

PRECISE · DEPENDABILITY

HOMELITEA DIVISION OF
TEXTRON INC.

Distribution: List Nos. 5 and 8

TO: All Branches and Dealers

SUBJECT: Sprocket Keys and Clutch Spider Keys

DATE: 1/7/58

The material for the above mentioned keys has been changed from Key Stock to Spring Steel. In addition, the new keys will be heat treated for optimum strength and hardness.

The new keys are identified by "-1" following the part number:

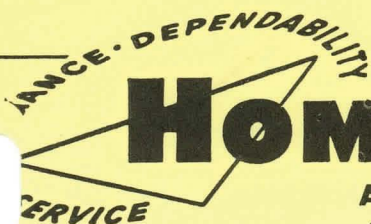
55225-1	Key	(Heat treated)	supersedes	55225
56076-1	Key	(Heat treated)	supersedes	56076

Please change your parts lists accordingly.



Walter N. Herold
Service Manager

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HOMELITE

A DIVISION OF
TEXTRON INC.

Distribution: List Nos. 5, 8

TO: All Branches and Dealers

SUBJECT: Gear Ratios in Homelite Gear Drive Saws

DATE: 2/28/58

GROUP I

Model 17, 4-20 and 5-20 chain saws and 6-22 saws below S/N 758245 are built with

AA-55068-2	Driven Gear	75 teeth
AA-55086	Drive Gear	21-teeth

Giving a gear ratio of 3.57:1

GROUP II

Model 6-22 chain saws above S/N 758244 and all seven digit serial number 6-22's are built with

A-56154	Driven Gear	64 teeth
A-56158	Drive Gear	32 teeth

Giving a gear ratio of 2:1 drive

Since some customers may want to convert saws in Group I to 2:1 gears and some others may want to get 3.57:1 gears for late 6-22's, Homelite has made available the conversion parts listed in the right hand columns below:

To convert saws in Group I to 2:1 drive

<u>Remove</u>		<u>Install</u>
55035	Bearing	56209 Bearing
AA-55068-2	Driven Gear (75 teeth)	A-56154 Driven Gear (64 teeth)
AA-55086	Drive Gear (21 teeth)	A-56158 Drive Gear (32 teeth)

To convert saws in Group II back to 3.57:1 drive

<u>Remove</u>		<u>Install</u>
A-56154	Driven Gear (64 teeth)	AA-55068-2 Driven Gear (75 teeth)
A-56158	Drive Gear (32 teeth)	*A-56135 Drive Gear (21 teeth)

*A-56135 Drive Gear has a special large bore to fit over part No. 56133 Bearing which remains on the Crankshaft.

Walter N. Herold
Walter N. Herold
Service Manager

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HOMELITE

A DIVISION OF
TEXTRON INC.

SERVICE MEMO NO. 185-CS

DSM NO. 91

Distribution: List Nos. 5 & 8

TO: All Branches and Dealers

SUBJECT: Fuel Cap Valves, All Chain Saws

DATE: 3/17/58

A year and a half ago we sent out the attached memo (No. 114-CS) to explain to Homelite personnel the difficulties which were encountered as a result of the introduction of new fuel additives. We also described the remedy which can be applied in the field.

We have just learned that even some of the new Thiokol valves close too tightly after they come into contact with the fuel.

As a result we have set up, at our Gastonia plant, a 100% inspection program. All fuel cap valves are now soaked in fuel and then tested to make sure that they open under the application of 1.5" Hg vacuum. Only chain saws with these 100% inspected valves are being released for shipment.

4-20's	from Serial No.	0792332
4-20A's	from Serial No.	0792303
EZ-6's	from Serial No.	0788286
EZ-6A's	from Serial No.	0786789
6-22's	from Serial No.	0787491 are all checked

Saws below these serial numbers may or may not run lean as a result of the condition described above.

If a saw does run lean, check the operation of the fuel cap valve by running the saw without the cap. If the saw runs well without the cap, but runs lean with the cap installed tightly, drill a #60 hole (.040" diameter) through the outer groove of the valve as shown in Service Memo No. 114-CS.

Walter N. Herold
Service Manager

Distribution: List No. 5, 8, 9

**HOMELITE****A DIVISION OF
TEXTRON INC.****TO:** All Dealers and Homelite Personnel**SUBJECT:** Cable Ends (Caps and Bodies) for Electric Pruner
Cable **DATE:** 4/23/58

We specify #16 Gauge 3 wire cable for the Electric Pruner and we listed Homelite Part No. 27729 cap and Part No. 29593 body to make up complete assemblies.

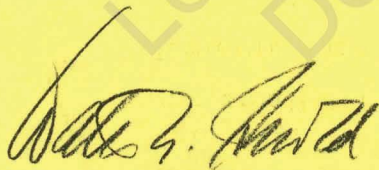
The stress relief cable clamps on this male cap, (Homelite Part No. 27729) and the female body (Homelite Part No. 29593) do not properly close on the thin #16 gauge cable.

Fortunately Harvey Hubbell does supply 10 Amp 3 wire caps and bodies with smaller stress relief clamps -- and Homelite stocks these parts as listed below:

Harvey Hubbell #7572
Male Cap, 3 wire 10A
with small clamp
Homelite #33595

Harvey Hubbell #7555
Female Body, 3 wire
10A with small clamp
Homelite #74119

Please make the correction in your EP-1 Parts List.



Walter N. Herold
Service Manager

PRECISE DEPENDABILITY
HOMELITE

A DIVISION OF
TEXTRON INC.

Distribution: List Nos. 5, 8

TO: All Branches and Chain Saw Dealers

SUBJECT: Fuel Outlet Strainer

DATE: 5/2/58

Homelite chain saws are now equipped with a new Fuel Outlet Strainer Assembly, Part No. A-56200.

The new assembly uses the same felt filter (Part No. 74374) as the older assembly. The strainer body, however, is new. It is die cast and girdled by two rubber bumpers, Part No. 56196. The felt filter is held in place by a brass nail which is located under the front rubber bumper; the circular spring is no longer required.

Because of the larger outside diameter of the new assembly, it must be removed and installed through the fuel filler cap opening; it does not fit through the outlet fitting hole.

Please mark your parts lists as follows:

A-74375 Strainer Assembly: Use A-56200 after stock of A-74375 is used up.



Walter N. Herold
Service Manager

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PRECISION • DEPENDABILITY

HOMELITE

SERVICE

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TEXTRON INC.

Distribution: List Nos. 5, 8

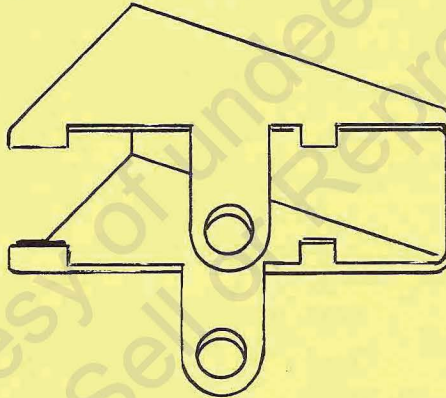
TO: All Branches and Chain Saw Dealers

SUBJECT: New Exhaust Cap (56396)
New Heat Damper (55506-A)

DATE: 7/8/58

A new and improved method for assembling the muffler on 7-19 and 7-21 chain saws has gone into effect.

1. The four 6-32 tapped holes in the cylinder exhaust flange have been eliminated -- they are no longer needed. The cylinder part number changes to 56182-A.
2. A new exhaust cap Part No. 56396, made of steel, replaces Part No. 55507.



