First Impression

Honda’s All-New NC700X & NC700XD

Exciting high-tech, low-buck UJM's for the masses
by Scott Rousseau

AFTER TEASING THE MOTORCYCLE WORLD with its Crossrunner and Crosstourer concept bikes at the 2011 EICMA Motorcycle Show in Milan, Italy, Honda surprised everyone by unveiling a sort of hybrid version of the two designs, the NC700X, in 2012. Billed as a “Fun Crossover/Adventure Commuter,” it features an all-new engine and chassis, along with some of Honda’s newest technologies, such as an update of the Dual Clutch Transmission that first appeared in Honda’s VFR1200F open-class sportbike.

Needless to say we were intrigued, and now that we’ve finally been able to sample both the manual 6-speed NC700X and the DCT/Combined ABS-equipped NC700XD, we think they may rank high on the list of new Honda models released this millennium. Both accomplish the seemingly basic but extremely difficult mission of providing beginners and experts alike with fun, affordable, easy-to-ride motorcycles that excel at long-distance touring, daily commuting and even quick-paced sport riding—and all at an affordable MSRP of just $6999 for the NC700X and $8999 for the NC700XD. The Universal Japanese Motorcycle has returned in a new and exciting way.

Engine, Transmission & DCT

Honda’s NC model designation stands for “New Concept,” and the NC700X is an all-new Honda intended for global market sales. First and foremost, the NC was designed to excel in greatly diverse roles, including touring and sport riding. It also had to be attractive to new and returning riders while not alienating experienced riders. It had to be practical for commuting and easy to ride—good fuel economy and low maintenance were high on the priority list—but equally as important, it had to possess a fun-loving spirit. And it had to look good.

The concept called for a long-stroke engine emphasizing low-to-midrange torque rather than high-rpm horsepower, for everyday, real-world street riding conditions. That didn’t necessarily rule out using Honda’s existing NT700V 52° V-twin, which features a decidedly oversquare engine with large bores and a short stroke, but maintaining a low CofG was important to both the handling goals and the utility of the new NC700X, and the NT’s higher mass placement made it unacceptable for the new platform. Instead, Honda engineers created an all-new, liquid-cooled 670cc parallel-twin to power the NC700X (and Honda’s European-market NC700S and new Integra scooter, which also appeared at the 2011 EICMA show). To lower its CofG, the cylinder bank is leaned forward 62°, leaving plenty of room for an 80.0mm crankshaft firing every 270 crank degrees to swing the rods and pistons inside 73.0mm bores. The resultant power pulses emulate a 90° V-twin. A gear-driven uniaxial primary balancer cancels out both the primary and secondary vibration from the crankshaft while maintaining just enough primary coupling vibration (by design) to emit a slight throb that gives the engine more character.

The slant block engine configuration also allows a straighter shot for the intake ports, which are supplied by a single 36mm throttle body using Honda’s Programmed Fuel Injection (PGM-FI). The combustion chambers have also been carefully shaped to provide optimal power and efficiency to improve fuel economy, the latter aided even further by low-friction resin coating on the piston skirts to reduce friction losses. Single overhead cams actuate sophisticated lightweight aluminum roller rocker arms (the first to be used in a production motorcycle application) to open the four valves in each cylinder.

The NC700X and XD’s 6-speed transmissions represent an interesting dichotomy in that the XD’s Dual Clutch Transmission is both a quantum leap in technology (and price) over the X’s manual transmission and oriented more toward beginners than veteran riders. The second generation of Honda’s DCT, it uses two hydraulically controlled clutches to deliver practically seamless gear changes via the rider’s choice of two automatic modes—D for commuting or S for sport riding—or a manual mode that allows the rider to control the shifting via buttons located on the left switch housing.

But the NC700XD’s DCT has an even higher level of sophistication than the VFR1200F’s, as it now incorporates a learning function that allows the ECU to react to a variety of riding environments, such as city riding or canyon carving, and automatically perform the most appropriate shift pattern. Other changes specific to the NC700 transmission include smaller dimensions and a reduction in the number of clutch plates from 10 to six.

Chassis & Suspension

Trials bike manufacturers know a thing or two about how to build rigid, compact chassis with an extremely low CofG to mitigate the effects of vehicle weight on steering response and handling. Honda’s Montesa trials bike subdivision is among the premier trials bike builders in the world, and while it’s unlikely there was direct influence on the NC700X, the NC’s diamond-shaped, steel frame vaguely resembles a trials bike chassis when shorn of its bodywork. Its chassis mass has been further centralized by locating the NC’s 3.7-gallon gastank under the seat rather than in front of the rider. Similar to Aprilia’s 850 Mana, the void under the Honda’s faux tank panel is filled by a convenient, lockable 21-liter storage trunk that’s large enough to swallow a full-face helmet. The NC’s wheelbase measures 60.6”, 2.5” longer than the NT700V’s, but its 27° rake is tighter and its 4.3” trail is shorter for quicker steering response. Honda claims a curb weight of 474 lbs. for the NT700X and 505 lbs. for the NC700XD.

