Homelite®

Dealer Service Guide

String Trimmers

ST01369-1
Revised 12/21/98

MODEL	UT NUMBER
BC-2500	UT20612-R, R1
BC-3000	UT15099-R, R1
d630cd	UT20622, 1, A
d725cd	UT20714
d725cde Plus	UT20695
d730cdv	UT20620
d730d	UT20649
d825ca Plus	UT20711
d825sb Plus	UT15152
d825sd Plus	UT20700
d830ca	UT20642, -A
d830cb	UT15109, 1
d830sba	UT15108, 1, A, UT15115
d830sd	UT20621, A
EASY REACH	UT20660
EASY REACH PLUS	UT20694
EASY TRIM	UT20678, UT20688
EXPAND-IT	UT20661
EXPAND-IT PLUS	UT20710
GST	UT20593, A, B, C
GST-BC	UT15084, 1, A, B, C
HBC-28	UT15096
HBC-28 CANADA	UT15097
HBC-30 INT L	UT15081, UT15085, A, B, C, D, E, F, G, H
HBC-30B INT L	UT15082, UT15086, A, B, C, D, E, F, G, H
HGT	UT20583, A, B
HLT-15	UT20602, A, B, C, UT20641
HLT-15 CANADA	UT20605, A
HLT-16	UT20585, 1, A, B, C
HLT-16 CANADA	UT20606, A
HLT-17C	UT20586, A, B
HLT-17C INT L	UT20691, UT20596, 1, A, B, C, D, E
HLT-18	UT20584, 1, A, B
HLT-18 CANADA	UT20607, A
HLT-28	UT20595, 1, 2, 3, A, B, C, UT20608, A
i625cd	UT20624, 1, A, B
i630cd	UT20627, 1, A
i725cc	UT20625, A, B, C, D
i725ce	UT20626, A
i725cea	UT20651, A
I730CA	UT20652, A
i730ccb	UT20628, A, B, C
PBC-3600	UT15089, 1, 2, A, B, C, D, E, F, R
PBC-3600B	UT15091, 1, A, B, C, D, E
PHANTOM	UT20682
PLT-3400	UT15090, 1, 2, A, B, C, D, E, F, R
ST-145	UT20556, A, AR, B, C, R, U
ST-155	UT20539, A, AR, B, BR, C, D, E, R, U
ST-155C	UT20544, A, B, C, D, E
ST-155WA	UT20543, A, B

MODEL	UT NUMBER
ST-175	UT20541, A, AR, AU, B, BR, R
ST-175 CANADA	UT20545, A, B
ST-175BC	UT20553-B, C, R
ST-175C	UT20553, A, AR
ST-175C CANADA	UT20554, A, B
ST-175G	UT20590, A, B, C, D
ST-185	UT15039, A, AR, AU, B, BR, C, D, E, R, U
ST-185A	UT15044-2, 2A
ST-185BC CANADA	UT15102
ST-185BP	UT15046-A
ST-185C	UT15041, A, B
ST-185I	UT15044-1A, UT15060
ST-185-W/BLADE	UT15046
ST-185WA	UT15043, A, B
ST-2517	UT20611-R, R1
ST-2517BC	UT15096-R
ST-275	UT20594, 1, 1A, 1B, 2, 2A, 3, A, B
ST-285	UT20542, A, AR, B, BR, R
ST-285A	UT15044-3, 3A
ST-285BC	UT20581, 1, 2, 3, 3A, A, B, C, D, E
ST-285C	UT20546, A, B
ST-385	UT15040, A, AR, AU, B, B, BR, C, CR, D, UT15040E, F, G, H, K, L, 1, R, UT15054
ST-385 INT L	UT15088, A, B, C, D, E, F, G
ST-385BP	UT15070
ST-385C	UT15042, A, B, C, D, E, F
ST-385E	UT15062, UT15045, 1, 1A, 2, 2A, 2B
ST-385FR	UT15059, A, B
ST-385I	UT15061, A
ST-485	UT15047, A, B, UT15048
SX-135	UT20601, 1, 2, B, C, UT20609, A,
SX-135	UT20636, UT20667
TouchStart	UT20683
TRIM N EDGE	UT20679
TRIM N EDGE PLUS	UT20694
TRIMLITE	UT20677
VERSATOOL	UT15136
VERSATOOL PLUS	UT15151
z625cd	UT20617, A
z725ca	UT20643
z725cb	UT15107, 1
z725cdv	UT20623
z725ce	UT20616, 1, A, UT20639
z725cea	UT20644, 1, R
z725d	UT20650
z725se	UT20618, A, B, UT20640
z825sd	UT20619-A, A1
z830aba	UT15116
z830sb	UT15106, 1

Contents

STARTING AND STOPPING

Cold Engine:

Lay trimmer on a flat, bare surface.

Push primer bulb **8 to 10 times**.

Set choke lever to choke position.

Hold trigger and pull rope until engine tries to start. (No more than 6 pulls.)

Set choke to half choke position.

Hold trigger and pull starter rope until engine runs.

Run engine **30 to 45 seconds** at full throttle (with trigger depressed fully) on half choke position to warm engine. Move choke lever to run position.

Warm Engine:

Move choke to run position.

Hold trigger and pull starter rope until engine starts.

To Stop:

Push and hold **STOP** button (See Figure 1) until engine stops; or,

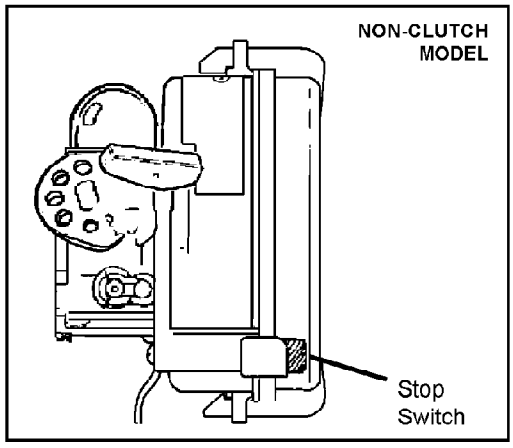


FIGURE 1

Place stop-start switch (See Figure 2) in the OFF position.

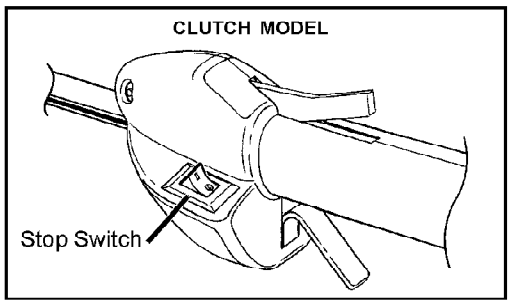


FIGURE 2

FUELING

This product is powered by a 2-cycle engine and requires pre-mixing gasoline and 2-cycle oil. Premix unleaded gasoline and 2-cycle oil in a container approved for gasoline.

Recommended Fuel:

a) This engine will operate satisfactorily on any gasoline intended for automotive use. This includes gasolines blended with alcohols or ethers. You may prefer to use unleaded gasoline that does not contain alcohol if you are not satisfied with the performance of the product (running quality or ability to start) with these fuels.

b) We recommend the exclusive use of Homelite 2-cycle oils. Homelite 2-cycle engine oil, when mixed with gasoline according to the instructions on the oil package, will provide complete lubrication protection.

c) All Homelite 2-cycle engine oils contain an antioxidant fuel stabilizer. Under average conditions, fuel mixed with Homelite oils will stay fresh up to 30 days.

Fuel Mixture (50 : 1)

Do Not Use Automotive Motor Oil or 2 Cycle Outboard Oil.

How to Mix Fuel Thoroughly:

a) Measure out the quantities of gasoline and oil to be used.

b) Put some of the gasoline into the mixing can.

c) Pour in all of the oil and agitate contents by stirring or shaking the can.

d) Pour in the remainder of the gasoline. Again stir or agitate - this time for at least one minute.

FUEL MIXING TABLE	
Amount of Recommended Gasoline	Amount of Homelite Premium Exact Mix Oil
1 Gallon U.S. 1 Liter	2.6 oz. 20 cc

⚠ WARNING

The fuel tank may be under pressure. Remove cap slowly.

⚠ Caution

Select bare ground for fueling. DO NOT SMOKE or bring any flame or sparks near fuel. Move at least 10 feet (3 m) from the fueling spot before starting the engine.

SAFETY PRECAUTIONS

SAFETY

To protect the eyes from loose objects that could be thrown from the unit, non-fogging, vented safety goggles or a face screen should be worn for eye protection.

Use only genuine product manufacturer s replacement parts. Failure to do so may cause poor fit and possible injury.

Scarfs, neckties, jewelry or loose pants and jackets should be avoided as they can be caught on obstacles or become entangled in the unit. To protect your legs, long pants should be worn.

To improve your grip and protect your hands, wear heavy-duty nonslip gloves.

The sound level exceeds 90 DbA. To prevent hearing damage, always wear sound barriers (ear plugs or ear mufflers).

SERVICE NOTE

The string head will rotate during carburetor adjustments. Wear protective equipment and observe all safety instructions.

GENERAL TRIMMER SAFETY

Never operate unit without a deflector in place.

Avoid getting into direct line with the line or blade.

Always remember to keep both hands on the control handles when the engine is running.

Do not operate the machine if there is a fuel leak. Have the fuel leak fixed first.

If you plan to store the unit longer than a few days, empty the fuel tank.

Make sure the control handles have not accumulated oil and fuel and are clean and dry.

See Operators Manual for additional safety precautions.

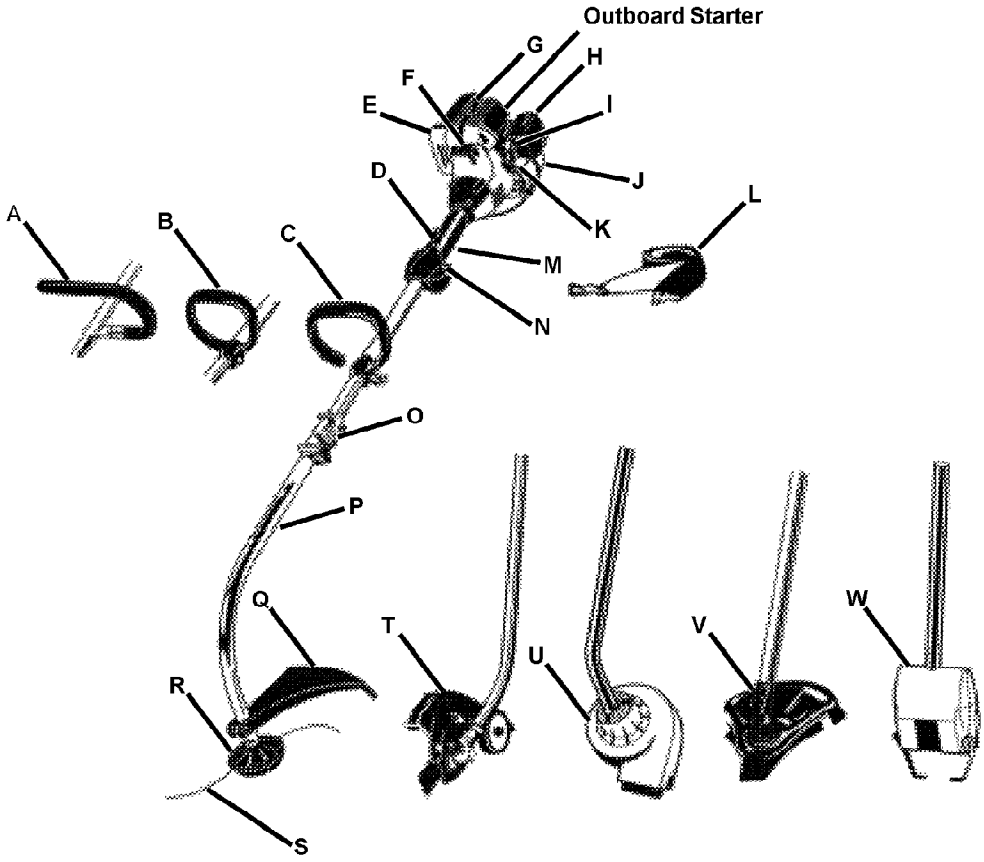
WORK AREA

Operate only in well ventilated areas.

Observe all safety regulations for the safe handling of fuel. Mix and handle fuel in safety containers. Wipe the trimmer dry if fuel is spilled on it. Always move away from the fueling area before starting the engine.

Fuel the trimmer at least 10 feet (3 m) from the place where you start the engine and operate the trimmer.

UNIT FEATURES



A. Handlebar - Barrier J
B. Handlebar - D Handle
C. Handlebar - Anti-Vibe
D. Throttle Lockout (Clutch Units)
E. Muffler
F. Starter Handle
G. Spark Plug
H. Intake Filter / Carburetor
I. Choke
J. Gas Tank
K. Run-Stop Button (Non Clutch Units)
L. Shoulder Stap
M. Throttle
N. ON-OFF Switch (Clutch Units)
O. Clamp
P. Angle Shaft
Q. Deflector
R. String Head
S. String
T. Edger Attachment
U. Blower Attachment
V. Blade Attachement
W. Cultivator Attachment

UNIT SPECIFICATIONS

Engine

Type	2-cycle, Single Cylinder, Air Cooled
Engine Displacement	25 cc (1.5 cu.in.)
	30 cc (1.9 cu.in.)
Ignition	One Piece Capacitor Discharge
Muffler	Dual Chamber Soft Tone

Fuel System

Carburetor	All Position Diaphragm Type With Primer Bulb
Intake	Piston Piston Port Induction
Air Filter	Foam (Dry)
Engine Shut Off-	Push Button on Air Filter (Non-Clutch Models)
	Ignition Switch-Positive Contact (Clutch Models)
Throttle Control	Trigger Type
Fuel Mix Ratio	Exact Mix 50:1 (2.6 oz.to One Gallon)

General

Spark Plug	DJ-7Y or RDJ-7Y
Rotor Air Gap	.015 (0.4 mm)
Spark Plug Gap	.025 (06 mm)
Run Time	50 Minutes
Warranty	2 Year Limited

TORQUE SPECIFICATIONS

NOTE: TORQUE SPECIFICATIONS ARE GIVEN IN INCH POUNDS AND NEWTON METERS (N M)

STRING TRIMMERS

SIZE & TYPE	QTY	APPLICATION	TORQUE LIMITS (IN. LBS)	TORQUE LIMITS (N m)	LOCTITE
Spool Retainer	1	Spool to Drive Connector	15-25	1.8-2.8	
10-24 x 0.50 Pan Head Torx	1	Clutch Drum to Crankshaft	40-50	4.5-5.6	
Clutch Disc	2	Clutch Disc to Crankshaft	90-110	10.1-12.0	
Shaft Adaptor	1	Cutting Head to Gear Box	250-300	28.2-46.0	
10-24 x 2.25 Special - Hex Head	2	Carburetor & A/F to Heat Dam	30-40	3.4-4.5	
10-16 x .500 Lg. Hex Head Drilltite	1	Gear Head to Driveshaft Housing	40-50	4.5-5.6	
10-32 x .75 Lg. Washer Hex Head	1	Driveshaft Housing to Starter Housing Slot Clamp w/Hardware	40-50	4.5-5.6	
10-24 x 1.0 Pan Head SEMS Torx	2	Heat Dam to Cylinder	35-45	4.0-5.4	
10-24 Nut, Hex Locking	2	Carburetor & A/F Body to Heat Dam	30-40	3.4-4.5	
6-19 x .50 Lg. Hi-Lo Screw	1	Electrical Lead to Switch Button	5-10	0.6-1.2	
5/16-18 x .625 Lg Hex Washer Head	1	Pro-Cut Head to Drive Connector	40-60	4.5-6.8	
10-14 x .875 Lg. Screw, Truss Head, Torx, Plastite	4	Control Handles Non-Clutch	20-30	2.4-3.4	
10-14 x .875 Lg. Screw, Truss Head, Torx, Plastite	2	Rear Engine Cover to Starter Housing	30-50	3.4-5.6	
10-14 x .875 Lg. Screw, Truss Head, Torx, Plastite	4	Clutch Control Handle to Starter Hsg.	30-50	3.4-5.6	
10-24 x .75 Lg. Screw, Truss Head, Torx, Taptite	3	Starter Housing to Crankcase	30-50	3.4-5.6	
10-24 x .75 Lg. Screw, Truss Head, Torx, Taptite	1	Starter Housing to Crankcase thru Throttle Cable Bracket	25-35	3.0-4.2	
8-32 x 1.0 Lg. Screw, Pan Head, SEMS Torx, Taptite	2	Module to Cylinder	30-40	3.4-4.5	242 Blue
8-16 x .50 Lg. Screw, Truss Head, Torx, Plastite	3	Baffle Plate to Starter Housing	20-40	2.4-4.5	
10-24 x .625 Lg. Screw, Truss Head, Torx, Taptite	5	Gear Head to Assembly	38-50	4.3-5.6	
8-32 x .375 Screw, Truss Head, Torx, Taptite	3	Baffle Cover and Screw to Muffler Cap	25-35	3.0-4.2	
10-24 x .375 Lg. Hex Head Torx	1	Deflector Bracket to Driveshaft Housing	15-25	1.8-3.0	262 Red
10-24 x 2.188 Lg. Screw, Truss Head, Torx	2	Muffler to Cylinder	50-60	5.6-6.8	262 Red
12-24 x .75 Lg. Pan Head SEMS Torx	3	Cylinder to Crankcase	55-65	6.6-7.3	
10-24 x .560 Lg. Pan Head SEMS Torx	4	Crankcase Cover to Crankcase	35-45	4.2-5.1	
Drive Connector	1	Rotor to Crankshaft	100-150	11.3-23.0	262 Red
Spark Plug	1	To Cylinder	120-180	13.6-20.3	

TORQUE SPECIFICATIONS

NOTE: TORQUE SPECIFICATIONS ARE GIVEN IN INCH POUNDS AND NEWTON METERS (N M)

STRING TRIMMERS

MODELS WITH 55 DEGREE or 100 DEGREE GRASS DEFLECTORS

SIZE & TYPE	QTY	APPLICATION	TORQUE LIMITS (IN. LBS)	TORQUE LIMITS (N m)	LOCTITE
1/4-20 Wing Nut	1	Grass Deflector to Driveshaft Hsg.	5-25	0.6-2.8	

METAL 30 DEGREE DEFLECTOR FOR GEAR HEAD MODELS

SIZE & TYPE	QTY	APPLICATION	TORQUE LIMITS (IN. LBS)	TORQUE LIMITS (N m)	LOCTITE
10-24 x .375 Lg. Screw, Hex Washer Machine	2	Cutoff Blade to Grass Deflector	30-50	3.4-5.6	262 Red
10-24 x .500 Lg. Screw, Truss Head Torx, Taptite	4	Metal Deflector to Gear Head	40-50	4.5-5.6	262 Red

FOR SPLIT BOOM

SIZE & TYPE	QTY	APPLICATION	TORQUE LIMITS (IN. LBS)	TORQUE LIMITS (N m)	LOCTITE
1/4 x 20 x 1-1/2 Lg. Screw Hex Head	3	Split Couple to Boom	50-60	5.6-6.8	

TROUBLESHOOTING

ENGINE COMPRESSION

Low compression will cause hard starting, erratic idling, low power, and hard starting when hot.

