



MULTI-PURPOSE TRIUMPH

*Kastner goes to Bonneville and to the drags with TR-4A . . . or . . . we
knew it would corner but will it go in a straight line?*

GORDON CHITTENDEN PHOTOS

EVERYONE WHO KNOWS anything about sports cars is aware that the Triumph TR-4A is one of the better all-round machines in the low-to-middle price range. The accomplishments of the marque in road racing are well documented by class victories at Sebring (1-2-3 last year, plus the Pepsi-Cola team prize) and by an almost endless list of successes in Sports Car Club of America competition. That the car is also well suited to rally work is obvious from the examples found in almost any U.S. rally whether it be a casual Saturday evening hand-holder or the most serious national event. TR-4As can also be found doing well in gymkhanas, slaloms, traloms, trials, hillclimbs and all the other kinds of competition where sports cars are likely to be found.

But some people are never satisfied. R.W. "Kas" Kastner, the manager of Triumph's U.S. competition department, is one of them. Goaded on by photographer Gordon Chittenden (who also wanted to drive the car), Kas agreed that it might be interesting to see what a near-stock TR-4A could do in straight-line competition at the Bonneville Salt Flats and on the local drag strips. In other words, to rearrange a cliché, everybody knew it could corner, but how would it do in a straight line?

As these were activities in which a typical TR-4A owner

might wish to participate, it was fundamental that the car would start out as a standard model and that the changes and modifications would be those available to anyone. In other words, no specially built factory cars. It was also fundamental that the same car would be used for both kinds of racing in order to demonstrate the car's versatility.

The car that was rolled into the Triumph Competition Dept for preparation was a white TR-4A coupe with independent rear suspension, steel disc wheels, straight non-overdrive 4-speed transmission and the normal heater, but no radio. A full-width rollbar was installed but otherwise the car was kept in showroom condition even down to full carpeting, bumper guards and window washers.

Heavy duty springs, shock absorbers and axles—all factory options—were installed as was a no-slip differential. These were the same options used in the Sebring class-winning TR-4As except that street settings rather than road racing settings were used for rear camber and front toe-in.

The engine was given the same basic Grand Touring preparation used on the Sebring race cars. The intention was to achieve a comparatively moderate power increase and to retain reliability rather than prepare the engines to the all-out sprint race specifications used in SCCA club racing cars. Triumph engine preparation is no secret—it consists primarily of careful hand labor and machine work on stock parts—and

is made available through the Triumph Competition Dept., 111 Galway Pl., Teaneck, N.J. 07666. Special parts and modifications made to the engine included installation of the "F" grind camshaft and valve springs, an 87-mm bore kit (which increased the displacement to 2182 cc, still well below the 2700-cc limit of F/GT at Bonneville) and tuned exhaust system; the compression was increased to 12.6:1 (instead of the 11.8:1 used in the Sebring cars) to compensate for the 4200-ft altitude at the Salt Flats. In place of the standard 1.75-in. SU carburetors, Kastner installed a pair of 45 DCOE Weber carburetors. These carburetors and the accompanying intake manifold are soon to be available for the TR-4A.

On the dynamometer, the engine developed just over 140 bhp at 4600 rpm. This is well above the 105 bhp of the standard TR-4A but still under the 155-160 bhp achieved in the all-out sprint race version. To increase the maximum usable revs, the cam timing was adjusted until the maximum power came in at 5000 rpm and would hold up to 6000 rpm before starting to drop off. During the dyno tests it was found that the Weber carburetors added very little power over the 1.75-in. SUs and with this in mind a set of SUs was included among the spares so they could be tried on the salt if there was time.

With a final drive ratio of 3.70:1 and 6.50-15 Goodyear Sports Car Special tires (with the tread pattern whittled down to 2 in. wide), 6000 rpm in 4th gear would be about 130 mph. As the F/GT class record was held by a Daimler SP-250 at 127.795 mph (set in 1963 by Ike Banks), the TR-4A's performance was expected to be adequate to demonstrate the point of the exercise.

After Kas applied a blue racing stripe, the car and spares were loaded and the crew headed for the Bonneville Nationals. During the following days, the fastest timed run was 128.20 mph. This speed was achieved on the second run and exceeded the previous record. This proved the point even though Bill Gurnee's Daimler (bored to 2.7 liters and fitted with four Webers) upped the class record to 137.311 mph.

