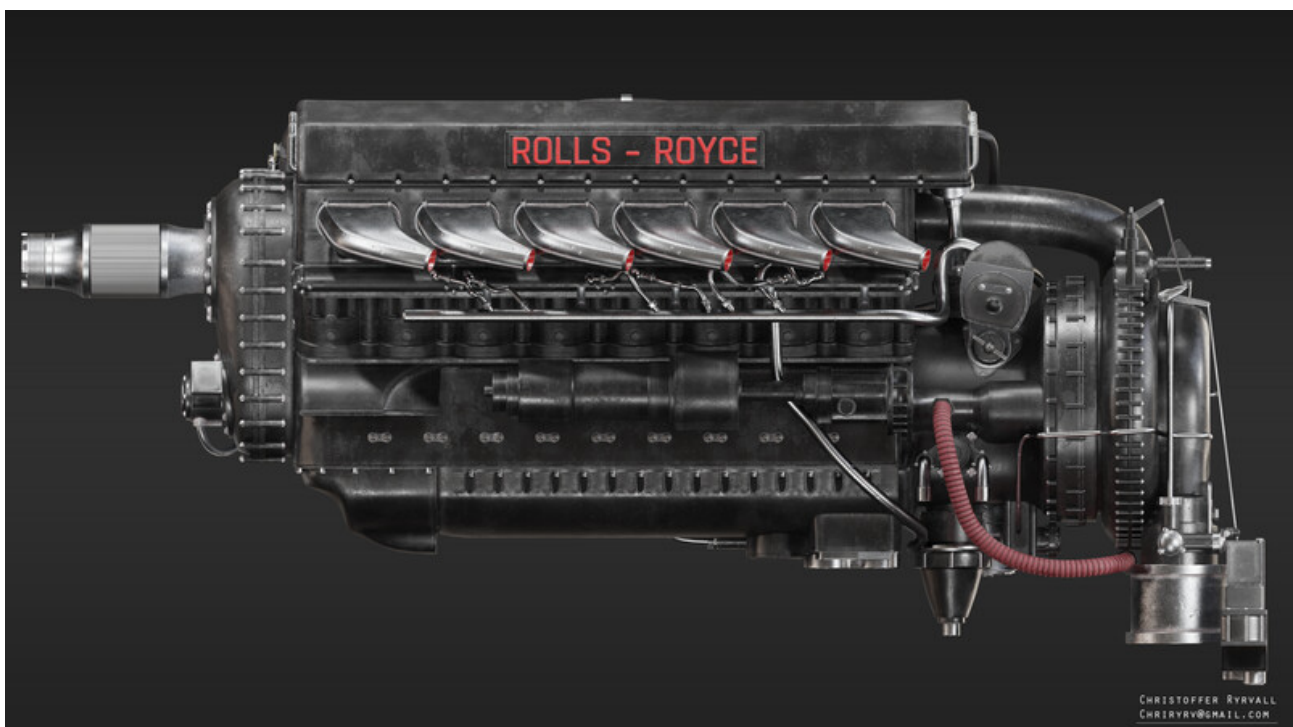


In October 1928, he began design of the "R" engine while walking with some of his leading engineers on the beach at West Wittering, sketching ideas in the sand. Less than a year later, the "R" engine, designed in his studio in the village, set a new world air speed record of 357.7 miles per hour and won the Schneider Trophy of 1929.

When the Ramsay MacDonald government decided not to finance the next attempt in 1931, Lucy, Lady Houston, felt that Britain must not be left out of this contest and sent a telegram to the Prime Minister stating that she would guarantee £100,000, if necessary, towards the cost leading the Government to reverse their previous decision. The result was that Royce found that the "R" could be made to produce more power and the Supermarine S.6B seaplane won the Trophy at 340.08 mph (547.31 km/h) on 13 September 1931. Later that month on 29 September, the same aircraft with an improved engine flew at 407.5 mph (655.8 km/h), becoming the first craft to fly at over 400 mph (640 km/h) and breaking the world's speed record.

BENTLEY, SHOCK ABSORBER AND MERLIN

In 1931, Rolls-Royce Ltd. bought out their rival firm of W. O. Bentley. A "20/25" engine was put into a chassis and a Bentley radiator fitted. An open four-seater body completed the picture. The engine was "hotted-up" and the car was taken down to West Wittering to get Royce's approval. They were



CHRISTOPHER RYRVALL
CHRIRYRV@GMAIL.COM

somewhat apprehensive of what he would say, but he gave it his blessing. He told them that such a fast car should have a means of varying the stiffness of the springing.

The night before he died he sat up in bed and drew a sketch on the back of an envelope which he gave to Miss Aubin (his nurse and housekeeper) telling her to see that the "boys" in the factory got it safely. He died before it reached Derby. This was the adjustable shock-absorber. Thus, in 1933 the first Bentley made by Rolls-Royce Ltd made its appearance and another famous name carried on.

Following the success of the "R" engine, it was clear that they had an engine that would be of use to the Royal Air Force. As no Government assistance was forthcoming at first, in the national interest they went ahead with development of what was called the "PV-12" engine (standing for Private Venture, 12-cylinder). The idea was to produce an engine of about the same performance as the "R", albeit with a much longer life. Royce launched the PV-12 in October 1933 and the engine completed its first test in 1934, the year after he died. The PV-12 became the Rolls-Royce Merlin engine.



TRIBUTE

BAVARIAN MOTOR WORKS(BMW)

BMW 3 SERIES

The history of the BMW 3 Series stretches across seven generations and 45 years. It's one of the most admired driver focused sedans to come out of Germany and even today, enthusiasts drool over the earlier generation BMW M3 sedans for their raw and unapologetic performance. With every new generation, the 3 Series encapsulated the traits of the original while bettering and broadening its strengths. To fully understand one of our favourite driver-focused sedans, let's delve deep into history to see how the Bimmer evolved.



E21 - FIRST GENERATION - 1975 TO 1983

An era when Golden State Warriors won the 1975 NBA championship and The Godfather Part 2 smashed box-office collections. Meanwhile, the first ever BMW 3 Series was unveiled at Munich's Olympic Stadium as a two-door sedan and its characteristics weren't far from what we see in modern 3 Series sedans. From the day it was born, the 3 Series was unparalleled in terms of dynamic and sporty performance. Power figures ranged between 75-143hp across variants and only two-door sedan and convertible body styles were offered initially. Double-kidney grille, raised rear section and dashboard angled towards the driver were the symbolic design elements.



E30 - SECOND GENERATION - 1982 TO 1994



Now this was the era when video games like Pac-Man were the rage amongst children and Rocky Balboa was the gym freak's poster model. E30 generation onwards, all BMW 3 Series sedans got twin headlamps as standard. BMW also introduced the high-performance M3 coupe in 1984. The whole idea was to introduce a racing sedan in a street version. The M3 produced 200hp from a high-revving naturally aspirated 2.3-litre four-cylinder

engine. It raced to a 100kmph in just 6.7 seconds and hit a top whack of 235kmph. Enthusiasts lust after the E30 M3 even today.

E36 – THIRD GENERATION – 1990 TO 2000

Welcome to the age of Metallica and Eagles emerging as some of the top rock bands and families using modems to go online. BMW was building its brand name as one of the finest sports sedan manufacturers and the 3 Series now aligned towards being a coupe, with noticeably sloping A and C pillars. The E36 3 Series comprised of the widest range of body styles including the sedan, coupe, convertible, touring, compact and M3, the latter being offered as sedan, coupe and convertible. Power figures ranged from 99hp to a whopping 321hp in the E36 M3.



E46 – FOURTH GENERATION – 1997 TO 2006



Titanic hit theatres in 1997 and millions shed tears in memory of the sunken cruise liner, deemed as unsinkable by its own designer. What a waste! What wasn't a waste, however, was the fact that the standard 3 Series now borrowed the AWD system from the E30 on the 325xi, 330xi and 330xd models. The E46 3 Series produced a minimum of 105hp while maximum power in the M3 was

bumped by 36hp to 360hp. Deemed as one of the sexiest, the fourth generation 3 Series saw 32 lakh buyers in its lifetime, becoming the highest selling 3 Series of all time.

E90 – FIFTH GENERATION – 2005 TO 2013

Facebook started becoming the talk of every town and teenage video-gamers devoured games like the GTA San Andreas. BMW meanwhile launched a car that went on to win the World Car of the Year award. It was favourite amongst critics, journalists and regular enthusiasts



as well. The E90 was longer, taller and wider with aluminium being used generously in the body and suspension to keep the weight down. More upgrades in the chassis included independent front suspension and multi-link rear suspension. The M3 meanwhile featured a V8 engine for the first time, producing 420hp and 400Nm of torque via natural aspiration.

F30 – SIXTH GENERATION – 2011 TO 2018



Climate change starts killing polar bears and sea levels are rising. And the BMW 3 series is now electrified! A range of powertrains underwent hybridization (for international markets) and all engines were now turbo-charged. The 3 Series was redesigned to align with the 5 Series and the 7 Series and one of the striking details was the unison of the headlamps and kidney-grille. A new variant was introduced in the form of the 3 Series GT that added a coupe roofline and a longer wheelbase. In a major rebranding exercise, the M3 coupe and convertible were moved to the 4 series range, and the M3 was solely produced in the sedan body style.

