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HUSQVARNA 430 CR

Husqvarna engineers may be marching to a different drummer, but judging by the results of their work they're listening to some pretty snappy music.

PHOTOGRAPHY: ANDREW D. BERNSTEIN

● IF WILLIAM JAMES RODE MOTOCROSS, HIS friends would probably call him Wild Willie, or something like that. He'd probably also ride a Husqvarna. You see, Wild Willie developed the idea of pragmatism. "Whatever works," he was likely to say, without regard to what the fashion apes were chattering about.

Husqvarna has pragmatically followed its own course for the last few years, and the results have never been more distinct in comparison to what's on the market. Honda has bumped its 450 to a 480; Yamaha its 400 to a 465, then to a 490; Suzuki its 370 to a 417 to a 465; and Maico has jumped all over, producing a 501, a 400, a 440 and now a 490.

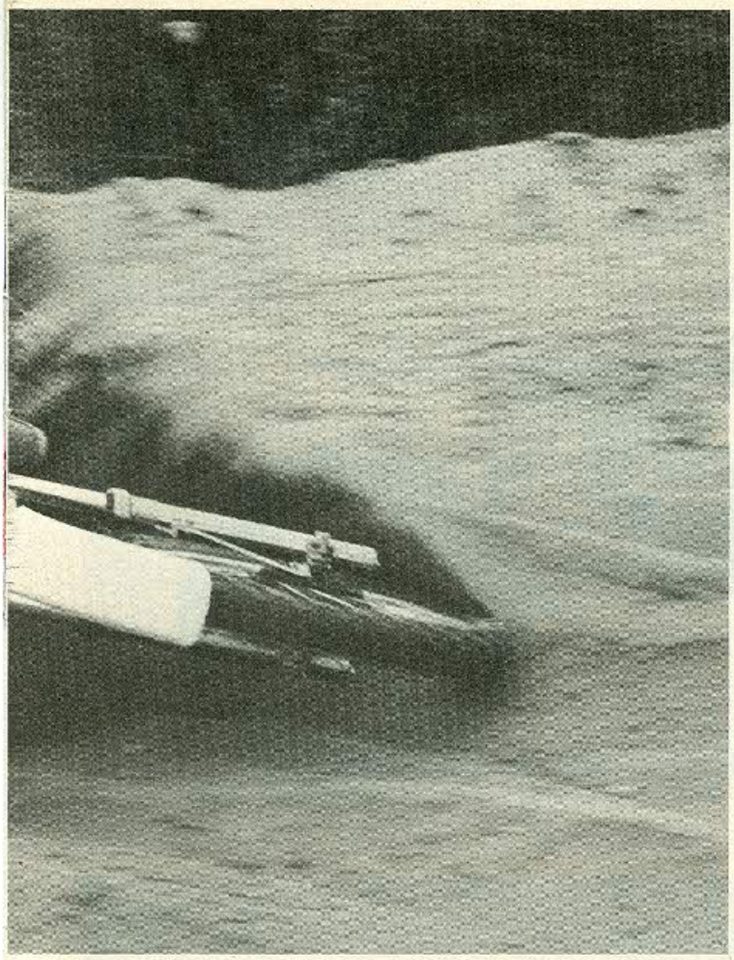
Though Husqvarna has offered its share of different-displacement open-classers, the company has tended to change more slowly and follow its own development rather than the trends. That's why it's not surprising that they now manufacture a bike that's out of the mainstream: it's the smallest-displacement big-bore motocrosser available in the U.S. In regard to performance,

though, never mind about engine size, because the 430 cranks out open-class power in formidable chunks.

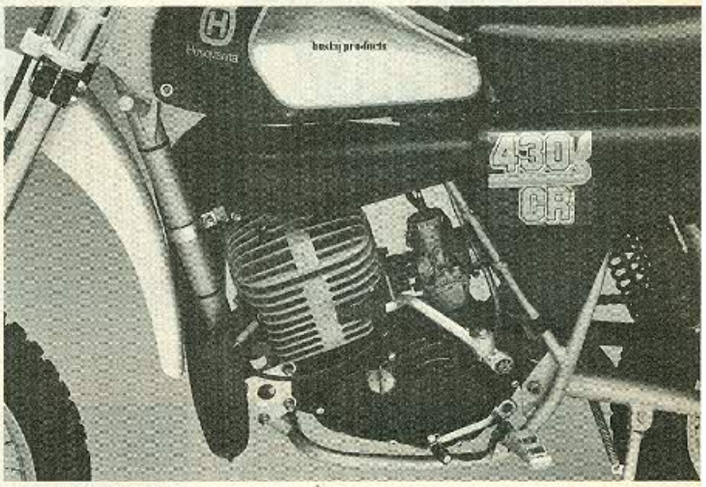
Husqvarna's chassis engineers tune in to the same wavelength. They studiously developed the best dual-shock setup back when everybody except Yamaha featured two-shock systems. The transition is now nearly complete: Yamaha, Honda, Suzuki, Maico, Kawasaki and KTM have all developed single-shockers. Husqvarna, the last holdout, has retained what they know works—the tried-and-true Ohlins dual-shock rear end.

