

## FEBRUARY 1986,



## THE COVER

Karel Kramer's camera gets caught in the crossfire of Rick Johnson and Ron Lechien on the new Honda and Kawasaki 250 MXers. Which bike wins Miss Kitty? See page 50. We also test the Kawasaki KX80-G1 and the Husqvarna 400 Cross Country in this issue.

P.S. Kay and Sigrid wish Rick and Ron a happy Valentines Day.



# 400 CROSS COUNTRY

Midsize convenience and civility with Open class performance.



### HONDA CR250R vs. KAWASAKI KX250-D2

Ricky and Ronnie duel these '86 "factory" racers to the death.



## KAWASAKI KX80-G1

An all-new mini likely to be the same old class leader.



#### SCORE **BAJA 1000** A tarnished clash of titans.

RODIL TROPHY SUPERCROSS Hulk Hogan would've loved it.

PIT PASS 33

Nearly a decade between titles for Mr. Simons.

COMPETITION 34 CALENDAR HANNAH'S RACING TECHNIQUES

MINI POSTER

## तंत्राणास्ड

MALCOLM TRAIL RIDING TIPS Part II: Weighting and unweighting.

**DUCT TAPES** Hertfelder comes

face-to-face with Michigan soil.



#### FAT TRACKS

Honda's new FourTrax 200SX gets all four wheels ridden off it.

43 SERVICE DEPT.

Pro-Tec and Yamaha performance mods for the IT200.



#### '86 CAGIVAS

The Italian manufacturer is gunning for wins this year.

TRAIL RIDE 48 Find new ground from your kitchen



#### WHEELIE TIPS II

Doug Domokos' own practice tips and tricks.

## BIE GIVENIA

400 CROS COUNTRY

Wheelie it right into your garage!

## MERVIEW



#### SCOTT HEAD

America's undefeated National trials champ.

## DERMINENS

DIRT WRITER Travels with Charlie.

LETTERS Our readers can write, too.

HUSQVARNA ENDURO TIPS Cambers.

TRAINING Knee jerks.

MASTER LINK Johnson, Glover & Lechien.

TRAIL TIPS 18 Hints and how-tos.

PRODUCT EVALUATIONS New news.

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Your marketplace. BEST TEST

Plus info on how to send for back issues.

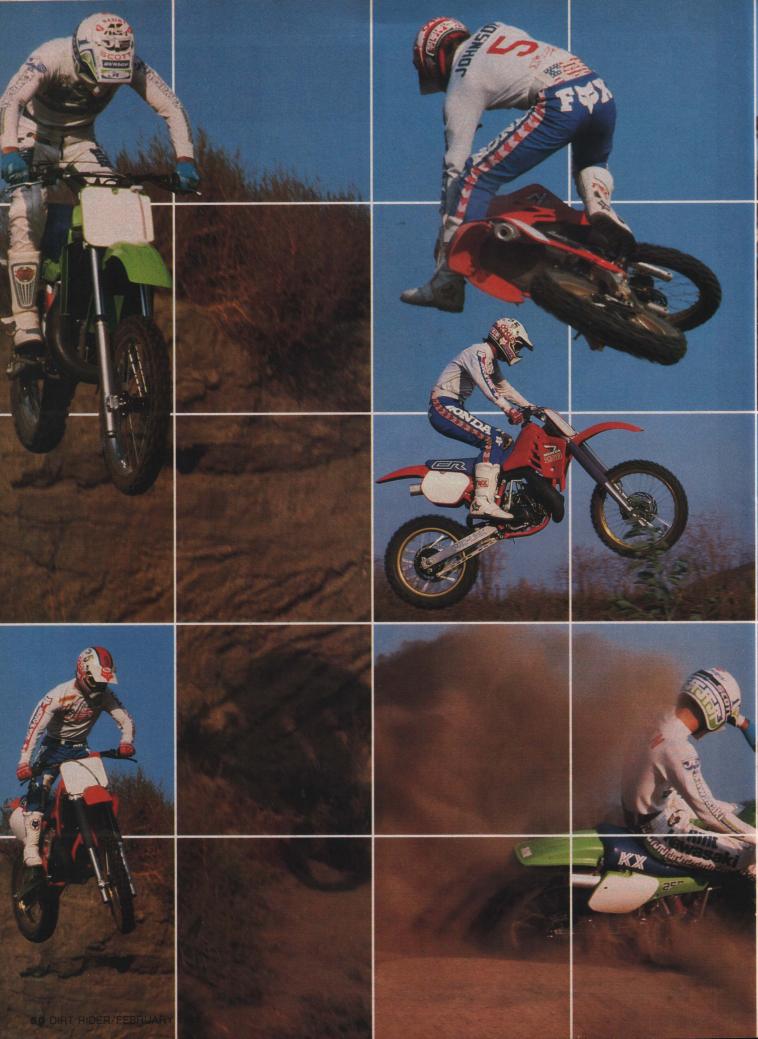
GEAR BAG What to stuff in yours.