G20 – SEVENTH GENERATION – 2018 ONWARDS



“Alexa, book an Uber to evo India HQ”. Welcome to the age of artificial intelligence. The latest generation 3 Series meanwhile is ushering a new design language for BMW. It looks sharper and aggressive than before and the same can be said about the way it drives. We drove the 330i M Sport late last year and the Bimmer stays true to its sporty genes. It’s quick and we love the way the chassis is set-up allowing sporty handling. The 3 Series is a proper driver’s car compared to rivals like the Mercedes-Benz C-Class and Audi A3 that focus more on comfort. With ‘Thrill of Driving’ being our motto, the 3 Series will always be our pick of the lot.



BMW M DIVISION

BMW's M division launched its first production car almost 50 years ago, and has recently revealed the new Concept XM. We take a look back at the firm's most iconic models

The racing subsidiary initially created to facilitate BMW's motorsport program during the 1960s and 1970s, BMW Motorsport GmbH went on to be responsible for some of the most celebrated road cars of all time.



M division was founded in May 1972 with 35 employees to supplement BMW's road car portfolio with specially enhanced models. By 1988, the company had grown to 400 employees and swiftly became a fundamental part of BMW's market presence.

The first car to be sold with an M badge was the BMW M1, designed by Paul Bracq with final touches by legendary designer Giorgetto Giugiaro. Launched at the Paris Motor Show in 1978, the mid-engined coupé featured a 277bhp six-cylinder engine taken from the 3.0 CSL and was capable of 165mph.



Only 456 production M1s were built. Later, the M1 spawned a

racer to compete in a one-make series, Procar. Despite attracting drivers such as Hans-Joachim Stuck, Niki Lauda and Nelson Piquet, the series lasted just two years.

In 1979, the car regarded as the first proper M car for the road was launched. The BMW M535i was the predecessor to the E28 M5 and was a high-performance variant of BMW's popular 5-series saloon. Powered by the 215bhp 3.5-litre M30B34 engine, it incorporated Recaro seats, bigger brakes, a limited-slip differential and a close-ratio transmission.

Four years passed and the M635CSi was launched. M applied its magic to the 6-series, fitting the new M88/3 engine which developed 282bhp and made the M635CSi good for 158mph. Just 5,859 models

were built, although plenty of lesser models gained M badges fitted by owners - a trend that continues today.

The first M5, based on the E28-generation 5-series, set the blueprint for a performance saloon. It combined the best of the 5-series - comfort, refinement and build quality - with vastly improved performance. It could reach 62mph in 6.5sec and run on to 153mph; fast even by today's standards. With luxuries such as electric windows, central locking and light alloy wheels, it was evident the M division were beginning to target the premium sector. A family saloon car developing this power was previously unheard of and it was a gamble that paid off for BMW.



inline four-cylinder 16-valve unit. However, the later Evolution and Sport Evolution models produced 217bhp and 235bhp respectively. Zero to 62mph in 6.9sec, allied to touring-car-esque handling, it was a stunning package still highly-regarded to this day.

Two years later, a larger, more luxurious body shell meant increased power when the E34

BMW M5 came to the fore in 1988. Utilising the 535i chassis, it was mated to a 311bhp, 266lb ft 3.6-litre straight-six motor, later upgraded to 3.8-litres from 1992. With a top speed of 177mph, it was the fastest four-door saloon in the world.

The BMW 850CSi was the nearest M came to developing a supercar. It was an M car in all but name, and took over from the prototype M8. The 850i's engine was tuned so extensively that BMW assigned it a new engine code – S70. A 5.6-litre V12 – the only M car to feature 12 cylinders - and 375bhp made it good for a limited top speed of 155mph. It was BMW's flagship car at the time and incorporated advanced kit such as active four-wheel steering.

The E36 M3 had a hard act to follow when it launched in 1992. It gained two more cylinders over the four-pot E30, and the new model eventually spawned coupe, convertible and saloon versions. It was initially offered with a 3.0-litre straight-six developing 282bhp, but later models gained a new 3.2-litre straight-six from 1995, which boosted power to 316bhp. The E36 M3 was touted as one of the best handling cars of the nineties, and in 1997 introduced BMW's Sequential Manual Gearbox.

In 1998, BMW M released the M Roadster and Coupe. It was a hybrid of the Z3 - a car largely unloved at the time - and the E36 M3 Evo, from which it took brakes and much of the suspension. The Z3 M Coupe, either known as the breadvan or clown shoe depending whether you were British or American, remains an enigmatic performance car with a cult following.

The same year saw the launch of the E39 M5, a car created in far greater numbers than its predecessors and built on the same assembly line as the regular 5-series. Power was now up to 394bhp from the new 4.9-litre V8 and 0-60mph dispatched in 4.8sec.

The millennium saw the introduction of the third generation of M3, the E46, which offered up 338bhp from its 3.2-litre straight six. For the first time since the E30 M3, a saloon version was not available. With a 0-62mph time of 5.1sec and limited to 155mph, it is considered one of the greatest all-round sports cars, particularly in CSL guise.

That model was a lightweight limited-edition version of the E46. It was 110kg lighter than the standard M3 coupe and the tuned 3.2-litre straight-six was up to 355bhp. It is still regarded as one of M's finest creations.



2005 saw the introduction of the most advanced M5 to date. The E60 M5 featured a 500bhp V10 which was designed to link the car with BMW's Formula One effort. It was the fastest four-door saloon at the time of its release. Capable of 200mph de-restricted, it was only available with the SMG III sequential manual gearbox. It boasted a host of technology to vary the speed of gearshifts, and the driver was able to adjust power output on the move.

The same year saw the launch of the M5's sister car, the M6. It marked a return of the hot 6-series, not seen since the M635CSi, and offered a proper GT in BMW's line-up.

The final naturally-aspirated BMW M3, the E92 coupe debuted in 2007 with a 4.0-litre V8 kicking out 414bhp at a heady 8300rpm. In 2008, the four-door E90 saloon was launched. This model also saw the debut of BMW's M-DCT twin-clutch gearbox. The E92 served as the platform for the BMW M3 GTS.

Just 250 were built, and it was powered by a 444bhp 4.4-litre V8. It attracted a price tag of more than £100,000.

M's first SUVs hit the showrooms in 2009. The BMW X5 M and BMW X6 M both pack a 555bhp 4.4-litre V8. The Porsche Cayenne Turbo rivals returned predigious performance, dispatching 62mph in a around 4.5sec, but split opinion as to whether a high-riding model deserved to carry the same designation as the M3 and M5.

Despite losing two cylinders, the F10-generation BMW M5 remained one on the best supersaloons on sale during its lifetime. Like the E60 M5 it replaced, it bristled with technology, all in the pursuit of ultimate performance. It was much the same story with the M6, which was sold as a coupe, convertible and a four-door GranCoupe.

The same year, the 1-series M was launched. Lauded as the spirtual successor to the E30 M3, the limited run's iconic status was assured. It had a wider track and power came from a 340bhp version of the engine from the 335i.



2014 would see a big shift for the venerable M3, when the F80 model arrived exclusively as a four-door and the coupé version morphed into the M4.

Both used the same 425bhp inline six, codenamed S55, which would see the M3 embrace turbocharging for the first time. An uprated M3 CS would arrive later with reduced weight, carbon fibre front spoiler and a power hike, but it would be the M4 that recieved the most extreme variant: the BMW M4 GTS, a track-focused model with power pushed to 493bhp thanks to a water injection system - the first to be used in a production car for twenty years.

The success of the 1-Series M meant a smaller M division coupé was almost inevitable, but it wouldn't be until 2015, when the BMW 2 Series had replaced the outgoing 1 Series coupé and convertible. New The BMW M2 became the new baby of the M line-up, and in many ways felt it, with a single-turbo six-cylinder engine and a chassis that couldn't quite keep up with the Porsche 718 Cayman as the very best in the class for handling. That would change with the BMW M2 Competition, which was given a mechanical overhaul and a downtuned version of the M3's twin-turbocharged straight six. Supremely balanced and composed, it quickly became one of the best driver's cars BMW made at the time.

A new F90 generation BMW M5 would arrive in 2017, fitted with a heavily revised twin-turbo 4.4-litre V8 that would allow the super-saloon to reach 190mph on the autobahn and break 62mph in 3.4sec. Much of that raw acceleration was down to all-wheel drive, a first for the M5, though drive is only sent to the front wheels when the rears lose traction. A dedicated rear-wheel drive only mode meant it could still deliver the same sideways hooliganism of previous generations, too. The BMW M5 CS took that recipe, then refined and enhanced it to near-perfection - resisting the urge to turn the super saloon into a track-day special, but imbuing it with the essence of what made the model so great in the first place. It's comfortably the best of the current breed.

More SUVs would follow in 2019, with the BMW X3 M and BMW X4 M sharing the same twin-turbocharged 3.0-litre S58 powertrain. Power output for the Competition variants was hiked to 503bhp, though xDrive all-wheel drive and a high driving position would trim some of the dynamic playfulness we'd come to expect from cars carrying the M badge. Raw performance of each car wasn't up for debate, though, and would act as a tantalising teaser for the soon-to-follow M3, which would use the same engine.