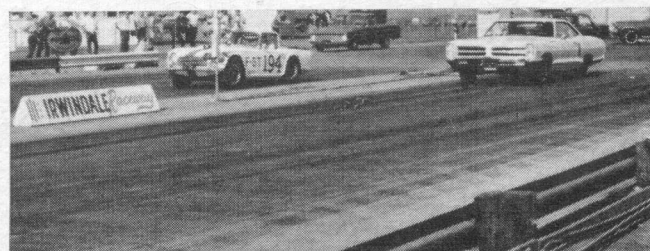
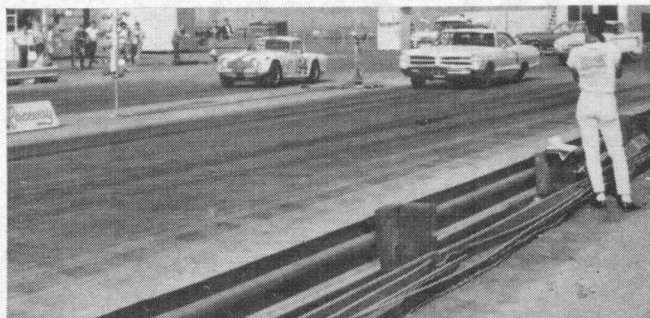
Mechanical problems precluded any improvement on the 128.20-mph mark by the TR-4A. All the flywheel bolts sheared when driver Chittenden tried a drag racing shift to 4th gear on one run and later, after working up to what seemed to Chittenden their best run, the oil pump drive failed. Then strong winds came up which brought the runs to a halt and ended the Triumph's chances for this year. Chittenden is convinced that 135 mph could have been achieved this year had there been satisfactory conditions to continue running.

Incidentally, the SU carburetors were bolted on and a run of 127-plus was recorded without strain. This was less than one mph slower than the speed achieved with the Weber 45 DCOE units.

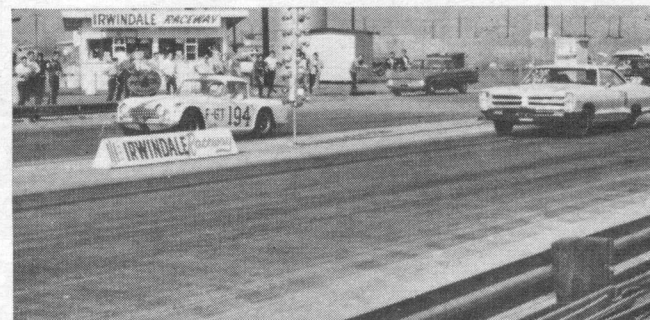
Although he had carefully read the SCTA's rule book, Kastner was astounded at the amount of body modification that was tolerated under the heading of "minor customizing."

"It had been explained to me that 'minor customizing' was the removal of the hood emblem or the letters of the car's name and that sort of thing," Kastner said. "Okay, neat, I understood that. We had over 16 sq ft of frontal area so what was a couple of chrome letters going to do. Not much. But when we arrived I discovered that 'minor customizing' allowed big air scoops on the hoods of Corvettes and Mustangs, spoilers on the deck lid, seams closed and leaded, parking lights and turn signals removed, the holes filled and smoothed out and dandy things like that. Apparently the plain removal of exterior fittings and putting tape over the holes is 'streamlining,' but if you fill the hole and smooth it out, this is 'minor customizing.' Okay, we got the idea. It was obviously too late for us to take advantage of the allowances in the rule this year but next year we'll give it the Boy Scout shot and be prepared.

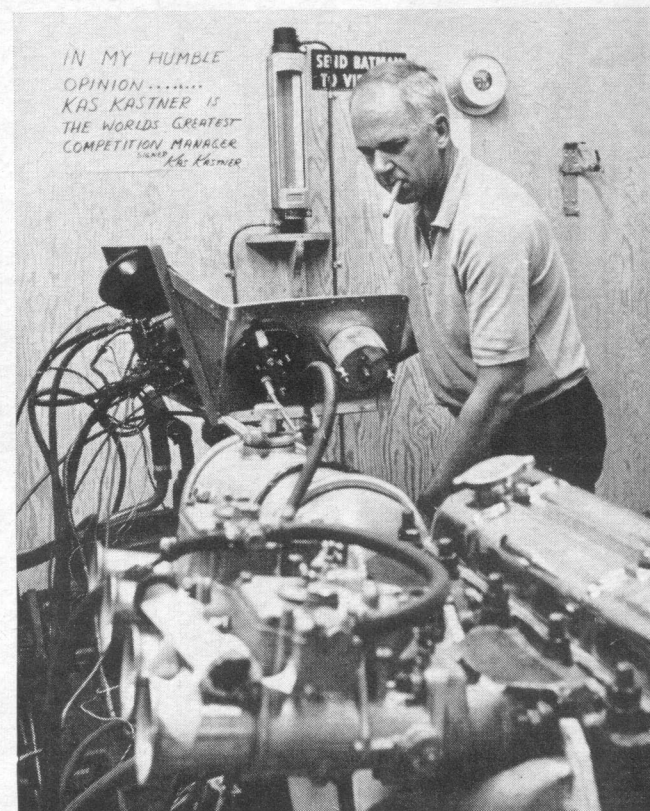
"You can't learn how to prepare your car for Bonneville from the regulation booklet. You actually have to go there



Pontiac driver may still be talking to himself after being jumped and stomped by drag racing TR-4A at Irwindale Raceway.



