TOOLS

WRIGHT GASOLINE POWER SAW

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1. GENERAL

1.01 This section is a new section which describes the Wright Gasoline Power Saw and covers its use, care and maintenance.

1.02 The maintenance operations covered are those that can be handled in the field. If other repairs appear necessary, the saw should be returned in accordance with local routine.

1.03 Since this saw is power driven, all normal precautions for the use of power tools should be strictly observed.

2. DESCRIPTION

2.01 The gasoline-powered Wright saw uses the reciprocating principle of the hand saw. It is powered by a two-cycle direct drive air cooled engine which drives the saw at approximately 170 strokes per second.

2.02 The complete unit weighs approximately 25 lbs. and has an overall length of approximately 38 inches.

2.03 The carburetor is of the Carter float type with a wick feed to permit operation of the saw in all positions. Ignition is accomplished by a Phelon flywheel magneto.

2.04 Sawblades are made of alloy steel with permanent set teeth. They come in two models both with 5/8" pitch: model number 434-05 is the standard all purpose blade; model number 434-09 is a 30 degree shear angle blade for use in hard woods. Kerf is less than 3/16 inch and cutting length is 18 inches.

2.05 Fuel capacity is 1-1/2 quarts; enough for approximately four hours operation under full load.

2.06 The starter is of the Bulldog recoilless rewind type.

3. OPERATING INSTRUCTIONS

3.01 STARTING. Recommended procedure for starting the engine is to operate the starter with the left hand while the right hand is grasping the rear handle. The following steps should be taken:

(a) Open the Fuel Shut-Off Valve to allow fuel to flow from the tank to the carburetor bowl.

(b) Move the choke lever upward to the closed fully choked position if the engine is cold. DO NOT choke if the engine is warm.

(c) Move the throttle trigger as far back as possible with the index finger while grasping rear handle firmly with right hand.

(d) Pull the starter cord briskly. In order not to upset the saw, the starting rope should be pulled straight back with no up or side motion. As soon as the engine is operating, control the speed manually with the throttle trigger. Running the engine with the trigger in the starting position at no load will cause excessive operating speeds and is not recommended.

(e) Open the choke valve as the engine warms up.

(f) Release the trigger to stop the engine. It will shut off automatically.

Note: Choking a warm engine or overchoking when attempting to start a cold engine may result in flooding. When stopping the saw for any length of time the fuel shut-off valve should be closed. If the saw is to be stored for an appreciable length of time the engine should be run until the carburetor bowl is empty.

3.02 ENGINE SPEED. The first few hours of operation of the saw will affect the life of the engine more than any other time. It is during this period that the moving parts polish themselves to a smooth finish. Friction between moving parts is higher during this period than at any other time in the engine's life. For this reason it is important to keep the speed down to an absolute minimum during break-in. DO NOT speed up the engine unless you are actually cutting. NEVER run the engine unless the sawblade is in place. Operation of the engine with the blade removed will result in serious damage.

3.03 RACING THE ENGINE. The engine is equipped with a governor which is set at the factory to operate the engine between 4800 and 5200 RPM. To insure long engine life, it is important that the engine should be kept at idling speed when not actually cutting. Racing the engine unnecessarily will abuse it and it should never be operated any faster than the cutting load requires. The governor is set to give ample engine speed under normal sawing operation without exceeding the proper speed limits. Consequently, DO NOT attempt to adjust the governor.

3.04 FUEL. The engine uses a mixture of gasoline and oil as fuel. Oil is necessary for lubricating purposes and it should always be present in the fuel in the correct amounts. Mix the oil and gasoline in a separate clean container rather than in the gasoline tank. Use white, unleaded, regular (NOT high test) gasoline.

3.05 LUBRICATION. Use high grade outboard motor oil or 2 cycle engine oil of SAE weight 30. During the first five hours of new engine operation 50% more oil must be added to the gasoline than normal. Use 3/4 pint of oil per gallon of gasoline for the first five hours of operation and 1/2 pint of oil per gallon of gasoline from then on under normal use. The sawblades normally do not require lubrication, however, the use of Lubri plate is recommended during the break-in period. The use of heavy oil or grease will cause extra friction by forming a hard sticky bond with sawdust particles. Consequently, DO NOT use oil or grease on the saw blade guides.

4. PRECAUTIONS AND USE

4.01 The Wright Saw is a reciprocating saw with a guided sawblade. It is NOT a chain saw and should not be used as such.

4.02 This saw cuts best when the cut is started at the far side of the log from the operator and the saw is slowly rotated towards the operator doing most of the cutting on the inward arc of an easy rocking motion. It is not necessary to force the saw. Let the saw do the work.