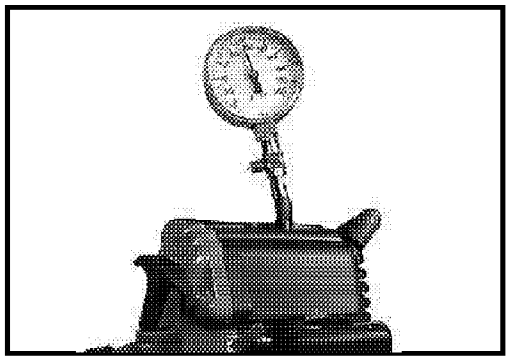


FIGURE 3

Remove the spark plug. Place the choke lever in the off position. With the throttle in the wide-open position, pull the starter grip rapidly several times to purge any excess fuel in the crankcase and cylinder. Insert a Compression Gauge (Homelite Part Number 94194) into the spark plug hole. Pull the starter grip rapidly until the gauge needle reaches its peak (stops moving). Engine compression should be:

Hot: 90 PSIG (6.2 bars) Minimum

Cold: 100 PSIG (6.9 bars) Minimum

The above specifications are for a new engine. Readings below 90 PSIG (6.0 bars) or less indicate an engine problem. Compression testing should not be used as the sole criteria for rebuilding an engine. Performance and visual inspection are necessary.

IGNITION SYSTEM

SPARK TEST

To check for ignition spark, remove the spark plug using a 5/8-inch (16 mm) deep set socket. The spark plug gap for the standard spark plug (Champion DJ-7Y) is 0.025" (0.63 mm). Inspect the electrodes for wear and deposits. Refer to the Spark Plug Troubleshooting Chart for details.

WARNING

The following ignition test may cause the unit to start. Always make this test in a safe place, free of any obstructions.

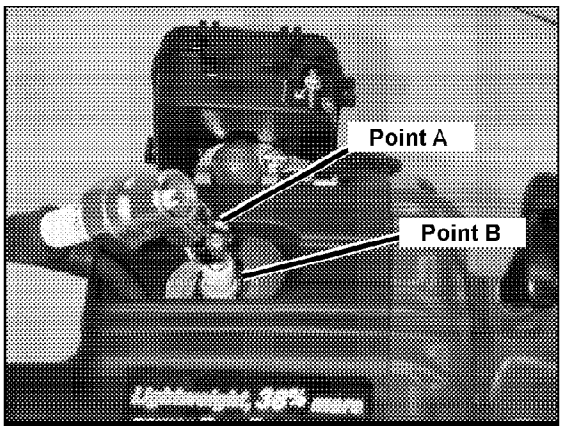


FIGURE 4

Insert the spark tester between the spark plug terminal and the tip of the spark plug (Point A above). Pull the starter grip rapidly (at least 800 R.P.M.). A spark should jump the 3/16 - 1/4 gap between the tester electrodes.

If not, clamp the test plug clamp to the base of the spark plug(point B above) and pull the starter grip again.

If sparking occurs at the test plug electrodes, the spark plug is breaking down under compression. Replace the spark plug and retest.

If no sparking occurs at either location, the failure is with the other ignition components.

This is the only reliable way to compression test the spark plug and test the potential voltage available in the solid state ignition. If no spark is present, proceed with further testing.

IGNITION SWITCH TEST (CLUTCH MODELS)

If the model being worked on is equipped with an ignition switch, disconnect the two lead wire connectors going to the ignition switch. Place the ignition switch in the ON position. Attach volt-ohm-milliampere (VOM) meter probes onto the switch terminals. Turn the meter dial to the lowest OHM s scale, R x 1 or equivalent. There should be no continuity.

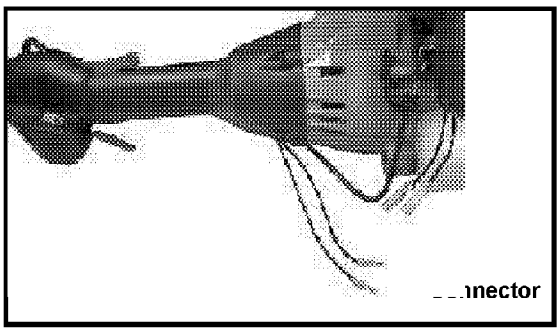


FIGURE 5

Place the ignition switch to the OFF position. There should be continuity with a maximum ohm reading of 0.1 ohms. Replace the switch if any other readings are obtained.

ROTOR/MODULE INSPECTION

In order to access the module and rotor you must remove the front engine housing.

On non-clutch models first disconnect the throttle cable z fitting from the carburetor using a pair of needle nose pliers.

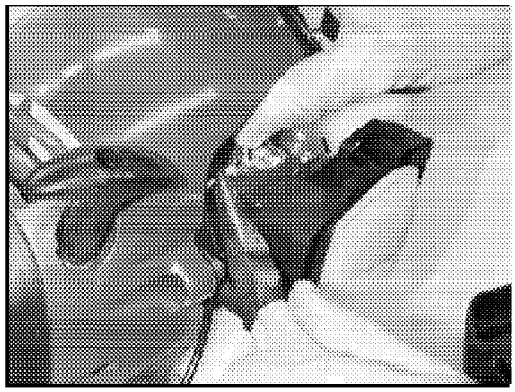


FIGURE 6

On the Trimlite series engine use a T-25 TORX bit or screwdriver to remove the 2, #10-14 x 7/8 Plastite screws holding on the rear engine housing. Remove the rear engine housing while carefully pressing in the lower locking tab.

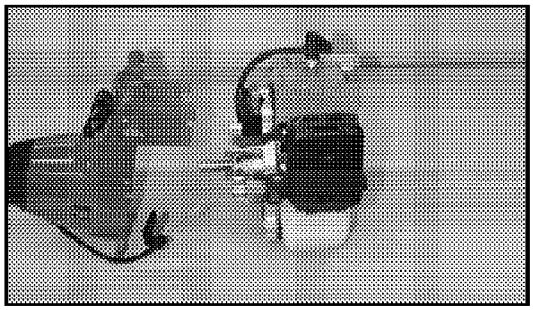


FIGURE 7

Use a T-25 TORX bit or screwdriver to remove the 4, #10-24 x 3/4 Taptite screws holding on the front engine housing. Note that the throttle cable is secured to the engine by one of the screws.

On the ST series trimmer use a T-25 TORX bit or screwdriver to remove the 4, #10-24 x 3/4 Taptite screws and 1, #10 x 1/2 Plastite screw holding on the front engine housing. Note that the throttle cable is secured to the engine by one of the screws.

TROUBLESHOOTING

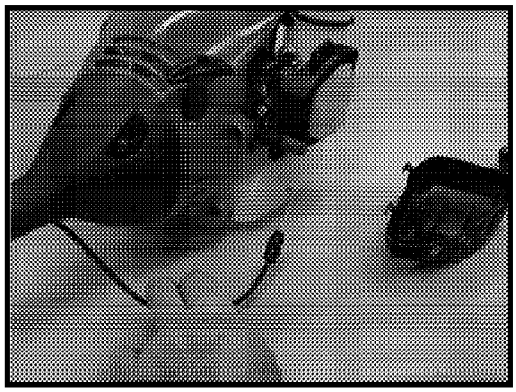


FIGURE 8

On the DX and ZR series trimmer use a T-25 TORX bit or screwdriver to remove the 4, #10-24 x 3/4 Taptite screws and 3, #10 x 3/4 Plastite screws holding on the front engine housing. The fuel tank retainer loop is secured with one of the Plastite screws. Use needle nose pliers to squeeze the tabs on the throttle cable housing retainer grommet and slide it out of the bracket on the back of the air filter housing.

Use a 5/8 deep-set socket or combination wrench to remove the spark plug. Rotate the piston to BDC and insert a length of rope into the spark plug hole to act as a piston stop.

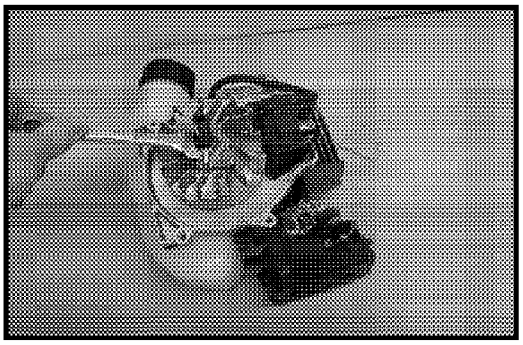


FIGURE 9

Depending on which series trimmer you are working on use a 1/2 or 9/16 , deep-set socket or box-end wrench to remove the drive connector and washer from the crankshaft.

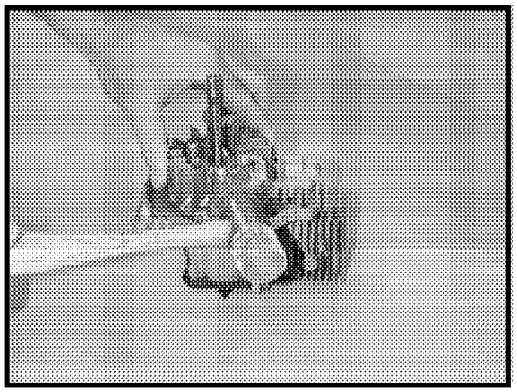


FIGURE 10

Tap on the counterweight side of the rotor with a plastic or rawhide mallet to free it from the crankshaft.

CLUTCH MODELS

Disconnect the two switch leads going to the ignition switch.

Remove the 10-24 x 3/4 Taptite screw securing the throttle cable to the engine.

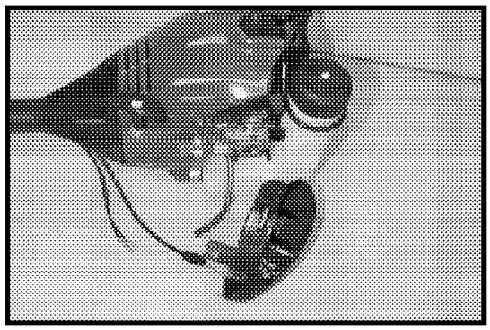


FIGURE 11

On DX and ZR series trimmers use needle nose pliers to squeeze the tabs on the throttle cable housing retainer grommet and slide it out of the bracket on the back of the air filter housing.

Remove the throttle cable Z fitting from the carburetor throttle plate.

TROUBLESHOOTING

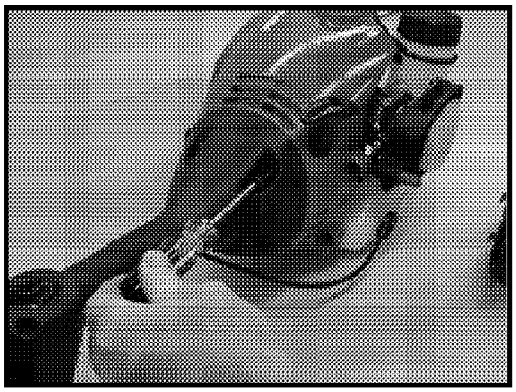


FIGURE 12

Use a T-25 TORX bit or screwdriver to remove the 4, 10-24 x 7/8 Plastite screws securing the control handle and boom assembly to the front engine housing.

On the ST/PRO series use a 5/16 socket to remove the 4, 10-24 x 7/8 Sems hex-head screws securing the boom and clutch housing to the front engine housing.

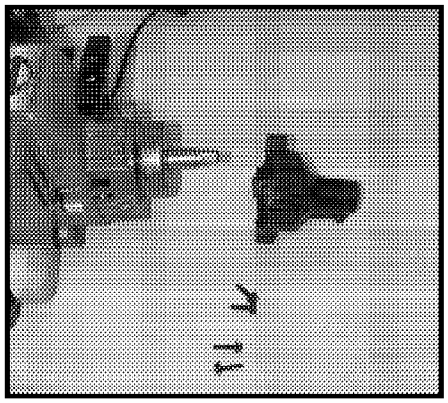


FIGURE 13

Use a 5/8 deep-set socket or combination wrench to remove the spark plug. Rotate the piston to BDC and insert a length of rope into the spark plug hole to act as a piston stop.

Using a six inch long T-25 TORX bit (Homelite part number 24982-03) or screwdriver, loosen the captive screw retaining the clutch drum and connector to the crankshaft.

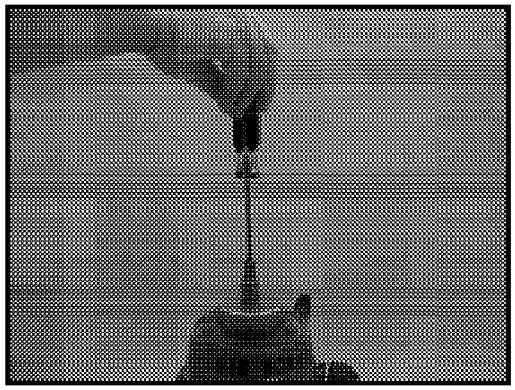


FIGURE 14

Slide the drum and connector off the crankshaft.

The S-clutches must be removed one at a time using a two pin clutch spanner wrench (Homelite part number A93791).

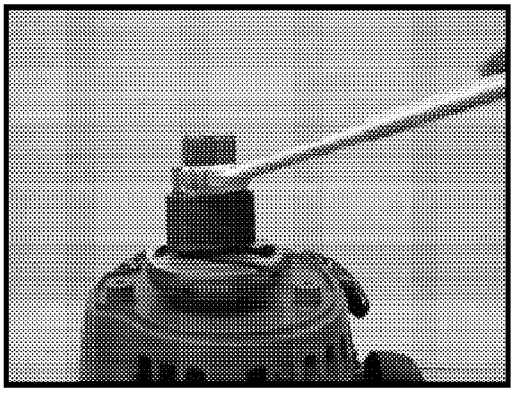


FIGURE 15

Using a 7/8 or 22mm, socket or open end wrench turn each s-clutch counterclockwise to remove them from the crankshaft. Be careful not to spread the fingers of the S-clutches as you remove them. If the clutches are spread out of their original shape they should be replaced.

TROUBLESHOOTING

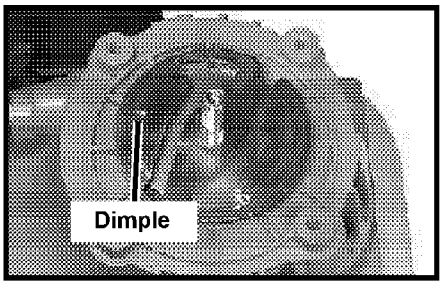


FIGURE 16

The clutch plate arms are designed to spread apart from centrifugal force and engage the clutch drum. Note the dimples drilled into the clutch plates. These dimples MUST be facing away from the engine or the clutch plates will bind and not engage the clutch drum.

CAUTION

Do not run engine without clutch drum in place. Make sure the clutch drum covers all clutch shoes. An exposed clutch shoe could come through the housing and cause injury.

Use a T-25 TORX bit or screwdriver to remove the 3, 10-24 x 3/4 Taptite screws holding on the front engine housing.

