

# TOURING OREGON: BMW's R100/S

MOTORCYCLIST

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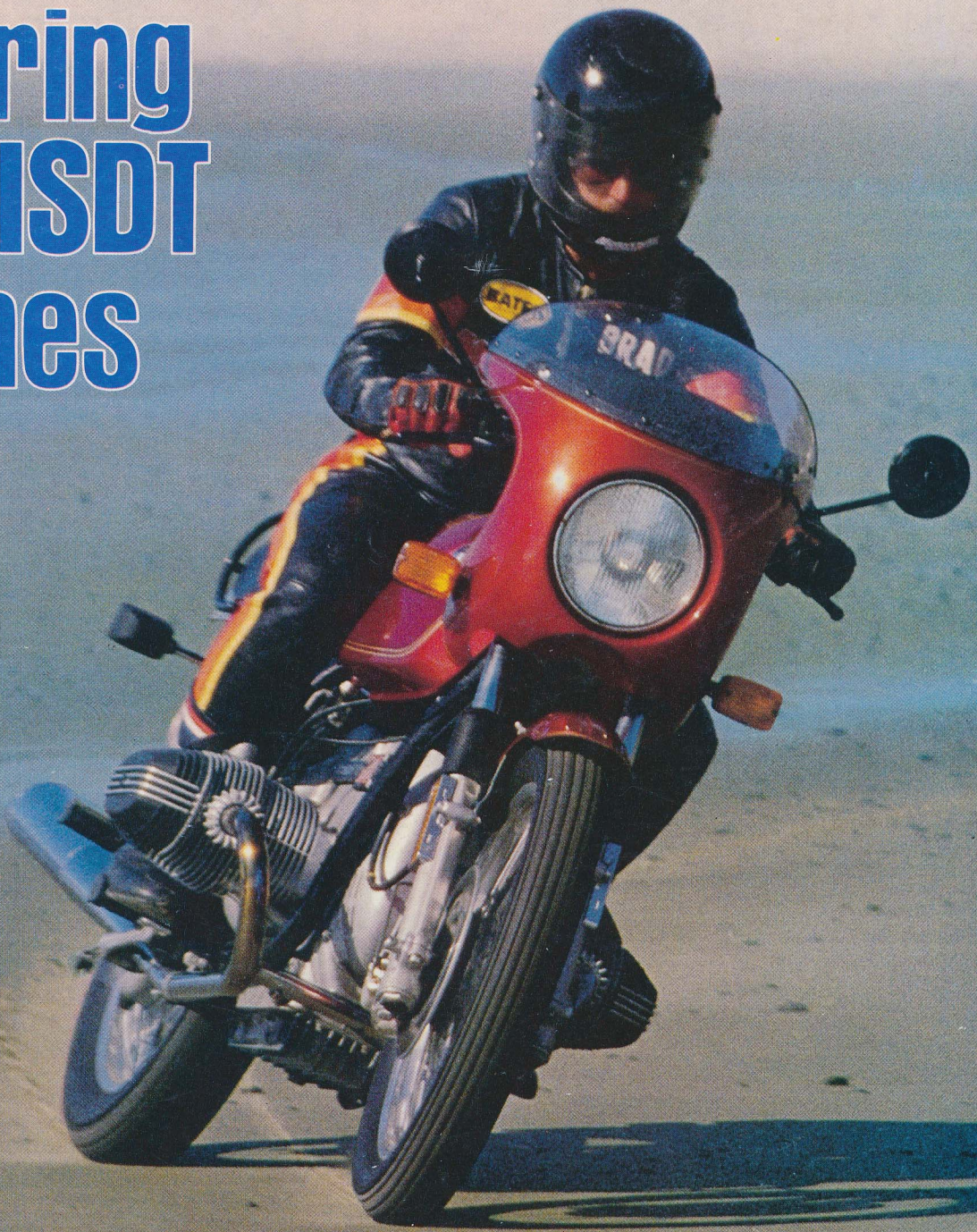
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# Motorcyclist

