Zetec Trial Report #2

To: APBA Inboard Tech Committee and 2.5 liter stock class racers
Subject: Ford Focus Zetec Trials Report #2
From: Bill Walti, #818
Date: September 19, 2010

Performance
We raced the boat at Lake Spanaway, Tacoma, WA this past weekend, September 11 and September 12. Six boats ran both days:

S12, Brian Hajny, driven by Jeff Bernard
S137, Dave Solway
S87, John Walti, driver (my boat}
S23, Buzz Busmeir
S 40, Brent Hall
S35, Ted Chetnik

The following results are official, supplied by Chief Scorer, Debbie Myre:
Places show, followed by heat times.

Sat Heat 1: S 12 (3:46.76) S137 (3:56.40) S87 (4:02.80) S23 (4:39.78) S40 (4:55.89) S35 (5:26.65)
Sat Heat 2 : S12 (3:48.09) S137 (3:56.07) S87 (4:04.70) S40 (4:17.36) S23 (4:50.74) S35 (5:02.61)
Sun Heat 1: S12 (3:45.03) S137 (4:00.31) S87 (4:04.51) S40 (4:17.71) S23 (4:47.61)
Sun Heat 2: S12 (3:47.08) S137 (3:58.79) S87 (4:06.06) S40 (4:14.71) S23 (4:44.55)

As you can see we placed 3rd. in each heat. The first two boats are strong Henderson's. Jeff Bernard was half a lap ahead of S137 but 87S (my Boat) did not lose contact with S137 and was only 3 or 4 boat lengths behind.

- On Saturday, heat one, I used a 10"x 16" Mercury lab prop (not a 2.5 Mod prop), and ran 90mph as recorded on my GPS, Velocitek, model S10, speedo.
- In heat two I used a 10"x17" Merc prop and ran 91mph.
- In both heats on Sunday I used a 10"x18" and ran 92mph.
- I had reset the rev limiter to 8,000 rpms and ran consistently at 7,000 rpms.

Considering we had to run outside in lane six each heat, we did well. We earned a third place trophy overall. We got no national pts. under Rule #40.17 (Experimental –Exhibition). The engine didn't miss a beat all weekend and I didn't touch the ECU, not even to read the settings.

Comments by racers were encouraging. Comments included, "How can a $300 junk yard motor keep up with those hot dogs?", and "I would like to see how it would do in one of the new Henderson's," (My S87 is a 1991 Jamie Auld design that I built from Boeing Surplus, carbon fiber/ honeycomb panels, in 1995) and, "We need this in the class".

On Sunday morning, after sitting out in heavy dew all- night I was able to fire it for warm-up on first try.
We did well against good boats and drivers. Jeff Bernard, S12 is almost certain to earn 2010 National high pt honors for this class.

Exhaust Problems Fixed

I described, in my August 13 report how heat caused me problems with scorching the inner hull. The single most important fix was the Thermo-tape wrapping of all the header pipes. I think it is a must for this engine.
I recommended in my first report that we use zoomies instead of the short stock pipes. I now retract that.
The heat shields, large intake hull vents and Thermo-wrapping, make it unnecessary.
Since my first report I checked on what the Formula Ford and USAC Focus Midget (they both use the Zetec) people use for pipes. I found out why we should not change the stock exhaust headers: Dyno testing shows that rally or long competition pipes increase horsepower by a minimum of 20hp. Use of these pipes would make the 2300 Ford obsolescent. Not a good idea.

Starting Circuit

When Willard Wilson and Hank Wendt were running trials on this engine they learned of a problem with starting.
When racers stopped for a red flag they couldn't restart the Zetec. A Dyna-Batt fired the electronics.
This dry cell battery, made by Performance Distributors, is 7"l x 3"w x 6-1/2"h and weighs 14-1/2 lbs. Willard solved the problem by installing another battery in series with the starting circuit, giving the Zetec 24 volts to start. Problem solved.
I took Willard's lead and used his battery plan. I had a problem locating and securing the second battery. My solution was ugly and primitive.
So when I prepared for the Spanaway race I reverted to my Pinto set-up.
I pulled the Dyna-Batts and reinstalled my single Sears Gold Diehard Garden Tractor battery. This battery is 7"l x 5"w x 6"h, and weighs 18-3/4 lbs. It has 340 cold cranking amps and costs $60.00. The Dyna Batts are $100.00 each.
For the Pinto years I made a composite battery box, cut an opening in the aft deck and tabbed (glassed) the box under the deck. I save $140.00 and 10-1/4 lbs over the Dyna-Batts.
My "Ace in the hole"is a 65amp Mercury Marine outboard alternator driven by a pulley on the propeller shaft. A marine alternator shields against sparking.
The Zetec needs a fully charged battery for first starting. The 340 cold cranking amps assure a strong start. The alternator produces 14 volts.
The late Smokey Yunick, writing for Circle Track Mag. Said,"never run a race engine without an alternator". He cited much expert info that insisted the gain is far greater than the small amount of hp loss driving the alternator. I have used an alternator since 1995.

Fuel Use

I've learned the stock electronic injectors use fuel sparingly. My tank holds 2.5 gallons of fuel . After each heat 1/3rd of a tank remained. We don't care about fuel economy in our racing but it means we can haul less fuel to the races.

Racer Interest

I think there is enough evidence now to warrant the IRC allowing this engine on probation for the class. It is plentiful and inexpensive to buy. Racers at Lake Spanaway were encouraging. I didn't hear one negative comment. Most were grateful that I was willing to try the Zetec.

If we accept this engine, I recommend a training program for inspectors so they know what to look for in rule violations. Ford offers a large injector and throttle body for the Zetec engine. Inspectors should learn how to ID this cheating.

If you would like to learn more about the Zetec, I invite you to call me at 650-591-1217 or e-mail at billwalti@sbcglobal.net.