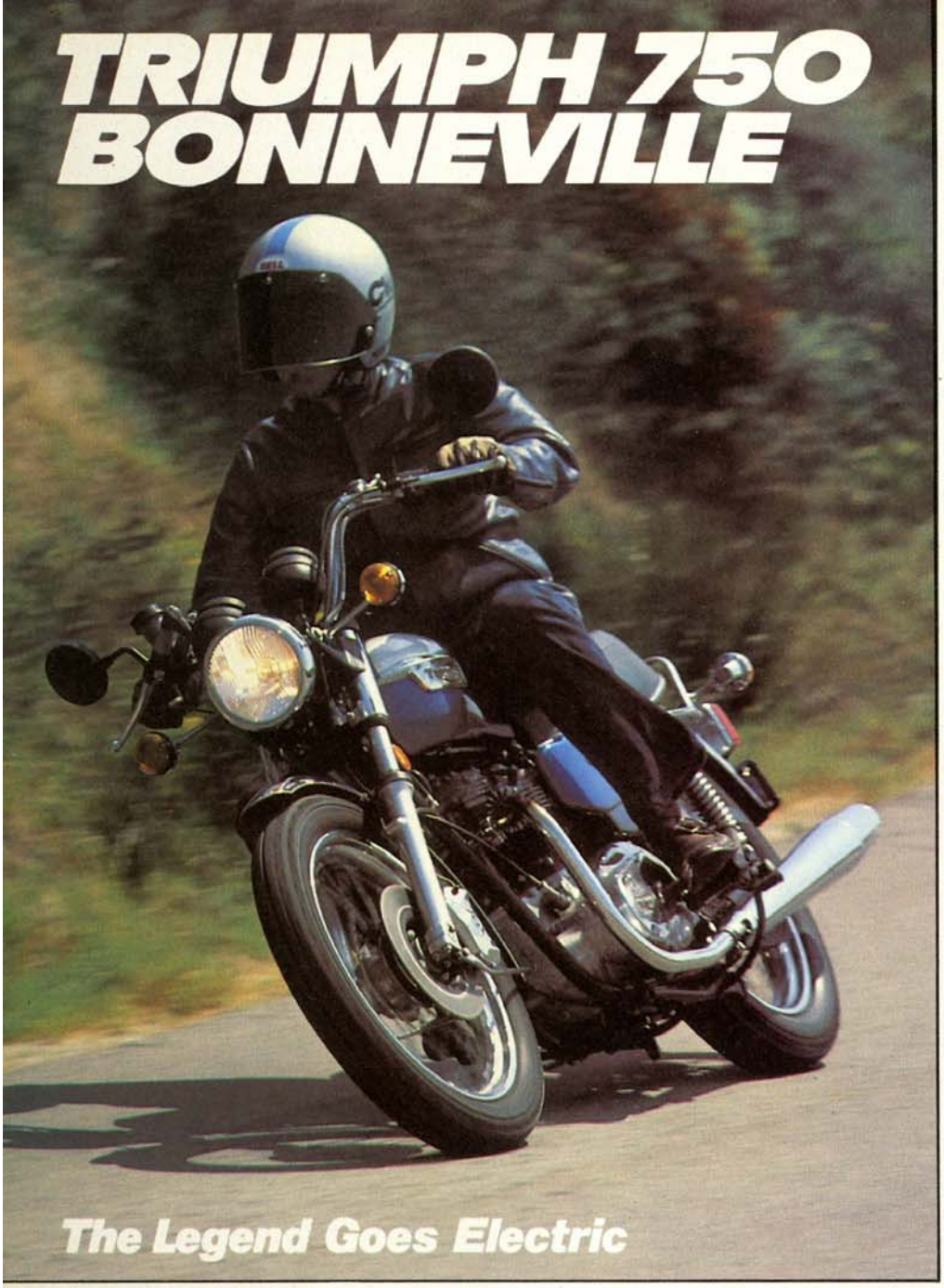
TRIUMPH 750 BONNEVILLE



The Legend Goes Electric

CYCLE WORLD TEST

■ Forty-five years have now passed since a gifted British gentleman named Edward Turner sat down at his drafting table and laid out the basic design of the Triumph Speed Twin. When he finally switched off his light and went home for the night or out for a quick pint, Turner had created a machine whose agility, good looks and excellent performance made it an immediate success and one of the most popular motorcycles ever built.

