



TECHNICAL SERVICE BULLETIN

NO. 181-001

AFFECTS: XL-12, SXL-A0

SUBJECT: ZAMA CARBURETOR PART NUMBER A-94953

In order to meet an increasing service parts demand for XL-12 and SXL-A0 carburetors we will begin shipping the Zama carburetor to fill the orders we now have for Walbro and Tillotson carburetors.

We have been building XL-12's and SXL-A0's with Zama carburetors for well over a year with excellent results.

Below are the part numbers for the three carburetors that service the XL-12 and SXL-A0.

A-94953	Zama
A-68407-A	Walbro
A-69647-A	Tillotson

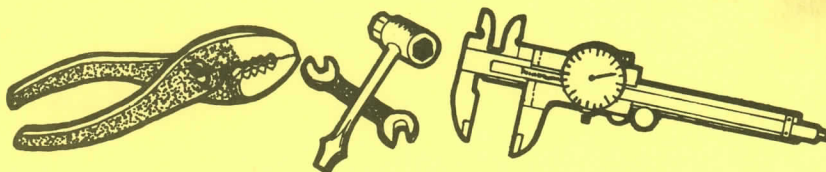
Please keep in mind that in the future we will try to fill your order with the carburetor that you specify. However, if that particular carburetor is not in stock at the time you place your order we will substitute accordingly to avoid a backorder situation.

Adjust your parts lists accordingly.

Eddie Turner
Service Manager
Forestry Products

ds

DATE 2/16/81



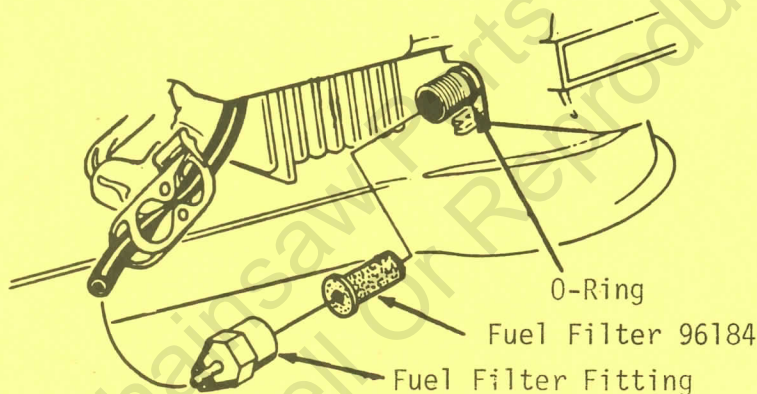
TECHNICAL SERVICE BULLETIN

NO. 181-002

AFFECTS: ST-80, ST-100 STRING TRIMMERS

SUBJECT: CERAMIC FUEL FILTER 96184

A new fuel filter 96184 made of ceramic material will supersede the felt fuel filter for the ST-80 and ST-100 string trimmers. When using the ceramic filter, the fiber gasket 65144 should be removed from the fuel filter fitting and discarded.



NEW PART

96184 Fuel Filter
(Ceramic)

SUPERSEDES

OLD PART

95484-A Fuel Filter
(Felt)

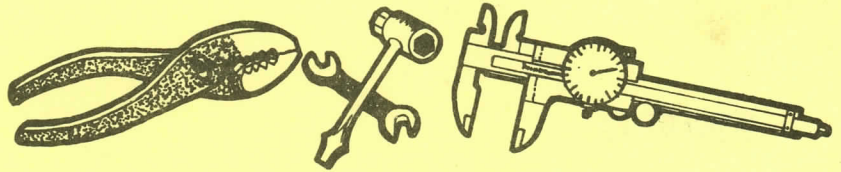
TIP: To remove a felt filter that may be stuck in the carburetor housing, thread a #8 X 1 inch long sheet metal screw (pointed end) into the filter and pull it out.

Adjust your parts lists accordingly.

Pete Romot
Technical Service Advisor

ds

DATE 2/17/81



TECHNICAL SERVICE BULLETIN

NO. 181-003

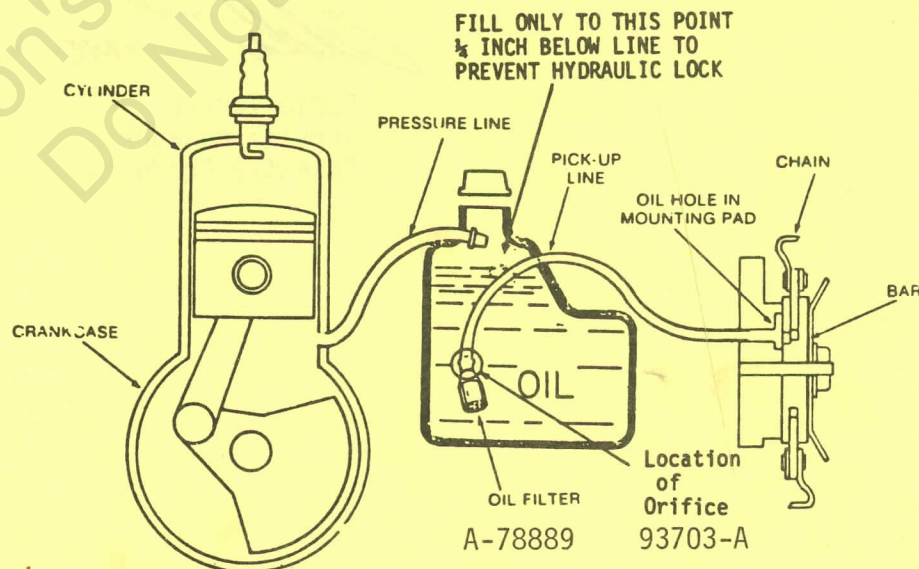
AFFECTS: XL CHAIN SAWS WITH THE PRESSURE FEED CHAIN OIL SYSTEM

SUBJECT: 1) OIL LEAKS AT THE GUIDE BAR PAD AFTER THE UNIT IS SHUTDOWN
2) CHAIN OILING SYSTEM OILS TOO MUCH

SUBJECT 1:

In order to service units that "siphon" oil at the guide bar pad, we are introducing a new oil filter, part number A-78889. This filter contains a check ball and spring. After two pounds of pressure builds in the oil tank the ball will open and allow oil to flow to the guide bar pad. After the unit is shutdown the pressure in the tank must "bleed off" through the powdered metal connector that holds the duck bill valve to the pressure line. Once the pressure in the tank drops below 2 PSI the valve will close. Therefore, oil cannot leak at the guide bar pad. If the connector is not porous enough to allow a rapid bleed down of pressure, the unit will continue to oil after shutdown until the pressure drops below 2 PSI. This filter is a service item only at this time. When replacing the standard filter (A-68593) with this new filter, be sure to install the orifice (93703-A) into the new filter. This orifice is standard equipment on all XL's with the pressure oil system.

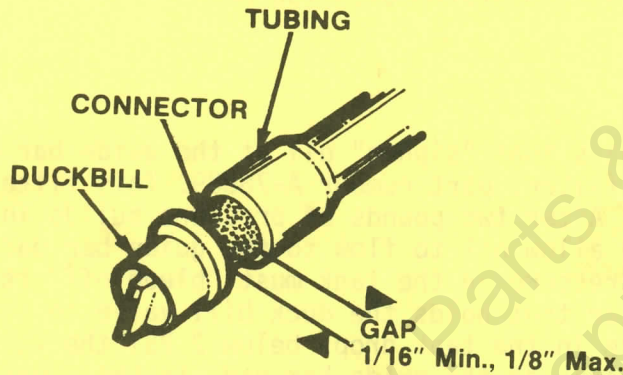
DIAGRAM OF THE XL PRESSURE FEED CHAIN OIL SYSTEM



DATE 2/17/81

SUBJECT 2:

As mentioned in subject number 1, if the connector that holds the duck bill to the pressure line is not porous enough, too much pressure will build in the tank and therefore too much oil will be forced to the guide bar pad. If a unit over oils it will be necessary to install a new connector (69659-B). This new connector will allow the proper amount of pressure to bleed off while the unit is running and after it is shutdown. These new connectors will be made of stainless steel. The old connectors (69659-1A) were made of bronze. Therefore, they may be recognized by color as well as part number. Install the new connector in the location shown in the picture below.



After installing the connector, leave a gap between the duck bill valve and the tubing as indicated in the drawing above. All XL's with lot number X0340XXXX and above have connector 69659-B in the pressure line.

Eddie Turner

Eddie Turner
Service Manager
Forestry Products

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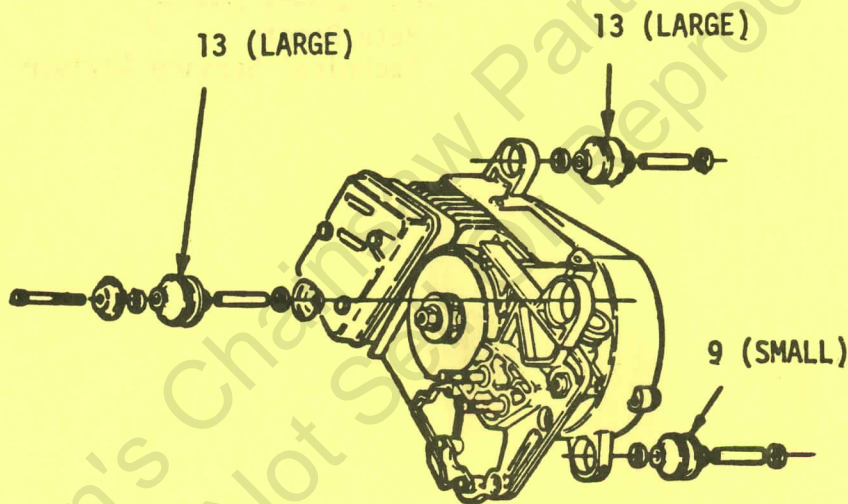
TECHNICAL SERVICE BULLETIN

NO. 181-004

AFFECTS: 330 CHAIN SAW

SUBJECT: 1) CORRECTIONS TO PARTS LIST 17505
2) METERING LEVER SETTING

- 1) The isolator item numbers shown in the model 330 parts list (figure 2) are incorrect. Adjust your parts list according to the illustration below.



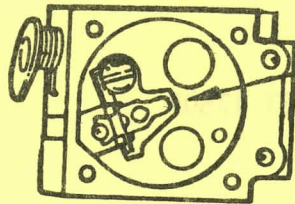
Also, figure four shows item 15 as rod bearing part number 68512. The correct part number is 93369.

