

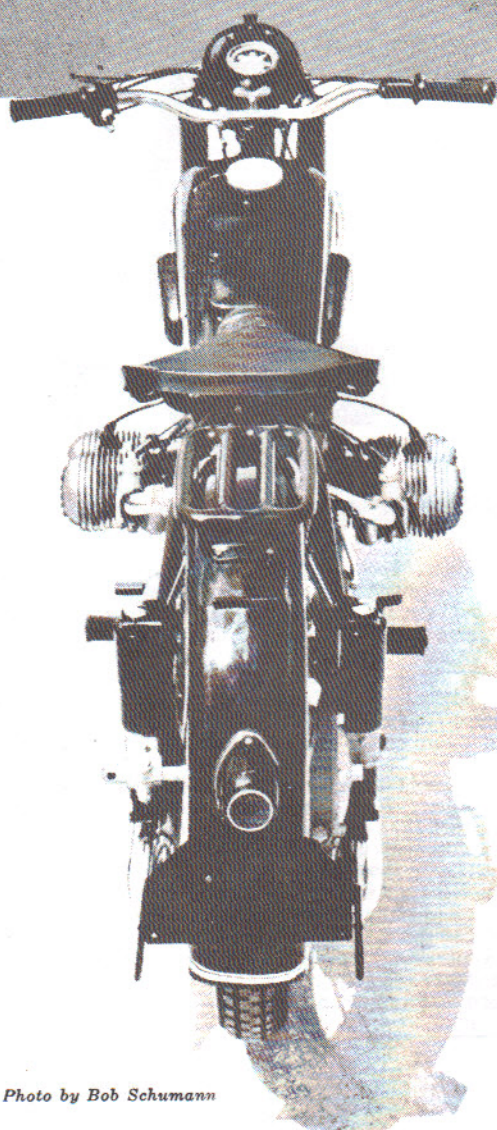
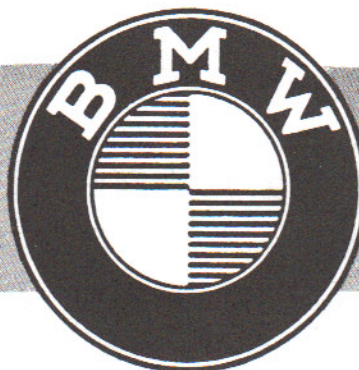
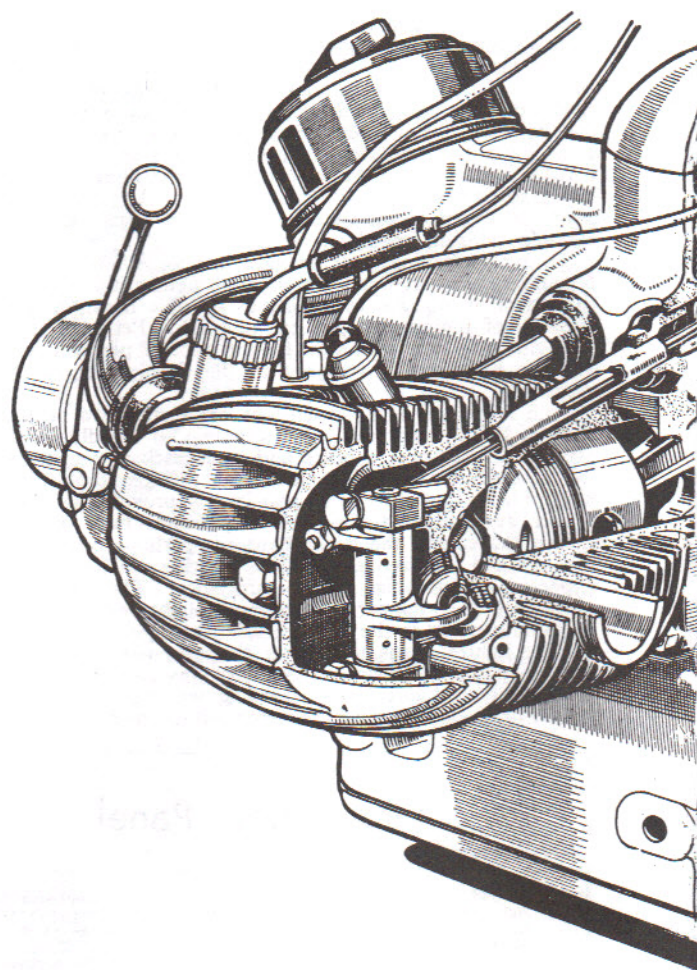


