HOMELITE JACOBSEN

TECHNICAL SERVICE BULLETIN

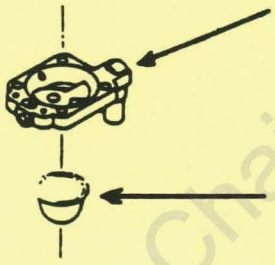
NO. 189-001

SUBJECT: PRIMER REPAIR PARTS FOR 25cc ENGINES

AFFECTS: 25cc STRING TRIMMERS & BLOWERS

Parts are available to service the primer systems on both the Walbro & Zama carburetors used on the subject model units.

Refer to illustration and part numbers shown below:



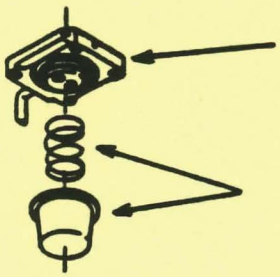
WALBRO

Primer Base Assy.

A-01200	WT-71,71A	(Trimmers)
A-01199	WT-80,80A	(Blowers)

Primer Bulb

01201	A11



ZAMA

Primer Base Assy.

A-01194	C1U-H10,H10A,H10B,H10C	(Trimmers)
A-01196	C1U-H11	(Blowers)

Primer Bulb & Spring

A-01195	A11

Peery Gibson
Service Manager

HOMELITE TEXTRON
Homelite Division of Textron Inc.

DATE 2/89

HOMELITE JACOBSEN

TECHNICAL SERVICE BULLETIN

NO. 189-002

SUBJECT:
1. NEW STYLE ENGINE HOUSING, FUEL TANK, AND AIR FILTER BOX.
2. SERVICE AND REPAIR PARTS FOR THE MACHETE BLADE.
3. OVER PRIMING THE CARBURETOR ON MODELS SO EQUIPPED.
4. PARTS LIST CORRECTIONS.

AFFECTS: VARIOUS UNITS

1. Several cosmetic changes have been made on the 1989 model 25cc String Trimmers and Brushcutters. These changes include new style engine housings, fuel tank, and air filter box.

   For simplicity of service the new style parts will supersede the old style as they are used up.

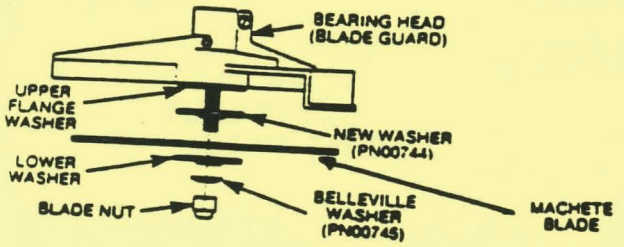
   The new style air filter box has the air inlet holes in the bottom of the backside (under the carburetor). The old style had the air inlet holes on the cover. A new style air filter box and cover assembly will supersede both the old style air filter box and old style cover. Refer to the list below showing both the old and new part numbers.

OLD STYLE		NEW STYLE
Engine Housings		Engine Housings
A-00106 (Non-Clutch Models)	superseded by	A-01082
A-00105 (Clutch Models)	superseded by	A-01237
Fuel Tank		Fuel Tank
A-00098-A	superseded by	A-01441
Air Filter Box		Air Filter Box & Cover
A-00110	superseded by	A-01440
Air Filter Cover 98761	superseded by	A-01440

2. Listed below are the repair and service parts available to install, sharpen and repair the Homelite 7" Machete blade.

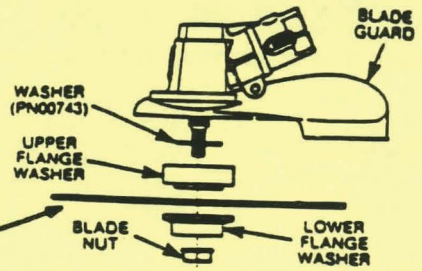
Spacer Washer	00743	For ST-385,485 & HK-30,33
Offset Washer	00744	For ST-185
Belleville Washer	00745	For ST-185

ST-185



ST-385, 485

HK-30, 33



File Guide/Depth Gauge Tool (use with 3/16" File) 18058

Repair Kit D1-92015-WD
includes: (7) R.H. Cutter
(7) L.H. Cutter
(7) Preset Tie Strap - R.H.
(7) Preset Tie Strap - L.H.

3. Homelite 25cc trimmers, brushcutters, blowers and the 16cc hedge trimmers (HT-17) cannot be over-primed resulting in the unit flooding. OVER-CHOKING, HOWEVER WILL RESULT IN THE UNIT FLOODING.

   The purpose of the primer is to remove all the air from the metering chamber and fill it with fuel. The excess fuel which enters the metering chamber is expelled through the overflow tube. This excess fuel is not forced into the engine thus preventing a flooded condition.

   NOTE :

   The HK and HT units using the Kawasaki powerheads can be flooded during priming if the tickler lever is not depressed completely.

4. Please make the corrections noted below to the following illustrated Parts List.

   - Parts List 17883 (HT-18)
     Page 5, Figure 2

     Item 16 - Pulley should be A-98552-99

     (Technical Service Bulletin 188-013 incorrectly gave this part number as A-98550-69).

   - Parts List 18044 (DM-54)
     Page 5, Figure 3

     Item 21 - Crankshaft should be A-49535.

Peery Gibson
Service Manager

HOMELITE JACOBSEN

TECHNICAL SERVICE BULLETIN

NO. 189-003

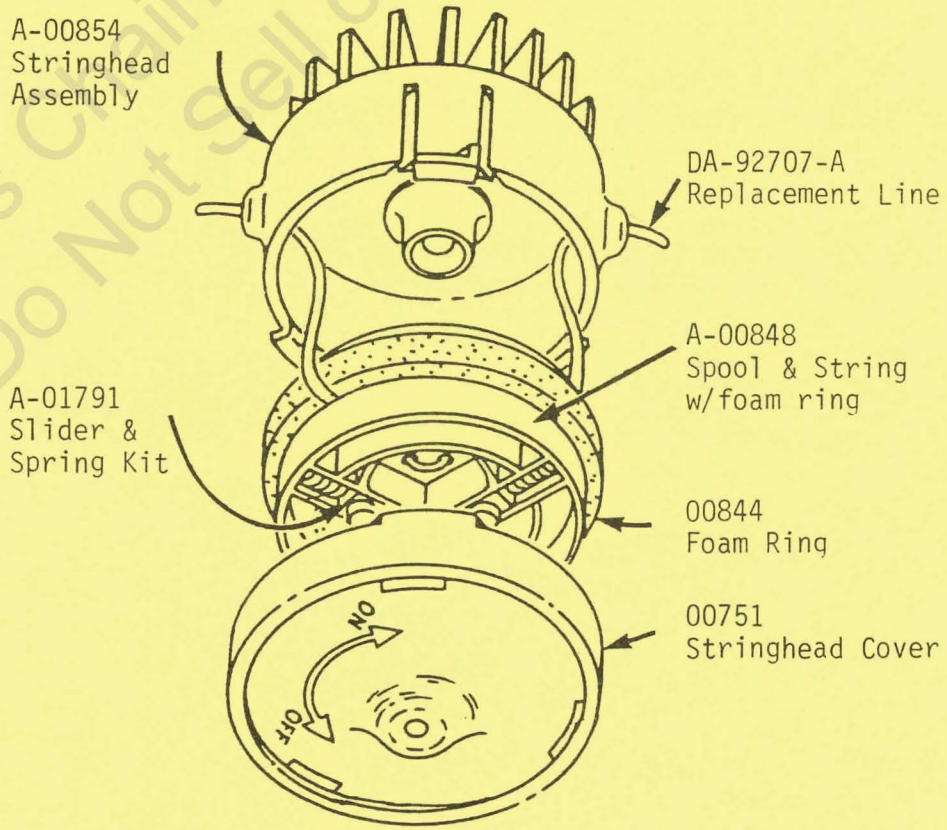
SUBJECT:
1. NEW AUTOMATIC STRING ADVANCE FOR ST-70.
2. CRANKSHAFT & PISTON ASSEMBLY FOR SERVICE.
3. THIN RING PISTON FOR 330 (Reissue TSB 182-038, 11/82).

