WORDS: PATRICK BODDEN AND MITCH BOEHM **PHOTOGRAPHY:** TOM RILES AND CATHERINE BRENNAN

From roach to racer in three easy, fun-filled days. (Ha!) We go butt-to-saddle at Daytona with the most notorious and successful roadracing motorcycle of the 1970s—Yamaha's TZ750

MEETING THE MONSTER

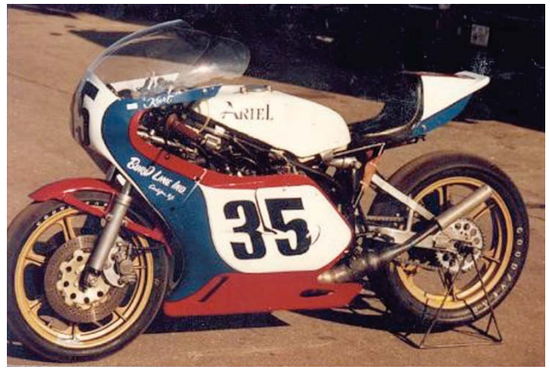
Patrick Bodden: I peer into the back of Russ Bigley's dingy gray Chevy van and get a face full of carbon-fiber two-stroke silencers. "Impressive," I think, "this thing's the business!" After all, here was a seemingly competent example of one of the most legendary racing motorcycles of all time, the bike that struck fear deep in the heart of every manufacturer with large-bore roadracing intentions during the middle and late 1970s. If you had the balls and a decent racing résumé, and wanted a real chance at winning, even big-time, world-class winning, well then, mister, it was a Yamaha TZ750 or nothing.

You wouldn't be alone in wondering if maybe the TZ750 isn't more than can be managed by mortal man. Plenty of people are having such thoughts. Reports in the foreign press have told of the TZ500's impact in GP racing, told of the stunned panic within the opposing MV team. Jarno Saarinen's death gave MV another 500cc championship, but the Yamaha's early performances would seem to give it a place of pride as the fastest motorcycle in GP roadracing history. What, then, might it be with more displacement, with virtually a pair of the engines that made Yamaha's TZ350 so formidable during 1973? The whole concept is intimidating enough to have given everyone pause. — Gordon Jennings, *Cycle,* January 1974

Bodden: The TZ750 forged a well-deserved reputation as an unbeatable and unstoppable racer. But I'd been blinded by this bike's array of shiny new silencers. Unloaded in the dismal, soggy environment of our Daytona pit, the TZ looks tired and shopworn, and inspires little confidence. Boehm and I stand there gazing at it, not saying much for fear we'll come to our senses and go off in search of margaritas (for him) and root beer (for me). I break the silence first: "Well, Mitchie, we've not only got a vintage racer, but vintage workmanship to go with it!"

Mitch Boehm: I see none of the downsides at first. What I see is a real-deal TZ750, and a late-model monoshocker at that. I'd been in awe of Yamaha's big TZ since the summer of '76 at Michigan's Grattan Raceway. I'd gone there to check out a real roadrace with Dale Dahlke, an RD350/TZ250 mechanic who was tuning my XR75 and YZ100 motocrossers while running a small bike shop near my northern Ohio home. In an early practice session my 14-year-old senses were electro-shocked by a particular red-and-white two-stroke racebike that shrieked past the pits at what seemed to me an unbelievable rate of speed; had to be 130 or 140 mph. And the *sound*! Ear-splitting was way too tame a descriptor. After the session I walked the pits to see what sort of animalistic machine was capable of such mind-bending velocity and racket, and found it cooling menacingly in the pit of Midwest racer Robert Wakefield. I approached the bike from behind and saw smoke curling slowly from the skinny stinger exhausts. But it was the shredded, half-melted rear slick that lazered itself into my gray matter. Having never seen a warm and recently used roadrace tire up close, the sight filled me with genuine awe. I remember thinking, "This thing's a monster."

Yamaha quite naturally has reservations about selling TZ750s to just anybody with money and a bag of brave pills. But AMA rules require 200 copies and you can't expect them to simply warehouse the production left over after Kel Carruthers takes what he needs. All the big fours will be sold, some of them to riders whose talents were barely equal to last year's TZ350. That thought plainly has the AMA spooked, because they know they don't have 200 Juniors and Experts who can cope with what it is feared the Yamaha will deliver. But there's nothing to be done now; Yamaha created the TZ750 in good faith and strict conformity with rules long-standing if not necessarily wise. — Gordon Jennings, *Cycle,* January 1974



Kurt Lentz's TZ750 as it appeared in 1984, his final year at Daytona and the year following his outstanding sixth-place finish—and first privateer—in the 200-miler. "The only bikes in front of me were factory Hondas and Yamahas," Lentz told us.

IF YOU HAD THE BALLS AND A DECENT RACING RÉSUMÉ, AND WANTED A REAL CHANCE AT WINNING, EVEN BIG-TIME, WORLD-CLASS WINNING, WELL THEN, MISTER, IT WAS A YAMAHA TZ750 OR NOTHING.

Boehm: Yeah, the TZ was a beast, but I still wanted to ride or, better yet, *race* one, ideally at a circuit with an equal measure of history. Daytona seemed perfect, and when Bigley offered up the chance to ride Kurt Lentz's bike (which Bigley took care of for Lentz), I jumped at the chance.

Bodden: I thought I'd seen the last of this sort of bike prep back in the '70s during my days as an East Coast club racer. Boehm said, "we'd" just have to make the best of things. Of course, the Heritage Racing guys have managed the impossible in impossibly short time so many times over the years that Boehm has come to expect this as an entirely reasonable approach to racebike construction—never mind we're dealing with a device, old as it is, capable of 170 mph even in less than top-notch condition.