In the interim the Blitz and Churchill have come and gone, Spitfires and Hurricanes have been relegated to air museums, the sun has set on large parts of the British Empire, the national motorcycle industry has nearly disappeared, Christine Keeler is presumably middle-aged, Carnaby St. has drifted into colorful memory and the Prince of Wales is finally married. The Triumph factory itself has been bombed flat in Coventry, resurrected in Meriden, thrived, declined, gone broke, been rescued, co-operatized and rescued again. And for all that, the amazing thing is you can still buy a brand new Triumph Speed Twin, now called a 750 Bonneville, off a showroom floor in 1981.

The Bonneville itself has been through a lot of changes since 1959 when Triumph named its hottest new twin-carb 650 in honor of Johnny Allen's record run on the Salt Flats. It got a new oil-in-frame chassis in 1971, same lowered in 72½, a bore job to 744cc in 1973, and the usual burden of de-smogging and silencing impedimenta throughout the Seventies. Over the years it has also received hundreds of small, unseen improvements in things like bearings, rings, valve guides, seals, etc. in a process of slow evolution.

The changes for 1981, however, are a little more pronounced than usual. The big news this year is that the Triumph now has an electric starter, Bing CV carbs and breakerless electronic ignition. The electric starter is a Lucas unit mounted behind the cylinder barrels in roughly the same spot once occupied by the old Lucas magneto. The starter drives the crank through a 20:1 gear reduction system housed in the right timing cover, engaging through a sprague-type clutch like that used in most Japanese bikes. The factory has done an excellent job of integrating the starter with the engine; the polished alloy cover over the drive gears blends nicely with the rest of the timing case and looks as if it always belonged there. Even better (those who had electric start Nortons can breathe a sigh of relief), the starter actually turns the engine over and it worked quietly and faultlessly throughout the bike's extended test period.

Traditionalists may object that the Bonneville doesn't need an electric starter and that it was nice having one big bike that hadn't given in to such frippery and that heavy starters aren't needed or wanted on light sport bikes. All true, and also part of our initial reaction. However, the two staff members who own older Triumphs soon found the electric start merely took the hassle out of short trips and daily riding without adding enough weight to make a noticeable difference in the Triumph's handling or agility. The kick lever is still there for those who like it and, as from time immemorial, the Triumph always starts on the first kick—or maybe the second if you don't put enough commitment into the first one.

And you don't have to tickle the carbs.

Yes, the 1981 Bonneville has a pair of 32mm Bing CV carbs with nothing but the usual handlebar-mounted Triumph choke lever to enrichen them. The Amal carbs and tickler buttons are gone with the attendant fuel streaks down the float bowls and engine cases. The Bings simply require full choke for cold starts, or when the bike has been sitting for more than half an hour, and the engine fires instantly. The choke can be switched full-off almost immediately and the Twin will settle down to a nice even idle. The Bonneville can then be ridden away without a glitch, flat spot or any other symptom of cold running, so respect for the cold crankcase oil is the only reason to temper your throttle hand. After playing five-minute choke knob games with some of the more cold-blooded Multis, the Triumph's starting response seems almost too good to be true.

In yet a third concession to modern technology, the Triumph now comes with electronic ignition. Those who have spent time adjusting the multiple points plates on the old ignition or peering through the oil mist in the left sidecover with a timing

light, or, worse yet, setting static timing with a crank positioning pin, will not much lament finding a magnetic pickup under the former points cover.

Other improvements include the use of oil seals on the intake guides, a larger battery to handle the starter, roller bearings instead of caged balls on the timing side and a new high-output 176w alternator in place of the old 120w unit.

The Bonneville engine is otherwise laid out as it's always been. It is a 744cc 360° vertical Twin, with both pistons rising and falling together and firing on alternate strokes. Bore and stroke are 76 x 82mm; compression is 7.9:1, as it has been since 1978. Separate intake and exhaust camshafts sit fore and aft of the barrels, high up in the cases. The cam lobes are closely paired between the cylinders so each set of pushrods can fit into a single tube. The pushrods ride in shoe-type lifters and operate adjustable rocker arms over the valves. Allen head screws hold down two cover plates for access to the valves when adjustment is needed. The camshafts are driven directly off the crank by gears in the right side timing chest.

