

# 2005 ZOOMER

**NEW**

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Making up another eye-catching highlight are the ultra-fat tyres mounted on all-black steel wheels. Selected for go as well as show, these meaty treads deliver excellent road-holding control while doing their part to smooth out the bigger bumps in the road.

In another remarkable Honda advance in small engine design, the Zoomer features the first-ever application of Honda's precision PGM-FI system in a 50cc scooter engine to be seen on the roads of Europe.

The new Zoomer's liquid-cooled 4-stroke 4-valve single overhead cam engine develops a powerful surge of acceleration and satisfying performance from start right up to its legally sanctioned velocity ceiling of 45km/h.

To ensure reliable kick-starts under any conditions - even with a dead battery - the engine's fuel injection system operates on a far smaller electrical load than required by conventional systems.

The flick of a key and touch of a button are all it takes to bring the Zoomer quickly and effortlessly to life, meaning quick errands and trips across town couldn't be easier.

Contributing to the Zoomer's tough mechanical look are a pair of small yet bright 'bug-eye' headlights mounted beneath its compact tubular steel front carrying rack and surrounded by a metal bracket that accentuates its image of rough-and-ready cool.

The Zoomer offers effortless control and delightfully resilient suspension performance over rough and bumpy urban road surfaces. A twin-tube front fork equipped with specially designed rubber dampers at the end of its stroke grips the large front wheel.

Efficient braking control is provided by a pair of compact 95mm leading/trailing shoe drum brakes, which bring the Zoomer quickly and smoothly to a stop in all traffic conditions.

The Zoomer's chassis assembly maintains the basic fundamentals of scooter design with a wide, easy-to-use floorboard area providing plenty of legroom, and its compact liquid-cooled engine discreetly integrated into the unit swingarm under the frame.



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**PRESS INFORMATION**

# Introduction

Honda's involvement in the world of scooters reaches back several generations, and covers everything from smart and stylish little 50cc runabouts to the prestigious 600cc ABS-equipped Silver Wing luxury scooter. Small scooters, though, hold a special place in Honda's stable, as they not only provide young and new riders with an easy and inexpensive way to gain first-hand experience of the enjoyment of riding, but provide people of all ages and backgrounds with cheap, dependable transportation that saves time, both and natural resources. As more people discover every year, most daily transportation needs don't really call for the extra parking hassles and expense of a car when a bike or scooter will do.

Although most of Honda's offerings in the 50cc displacement class have until recently been powered by 2-stroke engines, ongoing concerns about air pollution and reducing the impact of motor vehicles on the environment has seen Honda terminate the production of 2-stroke engines for virtually all its road-going machines. Offering tighter tolerances and more precise control over the variables that affect combustion efficiency and its related exhaust emissions, the 4-stroke engine achieves the dual goals of providing smooth, dependable power while minimising fuel consumption and its resultant emissions of greenhouse gases.

Arriving in 2005 to make new friends in Europe, as it already has in Japan and the United States, Honda's latest addition to its wide scooter lineup is the radical new Zoomer, a bold statement in youth-oriented, no-frills design that also charts new territory in the quest for economical, low-impact daily transportation. Featuring unique styling that's just wild enough to bring a smile to any face, and a highly advanced, new liquid-cooled PGM-FI (Programmed Fuel-Injection) 4-valve 4-stroke engine that provides an exciting blast of dependable power while setting a new standard for environmental compatibility, the new Zoomer lives up to its name with sprightly performance and a friendly 'go anywhere, do anything' disposition that will attract a large following of young riders looking for the latest in new and cool.

# Styling

Rugged in looks and rugged in construction, the Zoomer eschews elegance and refinement for a more nitty-gritty look and feel of carefree riding enjoyment that provides a strong attraction for young people on the move. If anything sets the new Zoomer apart, it is without a doubt its bold bare-bones design, with slim profile contoured seat seeming to hover in space atop a rugged, bolt-on steel tube seat frame. The Zoomer's 'vitals' are secreted way under the spacious, flat floor panel and packed into the bulbous box wrapped around its steering head, imparting a bold impression of back-to-basics toughness that promises fun times on the go.

Looking like nothing more than a seat and handlebars attached to a pair of wheels, the new Zoomer's stark minimalist design effectively conceals a host of unprecedented technological advances that make it a quick and dependable runabout that's sure to win fast friends wherever it roams.

