

There are two organizations setting safety standards for motorcycle helmets in the United States, the Federal Government's Department of Transportation (DOT) and the Snell Memorial Foundation. DOT sets minimum standards that all helmets sold for motorcycling on public streets must meet. The standard is Federal Motor Vehicle Safety Standard 218 (FMVSS 218) and is known commonly as the DOT standard.

The Snell Memorial Foundation is a private not-for-profit organization that sets voluntary standards for motorcycle helmets, bicycle helmets and auto racing helmets, as well as other kinds of protective headgear. Snell standards are the world's toughest. We demand quite a bit more protective capability in helmets than anybody else on the planet.

The table on the following page compares the most significant parts of the Snell and DOT standards, the impact testing. There are other tests in the standards but a helmet's impact performance determines what will happen when a motorcyclist goes headlong into the pavement.

Both Snell and DOT position the helmet on a test headform and then drop that helmeted headform through a two guided falls onto a fixed steel anvil. The test is repeated so that each helmet is impacted on at least four different sites on its surface against either a flat or hemispherically shaped anvil. The differences are in impact severity and impact criteria. How big an impact must the helmet withstand and how do the testers determine that the helmet actually withstood the impact.

Impact severity is a matter of head mass and drop height, the higher the fall or the heavier the headform, the more severe the impact. Since there is always some frictional loss in the test equipment, both Snell and DOT require that the headform velocity be measured just before the helmet touches the anvil. Snell measures impact severity in terms of energy, the mass of the headform times the square of the impact velocity divided by two. The table shows the impact energy in joules for anvil type and headform size for each standard. As you can see, Snell requires that helmets withstand substantially larger impacts than DOT.

Impact criteria tell the testers how to interpret test results. Ancient wisdom has it that it's not the fall that does the damage, it's the sudden stop. Both Snell and DOT measure the suddenness of the stop with an accelerometer fixed inside the headform. When the helmet smacks into the anvil, the accelerometer measures the headform deceleration throughout the duration of the impact event. This acceleration pulse is generally plotted as G's versus milliseconds where one G is just the acceleration due to gravity here on the surface of the earth. The testers analyze the acceleration pulse to determine whether the helmet passed or failed the test.

Snell and DOT use different methods to analyze these pulses. Snell limits the peak value to no more than 300 G's. Dr. George Snively, one of Snell's founders, had determined on the basis of his own research that young adult men could survive head crash impact accelerations at levels between 400 to 600 G's. He selected test criteria on the order of 300 G's for the Snell standards as acceleration levels that would be safe for almost all healthy people. The DOT Standard requires that the peak acceleration not exceed 400 G's but they also put duration limits on the acceleration pulse. The period of time for which the pulse exceeds 200 G's must not be longer than 2 milliseconds. The period of time for which the pulse exceeds 150 G's must not be longer than 4 milliseconds.

Snell, among others, questions the validity of these duration criteria. They were taken directly from a ANSI motorcycle helmet standard in 1972. The ANSI standard committee had developed the criteria for testing on an altogether different test device that was already being superseded at the time. After the DOT standard was drafted, the ANSI committee modified their duration criteria for compatibility with current impact test equipment. DOT never accepted the modification. Of course, when the DOT draft was first prepared, DOT expected to make extensive changes in the criteria after its first eighteen months of operation. The 400 G peak and the duration criteria were to have been discarded in favor of the head injury criterion (HIC) as described in another DOT standard, FMVSS 208. However this never came to pass, instead a measure intended to serve only a year and a half has remained in place for twenty-six years.

There are also administrative differences between Snell and DOT. Snell Certification means that Snell technicians in Snell labs tested samples of the helmet to Snell standards before the helmet was certified. Furthermore, as a condition of certification, Snell regularly buys samples of all Snell certified products and brings them into our labs for follow-on testing.

DOT certification is done on the honor system. The helmet's manufacturer determines whether his helmets satisfy DOT and



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One of the things that makes motorcycling so enjoyable is the freedom of riding in the open air. Unlike car drivers surrounded by a steel compartment, motorcycle riders feel a part of everything around them. Of course, sometimes this can have its drawbacks – like when you are riding in extremely hot or cold weather, when it's raining, when insects are pelting you, or when debris flies up at you from the road. It's for these situations that riding gear was developed.