AFFECTS:
1. ST-70 (UT-21524-A)
2. Super 2
   VI Super 2
   190 (Service)
   ST-200, 310 (Service)
3. 330 (Starting with Lot # xD245xxx)

1. Effective with UT-21524-A, the model ST-70 string trimmer is equipped with a new automatic string advance system. This is a dual line system incorporating a set of three identical sliders and springs.

The operation of this new system, unlike the previous idle-line system, is such that the sliders move in and out allowing string to feed automatically while the unit is in operation (without having to release the trigger).

Refer to the illustration below when ordering parts for the new string advance.



2. The 1.9 cu.in. (31cc) service piston assembly A-70224-A used prior to the wrist pin bearing (see Technical Bulletin 187-014, 11/87) is no longer available and has been superseded by a crankshaft/connecting rod (with wrist pin bearing) & piston assembly A-97608-A.

This assembly (A-97608-A) will update older units to the wrist pin bearing design currently used on the Super 2 Chain Saw. The previously released crankshaft/connecting rod (with wrist pin bearing) A-97611 will also supersede, when exhausted, to the A-97608-A assembly.

A-70224-A
&
A-97611

Superseded by A-97608-A Crankshaft & Piston Assembly includes:

(1)	A-98967	Piston Assembly
(2)	12530	Needle Bearing
(2)	69093-B	Thrust Washer
(2)	69407	Seal Spacer
(2)	94638	Seals
(1)	69250	Woodruff Key

SERVICE NOTE

When using the A-97608-A in a model 310 string trimmer, it will be necessary to convert the unit to a clutch system. Clutch A-70351-A, Drum & Connector A-97241, and Shroud 94458 will also have to be ordered and installed.

3. A thin ring piston assembly has been used in the model 330 since mid-1982 (effective with lot # XD245xxx). This thin ring piston assembly superseded, at that time, the earlier thick ring piston.

Before ordering piston rings for a 330 saw it will be necessary to determine whether the thin 96510 or thick 93823 piston rings are required.

ONCE OUR INVENTORY OF THE THICK 93823 PISTON RING IS USED UP THE PART NUMBER WILL BE OBSOLETED.

Peery Gibson
Service Manager

HOMELITE
JACOBSEN

TECHNICAL SERVICE BULLETIN

NO. 189-004

SUBJECT: IGNITION MODULES REPLACED UNDER WARRANTY

AFFECTS: ALL UNITS

In an effort to further improve the quality of ignition systems available to us, we have undertaken a return program for all ignition modules replaced under warranty. All returned modules will be tested functionally by Homelite. Those that check OK will be returned to the dealer. Non-functional modules will be returned to their manufacturer.

UNTIL FURTHER NOTICE ALL MODULES REPLACED UNDER WARRANTY SHOULD BE RETURNED WITH THE CLAIM.

Non-functional modules will be credited including a freight allowance of $1.80

IMPORTANT SERVICE NOTE

WHEN TESTING PHELON MODULES

Ignition testers which require a connection at the stop switch terminal should not be used. Use of the stop switch terminal during testing may result in a failed resistor in the circuit.

Using a battery operated VOM for checking continuity is permissable.

Peery Gibson
Service Manager

HOMELITE JACOBSEN

TECHNICAL SERVICE BULLETIN

NO. 189-005

SUBJECT: 2-INCH BORE CYLINDER & PISTON

AFFECTS: SXL-925 (UT-10415-C)
SXL-925-W (UT-10510-C)

The subject model chain saws (effective with the -C UT number suffix) are being manufactured with a 2-inch bore cylinder and piston. This reduction in bore size will result in a cooler running unit.

Replacement cylinder and piston part numbers for the 2-inch bore are listed below:

Piston & Pin Assembly (2-inch dia.)		A-68033
Includes:		
Piston Rings	(2)	55038-1A
Retaining Rings	(2)	64742
Cylinder (2-inch bore)		A-69738

It is recommended that the 2" bore cylinder and piston combination shown above be used when rebuilding units originally manufactured with the larger 2 1/16" bore.

Peery Gibson
Service Manager

HOMELITE JACOBSEN

TECHNICAL SERVICE BULLETIN

NO. 189-006

SUBJECT: DRUM & CONNECTOR A-00585-1

AFFECTS: ALL CLUTCH MODELS 25cc TRIMMER/BRUSHCUTTERS (STARTING WITH S/N HJ3370950)

Effective with the serial number shown above all clutch model 25cc trimmer/brushcutters are being built with a formed clutch drum & connector assembly A-00585-1 (see diagram below). Implemented along with the new drum & connector is the addition of flat washer 84065 under the clutch adapter 98930 (see diagram below). This washer is necessary to properly space the drum away from the engine housing.

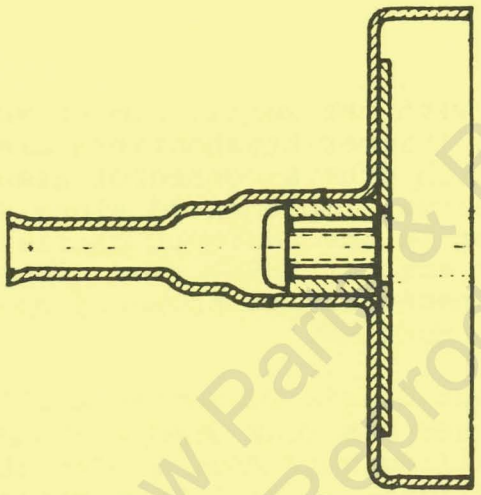
The previous drum & connector A-00252 is no longer available and has been superseded by the new A-00585-1. When installing this drum & connector on unit made prior to S/N HJ3370950 it will be necessary to install the flat washer 84065 under the clutch adapter. If this washer is not installed, the drum will rub the engine housing.

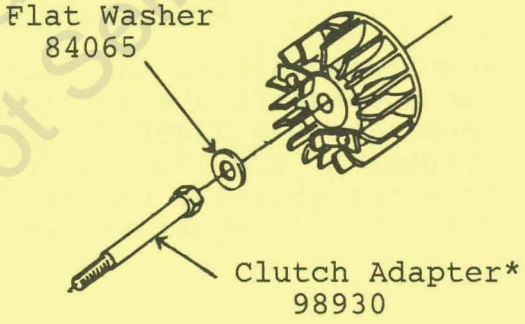
SERVICE NOTE *

When reinstalling the clutch adapter onto the crankshaft use a thread-locking agent (Homelite P/N 23488-C) on threads and torque adapter to 100-150 in. lbs. (11,3-16,9Nm). This prevents the adapter from coming loose when the clutches are removed.

Peery Gibson
Service Manager

Drum & Connector
A-00585-1





HOMELITE JACOBSEN

TECHNICAL SERVICE BULLETIN

NO. 189-007

SUBJECT: 1) PERMANENTLY BONDED FUEL TANKS

2) BACKPLATE NOT SEALING CREATING AIR LEAK

AFFECTS: 1. S-1050-AO
SXL-925
XL-98C
XL-98A (Service)

2. SXL-925
XL-98C
XL-98A (Service)

1. Since early 1988 the subject units are being manufactured with permanently bonded epoxied fuel tanks (S-1050-AO) or fuel tank/crankcase (SXL-925,XL-98) assemblies. These one piece tanks are not servicable from the standpoint of being able to separate the cover from the tank.