## **Unique Open Carrying Space**

Beneath its remarkably comfortable contoured pad of a seat, the Zoomer features a wide-open area above a moulded plastic pan designed to carry just about anything that will fit in the space between the rails of its seat sub-frame. From shoes and skates to books and bags of gear, or even a skateboard, the Zoomer's cargo area gives its rider the greatest carrying freedom. Strategically positioned bungee hooks facilitate tying down and securing whatever is being taken along for the ride.

# Colouring Concept

The new Zoomer attacks the streets of Europe in four bold colour variations that brilliantly accentuate its no-nonsense emphasis on the fundamental pleasures of scooter riding. Leading the pack is basic black from top to bottom, end to end that gives it a mean, aggressive look. This is followed by eye-catching yellow and red variations that set off its seat frame and front 'box.' Finally, a camouflage-look olive green blends right into the background or fits the baggy khakis of the young people who are sure to want to ride it.

## Colours

- Black
- Plasma Yellow
- Fighting Red
- Camouflage Green

# Features and Benefits

## Engine/Drivetrain

- Lightweight 50cm<sup>3</sup> 4-stroke 4-valve SOHC liquid-cooled single-cylinder engine provides ample power for in-town riding fun.
- Innovative new PGM-FI system is the smallest Honda makes, and the most advanced system ever developed for this displacement class, offering responsive performance, top fuel economy, and the lowest emissions ever.
- Maintenance-free fully electronic ignition system combines with the Zoomer's advanced fuel injection to ensure easy starts and dependable operation.
- Easy push-button electric starter utilises the engine's brushless ACG (alternator) in an innovative development that eliminates the need for—and weight of—a separate starter motor, for startups that are quick, reliable, and remarkably quiet.
- Electronic control unit (ECU) provides control for fuel injection, ignition timing, alternator regulator, ACG starter, electromagnetic fuel pump and programmed automatic idling system's air intake control valve.
- Ultra-compact electromagnetic fuel pump contained inside slim-profile fuel tank located under the Zoomer's floorboard.
- Lightweight, maintenance-free, magnetically driven water pump eliminates the need for mechanical seals.
- Compact engine-mounted radiator has aluminium fins for optimal cooling in all riding conditions.
- Automatic camchain tensioner requires virtually no maintenance.
- Ultra-quiet exhaust system.
- Fully automatic Honda V-Matic belt-drive transmission provides spirited acceleration while requiring virtually no maintenance.

## Chassis/Suspension

- Two-piece die-cast aluminium front frame with exposed steel tube upper rear frame presents a dynamic image.
- Twin downtube fork front suspension delivers 49mm of plush travel for a well-controlled ride.

- Single-side aluminium unit swingarm with single-damper rear suspension features 65mm of travel for a compliant, comfortable ride.
- Compact front and rear drum brakes offer predictable stopping power.
- Oversize tyres mounted on attractive pressed steel wheels offer secure road grip while helping to absorb the bumps.

### **Additional Features**

- Well-padded contoured seat boasts a low, 735mm seat height for added confidence at stops.
- Spacious, flat floorboard provides plenty of room to move feet, for excellent long-term comfort.
- Instrumentation includes analogue speedometer, odometer, and indicator lights for fuel, coolant temperature and low/high beam. Fuel indicator light comes on when approximately 1 litres remains in the fuel tank.
- Parking brake.
- Helmet holder locks helmet in place under seat.
- Handy and efficient backup kickstart lever generates enough charge to power the electronic ignition and fuel injection systems for quick and easy starts—even if the battery is dead.
- Easy-to-use centrestand.
- Dual bug-eye headlights with two 35W bulbs. Low/high beams provide ample night-time illumination.
- Maintenance-free battery.
- Handlebar switches and controls use internationally approved ISO graphic symbols.

# Engine

The Zoomer is powered by a rugged and reliable new high-tech 50cm<sup>3</sup> 4-stroke 4-valve SOHC liquid-cooled single-cylinder engine that will become Honda's class-leading new standard for 50cc scooter production around the world. The first 50cc scooter released in Europe to be powered by a 4-stroke 4-valve engine, the Zoomer's compact, highly advanced power unit was designed to provide unsurpassed 4-stroke performance while meeting the world's strictest emissions regulations.

This new engine also achieves unprecedented levels of fuel economy and low emissions while delivering remarkable power and torque for easy, reliable riding fun. And as a herald of the future of motorcycle design, the Zoomer's innovative new PGM-FI system and HECS3 oxygen-sensing catalyser system also makes it the smallest displacement machine ever equipped with such advanced control systems.

