

ECUMASTER EMU APPLICATION NOTES – FORD COSWORTH, LANCIA DELTA, WEBER IAW INJECTION SYSTEM



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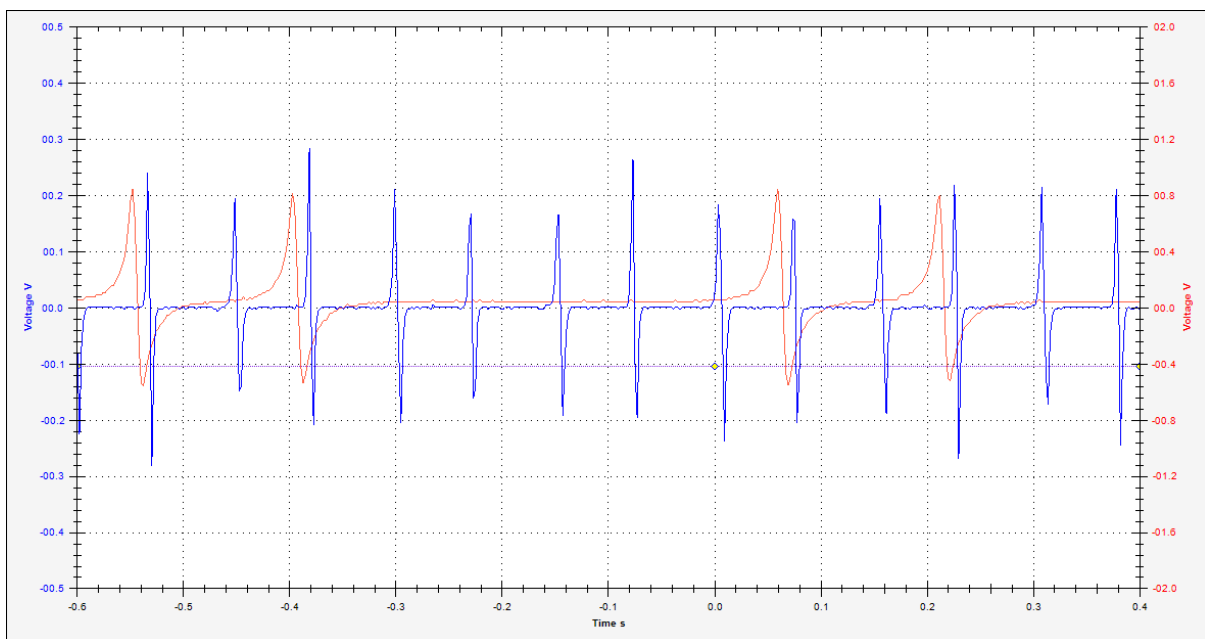
INTRODUCTION

Weber IAW used to control engines in those vehicles was at the time very common in high performance applications working on “speed density” algorithm was no need to use air flow meters as they were restrictive and not reliable. Was found in Ford Sierra Escort Cosworth also Lancia Delta and for example racing touring cars.

From those times automotive electronic change a lot and by using modern versatile engine management system we are sure that our engines will safely working at high performance applications. Thanks to wideband lambda control ,closed loop boost control , knock sensing and additional sensors like EGT is possible to achieve high precision engine control with all fuelling and ignition compensations.

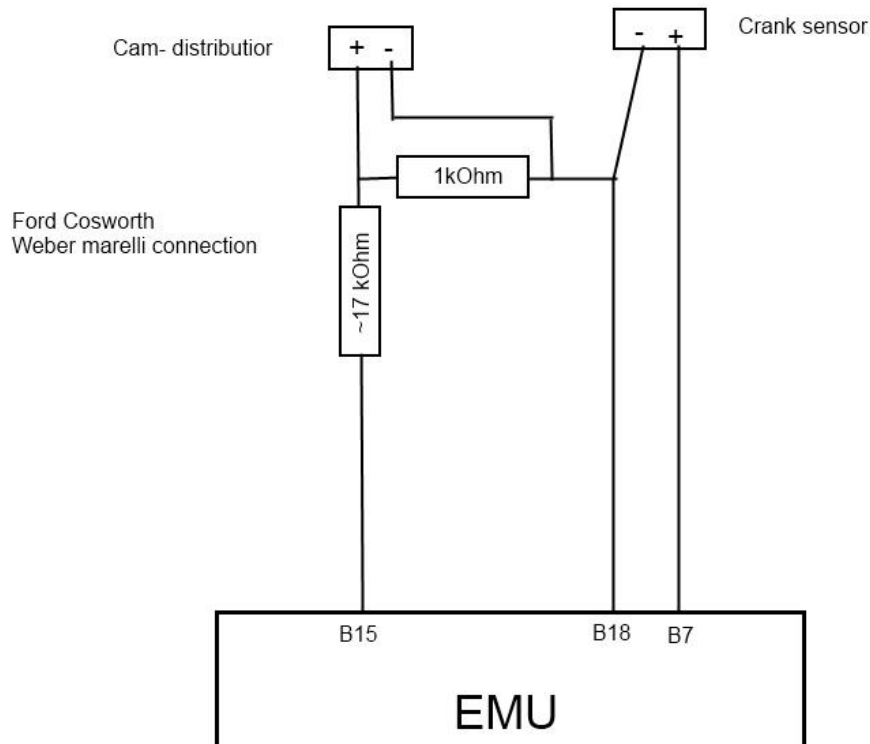
APPLICATIONS

Original crank position and phase sensors used in this case quite often together with old wiring loom often “modified” by non professionals are often providing non equal pulses often “noisy” signal making difficult to obtain synchronisation. Below typical scope screen shot with crank shaft (blue) and phase (red) waveforms.



As we can see despite quite equal cranking speed pulses are very unequal (probably crank pulley “run-out”).

To filter all signals and obtain synchronisation below connection need to be used.



Serial resistor need to be close to 17kOhm but 15 is working as well.

On primary “pull up” need to be enabled and sometimes “hall effect” sensor selected instead of VR.

Also in some cases 750R pull-down resistor need to be added for primary trigger.

On idle control valve and boost control solenoid “flyback” diode need to be installed.

TRIGGER SETUP

Following trigger setup should be used . Please note on picture distributor settings, wasted spark or “coils on plug” required different ignition outputs settings.

Primary trigger in this case is filtered with 750R pull-down resistor.

