



Press Information 2001

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SH125/SH150



SH125/SH150

Introduction

Europe's booming scooter market continues to expand and diversify at a breathtaking pace, with a dazzling array of new models in all shapes and sizes being introduced every year. This trend has partly been spurred by the desire on the part of urban commuters to find an easier path through the frustrating snarls of rush hour traffic, and to avoid the time-consuming and often expensive car parking hassles experienced in urban areas throughout the continent. Another contributing factor has been the scooter's rediscovered appeal as a quick, convenient and economical way to run errands, get around, or even enjoy a day out with friends.

Although the greatest growth in this market up till now has been concentrated in the entry-level 50cc class, the larger 125cc class has also seen its share of surging interest, as riders are attracted to the larger

displacement, better performance and expanded two-up riding capabilities offered by the scooters in this range. Europe-wide licensing regulations have also contributed to this surge in new riders, since novice

riders in the A1 class are limited to motorcycles and scooters displacing 125cc and reaching no more than 11kW or 15PS maximum power output.





SH125/SH150

Introduction

Honda's most recent entry in this growing market segment is the @125/@150, which instantly won a strong following for its distinctively modern styling, superb riding ease and all-new liquid-cooled 4-stroke engine, which delivers strong performance while offering the timely advantages of quiet, dependable operation and ultra-low exhaust emissions.

Looking to further broaden its range of larger-displacement scooters, Honda's design teams carefully investigated the possibility of combining two of its most successful formats into one new scooter. Setting their sights on the slim, friendly and easy-to-handle 16-inch-wheel scooter package represented by the attractive SH50/SH100, and selecting their latest, low-emissions 125cc 4-stroke

engine to power it, Honda's engineers set out to develop a new, all-round scooter that could offer wide appeal and an even wider range of mobility for Europe's growing legion of scooter riders, aficionados, and new converts to this highly efficient and entertaining form of transport.



SH125/SH150 - 20013 - E



SH125/SH150

Development Concept

For many years, Honda has been a pioneer in the growing trend toward larger, 16-inch wheel scooters with its SH50/SH100 (alternately known as the Scoopy and City Express in some markets) and later with the smart and stylish Honda Sky. In fact, the SH50's high-wheel configuration was so well received that it was soon adopted by other scooter manufacturers, who have helped make it a popular fixture on the European urban scene. Featuring a narrow silhouette, light, nimble handling and a smoothly controlled all-purpose ride, this style of scooter also offers comfortable seating and a wide and flat floorboard area that provides exceptional foot positioning freedom for male and female riders alike.

Building on the fundamental attractions of this design, Honda set out to develop a larger-displacement 125cc version that features the same slim and stylish proportions of the SH50/SH100, yet expands its capabilities with the extra carrying capacity of an under-seat compartment and other features in the hopes of achieving an even broader range of appeal. One that extends from young people on the move to more mature business people with an eye for smooth efficiency and time-saving convenience.

Perhaps the most important consideration in the development of this new scooter was the decision to power it with a clean-burning Honda

4-stroke engine. Honda has long been a pioneer of 4-stroke engine technology owing to the configuration's high fuel economy and low pollution levels, as well as other advantages over the 2-stroke engines that have traditionally powered the majority of scooters till now. The most recent example of Honda's efforts to reduce air pollution and the adverse effects of motor vehicles on the environment is none other than the clean, quiet and powerful, liquid-cooled 4-stroke engine that now powers the stylish @125 and @150 scooters.



SH125/SH150 - 20014 - E



SH125/SH150

Development Concept

After extensive research and concerted efforts to create a new type of 125cc scooter that offers a broadly satisfying range of attractions, Honda now proudly introduces the SH125 and SH150, two all-new, high-wheel scooters that combine the easy and comfortable riding

manners of a slim and stylish 16-inch chassis with the clean, quiet and powerful performance of the most advanced small-displacement liquid-cooled 4-stroke engine Honda currently makes. Directed toward a broad segment of commuters, business people and those looking

for a quick and easy means of getting around town and country, the new SH125 and SH150 will surely become popular fixtures on the European motorcycle scene in the years to come.



SH125/SH150 - 20015 - E



SH125/SH150

Styling

In arriving at the final design of the new SH125 and SH150, Honda's development engineers strove to incorporate a well-considered response to the many desires voiced by Europe's active scooter-riding public. The sleek bodywork of this new creation thus combines clean, aerody-

namic lines with a timeless sense of modern sophistication that will appeal to all age groups and tastes in style. Its front cowling is gorgeously highlighted by the chrome trim of its prominently positioned radiator, and is topped by a wide-throw headlight integrated into its curvaceously styled

steering head assembly. Combining smooth contours with subtly executed lines and angles, the new SH125's bodywork reaches cleanly back to its tapered tail and fully integrated taillight assembly to convey a unified sense of urban elegance.