Fact is, racing résumé or not, many a TZ750 fell into less-than-expert hands, meaning they didn't have much exquisite workmanship lavished on them. No matter. The TZ750, like its smaller brethren before it, was so inherently good and so naturally cooperative that, as long as the bike was reasonably well bolted together and no one went crazy with ignition timing and carburetor jetting, would go like fury and do so for a long time. Parts were readily available from local dealers and, as long as they were replaced as Yamaha prescribed, didn't often fail. Many a ratty TZ750—Miles Baldwin's and Richard Chambers' bikes come to mind—would allow a motivated and capable second-echelon privateer to upstage the more elegant (read: factory) front-runners.

Bigley had had his hands full trying to prep two TZs—Lentz's bike and Bigley's own Spondon-framed racer—and the preparation he'd done wasn't meticulous. It was the rough-and-ready type that had sufficed all those years ago during the TZ's heyday. Problem was, there hadn't been *enough* preparation. The Lentz machine is a long way from something Boehm or anyone else would consider an acceptable risk on the racetrack. There's a *lot* of work to do, some evident and some yet to be discovered.

This hadn't been part of the bargain when Boehm presented me with his latest Daytona scheme a few months earlier. It was supposed to have been Heritage Relaxed Racing this time; just show up, look the bike over, check the tires and spark plugs, and let's have a go at it. But here it was, take it or leave it. Might as well get on with it, I thought.

Boehm: My plan going in, which I communicated ad nauseum in the lead-up to Bike Week, was simpler—and therefore potentially less angst-generating—than many of our previous vintage-racing adventures. Bigley had told me over the winter the TZ would be "basically ready to go" when it arrived in Daytona. He'd spooned a fresh set of sticky Avon vintage tires onto the bike's old sand-cast mags, and although heavy snowfall in New Jersey kept him from bumping the bike off and making sure it ran, he told me not to worry.

Lentz's TZ again, many years—and many parts—later. We'd put 30-plus hours of preparation into this thing by the time we shot it out on the Daytona infield, and it showed. Ariel and Jenny are Lentz's daughters, by the way.

Because AHRMA didn't have a class for what's arguably one of the most historic racing motorcycles in the world (highly ironic, considering it's the American *Historic* Racing Motorcycle Association), I planned to run the TZ in the Championship Cup Series' Formula 40 event, which allowed any racebike but was limited to riders aged 40 and older.

Bodden: When you're in trouble you turn to your friends. And if there aren't enough of them, you draft innocent bystanders. Heritage Racing partner R.L. Brooks is a long-time friend who's helped me through more than one *Motorcyclist* vintage-racing adventure. He and I make new friends on the spot—Phil DiGiandomenico (whom we'd met briefly a few years before, and father of Jimmy and Tommy) and congenial but unsuspecting TZ750 racer (and Brit) Mark Middleton, to name just two.

We size up the situation from clues provided by Bigley and our own sleuthing and chart a course of action. Someone detects excess fork oil on the tubes right away, so Boehm is

This is how we spent the three days leading up to my race—sitting, bending over and lying down, working all the time. At least it had stopped raining. Right: Checking out the TZ's ergonomics early on. "Uh, can we raise these bars a few inches?"

Long-suffering Bodden, hard at work just hours before we lit the TZ750's fire for the very first time. Right: Push-starting the beast and hearing its crisp, high-pitched wail bounce off the grandstands and our pit tent was almost a religious experience after three straight days of intense toil and angst.

wise to at least one problem. No big deal. Bigley has new seals, so R.L. and Phil D. get busy replacing them. As is so often the case with seemingly minor problems, unforeseen snags ground our resolution to a halt. The guys aren't any sooner into the job than they're stalled by the Allen bolt holding one of the fork legs together; its internal hex is no longer hexagonal and the bolt isn't responding to wrenches or cusswords. It's off to locales with better weapons—DiGiandomenico's nearby Daytona garage—where extracting the bolt proves fairly easy, even if it means destroying it in the process. Of course, it isn't a garden-variety piece—it's of an exotic thread pitch/diameter, and much running around reveals that a replacement isn't to be found in all of Daytona. Back at DiGiandomenico's home machine shop, a different-style bolt has its head turned on the lathe and a slot sawed into it to substitute for a hex. We're back in business. A one-hour job takes two capable and resourceful technicians an entire day.

Meanwhile, I'm working through my own misery. Carburetor synchronization, in particular, seems either interminable or impossible, I can't decide which. This thing might be a legendary motorcycle, but its carburetor linkage—four individual cables from throttle to carburetors—is becoming a legendary pain in the ass. Get three just right and I run out of adjustment on the fourth. Get four more or less OK and, if I move the cables a bit reinstalling the fuel tank, the carbs go out of sync again. Finally, when everything seems reasonable, I discover a crack in the top half of the throttle assembly. Bless his heart, old Bigley (working feverishly on his own TZ) just keeps the parts coming and offers up a replacement for the cracked piece. The new part installed, I check carb sync for the thousandth time and pronounce it fine.

As the day rolls by I keep finding things to do or fix. Racebikes are like infinite sponges of time and resources. All done (or so I think), I step back, admire how simple it all looks, and wonder how preparation—and replacing a few parts—could possibly take so long. Of course, there are other concerns, such as, would the bike be safe for Boehm to ride? At this point I'm not sure.

Boehm: By this point I'm horribly frustrated. We'd planned to run the bike in today's informal Team Hammer practice so I could get accustomed to it and the revised, much-tighter Daytona circuit. Not a chance. And the way things are going, getting any practice the following day looks iffy at best. Not a good start.

