

# Metric Mechanic M30

## 3700 Sport, 3800 Rally & 3600 Forced Induction Engines

5, 6 & 7 Series ≥ '93 - 3.0cs, Bavaria - 6 Cyl SOHC Engines

MM Engine	HP	Displacement	Bore & Stroke	Compression Ratio	Head	Cam Duration & Lift	Piston Weight	Pin	Rod Length & Weight	Crank
<b>3700 Sport</b>	270	3656 cc	95mm x 86mm	10.0:1	Ported 16% Flow Increase with Surface Turbulence	Intake 290°/ 10.75 mm Lift	Forged Alusil 395 grams	2mm 89 grams	Stock 135mm long 710 grams	86mm Stroke Forged Chrome Moly Steel
<b>3800 Rally</b>	285	3733 cc	96mm x 86mm	10.25:1	Ported 16% Flow Increase with Surface Turbulence	Intake 290°/ 10.75 mm Lift	Forged 375 grams	23.5mm 89 grams	Premium "H" Beam 4340 Chrome Moly Steel 143 mmm long 520 grams	86mm Stroke Forged Chrome Moly Steel
<b>3600 Forced Induction</b>	450 -12 lbs. boost	3579 cc	94mm x 86mm	8.3:1	Ported 18% Flow Increase with Surface Turbulence	Intake 290°/ 10.75 mm Lift	Forged 395 grams	110 grams	Premium "H" Beam 4340 Chrome Moly Steel 144.75 mmm long 565 grams	86mm Stroke Forged Chrome Moly Steel

### MM 3700 Sport Engine

A 3700 Sport Engine will give earlier 5 and 6 Series drivers, modern day performance levels. You can expect just over 100mph in 14 sec through a 1/4 mile run plus these additional advantages.

- 1) A sizeable increase in performance & excellent engine longevity
- 2) No lose in fuel economy
- 3) Passes emission tests
- 4) Smooth Idle with little to no tuning required

*These same advantages apply to our 3800 Rally Engine.*

### MM 3800 Rally Engine

Consider the MM 3800 Rally engine for or a more aggressive driving style. Using the stock 86mm stroke crankshaft helps to hold the cost down on this engine. A big bore (96mm) short stroke (86mm) gives these engines a rev free nature and great bottom-end torque. The 8mm longer premium "H" Beam Rods improve the rod ratio (rod length divided by the stroke) for higher revving and reduced cylinder wear loading. These "H" Beam Rods weigh almost 200 grams lighter than the stock. The lightweight but very strong pistons and rods reduce the reciprocating mass even more to 6 lbs. less than a stock M30 engine. Besides spooling up quicker, this lighter reciprocating mass reduces vibration at high RPMs and adds longevity. If you enjoy Driver's School Events, Autocrossing or just hard highway/street driving, then this engine really delivers.

### 3600 Forced Induction Engine

Our 3600 Forced Induction Engine running on as little as 10-12 lbs. of Turbo Boost can make over 400 HP to the rear wheels and about 500 Flywheel HP. This is because the baseline (normally aspirated version) of this engine is quite high at over 250 HP. The internals; piston, wrist pin, rods and rod bearings are designed specifically for boost. When held to responsible boost levels of 10 - 15 lbs., this engine will be enjoy normal longevity.

### In addition to the above modifications

*Our 3700 Sport & 3800 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.

*Our 3600 Forced Induction Engines offer these additional upgrades:*

- 1) The oil pump delivers 20% more flow.
- 2) Stronger "H" Beam rods 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. 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.