An eccentric drive off the intake cam drives a four-valve oil pump. The Triumph has dry sump oiling with the main downtube in the frame acting as oil reservoir. The reservoir drain plug and washable mesh oil filter are attached to a plate bolted to the bottom of the downtube, just behind the centerstand pivot. Oil is added at a cap/dipstick under the seat and behind the gas tank. The system holds 2.4 qt.

The one-piece forged crank runs on roller bearings at either end and is unsupported in the center, with a round flywheel between the crank throws. The Triumph's cylinder head is no longer of the classic Bonneville "Delta" design, which had distinctive splayed intake tracts angled downward for good, straight-in flow. The head and ports were changed in 1979 so two parallel Mk. II Amals could share a common throttle shaft and control cable. Oddly, the Bings still use the parallel intake tubes but are not linked and have independent choke and throttle cables just like the old Bonnevilles. The Bing control arms are at the outsides of the carbs, which makes adjustment easy but also required Triumph to extend the sidecovers forward over the linkage so riders wouldn't snag control cables with their knees and pantlegs.

The parallel intake tubes also make it easier to duct the carbs into the airbox, which wraps tightly around the frame and has a separate gauze air cleaner under either sidecover. The filters are run dry and cleaned with compressed air. They breathe through angled plastic tubes that>

Photos by Steve Kimball and Kirk Willis

curve down into an empty space above the swing arm and between the filters. The 12v/14ah battery is also nestled between the air cleaners and is easily reached under the lockable hinged seat, as is the tool kit. The sidecovers are attached in unusual fashion; each held with a ⅜ in. allen bolt in the center, small plastic caps covering the bolt heads.

The overriding virtue in the engine and its related bits and pieces is compactness. Disassembly of a Triumph engine is always an exercise in marveling at how tightly and neatly everything fits together. Case covers are fitted closely around gears and sprockets, camshafts are high in the cases so short pushrods can be used, cam lobes are squeezed together so two pushrods can squeeze into a single tube and the gearbox is a real box, no larger than it has to be to fit around the gears. All this makes for a few more nooks and crannies at cleaning time, but it also makes the engine light and compact and gives it an intricate *machinery* look, enjoyed by people who like to see how things are put together. There are no spare chains, bobweights or countershafts in the engine, and somehow

the small amount of added vibration seems like a fair tradeoff.

The Triumph does vibrate more than a Four or a counterbalanced Twin, of course, but at any engine speed over idle the pulses are of such low frequency and amplitude that vibration goes almost unnoticed. At around 70 mph the engine gets moving fast enough to produce a bit of a buzz at the handlebars, and at low idle the front tire does a little dancing and jittering. Aside from those normal symptoms of the big vertical Twin, vibration is not really a factor in riding or enjoying the Triumph. No one who rode the bike mentioned it, and nothing fell off or vibrated loose.

Oil leaks? Not so much leaks as seeps. During the first 1000 mi. the Bonneville showed no traces of external lubrication, but at around 1200 mi., after a long hot ride, it began to mist oil from a banjo fitting at the cylinder head oil line and around the tach drive and one rocker shaft seal. These were slow developing and easily wiped off, and the Triumph has yet to leak enough oil to leave unseemly droplets on the garage floor. The vertically split cases and covers, former Achilles heels of oil seepage, showed no sign of dampness.

Raising another ghost from the Limey past, the bike's electrics—electronic ignition, electric starter and all—were faultless during the test except for one small fluke. A coil wire fell off right after we got the bike and the engine stopped running. The clip was recrimped for a tighter fit, the wire hooked up again and that was it. The bike worked fine thereafter. If there was any complaint at all with electrics it was only with the weak headlight. Low beam is low and high beam is low but wider. You'll see the yellow eyes of critters in the roadside woods all right, but not too far down the road. Adjustment doesn't help because the beam is too weak to project over longer distances.

If vibration, oil control and electrics were all good enough to escape derisive notice, the suspension didn't get off so easily. The Triumph is clear proof of the old saying that any suspension will work if you don't let it. The forks are extremely stiff, with too much stiction, and the rear springs are unyielding to the point of harshness. This makes the ride incredibly rough over any pavement with evenly spaced bumps, such as a bad freeway surface. (Okay. Why own a Triumph if you're going to ride on the freeway, right? Sometimes it's unavoidable.) The Bonneville needs softer, more progressive springs front and rear. Which, according to the company, it will have for 1982 in the form of Marzocchi springs and oil reservoir shocks. That's good news.

