M5 Production

When BMW Motorsport GmbH decided to become a car builder they faced similar problem with their parent company, a lack of manufacturing capacity. As BMW AG decided to build a new factory, Motorsport came to the same conclusion, albeit on not so grand a scale.

Open for about a year and a half now, the M-Factory is located in a modern industrial park in Garching, a north Munich suburb. Currently only M5s roll out of the shop's back door, but there is talk that, at least initially, Z1s will be built here as well.

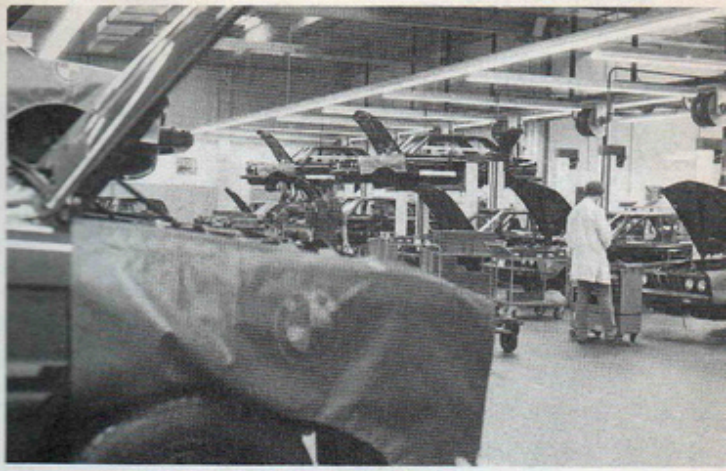
5-Series bodies with partially-completed interiors are trucked in from the Dingolfing assembly plant some 60 miles northeast. Each shell is greeted by a two-man assesmbly crew. From de-Cosmolining to a final polishing, they assemble the bits and pieces that make the M5 one of the hottest sedans built. In a three-day process that emphasizes attention to detail, the M Style-coveralled crew installs the engine, gearbox, suspension, drivetrain, trim, and finishes the interior. The car is moved from station to station on a hand-pushed dolly. Approximately 50 M5s can occupy the line at any given time and up to 20 cars are completed each day.

"We're proud," said Michael Schimpke, "that essentially the M5 is a hand-built automobile. That's not unique in the industry, but it's certainly very hard to find this kind of craftsmanship anymore." While all the North American M5s are black with *Natur* leather interiors, European customers have a wide range of colors and features from which to choose. "We're able to custom-tailor a car for a driver here at Motorsport," Schimpke said. "But, the customer must have patience . . . and money. For now, with the American M5s, we're doing them all in one color. But who knows what can develop as Motorsport expands their M-Service concept for exclusive cars."

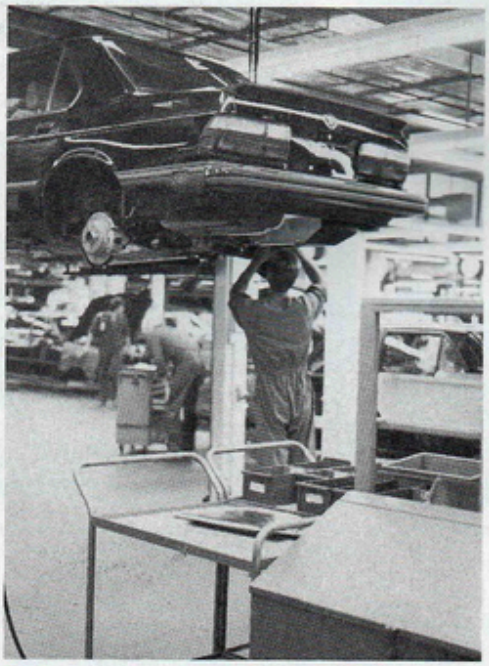
We were pleasantly surprised to see the shop filled with North American cars on the day of our visit. The only exception was a customer's white M3 in for some wheel arch treatment so bigger (!) tires and wheels could be fitted. Another unexpected treat was a chance to inspect a new M3 Cabriolet up close without the push of hordes of curious onlookers, as was the case at the Frankfurt Auto Show.

Final assembly of M5s is accomplished in a special BMW Motorsport shop north of Munich. A team of two technicians completes each car. It takes about three days to build an M5. Up to 20 cars are finished each day.

5-Series body shells arrive from the Dingolfing assembly plant less engines, transmissions, drivetrains, trim, and interiors. Here an "M Assembler" prepares a US M5 to receive its heart — the 3.5-liter 24-valve M Power.

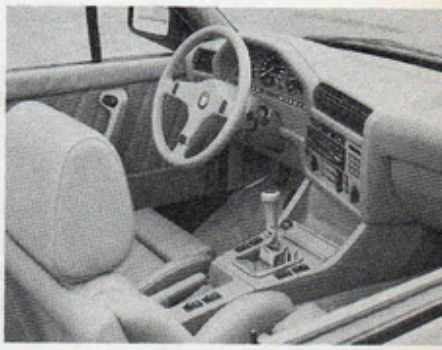


Up to 50 M5s occupy the assembly hall in Garching.



Final adjustments are made to a newly-installed rear suspension.

Completed cars are given a polish before being coated with Cosmoline for the trip across the Atlantic.