Bearing 68512 is still available for use in other models.

over -

DATE 2/25/81

- 2) In order to set the metering lever on the carburetor, place a piece of .020 feeler gauge (yellow plastic) part number 22969 on the floor of the carburetor body in the designated area. (See illustration). Set the lever so the top of the lever is flush with the top of the gauge. If a .020 feeler gauge is not available, set the lever so the bottom of the lever is flush with the floor of the carburetor body.



Feeler gauge should be placed in this area.

Pete Romot

Pete Romot
Technical Service Advisor

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TECHNICAL SERVICE BULLETIN

NO. 181-005

SUBJECT: #82416 SCREW 1/4-28 x 1/2 INCH - FINE THREAD

AFFECTS: ST-200 STRING TRIMMER

A quantity of 1/4-20 x 1/2 inch long course thread screws were accidentally substituted for 1/4-28 x 1/2 inch long fine thread screws part number 82416 in packaging. This screw is used in the following service parts.

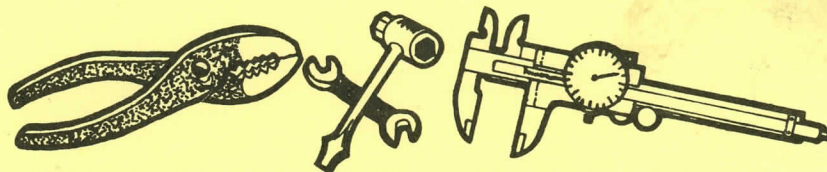
A-94479-A Brushcutter Kit
A-95800-A String Trimmer Lower Head Assembly
A-96063 Shaft Housing and Bushing Kit
A-96064 Bushing Kit

Please check your stock to determine if you have received the correct fine thread screw with the above mentioned service parts. A date code of 02/04/81 has been added to the correct parts.

Pete Romot
Technical Service Advisor

ds

DATE 3/81



TECHNICAL SERVICE BULLETIN

NO. 181-006

SUBJECT: NEW GOVERNED CARBURETOR A-96386

AFFECTS: ST-200 STRING TRIMMER

Units made after serial number 410120001 will be produced with a governed carburetor A-96386 (HDC-66) which will supersede the A-94444 (HDC-59) carburetor. This carburetor will govern to a maximum no load speed of 11,500 RPM.

The new carburetor does not use the balance tube system. The balance tube fitting has been eliminated from the metering diaphragm cover. When servicing a unit with the new carburetor, discard the rubber balance tube 70310-14.

NOTE: Because the new carburetor is governed by a fuel enrichment system, there is a tendency for the muffler and spark arrestor screen to become clogged faster. (Reference Technical Service Bulletin 180-002). If a unit is gradually losing power, check the condition of the muffler and spark arrestor before checking the carburetor or ignition system.

<u>NEW PART</u>	<u>SUPERSEDES</u>	<u>OLD PART</u>
A-96386 Carburetor (HDC-66 Governed)		A-94444 Carburetor (HDC-59) 70310-14 Rubber Tubing (Balance Tube)

Adjust your parts list accordingly.

Pete Romot
Technical Service Advisor

ds

DATE 3/81



TECHNICAL SERVICE BULLETIN

NO. 181-007

SUBJECT: ON-OFF SWITCH

AFFECTS: XEL-12 AND 14 INCH ELECTRIC CHAIN SAWS

XEL 12 and 14 inch electric chain saws with serial numbers greater than either AC0360001 or BC0360001 are being produced without a lock button on the ON-OFF switch. This is to standardize parts used on the XEL models.

When servicing XEL-12 and 14 inch units built after the above mentioned serial numbers, refer to the illustrated parts list number 17214-A.

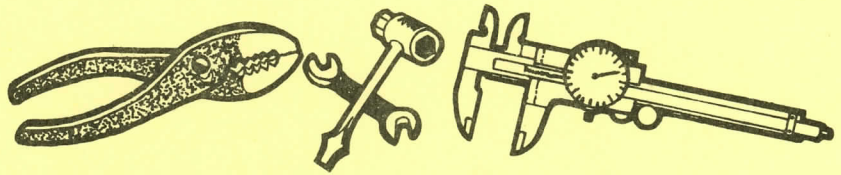
<u>NEW PART *</u>	<u>REPLACES</u>	<u>OLD PART</u>
A-93238 Motor Housing (Left)		A-70968 Motor Housing (Left)
93013 ON-OFF Switch		93014 ON-OFF Switch
		94214 Lock Button

* These parts are currently used on XEL-8 and 10 inch models.

Pete Romot
Technical Service Advisor

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DATE 4/81



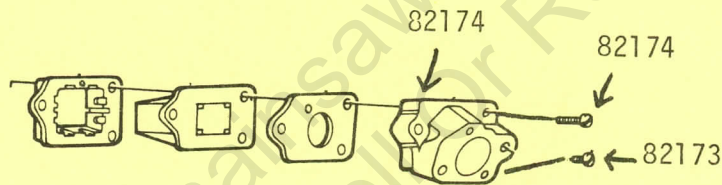
TECHNICAL SERVICE BULLETIN

NO. 181-007

SUBJECT: MANIFOLD RETAINING SCREWS

AFFECTS: SXL-925, XL-98A, AND XLS2 PUMPS

The three manifold retaining screws #82196 (1 1/8" long) have been replaced by two screws #82174 (1 1/4" long) and one screw #82173 (1" long). See the illustration below for the location of the new screws.

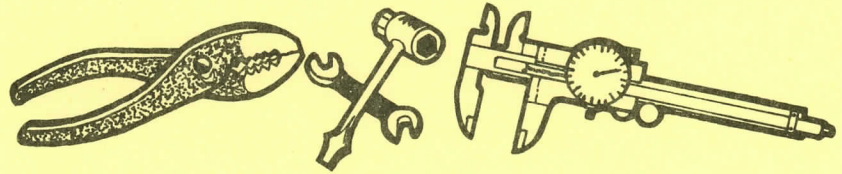


Screw number 82196 is still available to service other models.

Eddie Turner
Service Manager
Forestry Products

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DATE 12/81



TECHNICAL SERVICE BULLETIN

NO. 181-008

SUBJECT: NEW IGNITION SYSTEM

AFFECTS: SXL-925 WITH SERIAL NUMBER TC2460001 AND ABOVE
XL-98-A WITH SERIAL NUMBER TC2400001 AND ABOVE

The above mentioned units are now being built with a one piece module. This module will take the place of the three piece ignition system used in the past. Also, a new extended tip spark plug #93561-S (CJ-6Y) will be used with this system. The other spark plugs #63547-S (CJ-6) and #69027-S (C-4) are still available and should be used with the three piece ignition systems only. Because of a slight change in timing we recommend using the 93561-S with the one piece system to achieve best power performance.

This new module will be used in conjunction with a new backplate and rotor. To convert a three piece ignition system to a one piece system it would require a new rotor and backplate in order for the new system to function properly.

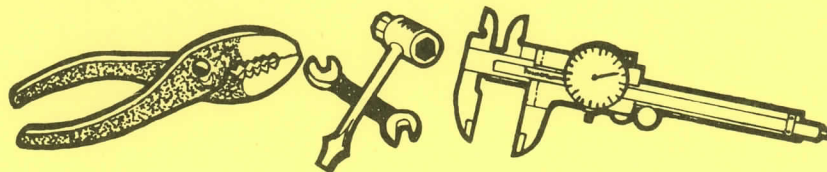
Below you will find a list of parts that service the new ignition system:

DESCRIPTION	PART NUMBER	QUANTITY
Rotor	96801	1
Backplate	A-96799	1
Includes:		
Seal	12282-A	1
Bearing	63195	1
Module	A-96798	1
Includes:		
High Tension Lead	96743	1
Hex Head Screws	88044	2
Spark Plug	93561-S	1

The parts for the three piece system are still available.

Sometime in the future all XLS pumps will be built with this new system. The list of parts on this memo will apply to them also.

Eddie Turner
Service Manager
Forestry Products



TECHNICAL SERVICE BULLETIN

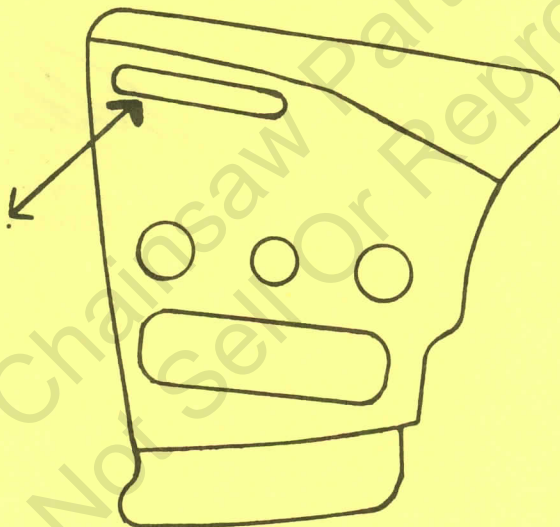
NO. 181-008

SUBJECT: INNER GUIDE BAR PLATE 56956-A OIL SLOT TOO LONG

AFFECTS: SUPER-1130-G AND SUPER WIZ-66

Some inner guide bar plates 56956-A were made with oil slots that are too long. The oil slot measures $1 \frac{5}{16}$ " in length. The correct length is $1 \frac{5}{32}$ ". (See Sketch).

Should measure
 $1 \frac{5}{32}$ " in length.



If the plate with the longer slot is used, not all of the oil will reach the guide bar. The longer slot allows the oil to leak between the guide bar and the drivecase pad.

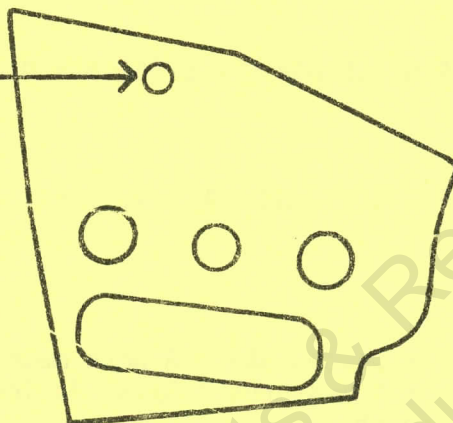
We are now in the process of changing the tooling that makes this part. As soon as the new parts are available the part number will be 56956-B and will supersede 56956-A. Until these new parts are made the following option is available.

Modify an outer plate 56957-B to be used behind the inner plate. To do this cut the "fins" off of the outer plate. Place the modified plate behind the inner plate and mark the oil slot area.

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Close to the center of this area drill a 3/16" (.1875) hole. (See Sketch).
Install the modified plate onto the pad and then install the inner plate.
This modified plate will close up any gap that would have been made by
the inner plate.

Drill 3/16"
(.1875) hole.