Bodden: A Daytona day has come and gone. Boehm announces quitting time (with help—via threats—from the ear-bleed PA system) and herds the crew to the local Mexican eatery, the Cancun Lagoon. A veritable food fiesta ensues, the first of three consecutive such sorties. The fare is acceptable, as are the margaritas (so I hear), some of them doctored with what looks like blue toilet bowl freshener. The more everyone drinks, the better everyone pronounces the food. By evening's end we could have substituted linoleum for taco corrosion. Bigley announces that seals for these things are extinct. Now what? I notice 5/8 cast into the cylinder body and opine that an American or British seal might work, especially since it looks ordinary in every respect. Another tour of Daytona parts purveyors produces two likely candidates—a seal kit from an auto parts store for Lord knows what, and another for some Harley. I opt for the Harley part, and it works. Close enough.

Photographer Tom Riles is sympathetic to our plight, and although he seems to believe all this commotion is futile, he records it. He also holds the master cylinder while I hone legendary corrosion out of it. as well as he can with limited tools. Everything seems reasonably bolted together. We have water in the radiator, oil in the gearbox and premix in the tank. Do we have spark? We have faith.

Time to start the beast. After a spirited push the TZ comes to life in a grand spasm of sound and smoke. The smoke clears, and so does the exhaust note. I let it rip up the pit road. By God, it feels good and sounds fierce! I turn around and let it rip again. I'm thrilled, and so are the guys. The track Gestapo is less so. I can't hear him even at the evil PA system's 120dB volume, but he's issuing threats of eviction if I don't cease and desist. I hear of the threats back in our pit, but I don't care. We're not hurting anybody. Maybe scaring a few people, but we're not endangering anyone.

The bike is beginning to look pretty good; Riles even calls it photogenic. It's scuffed and more than a little shopworn, but it's getting cleaner by the hour. Our second Daytona day is over and it's back to the Lagoon for more Mexican food and blue drinks.

Boehm: When the TZ lit off I was *jacked*! It sounded so cool, so crisp, just like the 500cc GP bikes I'd seen and heard at Laguna back in the day. I knew it'd be a rocket, and couldn't wait to ride it. After all the myths that'd circulated about

shells and Boehm & Co. would have pronounced them *mucho splendido*.

The next day is a repeat of the first, but this time the rear master cylinder is the Daytona Gremlin of the Day. According to Bigley, all it needs is a good bleeding. Boehm says bleeding is unnecessary, as he "never" uses the rear brake. (Funny how he manages to return every racebike I build for him with a seriously blued rear disc. Maybe not Cancun Lagoon blue, but blue just the same.) R.L. and I run fresh fluid through that legendary magnesium TZ750 master cylinder and can't get any pedal. We remove it only to find a punctured seal and big-time

We reassemble everything and in short order have a functioning brake. Trouble is, the pedal now contacts one of the exhaust pipes. We run out of adjustment rod trying to fix it, and once again a modified garden-variety bolt is substituted for an OEM part and we're in business.

We munch Boehm's worker-compensation food—burgers, Milky Ways, sodas and Gatorade, but no blue drinks—and survey our progress. We now have a functioning, non-leaking fork, proper throttle action and working front and rear brakes. Paul Thede of Race Tech makes the TZ's yard-long single shock/spring unit work

THE TZ COMES TO LIFE IN A GRAND SPASM OF SOUND AND SMOKE. THE SMOKE CLEARS, AS DOES THE EXHAUST NOTE. I LET IT RIP UP PIT ROAD. BY GOD, IT FEELS GOOD AND SOUNDS FIERCE! I'M THRILLED.

the big TZ, I'd finally get to see what the monster was really like. Problem was, we'd once again run out of time for practice, and tomorrow was the Formula 40 race. I was highly pissed—which meant more margaritas that evening to drown my sorrows.

Bodden: Day three is race day, and we go backward. The front brake decides to quit working. We bleed it, and it comes back to life, but it isn't ideal. The crew knows we're running short of time and works with Boehm on control positioning, all the time cleaning this and that, checking fasteners, installing breather hoses and catch bottles, etc. Then

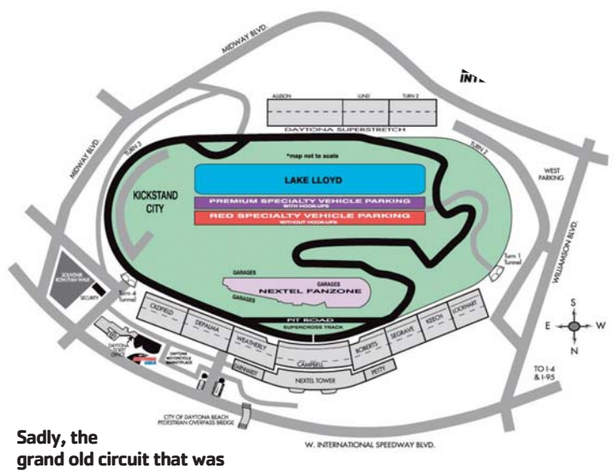
Time to grid for the race, which meant big butterflies. Of Kurt Lentz, who raced this bike back in the day, *Cycle World*'s Kevin Cameron said, "Lentz was the man in one of ABC's *Agony of Defeat* videos, fishtailing through the hay bales at Daytona in '78 and crashing heavily. He crashed into the pond at Loudon in '76, breaking his neck. He said later, 'There I was, under the water and paralyzed. I thought, well, they'll either get me out or they won't.' He was soon riding again. [In 1983] he finished sixth at Daytona and had himself driven around the pits sitting in the side door of his van to show himself to his people. He survived many heavy crashes and seemed to be one of those guys who just goes faster and faster until they pile. At least one quite nice wife signed off, saying she didn't want to watch a prolonged suicide. He, like Jimmy Adamo and Kurt Liebmann, was one of racing's lifers."

there's some business with two of the plug wires. The bike starts, but reluctantly, and has a case of what Kevin Cameron once referred to as the piff, paff, poofs. Sometimes two-strokes do this and then clear up. This doesn't clear up.