SH125/SH150

Styling

The SH125's slim proportions also combine with a low seat height and broad, flat floorboard area to provide comfortable accommodations and an effortless reach to the ground that even miniskirted young ladies will find a special blessing. For friends in tow, the broadly contoured rear section of the seat provides a comfortable perch for long rides, assisted by a beautifully integrated set of fold-

down foot rests that give a wide and secure place to rest one's feet.

Carrying accommodations are also a priority among Europe's urban travelers and commuters, and the SH delivers with an underseat compartment designed large enough to carry a popular semi-jet-style helmet and more while still preserving the bodywork's narrow outer proportions and

low seat height. Up front, a locking compartment opens to reveal a compact glovebox designed to carry a potpourri of daily necessities within easy reach. Behind the seat, the compact, cast aluminium rear carrier also performs duty as a sturdy mount for an optional accessory top box that can further expand the SH's carrying convenience.



SH125/SH150 - 20017 - E



SH125/SH150

Engine

In order to deliver strong performance coupled with low noise and exhaust emissions, the SH125 features the same liquid-cooled 4-stroke single-cylinder engine currently powering Honda's popular new @125 and @150 scooters. Featuring a fundamentally simple design that achieves highly efficient fuel combus-

tion characteristics, this engine offers strong power and torque output, and smooth, linear acceleration. Its liquid-cooled configuration not only keeps operation cool and performance strong in all sorts of weather conditions, it also helps minimise annoying mechanical noise while playing a critical role in stabilising

operating temperatures to permit more exacting control of exhaust emissions. These design features make this engine an excellent starting point for developing a strong, economical, and clean-burning power source for the latest generation of scooters.





SH125/SH150

Engine

Programmed Air Induction System

Since one of the primary objectives in the choice of the SH125's 4-stroke engine was achieving ultra-low exhaust emissions, a highly effective direct air induction system like that featured on the @125 was used to ensure complete combustion of the engine's exhaust gases. Similar in many ways to the systems now used on many of Honda's motorcycles, this air induction system introduces a small jet of fresh air into the exhaust stream rushing out of the combustion chamber to extend the combustion of any partially burned gases into the exhaust port.

In this PGM-AI system, the amount of air entering the exhaust port is precisely regulated by a solenoid valve located between the aircleaner and the exhaust port. The engine's programmed digital ignition system monitors engine speed and throttle angle to determine precisely the amount of air injection necessary to maintain the engine exhaust's oxygen content at the optimum level for the exhaust system's built-in catalyser to operate at maximum efficiency.

High-Accuracy Digital CDI

Besides controlling the engine's PGM-AI air injection system,

the high-accuracy PGM-CDI digital programmed ignition system further enhances combustion characteristics by precisely tuning its timing for the highest combustion efficiency through all stages of operation. The CDI's high-accuracy, high-voltage charge combines with a convenient push-button electric starter to ensure quick, easy starts and dependable long-term performance. A compact 12-volt maintenance-free (MF) battery provides a strong and stable electrical charge for fade-free lighting and quick, sure starts.



SH125/SH150

Engine

Compact, High-Efficiency Metal Catalyser

The PGM-AI-equipped 4-stroke engine's low emissions are further reduced by a compact, long-life metal catalyser built into the exhaust system that effectively reduces the emissions of nitrous oxide (NO_x), carbon monoxide (CO) and hydrocarbons (HC) to well below the strict levels required by Europe's impending EURO-2 emissions regulations.

Wide-Ratio V-Matic Transmission

The SH125's reliable V-matic belt-drive transmission provides smooth, stepless acceleration at the turn of the throttle. A high-accuracy torque sensor complements the belt converter's wide transmission ratio to take maxi-

mum advantage of the engine's strong low-to-midrange torque, and provides a strong rush of acceleration - even when carrying a passenger - as well as smooth, linear engine performance.

Unique Liquid-Cooling System

Although the SH125's liquid-cooled engine is mounted in the scooter's frame in a conventional 'unit swing-arm' configuration, its radiator is located in quite an unconventional location, prominently built into the centre of the scooter's front cowl. This location provides the radiator with an optimal amount of free-flowing air, which enters at the cowl's leading surface, passes through the radiator and then exits

through vents built into the trailing edges of the front cowl. Wind rushing across the face these vents helps reduce air pressure in the cavity behind the radiator to more effectively pull air through for optimum cooling efficiency while isolating the rider from the engine's heat. However, while this is a logical location for a radiator, the actual execution necessitated a few special design innovations - notably a stronger water pump - to ensure that coolant would flow smoothly and reliably between lower engine and the higher radiator.