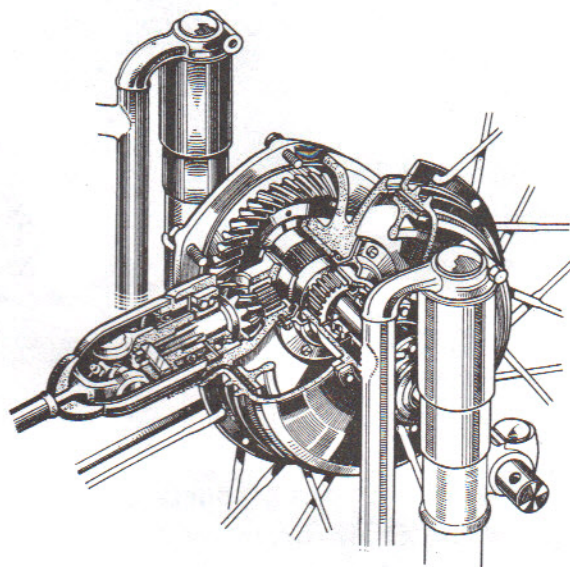
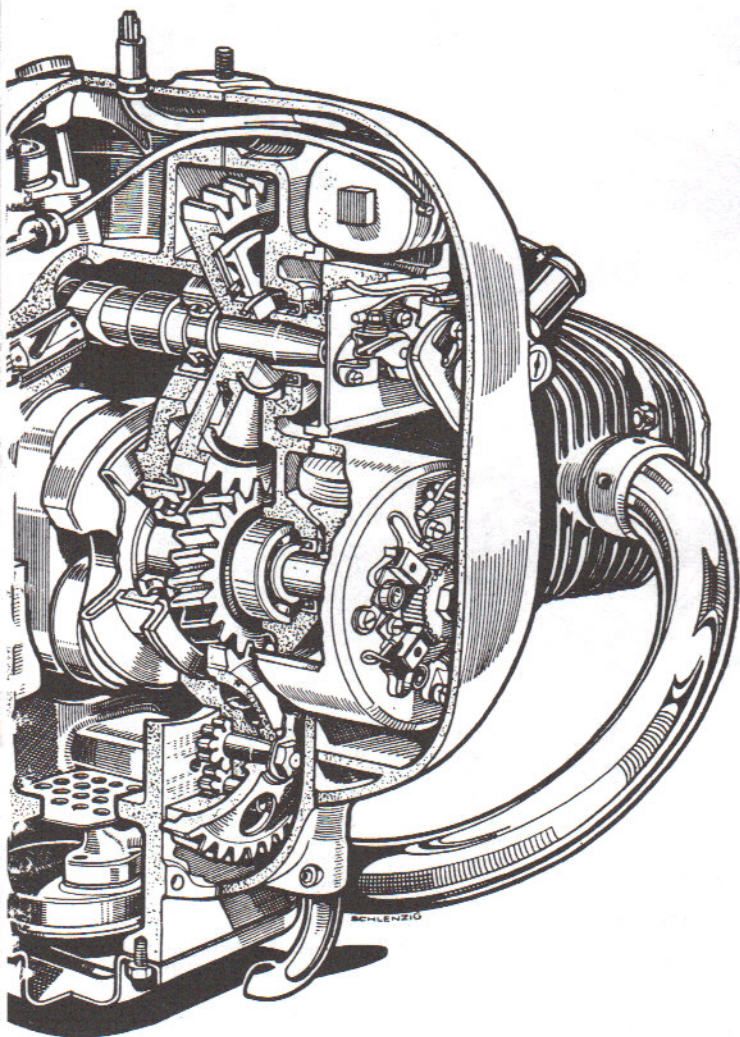
Photo by Bob Schumann