The S-1050-AO fuel tank 58172-4 has been superseded by fuel tank assembly A-63741-2. The assembly contains the following servicable items:

Fuel Tank	A-63741-2
includes:	
Rubber Tubing (6.25")	70310-25
Outlet Fitting	58364
Fuel Filter	A-97700

The cover 59920-2, gasket 58367, and screws 80513 will remain available to service the units built prior to the permanently bonded tanks.

Service fuel tank/crankcase assemblies for the SXL-925 and XL-98 (A & C) units are also now permanently bonded. The part numbers, however, did not change.

The cover 67153-2, gaskets 67159 & 65391, and screws 82147, 82358, 95725 will remain available to service the units built prior to the permanently bonded tanks.

2. The field has reported cases where the epoxy used to seal the fuel tank/crankcase assemblies (see item #1 above) on SXL-925 and XL-98C units was not cleaned off in the area where the backplate fits into the crankcase. This excess epoxy prevents the backplate "O" ring from sealing tightly creating an air leak in the crankcase. Steps have been taken to insure that these condition does not occur in the future.

   When rebuilding units or replacing the fuel tank/crankcase assemblies, the backplate sealing area should be inspected and any excess epoxy removed before proceeding.

Peery Gibson
Service Manager

HOMELITE JACOBSEN

TECHNICAL SERVICE BULLETIN

NO. 189-008

SUBJECT: NEW IGNITION MODULE

AFFECTS: ST-145 (UT-20556-A S/N RANGE HK0821208 to 1963)

ST-155 (UT-20539-A S/N RANGE HK0680001 to 0743)

ST-155 (UT-20573 S/N RANGE HK0790001 to 1600 and HK0820001 to 1904)

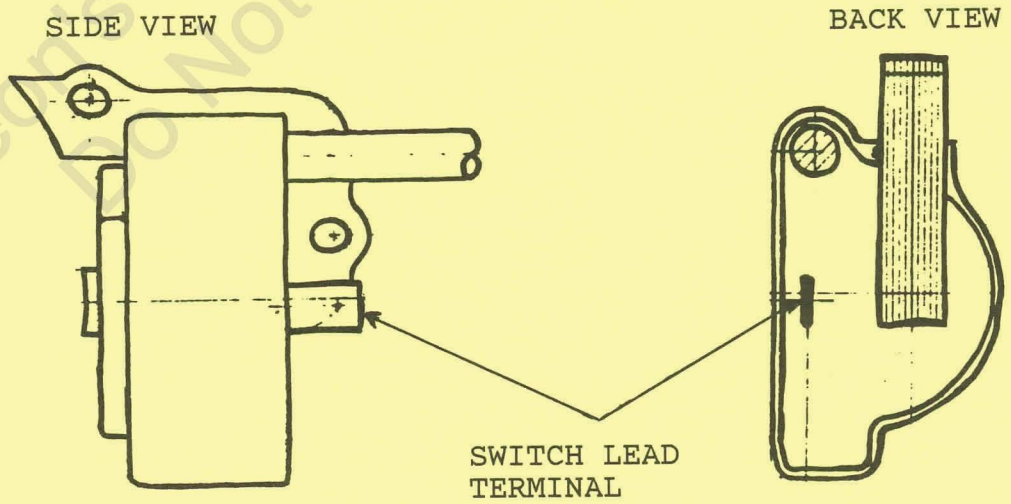
A limited production run of the string trimmer models shown above have been built with a new ignition module developed especially for Homelite.

In the event of failure, this new module will be serviced with the Phelon module 94711-B (See Service Note Below). ALL FAILED MODULES SHOULD BE RETURNED, WITH THE WARRANTY CLAIM, FOR ANALYSIS.

Refer to the diagram below for identification features of the new module.

SERVICE NOTE

This new module is completely interchangeable with the Phelon module and is compatible with the Phelon rotor.



Peery Gibson
Service Manager

HOMELITE JACOBSEN

TECHNICAL SERVICE BULLETIN

NO. 189-009

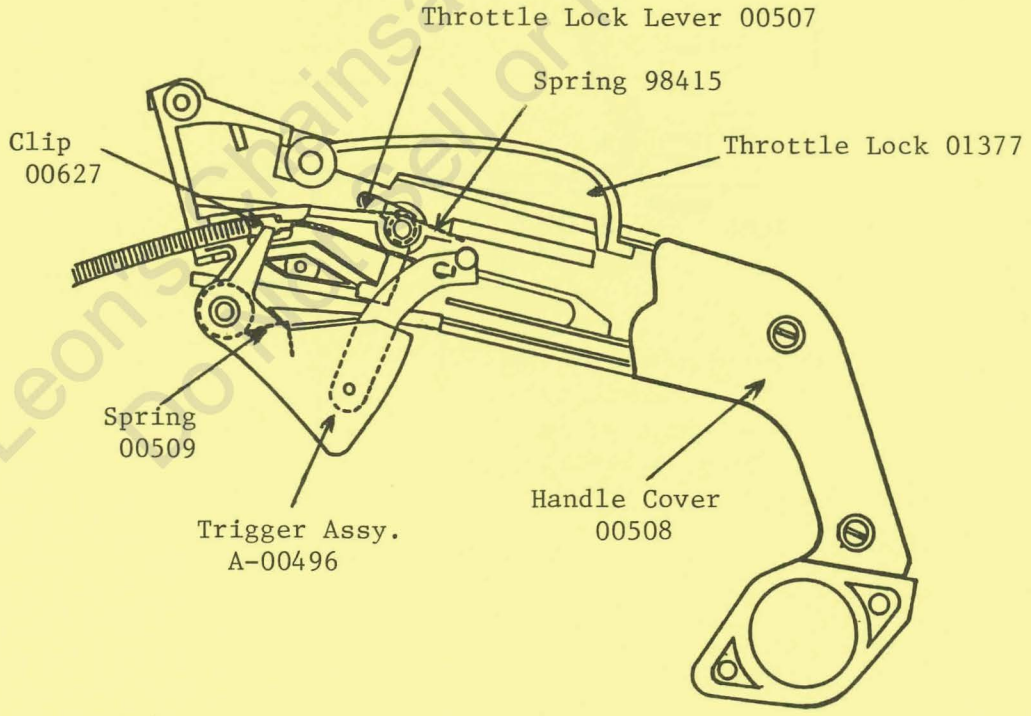
SUBJECT: THROTTLE CABLE SYSTEM

AFFECTS: 340 (STARTING WITH S/N HJ2840407)

All 340 model Chain Saws starting with the serial number shown above incorporate a throttle cable system from the trigger to the carburetor. This cable system is quite different from the earlier throttle rod design.

None of the parts associated with the new cable system are compatible with the earlier throttle rod design.