[Back to top](#)



M Division's most luxurious creation is the M8, which arrived in coupé, convertible and Gran Coupé forms with the same 4.4-litre twin-turbo V8 as the M5, tuned to produce a meteoric 616bhp. More than a two-door M5, it was BMW's attempt to muscle in on Bentley, Aston Martin and Mercedes-AMG's dominance of the grand tourer space, though an overly familiar interior didn't perhaps do

enough to separate it from the rest of the line-up.

The G20-based BMW M3 Competition and its M4 Competition coupe/cabriolet siblings would arrive in 2021, sporting radical redesigns that would divide opinions among BMW fans. There was no denying the performance on offer, even with the move to all-wheel drive and the weight gain that came with it. The saloon now has more in common with previous-generation M5s, making the coupé our favourite of the pair. At the time of writing, an M3 Touring was on the way, giving customers an official performance estate option for the first time since the E61 M5 Touring, at least in the UK.



1913-1917



1917-1936



1923-1953



1936-1963



1963-1997



1970-1989



1997-2020



2020-PRESENT

BMW's most powerful model, and its first bespoke car since the M1, is set to be the XM - a 740bhp SUV that will rely on plug-in hybrid power, another first for the division. Previewed by the XM Concept, it takes the firm's current design language to the extreme, and should give BMW a rival for Porsche's Cayenne Turbo S E-Hybrid and Cayenne Turbo GT duo.

HTP WINWARD MOTORSPORT

HTP Winward Motorsport also known as Team Mann-Filter, HTP Motorsport and Winward Racing is a German-American-based auto racing team. The team mainly competes in GT3 based series such as the GT World Challenge Europe. The team was founded after HTP Investment BV took over Heico Motorsport.

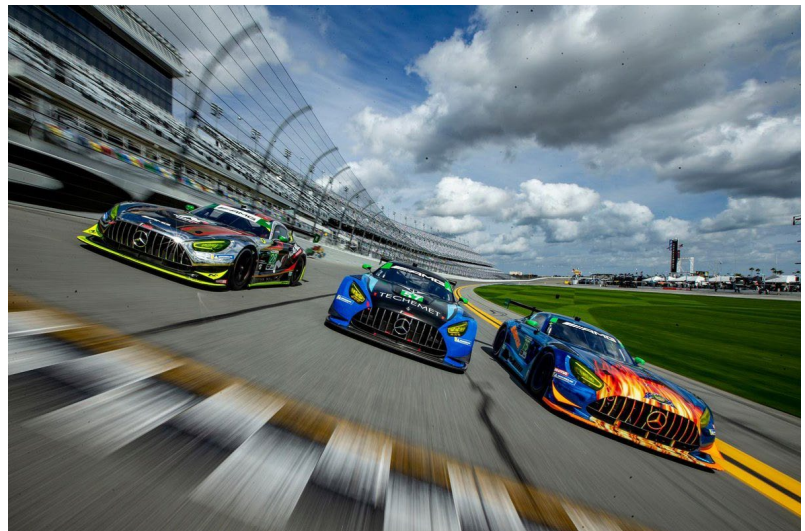


Customer Racing



BACKGROUND

Wim de Punder was one of the founders of HTP Investment BV. Along with Klaas Meertens the duo bought, managed and sold various companies starting in 1990. The private equity company became more Germany focused when it acquired the Knaus Tabbert caravan manufacturers, Morelo Reisemobile caravan manufacturers and the Halberg-Guss foundry. It also owned Reum Kunststoff- und Metalltechnik GmbH which was sold to Grammer Interior Components in 2015.



EARLY BEGINNINGS



The racing team was founded in 2007 when father Wim and son Reynier de Pundert bought two Formula Gloria tube framed single-seaters. Reynier finished 8th in the amateur championship. The team returned the following season with Reynier winning the championship while Wim run only a partial season. In 2008 the team also fielded Christiaan Frankenhout in the international Gloria Scouting Cup where he finished third. After the demise of the short-lived

single-seater series, the team entered the Dutch Renault Clio Cup for 2009, 2010 and 2011. During the seasons Reynier de Pundert did not score a podium finish in the overall classification. In 2009 the team also joined Dutch GT4 with an Aston Martin Vantage for Junior Strous. Strous won one race and scored four podium finishes.

TEAM HEICO MOTORSPORT



Automotive tuning company Heico Sportiv ran racing cars since 1995. The German Volvo tuning company first entered a Volvo 850 in the 24 Hours of Nürburgring. The racing of various Volvo's ended in 2001 when the owners of Volvo, Premier Automotive Group, ended all customer and factory supported racing activities. Heico Sportiv restarted the racing programme for Volvo's, which were in-

house developed, in 2007. The team focused on fuel efficiency with diesel and biofuel.

In late 2010 the team acquired two Mercedes-Benz SLS AMG GT3. The team eventually entered three SLS AMG's in the 2011 ADAC GT Masters. Austrians Dominik Baumann and Harald Proczyk were the best placed Heico Motorsport drivers. Baumann and Proczyk scored four podium finishes placing them fifth in the series championship. Baumann also competed in the 2011 FIA GT3 European Championship with teammate Brice Bosi. At Circuit Paul Ricard the team scored the first ever GT3 race win for an SLS AMG. Heico Motorsport continued in 2012 winning the team championship in the FIA GT3 European Championship. Working with Charouz Racing System Baumann and Maximilian Buhk won the team championship.

HTP MOTORSPORT

HTP Investment BV has had sponsorship agreements with Heico Motorsport since the team entered GT3 racing in 2011. HTP Investment BV took over Heico Motorsport at the beginning of 2013. Heico Motorsport team principal Norbert Brückner remained as the principal of the new team. Winning the 2013 24 Hours of Spa and the following 1000km of the Nürburgring this was enough for



Buhk to secure the 2013 Blancpain Endurance Series championship. HTP Motorsport won the In 2014 the best result for HTP Motorsport in the Blancpain Endurance Series was a second place at the Nürburgring. The team was more successful in the 2014 ADAC GT Masters. Maxi Buhk and Maxi Götz won at Oschersleben and EuroSpeedway Lausitz. Götz won the 2014 Blancpain Sprint Series with HTP Motorsport.



The team switched manufacturer for the 2015 racing season. In December 2014 it was announced that Bentley selected HTP Motorsport to run one of their factory supported GT3 programs. The team entered five new Bentley Continental GT3 cars. The Blancpain Endurance Series was unsuccessful with a new driver line up failing to provide results. A ninth place at the 2015 24 Hours of Spa for Vincent Abril, Mike

Parisy and Harold Primat was the team's best result in the Endurance Series. Abril partnered with Buhk in the 2015 Blancpain Sprint Series winning two qualifying races and two main races. Along with four more podium this was enough to secure the drivers championship. Fellow HTP Motorsport driver Jules Szymkowiak also won the Silver Cup classification. In the 2015 ADAC GT Masters the team won a single race with Luca Stolz and Jeroen Bleekemolen winning at Oschersleben.



The cooperation with Bentley lasted only one season. The team returned to Mercedes-Benz for 2016. The team entered four cars, in the Blancpain GT Series and at the 24 Hours of Nürburgring. The team opted not to continue in the ADAC GT Masters. Team owner Wim de Punder also returned to the

racing seat in the gentleman driver based 2016 Blancpain GT Sports Club. The return to Mercedes-Benz also meant new factory drivers joined the team such as Indy Dontje, Thomas Jäger and Christian Hohenadel. Former Mercedes-Benz factory drivers also returned such as Buhk and Baumann. Buhk and Baumann, joined by Jazeman Jaafar, won a single race at Silverstone in the newly introduced Mercedes-AMG GT3. In 2017 the team also returned to the ADAC GT Masters, but without notable results. In the Blancpain GT Endurance Cup Buhk, joined by Jimmy Eriksson and Franck Perera scored three podium finishes placing them third in the drivers championship.

HTP Motorsport was one of the teams selected by AMG Customer Racing to test the Mercedes-AMG GT4 in the 2017 Touring Car Endurance Series. Debuting at Circuit de Spa-Francorchamps, Dontje, Bernd Schneider and Jörg Viebahn suffered technical difficulties after running at the front early in the race.

WINWARD RACING



In 2020 the German team HTP Motorsport and the US-American team Winward Racing became HTP Winward Motorsport after they started a successful partnership in 2017. Since then they had already entered Mercedes AMG GT4 cars in the Michelin Pilot Challenge. HTP Winward Motorsport is now the biggest Mercedes-AMG customer team.

KAWASAKI NINJA H2

Kawasaki

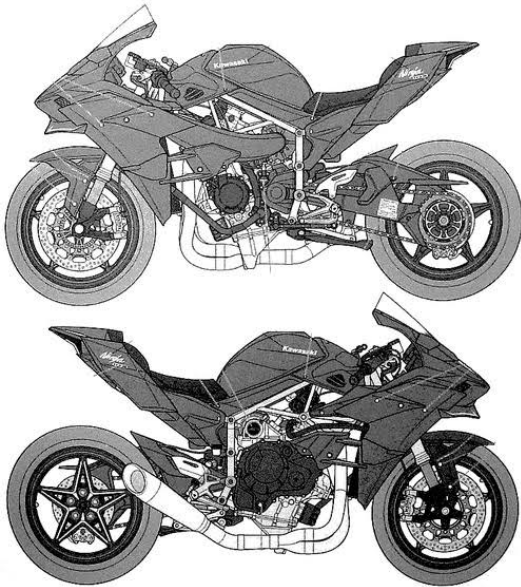
The Kawasaki Ninja H2 is a "supercharged supersport"-class motorcycle in the Ninja sports bike series manufactured by Kawasaki, featuring a variable-speed centrifugal supercharger. Its namesake is the 750 cc Kawasaki H2 Mach IV,



an inline triple that was introduced by Kawasaki in 1972 to "disrupt what it saw as a sleeping motorcycle market".