Don't think for a minute, however, that Husqvarna engineers haven't been busy. On the contrary, an abundance of engine and chassis refinements combine to make the 430 CR better than ever. Chief among these are the cylinder/pipe updates. The factory has slightly shortened the expansion chamber's head pipe (20.0mm) and raised the exhaust port (2.0mm) to produce both better mid-range and top-end.

In regard to the crankcases, the engineers have finally figured that there's value in primary kickstarting. They've redesigned the transmission to allow starting in any gear with the clutch in. (Finally you aren't relegated to last when you stall during a moto!) While they were busy with the transmission, they modified and strengthened the clutch basket.



The stable handling of the slow-steering CR aids maneuvering into rough turns; the 430 gets in with a minimum of upset, allowing precise placement for a fast exit down the next straightaway.



The actual crankcases have been beefed up at the points through which the swing-arm pivot bolt passes. Husqvarna has added to the area where the ignition backing plate mounts so it is more secure. The internal changes for the switch to primary kick called for a new primary cover, and Husqvarna added a new holder for the kickstart lever while they were at it.

Equally important in terms of general refinement are the chassis and suspension updates. Husqvarna's engineers tapered the top of the fork damping rods (to match the tapered bottoms) to help prevent harsh topping. They also tried to cure the age-old and infamous Husqvarna fork-seal problem. First, they polished the tubes to provide better mating surfaces for the seals. Then they (once again) modified the seals themselves, this time switching to a better interior seal spring, hoping they would indeed seal.

The fork modifications don't work. On our test bike the seals leaked oil profusely, and eventually the top seals (there are pairs of seals in each leg), cocked and almost came out. After that, fork performance deteriorated rapidly. Annually there's word going around about why the seals leaked *this year,* and for '82 the rumor is there's a machining problem with the stanchions. Whatever the real reason, we know you'll have to attend to the problem before you race.