## Comparing 250cc ISDT Machines

Getting Started:  
Enduro  
Motocross  
Road Racing  
Touring

Husky's  
Shiftless  
390MXer



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# Motorcyclist

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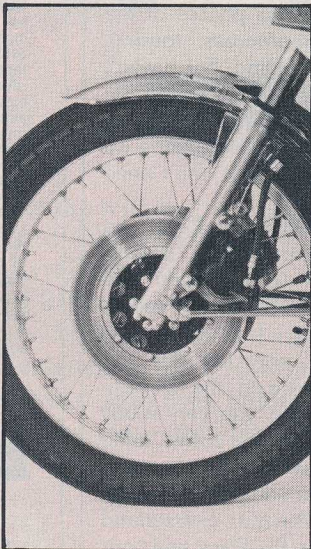
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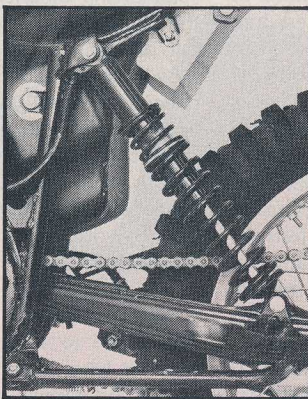
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## COVER

Feature Editor Brad Zimmerman gets the BMW a little sideways on Cannon Beach in Oregon. A complete log of his further antics is found in the BMW Tour Test. Photo by Action Oz.

# GETTING STARTED

# MOTOCROSS

**M**otocross racing is currently at its highest peak in America. Considering current motorcycle publicity which makes the glamorous lives of a few stars common knowledge, plus the rising popularity of the stadium type of supercross racing, and the availability of a wide range of MX bikes (from minis to the full-sized machines), it is no surprise that motocross racing is implanted in the minds of the youth even before they can ride a bicycle.

Many wonder how stars like Marty Smith and Bob Hannah got started in racing and how they progressed into the big-time professional circuit. Naturally they spent long hours practicing aboard leaping MX bikes, but both these stars, like most everyone else, started their racing careers by joining their local MX clubs and racing on the weekends.

Let's assume you're a fairly new rider who has never raced and you're interested in joining a club. The easiest way to find a club is to thumb through the MX newspapers (*Cycle News East/West*, *MX West*) or the AMA newsletter. These publications have a listing of local clubs and you only have to choose the closest one to your area.

What does it take to join a club? All clubs are organized a little differently, but as an example we'll explain how one of the Southern California clubs works. Continental Motorsports Club (CMC) is not AMA-sanctioned, so it isn't necessary to join the AMA. Membership for CMC is \$8 per year. You can start racing as young as 6 years old in the mini-bike class which covers through age 14; those over 14 compete in the full-sized class.

The bikes in the men's division (those over 14 years old) are divided into three classes: 125cc, 250cc and Open. You can race any class you choose. As a rider, you are classified as either a Junior (beginner), an Intermediate or an Expert. Those who have never raced are automatically put into the Junior class; those with racing experience are classified according to their current riding status.

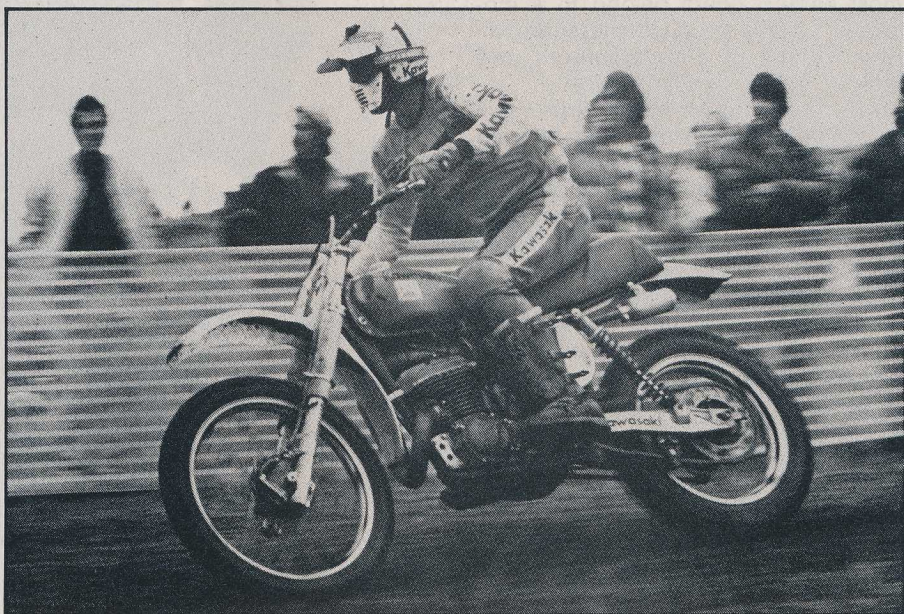
Riding status is determined by the number of points accumulated throughout the racing season. At each race first place is awarded four points, second place three points, third place two points and one point

