



● SOME PEOPLE GOT ALL CHOKED UP AND teary-eyed over the passing of the Seventies—a decade which Joel Robert opened and Bob Hannah closed. Others celebrated New Year's Eve wildly, expecting miracles to come in the space-age Eighties. For this second group, the sound of 1980 had a magical, faraway ring, like the year 2000, so they looked for the new motocross bikes to be Star Wars machines worthy of astonishing Buck Rogers.

These people may be disappointed this year. Bikes of the 80s—or 1980 at least—probably aren't going to have many designs or features we haven't seen before. This year's motocrossers are logical extensions of last year's bikes; most of them will have a little more suspension travel, slightly more tractable power and better solutions to a nagging detail problem or two. That potential scarcity of innovations shouldn't disturb you: the significant accomplishments of the next few years will be a culmination and refinement of the trends begun in the last decade. Lowering seat heights and carefully shaping power curves may not be as glamorous—or seem as worthwhile—as originating nitrogen-charged, air-assisted suspension or developing electronic ignition systems. But don't let that fool you: fine-tuning a motorcycle is as important as designing it.

Husqvarna's 250 CR is an ideal representative of a 1980 motocross machine. It incorporates all the innovations and designs which revolutionized the 70s: it's a lightweight motorcycle with yards of suspension travel, excellent power and enough "trick" features to satisfy the trend followers. But more important than any of those individual attributes is that the Husky 250 is an integrated motorcycle. Each part, each design, is well matched to the rest of the bike. The CR's long wheelbase would be a nuisance if it did not also have a carefully positioned center of balance; its peaky powerband would be impractical without its close-ratio gearbox and heavy flywheels; its tall seat

If spec pages and dyno charts revealed everything there is to know about a motocrosser, you'd pass right by the Husqvarna 250 CR. Its anemic horsepower figures and gargantuan chassis dimensions are—in turn—appalling and astonishing. But Good Numbers alone don't win races: Every part and design of the CR is complementary, and that's why it's so easy to ride the Husky so fast.

height would be awkward without its initially soft suspension, which lets you settle down an inch or two as soon as you sit on the bike. In short, Husqvarna has produced a motorcycle in which the technological advances and designs of the 1970s blend into and complement each other. And that's what 1980 is all about.

Husqvarna has made some significant changes to its 245cc powerplant. The engineers have enlarged the passages from the crankcase to the cylinder's transfer ports, increased the transfer-port area in the cylinder wall and widened the exhaust port. Port timing has not been changed. To match the new exhaust port, Husqvarna has also increased the diameter of the expansion chamber's header pipe. Furthermore, the cylinder-mounting studs are farther apart, so the 1980 barrel is not interchangeable with previous Husqvarnas. The rest of the top end is unchanged from last year's bike. The 250 still has a 69.5 x 64.5mm bore and stroke, an aluminum cylinder with an iron liner and a single-ring piston.

The porting modifications and new header pipe have changed the 250's powerband. This year's CR has a little less bottom-end and mid-range, and a little more top-end than the 1978 250 CR, the last Husqvarna 250 Cycle tested. The 1980 CR produces about

HUSQVARNA 250 CR



HUSQVARNA 250 TEST

one horsepower less than the 1978 250 up to 5500 rpm and about one horsepower more in the 7000-to-8000 rpm range. The new engine also peaks at a lower point (8000 compared to the '78 250's 8500 ceiling) and produces more horsepower at its peak than the '78 did at its maximum-output point: 30.15 compared to 28.80 horsepower. Examining those figures, you see that the porting and pipe updates have primarily re-arranged the 250's powerband rather than vastly improved it.

If you read the Husky's dyno figures and compare them to other 250 motocrossers, you'll be disappointed with the CR. The powerplant is far outclassed by the leaders in the field in the sheer production of horsepower. For example, Suzuki's RM250C and the Husqvarna develop about equal amounts of power up to 5000 rpm; but from 5500 to 7000 rpm the CR is down anywhere from three to seven horsepower, and that's a lot to give away. The Can-Am MX-4 is also much stronger in the mid-range and top-end, pumping out about three horsepower more from 4000 to 8000 rpm.

But dyno figures don't tell the whole story about the 250 CR; you have to ride the Husqvarna to appreciate it fully. In maximum-traction conditions, the Husqvarna rarely yields to other stronger bikes. On starts, the Husqvarna holds its own because drag races primarily reflect peak horsepower, and in that respect the CR is in the hunt. Its peak of 30 horsepower compares favorably with the Yamaha YZ250F (26.94 horsepower) and the 1978 Honda CR250 (29.82 horsepower). The Husky also holds its own at any other spot on a maximum-traction course because it's so easy to keep the 250 spinning hard. The CR's heavy crank and magneto flywheels store a lot of inertia, which makes the Husqvarna's power controllable and predictable. Its smooth power delivery allows—even encourages—you to keep the rather peaky CR in the top of the rev range.

