

Distribution: 5

TO: All Branches and Dealers

SUBJECT: Connecting Rod, Crankshafts, Crankcases

DATE: 3/31/66

Units Affected: All XL Engines (except XL-700 and XL-800)

XL engines above Serial No. 2071277 use a new Connecting Rod with a larger lower end and 31 needle rollers.

Associated Crankshafts have correspondingly larger crankpins; Crankcases are machined with increased clearance to "swing" the new assemblies. The new crankcases will service older units and will be the only ones supplied in the future.

Here are the part numbers; Please adjust your records accordingly:

Crankcase A-59801-C supersedes A-59801-B (for all XL-500's)

Crankcase A-58799-C supersedes A-58799-B (for all other XL's)

Needle Rollers A-63496 (set of 31)

Connecting Rod A-63477 (use with 31 needles and new shaft)


Crankshaft 63473 (XL-500's with 31 needles)

Crankshaft 63497-1 (XLS1 1/2 Pumps with 31 needles)

Crankshaft 63498 (XLAO, XLAO Gear, Super XL)

Crankshaft 63497 (all others - Generators, Brushcutters, Circular Saws, XL-12, XL-15 and Super XL-12 with 31 needles)

Units below Serial No. 2071277 can be converted to use the new rod and shafts, but the proper new crankcase must be used. Old connecting rods and crankshafts will remain in stock to service existing units.


Walter N. Herold
Service Manager

mr



TO: Homelite Branches and Chain Saw Dealers

SUBJECT: Ignition Coil Adjustment

DATE: 5/6/66

Units Affected: XL-700 and XL-800

As you may already have noticed the air gap (the space between the rotor magnet and the coil pole piece) on the XL-700 and XL-800 chain saws is adjustable.

If it is necessary to adjust this gap -- for instance if a coil is replaced -- use a Plastic Shim, Part No. 23987, between the magnets and the pole piece, and tighten the four pole piece screws to approximately 25 inch lbs. torque; then remove the shim.

The resulting gap will be about .005" to .007" which is a good distance for the magneto to deliver full output and yet large enough so that the pole piece will not rub on the rotor.

Shims, Part No. 23987, are now going into stock. They are only \$.05 each.


Walter N. Herold
Service Manager

mr

NOTE TO BRANCHES:

The people who make the shims sent them to us in packages of 100.



Distribution: 5

TO: Homelite Branches and Dealers

SUBJECT: Ball Bearing Installation

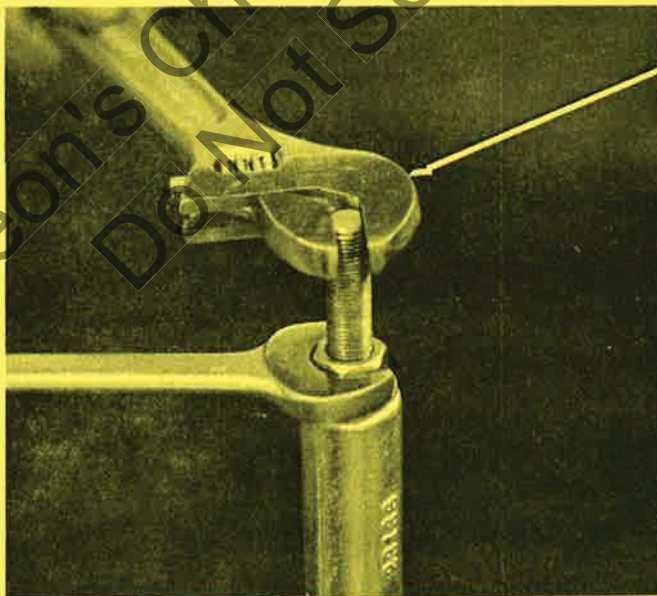
DATE: 6/7/66

During the installation of ball bearings on shafts, but especially when pulling a shaft with bearing into its housing, it is possible to damage the balls in the bearing unless proper care is exercised:

THE BEARING MUST NOT BE ALLOWED
TO ROTATE WHILE IT IS UNDER PRELOAD
TENSION FROM THE PULLER.

If the bearing is allowed to rotate under preload, the edges of the raceways may "dig" into the balls and may generate shallow grooves on the surface of the balls. These grooves or indentations will make the bearing rough turning and noisy.

To prevent this damage, keep the jackscrew from turning while you turn the jack nut. If the jackscrew you use does not have flats or a hex head on the end, grind or file two flats so that a wrench can be used on the end of the jackscrew as shown in the picture below.



Use this wrench to keep assembly from turning.

