



BIG HEAT

Lydia 92: Have rocket, will travel.

BY BILL PIKE

ponderous arc, gracefully encroaches upon the distant lighthouse, then settles beneath it with the menacing precision of a rifle sight. Over the stern, Gravesend Bay languishes under a layer of smog stretching all the way to Coney Island Flats. "Ready," Mike murmurs. Espresso's flying bridge is crowded. There are a half-dozen guys gathered around Mike, all of us pensively, antiseptically encased in an air-conditioned, electronics-stuffed, stereo-equipped, glass-sided enclosure. The cool, pampered air we're breathing is supercharged with unabashed, uncompromising suspense. How fast will the boat go? "Okay," Mike's identical twin brother, Eric, murmurs. "Let's open this bad boy up." ZOoooooooooooooooooom! I brace myself. At the moment, Espresso's doing 35 mph, charging across Ambrose Channel like The Light Brigade, with twin 1,400-hp DDC 16V-92TA DDEC diesels hammering full-tilt, turning a set of mammoth, 3'2"-diameter, controllable-pitch props worth a cool \$300,000. But the diesels account for only one-third of the boat's total, mind-boggling wallop: 8,500 hp. With thumb and forefinger, Mike rotates a couple of keys on the dashboard, opening the ignition circuitry for two supplementary powerplants engineered and installed by Ted McIntyre of Marine Turbine Technologies-twin 2,850-hp T-55 Textron/Lycoming turbines geared up to two 422 Hamilton waterjets. Blink. Blink. Blink. A row of red and green lights goes on beneath the keys. This means the "exhaust doors" are safely opened, gearbox oil pressure is good and the fuel pump's ready to go. Weowwwwwhiiiiiiine. "Dig it," the Petosa brothers shout in jubilant, edge-dwelling unison, their eyes ablaze with a fiery obsession they call "The Neeeeeed For Speeeeeeeeeeed." These dudes are wild. Thirty-four years old. Identical twins, identically dressed. With their names emblazoned over their shirt pockets. Big-time, big-city, big-game-fishing excavator/contractor types. Mike leans on the turbine throttles, boosting the flow rate of the waterjets, pushing for a combined max of 57,600 gallons per minute, enough water to fill the average swimming pool in 36 seconds.

Standing at the Helm of the biggest, baddest sportfisherman in the world, Lydia Yacht's 92' Double Espresso. Mike Petosa points toward a black speck that's damn near invisible on the horizon, almost lost in the warm afternoon sparkle coming off lower New York Harbor. "That's it," he says in measured, expectant tones, wheeling the snow-white, 85-ton, cold-molded, Palm-Beach-style battlewagon into a tight, ballistic turn. "Old Orchard light." Whew. It feels like I'm in the grip of some sort of mythological immensity, raw, hyper-technologized, all-powerful. It sends a chill down my spine, the way riding helicopter gunships sometimes used to in Vietnam. Espresso's vast, Awlgrippped foredeck swings a

At the same time, he leans on the Norwegian-built Mar-El control on the dash, adding pitch to the controllable-pitch wheels while carefully monitoring fuel consumption and engine load via DDEC readouts. I aim the radar gun dead ahead at Old Orchard Light hovering rock-steady on the bow. Espresso is literally wailing now. The melee at the transom is like some stupefying phenomenon of nature. Like Niagara Falls, Numbers on the gun climb, falter, then climb again: 51.0.....52.6.....52.3.....52.6.... And sure enough, in moments, amid a wild chorus of congratulatory shouts and hairy whoops, the radar readout peaks 53.4 mph.

"Man...oh....man," Eric yells, as I jot the number in my notebook and Mike throttles back to a 41-mph turbine-assisted cruise, "but that ain't nothin". "We were doin' 55-plus a couple of days ago, with 600 gallons of fuel. Got it on videotape."

Plush Rush- A surging combination of 16V-92 DDEC diesel inboards and twin 2,850-hp turbines deliver a 53.4mph top end on the Lydia 92. And canyon-cruising goes deluxe with gear like a giant 50' tuna tower.

