

This timing light is a good addition to any racing program. Not only can it be used for tuning, but also it can be utilized to quickly locate engine problems at the track.



The primary use for a timing light is for setting the ignition timing. Though there are a couple ways to utilize it for checking the timing, the most common is a degree wheel and pointer fitted to the engine. When running the engine at a moderate speed the timing light will visually indicate where spark is occurring in reference to the crank angle.

Most consider a timing light to be something that is only relevant to the engine builder. It is very relevant to any engine builder, but it can also be helpful to the average racer. It is one of those tools that you can get by without, but having one can make things easier for you.

A timing light falls under one of those tools that can help make diagnosing problems easier. This cordless version part #FR1001 from Flaming River, not only is a timing light but also has a flash light built into it. Timing lights can help with more than just setting ignition timing; they can also be used for other tasks like checking for spark without taking anything apart.

The timing light is a simple tool that is normally associated with setting ignition timing. It has a bright xenon bulb that flashes the instant it sees spark has occurred. The only hook up necessary is an inductive pick up that gets clipped right to the spark plug wire. This flashing light visually stops all motion at the time of spark so that the operator can see what is going on. If a timing mark or degree wheel is fitted, the operator can then see exactly where the mark falls in relation to the spark timing. The degree wheel or timing mark is always in reference to the piston being at top dead center. This allows the operator to see, in degrees, when ignition is happening compared to the crank position.

By knowing where the timing is, and where it should be, adjustments can be made to get the engine tuned correctly. On a 4 cycle this normally means moving the flywheel in relation to the crankshaft to achieve the proper magnet position in reference to the piston position. This is normally accomplished using offset keys.

Timing lights can also help investigate fuel problems. When the engine is running, carefully shining the light into the carb with the air filter removed can give a good visual of how the fuel is entering the engine. For a good reference of what this should look like first do this on a good carb and then compare it to the one in question. A dirty carb can show up as small amounts of fuel in big droplets entering the engine, among other things. A good carburetor normally shows a finely atomized air/fuel mixture entering the engine. A quick comparison between a good carb and the one in question can help locate a hard to find problem when other methods were not giving any help. When doing this, always make sure not to rev the engine past a safe free rev speed and stay clear of moving parts

Timing Light

By Bob Markiewicz

and fuel spit back. A quick stab of the gas can show you what you need to see. This is not a common use for a timing light but just something that could help you diagnose that hard to find problem someday.

If you ever have a major problem at the track, like an engine that won't run at all, finding the problem quickly is critical. By simply clipping the timing light onto the spark plug lead and turning the engine over at cranking speed, the timing light will indicate whether or not you have spark. If spark is present then the light will flash and you can look elsewhere for your problem.

If not, then you can start to look at your ignition system to locate your problem. It eliminates the chance of being shocked and is very quick. This is probably one of the handiest uses for it at the track. Keep in mind that you could still have a fouled plug even if the ignition is working correctly.

By simply hooking the timing light to the spark plug lead and turning the engine over at cranking speed the flashing light will indicate if spark is present. A timing light provides a safe, easy way to help diagnose problems at the track.



Always make sure to read the manufacturer's recommendations on the proper use of the timing light. Most importantly, don't be fooled by the fact that a timing light can make things like fans that are spinning 5,000 rpm, look perfectly still. Stay away from all moving parts when operating the timing light because looks can be deceiving.

In the future we will look at using a timing light to set the timing on a 4 cycle engine. The procedure is relatively easy when broken down into a couple of steps.

The timing light, a simple, affordable, addition to your tool box that can make things easier for you. For about \$50 it is a tool that should last a lifetime and can even be used outside of karting on other projects and repairs. An excellent addition to the tool box to help with tuning and diagnosing problems quickly.