4.03 DO NOT use the saw like a hand saw. It is not necessary to "push-pull" the Wright Saw back and forth in the cut. Easily rocking the saw in the cut, doing most of the cutting on the downward rearward arc of the rocking motion, allows the saw to feed easily and clear the cut of chips.

4.04 Before starting the sawing operation, make sure that no metal or other foreign material will be encountered during the cutting.

4.05 Gloves shall be worn at all times while using the saw or handling the saw blades.

4.06 When carrying the saw, carry it with the sawblade in a forward position.

4.07 When not in use, the saw shall be kept in the box provided for storage with the guard in place.

5. MAINTENANCE.

5.01 ASSEMBLY. The Wright Saw is shipped with the saw guide packed separately. To assemble the saw for use, the following steps should be taken:

(a) Insert the saw guide in the front housing slot.

(b) Insert the three Allen head cap screws with flat washer under head.

(c) Assemble lockwasher and nuts loosely.

(d) Raise the tip of the guide to its uppermost position and tighten bolts securely.

(e) Insert the saw blade and lock in position.

NOTE: This assembly procedure will allow the blade to operate freely in the guide and provide for the easy removal of the blade.

5.02 CHANGING BLADES. Sawblades may be removed as follows:

(a) Pull the lock pin down and the retainer pin out from the front housing until the lock pin engages its stop in the open position.

(b) Pull the retainer slide down to its open position. The retainer pin will prevent the retainer slide from coming completely out of the front housing.

(c) Grasp the rear of the sawblade and pull it down until it separates from the driving mechanism.

(d) Slide the sawblade forward in its guide until the blade tang is free of the guide key.

(e) Slip the blade downward free of the guide.

Note: To insert the sawblade follow the above steps in reverse.

5.03 AIR CLEANERS. The Wright Saw may be furnished with either one of two different types of air cleaners, the Foil or oil suspension type and the ribbon filter or dry type. The oil suspension type should be cleaned after every ten hours of operation or when necessary. Remove the filter element and rinse in gasoline or kerosene to clean; then reoil the element with a few drops of SAE 30 or heavier oil. An excessively clogged filter will result in inefficient saw operation. The ribbon filter element of the dry type should be wiped off with a dry cloth as necessary and should be washed in clean gasoline after each day's use. DO NOT oil this filter.

5.04 NUTS AND BOLTS. All threaded connections on the Wright Saw should be periodically checked to be sure that they are tight.

5.05 CLEANING THE SAWBLADE GUIDE. Sawdust may become trapped between the blade and the blade guide. The guide may be cleaned by scraping the interior lightly with a narrow object.

5.06 SPARK PLUG. Periodically check the spark plug for cleanliness and gap adjustment. A dirty, oily or carboned plug may cause starting difficulties as well as poor operation of the saw. Remove the plug from the cylinder, clean and set the gap to .025 inches. (Use a feeler gauge)

5.07 STORING THE SAW. Because of the natural gums which are present in all gasoline and which may clog the carburetor if the saw is allowed to stand for too long a period of time without being used, the following steps should be taken if the saw is to be stored for a week or longer:

(a) Empty fuel tank by removing gas cap and turning saw upside down.

(b) Run engine until all gasoline in the carburetor bowl is consumed.

5.08 ENGINE OVERHEATS. High operating temperatures result in poor saw performance. Consequently the following points should be checked periodically.

(a) If spaces between the cylinder cooling fins become clogged with grass, dirt, sawdust etc., remove the rear handle and the cylinder shroud and clean the fins.

(b) The flywheel fan chamber should be kept free of all foreign material in order that the free circulation of air may be maintained as well as to prevent any possible damage to the fan.

(c) Insufficient oil in the gasoline will result in higher engine friction and therefore higher operating temperatures. Drain the gasoline tank and refill with fuel of the proper gasoline-oil ratio.

5.09 SHARPENING SAWBLADES. Saw teeth should be kept properly filed for fast smooth cutting and efficient saw operation. Filing skill is not essential for sharpening the Wright Saw blade. However the following steps are suggested:

(a) Remove sawblade from saw.

(b) Place sawblade in vise with the teeth upward.

(c) Draw a flat file along the tips of all teeth until a small flat area appears on each tip. This "jointing" operation will result in each tooth being the same height.

NOTE: It is not necessary to "joint" the teeth each time blades are touched up. Jointing is required only when marked variations in tooth heights have developed. Normally the front teeth will wear faster than those in the body of the

blade. It is not necessary to file down the height of all teeth to the height of these front teeth when "jointing" the blade.

(d) File the "Face Bevel" of all teeth until the "flat" caused by draw filing just disappears into a sharp point.