

RIDING IMPRESSION:

Krauser MKM1000

Flat-out autobahn cruiser with a hi-tech frame.

• In Germany, motorcycles are meant to be ridden at top speed. You have no choice. The country is laced with high-speed thoroughfares called autobahns that are far twistier than American turnpikes. The speed limit is not 55 mph. The left-hand lane is restricted to high-speed cruising. Unless you keep a reasonable pace, you're apt to be squashed like a cockroach by Porsche 928s, BMW 645s or Mercedes-Benz 450SLCs hurtling along at 200 kph.

It is the leather-suited weekend motorcyclist who craves this sort of riding who will most appreciate the Krauser MKM1000. Once you tuck behind the Whirlpool-white fairing at 90 mph, the only evidence of the hole the bike punches in the wind is a slight rustle around your ears. With your arms stretched to meet the narrow handlebar, your feet resting on hand-fabricated rearsets and your backside braced against the tailpiece, the MKM carves single-mindedly through high-speed sweepers like a racer, the BMW S-type engine throbbing like an oversize metronome. The Krauser MKM1000 is one of the best bikes for flat-out running ever built.

Motorcycle luggage and accessory manufacturer Mike Krauser had such Sunday adventures in mind when he commissioned the MKM1000 (Mike Krauser Motorcycle) for production. Krauser has sponsored racing sidecars in the past, provided some backing for Freddie Spencer's European adventures this year and bankrolled Toni Mang's successful pursuit of the 1980 250cc roadracing world championship, but he has long sought to stamp street riding with his own personal imprint. With this BMW-powered special, Krauser hopes to embody his vision of what a true high-performance road bike should be.

The MKM has its genesis in a development firm called HPN, composed of former endurance racer Alfred Halbfeld, a silent partner named Pepperl and Michael Neher. In April 1979, the firm began development of a BMW-powered special because, as Neher comments, only BMW owners can afford such bikes. Furthermore, HPN elected to certify the bike as a production motorcycle with the TÜV, the hard-nose German counterpart of the DOT and EPA. After \$22,000 of certification and a further \$115,000 of development, HPN convinced Krauser to fund a 200-unit production run.

Virtually all of the MKM's running gear comes from BMW parts bins—a move to satisfy the TÜV—which insures that the MKM is a high-performance street bike instead of a streetable racer like the Bimota, Motoplast or Behn specials. The S-type BMW engine with its hot cam, 8.2:1 compression ratio and 40mm Bing CV carbs is fitted, and the wheels, ex-



PHOTOGRAPHY © 1980 CHRIS EASTMAN

haust pipes, brakes and shaft drive also come from the 1980 R100S (now called the R100CS). The S-model's suspension pieces have been modified to provide less travel for greater high-speed stability, however. Stiffer preload springs do the job in front while stiff springs and heavier 10-weight shock oil do the job in the rear. This production-based hardware attests to the MKM's expected durability and also explains why the bike qualifies as a street-legal bike in the U.S.

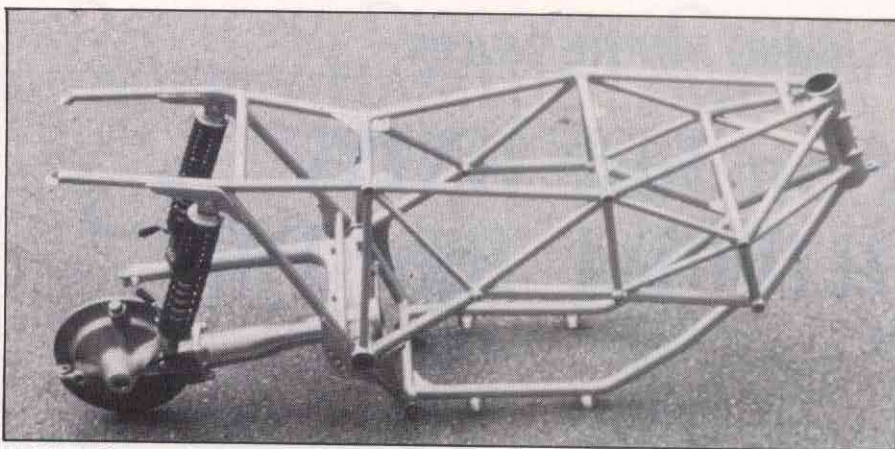
The linchpin of the Krauser-bike, though, is its frame. As with many of the specialty bikes these days, the frame has its roots in pre-Honda RCB endurance racing, when engine technology was closely controlled and speed had to come from chassis engineering. The MKM uses a space frame, a design offering plenty of that elusive but valuable quantity, torsional rigidity, for good high-speed handling while minimizing weight. HPN also used computer modeling to develop a space frame that uses many short lengths of small-diameter tubing. This *Gitterrohrfarwerk* or birdcage-like design permits an extremely lightweight structure—25.3 pounds—that still offers substantial torsional rigidity.

Surrounding the MKM's frame is a fiberglass body drawn by Franz Wiedemann, who learned his trade designing BMW's R100RS and R100RT fairings in the Pininfarina windtunnel. The fairing and the one-piece tank/seat/tailpiece attach to the frame with Dzus-type fasteners. The 5.6-gallon aluminum fuel tank (with a miniscule reserve capacity) lies beneath the fiberglass, nestled among the frame tubes. The simple slab of foam that forms the seat can be removed to reveal a storage area in the tailpiece. A different body with a passenger seat also can be ordered for the MKM if you prefer.