Walter N. Herold

Walter N. Herold, *WTH*
Service Manager



Distribution: 5

TO: Homelite Branches and Chain Saw Dealers

SUBJECT: Dowel Pins added to Crankcase/Drivecase

DATE: June 14, 1966

Units Affected: All XL Chain Saws except XL700 and XL800

Service Parts now supplies

Crankcase A58799-D for XL's except XL500

Crankcase A59801-D for the XL500 only

and

Drivecase A58925-A for XL-12, Super XL-12, XL-15

Drivecase A59930-B for XLAO, XLAO Gear, XL500

Drivecase A59951-B for Super XL and Super XL-15

The drivecases incorporate two clearance holes and the crankcases have two press-fit holes for dowel pins to lock the two assemblies in perfect register.

The dowel pins (two are required) are Part No. 63621. We don't assemble these pins in the spare parts cases to permit use of these crankcases with old drivecases which are not yet drilled. The pins should be pressed into the crankcase so that .165" to .180" (4, 19 to 4, 57 mm or just under 3/16") sticks out.

Walter N. Herold
Walter N. Herold *WH*
Service Manager

nap



Distribution: 5

TO: All Branches and Chain Saw Dealers

SUBJECT: New "Red Dot" Fuel Tank Cap

DATE: 7/7/66

Units Affected: XL-500, XL-660**, XL-700, XL-800, XL-850

A new type fuel cap has been developed for the high powered XL series chain saws. The new cap works similar to the cap on late model automobile radiators which use a slightly pressurized cooling system. These radiator caps are designed to prevent the escape of coolant -- our new fuel cap prevents the loss of fuel, and it works in any cutting position. A "duck bill" valve in the cap allows air to get into the tank to replace fuel as it is used up. However, when pressure tends to rise inside the tank due to heating and expansion of the fuel the new cap seals positively against this pressure.

Naturally, with the fuel now under slight pressure (especially when the tank is full or nearly full and the engine is warm) care must be used in removing the cap. Follow these instructions:

When the tank is full and the engine is warm* don't remove the cap at all -- wait until the engine has cooled or until some of the fuel has been used up.

At all other times, loosen the cap 1/2 turn only and wait approximately 30 seconds to relieve pressure. When the cap is loosened in this fashion a specially machined groove in the threaded part of the cap is exposed to the atmosphere and allows proper venting to take place.

Here, now, are the part numbers:

New Fuel Cap (with the Red Dot)	A64140
Decal with Instructions	64144

The new cap will be factory installed on all XL-850's and on future production of XL-700's and XL-800's. The Service Parts cap will be shipped including the 64144 decal. This decal must be applied to the tank (on XL-700's and 800's) and to the air shroud (on XL-500's and XL-660's) when the new cap is put on these earlier saws.

Cont'd.

Do not use the Red Dot cap on other units because only the carburetors in the units listed are calibrated to work in conjunction with the new cap.



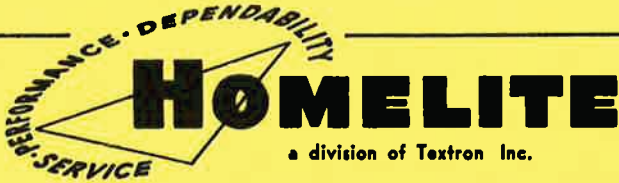
Walter N. Herold
Service Manager

nap

* To start a hot engine which has been standing for a few minutes it may be necessary to use the choke to overcome any vapor which may have formed in the carburetor.

** XL-660 is our Export Version of the XL-500 Chain Saw.

Leon's Chainsaw Parts & Repair
Do Not Sell or Reproduce



TO: All Branches and Chain Saw Dealers

SUBJECT: Breakerless Ignition System Testing

DATE: 8/17/66

Here is your copy of the test instructions for the new Wico breakerless ignition system used in the XL-850 chain saw.

If you need another copy, please write to Homelite, Port Chester, Attn. Technical Publications.

Walter N. Herold
Service Manager

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Leon's Chainsaw Parts & Repair
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BREAKERLESS MAGNETO TEST PROCEDURES

Instruments Required:

Volt - ohmmeter
Ignition Coil and Condenser Tester

1. Connect the spark plug lead to a test spark plug and crank the engine to check for magneto output. If there is no output, remove the fan housing.
2. Visual Inspection
 - a. Inspect the rotor for physical damage.
 - b. Inspect the stator for broken or frayed wires.
 - c. Check for a short between the coil core and the knife terminals connecting the coil primary lead to the lead from the switch box. All leads should be dressed as shown in Figure 1. All soldered connections should be sound.