The new cap is held by the same two screws which fasten the heat damper.

3. To provide proper clearance the heat damper casting has been revised. Heat damper Part No. 55506-A must be used with the new exhaust cap.

The new parts can be installed on saws now in the field, provided these saws are equipped with a cylinder which contains the 10-32 threads for the two heat damper screws.

Walter N. Herold
Service Manager

PRECISION • DEPENDABILITY
HOMELITE
SERVICE

A DIVISION OF
TEXTRON INC.

Distribution: List Nos. 5, 8, 9

TO: All Homelite Branches and Dealers

SUBJECT: How NOT to let fuel systems "fuel" you.

DATE: 7/17/58

Do you know how a saw can run and even run rich with both idle and main adjusting screws turned in tight?

Do you know why fuel doesn't spill out of the fuel tank air vent when the saw is turned upside down?

Do you know how the condition of the air filter affects carburetor adjustments?

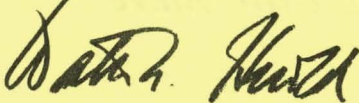
If you don't know the answers now, you will -- along with the answers to any other fuel supply question -- after reading the following pages and studying the diagrams.

The attached material will take you step by step through a chain saw fuel system. You'll see the route fuel takes when traveling from fuel tank to combustion chamber. You'll learn what can go wrong and what to do to discover the fault and correct it. You'll recognize "the signs" and how to go about making repairs or adjustments quickly and effectively. In short, by studying the following pages carefully, you can become an expert on chain saw fuel systems. As a result, you'll make more money because customers will have confidence in your ability and because you'll be able to make repairs without wasting valuable time.

After you've read this material, you'll be able to use the attached Fuel Supply Trouble-Shooting Chart as an effective reminder of what you have learned.

This trouble-shooting chart makes it easy to locate and fix trouble in the fuel supply system.

Send me 20¢ in coins or stamps for each chart you need. We'll mail your chart within a few days after receipt of your order.



Walter N. Herold
Service Manager

Attach.

HOMELITE CHAIN SAW ENGINE FUEL SUPPLY

--- HOW IT WORKS ---

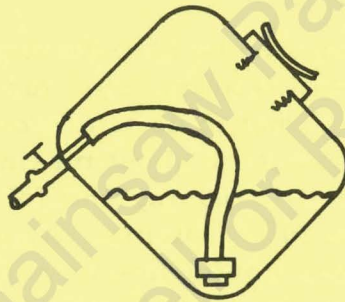
July 1958

The "fuel" in our Chain Saw engines is a mixture of gasoline, oil and air. First we mix 1 part oil with 10 2/3 parts gasoline and pour it in the tank. The only other problem then is this:

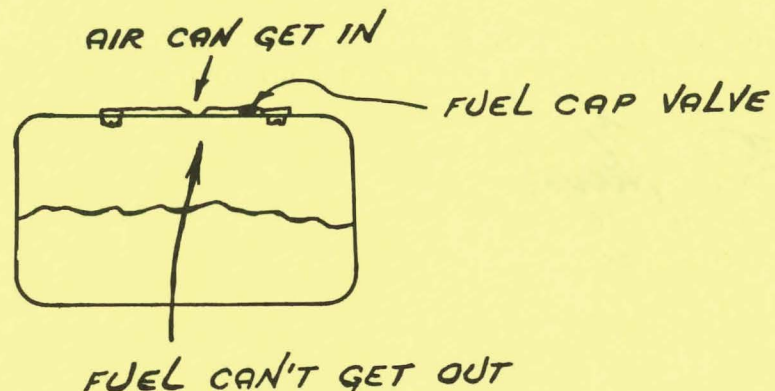
How do we get this mixture out of the tank (in any position) -- through the fuel line -- through the fuel pump -- into the carburetor (where the rate of flow is controlled and where it is mixed with air) -- into the crankcase -- into the combustion chamber -- so we can burn it to make the crankshaft turn (at all engine speeds) ?

Let's take the questions one at a time .

- 1) The fuel tank is simply a can with a flexible sleeve (tube) inside. This sleeve has a weighted filter on the end which always seeks the lowest point where the fuel is.



Now it's an interesting fact that we can't get fuel out of the tank, unless we let air in. It works just like your picnic cooler -- you have to loosen the cap before it pours well. In our fuel tanks we have the added problem that we don't want to spill any fuel when the engine is turned upside down. We accomplish this "venting" as it is called through our fuel cap valve.



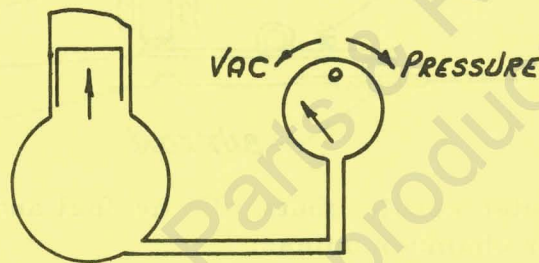
Remember this valve -- later we'll mention it again in the trouble shooting section.

What happens if the flexible fuel line is split -- or if the fuel outlet fitting is loose in the tank? The answer is "nothing, as long as the split line or the loose connector is covered by fuel"! If the line or fitting is not covered by fuel, AIR is sucked into the carburetor, (instead of fuel) the engine will starve -- run lean.

- 2) Now, on to the next step: How do we move the fuel from the tank to the carburetor?

We pump it.

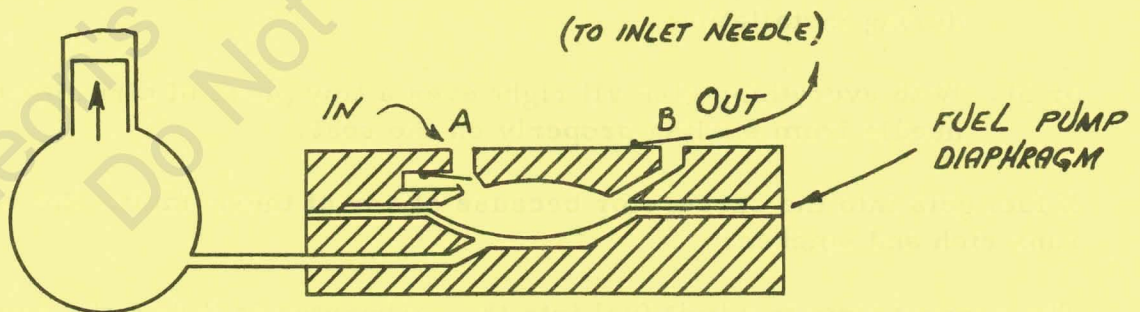
The Piston and the crankcase form a very handy pump: When the piston goes up we create a vacuum (suction) in the crankcase --



and when the piston comes down we create pressure in the crankcase.

In practice, a fitting and actuator or pulse line connect the crankcase to the FUEL PUMP transmitting the pressure changes to the fuel pump diaphragm, moving it up and down.