Its Ninja H2R track-only variant is the fastest and most powerful production motorcycle on the market, producing a maximum of 310 horsepower (230 kW) and 326 horsepower (243 kW) with ram-air. The H2R has 50% more power than the fastest street-legal motorcycles, while the street-legal Ninja H2 has a lower power output of 200 hp (150 kW)–210 hp (160 kW) with ram-air.

DESIGN



Kawasaki selected the liter bike platform for its top-of-the-line Ninja H2 model, rather than continuing with the higher-displacement Ninja ZX-14 hyperbike. Cycle World's Kevin Cameron explained that the liter bike class is "the center of the high-performance market", attracting the best development in racing, with the best chassis and suspension design, so it made sense for Kawasaki to create a machine that could leverage this.

The H2 is the first production motorcycle with a supercharger, although turbochargers were available on some models in the early 1980s.

Specifications in the info box are from Kawasaki unless noted.

PRODUCTION

The street-legal Ninja H2 has mirrors in place of the track-only H2R's winglets, and plastic body panels in place of the H2R's carbon-fiber panels. The street-legal H2 is said to make 200 horsepower (150 kW), probably with reduced supercharger boost compared to the H2. The H2 and H2R share the supercharger (with a lower boost level on the H2) and many other components, with the exception of the head gasket, cam profile and timing with ECU mapping, exhaust system, and clutch (the H2R's clutch has two additional plates).



For 2017, Kawasaki made a limited-edition model with 120 units produced globally: the individually-numbered Kawasaki Ninja H2 Carbon with special paint and carbon-fiber upper cowl. For 2017, the standard Ninja H2 was also updated.

For 2018, Kawasaki made a new sport touring version of the H2, the Kawasaki H2 SX, with a claimed wet weight of 256.1 kg (564.5 lb). Features that are options on the base model H2 SX come standard on the Kawasaki H2 SX SE, which has a claimed wet weight of 260.0 kg (573.3 lb). With revised throttle bodies, camshafts, crankshaft, pistons, cylinder and cylinder head as well as a new exhaust system aimed at increasing mid range torque. The intake system and supercharger impeller were also redesigned. A new larger fuel tank, rear trellis subframe and panniers increase the bike's weight by 19 pounds (8.6 kg).

For 2019, the H2 received an update with 15% more power from updates to the intake, spark plugs, ECU, and air filter, among other components. Also added was a new LED lighting scheme and a special top coat of paint that is claimed to be self-healing and able to smooth over small scratches in warmer conditions. Also new were lighter and smaller Brembo Stylema calipers, a new TFT dash, and smartphone connectivity that provides information about the GPS route, speed, RPM, current gear, fuel mileage, fuel level, and odometer. In addition, the 2019 Ninja H2 SX SE+ features electronically controlled suspension.

ENGINE AND SUPERCHARGER

The H2's engine is a 998 cc (60.9 cu in) 4-valve, dual overhead cam inline-4 with a two-speed centrifugal supercharger.

The supercharger is driven by a series of gears and shafts connecting the flywheel to a planetary drive, finally spinning a dog-shifted two-speed shaft attached to the impeller. Throttle control is electronic. A centrifugal supercharger has the advantage of generating less heat than other designs, especially scroll-type or screw-type superchargers. Without an intercooler (which the H2 lacks), excess heat in the intake charge can cause pre-ignition that can damage or destroy the engine.



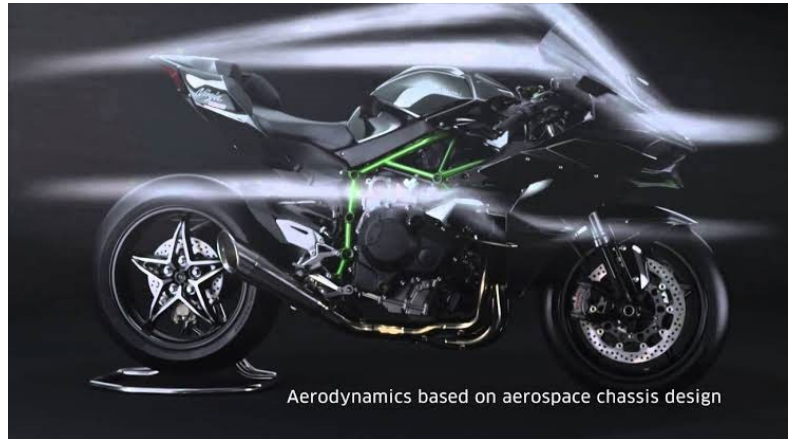
ELECTRONIC AIDS



Electronic rider aids include an anti-lock braking system (ABS), Kawasaki Traction Control (KTRC), Kawasaki Engine Brake Control (KEBC), a Kawasaki Quick Shifter (KQS), an electronic steering damper (ESD), and Kawasaki Launch Control Mode (KLCM).

AERODYNAMICS

The front fairing of the Ninja H2R incorporates winglets made of carbon fibre, just like the rest of the H2R-exclusive bodywork. They may be aerodynamic devices designed to create a low pressure zone to help move cooling air through the engine bay to produce downforce at high speed, or to provide straight-line stability in a short-wheelbase sports bike chassis.



CHASSIS



The H2 and H2R have a tubular, thin-wall steel trellis frame and a single-sided swingarm, with a traditional sports bike wheelbase of 1,450 mm.

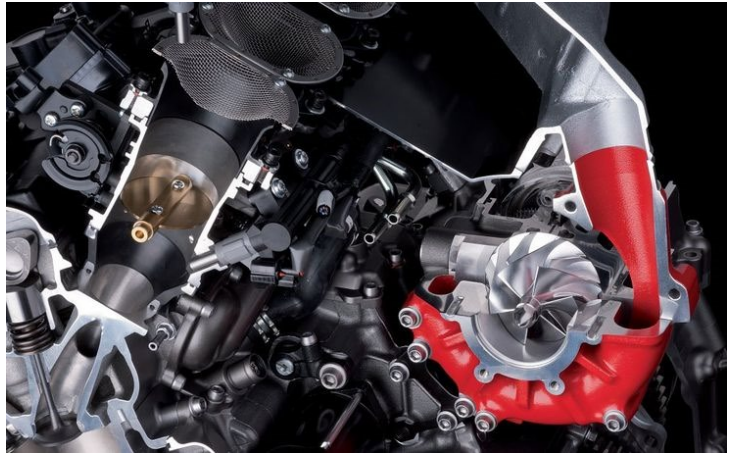
Explaining the advantages of Kawasaki's approach to exploiting aerodynamics instead of lengthening the wheelbase, a South African writer said, "It's easy to build stability into a hard accelerating drag machine with a long wheelbase... but Kawasaki wanted a track-day machine, one that would also go round corners. "High speed motorcycles often have long wheelbases. Extra length is added by the extended swingarm on a typical drag motorcycle, and a typical land speed record streamliner has a meters-long wheelbase (3.7 meters for the current record holder, Ack Attack).

PRE-INTERMOT ENGINE ANNOUNCEMENTS AND ANALYSIS

The H2 was announced by Kawasaki in a late-2014 teaser campaign, and was widely expected to be fully revealed at the Intermot motorcycle trade show the same year. Before full details were released by Kawasaki, the supercharged inline-4 engine was thought by several industry observers to be identical to, or closely related to, a nearly 1,000 cc inline-4 with a centrifugal supercharger displayed by Kawasaki at the 2013 Tokyo Motor Show.

Cameron published an analysis showing that an engine of that displacement, mildly boosted at 5 psi (34 kPa), would generate 203 horsepower (151 kW)—more than that of Kawasaki's current leader, the 191.7-horsepower (143.0 kW) ZX-14 (horsepower figures are expressed at the rear wheel). The same engine would

generate 257 horsepower (192 kW) with 10 psi (69 kPa) of pressure. His analysis included a discussion of the benefits of a two-speed supercharger for more linear power delivery (as opposed to the intractable Japanese turbo bikes of the 1980s that suffered from turbo lag). Cameron also said Kawasaki patent documents suggested the engine would rely on evaporative cooling using port fuel injection, instead of a bulky intercooler.



Kawasaki claimed the 2013 model had the first supercharger designed by a motorcycle manufacturer. In 2013, journalists said that the engine could power the "next generation [Ninja] ZX-14R" sportbike. Journalists also noted that Kawasaki already has a production inline-4 supercharged (albeit intercooled) engine powering the Jet Ski Ultra 300X personal watercraft.

PRODUCTION ANNOUNCEMENT

At the 2014 Intermot motorcycle trade show on September 30, 2014, Kawasaki announced that a race-only Ninja H2R model would be produced in addition to the detuned street-legal Ninja H2, which would be fully revealed at the EICMA trade show in November. The bike was shown for the first time in North America at the AIMExpo show at Orlando, Florida in October, 2014.

