



Pazon v Boyer

The Module

Analogue Ignitions

Mini Series Part 3 www.pazon.com

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Pazon
IGNITIONS WITH THE 7½ YEAR WARRANTY

Contents

Introduction	1
Chapter One <i>Module Casing, Encapsulation and Wiring</i>	2
Chapter Two <i>Module Performance</i>	5
Chapter Three <i>The Conclusion</i>	8
About the author	9

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Introduction

Isn't Pazon just a Boyer copy?

We are always being compared to Boyer Bransden. Aren't you just a Boyer copy? people have asked countless times. So in answer to the question we are writing a series of booklets to give you the chance to decide for yourself, and make an informed choice.

In making that informed choice, we can understand if you are saying to yourself "Isn't Pazon going to be biased towards their own products?"

So why should I bother to read.

Well here's why.

We are not just going to tell you how wonderful we are when compared to Boyer. We could, but that that would not be playing the game fair. So what we are going to do is do a direct comparison, like for like, so you can decide for yourself, whether we are just a Boyer copy or not.

So here goes.

In part 1 we compared the trigger.

In part 2 we compared the rotor.

In this part we will look at the ignition modules for the respective analogue systems, often referred to as the 'black box'.

The Module

Boyer Mk3 versus Pazon Sure Fire

What does this mean to you?

The wider case can make it harder to secure the module to frame tubing.

Use of rigid encapsulating compounds such as epoxy resin can put more stress on sensitive electronic components, which can then fail, often without warning. In order to overcome this, the electronics may be dipped into a buffer compound. However this can lead to other problems, for example trapped moisture.

The flexible wires exit through the rigid resin, creating a stress point. Without the aid of a protective grommet or sleeving, the wire insulation can break, exposing the internal copper conductor. In extreme cases the wire can completely break off where it exits the resin, making repair almost impossible.

What does this mean to you?

The smaller case width and rounded corners make it easier to secure the module to the framework and fit into tighter spaces.

The special encapsulating resin used is a low exo-therm, low shrinkage, semi-rigid polyurethane compound. This results in less stress to the electronic components, both in the initial curing process and during the life of the ignition module, which is subjected to regular temperature cycling and vibration. The resin is also thermally conductive, so helping to dissipate the heat that is generated within all ignition modules.

The sealing of the case with a lid acts as a second barrier against moisture, fuel and oil.

The rubber grommet protects the wiring against stress and damage at the most critical point - where it exits through the module casing.

Module Performance

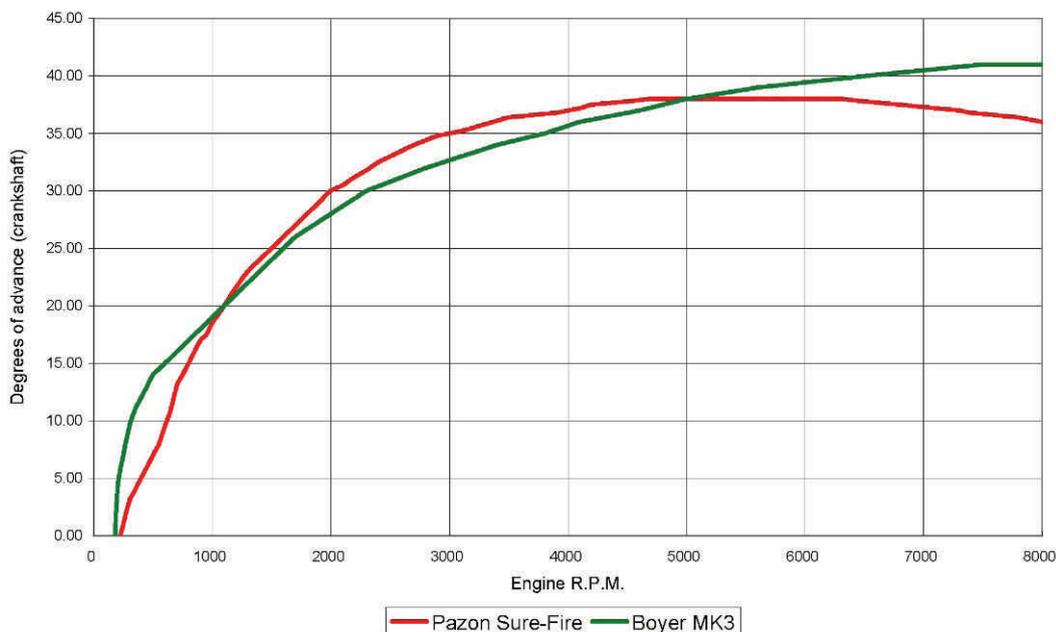
Boyer Mk3 versus Pazon Sure Fire

Electrical Specifications

	Boyer Mk3	Pazon Sure Fire
Working Supply Voltage Range	10 to 16 volts	10 to 16 volts
Coil Peak Primary Output Voltage	400 volts Max.	400 volts Max.
Reverse Battery Protection	x	✓

Only one major difference here: the Pazon module (12 volt type) is protected against reverse battery connections. Reversing the supply wires (either at the battery or at the module end) is easily done, especially if you are unfamiliar with bike electrics or are unsure of the polarity. Ignition modules that are unprotected against this can be quickly destroyed by reverse battery connections.