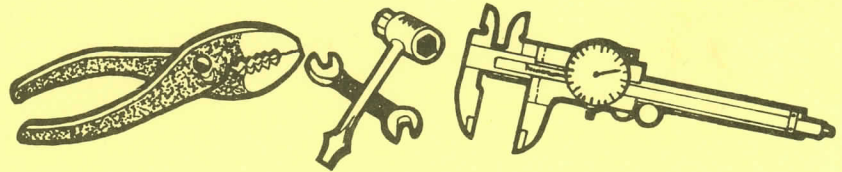


Eddie Turner

Eddie Turner
Service Manager
Forestry Products

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TECHNICAL SERVICE BULLETIN

NO. 181-009

SUBJECT: A-70352 CRANKSHAFT (BREAKER POINT IGNITION)
A-94712 CRANKSHAFT (SOLID STATE IGNITION)

AFFECTS: XL, XL-2, SUPER-2, VI-SUPER-2, 190

REFERENCE: TECHNICAL SERVICE BULLETIN 180-028

Crankshaft kits are available as service items to supersede the above mentioned crankshafts. These kits consist of a new crankshaft with the threaded clutch end and a hex nut. They will replace crankshafts produced with the grooved end and the retaining ring.

SOLID STATE IGNITION

OLD PART	SUPERSEDED BY	NEW PART
A-94712 Crankshaft		A-96384 Crankshaft Kit
93972 Ring, Retaining		Includes: 81112 Nut, Hex

BREAKER POINT IGNITION

OLD PART	SUPERSEDED BY	NEW PART
A-70352 Crankshaft		A-96385 Crankshaft Kit
93972 Ring, Retaining		Includes: 81112 Nut, Hex

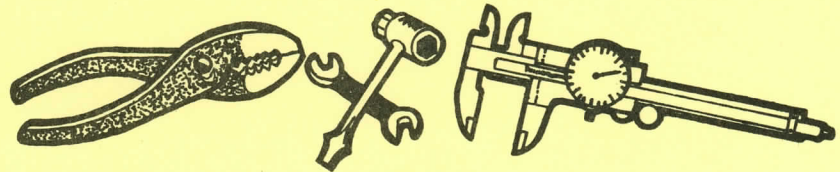
NOTE: TORQUE THE HEX NUT TO 100-125 INCH/POUNDS.

Please adjust your parts lists accordingly.

Pete Romot
Technical Service Advisor

ds

DATE 4/81



TECHNICAL SERVICE BULLETIN

NO. 181-009

SUBJECT: PERMANENTLY BONDED FUEL TANKS

AFFECTS: XL-12 SERIAL NUMBER -C091---- AND ABOVE
SXL-AO SERIAL NUMBER -C244---- AND ABOVE

The fuel tanks and covers on the XL-12 and SXL-AO are now being permanently bonded together with epoxy. These one piece tanks are not serviceable and should be replaced, not repaired.

Below are the part numbers for these tanks and the parts that are included with them:

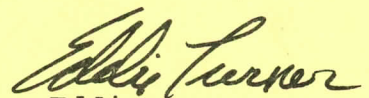
<u>XL-12</u>	<u>NEW TANKS</u>	<u>SXL-AO</u>
A-63898-B	Fuel & Oil Tank	A-68345-A Fuel Tank
Includes:		Includes:
86301	Cotter Pin	94772-37 Fuel Line
94772-37	Fuel Tubing	A-69923 Fuel Filter
A-69923	Fuel Filter	

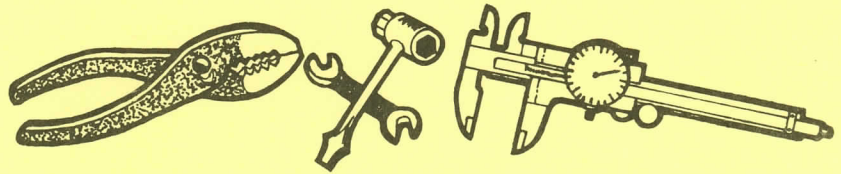
When the current stock of covers listed below has been depleted the part numbers will be superseded by the numbers for the permanently bonded tanks.

<u>XL-12</u>	<u>OLD TANKS</u>	<u>SXL-AO</u>
A-68396	Fuel & Oil Tank	A-68396 Fuel Tank
63740-2	Tank Cover	63739-2 Tank Cover
65642	Gasket	65642 Gasket
80513	Screws	80513 Screws

All parts that service the two piece tanks are still available for models such as the XL pumps and the ST-400.

We suggest that older units be serviced with the new tank when possible. Your repair time will be less and future risks of a leaking tank will be minimized.


Eddie Turner
Service Manager
Forestry Products



TECHNICAL SERVICE BULLETIN

NO. 181-010

SUBJECT: BAR AND CHAIN LUBRICANTS

AFFECTS: ALL CHAIN SAWS

Homelite does not recommend the use of synthetic chain oil of the "water/alcohol emulsion" type lubricants in our chain oiling systems. These lubricants can gum up the chain oiling system to the point where it will not work properly or will not work at all. This type of failure has been reported to us by customers and dealers. We have confirmed these complaints by our own tests.

All of the bar and chain oils recommended in our owners manuals have a petroleum base. The use of any lubricant other than what is recommended may result in costly repairs at the expense of the customer.

A handwritten signature in cursive script that reads "Eddie Turner".

Eddie Turner
Service Manager
Forestry Products

ds

DATE 4/81



TECHNICAL SERVICE BULLETIN

NO. 181-010

SUBJECT: IMPROVEMENTS TO THE AUTOMATIC OILING SYSTEM

AFFECTS: 330 CHAIN SAW

In order to improve the performance of the automatic oil pump the pump cylinder has been changed. This new cylinder has a longer stroke to provide more oil with each plunger movement. The cylinder part number is 68573. This cylinder can be installed into older pump bodies.

The helical spring underneath the diaphragm has been replaced with a new lighter spring. This spring will allow the diaphragm to move more freely. The part number of the spring is 94634. It is the same spring that is used in the 550 oil pump.

The oil pick-up line in the tank has been shortened from 10" to 6 $\frac{1}{2}$ ". This will minimize the chances of the line "hanging up" in the oil tank. If you are repairing a 330 oil pump we suggest you shorten the oil pick-up line. Remove the oil line from the oil pump. Measure back 3 $\frac{1}{2}$ " and cut the oil line. Extend the oil line back to the pump.

Below is a list of part numbers to refer to when servicing a 330 oil pump:

OLD PART NUMBER

NEW PART NUMBER

A-94674	Oil Pump	A-94674-A
69447	Spring	94634
93112-40 (10")	Oil Line	93112-26 (6 $\frac{1}{2}$ ")

Eddie Turner
Service Manager
Forestry Products

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DATE 12/81



TECHNICAL SERVICE BULLETIN

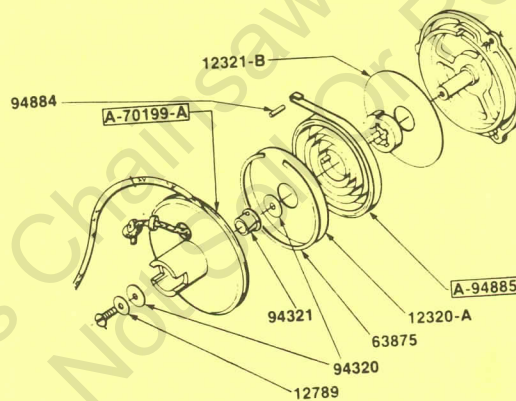
NO. 181-011

SUBJECT: REWIND STARTER

AFFECTS: 450, 550, 750, DM-50, DM-50-1

The rewind starter assemblies for the above mentioned models have been changed to eliminate the two pulley post bushings. Now only one larger bushing is used.

The illustration below details the new design and gives the new part numbers.



All parts necessary to repair a starter assembly on a unit built prior to this change are still available.

Eddie Turner
Service Manager
Forestry Products



TECHNICAL SERVICE BULLETIN

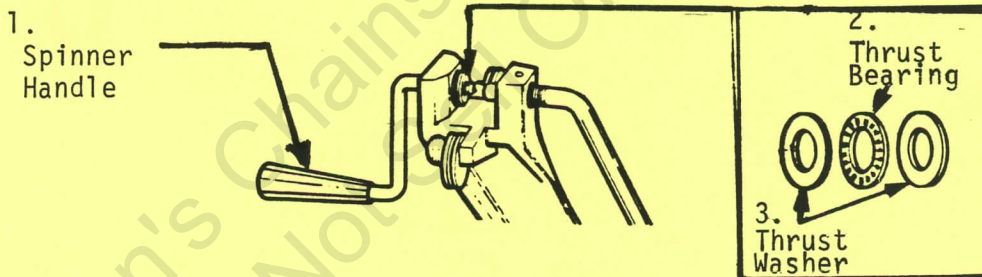
NO. 181-011

SUBJECT: NEW SERVICE PARTS

AFFECTS: A-17163 RIVET SPINNER

The following parts are now available for servicing the A-17163 rivet spinner.

ITEM #	NAME	PART #	QTY.
1	Spinner Handle	17605	1
2	Thrust Bearing	96733	1
3	Thrust Washer	96732	2



Please order these parts according to your requirements.

Eddie Turner
Service Manager
Forestry Products

ds

DATE 12/81



TECHNICAL SERVICE BULLETIN

NO. 181-012

SUBJECT: BLOWER ATTACHMENT A-93597

AFFECTS: ST-200 STRING TRIMMER

Starting with serial number 510470157, the ST-200 string trimmer will be produced with a new lower head assembly A-95800-B and a new string head cover A-94473-A. This new cover is designed for use with the ST-100 blower attachment A-93597 and can be identified by a notch in the front of the cover (See figure 1).

A-95800-B
New Lower
Head Assy.

NOTCH

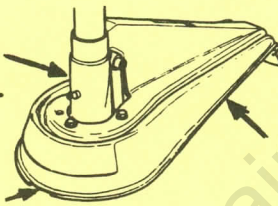
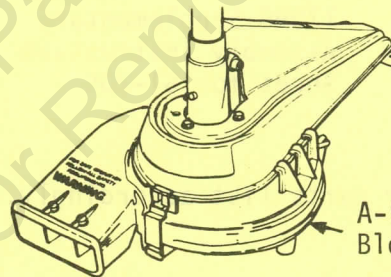


FIGURE #1

A-94473-A
New String
Head Cover
for Blower
Attachment



A-93597
Blower

FIGURE #2

To retro-fit an ST-200 produced before the above mentioned serial number, it is necessary to replace the present A-94473 string head cover with the new A-94473-A cover (notched as shown above) before the blower attachment can be assembled. (See figure 2).