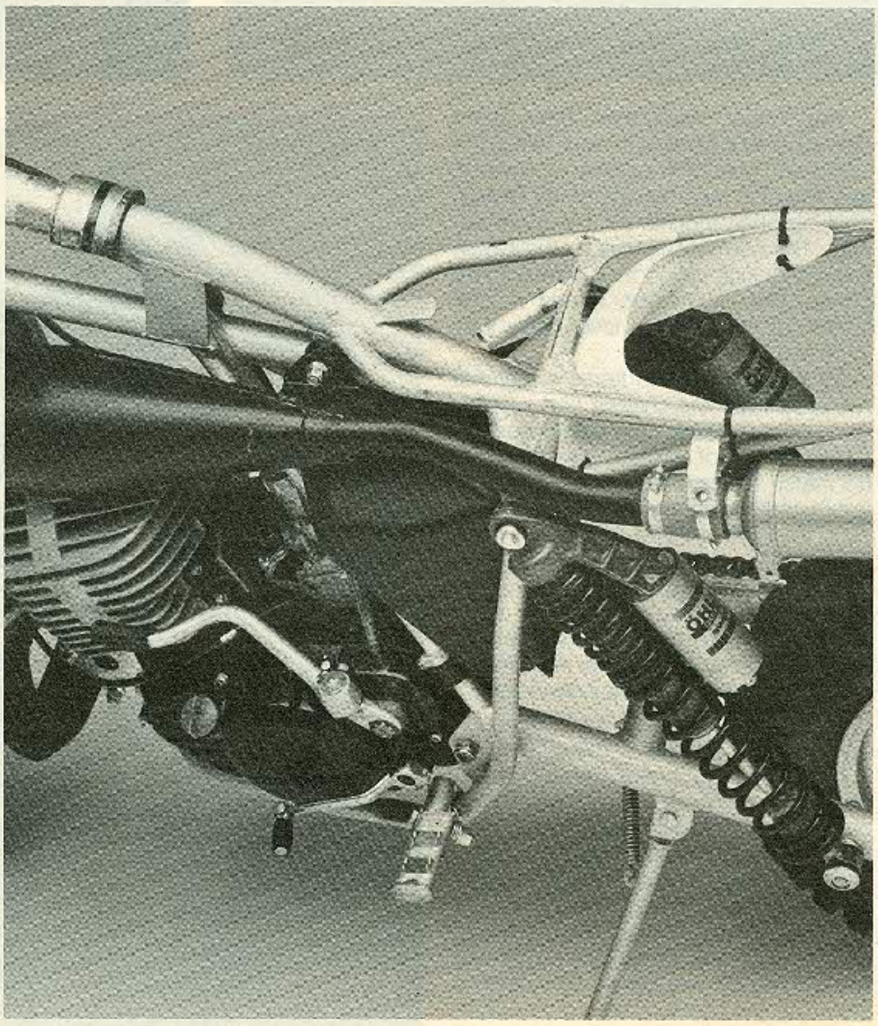
HUSQVARNA 430CR

We fixed our test unit by picking up a pair of Kawasaki KZ1000 fork seals (part #92049-1045) and installing them with Yamabond #4 to make sure they stayed in place. Note, though, that we had a problem with only the top seals; we left the bottom seals alone. The Kawasaki seals are a straight press-in fit, and there wasn't any problem with our bike after we installed them.

Husqvarna also redesigned the rear wheel hub to equalize the length of all spokes. This allows for more uniform tension, and it spreads loads evenly.

The CR's 430cc engine doesn't have the sheer horsepower of its classmates but, thanks to its generous flywheel effect, it delivers smooth, tractable power. That offers several benefits. The smooth power delivery combines with the strong low-end and mid-range to allow you to drive off turns as hard as with the most powerful open-class bikes. It also helps when the track surface is something other than standard. When the traction is above average, the CR behaves predictably; you can use full throttle and simply float the front end out of corners. Smooth power delivery is even more important on a slippery surface, and that's where the 430 shines.

While most manufacturers choose four- and five-speed transmissions for their big-bore motocrossers, Husqvarna equips the 430 CR with a six-speed. Either is a compromise, and each has benefits. Four-speeders are lighter and less



expensive than six-speeders. But you're likely to have to carry an assortment of countershaft and rear sprockets with you to get your four-speeder geared correctly for different tracks. A six-speeder like the Husky may be slightly heavier and more expensive to produce initially, but you can be assured the stock gearing will be fine for any course you're likely to race. That's the toss-up; fastidious riders will probably favor the four-speed, and practical riders the six-speed. Gearbox actuation is good, but the shift lever throw is excessive and shifting requires long, deliberate foot movements.

Some of our testers believe the left-side kickstart lever is awkward, but the 430's high ratio of engine revs to lever throw gets the engine spinning fast enough that it generally starts more easily than the average open-class motocrosser. Practically speaking, if the CR stalls during a race the rider must dismount to kick the bike into life with his right foot—while vital seconds slip away.

In stock configuration, our CR's large #440 mainjet allowed excess fuel into the engine, which caused it to four-stroke at about half-throttle with the engine under load. After many jet changes, we ended up with a #370 main. This enlivened the 430, adding considerably to the low-end and allowing the CR to run at full throttle without choking on excess fuel. We set the jet needle in the middle (#3) position. Of course, different conditions require different jetting, and we mention this to emphasize that you must fine tune to enjoy maximum performance.