DRAGONS AND CoDAGS

Sunset. Dockside, at Nichols Marina on the south shore of Staten Island, an aura of calm prevails. While outside, Mike and Chief Engineer Charlie Stutler quietly wash Double Espresso down, Eric and I sit in the boat's snow-white, surgically-sanitary Awlgripp engine room, staring aft at a big crawlspace stretching beneath the cockpit--the place where the turbines and waterjets dwell, along with intermediary reduction gears and exhaust pipes. A motto is inscribed over the entrance: "Enter The Dragon". "Four years and four million bucks it took to build this boat," Eric says a bit wearily. Obviously, to create a 92' cold-molded, quadruple-diagonal-strip-planked plywood vessel that does 53 mph, numerous problems must be solved, the most fundamental being a workable powerplant. The Petosa brothers chose a CoDAG (Combined Diesel and Gas turbine) system for two reasons. First, they wanted the best of both worlds. CoDAG uses diesel power exclusively at lower speeds where it's most economical and efficient. The incredible torque and high-end efficiency of turbine power is reserved for mondo speeds where both diesels and turbines function simultaneously. Second, they wanted to trim fat and boost speed. The horsepower-to-weight ratio of turbines is excellent, so a CoDAG system weighs a lot less than a straight-diesel powerplant. McIntyre's Textron/Lycoming T-55s have a horsepower-to-weight ratio of about 3.7:1. The ratio for stand-alone diesel installations is typically something like .2:1. Inboard CoDAGs have a faintly dicey reputation these days, based on some big, expensive projects that fell apart. The problem was pretty much the same every time. Diesel-interfaced, fixed-pitch props, necessarily adapted for maneuvering, trolling and slow cruising, were found to be grossly underpitched at warp speed. As a consequence, they created drag, rotated faster than they were supposed to and caused their diesels to overspeed. The solution was based on relatively simple technology first developed in 1928. The brothers opted for an electro/hydraulic/mechanical controllable pitch (C.P.) propeller system, built by a Norwegian outfit called Servogear. The mechanism's fairly simple. Each of the two Nibral-bronze wheels on Espresso has four blades that pivot at the root, via a yoke/keyway assembly inside the hub. The assembly is actuated by a push-pull rod that enters the hub after passing through a lengthwise bore in the propeller shaft.

Electronically controlled hydraulics, located on either side of the big ZF BW195(P) gearboxes in Espresso's engine room, operate the push-pull rods. From zero (or flat) pitch, the props can be adjusted to 66" of positive pitch for forward thrust and 66" of negative pitch for thrust astern. No more diesel overspeed. And check out our diesel-only fuel consumption and range numbers at 600 rpm -- being able to precisely adjust pitch to rpm does have advantages. Moreover, with C.P. props, maneuvering Espresso is easier than maneuvering more traditional fixed pitch boats, because thrust, whether forward or astern, is infinitely and minutely variable.

POWER TOWER

"So," says Eric, "before you leave, you gonna climb the tallest tuna tower in the world?" We've already covered just about everything else aboard Double Espresso, from the stark, Awlgrippped, Corian-embellished interior to the bodacious airscoop concealed in the brow of the bridge, with attendant 4" x 4' air shaft directed straight down to the engine room. Not the mention the giant, offset Scopinich fighting chair in the cockpit, and a 1'4" hydraulically-operated American Bow Thruster, with foot controls on the bridge and, for the docking-savvy deckhand, on the bow, too. "Let's go," I grin, "before it gets any darker."

Built by PipeWelders of air-foil-shaped anodized aluminum extrusions, Espresso's tuna tower is a veritable skyscraper. It soars 50' above sea level. Eric climbs one leg. I climb the other. Even the rungs of the ladders are wing like, to reduce wind resistance. Once we've achieved the top, joked around a bit like conquering mountaineers, examined the engine controls and tried out the sculpted rocking-chair-comfortable seat, a long silence prevails. "Biggest...fastest... baddest," I synopsise at last, looking out over the cool moonlit expanse of Staten Island. "Don't forget....tallest," Eric grins.