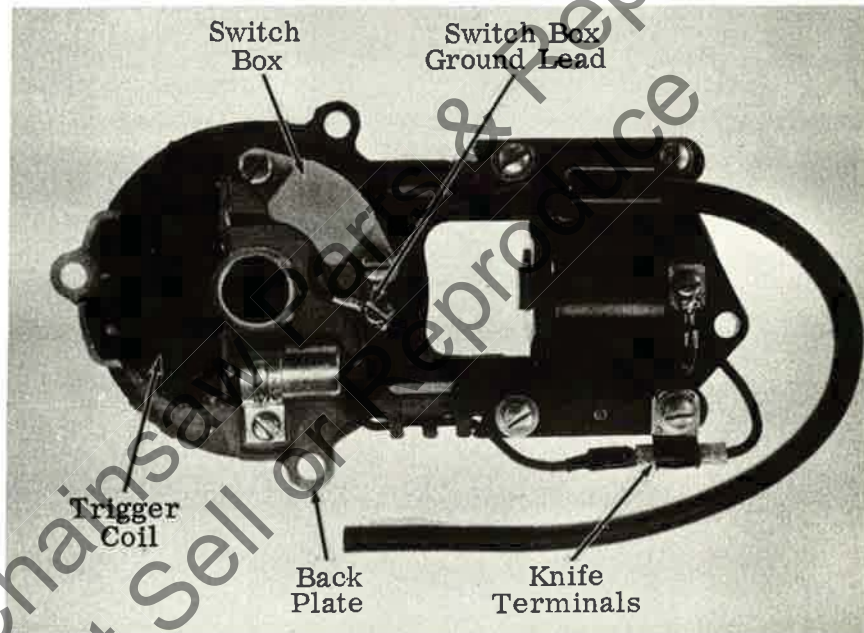


Figure 1

3. Ignition Coil Testing
 - a. Disconnect the knife terminals connecting the coil primary lead to the switch box lead.
 - b. With the primary lead disconnected, test the coil as described in the test instrument instructions.

Tester Readings

For The Graham Model 51

Maximum Secondary	10,000
Maximum Primary	1.7
Coil Index	65
Minimum Coil Test	20
Maximum Gap Index	65

For The Merc-o-Tronic

Operating Amperage	1.3
Primary Resistance	
Minimum	.6
Maximum	.7
Secondary Continuity	
Minimum	50
Maximum	60

- c. If the ignition coil is faulty, replace it.

4. If the coil tests satisfactorily, remove the rotor.
5. Switch Box Testing (Figure 2)
 - a. The coil primary lead must remain disconnected from the switch box lead (Step 3) and must be above ground (not touching any part of the back plate) during all testing.
 - b. Remove the condenser mounting screw and hold the condenser above ground with a piece of insulating material.
 - c. Disconnect the switch box ground lead by removing the small screw in the center of the back plate, to the lower right of the switch box.
 - d. Perform the following tests with an ohmmeter by connecting:

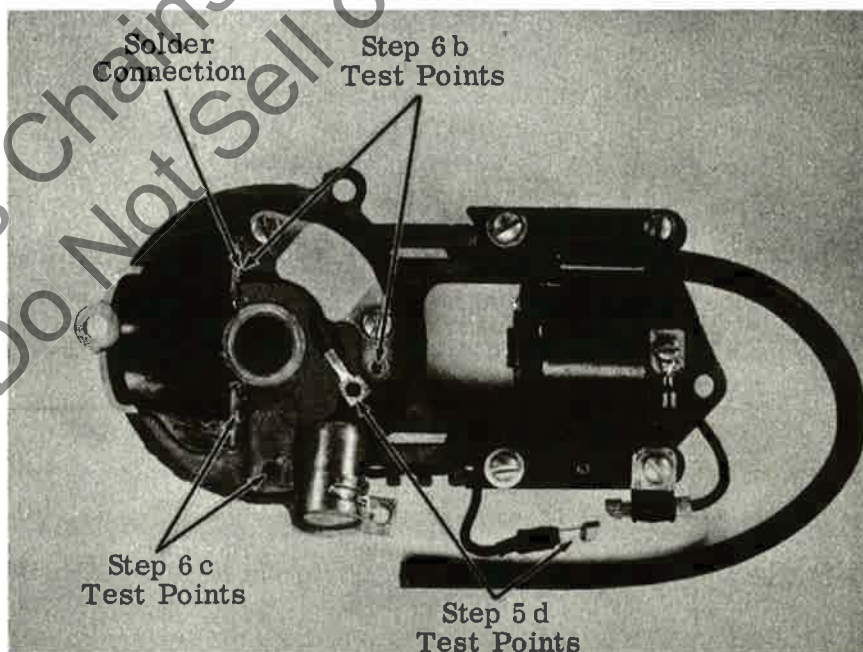
<u>Positive Meter Lead to</u>	<u>Negative Meter Lead to</u>	<u>Meter Reading</u>
Switch box knife terminal	Switch box ground lead	1 megohm - infinity
Switch box ground lead	Switch box knife terminal	5 - 25 ohms