BMW Motorsport's stunning new M3 Cabriolet with optional full-leather interior.

Photos by Yale Rachlin

Engine Assembly

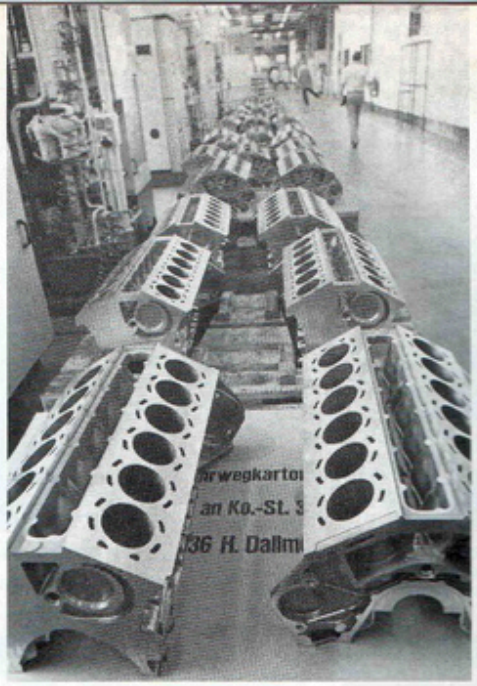
About as far north as you can go without walking out the back gate of the Milbertshofen factory grounds stands a long, narrow building whose drab exterior belies its importance to BMW enthusiasts. Inside the recently-renovated structure is a $17-million assembly line for some of the most sophisticated passenger car engines ever produced.

This is the house that M Power built. And making the story even more enticing, Munich's newest, most exotic powerplant also calls this place home. The four-valve Motorsport engines (the S38 3.5-liter six-cylinder and the S14 2.3-liter four-cylinder) and the M70 five-liter V12 are built here by a process that cleverly combines the latest in robotics and computer-controlled assembly with the exacting attention to detail only craftsmen — and women — can provide.

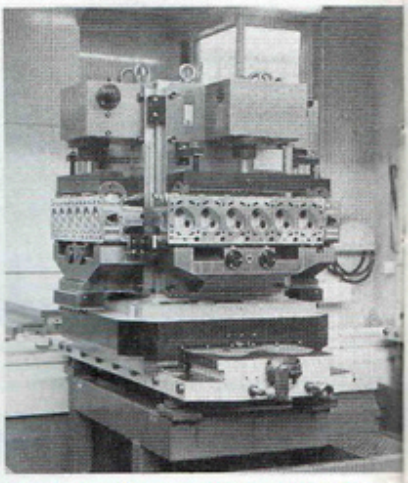
Three shifts of 150 workers build 50 copies of each engine per day. Cylinder heads and engine blocks are machined, four at a time, in automated cells. Final assembly is accomplished the old-fashioned way, by hand, under the direction of a master technician assigned to each engine. Completed engines are tested on a dynamometer before being dispatched across the street for M3 production or up to Dingolfing, via train, for M5, M6, or 750 duty.

The engine facility is not at full capacity, but, as factory officials hinted, will be when another new motor, the 3.6-liter V8, joins the line sometime next year.

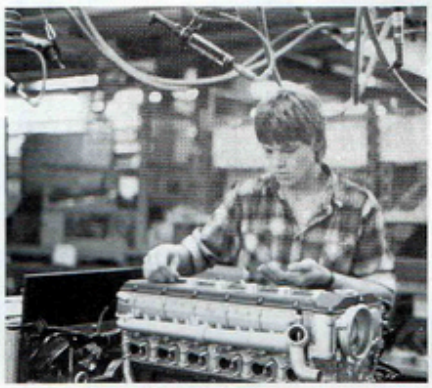
When asked what he thought of all the glowing press reports about BMW's newest engine, a craftsman making final adjustments to a fresh V12 smiled and replied, "It's the best engine in the world because BMW designed it and I build it!"



V12 engine blocks await final machining.

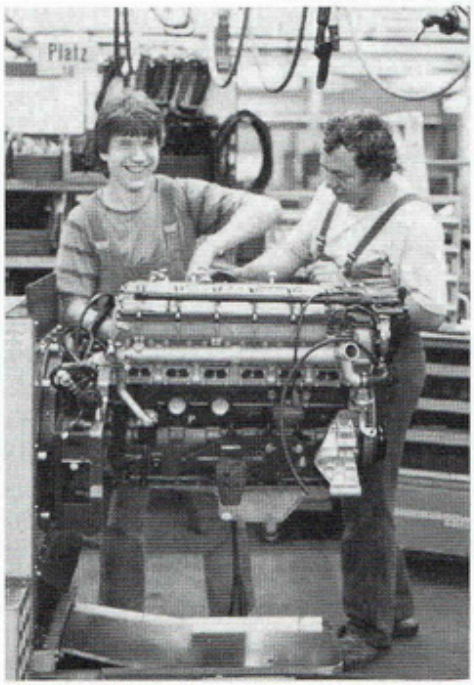


Cylinder heads in a machining cell fixture.



The finishing touches are put on an S38 24-valve M motor.

V12 engine production combines automated technology with hand craftsmanship.



You'd smile too if you built the most sophisticated passenger car engine in the world.

The multi-national composition of BMW's workforce is reflected in this engine assembly plant safety sign.