SH125/SH150 - 200110 - E



SH125/SH150

Chassis

The SH125's slim and attractive design is made possible by a compact yet rigidly constructed tubular steel frame that provides assured handling stability and smoothly confident control coupled with a wide and flat floorboard area that delivers enhanced riding ease and comfort in this class of scooter.

Comfortable Riding Proportions

The SH125's low 780mm seat height combines with the bodywork's slim proportions to offer a comfortably easy reach to the ground for riders of all shapes and sizes. One main feature of this design is its wide, flat floorboard, which permits easy foot positioning

freedom and an effortless slide onto and off the seat, which should prove to be an especially welcome attraction for female riders. The SH's upright riding position provides a comfortable reach to the handlebars, and its contoured seat provides plush, comfortable seating for two, even on longer rides.





SH125/SH150

Chassis

Motorcycle-Class Suspension System

To give the SH125/SH150 responsive handling and smoothly assured control at the top of its class, the suspension system's configuration emphasises both sharp performance and smoothly compliant riding comfort. In front, a sturdy, 33mm motorcycle-type hydraulic telescopic fork has its stanchion tubes solidly mounted in the steering system's lower triple-clamps. Providing a full 120mm of travel, this high-performance front fork soaks up the bumps

of the road while optimising handling over such rough road surfaces as cobblestone streets. At the rear, a compliant dual-damper suspension system supports the SH's unit swing-arm assembly with a well-cushioned 70mm of rear axle travel for superb long-term riding comfort. Featuring 5-step adjustable spring preload, the system provides a confidently controlled ride even when loaded down with a passenger and carrier-mounted top box.

The SH's lightweight cast aluminium 16-inch-diameter wheels feature a distinctive 5-spoke pattern that effectively complements its sleekly attractive bodywork for a look of cosmopolitan style. They mount wide-bodied 100/80-16 front and 120/80-16 rear tubeless tyres that provide responsive control and optimal riding comfort over virtually all road surfaces and riding conditions.



SH125/SH150 - 200112 - E



SH125/SH150

Chassis

Innovative Combined Brake System

Like several of Honda's latest scooters, the new SH125 features a specially adapted version of Honda's innovative Combined Brake System. Providing unrivalled braking ease and effortless control, this simple yet effective system combines a single hydraulic front disc brake with a standard, cable-operated rear drum brake for responsive braking control. The 220mm front disc features a lightweight dual-piston calliper effectively gripping the rotor between asbestos-free moulded resin pads, while the standard 130mm leading/trailing shoe drum in the rear provides assured braking control.

In the SH125's specially designed Combined Brake system, the right-side brake lever controls the front brake calliper like a conventional motorcycle brake system. The left-side brake lever, however, actuates not only the rear drum brake, but also the front calliper by way of an inline equaliser that smoothly combines front and rear braking functions to give novice riders an extra boost in riding confidence and control. Since novice riders sometimes find it difficult to effectively grip the right brake lever while holding onto the throttle, this system provides a highly efficient balance of front and rear braking control when only the left-side lever is used. A rear brake lock is also incorporat-

ed into the left-side lever, and locks into place with the touch of the lock lever; releasing with a squeeze of the brake lever.

Large-Capacity Fuel Tank

Beneath the seat, the SH125 carries a large 8.3-litre fuel tank that combines with the 4-stroke engine's excellent fuel economy (rated at over 35km/litre: ECE40 mode) to make longer trips both easy and economical, as well as giving daily commuters nearly a full week of regular operation between fill-ups. Positioned low in the frame to enhance riding stability, its convenient fuel filler is securely located under the locking seat, behind the under-seat storage space.



SH125/SH150 - 200113 - E



SH125/SH150

Equipment

Sleekly Styled Instrument Panel

The SH125's large-face meter panel is fully integrated into the top of the steering head assembly. Its large, easy-to-read central speedometer is bracketed on either side by coolant temperature and fuel gauges, and the whole assembly is recessed behind an attractively styled, resin-framed clear plastic lens. Indicator lights and a large LCD clock are positioned in easy view above the instrument assembly.

Convenient Carrying Capacity

For extra carrying convenience and a secure place to store one's helmet, the SH125/SH150 also features a compact carrying compartment secreted beneath its locking tilt-up seat. Designed to hold one of the wide variety of 'semi-jet' style helmets that have recently become popular items on the streets of Europe, this space also provides ample room for other essentials, as well as a bit of light shopping when the need arises.