## **New 4-Valve SOHC Engine Design**

Representing a new generation of 4-stroke engine development that finally approaches the performance of 2-stroke engines, but without their well-known environmental drawbacks, the new Zoomer's liquid-cooled 4-stroke 4-valve single overhead cam engine develops a powerful surge of acceleration and satisfying performance from start right up to its legally sanctioned velocity ceiling of 45km/h. Within this range, the Zoomer delivers exciting low-to-mid rpm performance and high torque for quick takeoffs and exhilarating riding fun.

## **Revolutionary ACG Electric Start**

The flick of a key and touch of a button are all it takes to bring the Zoomer quickly and effortlessly to life, meaning quick errands and trips across town couldn't be easier. Instead of requiring a separate starter motor to turn over the engine, the Zoomer features an innovative adaptation of its brushless ACG, which turns over the engine in a smooth, simple and lightweight design that also realises astoundingly quiet startup operation. Eliminating the need for a separate starter motor, the weight savings of this development also makes a small but significant contribution to the Zoomer's miserly fuel economy.

### **Reliable Kick-Start Capability**

To ensure reliable starts under any conditions—even with a dead battery—the engine’s fuel injection system operates on a far smaller electrical load than required by conventional systems. Through a special ignition program that momentarily turns off all circuits save those critical to the fuel injection and ignition systems, the Zoomer can be started with only the small current generated by its kickstarter, thus providing consistently quick starts and smooth, strong performance over the long term, and making the Zoomer’s fully electronic control system ideal for use in 50cc scooter applications, with their small batteries and comparatively low-output ACGs.

### **Advanced PGM-FI System**

In another remarkable Honda advance in small engine design, the Zoomer features the first-ever application of Honda’s precision PGM-FI system in a 50cc scooter engine to be seen on the roads of Europe. Delivering the highly accurate control, superb fuel economy and other benefits associated with much larger and more expensive machines, this advanced system provides smoothly responsive acceleration while ensuring easy starts and smooth operation on the coldest of mornings

For the ultimate in system integration, this new fuel injection system incorporates the throttle body and sensors into one compact, bolt-on unit. The actual fuel injector is mounted on the engine head, at the mouth of the intake port, where it feeds its fuel charge directly into the combustion chamber.

For such a small engine, fuel metering and even the twin-hole fuel injector itself required special development to achieve maximum atomisation of the fuel entering the combustion chamber for both top performance under all conditions and low fuel consumption.

The system’s electronic control unit (or ECU) is also a compact, highly integrated development which incorporates not only the control for the fuel injection system, but also the computerised ignition, the electromagnetic fuel pump, the programmed automatic idling system’s air intake control valve, the HECS3 oxygen-sensing low-emissions system, and even the control for the engine’s innovative ACG-integrated starter.

The marvels of miniaturisation even extend to the Zoomer’s fuel tank-integrated electromagnetic fuel pump, which is the smallest of its kind ever made. Nearly a third

the size of the unit installed in the fuel-injected Pantheon, its compact proportions permitted the use of the slim fuel tank secreted away under the Zoomer's floorboard. Compact, simple, and remarkably efficient, the Zoomer's highly advanced fuel injection system optimises every facet of its riding performance.

### **Innovative Idle Air Control Valve**

Whether roasting in desert temperatures below sea level or freezing high in the mountains, the Zoomer's advanced fuel injection system ensures optimum fuel metering for instant starts and smooth, strong performance anytime and anywhere. Its compact, programmed Idle Air Control Valve (IACV) closely monitors ambient air pressure and temperature under all conditions, from cold starts to hot idle, minutely controlling the volume of air intake with a precision step motor to maintain ultra-smooth idling operation.

### **Highest Efficiency for Lowest Fuel Consumption and Emissions**

Complemented by its new PGM-FI electronic fuel injection system, this compact 50cm<sup>3</sup> engine's inherently efficient 4-stroke SOHC 4-valve design ensures that the Zoomer goes farther on a litre of fuel—over 50 kilometres, in fact—while keeping annoying emissions of both exhaust fumes and noise to a bare minimum.

Integrated into the computerised fuel injection control system, the Zoomer's HEC3 oxygen-sensing catalyser system is closely based on the system first pioneered on Honda's Supersports technological flagship, the VFR. However, not only is the new system more compact, it is also more minutely accurate in both monitoring and control functions, for such low emissions of polluting exhaust gases that the Zoomer's engine easily conforms with proposed stricter emissions regulations for the future.