for fourth place. Assuming you're a Junior, you'll need to compile 24 points to advance to the Intermediate class and an additional 36 points to advance to the Expert division.

CMC holds races at several different locations, both day and night. Entry fees vary depending on your class and when you enter. If you pre-enter by mail, it's \$7 for Juniors and Intermediates, and \$12 per race for Experts. If you post-enter (enter the morning of the race at the track) the fee is \$10 for Juniors and Intermediates and \$15 for Experts. Experts race for a money purse (prize money) while everyone else goes for



*125cc bikes... light, maneuverable and super fast. Gerard Rond, Yamaha's factory 125 GP rider, manhandled his water-cooled Yamaha to a second place finish in the World 125 Championships behind Rahier.*



*The open class bikes... not as light or agile as the 125s and 250s, but powered by "brute" engines that turn them into two-wheeled rocket ships. Pictured is Jimmy Weinert aboard his factory Kawasaki... probably the quickest open class bike in 500cc competition.*

trophies. There are usually two motos per class during the day races and three motos at night races. The motos are not as long as in National events, consisting of 8 laps for Juniors, 10 laps for Intermediates and 12-14 laps for Experts.

## **HOW DO YOU RISE TO THE NATIONAL LEVEL?**

Talented riders like Smith and Hannah, who learned quickly, spent only several years at the club level; the majority of their time was spent racing in the Expert division. To participate in the Nationals an Expert rider must submit a letter of recommendation from a club official to the AMA. The letter should authorize that the rider is indeed a qualified Expert and worthy of transferring to National status. He must then join the AMA, buy

an AMA Pro License, take an AMA physical examination, plus a few additional odds and ends, all of which cost the rider about \$100. As a last step the rider must participate in several qualifying races—if he does well he can then participate in the National events. To become Nationally rated is a long, expensive process. It is no surprise that there is a limited number of riders participating on this level. Marty and Bob might have



Can-Am's 250cc MX-3... one of the horsepower kings in the 250 class. This '77 model is identical to the machine Jimmy Ellis rode to his second consecutive Superbowl victory in '76.

made it look easy, but believe us, it isn't. For further information contact: CMC, P. O. Box 1402, Costa Mesa, CA 92626, (714) 557-3323.

#### MACHINERY

During your first ventures in motocross racing it's to your own advantage to begin your long, illustrious career on equipment well-suited to the rigors of a motocross track. In simpler terms this means don't try to go motocrossing on a desert bike; don't try to compete on a thoroughly outdated model; and don't ever race anything that isn't mechanically sound—you'll only succeed in receiving get well cards at the hospital and totally destroying any enthusiasm you might have had for the sport. If you're short on bucks and looking through the classified ads for used bikes, try to stick with machinery that is less than two years old. These bikes employ the advanced long-travel suspension and are new enough so as not to be plagued with mechanical problems; if you're constantly repairing your bike you'll miss much of the fun of racing.

There are three sizes of bikes to choose from when you start racing: 125 class, 250 class and open class, which are the three standard classes in club racing. The right one for you depends on your size, how good you think you ride and your financial situation. The 125cc bikes are the least expensive (approximately \$1000 for a new competitive machine), the smallest and the lightest, weighing roughly 215 pounds ready to go. The 125cc powerplants produce close to 20 horsepower and although they're the smallest machines, they're often the quickest around tight courses be-

cause they're light, agile and easy to flick through the turns. Because these bikes have no real "reserve horsepower" to erase mistakes made by the rider, you'll find that it's skill and finesse, not horsepower, that wins the 125cc races. The 125cc bike is the basis for the motocross learning process, and the class is super competitive. If you're looking for some fast, furious competition, weigh 160 pounds or less and want to learn the techniques of riding from the ground up, go for a 125.