Back in the pits it's decided the other two wires also need to be changed. But now the bike won't start at all. That's progress as far as I'm concerned and I say so, asserting the wires needed to be put back as I remember them regardless of what the book said. No one listens to me. Middleton appears, doesn't say a word to anyone, and repositions the wires just as I said they should have been in the first place. We push again and the bike starts. During all this frantic back and forth, practice and the Formula 40 race have come and gone. Like all of us, Boehm is not a happy man, and it shows.

Boehm: At this point I was in a foul mood. We'd missed every lap of practice along with my scheduled race. Luckily, CCS head honcho Kevin Elliott, who I'd been hounding every hour for what seemed like days, gave me the go-ahead to take part in a short practice the following morning (Sunday) and a Superbike-spec race later that afternoon with highly modified modern bikes. My goal of actually riding a legendary Yamaha TZ750 in anger wasn't dead yet.

Even so, I worried plenty that evening at dinner, our third in a row at the now-infamous Lagoon. The TZ's front and rear

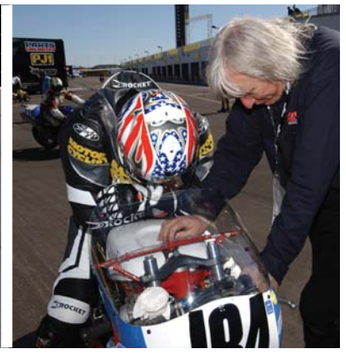


Sadly, the grand old circuit that was Daytona International Speedway was badly neutered in early '05 to keep Superbike tire temperatures—and speeds—down. The second half of the infield is now almost kart-track tight. It's safer, but feels exactly like what it is: a Band-Aid fix that doesn't do justice to the track's motorcycling history.

suspension remained way soft despite dialing in max preload (the springs were too soft), and damping seemed non-existent. Kenny Roberts Sr. told me a month earlier to get up off the seat on the banking, that the bike was "sure to wobble." Considering the thing was capable of 170 mph, this did not sit well, even with several blue drinks circulating through my system. (Who says alcohol makes you brave?) There was more: I barely fit on the bike. Seat-to-peg distance was a scant 13 inches, way less than even the sportiest of sportbikes, and lifting my feet onto the pegs while seated was a challenge. My knees hit the fairing sides once I got seated, and I wasn't sure the cutting we'd done to the fiberglass would be enough. And what of carb jetting? Would it be rich, which might have the bike loading up on the start line? Or would it run lean, and seize solid exiting the chicane, highsiding me into a cement wall at 80 or 90 mph?

And even if all of that stuff turned out to be workable, how difficult would it be to ride quickly? Stock TZs—at least the early twin-shock versions—made around 90 horsepower. But Bigley had told me Lentz's bike sported radically ported cylinders, Lectron carburetors, new-generation reed valves and modern expansion chambers, the end result being somewhere between 120 and 130 rear-wheel horsepower. That doesn't sound like much relative to today's 150-horse open-classers. But when you're talking about a 346-pound machine with famously abrupt power, mean-Alice handling, soft, damping-less suspension, skinny tires and a reputation for extreme wobbles at speed, *all on a racetrack I'd not yet ridden*, I was beginning to question the entire scheme.

Sunday dawns clear and bright, and the crew arrives early to check the bike in anticipation of the precious few practice laps I'd been granted. We get the bike through tech inspection (raised eyebrows galore) and warm it up along pit row, which attracts a crowd. As Bodden blips the TZ's throttle, rapid-fire smoke bursts and two-stroke *Brrraaaam!* sounds fill the air, and I have the feeling ghosts are stirring throughout the Speedway's towers and garages. It'd been many years since that unique four-cylinder/two-stroke sound had ricocheted off these legendary grandstands. Speedway announcer Richard Chambers, who'd ridden TZ750s to some exceptional finishes back in the day (and who still has his TZ racer), rides by on his scooter with a knowing smile on his face. He tells several old-school tales over the PA system about Kurt Lentz and his TZ, which I'm about to ride.



AHRMA DIDN'T HAVE A CLASS FOR ONE OF THE WORLD'S MOST HISTORIC RACING MOTORCYCLES, IRONIC CONSIDERING IT'S THE AMERICAN *HISTORIC* RACING MOTORCYCLE ASSOCIATION.

A hard shove gets the Yamaha rolling. You work it up to a trot, then hop on sidesaddle and bang in the clutch to spin the engine, which responds with a few raspy barks before settling into a sullen staccato as you head for the course. At first you go gently, waiting for the water-temp needle to lift off its peg, teasing yourself with short bursts of speed. One full lap, then another half-throttle tour of the infield before you let yourself fall into the familiar racing patterns, pulling the bike upright and rolling on throttle as the last yards of the final infield turn flicker past.

— Gordon Jennings, *Cycle*, January 1974

Relatively speaking, the TZ750 is a *tiny* motorcycle, more like a current 250 than an open-classer. I'm reminded of this as I roll down pit lane for the first time and enter the track just before Turn 2—the International Horseshoe. The cramped seat-to-peg layout makes it really hard to move my body around on the bike through the much-tighter infield, and by the time I accelerate onto the back straightaway a quarter-mile before the chicane, my calves, quads and lower back are already cramping.