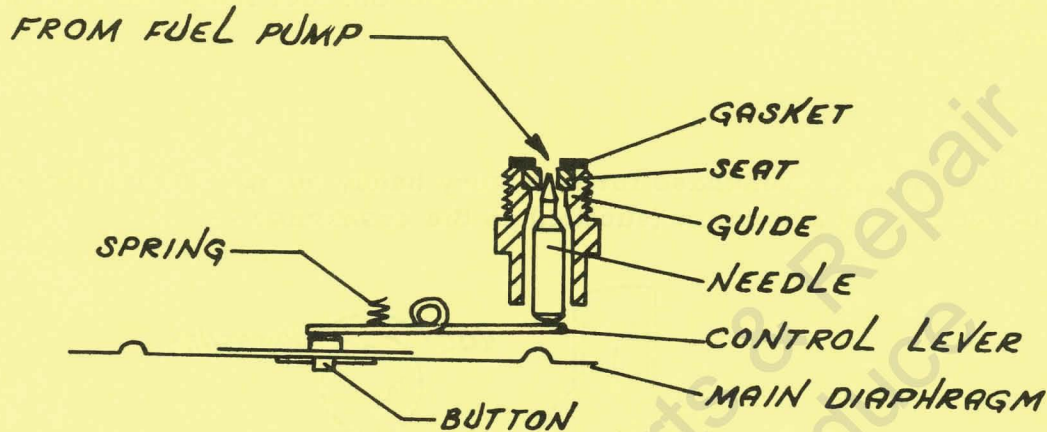
Like this:



The fuel pump diaphragm moves up and down because of the pressure changes transmitted from the crankcase. In our sketch, when the piston goes up, the fuel pump diaphragm is pulled down and the fuel is drawn in from the tank through flapper valve A.

When the piston comes down, the fuel pump diaphragm is pushed up. Flapper valve A closes and the fuel in the Pump chamber is forced through valve B toward

- 3) the Inlet Needle and Seat.



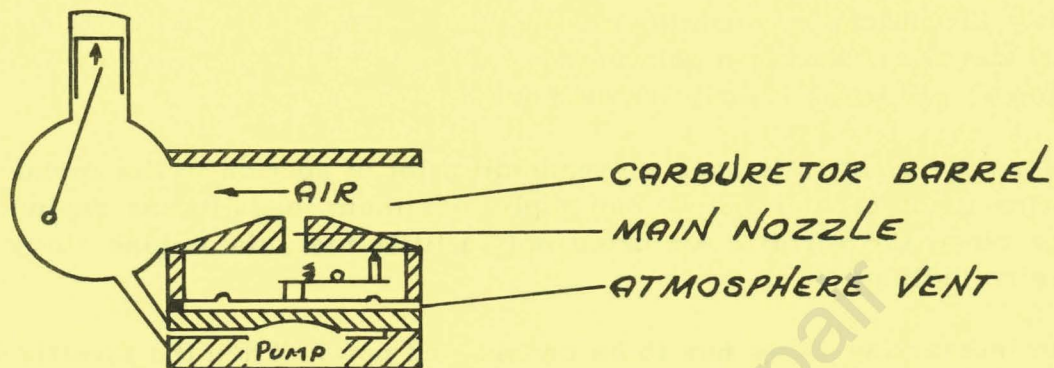
Normally the inlet needle shuts off the fuel and allows no flow into the main carburetor chamber unless:

- 1) The needle stays open from dirt, or because the lever binds on the fulcrum pin or because the control lever is adjusted wrong, or the main diaphragm gasket is on the wrong side
- or 2) because fuel leaks around a spot which should be sealed -- for instance a "shrunk" seat, or a leaky gasket, or bad threads in the body or simply because the guide isn't tightened down well enough during installation.
- or 3) With everything else all right even a tiny piece of dirt may keep the needle from sealing properly on the seat.

If fuel gets into the carburetor because of any of these faults the engine runs rich and smokes.

The correct time to admit fuel into the carburetor is "when the engine calls for it"!

Let's go back to our "crankcase pump".



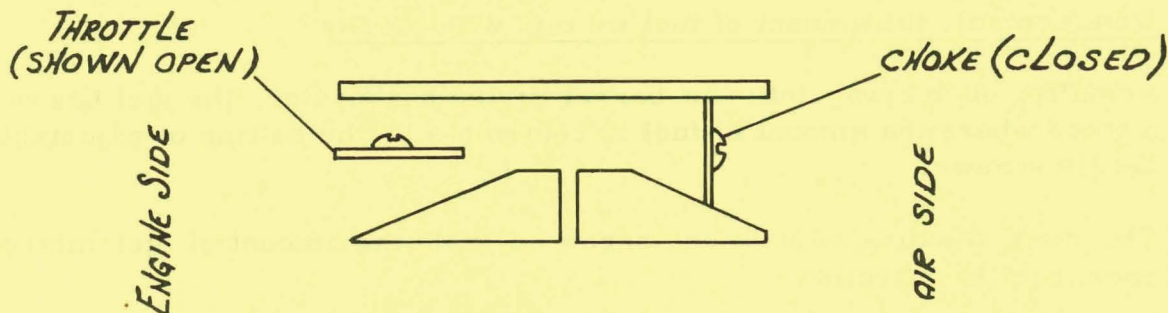
When the piston goes up we not only actuate the fuel pump -- we also pull AIR into the engine from the outside, through the air filter and through the carburetor barrel.

The carburetor barrel is narrower near the middle. We call this point the VENTURI. A hole is drilled from the venturi into the carburetor main diaphragm chamber. As the air rushes over this hole (called main nozzle) fuel from the main chamber is pulled up the nozzle to mix with the air just like in any old flit gun -- that is if there is any fuel in the main chamber.

If there is not enough or no fuel available, outside air (which constantly pushes on the bottom of the main diaphragm through the "Atmosphere Vent") lifts the main diaphragm. Its button pushes up on one end of the diaphragm control lever and the other end is lowered. This "frees" the normally closed inlet needle, and fuel - which is waiting under pressure from the fuel pump - enters the main chamber. (You can see now why an engine doesn't start with the first pull -- you have to crank once or twice to get fuel into the carburetor.)

Now that we are sure that we have fuel in the main chamber of the carburetor, we want to use a certain amount of this fuel, mix it with air in just the right proportion, and introduce it into the crankcase. What controls the flow of air?

In the barrel of the carburetor are two "doors".

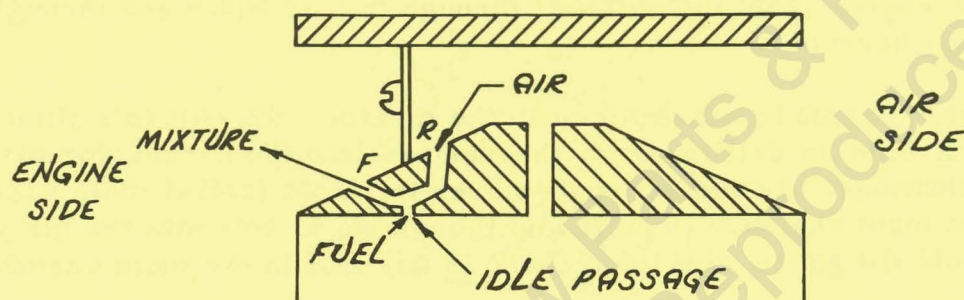


The one on the engine side is called the throttle shutter (or butterfly). The

one on the air side is the choke shutter. When we "close the choke" we shut off almost all outside air and pull mostly fuel. That is the position we use for starting a cold engine. As the engine warms up we "open the choke" and leave it open for all normal running.

When the throttle is open we transmit a lot of suction to the carburetor and draw a lot of fuel and we can apply maximum loads to our engine. When we close the throttle we draw only a little fuel, the engine slows down -- we're "idling".

An interesting thing has to be considered now. When the throttle is closed we can no longer draw fuel from the main nozzle -- it is closed off from the engine by the throttle butterfly. We need an IDLE FUEL PASSAGE.



The idle passage looks like the sketch above.