On another level, the stiff suspension does make a small, if unappreciated, con-

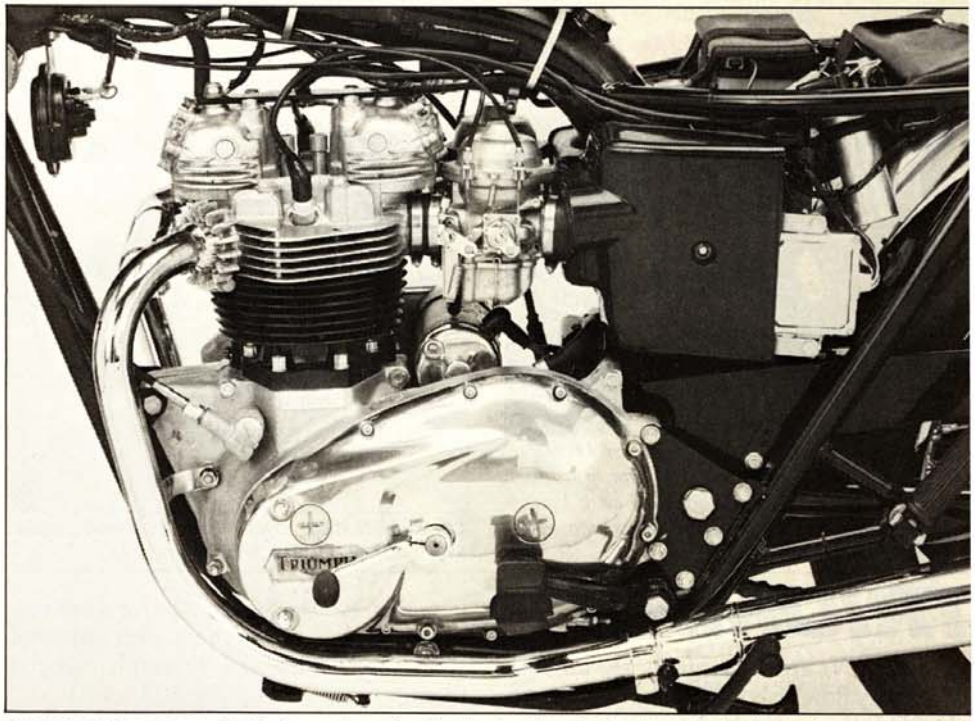
tribution to the Triumph's traditional feeling of tightness and solidness. This is a pleasant sensation of agility and steering precision well known to British bike buffs who claim, perhaps rightfully, that this elusive combination of qualities cannot be found on any motorcycle without a Made in England decal somewhere on its frame. In the Triumph's case, this rightness is mostly a matter of light weight, a strong frame and good steering geometry rather than rock-hard springs.

On winding back roads with only moderate bumps the Triumph handles very well. It has stable, predictable steering devoid of any twitchiness or instability and has a light and narrow feeling—probably because it is light and narrow. Weighing 444 lb. with half a tank of fuel, the Bonneville is the lightest 750 for sale in this country, and is 16 lb. lighter than even the Kawasaki GPz 550, for instance.

Cornering clearance is about average, but it takes effort to ground the solidly mounted footpegs simply because the bike's light weight and low c.g. make it easy to arc quickly through corners without the gymnastics and muscling required of a wider, heavier Multi. On the Triumph a rider finds himself maintaining a good average speed with little interruption, rather than flogging his way up and down the speedometer and tach. The Bonneville belongs to the brisk but dignified school of road riding and resists efforts to make up time with high revs and frequent gear changes.