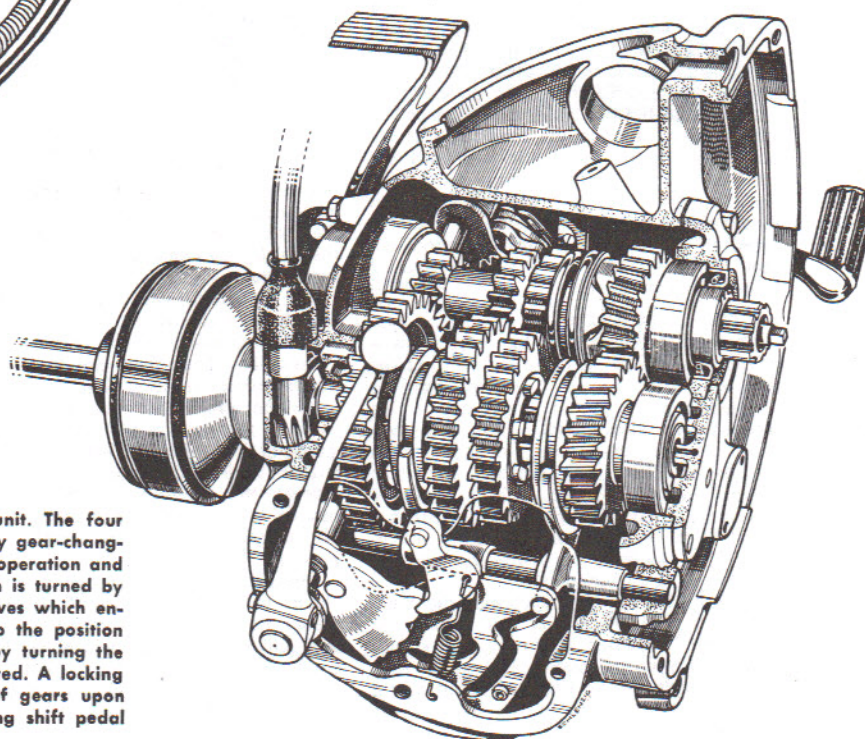
ABOVE, Culmination of 25 years' labor—appears sleek and powerful from any angle. From the beginning, the Bayerisch Motoren Werke of Germany has pioneered in reliability and the application of advanced mechanical refinements. The R 51/3 and R67 models are identical except that the R 51/3 contains a 500 cc displacement, while the R67 is of 600 cc. The 67 was primarily introduced for sidecar work and has a 1 to 5.6 compression ratio, not susceptible to octane fluctuations. The 500 cc unit has a higher ratio of 1 to 6.3. Basic appearance over previous year's models is barely discernible, but upon going inside, you will find many advancements

ABOVE, Chains of '51 have been shed in favor of gear drive from main shaft. Camshaft, ignition, magneto, and oil pump are now all driven by helically toothed spur gears (compare with cutaway shown in BMW road test—CYCLE, July, 1951). Sectional steel crankshaft runs on hardened journals in two ball-bearings. Hardened connecting rods run on roller bearings, and along with pistons, piston pins, cams, pushrods, rocker arms and valves, are splash lubricated. The splash system is motivated by a pump that sends oil under pressure through a passageway in crankshaft housing to two splash lubricating rings on the crankshaft, to an injector nozzle on front crankshaft bearing cover for the spur gear drives, and to left cylinder for additional oil to that barrel

GEARED for 1952



ABOVE, The famous BMW shaft-drive rear spring unit. Propeller shaft running from transmission to rear wheel has elastic rubber coupling to reduce power impulse vibrations and compensate for change in length of shaft during operation. Rear end of shaft terminates in universal joint with easily removable dust-proof cover. Driving pinion and disc gear are helically toothed, running silently in oil bath. Disk gear runs on needle bearings in rear wheel drive unit, on ball-bearings in housing. Gearing can be changed here



RIGHT, Transmission and engine housing comprise one unit. The four gears are obtained with constant mesh pinions giving easy gear-changing. Transmission is equipped with a ratchet shift for foot operation and auxiliary hand shift lever. When pedal is operated, a cam is turned by a toothed segment. This cam has two milled, curved grooves which engage carrier pins of two gear shifting forks. According to the position of the curved grooves, gear shifting forks are operated by turning the cam, and engage or disengage spur gear pairs being shifted. A locking device and ratchet holder enable the proper selection of gears upon shifting to the next higher or lower speed when actuating shift pedal