On the ST/PRO series trimmer use a T-25 TORX bit or screwdriver to remove the 3, 10-24 x 3/4 Taptite screws and 1, #10 x 1/2 Plastite screw holding on the front engine housing.

On the DX and ZR series trimmer use a T-25 TORX bit or screwdriver to remove the 4, 10-24 x 3/4 Taptite screws and 3, #10 x 3/4 Plastite screws holding on the front engine housing. Note that the fuel tank retainer loop is secured with one of the Plastite screws.

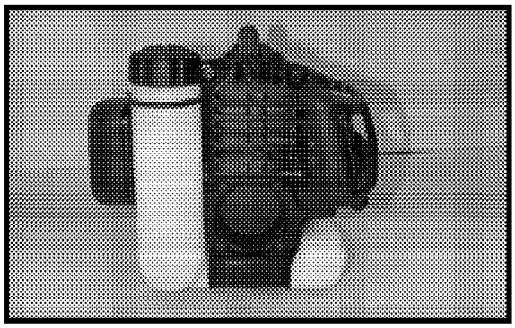


FIGURE 17

Slide the front engine housing off of the engine. Slide the long spacer and washer off of the crankshaft.

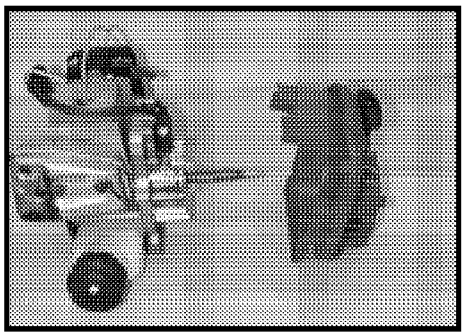


FIGURE 18

Tap on the counterweight side of the rotor with a plastic or rawhide mallet to free it from the crankshaft.

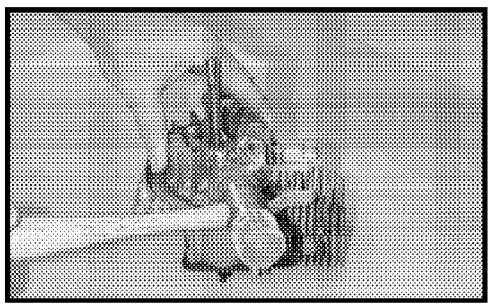


FIGURE 19

The rotor contains a ceramic magnet, which under normal operating conditions should not require any maintenance except for occasional cleaning.

The rotor may affect the operation of the ignition system if the woodruff key has been sheared, the rotor / module air gap is too wide or if permanent magnetism has been reduced or removed (by striking the rotor magnets with a mallet).

TROUBLESHOOTING

A sheared rotor key will allow the spark plug to fire (even under compression) but the unit will not start. If this condition exists, pull the rotor and check the key and keyway area of the rotor.

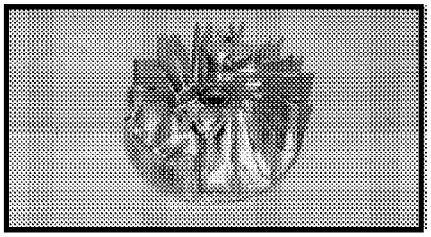


FIGURE 20

Low magnetic field strength in the rotor magnets will reduce output and may cause loss of fire under compression. Test the rotor magnets by placing a large socket on the rotor magnets. Shake the rotor, the magnets should hold on to the socket unless the field is weak.

Missing fins or damage to the rotor is not acceptable. Always replace the rotor if rotor fins are missing or if there is visible damage to the rotor.

CAUTION

Operating a trimmer with a damaged rotor could result in a rotor explosion and possible injury.

The starter pawls are not replaceable. If they are damaged, the rotor should be replaced.

Rotor / module air gap must be correct if the ignition system is to work properly. If the air gap is too wide, the voltage output will be too low causing no output under compression or loss of spark after a short period of time or repeated changing of the spark plug. If the air gap is set too close, the rotor and module will suffer mechanical damage. The ignition module air gap should be set to .008 (.02mm) to .012 (.03mm).

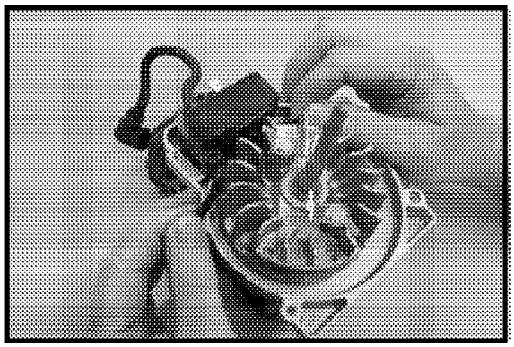


FIGURE 21

The air gap should be set with a feeler gauge or a plastic shim. The Homelite part number for the appropriate shim is PS24306.

Rotate the rotor magnets 90° away from the module. Place the shim between the rotor and module.

Rotate the rotor so the magnets on the rotor are aligned with the module core legs. With the shim still located between the core legs and rotor magnets, push rotor towards the module and then tighten both module mounting screws with a T - 25 Torx bit or screwdriver and torque the two screws to 30 to 40 inch pounds. Rotate the rotor to remove air gap shim.

If the module has been found to be defective, remove the spade connector from the grounding tab. Using a T-25 TORX bit or screwdriver remove the two screws and lift the module off of the mounting bosses.

NOTE: Before replacing the ignition module, be sure to verify the part number to the correct UT number of the trimmer or brushcutter.

AIR AND FUEL SYSTEM

If testing has indicated the fuel system is causing the problem, perform the following tests to narrow the area of inspection.

These units are designed to run in virtually any position. For that reason the fuel tank venting system is designed so that, no matter how the unit is positioned, no fuel can escape, and spill on the operator or ground. The venting system will allow air to enter in order to compensate for a vacuum, but will not allow fuel or pressure to escape. The fuel systems are designed with this pressure accounted for. It is perfectly normal for pressure to build within the fuel tank when the unit is operated.

If, however this vent is plugged and will not allow air to enter the tank, a vacuum could form in the tank. The engine would starve for fuel and stop running after a short time. A good indication of this would be that the unit could be restarted after the fuel cap was opened slightly to relieve the vacuum.

The fuel tank vent consists of a non-replaceable filter and check valve in the top of the fuel cap. Replace the cap if the blower is starving for fuel as described above, or, if the cap leaks and will not hold fuel and pressure within the tank.

Remove the fuel cap and drain all the fuel from the fuel tank. Pull the fuel line connector out of the fuel pickup line at the top of the fuel tank if so equipped.

While pushing on the end of the fuel line at the top of the tank use a hook to pull the flexible fuel line and fuel filter from inside the tank. Inspect the fuel filter for buildup of dirt and debris. A fuel filter that is loaded with dirt will cause hard starting and dying out under load. If the filter is discolored (yellow) or if dirt streaks are visible, replace the filter.

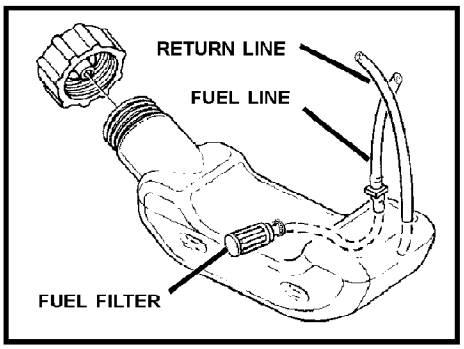


FIGURE 22

Inspect the fuel line, overflow line and fuel pick up line for signs of abrasion or pinhole leaks. Use a pressure tester and vacuum gauge if the diagnosis (lean running, will only start on choke) warrants their use

FUEL LINE REPLACEMENT

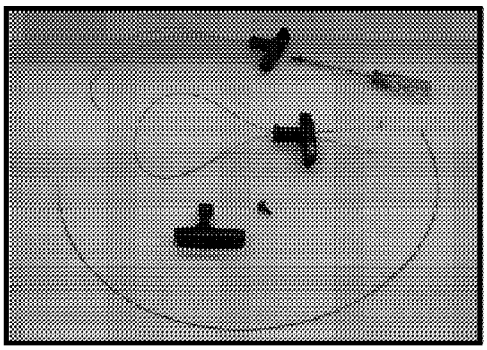


FIGURE 23

Slide the loop of the fuel line installation tool (made with #15 gauge (0.035") music wire and a grip) into the tank through the line opening and out the fuel filler hole.

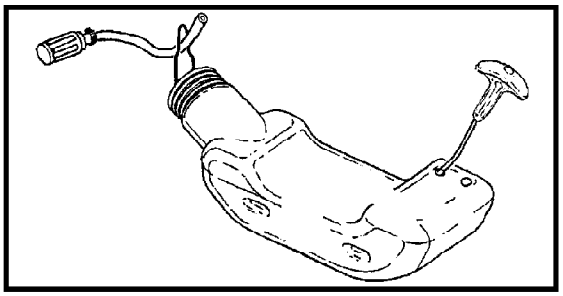


FIGURE 24

Insert the new line into the installation tool loop (as shown above). Squeeze the loop against the line to hold the line in place.

Pull the line and installation tool back through the tank until contact with the tank wall is made. Give a sharp pull on the tool - this will pull the line part way through the tank opening.

Remove the tool and continue pulling the line until the outside tank line length is appropriate.

PRIMER BULB AND CRANKCASE PULSE INTEGRITY

In order to test the integrity of the primer bulb; first disconnect the high-tension lead from the spark plug. Detach the fuel pickup line from the connector at the top of the fuel tank. Connect a length of clear plastic tubing to the fuel pick up line. Add some colored liquid (colored water, coffee, etc.) to a small open container. Place the end of the clear plastic line in the liquid.

Push the primer bulb a few times. Look for the colored liquid to travel up the clear tubing toward the carburetor. If the colored liquid moves up the tubing, STOP pushing the primer bulb. This indicates that the primer bulb is pumping to the carburetor and the primer side of the carburetor is working.

If the colored liquid does not move up the tubing the problem may be in the primer bulb, or the primer bulb base plate check valves.

While the clear line is still in the colored liquid close the choke on the carburetor. Pull the starter grip briskly.

Look for the colored liquid to begin to travel up the clear tubing toward the carburetor. If the colored liquid moves up the clear tubing, stop pulling the starter grip. This indicates that the crankcase is delivering the needed pulse / vacuum to the carburetor and that the fuel pump side of the carburetor is working.

If the colored liquid does not move up the clear tubing the problem may be in the carburetor fuel pump area, the inlet screen area, inlet needle and seat area, etc. and will require further testing to determine the cause of the problem.

PRESSURE TESTING THE CARBURETOR

Pressure testing the carburetor will test the fuel inlet line, pump cover and gasket integrity, fuel pump inlet and outlet check valves and the fuel inlet screen.

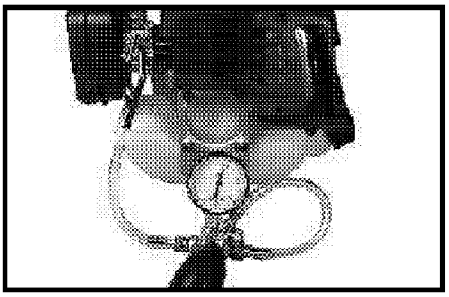


FIGURE 25

Push a straight fitting (P/N 08281) on the fuel pickup line and then push the pressure tester (P/N 97197) line on the other end of the fitting.

Pressurize the carburetor to 5 - 6 psi. The fuel pump side of the carburetor should hold pressure.

If not, push the fuel inlet line off the carburetor inlet fitting and insert the pressure tester line on the carburetor fitting. Once again pressurize the carburetor. If it now holds pressure, the fuel line has a pinhole or tear and must be replaced.

If it does not hold pressure REPLACE the carburetor. DO NOT ATTEMPT TO REBUILD THE CARBURETOR.

CARBURETOR ADJUSTMENTS

Homelite® Power Stroke engines comply with EPA and CARB regulations, which require exhaust emission control. As a result, the carburetor adjustment needle(s) are equipped with plastic cap(s) that prevent counter-clockwise rotation from the original factory adjustment.

NEVER REMOVE THESE CAPS!

If you are not able to adjust the factory installed carburetor to a satisfactory performance level, replace the carburetor.

AIR FILTER AND CARBURETOR REMOVAL

The air filter housing is fitted with a reusable foam element. If a buildup of dust can be seen on the filter, it must be cleaned or replaced.

Remove the air filter cover by gently pulling on the cover while carefully prying up on the latches with a screwdriver or in the case of the DX and Touch Start trimmers, push down on the top latch and swing the cover down and unhook it at the bottom. Remove as much loose dust from around the filter as possible.

Remove the foam air filter.

Tap the filter firmly against a flat surface to loosen and remove dust. After several cleaning s the filter may be washed in warm soapy water. Rinse and dry before use.

Use a three-eighths inch socket or nut driver to remove the two hex locknuts securing the air filter housing to the carburetor and slide the air filter housing off of the two carburetor mounting studs.

On non-clutch trimmers the ignition-grounding button may be serviced by unscrewing the Phillips head screw on the rear side of the air filter housing. Be careful not to lose the compression spring under the button.

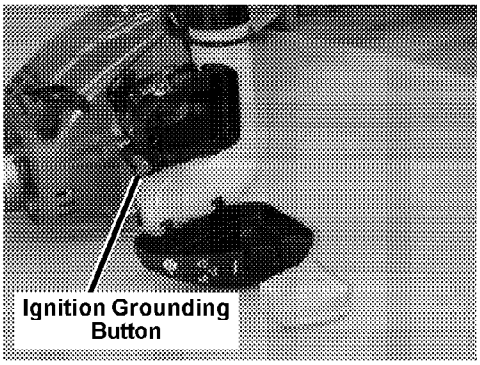


FIGURE 26

AIR AND FUEL SYSTEM

Some earlier built trimmers may have the carburetor secured by two T-25 TORX machine screws.

Slide the carburetor and carburetor gasket off of the two mounting studs.

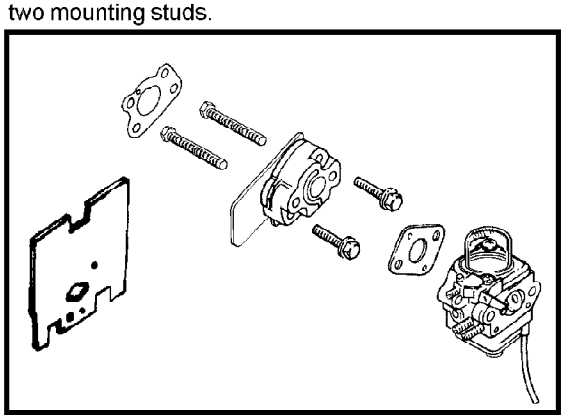


FIGURE 27

To test for pulse through the heat dam, place one or two drops of oil in the carburetor heat dam pulse hole.

Pull rapidly on the starter grip. The oil should be pushed out of the pulse hole, indicating that the passageway is clear.

If there is no pulse, remove the two Sems heat dam retaining screws and washers with a T - 25 Torx bit. Then remove the heat dam, two carburetor-retaining studs, and heat dam gasket. Examine the parts and pulse passageway to find the problem.

REPLACEMENT CARBURETOR ADJUSTMENTS

When a carburetor is replaced; it may require some preliminary adjustments. New replacement carburetors are shipped with the plastic limiter caps not permanently seated. Only after the final adjustments are made to the carburetor should the limiter caps be pushed down over the serrated part of the adjustment needle.

After a new replacement carburetor is installed and before any adjustments are made, start and run the unit until it is at it s full operating temperature.(about five minutes)

If the unit will not start, back out the idle screw slowly until you can see a gap between the lever and the screw. Then turn screw back in slowly until it touches but does not move the lever. Now turn the screw in 1/2 to 3/4 turn more to move the lever (which will open the throttle valve slightly).

If the unit meets the RPM specifications , push the limiter cap(s) down until permanently seated over the serrated part of the needle(s)

If the unit does not meet the RPM specifications then some carburetor adjustments may be necessary.

Single Needle Models:

This carburetor has a fixed high-speed jet and an adjustable low speed needle. New replacement carburetors are shipped with the plastic limiter cap not permanently seated.

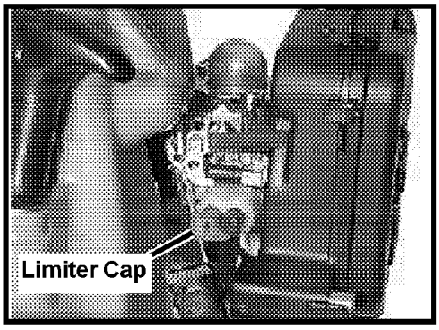


FIGURE 28

Close the adjustment needle very slowly clockwise, until it gently bears against its seat.

The preliminary adjustment for this needle is two and one half turns counterclockwise from full closure.

After the trimmer is at full operating temperature turn the needle first counterclockwise and then clockwise to achieve the RPM that is at or above the minimum specifications.

The idle screw should now be adjusted to achieve the proper RPM specification.

After the Proper RPM specifications are met, install the limiter cap to it s full seated position allowing the needle only a clockwise adjustment. This is called the RICH STOP position.

AIR AND FUEL SYSTEM

Dual Needle Models:

New replacement carburetors are shipped with the plastic limiter caps not permanently seated.