When retro-fitting the new string head cover to the old lower head assembly A-95800-A it will be necessary to remove (by filing, sawing, etc.) the locking collar as shown in figure 3. This collar on the new string head cover is used with the new lower head assembly A-95800-B which has a mating locking recess as shown in figure 4. The new head assembly can also be identified by the full length clamp.

The blower attachments presently in the field do not include assembly instructions for use with the ST-200. A supplementary assembly instruction sheet 17593 for the ST-200 is available.

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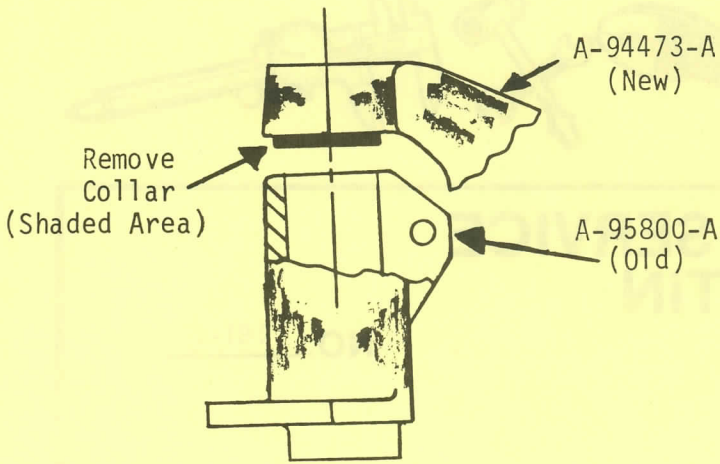


FIGURE #3

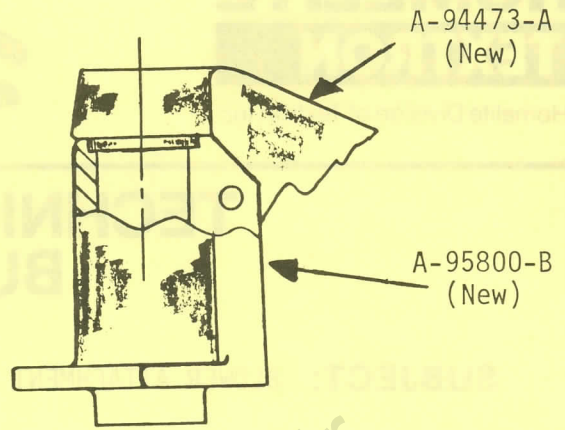


FIGURE #4

NEW PART	SUPERSEDES	OLD PART
A-94473-A Cover, String Head		A-94473 Cover, String Head
A-95800-B Lower Head Assembly		A-95800-A Lower Head Assembly

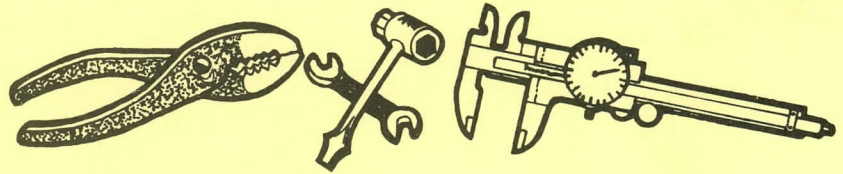
17598 Supplementary
Assembly Instruction
Sheet for ST-200

Adjust your parts list accordingly.

Pete Romot
Technical Service Advisor

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TECHNICAL SERVICE BULLETIN

NO. 181-013

SUBJECT: HAND GUARD KITS

AFFECTS: ALL CURRENT MODEL CHAIN SAWS

This memo will give you an updated list of hand guards and hand guard kits, and the model of chain saw they will fit. Any parts labeled "order extra" are required to put that particular hand guard on a unit that was not originally built with a hand guard.

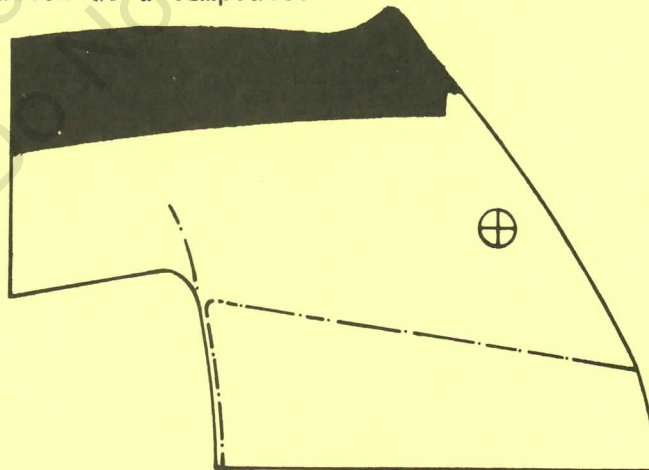
XEL

A-94333 Hand Guard Kit

XL, XL-2, SUPER-2, 190

A-70796-A Hand Guard Kit

NOTE: If your XL, XL, or Super-2 does not have a hole in the engine housing for mounting the hand guard, it will be necessary to drill one. Drill a .180 diameter hole (#15 drill bit) in the location shown below, using the illustration as a template.



View shown is the guide bar side of the engine housing.

continued

DATE 6/81

150-A0, 150-A0W

A-70909 Hand Guard Kit

NOTE: This kit mounts to the end of the handle bar. If your 150 does not have a tapped hole in the end of the handle bar, order handle bar A-70904-1.

330

95027	Hand Guard	1
93578	Screws	2

SEZ-A0, SEZ-A0W, SXL-A0, SXL-A0W

A-70910 Hand Guard Kit

NOTE: If the handle bar bracket on your chain saw does not have the hole drilled to mount the guard, install one of the following brackets.

SXL-A0	59651-10 for Flush-Cut Handle Bars
SXL-A0W	59651-6B for Wrap-Around Handle Bars
SEZ-A0	A-70307-A for Flush-Cut Handle Bars
SEZ-A0W	A-70303 for Wrap-Around Handle Bars

XL-12, SXL-925, SXL-925W

A-70944 Hand Guard Kit

NOTE: If the handle bar bracket on your chain saw does not have the hole drilled to mount the guard, install one of the following brackets.

XL-12	59246-5
SXL-925	A-70289-A for Flush-Cut Handle Bars
SXL-925W	A-70294-A for Wrap-Around Handle Bars

360, 360W

A-93967 Hand Guard Kit

450, 450W, 550, 550W

A-93968 Hand Guard Kit

750

A-96177 Hand Guard Kit
Order Extra: 12238-3 Bracket 1
88052 Screw 1
A-12714-A Wrap-Around Handle Bar 1

750-E

A-93967 Hand Guard Kit

S-1130-G

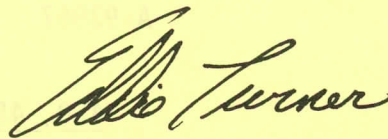
A-96177 Hand Guard Kit
Order Extra: 12238-3 Bracket 1
88052 Screw 1
A-69268-A Wrap-Around Handle Bar 1

S-1050-A0, C-72

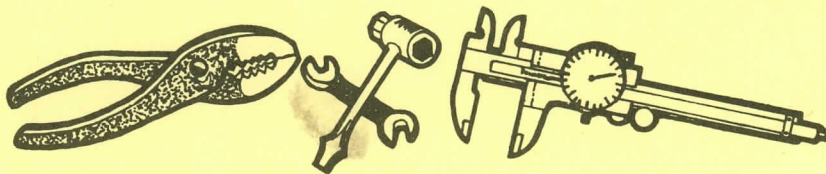
A-96177 Hand Guard Kit
Order Extra: 95799-2 Bracket 1
80087 Screw 2
80288 Screw 1
82246 Screw 1
A-69174-A Flush-Cut Handle Bar 1
A-58398-B Wrap-Around Handle Bar 1 (Optional)

Super-Wiz-66

A-93968 Hand Guard Kit
Order Extra: 95866-2 Bracket 1
80573 Screw 1
A-57673-2A Flush-Cut Handle Bar 1
A-57671-A Wrap-Around Handle Bar 1 (Optional)



Eddie Turner
Service Manager
Forestry Products



TECHNICAL SERVICE BULLETIN

NO. 181-014

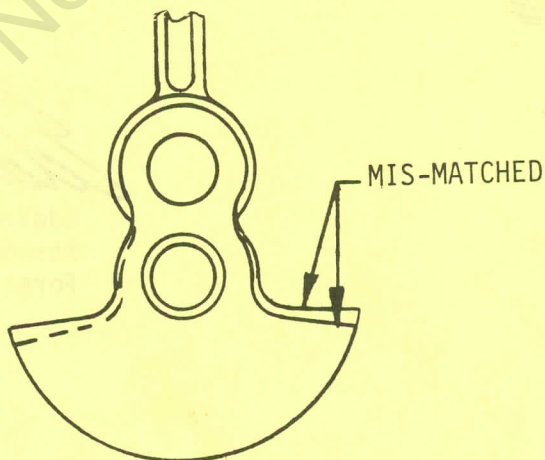
SUBJECT: 1. SPARK PLUG
2. PIN HOLE IN CRANKCASE
3. CRANKSHAFT TWISTING

AFFECTS: 330

1. A new spark plug is now available for the 330. The part number is 96169. This plug is a DJ-7Y and replaced the 65130 in the 330 only.
2. There is a small hole (.040 diameter) located in the 330 crankcase, just under the reed valves. This "outlet" prevents the fuel from "puddling" in this area. If the fuel puddled in this area when the saw was suddenly turned on it's side the fuel would rush to the cylinder and flood the engine.
3. The throws on some 330 crankshafts used in production and service parts are not in line when viewed from either end as shown below.

A slight mis-match does not usually indicate that these shafts are defective. This mis-match is caused by assembling the crankshaft with two forgings that have slightly different throw profiles.

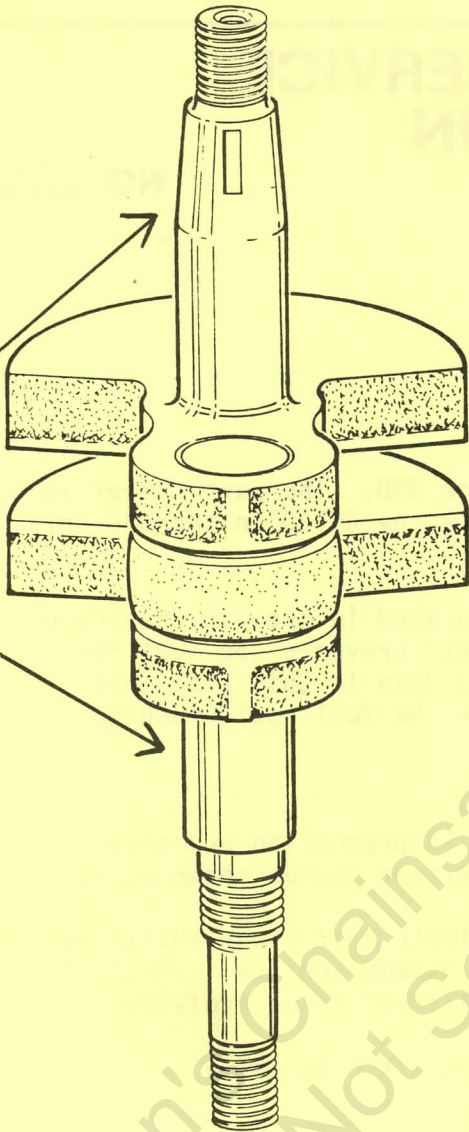
Each crankshaft is balanced and inspected after assembly.