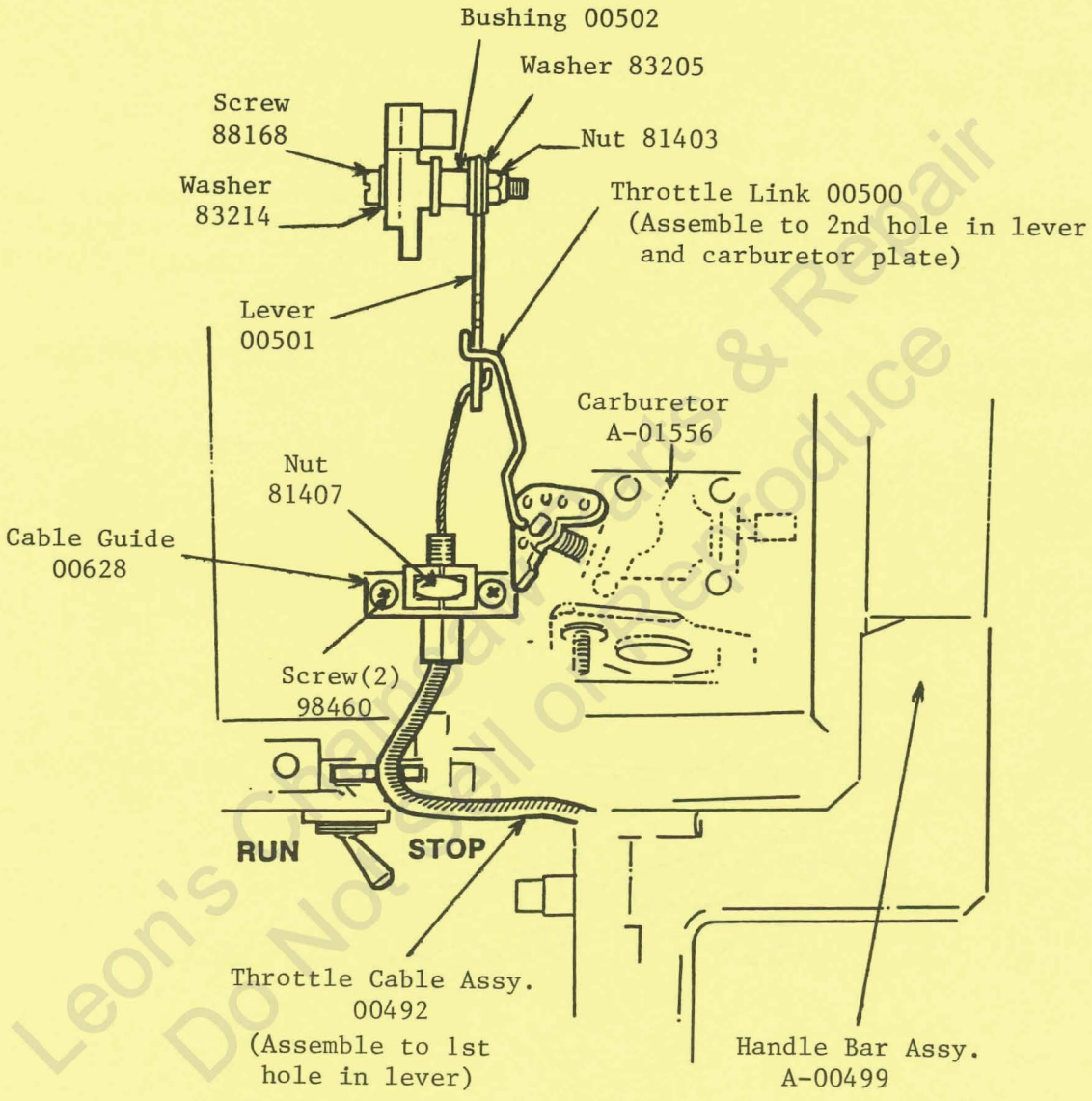
Refer to the two diagrams below when ordering parts for units built with the throttle cable.



Peery Gibson
Service Manager

HOMELITE TEXTRON
Homelite Division of Textron Inc.

DATE 7/89



HOMELITE JACOBSEN

TECHNICAL SERVICE BULLETIN

NO. 189-010

SUBJECT:
1. FIXED JET CARBURETOR WITH HI-SPEED TRIM NEEDLE
2. REVISED GROUND LEAD WIRE
3. FUEL & OIL TANK VENT FILTERS
4. CARBURETOR CHAMBER SEALING IMPROVEMENTS

AFFECTS:
1. 540SL (UT-10611) AND SLF (UT-10684)ONLY (STARTING WITH SERIAL NUMBER HK0970001)

2,3,4. 540

1. For improved reliability, the models 540SL and 540SLF effective with the serial number shown above are now being built with a fixed jet carburetor A-49510 (Walbro WJ-24). Although this carburetor has a fixed main jet it is also equipped with a hi-speed trim needle which allows for a certain amount of flexibility and fine tuning. The design of the carburetor permits it to be adjusted richer but cannot be set any leaner (hi-speed closed) than the main jet allows (similar to the SXL-925 carburetor).

NOTE:

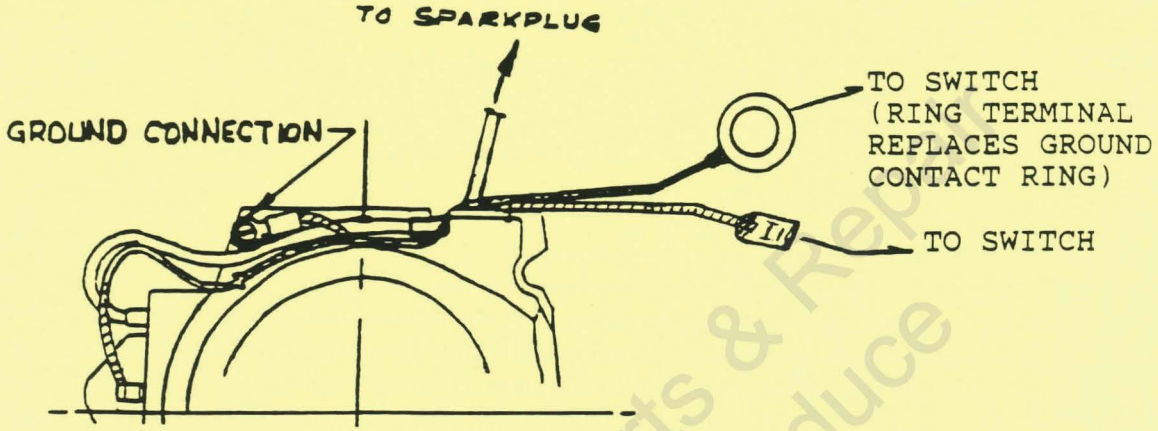
Units equipped with fixed-jet carburetor may require a minimum running of 2-3 tanks of fuel before the no-load speeds will come up to the 11,000 rpm range. Fully broken in units should reach 11,500 - 12,000 rpm with the hi-needle closed.

The model 540W (West Coast) UT-10612 will retain the fully adjustable Walbro WJ-2 (A-97318) carburetor.

Repair parts available to service the fixed-jet carburetor are listed below and should be added to your 540 Parts List (18087).

CARBURETOR (WALBRO WJ-24)	A-49510
REPAIR KIT	49672
GASKET/DIAPHRAGM KIT	97941
MAIN NOZZLE (.026")	49539
INLET NEEDLE	97942

2. The braided ground lead previously used on the 540 has been replaced with a separate ground lead wire (still part of the stop switch lead assembly). The ground wire is retained by the top air guide scroll screw. Refer to the diagram below for proper routing of the new ground lead. The ground contact 98903(located under the switch) is part of the switch lead and ground wire assembly. When using the new lead wire assembly the old ground contact ring should be removed and discarded.