But not all courses—nor all parts of any one course—offer maximum traction. Where the course is really nasty the Husqvarna can do much more than simply hold its own. When you're slopping through a muddy, rutted second-gear corner you must be certain that you won't hit a sudden power peak that could get you sideways. With its tractor-like power, the 250 gives you that certainty, making it one of the easiest 250s to ride fast.

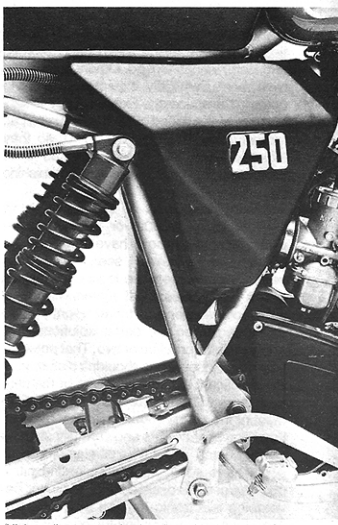
Husqvarna has changed the 250's induction system. Unlike most reed-valve setups, the Husky's two-part magnesium reed cage is mounted vertically, which allows a lot of reed intake area. The intake charge flows through the four-petal reed assembly to two curious L-shaped intake ports, which are structured to take advantage of the vertically-mounted reeds. Those ports feed the intake charge into the bottom end through two piston windows, the top edges of which are only nine millimeters below the piston ring. The large piston windows could present

structural problems for the piston were it not for the long skirts which steady the piston in the bore and minimize piston rock.

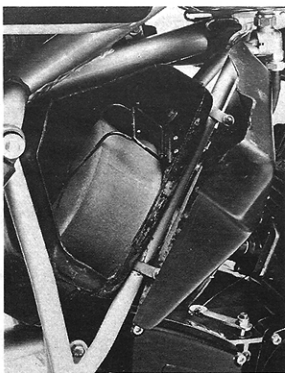
Husky engineers know about servicing. The air filter is especially easy to get to for maintenance: to remove it you simply un-snap the side cover, unhook the retaining pins and slide the filter out—procedures all done by hand. Husqvarna increased the size of all their machines' air filters last year, providing a larger airbox and 300 per cent more filter area.

Initially that increase in filter area confused tuners about the 250's and 390's jetting requirements. This year there's no confusion: the 250 carburetors as cleanly as any bike we've tested. The engine fires instantaneously and pulls up immediately from any rpm level when you crack the throttle wide open. In general, the precise carburetion makes the 250 a pleasure to ride.

The factory has also updated various parts of the engine's lower end. In an effort to make the 250 shift more exactly and quickly, the R&D people have altered several parts in the transmission. The counter- and mainshafts are five millimeters larger in diameter than last year's, and the number of splines on the two shafts has been increased substantially—from four to 12. Husky has



High-quality construction is reflected in the magnesium

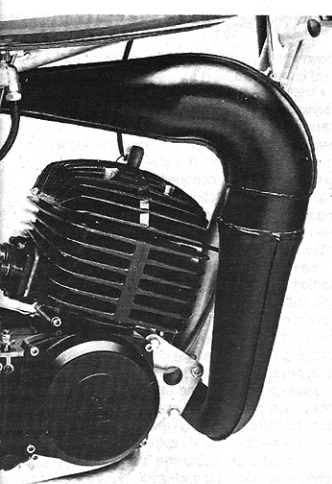


Access to the filter is convenient: un-snap the side cover, unhook the retaining pins, and the filter slides out.

also re-engineered the gears: each engagement gear now has one fewer dog (four rather than five) but the four slots in the corresponding gears have longer arcs than those found in last year's gearboxes. Other parts of the lower end, including its magnesium crankcases and side covers, haven't been changed from last year.

In all but one respect the power train operates very well. Its only fault is a noticeable amount of clutch grabbiness. When you're just starting away from the pits—using first gear and light throttle—the 250 lurches and you often have to slip the clutch to keep the bike from stalling. On the track the transmission's operation is first-rate. Second-gear starts are standard. Because of the 250's





centercases, side covers and reed-valve block.



heavy flywheels, careful clutch work on starts is required to keep the 250 from bogging momentarily, but with a little practice you'll sense how much to slip the clutch, and then you'll appreciate how controllable the 250 is off the line.