The "FRONT DISCHARGE PORT 'F'" is on the engine side of the throttle shutter. The "REAR DISCHARGE PORT 'R'" is on the air side of the throttle shutter.

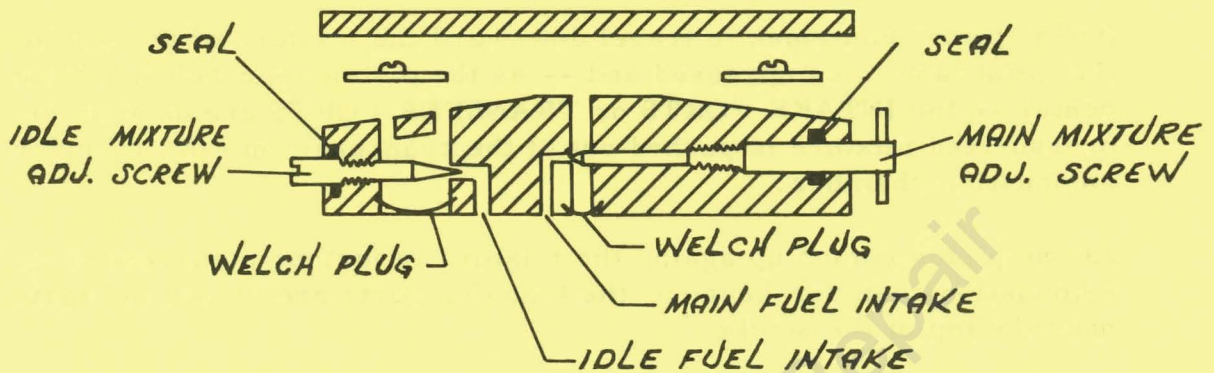
All the suction now is on Port "F". Since "F" is connected to the AIR by way of the rear Port "R" and to the main chamber, air is pulled toward "F" from the air side of the throttle shutter. Halfway on its journey toward "F" it is mixed with fuel from the main chamber and finally this mixture is vaporized at "F" as it is drawn into the crankcase.

From the above it is (reasonably) clear that the air flow into the engine is controlled by the throttle shutter (the choke is used only during starting). What controls the amount of fuel we mix with the air?

Actually, on its way into the barrel of the carburetor, the fuel has to pass a place where the amount of fuel is controlled by the setting of adjustable needle screws.

The main mixture adjustment screw controls the amount of fuel mixed for open throttle operation.

The idle mixture adjustment screw controls the amount of fuel mixed for no load and idle operation.



The further in you turn each adjustment screw, the less fuel is mixed with the air and the "leaner" the engine runs.

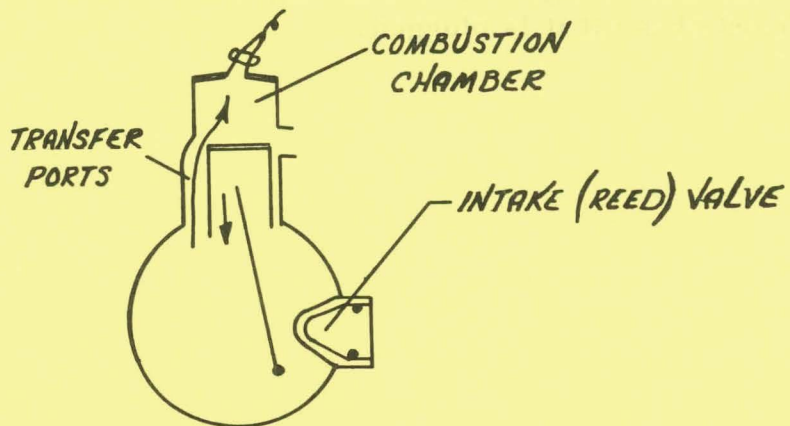
The two Welch plugs are also important. They seal the extension of the holes which have to be drilled to produce the idle and main passages -- but note that a leaky Welch plug would permit unwanted fuel to reach the barrel. The engine would run rich, even with the adjustment screw fully turned in.

Also note that the adjustment screws must be sealed in the body. Otherwise, air would be drawn into the passages which are supposed to carry fuel only!

4) One item we haven't mentioned yet.

What keeps the engine from "blowing back through the carburetor"? We said that air and fuel is drawn into the crankcase when the piston goes up. Why isn't something pushed out of the crankcase when the piston comes down?

Well, there is, but it is pushed out the transfer ports, not back through the carburetor.

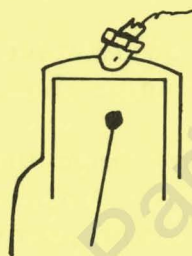


As the piston travels downward the "REEDS" on reed valve equipped

engines are pushed closed by the internal crankcase pressure. (On rotary valve engines 5-30, 7-29, etc. the rotary valve closes off the intake.)

As the piston continues to travel downward the mixture of air and fuel in the crankcase is compressed and -- as the piston approaches bottom dead center -- the INTAKE PORTS or TRANSFER PORTS are uncovered. The pressurized mixture is pushed out of the crankcase into the cylinder combustion chamber.

As the piston comes up again, the mixture is further compressed in the combustion chamber because the transfer ports are closed off again, and near the top of the stroke



we fire the charge and start all over again.

Trouble Shooting

To locate Fuel Supply Trouble first determine whether the engine runs rich or lean. (If it smokes a lot or "four cycles" it is rich --- if it's so rich that it stalls it will belch smoke upon restarting. If it runs lean you won't have power for a heavy cut, if idles lean it will be difficult to accelerate, it will have a tendency to "ride up" and stall --- and you have to choke it to get it restarted.) Once you know what condition you are trying to correct proceed logically! Start at the tank and check at each point along the way. Don't start dismantling the carburetor or changing adjustments wildly. Know what you do and why you do it -- and don't forget that the air cleaner is part of the system and can act like a closed choke if it is plugged.

TROUBLE SHOOTING CHAIN SAW ENGINE

FUEL SUPPLY

<u>TROUBLE</u>	<u>CAUSE</u>	<u>REMEDY</u>	
<u>RUNS RICH</u> (From too much fuel)	Main adjustment screw too far open (runs rich with open throttle)	Adjust under load	
	Idle adjustment screw too far open (runs rich on idle, belches smoke when you accelerate)	Adjust at idle	
	Control lever set too close to main diaphragm button	Adjust lever flush with body	
	Main diaphragm gasket on fuel side of 5-CS carburetor	Move gasket to air side	
	Dirty or stuck open inlet needle and seat	Clean or replace assembly - Use new gasket - Reset lever	
	Shrunk inlet seat	Replace assembly - Use new gasket - Reset lever	
	Leaky <u>main</u> Welch plug (saw runs with main needle shut off)	Replace Welch plug	
	Leaky idle Welch plug (saw runs with idle needle shut off)	Replace Welch plug	
	(From lack of air)	Choke closed	Open choke
		Air cleaner plugged	Clean or replace
<u>RUNS LEAN</u> (From lack of fuel)	Fuel shutoff closed	Open	
	Dirty fuel filter in tank	Replace	
	Fuel cap vent inoperative	Replace or repair	
	Flexible fuel line split	Replace	
	Loose fuel outlet tube or fitting	Replace or tighten	
	Plugged pump line or pump passage	Clear actuator passage	
	Leaky fuel pump	Check pump diaphragm - check cover for flatness - tighten all screws evenly	
	Dirty strainer in carburetor	Clean	
	Idle needle closed too far (engine won't accelerate)	Open by 1/8 turns	
	Main needle closed too far (engine lacks power)	Open by 1/8 turns	
	Main diaphragm not vented to atmosphere	Clean atmosphere vent	
	Inlet needle stuck closed	Free	
	Control lever set too far into body	Adjust (flush with body)	
	Old style (flat) main diaphragm	Replace with convoluted diaphragm	
	Leaky main diaphragm	Replace	
	* Main diaphragm gasket assembled wrong	Gasket belongs on fuel side on all carburetors except Brown 5-CS	
	Plugged idle passages	Remove idle Welch plug, blow clear, replace Welch plug	
	<u>Lack of Compression</u> (This weakens the pumping action in the crankcase)		
	Scored cylinder or piston	Replace	
	Wrong piston rings	Install correct size	
	Loose cylinder nuts	Tighten	
	Leaky intake valve	Replace or repair	
	(From too much air)	Note: Any air added to the fuel after it leaves the nozzle causes lean running and overheating	
		Worn throttle shaft	Replace shaft, bushings or both
		Air leak around adjusting screws	Use new packing or O ring
		Leaky reed adapter gasket	Tighten screws
		Porous crankcase	Replace
Worn crankcase seal (rare)		Replace	