Riding gear has two basic purposes: comfort and protection. Uncomfortable gear can distract you from riding. Quality riding gear will help you stay comfortable in all kinds of riding conditions.

In the event of an accident or a spill, proper riding gear will help prevent or reduce injuries. Here is a summary of some of the important gear needed for comfort and protection.

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### HELMETS

The single most important piece of protective gear you can wear is a helmet. This was emphasized in the University of Southern California (USC) researcher Harry Hurt's federally funded study, *Motorcycle Accident Cause Factors and Identification of Countermeasures*. Essentially, an in-depth on-scene investigation was performed detailing the use of helmets and protective clothing in 900 motorcycle accidents. Additionally, Hurt and staff analyzed 3,600 police reports on motorcycle traffic accidents. This and other research has established that helmets save lives by reducing head injuries. And it has been shown that wearing a helmet does not reduce essential vision or hearing.

Helmets protect your head in two ways. The outer shell resists penetration and abrasion. The inner liner absorbs the rest of the shock by slowly collapsing under impact. Both the shell and the liner self-destruct by spreading the forces of impact throughout the helmet material. That's why, in most cases, if a helmet has been damaged in an accident, it may be of little protective value in another mishap.

Consider, too, how a helmet makes riding more comfortable. A helmet cuts down on wind noise roaring by your ears and windblast on your face and eyes. It deflects bugs and other objects that fly through the air. A helmet even helps to protect a rider from inclement weather, and reduces rider fatigue.

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### FACE PROTECTION

Any motorcyclist who has been hit in the face by a stone or an insect while riding can tell you about the benefits of face protection. Windshields and eyeglasses do not provide adequate face and eye protection.

Wind, insects, and pebbles may be blown behind a windshield. Eyeglasses with shatterproof lenses may protect the eyes, but most don't seal out wind that makes your eyes water. The USC research study reported that motorcycle riders with shields covering their faces suffered a lot less facial injuries than those without. According to Hurt, helmets providing full-face

coverage with strong chin pieces and energy-absorbing liners are especially effective in reducing face injuries.

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## FACE SHIELDS

Face shields may cover only a portion or all of the face. They come in a variety of designs. Two popular shields are the non-flip types: the bubble shield and the flat shield. A selection of flip-up shields are also available. Make sure that the compound curves of a bubble shield do not distort your vision.

When using a face shield, be sure it is securely fastened to the helmet to prevent it being blown off. It should also be impact-resistant and free from scratches. When purchasing a face shield, look for the VESC-8 or V-8 standard on the top of the shield. These shields have been tested for impact and penetration resistance.

Whether you wear a face shield or goggles, the lenses should be clear. Tinted lenses substantially reduce vision at night. Sunglasses can be worn under a face shield to avoid eye fatigue during daylight hours, but never worn at night. Face shields can be cleaned with a mild solution of soap and water or a high-quality plastic cleaner.

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## GOGGLES

Riders wearing goggles receive eye protection, but they are not protected from possible injury to other areas of the face. Face shields or full-face helmets provide better protection for the entire face. Before purchasing goggles, be sure they carry the VESC-8 approval and are designed to be worn with a helmet.

Goggles should be securely fastened over the helmet so they do not blow off. The face guard should permit airflow to your face for comfort, easy breathing, and to prevent fogging. Most frames have a rubber/cotton fiber strap that resists tearing and stretching. Goggles can be washed by hand in the sink and then hung up to dry.

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## OTHER RIDING GEAR - Footwear

Over-the ankle leather boots protect riders from a variety of riding hazards. They protect ankles from stones that fly up from the roadway. They also prevent burns from hot exhaust pipes. Boots with oil-resistant, rubber-based composite soles will give you a strong grip on the pavement and help you keep your feet on the pegs. If the boots have heels, they should be low and wide. In case of an accident or spill, boots provide valuable protection against foot and ankle injuries.

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## Gloves

Leather gloves protect hands from blisters and wind, sun, and cold. If you should fall off your cycle, full-fingered gloves will help prevent cuts and bruises to your hands. Gloves that fit snugly will improve your grip on the handlebars.

