

# Inside Mercury R&D in the 1960's - By: Bill Ela



**Bill Ela with 1968 MERC 1250  
he helped to engineer at Mercury**

**Editor:** *Bill Ela joined Mercury outboards as a young engineer fresh out of college in the early 1960's. Working in the Research & Development area he often had first hand contact with the legendary Charlie Strang and with Carl Kiekhaefer, "EC", himself.*

*Bill's first major project assignment was to maximize the horsepower that could be generated by the 100 hp Merc 1000 power head, originally introduced in 1962. The result was the very successful Merc 1100 & 1100SS introduced in 1966. The MERC 1100SS (110 hp) dominated the Miami to Nassau Ocean Marathon that year finishing 1,2,3 in the outboard class and 5,6 & 8 overall. This race was regarded as the worlds toughest for outboards at the time.*

*His second major project was the development of a new 6 cyl. powerhead that would deliver 125 hp. This was the MERC 1250 & 1250BP introduced for the 1968 model year.*

*Member Wayne Robinson met Bill Ela in Florida several years ago. Through Waynes' friendship with Bill we are fortunate to have some of Bill's recollections of events behind the scenes at Mercury R&D in Bills own words. Enjoy.*

I was in charge of the 6 cylinder engines at Mercury during the time of development of the MERC 1100SS and later, the 1250 & 1250BP introduced in 1968.

It was problematic coming up with a 110hp engine because we had pretty much gone as far as we could with this engine design. The MERC 1100 was basically a bored out MERC 1000. I might have put my thumb on the dyno scale to reach 110hp. The liners were getting too thin, block cracking problems, piston burning, etc, etc. It became obvious that if we intended to keep ahead in the horsepower race, a completely new engine was needed. Rumor was that OMC had something larger coming.

Hence, my favorite 6 cylinder engine, the MERC 1250 & 1250BP. Our design restrictions dictated by "EC", Carl Kiekhaefer, were: 6 in-line engine (no vee engine because OMC had that). No loop scavenged engines because Mercury was less of an engine company and more of a die casting company and a loop 6 in-line couldn't be die cast. Also concentric reed blocks because "EC" felt he invented them with the green tank K models, in the 1950's. And most important: A true 125hp and ready to be presented at the Miami Boat Show in one years time. We thought this to be impossible until "EC" supposedly said, we would all be fired; me, Vice President etc...if we didn't make it. That sort of changed things. So....what a year...what overtime! The MERC 1250 was to be a completely new engine. The only similarity to the MERC 1000 Tower of Power would be that it had 6 cylinders. When the new powerhead design work was done we made six sandcast prototype engines with crankshafts made in in our machine shop. To keep the pressure on, I heard that a multi-million dollar die was made before I had test run any of the prototypes.

*Cont'd on page 5*



**Bill Cooper winning the 1969 World Invitational  
Marathon(Outboard Class) at Long Beach with twin  
MERC 1250 Super BP's. MERC 1250's took four of  
the top five places.**

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It did make 125 hp. We had 3 of the sandcast engines prettied up for the big introduction at the Miami Boat Show before we knew whether they would run on a boat or not. Well, they didn't! Some of us knew the carburetion wasn't worked out yet but no-one was brave enough to mention that to "EC". They were introduced at the show with much fanfare. They would accelerate away and then stop dead in the water. Then they would restart okay. This strange happening was somehow worked into the demonstration by the marketing people. I don't know if "EC" was ever aware of the mishap. Later my long time friend, Dick Charmley, working at Tillotson Carburetors worked out, (against orders) the new boost venturi carburetion which solved the problem.

The MERC 1250 & 1250BP, for Blue Print, a marketing term indicating that the motor was made with precision to the specs. These engines were successful and did extremely well on the race circuit, both ocean & OPC with Molinari and Seebold boats. While I was fiddling around with the 1250BP, and super BP other Mercury engineers were working on the design that would bring the HP up to 150. It was called Direct Flow. It was a way to make the engines a little more like the racing loop scavenged engines that Konig and Yamaha were making but still be machinable.

This time, to save development cost, they machined up a 2 cylinder prototype before making any 6 cyl. models. Much Cognac was consumed discussing design possibilities but that's another story. Mercury used this design on their 2,3,4 & 6 cylinder engines into the 80's.

**New  
Merc  
1250:  
125 hp.**  
**A brand  
new  
engine.**  
**The  
world's  
most  
powerful.**



The world's most powerful, most advanced outboard couples Mercury's exclusive Thunderbolt electronic ignition and system of silence to a completely new 99.9 cubic-inch 6-cylinder-in-line powerhead; newly designed pistons, connecting rods and crankshaft plus new carburetors with aircraft-type boost venturis provide greater acceleration and low-end torque with no loss in top-end performance. Introduced by Mercury in 1957, the 6-cylinder-in-line outboard is produced only by Mercury.



The Merc 1250 is the newest in the exclusive line of 6's which has set more performance and endurance records than any other outboard—every inch a Mercury. New from powerhead to prop... the culmination of ten years' experience in 6-cylinder production, the 125-hp Merc 1250 adds up to the new performance champion from the company that has made performance a specialty. At Kiekhaefer Mercury *The Payoff is Performance*. See your Mercury Dealer now.

**SEE YOUR MERCURY DEALER FOR '68 BOATING & FISHING CALENDAR . . . YOU MAY WIN A NEW MERC!**

Kiekhaefer Mercury, Fond du Lac, Wisconsin. Division of Brunswick Corporation. Kiekhaefer Mercury of Canada, Ltd. Kiekhaefer Mercury of Australia Pty. Ltd.

### 1968 Introduction Ad for the all new MERC 1250.

I believe Mercury doesn't get enough recognition for their two stroke design & engineering innovations. (Top performance combined with good fuel efficiency).

I left Mercury to go to Madison in the late 60's. Brunswick Corp., who now controlled Mercury, fired "EC" in Jan 1970. Now Mercury engineers had more leeway in engine design. This ultimately lead to the development & introduction of the MERC V-6 in 1976.