

# **shindaiwa**

## **F-18**

## **F-18 AUTO**

## **T-18**

## **LT-18**

## **TRIMMER**

## **INSTRUCTION MANUAL**

**FOR YOUR OWN SAFETY, CAREFULLY READ  
THIS INSTRUCTION MANUAL BEFORE USE.**

### **CAUTION:**

Always wear eye protection when operating this machine.

Your Shindaiwa F 18, F 18 AUTO, T 18 and LT 18 Trimmer are equipped with spark arrestor muffler. Do not run without spark arrestor screen in place. The manufacturer takes no responsibility for fire if run without spark arrestor screen.

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# SAFETY INSTRUCTIONS

For safer operation, always observe the following precautions:

## 1 Apparel

1. Wear a long-sleeved jacket and long pants.  
Wearing unbuttoned or floppy jackets are dangerous.
2. Wear a broad-brimmed hat or helmet when operating on a slope.
3. Wear eye protection (goggles or glasses) when operating.
4. Wear not-skid (lug soled) boots or shoes.

## 2 Weather

In extremely hot or cold weather, avoid long term operation. Also, use extreme care if work must be done in rainy weather, due to slippery terrain.

## 3 Fire

1. As gasoline is present, do not smoke or light fires near trimmer.
2. When refueling, always stop engine. Always wipe off the spilled fuel.
3. When starting engine, start in a safe place, away from fuel storage area.
4. Do not place flammable material close to muffler.
5. Do not run without spark arrestor screen in place.

## 4 Preliminary inspection

1. Tighten cutting head fastening firmly before operation.
2. Check cutting head for cracks, or warpage. If found, DO NOT USE, replace with serviceable cutting head.

3. Rotate cutting head to check for abnormal vibration. If present, check to be sure cutting head has been properly fitted into cutter holder. If installed properly, replace cutting head with new one and recheck.
4. When cutting head fastening bolts or flanges have been worn to the point that spanner or wrench slips, replace with new parts.

## 5 During operation

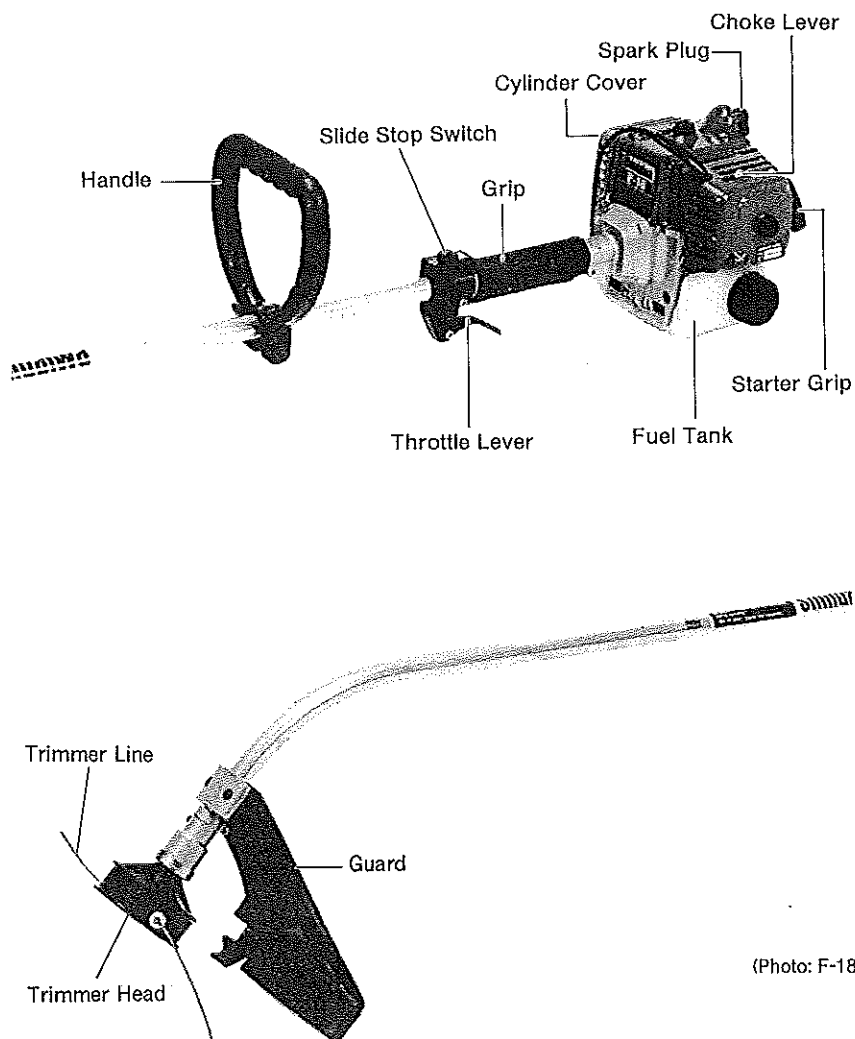
1. Make sure no one is within 10 m (30 feet) during operation.
2. When operating in rocky terrain or near electric wires or fences, use extreme caution to avoid hitting the cutting head. If accidental contact is made, always stop engine and inspect cutting head for damage.
3. NEVER operate with safety guard removed.
4. NEVER run engine when transporting.
5. Clear your work area of trash or hidden debris that could be thrown back at the operator or at a bystander.
6. Use the proper cutting tool for job.  
Do not use a blade for cutting.  
F 18, F 18 AUTO, T 18 and LT 18 Trimmers are designed to use only Flexible line trimmer head.