With that the busy, four-cylinder snarl becomes a hard, hammering shriek and the Yamaha hurls itself at the high south banking, its front wheel almost too light to steer. Quicker than memory it claws its way around and flashes out along the back straightaway, tach needle surging next to the red pie-slice as your toe twitches at the shift lever. All the sensations are familiar but of a magnitude that reaches past the limits of experience. Speed blurs everything but a narrow tunnel ahead. Wind buffets and plucks at your leathers, and a rash of heat from the radiator sears your face. — Gordon Jennings, *Cycle*, January 1974

The TZ feels incredibly light and whippy despite the narrow (and low-mount) clip-ons, which offer little leverage. The bike seems to respond to weight transfer as much as bar pres-

I'd always wanted to see what riding the bike that won the Daytona 200 eight years running would be like—and I'd finally gotten the chance courtesy of Russ Bigley, Kurt Lentz and a host of friends. After my eight-lap race, Team Yamaha's Jamie Hacking and Jason DiSalvo came over to check out the bike. Hacking made jokes about the TZ's skinny fork tubes, while DiSalvo jumped aboard to discover he fit the bike perfectly. All of which made me understand why the thing hurt *me* so badly.

sure entering corners, and I find I can get fairly aggressive with it early on. Midrange power is surprising, but I'm taking it easy at first; Bigley told me the engine was fairly fresh and probably needed a few laps to get up to temperature before I flogged it. Both ends feel way soft, but it's not a problem at the speeds I'm running. The brakes are positively wooden, but I'm used to that. Luckily, the Avon tires warm and scuff quickly, and keep me from worrying about grip—unless the back tire suddenly gets oiled up, that is.

You clamp your knees against the tank more tightly and sneak a finger forward to tug at the brake lever, just checking. You never did that before, but you do it now. Moments later you're braking for the chicane, downshifting, hauling at the handlebars and feeling the tires shudder. Then you're driving hard into the north banking, hunching forward to keep the front wheel from lofting, waiting until you have it aimed before using all the power, bracing yourself for the bike's awesome, catapulting acceleration. And forming in your mind is the nagging thought that while sure as hell somebody has done the right thing, somebody at Yamaha, what they've done just might not be the right thing for you.
— Gordon Jennings, *Cycle*, January 1974

By lap five I'm starting to get

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Yamaha TZ750 Hard Parts

Relatively unchanged for years, yet hugely competitive

WORDS: MITCH BOEHM PHOTOGRAPHY: TOM RILES

WHEELS/BRAKES
While 1977-/'78-spec monoshock TZs came with better brakes than the street-spec hardware found on early twin-shock TZs, most privateers upgraded to better items. Lentz's bike ended up with Spondon bits, and though good enough for the late '70s, they felt plenty wooden in 2005. Magnesium Morris wheels are light, but when old and brittle (like these) are prone to disintegration. Nice.

COCKPIT
Those spindly fork tubes were part of the reason Kel Carruthers said, "Everything was too flimsy. The first time we tested [in the U.S.] we had Roberts, [Gene] Romero and [Don] Castro riding. I can't remember Kenny's lap times, but Castro and Romero were like 8 seconds slower. They couldn't ride the bike. It scared them because it wouldn't handle like they wanted it to."

ENGINE
A stock D-model TZ750 made 120 horsepower at the crank—about 100 at the rear wheel—via 66.4 x 54mm bore and stroke (747cc) and 34mm Mikunis feeding reed valves. Lentz's TZ makes approximately 25 more horsepower via 38mm Lectron carbs, radical cylinder porting and special Swarbrick exhausts. At just over 300 pounds it was a handful to ride quickly.

REAR WHEEL/SWINGARM
The Lentz TZ's swingarm is an ugly-but-functional Vesco unit. Many twin-shock TZs were retrofitted with monoshock kits after Roberts showed up with the OW31 in '75; production versions didn't appear until the D-model bikes in '77. We ran Avon's race-compound AM22/23 tires, a 110/80-18 front and a 150/80-18 rear. They're superb.

Hellacious Hybrid

Russ Bigley's TZ750 is not like the other ones ...

WORDS: MITCH BOEHM PHOTOGRAPHY: TOM RILES

Russ Bigley isn't just one of America's most out-of-control TZ750 enthusiasts. He's also a capable racer who likes his Tee Zeds to be as fast and functional as they are legendary.

All of which explains his personal TZ750 racebike, which is, shall we say, *vastly* different than a standard TZ such as the one I rode. His bike is anchored by an '83-spec Spondon aluminum frame, one of only a handful produced by the British chassis specialist. Ed Johnson machine-work and Yoyodyne titanium fasteners are sprinkled throughout, while an Öhlins shock and CBR900RR fork keep things steady. Marvic wheels mount Michelin radials, Air Tech bodywork provides streamlining and Brembo brakes slow everything down.

And that's quite a job considering the bike weighs 308 pounds and makes 144 rear-wheel horsepower thanks in part to custom Swarbrick pipes, 41mm Lectron carbs, seven-port YZR500 cylinders and heads and loads of cylinder porting.

Bigley and British co-rider Mark Middleton (who runs his own trick TZ in the U.K.) rode the hybrid in CCS's 200-mile Team Challenge event at Daytona. And though a stuck carb needle took them out at the race's halfway point, the duo ran surprisingly quick laps and raised plenty of eyebrows along pit wall. It's something Bigley's become quite good at.

Left: Mark Middleton at speed aboard the hellacious hybrid at Daytona. Bigley (in T-shirt at far left) plans to run his TZ at this summer's 2-Stroke Extravaganza at BeaveRun Raceway on the weekend of July 1–2. And if all goes well there, he and Mike Himmelsbach plan to try to knock off the superbikes at this year's Willow Springs 200 in the fall. Their plan? A 7-gallon fuel tank and low tire wear, which would keep them to just one pit stop.