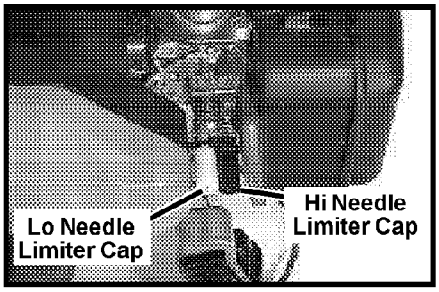


FIGURE 29

Close both adjustment needles very slowly clockwise, until each gently bears against its seat.

The idle mixture adjustment is called the LO NEEDLE. It meters the flow of fuel in the idle system. Open the LO NEEDLE one turn.

The main mixture adjustment is called the HI NEEDLE. It meters the fuel drawn through the main jet for full power operation. Open the HI NEEDLE one turn.

FOR IDLING: Start and run the trimmer until it is at full operating temperature (run at least five (5) minutes). Then turn the LO NEEDLE slowly counterclockwise and then back clockwise while noting the effect on the idle speed. At this point, DO NOT adjust the IDLE SPEED SCREW to change the speed, but set the LO NEEDLE at the highest speed obtainable. That setting provides the best mixture.

Now you can adjust the proper idle speed with the IDLE SPEED SCREW. The proper speed is slightly below that which would cause clutch engagement and trimmer head rotation, but fast enough that the engine idle will be stable at any altitude.

Full swath steady idle speed:

Clutch units: 3400 RPM Maximum

Non-clutch units: 3800 RPM Maximum

SETTING MAXIMUM RPM:

Make sure that string is extended to maximum and with the trigger at wide-open throttle set the HI NEEDLE for optimum RPM.

After the proper RPM specifications are met, install the limiter caps to their fully seated position allowing the needles only a clockwise adjustment. This is called the RICH STOP position.

Check minimum wide open throttle RPM as follows:

15 inch/ .080 line 7200 RPM

17 inch/ .080 line 5800 RPM

17 inch/ .095 line with gear head 6000 RPM

17 inch/ .105 line with ProCut head 5800 RPM

HIGH ALTITUDE OPERATION: If the trimmer is used at high altitudes (above 5000 feet.) it may be necessary to change the carburetor setting slightly. If the idle speed is low, raise it by turning the idle speed screw clockwise. Turn the HI NEEDLE clockwise one-eight turn.

EXHAUST SYSTEM

The cylinder fins and housings should be checked periodically and cleaned to help prevent the engine from overheating. The unit should never be operated without the muffler in place. If local regulations require the use of Spark Arrestor Screen check its condition frequently and clean or replace it if it is clogged or deteriorated. A clogged spark arrestor will cause hard or no starting, loss of power, and lack of high-speed operation. On later model Homelite string trimmers and brushcutters and for service replacement on early models, the muffler is supplied as a one-piece assembly.

The only service parts available are the muffler, spark arrestor, and fasteners.

AIR AND FUEL SYSTEM

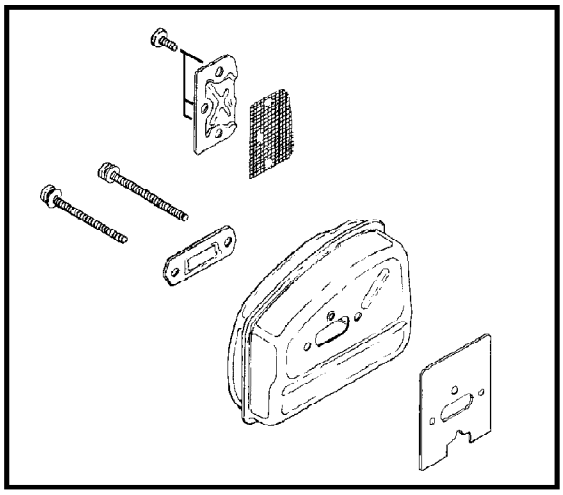


FIGURE 30

Using a T-25 TORX bit or screwdriver remove the two Truss head muffler retaining screws, washers and stiffening plate.

The muffler and muffler gasket can now be removed.

The spark arrestor screen can be cleaned or replaced by removing the screws with a T-25 TORX bit or screwdriver.

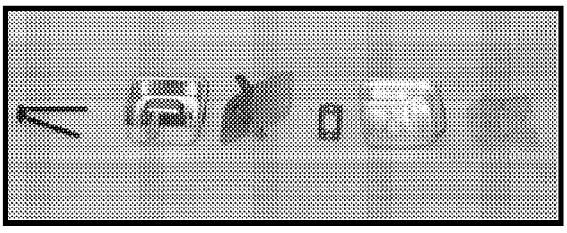


FIGURE 31

For the square type muffler on earlier models use a five-sixteenths socket to remove the two hex head muffler retaining screws.

The muffler can now be removed from the engine and taken apart for inspection.

The spark arrestor screen should be cleaned or replaced.

As mentioned earlier, the square type muffler also comes in a one-piece sealed unit.

CYLINDER EXHAUST PORT:

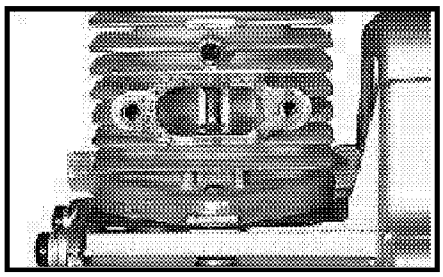


FIGURE 32

Examine the cylinder exhaust port, piston, and piston ring for carbon build up. If the exhaust port is clogged, rotate the piston until it fully covers the exhaust port, and then carefully remove the carbon with a plastic or wooden scraper. Do not scratch the piston or damage the edges of the exhaust port.

The compression relief hole, on units so equipped, should be cleaned periodically with a three sixty-fourths inch or, Number 56, twist drill. Move the piston to the bottom dead center position. Insert the twist drill into the compression relief hole and turn the drill, by hand, to clean the hole

Use compressed air to blow the carbon particles out of the cylinder.

PRESSURE AND VACUUM TESTING THE CRANKCASE / CYLINDER

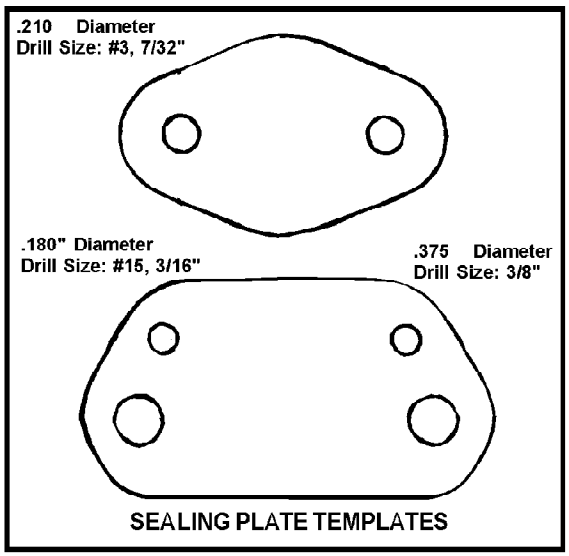


Figure 33

Begin pressure testing the crankcase, by closing off both the intake and exhaust ports with sealing plates and rubber gaskets.

Pressure and vacuum testing the crankcase and cylinder is an important procedure that is often overlooked. All air going into the engine must pass through the carburetor. Air bypassing the carburetor because of leaking seals or gaskets will cause hard starting, erratic idling, poor acceleration, and overheating. Pressure and vacuum testing is the best way to determine where a leak is occurring.

Note that the intake sealing plate has been drilled and tapped. A barbed fitting has been installed in the intake plate. Refer to the templates that can be used for making these sealing plates. They are typically cut from aluminum or Plexiglas, using a band saw or jigsaw. They can be drilled with an electric drill or drill press.

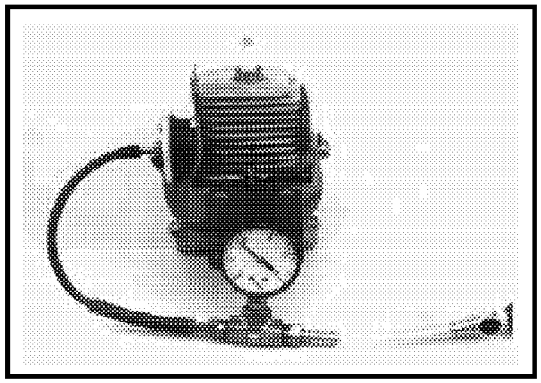


FIGURE 34

Use a Pressure Tester (Homelite Part Number 94197) to introduce 5 to 6 PSI of pressure into the crankcase and cylinder. The crankcase should hold pressure or leak at a rate not to exceed 1 PSI per minute. A drop in pressure above specified levels indicates an air leak. To find out where an air leak is occurring, paint or spray a soap and water solution on suspected areas (gaskets, seals, etc.) and watch for bubbles.

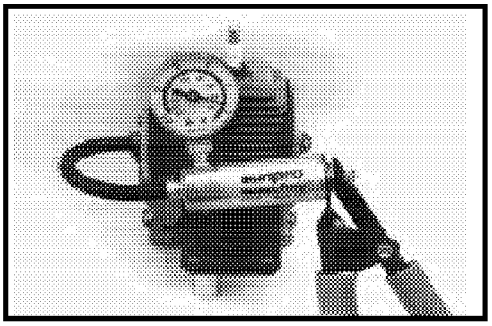


FIGURE 35

Vacuum testing of the crankcase and cylinder is an important part of troubleshooting, as the crankshaft seals must seal tight against both vacuum and pressure.

With the intake and exhaust sealing plates in place, install a vacuum tester (Homelite Part Number A-08279) and actuate the vacuum tester until the gauge needle reaches 5 - 6 inches of vacuum. This is generally the point of maximum negative pressure reached during wide open throttle operation.

Vacuum loss should not exceed 4 inches of mercury in one minute. If leakdown occurs, replace the complete shortblock.

Vacuum testing of the crankshaft seal is more reliable than pressure testing as these seals are designed primarily to keep air from leaking into the crankcase.

Caution

Do not submerge the engine in water or paint it with liquid during vacuum testing.

STARTER

STARTER DISSEMBLY AND ASSEMBLY

Caution

Eye protection should always be used when repairing or adjusting the starter mechanism. Be careful not to dislodge or pull up the spring coils, or the spring will fly out. If it does fly out, it can inflict injuries. DO NOT let springs lie about where they can be handled by the unwary. DO NOT REMOVE the replacement spring from its retainer. BEFORE DISCARDINGTHE OLD SPRING, REMOVE IT ONE COIL AT A TIME FROMTHE RETAINER.

If the rope is to be replaced, use your thumb to apply pressure to the pulley and cut the rope just below the grip. Slowly relieve the tension on the spring. If the rope is **NOT** to be replaced, lay the housing down flat. Remove the three T-25 TORX Plastite screws securing baffle ring to housing. Lift out the baffle ring. Place your thumb on the pulley to keep it and the spring from jumping out of the housing. Pull approximately 10 inches of rope out of the starter housing. Align the notch in the pulley flange with the rope exit hole. Pull the slack rope back through the starter housing to form a loop. Place the loop of rope closest to the pulley into the notch. Apply pressure on rope in the notch while SLOWLY unwinding the pulley until spring tension is relieved.

On the ST series trimmers the pulley is held in place by two retaining brackets and T-25 TORX Plastite screws.

Jiggle the pulley free (from the spring housing) and lift it off the pulley post.

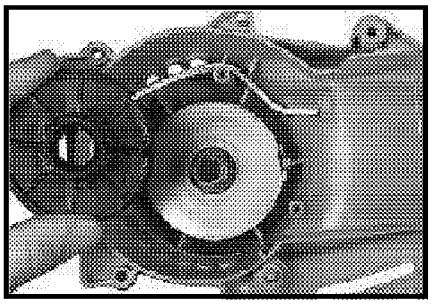


FIGURE 36

Use needle nose pliers to grasp the inner spring hook. Carefully lift the rewind spring and container from the starter housing.

NOTE

If the spring jumps out of the container, it can be rewound within the container in a counterclockwise direction (spring coils facing up).

Replace the rope if it is frayed or too short. Replace the spring and container if the spring is bent or broken. If the inner spring hook will not engage the pulley, carefully reshape the spring hook by bending it with needle nose pliers until it once again engages the pulley.

Lightly grease the starter housing pulley post with multipurpose grease prior to assembly.

If the rope is to be replaced, thread the new rope through the pulley and knot the end of the rope. Pull the knot tight into the pulley.

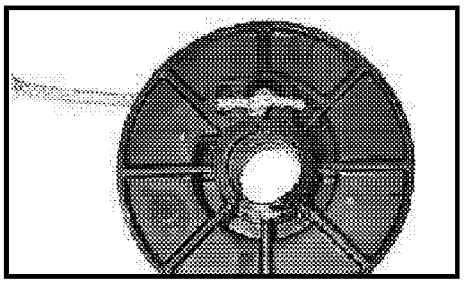


FIGURE 37

Put the free end of rope through the eyelet in the housing and through the starter grip.

STARTER

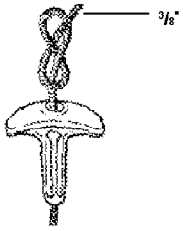


Figure 38

Once the rope is through the grip, tie a figure eight knot (as shown above) leaving approximately 3/8" above the knot after the knot has been set or pulled tight. Curl the pigtail, or length of rope above the knot, around the knot. Pull the knot into the grip.

Lightly grease the starter housing pulley post with multi-purpose grease prior to assembly. Place the pulley in the housing. Press down on the pulley while turning the pulley back and forth to engage the recoil spring hook.

Wind all but 10 inches of rope on the pulley in a clockwise direction (ratchet side up) before placing the pulley in the starter housing.

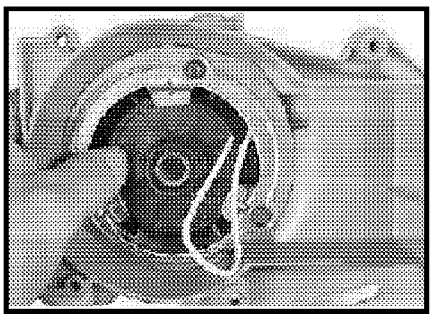


FIGURE 39

On ST series trimmers install the two retainers and Plastite screws.

For proper recoil operation, two to three pre - winds on the recoil spring are required. Pull the 10 inches of slack rope back into the housing to form a loop. Put the loop in the pulley notch and wind the pulley in clockwise direction two to three complete revolutions. Use your thumb to hold the pulley and use the grip to pull the loop back out of the starter housing as shown. When the pulley is released, all of the rope should rewind back into the starter housing.

Install the baffle ring into housing and secure it with the three T-25 TORX head Plastite screws.

TESTING RECOIL SPRING TENSION:

With the starter fully assembled, pull the rope completely out of the housing. Grasp the pulley and turn it clockwise.

If the pulley will not rotate, the spring is bottoming out. Release one pre - wind and recheck.

If the spring does not bottom out and you can turn the pulley more than one turn, the spring is not tight enough and you will need to add one turn clockwise.

SPECIAL STARTER REPAIR INSTRUCTIONS, FOR UNITS, EQUIPPED WITH OUTBOARD STARTERS.

Remove the Starter Assembly from the crankcase
Use a T-25 Torx bit to remove the 4 (10-24 x 3/4") starter retaining screws.

Lift the starter assembly from the crankcase.

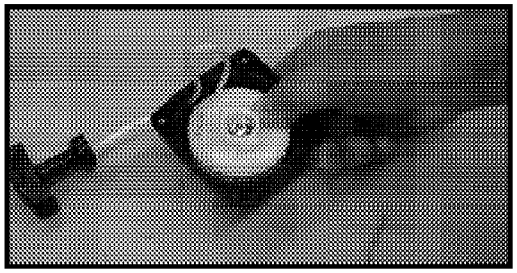


Figure 40

RELIEVE THE SPRING TENSION
If the rope is to be replaced cut the rope just below the grip. This will relieve spring tension.

If the rope is not to be replaced, pull approximately 10" (25 cm) of rope out of the starter housing until the notch in the pulley flange is aligned with the rope exit hole. Place your thumb on the pulley flange to keep the pulley from turning. Apply pressure on the rope in the notch while SLOWLY unwinding the pulley until all of the spring tension is relieved.

STARTER

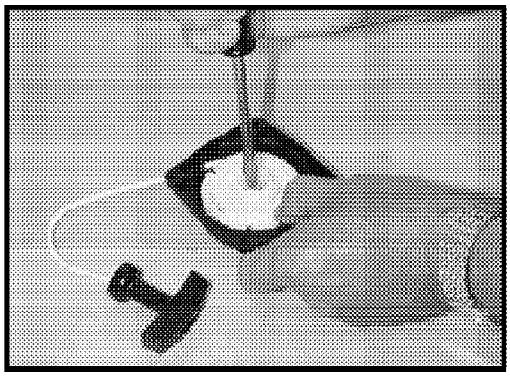


Figure 41

REMOVE AND INSPECT THE COMPONENTS

Remove the set-screw and washer holding the pulley in place.