If your gloves are too bulky, you may have problems operating the controls of your motorcycle. If they are too tight, circulation will be restricted and your hands will become cold. Seamless gloves or gloves with external seams will help

prevent blisters. Gauntlets will keep cold air from going up your sleeve.

Riding gloves are available in many gradations of weight and thickness. Lightweight gloves remain appropriately comfortable in summer warmth and heavier, well-insulated gloves can be obtained for additional protection from winter cold.

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## Clothing

Good clothing will help you stay comfortable while riding in adverse conditions. In case of an accident or spill, high-quality riding clothes will help prevent or reduce injury. The USC research study states that covering the body with leather or another thick material can provide "an extremely high level of injury protection."

Clothing sold specifically for motorcycling will afford the best combination of fit and protection. These garments are designed to fit while sitting in a riding position. They are cut longer in the sleeves and legs and are fuller across the shoulders. Flaps and fasteners seal out the wind and extra padding protects you in case of a spill.

Leather clothing is often used by motorcyclists because it is durable and abrasion-resistant, giving good protection against injury. Denim and corduroy are reasonably priced and give adequate protection. Many other fabrics have also been developed that are abrasion- or wind-resistant, waterproof, or have high visibility properties. Many motorcycle dealers carry a varied line of riding jackets and suits. They can be helpful in answering questions you may have regarding the beneficial properties of each. Personal riding habits, budget, and local weather conditions will influence your choice of purchase. Shop wisely, making sure your purchase is strong enough to resist abrasions.

Wide-flared pants, flowing scarves and similar items should be avoided because they could become entangled in the motorcycle.

Your clothing should fit comfortably without binding. A jacket with a zippered front will be more wind-resistant than a jacket with buttons or snaps. A flap of material over the zipper of a jacket gives additional protection against the wind. Jackets with snug cuffs and waist are recommended to keep wind from blowing into the garment. Be careful about collar style – a large, loose collar will flap when riding and may irritate your skin or distract you.

Remember that even in relatively warm weather, constant exposure to wind when riding may cause hypothermia: a subnormal body temperature. Hypothermia can cause you to lose your ability to concentrate and react to changing traffic conditions. Motorcyclists are especially susceptible to rapid chilling that leads to loss of reflexes, a symptom of hypothermia. The biggest danger of the subnormal body temperature found in hypothermia is the deterioration in the ability to think clearly. Proper riding gear, such as a windproof jacket and insulated layers of clothing, is essential.

On a warm day (65 degrees Fahrenheit), a motorcyclist riding at highway speeds of 45-55 mph experience a chilling effect equivalent to 33 degrees. That is only one degree above freezing. Riders not dressed properly for the chill could become victims of hypothermia.

Clothes that are just right for cold-weather riding may be too hot once you stop riding. To prevent this, dress in layers so that outer clothing may be removed as necessary.

When preparing to ride in cold weather, several layers of clothing are necessary, usually starting with thermal underwear. Extra layers of pants, shirts and jackets should be layered loosely to aid body heat in forming a warm insulation. Topping your clothing with a windproof outer layer will prevent the cold wind from reaching your body.

Another alternative when riding in cold weather is to wear a snowmobile suit. These lightweight, insulated suits provide the warmth needed to prevent hypothermia. Another option available to motorcyclists is an electrically warmed suit or vest. These items hook up to the motorcycle battery and can be quite effective.

Regardless of temperature, a light jacket should always be worn. Stay away from jackets made of extremely thin material. These jackets will flap too easily in the wind. On hot, sunny days, it is best to wear lightly colored clothes and helmet. Lighter colors reflect the sun's rays, rather than absorbing them like darker colors. This can make a difference of 10 degrees or more on hot days.

Wearing a jacket will reduce your chances of becoming dehydrated while riding on a hot day. Wind rushing over exposed skin quickens dehydration. A jacket helps protect your skin from drying wind.

The clothes you wear when riding can serve to make you more visible in traffic. Choose brightly colored clothing when possible. Only two riders of the 900 accident cases studied by the USC researchers were wearing brightly colored clothing. If you wear dark clothing, inexpensive retroreflective vests can be worn over the jacket. Also, it is a good idea to affix reflectorized tape striping to garments you wear regularly when riding. This applies to bright clothing worn during the day. Unless they are reflectorized, they will not offer the same good visibility at night. Jackets made with retroreflective material also will help make you more visible at night.