Giant-Killer to Giant

A brief history of the Yamaha TZ750

WORDS: PATRICK BODDEN PHOTOGRAPHY: RICH CHENET

If you were even remotely interested in roadracing back in 1973, you—along with fellow enthusiasts, bike journalists and factory engineers everywhere—were awestruck when Yamaha announced it would field a *four-cylinder two-stroke 750-class* roadracer.

You were awestruck—or shaken to your core if you were a competing manufacturer—because Yamaha was already dominating roadraces all over the world with its small-but-fierce 350cc twins. These giant-killers, as they had come to be known, won regional, national and international races against machines with twice the displacement from the likes of Honda, Kawasaki, Suzuki, Triumph/BSA and Harley-Davidson. In fact, these TR350s had won the past two Daytona 200-milers, and in 1973 the new water-cooled TZ350 won at Daytona with Flying Finn Jarno Saarinen, Kel Carruthers and Jim Evans going 1-2-3. So the announcement of a 750cc version was a shocker.

A few months after his runner-up finish, ex-250 world champ (and Yamaha U.S. team manager) Carruthers traveled to Japan to test the TZ750 prototype. He suggested some changes, most of which were carried out on the spot, then returned to the States to heighten excitement—or fear, depending where you stood—by announcing that Yamaha's new racer was capable of 182 mph.

To be fair (and historically accurate), Yamaha wasn't the first to construct 750cc two-stroke roadracers. Suzuki and Kawasaki had already done so in the form of their street-based three-cylinder machines, as mandated by AMA rules in America, as well as those of the British ACU that had gotten Formula 750 international racing off to a promising start in Europe. There's no question these machines were exceptionally fast, the water-cooled Suzuki TR750 having been the first machine to exceed 175 mph at Daytona in '72. Kawasaki's H2R—and, later, the water-cooled KR750—were certainly in the same league.

But those bikes shredded tires, weren't especially cooperative handlers, and showed uneven reliability. Never mind the four-strokes; they had their own brands of misery. Two-strokes were the coming thing, and one only had to look across the Atlantic to the 500cc Grands Prix to see that.

Yamaha upped the ante considerably with the TZ750. It literally took the wealth of experience and engineering know-how accumulated from years in GPs, as well as from the business of producing over-the-counter racing machinery, and multiplied it. Much is made of the idea the TZ750 was created from doubling the engine of the potent TZ350—just widen the crankcases and plug in an extra crank assembly, cylinder block and cylinder head, so to speak. As logical, simple and expedient as this solution appears, it falls far short in defining the genesis of the TZ750. The TZ750 owes as much, if not more, to its only smaller sibling, the Yamaha OW19 500 Grand Prix racer, a machine on which Saarinen (after Daytona) had won the first two GPs of the '73 season. Like the 500, the TZ750 utilized reed valves to balance tractability against sheer horsepower. And in the handling department, the TZ750 would eventually acquire the monoshock rear suspension of the 500. The TZ750 was much more a big GP machine—a purebred racer—than it was an extrapolation of the smaller Yamaha production racers.

What's not clear is how Yamaha got away with this bit of GP subterfuge. Essentially, Yamaha invaded racing—both AMA and Formula 750—that was presumed to be based, at least in the area of engines and frames, on street-going mass-produced models and readily available aftermarket accessories. It was further presumed this format gave a greater number of factories a chance at racing success with the big machines that had captured the public's imagination by the early '70s. And it gave racing spectators a greater number of machines with which they could connect on a personal level. Yamaha had toyed with the idea of a street version of the TZ750, one example of which was shown at the Tokyo show of 1971, but it was put away afterward, never to be seen again.

Perhaps it's simple—a brilliant

Before he joined Team Honda, Freddie Spencer was a TZ750-mounted terror. Riding an Erv Kanemoto-built monoshocker for Howard Racing, Spencer nearly won the 1980 Daytona 200 at the age of 18. A burned crank bearing caused by the ingestion of sand when the weather turned ugly took him out of the race with only 10 laps remaining. He'd have been the youngest-ever winner of the 200. Of the TZ, Spencer says this: "Some people were scared of them. They were fast, especially Erv's bikes, but they had pretty mellow power-bands; they weren't nearly as peaky as the 250s I rode. I always felt really comfortable on them." That Easter, Spencer garnered his first international fame when he beat Kenny Roberts and Barry Sheene at Brands Hatch at that year's Match Races. The rest, as they say, is history.

FROM ITS INTRODUCTION TO AMERICA AT DAYTONA IN '74 AND A WIN BY GP HERO GIACOMO AGOSTINI TO ITS LAST 200 WIN IN '82 BY KIWI GRAEME CROSBY, THE TZ750 WON EVERY DAYTONA 200.

idea being hard, if not impossible, to suppress. The TZ750 proved as unstoppable politically and emotionally with both race organizers and the public as it was unstoppable by any racer riding anything else. The bike was simply not to be denied on any basis. And Yamaha, one way or another, took full advantage of the fact that infinitely more people wanted to see its latest creation on the track than would have preferred to see it go away.

Yamaha returned the favor. Its big, spectacular GP-bred machine transformed AMA and Formula 750 racing into big, spectacular affairs that far exceeded other makers' entries. In short order, the Ducatis, Nortons, Triumphs, Moto Guzzis and even Hondas faded from the scene, forever relegated to that bit of motorcycle racing history that predates the Yamaha TZ750.