According to details Kawasaki made public about the H2's engine at Intermot, it was confirmed to be a 998 cc inline-four engine with a supercharger, producing 300 horsepower (220 kW) in the track-only H2R variant, still by far the highest rated engine ever for any factory production motorcycle (50% more than its nearest competitor, the BMW S1000RR).

RECEPTION

Global press coverage both before and after Intermot was extensive.

Before the full reveal of the H2R, reactions tended to emphasize the reintroduction of forced induction to the motorcycle marketplace, with headlines like "Hail the New Supercharged Era" (Autoevolution),["Supercharged Ninja imminent" (Motor Cycle News), "New Kawasaki sports bike will use a 1000cc supercharged engine" (Visordown (UK)), "Kawasaki officially uncovers Ninja H2 supercharger" (Cycle Online (Australia)) "Kawasaki Ninja H2: How the supercharger works" (Motociclismo),and "Kawasaki's H2 superbike: A technical look at Kawasaki's upcoming supercharged superbike" (Cycle World).



After the introduction, before any test rides had even been permitted, coverage turned to both the bike's unusual styling and its precedent setting power. Both industry and general-readership press said the machine "will beat up the supersport scene with a steam hammer".

(Autoevolution),"a quantum leap into the future that redefines the way we see motorcycles" (Independent Newspapers), and "the poster child of 2-wheeled insanity ... so extreme it's hard to comprehend" (Road & Track), or was simply "radical" (Motor Cycle News) and even "ludicrous" (Bloomberg Businessweek).



Cycle World and Motor Cycle News both commented on how Kawasaki had claimed the high end of the market with the H2, moving past a stagnant market (at least from the Japanese Big Four manufacturers) full of cookie-cutter sportsbikes and low-priced entry-level bikes, and had set up the H2 as a halo model for the entire brand. Cameron said, "When we look at the current crop of 1000s, all date from before our present "recession," and what little has come by way of new product has sought to please the mostly imaginary "new buyer" with low-tech delights." Highlighting Kawasaki's ability to create a product leveraging aerodynamic, turbine and engine technology design expertise from across the large Kawasaki Heavy Industries conglomerate (called a "vast industrial complex" by Sport Rider[,an unsigned Motor Cycle News piece said "The H2R you see here is the very pinnacle of what Kawasaki can do ... This is the firm's halo product, and every element is Kawasaki at its very best, from the engine and aerodynamic development, through to the mirror-finish black chrome paint specially developed for this model."

Some analysts noted odd features of the supposedly track-only H2R model. Although it is outfitted with racing slicks and lacks many features required on a street-legal vehicle in most jurisdictions, such as headlights, rear view mirrors, and turn signals visible from the front or sides, it also has features that are unusual or absent on pure track bikes, such as an ignition lock and LED tail light.

SPEED RECORD ATTEMPTS

H2

Cycle World recorded a $\frac{1}{4}$ -mile time of 9.62 sec. @ 152.01 mph (244.64 km/h) with a 0 to 60 mph acceleration at 2.6 seconds and a top speed of 183 mph (295 km/h). Kent Kunitsugu, editor for Sport Rider magazine, competing in a land-speed racing event in Mojave, California at the Mojave Air and Space Port airfield in the Mojave Magnum land-speed racing, took a Ninja H2 with just a few bolt-on performance parts adding over 70 horsepower and achieved a top speed of 226.9 mph (365.2 km/h).



On August 12, 2018, rider Shigeru Yamashita, with an unofficial team of Kawasaki employees

(known as Team 38),] set a 202.743 mph (326.28 km/h) speed record in the Southern California Timing Association (SCTA) P-PB 1000 class for under-1,000 cc displacement production supercharged motorcycles with limited modifications at the Bonneville Speedway. On August 15, Yamashita broke his own record with a new speed of 209.442 mph (337.06 km/h).

H2R



In June 2015, TT race competitor James Hillier rode a Kawasaki H2R around the 373/4-mile TT road course as an inter-race demonstration lap at near-race speeds, using normal Superbike slick race tires, leading to a TT record of the highest top speed attained in the Isle of Man by a motorcycle. The top speed of "over 206 mph" (332 km/h) on the Sulby Straight was recorded on Hillier's personal Strava GPS smartphone app for cyclists.

2016

On June 30, 2016, Kenan Sofuoglu, a five-time world champion Supersport circuit-racer, made a top speed attempt. Kawasaki supplied a stock H2R augmented only with special tires developed by Pirelli for the top speed attempt to withstand extreme high speeds, and the bike was supplied with race-grade fuel. Sofuoglu was also supplied with a special one-piece leather suit to enhance aerodynamics for his record attempt.

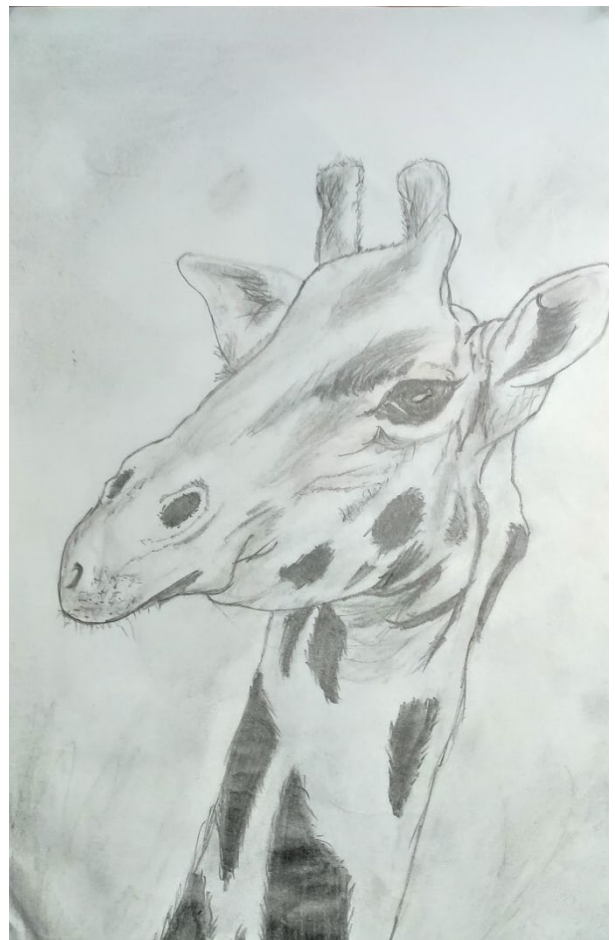
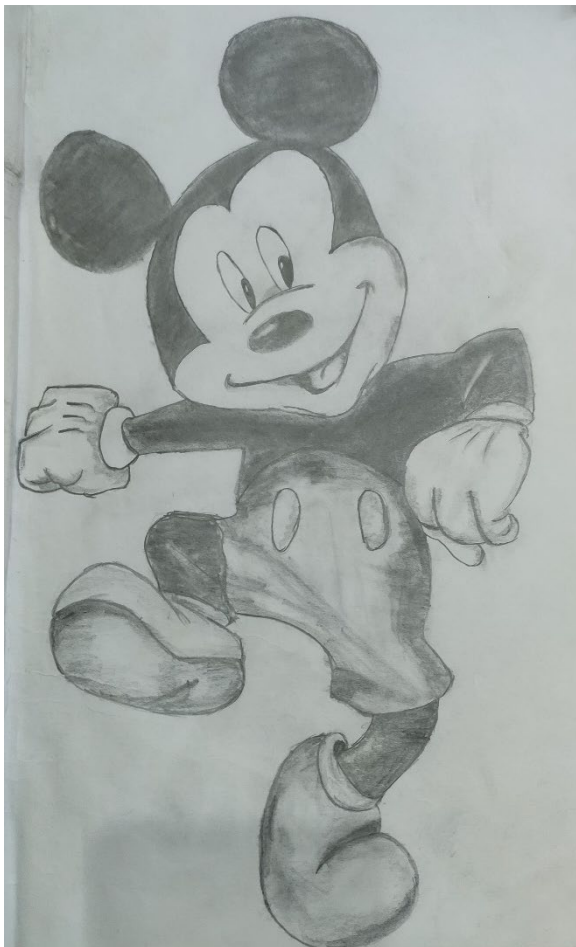
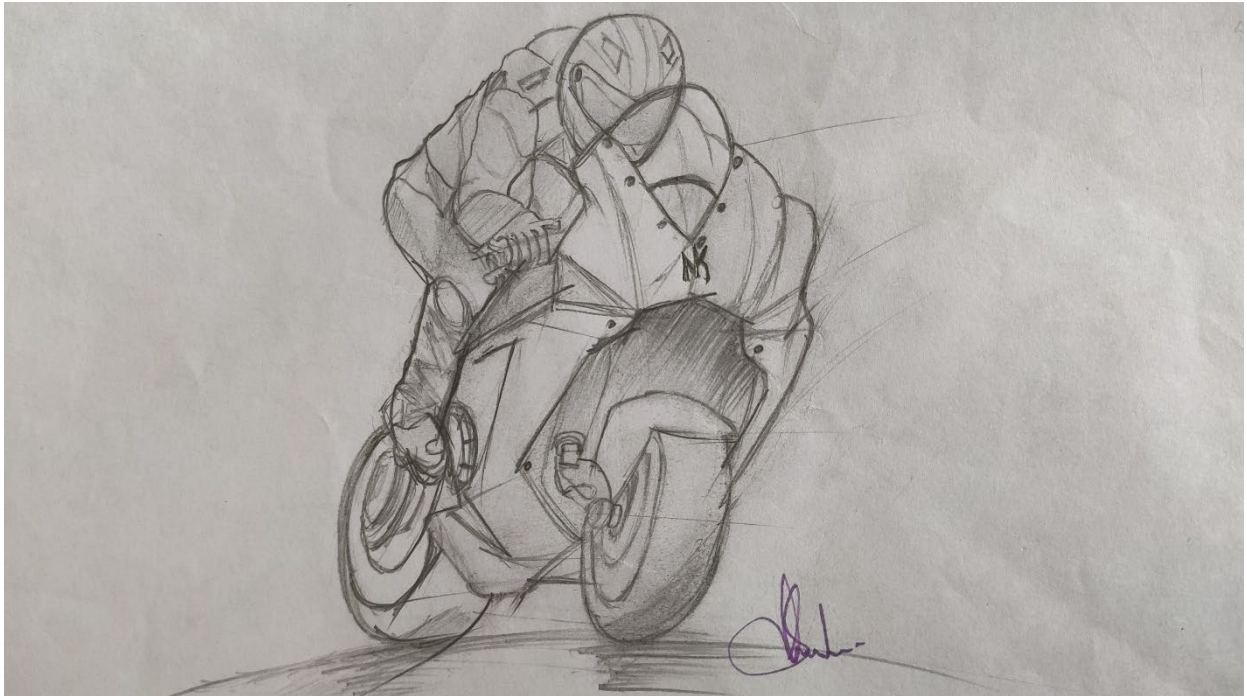