CAUTION

Some ohmmeters may be wired to give indications opposite to those listed in the test instructions; simply reverse the lead connections at the meter, then follow the procedure.

- e. Replace the switch box and condenser assembly if the switch box does not test within these limits. Use a hot small-tipped soldering iron to separate the switch lead from the trigger coil.
- f. When installing a new switch box, use "Loctite" on the two mounting screws. To connect the switch lead to the trigger coil, strip 3/32" inch of insulation from the end of the lead. Tin the lead with 60/40 rosin core solder, then solder into the connector grommet on the trigger coil.

Figure 2



6. Trigger Coil Testing (Figure 2)
 - a. Two different types of trigger coils are in use with the breakerless magneto, but both are tested by the same procedures. Magnetos with 700 turn trigger coils are

identified by a dot of paint on the convex surface of the switch box. A second dot of paint is located between the two core mounting bosses on the switch box side of the back plate. Magnetos with 600 turn trigger coils do not have any markings.

- b. It is not necessary to disconnect the switch box lead from the trigger coil for testing. Use an ohmmeter as follows for both types of trigger coils:

<u>Positive Meter Lead to</u>	<u>Negative Meter Lead to</u>	<u>Meter Reading</u>
Switch box-trigger, coil connection	Ground (back plate)	0 - 100 ohms
Ground (back plate)	Switch box-trigger, coil connection	120 - 160 ohms

NOTE

As in Step 5, it may be necessary to reverse the leads at the ohmmeter to obtain the correct reading.

- c. Connect the ohmmeter between ground (back plate) and the unused solder point on the trigger coil just below the condenser base.

<u>Coil Type</u>	<u>Meter Reading</u>
700 Turn	22 - 24 ohms
600 Turn	14 - 16 ohms

- d. If the trigger coil is faulty, replace the back plate.

7. Condenser Testing

During all tests, the condenser must be insulated from the backplate and the switch box ground lead must remain disconnected and above ground.

- Push a straight pin through the condenser lead to provide a contact point since there is no terminal.
- Use the standard condenser test procedure to check for series resistance, short, and capacitance (.16 - .20 mfd).
- If the condenser is faulty, replace the switch box and condenser assembly.

8. Re-assembly Inspection

- Examine the back plate for sharp edges, especially where the switch box-coil primary lead passes through the wire channel hooks, and file smooth if necessary.
- Be sure that the "D" washer holding the plastic lead clamp to the core is positioned so that it will not cut the clamp.
- All leads should be dressed as shown in Figure 1, with the switch box-coil primary lead knife terminals positioned parallel to the coil core. The switch box lead knife terminal should be partially covered with insulating sleeving.
- Remove any foreign matter from the area between the trigger coil and the switch box and the condenser base.
- Tighten all screws.
- If there is any doubt about the condition of the rotor or the strength of its magnets, replace it with a new one. Be sure to remove the "keeper" plates covering the two magnet groups before installing the rotor.



TO: All Branches and Chain Saw Dealers

SUBJECT: Gear Case Venting

DATE: 10/22/66

Units Affected: All XP Gear Drive Saws

Starting with Serial No. 2188219, XP1130 saws are built with a new gear case venting system. The new system limits oil consumption by venting through the sprocket shaft instead of through the fixed hole used earlier.

At the same time, we have also eliminated the chain oil vent and cotter pin and are now using the new Chain Oil Filler Cap, Part No. A63717 which includes the "Duck Bill Vent".

When a new sprocket shaft is installed in an old gear case, we recommend that you plug or seal the old gear oil vent hole.

When a new gear case is installed, use the new sprocket shaft and the vented oil filler cap for the chain oil reservoir.

Please change your parts records as follows:

Gear Case	A63398-B*	supersedes	A63398-A
Sprocket Shaft	59277-A	supersedes	59277

*Use with A63717 Oil Filler Cap.

Walter N. Herold

Walter N. Herold
Service Manager

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