* Check applicable carburetor assembly drawing for proper location

Distribution Lists No. 5, 8

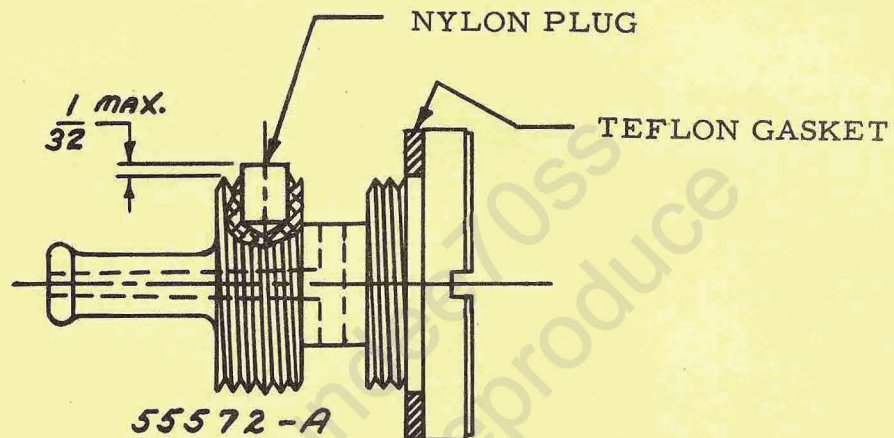
PERFORMANCE · DEPENDABILITY
HOMELITE
 SERVICE

A DIVISION OF
 TEXTRON INC.

TO: All Branches and Chain Saw Dealers

SUBJECT: Fuel Outlet Fitting, Part No. 55572-A

DATE: 8/7/58



The sketch above shows the new Fuel Outlet Fitting #55572-A which supersedes 55572 in Homelite Direct Drive Chain Saws. The Nylon Plug is new and has been added to provide a seal on the inner thread.

When the saw is used in the "Right-Hand Felling" position the outlet fitting is not covered by fuel -- instead it is surrounded by the air in the fuel tank. If part of this air is drawn around the threads it enters the fuel supply line, leans out the mixture and may stall the engine. You may think that the carburetor has "gone out of adjustment".

The nylon plug prevents this difficulty. Use Outlet Fitting No. 55572-A for all replacements.

Walter N. Herold
 Walter N. Herold
 Service Manager

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HOMELITE
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A DIVISION OF
TEXTRON INC.

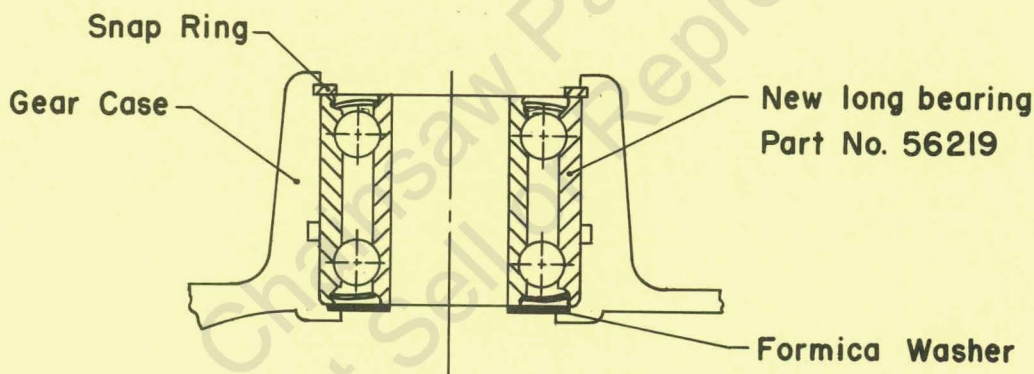
TO: All Branches and Chain Saw Dealers

SUBJECT: Sprocket Shaft Bearing

6-22 and 7-21

DATE: 8/20/58

We have been able to procure a single, long Double Row Ball Bearing to replace the narrow ball bearing and roller bearing combination used formerly to support the sprocket shaft in 6-22 and 7-21 chain saws.



The new bearing carries part number 56219. It is permanently lubricated and sealed; for this reason it is no longer necessary to use Lubriplate in the groove of the Gear case.

After you use up your stock of 72040 ball bearing and 56073 roller bearings, use new bearing 56219 for all replacements.

Walter N. Herold
Service Manager

PRECISE DEPENDABILITY

HOMELITE

SERVICE

A DIVISION OF
TEXTRON INC.

Distribution: List Nos. 5 & 8

TO: All Chain Saw Dealers

SUBJECT: New Drive for 5-30 Chain Saws

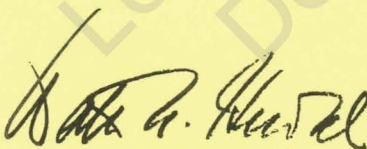
DATE: 10/1/58

(BRANCHES PLEASE NOTE: This is Dealer version of Service Memo No. 207-CS)

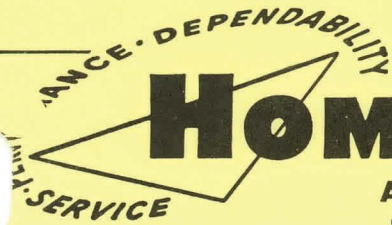
The new sprocket, belt and pulley which we introduced with the 8-29 chain saw is now used on the 5-30 saw also.

5-30 chain saws with serial numbers above 819682 are built with the new Clutch Drum and Sprocket, Part No. A-77284, the new Pulley Sprocket, Part No. 77282 and the new Belt, Part No. 77283.

This new belt has more teeth than the Part No. 73216 belt, and the new teeth are "involute" shaped. This new design means that a greater number of teeth are constantly driving and the new tooth design greatly reduces friction during entry and exit of each tooth.



Walter N. Herold
Service Manager

**HOMELITE**A DIVISION OF
TEXTRON INC.

Distribution: List Nos. 5, 8

TO: All Homelite Branches and Chain Saw Dealers

SUBJECT: Air Filters

DATE: 9/11/58

The Part No. 56464 filter (Wix) which is used in the ZIP is the same size as Part No. A-55533 (Skinner) which is standard equipment in the EZ, EZ-6, 7-19, 6-22 and 7-21 saws.

The Skinner filter is sturdier; the Wix on the other hand, has a larger filtering area. Wix filter does not become clogged as quickly from fine sawdust -- but it can't be cleaned as easily or as often as the Skinner filter.

