

Sport bike

From Wikipedia, the free encyclopedia

The Motorcycle Safety Foundation groups motorcycles into the following three separate classes: *street*, *off-road*, and *dual-sport*. A **sport bike** is a type of motorcycle under the street classification and is generally designed for optimised performance at the expense of comfort, passenger/load capacity, and other features.

Contents

- 1 History
- 2 Overview
- 3 Classes
 - 3.1 Entry-level
 - 3.2 Small-capacity
 - 3.3 Super sport
 - 3.4 Super bike
 - 3.5 Hyper sport
 - 3.6 Sport touring
- 4 References

History

Until the late 1960s motorcycles came in three basic formats:

- Working bikes: Generally below 250 cc (15.3 cu in) and low-powered for commuting and utility travelling.
- General bikes: Generally below 500 cc (30.5 cu in) / 650 cc (39.7 cu in) for use as a working bike, but with a higher power output so it could also be used for fun on the weekends.
- Touring bikes: Anything above working/general bike sizes and built mainly for touring.

The first company to crack this mold was arguably Vincent Motorcycles. Designed as a gentleman's touring bike, their model's speed was astounding for days when motorways and freeways didn't exist. However, its handling was basic, and its shortcomings became clear when faced by a motorway - girder forks. By the 1960s bikes were developed which could be both daily commuter as well as weekend racer, including the BSA Rocket 3/Triumph Trident.

However it was the introduction in 1969 of the Honda CB750K that initiated the era of the modern sport bike ^[1]. The CB750 was the first bike to have an overhead-cam in-line 4 engine and a front disc brake; the bike was acclaimed as "the most sophisticated production bike ever" by Cycle Magazine ^[2].

The Honda CB750 was followed in by the 1971 Kawasaki Z1, with its 900 cc (54.9 cu in) DOHC engine, and this firmly established the modern sport bike (or superbike). These bikes sold so well that by the end of that decade the Japanese manufacturers were all building competing machines with DOHC inline-4 engine configuration. The resulting



visited 7/29/2009

"bike war" among the Japanese manufacturers and required investment in modern engine manufacturing contributed to the demise of the flagging British motorcycle industry.

Overview

With the emphasis of a sport bike being on speed, acceleration, braking, and maneuverability, there are certain design elements that most motorcycles of this type will share. Sport bikes have comparatively high-performance engines resting inside a lightweight frame. The combination of these help maintain structural integrity and chassis rigidity. Braking systems combine higher performance brake pads and multi-piston calipers that clamp onto oversized vented rotors. Suspension systems are advanced in terms of adjustments and materials for increased stability and durability. Front and rear tires are larger and wider than tires found on other types of motorcycles to allow higher cornering speeds and greater lean angles. Fairings may or may not be used on a sport bike; when used, fairings are shaped to reduce aerodynamic drag as much as possible and provide wind protection for the rider. The performance of some stock sport bikes is so high they can be used on a race track without modification.

These overall design traits mean sport bikes are less practical for street use than other motorcycles. There are few extra features or comforts like those present on touring motorcycles such as center stands, provisions for saddle bags, large windshields, or fairings providing protection from rain. Rider position and ergonomics are compromised in favor of weight distribution and aerodynamics. This generally means higher foot pegs that move the legs closer to the body and more of a reach to a lower set of hand controls which positions the body and weight forward and over the tank.

Classes

Although not officially recognized by any major motorcycle organization, the different variations of the sport bike can generally be grouped into several different classes, each containing unique features to that class.

Entry-level

Entry-level sport bikes are designed to introduce motorcyclists to the sport bike design. They are relatively inexpensive, lightweight, and durable. There are minimal to no fairings installed to cut down on cost and maintenance if the motorcycle is dropped. Although capable of more power, the engines are usually detuned for longevity and durability. Entry level sport bikes can usually accommodate riders of all heights and weights.

Examples include the Suzuki GS500, Honda CB500 and Kawasaki Ninja 500R/250R.



Suzuki GS500E entry-level sport bike

Small-capacity

Small-capacity sport bikes typically have engine sizes ranging from 125 cc (7.6 cu in) to 400 cc (24.4 cu in), but are also produced in as little as 50 cc (3.1 cu in) (sometimes designed/tuned for persons carrying a restricted/learner's license). Small-capacity sport bikes are available in both 2-stroke and 4-stroke cycles, although production of 2-stroke sports bikes has diminished due to tight emission laws and agreements. Generally small and light, they can suit the shorter rider; the light weight partially offsets the performance drop due to their lower power. Short wheelbase and lightness means handling characteristics are often on par with that of the typical high-capacity sport bike.