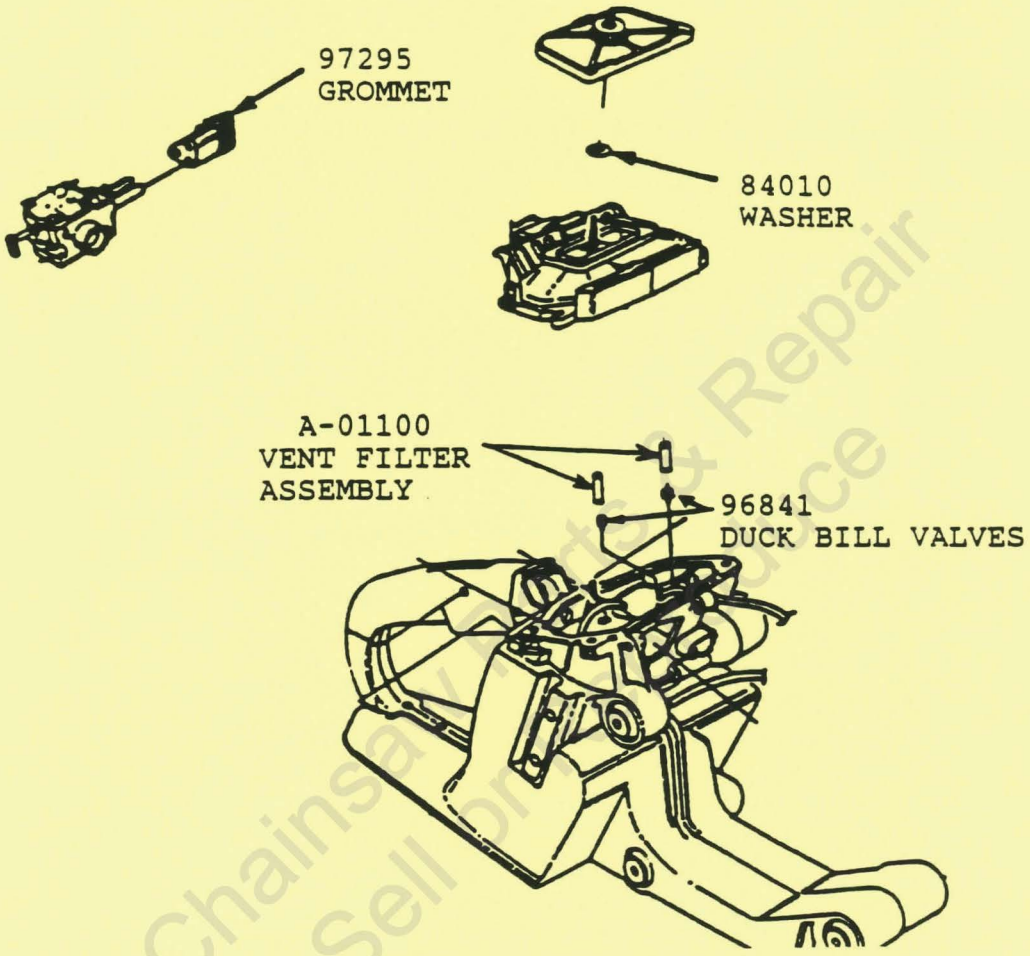


3. Effective with Lot # HJ074 new fuel and oil tank vent filters A-01100 have replaced the earlier sintered bronze filters 00788. The new filter assembly consists of a porous filter (white in color) pressed into an aluminum sleeve. The filter assemblies should be installed with the porous white filter facing up.

4. Along with the new vent filters mentioned in Item #3 the sealing of the carburetor chamber was improved by replacing the three (3) translucent yellow carburetor adjustment needle sleeves (00038 & 00039) with a molded rubber grommet 97295 and adding a flat washer 84010 under the air filter element to prevent it from bowing when the retaining nut is tightened.

   During installation of the carburetor (with the grommet) make sure the grommet face seats and seals against the left side of the carburetor chamber. The flat washer should be installed and centered over the air filter mounting bracket stud, making sure it lays flat, use a cyanoacrylate adhesive (i.e. Super Glue) to hold it in place.

Refer to diagram below for illustration of Item # 3 & 4.



Peery Gibson
Service Manager

HOMELITE JACOBSEN

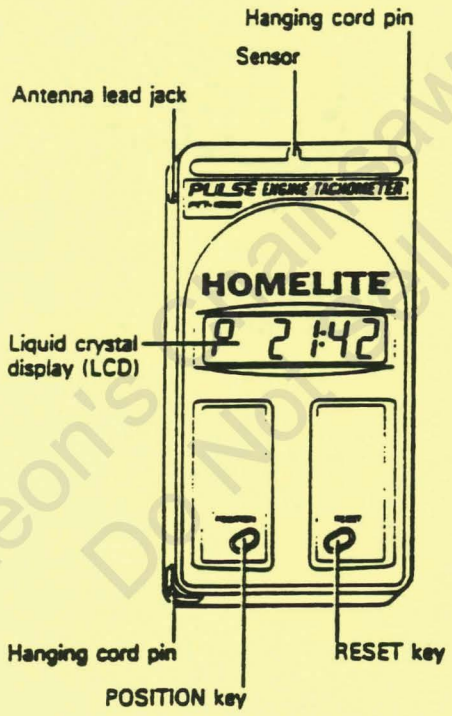
TECHNICAL SERVICE BULLETIN

NO. 189-011

SUBJECT: 1. ELECTRONIC ENGINE TACHOMETER 18416
2. PARTS LIST CORRECTION (18018)

AFFECTS: 1. ALL UNITS
2. EL-12, 14

1. An electronic engine tachometer (P/N 18416) is now available from Homelite. This tachometer can be used to check 2-stroke, single and twin-cylinder engines and 4-stroke, twin and four cylinder engines (see spec sheet below). Accessories included are an antenna lead with clip, hanging cord, and instruction manual. Current price is $85.00 dealer net.



● POSITION TABLE

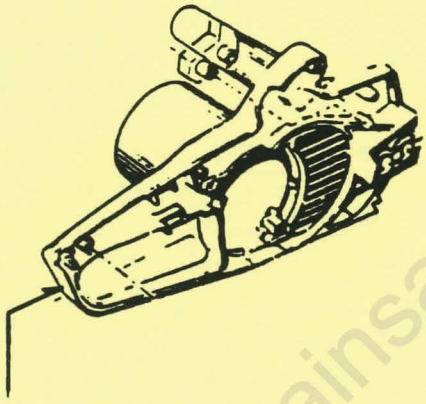
Position No. (on LCD)	Monitorable Engines		Monitorable RPM Range
	Strokes	Cylinders	
P 21:42	2	1	100 – 19000
	4	2	
P 22:44	2	2	100 – 9500
	4	4	

● SPECIFICATIONS

Monitorable Engines	2-stroke 1-, and 2-cylinder
	4-stroke 2-, and 4-cylinder
RPM Display Interval	0.5 sec
Accuracy	±10rpm
Battery	Lithium (CR2032) × 1 ea.
Battery Life	Approx. 20000 hrs
Ambient Temperature	–10°C – +60°C
Storage Temperature	–20°C – +60°C
Dimensions (L×W×H)	120 × 62 × 13 mm
Weight	73 g
Accessories	Antenna lead with clip – 1 ea. Hanging cord – 1 ea. Instruction Manual – 1 ea.

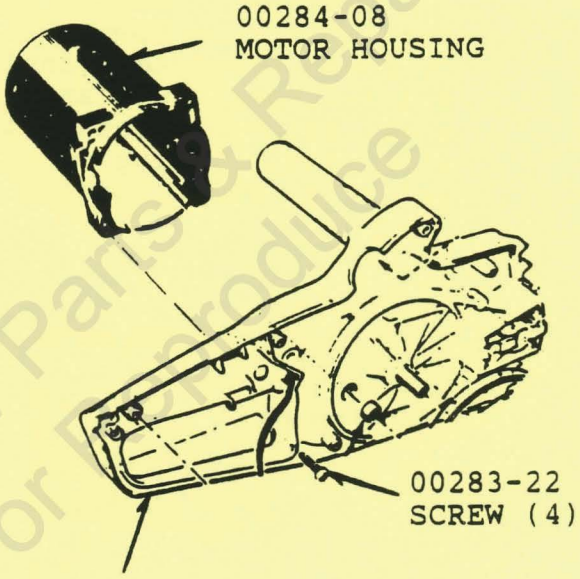
2. The EL-12 and 14 Parts List (18018) is somewhat unclear as to the part numbers of the motor housings and gear housing (EL-14 only). For clarification, please refer to the diagram below.

EL-12



00283-19
MOTOR HOUSING, 1 PIECE

EL-14



00284-07
GEAR HOUSING ASS'Y

Peery Gibson
Service Manager

HOMELITE JACOBSEN

TECHNICAL SERVICE BULLETIN

NO. 289-001

SUBJECT: PARTS BOOKS CORRECTIONS

AFFECTS: FT-5 TILLER
HWS-1414

In Parts Book 18229 for the FT-5 Tiller the following corrections on Page 3 must be made:

Item 40 part number 01212-69 should be 01212-29
Item 53 part number 01212-39 should be 01212-69.