This attempt, with the Turkish president in attendance, was made across the then-newly completed Osman Gazi Bridge, the fourth longest in the world at just over a mile and a half. Kawasaki quoted the H2R's maximum speed to be 380 kilometres per hour (240 mph). After training and preparing for four months, a speed of 400 kilometres per hour (250 mph) in just 26 seconds was claimed by a video-recording of the bike's dashboard display.

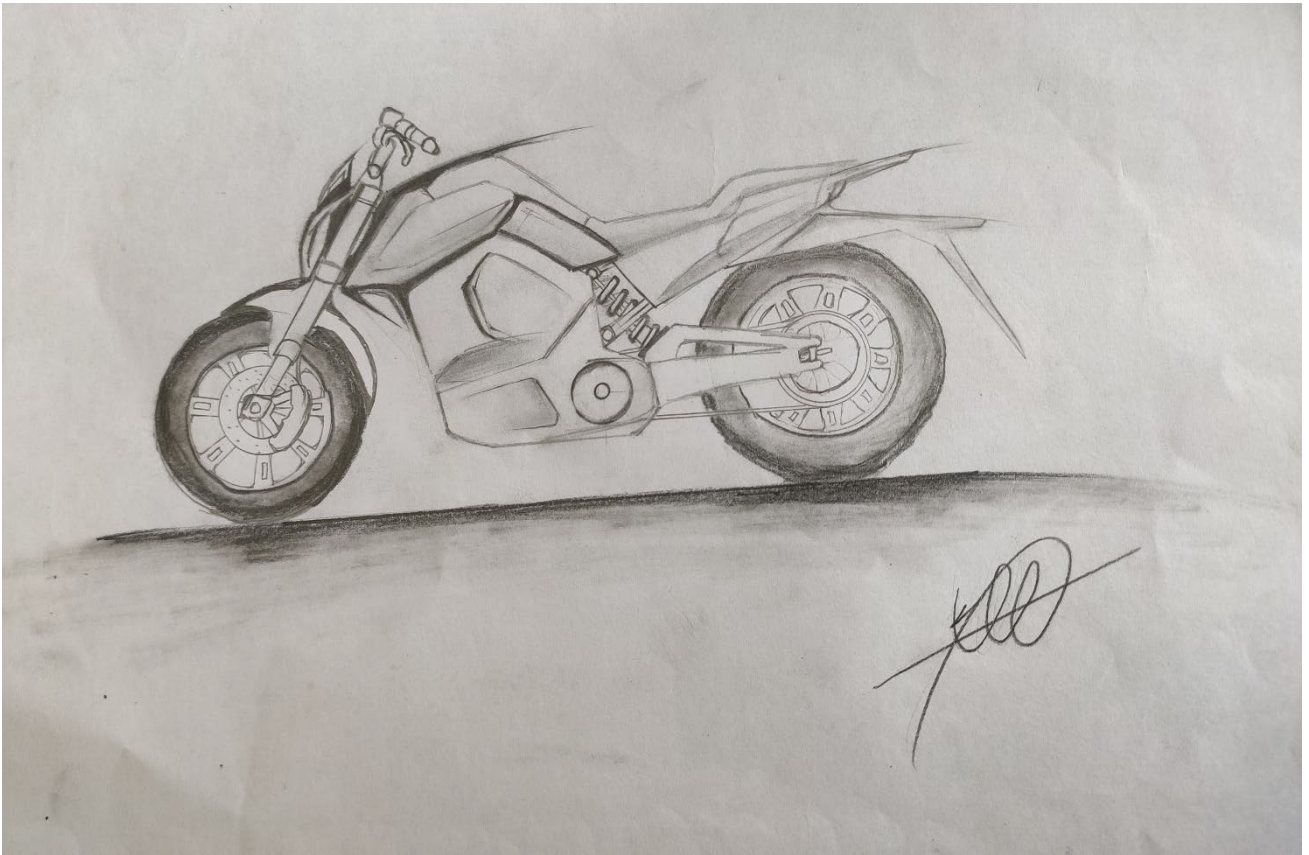
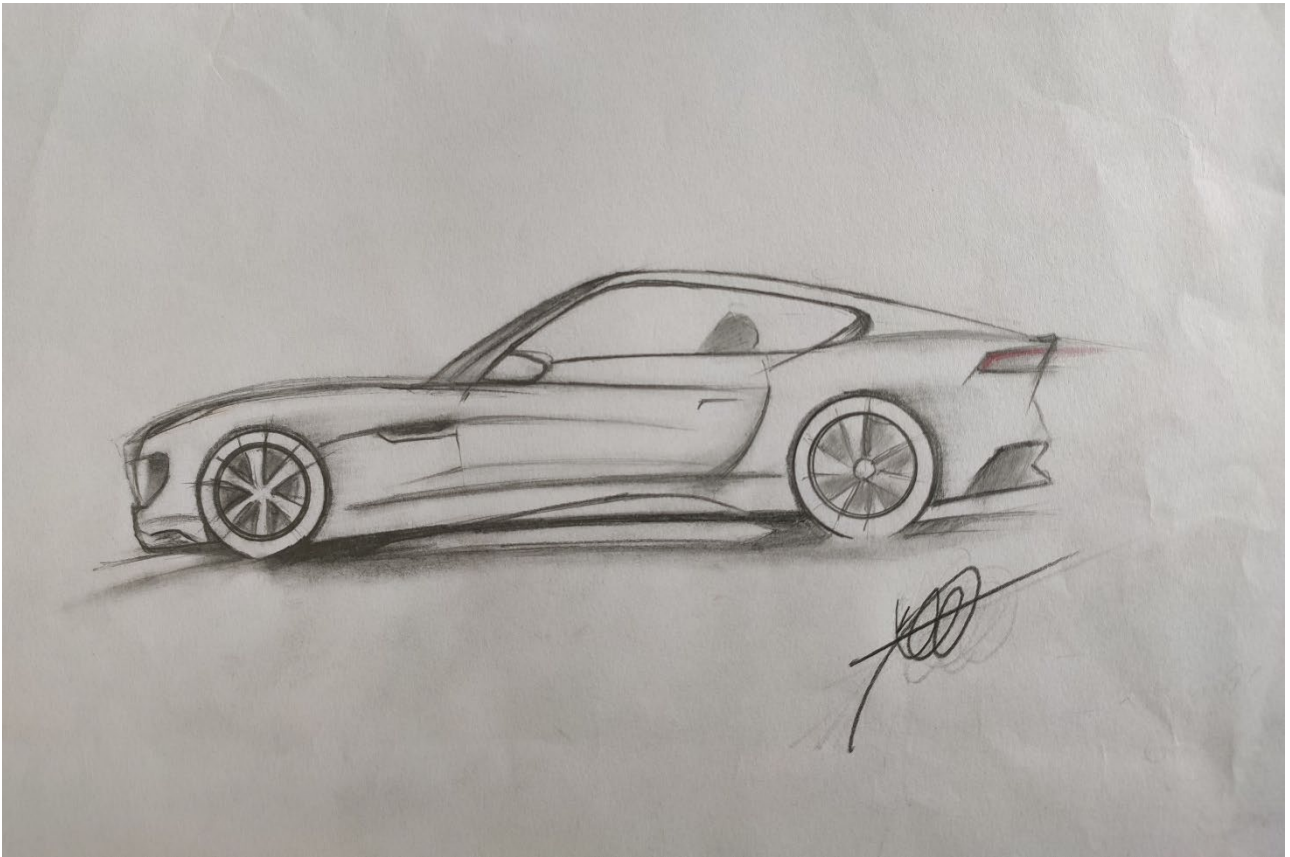
The speed was not officially confirmed or independently verified. No fixed-point optical sensors for distance/speed calculations, chronometers or hand-held devices were used, and later with a theoretical calculation, of the distance he traveled in 26 seconds on the 8,799-foot-long (2,682 m) bridge. Cameron had calculated two years earlier that with the right gearing, the H2R's engine power could theoretically overcome aerodynamic drag up to 250–260 miles per hour (400–420 km/h).