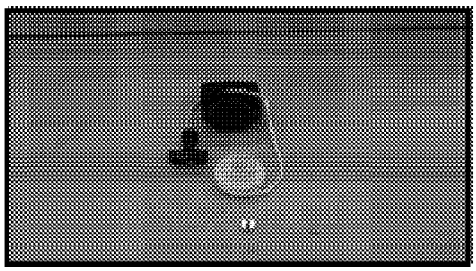


Figure 42

Gently, rotate the pulley back and forth to free it from the spring hook. If resistance is felt when lifting the pulley off the spring, carefully lift up the pulley just far enough to expose the spring hook. Then use a flat blade screwdriver to push the spring hook off the pulley.

SERVICE NOTE

If the spring jumps out of the container, it can be rewound within the container. With the spring coils facing up, wind the spring in a clockwise direction.

Replace the rope if it is frayed or too short.

Replace the spring and container if the spring is bent or broken.

If the inner spring hook will not engage the pulley, carefully reshape the spring hook by bending it with needle nose pliers until it, once again, engages the pulley.

STARTER ASSEMBLY FOR OUTBOARD STARTER EQUIPPED UNITS

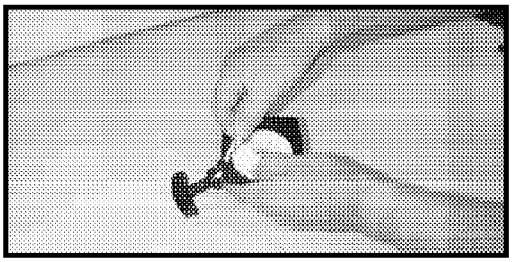


Figure 43

INSTALL THE PULLEY AND ROPE ASSEMBLY

With the ratchet side of the pulley facing up, wind all but 10" (25 cm) of rope on the pulley in a counterclockwise direction before placing the pulley in the starter housing. If the rope has been cut or replaced, pass the rope through the eyelet in the starter housing. Slide the grip to the end of the rope.

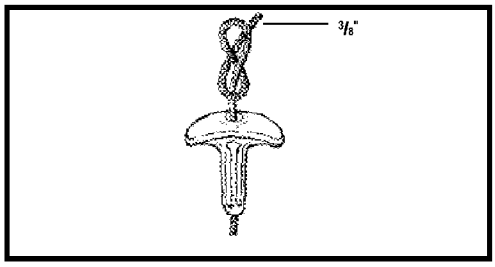


Figure 44

Once the rope is through the grip, tie a figure eight knot (as shown above) leaving approximately 3/8" above the knot after the knot has been set or pulled tight. Curl the pigtail, or length of rope above the knot, around the knot. Pull the knot into the grip.

Lightly grease the starter housing pulley post with multi-purpose grease prior to assembly. Place the pulley in the housing. Press down on the pulley while turning the pulley back and forth to engage the recoil spring hook.

STARTER

Add Pre-winds

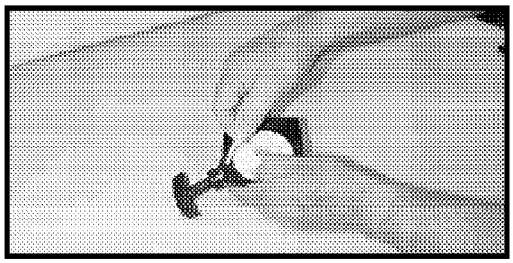


Figure 45

Reinstall the pulley retaining set-screw and washer. For proper recoil operation, two pre-winds on the rewind spring are required. Pull 10" (25 cm) of slack rope back into the housing to form a loop. Put the loop in the pulley notch, as shown. Wind the pulley, in a counterclockwise direction, two complete revolutions. Use your thumb to hold the pulley from rewinding. Use the grip to pull the loop back out of the starter housing. When the grip is released all the rope should rewind back into the starter housing.

Test the rewind spring tension

Proper spring coil tension must now be tested.

With the starter fully assembled, pull the starter rope as far as possible out of the housing.

Hold the pulley from turning and recoiling with your thumb while switching your other hand from the starter grip to the rope, as close to the rope eyelet as possible.

Continue to hold the rope fully extended, grasp the pulley and turn it counterclockwise.

If the pulley will not rotate, the spring is bottoming out. Release one pre-wind, then, repeat this check.

If the spring does not bottom out and you can turn the pulley more than one turn, the spring is not tight enough. Add one turn counterclockwise, then repeat the check.

This check of recoil spring tension will assure that the repairs that you make to the starter will be lasting ones. It will maximize the life of the rope, spring and other components.

REPAIRS TO THE STARTER CUP AND SHAFT ASSEMBLY - OUTBOARD STARTER EQUIPPED UNITS

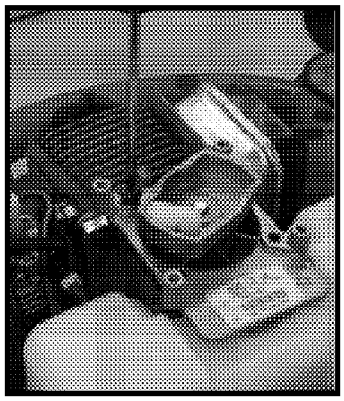


Figure 46

REMOVE THE CRANKCASE COVER

Use a T-25 Torx bit or screwdriver to remove the 4 10-24 x 3/4" screws retaining the starter cup and shaft assembly to the crankcase.

STARTER

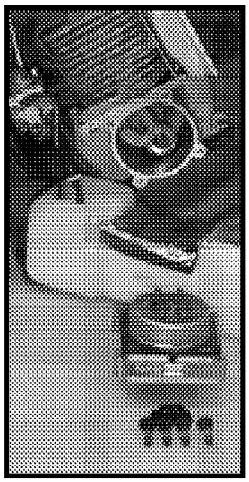


Figure 47

Carefully remove the crankcase cover, shaft and cup assembly from the crankcase.

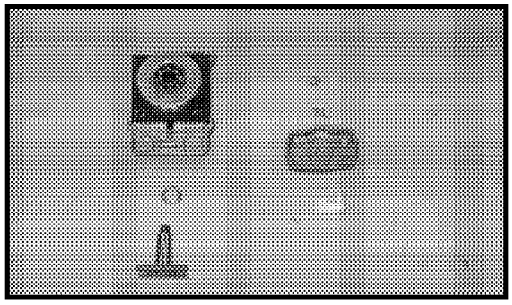


Figure 48

INSPECT THE COMPONENTS

On outboard starter equipped units, the components of the crankcase cover assembly may be serviced individually or as a complete assembly.

SERVICE NOTES: Upon reassembling the cover to the crankcase, take care to properly align the yoke of the starter shaft with the crank-pin.

Always install a new crankcase cover gasket when reassembling the crankcase cover assembly to the crankcase.

Tighten the crankcase cover retaining screws to the proper torque specs of 40-50 In/Lbs., 4.5-5.6 Nm.

ZIP START - Special instructions

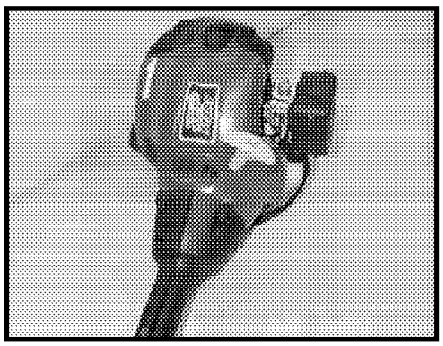


FIGURE 49

The new ZIP START effortless start system utilizes three unique components.

First, is a much larger diameter pulley. This pulley greatly reduces the effort needed to turn over the engine.

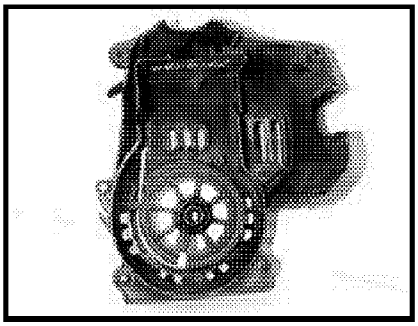


FIGURE 50

Second, is a newly designed cast-in key rotor. The key has been relocated to affect the timing of the ignition.

Third, is a new ignition module. This module is designed to fire at a much slower engine RPM.

These three new enhancements linked with the already successful SMOOTH OPERATOR decompression system make Homelite trimmers quicker and easier to start.

TOUCH START - SPECIAL INSTRUCTIONS

TOUCH START-SPECIAL TROUBLESHOOTING INFORMATION

The Touch Start trimmer utilizes a 4.8 volt NiCad battery pack to energize a small electric motor inside the starter housing. A small motor driven ribbed belt is used to rotate the starter pulley during the startup procedure.

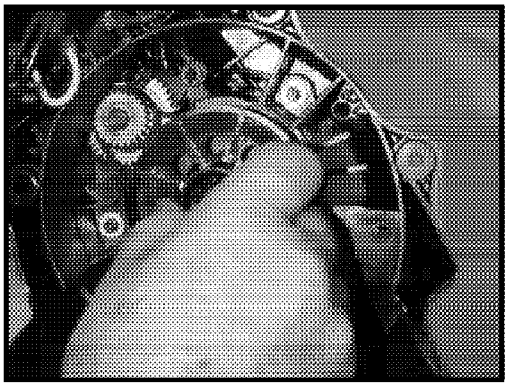


FIGURE 51

The starter pulley engages the starter pawls on the rotor just like any manual start unit. The automatic choke provides a rich fuel mixture to the engine while a solenoid opens the compression release valve to allow the required startup engine RPMs.

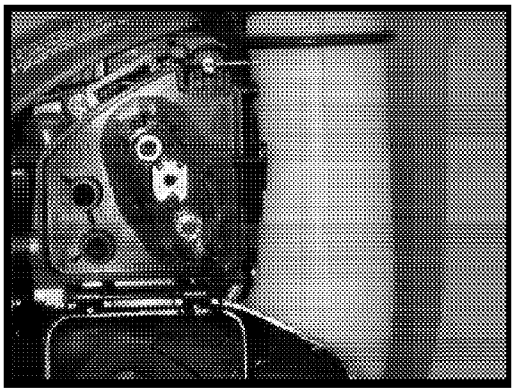


FIGURE 52

A primer system is available to assist in the startup procedure when the engine is cold or after refueling.

The battery must be capable of turning the engine a minimum of 800 RPMs. A fully charged battery should read a minimum of 5 volts DC on a DC voltmeter.

The battery charger can be checked for proper output by using a Volt-Ohm meter.

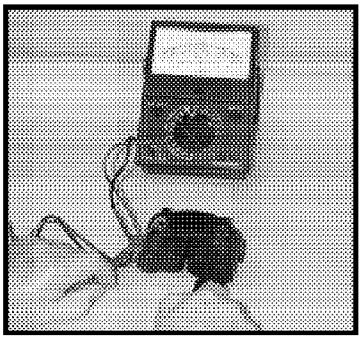


FIGURE 53

The meter should be set to the lowest AC scale for this test. Plug the battery charger into a wall outlet, then connect one lead of the meter to the outside of the charger jack and the other meter lead to the center pin of the jack. The voltage should read around 6. 8 AC volts no load.

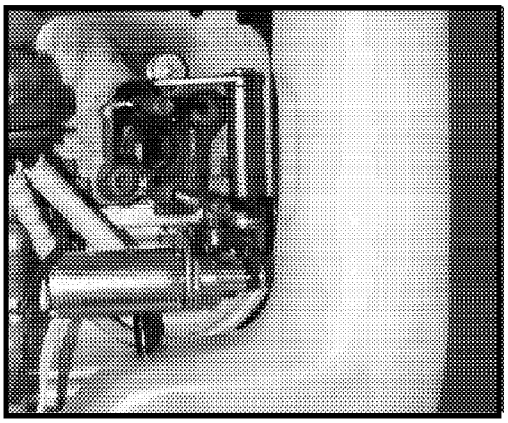


FIGURE 54

If the battery is fully charged and the engine is turning over slowly, check to see if the compression release valve is opening up all the way.

The valve is opened by a solenoid. This solenoid is energized when the start switch is depressed. If the solenoid lever does not move when the start switch is depressed then manually push in the valve with a small flat blade screwdriver. If the engine will now turn over at the required RPMs, the solenoid may be defective. Before replacing this component be sure to check for any obstructions or faulty electrical connections.

TOUCH START - SPECIAL INSTRUCTIONS

If the engine fails to turn over at all then check the integrity of the start switch.

Use a flat blade screwdriver to carefully pry out the start switch on the top of the control assembly.

CAUTION

Remove the high-tension lead from the spark plug to prevent the engine from starting during the next test.

Take a screwdriver and arc across the two terminals. If the engine turns over then the switch is defective and must be replaced.

If the engine does not turn over then the problem is either defective wiring or a faulty starter, which may include the motor, pulley or belt.

To test the switch with a Volt-Ohm Meter, pry one of the electrical leads off of the switch spade terminal. Set the VOM to Rx1 scale or equivalent continuity setting. Connect one VOM probe to each switch terminal. There should be NO CONTINUITY between the terminals (switch not depressed). Depress the switch. There should be CONTINUITY.

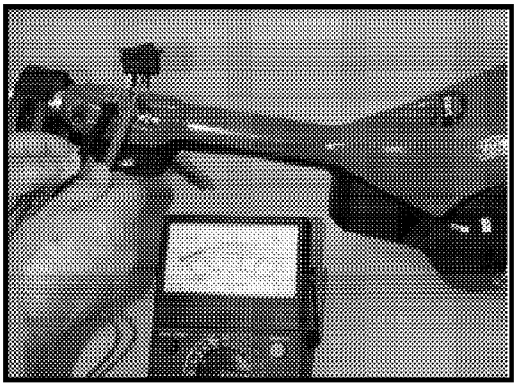


FIGURE 55

Follow the same procedure to test the stop switch.

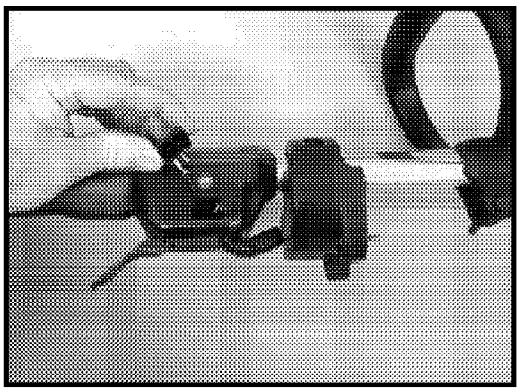


FIGURE 56

Starter/Control Assembly Removal

Remove the two front control assembly cover screws with a T-25 TORX bit. Two hex nuts will fall out the bottom of the housing. Turn the unit over and remove the two Torx Plastite screws. Use a T-25 TORX bit to remove the two crankcase cover Plastite screws. One of these screws retains the fuel tank support loop. Remove the strap hanger and screw from the center of the control assembly cover.

Finally remove the throttle cable hold down screw , lift off the cover and disconnect the start switch leads.

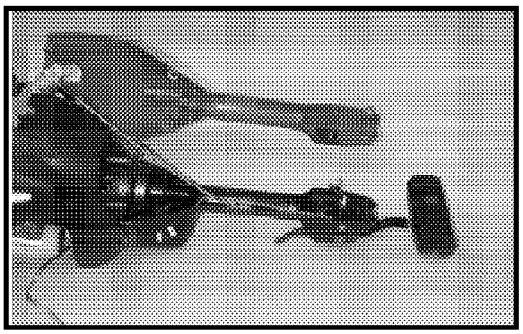


FIGURE 57

Remove the two Taptite screws retaining the control assembly housing to the starter assembly.

TOUCH START - SPECIAL INSTRUCTIONS

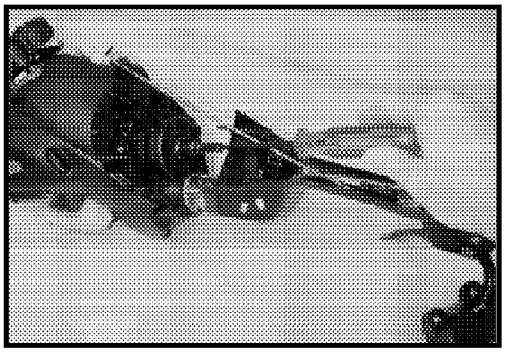


FIGURE 58

Remove the spark plug and insert a length of starter rope into the hole as a piston stop. Use a T-25 TORX bit (Homelite P/N 24982-03) or screwdriver to loosen the captive screw in the clutch drum. Slide the clutch drum off of the crankshaft.

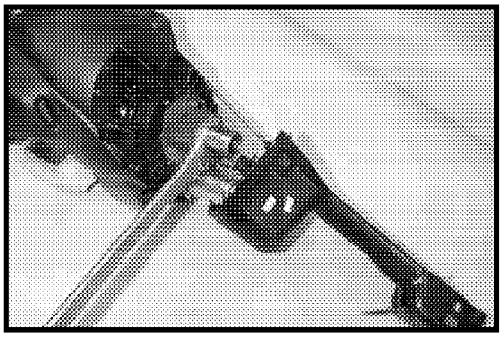


FIGURE 59

Remove the S clutches one at a time by turning them counterclockwise with a two pin clutch spanner (Homelite P/N A93791). Make sure that the clutch spanner pins are resting against the center portion of the S clutch.