# A. TECHNICAL SPECIFICATIONS

Model	F-18, F-18 AUTO	T-18, L.T-18
Transmission	Automatic centrifugal clutch with flexible shaft	Automatic centrifugal clutch with straight shaft
Gear Reduction	Direct coupling	1.286
Rotation	Clockwise (from top)	Counter clockwise (from top)
Operating rpm	5,000 ~ 9,000 rpm	5,000 ~ 7,000 rpm
Dry weight	3.9 kg/8.6 lbs. Less trimmer head, safety guard	4.3 kg/9.5 lbs. Less trimmer head, safety guard and strap
Dimension(L×W×H)	54 $\frac{3}{4}$ "×7 $\frac{7}{8}$ "×13 $\frac{9}{16}$ " (1,390×195×345 mm)	66 $\frac{5}{8}$ "×8 $\frac{1}{4}$ "×8 $\frac{1}{4}$ " (1,700×210×205 mm)
Engine designation	SE18	S18
Type	2 cycle vertical cylinder air cooled	
Bore×stroke	30 mm × 26 mm	
Displacement	18.4 cc	
Max. output	0.8 hp	
Gas : Oil ratio	25 : 1 (40 : 1 with Shindaiwa premium 2 cycle engine oil)	
Fuel capacity	0.5 ℓ	
Carburetor	Diaphragm	
Ignition	Electronic	
Spark plug	Champion CJ-8	
Starting system	Recoil starter	
Stopping	Slide stop switch	
Air cleaner	Oiled foam	
Accessories	Safety guard Trimmer head Tool set	Safety guard Trimmer head Tool set Strap (T18 only)

\*(Note) Appearance of fan cover and coupling make difference among SE 18 and S 18

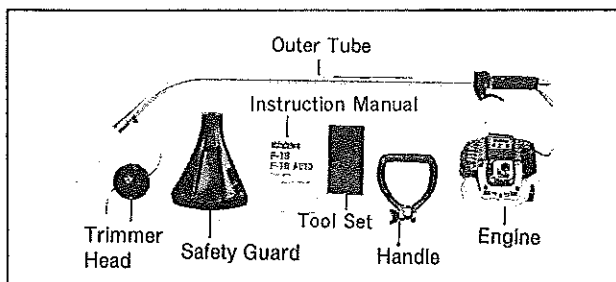
## B. PARTS DESIGNATION



## C. ASSEMBLY PROCEDURES

### F-18

This machine is shipped with 7 components; Engine, Outer tube, Safety guard, Handle, Trimmer head, Tool set and Instruction manual.



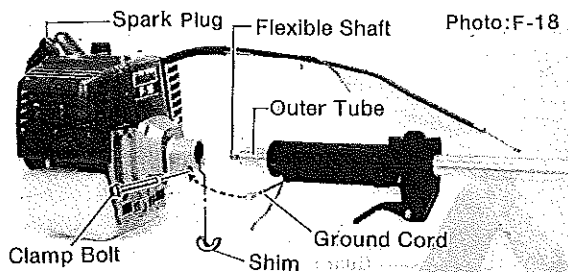
### T-18/LT-18

This machine is shipped with 8 components; Engine, Outer tube, Safety guard, Handle, Trimmer head, Strap, Tool set and Instruction manual.