TEAR OFFS Our "Details" page gets a makeover.

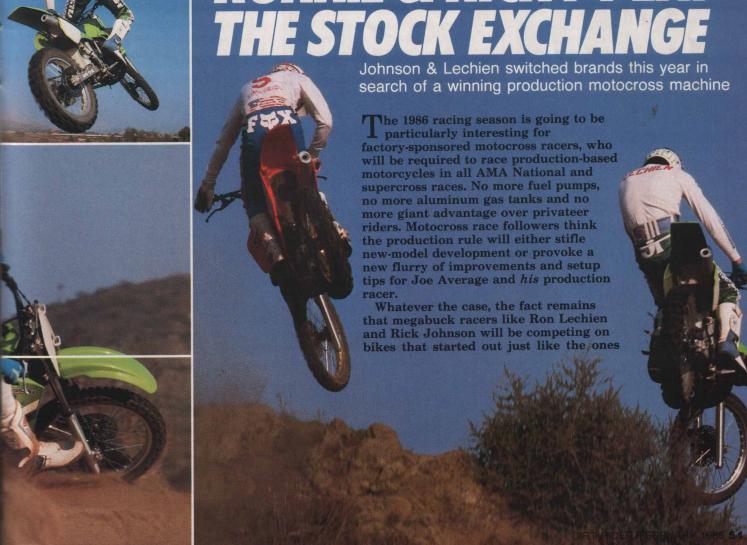
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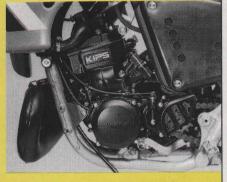






# JOHNSON & LECHIEN'S '86 "WORKS" BIKES

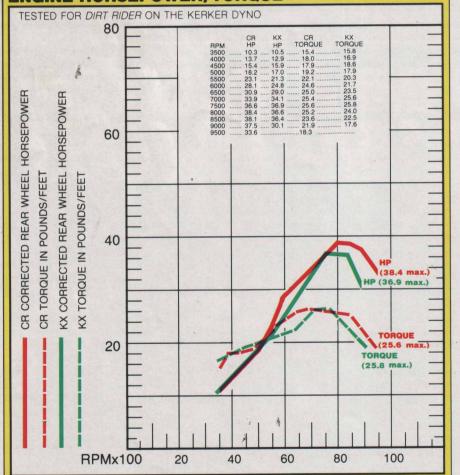




The Honda Power Port involves a lot of moving parts, but it gets the job done.

The KX250 pipe was modified for increased midrange performance.

#### **ENGINE HORSEPOWER/TORQUE**



## REDLINE REPORT

Where does the Honda beat the Kawasaki in the engine department? Everywhere. The Honda has more horsepower down low, in the midrange and at high revs. The biggest jump for the Honda comes at 6000 rpm, where it gains 9.9 horsepower in 500 rpm—3.3 more horsepower than the Kawasaki. At peak horsepower output (8000 rpm for both bikes), the CR250R surpasses the KX250-D2 by almost two ponies. In this case, the Honda not only has more peak horsepower but also the best midrange. That's a combination that'll be hard to beat.