While Honda describes the NC700’s suspension as “long-travel,” its nonadjustable 41mm conventional telescopic fork and...
The NC’s 62° inclined parallel twin and steel chassis emphasizes low CoG and mass centralization for easy handling.

Honda invited us to sample both NC700 models on the backroads of Ventura County, California, incorporating twisty two-lane sections of Highway 118 and Highway 126 as well as the 101 Freeway and Potrero Road in Camarillo, an excellent route on which to get acquainted with the NC700X.

Thumbing the starter delivers a pleasant rumble, as the PGM-FI’s auto enrichener meters the fuel for clean throttle response right from start-up. From there, depending upon the model, the initial procedures are different. The NC700X’s manual six-speed version is operated in a straightforward fashion, and it has a very linear-feeling clutch and typically Honda-like smooth shifting with well-matched ratios that allow for quick starts and excellent freeway cruising manners. Engaging the DCT on the NC700XD, however, is simply a matter of releasing the parking brake, touching a button to engage the Drive or Sport modes for the transmission on the right switch housing and then rolling on the throttle to initiate acceleration.

With its redline set at just 6200 rpm, the NC’s parallel twin is no screamer, but short-shifting the engine to keep it in the torque band comes very naturally, and the DCT does it automatically when in Drive mode anyway. The NC’s fuel-injection and throttle response are excellent, and the engine delivers spritely acceleration with more than enough top-end thrust to keep up with anything at highway speed. It’s also efficient. Honda claims an estimated fuel economy of 64 mpg for the NC700X and 61 mpg for the NC700XD, a healthy range of at least 225 miles for either.

The DCT’s cruising performance is just like an automotive transmission’s. Simply roll on the throttle and it upshifts to meet your acceleration needs. Need to pass traffic? Just snap the throttle open, and the DCT will drop down a gear to increase your drive. When coming to a top, it also downshifts back to first automatically, even in Manual mode. It’s a complex system, but it truly makes life easy for the rider.

Sport mode basically allows the engine to hold more rpm between shifts for a livelier performance feel than Drive mode, but at that point most people would probably prefer to simply toggle the DCT into Manual mode, which allows user-determined upshifts and downshifts—to a point. The DCT will suspend downshifts until enough rpm is bled off to avoid the engine bumping the rev limiter. That might frustrate expert riders who will sometimes intentionally overrev an engine on the downshift when riding aggressively, but that’s why there’s a manual transmission version, too! Our take on the DCT is that it is well worth the extra money for new riders or riders graduating to a full-sized motorcycle, as it is initially very forgiving yet flexible enough to remain viable as rider experience and ability increase.

The NC700’s agile handling deserves high marks, and it exhibits excellent straight-line stability and light-and-precise steering through fast or slow corners. Solid road feedback from its front tire is plenty confidence inspiring for new riders, and the NC will entice experienced ones to ride it hard. The only real hindrance might be in the NC700’s suspension, which is sprung too softly for full-tilt canyon carving. However, it still offers a surprising amount of control at increased speed, and unlike many motorcycles that offer minimal adjustability and somehow always leave us wishing that we could tweak a non-existent adjuster to improve suspension action, the NC700X is practically dialed-in.

The NC700’s brakes deliver excellent feel and acceptable stopping power, and we found ourselves taking full advantage of the Combined ABS system on the XR, which links the brakes from front to back by engaging that aforementioned third piston on the front caliper when the rear brake pedal is depressed. It’s subtle, and it doesn’t upset the fork if the brake pedal is stomped hard.

The NC700 offers a roomy cockpit with a comfortable reach to well-placed handlebars, which allow the rider’s torso to remain upright, decreasing fatigue over the long haul. Its 32.7” seat height is roughly .5” to 1” taller than most large streetbikes and nearly 1.4” taller than the NT700V. It didn’t feel uncomfortably tall to our 30” inseam, 180-lb., tester, who had no difficulty getting a foot down securely when at rest, but shorter-legged or less-confident riders might have an issue with the seat height, and Honda currently does not offer a lower seat option. Speaking of the seat, it was our only negative issue with the NC. We’d prefer a flatter shape, even if it meant adding height to the front of the saddle area. Its sloped profile, combined with the rearward positioning of the rider footpegs, can become uncomfortable too quickly.

Final Thoughts

For anyone from first-time buyers to mature touring riders, the NC makes a heck of a lot of sense. Its light, fun, practical and affordable, although not off-road capable, so we’ll have to keep our fingers crossed for a version with wire wheels, a 19” or 21” front hoop and more aggressive tires. In the meantime, we fully expect the NC700X and NC700XD to deliver a lot of smiles per mile in the asphalt jungle.