

## Tour-Testing **BMW R100S**



"It's hard to be humble when you ride the best"

Denis Rouse

What else can you say about a motorcycle that's put together and finished like a fine instrument, weighs 100 pounds less than machines with a third less displacement, has a payload of nearly 500 pounds, has the tightest, most pleasant sound in cycledom, accelerates to 60 mph in less than five seconds, goes 100 mph breathing lightly, stops like it has air brakes, turns and corners like a road-racer, yet runs velvet smooth on the straights, gets a consistent 40 mpg and 250 miles per tankful, and yet is so extraordinarily simple and functionally designed that even the most total mechani-

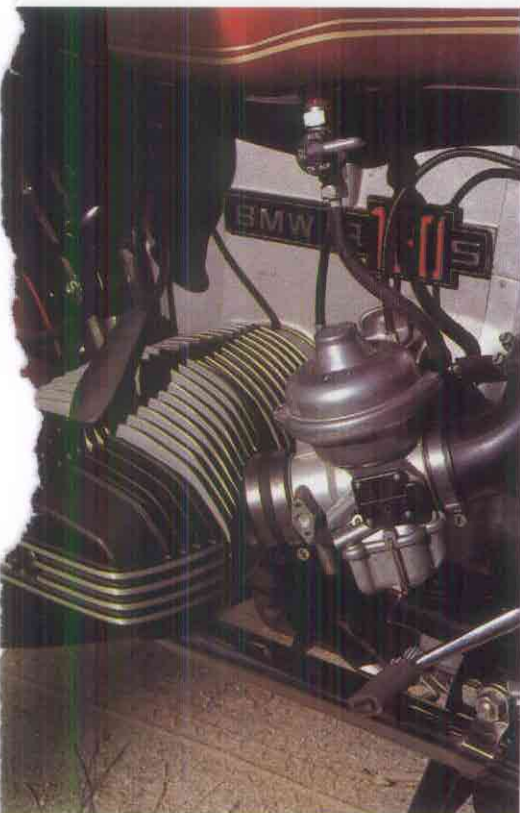
cal donk can handle the routine maintenance and basic tuning with ease?

Better than asking rhetorical questions, do as I did recently and slide your butt onto the sculptured seat of a new, fiery teutonic red BMW R100S and go. All the BMW superlatives will be as apparent to you as they have been to me. Expensive? Yes, about \$5000 with accessories, license, taxes and incidentals. As has always been true, you get just about exactly what you pay for, and in the case of the BMW, you get the best production motorcycle in the world . . . the best sport/touring machine money can buy, period.

Most BMW buyers select the largest displacement model, and this year there are three choices in the 1000cc lineup: the R100/7, the R100S and the very sleek R100RS. Our choice was the R100S for several reasons. Mainly because it's a logical tourer's compromise between the ultra sport R100RS and the conservative

R100/7. You get the dual disc brakes, the hot 9.5:1 compression, the beautifully sculptured seat (which is very comfortable even after long hours on the road), and the quicker 2.91:1 final drive ratio (which is still plenty tall enough for serious touring). The only modifications we made on our S were the addition of a more conventional, protective, matched-red Luftmeister fairing, the more ergonomically comfortable R100/7 handle bars, removable-suitcase Krauser saddlebags, and a tight little luggage rack that bolts securely to the rear of the seat. A nice touch on the new Luftmeister fairing is the addition of molded-in mounts for the S's VDO instruments, the voltmeter and super accurate little clock. Since the Luftmeister is an official Butler & Smith BMW accessory, the addition of the instrument mounts is evidence that many S buyers who tour prefer the more protective fairing.

Whether you buy a German electric



razor, camera, automobile or motorcycle, you can expect that it's going to be tight and tidy. But to truly appreciate the BMW motorcycle, it's probably necessary to first own one or more other brands of two-wheelers. Only then can you truly savor the pleasures of owning and riding a machine like an R100S, which seems to do everything with an understated but unmistakable dose of perfection.

Not the least important of these special traits, which seem to be Bavarian exclusives, is the overall finish of the motorcycle. The paint, chrome, metal and welds are flawless. The engine components (starter, generator, oil and air filters) and transmission are encased within a single, easy-to-keep-clean block. The wiring and cable channels are neat and organized. Switches and glare-proof instrumentation are of aircraft integrity. Brake and clutch levers are precision black anodized (Magura). The tools and owners manual

**see page 72**



## BRAKER from page 59

the control and margin of safety that riders used to only dream of. The significance of this innovation *must* eventually lead to original equipment usage, and to a sizable reduction in insurance rates for vehicles so equipped.