Please assemble according to the following procedures.

#### C-1 Assembly of Engine

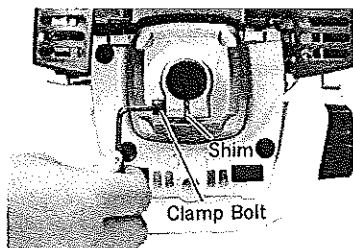
Install engine to outer tube as spark plug situates uppermost.



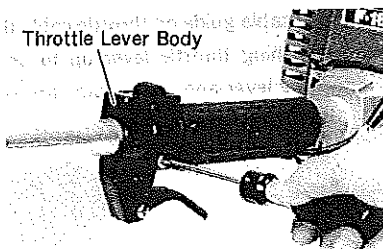
1. Loosen clamp bolt at Fan cover.

#### Note:

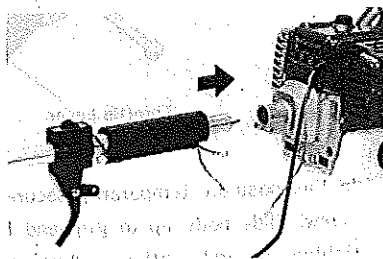
To prevent losing shim in clamp, do not completely remove clamp bolt.



2. Remove screw holding throttle lever in place and swing throttle lever free. Slide throttle lever body forward safety guard about 2" (5 cm).



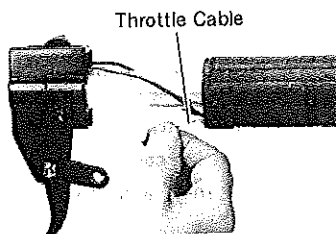
3. Insert outer tube until grip touches the end of clamp.



4. Put clamp bolt into hole of the terminal at the end of ground cord and turn the bolt clockwise to tighten.

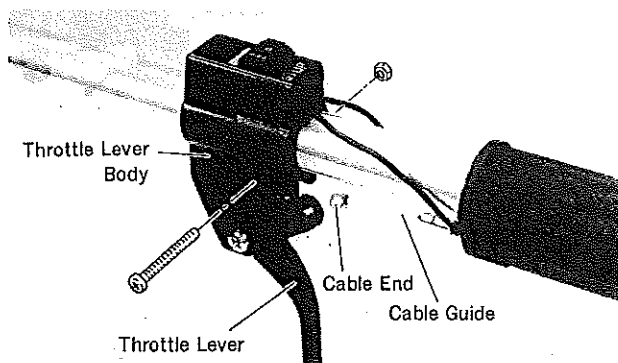
### C-2 Assembly of Throttle Cable

1. Pass throttle cable through hole at bottom of grip until end of the throttle cable comes out from grip hole.



2. Insert cable end into cable socket on throttle lever.

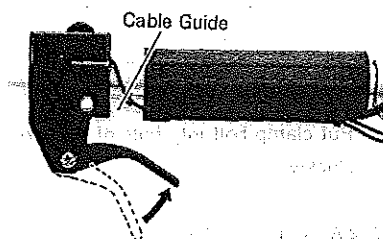
- Place cable guide on throttle cable then insert the cable guide into throttle lever body by pushing throttle lever up to accelerated position (see photo), then cable end, throttle lever and cable guide are set in the throttle lever body.



In this position, temporarily secure by screw. Slide body up to grip end then tighten securely after pulling both ground wires to engine side.

**Note:**

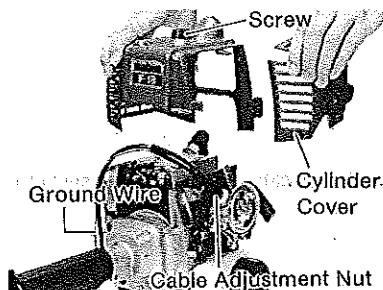
Cable Guide is attached to Throttle Lever Body for LT-18.



- Remove Cleaner cover by turning knob on top of Cleaner cover counter-clockwise. Adjust cable adjustment so that shaft of carburetor does not move until lever travels at least  $1/16"$  (2 mm). (No necessary to adjust when a unit is new.)
- Connect terminal of ground wire to engine at fan cover. Connect male and female switch con-

**Note:**

There is no earth cord for LT 18 as switch is installed on Fan Cover.