CAUTION

Do not run engine without clutch drum in place. Make sure the clutch drum covers all clutch shoes. An exposed clutch shoe could come through the housing and cause injury.

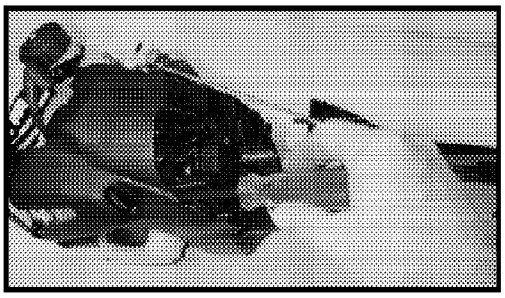


FIGURE 60

Remove the four T-25 TORX screws that hold the starter assembly to the engine crankcase. Now use a flat blade screwdriver to push the primer assist bulb lines from the primer bulb fittings. The primer bulb and bracket will come off when the starter housing is removed.

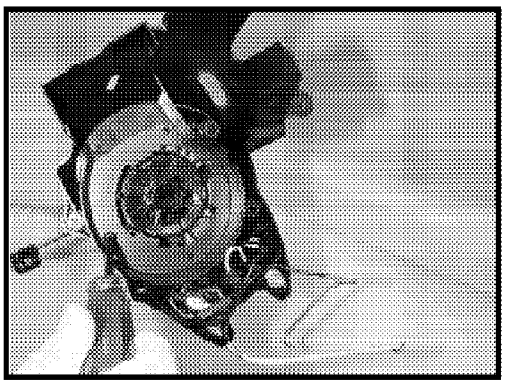


FIGURE 61

The belt and pulley are the only serviceable parts of the starter assembly. If the starter motor is found to be defective, the complete starter assembly will have to be replaced. To replace the belt and pulley, remove the three baffle ring retaining screws and then lift out the baffle ring.

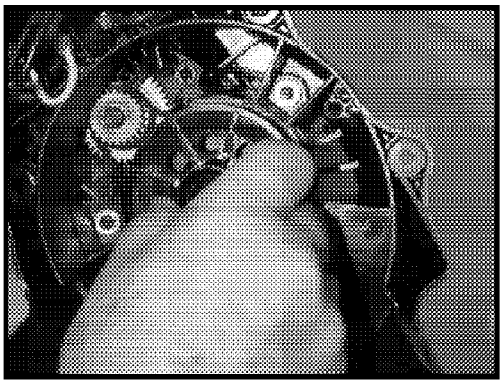


FIGURE 62

Grasp the pulley and pull it out of the housing. The belt can now be worked off of the motor gear.

TOUCH START - SPECIAL INSTRUCTIONS

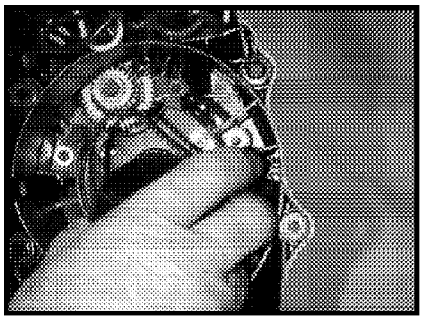


FIGURE 63

To install a new belt or pulley, place the belt around the teeth on the lower side of the pulley. Place the pulley over the post and work the belt around the motor gear. Use a small screwdriver to pry away the belt tensioning spring while pushing the belt around the gear. Reinstall the baffle ring.

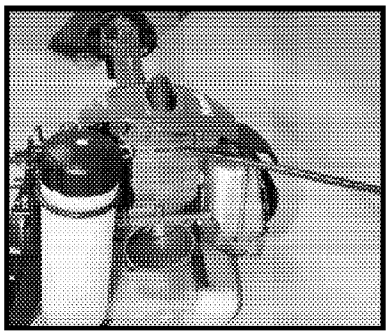


FIGURE 64

A clip on the back cylinder fin retains the automatic choke plate assembly tube. Pry this clip out halfway to free the tube. (The c/case cover has been removed to view the clip).

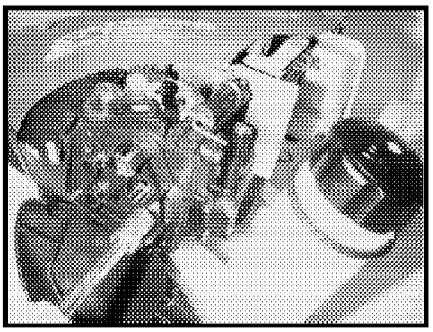


FIGURE 65

Use a 3/8" socket to remove the two nuts retaining the choke plate assembly and carburetor to the cylinder.

Slide the choke plate assembly , carburetor and carburetor gasket off the mounting studs.

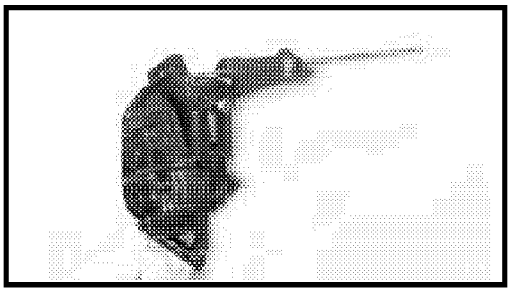


FIGURE 66

The automatic choke assembly uses a small piece of Nitinol wire inside the brass tube to slowly release the choke plate from the half choke position to full open as the engine reaches operating temperature. When the engine stops running the choke plate is returned to the full choke position with the use of a ground magnet.

Warning

Handle this assembly with extreme care. Bending the Nitinol wire or the brass tubing will render the automatic choke inoperable.

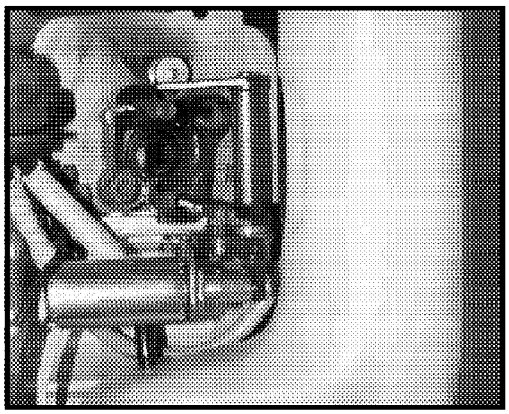


FIGURE 67

The solenoid depresses the compression relief valve when the start switch at the front of the control assembly is activated. After the carburetor is removed the solenoid can be accessed and serviced if necessary.

SHORTBLOCK DISASSEMBLY AND ASSEMBLY

Use a T-27 or T-25 TORX bit to remove the four screws securing the crankcase cover to the cylinder block.

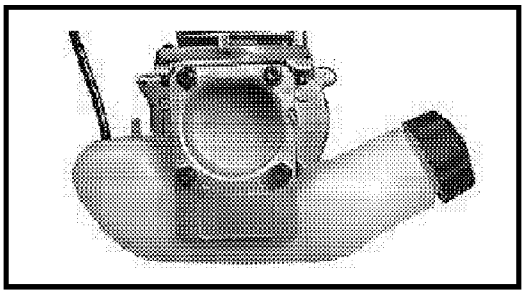


FIGURE 68

Remove the crankcase cover and carefully remove the crankcase cover gasket. Remove the fuel tank and three rubber bumpers.

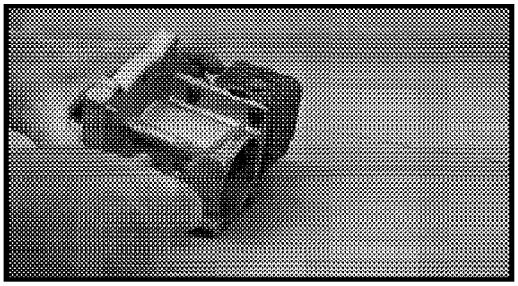


FIGURE 69

Use a T-27 Torx bit to remove the three cylinder head retaining screws. With a back and forth rocking motion, break the cylinder free from the crankcase. Slowly lift the cylinder head up until you can support the piston/rod with one hand, then pull the cylinder head off the piston.

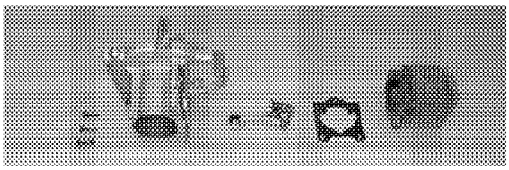


FIGURE 70

Inspection of the internal engine components

Examine the piston ring groove in the piston for carbon build up.

Inspect the piston ring for thin spots or other signs of wear.

Carefully remove any carbon build-up from the piston and piston ring groove.

If the piston ring is to be reused, mark the piston ring end gap so that it can be replaced back in the piston in the same position as when first removed.

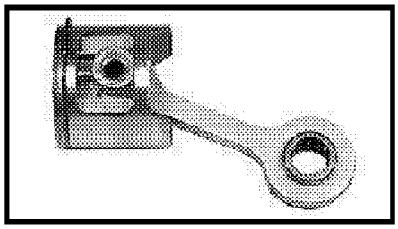


FIGURE 71

SERVICE NOTE

The piston and rod are supplied as an assembly only. Replace the entire assembly if problems exist with the rod bearings, connecting rod or piston.

De-glaze the piston with crocus cloth.

The cylinder must also be de-glazed if it is to be re-used.

A 50/50 mixture of kerosene and engine oil along with a silicon carbide, Christmas tree or ball type hone may be used to de-glaze the cylinder.

Spin the crankshaft slowly in order to check the main bearings.

Take note if roughness or binding is felt while rotating the crankshaft.

Inspect the connecting rod and crankshaft for signs of overheating such as bluing, discoloration or scoring.

Repairs to the crankshaft, main bearings or crankcase are accomplished by using a replacement short block.

ENGINE ASSEMBLY

CRANKSHAFT/CRANKCASE ASSEMBLY

Before assembly begins, inspect the internal engine components for excessive wear, stress cracks, or overheating. Examine roller and main bearings for roughness (spin the bearing) or bluing from overheating, or lack of lubrication. The crankcase is not serviceable. If any component of the crankcase is damaged then a complete short block will have to be installed on the trimmer.

ASSEMBLY

Assemble the Piston Ring to the Piston

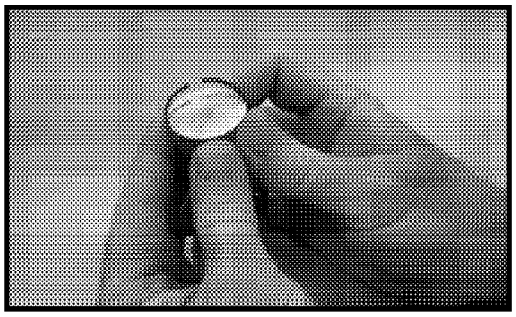


Figure 72

Lubricate the piston ring with Homelite 2-cycle engine oil prior to assembly. Place the piston ring on top of the piston. Gently pry apart the open end of the piston ring just far enough to start the closed end of the piston ring over the piston. Push the closed portion of the piston ring until it seats in the piston ring groove. Slide the open ends of the piston ring until they slip into place. Care must be taken so not to scratch the skirt of the piston with the edge of the piston ring.

Lubricate the piston and piston rings with Homelite 2-cycle engine oil. If the cylinder and piston are reused, make sure that they are de-glazed if varnish build up is present. Use crocus cloths to clean the piston and use a ball type flex hone with 50 percent oil and 50 percent solvent to clean the cylinder.

Use an oiled cloth to clean and lubricate the cylinder walls, even if the cylinder is new.

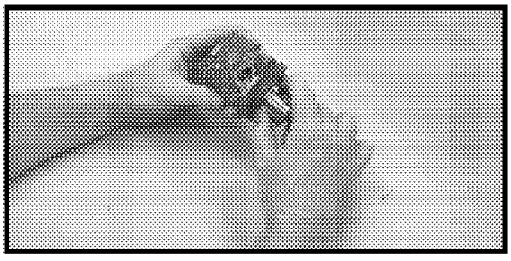


FIGURE 73

Align the mark on the piston top with the exhaust port side of the cylinder head. If no mark is present be sure that the ring gap does not face the exhaust port. Use your fingers to collapse the piston ring as you apply downward pressure on the cylinder. This will allow the cylinder to slide down over the piston.

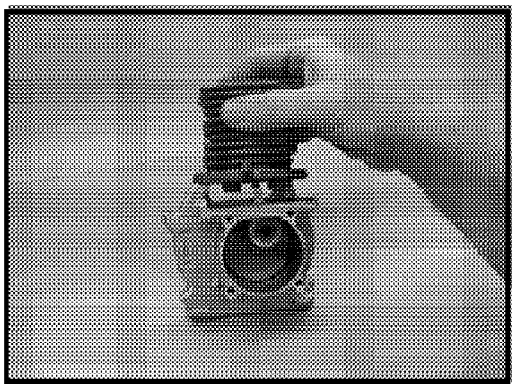


FIGURE 74

Place a new head gasket on the engine block. Note correct orientation of cylinder head. Slide the piston connecting rod over the crankshaft and seat the cylinder head. Rotate the crankshaft to ensure that the piston moves freely in the cylinder head.

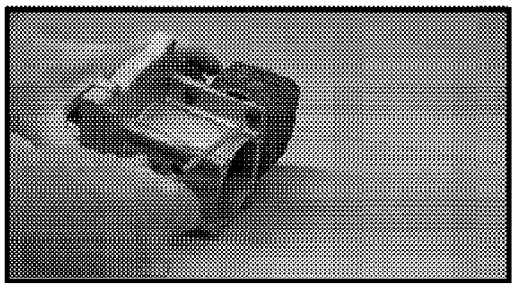


FIGURE 75

Apply thread-locking compound. Install and torque the three cylinder screws 55 65 in. lbs. (6.6 7.3 Nm.).

Rotate the piston to bottom dead center and insert a length of rope into the spark plug hole to act as a piston stop.

To install the rotor on a non-clutch trimmer use the alignment mark on the face of the rotor to align the rotor with the woodruff key on the crankshaft. Set the rotor into place.

Install the flat washer and drive connector. Torque the drive connector to 100 - 150 in. lbs. (11.3 - 23.0 Nm.).

To install the rotor on a clutch trimmer use the alignment mark on the face of the rotor to align the rotor with the woodruff key on the crankshaft. Set the rotor into place.

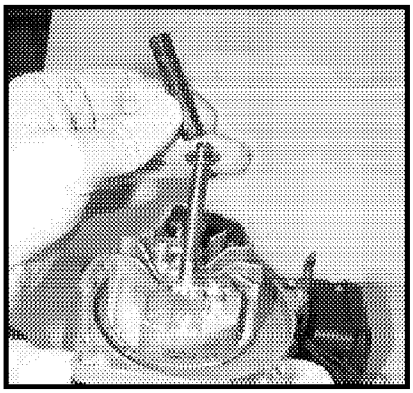


FIGURE 76

Install the small flat washer, then the spacer.

Rotate the rotor magnets 180° away from the module-mounting bosses.

Apply thread-locking compound to the two Torx head ignition module retaining screws.

Place the ignition module on the cylinder.

Insert the two screws through the module and into the bosses on the cylinder. Make sure the upper right module mounting screw passes through the module grounding lead and the ignition lead with the ring type terminal (for trimmers with an ignition switch) before being inserted into the module.

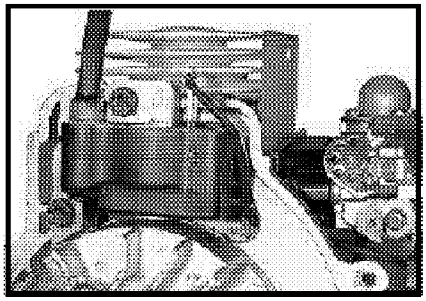


FIGURE 77

Leave the two ignition module screws loose enough so that the module can still slide to facilitate the air gap adjustment.

The stop switch lead and the ignition lead is routed through the engine block opening and under the heat dam flange when it is installed.

The ignition module air gap should be set 0.008-0.012 inch (0.203-0.305 mm). Rotate the rotor so the magnets are 90 degrees away from the ignition module.

Place a plastic shim (Part number PS24306) over the magnets and rotate the rotor and shim until the rotor magnets are directly under the ignition module legs. While holding the ignition module against the shim and rotor, tighten the two TORX head screws.

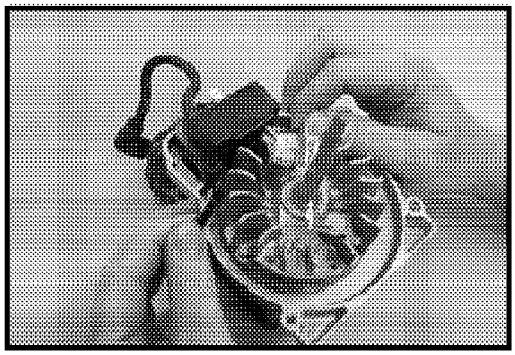


FIGURE 78

CAUTION

Operating a trimmer with a damaged rotor could result in a rotor explosion and possible injury.

Install the starter housing over the rotor. Pull out on the starter rope slightly to engage the starter pawls.

