

## DN-01



All specifications are provisional and subject to change without notice.

DN-01

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## Introduction

Radical new styling that grabs attention from every angle. Form-fitting comfort that invites one to both sit on and to ride. Smooth response to every rider input, reacting with exhilarating performance at every twist of its throttle, and... no clutch! Not only that, no gear changer! Is this really a motorcycle? Or is it some strange kind of scooter?

With its astounding concept bike looks, long-and-low proportions, high-styled 17" wheels and powerful V-twin engine, Honda's new DN-01 is most certainly a motorcycle. One that provides all the exhilarating riding enjoyment one would expect from the finest of its breed. But... no clutch. Instead, the DN-01 introduces to motorcycling the most advanced fully automatic transmission ever developed for any two-wheeled vehicle. One that provides all the strong power and acceleration one associates with 'real' motorcycle manual transmissions. One that frees its rider from the distracting complications of a manual transmission and opens the door to a new world of complete motorcycle riding enjoyment.

When the DN-01 first debuted at the 2005 Tokyo Motor Show, many thought it to be just another interesting Concept Bike design exercise that would disappear and be promptly forgotten like so many others before it. Its promise of strong performance delivered through an 'infinitely variable HFT transmission' seemed like another wild claim, like those often heard to describe automotive concept machines that never see the light of day. Little did people know that the DN-01's long years of research and development would soon see fruition in a bold new production model which would carry all the styling impact and technological advancements of its initial concept, and still deliver on its promise of unparalleled riding ease and enjoyment. As its name implies, the new DN-01 is the very first of a unique breed of 'Dream New' motorcycles that will soon be blazing new trails to the future of two-wheeled riding ease and exhilaration that anybody can enjoy.

## Development Concept

When Honda's team of development engineers set out to create an entirely new category of motorcycle, they sought to combine elements of swift sportbike performance, relaxed custom cruiser riding comfort and the delightful operating ease of a big twist-and-go scooter. The plan also included such modern necessities as environmentally friendly emissions levels and the most up-to-date security and riding safety technologies for the ultimate in advanced motorcycle performance and riding enjoyment.

One of the first criteria for this new breed of motorcycle was to create a new sense of value that could be easily seen in its dynamic design, and experienced in its ride and performance. Thus, the new machine's proudly urbane Performance Cruiser looks were formulated based on the initial concepts of "Relaxing and Cool," "Individualistic" and "Sophisticated High Quality," which guided every aspect of its design. Eye-catching, organically styled bodywork was drawn up to create a unique, never-before-seen form that exudes excitement and makes one want to ride. The feel of the new machine should also strongly emphasise all that a motorcycle can be, and what only a motorcycle can offer: an outstanding sense of comfort and stability that instantly appeals to riders of all ranges of experience; a secure feeling of control enhanced by its low seat and firm knee grip, which provides a unified sensation of rider/machine integration; and a confident feeling of responsive power, handling and control that contributes to overall riding enjoyment.



## Main Features

Next, operation must be easy for all, and relaxing in every way, with light-handling manoeuvrability and no distractions from the intimate pleasure of gliding down the road and around the bends. Central to this ultimate riding ease would necessarily be the elimination of the traditional clutch and gear shifter combination that has separated motorcycles from other forms of transportation for generations. No more uncomfortable 'clunks' into gear, no missed shifts, no embarrassing stalls, no scuffed shoes and no tired wrists from constant clutch lever operation. Yet, as riding moods change with the landscape, the motorcycle should also be able to adapt accordingly, offering not only smooth and easy twist-and-go operation, but also respond to a livelier pace with sportier performance, or even spontaneous manual shifting when desired.

