



**BROWN & GAMMONS LTD**

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## **How to tune CSI Ignition (12H3580CSINE) (13H9694CSINE) (27H5138CSINE)**

### **General Points**

Ensure your engine is in good running order and check that your carburettor mixture is set correctly.

The optimum settings of the carburettors and ignition are when:

A - The engine has a smooth and quiet idle (500-1000rpm)

B - The acceleration is good

C - The maximum power will be achieved.

These conditions should be achieved without pinking.

The curve diagrams show the ignition advance rate at different engine speeds (RPMs). Typically less advance means less power. Whilst more advance will give you more power. But beware, too much advance will reduce power and increase the likelihood of engine damage from knocking. If knock is detected, step back one curve and test drive again. It is important to use a curve and test drive again. It is important to use a curve that will give you the best power with least advance.

Take care during your test drives. Do not overload or strain the engine. If detonation is detected then drive gently until the curve is changed. Engines run under a sustained knock conditions can be damaged. If you have any doubt about tuning, please contact a specialist for advice.

### **Setting up the CSI-Ignition from Curve 1**

1. Set the *static* timing at 0 degrees BTDC, using original timing marks on the flywheel or crankshaft pulley, make sure the rotor arm is pointing to the number 1 contact on the distributor cap. Details of how to set static timing can be found in the relevant workshop manual.
2. Set the CSI-Ignition distributor on curve 1, the LED light will flash once. Refer to the fitting instructions for details of how to set a curve. You can now start your engine.
3. If the engine runs well you can continue to use the car normally with this curve. If you would like to try a different curve, to see if you can gain more power, follow the instructions below.

### **Selecting a Different Advance Curve**

Once you have the CSI-Ignition distributor installed and the engine is running on the basic curve you can start to find more performance by selecting different curves.

1. If necessary, retune the engine by adjusting the idle setting of the carburettors and the distributor timing slightly so the engine idles smoothly. Your ignition should be adjusted well enough to take a test drive.



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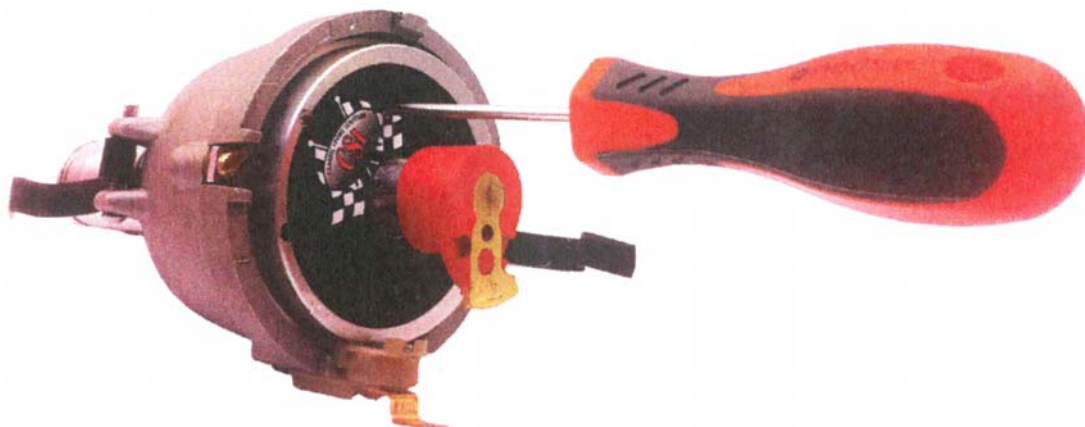
#### ***(12H3580CSINE) (13H9694CSINE) (27H5138CSINE)***

2. Take a test drive and then work your way up through the curves. Every time you chose a higher curve, take another test drive; listen carefully for evidence of knock. If knock is detected, return to the previous curve. Engines run under sustained knock conditions can be damaged.
3. The ignition advance starts at 1000 rpm and the created curve will go to maximum advance at a pre-programmed maximum RPM.
4. The graphs how the 16 different settings in groups of 4. You can tune by choosing one of the 16 different curves. If you think that you didn't find the maximum advance, or you want a lower maximum advance, you can also adjust the *static* setting from 0 degrees to a higher or lower setting. The maximum advance will also change by the same degree as the static timing is adjusted. So if the curve has a maximum advance from 20 degrees at a static setting of 0 degrees and you change the static setting to 2 degrees, the maximum advance will also go up with 2 degrees to 22 degrees.

Always check the settings with a stroboscopic timing light.

Please be aware that knock at high RPMs is very difficult to detect. If you are not sure, seek expert advice and consider rolling road tuning. When you find the curve that suits your car the CSI-Ignition distributor is ready for use.

**CSI-Ignition and Brown & Gammons are not responsible for any kind of engine damage!!! If you are not sure, please seek the advice from Brown & Gammons.**



*Change the curves with a small Phillips Screwdriver.*