A slim locking glovebox also enhances the SH125's carrying convenience and security, holding such smaller essentials as gloves,

papers and other small articles in close proximity without having to leave the seat. Shopping bags and other bulky articles with carrying straps can be easily and securely hung from the convenient spring-loaded carrying hook centrally located beneath the glovebox.

Behind the seat, the SH125's compact, stylishly designed cast aluminium rear carrier offers comfortable, all-weather hand grips for pillion passengers. It was also specially designed to perform double duty as a sturdy mount for any of several makes and models of aftermarket top boxes for greatly expanded carrying capacity.





SH125/SH150

Optional Equipment

Both the SH125 and SH150 feature a wide selection of optional parts and accessories that further enhance their sense of style while broadening their range of operating versatility.

Integrated Anti-Theft Security System

Honda's advanced H.I.S.S. (Honda Ignition Security System) anti-theft device has recently been featured on several of Honda's more advanced motorcycles over the last few years, and provides an effective defence against rideaway theft and joyriding. Now a simplified version of this highly effective system has been made optionally available for the SH125/SH150 to help ensure owners can hold onto their prized possessions against the threat of potential thieves.

Electronically interlocked with the scooter's computerised ignition, this system disables the ignition when armed and only allows the engine to be started after being switched off with its handy electronic key fob. The totally integrated system cannot be hotwired, and also features a vibration-sensitive electronic anti-theft alarm that warns off tamperers and potential thieves with a penetrating high-decibel shriek.

Bolt-On Windscreen

A handsome clear plastic bolt-on windscreen offers a broad area of protective comfort from gusts of onrushing wind, as well as bugs and flying debris. Its lightweight yet tough polycarbonate construction offers superior strength and resistance to chipping and scratches.

Heated Handlebar Grips

A set of easily attached, battery-powered electric grip heaters ensure greater riding comfort on cold days and nights. A handy control switch provides easy temperature adjustment.

Capacious Top Box

A large-capacity, 45-litre luxury top-box can be easily mounted onto the rear carrier. It features body colour-matched panels and a moulded-in carrying handle. Quick-detach mounting hardware allows the box to be easily removed, or locked in place for added security, and features an innovative built-in rocking mechanism that minimises the top box's effect on handling.



SH125/SH150

Specifications

Specifications

SH125 (ED-type) (95/1/EC-values)

Engine	Liquid-cooled 4-stroke SOHC single
Bore × Stroke	52.4 × 57.8mm
Displacement	124.6cm ³
Compression Ratio	11 : 1
Carburettor	26mm VK-type
Max. Power Output	9.7kW/9,000min ⁻¹
Max. Torque	11.1Nm/7,000min ⁻¹
Ignition	Digital transistorised with electronic advance
Starter	Electric
Transmission	V-Matic
Final Drive	V-belt
Dimensions	(L×W×H) 2,010 × 712 × 1,115mm
Wheelbase	1,328mm
Seat Height	780mm
Ground Clearance	126mm
Fuel Capacity	8.3 litres
Wheels	Front 16 × MT2.50 cast aluminium Rear 16 × MT2.75 cast aluminium
Tyres	Front 100/80-16 56L (tubeless) Rear 120/80-16 57L (tubeless)
Suspension	Front 33mm hydraulic telescopic fork, 120mm axle travel Rear Dual damper unit swingarm, 70mm axle travel
Brakes	Front 220mm hydraulic disc with dual-piston calliper and resin mould pads Rear 130mm leading/trailing drum
Dry Weight	123.1kg

All specifications are provisional and subject to change without notice.



SH125/SH150

Specifications

Specifications

SH150 (ED-type) (95/1/EC-values)

Engine	Liquid-cooled 4-stroke SOHC single
Bore × Stroke	58 × 57.8mm
Displacement	152.7cm ³
Compression Ratio	11 : 1
Carburettor	26mm VK-type
Max. Power Output	11.6kW/8,500min ⁻¹
Max. Torque	14.2Nm/7,000min ⁻¹
Ignition	Digital transistorised with electronic advance
Starter	Electric
Transmission	V-Matic
Final Drive	V-belt
Dimensions (L×W×H)	2,010 × 712 × 1,115mm
Wheelbase	1,328mm
Seat Height	780mm
Ground Clearance	126mm
Fuel Capacity	8.3 litres
Wheels	Front 16 × MT2.50 cast aluminium Rear 16 × MT2.75 cast aluminium
Tyres	Front 100/80-16 56L (tubeless) Rear 120/80-16 57L (tubeless)
Suspension	Front 33mm hydraulic telescopic fork, 120mm axle travel Rear Dual damper unit swingarm, 70mm axle travel
Brakes	Front 220mm hydraulic disc with dual-piston calliper and resin mould pads Rear 130mm leading/trailing drum
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