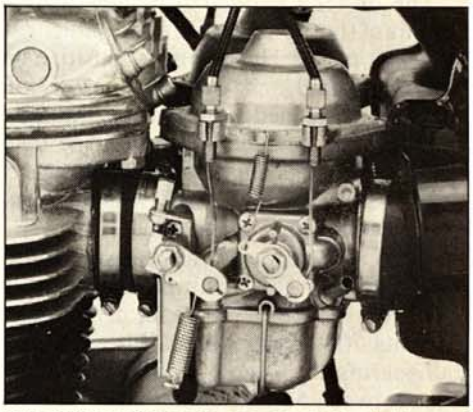
In the world of modern 750s the Bonneville can no longer use the Sixties advertising claim that it was "The World's Best and Fastest Motorcycle." Best is subjective; fastest is not. The 1981 Bonneville turned a quarter mile of 14.96 sec. at 87.3 mph and had a top speed in the half mile of 96 mph. By current 750 standards this is not blazingly fast. But then perceptions of speed are a funny thing. The 1962 Bonneville 650 was the first bike ever tested by this magazine. In the quarter mile it was only 0.4 sec. quicker and actually 2 mph slower than the current de-smogged, silenced and re-carbed 750, yet the testers reported the bike's performance was "staggering." In other words, the Bonneville is well off the pace of today's quick 750s and even 550s, but it can still outaccelerate and pass most cars anywhere and any time on the highway. It lacks the upper end breathing and ultimate top speed of earlier Bonnevilles, but still handles modern traffic with ease.

The only flat spot in the bike's road performance was a gradual power loss on long uphills, particularly into headwinds. A downshift to 4th was needed to maintain speed, though the bike was well within its power band in 5th. Backing off throttle increased the power some, which would normally indicate over-rich jetting or needles. It may be the carbs are jetted a bit rich, for safer high speed running, or>

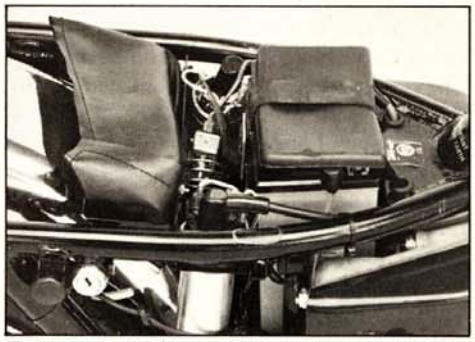


Classic 744cc Bonneville Twin now has electric starter, Bing CV carbs, electronic ignition and six-plate clutch with lighter springs.

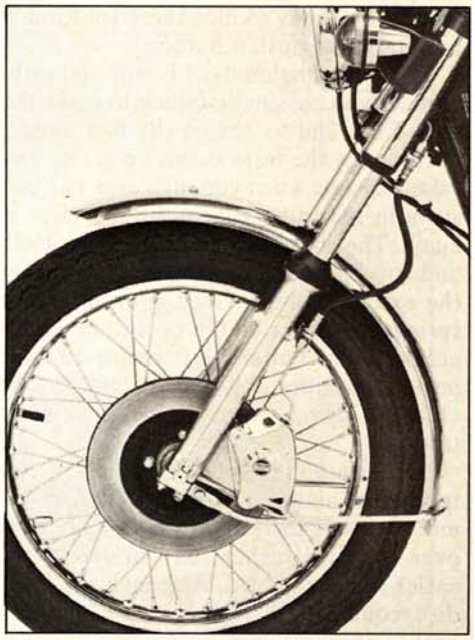
Lucas electric starter drives Bonneville crank through 20:1 gear reduction in right case cover.



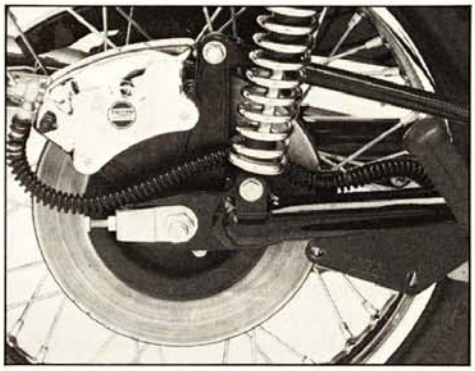
Bing 32mm CV carbs use separate choke and throttle linkage for each carb. Tickling is no longer required.



