

FastLine Track Pro

Audible G-meter

Introduction:

The Fast Line is a unique tool used to enhance your track experience and proficiency.

Races may be won in the straights, but position is gained in the corners. And if you consistently maximize your speed through the corners, the obvious occurs.

This is great in theory and if the simple were easy everyone would be a great driver. Except... how does one know the maximum speed? The physics of how each individual car transitions through a curve remains a constant for that car. Knowing what this constant is and achieving it smoothly and consistently maximizes the speed through a turn.

The Fast Line, with its track bred algorithms allow every driver, from novice to experienced, to get immediate real time feedback on the car's attitude in any corner. By measuring the vector forces in a corner and audibly reporting to the driver, each corner becomes a classroom... lap after lap.

Experience better lap times, smoother transitions, and reduced equipment wear in just a few laps.

How does it work? We have found it is a challenge to transfer the correct feel of a corner to a driver that has anything but a great deal of track experience. The Fast Line facilitates driver awareness through any corner by using real time audible feedback through any turn. A driver will immediately understand whether or not the corner was smooth and fast or not. By maximizing the cars speed through a turn by knowing where the limit of adhesion is makes the driver fast and confident through the turn. This allows the driver to focus more on entry, exit, balance, and braking techniques, rather than the speed through a turn. Thus giving the driver more confidence, and the ability to immediately understand the track.

We have seen improvement, not only from novice drivers, but with professional instructors in less than one session using the Fast Line Track Pro.

No gimmicks, just great information easily usable by any level driver.

Designed to enhance driver awareness, safety, and equipment longevity.

Limit of Liability:

Warning to all users:

The Fastline Track Pro is an assistive device and is no substitute for the driver's judgment.

The device is no guarantee of your safety in corners, on a straightway, or on hilly terrain.

Infinite variables exist in driving, so conditions vary with every driving circumstance.

Innovative Automotive Products (IAP) does not extend any warranties express or implied except those stated below.

USER ASSUMES ALL RISKS IN USING THE FASTLINE TRACK PRO.

System Description:

The FastLine Track Pro is an audible lateral G-Force meter that annunciates primarily through the car radio. The system is comprised of one primary unit (the meter) and additional included or optional components. The additional components used depend upon the car stereo system in use. The most common application requires use of an optional wireless FM transmitter. Those car stereo units that have a 1/8" auxiliary input can use the patch cord.

The meter can be temporarily mounted to the windshield using the supplied suction cup bracket. Permanent mounting can be achieved anywhere in the car using any method that does not damage the case of the meter such as with Velcro or clamping bracket.

Power is provided from the car 12 volt system by using the provided cigarette lighter adapter. The optional hard wire kit can be used for permanent installation. The power input jack is located on the Control Panel.

Audio Out is located on the Control Panel and is a high impedance low watt output suitable for all automotive audio systems with a 1/8" Aux In jack or for any off the shelf FM wireless transmitter.

System Installation:

The meter can be located anywhere within the car with a preference to the centerline of the car. The meter must be placed lengthwise along the long axis of the car and within 5 degrees of level in the vertical axis. It must be installed in such a way that stays stable with the car. Any movement the meter experiences that are the result of poor or loose placement will give erroneous information to the driver.

Attach power cord and audio patch cable or FM transmitter. Meter will power up as soon as power is applied.

Temporary installation is obtained by attaching the provided suction cup bracket to the meter and placing the meter low in the windshield preferably resting on the dash. This location provides stability to the meter and keeps any cords from interfering with driver's field of vision.

Permanent or hard mount locations are at the user's discretion. (Warranty is void if meter case is altered.) Use Velcro, double backed tape, or a clamping mount for permanent mounting. Center consoles, under the dash, or roll bar mount are among some of the possibilities for permanent mounting.

System Calibration:

The meter will calibrate immediately upon powering up. The LED will glow green once calibrated. However, should re-calibration be required as indicated by erroneous readings or the LED flashing red, depress the Calibrate button and the meter will re-calibrate. Calibration must be done with the vehicle stopped on a level surface.

Note:

Should the meter go out of calibration, the LED will flash red and the meter will not annunciate again until it has been recalibrated.

Theory of use:

The FastLine Track Pro when used for the purpose intended gives a driver real time feed back on the cars progression through a turn. The meter will annunciate from .3 to 2.0 times the force of gravity, or G Force, in increments of .1 G. It does this every .5 seconds and will continue to do this until the meter stops experiencing the force.

For any given line through a turn there is a fixed radius of that part of the turn. As speed is increased the G force increases as well. The limit of adhesion (Max G) is determined by the car, tires, and conditions of the surface of the turn.

All this said, the fastest way through a corner is to smoothly get to Max G at the Apex area of the turn and then smoothly exit out of the turn. The Fastline Track Pro audibly tells you if this is happening in real time.

A good turn will produce incremental steps of increase to the Apex area and incremental steps of decrease through the exit. Depending on the radius of the turn, the incremental increases may be small (.1) for a large radius such as a sweeper or the incremental increases may be large (.3 or more) for a small

radius such as a hairpin turn. The goal is the same; to hit Max G at the apex area smoothly.

A poor turn such as an early entry will cause a need to input additional steering after the apex. If mph is held constant the car will achieve the highest G after the apex and may even exceed Max G and go into an understeer or push condition further slowing progress through the turn. Understeer and oversteer conditions will register as a sudden drop in G's since the car has surpassed maximum adhesion. Either way the car will be slower through the turn.

Assuming that you are familiar with advanced driving theory and practice, the Fastline Track Pro becomes a teaching tool that will help you achieve more consistent and faster lap times. It will also allow for quicker understanding of an unfamiliar track or even changing surface conditions. This information can save a driver from experiencing an unwelcome exit from the track.

It is important to understand that the FastLine Track Pro is not a substitute for a good foundation in advanced driving practices and a well prepared car.

Practical Use:

We have found that initially the information given may be overwhelming. The solution is to focus on the basics of driving and have the audio adjusted to a point where it is just heard over the ambient noise. As the driver becomes familiar with what the device is doing, it becomes easier to focus on the important information being received and ignore the rest. The information becomes background information almost like peripheral vision. Once the driver hears a sudden drop or increase in G's that should not be there or is not expected then the mind is alerted to the change and the driver can focus on the cause of the change.

With some practice the driver begins to "drive to the meter" and gradually will bring up the G's to the apex area as described. This will help find the limit and the line with out any sudden surprises.

By the way, Max G is the same no matter what the corner. If Max G for car and conditions is 1 G then every corner is a 1 G corner regardless of grade or radius. Whether the turn is flat, off camber, or banked, the earths gravity is factored into the equation and the result is the same, Max G is Max G.

Warranty:

Innovative Automotive Products warrants the FastLine Track Pro system against defects in materials and workmanship for a period of one year from the date of purchase. During this period, Innovative Automotive Products will repair or replace, at Innovative Automotive Products' discretion, any FastLine Track Pro system or component returned prepaid by the original purchaser, providing it has been determined by Innovative Automotive Products the unit failed due to defective materials and workmanship.

This warranty excludes the following: 1) Normal wear and tear. 2) Removal or replacement costs. 3) Damage to related components. 4) Cost incurred due to vehicle down time. 5) Shipping costs. 6) Failure due to misuse, abuse, improper installation, and or unauthorized repairs or modifications, at the sole discretion of Innovative Automotive Products.

Implied warranty- The warranty is in lieu of all other and/or representations, express or implied, including without limitations, warranties of merchantability and fitness for purpose, and all other liabilities including special consequential damages in connection with the sale or use of any Innovative Automotive Product.