To say the big TZ dominated is to state the obvious. From its introduction to America at Daytona in '74 and a win by GP hero Giacomo Agostini to its last 200 win in '82 by Kiwi Graeme Crosby, the TZ750 won every Daytona 200. From its first year in Formula 750 in '74 propelling John Dodds to the championship to its last in '79 carrying Frenchman Patrick Pons, the TZ750 won every championship and practically every race. Epic battles were fought, reputations were forged and champions were made. In particular, Canadian Steve Baker became America's first world roadracing champion by riding a nearly flawless season in '77 on his way to the Formula 750 crown.

The TZ750 accomplished all this with surprisingly few changes. In the six years of production, from the '74 TZ750A to the '79 TZ750F, there were really only two changes. Partway through the B model-year engine displacement grew from 700cc to 750cc by enlarging the bore from 64.0mm to 66.4mm. And with the advent of the D model in '77, the TZ750 finally acquired Yamaha's trademark monoshock rear suspension. Also gone in '77 were the four flat-sided, failure-prone expansion chambers, replaced by proper conical-shaped exhausts, three positioned under the engine and the fourth snaking its way upward, across and through the frame, exiting rearward just below the seat.

Through the years, engine output increased from 90 to 120 horsepower and beyond, often through the efforts of enterprising privateers. All the while, the Yamaha retained a reputation for reliability as well as blinding speed, so much so that a few examples found their way into 24-hour endurance racing, their success cut short primarily by their undeniable thirst. Yamaha built only about 500 of these fabulous roadracing machines, and there were a substantial number of specials built around TZ750 engines.

For those of us who remember the TZ750 well, the bike remains contemporary. Its looks haven't faded with age. Park a nice example—even one with a little race wear—anywhere and the bike can still stop onlookers in their tracks. People remember. There are those who wish to make the history of this fabulous racing machine come alive, who believe that the big Yamaha should be preserved in its proper environment, which is to say restored and ridden at high rates of speed in front of those who remember it and those who will now be just as amazed as we all were in 1973. How many TZ750s must there be out there waiting for such an opportunity?

Those who'd like to see and hear the legendary TZ750 in action can do so over the weekend of July 1–2 at BeaveRun Raceway in western Pennsylvania. Click on www.usgpru.com for more information. **MC**

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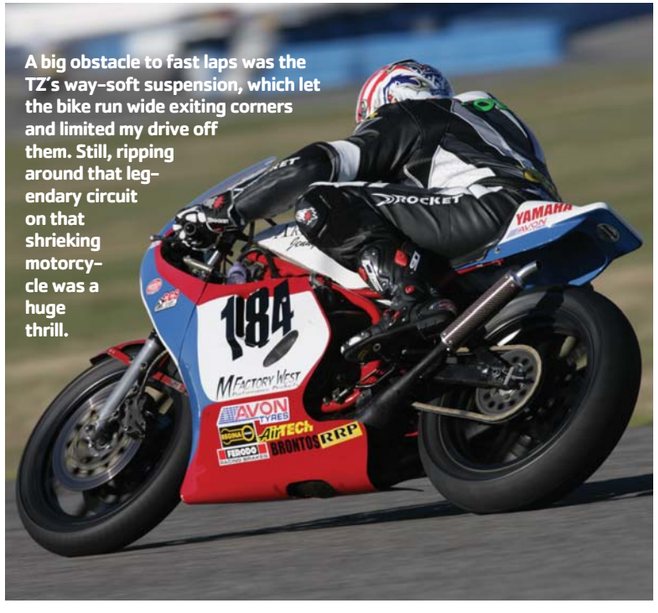
into the groove despite my cramping legs. The thing is *fast*. But then I notice the temperature gauge as I head for the tri-oval; it's gone past 90 degrees Centigrade and is heading for 100, which Bigley called the danger zone. I imagine being flicked off into Turn 1 as the engine seizes, so I back off and roll into the pits a lap later, thinking unhappily that these might be my only laps till my race later in the day.

The crew goes over the bike while I head for the CCS office to double-check my race time. Two hours later we're pushing the bike to start/finish and the butterflies are swarming. Not because I'm worried about being competitive (I'm gridded last, and in a class filled with late-model R1s, GSX-Rs and ZX-10s!), but because I want the bike to last, want to make it back in one piece, want to bump right up against this thing's ragged edge and see what's there. Dunlop's race-tire guru Jim Allen walks by and gives me a thumb's up, but wonders privately about the bike's magnesium wheels, which are known to become brittle with age and disintegrate at speed. He keeps his concerns to himself, which is probably a good thing.

I take it easy at the start and use the first lap to get re-acquainted with the bike. My goal is simple: Run the thing as hard as I can, and hopefully catch a few backmarkers so the race feels like something more than a practice session. The TZ feels reasonably good entering the chicane on lap one so I carry extra speed through the exit and hammer the throttle. The bike shakes its head under power but remains true, and I've got myself a decent drive. I can hear the TZ's raspy exhaust note bouncing off the wall of the banking, and it sounds great. Time to see how fast this thing is. Ripping off the east banking a quarter of a mile later headed for start/finish, the bike bottoms forcefully on the roller bump at the banking's exit and goes into another speed wobble at what must be a buck-fifty. Roberts wasn't kidding.

The shimmy's not bad enough to cause me to back off, and I carry Big Speed past start/finish. But I blow the entrance to Turn 1, arguably the toughest bend in all of motor racing. Through the Horseshoe and the rest of the neutered infield I'm having a hell of a time getting any sort of rhythm going; the brakes are weak, the bike has little engine braking on deceleration, and though I'm riding a lot faster now than I had in practice, I'm lurching all over the place—and surely looking like an idiot on an old bike floundering at the back of the pack in the process.