We are mentioning these facts because there have been some requests for a "better" filter for our big production saws. The customers who asked for "better" filters are usually West Coast loggers cutting Fir and Redwood with thick bark which produces a great deal of very fine sawdust. These loggers are not really asking for a better filter (one which would have smaller holes or pores and which would clog faster) instead they want a filter which does not clog as quickly as the A-55533, but still keeps the dust out.

The Wix filter fulfills these requirements and we suggest that it may be sold to loggers who run into this Fine Sawdust Problem. These men should be told that the Wix filter is more easily damaged by twigs and branches and also, if damaged, dust will go through and quickly wear the engine parts. They should know how to clean the filters.

Tapping the folds of the filter with a screw driver blade is probably the easiest way to clean it in the woods. The filter may also be rinsed in clear solvent or plain gasoline -- but it should be completely dry before it is reused.

Walter N. Herold
Service Manager

Distribution: List No. 5

RANGE · DEPENDABILITY
SERVICE**HOMELITE**A DIVISION OF
TEXTRON INC.

TO: All Homelite Branches

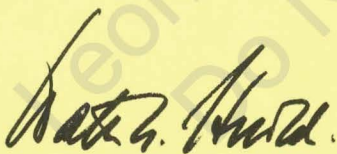
SUBJECT: Spiked Bumpers for ZIP Chain Saws

DATE: 10/6/58

A substantial amount of interest has been shown by customers who desire to install spiked bumper Part No. 55632 on ZIP chain saws.

To fasten this spiked bumper to the crankcase, the crankcase must be equipped with two Part No. 72276 self-tapping Taploc inserts (these inserts are no longer installed by the factory but we'll carry them in Service Parts).

The spiked bumper is a refinement which is standard equipment on our "professional" models. If you or any of your dealers need to add this accessory to ZIP chain saws for any customer, it can be done by installing the two Taploc inserts in the cored holes. There should be an added charge for this accessory and its installation.



Walter N. Herold
Service Manager

kav

Distribution: List No. 5, 8



HOMELITE

A DIVISION OF
TEXTRON INC.

TO: All Homelite Branches and Chain Saw Dealers

SUBJECT: Sprocket and Drum for Direct Drive Saws

DATE: 10/24/58

A new Sprocket and Drum assembly Part No. A-56377 will take the place of Sprocket and Drum Part No. A-55662 after existing stock is used up.

The new assembly uses an extruded sprocket which will be silver soldered to the drum. Special "driving notches" in the drum which mate with driving projections on the sprocket assure positive transmission of power.

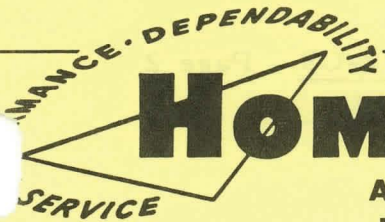
Please mark your records as follows:

A-55662 Sprocket and Drum: Use A-56377 after present stock is used up.

A handwritten signature in cursive script, appearing to read 'Walter N. Herold'.

Walter N. Herold
Service Manager

pc



Distribution: List Nos. 5, 8

A DIVISION OF
TEXTRON INC.

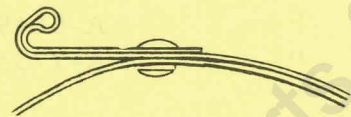
TO: All Branches and Chain Saw Dealers

SUBJECT: New Recoil Spring and Ball Drive for Homelite
Chain Saws.

DATE: 10/30/58

A new Recoil Spring, Part No. 56497, will be used in place of 71470-A in Homelite Production Chain Saws:

The outer hook of the new spring is formed "double", as shown here.



Using this method of construction has two advantages: The loop is stronger; and the last coil of the spring forms a permanent retainer or band so that the spring cannot jump out of place or uncoil suddenly.

The inner hook of the new spring is coiled tightly, as a loop,

like this!



Being coiled so tightly, the inner loop becomes tremendously resistant to deformation. The design does away with the need for the driving pin in the starter pulley: now the spring itself engages the Hub which has been redesigned to fit the new contour. During cranking, the innermost turns of the spring coil tightly around the hub, keeping the spring positively engaged. Yet, in the reverse direction, the inner loop offers no resistance to rotation because it is gently cammed out of the way by the smooth surface of the hub.

To accommodate the double thickness of spring outer loop we have slightly widened the slot in the spring housing which is part of the Screen and Bracket Assembly.

With only a slight amount of forcing, the new spring may be installed in older spring housings provided the following changes are made too:

- 1. Remove the pin from the starter pulley:

AA-55223-A	less	pin	becomes	55362-1
A-55658	less	pin	becomes	55597-1

2. Install new Hub on Ball Drive Assembly:

Instead of A-56166	use	A-56517	Note a
" A-55342	"	A-56518	" b
" A-56181	"	A-56519	" c
" AA-72586	"	A-56520	" d

or

3. Use a whole new Ball Drive Assembly:

Instead of A-56003	use	A-56489	Note a
" AA-55211	"	A-56491	" b1
" AA-55211-1	"	A-56527	" b2
" A-56096	"	A-56493	" c
" AA-72308-1	"	A-77339	" d

Note a Used on Clockwise engines with High Hubs (6-22, 7-21).

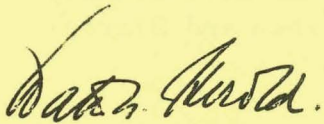
b Used on Clockwise engines with Short Hubs (17, 4-20, 5-20).

b1 Used on Clockwise engines with Short Hubs and small Crankshaft (17, 4-20).

b2 Used on Clockwise engines with Short Hubs and thick Crankshaft (5-20).

c Used on Counterclockwise engines with Long Hubs (EZ-6 above Serial No. 739838, 7-19).

d Used on Counterclockwise engines with Short Hubs (26, 5-30, 7-29, 8-29, EZ and EZ-6 below Serial No. 739839).



Walter N. Herold
Service Manager

kav

PRECISE DEPENDABILITY

HOMELITE

SERVICE

A DIVISION OF
TEXTRON INC.

Distribution: List No. 5, 8

TO: All Homelite Branches and Chain Saw Dealers

SUBJECT: Fuel Tank and Mounting:
Gear Driven Saws

DATE: 11/4/58

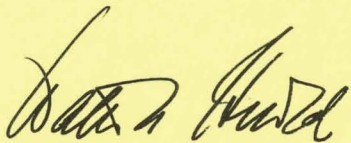
We have reason to believe that breakage of fuel tanks on gear driven saws and loosening of the top holding screw are closely connected with the way the fuel tank is anchored to the crankcase by means of the bottom mounting pad.

To eliminate both complaints---the top screw loosening, and the breakage of the fuel tank castings---we have made the following improvements:

- 1) The fuel tank casting has been made stronger. A reinforcing rib has been added to the bottom mounting pad and, in addition, the floor of the tank has been made thicker to give it greater strength.
- 2) The method of fastening the fuel tank to the crankcase has been improved: Two self-tapping studs, (Part No. 56470) are inserted into the crankcase. The fuel tank mounting bracket fits over these studs and is locked in place with two 1/4" lockwashers (Part No. 84020) and two heavy 1/4-28 flex locknuts (Part No. 81130).

The new studs and the heavy flex locknuts will hold the fuel tank tight! This method of assembly, together with the strengthened casting will prevent breakage and, at the same time, the stresses on the top holding screw will be relieved so that it should no longer present any problem.

The new fastening parts may be used on all saws, except that a standard stud (Part No. 55871) should be substituted for 56470 when the crankcase is already tapped.