It's evident that the gears' longer engaging slots make the clutch's grabbiness seem worse than it is, but that's okay because the new gears and updated main- and countershafts help produce very positive shifting. If you slap the clutch lever you can shift the CR under full power, confident you won't hit a false neutral. Though there's a fairly long gearshift lever throw, the gearbox has a nice mechanical feel to it; your foot practically senses the precision of the shift.

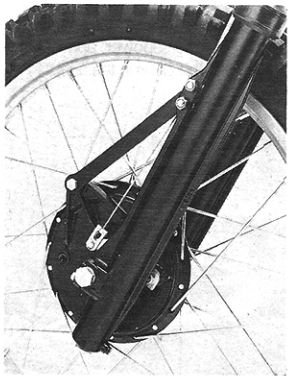
Gear-ratio spacing ideally suits the 250's powerband. There's no large gap between any two gears so—with a lot of left-foot work—you can keep the CR engine boiling. In that regard the CR is a lot like a 125, but the similarity ends there because it isn't as crucial to hold the 250 at its peak.

There's been only one noteworthy chassis refinement for 1980; the swing arm has been lengthened 30mm. That extends the wheelbase—from 58.9 to 60 inches. Lengthening the wheelbase by simply extending the

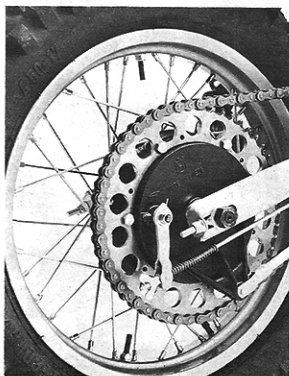
swing arm has another predictable result: it moves the Husqvarna's center of balance farther forward. The Husky's new weight distribution makes the 250 steer precisely despite its long wheelbase, 30.5-degree head angle and 5.98 inches of trail, specifications which normally hint at sluggish steering characteristics. If you have a chance or a preference for the inside line, the big Husky's nimbleness will surprise you.

The chassis modification has taken nothing away from the Husqvarna's high-speed stability. The CR is an outstanding slider; if you have the option of choosing the outside line you'll do better to gas it along the sweeping berm. Over whoops the 250 is very stable and tracks straight provided you keep the gas on. But back off the throttle over whoops at high speed and the Husky tends to bounce off your line.

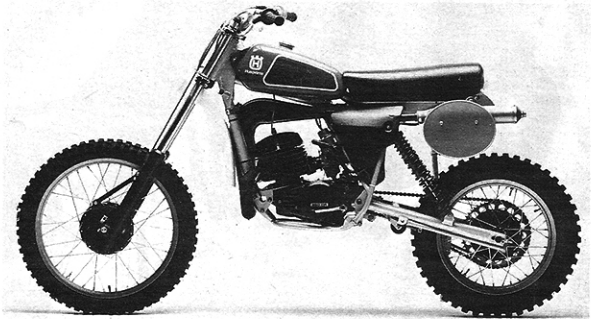
The CR's natural seating position increases its manageability. This year's handlebar has a new bend which places your hands farther forward; that positioning lets you maintain your balance easily while standing on the pegs. No matter what position you're in on the bike, no parts protrude. The side covers don't bow your legs while you're standing and the exhaust pipe



Front and rear brake backing plates are also magnesium.



Full-floating brake reduces chatter during hard stops.



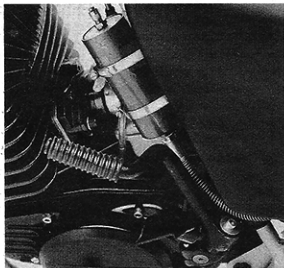
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doesn't burn your knees while you're far forward on the seat.

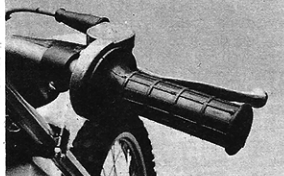
Husqvarna has updated the 250's suspension slightly. The fork has longer sliders than last year, providing more tube/slider overlap and support, but providing the same travel—an actual 11.8 inches. Husqvarna has attempted to conquer the problem of seal binding—or stiction—by using loose-fitting seals. The fork does indeed respond to even the smallest bumps, but the seals begin to leak after five minutes on the track.