The 250cc bikes are the most popular as they represent a happy medium between two extremes. They weigh about 230 pounds, can cost as much as \$1600, produce about 30 horsepower, and are suited to most any size rider as long as he can touch the ground. Although many riders start riding 125s because they're the logical choice, it's not uncommon to begin racing on a 250; especially if you think that you've learned enough basic skills to handle it. Generally not any quicker on closed courses than 125s, the 250s accelerate harder; it takes a degree of throttle control to ride them efficiently. Competition in the 250 class isn't as fierce as in the 125, but you'll find an abundance of polished riders, those who learned on 125s and moved on up to the biggies.

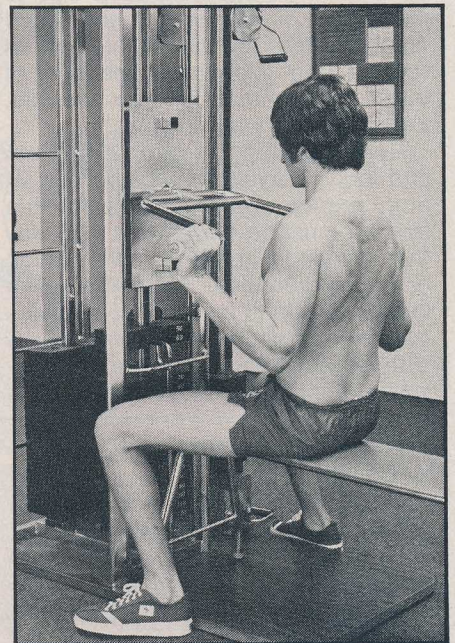
The open class bikes (over 250cc) are the "powerhouse" machines in motocross and do little in teaching the beginning rider the "art" of motocrossing. Weighing around 250 pounds, costing upwards of \$2000, and pumping out close to 40 horsepower, these machines are no match for a totally novice rider. The only exception to this would be a new rider weighing over 200 pounds, who can use the extra horsepower. To ride one effectively you've got to be in shape for they're heavier, harder to maneuver and control, and twice

as fatiguing on the body as a 125.

The enormous acceleration and torque of these machines can seldom be used by the inexperienced rider and it usually results in getting him in more trouble than he can handle. If you're a new rider, stay away from this class until you've got some racing under your belt... it'll only teach you bad habits.

#### CONDITIONING

What is physically required to compete in motocross racing? First, you've got to have the talent and ability to pilot a 250-plus-pound machine around a natural or artificial terrain course comprised of jumps, turns, ruts and bone-jarring bumps. Shifting, braking, lifting the bike over obstacles—using both horsepower and physical strength—all have to be



spot-on to put in good lap times and finish consistently at the top.

Balance and coordination must be razor-sharp. One slight mistake in balance, the attitude of the motorcycle, or your reaction to a situation could put you down on the track. And, in most cases, these slight errors in judgment are caused by lack of physical conditioning. The body becomes tired and fatigued. The mind starts to become fuzzy and before you know it, neither knows what the other is doing. That's why the most important aspect of successful motocross racing is physical conditioning. Motocross, according to research performed at a Swedish University, is the second most demanding sport in the world. It is equivalent to running four miles in deep sand... twice a day. Motocross is a demanding and punishing sport, a fact that many of the top racers can attest to, since they lose, on the average, four to five pounds per event.

# MOTOCROSS

If you're serious about competing and winning you've got to follow a disciplined conditioning program. There are many different ways to train; each rider must draw up his own personal training program to fit his needs and schedule. It only takes a few laps around the track to realize that the legs, arms and shoulders take a terrific amount of abuse through the course of a 45-minute moto. That's why weight lifting and other muscle-tone building workouts are very popular among motocrossers. You've probably noticed after a hard ride that some muscles stiffen up and refuse to respond with precision. This "partial seizure" is due to insufficient oxygen supply and blood flow, therefore the aim of this type of training is to delay the appearance of these symptoms as long as possible, and to harden your muscles.