Double jumps were easiest on the Honda because of its low-rpm power.

you can buy down at the corner motorcycle store. It's an exciting development, one that must be partly responsible for many of the top riders switching to other factories in search of a better production-based racer.

The factories knew the AMA was instituting a production racing rule, so they went all out to develop the best bikes they could for the 1986 season. No model is unchanged. Honda and Kawasaki have a particularly keen interest in the 250cc class, evidenced by their recent hirings of Rick Johnson and Ron Lechien, respectively.

The result is radically improved motorcycles on dealers' showroom floors. Engines have been revamped, suspension reworked or redesigned, frames altered, riding positions improved and reliability strengthened.

But it's a harsh world out there. In a race or a shootout, there can be only one winner.

We landed Ron Lechien on the Kawasaki and Rick Johnson to fly the Honda at one of their practice areas in Southern California for our color photo session. The next day, we drove 150 miles north to ride both bikes on a home-built supercross track. The day after that, we went to the Petersen Ranch for outdoor motocross testing and more supercross "rockers." Topping our cast of thousands was Willy Simons, the 1985 Trans-Cal 500cc champion, who got a chance to throw a leg over both bikes.

Willy's first (and lasting) impressions were shared by most of our testers. He said he felt more comfortable on the Kawasaki because it is smaller, though taller riders felt disadvantaged by its size. Willy thought he was turning faster lap times on the KX and was shocked to find he was faster on the Honda by a firm one to two seconds a lap! On the supercross track, the Honda's healthy low-end burst of power enabled riders to get out of corners quicker and with less fuss. Clutch work was not foremost on the test riders' minds while aboard the CR. Double jumps preceded by a tight turn were easily cleared thanks to the Honda's ability to build up speed quickly. Gearing was perfect for supercross or tight tracks.

On the Kawasaki, riders had to work harder to achieve the same speed they reached on the Honda. It *felt* faster but really wasn't. The KX engine is more of a revver and requires a more intimate relationship with the clutch lever. On a tight track, it often seemed that second gear was too low and third gear was too high—a good reason to play with the final drive gearing.

On our outdoor motocross track, however, gear spacing wasn't a problem with either bike. On a more open track, the Kawasaki seems right at home while the Honda suffers a bit because it doesn't want to rev out as far as the KX. Despite the differences in power delivery, the two bikes are equal in engine performance on a fast track.

The suspension on both bikes is much improved over last year. The KX has a new, bigger shock and a stronger strut adjuster. The shock adjustments are identical to last year's 250, with knobs for low- and high-speed compression damping. Rebound damping is also externally adjustable. We achieved our best results with the Kayaba shock set for about four inches of chassis sag, the low-speed compression damping knob set eight clicks out from fully bottomed (there are 12 settings) and the high-speed compression damping set on number two (there are four set-

The Petersen Ranch outdoor motocross track was again pressed into service.



tings). The rebound damping has 12 clicks available; we set it at eight clicks out from fully bottomed.

The Kawasaki's fork gave us more problems in setup, however. We set the compression damping adjustment (located at the bottom of the fork legs) at five clicks out from fully bottomed (there are eight clicks available). We tried the preload adjustment at all three settings but were never satisfied because the stock springs weren't stiff enough. We then installed a set of ATK fork springs rated at 20 pounds per inch, and although testers felt they were an improvement over the stock springs, they still complained about mushiness in the middle part of the suspension's travel. Slightly stiffer springs and more preload should help fork performance considerably.

The Honda's fork also suffered from wimpy springs. Once stiffer springs (21 lb./in.) were installed, however, the entire range of travel was perfect. None of our testers wanted to alter the CR250R's oil level or viscosity, compression damping settings or add more preload (much more of a chore on the Honda).

The Honda's rear suspension didn't get one squeak of complaint from either novices or pros. The CR250R's rear suspension is plush on small bumps, responsive on medium bumps and it cushions large jolts with ease. The best news is that the shock appears durable, even under pro-level abuse, with only occasional rebuilds. This could save many racers a lot of money. (Have you priced aftermarket shocks lately?)

This is not to imply that you'll have to go out and spend tons of money on the Kawasaki—far from it. Both bikes are state of the art and come with everything you need to win races.