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## Rainsuits

Rainsuits are recommended in rainy weather. One-or two-piece rainsuits can be purchased in several materials, the most common being polyvinyl chloride (PVC) and nylon. They come in different colors, but orange or yellow is best for high visibility.

There are usually only small differences in rainsuit styles. The pants to a typical rainsuit have elastic at the waist and stirrups (or tie-strings) on the pants' legs to wrap around the rider's boots. The jacket has a high collar that is held closed by a snap or adjustable hook-and-loop fastener. The front zips up and a wide flap fastens across the opening. The wrist openings are held tightly with more elastic.

When purchasing a rainsuit, also consider purchasing glove and boot covers. Most glove covers are large enough to fit over gauntlet-type gloves without interfering with hand flexibility. The boot covers have tie-strings on top and should be worn under the pants. The pants stirrups are pulled over the boot covers. The boot covers will not take much abuse, so it's suggested they be taken off before walking.

For the avid motorcycle rider, a rainsuit is a must. A dry cyclist will be much more comfortable and alert than the rider who is wet and cold. Whether you ride in a warm or cold climate, in a rural area or the city, a good selection of high-quality gear will help you stay comfortable in all weather and riding conditions. And, if you have an accident or spill, it could save you from serious injury.



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## HELMETS DO WORK

Many activities or sports have their own suitable protective clothing and equipment. Motorcycling is no exception. Every rider and passenger should wear over-the ankle footgear, long pants, a good jacket, gloves, and above all, a helmet.

Helmets work. Helmet effectiveness has been confirmed by responsible studies, while helmet myths – "helmets break necks, block vision, impair hearing, cause overheating, etc." – have been disproven time and time again. Informed riders tend to wear helmets by deliberate choice every time they ride; we know that you will, too.

Let's look at what a helmet really does for you. First, it is the best protective gear you can wear while riding a motorcycle. Think of it at the same time you think of your ignition key. You pick up the key, you pick up the helmet. They go together. Helmet use is not a "cure-all" for motorcycle safety, but in an accident a helmet can help protect your brain, your face, and your life. In combination with other protective gear, rider-education courses, proper licensing, and public awareness, helmet use is one way of reducing injury.

You hope you never have to use your helmet, just like you won't ever need to use the seatbelt in your car. But accidents do happen. We can't predict when or what kind they will be. In any given year, a lot of people make good use of seatbelts and a lot of riders give thanks that they were wearing helmets.

None of this "I'm just running down to the store" stuff. Where do you think most accidents happen? Within three miles from home. Statistical truth.

Second, a good helmet makes riding a motorcycle more fun. This is the comfort factor. It cuts down on wind noise roaring by your ears, on windblast on your face and eyes, and deflects bugs and other objects that fly through the air. It even contributes to comfort from changing weather conditions and reduces rider fatigue.

Third, wearing a helmet adds to your motorcycling image and the image of all motorcyclists. It shows that we are responsible people, that we take ourselves and motorcycling seriously.

Wearing a helmet, no matter what the law says, is a reflection of your attitude toward riding. And that attitude is plain to see by other riders and non-riders alike. To ride a motorcycle means avoiding foolish risks.

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## HOW AND WHY A HELMET WORKS

Different helmets do different things. There are construction hard hats on construction heads, football helmets on athletes' heads, and Kevlar pots on military heads. None are interchangeable. Motorcycle helmets are very sophisticated and specialized for the activity. They've been developed carefully and scientifically over the years.

Four basic components work together to provide protection: an outer shell, an impact-absorbing liner, comfort padding, and a good retention system.

What we see first is the outer shell, usually made of some family of fiber-reinforced composites or thermoplastics like polycarbonate. This is tough stuff, but designed and intended to crunch when it hits anything hard. That action disperses

energy from the impact to lessen the force before it reaches your head. But it can't act alone to protect you.

Inside the shell is the equally important impact-absorbing liner, usually made of expanded polystyrene (commonly thought of as styrofoam). This dense layer cushions and absorbs the shock as the helmet stops and your head wants to keep on moving.

