

Metric Mechanic M10 Engine Series

2200 Sport, 2300 Rally & 2400 Rally

2002, 320i, 318i ≥ '85 - 4 Cyl SOHC Engines

MM Engine	HP	Displacement	Bore & Stroke	Compression Ratio	Head	Cam Duration & Lift	Piston Weight	Pin	Rod Length & Weight	Crank
2200 Sport	155	2130 cc	92mm x 80mm	9.75:1	Ported 18% Flow Increase with Surface Turbulence	Intake 290°/ 10.75 mm Lift	Forged Alusil 395 grams	89 grams	Stock 135mm long 715 grams	80mm Stroke Forged Steel
2300 Rally	165	2233 cc	92mm x 84mm	10.0:1	Ported 18% Flow Increase with Surface Turbulence	Intake 290°/ 10.75 mm Lift	Forged 345 grams	89 grams	Premium "H" Beam 4340 Chrome Moly Steel 143 mm long 515 grams	84mm Stroke Forged Chrome Moly Steel
2400 Rally	170	2312 cc	92mm x 87mm	10.0:1	Ported 18% Flow Increase with Surface Turbulence	Intake 290°/ 10.75 mm Lift	Forged 345 grams	89 grams	Premium "H" Beam 4340 Chrome Moly Steel 141.75 mm long 505 grams	87mm Stroke Forged Chrome Moly Steel
BMW Stock 2000	110	1990 cc	89mm x 80mm	8.0:1	Stock	Intake 264° Duration 8.6 Lift	Cast 515 grams	130 grams	Stock 135mm long 715 grams	80mm Stroke Forged Steel

In addition to the above modifications:

ALL our Sport & Rally Engines have the following mechanical upgrades ---

- 1) Single Row Timing Chain for increased life and less parasitic loss.
- 2) Rocker Arms are inspected and 30% stronger than stock.
- 3) Lightweight "Bee Hive" Valve Springs & Retainers to reduce Valve Train load.
- 4) Manganese Bronze Valve Guides for tighter valve stem - to guide clearance and extended guide life.
- 5) Moly Top rings and 3 piece Oil Rings for good oil control & long life.
- 6) Rally Engines have special Heavy Duty Tri-Metal rod bearings.
- 7) Blue Printed Oil Pump with bronze pressure relief valve sleeve or aluminum body oil pump. For greater oil pump life and improved oil volume.
- 8) Horizontal Oil Baffle in the Oil Pan, to prevent oil starvation under hard cornering.
- 9) Optional Windage Tray/Scrapper Bar for even more oil protection under hard cornering. Strongly recommended for Driver's Schools. Additional \$350.

See Forced Induction Engines on next page

Metric Mechanic M10 TURBO Forced Induction Engines

2200 & 2300 Forced Induction

2002, 320i, 318i ≥ '85 - 4 Cyl SOHC Engines

MM Engine	HP	Displacement	Bore & Stroke	Compression Ratio	Head	Cam Duration & Lift	Piston Weight	Pin Dia & Weight	Rod Length & Weight	Crank
2200 Forced Induction	275 HP 12 -14 lbs. boost	2136 cc	90mm x 84mm	8.25:1	Ported for 18% Flow Increase with Surface Turbulence	Intake 290° Duration 10.75 Lift	Ceramic Coated Crown Forged Alusil 395 grams	23.5mm 115 grams	Premium "H" Beam 4340 Chrome Moly Steel 144.75 mm long 565 grams	84mm Stroke Chrome Moly Steel
2300 Forced Induction	300 HP 12 -14 lbs. boost	2213 cc	90mm x 87mm	8.25:1	Ported for 18% Flow Increase with Surface Turbulence	Intake 290° Duration 10.75 Lift	Ceramic Coated Crown Forged Alusil 395 grams	23.5mm 115 grams	Premium "H" Beam 4340 Chrome Moly Steel 144.75 mm long 565 grams	87mm Stroke Chrome Moly Steel

*In addition to the above modifications
and those included in our Sport & Rally Engines:*

ALL our Forced Induction Engines offer the following upgrades.

- 1) The oil pump delivers 20% more flow.
- 2) Stronger "H" Beam rods 565 grams have 4 oil squirter grooves located at the big end to cool off the piston and lubricate the piston skirt.
- 3) Special coated tri-metal rod bearings.
- 4) Special Forced Induction Forged Pistons. Ceramically coated Piston Crown is 2mm thicker than in the Sport and Rally Piston.
- 5) High Silicon Content Alloy (13%) for tighter cylinder wall clearance, greater ring and groove life, & minimize skirt scuffing.
- 6) Lower placement of the top ring groove to protect the compression ring.
- 7) 4mm oil ring for excellent oil control.
- 8) Over-sized 23.5mm Wrist Pins, 115 grams.
- 9) All Forced Induction M10 Blocks are ultrasonically tested and hand selected for cylinder wall strength.