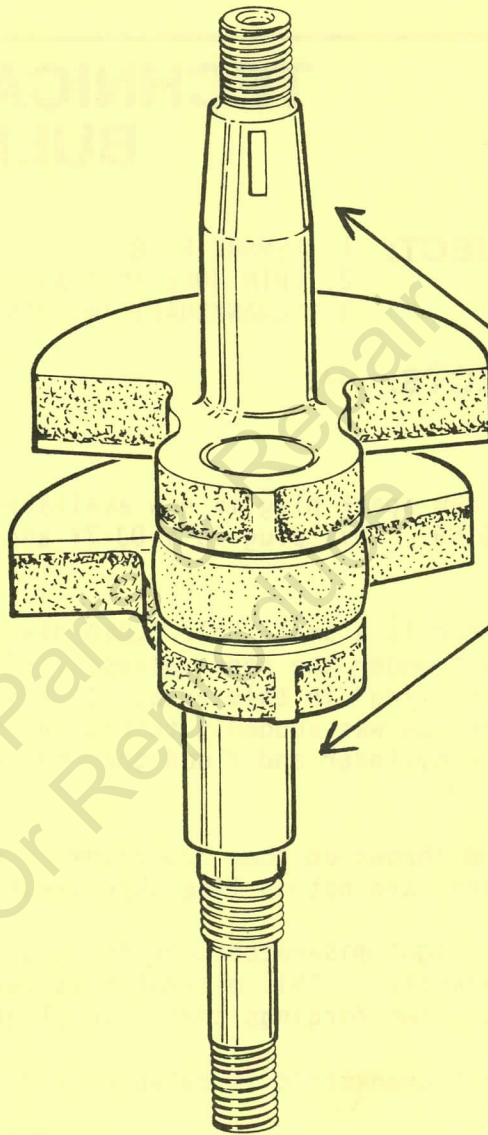
In order to determine if the shaft is twisted, view the shaft in a vertical position as shown in the illustration on the back of this page.

DATE 6/81

CORRECT
ALIGNMENT



NOT
ALIGNED



Leon's Chainsaw Parts
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Eddie Turner

Eddie Turner
Service Manager
Forestry Products



TECHNICAL SERVICE BULLETIN

NO. 181-015

SUBJECT: DRIVESHAFTS A-96764 AND A-96763

AFFECTS: XEL ELECTRIC CHAIN SAWS

To prevent breaking gear teeth on the driveshafts for the electric chain saws, a cut steel drive gear will replace the powdered metal drive gear. Units produced after serial number AC1190000 will have the new gears.

If you experience gear failures in units with a serial number above AC1190000, please send the failed gears and a copy of the warranty claim to:

Homelite, Division of Textron
14401 Carowinds Blvd.
Charlotte, NC 28217
Attn: Eddie Turner

<u>NEW PART</u>	<u>SUPERSEDES</u>	<u>OLD PART</u>
A-96764 Driveshaft (XEL 8 & 10 Inch)		A-93166 Driveshaft
A-96763 Driveshaft (XEL 12 & 14 Inch)		A-93167 Driveshaft

Please adjust your parts list accordingly.

Eddie Turner
Service Manager
Forestry Products

ds

DATE 6/81



TECHNICAL SERVICE BULLETIN

NO. 181-016

SUBJECT: 1. NEW STRING ASSEMBLY PARTS
2. NEW SERVICE TOOLS

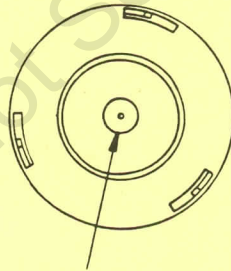
AFFECTS: ST-20, ST-40, ST-60

1. Below is a list of parts that are now available to service the electric string trimmers. Make sure that you service any electric trimmers with these new dash "A" parts.

<u>UNIT</u>	<u>PART #</u>	<u>DESCRIPTION</u>
ST-20	A-95128-A	String Head
ST-20	DA-95159-A	Spool & String
ST-20	95138-A	Spool Retainer
ST-40/60	95137-A	Spool Retainer

All ST-20's with lot number C097 and above will have the new parts.

The improved retainers (95137-A) for the ST-40 and ST-60 can be identified by a circle on the bottom side of the part as shown below.



IDENTIFYING CIRCLE

2. A new service tool, part number 17634 is available to service the ST-20. The original tool part number 17495 has been redesigned to be used with the ST-40 and ST-60 only. Some tools, number 17495 were made to use on all three trimmers. If a tool of this type is used on an ST-20 it should be used with caution. When too much pressure is applied to the tool it will bend the motor shaft.

ds

Eddie Turner
Service Manager
Forestry Products

DATE 6/81



TECHNICAL SERVICE BULLETIN

NO. 181-017

SUBJECT: TORX SCREW 96620

AFFECTS: ST-200's & XL FAMILY CHAIN SAW

The screw (82393) that retains the engine to the engine housing has been changed. The new part number is 96620. This screw has a torx head with a slot (see picture).



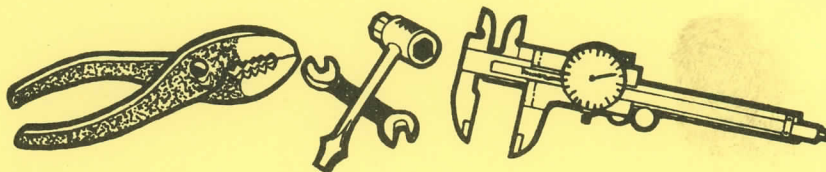
A T25 torx bit, Homelite #24982-01 (1/4" shank) or 24982-02 (5/16" shank) can be used with this screw. This screw is designed so that a regular "flat pointed" screwdriver can be used if a torx bit is not available. However, we do recommend that a torx bit be used because a higher torque value can be achieved with this tool.

Please adjust your parts list accordingly.

Eddie Turner
Service Manager
Forestry Products

ds

DATE 7/81



TECHNICAL SERVICE BULLETIN

NO. 181-018

SUBJECT: NEW STARTER PAWL KIT A-70285-C

AFFECTS: XL, XL-2, SUPER-2, 190, VI-SUPER-2, ST-80, ST-100, ST-200

A new starter pawl kit is available to service the above mentioned models. In order to strengthen the starter pawls they have been redesigned and the material has been changed.

The kit includes the following:

- 2 - Starter Pawls
- 2 - Pins (oversize)
- 2 - Springs

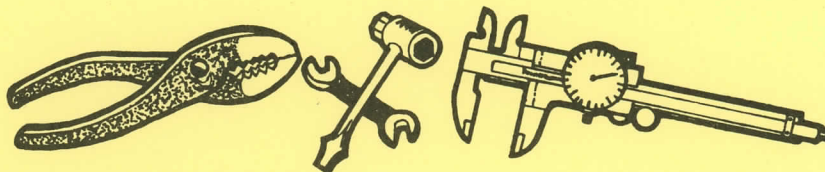
Before the "-C" kits were available some kits marked A-70285-B were shipped out of service parts. These "-B" kits were designed to be used on chain saws only. DO NOT use the "-B" kits on the string trimmers.

The "-C" kit is designed to be used on all of the above models.

Eddie Turner
Service Manager
Forestry Products

ds

DATE 8/81



TECHNICAL SERVICE BULLETIN

NO. 181-019

SUBJECT: 1) ZAMA CARBURETOR A-95628
2) NEW CARBURETOR HOUSING O-RING 94150

AFFECTS: ST-100 LOT NUMBER C188 AND ABOVE

- (1) The ST-100 is now being built with a Zama carburetor. Repair kits part number 95856 are available for servicing this carburetor.

Service parts will be shipping the Zama carburetor to fill all ST-100 carburetor orders.

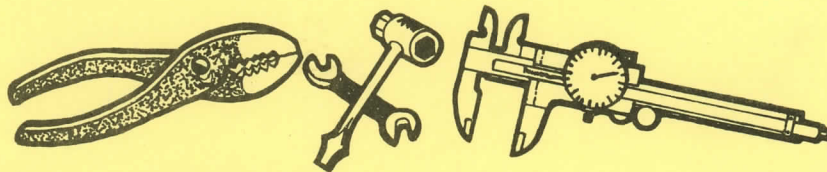
NOTE: If an ST-80 or ST-100 carburetor leaks fuel past the inlet needle, it is probably due to dirt in the fuel. This dirt then collects on the tip of the needle and the needle will not seat. In order to remove the dirt from the tip of the needle run the unit at wide open throttle and close the choke. Just before the unit "dies out" open the choke. Do not release the throttle while doing this. This procedure will create a tremendous vacuum in the carburetor venturi and most often will remove the dirt from the needle. If this fails the needle must be removed from the carburetor and cleaned.

- (2) When replacing a felt fuel filter with a ceramic fuel filter, also replace the o-ring (59765) on the carburetor housing with o-ring part #94150. This should prevent fuel from leaking around the fuel inlet nipple (93887). However, if leaking does occur after replacing the o-ring it will be necessary to install a new fuel inlet nipple.

Eddie Turner
Service Manager
Forestry Products

ds

DATE 8/81



TECHNICAL SERVICE BULLETIN

NO. 181-020

SUBJECT: WORN MOTOR HOUSINGS

AFFECTS: ST-40 AND ST-60

We have found some ST-40 and ST-60 motor housings that were not made to specifications. The ribs in these housings will not fully contact the motor. This loose fit allows the motor to vibrate and wear the ribs further. Replacing the housing may only temporarily solve the problem.

In order to repair these used housings use some rubber fuel or oil tubing cut into 3" lengths. Split each piece of tubing from end to end and place them on the two bottom ribs of the housing. Refer to illustration. This can be done to one or both housings, depending upon the amount of wear sustained by each housing. Use your own judgement in this repair.

As added insurance, cut two pieces of tubing (each 1/8" long) and place them on the end of the motor screws that sit in the housing bosses. Refer to illustration.