The Husky's fork is one of the best in production. Though it uses rather small 35mm fork tubes, they're rigidly mounted and there's no noticeable flex. Husqvarna was one of the first manufacturers to use air-springing merely to assist coil-steel springs. Husqvarna recommends 0-5 psi. The air pressure is correct (and effective) when it acts like a progressive spring as the fork nears bottoming. Through most of the fork's movement—after quickly settling an inch and before grudgingly using the last couple of inches—the damping and springing are well mated. The fork compresses instantly in response to hitting holes, bumps, or landing off jumps. But the rebound damping is not too quick, so you always have a good firm feel of the ground through the fork.

Though the Ohlins shocks have not been changed from last year, the CR has more rear-wheel travel (producing an actual 11.4

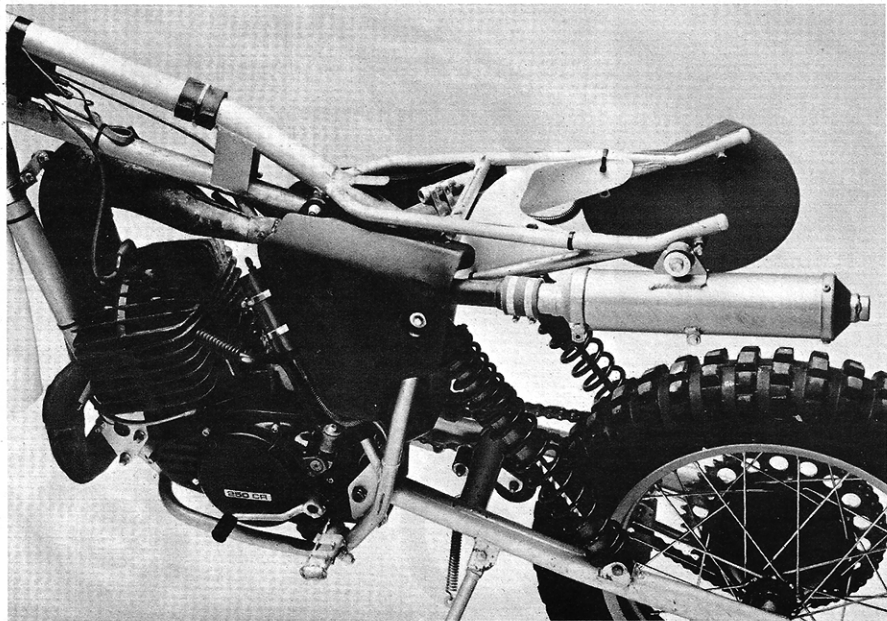


Right-side shock reservoir is hose-clamped to a frame tab.



Circle-pull throttle design reduces cable's vulnerability.

"On starts, the Husqvarna holds its own because drag races primarily reflect peak horsepower, and in that respect the CR is in the hunt."



(inches) thanks to the lengthened swing arm (which increases the length of the rear axle's arc). The Swedish-built shocks have several noteworthy features, such as independently adjustable compression and rebound damping, nearly infinitely adjustable damping, compressible bump foams to help ease the shock of bottoming, and remote reservoirs with full-floating pistons.

Functionally, the Ohlins are equal to the best production shocks available. As they come stock—with 137/145-pound dual-rate springs and 150 to 180 pounds of nitrogen pressure—the Ohlins are set up just right for 160-pound riders. They perform well at every speed and in every course condition. At low speed the initial springing is soft to provide a comfortable ride. At higher speeds the springing and damping are balanced so the rear wheel maintains traction even over sharp stutter bumps. You especially notice and appreciate the Ohlins' instantaneous and accurate response to bumps during long



Make and modelHusqvarna 250CR
Price, suggested retail as of 12/1/79\$2245

ENGINE

Type Two-stroke, reed-valve inducted, single cylinder
Bore and stroke 69.5 x 64.5mm (2.73 x 2.54 in.)
Piston displacement 245cc (14.9 cu. in.)
Compression ratio 13.5:1 (full stroke)
Carburetion (1) 38mm Mikuni
Exhaust system Through-the-frame chamber with silencer
Ignition External-rotor magneto; capacitor-discharge
Air filtration Oiled, washable foam
Oil capacity 1600cc
Bhp @ rpm 30.15 @ 8000
Torque @ rpm 20.29 @ 7500

TRANSMISSION

Type Six-speed with wet clutch
Primary drive Straight-cut gears; 29/70; 2.41:1
Final drive DID 520 chain; 12/53 sprockets; 4.41:1
Gear ratios (at transmission) (1) 15/31, 2.070:1
2) 18/28, 1.561:1 3) 21/26, 1.242:1 4) 23/24, 1.044:1
5) 25/22, 0.884:1 6) 27/21, 0.780:1