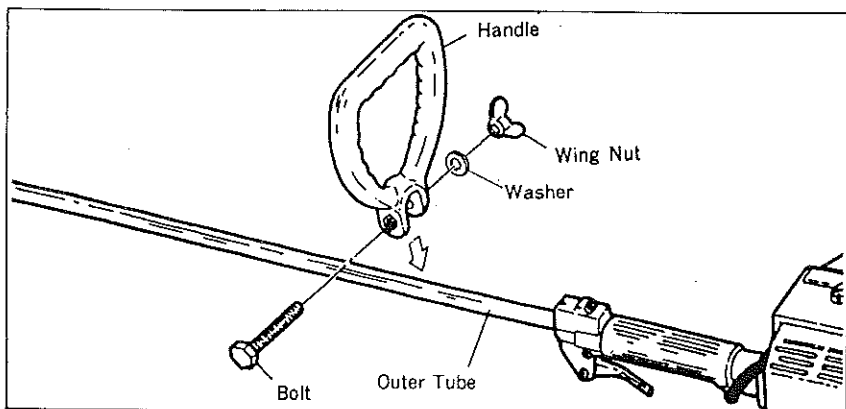
- Replace cleaner cover and tighten knob.



### C-3 Assembly of Handle

#### 1. F-18

- 1) Remove bolt and wing nut, then push handle onto outer tube as shown in illustration.



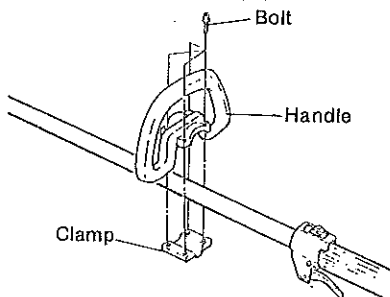
- 2) Replace bolt and tighten wing nut securely

#### **Note:**

- 1) Position handle for operator comfort.
- 2) Handle may be adjusted upright or horizontally to fit operating condition.

#### 2. T-18 / LT-18

- 1) Remove clamp by loosening 4 bolts on handle.
- 2) Mount handle.
- 3) If necessary, move handle forward or back to adjust for proper operator comfort.



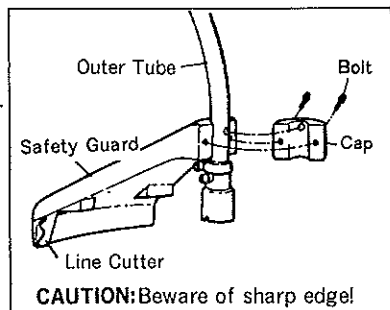
### C-4 Assembly of Guard

#### 1. F-18

- 1) Loosen two bolts attaching guard and cap.
- 2) Install safety guard and cap on outer tube as in illustration and tighten bolts.

#### **Note:**

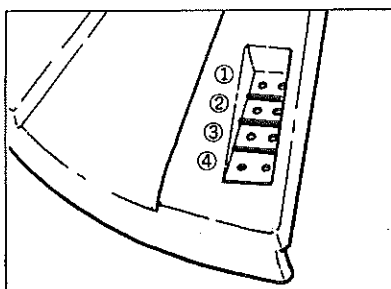
Install cap so locating pin matches with hole in outer tube.



- Line cutter position must be changed depending upon trimmer head used, thickness and number of lines used. Adjust as per the following table.

#### Position of Line cutter

Number of lines	Thickness of Line	
	$\phi.080$ ( $\phi 2.0\text{mm}$ )	$\phi.095$ ( $\phi 2.4\text{mm}$ )
1 pc	④	③
2 pcs	②	①



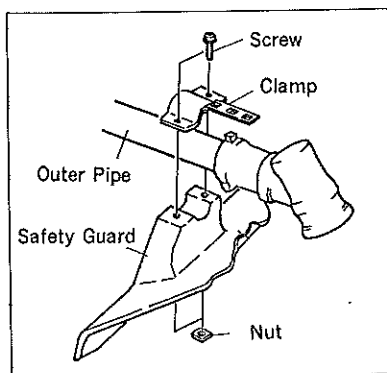
#### 2. T-18 / LT-18

- Place safety guard under outer pipe and clamp on top.

##### Note:

Put the clamp over nearest square notch on gearcase.