Ignition Advance Curves

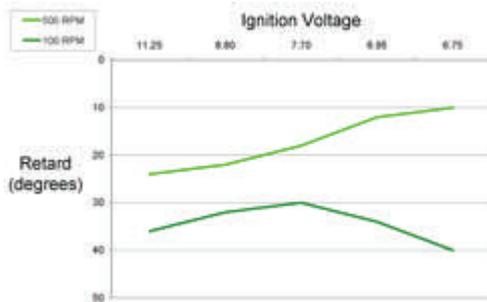


The two curves have been overlaid to intersect at 5000 rpm. Below idle the Boyer curve advances more steeply than the Pazon. Above 5000 rpm the Pazon curve retards a little; the Boyer curve continues to advance a little up to 7600 rpm.

Module Performance

Boyer Mk3 versus Pazon Sure Fire

Boyer Mk3



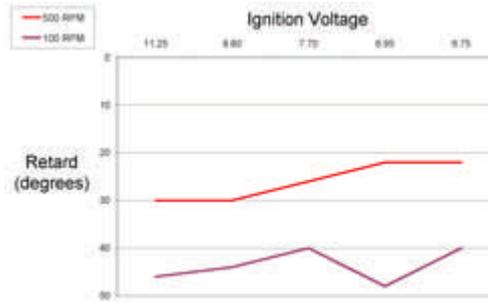
The above graph shows the variation in ignition timing with supply voltage for the Boyer Mk3. The lower line shows the results at 100 rpm, the upper line at 500 rpm.

From the graph you can see that at very low cranking speed, the variation in timing with voltage is relatively small, meaning that the ignition fires sufficiently retarded. At higher cranking speeds the ignition timing becomes less retarded (more advanced) throughout, and especially once the voltage drops below 8 volts. The upper line shows a change in retard ranging from 24° to 10° as the supply voltage decreases.

What does this mean to you?

As the ignition voltage decreases, the ignition timing becomes over-advanced for normal starting. This means a greater chance of kick-back, which can cause damage to the electric starter mechanism (if fitted) or a very painful experience in the leg of the motorcycle owner.

Pazon Sure Fire



The above graph shows the variation in ignition timing with supply voltage for the Pazon Sure Fire. The lower line shows the results at 100 rpm, the upper line at 500 rpm.

From the graph you can see that at very low cranking speed, the variation in timing with voltage is relatively small, meaning that the ignition fires sufficiently retarded. At higher cranking speeds the ignition timing becomes less retarded (more advanced) throughout. The upper line shows a change in retard ranging from 30° to 22° as the supply voltage decreases.

What does this mean to you?

As the ignition voltage decreases, the ignition timing stays within the acceptable range for normal starting. This means more reliable starting and much less chance of any nasty surprises.

About The Author

Dad was a sparky, working on planes and big brother was into electronics, so I would say it was in the blood.

I can still hear mum saying “Oh no, not again!”. For as long as I can remember, I’ve always taken things apart just to see how they work and put them back together again.

But the computer age was here, and the fascination for software engineering began. So there I was, heading down that career path. So designing ignitions, following in the family tradition of electronics, who’d have thought it!

The road to classic bike passion

Designing ignitions for classic motor bikes became a passion for me after being employed in several jobs, from software engineer on microcontroller systems to working on radar and communications equipment for the Ministry Of Defence. I landed a job at Boyer Bransden back in 1990 and very quickly ended up involved in the software development on several ignition systems.

Sparks flew at first sight

This is where I met Debbie, my wife and business partner. It was sparks at first sight (pardon the pun) where we soon rose to director level, but felt classic bike owners deserved a better product and we could not achieve this at Boyer Bransden. So in 2004 we went out on our own.

Taking the big leap

Taking this leap seemed second nature to us and we've never looked back. Andy now produces ignitions systems on the cutting edge of technology, as bikers deserve the best. These classic bikes are treasures and should be looked upon as such, so keeping them on the road gives us a great sense of achievement.

The big move

This is the next big adventure for Pazon Ignitions, moving from the UK to the other side of the world: New Zealand. This move has allowed us the freedom to follow our dreams, to grow Pazon into the kind of company that every classic bike rider deserves.

Feedback

If you have any feedback or any questions please email or call Pazon Ignitions.

No matter is too small.

Email: ignition@pazon.com



Andy Perkins

Pazon

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