The engine's advanced liquid-cooled configuration—with lightweight aluminium radiator mounted directly to the side of the engine—also contributes to reduced engine noise while maintaining optimal operating temperatures for strong all-day performance and low exhaust emissions.

Exhaust feeds out of a large-capacity silencer for a quiet purr of 4-stroke operation that won't rattle the neighbours.

### **Advanced Features for More Carefree Riding Enjoyment**

Although it may appear to be stripped of frills (and just about everything else), the Zoomer actually comes fully equipped with the latest in rugged, maintenance-free features to keep it on the road day in and day out without a care in the world. From its quick-starting fuel injection system, maintenance-free ignition and push-button ACG electric start to its ECU control of starter, ignition timing, fuel pump and Idle Air Control Valve (IACV), the Zoomer is built to ride on, not work on.

An automatic camchain tensioner keeps timing precise and mechanical noise to a minimum, while Honda's famed V-Matic belt-drive system delivers smooth and swift acceleration with the mere twist of the Zoomer's throttle. One ride tells it all: The Zoomer lives up to its name with a big blast of everyday fun.

# Chassis

The Zoomer's chassis assembly, while certainly a unique sight to see, maintains the basic fundamentals of scooter design with a wide, easy-to-use floorboard area providing plenty of legroom, and its compact liquid-cooled engine discreetly integrated into the unit swingarm under the frame. Large and sturdy die-cast aluminium rails tie the front and rear sections together while keeping the floorboard wide and flat for excellent long-term riding comfort.

## Light-Handling Suspension

The Zoomer offers effortless control and delightfully resilient suspension performance over even rough and bumpy urban road surfaces. A twin-tube front fork equipped with specially designed rubber dampers at end of its stroke grips the Zoomer's giant front wheel. This fork provides light, responsive control coupled with a full 49mm of front axle travel—an unusually long stroke for this class of machine—to soak up the bumps. At the rear, a single spring-loaded damper supports the robust unit swingarm with 65mm of smoothly compliant control for a remarkably comfortable ride.

## Wheels and Brakes

Making up another eye-catching highlight of the Zoomer's design are its ultra-fat tyres mounted on all-black steel wheels. Selected for go as well as show, these meaty treads deliver excellent road-holding control while doing their part to smooth out the bigger bumps in the road. Front tyre size: 120/90-10; Rear tyre size: 130/90-10.

Efficient braking control is provided by a pair of compact 95mm leading/trailing shoe drum brakes, which bring the Zoomer quickly and smoothly to a stop in all traffic conditions.

# Equipment

## **Attractive Dual Headlights**

Contributing to the Zoomer's tough mechanical look are a pair of small yet bright 'bug-eye' headlights mounted beneath its compact tubular steel front carrying rack and surrounded by a metal bracket that further accentuates its image of rough-and-ready cool. Brake light and indicators are compact and attractive, complementing the Zoomer's boxy style with their rectangular designs.

## **Convenience Features**

The Zoomer's handy underseat carrying space can easily hold everything from a stack of books to a day's groceries to something as otherwise unwieldy as a skateboard. Simply load it in and tie it down using the four convenient hooks provided. Carrying nets also attach easily to this space and possible carrying variations are limited only by one's imagination. Space has also been provided for carrying a U-lock.

# Optional Equipment

The Zoomer preliminary accessory line-up is currently under study. Nevertheless, we want to give you a taste of what may be available from Honda to enhance the practicality, comfort and bold looks of the exciting new Zoomer.

## Practical Fun

A bare bones design doesn't stand in the way of creating a truly versatile scooter. The new Zoomer can be equipped with a wide range of accessories to make it a real all-purpose scooter.

- A rear carrier, which combines with the cargo area under the seat to make the Zoomer an ideal shopping partner.
- A large plastic box, which slips easily under the seat and can be locked, making it perfect for carrying all the things you want to keep locked and out of sight. This box can also be used together with a variety of side panels to accentuate your personalised look while still being practical.
- A black metallic painted grille covers both sides and the front of the under-seat space. It can be used to carry larger objects under the seat.
- A spider net is, of course, a multi-talented tool for securing gear. The Zoomer comes pre-installed with the necessary hooks to make sure you'll find a transport solution for every object you want to carry.

## Comfortable

Enhancing the comfort of the Zoomer? No problem!

