

TG PERFORMANCE New or Rebuilt Engine Break In

Break-in and Installation Instructions

PROTECT THE INVESTMENT YOU HAVE IN YOUR ENGINE.
TAKE THE TIME TO READ AND FOLLOW THESE RECOMMENDATIONS:
BREAK IN PROCEDURE

- 1.) Drive normally but not a continuous high speeds for the first 500 miles. Occasional quick bursts of speed followed by quick deceleration during this period, is beneficial. **AVOID LUGGING!!! TRIPS AND TOWING** are not recommended until after 1000 miles.

NOTE:

Applying loads to the engine for short periods of time causes increased ring pressure against cylinder walls and helps to seat the rings. This is especially important because you are "BREAKING-IN" the engine with heavy duty oils. The rapid deceleration increases vacuum and gives extra lubrication to the piston and other assemblies.

- 2.) **IMPORTANT!** AFTER 500 TO A MAXIMUM OF 1000 MILES OF SERVICE, change oil and filter and readjust the valves, except hydraulic. We also require that valve adjustments be done again after a total of 6000 miles. We require a maximum of 3000 miles between oil changes and factory recommendation on valve adjustments thereafter.

NOTE:

Add oil at 1/2 quart intervals on small capacity engines. **OIL AND WATER LEVELS ARE A DRIVER OR OWNER MAINTENANCE RESPONSIBILITY, THEY MUST BE KEPT FULL.** We realize that this means extra effort on your part, but it assures long and satisfactory engine performance.

- 3.) A heavy duty detergent oil is required. Use a good quality brand oil, Some Manufacturers require 5/30, others recommend 10/40 for 20 degrees Fahrenheit to 100 degrees Fahrenheit and use 20/50w for higher temperatures and heavy duty use.

NOTE:

In past years, it has been common practice to use non-detergent and straight weight oil during the "BREAK-IN" period because it was felt that the rings would seat quicker without the film strength additives. More recently, there has been a trend to high speed and high temperature engines, cam lobe and tappet loads also have increased to a point where it is important to use heavy duty oils which contain a EP (high pressure) additive right from the start. Rings will seat properly when moderate loads are applied as noted above in section one.

- 4.) Keep your engine in tune. Tune-up specifications should always be to the manufacturers recommended specifications.
- 5.) **PLEASE!** If you experience any trouble or even suspect a problem please contact us **IMMEDIATELY!** It is easier and cheaper to fix a little problem than a big one.

***IMPORTANT ITEMS TO LOOK FOR WHEN INSTALLING
A REPLACEMENT ENGINE TO AVOID EARLY ENGINE FAILURE***

- 1.) Determine why old engine failed. Check catalytic converter or computer controlled parts, check engine warning light codes, radiator, water pump, etc. Do not install replacement engine with defective components, this could cause premature failure.
- 2.) Compare rebuilt engine with old engine as to crankshaft flange, pilot hole and bearing, oil pan, timing cover, engine mounting provisions and cylinder head mounting holes.
- 3.) Prime the oil pump in any acceptable Industry Standard Method! This is very important.
- 4.) All related parts not furnished by us should be thoroughly cleaned.
- 5.) If original engine has blown and scattered pieces, such as piston particles, you Must thoroughly inspect intake manifold for foreign material to avoid destroying the new engine.
- 6.) Make sure that dipstick tube and dipstick are of proper length to register required amount of oil.
- 7.) Check motor mounts for oil soak and parting of rubber from metal.
- 8.) Radiator should be flow tested and thoroughly cleaned if necessary.
- 9.) Check radiator cap for application and operation.
- 10.) Replace thermostat to avoid possible failure.
- 11.) All hoses, radiator, heater, and by pass should be replaced if necessary.
- 12.) A heavy duty detergent oil is required. Use a good quality brand oil, Some Manufacturers require 5/30, others recommend 10/40 for 20 degrees Fahrenheit to 100 degrees Fahrenheit and use 20/50w for higher temperatures and heavy duty use.
- 13.) Always replace oil filter cartridge and flush any cooler lines. And replace oil cooler if contaminated.
- 14.) Oil pressure and temperature sending units may need to be replaced because they have a tendency to leak oil and register improper after a reinstall.
- 15.) Always install new spark plugs of proper heat range and check to make sure the spark plug wires are in good condition.
- 16.) Check distributor, advance controls and distributor cap for cracks.

- 17.) Water pump should be checked for signs of leaking.
- 18.) Clutch fan should be checked for proper operation.
- 19.) Fan belts should be checked for cracks and other defects.
- 20.) Check fuel pump for oil leak at pivot pin and also for fuel leaks.
- 21.) Check heat riser valve for proper operation.
- 22.) Replace paper air filter or clean oil type.
- 23.) Check smog components and computer sensors. Replace defective or old parts.
- 24.) **VERY IMPORTANT!!!**
Make sure radiator is full of coolant (at least 50% water and 50% antifreeze) and Engine Block is filled full before attempting to start engine.
CAUTION: Air Locks can ruin a new engine.
- 25.) When filling radiator make sure it is filled to proper capacity and that there are no air locks, as this can cause cracking of cylinder block and heads.
- 26.) Start engine, check oil pressure, adjust ignition timing to manufacturers specifications and adjust carburetor after engine has warmed up fully. Also, at this time be sure to check for any water or oil leaks.
- 27.) Take the car for a road test. After road testing the vehicle recheck installation, oil and water levels, look for any leaks, recheck timing and adjust carburetor if necessary. Please refer to "BREAK IN PROCEDURE" sheet for further information.
See Warranty Addendum #8

NOTE: After at least 1 hour running time and engine has cooled, retorque head and adjust valves to manufacturers specifications. On Required engines if you are not sure if this is required on your engine **ASK!**

ATTENTION: WARNING TO INSTALLING MECHANIC!!!

Every effort has been made to accurately supply the proper item, however it is the responsibility of the installing mechanic to verify engine and parts for correct size and application by comparing the old parts. This is due to the many combinations available on the market today. You are responsible for the correct installation of the engine. The engine life and performance depends on a good professional installation. Follow the instructions carefully. Seek professional help if you are uncertain about **ANYTHING!**

TG PERFORMANCE ENGINE BUILDING SHOP LLC

15151 Prairie Avenue Lawndale, CA 90260 Office: 310.679.3604 Fax: 310.679.7386