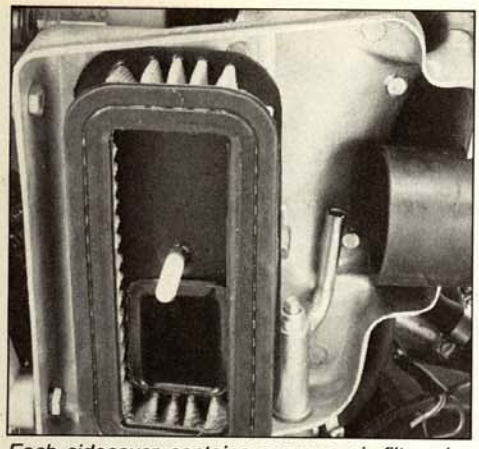
Tools, coils, battery and in-frame oil sump cap are all neatly arranged and accessible under hinged seat.



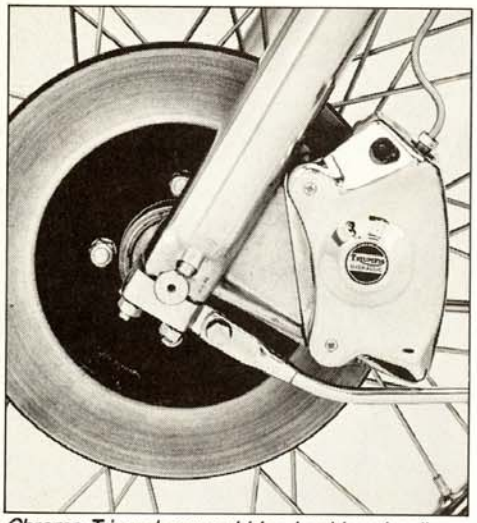
Triumph front forks are too stiffly sprung, as is rear swing arm. High quality chrome abounds on headlight, fender and trim. Polished spoked wheels are made in Italy.



Rear brake caliper is now above disc for easy wheel removal.



Each sidecover contains a gauze air filter element. Air is taken into center of filter from duct behind downtube. Pipe in front of carb intake tube is crankcase oil breather, now located to avoid oiling filter element.



Chrome Triumph cover hides Lockheed caliper. Front disc is positive and controllable.

TRIUMPH

the Bing CVs are too large for the amount of air they flow, or both, so that backing off the throttle under high load drops the needles to a leaner position.

The owner's manual stipulates leaded premium for the Triumph, a recommendation well taken. The engine is sensitive on low grade fuel and will ping heavily on regular. On leaded premium or alternate tankloads of unleaded premium the bike sometimes pings slightly when taking off from a stop, but pulls well without complaint once rolling, even at low revs.

With a five-speed transmission and a 4.70 top gear the Triumph cruises at a fairly easy 3750 at 60 mph, a long way from its 7000 rpm redline. But even with tall gearing the Bonneville is at its mellow best between 55 and 65 mph. At 70 mph and above it begins to feel busy and clattery, with more buzz at the handlebars and footpegs. Right around 4000 rpm the bike feels and sounds so nice there isn't much temptation to push it harder.

The transmission itself is stiff and rather notchy, occasionally failing to make the shift from 2nd to 3rd on the first nudge. Fortunately the trans doesn't pop into any false neutrals when you miss one, but just stays in the same gear until you click it again. The clutch was redesigned for 1981 and now has six steel plates instead of five, the extra driving surface allowing softer springs for easier clutch operation. Lever action is not buttery, but improved over past Bonnevilles and we had no signs of clutch slippage, even during drag strip testing.

The Triumph uses Lockheed brake calipers front and rear acting on 10 in. discs, and this year the rear caliper is mounted over the disc rather than under it, for easier wheel removal. Although the front disc requires fairly high lever pressure, the brakes are positive and easy to modulate. Its stopping distance of 138 ft. from 60 mph is about normal for a current 750. The gold Lockheed calipers are nice-looking units, but the factory has for some reason seen fit to cover them with chromed steel shells with the Triumph logo on them.

The Bonneville still has one of the loveliest gas tanks ever bolted to a bike. Ours was smoked blue with silver trim and hand-painted gold stripes. While the tank appears to be very small and slim, it holds 3.3 gal., good for about 160 mi. to empty at the 52 mpg netted on our test loop. Hard open road riding drops mileage into the mid-40s. The tank has separate petcocks and fuel lines for each carb, with no crossover tube, which means one side sometimes runs out of gas before the other. Both petcocks had a reserve switch position, but the standpipe was missing from one pitcock, so a stumbling right carb and switch to reserve on that side was the only warning that gas is critically low. The distributor told us this was not correct; there should have been standpipes on both sides. They also said crossover tubes will be fitted in the future. The owner could, of course, install one easily.

