



SUBJECT: POWER TOOL MAINTENANCE

PURPOSE: To ensure the proper care of department power tools.

DEFINITION: Power tools may be any of the following:

- Power saws
- Ventilation fans
- Portable or station generators
- Hydraulic cutters and spreaders

SCOPE: All department personnel.

PROCEDURE: When operating and/or maintaining power tools, the following safety precautions are to be followed:

- All personnel shall wear the proper PPE including gloves, ear and eye protection.
- Avoid running or walking backwards with the power tool(s).
- Avoid the sharp edges of the saws.
- Do not operate the saws with one hand.
- Keep fingers away from the cutters, spreaders and pinch points of the hydraulic power tool.
- Start all power tools using manufacturers recommended procedures.

When not running, the fuel switch on all stabilized gas engines should be in the off position.

Daily inspection of each power tool is imperative.

Power tools will be marked with the appropriate shop number.

Anytime a power tool is in need of repair or is out of service, a tag shall be attached to the power tool with the following information written on the tag:

- Problem identified
- Date
- Person who tagged it (in case follow-up questions are required)

Enter the missing power tool on the white board at the station.

The reporting member will complete the IR form and email it to the power tool committee and the B/C's. This IR will allow us to spot trends for future power tool purchases and maintenance.

The power tool will then be delivered by the runner to Station 21 or 26 for repair/replacement. If the power tool is critical to the

operational status of the vehicle, the crew will replace it with a spare power tool from the power tool cache at Station 21 or 26 (captains and above have keys). If it is not critical, the member will request a power tool replacement from the BC. The power tool will then be delivered by the daily runner within the next couple of shifts.

GUIDELINE

Chainsaw Daily Check

1. Check that the chainsaw fuel and bar oil is full. Make sure to use the correct fuel per the manufacturer recommendations. The chainsaw uses pre-mixed gasoline which is found in the Domar cans on each engine (fuel and oil in separate portions of the can).
2. Check chainsaw chains for missing teeth. If there are more than 3 teeth missing, then the chain needs to be replaced. To replace a chain, send the bad chain to support services. Put your spare on the saw. You should receive a new chain by the next non-weekend shift. Note: when conducting training, use a training chain instead of a brand new chain. This will help keep the cost of maintenance down to a minimum.
3. The chainsaw should be left in a "ready to start" state. This means leaving the master control switch placed on the cold start setting, the choke fully on, the decompression switch in on the 360 with the chain brake locked.

Chainsaw Weekend Check

1. Check the air filter on the chainsaw and make sure it is clean. If not, the following procedure is to be used: knock the filter out on the palm of your hand carefully or use the air compressor to blow it thoroughly from the inside out. If the filter is still dirty, wash with a non-flammable solution such as soapy water and dry the filter.
2. Start and run the chain saw. After starting, let it idle for 15 seconds. Then run the saw at full throttle for 30 seconds. After running it at full throttle for 30 seconds, let it idle for 15 seconds before shutting it off.
3. While running the chainsaw, check it for proper lubrication. This is done by positioning it over a light background (such as concrete) and running the saw at half-throttle. There should be an increasing trace of bar oil on the ground.
4. Top off fuel.

Circular Saw Daily Check

1. Make sure the circ-saw has a full tank of fuel. The circ-saw uses pre-mixed gasoline-Domar fuel can.
2. Check circ-saw blades for chunks missing, contamination, and overall appearance. If more than ½" (check by comparing it to a new blade) of the blade is worn away, replace the blade. Send the old blade to support services.
3. **Check to see that the arbor nut is tightened to prevent a blade from coming off in a time of use!**
4. Leave the circ-saw in a "ready to start" state. Move the master control switch to the "Start" position and set the choke to the middle of the three positions.
5. The Wart-Hog blade must have a spacer attached to it.

This must be in place when the Wart-Hog blade is used!

