

Rising Sun Engines, Inc.
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Rising Sun Engines, Inc. Engine Installation Guidelines

Rising Sun Engines, Inc. recommends you follow these guidelines when installing your newly refurbished engine. RSE, Inc. is committed to supplying only quality, fully tested engines and transmissions. Proper installation of these components will ensure they operate well. The staff at RSE, Inc. is available to discuss installation issues with you. **Additional information is printed on your invoice.**

Before You Start— Pre-Installation Tips

- n Locate your invoice, it contains useful installation tips.
- n **Make yourself fully aware of why your previous engine failed and how to prevent the problem from occurring again.**
- n Make sure you have the correct engine or transmission for your automobile. Compare it to the one you removed.
- n Have the repair manual for the vehicle handy. If you don't have a manual try your local parts store or bookstore.
- n Organize and completely clean all the original vehicle parts you intend to reinstall with your refurbished engine (e.g. valve cover, oil pan, & pick up tube).
- n Check the engine first by turning it over by hand. Install belt then turn the crankshaft with a wrench. If it does not turn easily, STOP and contact RSE, Inc. immediately.

Recommended Replacement Parts

RSE, Inc. strongly recommends these items be replaced during installation of your engine. Be sure to compare new parts to those being replaced.

- n Engine oil
- n Oil, air and fuel filters
- n Coolant—a 50/50 mixture of anti-freeze and water
- n Cooling system components—radiator cap, thermostat, hoses and belts
- n PCV valve
- n Ignition system components—spark plugs, plug wires, distributor cap and rotor, points and condenser if required
- n Also, clean and inspect these components before starting, replace them if necessary:
 - n Carburetor or EFI system
 - n Distributor
 - n Radiator
 - n Water pump
 - n Both intake and exhaust manifolds- Check inside for foreign objects
 - n EGR valve
 - n Harmonic balancer
 - n Flywheel or flexplate
 - n Valve covers
 - n Timing cover
 - n Oil pan
 - n All mounts
 - n External oil seals

Installing & Starting Your Engine

n **Installation:**

- n Inspect flex plate and flywheel for damage. Stop the installation if damage is detected.
- n Engine and transmission should mate easily together. If excessive force is required, stop the installation.
- n Install new pilot bearing/bushing if necessary.
- n Ensure that ignition wiring and firing order are correct.
- n Ensure that all fuel connections are made properly. Check vacuum routing and connections.
- n Ensure that the cooling system is completely filled. Force all air out of the system. Follow factory bleeding procedure.
- n Be sure manifolds are free of all foreign objects.
- n Follow your manual with regards to your type of transmission, manual or automatic.

n **Starting:**

- n Be sure all fluids have been added to the engine, transmission and radiator.
- n Immediately verify oil pressure is to specification. Monitor throughout start up.
- n Monitor water temperature throughout start up.

n **For remanufactured engines follow these guidelines:**

- n Raise speed to 1,500 to 2,000 rpm and hold for 15 minutes. Adjust ignition and fuel systems to specifications per your manual.
 - n Note: If the engine failed to start and run, stop and check the fuel and ignition systems before attempting to start again. Do Not over-crank the engine.
- n Shut the engine down and let cool for three hours. Re-torque the head(s) and manifolds. Readjust the valve lash. Check belt tensions.