Central to meeting the development goals for this new concept of riding machine was yet another new concept —of motorcycle power transfer—that Honda has had under steady development for over twenty years: A new, fully automatic transmission designed to provide smooth, infinitely variable power conversion ratios with seamless control, yet able to automatically adjust to varying load conditions with swift, sure response and optimised power output to the rear wheel, maintaining breathtaking acceleration wherever it goes. This epoch-making new development made its debut in the 2005 DN-01 Concept Bike under the name 'HFT', or Human-Friendly Transmission. Specially designed to—for the first time ever—bridge the gap between scooter-like operating ease and the crisp, responsive performance associated with a proper motorcycle transmission, HFT gives the new DN-01 breathtaking acceleration coupled with remarkably smooth and easy operation, for revolutionary riding performance to emphatically back up its next-generation styling.

The remarkable new 2008 DN-01 will appear on the avenues and winding roads of Europe offering peerless performance and incomparable riding ease in a distinctly modern and sporty form that invites its riders to rediscover the profound enjoyment of motorcycling on an all-new roadster—or 'Ridester'—with wide appeal. The future calls, and Honda answers with the DN-01.

### Styling

- Unprecedented organic 'Performance Custom' design.
- Dynamic front cowl design integrates dual projector headlights.
- Long-and-low proportions for relaxed riding position and luxurious riding ease.
- Comfortable stepped seat, back-swept handlebars and wide foot boards.
- Wide LCD instrument panel with multi-segment tachometer display and large digital speedometer.
- Wide integrated LED taillight assembly.

### Performance

- Slim, liquid-cooled, fuel-injected 680cm<sup>3</sup> V-twin engine.
- Revolutionary, infinitely variable, fully-automatic HFT (Human-Friendly Transmission).
- HFT features Drive, Sport and 6-speed Manual modes for wide-ranging performance potential.
- Innovative HFT 'lock-up' system achieves more direct drive for stronger, sharper acceleration.
- Switch-selectable mechanical Neutral for easier control when at stop.
- Dual-chamber exhaust with catalyser system maintains exhaust emissions below EURO-3 regulated levels.
- Long-and-low chassis design for exceptional riding ease.
- Compliant 41mm front fork mounts wide 130/70 section front tyre.
- Single-sided aluminium Pro-Arm swingarm integrates shaft final drive.
- Stylish wheels mount high-performance radial tyres.



## Styling

- Smoothly responsive Combined-Antilock Brake System for confident braking control.

Unique in every way, the DN-01's provocative form introduces a totally new concept in motorcycle styling and riding comfort that blends the best of motorcycle and automotive design into a 'modern, organic body' of truly individualistic style. Jetting back from its long, shark-like angled nose, the DN's curvaceous integrated lines project a boldly modern and aggressively urban look that heralds an exciting new future in motorcycle riding enjoyment. Built on a long-and-low chassis configuration that provides a luxuriously relaxed and comfortably laid-back riding position, as well as relaxing handling, the DN-01's futuristic bodywork seems to envelop its rider in a protective shell of calm, controlled self-assurance.

The back-swept lines of the DN-01's formidable-looking front cowl are underscored by a wide, slim-line triple-beam headlight that seems to leer forth with hungry intent. Incorporating a pair of compact projector-type low beams surrounding a large, central multi-reflector high beam, this layout projects both a brilliant swath of welcome night-time riding illumination and a distinctive ultra-modern look that never fails to grab attention. Indicator built into the front cowl's widely spaced rear-view mirrors maximise the DN-01's forward visibility and predatory looks.

The lines of the DN-01's massive front cowl sweep seamlessly back into the muscular shoulders of its sleekly styled fuel tank, with deep indents providing a smooth and narrow grip for the knees. A form-fitting flip-up cover conceals the fuel filler cap beneath the tank's arching curves. Under the racy lines of its compact, dark-tinted windscreen the DN-01's large, white LED-backlit LCD instrument panel provides an easy-to-see readout of all operating conditions. Following the curve of the panel's wide, curved crown extends a sweeping multi-segment tachometer display that provides instant indication of engine revs up to its 7,800rpm redline. A giant numerical speedometer resides in the centre of the display for easy view, and is surrounded by a dual-trip calculator and clock on the left and a six-segment fuel gauge on the right. The entire display is bracketed by the usual array of indicators, including large turn indicators and a 'Neutral' light.