In Parts Book 18245 Concrete Saws on Page 5:

Item 31 part number 49553-28 should be 49953-28
Item 32 part number 49553-29 should be 49953-29
Item 33 part number 49553-30 should be 49953-30
Item 34 part number 49553-31 should be 49953-31
Item 36 part number 49553-33 should be 49953-33
Item 37 part number 49553-34 should be 49953-34
Item 38 part number 49553-35 should be 49953-35

Bill Borachok
Service Manager

HOMELITE JACOBSEN

TECHNICAL SERVICE BULLETIN

NO. 189-009

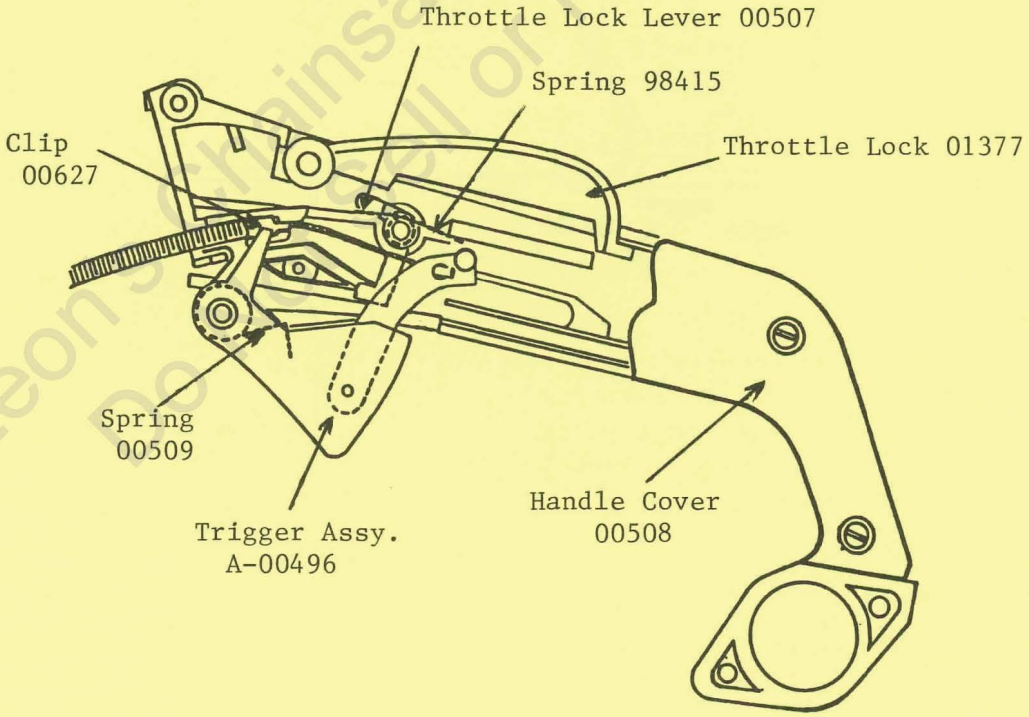
SUBJECT: THROTTLE CABLE SYSTEM

AFFECTS: 340 (STARTING WITH S/N HJ2840407)

All 340 model Chain Saws starting with the serial number shown above incorporate a throttle cable system from the trigger to the carburetor. This cable system is quite different from the earlier throttle rod design.

None of the parts associated with the new cable system are compatible with the earlier throttle rod design.

Refer to the two diagrams below when ordering parts for units built with the throttle cable.

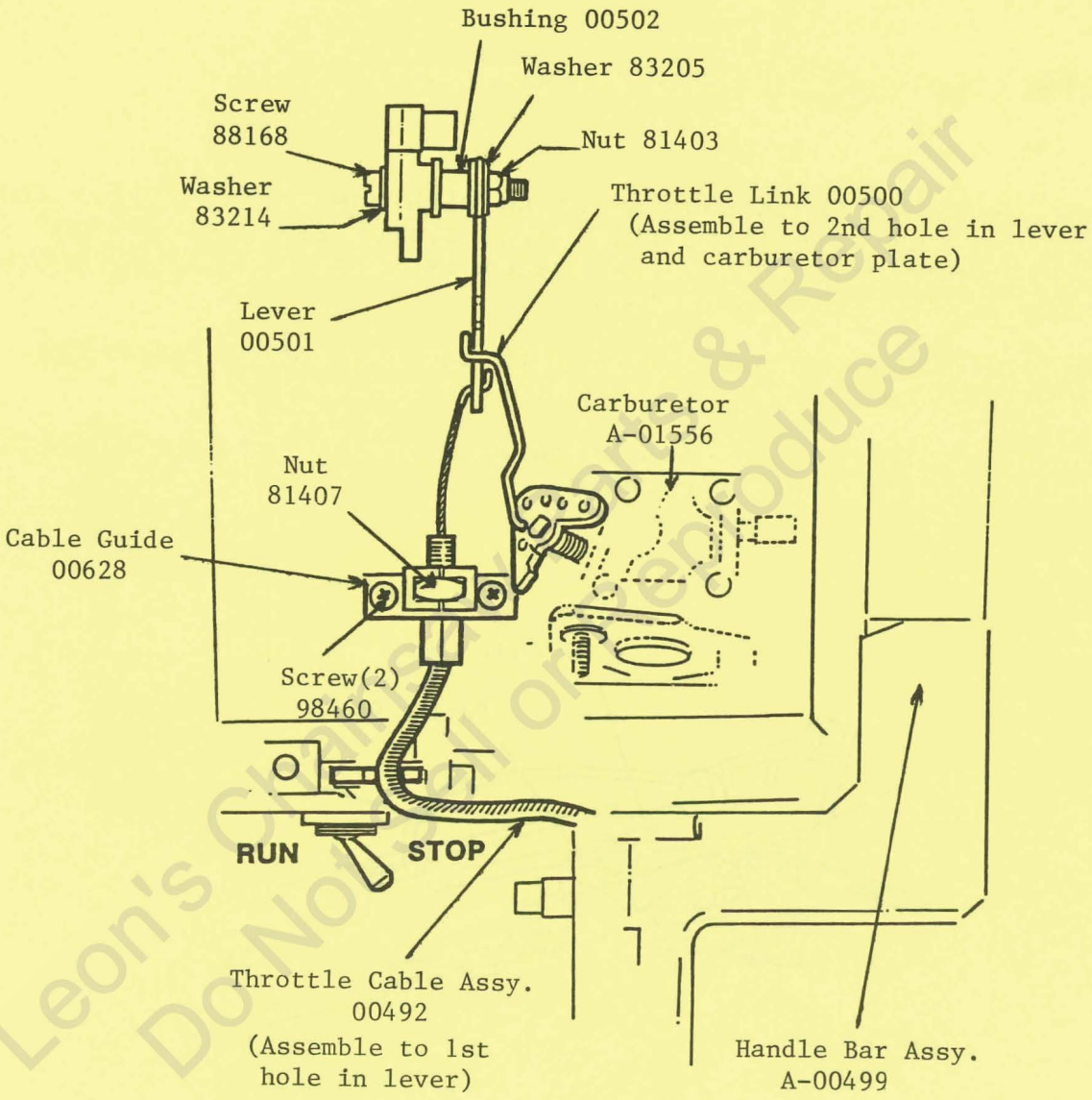


Peery Gibson

Peery Gibson
Service Manager

HOMELITE TEXTRON
Homelite Division of Textron Inc.

DATE 7/89



HOMELITE JACOBSEN

TECHNICAL SERVICE BULLETIN

NO. 289-002

SUBJECT: Troubleshooting Generators

AFFECTS: Voltamatic and Hicycle Generators

Enclosed is a repair guide for troubleshooting and repairing of Homelite Generators. This is a guide for the mechanic that has basic knowledge of generators and electricity.

