Metric Mechanic M10 Engine Series
2200 Sport, 2300 Rally & 2400 Rally
2002, 320i, 318i ≥ ‘85 - 4 Cyl SOHC Engines

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

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**

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<th>MM Engine</th>
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<th>Compression Ratio</th>
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<th>Cam Duration &amp; Lift</th>
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<th>Pin Dia &amp; Weight</th>
<th>Rod Length &amp; Weight</th>
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</tr>
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<tbody>
<tr>
<td><strong>2200 Forced Induction</strong></td>
<td>275 HP 12 -14 lbs. boost</td>
<td>2136 cc</td>
<td>90mm x 84mm</td>
<td>8.25:1</td>
<td>Ported for 18% Flow Increase with Surface Turbulence</td>
<td>Intake 290° Duration 10.75 Lift</td>
<td>Ceramic Coated Crown Forged Alusil 395 grams</td>
<td>23.5mm 115 grams</td>
<td>Premium “H” Beam 4340 Chrome Moly Steel 144.75 mm long 565 grams</td>
<td>84mm Stroke Chrome Moly Steel</td>
</tr>
<tr>
<td><strong>2300 Forced Induction</strong></td>
<td>300 HP 12 -14 lbs. boost</td>
<td>2213 cc</td>
<td>90mm x 87mm</td>
<td>8.25:1</td>
<td>Ported for 18% Flow Increase with Surface Turbulence</td>
<td>Intake 290° Duration 10.75 Lift</td>
<td>Ceramic Coated Crown Forged Alusil 395 grams</td>
<td>23.5mm 115 grams</td>
<td>Premium “H” Beam 4340 Chrome Moly Steel 144.75 mm long 565 grams</td>
<td>87mm Stroke Chrome Moly Steel</td>
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**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.