Apply thread-locking compound and install three of the four T-25 TORX head Taptite screws to secure the starter housing in place. The fourth Taptite screw may be used later to secure the throttle cable bracket to the engine housing.

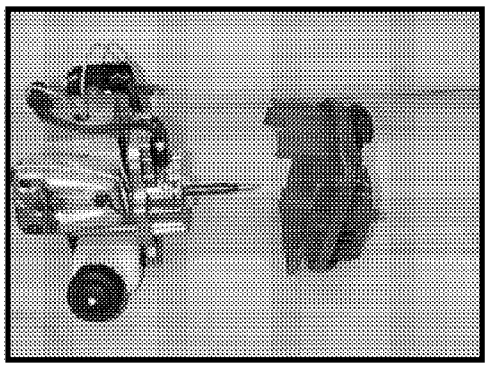


FIGURE 79

On clutch model trimmers be sure that the small rotor washer and long spacer are in place on the crankshaft. After the starter housing is secured in place slide the large thrust washer onto the crankshaft. Install the S-clutches one at a time.

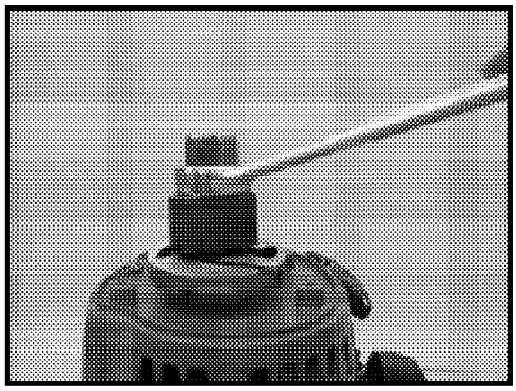


FIGURE 80

When installing the clutch discs, make sure that the side of the disc with the dimple stamped into it is facing toward you.

Torque the S-clutches Cto 90 to 110 in. lbs. (10.1 - 12.0 Nm.).

CAUTION

Do not run engine without clutch drum in place. Make sure the clutch drum covers all clutch shoes. An exposed clutch shoe could come through the housing and cause injury.

Inspect the S-clutches and clutch drum for wear or damage. Torque the S-clutches one at a time to the proper specifications. Be sure the clutch drum is completely covering the S-clutches and torque the clutch drum retainer screw to the proper specifications.

Install the clutch drum onto the crankshaft. Using a T-25 TORX bit or screwdriver torque the captive screw 40 to 50 inch pounds.

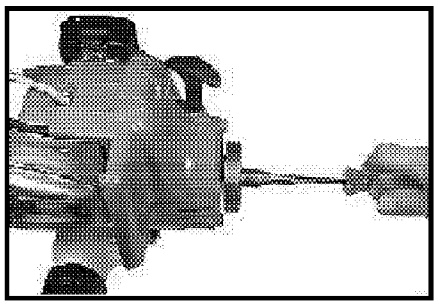


FIGURE 81

Insert the two hex head bolts through the heat dam (from engine side). Apply thread-locking compound and secure the heat dam and gasket to the engine with two Sems screws. Torque screws 35 to 45 in. lbs. (4.5 - 5.6 Nm.).

Be sure the ground lead or ignition leads are routed under the heat dam gasket and flange.

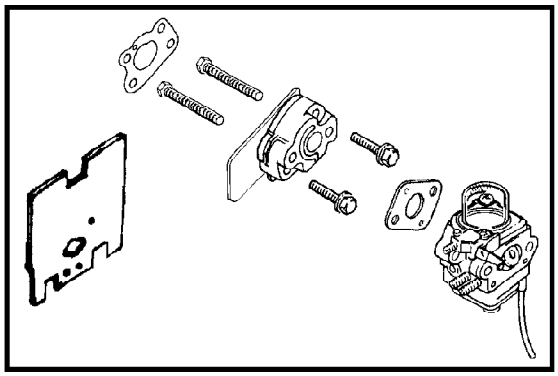


FIGURE 82

After assembly of the heat dam, secure the carburetor gasket, carburetor and air filter housing to heat dam with the two locknuts.

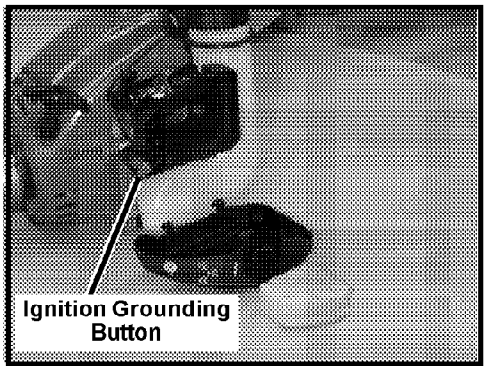


FIGURE 83

On non-clutch trimmers the ignition ground lead should be reattached to the grounding button and spring at the rear of the air filter housing before the housing is mounted to the carburetor.

Replace the foam air filter and snap on the air filter cover.

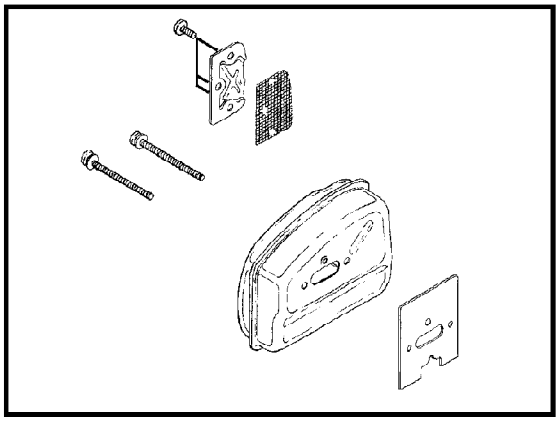


FIGURE 84

If local regulations require it, install a spark arrestor screen in the muffler assembly.

Place the muffler gasket over the exhaust port and set the muffler in place.

Apply thread-locking compound to the two muffler retaining bolts and torque them to 50 to 60 in. lbs. (5.6 - 6.8 Nm.).

Install two fuel tank bumpers on the bosses at the bottom of the crankcase. Install the third bumper on the crankcase cover boss.

Place the fuel tank on the crankcase bumpers. Install the crankcase gasket on the crankcase cover and set the cover in place over the fuel tank.

Apply thread-locking compound to the appropriate Taptite or Sems screws depending on the series trimmer you are working on. Install the four screws and torque 35 to 45 in. lbs. (4.0 - 5.4 Nm.).

On DX and ZR series trimmers install the three Plastite screws in the top of the crankcase cover. Be sure to secure the tank support loop with the top left hand Plastite screw.

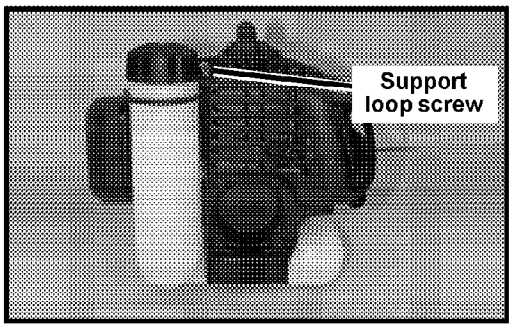


FIGURE 85

Install throttle cable end into carburetor throttle shaft. Ensure cable end Z fitting is installed in correct throttle shaft hole. This should be the fourth hole from the bottom of the throttle plate.

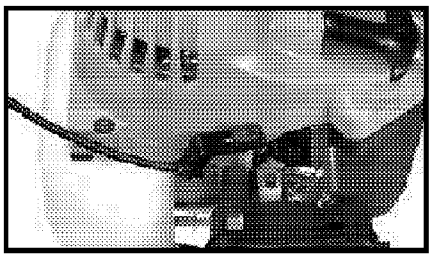


FIGURE 86

Secure the throttle cable bracket under the upper left starter housing screw. The throttle must be adjusted so that the trimmer will idle and reach full throttle.

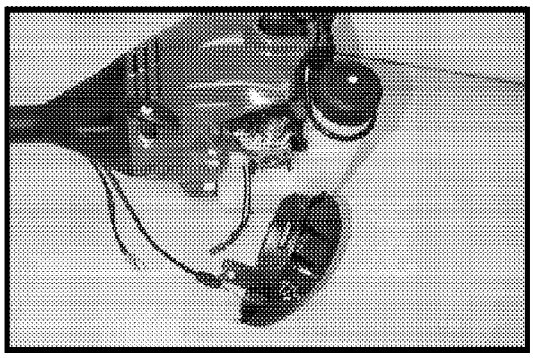


FIGURE 87

The DX and ZR series have a non-adjustable throttle cable. Be sure the nylon grommet on the throttle cable end is properly seated in the air filter housing bracket.

BOOM - THROTTLE

The drive shaft housing or boom assemblies and the control handle assemblies vary somewhat among the different trimmer families.

On **ST series** non-clutch trimmers remove the screw retaining the throttle cable and detach the Z fitting from the carburetor throttle plate. Loosen the clamp screw on the front of the starter housing and slide the boom assembly out of the housing.

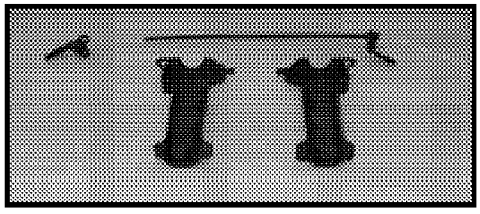


FIGURE 88

The throttle cable and trigger can be serviced by removing the five Plastite screws and opening up the control assembly.

On **ST and PRO series** clutch trimmers remove the screw retaining the throttle cable and detach the Z fitting from the carburetor throttle plate. Disconnect the two ignition lead wires. Loosen the clamping screw on the front of the clutch housing and slide the boom assembly out of the housing.

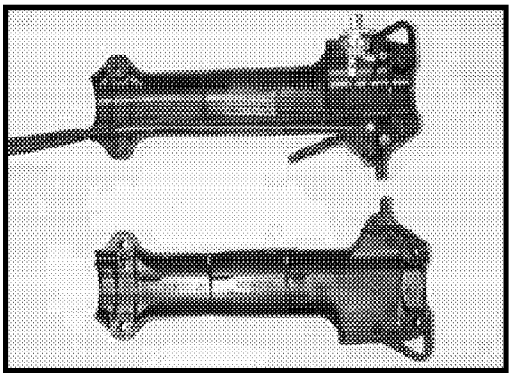


FIGURE 89

The throttle cable and trigger, ignition switch and ignition leads can be serviced by removing the four Plastite screws and opening up the control assembly.

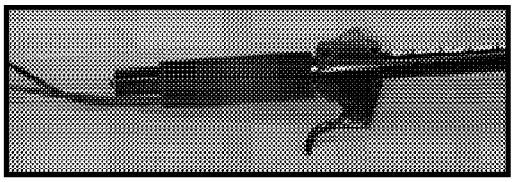


FIGURE 90

The **Pro series** throttle cable can be serviced by removing the three screws and carefully opening up the control assembly. Pay close attention to the trigger and return spring arrangement.

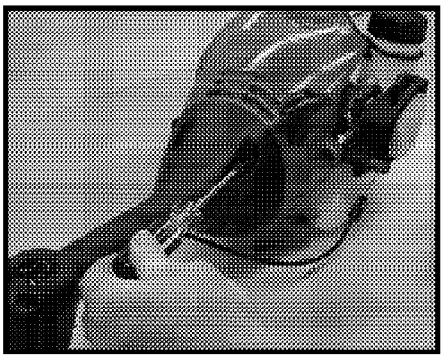


FIGURE 91

On the **DX/ZR series** use a T-25 TORX bit or screwdriver to remove the four Plastite screws retaining the control assembly to the starter housing.

Disconnect the two switch leads if so equipped. Use needle nose pliers or a flat blade screwdriver to depress the tabs on the throttle cable retainer grommet and slide it out of the air filter housing bracket. Remove the Z fitting from the carburetor throttle plate.

BOOM - THROTTLE

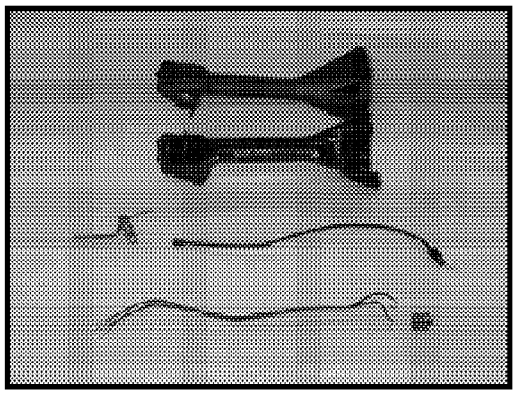


FIGURE 92

Remove the two machine screws and locknuts at the front of the control assembly. Take out the two Plastite screws at the rear of the assembly and open up the two halves to service the trigger, throttle cable, ignition lead wires and switch if so equipped.

On the Trimlite series of non-clutch trimmers the throttle control assembly must be removed before the boom assembly can be serviced.

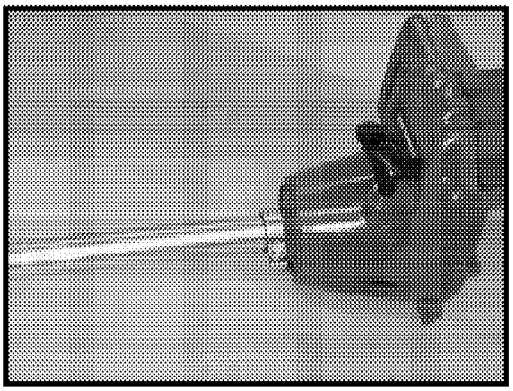


FIGURE 93

Loosen the four screws holding the control assembly together. Slide the control assembly forward to gain access to the boom assembly clamp on the front of the starter housing.

Loosen the clamp bolt and slide the boom assembly out of the starter housing and control assembly.

To service the trigger and throttle cable, simply remove the four Plastite screws and open up the control assembly halves.

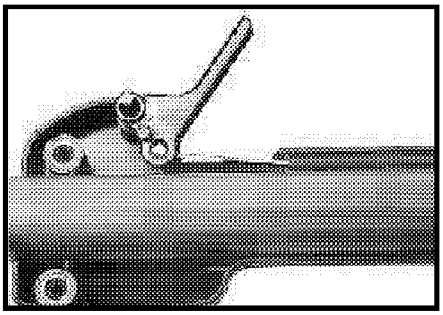


FIGURE 94

On the Expand-It and Versa-Tool models the control assembly must be removed to service the driveshaft and boom assembly.

Remove the four Plastite screws securing the control assembly to the starter housing. Remove the four Plastite screws securing the two halves of the control assembly together.

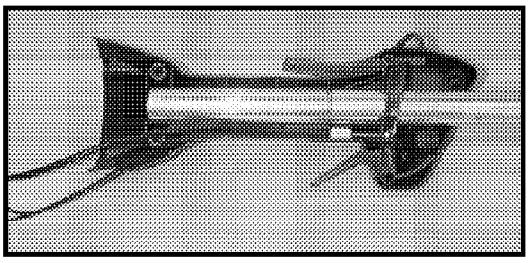


FIGURE 95

An alignment locator boss protruding from inside the right hand control assembly half holds the drive shaft housing in place. One of the internal ribs in the control assembly halves fits into the crimped portion of the drive shaft housing.

The throttle cable, trigger, interlock, switch and ignition leads may be serviced after splitting open the control assembly halves.

GEAR HEAD - SPOOL/STRING

Homelite uses two types of gear heads on their trimmers and brushcutters. The black gear head has a right hand rotation and utilizes the black string head retainer and a right hand threaded string head adapter. The black gear uses standard SAE threads.

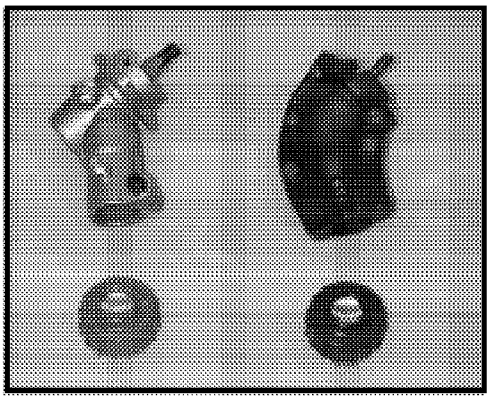


FIGURE 96

The silver gear head has a left-hand rotation and utilizes the red string head retainer and a left hand threaded string head adapter. The silver gear head uses metric threads.

When installing either gear head be sure to align the locator hole in the boom assembly with the alignment screw in the side of the gear head. Then tighten the clamping screw or screws at the top of the gear head.

The internal components of both gear heads are not serviceable. If the gear head fails for any reason it will have to be replaced.

Homelite uses primarily two string advance systems. The EZ Line Tap Advance System and the Pro Cut Stringhead system.

EZ Line Tap Advance System

The EZ Line Tap Advance System uses either eighty or ninety-five thousands Homelite branded monofilament string.

To install a new prewound spool, stop the engine and disconnect the spark plug wire. Hold the stringhead and unscrew the spool retainer. Turn counterclockwise if the retainer is BLACK and clockwise if the retainer is RED. Remove the empty spool from the stringhead.