Additional copies will be forwarded upon request.

Bill Borachok
Service Manager

14276

TROUBLE SHOOTING VOLTAMATIC II GENERATORS

WITH ELECTRONIC VOLTAGE REGULATORS

1. Remove fan cover and fan. Re-install Rotor Bolt and Torque to 120-150 inch lb.

2. Using a flashlight, visually inspect main coil, quad coils and rotor coils for discolored or broken wires. Darkened wires should be suspect or coils that have the lacing strings broken due to shorted turns internally that expand the coils.

3. Remove brush contact to the rotor slip rings. Set V.O.M. to RX1 scale and measure the rotor coil resistance at the slip rings. Check the spec. sheet attached for rotor winding resistance of the unit under repair. There should be NO resistance to the core laminations. If there is resistance to the core replace the rotor.

4. Remove the red (+DC) white (-DC) blue and yellow (AC) wires from the exciter bridge rectifier. Conduct the 4 step bridge rectifer test detailed on the attached instruction sheet.

5. Set V.O.M. to RX1 scale and measure the resistance of the quad coil (blue and yellow wires). The circuit breaker is in series with the quad winding. Be sure that the RESET button is pushed in and the circuit breaker is tested for continuity. Check attached spec. sheet for quad coil resistance of the unit under repair. There should be NO resistance to the shell. If there is resistance to the shell replace the stator.

6. If all tests made so far are good, remove stator wires T1-T2-T3-T4 from the large terminal block in the control box.

7. Set V.O.M. to RX1 scale and measure resistance of main coil winding T1 and T2. Also main coil winding T3 and T4. Check the spec. sheet attached for the main coil winding resistance for the unit repair. There should be NO resistance to the shell. Re-install main coil wires T1-T2-T3-T4 back on to large terminal block. If there is resistance to the shell replace the stator.

8. Remove from the large terminal block, the thin short #3 white and short #4 yellow wires.

9. Remove from the terminal block on the voltage regulator the thin red, black and white wires that come from the wire harness. Set the V.O.M. to RX1 scale and check these and the short #3 white and #4 yellow wires for continuity from end to end. Leave these wires disconnected at this time.

10. If the problem was not determined in the previous steps, #2 through #9, the following steps are made to test the UNREGULATED OUTPUT of the unit under repair. · Use EXTREME CAUTION not to short out any wires to each other or to ground while engine is running.

11. Wrap with electrical tape, the terminal on the thin RED wire which was removed from the voltage regulator in step #9.

12. Connect together the thin black and white wires that were removed from the voltage regulator terminal block in step #9.
Wrap the connection with electrical tape.

13. If the unit has a voltage selector switch on the control panel, set it to 240 volts.

14. Set V.O.M. to A.C. 250 volt scale. Connect black lead to #3 terminal of large terminal block or ground terminal of box.

15. Start engine, and touch red lead from V.O.M. to #1 terminal of large terminal block. Voltage should read approximately 160 volts A.C. UNREGULATED.

16. Touch red lead from V.O.M. to terminal #4. The voltage should be the same, 160 volts A.C. UNREGULATED. Shut Off Engine.

CONCLUSION

a. No voltage at terminals #1 and #4 in steps 15 & 16 would indicate tests in steps #2 through #9 were not conclusive. Repeat.

b. If voltage at terminals #1 and #4 in steps 15 & 16 were present the voltage regulator is faulty. Replace.

NOTES:

1. If the result of the unregulated output is no output this could be due to worn or dirty brushes. A bump on the slip ring can also cause this.

2. No output could also be due to a loss of residual magnetism.

3. If output is obtained, before replacing regulator re-check to verify no output with regulator. The unregulator test could increase residual magnetism sufficiently to operate.

4. If unit failure is due to high output voltage which causes C.B. tripping then the unregulated test is not required. This is due to improper wiring, broken wire, or bad regulator.

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GENERATOR ROTOR & STATOR RESISTANCE VALUES

MODEL	ROTOR #	ROTOR RESISTANCE (OHMS)	STATOR #	MAIN WINDING RESISTANCE (OHMS)	QUAD WINDING RESISTANCE	BATTERY CHARGING WINDING RESISTANCE
HG1500	A-49653	29.0	A-49638	T_1T_2 = .82	2.20	.100
HG2100	A-49653	29.0	A-49638	T_1T_2 = .82	2.20	.100
HG2500	A-49475-S	32.0	A-49476-S	T_1T_2 = .53	1.80	.160
HG2500A	A-49475-S	32.0	A-49793-S	T_1T_2 = .53	1.80	.160
HG3500	A-49099-S	33.5	A-49127-AS	T_1T_2 = .75	1.33	.140
HGE3500	A-49099-S	33.5	A-49127-AS	T_3T_4 = .75	1.33	.140
170R18	A-49653	29.0	A-49638	T_1T_2 = .82	2.20	.100
172R24	A-49475-S	32.0	A-49476-S	T_1T_2 = .53	1.80	.160
172B26	A-49475-S	32.0	A-49476-S	T_1T_2 = .53	1.80	.160
176B40	A-49089-S	37.4	A-49128-S	T_1T_2 = .67 T_3T_4 = .67	1.49	
176R42	A-49095-S	42.5	A-49330-S	T_1T_2 = .358 T_3T_4 = .358	1.18	
178B48	A-49095-S	42.5	A-49124-S	T_1T_2 = .358 T_3T_4 = .358	1.18	
180R62	A-49094-S	50.0	A-49331-S	T_1T_2 = .225 T_3T_4 = .225	1.10	
180RIE62	A-49094-S	50.0	A-49331-S	T_1T_2 = .225 T_3T_4 = .225	1.10	
EH4400	00782-04	51.0	00782-02	BLUE/WHITE = .71	1.20	
EHE4400	00782-04	51.0	00782-02	RED/WHITE = .71	1.20	

TROUBLE SHOOTING IDLE CONTROLS

1. Check generator for proper output voltage of 120 volts and 240 volts. If there is not output voltage, perform test #2 through #9 in "Trouble Shooting Generators" section.

   If the voltage is correct, change the voltage selector switch to the other position. If the idle control now operates, proceed to step #7.

   If the idle control does not operate in either position of the voltage selector switch, proceed to step #2.

2. Open control panel box to expose the idle control board and idle control switch.

3. Set V.O.M. to RX1 scale and test idle control switch for proper operation. The terminals with the yellow wires attached should have continuity when the switch is in the RUN position.

4. Remove the fuse from the idle control board. Set V.O.M. to RX1 scale and test the fuse for continuity. If no continuity replace fuse.

5. Remove the electromagnet red and yellow wires from the terminal block on the control board.

6. Set V.O.M. to RX-100 scale and measure the resistance of the electromagnet coil. The reading should be approximately 240 OHMS. There should be NO continuity to the outer case. If there is continuity replace the electromagnet.

   * IDLE CONTROL DOES NOT OPERATE ON ONE SIDE OF THE VOLTAGE SELECTOR SWITCH.

7. Check the direction at which the A.C. wire #1 and #4 enter the transformer core. Remove ONE only (either #1 or #4) wire from the large terminal block, cut off the plastic tie strap at the transformer and pass the wire through the core of the transformer from the opposite direction.

8. Secure wire around transformer core with a new plastic wire strap.

9. The electromagnet should be adjusted so engine idle voltage is 70 to 90 volts.

CONCLUSION:

If all above tests prove O.K. and the idle control is still inoperative, it is assumed one or more components on the board has become defective. Replace.