## Colouring Concept

Settling into its wide, comfortably contoured 690mm low-slung seat, the DN offers an easy and natural reach to both the ground and its swept-back cast aluminium handlebars. Large foot boards angle slightly upward to provide plenty of legroom and a relaxing position for enjoying long hours of riding pleasure. The back of the seat rises up to provide a comfortable hip rest, then extends back to offer pillion passengers a long, wide seating area for exceptional two-up cruising comfort. The locking pillion seat can also be removed to access a carrying space for holding documents, tools and a U-lock.

The tail area of the DN-01 reveals just as much intricate design effort as can be seen in its provocative front cowl. Surrounding and incorporating the rear pillion seat and wide combination taillight, this design further emphasises the DN's organic form with integrated hand rails that appear almost as furrowed brows over the distinctive clear-lens taillight assembly. Bordered by large yellow-bulb indicators, the brilliant multi-segment LED taillight projects a strong visual impact while attracting the full attention of motorists following behind.

The DN-01's lower bodywork is also beautifully styled, with front shrouds elegantly surrounding its radiator and sweeping low to incorporate the forward-mounted foot boards and the rearward reach of its highly attractive, right-side two-into-one exhaust system. The exhaust system's large, chrome-plated tailpipe features a modern triangular cross-section that blends in elegantly with the rest of the DN-01's organic design. Along the left, an impressive single-sided Pro-arm swingarm joins with the DN-01's stylish dual 5-spoke cast aluminium wheels to give strong emphasis to its inherent functional beauty and unique sense of style.

Finally, shorn of distractive graphics, each side of the DN-01's elegantly sculpted fuel tank is decorated by a single, round cloisonné-style Honda Wing mark emblem which gives a powerful visual reminder of Honda's renown for stretching the limits of conventional motorcycle design, while giving subtle expression to the quality, craftsmanship and prestige to be found in the new DN-01.

With its astounding organic Performance Cruiser design turning heads wherever it goes, the new DN-01 marks a new epoch in motorcycle development and styling. Its curvaceous lines exhibit a sense of total integration infused with dynamic individuality and superb quality of construction that gives anyone who rides it a smile of pride and complete satisfaction.

The new DN-01 will soon be prowling the streets in two darkly mysterious colour variations that give vivid accent to its uniquely modern styling sensibilities. In basic black, the DN-01 glistens with a sleek and sophisticated elegance that highlights the gleam of its chrome and the sinewy curves of its bodywork. In deep pearlescent purple, the DN-01 glows with a richness of quality and prestige that evokes the twilight world where Dreams roam free.

### Colours

- Graphite Black
- Pearl Amethyst Purple



## Revolutionary New Human-Friendly Transmission (HFT)

More than its engine, what really sets the new DN-01 apart and on its way to the future of motorcycle riding enjoyment is its highly advanced new automatic transmission system, called HFT, or the Human-Friendly Transmission. A totally new development, the DN-01's engine cases were specially made to hold this remarkably light and responsive transmission system. Not to be confused with conventional belt converter systems such as used in twist-and-go scooters, or semi-automatic transmissions that manually shift between conventional gear ratios without using a manual clutch, HFT is a fully developed hydro-mechanical transmission featuring a hydraulic clutch that automatically and seamlessly changes drive ratios, not just belt ratios, to produce strong, smooth, non-slip acceleration that can provide the sporty acceleration normally associated with solid gear-on-gear manual transmissions.

## Engine

The sleek and stylish new DN-01 gets its satisfying surge of acceleration from a slimly configured 680cm<sup>3</sup> 52° V-twin engine that is based on the unit that now powers Honda's popular Deauville and Transalp mid-displacement road bikes. Providing strong performance for both exhilarating boulevard prowling and smooth, comfortable cruising on high-speed motorways, this compact, liquid-cooled engine features highly responsive PGM-FI electronic fuel injection and free-flowing four-valve heads that ensure smoother, more efficient flow of intake and exhaust gasses through their combustion chambers for exhilarating thrusts of acceleration at each twist of its throttle.