- A frame mounted backrest enhances rider comfort. It can also be used in combination with the rear carrier. Once again, looks go hand in hand with usefulness.

## The "Looks" Make It

The eye-catching Zoomer already boasts a contemporary urban look in its standard form. However, its 'bare-bones' construction just begs to be customised to your own taste. Therefore plenty of accessories are being studied, which all have a great visual effect on the Zoomer. Colours, chrome, plain black or anything in between, these assorted parts make this THE scooter par excellence to personalise.

- Side panels: Keep larger objects in place under the seat (when not using the under-seat box). Versions in black with a metal grille (3 sides) or in plain white panels for a more “racy” version (2 sides) are available.
- Hologram panels. Think a side panel is too plain? Why not mount attractive Zoomer hologram panels on both sides of the seat? 3D visual effects on a scooter? Look no further.
- Radiator covers: Several versions available. Oval and rectangular chrome covers with horizontal cooling stripe or a meshed grille, and a gold coloured rectangular cover are all you need.
- Coolant tank cover: In addition to decorating the radiator, the coolant tank can also be protected for a more integrated look. Gold or chrome coloured with horizontal stripes, chrome with diagonal stripes or fully closed protection, it’s up to you.
- Oil temperature gauge: This beautiful silver or anodised blue temperature meter replaces the oil dipstick. Oil temperature can be easily read anytime, and the gauge can be used as a dipstick as well.
- Racing footrests: These perforated aluminium footrests can be attached to the floorboard.

### **Colour-Matched Accessories**

Many of the above accessories are also colour-matched to give the Zoomer an especially distinctive look. Which look to choose?

- Chrome custom look: Various radiator and coolant tank covers and custom footrests make the Zoomer a real eye-catcher.
- Side panels are available in black grille, plain white panels (which beg to be personalised) or even holographic 3D effect side panels.
- Gold-coloured radiator and coolant tank covers give the Zoomer that special something extra.

**Specifications****Zoomer (ED-type)****Engine**

Type	Liquid-cooled 4-stroke 4-valve SOHC single
Displacement	49.9cm <sup>3</sup>
Bore x Stroke	38 x 44mm
Compression Ratio	12 : 1
Max. Power Output	3kW/7,500min <sup>-1</sup> (95/1/EC)
Max. Torque	4.5Nm/5,000min <sup>-1</sup> (95/1/EC)
Idling Speed	2,000min <sup>-1</sup>
Oil Capacity	0.7 litres

**Fuel System**

Carburation	PGM-FI electronic fuel injection
Aircleaner	Cartridge-type paper filter
Fuel Tank Capacity	5 litres (including 1-litre warning light reserve)

**Electrical System**

Ignition System	Digital transistorised with electronic advance
Ignition Timing	15° BTDC (idle) ~ 25.4° BTDC (4,000min <sup>-1</sup> )
Sparkplug Type	ER8EH-N (NGK)
Starter	Electric/Primary kick
Battery Capacity	12V/6AH
ACG Output	210W
Headlight	12V 35W x 2 (low) / 35W x 2 (high)

**Drivetrain**

Clutch Type	Centrifugal; automatic
Transmission Type	V-Matic belt drive
Belt Converter Ratios	2.850 ~ 1.200
Final Reduction	13.708
Final Drive	V-belt

**Frame**

Type	Low deck backbone; Aluminium die-cast + steel tube
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**Chassis**

Dimensions	(LxWxH)	1,860 x 735 x 1,025mm
Wheelbase		1,265mm
Caster Angle		26° 30'
Trail		75mm
Turning Radius		1.9m

Seat Height	735mm
Ground Clearance	145mm
Dry Weight	84kg (F:36kg; R: 48kg)
Kerb Weight	89kg (F:40kg; R: 49kg)
Max. Carrying Capacity	112kg (total rider, cargo, accessories)
Loaded Weight	164kg (F:68kg; R: 96kg)

### **Suspension**

Type	Front	27mm telescopic fork, 49mm axle travel
	Rear	Unit swingarm, 65mm axle travel

### **Wheels**

Type		Pressed steel
Rim Size	Front	10 x MT3.00
	Rear	10 x MT3.00
Tyre Size	Front	120/90–10 57J
	Rear	130/90–10 61J
Tyre Pressure	Front	175kPa
	Rear	175kPa

### **Brakes**

Type	Front	95mm leading/trailing drum
	Rear	95mm leading/trailing drum

All specifications are provisional and subject to change without notice.