

Safety Meeting  
Making  
Wood for the Woodshop  
June 2015

How to Keep Your Chainsaw Alive  
My 25years of experience with Stihl chainsaws  
(and weed eaters)

# Fuel

- Use premium fuel and store it in a clean rust free can (plastic). Regular may run too hot and contain more ethanol.
- Use the proper 2-cycle oil: new synthetic oils ought to provide better protection.
- Use the correct fuel oil ratio.
- **BUT MOST IMPORTANTLY, ALWAYS PUT YOUR TOOL AWAY WITH AN EMPTY CARBUREATOR AND FUEL TANK**, i.e., run it dry. Stored fuel evaporates and gums up the system.

# Results

- Fresh fuel in an empty saw almost always allows the saw to start easily when refueled at much later dates.
- Choke the engine until it fires then open the choke for the next starting pull.

# Saw Won't Start?

- Pull spark plug & pour a portion of cap full of ATF in the cylinder.
- Shoot some starting fluid into the Carb.
- If that fails, you may have to take apart the Carb and clean/blow it out.
- On one occasion, my crankcase came loose from the cylinder head on a weed eater. Merely tightening the bolts solved that problem.

# Saw Still Doesn't Run?

- Check the compression: should be 100 + psi
- If compression is low, likely that the piston and cylinder bore are scored. Pull muffler off head and look inside the bore for scoring.

# Scored Piston Viewed Through Exhaust Port



# Rebuilding a Stihl 2-Cycle Engine

- On line (Baileys) new cylinder and piston is about \$140 for an Italian knock off or \$100 for Asian. It is a fairly easy job requiring a T-27 driver.
- Four T-27 bolts hold the cylinder head to the crankcase exposing the piston.
- Wristpin is easily knocked out allowing replacement of piston on connecting rod.
- New cylinder easily slips over oiled piston.

# Carburetor Adjustment

- Set low speed jet adjustment to sweet spot.
- Set high speed jet adjustment under load to sweet spot and then back it out another  $\frac{1}{4}$  to  $\frac{1}{2}$  turn to make the engine run rich.
- Too lean of mixture can cause the engine to over rev and score the piston and cylinder.
- Set idle.
- Repeat cycle as necessary.



# Other Maintenance Items

- Air filter
- Fuel filter inside fuel tank
- Avoid over-revving the engine (e.g. while trying to trim a hedge), a voice of experience.
- Read the manual for safety operating facts.
- Keep your feet on the ground (not on a ladder) when using a chain saw.
- Wear hearing and eye protective devices.