Both the CR250R and KX250-D2 were raced during the course of this test. Willy rode the Honda in the Rodil Trophy supercross with only the suspension changes we mentioned and Dunlops. The bike was plenty fast compared to other top expert-level bikes, and the suspension appeared to work well when observed from trackside. Willy thought the suspension was so well dialed that he politely declined Showa's offer to work on the fork.

The Kawasaki was raced by three different riders at another event. The KX250-D2 withstood the abuse of six motos in one day, carding three firsts, two seconds and an eighth. Second-gear starts were the order of the day.

Sometimes races are won by photo finishes. Sometimes shootouts are won by splitting hairs. We're going to call the Honda the winner of this shootout for the simple fact that it comes out of the crate just a little bit closer to perfection than the Kawasaki, but we'd happily race either one.



Ranch "black hole.





The CR offers precise steering and a narrow package for berm blasting.

	u i operen
Make/model	Honda CR250R
	rame: JH2ME0304GC800041
	Engine: ME03E2800017
Price	\$2598
Number of dealers (U.S.)	)1700+
Warranty	None
Customer service	American
	Honda Motor Co
	100 W. Alondra Blvd.
	Gardena, CA 90247
	213/327-8280
PARTS/COST	
PARTS/COST Maintenance manual	\$20.75
Corpurator late	
Carburetor jets	Pilot jet—\$4.26
	Needle jet-NA
Sprockets	Front—\$10.53
	Rear-\$32.15 Right-\$5.25
Handlebar levers	
	Left—\$5.28
Shift lever	\$20.13
Piston kit (complete)	\$48.93
Rings only	\$13.70
Cylinder	\$155.05
	NA
	Friction (7)—\$4.64 ea.
	Steel (6)_\$3.49 ea
Air filter	\$26.65
Brake shoes	Front-\$9.00 ea.
	Rear-\$6.00 ea.
	11ear - \$0.00 ea.
	\$60.15
	Front—\$20.00
renders	
	Rear-\$14.94
Cables	Throttle—\$6.29
	Clutch—\$6.95
	Front brake (hose)—\$37.19
OPTIONS	
Seat(0.1	9 in. or 1.5 in. lower)-\$64.65
Fork springs	(stiffer or softer)-\$21.27
	(stiffer or softer)-\$54.65
	10. 0. 00.00, \$04.00



#### **HONDA CR250R**

ENGINE	
TypeLiquid-cooled, two-stroke	single with reed valve
Displacement	249.3cc
Bore x stroke	66.4 x 72mm
Compression ratio	9.0:1
Horsepower/rpm (measured)	38.4 @ 8000 rpm
Torque/rpm (measured)	25.6 @ 7500 rpm
Carburetion	38mm Keihin
ExhaustSteel, single exhaust in	nto aluminum silencer
Ignition	CDI
LubricationPremix	(20:1 recommended)
Air filtrationOiled polyur	ethane foam element

#### DRIVE TRAIN

Transmission	Five-speed
Primary drive	3.000:1 (gear)
Final drive	3.786:1 (14/53)
Gear ratios (internal)	1st 1.800:1
	2nd 1.389:1
	3rd 1.150:1
	4th 1.000:1
	5th 0.870:1

#### CHASSIS

Frame	Steel, semi-double cradle
Rake/trail	27.5°/4.4 in.
Front suspensi	onShowa 43mm leading-axle air/
	spring fork, 12.0 in. travel (claimed)
Rear suspension	onPro-Link with Showa remote reser-
voir gas/oil sho	ck, 18-position adjustable compression
damping, 20	6-position adjustable rebound damping,
infinitely va	ariable preload, 12.6 in. travel (claimed)
Brakes	Front-Twin-piston caliper disc
	Rear-Single-leading shoe drum
Wheels	Front-1.60-21 Takasago
	Rear-2.15-18 Takasago
Tires	Front-80/100-21 Bridgestone M43
	Rear-110/100-18 Bridgestone M42

#### MEASUREMENTS Weight (wet, no fue

weight (wet, no luci).	
Weight (wet, tank full	)235.5 lb.
Weight distribution	107.0/116.5 lb.
	(48/52%)(Fr/rr, wet, no fuel)
Weight distribution	113.5/122.0 lb.
	(48/52%)(Fr/rr, wet, tank full)
Wheelbase	58.3 in.
Fuel capacity	2.0 gal.
Reserve capacity	No reserve
Sound test	108 dbA
Ground clearance	13.4 in.
Seat height	37.8 in.
Swingarm length	25 in.
Swingarm pivot to	
center of countershat	t2.5 in.