### Low Emissions

Like nearly all of Honda's latest fuel-injected engines, the new DN-01 also features an integrated HECS3 oxygen-sensing catalyser system that micro-manages the air/fuel mixture to reduce emissions of harmful exhaust gases to well below EURO-3 regulated levels. Featuring a large-capacity 300-cell catalyser element installed in the forward chamber of its dual-chamber exhaust, this system effectively minimises emissions of carbon dioxide (CO), hydrocarbons (HC) and nitrous oxides (NOX) while maintaining strong and smooth performance throughout the engine's impressive powerband.



### Easy, Multi-Mode Operation

To provide the strong, versatile performance that meets the needs and desires of a wide range of rider, HFT offers two fully automatic, infinitely variable transmission modes – ‘D’ (Drive) mode for ordinary riding and ‘S’ (Sport) mode for a noticeably more sporty riding experience which delivers quicker and sharper acceleration that truly excites. On top of these two automatic drive modes, this versatile system also offers a push-button-selectable six-speed manual mode, which gives riders the option of shifting up and down with a manual transmission feel. The DN-01’s HFT achieves an incomparably satisfying riding feel coupled with exceptionally easy operation. Riders can enjoy the smooth, unruffled twist-and-go operation of a laid-back high-performance scooter, or with the flick of a switch start tearing up the road with the direct throttle response offered by the DN-01’s sporty or manual transmission modes.

Starting up and starting out are as easy as pressing the start button and then the ‘DN’ switch on the right-side switch pod to engage the transmission. The HFT’s hydraulic clutch totally eliminates any annoying ‘clunks’ as the drive gear is engaged, instead smoothly switching into gear with forward movement initiated by a twist of the throttle.

### Innovative ‘Lock-Up’ System

The DN-01’s HFT also features a ‘lock-up’ system similar to that found in automotive automatic overdrives, which provides a more direct engine-to-rear wheel drive for stronger, sharper acceleration compared to other automatic or belt-drive systems. This fully automatic system also features a throttle-controlled ‘downshift’ capability that works to maintain optimum power output under high-load conditions, such as when climbing steep grades, by gradually reducing the drive ratio in a smooth, constant motion, as opposed to the stepped downshifts associated with manual or conventional multi-speed automatic transmissions. In this way, the HFT offers the advantage of being able to handle higher loads with better power transfer efficiency, thus permitting more sporty acceleration than otherwise possible with conventional belt-drive systems.

### Switch-Selectable Mechanical Neutral

Besides its remarkably smooth-operating hydraulic clutch, the HFT also features a mechanical neutral that can be accessed with the press of a button, which completely disengages the hydraulic clutch, thus permitting the engine to run or even be revved at stop, without simultaneously requiring that the brakes be engaged. The HFT is also designed to automatically switch to this mechanical neutral whenever the engine is turned off, which facilitates motorcycle movement when stopped, as its rear wheel drive is effectively disconnected from the transmission.



## Chassis

With its startlingly modern looks and revolutionary HFT-equipped V-twin engine, the DN-01's frame and chassis components seem almost surprisingly 'conventional.' Its double-cradle steel tube frame provides solid support for its engine, bodywork and suspension systems, ensuring exceptional riding ease and confident control in virtually all riding situations. The frame's excellent rigidity and front weight bias ensure a smoother, more confident high-speed ride compared to virtually any twist-and-go large-format scooter while offering lighter, swifter handling than most cruisers. The DN-01's more laid-back American-style cruiser riding position and motorcycle-like knee grip greatly enhances the rider's sense of oneness with the machine. Likewise, its solid handling stability and luxurious riding comfort are almost unprecedented in the Custom class.

The frame's bolt-on steel tube seat rail provides a secure mount for rider and passenger while hovering low over the rear tyre for a comfortable low seat height and easy reach to the ground, as well as a heightened sense of riding 'in' the DN-01, rather than simply on top of it. Making a large contribution to this sensation, as well as to the DN-01's light, responsive handling, is a dual-element 15.1-litre fuel tank that carries the bulk of its load low in the chassis for enhanced mass-centralisation.