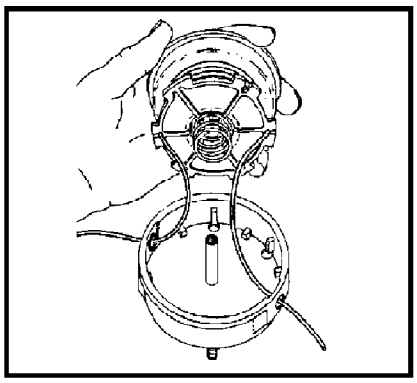


FIGURE 97

To install new spool, make sure that the two strings are captured in the slots opposite each other on the new spool. Extend the end of the string approximately 6 inches beyond the slots. The new spool is packaged with a new spring. Be sure the correct spring is installed on the back of the spool.

Thread the strings into the eyelets in the stringhead. Carefully push the spool into the stringhead (gently pull the strings to the outside if necessary). When the spool is in the stringhead, grasp the strings and pull sharply to release them from the slots in the spool.

Push down and turn the spool counterclockwise until it no longer turns. Hold the spool down and rotate it clockwise a small amount. Release the spool. The spool should be locked down in the stringhead. If not, hold the spool down and rotate it until it is locked.

Make sure stringhead and spool retainer are installed on driveshaft by turning the BLACK retainer clockwise and the RED retainer counterclockwise to tighten.

Pull the strings again to rotate the spool into cutting position. Push the spool retainer down while pulling on string(s) to manually advance string and to check for proper assembly of the string head.

STRING REPLACEMENT

When replacing new string on a spool with a center divider, remove the spool from the stringhead (Note: Keep the spring attached to the spool). Remove any old string remaining on spool.

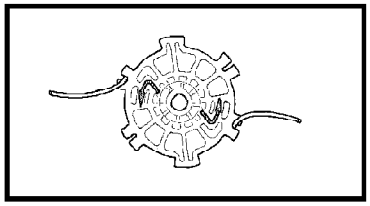


FIGURE 98

Insert one nine-foot long string into the anchor hole in the spool. Wind string #1, in the upper space counterclockwise as shown by the arrows on the flange and place the string end in slot on upper spool flange. Extend string 6 inches beyond slot. After winding, there should be at least 1/4 inch between the wound string and the outside edge of the spool. DO NOT OVERFILL.

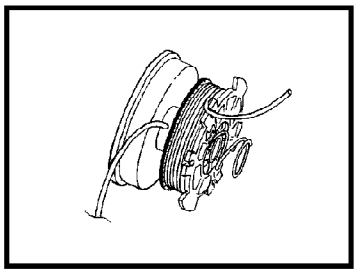


FIGURE 99

Repeat with the #2 string, and again DO NOT OVERFILL.

To wind replacement string onto a spool without the center divider; insert one end of a twenty-five foot length of Homelite .080 diameter string, or an eighteen foot length of .095 diameter Homelite string, into one of the two small holes in the lower spool flange. Pull the string through the hole until the spool is centered on the length of string. Thread the string back through the remaining hole and pull the loop tight. Hold the two strings apart with the index finger. Slowly rotate the spool while pulling the strings tight.

Make sure that the two strings are captured in the slots opposite each other on the spool. Extend the end of the string approximately 6 inches beyond the slots.

Pro Cut Stringhead

To replace new string in the new Homelite Pro Cut Stringhead use the following procedure.

Use only Homelite© Pro Cut DuraLine string. This .105 diameter line segment is designed specifically for use in the PRO CUT head. It is formed from the best polymer formula on the market today, designated MN7, which makes it more durable and less brittle than any trimmer line in its class. It has a stamped flat center to keep it retained in the special designed string head and is cut to the exact length to provide optimum performance.

CAUTION

Do not use conventional round string. It may not stay retained in the stringhead, could possibly damage the Pro Cut stringhead or cause possible injury to the user.

Stop the engine and disconnect the spark plug wire. Lay the trimmer on a flat, bare surface and remove worn DuraLine .

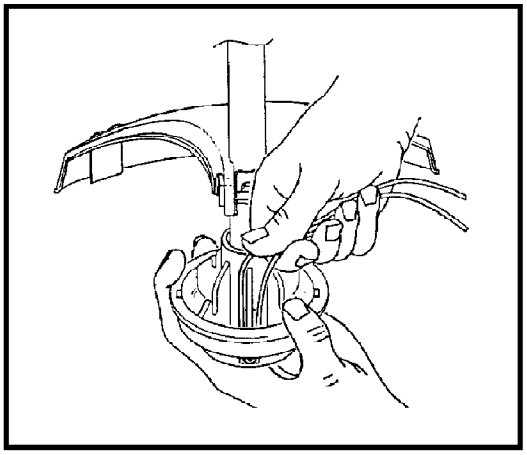


FIGURE 100

Place the flattened portion of the V-shaped DuraLine segment into either of the two hooks in the stringhead. Pull both string ends tight until the flat section is fully seated in the hook.

GEAR HEAD - SPOOL / STRING

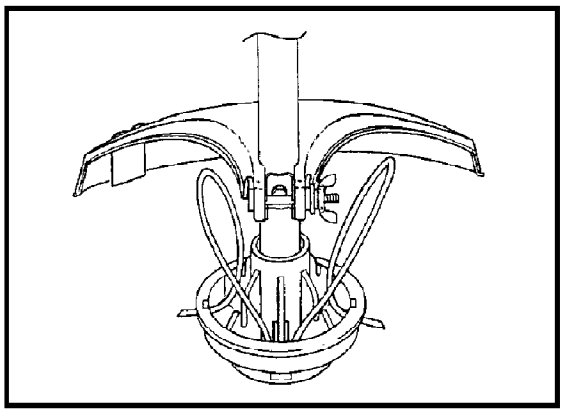


FIGURE 101

Place the ends of the string through the eyelets in the sides of stringhead.

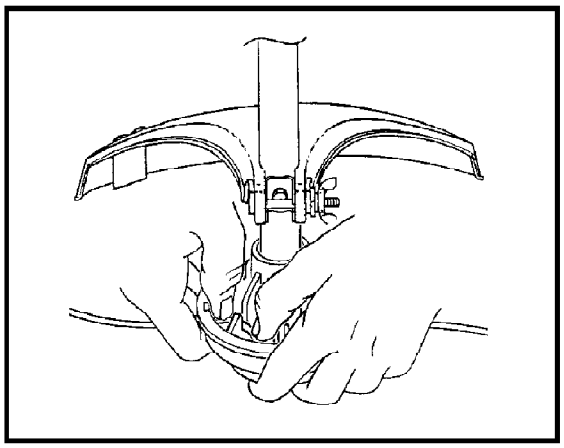


FIGURE 102

Push each string into the slot in the rib on each side of hook to lock it into place.

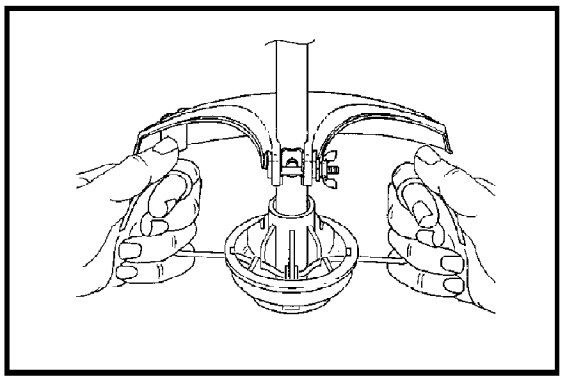


FIGURE 103

Pull both strings tight.

HOMELITE EXPAND-IT SYSTEM

The Expand-It model has the capability of accepting various attachments. These are a brushcutter, blower, cultivator , string trimmer and an edger.

Removing the Attachment

Loosen the knob near the open end of the coupler. It is not necessary to loosen the other three (3) screws. From the operators position grasp and twist the lower tube clockwise and slide the shaft out of the coupler.

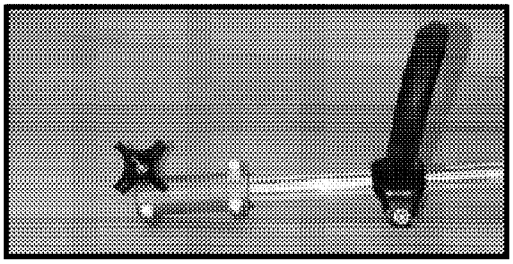


FIGURE 104

Installing the Attachment

With the knob loose, position the slot of the lower tube at the three o clock position and slide the lower unit into the coupler until the tubes of the power unit and the lower unit touch each other within the coupler.

By looking in the slot on the top of the coupler you should see both tubes are aligned end to end.

From the operators position grasp and twist the lower tube counterclockwise before tightening the knob. The inner drive shafts will automatically align themselves.

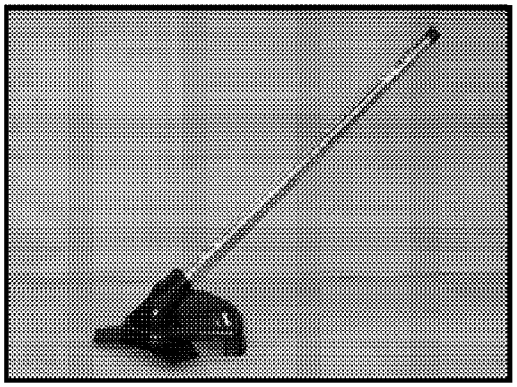


FIGURE 105

The brushcutter attachment can be serviced by removing the blade, blade guard, gear head and flex shaft.

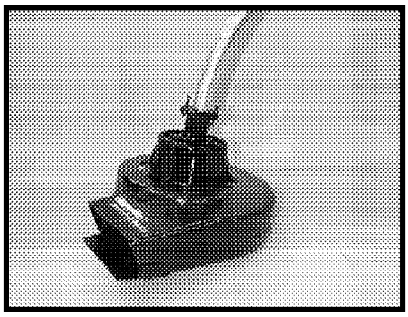


FIGURE 106

Remove the three screws retaining the drive shaft housing clamp in the upper blower housing. Slide the clamp up the drive shaft housing.

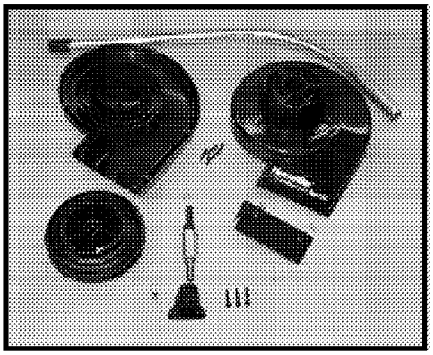


FIGURE 107

Remove the two screws holding on the metal friction guard.

Remove the five pan head screws securing the lower fan housing. Remove the lower fan housing to expose the blower fan.

If the fan is held in place on the arbor with a pal nut use the following procedure. Place a nine-sixteenths inch socket and extension over the pal nut. Tap the extension with a plastic or leather mallet to flatten the pal nut. It will be loose and can be lifted off of the arbor shaft. Use an arbor press to press the arbor shaft through the impeller. Using a plastic or leather mallet to carefully tap the arbor shaft through the impeller is an alternate method.

EXPAND-IT

On later model blower attachments the impeller is held on the arbor shaft with a snap ring. Use the appropriate size snap ring pliers to spread the ring and lift it off of the arbor shaft. The impeller can be easily lifted off of the hex portion of the arbor shaft.

After the drive shaft housing is removed from the upper blower housing the lower bearing assembly retaining screw can be removed. Pull the bearing and arbor assembly out of the drive shaft housing and service as necessary. The flex shaft must be pulled out of the lower end of the drive shaft housing. Lubricate the flex shaft with multi-purpose grease- Homelite part number 18453.

Follow the disassembly steps in reverse order to reassemble the blower attachment. On older units be sure to seat the impeller fully on the arbor shaft before installing the pal nut. Tap the pal nut with a three-eighths inch socket to secure it to the arbor shaft.

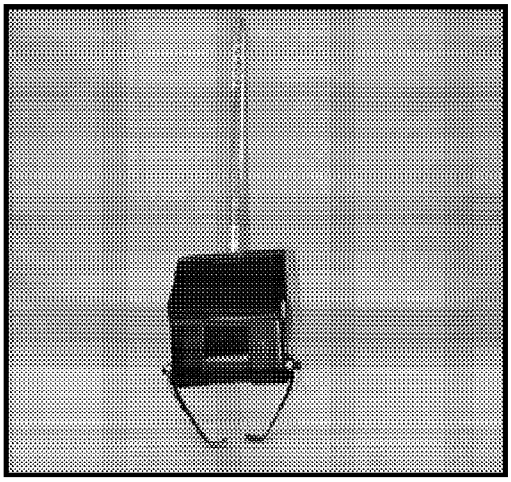


FIGURE 108

The cultivator attachment can be serviced using the following procedure. Use a one-quarter inch hex key wrench to remove the two tine retaining screws. Remove the blade plate and tine. When replacing the tines be sure to install the blade plate with the rounded side facing the blade and the word OUT facing away from the blade.

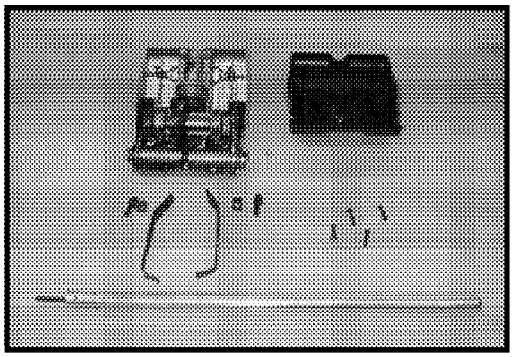


FIGURE 109

Use a #2 Phillips screwdriver to remove the four screws securing the upper housing cover to the lower housing. Lift the upper housing cover off. Remove the four screws securing the drive shaft clamp. Lift out the drive shaft housing. To replace the flex cable, remove it from the lower end of the shaft housing. Use multi-purpose grease- Homelite part number 18453- to lubricate the flex cable before reinstalling.

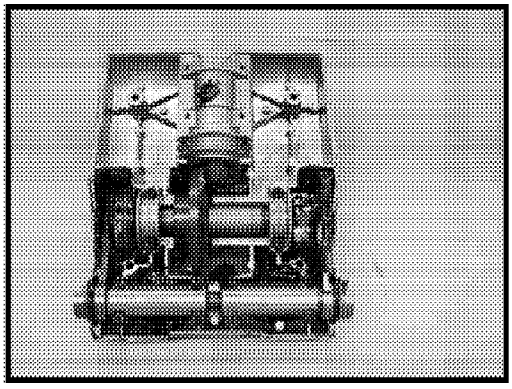


FIGURE 110

The cultivator is internally lubricated at the factory and should not need service. However, if it is used daily or in extremely hard or dusty soil, it is recommended that new grease (Homelite part number 18453) be supplied to the grease pockets.

Replace worn or broken parts as necessary and reassemble in the reverse order of the disassembly.

EXPAND-IT

To service the Edger attachment begin by first removing the blade. Place the holding tool (Homelite part number 00063) through the slot in the upper flange washer and rest it against the guard bolt head. Using a one-half inch combination wrench or socket turn the nut clockwise to remove it.

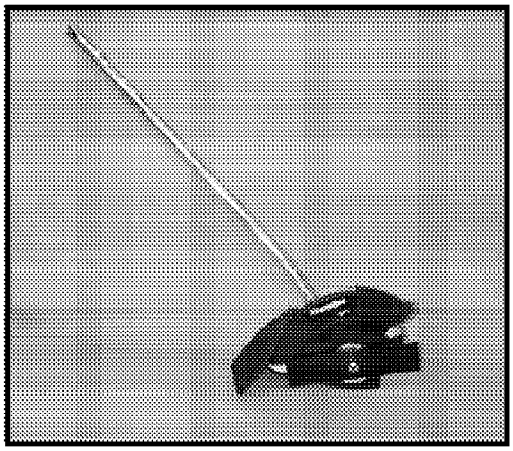


FIGURE 111

Remove the three hex head screws retaining the blade guard and wheel assembly to the gear head. Remove the gear head by loosening the clamp screw and the locator screw. The flex cable can now be removed through the lower end of the drive shaft housing. Lubricate the flex shaft and gear head with multi-purpose grease, Homelite part number 18453.

Reassemble the Edger attachment by reversing the disassembly procedure.

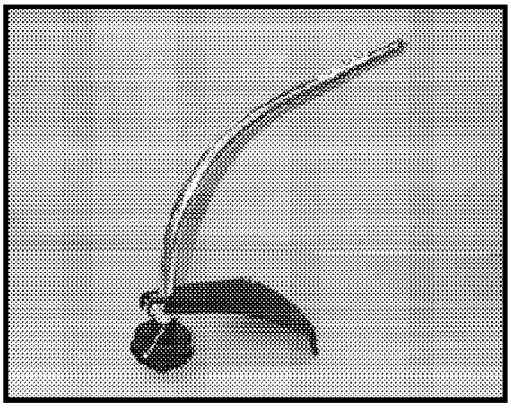


FIGURE 112

The only parts of the string trimmer attachment that can be serviced are the grass deflector and string head assembly. If the string head adapter or flex shaft are damaged the complete drive shaft assembly will have to be replaced.

John Deere Consumer Products, Inc.

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