- Fasten in place by sliding nuts under safety guard and turning screws in from top.
- Check for wobbling of safety guard, retighten as necessary.

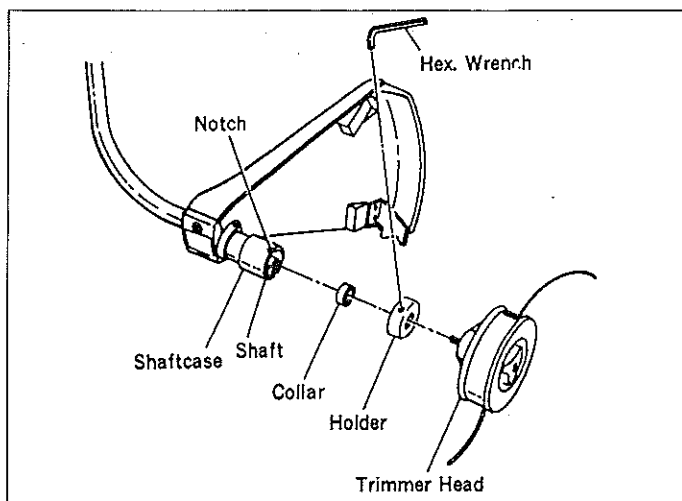


#### C-5 Assembly of Trimmer Head

##### 1. F-18

Lay machine on its side for easy installation of trimmer head.

- Install collar and holder on out put shaft.
- Use a hex. wrench through hole in holder and notch in shaftcase to lock the shaft. Secure trimmer head assembly onto shaft. (Turn clockwise).



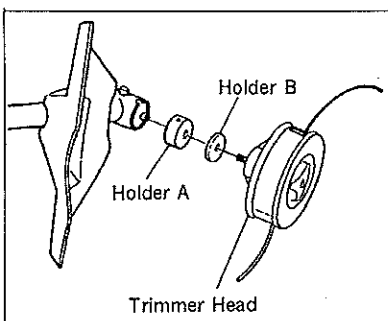
## 2. T-18/LT-18

Lay machine on its side for easy installation of trimmer head.

- 1) Install Holder A and Holder B on gear case.

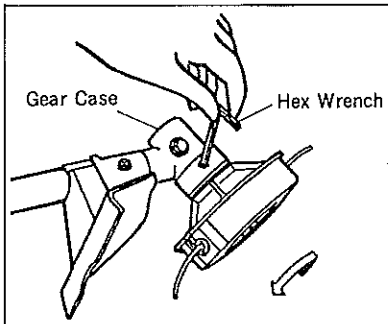
### Note:

Install Holder only for LT-18.



- 2) Use a hex. wrench through hole in holder A and notch in gear case to lock the shaft.

Secure trimmer head assembly onto shaft. (Turn counter clockwise).



## D. STARTING, STOPPING AND ADJUSTMENT OF ENGINE

### D-1 Fuel Filling (Mixed Fuel)

Use fuel with a gas/oil ratio of 25 : 1. (40 : 1 using premium Shindaiwa brand oil)

#### CAUTION:

1. Always use 2-cycle oil.
2. Add and mix fuel in a safe place.
3. Trimmer head will turn when engine starts. Check surrounding area as a precautionary measure.

### D-2 Starting Procedure

1. When engine is cold or fuel tank is refilled.



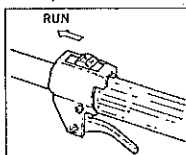
F-18/T-18

Slide switch to "RUN" position.

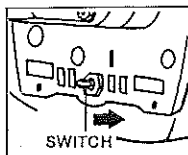
LT-18

Turn toggle switch to "I" position.

F-18/T-18



LT-18

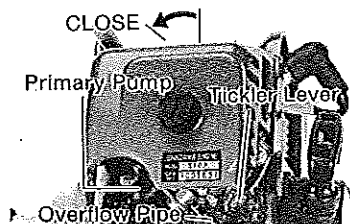


When engine is cold

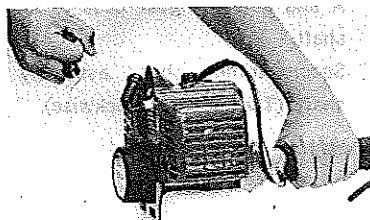
Push up tickler lever and press primer pump with pushing tickler lever until fuel flows from overflow tube.