Walter N. Herold
Service Manager

my



HOMELITE

A DIVISION OF
TEXTRON INC.

TO: All Homelite Branches

SUBJECT: Brown Carburetors
Inlet Needles and Seats - Repair Kits

DATE: 11/11/58

For the past two weeks Jim Ransom has been traveling with a Brown Engine Products representative visiting not only branches but dealers as well. This is part of our continued program to find out why we are still getting some complaints and why there is still some resistance against Brown carburetors.

Jim, in one of his reports, writes: "Many dealers still have old style Needles and Seats A-74996-A in stock for the CS carburetor; and every repair kit has the old style seat!" Obviously we are not helping the customer, the dealer, or ourselves if we permit this situation to continue!

We know that you try to contact each dealer at least once a month. This gives you an excellent chance to take care of this matter; don't let any more time go by!

Do this: Contact each dealer---check his stock of A-74996-A---check his repair kits---and remove from stock all old needle and seat assemblies! Also throw out any flat main diaphragms which may still be around! Make out a replacement order to get good, up-to-date parts into the dealers stock. Clean house---don't limit or hurt your sales by not taking advantage of all the latest improvements and parts!

This is what you should know about the parts involved:

1) Inlet Needle and Seat Assemblies:

Brown Engine Products makes two assemblies

- a) A-74996-A for CS Carburetors and
- b) A-77327 for CP Carburetors

The needle in A-74996-A is 1/64" longer than the needle in A-77327. But the gasket in A-74996-A is 1/64" thinner than the gasket in A-77327. The overall length of the two assemblies is identical. A few people prefer the thinner gasket---and for the 1-CS & 5-CS carburetors we can use it because the hole for the seat in those carburetors has a smooth, even floor. For the CP carburetors we need the thicker gasket to insure a proper seal, because the floor for the seat just isn't that even or smooth.

All A-77327 needle and seat assemblies are of the very latest design. The guides are bored to .185", the seats themselves are made of Dupont Viton-A, an extremely stable material with less than 5% swell or shrink.

(See other side)

Most of the A-74996-A assemblies in the field are also of the latest construction. The boxes are stamped .185" to show the "bore size" and a "V" stamped on the box indicates Viton-A. There is a possibility, however, that the part number label, which we glue on, may have covered up one or the other of these stamps. But if you see a "V", you know, that the assembly is all right!

2) Main Diaphragms:

They must all be convoluted. They are stocked under Part No. A-77236 for the 1-CS carburetor and under Part No. A-77250 for the 5-CS carburetor. They are also stocked as part of Repair Kit 77033 for the 1-CS and 77255 for the 5-CS carburetor. Check diaphragms under all four part numbers: If you find any old, flat ones ---throw them out! Don't worry about the main diaphragms, repair kits or needles and seats for CP carburetors. Again, they are all of the latest style.

As an additional safeguard and to make matters as simple as possible, we are not ordering any more A-74996-A assemblies from Brown. In the future, all Brown carburetors, all Spare Parts Needle and Seat Assemblies and all Repair Kits will use the same part, namely A-77327 Needle and Seat with the 1/32" gasket.

We hope we stated the facts clearly. We hope you recognize the need for contacting each dealer now; you have to get those old parts out of stock and start your dealers using good, new parts only.

Of course, we assume that you're not overlooking your own stock, and that it contains only good parts.



Walter N. Herold
Service Manager



A DIVISION OF
TEXTRON INC.

Distribution: List Nos. 5, 8

TO: All Homelite Branches and Chain Saw Dealers

SUBJECT: New Sprocket and Bars for 4-20 Chain Saws

DATE: 11/28/58

Starting with 4-20, S/N 858482 (and 4-20A, S/N 858328) these saws will be equipped with an 8 tooth sprocket instead of the 6 tooth sprocket. This means that our HARD TRACK plus EXTRA HARD TIP guide bars will now be used on all saws and will be the only guide bars manufactured.

Customers who own model 17 chain saws or early model 4-20 chain saws with 6 tooth sprockets can take advantage of the better bars by installing an 8 tooth sprocket on their saws when they are ready to replace the old guide bar. The new bars are wider at the mounting end and should not be used with 6 tooth sprockets because the chain would damage the "entry funnel"; also, the chain would be too long.

Use these parts to change to 8 tooth sprocket:

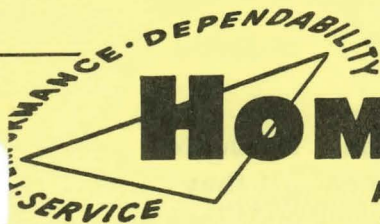
Washer, Inner	Part No.	55601
Sprocket, 8 tooth	Part No.	55593
Washer, Outer	Part No.	55602

In addition to using the best straight guide bars available, 4-20's with the 8 tooth sprocket now accept Bows and Clearing Attachments without changing the sprocket.

Walter N. Herold
Service Manager

pc

Distribution: List Nos. 5, 8

**HOMELITE**A DIVISION OF
TEXTRON INC.

TO: All Homelite Branches and Dealers

SUBJECT: Ball Drive Assemblies

DATE: 12/2/58

Most recently, several needle bearing failures in Ball Drive Assemblies have been reported to us. We immediately made a thorough investigation which indicated that failures were due to interference between the top needle bearing and the inner race or bushing on which the bearings are supported. The failures appear to be restricted to assemblies which contain the new Hub (see Service Memo 218-CS, DSM No. 101) or to units where the Ball Drive Slipper Torque is set too high (above 180 to 190 inch lbs.).

To counteract the tendency of the new hubs to "close in" on the ratchets and bearings we are revising the machining of the ratchets: The bore for the needle bearings will now be produced in two steps, leaving the bore for the outer bearing slightly larger, so that even severe compression will not cause the bearing to tighten up on the race.

Starting with the serial numbers listed below, chain saws will be equipped with the newly machined ratchets:

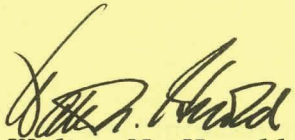
<u>Model</u>	<u>Serial No.</u>
4-20	858482
4-20A	858328
5-30	864440
7-19	862438
7-19A	862406
7-21	851355
7-21A	851396
7-21GA	851125
8-29	864220

As an additional safeguard we have unpacked all chain saws ready for shipment at Gastonia and have installed the new "stepped bore" ratchets. The boxes for these "checked" saws have been marked with a "C".

Furthermore, all spare parts are being checked to insure you a supply of good parts to be used in case of difficulties with existing starters. A sticky Ball Drive Bearing can be recognized quite simply by the fact that the starter

(see reverse side)

cord will not rewind easily inspite of proper recoil spring tension. If you do find sluggish starters, inspect the needle bearings and inner races. If they are not damaged, check Ball Drive Slipper Torque with a torque wrench (see page 39 of your Service Manual, Section 5-4.1) and make sure it is not higher than 190 inch lbs. If this does not correct the difficulty, install a new ratchet.


Walter N. Herold
Service Manager

pc

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

Distribution: List No. 5

PERFORMANCE · DEPENDABILITY
SERVICE

HOMELITE

A DIVISION OF
TEXTRON INC.

TO: All Homelite Branches

SUBJECT: New Shipping Cartons for 4-20, 4-20A, 7-21
7-21G, 7-21A, 7-21GA, 7-19, 7-19A.