Running, both in short intervals and long intervals, is a basic part of any conditioning program and this training must be carried out in a way that demands great lung ventilation and high heartbeat frequency. That means you don't try to run 50 miles a day, but run short periods repetitively with prescribed rest periods in-between. There are many running drills

floating around and again, pick the one that best suits you.

Physical conditioning isn't all work as there are ways to stay fit that are actually fun. Many racers stay in shape during the off-season by water skiing, snow skiing, playing racquetball and bicycling—all of these are excellent physical conditioning sports for the motocrosser. Naturally the best one of all is actually riding. Your object here must be to get a smooth riding technique. With smoothness, you don't need to work as hard and the less you work, the longer you can ride. If you're interested in a conditioning program designed exclusively for motocrossers, drop by your local Husqvarna shop and thumb through an owner's manual for their motocross machines. There's a section in the rear on training that's dynamite! Or, for a complete three-part body conditioning program, pick up the '75 October, November, and December issues of *Motorcyclist Magazine*. For back issues write to: Back Issue Department, Petersen Publishing Co., 6725 Sunset Blvd., Los Angeles, CA 90028. Specify which month or months you want with a check or money order for \$2 per issue. Make checks payable to Petersen Publishing Company.

## MOTOCROSS APPAREL

The nature of motocross demands

that the rider wear a complete array of protective equipment; knowing exactly what to wear will save you a lot of broken bones and torn flesh. Starting at the top you'll need an approved helmet; you'll find the "open face" design is used most often because it's lighter and cooler than the "full face" model and allows you to use goggles. The exception, which our model is wearing, is Bell's Motostar helmet (\$75) which is very popular because it gives full-face protection and still allows goggles to be used. Snapped to the helmet we have a Super Spoiler Visor (\$5), often called a "duckbill," that blocks out glaring sun. By tilting your head down it will keep dirt clods from hitting you smack in the face.

Speaking of face protection, you'll need a pair of goggles. Our model is wearing Carrera's from JT Racing (\$11). When choosing goggle lenses, you'll want a polarized lens in bright, sunny weather and a clear or yellow lens for dark days. Also, get in the habit of using goggles that have provisions for tear-offs, as this saves a lot of blind riding—especially on muddy tracks. If you choose to wear an open face helmet you'll need some type of face protector; you can either use a combination goggle/face protector such as a Scott or Hydron facemask, or the plastic face protector that snaps to the helmet. Both

## ANATOMY OF A MOTOCROSS MACHINE

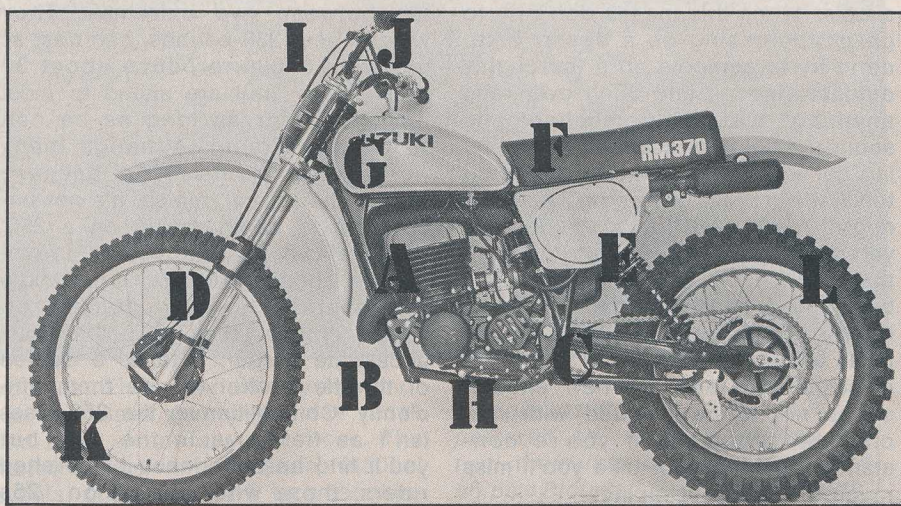
**A ENGINE**—Putting out more than 40 horsepower in some cases, an engine only has to propel 150 pounds of frame and a rider, giving a power-to-weight ratio higher than that of a Formula 1 car.