Comfort is a mixed bag on the Bonneville. The seat is fine for the types of rides most Triumph owners will be taking; i.e. the short sporting jaunt, but is not ideal for touring. Toward the end of a day in the saddle it feels thinly padded and flat, like upholstory over plywood. Higher density foam would help. Handlebars are bent in the "Western" Triumph tradition, meaning high and backswept. While the bars will look awkward to sport and touring riders who don't like to sit upright against the wind, the actual bend is fairly comfortable. Unlike some of the Japanese high-rider bars with the bend coming at you in pistol-grip form, the Triumph bars turn down and outward at the ends and are a more comfortable variation on the theme.

Instrumentation is simple and well laid out. The Veglia made-in-France speedo and tach are accurate and easy to read day or night and a small ignition switch-cum-idiot-light block fits neatly between them. The key slot has a little rubber cap to keep weather out when the key is removed and the key itself has a rubber shroud to keep rain out on the road. The key, for no apparent reason, has to be clicked through two positions to make the ignition and starter work, though the lights come on at the first click.

Everyone thought the Triumph was a handsome motorcycle, though several ex and would-be Triumph owners on the street lamented that the shapes of the seat, sidecovers and mufflers didn't look as perfect as those on Bonnevilles of the late Sixties. As long as the bike isn't competing directly with the Japanese, they reasoned, why not try to make it look traditional and *right?* The changed appearance of sidecovers and mufflers, of course, comes as a free gift from the EPA. (Well, not free, exactly.) The engine and tank, as always, were singled out for admiration. No one has ever made polished castings and alloy case covers look as nice as those that adorn the engines of British bikes. The general paint and finish on the Triumph was excellent, though one or two chassis bolts, the throttle return springs and the trip odometer knob rusted almost immediately. Small things, but with just a little more attention to detail the finish would be near perfect.

If you haven't already checked out the Bonneville's list price on the spec sheet, hold on to your seat. List on the '81 is $3995. That's awfully high, but there is still hope. Recent gains by the dollar and slides by the pound have already lowered the projected price of the '82 Bonnevilles to $3295, so the factory is going to be helping dealers offer discounts on remaining '81s. That $3995 is negotiable, in other words.

It is a cliche to say that when the test was over we hated to see the bike go; in fact it's probably a cliche even to say it's a cliche. But the Triumph was a hard bike to part with. Not for any one strength, but because somehow the Bonneville manages to be a good all-purpose bike. It's both fun to ride and convenient at the same time. The light weight, electric start and quick warmup made the Triumph the obvious and inviting choice for short trips and errands, even when there were plenty of other test bikes sitting around. In that respect, it may be the Handy Bike of the Year. Then there is the sound. Even with the quiet mufflers the Triumph is worth at least one ride helmetless (Allah protect us!) just to hear the clicking of tappets, the whir of cam gears and the subdued but unmistakeable Twin burble from the pipes.

In short, the bike is fun to ride. It has its shortcomings and oddities, but the whole machine manages somehow to be something more than the sum of its parts. The Hesketh may be on the horizon, but the Triumph is still the single British survivor, and it has survived for reasons a small but happy band of enthusiasts will always understand. ◘