#### KAWASAKI KX250-D2

<b>NAWASANI NA</b>	(250-02
ENGINE	
TypeLiquid-cooled, two-stroke	
Displacement	249cc
Bore x stroke	
Compression ratio	
Horsepower/rpm (measured) Torque/rpm (measured)	36.9 @ 7500 rpm
Carburetion	
ExhaustSteel, single exhaust in	nto aluminum silencer
Ignition	(32:1 recommended)
Air filtrationOiled polyur	ethane foam element
DRIVE TRAIN	
Transmission	Five speed
Primary drive	
Final drive	3 428:1 (14/48)
Gear ratios (internal)	
	2nd 1.764:1
	3rd 1.388:1
	4th 1.136:1
	5th 1.000:1
CHASSIS	
FrameSingle-downtube stee	semi-double cradle
Rake/trail	28°/4.7 in.
Rake/trailKYB 43mm le	eading-axle air/spring
fork, 11	.8 in. travel (claimed)
Rear suspensionUni-Trak with	KYB remote reservoir
gas/oil shock, four-position a	
compression damping,	
low-speed compression	
adjustable rebound damping, infin	
BrakesFront—single-piston cali	2.6 in. travel (claimed)
Rear—Single-piston call	
Wheels	
Wildels	Rear-2.15-18 D.I.D
TiresFront-80/100	
Rear-110/100	18 Bridgestone M22
MEASUREMENTS	
Weight (wet, no fuel)	225 5 lb
Weight (wet, no iden)	
Weight distribution	
(49/519	%)(Fr/rr, wet, no fuel)
Weight distribution	118/123 lb.
Wheelbase (49/51%	(Fr/rr, wet, tank full)
Wheelbase	58.3 in

.25.2 in.

..2.5 in.

Wheelbase
Fuel capacity
Reserve capacity
Sound test
Ground clearance



Make/model	Kawasaki KX250-D2
Serial number	Frame: JKAKXMD10GA005048
	Engine: KX25DE005102
Price	\$2549
Number of dealers (U	J.S.)1400
Warranty	None
Customer service	Kawasaki Motor Corp.
	P.O. Box 11447
	Santa Ana, CA 92711
	714/540-1600

PARTS/COST	
Maintenance manual	\$6.95
Carburetor lets	Main jet-\$3.71
	Pilot jet -\$3.55
	Needle jet-\$10.16
	Needle-\$6.29
Sprockets	Front—\$16.96
	Rear-\$52.00
	\$7.06 ea.
	\$20.94
	\$38.35
Rings only	\$12.94 \$217.35
Cylinder	\$217.35
	\$58.84
Clutch plates	Friction (8)-\$6.72 ea.
	Steel (7)—\$3.64 ea.
Air filter	
Brake shoes	Front-\$16.08 ea.
	Rear-\$31.00 set
Chain	
Seat	
Fenders	Front—\$39.53
	Rear-\$19.64
Fuel tank	
Cables	Throttle—\$10.64
	Clutch—\$9.82
	Front brake (hose)—\$55.33

OPTIONS None



Willy Simons felt at home on the KX and started his antics within minutes.

## TECHNICALLY SPEAKING



Quality controls mark the Honda 250, but some testers didn't like the handlebar.

#### **HONDA CR250R**

Cubic dollars have gone into the development of the new CR250R. Although the bike looks similar to last year's effort, the 1986 250cc Honda motocrosser is, in fact, a very different machine.

The 250 received most of the improvements that were highlighted in our '86 CR500R test (Dec. '85): the cartridge-type Showa fork, longer Pro-Link piece for more progressive rear suspension, added gussets and longer welds, wider rear brake shoes, three bearings in the rear wheel, a larger airbox and air filter, gold rims and Bridgestone M41 and M42 tires.