CAUTION: AFTER MAKING THIS REPAIR, TIGHTEN ALL SCREWS SECURELY AND INSPECT THE SEAM BETWEEN THE TWO HOUSINGS IN ALL AREAS. IF A GAP EXISTS BETWEEN THE HOUSINGS THE CAUSE MUST BE FOUND AND CORRECTED.

See illustration on the back of this page.

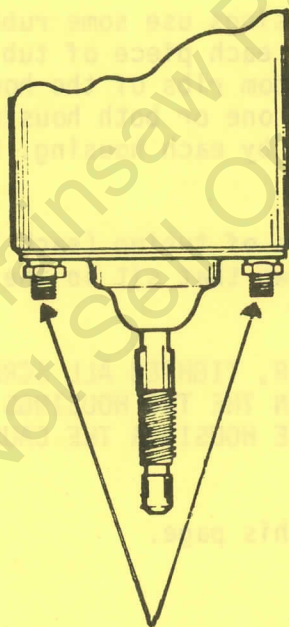
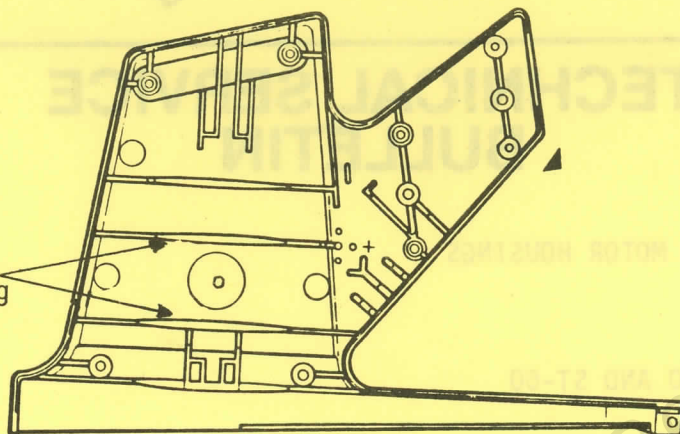
Eddie Turner
Service Manager
Forestry Products

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DATE 8/81

NO. 181-030

Location of
Rubbing Tubing



Location of Rubber Tubing

TECHNICAL
DRAWING

SUBJECT: WORN MOTOR HOUSING

AFFECTS: 27-80 AND 27-81

We have for some 27-80 and 27-81 motor housings that were not made to specifications. The loss in these housings will not fully contact the motor. This will cause the motor to vibrate and wear the ribs further. The following way only temporarily solve the problem.

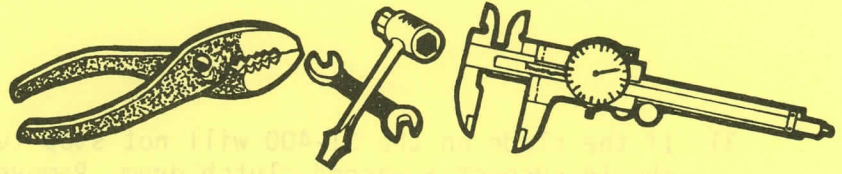
In order to repair the housing, cut the top of the housing into 3" long pieces of tubing from end to end and place them on the motor housing. This can be done in one or two pieces, depending upon the amount of wear sustained. See illustration on the back of this page for added insurance, cut two steel bolts on the end of the motor housing. See illustration.

CAUTION: AFTER MAKING THIS REPAIR, INSPECT THE GEAR BETWEEN THE HOUSING AND CORRECTED. A GAP EXISTS BETWEEN THE HOUSING AND CORRECTED.

See illustration on the back of this page.

Eddie Turner
Service Manager
Forestry Products

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TECHNICAL SERVICE BULLETIN

NO. 181-021

SUBJECT: 1) NEW LOWER HEAD ASSEMBLY A-96756
2) THROTTLE SHAFT BUSHING 94569
3) BLADE TURNS AT IDLE

AFFECTS: ST-400

- 1) Lower head number 46785-1A is superseded by a lower head assembly kit number A-96756 on the ST-400. The left side of the clamp has been modified so that more clamping force may be applied to the shaft housing tube.

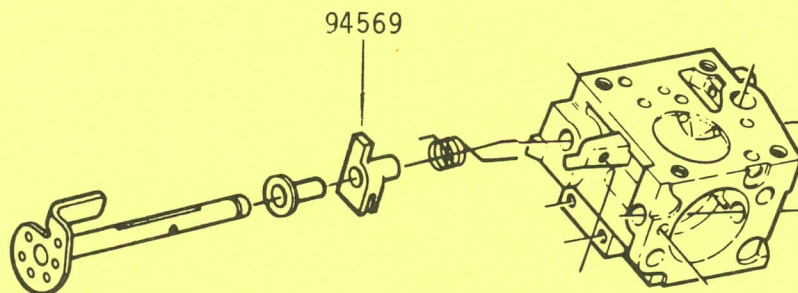
The socket head screw 80373-1 (1/4-20 x 3/4") that clamps the lower head to the tube has been replaced by a socket head screw 80428-1 (1/4-20 x 1") and lockwasher 83061. The torque specification for screw number 80428-1 is 135 inch/pounds.

Lower head assembly kit number A-96756 includes:

1. _____ Improved lower head
2. 80428-1 Screw, socket head (1/4-20 x 1")
3. 80548 Screw #6-32 x 3/8"
4. 83061 Lockwasher

In the owners kit the short hex key number 22061 is replaced by a longer hex key number 94441. This will allow the customer to achieve more clamping force on the lower head when assembling it to the tube.

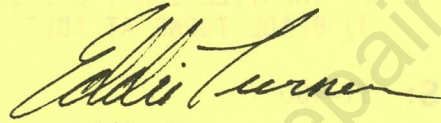
- 2) We have had some requests from the field asking that we supply the throttle shaft bushing as a separate item. The part number is 94569. Refer to the illustration below.



Over

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- 3) If the blade on the ST-400 will not stop turning at idle, you should suspect a warped clutch drum. Remove the driveshaft and shaft casing. Insert a screwdriver into the hub and drum where the driveshaft would normally be inserted. Rotate the drum. You will hear and/or feel the drum dragging against the clutch shoes. If the drum is warped it must be replaced.

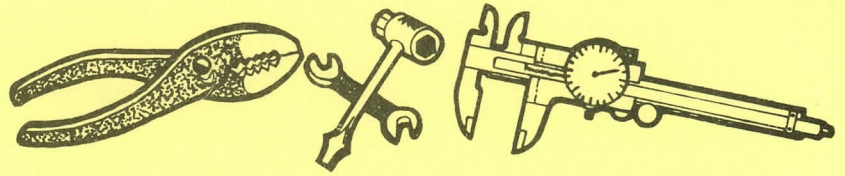


Eddie Turner
Service Manager
Forestry Products

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TECHNICAL SERVICE BULLETIN

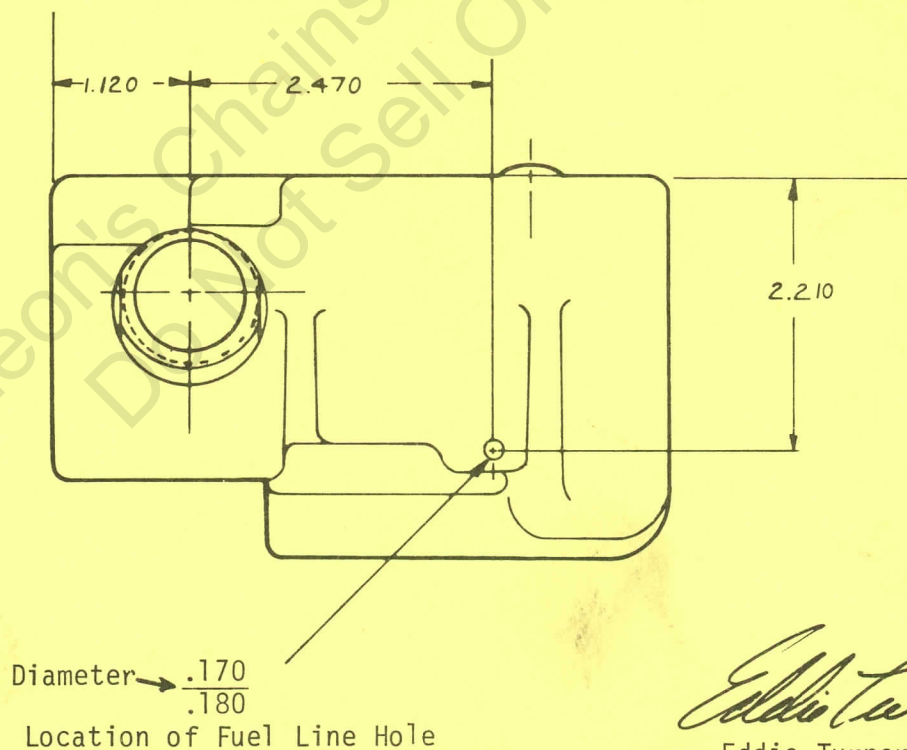
NO. 181-022

SUBJECT: FUEL LINE AND FUEL TANK

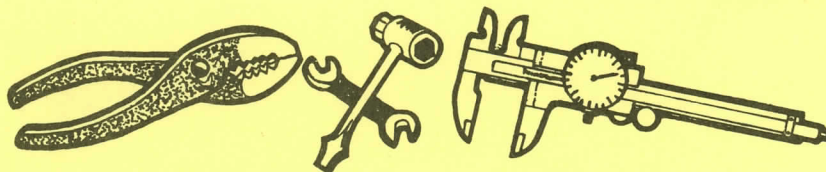
AFFECTS: ST-200

The ST-200 parts list (#17435) indicates the wrong fuel line part number. The part number shown in the list is 93157-24. The correct part number is 70310-24. The 93157-24 has a thicker wall, therefore, making it difficult to thread the line into the tank and it also restricts fuel flow. The ST-200's have been built with the 70310-24 fuel line.

Some fuel tanks 94445-1 have the hole for the fuel line drilled in the wrong location. This results in a pinched fuel line when these tanks are assembled into a unit. If a new unit starves for fuel, suspect a pinched fuel line. See the illustration below for the proper hole location. The part number has been changed to A-94462-B.



Eddie Turner
Service Manager
Forestry Products



TECHNICAL SERVICE BULLETIN

NO. 181-023

SUBJECT: NEW FULLY ADJUSTABLE CARBURETORS

AFFECTS: XL, XL-2, 190, SUPER-2, VI-SUPER-2

A new carburetor with an adjustable high speed jet is now available for the XL family of chain saws.

This carburetor can be identified by a short high speed needle that has a "D" shaped key instead of a screwdriver slot. (See Figure #1). To adjust this carburetor, remove the air filter cover, then use a needle nose pliers to turn the "D" shaped needle. The initial settings are 1¼ turns open for both the high and low speed needles.

