



Upgrade Kit: UPGRADE ACCESSORY FOR LIQUID-FUEL ENGINE PURGE

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Subject: Liquid fuel injection system to allow purging of engine.

Models: PP20,

Symptom: Poor engine compression and increased maintenance of engine due to corrosion and contamination.

Cause: Depending on details such as your ambient conditions, power levels, type and moisture content of feedstock, condition of the filters etc. the level of vapors and tars in the syngas (SG) that enters the engine can damage or cause sticking of internal engine parts. Most of these problems happen after running while the machine is shut off as the syngas, still inside the engine, cools and condenses.

Action: Purge the engine by running it on liquid fuel. After running on syngas, and while the system is still hot, start and run the engine on Gasoline or Gasohol (E85) using the liquid-fuel engine purge (EP) accessory (APL Part # 870-00087 rev A) to wash out the tars and condensates and prevent them from building up while the engine is stored.

NOTE: When purging a hot/warmed-up engine, a 10 minutes run time should be effective. On a cold engine it may take over 15 minutes to ensure the engine is fully warmed up. You can tell when the engine is at full operating temperature when the engine thermostat opens causing the top tank of the radiator to get almost too hot to touch.

Safety: Gasoline is highly flammable and toxic, use all normal precautions when using the Purge System. Always follow the warnings and instructions listed below:



WARNING

AVOID SPILLING OR LEAKING FUEL ON ENGINE

- Never run a PP unattended on liquid fuel
- Make sure the injection unit is tightly secured
- Keep tank on ground when operating or filling
- Do not operate if any leakage is detected
- Always disconnect and remove after operation
- Do not rest injection unit on PP when not in use
- Make sure switch is off after operation
- Make sure fill cap is on tightly when operating



GASOLINE

EXTREMELY FLAMMABLE LIQUID AND VAPOR

- Keep away from heat, spark and open flames.
- NO SMOKING
- Use only in well-ventilated area
- Avoid contact with skin, eyes, mouth & clothing
- Avoid breathing vapors
- May be fatal if swallowed and enters airways
- Causes skin irritation - If contact is made, wash immediately with soap and water

The latest *Operation Manual* and *Technician's Handbook* for your mode lare available online at www.allpowerlabs.com/support

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