Both the shell and the liner essentially self-destruct, if hit hard, by spreading the forces of impact throughout the helmet material. The more impact energy that is deflected or absorbed, the less there is of it to reach your head and do damage. Some helmet shells delaminate on impact, while others may crack or break if severely impacted. This is one way a helmet acts to absorb shock. It is doing its intended job. Impact damage to the non-resilient liner may be invisible to the eye; it may look great, but probably has little protective value left and should be replaced.

The comfort padding is the soft-foam-and-cloth layer that sits next to your head. It helps keep you comfortable and the helmet fitting snugly. In some helmets, this padding can even be taken out for cleaning.

The retention system, or chin strap, is very important. It is the one piece that keeps the helmet on your head in the event of a crash. A strap is connected to each side of the shell. Every time you put the helmet on, do up the straps securely. It only takes a couple of seconds. To ride without the helmet securely strapped on would be as questionable as driving without the seatbelt fastened.

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## CHOOSING A HELMET

While color, design and price may be a part of your decision about which helmet to buy, think first about protection. A full-face helmet gives the most protection since it covers more of your face. It usually has moveable faceshields protecting the eyes and is easily operated with one hand. Professional and seasoned riders tend to prefer full-face helmets for the added protection and comfort.

A three-quarter, open-face helmet is also a choice of some riders. It is constructed with the same basic components, but doesn't offer the face and chin protection of full-face helmets. If you use an open-face helmet, you should have a snap-on faceshield in place when you ride, or buy a pair of goggles that can withstand the impact of a stone. Ordinary glasses or sunglasses are not sufficient eye protection for a motorcyclist, and they might move or fly off. A "shorty" half-helmet protects even less of your head. It is more likely to come off your head upon impact. Therefore, "shorty" helmets are not recommended.

A lot of good helmets are available today, in all price ranges. One look around your dealer's helmet display will convince you that nearly any color, decoration and design you could want on a helmet is already available. Many manufacturers are color coordinating their helmets with the newest motorcycle models. The days of heavy or cumbersome helmets are no more. They're made of light new materials and keep improving yearly. The manufacturers are also working to make them less expensive, stronger, and more comfortable.

A real must in choosing a helmet is making certain that it lives up to the minimum safety standards. Price doesn't necessarily mean one helmet is better than another. It might just reflect hand processing versus a more mechanized manufacture. It may be that certain styling detail, paint jobs, or venting systems affect the cost. The way to find a well-made, reliable helmet is to look for the DOT or SNELL sticker on the inside or outside of the helmet. The sticker means the helmet lives up to the safety test standards of these agencies: U.S. Department of Transportation (DOT) and/or the Snell Memorial Foundation.

Each organization has rigid procedures for testing:

Impact - the shock-absorbing capacity of the helmet.

Penetration – the helmet's ability to withstand a blow from a sharp object.

Retention – the chin strap's ability to stay fastened without breaking or stretching.

Peripheral vision – the helmet must provide a minimum side vision of 105 degrees to each side. (Most

people's usable peripheral vision is only about 90 degrees to each side.)

Since 1980, ALL adult-sized helmets for on-highway use must meet DOT standards. Helmet dealers and distributors must ensure that all the helmets they sell bear the DOT sticker. Whatever your helmet choice, be sure it has this certification. You don't want an inferior helmet or one designed for another purpose. If someone tries to sell you one without it, don't buy it. If you have one without it, the helmet is probably so old it should be replaced anyway.

Snell has been testing helmets since the 1950s. The use of Snell standards by helmet manufacturers is voluntary, unlike DOT standards. Snell testing is of high quality and is revised (most recently in 1990) as helmet design and technology improve.

Both agencies attempt to reproduce, under test conditions, the situations that are hazardous to motorcyclists. Their testing methods differ, but the intent is the same: to make certain any helmet they approve has life-saving, shock-absorbing minimums.

Since head injuries account for a majority of motorcycle fatalities, head protection is vital. Even the best helmet is no guarantee against injury. However, without a helmet you are five times more likely to have serious head injuries than a helmeted rider.

