

## ***Rotary Engine Tech Tips – Miscellaneous***

The information provided in this catalog is intended for use by individuals with some knowledge of rotary engine rebuilding. There are many experienced high-performance rotary engine rebuilders across the country. Please contact us for the locations of these shops.

### ***Engine Assembly Notes***

Once you have determined that all clearances are correct, be sure to coat all surfaces with petroleum jelly. Seals can also be kept in position using petroleum jelly. Using Hylomar<sup>®</sup> is recommended on and around the water and tubular dowel O-Rings. Petroleum jelly will tend to expand these rubber O-Rings quickly.

### ***Engine Break-In Procedures***

A proper and careful break-in period for a newly rebuilt engine is extremely important. The break-in procedures listed on the following page may seem excessive. However, an engine that has been broken in properly will see more power across the engine's rpm range and longer service life than a comparable engine that has not. If using the old bearings, please note the difference in hours and mileage requirements for the break-in period.

When breaking in any engine (race or stock), use a low ash content, mineral-based racing oil (20 w or 30 w). After the break-in period, change to a mineral or synthetic racing oil (30 w or 40 w).

### ***Race Engine Break-In***

Using a dynamometer for engine break-in is preferred. If you do not have access to a "Dyno," use the mileage break-in figures on the next page. The engine should first be run at idle for 30-45 minutes. During this time, be sure to check for leaks and keep an eye on the gauges. Ideally, for the first 100 miles (depending on use of new or used bearings), avoid operating the engine above 5000 rpm or under heavy load.

From 100-200 miles, gradually increase rpm, but never allow the engine to approach red line. Beyond 200 miles we recommend only short bursts of power approaching red line for 100 miles. At this point, change the break-in engine oil. The engine break-in period is now complete.

## TIME & MILEAGE RECOMMENDATIONS

DYNO HOURS			MILEAGE	
RPM	NEW BEARINGS	OLD BEARINGS	NEW BEARINGS	OLD BEARINGS
1500	0.5	-	-	-
2000	0.5	0.5	-	-
2500	0.5	-	-	-
3000	0.5	-	-	-
4000	1.0	0.5	-	-
5000	1.0	0.5	60	-
6000	1.5	0.5	60	25
6500	1.5	0.5	-	-
7000	-	-	60	25
8000	-	-	60	25
8500	-	-	60	25
<b>TOTAL</b>	<b>7.0</b>	<b>2.5</b>	<b>300</b>	<b>100</b>

## RECOMMENDED TEMPERATURE, PRESSURE & COMPRESSION

	BREAK-IN RANGE	NORMAL RANGE	MAXIMUM LIMIT
Coolant Temperature (Outlet Side)	160° - 175° F	160° - 195° F	205° F
Oil Temperature (Oil Pan)	160° - 175° F	195° - 230° F	250° F
Oil Pressure Stock Pressure Regulator Early (Pre-1979) Engines with Shimmed Pressure Regulator Competition Pressure Regulator		70 psi @ 3000 rpm 80-85 psi @ 3000 rpm 105-115 psi @ 3000 rpm	
Engine Compression (1976-85 Engines) Range for earlier engine will be slightly lower. Difference between chambers should not exceed 20 psi (hot).		105-150 psi @ (HOT) 80-100 psi @ (HOT) (w/carbon seals)	
Engine Timing* (Factory Recommended Settings)		20° BTC leading 20° BTC trailing	

**NOTE:** The use of a tell-tale tachometer or an engine rpm cutoff for race engines is highly recommended.

\*Some modified (ported) engines may require alternate engine timing.