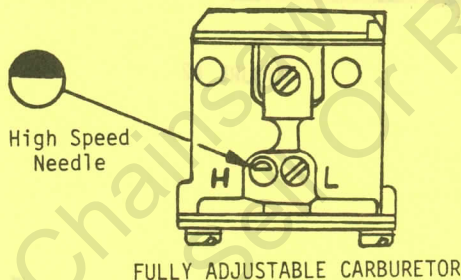


Figure #1

Refer to the list below when ordering carburetors.

MODEL	OLD CARBURETOR		REPLACED BY	
XL, XL-2	A-94053	HDC-48-A	A-94649-A	HDC-65
	A-70551-B	HK-27-B	"	"
190, Super-2	A-94649	HDC-57	"	"
	A-70927-C	HK-16-D	"	"
VI-Super-2	A-94650	HDC-58	A-96621	HDC-67

Below is a list of repair parts for A-94649-A and A-96621.

94056	Repair Kit
93910-A	Check Valve Repair Kit
64229	Inlet Needle
94701	Gasket & Diaphragm Kit

Continued

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SERVICE TIP:

A carburetor adjustment tool can be made from an old screwdriver. (See Figure #2). Grind the sides of the blade until the blade width is the same as the shank diameter (3/16 inch). Solder a section of copper tubing to the shank. The end of the blade should be flush to the end of the tubing.

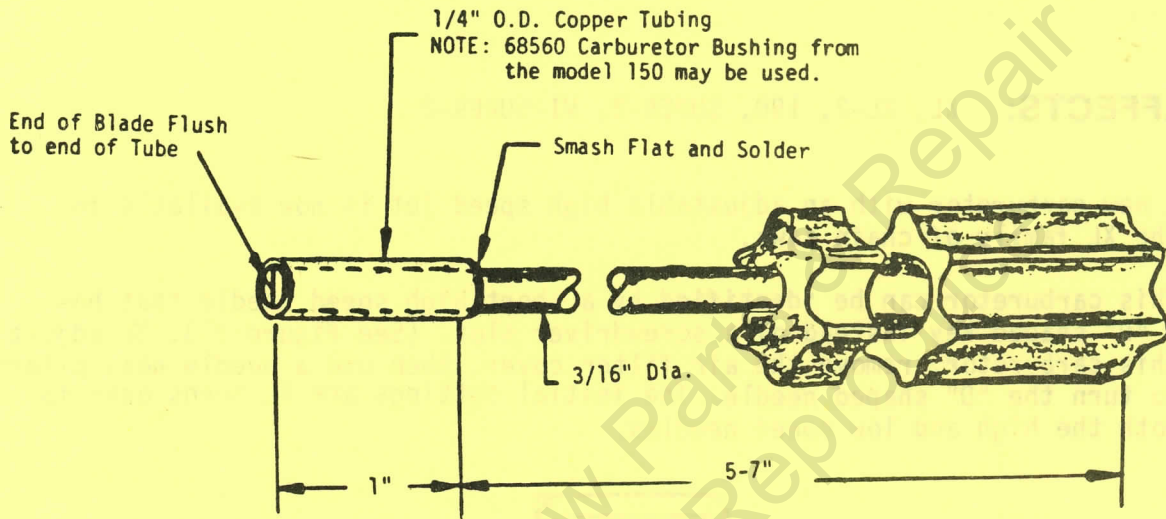
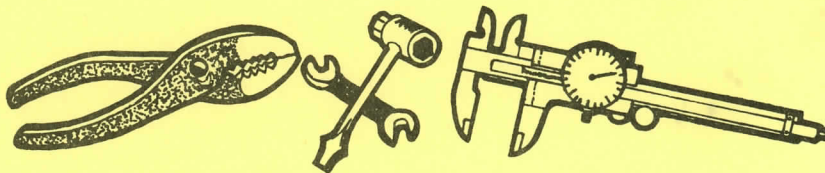


FIGURE #2

Eddie Turner

Eddie Turner
Service Manager
Forestry Products

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TECHNICAL SERVICE BULLETIN

NO. 181-024

SUBJECT: 1. ZAMA CARBURETOR A-96421
2. NEW CRANKSHAFT A-96418-A
3. FUEL TANK LEAKS

AFFECTS: 330 CHAIN SAW

1. A new carburetor has been released for the 330 chain saw. It is a Zama model number C-1S-H3. The Zama carburetor will supersede the Walbro carburetor (A-94380). Below is a list of parts to order by.

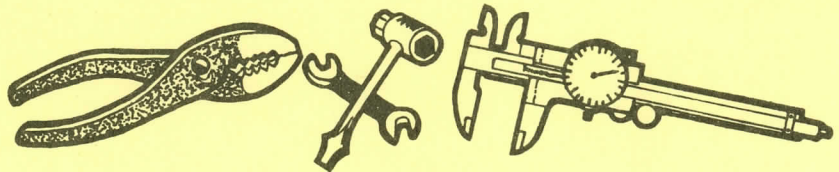
A-96421 Zama Carburetor
96482 Repair Kit
96483 Gasket/Diaphragm Set

2. To prevent crankshafts from twisting a new shaft with a black oxide coated crankpin has been released for service and production. The new part number is A-96418-A. If a crankshaft with a "black colored" crankpin should fail return it to your local Homelite Factory Service Center.
3. If you have a 330 with a fuel tank that leaks it may be a result of the isolator screw (82377) rubbing the tank. If you find this is the case shorten the screw 1/16" by grinding or filing it before replacing the tank.

Eddie Turner
Service Manager
Forestry Products

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DATE 9/81



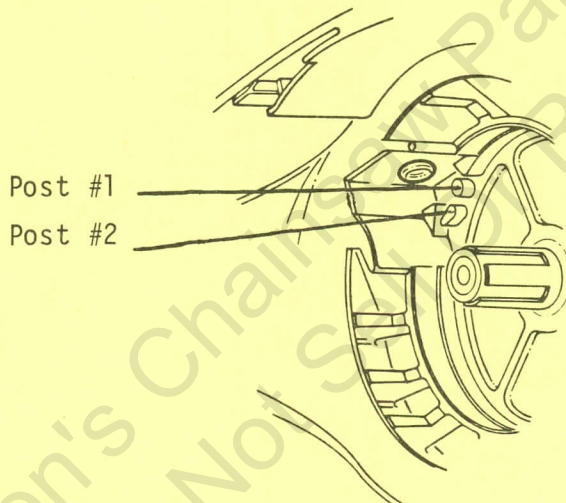
TECHNICAL SERVICE BULLETIN

NO. 181-025

SUBJECT: PLASTIC STARTER HOUSINGS AND RECOIL SPRINGS

AFFECTS: XL CHAIN SAW FAMILY

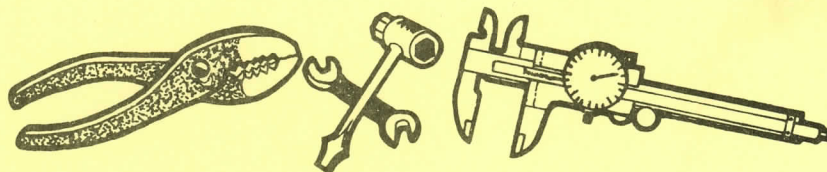
It has come to our attention that some starter housings are being replaced because of broken recoil spring posts. You will note that most housings have two posts located near the rope eyelet (see drawing). Each post is for a different type recoil spring.



The "round" post (#1) is for the recoil spring that is used in production. This spring is enclosed in a metal container. Post number 2 is for our service recoil spring, part number 69217.

If the production recoil spring post should break it is not necessary to replace the starter housing. Use recoil spring 69217 and mount it on post number 2.

Eddie Turner
Service Manager
Forestry Products



TECHNICAL SERVICE BULLETIN

NO. 181-026

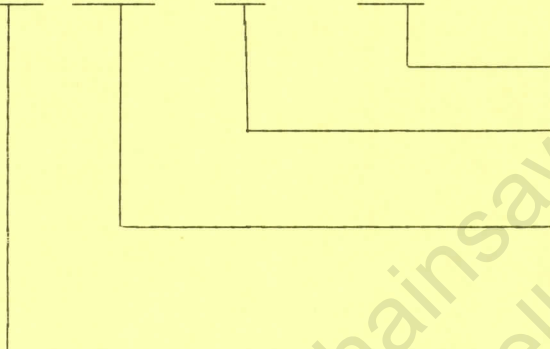
SUBJECT: SERIAL NUMBERS

AFFECTS: ALL MODELS

The following information should answer most of your questions regarding serial numbers and how to read them.

EXAMPLE:

4 C 152 1238



This was the 1,238 unit built that day.

The next 3 numbers specify the calendar day of the year. Day 152 was June 1.

*This letter specifies the year of final assembly. See below. Before a letter was used to specify the year a number was used.

This number specifies the assembly line the unit was built on. This could also be represented by a letter. Most units built at Arrowood plant use a letter in this position.

* <u>LETTER CODE</u>		
A-1979	J-1988	S-1997
B-1980	K-1989	T-1998
C-1981	L-1990	U-1999
D-1982	M-1991	V-2000
E-1983	N-1992	W-2001
F-1984	O-1993	X-2002
G-1985	P-1994	Y-2003
H-1986	Q-1995	Z-2004
I-1987	R-1996	

NUMBER CODE

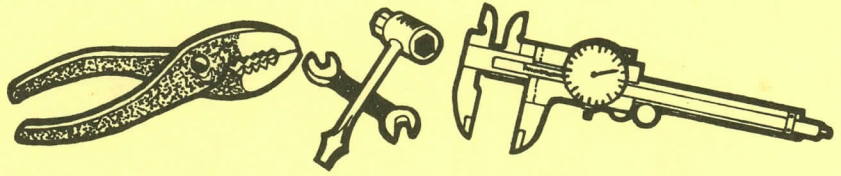
2-1972	7-1977
3-1973	8-1978
4-1974	9-1979
5-1975	0-1980
6-1976	1-1981

Prior to the 9 digit serial number now being used an 8 digit number was used. The 8 digit number reads the same as the 9 digit number except the assembly line designation was not used.

Eddie Turner
Service Mgr-Forestry Products

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TECHNICAL SERVICE BULLETIN

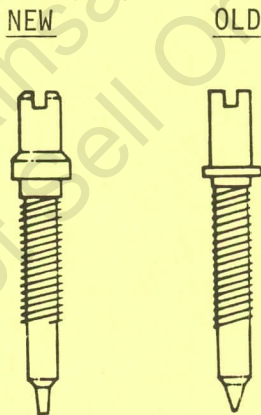
NO. 181-027

SUBJECT: NEW CARBURETOR HIGH SPEED NEEDLE 96896

AFFECTS: 410 CHAIN SAW

We have received complaints from the field that the 410 carburetor is difficult to adjust and that it loses its adjustment after a short period of use. These problems have been traced to the high speed needle. Due to the shape of the point on the needle the slightest movement affects carburetor adjustment.