Set choke lever to "CLOSE" position.



Hold throttle lever in left hand and pull recoil starter grip upwards by right hand. Pull slowly until pawl engagement is felt then pull briskly to start engine.



#### CAUTION:

Do not pull starter rope to end as it shortens service life significantly. Repeated prolonged cranking with choke closed will cause flooding. Start with choke lever in open position.

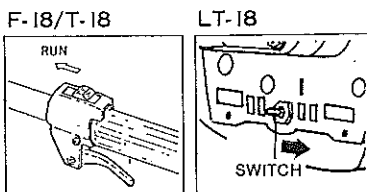
- 5 When engine first fires or coughs, gradually return choke lever to open position.
- if engine just stops before choke is fully open, restart with choke closed.
  - if engine stops after initial firing, restart with choke open. When engine starts, set engine to idle by releasing throttle lever.

**Warning:** Trimmer head may rotate when engine starts.  
Ensure that trimmer head is not restricted starting.

2. When starting a warm engine

- 1 Slightly open throttle.

- 2 F-18/T-18  
Slide switch to "RUN" position.  
LT-18  
Turn toggle switch to "1" position.



- 3 Pull starter rope.

3. When engine does not start  
Follow cold starting procedure.

**CAUTION:**

When engine is warm

1. Start engine with choke lever in open position. Do not operate primer button.
2. After engine starts, allow it to warm up at idle for 2-3 minutes before operating the machine.

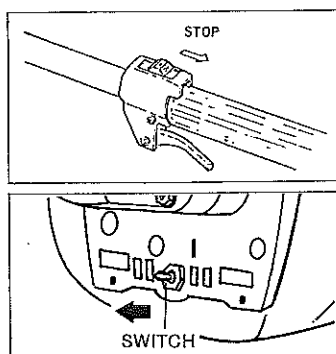
**D-3 To Stop**

F-18/T-18

Before stopping engine, allow it to idle for a short period, then turn switch to "STOP" position.

LT-18

Turn toggle switch to "0" position.



## D-4 Adjustment of Engine

After starting engine, allow engine to warm up at low speed for 2-3 minutes before adjusting.

### 1. Idle adjustment

Idle adjustment screw is located adjacent to small hole on cylinder cover on recoil side.

Warm up engine at low speed before adjusting idle speed. Adjust speed so that stable RPM is achieved with throttle closed.

To increase speed, turn adjusting screw clockwise. To decrease speed, turn screw counter-clockwise.



#### **Note:**

1. Do not remove cylinder cover when adjusting idle.
2. Put screw driver through the hole on cylinder cover then turn idle adjusting screw.

#### **CAUTION:**

Adjust idle speed so that clutch is disengaged and trimmer head does not rotate.

### 2. High speed adjustment

STANDARD OPENING of Main Adjust Screw:  $1.1/2 \pm 1/4$  turns "Standard opening" means number of turns from the fully closed position by turning needle gently counter-clockwise.

## E. OPERATION

### E-1 To Operate :

1. Start engine and increase RPM by depressing throttle lever. Trimmer head will start to rotate when RPM increases.
2. When throttle lever is released, centrifugal clutch is disengaged.  
(Engine RPM will decrease to the idle and rotation of trimmer head will stop.)

**Note:**

Run machine at full RPM with trimmer head installed.

### E-2 To Adjust Line Length

F-18/T-18/LT-18

1 Turn switch to "STOP" position.

2 Pull spool downward and turn opposite to direction of rotation. Pull out both lines.

### B. F-18 AUTO

To advance line, tap ground with head while engine is running.

**CAUTION:**

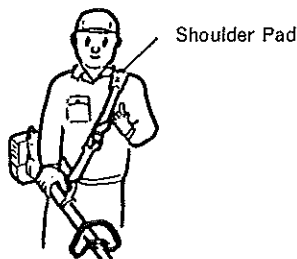
Do not tap ground at full RPM.

**Note:**

Excessive line will be cut automatically to adequate length by line cutter inside safety guard when engine rpm is increased.

### E-3 To Adjust Strap (T-18 only)

Use of shoulder strap lessens fatigue when operating this machine for long periods. Adjust shoulder strap length so that shoulder pad rests on left shoulder and trimmer head parallels the ground.