DATE: 12/11/58


As a result of replies to our memo of October 14, 1958, it has been decided to revise the carton in which the subject chain saw models are shipped. Beginning on January 1, 1959 handle bars will no longer be attached to these saws. The usual can of gear oil A-55291-B will not be included in the geared unit cartons as they leave the factory because the handle is no longer available to keep the can in place.

Space is provided in the new carton for easy insertion of suitable handle bar and gear oil thru a slot. You will not have to open the carton or restaple it. It will be necessary for each Branch to put these items in the carton before delivery to dealer or customer. The slot must be closed and sealed with clear pressure sensitive tape - water activated tape will not stick to the carton. The whole process takes about a minute to complete.

Handle bars will be supplied with suitable brace attached in accordance with the following tabulation:

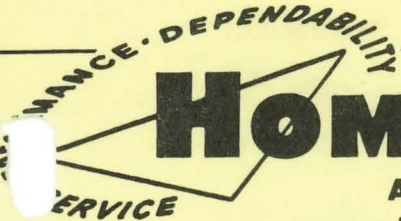
<u>UNIT</u>	<u>HANDLE BAR</u>		
7-19	A-56561	includes	A-56216 brace
7-19A	A-56562-1	"	A-56216 "
4-20	A-56563	"	A-55740 "
4-20A	A-56564	"	A-55740 "
7-21 and 7-21G	A-56563-1	"	A-56167 "
7-21A and 7-21GA	A-56564	"	A-55740 "

It is essential that each Branch estimate their requirements for handle bars and gear oil to go with saws as well as for Service requirements. To insure an adequate supply of these items for January, order immediately from Service Parts Department on regular Branch Requisition forms, ST-2051.


R. F. Johnston
Mgr. Service Parts

pc

P. S. Illustrated instructions, showing the proper way to package each unit, will be issued by Advertising in the next few days.



HOMELITE

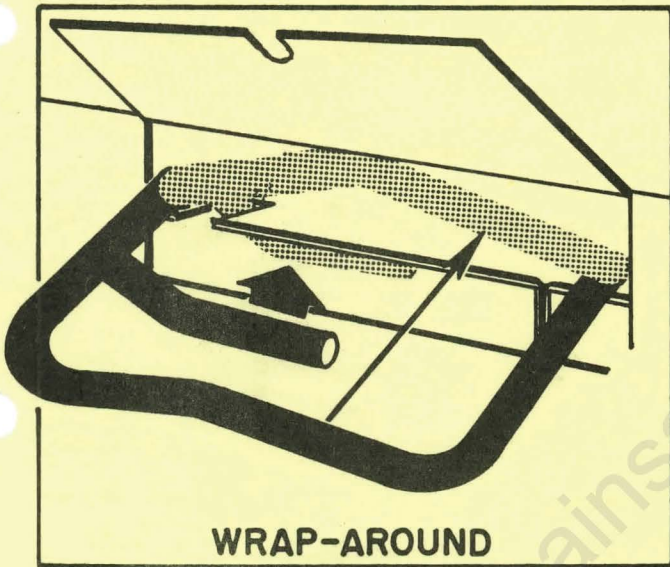
A DIVISION OF
TEXTRON INC.

TO: All Homelite Branches

SUBJECT: How to Package Handles in Chain Saw Cartons

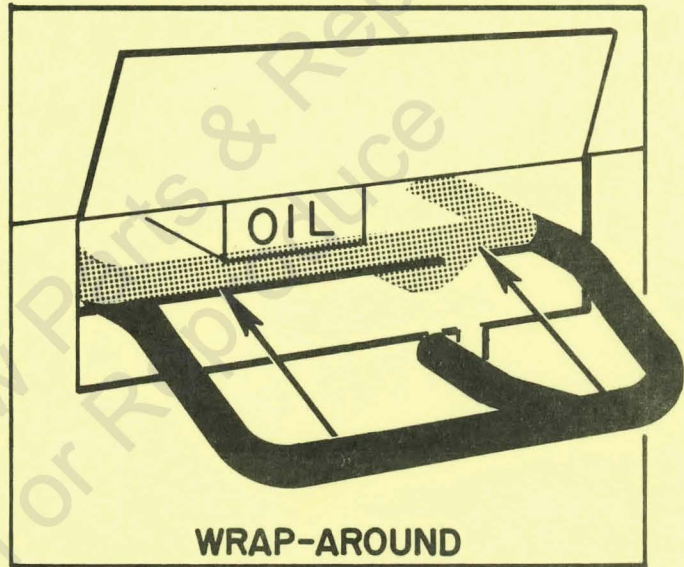
DATE: 12/22/58

DIRECT DRIVE



WRAP-AROUND

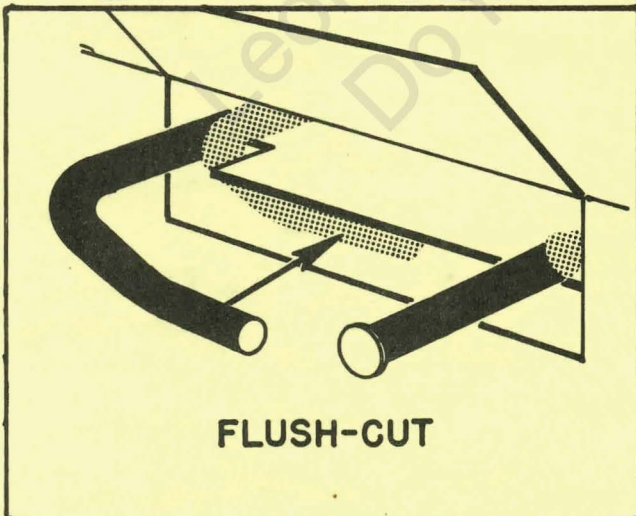
GEAR DRIVE



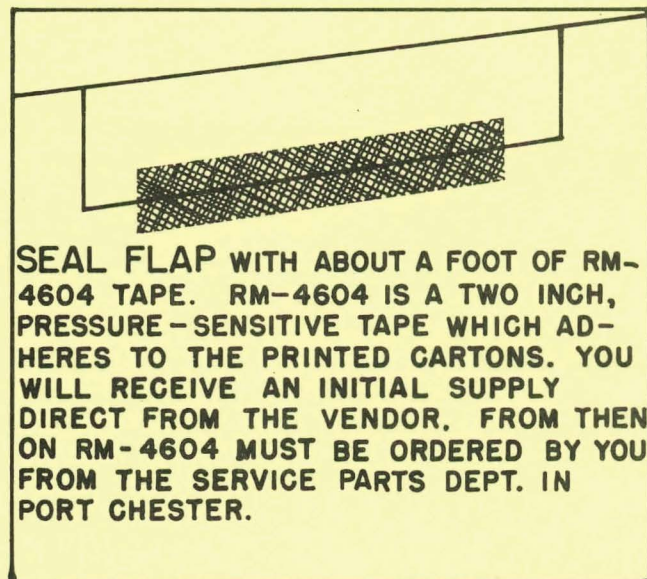
WRAP-AROUND

NOTE: PACK CAN OF GEAR OIL IN GEAR SAW CARTON AS SHOWN.

BOTH MODELS



FLUSH-CUT



SEAL FLAP WITH ABOUT A FOOT OF RM-4604 TAPE. RM-4604 IS A TWO INCH, PRESSURE-SENSITIVE TAPE WHICH ADHERES TO THE PRINTED CARTONS. YOU WILL RECEIVE AN INITIAL SUPPLY DIRECT FROM THE VENDOR. FROM THEN ON RM-4604 MUST BE ORDERED BY YOU FROM THE SERVICE PARTS DEPT. IN PORT CHESTER.