TROUBLE SHOOTING VOLTAMATIC II 12 VOLT OUTPUT

1. Remove black #12 and black #13 wires from upper bridge rectifier. Set V.O.M. to RX1 scale and measure the resistance of the battery charge coil winding #12 and #13. Check attached spec. sheet for the battery charge winding resistance of the unit under repair. THERE SHOULD BE NO RESISTANCE TO THE SHELL. If there is resistance to the shell replace the stator.

2. Remove the remaining red #14 and black #15 wires from the upper bridge rectifier. Conduct the 4 step bridge rectifier test detailed on the attached instruction sheet.

3. Set the V.O.M. to RX1 scale and test the battery charge circuit breaker (CB2) for continuity.

4. Set the V.O.M. to RX1 scale and check #14 and #15 wires from end to end for continuity.

5. Check that both positive and negative 12 volt terminals are INSULATED from the control box panel.

TESTING VOLTAMATIC II STATORS FOR INTERNAL SHORTS

The purpose of this test is to determine if the stator has an internal short in the main or exciter windings which cannot be isolated by resistance measurements.

The tool BEST used for this test is the Model 640 Sotcher Exciter Power Supply. In the absence of this power supply, a 12 volt battery can be used, but the results may not present itself as instantly, as the exciter output is 100 volts D.C.

1. Remove the red and black wires from the brushes at the brush-holder and make note which brush had the red wire attached (nearest to fan).

2. Attach the (+) lead from the exciter or battery to the (+) brush. Use wire extensions from brushes.

3. Be sure the rotor bolt is installed and tightened to 150 inch lbs. and START THE ENGINE.

4. Carefully connect the (-) lead from the exciter or battery to the (-) brush.

5. If there is a short in the stator, at the point when the (-) lead is connected, the engine will pull down like there was a load on the generator. Depending on how severe the short is, will determine the amount of pull down. No engine pull down, assume the stator is not shorted.

   If a 12 volt battery is used in this test it may be necessary to let the generator run for a few minutes and look for smoke.

   In some cases, an installation of new rotor or stator will require that the rotor be energized with an exciter box or battery.

TROUBLE SHOOTING GUIDE FOR 190HY50-1A

INTRODUCTION:

Unlike the Homelite Voltamatic II Generators, this high cycle genertor is a stationary field generator, meaning that the generator field magnet surrounds the armature. This armature consists of 3 coils which produce 3 complete cycles of current during one revolution of the engine. Current from one of the coils is rectified by the field rectifier and the D.C. output is connected to the six (6) field coils to energize the field. The output of the generator is removed from the armature by way of the brush ring and brushes.

Current is also rectified by the D.C. output rectifier which supplies D.C. current directly to the D.C. receptacle, through a D.C. circuit breaker.

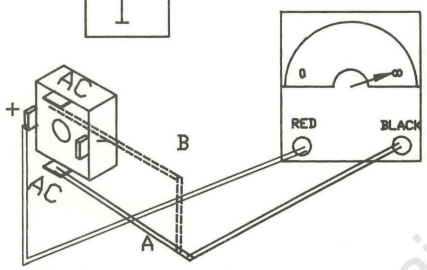
1. Remove left and right brush head covers.
2. Remove cover from output receptacle box.
3. Visually inspect all wires for broken connections or worn insulation.
4. Inspect jumper wires between each set of 3 brush holders.
5. If the jumper and rectifier wires are not accessible through the cover opening, it may be necessary to remove the brush head completely leaving the brush ring on the armature.
6. Remove the #15 wire from the (-) D.C. terminal of the upper field rectifier.
7. Remove the #16 wire from the (+) D.C. terminal of the upper field rectifier.
8. Set the VOM to RX1 and measure the resistance of the six (6) field coils through the #15 and #16 wires. There should be approximately 42 OHMS, or approximately 7 OHMS per coil. If no resistance is measured, one or more field coils are open. Measure each coil resistance to find the open coil and replace.
9. Set the VOM to RX100 and check for any resistance to the stator shell (ground). There should be no continuity to the stator shell.
10. Remove he two A.C. wires #13 and #14 from the upper field rectifier. Conduct the 4 step bridge rectifier test detiled on the attached instruction sheet.
11. Remove all brush contact to the armature brush rings.
12. Set the VOM to RX1 and measure the resistance of the armature coils between each brush ring. Each coil should read .135 OHMs (+ or - 5%).

13 Remove A.C. wires #8 and #9 from the lower D.C. output rectifier.

14. Remove the #11 wire from the (+) D.C. terminal and the #10 wire from the (-) D.C. terminal of the lower D.C. output rectifier and conduct the 4 step bridge rectifier test detailed on the attached instruction sheet.

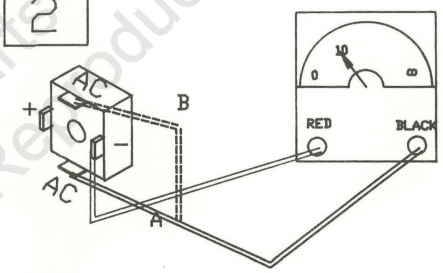
BRIDGE RECTIFIER TESTING

1



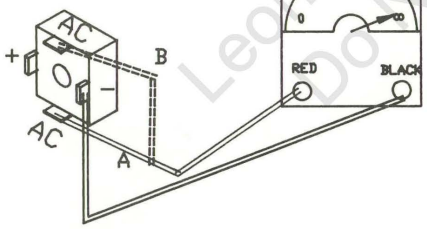
RED LEAD TO (+) TEST A-B=INF.

2



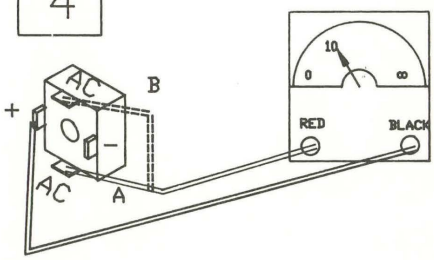
RED LEAD TO (-) TEST A-B= 10 OHMS

3



BLACK LEAD TO (-) TEST A-B=INF

4



BLACK LEAD TO (+) TEST A-B= 10 OHMS

HOMELITE JACOBSEN

TECHNICAL SERVICE BULLETIN

NO. 289-005

SUBJECT: WARRANTY FOR HIGH PRESSURE WASHERS

AFFECTS: HPW1000E (UT-01802), HPW1200B (UT-01803), HPW2000R (UT-01804) HPW2000B (UT-01805)

Homelite and it's Dealers have been authorized by Hypro to perform warranty service on High Pressure Washers Pumps.

The pump is covered under the Homelite Industrial and Construction Products Limited Warranty.

We request that all failed parts be returned through normal channels.

Engines and motors are warrantied by their respective manufacturers.

This TSB supersedes TSB 289-004.

Peter Knoell
Quality Assurance

HOMELITE JACOBSEN

TECHNICAL SERVICE BULLETIN

NO. 289-006

SUBJECT: DIPLO SEALS

AFFECTS: ALL AP PUMPS

When replacing a "Diplo" seal in an AP Pump with a metal cup seal, the silicone sealant must be removed from the impeller housing BEFORE installing the new seal. Do not use an O-Ring with a metal cup seal.

NOTE: If silicone sealant is not removed the replacement seal will fail pre-maturely.

For installation instructions of "Diplo" seals refer to TSB 288-005.

SEAL IDENTIFICATION

DOT	MATERIAL
RED	EPDM
GREEN	VITON
NONE	BUNA N

Peter Knoell
Service Manager

HOMELITE JACOBSEN

TECHNICAL SERVICE BULLETIN

NO. 289-007

SUBJECT: HOMELITE RAMMERS

AFFECTS: HR-65, UT-06040 AND HR-80, UT-06041

BE ADVISED:

1. Engine governors are preset at the Factory at 3700 R.P.M.
2. Increasing the engine speed by increasing governor speed will cause failure of the Rammer.
3. Evidence of tampering with the engine govenor will void the warranty.

PETER KNOELL
QUALITY ASSURANCE