

ENGINE MAINTENANCE

DESCRIPTION	8 HRS/EACH USE	75-100 HRS	250 HRS	400 HRS
Check Oil Level	x			
Clean around muffler, Springs and Linkage	x			
Inspect and Blow out Around Cooling Fins on Cylinder Heads	x			
Replace Spark Plugs		x		
Service Air Filter and Pre-Cleaner (Clean more often under dusty conditions, or when airborne debris or chaff is present)		x		
Service Exhaust System		x		
Change Engine Oil & Filter (See engine manufacturer's manual for recommended maintenance schedule of when oil & filter should be changed)	-	-	-	-
Check Valve Clearance & Adjust if Necessary			x	
Verify Torque Ratings on Capscrews of Taper Lock Bushing to be 192in. Pounds (Refer to Operator's manual)			x	
Replace Air Filter				x
Replace Fuel Filter				x
Service Cooling System				x
Clean Oil Cooler Fins (Refer to Operator's Manual - Clean more Often under Dusty Conditions)				x

SAFETY NOTE

When maintenance is to be performed on the machine, always:

1. Stop the engine completely
2. Turn the ignition to the "off" position and remove the key.
3. Disconnect Red (Positive) Battery Cable from the battery post

Note: Clean out defender box when changing bag or as needed.

Note: When further maintenance is needed, please refer back to other manufacturer's manuals for additional assistance!

Periodic preventive maintenance will add years of life to your equipment. Reviewing the information in this manual will go a long way in reducing downtime and lost income.

KRENDL MACHINE MAINTENANCE: DAILY

- Clear insulation away from engine and muffler to avoid fire, ensure proper ventilation and reduce the chance of insulation getting in the fuel tank.
- Do not run vacuum inside of an enclosed box truck, trailer or building. Doing this will result in engine damage, exposure to carbon monoxide or fire. **Note:** Debris can be sucked into the engine through the air intake and clog the cooling fins. (See Illust. D)
- Blow out engine cooling fins with compressed air. (See Illust. E) Note: Failure to keep motor cooling fins clear of debris could result in catastrophic engine failure and voids warranty. (See Illust. F)
- Make sure vacuum is on a level surface outside where the engine can receive fresh air and expel hot exhaust.

(ILLUST. D)



AIR INTAKE

(ILLUST. E)

COOLING
FINS



COOLING
FINS

(ILLUST. F)



COOLING
FINS

DEBRIS

WEEKLY

- Remove air filter and blow with compressed air.
- Clean out fan chamber. Remove insulation build up on fan and inside of chamber.
- Inspect fan for wear and bent blades. Note: Do not remove fan for general maintenance.

MONTHLY

- Check fuel tank and filter for debris and clean if necessary.

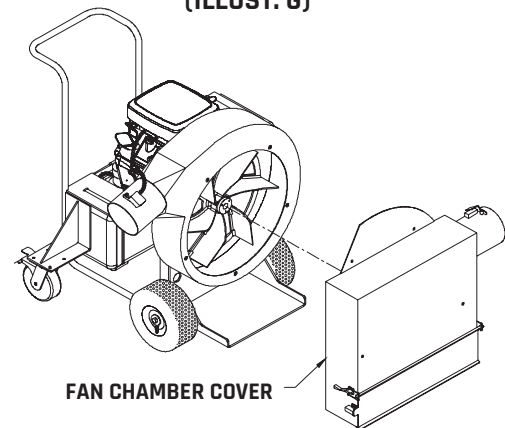
HOUR / TACHOMETER RESET INSTRUCTIONS:

1. Toggle to the appropriate Flash Alert menu to be cleared.
2. Press and hold button until "00000" appears. (approx. 3 sec) Note: Hour glass will flash repeatedly while holding button down during service reset.

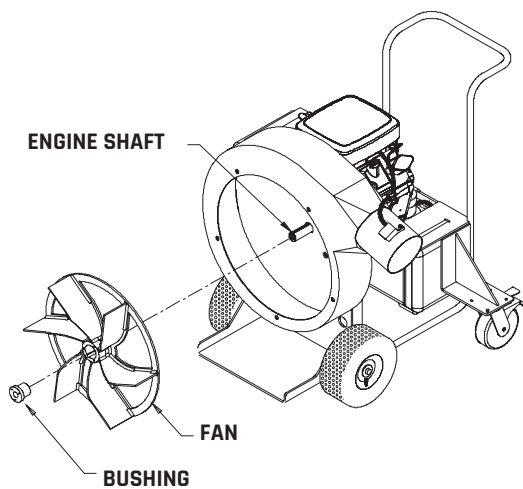
FAN REMOVAL FOR REPLACEMENT:

1. Remove fan chamber cover. (See Illust. G)
2. Remove cap screws and insert them in tapped holes in bushing flange.
3. Tighten cap screws progressively in a clockwise rotation placing equal amounts of torque until bushing disengages.
4. Remove fan from engine shaft.

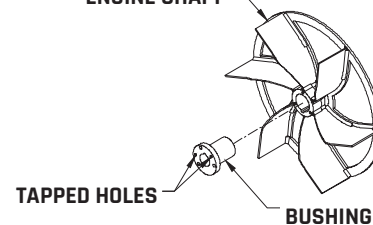
(ILLUST. G)



(ILLUST. H)



ENGINE SHAFT



FAN INSTALLATION FOR REPLACEMENT:

1. Be sure the tapered cone surfaces of the bushing and the inside of the fan are clean.
2. Place bushing loosely into hub on fan. (See illust. H)
3. Start capscrews by hand, turning them just enough to engage the threads. Note: Do not use a wrench at this time.
4. With key in shaft keyway, slide fan and bushing on to engine shaft. Note: Make sure fan blades are facing outward and that the bushing is seated against the back step of the engine shaft. There should be approximately an 1/8" gap between the fan and chamber so they don't rub. (See Illust. I)
5. Tighten capscrews progressively with a wrench in a circular direction to ensure equal tension as fan draws down on shaft to achieve 192 inch pounds torque. Note: Do not attempt to pull bushing flange flush with hub end; some gap must remain between flange and hub after tightening.
6. Install fan chamber cover and secure with bolts. (See Illust. G)

(ILLUST. I)