Also relatively new but gaining popularity is the new 450 super single class. A 450 Super Single is a single-cylinder 450 cc dirt bike that has been converted into an entry-level road racer. The frame, subframe, swing arm, motor and transmission are all stock, but the wheels, tires, suspension and bodywork have all been modified for on-track use.

visited 7/29/2009

These bikes are also being modified in Australia for street legal use and are the fastest restricted/learner legal bikes available as the current laws prohibit 2-stroke 250 cc bikes.

Examples include the Aprilia RS250 and Honda CBR125R.



Honda CBR600RR super sport bike

Super sport

Super sport bikes (also known as middleweight sport bikes) are designed for optimal performance on a race track. They are generally built around a high revving, small displacement powerplant that is usually sized around 600 cc (36.6 cu in) to 800 cc (48.8 cu in). Most super sport bikes will carry a wet weight between 375 lb (170 kg) to 450 lb (204 kg) and produce around 110 bhp (82 kW). Because of how strongly focused super sport bikes are on race track performance, riders below 5 ft 3 in (1.6 m) in height will generally not be able to flatfoot (the placement of both feet completely flat on the ground while sitting on a motorcycle) these types of sport bikes. Taller and heavier riders may find the rider ergonomics in the default position to be cramped and uncomfortable.

Examples include the Honda CBR600RR, Suzuki GSX-R600 and Triumph Daytona 675.

Super bike

Super bikes are large displacement super sport bikes. They have characteristics similar to the smaller super sport bikes which are mainly focused on race track performance, but are powered by larger engines that are usually sized around 800 cc (48.8 cu in) to 1,200 cc (73.2 cu in). A typical super bike will carry a wet weight between 400 lb (181 kg) to 480 lb (218 kg) and can produce 180 bhp (134 kW). Super bikes with a displacement very close to 1,000 cc (61.0 cu in) are sometimes referred to as *litre bikes*. Motorcycles in this class are usually eligible to participate in Superbike racing.



Ducati 1098 S Tricolore super bike

Examples include the Ducati 1198, Honda CBR1000RR, and Yamaha YZF-R1.



Suzuki GSX1300R hyper sport bike

Hyper sport

Hyper sport bikes, also known as hyperbikes, are very large-displacement sport bikes with a strong emphasis on top speed and acceleration. They are typically powered by motors displacing 1,100 cc (67.1 cu in) to 1,400 cc (85.4 cu in). Hyper sport bikes are bigger and heavier than super bikes, with wet weights generally of around 500 lb (227 kg). The increased weight compromises racetrack capabilities in favor of stability at speeds that can exceed 180 mph (290 km/h). This compromise also allows manufacturers to design much more comfortable rider ergonomics.

Examples include the Honda CBR1100XX, Kawasaki Ninja ZX-14, and Suzuki Hayabusa.

Sport touring

Sport touring bikes are designed for riding longer distances, and are typically more comfortable than the average sport bike. Sport touring bikes are typically heavier, less powerful, and less performance-oriented than super sport bikes, but

visited 7/29/2009

have more storage space, more comfortable rider ergonomics, and better practicality. Depending on the emphasis on these touring capabilities, sport touring bikes can range from super sport bikes with more comfortable rider ergonomics to full-featured touring motorcycles with sport bike-like capabilities and features.

Examples include the BMW R1200RT, Honda VFR800, and Yamaha FJR1300.



BMW K1200GT sport touring bike

References

- [^] Wilson, H. (1995), *The Encyclopedia of the Motorcycle*, Dorling Kindersley Limited, p. 88-89, ISBN 0-7513-0206-6
- [^] "1969 Honda CB750 (http://ulyssesnb.netfirms.com/classic_old/1969_honda_cb750.htm)". http://ulyssesnb.netfirms.com/classic_old/1969_honda_cb750.htm.

Retrieved from "http://en.wikipedia.org/wiki/Sport_bike"

Categories: Motorcycle classifications

Hidden categories: Articles needing additional references from February 2007 | Accuracy disputes from July 2009 | All articles with unsourced statements | Articles with unsourced statements from January 2009

- This page was last modified on 24 July 2009 at 22:43.
 - Text is available under the Creative Commons Attribution/Share-Alike License; additional terms may apply. See Terms of Use for details.
- Wikipedia® is a registered trademark of the Wikimedia Foundation, Inc., a non-profit organization.