VISUAL SKILLS REQUIRED FOR MOTORSPORTS

Accommodation and Convergence

Accommodation is the ability to change focus immediately as objects, such as cars, move closer to, or farther away from you, or when you switch from distant to near focus such as from the circuit to the instrument panel of the car. Convergence is the ability to keep both eyes working in unison as they track other cars that are moving rapidly in your environment. These are two separate skills that must work together to achieve good, clear vision.

Anticipation Timing

The visual system provides you with the information needed to act, as well as the information needed to judge when to act. Doctors estimate that up to 80 percent of perceptual input in sports comes from the eyes. Timing, however, is the key to effective performance. To succeed, you need to make the right physical movements at the right time. The activities, and even superior speed, size and reflexes cannot compensate for faulty processing of visual information regarding when to perform.

Concentration

Concentration is defined as the ability to maintain a high level of focus while driving competitively at the limits of your ability, in spite of distractions, and while maintaining total awareness of what is happening all around you. This is not to be confused with staring, which is just another form of distraction. Staring means the eyes are not focused but are in fact disassociated from the race and represents total loss of concentration with little or no sharp awareness of what is going on around you. This phenomenon may show up in the form of “Brain Fade” (a temporary inability to concentrate or think clearly).

Depth Perception

A driver’s ability to instantly and accurately judge distance, speed, and dynamics of objects (i.e., cars) is crucial to the timely execution of maneuvers.

Dynamic Visual Acuity

This may be defined as "vision in motion", or the ability to see, interpret and react immediately to a rapidly moving object while you are also in motion. This, obviously, is what is happening during the course of a race.

Eye-Hand Coordination

The “eyes lead, the body follows”, not the other way around. Our hands, feet or body respond to the information the eyes have sent to the brain. If this information is incorrect, even to the slightest degree, there is a good chance of error in our physical response. Many driver errors, or poorly executed maneuvers, can be attributed to faulty visual judgment, and it is visual judgment alone that determines eye-hand coordination.

Peripheral Awareness

Peripheral awareness is not to be confused with *peripheral vision*, which is relatively unchangeable. You can enhance peripheral awareness, or your ability to maintain an awareness of what is happening around you during a race while keeping your concentration on the relevant field and race in front of the car. A well-developed peripheral field will help you to see everything at once, to maintain the whole pattern, to sense the flow of the race as it constantly changes

Speed and Span of Recognition

Any increase you can achieve in recognizing a visual stimulus has a very special effect in terms of your overall competitive performance. It drives the physical impulses to a better reflex level. The reflex action becomes more automatic and requires less processing time. As a result, your physical response becomes much quicker, more accurate and more efficient.