**B FRAME**—Designed specifically for motocross, the frame must provide handling characteristics that enable the bike to perform well in tight turns, fast straightaways, and rough sections of a course and still stay together. An MX frame must be strong, yet very light.

**C SWINGING ARM**—Usually manufactured of aluminum in order to save weight, the swinging arm has to be strong and at the same time flex enough to keep from breaking. Most motocross swinging arms are longer than those found on street machines.

**D FRONT FORKS**—Most forks boast more than nine inches of travel. Forks must soak up the bumps, rebound quickly to their original position, and not fatigue or fade out in a 45-minute moto.

**E REAR SHOCKS**—Designed to take the impact of the harsher bumps, shocks are strong, intended to maintain their damping under hot conditions and give the rider a smoother, faster ride.



**F SEAT**—Most motocross seats are equipped with heavy, thick padding so that the rider doesn't slam down into the frame when landing from a jump.

**G GAS TANK**—Small enough to allow the rider to move around on the bike, the tank must also hold enough fuel to get through a moto. Most riders cave in the sides to allow better leg movement.

**H FOOTPEGS**—Pointed teeth on the pegs allow the rider to get better traction with his boots while holding on.

**I HANDLEBARS**—A matter of personal preference, most bars are wide and low, giving good leverage and a comfortable riding stance.

**J GRIPS**—Made of soft, surgical-type rubber, grips must be rough enough to allow a good hold, but not cut up the rider's hands.

**K WHEELS**—Heavy-duty spokes, super-strong rims and magnesium hubs are required for strength and light weight.

**L TIRES**—Knobby tires are used on motocross machines for better traction. Different tread patterns are used according to track conditions.

are for total face protection on rocky tracks. If it's mostly a sand track without rocks a lot of racers switch to the Jofa mouth piece because it's cooler and doesn't restrict breathing.

Since motocross bikes are famous for pitching their riders to the ground, it's wise to wear some type of plastic shoulder pads. Our photo racer is wearing a pair of Koho No. 181 shoulder pads (\$45) from JT Racing. These pads really do the job of reducing broken collarbones and separated shoulders. The Kohos also feature a built-on chest protector which is a vital part of the motocross outfit; if you don't use shoulder pads, at least wear a chest protector, because 250 machines and open-class bikes can throw up an ungodly amount of dirt that'll sting the chest for two days. Beneath the shoulder pads our model is wearing a Gold Belt kidney belt (\$16.95) that holds his internal organs in place through those bone-jarring jumps and ruts. It's not a mandatory piece, but it does produce an incredible feeling of "wholeness." A nylon jersey (preferably with elbow padding) is used to cover all this hardware. During cold outings you might trade the jersey in for a sweatshirt.

If you're going to knock heads with 20 guys on the starting line you better have either leather or leather/nylon MX pants; our racer is ready to go with a pair of leather/nylon FMF Team pants (\$95) from JT Racing. For maximum protection against thrown rocks and get-offs, they have removable knee cups/shin guards of high-impact absorbing plastic and removable hip pads. Racing in jeans or bare leathers with no padding is simply asking for a trip to the hospital.

Next up should be a pair of high quality MX boots because your feet take the biggest beating of all and each foot has 27 little bones just waiting to be smashed by a 4.50 knobby or caught between a four-foot berm and a 250-pound motocrosser. Pictured are a pair of JT Champion boots (\$90). As we've done, try to pick a boot that gives good ankle support without being overly stiff and one that offers a shin guard (plastic or metal) up front. Topping off the apparel is a pair of JT gloves (\$20) that keeps the hands from becoming blistered and torn by the grips and also prevents racetrack rash on the palms. This is probably as complete an outfit as you can buy and you'll find most of the top pros really do wear all this stuff because they know how important protection is; one broken bone or torn muscle can ruin their whole racing season, or career. It represents a large investment, but it will save you time, money and unnecessary pain. **M**