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## GETTING THE RIGHT FIT

### Size

There's more to fitting a helmet than just buying the one that matches your hat size or guessing at "small, medium or large." Your hat size is a good starting point, however. If you don't know your hat size, you can use the chart below. Measure your head at its largest circumference – usually just above your eyebrows in front, over your ears and around in back. Try it several times so you know you've gotten the largest number. If your head size falls between the numbers listed, use the larger size. Since some helmets are simply marked as S, M, L or XL, you may need to contact the manufacturer for size equivalents. Unfortunately, they vary.

Inches	Hat Size
21 1/4	6 3/4
21 5/8	6 7/8
22	7
22 3/8	7 1/8
22 3/4	7 1/4
23 1/8	7 3/8
23 1/2	7 1/2
23 7/8	7 5/8
24 1/4	7 3/4
24 3/4	7 7/8

### The Best Way to Try on Your Helmet

Hold it by the chin straps. The bottom of the helmet should face you with the front pointing down.

Put your thumbs on the inside of the straps, balancing the helmet with your fingertips.

Spread the sides of the helmet apart slightly and slip it down over your head.

The helmet should fit snugly and may even feel a bit too tight until it's in place correctly. Be sure it sits squarely on your head. It shouldn't sit tilted back on your head like a hat. Remember, if your helmet is too large, several things happen. It will move around and up and down on your head when you least want it to. It can be very annoying to wear because it's noisy and lets in wind. And, in the event of an accident, it may come off!

Once the helmet is on your head, make a few other fit checks before fastening the chin strap:

The cheek pads should touch your cheeks without pressing uncomfortably.

There should be no gaps between your temples and the brow pads.

If the helmet has a neck roll, it shouldn't push the helmet away from the back of your neck.

With the helmet still on and the straps securely fastened, move it from side to side and up and down with your hands. If it fits right, your skin should move as the helmet is moved. You should feel as if a slight, even pressure is being exerted all over your head by the helmet. Remember too that a helmet loosens up a bit as the comfort liner compresses through use. So a new one should be as tight as you can comfortably wear it.

Now, with the chin strap still securely fastened and your head straight, try rolling the helmet forward off your head. You shouldn't be able to pull it off. If you can, the helmet is too big.

Take off the helmet. Does your head feel sore anywhere? Are there any red spots on your forehead? Pressure points can be uncomfortable and can cause a headache after a long ride, so be sure your helmet isn't causing any. If it is, choose the next largest size or try a different brand of helmet. Human heads are not all the same shape; neither are helmets.

If you are still unsure about the helmet's fit, wear it around the store for awhile to see if it remains comfortable. A helmet is an important investment, no matter what its price. Be sure the one you choose is right for you.

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#### TIPS ON HELMET CARE

Follow the manufacturer's directions on caring for your helmet. Use only the mildest soap recommended. Avoid any petroleum-based cleaning fluids, especially if you own a polycarbonate helmet. Exposure to strong cleaning agents can cause the helmet to decompose and lose protective value.

Keep your helmet's face shield clean. Normally, mild soap and water with a soft cloth will do the job. If it gets scratched, replace it. A scratched face shield can be annoying to look through. At night, it could dangerously distort your vision and oncoming lights.

A helmet looks tough and sturdy, but should be handled as a fragile item. This means that you don't want to drop your helmet onto hard surfaces. It could ruin your helmet. Remember that its function is to absorb impact in an accident.

It is not wise to store helmets near gasoline, cleaning fluids, exhaust fumes, or excessive heat. Helmet materials can react chemically to these factors. Damage done this way may be noticeable, but most often is invisible to the eye. Read the information that comes with the helmet so you know how to care for it.

Definitely read the instructions about painting, decorating, pin-striping, or applying decals to your helmet. Some thermoplastic or polycarbonate helmet compositions can be changed if painted or decals are applied.

Never hang your helmet on the motorcycle's mirrors, turn signals, or sissy bar. The inner liner can easily be damaged from such handling. In fact, avoid carrying a spare helmet on your cycle, unless it's well protected or on your passenger's head. Even the bumps and jarring from normal riding can damage a spare helmet. If it is strapped on near hot engine parts or exhaust pipes, the inner liner may distort or melt at the hot spot. The outer shell may not show the damage, but if you've ever seen the effects of a Styrofoam cup placed too near excessive heat, you can understand what happens.