For use in single and dual brake setups, front and rear, the Safety Braker mounts in the hydraulic system (one for each master cylinder) by a simple bolt-in arrangement. You can locate it in different positions for convenience, protection and space availability. On a dual-disc unit, one Safety Braker will equalize the actions of both, affording outstanding control and stability. For motorcycles that have rear disc brakes, the old problem of premature skidding and insensitivity is tremendously reduced. Safety Braker claims an average 20% shorter stopping distance at 30, 50 and 70 mph speeds.

We installed the units on a middle-weight front and rear-disc machine, a single front-disc heavyweight, and a dual,

front-disc heavyweight. We laid out a bizarre course with water, crushed ice cubes, gravel, mud, slick asphalt, dirt and concrete and then proceeded to run different speeds and *strongly* apply the brakes. Then we compared these results with the non-Safety Braker-equipped motorcycle. There is no comparison. We fell on these surfaces in some exceptionally wild braking experiences without the Safety Braker. With it, the control, stability and stopping distance were very, very good. As Jim Richerson, the marketing representative, commented, "The first try leaves you walking away bug-eyed!" The braking feel and control with a passenger and luggage are exceptional. A feeling of confidence accompanies every braking application. And if your disc rotors are warped or beat up, the Safety Braker makes the degree of control even more apparent.

The device is factory assembled and should not be disassembled because of the precise clearances, sealing, and amount of fluid present in the design. No maintenance is required, and the unit

carries a three-year warranty against failure, even though the representative feels they are lifetime setups. Should the O-ring seal ever fail in use, only 1.2 cc of hydraulic brake fluid will be bypassed as the cap seal O-ring seals the system to the atmosphere. This secondary safety feature will prevent loss of brakes.

The Safety Braker was approved for auto competition by well-known race-sanctioning organizations and independent tests have proven the braking advantages over conventional systems. Laboratory evaluation by the Ontario Research Foundation in Canada showed a reduced stopping distance (with automobiles) of as much as 30% at 60 mph, and increased control. Similar results were obtained by Ogden Laboratories in Southern California. In our evaluation, we were able to obtain consistently shorter stopping distances.

On a motorcycle, Safety Braker greatly reduces chatter and hop during intensive braking, causing a much more stable situation. Normally, when the brakes begin to lock up, the wheel and tire bounce. With the Safety Braker-M/C, the brakes release very slightly when the tire hits the road surface, allowing it to stay in contact and maintain traction. Add to this the more comfortable and progressive action at the brake lever, and the Safety Braker really shines.

Installation of the Safety Braker-M/C is quite easy, and only a 15-minute operation. The \$36.95 unit bolts into place anywhere between the master cylinder and the rest of the system. The finned housing helps to keep hydraulic fluid temperature down during heavy braking because the unit acts as a heat sink. For metal pipe brake lines, a T fitting is used and cutting of the brake line is required. The banjo fitting supplied uses the stock bolt from any existing banjo connection on the motorcycle, and no cutting is required. The T works on any metal pipe, especially the English models; the banjo fits most Japanese motorcycles.

Follow the instructions carefully and be sure your hydraulic system is in good shape *before* installation. Check for leakages, fluid contamination, loose fittings. It may be advisable to bleed the brake system and change the fluid upon installation. Brake fluid does deteriorate with use, heat and moisture and this can gum up the disc rotors and cause brake fade from fluid vaporization. Acids that form can cause a chemical etching of the hydraulic system.

(Company Address: Safety Braker-M/C Sales Co., 78 Meadow Drive, Daly City, Ca. 94105; circle Reader Service No. 151.)  Alan Tratner

## BMW R100S from page 45

(both the best in the business) tuck away under the seat in a weather-tight tray. The fuses and electrical junctions stay bone dry in the superb Halogen headlight

Rider

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housing. The gas cap is recessed and leak proof. The master cylinder for the front dual discs is located in a protected area underneath the gas tank. A simple hand lever adjusts the rear shock preload. An air pump, tire patch kit and even an official BMW rag are standard equipment. The list could go on and on, but I'm sure you get the drift. Everything not only fits, works, doesn't leak and rarely breaks . . . but it's polished, too.