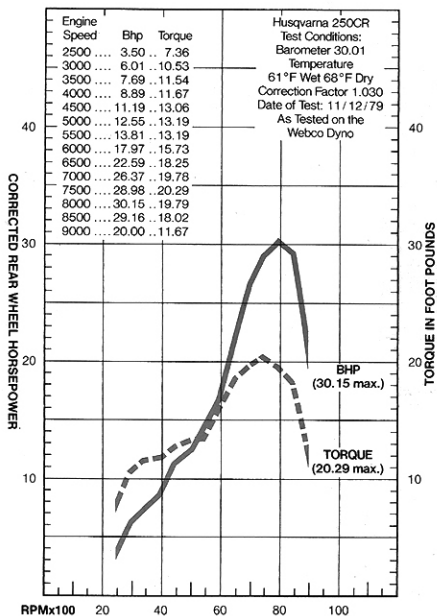
CHASSIS

Type Single-downtube, full-cradle chrome-moly frame; tubular-section, chrome-moly, needle-bearing-mounted swing arm
Suspension, front Oil-damped, steel-spring/air-spring fork with forward-mounted axle and 300mm of travel
rear Nitrogen-charged Ohlins shocks producing 290mm of rear-wheel travel
Wheelbase 1524mm (60.0 in.)
Rake/trail 30.5°/152mm (5.98 in.)
Brake, front Conical hub with drum brake and 160mm diameter shoes
rear Conical hub with rod-actuated full-floating drum brake; 160mm diameter shoes
Wheel, front21-inch aluminum alloy rim
rear17-inch aluminum alloy rim
Tire, front Trelleborg 3.50 x 21 644 Motocross
rear Trelleborg 4.50 x 17 544 Motocross

Seat height 965mm (38.0 in.)
Ground clearance 343mm (13.5 in.)
Fuel capacity 8.3 liters (2.2 gal.)
Curb weight, full tank 108 kg (238 lbs)
Test weight 180 kg (398 lbs)

CUSTOMER SERVICE CONTACT

Husqvarna Motor Corp. West
4935 Mercury Street
San Diego, CA 92111



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sweeping slides, when poorly damped shock action could cause you to lose traction suddenly.

Fast lap times depend upon stopping quickly, and the Husky does that remarkably well. Both the front and rear brakes are excellent, with progressive and strong action. The front end dives a lot during hard braking (credit the long, soft suspension), but that doesn't get you out of shape. With its full-floating design, the rear unit lets you brake hard downhill and over choppy ground without any rear-wheel hop.

Husqvarna has made some subtle but worthwhile refinements to the 250 CR. The seat now functions as part of the rear fender; the trim job cut off three pounds. Husqvarna has enlarged the 250's gas tank from 1.8 to 2.2 gallons, so you don't have to sweat it during a typical 40-minute moto.

The factory also keeps up with the fads. The 250 CR has several conspicuously trendy features—most of them, fortunately, also valuable. For example, the Husky uses a circle-pull throttle, which helps keep the throttle cable from snagging on anything or kinking easily during a crash. The 250 also has gold-anodized rims—strictly for looks. A 17-inch rear wheel puts the Husqvarna's power on the ground. That smaller-than-normal wheel lowers the 250's seat height and sets the Husky apart from the 18-inch-rear-wheel crowd.

The CR is a well-finished motorcycle with no rough edges. Its FIM number plates are rigidly mounted; its kickstand folds up to the swing arm and hugs it so closely that it's difficult to find a toehold to extend it, but that means it's equally difficult for any part of the stand to poke you during a crash. Husqvarna pays careful attention to keeping its motorcycles quiet. Its new muffler is gold-anodized (trendy) and aluminum (functional—because it's light), but most important it's effective: the CR's exhaust note doesn't offend non-motorcyclists and bothers the riders hearing much less than many of today's motocrossers.

There are certainly 250s available which have a little more peak horsepower and a lot more mid-range. But there's no more carefully integrated, well-engineered 250 motocrosser than the Husqvarna. It has two minor annoyances, a grabby clutch and leaky fork seals, but neither is a serious problem. No production motocrosser has better suspension, and overall it's a precise and stable handler. At \$2245, it's a couple hundred dollars more than many 1980 250s, but its shocks alone offset that price difference.

The bottom line, though, in picking any race bike is determining how quickly that machine can get you around a course compared to other motorcycles in its class. On smooth, TT-like motocross tracks the Husqvarna's mid-range deficit might make you work harder than you should, or could, to win. But on rough tracks the Husky's smooth, controllable powerband and general stability will let you win when the other guys are having trouble just staying upright. ©