In addition, the Honda CR250R has thicker-walled tubing in the frame's backbone, and the frame area where the swingarm mounts has been

beefed up as well.

Almost all the other changes are in the engine department. The CR250R has the same 72mm stroke, but the bore was enlarged to 66.4mm to give the bike a displacement of 249.3cc. The cylinder is Nikasil-plated to help dissipate heat and allow cylinder/piston clearance to be closer. A Nikasil-plated cylinder is theoretically more durable, quieter (because of the closer tolerances) and more resistant to seizures. That's a good thing, because if the 1986 CR250R ever seizes, it's time to buy a new cylinder. At \$155 a cylinder, you'd better be *sure* about that leaner jet you were going to put in. Also, our tuners tell us that extreme care must be taken when porting the cylinder because the plating can chip if it's not done correctly.

Speaking of porting, the ports on the new 250 are completely different from last year, largely due to the new Honda Power Port. The HPP is a variable-size exhaust port that is changed mechanically by a complicated mass of swirling balls and other parts that work with centrifugal force to change the port height. The result is an exhaust port that is 1.3 times larger after the port opens fully. The HPP is basically an on/off switch: It starts opening at 6500 rpm and is fully opened within 200 rpm. The variablesize exhaust port gives the Honda a variable compression ratio, although it is still higher than it was last year. Honda says the ratio is 9.0:1, but at a lower rpm the engine could be operating at 10:1. That's why Honda recommends using high-octane gasoline.

Along with the new port arrangement comes new timing, a new pipe, a new reed valve shape and a larger carburetor. The old 36mm Keihin has been replaced by a 38mm Keihin that uses a narrower intake tract. This combination supplies plenty of volume without losing velocity.



— The Honda's front disc brake is slotted to look like the factory bikes.

The Pro-Link suspension is further refined and more progressive.



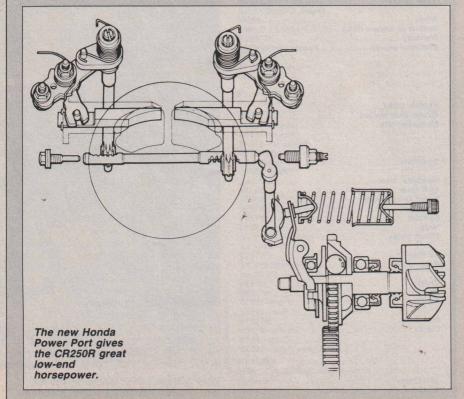
#### KAWASAKI KX250-D2

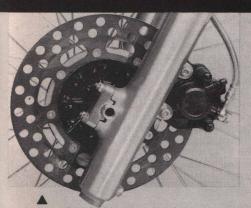
Only hermits have not heard that Kawasaki had a stellar year in 1985. Jeff Ward rode factory Kawasaki 250s to championships in both the 250cc Nationals and supercross series. Kawasaki spent a lot of time and money in product development for the production bikes that Ward must race this year.

The new KX250-D2 is one of the mostchanged Kawasakis ever. It has new everything. The engine saw a great deal of change, starting with a milled cylinder head (0.2mm) to reduce the squish area and increase the compression ratio to 10.4:1. The intake ports were enlarged, and the previously bridged exhaust port now has a single opening. The two KIPS (Kawasaki Integrated Power-valve System) subports were enlarged, and the KIPS valve opening diameter was increased from 12 to 15mm. The KIPS governor was improved for more accurate operation, and the eightpetal reeds are now carbon fiber instead of the old epoxy resin.

The jetting was changed, as was the ignition timing. A hotter NGK B9EG spark plug replaces the B8EG. After Kawasaki sorted all this out, they redesigned the exhaust system for more midrange power.

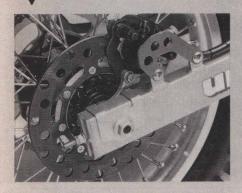
The clutch-release mechanism was also improved, and we're happy to say that we didn't notice any of the squealing noises we've become accustomed to





An 8.7-inch diameter disc brake controls the front end of the KX250-D2.