KENNY ROBERTS HAD TOLD ME TO GET UP OFF THE SEAT ON THE BANKING, THAT THE BIKE WAS "SURE TO WOBBLE." CONSIDERING IT WAS CAPABLE OF 170 MPH, THIS DID NOT SIT WELL, EVEN WITH SEVERAL BLUE DRINKS CIRCULATING THROUGH MY SYSTEM. (WHO SAYS ALCOHOL MAKES YOU BRAVE?)



A big obstacle to fast laps was the TZ's way-soft suspension, which let the bike run wide exiting corners and limited my drive off them. Still, ripping around that legendary circuit on that shrieking motorcycle was a huge thrill.

The bike wants to wheelie through the gears exiting the infield onto the back straight, but I'm more worried about the oily mist that seems to be rising from around my crotch. I sneak a look down at my right thigh and knee and find the leather there shiny with petrochemicals. It's just the gas/oil mixture backwash through the carbs and intake system typical of most two-stroke racebikes, but I don't know that—and images of oil-coated rear tires begin playing on the insides of my eyelids. Pitching the bike into the chicane five seconds later at 90 or 100 mph takes mammoth faith, but there's no slide. Guess it's OK.

I try to get ready for the high-velocity shake/shimmy that's coming through the east banking's G-out, but my attention is focused on an almost unreal level of vibration and noise permeating the cockpit. It's way worse than I remember, so I naturally think something's gone terribly wrong. What's happening is that I'm riding the bike a lot faster now, and it's doing what big, nasty two-stroke racebikes do at speed. But again, I don't know this, all of which keeps me from nailing Turn 1 again. The temperature gauge again flirts with the 100-degree C mark, but I ignore it. Bigley said to.

By this time both my feet are asleep and buzzing with pins and needles due to reduced blood flow caused by my pretzeled legs, but there's too much craziness happening to think about them now. I get a bit overzealous exiting the Horseshoe, lose the back end in a lurid slide and almost run off the track after I get things buttoned up. The bike rockets toward the tight section of the infield and I nearly overshoot the right-hander due to my right hand cramping from grabbing the brake lever so hard for so long. I tell myself

to relax, but my rapid-fire breathing fogs my shield and I miss my turn-in point two corners later. I can see folks in the grandstand as I rattle by, and I just *know* they're laughing their asses off.

I realize I'm tired and riding out of control—and then I get the crossed flags that signal the race's halfway point. Still four laps to go? Damn! It's not so much the power that's making the TZ hard to ride; power hits hard at 7000 rpm and redlines at 11,000, so there's a decent spread there. The problem, for me at least, is that the engine is so much better than the chassis. The soft suspension, weak brakes and racklike ergos are taking their toll, making me ride spasmodically, unable to be smooth. Somehow I manage to relax a bit ripping along the banking, and I wonder briefly how riders—especially those larger than average—rode these things at race speeds for 200 miles here. Amazing.

In the race's latter stages I manage to put together a couple of decent laps, and even catch a few slower riders—although Team Yamaha's Jason DiSalvo and Jamie Hacking lap me toward the end while testing for the AMA races the following weekend. At the checkered flag I pull in and collapse onto the TZ's tank as I roll to a stop where Bodden is standing. Hacking and DiSalvo come over to check out the bike, as does Jim Allen, who then tells me of his concerns about the mag wheels. Someone says they got me at 168 mph on radar, which makes me extra happy the wheels stayed together. Hacking breaks us all up with his quip, "My mountain bike's got thicker fork tubes than that thing!" DiSalvo throws a leg over the TZ's saddle and fits perfectly; he says he'd like to try riding it sometime. Allen, who rode his share of race laps on big TZs, laughs at the thought. But we all know DiSalvo would be crazy-fast on the thing.

I TELL MYSELF TO RELAX, BUT MY RAPID-FIRE BREATHING FOGS MY SHIELD AND I MISS MY TURN-IN POINT TWO CORNERS LATER. I CAN SEE FOLKS IN THE GRANDSTAND AS I RATTLE BY—AND I JUST *KNOW* THEY'RE LAUGHING THEIR ASSES OFF.

Bodden: I'm relieved afterward, just as I'd been 10 years earlier when I'd watched Boehm race the Drixton Honda 500 I'd prepared (the very reason we were having this 10-year commemoration at Daytona). I was afraid there might be some problem I didn't know about—and didn't have time to find—lurking deep within the TZ. I felt a great sense of privilege being able to work on one of the most legendary racing motorcycles of all time. The few moments I wasn't preoccupied during that long weekend, my head was filled with images of Agostini, Roberts, Johnny Ceccoto, Steve Baker, and, as a compatriot, of Patrick Pons and his win at this very circuit in 1980. I also reminisced about local greats, some champions, some not—Chambers, Rich Schlachter, Greg Smrz, et al. I reminded myself that, despite all the apprehension surrounding the TZ750's release, and despite its mind-boggling acceleration and top speed, it earned an enviable safety record. It may have been fierce, but it wasn't vicious.

Ten years after our first vintage-racing get-together at Daytona, the '05 version of the Cardiac Kids pose with the Bigley/Lentz TZ750 on Sunday afternoon in Daytona's infield just hours after our race. Left to right: Shannon Silva, Todd Henning, Yours Truly, R.L. Brooks, Patrick Bodden, Billy Orazio, Michael Mutter and Mike Sidinsky. Missing are Russ Bigley, Mark Middleton and Phil DiGiandomenico. My race number—184—came from my motocross racing days.

Boehm: I'm spent, but hugely jazzed about the way it all came off. By riding the TZ hard in a real roadrace at Daytona, I'd gotten a firsthand glimpse into a large portion of American roadracing's history. Lentz's TZ wasn't quite the monster I expected. But the experience did show me the monstrous skill and determination of the riders who went fast on them back in the day. Amazing stuff. **MC**