Kastner's TR-4A engine with Webers developed 140 bhp on dyno.



TRIUMPH

and find out. We made up an air scoop to furnish cold air (ha-ha) to the carburetor area and by putting the tube really close to the salt, we picked up almost a full mile per hour. Anyone want to buy a pair of salty Webers?"

As a matter of comparison with the 128.20-mph time recorded by the TR-4A, the winning B/GT car this year, a 327-cu-in. Sting Ray, went 137.166 and a race-ready Alfa Romeo GTA was timed at 123.882 mph.

Back in Southern California at Triumph headquarters, the TR-4A was prepared for drag racing. The suspension was recalibrated for normal tires (instead of the narrow salt flat Goodyears), the Webers re-jetted for the lower altitude, the camshaft re-timed to normal "F" timing and the 3.70:1 final drive replaced by a 4.1:1 ratio. And, oh yes, the oil pump replaced. Once these things had been done, the car could be driven in normal traffic though the abrupt locking and unlocking of the no-slip rear end required a practiced hand at low speeds to avoid unsettling lurches. The car was more pleasant to drive if the revs were kept over 3000—which wasn't hard to do with the 4.1:1 rear end.

For the first try at the drag strip, a set of Mickey Thompson cheater slicks (on wide-rim cast magnesium wheels) was tried. With these the traction was so good that the engine would bog down when the clutch was popped. In addition, because of the increased diameter of the tires, the effective overall ratio was reduced and the acceleration adversely affected.

After replacing the slicks with 5.90-15 road racing Good-years, the tires would break loose when the clutch was popped (keeping the revs up) and the effective overall ratio was such that the engine was turning about 5000 rpm in 4th at the end of the quarter, which was about right. With the slicks there hadn't been time to get into 4th and at the end of the quarter the engine was turning about 6000 in 3rd.

Using the road racing Goodyears, the drag racing TR-4A visited a local American Hot Rod Association drag strip where the class record was held by a Porsche with an elapsed time of 15.41 sec. Still equipped with full street mufflers, the TR-4A lowered the ET to 15.23 and showed a terminal speed of 88.4 mph.

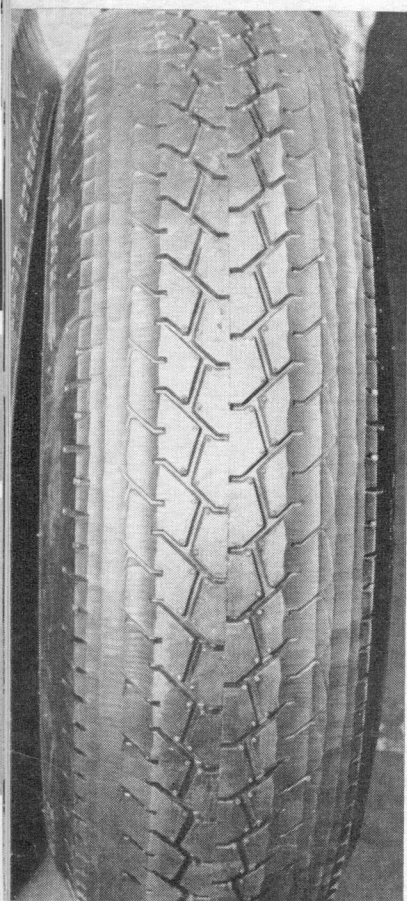
The next drag race outing was at Irwindale Raceway, a National Hot Rod Association strip. The first practice round found a 421 Pontiac in the opposing lane and that driver all but dropped his teeth when the TR-4A jumped out ahead when the lights went green.

That evening's work was also a satisfying one as the Triumph not only won its class with ease but set a new class record for the strip. The best time during the evening was a 15.43 sec ET and a speed of 88-plus mph. The previous record, held by a Falcon Sprint, had been 16.02 and 86 mph.

From these demonstrations at the Salt Flats and on the drag strips, it is obvious that, yes, the Triumph TR-4A can be made suitable for straight-line competition work.

The particular car that was used, set up the way it was and including the Weber carburetors, could be duplicated for about \$3900. With such a TR-4A you would have a comfortable GT car with a top speed of more than 125 mph, acceleration in the low 15s for the standing quarter and, with minor changes, also suitable for road racing—the very essence of the multi-purpose sports car.

Bonneville Goodyears had tread only 2 in. wide.



Kastner (left) and crew members Bob Avery and Jim Coan check with SCTA official at Bonneville. Interpretation of "minor customizing" rule was to bring surprises later.