The beautiful part about all this sophistication is that it's wrapped around a machine that's functionally simple. Precision it is, but the engine is still your basic four-stroke, horizontally opposed twin, and its configuration permits an ease of maintenance and a serviceability that is unique. Service intervals are a full, legitimate 5000 miles apart, and the tasks are so relatively easy to perform that even riders with limited mechanical ability can keep their Bee Ems humming with little trouble. The horizontal cylinders allow super accessible spark plug change and valve adjustment (notice the beautiful new black valve covers). A single set of points, condenser and timing adjustment are located in a large compartment at the front of the engine. Oil reservoirs for the engine, transmission, shaft and final drive have large, accessible filler and drain bolts. The owner's manual is clear, well written and amply illustrated. The only tool needed for routine maintenance that doesn't come with the bike is a torque wrench.

Out on the road, you find the R100S goes like it looks. The engine runs in a peaceful, thudding harmony, and the power availability in every gear at any speed is downright astonishing. The torque curve is considerably flatter than that of last year's R90S, and the transmission shift's a bit slicker. There is some vibration apparent in a range between 4300 and 4700 rpm, but it is noticeable only because things are otherwise so smooth when you're riding under or over that range. Last year's Dell'Orto's have been scratched this year in favor of 40mm constant-velocity Bing carburetors and fuel efficiency has thus been apparently increased.

Not the least amazing thing about the BMW is that it is truly a combination sport/touring motorcycle. It's capable of extremely quick and nimble cornering, yet it will take a rider touring on 500-mile days in the kind of plush comfort usually associated with heavy, imposing, straight-up kinds of motorcycles. Exactly how the engineers in Munich have managed to accomplish this rather pleasant form of mechanical schizophrenia is not entirely clear, but ingenious (and costly) weight saving techniques, superb quality forks, shocks, and wheels, a tapered roller bearing swing arm and a marvelous double tube cradle frame undoubtedly have a lot to do with it. Consider that the R100S has a wet curb weight of only 485 pounds, yet it has a gross vehicle weight

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rating of a whopping 881 pounds. For an idea of how favorably that compares with other motorcycles, see Dick Blom's article on touring machine payloads elsewhere in this issue.

Another plus on the 1977 BMW is the fact that the S and all models are now graced with the big, formerly exclusive, S-type 6.3-gallon capacity fuel tank, which includes 8/10-gallon reserve. Even during the break-in period of our machine, we never registered less than 40 mph, and the expectation is that mileage improves somewhat as the engine is run-in. Again there's that special brand of BMW contradiction: blazing performance, yet miserly with gas.

Our machine was delivered with a new Continental 3.25H-19 front tire and 4.00H-18 in the rear, and they appear to be well suited to the machine. They're the only tires I've ever ridden that seem to neutralize California's infamous freeway rain grooves. One of the main reasons we chose the S over the /7 was the fadeless, perforated dual disc front brakes. Since we ride two-up quite a bit, and often with a fairly substantial amount of luggage, the extra stopping power is nice.

## SPECIFICATIONS BMW R100S

### ENGINE

Displacement .....980cc

Type .....4-stroke 2-cylinder  
horizontally opposed

HP.....N.A.

Torque lb.-ft. ....N.A.

Bore & Stroke .....94mm x 70.6mm

Compression Ratio.....9.5 to 1

Carburetion.....Bing constant velocity

### CHASSIS

Gear Ratios.....Transmission ratios  
4.40, 2.86, 2.09,

1.67, 1.50 to 1;

Final drive 2.91 to 1

Starting .....Electric

Fuel Capacity .....6.3 gal.

Fuel Consumption

Tires .....3.25H-19 front,  
4.00H-19 rear

Suspension .....Front telescopic,  
rear swing arm

Brakes .....Front dual hydraulic disc;  
rear drum

### DIMENSIONS

Overall Length .....83.9"

Overall Width .....29.4"

Overall Height .....47.6"

Wheelbase .....57.7"

Weight (dry) .....441 lbs.

Gross Vehicle Weight

Rating .....881 lbs.

Gross Axle Weight

Ratings .....396 lbs. front,  
619 lbs. rear

List Price .....\$4195

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Is there *anything* negative to report about a BMW? Yes, but only minor things: slight vibration, as aforementioned, in 4300 to 4700 rpm levels. The sidestand is spring loaded, and unless the spring is removed, the machine must and will at some time fall over (as mine did); two rubber bands hold the battery compartment side plates on the machine, and while they do the job, the buggers seem incongruous on a \$5000 motorcycle. That's it in the complaint department.

We've still got a lot of miles to put on the R100S and this only marks the third BMW we've ridden, but we're beginning to understand the fierce loyalty and pride of ownership that seems to flow from Bee Em riders we meet out on the road. Like the guy I met most recently said, "Hey, it's hard to be humble when you ride the best." □

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