The Kawasaki's rear disc brake is top-notch and never fades.



on older Kawasakis. Shifting is more positive, too, with the new square-edged dogs on third and fourth gears.

The suspension was helped by the new Travel Control Valve (TCV), the star feature of the Kayaba fork. The TCV is incorporated into the compression damping adjustment and makes the damping progressively stiffer as the fork is compressed. You can adjust the TCV simply by turning the screwdriver slots on the bottom of the fork legs. The rear suspension received its fair share of attention, too, with a bigger shock body and rod. The Uni-Trak adjusting bolt diameter was enlarged by two millimeters.

The 7.5 in. rear disc brake is an obvious change. The disc brake won't be as affected by water or heat as the drum brake was, and the Kawasaki's disc is more powerful than a drum brake and has just as much feel.

"Feel" is something that Kawasaki is evidently concerned with, since they offer an optional taller seat and a handlebar that you can adjust to mount farther from you.

The rider's position on the bike has been revamped so that everything is farther forward. The handlebar has been moved 10mm forward and the seat and gas tank 15mm forward. The seat is 15mm narrower at its widest point, the footpegs are 10mm longer and the front fender is 10mm wider. All in all, this year's KX250-D2 is an easier and more comfortable bike to ride.





# OPELONS

Both bikes are excellent—I hate to have to call a winner. The Kawasaki feels short and squat, and since I'm short and don't like sitting way up on top of a bike, I prefer its seating to the Honda's.

I also felt faster on the Kawasaki, although when I was timed I was actually faster on the Honda. That may be because I'm currently riding a Honda and am more in tune with the bike, but I'm willing to bet that it's also because of the Honda's better lowend response. Since you aren't screaming the engine so much, it seems as though you aren't going as fast. Maybe the Honda just requires less work to ride fast.

Either way, when I loaded up for the Rodil Trophy supercross, the Honda was in my truck.

-Willy Simons

Age/Ht./Wt.: 24/5'7½"/150 lb.
Motorcycle(s) currently raced/ridden:
Honda CR250R
Riding ability: Pro motocrosser,
1985 500cc Trans-Cal champion

Guys like Rick Johnson and Ron Lechien are going to have to race production bikes in the Nationals and supercrosses this year. After extensively riding the Honda CR250R and Ka-

wasaki KX250-D2 (one of the many benefits of my job), I don't think either Rick or Ron has anything to worry about. With the factories' help, they'll have these bikes dialed in no time flat.

But for the average rider, I believe the Honda comes closer to perfection in stock form. The low-end punch makes it easier to ride and, once stiffer fork springs are installed, the suspension is excellent.

Handling is probably the single best thing about the CR250R: It turns well, jumps well and slides well. It's my choice for the winner in an extremely close test.

-Bob Carpenter

Age/Ht./Wt.: 25/5'9"/190 lb.
Motorcycle(s) currently raced/ridden:

Honda CR500R, Husqvarna 430AE Riding ability: Expert

Honda's improved CR250R works commendably well, but for me, the 250 Kwacker works better. Out of the crate, both motors deliver competitive, usable ponies, yet the KX, despite its horsepower disadvantage, hits harder and hooks up better than its red-framed foe. The difference here has to do with the KX's superior (for my size, at least) suspension.

Both machines are sprung too softly from the factory, but the KX responded better to trackside fiddling. A set of stiffer fork springs and some

compression damping adjustments transformed the green meanie into a machine capable of winning in novice or expert hands. The Kawasaki's ergonomics suited me better than the Honda's, so flicking the KX through the air or changing line in mid-corner was a simpler affair.

Both machines work exceptionally well on the racetrack and both will win their share of trophies and cash. But the KX felt better—and when there's money or trophies on the line, the rider who feels more comfortable on his or her machine is going to go

-Mitch Boehm

Age/Ht./Wt.: 23/5'11"/185 lb.
Motorcycle(s) currently raced/ridden:
Honda CR500R
Riding ability: Novice motocrosser

Willy said the small-feeling KX250-D2 was easy to move around on.