STUDENT'S CREATION

STUDENT'S CREATION



BY NAGALAKSHMI.S II YEAR



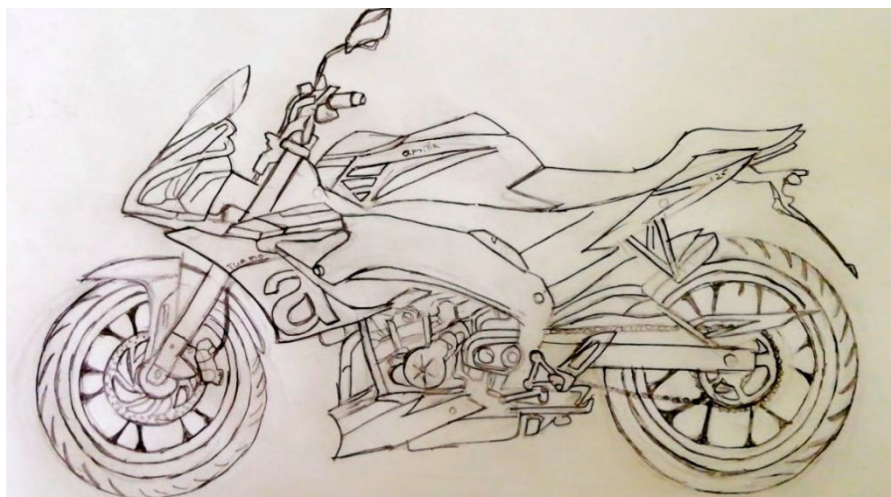


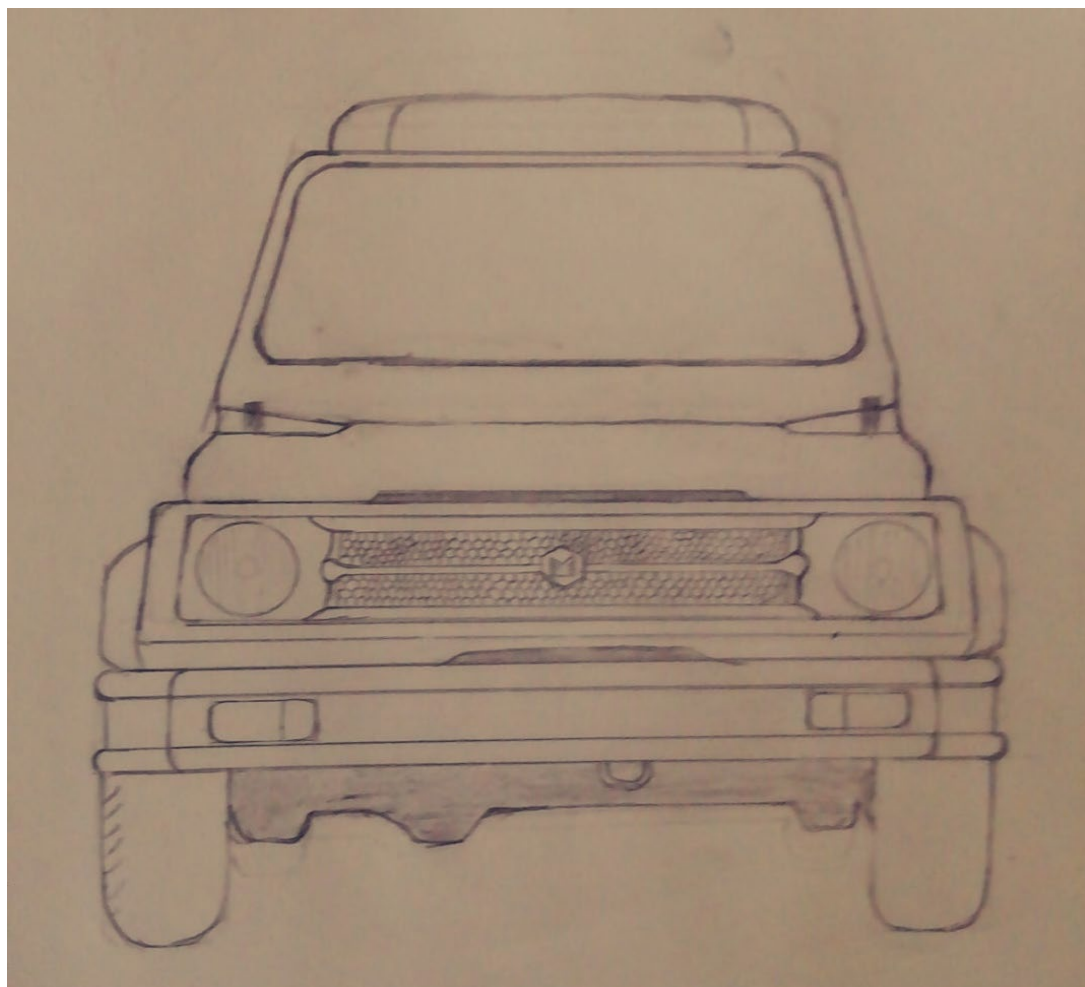
BY KABEEN SAKTHI.V, II YEAR





BY HARISH.R II YEAR

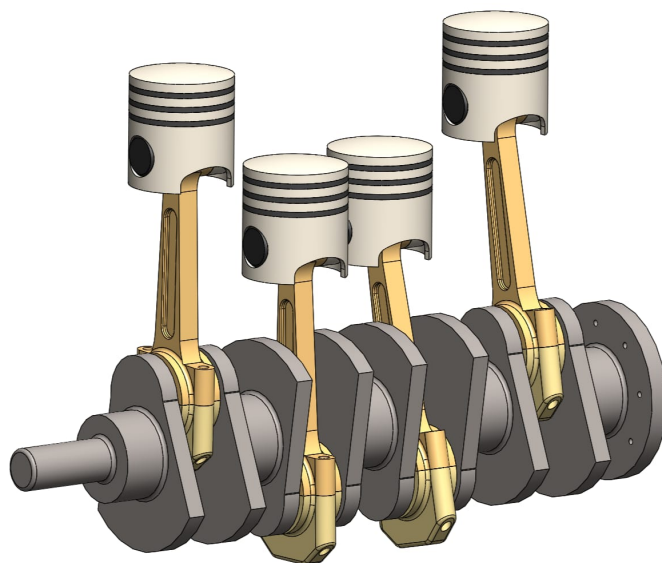




BY ASHWIN. KM, II YEAR



BY MURALITHARAN.G II YEAR



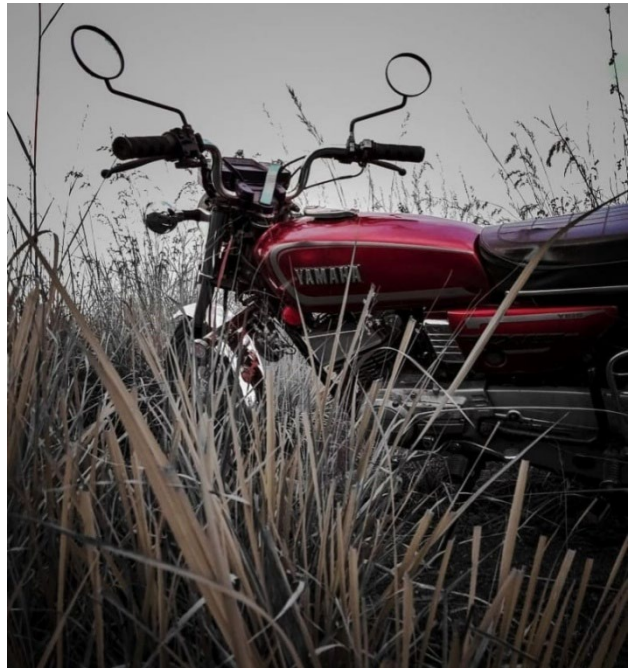
BY GOKUL.G II YEAR

MOTOGRAPHY

MOTOGRAPHY



BY ANBUSELVAN.P I-YEAR



BY JESWIN SAM II-YEAR



BY AKASH II-YEAR



BY ASHWIN KM II-YEAR



BY MUJEEB RAHMAN M I-YEAR



BY KABEEN SAKTHI.V II YEAR



BY NAGALAKSHMI.S II YEAR



BY VISHWANATHAN II YEAR



BY DAN VASTON D I-YEAR



BY MUJEEB RAHMAN M I-YEAR