When you take your helmet off, find a secure, flat place for it. That might mean setting it on the ground, securing it on a rack, or stowing it on a shelf. On some bikes, putting it on the gas tank may expose it to gas fumes. If you place it on the seat, make certain it's an awfully big seat or it will probably fall off.

If you plan to use a CB radio when you ride, find a model that doesn't require drilling speaker holes in your helmet's structure. Before you purchase your speakers, check your state's laws regulating their use in helmets. Some states prohibit them.

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## REPLACING YOUR HELMET

Plan to replace your helmet if it is involved in an accident; it probably absorbed some impact shock. Some helmet manufacturers will inspect and, when possible, repair a damaged helmet. If you drop your helmet and think it might be damaged, take advantage of this service. While some helmet manufacturers recommend replacing your helmet every two to four years, today's helmets are made to last. Even though today's helmets are designed to last longer, if you notice any signs of damage, replace it immediately.

Why replace a helmet every few years if it doesn't appear damaged? Its protective qualities may deteriorate with time and wear. The chin strap may fray or loosen at its attaching points. Or the shell could be chipped or banged. Probably the best reason, however, is that helmets keep improving.

Chances are that the helmet you buy in a couple of years will be better, stronger, lighter, and more comfortable than the one you own now. It might even cost less! Can't remember when you bought your present helmet? Check the chin strap or permanent labeling. Since 1974, all helmets must have the month and date of production stamped on it. If there's no date at all, you should definitely replace your helmet – now!

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## STATE HELMET REQUIREMENTS

### Retroreflectivity

Many states require a specific amount of retroreflective material on a helmet. Check with your dealer to be sure the helmet you plan to purchase meets the requirements. Ask if it will be damaged if you do apply retroreflective tapes or decals to it. Again, read the manufacturer's information. Your local motor-vehicle department can give you exact information on the location and number of square inches of retroreflective material required in your state.

The Motorcycle Safety Foundation has two styles of retroreflective decals available for use on helmets. Write for the most current catalog. It contains information on MSF's public-information publications, videos, materials and accessories.

### Helmet Laws

Wearing a helmet properly strapped on your head is mandatory in many states. Laws are always changing, so double check with the state motor vehicle department for the most current information. Planning on a tour through several states? State laws apply to travelers as well as state residents. Don't leave home without the information you need. Better yet, don't leave without wearing your helmet, then none of the above will matter.

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## GETTING MORE INFORMATION

You've now read that there are many things to consider when buying a helmet. Get all the information you can. Talk with an MSF-certified Motorcycle RiderCourse Instructor, your local motorcycle dealer, and other riders. Contact helmet manufacturers and read their literature. Consult recent motorcycle-enthusiast magazines for up-to-date information to help in your decision. Two agencies you can contact are:

### National Highway Traffic Safety Administration

#### Traffic Safety Programs

Office of State Program Assistance

400 7<sup>th</sup> Street Southwest

Washington, DC 20590

Snell Memorial Foundation, Inc.

Box 493

St. James, NY 11780

While you are gathering information on protecting your head, why not find out good tips on other motorcycle gear. Read MSF's Cycle Safety Info Sheet, "Riding Gear for the Motorcyclist." Contact: Motorcycle Safety Foundation, 2 Jenner Street, Suite 150, Irvine, California 92718-3812.

THE MORE YOU KNOW, THE BETTER IT GETS.

Wear your helmet all the time, and hope you'll never need it!

then claims the qualification for himself. There is not even a reporting requirement. The government does contract for some spot check testing at commercial and private labs but not very much. In recent years much of their effort has been spent against so-called beanie helmets that are obviously substandard and are worn only by helmet law protesters.

Around 1990 a few magazine articles appeared questioning whether Snell certified helmets met the DOT standard. Some went as far as claiming that it was impossible to meet both standards with the same helmet but others were more cautious and said only that meeting both was very difficult. In fact, Snell certified helmets do meet DOT. If you want to be sure that your helmet meets the DOT standard, get a Snell certified helmet. Manufacturers apply for an earn Snell certification because they care about quality. These are the very manufacturers for whom the honor system works. A Snell sticker is your best assurance that the helmet meets both Snell and DOT. Without our sticker, it's purely a gamble that the helmet meets any standard at all.