### Sporty Cruiser Control

The DN-01's relatively long 1,605mm wheelbase and mid-position 28° caster angle provide the base for its easy-going Performance Cruiser riding proportions with relaxed yet responsive control and a steady feel at the handlebars. Its 41mm front fork offers up ample travel and excellent response in both straight-line cruises and spirited blasts through the hills when called upon to perform. At the back, the DN-01's wide-rimmed twin five-spoke wheel is held by an impressive single-sided Pro-Arm swingarm surrounding its quiet, maintenance-free driveshaft for a provocative look combined with superb tracking performance. The rear wheel's wide, low-profile 190/50-17 rear tyre also looks the part with fat, low-profile cruising cool backed up by swift, light-handling performance. A smoothly compliant Monoshock rear suspension system soaks up the bumps with 120mm of travel that plays a big part in the DN-01's luxurious riding comfort while maintaining its clean, uncluttered lines and steady handling.

### Advanced Combined Antilock Brakes

The DN-01 offers the excellent braking feel and confidently responsive control of Honda's most advanced Combined Antilock Brake System. Up front, this system consists of a lightweight pair of Combined three-piston front callipers that firmly grip large 296mm floating rotors between their sintered metal pads. Attractive five-point inner rotors contribute to reduced unsprung weight. At the rear, a 276mm rotor mounted between the Pro-Arm swingarm and the wheel is efficiently stopped by a compact dual-piston calliper attached to the swingarm in a conventional setup that provides sporty braking control to match the new CBF's aggressive riding capability.

Like other so-equipped Honda street bikes, the DN-01's Combined Brake System links the rear brake pedal to the centre piston of its left-side three-piston front brake calliper to provide a measured balance of front brake control whenever the rear brake is firmly used.



## Equipment

Stronger pressure applied to the rear brake pedal results in just enough front brake engagement to provide a positive balance of front and rear braking forces for smoothly controlled operation. The remaining five pistons of the two three-piston front brake callipers are controlled by the hand brake lever in a conventional manner, providing reassuringly strong braking control to match the DN-01's remarkably sporty riding capability.

The DN-01 also features a handy one-touch parking brake lever for added security and peace-of-mind when stopped.

### High-Performance ABS

The new DN-01 also features Honda's advanced, compact and lightweight Antilock Brake System, which complements the responsive control of its Combined Brake System with smooth, confidence-inspiring brake operation over variable road surfaces or less than ideal riding conditions.

Operating in precisely the same way as Honda's other ABS-equipped models, the DN-01's Antilock Brake System ECU continuously monitors the small wheel speed sensor pulsar rings at the centres of the front-right brake rotor and the rear brake rotor, reacting instantly to the most minute variations in the relative speed of its two wheels. The system smoothly and precisely predicts and counteracts tyre slip before it happens, particularly when braking over uneven or slippery road surfaces. With ultra-precise control, this system maintains just enough brake pressure for smooth and steady deceleration that greatly enhances confidence in one's ability to stop quickly and surely.

Confident riding also requires strongly assured braking performance, and the DN-01's advanced Combined-ABS provides an exceptional level of smoothly responsive braking control to give both seasoned experts and less experienced riders more confident stopping power in situations where optimal braking capability is crucial.

### Honda Ignition Security System (HISS)

Like most of Honda's larger displacement motorcycles, the new DN-01 is also fully equipped with the highly capable Honda Ignition Security System (HISS), which features a fail-safe electronic interlock to prevent the engine from being started by anything other than the machine's two original keys, thus providing effective protection against ride-away theft. Designed to totally disable the engine at the very heart of its ignition system, the HISS system cannot be bypassed by hot-wiring the ignition or exchanging the ignition switch module.