Circular Saw Weekend Check

1. Check only the first air filter on the circ-saw and make sure it is clean. If not, the following procedure is to be used: knock the filter out on the palm of your hand carefully or use the air compressor to blow it thoroughly from the inside out. If the filter is still dirty, wash with a non-flammable solution such as soapy water and dry the filter.
2. Start and run the circ-saw at full throttle for 30-45 seconds to ensure the saw operates adequately at high speed and isn't stalling. Then, let the saw run at idle for approximately 30-40 seconds before shutting it off.
3. Top off all fuels

Hydraulic Power tool Daily Check

1. Check to make sure the fuel and hydraulic fluid are filled correctly. The Hydraulic power plant uses stabilized unleaded fuel. The hydraulic fluid should only be filled to the top of the viewing window. This allows for the fluid that is already in the hoses to be circulated through the machine when it is in use. Only remove the hydraulic fluid cap when the power tool needs to be filled.
2. The fuel should be shut off unless in use. Leave the choke on for starting purposes.
3. The hydraulic power tools should be left in the following state: The cutter tips should be closed to a single point to protect the tips. The spreader tips should be closed completely but not quite touching each other.
4. Make sure all caps are cleaned and left on their respective hoses.

Hydraulic Power tool Monthly Check

1. Run the Hydraulic power plan. During this time, using each length of hose, hook the spreaders, cutters and ram up and exercise each of them, opening and closing to full extension.
2. Check the oil in the power plant.
3. Clean and wipe down the tools with light oil.
4. Clean and inspect entire unit for excessive wear or damage.
5. Check quick-connect fittings for proper operation.
6. Check all fluid levels.
7. Inspect ram shaft for burrs or rust.
8. Inspect ram head threads.
9. Clean and inspect hoses for wear, cracks, cuts or breakage.

PPV Fan Daily Check

1. Check the fuel of the PPV each morning. The PPV fan uses stabilized unleaded gasoline.
2. Make sure the fan is left in a ready state with the throttle set at high, the choke on and the **fuel off**. Also make sure that the fan power switch is left in the "on" position.

PPV Fan Weekend Check

1. Run the fan approximately 3-5 minutes at full throttle. During this time, listen for any sputtering or stalling.
2. Look for and remove any debris that may be in the grills with the fan blades.
3. Fuel as necessary.

Sawzall Daily Check

1. Check the overall condition of the sawzall. Inspect the blade, replace if there are missing teeth. Inspect guards, switches, power tool cord set and extension cord for damage, and check for loose screws. Check that the power cord is securely attached.
2. Make sure the sawzall is set to maximum speed and full orbit.

Sawzall Weekend Check

1. Hook the sawzall up to a power source. Pull the trigger and run the saw at full throttle, checking for binding of parts or any misalignment.
2. If the saw needs to be cleaned, do the following: Wipe dust and debris from vents. Keep power tool handles clean and dry, free from all grease. Use only mild soap and a damp cloth to clean your power tool since certain cleaning agents and solvents are harmful to plastics.

Miscellaneous

1. Do not run power tools in the early hours at Stations in residential areas.
2. Clean all power tools after each use. Wipe away any grime or spilled fluid with a cloth, use soap if necessary.
3. **Do not OVER tighten plastic caps on fill points.** Doing this causes them to become stripped and often times hard to take off. Also, do not over tighten any nuts or bolts, as these will become stripped with time.
4. All generators shall be run 15 to 20 minutes once a month (during the weekly check on the first weekend of the month). This includes the generators on the engines, the Incident Management Team trailer, spares and station generators. Plug in a light or an electric power tool to each of the power outlets on the generators to make sure they are working correctly. Once this is completed, top the generators off with the correct fuel and other appropriate fluids and leave them in a ready state. Routine maintenance is done by the district's mechanic.
5. After all fires, disassemble and clean all saws.
6. If you have any questions, first contact a power tool committee member.

For any questions regarding the chainsaws or circ saws, refer to <http://www.stihl.us/> and follow the links to product information.

For any questions regarding the Hydraulic power tool, refer to <http://www.Hydraulic-usa.com/>

For any questions regarding the PPV fans, refer to <http://www.tempest-edge.com/>

For any questions regarding the sawzall, refer to <http://www.milwaukeeetool.com/>