TZ IN THE FAST LANE

by Terry Whytal

The Yamaha TZ750 dragbike ridden by Ron Knapp and tuned by Gene Schroeder is the quickest and fastest petrol-powered 750cc motorcycle in America. Knapp has broken the e.t. record on several occasions and currently holds the International Dragbike Association DD/G (750cc petrol) class title at 9.20 seconds and 145.63 miles per hour. A careful blend of craftsmanship and innovation have turned the former roadrace machine into the reigning King of a class once totally dominated by Kawasaki triples.

The most obvious and startling of the technical modifications is the change from water to air cooling. The radiator, water pump and the rest of the plumbing were scrapped early in the design stage to save weight. "The engine is lighter and simpler to work on without the added plumbing and yet it remains cool enough to require a considerable amount of warm-up time before each run," explains Schroeder.

The TZ 750cc cylinders were topped by specially-modified, air-cooled heads to pass air over the hot combustion chamber area.

Numerous holes were drilled in the cylinder waterjackets, again to allow air to flow around the combustion chambers. Sets of 700cc and 500cc barrels are also kept on hand and allow Knapp to run several different classes.

Routing the expansion chambers was made simple compared to roadracing standards, since ground clearance is not a problem. The pipes were designed and handformed by exhaust wizard Darryl Bassani, helping the 750cc engine reach a top horsepower figure of just over 150.

The bike was originally run with Mikuni 34mm carbs handling the breathing chores and worked well enough to set a new record of 9.41 at 142 mph. Lectrons were then fitted to increase the high fuel-speed metering efficiency and the current record was set at 9.20s

Clutch breakage was the weak link in the drive train for most of the bike's first season of competition. Then Schroeder hit upon the idea of re-designing the gear box to accommodate a first gear 20 percent lower than stock. Comments Schroeder, "The lower gearing makes the bike faster out of the chute but places less strain on the clutch. The final drive gearing remains the same."

"The biggest improvement in our times has come from fitting a semi-automatic airshifter for gear-changing," notes Knapp. "I had always thought my gear-shifting speed was excellent but the airshifter is much faster. I just watch the tach and hit the button. It's easier and safer since I can concentrate more on keeping the bike straight."

Despite the unique aircooling, the TZ motor is basically stock and remarkably reliable. Although the top end is checked after each meet, a full engine teardown is only required after 100 runs and in the past 150 trips down the strip there has not been a malfunction.

"We see racing as a hobby," says Schroeder, "Ron and I both have demanding jobs and we can only work on the motorcycle when we have spare time. We figured the stock motor was strong enough to really move if we could get the power to the ground. And by keeping it stock, we wouldn't have to spend time rebuilding blown engines."

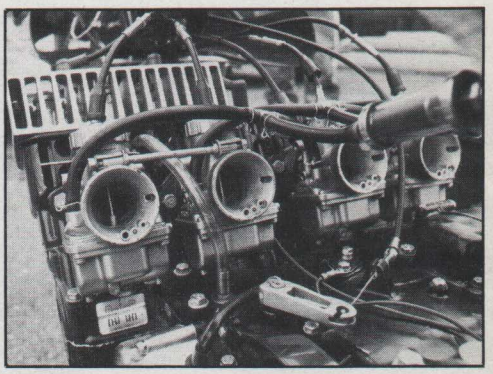
Getting the power to the ground has been a major problem for the team. A roadracing slick tested in the original runs proved inadequate and, as Knapp remembers, "kept spinning the whole quarter mile."

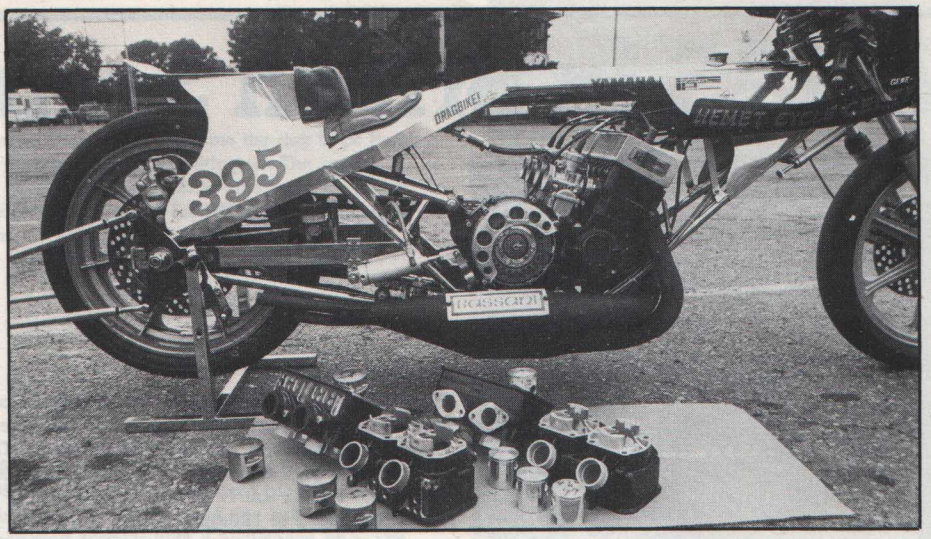
A six-inch Goodyear wrinkle-wall dragster tyre was tried next but this gave so much grip that the engine would "bog" coming off the line.

So the roadracing tyre was refitted and they redesigned the wheelie-bar. Knapp explains, "I used to be really careful to feed the power through the clutch slowly as I came off the starting line. Otherwise the bike would rotate back on to the wheelie-bar so violently that it would bounce the rear wheel off the ground! The engine would either bog or the tyre would go up in smoke."

The solution? Lengthen the bar by 30 percent and construct it of 5/8 chrome-moly tubing with .035 wall thickness. The greater length helped slow the effect of the bike "rotating" on to the bar and the thin wall tubing flexed enough to cushion the impact. Therefore, the rear wheel remains in contact with the strip.

Detail work on the bike is exemplary with aircraft-quality fasteners and tubing used throughout. Even bolt heads are anodized blue or gold





to match the wheels and paint scheme. Careful preparation and attention to detail are behind much of the success Knapp and Schroeder have enjoyed.

The future promises more records for the team and the "perforated" TZ. "We've got some other cylinders to try next year," confides Schroeder, "and a newly designed slipper-type clutch. We want to be the first seven-fifty to break into the 8s!"