

# Phil Hawksley's BM Bikes

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## BMW R28 Military Specifications

<b>Start of Production</b>	<b>1964</b>
<b>End of Production</b>	<b>1964</b>
<b>Numbers Produced</b>	<b>Pre Production only</b>



The BMW R28 is a development of the production touring motorcycle model R27 for the requirements of the Defense Ministry, Frontier Guards and Cross Country sports enthusiasts. I understand that all vehicle specifications for the Military were achieved except for the weight and it appears likely that BMW was not prepared to design a totally new motorcycle without guarantees of getting the order from the authorities. Several versions of the R27 were also tested with normal Earles Forks, modified Earles Forks and with telescopic forks.

Some of the spec. required: Frame with rear wheel suspension; Telescopic fork; Cross country tyres; Suitably large fuel tank; Seating for 1 - 2 persons; Sturdy sump guard; Oil moistened air filter (oil bath?); Brackets for two panniers; Holder for despatches; High level exhaust system (Note the photo shows a low level system fitted).

### Engine

Motor Type	Modified production single cylinder engine: vertical air cooled 4 stroke. Aluminium crankcase, cast iron cylinder, aluminium cylinder head with inclined valves. Built-up steel crankshaft with self aligning ball and roller main bearings. Chain drive with tensioner for ball race mounted camshaft. Valve operation by pushrods and rockers. Anti vibration flexible engine mountings
Bore x Stroke	68 x 68 mm (2.67 x 2.67 in)
Displacement	245 cc
Max Power	18 hp at 7,400 rpm
Compression Ratio	8.2 : 1
Valves	OHV
Carburation System	Rubber mounted slide type carburettor with long inlet tract and waterproof enclosure. Oil damped air filter
Engine Lubricating System	Lubrication by gear pump in sump

## **Power Transmission**

Gearbox	In unit with engine. Gears with robust sliding dog engagement and shock absorber
Clutch	Single plate dry clutch with diaphragm spring
Number of Gears	4
Shifting	Foot lever
Gearbox Ratios	5.33 / 3.02 / 2.04 / 1.54
Rear Wheel Ratio	4.5 : 1
Rear Wheel Drive	Cardan shaft fully enclosed in oil bath swinging arm with heavy duty rubber sealing. Maintenance free spiral bevel gears with constant tooth angle

## **Electrical System**

Battery	6 volt 12 amp hour
Alternator	90 watt alternator mounted on front of crankshaft. Vibration free voltage regulator
Ignition	Centrifugal ignition advance mechanism. Camshaft driven contact breaker
Misc.	160 mm diameter headlamp with parking lamp, lighting switch and tachometer. Combined tail / brake / number plate lamp. Horn, trafficators

## **Chassis**

Frame	Closed, electric welded double loop frame of steel, particularly suitable for high speed use. Taper roller steering head bearings
Front wheel suspension	Telescopic forks (developed from BMW R25/3) with hydraulic damping and travel of 126 mm.
Rear wheel suspension	Rear swinging arm with two maintenance free taper roller bearings and hydraulic dampers. Travel of 105 mm. Short wheelbase and high ground clearance
Misc.	High level cross country type handlebars with clutch and brake controls. Sports handgrips. Friction steering damper. Foam dual seat for 1 -

Wheels	2 persons Full width aluminium hubs with steel brake linings
Wheel rims	2.15B x 18 rims
Tyres, Front	3.25 / 3.50 x 18 Cross Country
Tyres, Rear	3.25 / 3.50 x 18 Cross Country
Brakes, Front	Drum brake 160 mm x 35 mm/ 6.29 in diameter, full width. Swept area of 194 cm sq
Brakes, Rear	Drum brake 160 mm x 35 mm/ 6.29 in diameter, full width. Swept area of 194 cm sq

**Dimensions/Weights**

Length x Width x Height	2080 x 790 x 1010 mm
Seat Height (Ballasted 75 Kg)	785 mm
Ground Clearance (Ballasted)	170 mm
Wheel Base	1320 mm
Weight - Ready for Road (Full Military Equipment)	155 Kg
Max Gross Weight	375 Kg
Weight Disribution (F/R) at Max Gross Weight	150 / 225 Kg
Fuel Consumption	3.5 litres per 100 Km at 80 Kph
Top Speed	105 Kph