In order to correct these problems the needle has been reshaped. This will make the carburetor easier to adjust and it will retain its initial setting longer.

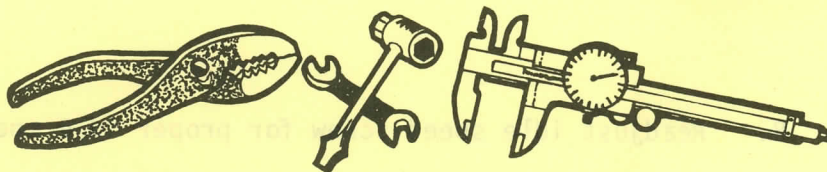


All existing carburetors and repair kits in service will be reworked to include the new needle. The new carburetor part number is A-93393-B and the new repair kit part number is 95893-A.

Eddie Turner
Service Manager
Forestry Products

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DATE 10/81



TECHNICAL SERVICE BULLETIN

NO. 181-028

SUBJECT: PROPER CARBURETOR ADJUSTMENT

AFFECTS: 410 CHAIN SAW

You should find the following information useful when adjusting the 410 carburetor:

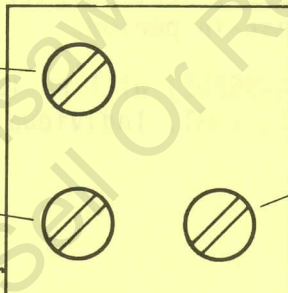
1. PROPER CARBURETOR ADJUSTMENT

IDLE SPEED

Turn: Clockwise ↻ Fast
Counterclockwise ↻ Slow

LOW SPEED MIXTURE

Turn: Clockwise ↻ Lean
Counterclockwise ↻ Richer



HIGH SPEED MIXTURE

Turn: Clockwise ↻ Lean
Counterclockwise ↻ Richer

INITIAL SETTINGS:

Low Speed Mixture: 1-1/2 turn off seat

High Speed Mixture: 1 turn off seat

Idle Speed: To keep unit running

IMPORTANT

Run saw for 2 or 3 minutes to warm up.

TO ADJUST FOR PROPER IDLE SPEED:

- A. Start turning low speed mixture clockwise ↻ (lean). The idle speed will increase. At the point the idle speed starts to slow down or the engine starts to miss or run rough; turn idle mixture back counterclockwise ↻ (richen) 1/16 turn.

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- B. Readjust idle speed screw for proper idle speed.

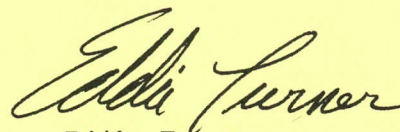
TO ADJUST FOR BEST POWER:

- A. With the chain stalled in a cut (clutch slipping), hold the throttle trigger wide open for 2 seconds. The unit should run smooth. Turn high speed mixture 1/8 of a turn clockwise (lean) and repeat. Continue until the unit runs rough or stalls (with chain stopped and clutch slipping at full throttle). At this point richen (turn high speed mixture screw counterclockwise 1/8 turn. Allow the unit to return to idle before making these adjustments.
- B. Make several cuts and recheck idle speed, acceleration and stalled chain (at clutch slip).

NOTE: ADJUSTING THE SAW IN THE WOOD, FOLLOWING DESCRIBED STEPS, IS BETTER THAN ADJUSTING THE CARBURETOR BY EAR. ADJUST THE UNIT FOR BEST POWER NOT TOP R.P.M.

ALSO, THE DESCRIBED PROCEDURES SHOULD BE MADE USING THE NEW HIGH SPEED ADJUSTING NEEDLE, PART NUMBER 96896.

2. The 410 chain saw has a unique design of thin steel rings. These thin rings result in a much higher horsepower and RPM performance at top end. To obtain this high performance the 410 requires 8 to 10 hours of running time for the rings to properly seat. Significant performance improvement will result after this break-in period.
3. The 410 parts kit (part #A-96208) will no longer be available from Homelite after September 1, 1981. Individual parts should be ordered from the 410 parts list.



Eddie Turner
Service Manager
Forestry Products



TECHNICAL SERVICE BULLETIN

NO. 281-001

SUBJECT: ADDITION TO INSTRUCTION SHEETS #17440 AND #17441

AFFECTS: VOLTAGE CONVERSION KITS A-47560-A USED ON SP150-1B AND
A-47650-A USED ON SP200-2B

After paragraph #5, add #5A - Remove jumper from across terminals #2
and #3 of terminal board.

Failure of this step could cause damage to the pump.

A handwritten signature in black ink that reads "Rick Mason".

Rick Mason
Technical Service Advisor

ds

DATE 3/81



TECHNICAL SERVICE BULLETIN

NO. 281-002

SUBJECT: PROPER OIL REQUIREMENTS FOR DIESEL ENGINES

AFFECTS: DIESEL ENGINES

The owners manual for all the diesel engines recommends the use of HD series 3 oil at various weights, depending on outside air temperature. This oil is not the standard motor oil used in your automobile, but specialized oil developed for diesel engines. The MIL specs for these oils are MIL-L-2104C, MIL-L-46152B, and MIL-L-45199. Some examples of oil meeting these specs are:

Kendall Super D III

Gulf Super Duty Plus

Oils not meeting these specifications can cause damage to the engine. Using oils that do not meet these specifications will also void the warranty.

Bill Borachok
Service Manager
Construction Equipment

ds

DATE 3/81



TECHNICAL SERVICE BULLETIN

NO. 281-003

SUBJECT: WARRANTY RETURNS

AFFECTS: GENERATOR ROTORS.

In order to investigate the possibilities of rebuilding generator rotors, we will require that any generator rotor being replaced under warranty be returned to the Service Center that processes your warranty claim.

Warranty claims submitted without the rotors will not be processed and will be returned to you delaying your credit.

We thank you for your cooperation in this matter.

Bill Borachok

Bill Borachok
Service Manager
Construction Equipment

bh

DATE 3/81



TECHNICAL SERVICE BULLETIN

NO. 281-004

SUBJECT: SERVICE MANUALS (DIESEL ENGINES)

AFFECTS: DTP3-1, 177D38, DTP4, GD7200-1, GD7400-2, GD12000-1, GD12300-2

Four shop service manuals are now available from stock for the diesel engines used on our pumps and generators.

<u>PART #</u>	<u>UNIT</u>
17562	DTP3-1, 177D38
17563	DTP4
17564	GD7200-1, GD7400-2
17565	GD12000-1, GD12300-2

These shop manuals are to be ordered through your normal order procedure.

Bill Borachok
Service Manager
Construction Equipment

ds

DATE 4/81



TECHNICAL SERVICE BULLETIN

NO. 281-005**SUBJECT:** PUMP OVERHAUL KITS**AFFECTS:** ALL PUMPS

We have had many requests for Homelite to supply pump overhaul kits. We now have these kits available in attractive packaging that can be hung on a peg board. The part numbers and the units the kits will fit are listed below.

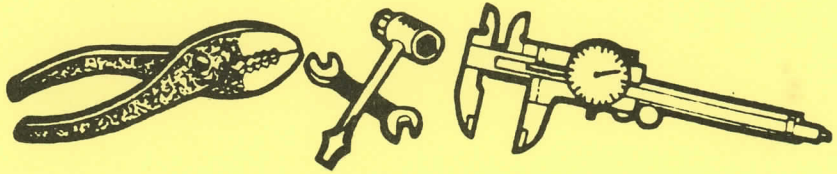
A-47832	Buna "N" Pump Overhaul Kit	(AP Pumps)
A-43297-B	EPDM Pump Overhaul Kit	(AP Pumps)
A-48298	Viton Pump Overhaul Kit	(AP Pumps)
A-48370	Pump Overhaul Kit	XLS1½
A-48371	Pump Overhaul Kit	XLS2
A-48372	Pump Overhaul Kit	110, 111S1½
A-48373	Pump Overhaul Kit	111S2
A-48374	Pump Overhaul Kit	120S3
A-48375	Pump Overhaul Kit	Submersible Pumps
A-48376	Pump Overhaul Kit	121TP2
A-48377	Pump Overhaul Kit	3" Trash Pumps
A-48367	Pump Overhaul Kit	160TP4
A-48368	Pump Overhaul Kit	DTP4

These kits include all the gaskets and the seal required to repair the pump end.

Bill Borachok
Service Manager
Construction Equipment

ds

DATE 4/81



TECHNICAL SERVICE BULLETIN

NO. 281-006

SUBJECT: ELECTRIC START FOR FP-250-1 PRESSURE PUMP

AFFECTS: FP-250-1

An electric start can be adapted to the engine on the FP-250-1 pressure pump.

If the customer requires electric start but does not require battery charging, order and install:

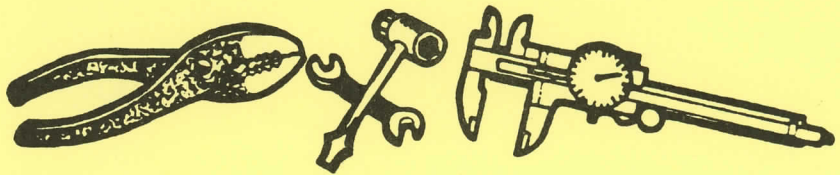
(1) 391603 Starter Kit
(1) 391988 Flywheel
Plus a panel kit if customer requires a start panel
(1) 392918 Panel Kit with Toggle Switch
or (1) 392725 Panel Kit with Key Switch

If a customer requires that the pump engine charge the battery, order and install:

(1) 391603 Starter Kit
(1) 391988 Flywheel
(1) 393474 Stator Alternator
(4) 93621 Screw
Plus a panel kit if customer requires a start panel
(1) 392918 Panel Kit with Toggle Switch
or (1) 392725 Panel Kit with Key Switch

All these items are Briggs & Stratton parts and are to be ordered from your normal Briggs & Stratton Source.

Bill Borachok
Service Manager
Construction Equipment



TECHNICAL SERVICE BULLETIN

NO. 281-007

SUBJECT: WARNING LIGHT BULB

AFFECTS: DTP4-1

The bulb used in the warning light on the switch panel of the DTP4-1 is not available as a service item. This is a common light bulb that can be purchased locally. You can use a G.E. 1445 miniature lamp bulb, 12 volt or any equivalent.

LB-00464 should not be ordered for a replacement bulb. This is only a complete warning light housing and does not contain a bulb.

Rick Mason
Technical Service Advisor

ds

DATE 12/81