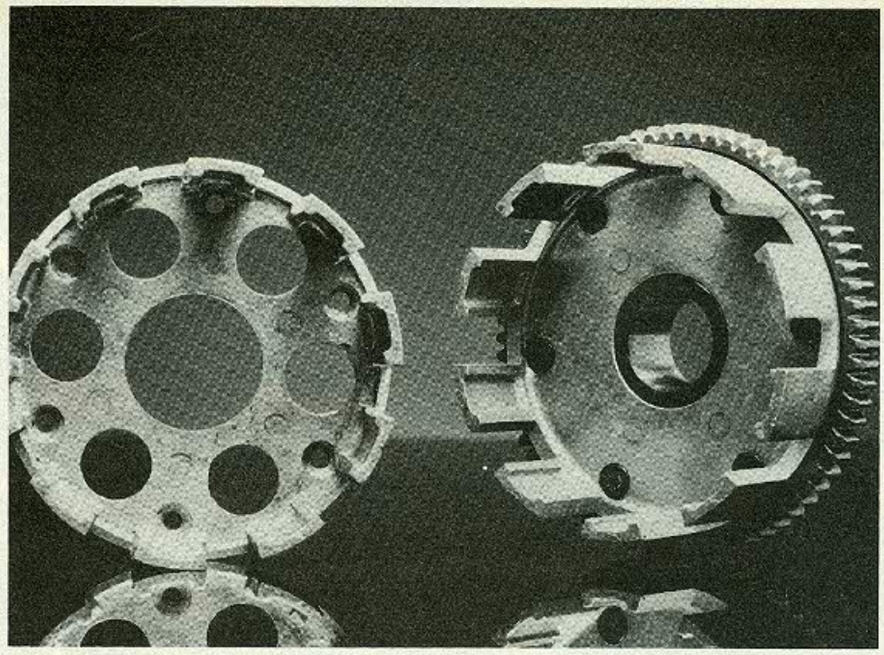
The CR steers slowly. While it's true that slow-handlers generally sacrifice precision in tight corners for overall stability, it's also true that rock-steady manners aid stability in very tight, very rough corners. For example, when you enter a very rough turn, quick-handlers often wag the bars and hop all over, making accurate steering difficult. The 430 CR maintains its composure, allowing you to enter that turn much faster and get down the next straight with that much more speed. In all turns, the front end tracks well and rarely pushes the front wheel. When it does, remember there's power available to unweight the front wheel and allow you to go where you intended. Like all open-classers, the Husky can be steered with throttle not only in tight turns but virtually everywhere.

The Husky's stability increases the bike's suitability for different tracks. On a sandy, wide course, for instance, the 430 rider can take any line he wants—with confidence. The CR is equally at ease cutting along the inside or sliding along the outside.

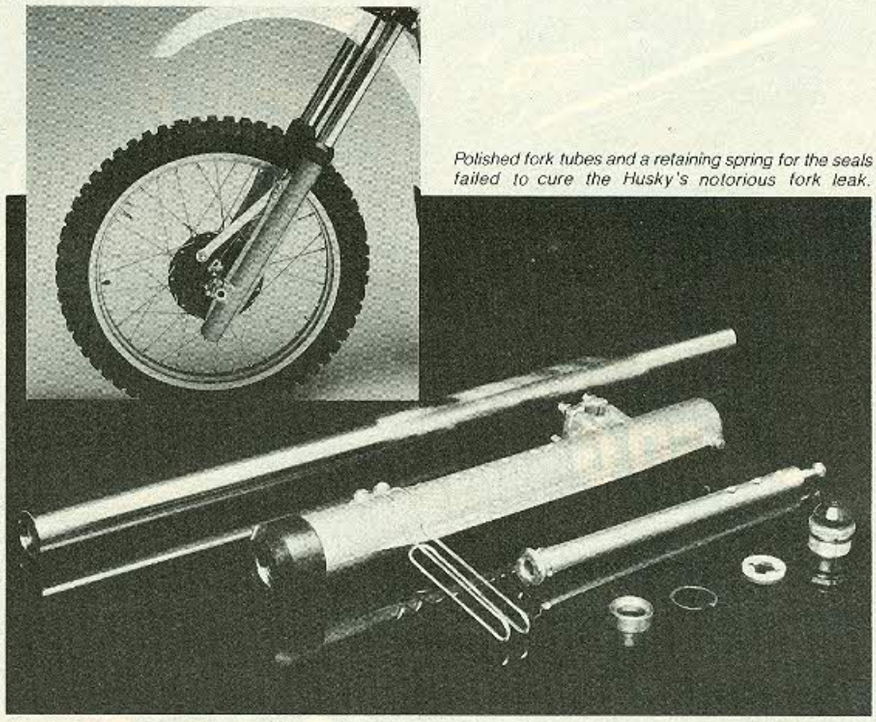
In the sand, particularly in the whoops, the Husky displays its desert heritage; it tracks straight in situations where some other bikes would side-hop off the course. The best way to ride the Husky in sand is simply to gas it up and hang on. No need to develop a special technique combining throttle and brake. The weight distribution is such that the rider can go from loam to sand wash without repositioning himself on the bike.

The fork (except the seals) works exceptionally well. On the straights it provides fluid action with the stock 15-weight oil inside. However, sharp stutter bumps cause the front end to skip and can almost make the front wheel wash out. When it starts hopping you can catch it, but you must be quick. We substituted 10-weight for the stock oil, and the front wheel skipped substantially less often. For lighter riders (130–140 lbs.), 7.5-weight would help even more. The fork bottoms off only the largest jumps, and it's a soft bottoming when it does. Heavier riders (above 175 lbs.) might want to add more oil to do away with bottoming completely. The triple clamps, fork tubes and sliders practically eliminate front-end flex. This especially allows for fork response free of binding and stiction.