## Optional Equipment

Honda Access Europe NV will supply the new DN-01 with a specially created assortment of optional accessories designed to extend its comfort, capacity and versatility. These accessories include:

- A custom-styled backrest for extra pillion passenger comfort.
- Comfortable heated handlebar grips featuring adjustable temperature and integrated circuitry to protect the battery.
- An easy-to-use Honda Motorcycle Navigation kit that finds towns, addresses, POI (Points of Interest) or Honda dealerships across Europe with 2D and 3D on-screen guidance accompanied by handy voice prompts. Integrated Bluetooth wireless technology provides in-helmet voice guidance while permitting mobile phone operation with both hands safely on the handlebars. Comes with specially designed mounting bracket and wiring.
- An amplifier with a set of two 10W waterproof speakers that allow you to plug in an MP3 player or any other portable audio device via a stereo mini jack. The volume changes depending on the speed, increase ranging from 10 to 40km/h, based on your own preference and preset. Also features a mute button as well as manual volume change during a stop and above 40km/h.
- A motion and vibration-sensitive anti-theft AVERTO Alarm system that warns off potential tamperers and thieves with a piercing wail. Low-consumption sleep mode protects the battery from drainage.
- A sturdy U-lock.
- A rugged, full-coverage cycle cover to protect the DN-01's paint against UV rays and weather.



# Specifications

General	
Model	DN-01
Mold Type	ED-type
Engine	
Type	Liquid-cooled 4-stroke 8-valve SOHC 52° V-twin
Displacement	680cm <sup>3</sup>
Bore x Stroke	81 x 66mm
Compression Ratio	10 : 1
Max. Power Output	45kW / 7,500min <sup>-1</sup> (95/1/EC)
Max. Torque	64Nm / 6,000min <sup>-1</sup> (95/1/EC)
Idling Speed	1,200min <sup>-1</sup>
Oil Capacity	4.0 litres
Fuel System	
Carburation	PGM-FI electronic fuel injection
Throttle Bore	40mm
Aircleaner	Viscous, cartridge-type mesh net filter
Fuel Tank Capacity	15.1 litres (including 3-litre LCD-indicated reserve)
Electrical System	
Ignition System	Fully transistorised electronic
Ignition Timing	12° BTDC (idle) ~ 60° BTDC (5,500min <sup>-1</sup> )
Sparkplug Type	SIMR8A9 (NGK)
Starter	Electric
Battery Capacity	12V / 12AH
ACG Output	450W
Headlights	12V, 55W x 2 (low) / 55W x 1 (high)
Drivetrain	
Clutch	HFT with internal hydraulic control
Clutch Operation	Automatic
Transmission	HFT (Continuously Variable Transmission)
Primary Reduction	1.136 (75/66)
Final Reduction	1.400
Final Drive	Enclosed shaft
Belt Converter Ratios	3.000 ~ 1.000
Frame	
Type	Double-cradle; steel tube

Chassis		
Dimensions	2,315 x 820 x 1,115mm	
Wheelbase	1,605mm	
Caster Angle	28° 30'	
Trail	114mm	
Turning Radius	3.2m	
Seat Height	690mm	
Ground Clearance	135mm	
Kerb Weight	270kg (F: 131kg; R: 139kg)	
Max. Carrying Capacity	186kg	
Loaded Weight	434kg (F: 165kg; R: 269kg)	
Suspension		
Type	Front	41mm telescopic fork, 106mm axle travel
	Rear	Single conventional dampers with 7-step adjustable spring preload, 120mm axle travel
Wheels		
Type	Front	U-section twin 5-spoke cast aluminium
	Rear	U-section twin 5-spoke cast aluminium
Rim Size	Front	17M/C x MT3.50
	Rear	17M/C x MT6.00
Tyre Size	Front	130/70 ZR17M/C (62W)
	Rear	190/50 ZR17M/C (73W)
Tyre Pressure	Front	225kPa
	Rear	250kPa
Brakes		
Type	Front	296 x 4mm dual hydraulic disc with Combined 3-piston callipers, ABS and sintered metal pads
	Rear	276 x 6mm hydraulic disc with Combined dual-piston calliper, ABS and sintered metal pads