TRIUMPH 750 BONNEVILLE

SPECIFICATIONS

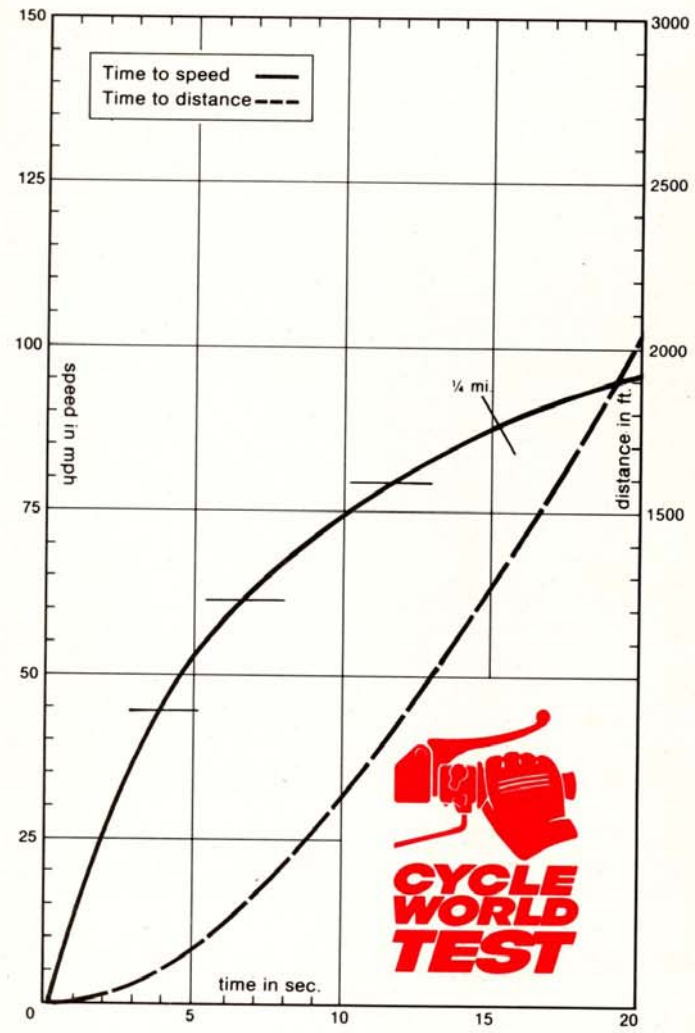
List price $3995
Engine .....ohv vertical Twin
Bore x stroke .....76 x 82mm
Displacement.....744cc
Compression ratio.....7.9:1
Carburetion..... (2) 32mm Bing CV
Air filter .....gauze
Ignition.....breakerless electronic
Claimed power .....54.7 bhp @ 7000 rpm
Claimed torque .....na
Lubrication .....dry sump in frame
Oil capacity .....2.4 qt.
Fuel capacity .....3.3 gal.
Starter .....electric/kick
Electrical power.....176w alternator
Battery .....12 v 14ah
Headlight .....45/40 w
Primary drive.....triplex chain
Clutch.....multi-plate wet
Final drive .....530 chain
Gear ratios, overall:1
- 5th 4.70
- 4th 5.59
- 3rd 6.58
- 2nd.....8.63
- 1st 12.14

Suspension:
- Front .....telescopic fork
- travel .....5.5 in.
- Rear.....swing arm
- travel .....3.5 in.

Tires:
- Front.....4.10 H-19 Avon Roadrunner
- Rear..... 4.25 H-18 Avon Roadrunner

Brakes:
- Front.....10 in. disc
- Rear..... 10 in. disc

Brake swept area ..160 sq. in.
Brake loading (160-lb. rider) .....3.8 lb./sq. in.
Wheelbase .....57 in.
Rake/Trail.....29.5°/3.9 in.
Handlebar width .....30 in.
Seat height .....31.5 in.
Seat width .....9 in.
Footpeg height .....12 in.
Ground clearance .....6 in.
Test weight (w/half-tank fuel) ..444 lb.
Weight bias, front/rear, percent 44/56
GVWR .....800 lb.
Load capacity .....356 lb.



PERFORMANCE

Standing ¼-mile....14.96 sec. @ 87.3 mph
Top speed in ½-mile ...96 mph
Fuel consumption.....52 mpg
(Range to reserve tank) .....161 mi.
Acceleration:
- 0–30 mph..... 2.2 sec.
- 0–40 mph..... 3.2 sec.
- 0–50 mph..... 4.6 sec.
- 0–60 mph..... 6.5 sec.
- 0–70 mph..... 8.9 sec.
- 0–80 mph.....11.4 sec.
- 0–90 mph .....15.7 sec.

Top gear acceleration:
- 40–60 mph.....7.0 sec.
- 60–80 mph .....11.4 sec.

Maximum speed in gears:
- 1st..... 43 mph
- 2nd..... 61 mph
- 3rd.....78 mph
- 4th..... 94 mph
- 5th.....112 mph

Speedometer error:
- 30 mph indicated... 29 mph
- 60 mph indicated ...61 mph

Braking distance:
- from 30 mph.....28 ft.
- from 60 mph..... 138 ft.

Engine speed at 60 mph 3750