BY THARANITHARAN P I IYEAR



BY SIVANESH II-YEAR



BY SRI SABARISH II-YEAR



BY MOHAMMED AMAL ARAKKAL II-YEAR



BY AMBADI A II-YEAR



BY UJJWAL KP II-YEAR



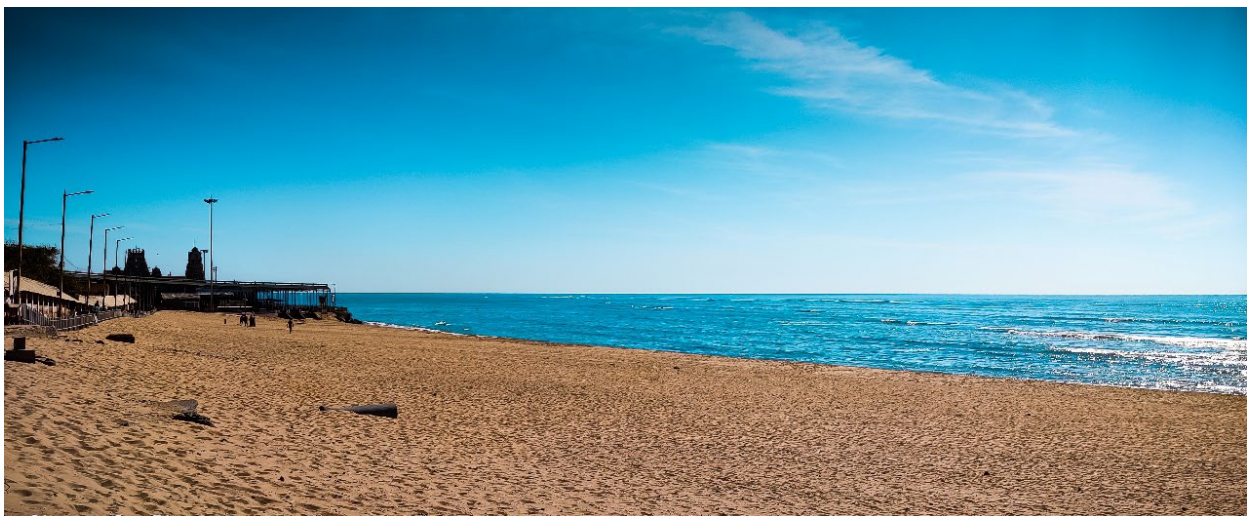


BY AJITH M II-YEAR

NATUROGRAPHY

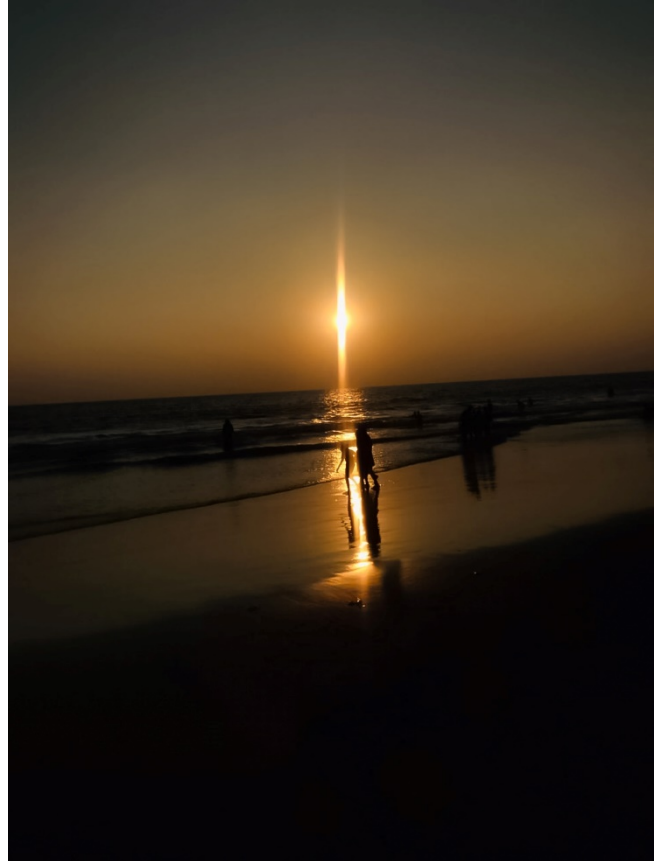
NATUROGRAPHY



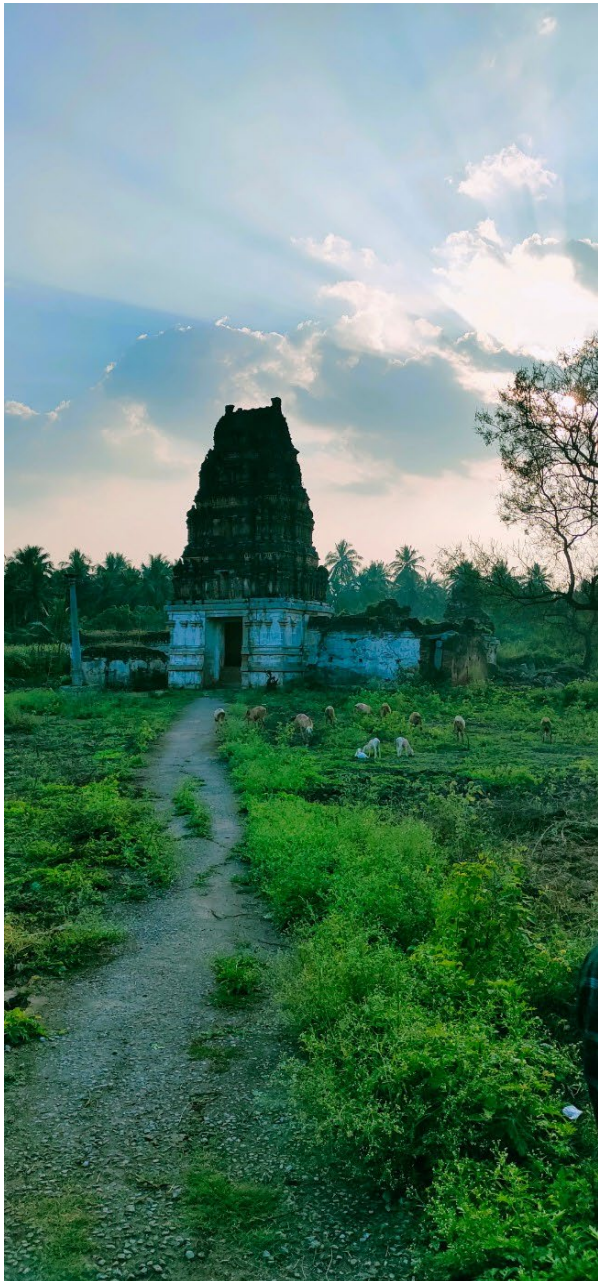


BY NAGALAKSHMI.S II-YEAR



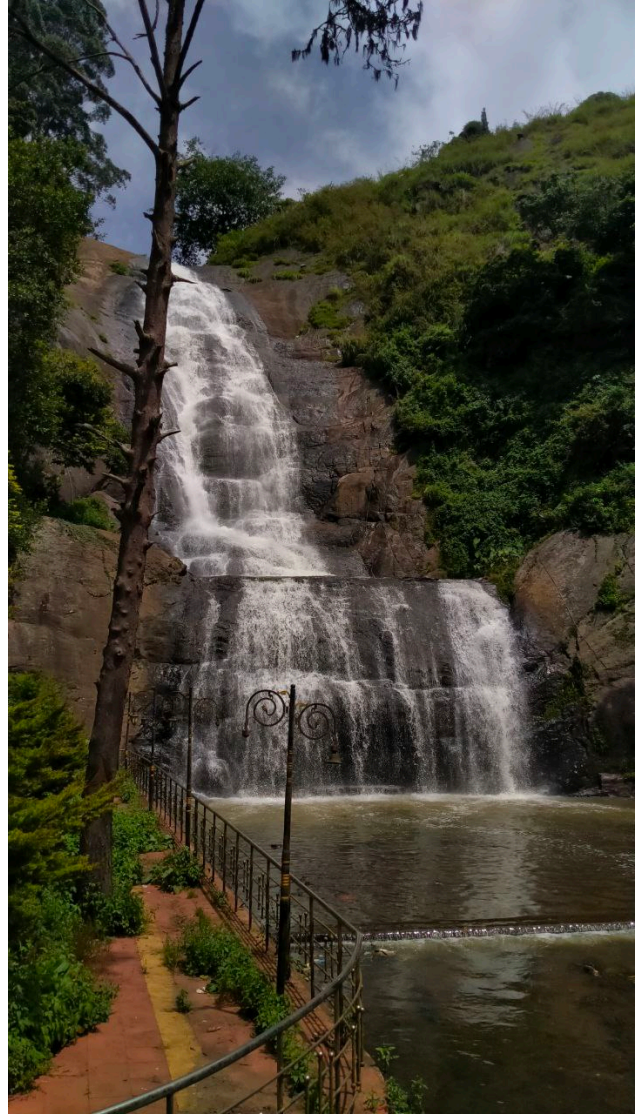


BY KABEEN SAKTHI.V II-YEAR





BY GOKUL G II YEAR



BY ASHWIN.KM II YEAR



BY TAMIL SELVAN.PR | YEAR



BY VIJAYSARTHI | YEAR

LIFE @AUTOMOBILE







2016 – 2020 BATCH



Hindusthan
College of Engineering and Technology
An Autonomous Institution



@hicetautoofficial