If you're talking strictly about comfort, then the best rising-rate rear suspension systems perform better than the Husky's Ohlins arrangement. State-of-the-art rising-rate setups produce a more comfortable ride over small bumps and whoops and still handle high-speed terrain with no



A new stronger clutch hub with thicker clutch-plate engagement tangs (right) promises longer service life.



Polished fork tubes and a retaining spring for the seals failed to cure the Husky's notorious fork leak.

problem. If you're talking strictly racing performance, however, the Husqvarna's twin-shock rear suspension system is on par 95 percent of the time; we believe our lap times with the 430 were as good as they could be regardless of the bike's number of shocks. Husqvarna Sweden has been testing various rear suspension systems and currently believes the added oil capacity and surface cooling area afforded by two shocks keep it competitive with the single-shock systems of 1981. Judging strictly by performance as measured by lap times, we can't fault those findings.

Initially, the CR's brakes had a problem. The front brake's shoes were contacting the drum for about an inch at the leading and trailing edge of each shoe. Where the shoe wasn't making contact, it was heavily glazed. About one-half hour's work with a file adequately arced the shoes to give more substantial contact. Brake performance became acceptable, and in time the shoes worked well. While the brakes stop the bike fairly well, they aren't up to the standards of Japanese motocrossers, especially those using double-leading shoes.

Nineteen-eighty-two, for Husqvarna, is a pivotal year. The last of the other manufacturers has introduced single-shockers, and everyone has been bumping displacement. This year will tell if open-class Husqvarnas will remain competitive—not on the drawing board but on the track. We believe they will. The 430 CR cranks out power enough for even the fastest expert, yet it's tractable so all riders from novice on up can really use it. It provides stable handling, which is especially important for big-bore motocrossers. Its suspension performs very well, no matter that it's the only dual-shock holdout.

If you're a follower of trends, there's plenty of glitter out there to catch your eye. But if you believe that when the gate drops the theory stops, then you'll see the Husqvarna 430 CR as a practical choice; it is, above all, a bike you can win on in stock configuration. ◉

Cycle TEST SPECIFICATIONS

Make and model ..... Husqvarna 430 CR
Price, suggested retail (as of 12/20/81) $2785

ENGINE
Type ..... Two-stroke, reed-valve-inducted single-cylinder
Bore and stroke ..... 86 x 74mm (3.39 x 2.91 in.)
Piston displacement ..... 430cc (26.23 cu. in.)
Compression ratio 11.0:1
Carburetion ..... (1) 38mm Mikuni CR
Exhaust system ..... Expansion chamber with silencer
Ignition ..... External-rotor magneto, CDI
Air filtration ..... Oiled foam
Oil capacity 1400cc
Bhp @ rpm ..... 40.51 @ 6000
Torque @ rpm ..... 38.42 @ 5500

TRANSMISSION
Type ..... Six-speed, constant-mesh, wet-clutch
Primary drive ..... Straight-cut gears; 1.73:1
Final drive ..... DID #520 chain, 14/53 sprockets
Gear ratios (at transmission) ..... (1) 2.36:1 (2) 1.71:1 (3) 1.30:1 (4) 1.04:1 (5) 0.88:1 (6) 0.78:1

CHASSIS
Type ..... Single-downtube, full-cradle chrome-moly frame; tubular section, chrome-moly, needle-bearing-mounted swing arm
Suspension, front ..... Leading-axle, air/coil-spring fork with 40mm tubes and 300mm (11.8-in.) travel
rear ..... (2) Nitrogen-charged, piggy-back reservoir Ohlins shocks with 310mm (12.2-in.) travel
Wheelbase ..... 1524mm (60.0 in.)
Rake/trail ..... 30.5°/152mm (5.98 in.)
Brake, front ..... Conical hub with drum brake; 160mm diameter shoes
rear ..... Conical hub with full-floating brake; 160mm diameter shoes
Wheel, front ..... 21-inch anodized aluminum alloy rim
rear ..... 17-inch anodized aluminum alloy rim
Tire, front ..... 3.00 x 21 Trelleborg Deep Grip 544
rear ..... 5.00 x 17 Trelleborg Ten-Master 744

Seat height ..... 960.1mm (37.8 in.)
Ground clearance ..... 325.1mm (12.8 in.)
Fuel capacity ..... 10.2 liters (2.7 gals.)
Curb weight, full tank ..... 114.0 kg (246.0 lbs.)
Test weight ..... 180.5 kg (398.0 lbs.)

CUSTOMER SERVICE CONTACT
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San Diego, CA 92111