Once you fit yourself into the monoposto riding position and get underway, the feedback the MKM gives you is pure BMW. Yet the Krauser bike manages to refine these sensations, reducing the amplitude of engine vibrations and controlling the rise and fall of the rear end. As a result, the MKM operates with greater precision than any BMW, including the way the rearset shift lever snaps through clunk-free gearchanges.

As the open road beckons, the MKM chassis goes to work like no other BMW as well. Not a trace of high-speed BMW-weave can be detected. A wheelbase one-inch longer than the R100S's provides part of the reason. Also, the engine has been raised 25mm in the frame for greater ground clearance, which gives the MKM a higher center of gravity for even more straightline stability.

For all its autobahn-calibrated manners, the Krauser bike adapts to scratching in the corners fairly well. The steering in particular is incredibly precise. The narrow handlebar and high cg prevent you from pitching the bike into corners with abandon, but the MKM's steadiness under all circumstances proves to be a great go-fast asset. The engine complements your roadracing fantasies because the great fund of torque on hand allows you to concentrate on riding instead of shifting. Meanwhile,



Shrink-to-fit space frame wraps around Krauser bike's BMW internals

Creating a rigid 25-pound birdcage with the aid of computer modeling.

KRAUSER MKM 1000

IMPORTER: Krauser USA
7012 Woodlawn Avenue
Seattle, Washington 98115

CATEGORY: street

SUGGESTED RETAIL PRICE: \$16,000 (approx.)

ENGINE

Type four-stroke horizontally opposed twin
Valve arrangement pushrod-operated overhead valves
Bore and stroke 94.0mm x 70.6mm
Displacement 979.9cc
Compression ratio 8.2:1
Carburetion two 40mm Bing constant-velocity
Starting system electric only
Ignition battery / single points / single coil
Charging system 12-volt alternator

DRIVETRAIN

Primary drive helical gears
Primary drive ratio 1.5:1
Driveshaft-to-rear-wheel-drive spiral-bevel gears
Driveshaft-to-rear-wheel ratio 2.91:1

Gear	Internal gear ratio	Overall gear ratio	MPH per 1000 RPM
I	2.93	12.79	6.0
II	1.91	8.34	9.2
III	1.38	6.02	12.7
IV	1.11	4.85	15.8
V	1.00	4.37	17.5

SUSPENSION/WHEEL TRAVEL, IN.

Front 36mm stanchion tube diameter / 5.9 in. (150mm)
Rear 3-way adjustable spring preload / 4.7 in. (119mm)

BRAKES

Front dual single-action hydraulic calipers, 10.2-in. (260mm) discs
Rear drum, single-leading shoe, rod-operated

TIRES

Front 3.50V19 Metzeler Perfect ME77
Rear 130/80V18 Metzeler Block C88A Touring Speed

DIMENSIONS AND CAPACITIES

Weight 467 lbs. (212kg)
Weight distribution 46.4% front, 53.6% rear
Wheelbase 59.4 in. (151cm)
Seat height 31.8 in. (808mm)
Handlebar width 23.3 in. (591mm)
Footpeg height 14.8 in. (375mm)
Ground clearance 6.0 in. (152mm), at fairing
Steering head angle 28 degrees from vertical
Front wheel trail 3.9 in. (100mm)
Frame light alloy tubular space frame
Fuel tank aluminum, 5.6 gal. (21.1), including 0.3 gal. (1.1) reserve
Instrumentation speedometer, odometer, tripmeter
resettable to zero, tachometer, quartz clock, voltmeter

PERFORMANCE

Fuel consumption 49 to 55 mpg (20.8 to 23.4 km/l)
Range, maximum 274 to 308 miles (441 to 496 km)
Range, reserve only 15 to 17 miles (23.6 to 26.5 km)
Top speed (calculated) 123 mph (198 kph)

the oversize Metzeler tires also are up to the roadholding capabilities of the chassis (the swingarm has been widened to permit the installation of the 130/80V18 rear tire).

Still, there's rarely any question about how bikes like the MKM1000 react to speed. It's everyday use that separates the winners from the losers. Because of the use of BMW components, the Krauserbike actually is easier to live with than most one-off machines. Even so, the MKM stumbles when it comes to comfort. Unless you're cruising at more than 80 mph, there's not enough wind pressure to help you sustain the riding position, so the narrow R100RS handlebar soon introduces you to wristwreck. Also, the suspension is simply oversprung. It will pound your joints to powder on any trip over city streets or Interstate. The Europeans unfortunately equate a rocky ride with high performance, thinking that the thumps signal a tautly strung bike that fosters a closer relationship of man and machine. And this classic confusion of stiffness with street-wise roadholding will wear you down after an hour of riding.

Despite its comfort limitations, the MKM1000 is indeed the ultimate BMW it set out to be. It's the sort of motorcycle you'd trailer behind your Audi 5000 Turbo to some Alpine locale for an afternoon run.

It's difficult to know if the MKM design will prove as significant in the long run as Mike Krauser hopes, however. The space frame does indeed combine stiffness with low weight. Also, the MKM frame actually affords access to the engine, allowing you to pull the top end without removing the engine from the frame—although this feature is largely a function of the engine design rather than the frame. Still, this point could be moot, for engine durability these days is such that removing the engine from the frame is an accepted part of major maintenance—as with the Honda CB750. But the spaceframe's advantages are all but cancelled by one thing—price. The MKM1000 will cost \$15,000 at various BMW dealers in this country, largely because of the labor cost of building its frame. And for this reason, the Krauserbike will remain one of the world's best limited production BMWs—but probably not the next full-scale production BMW. —Michael Jordan