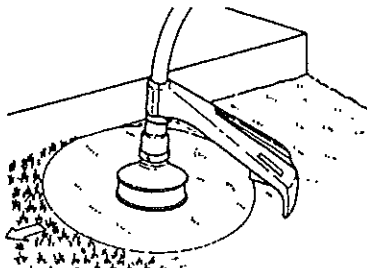
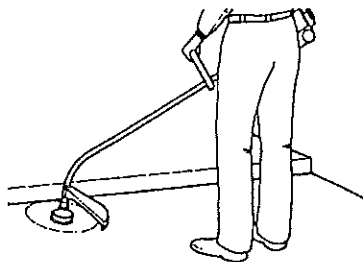
## E-4 Cutting Grass

### 1. Trimming

Tilt trimmer head toward direction of cut.

#### Note:

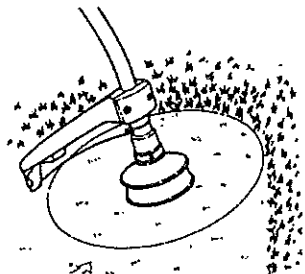
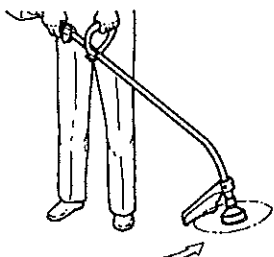
For longer life of trimmer line, use tip of line for cutting.



### 2. Mowing

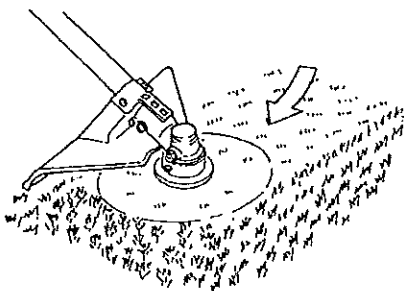
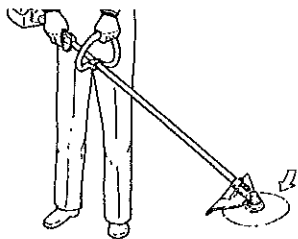
#### F-18

Cut grass swinging machine from right to left, keeping trimmer head horizontal.



#### T-18/LT-18

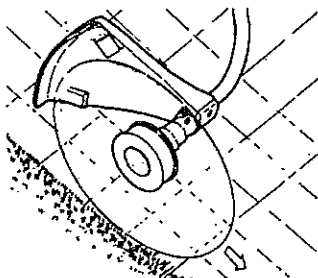
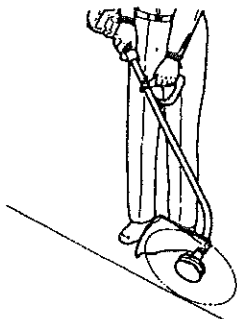
Cut grass swinging machine from left to right, keeping trimmer head horizontal.





### 3. Edging

Position handle tilted to right by approximately 100° from normal upright position and move forward, holding trimmer head vertically against the ground.

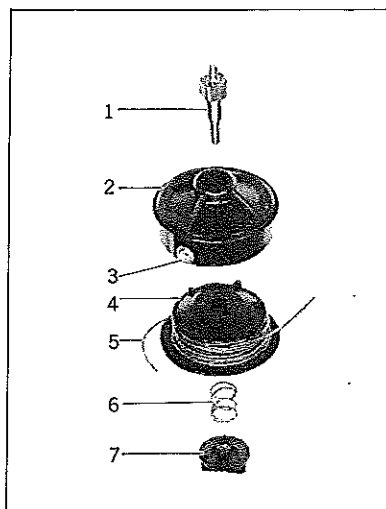


## F. LINE REPLACEMENT

### A. F-18/T-18/LT-18

1. Use either .080 (2.0 mm) or .095 (2.5 mm) line designed specially for use in a trimmer head.

PARTS DESCRIPTION	Q'TY
1. Shaft Bolt	1
2. Spool Housing	1
3. Eyelet	2
4. Inner Spool	1
5. Nylon Line	1
6. Spring	1
7. Knob	1



2. To refill head

### TO DISASSEMBLE

- 1 Remove inner spool from spool housing.

### TO REWIND SPOOL

- 2 Neatly wind new lines on inner spool in a counterclockwise direction for F-18, a counter clockwise direction for T-18.

- 3 Remove eyelets from spool housing and slip one over each line.

### TO REASSEMBLE

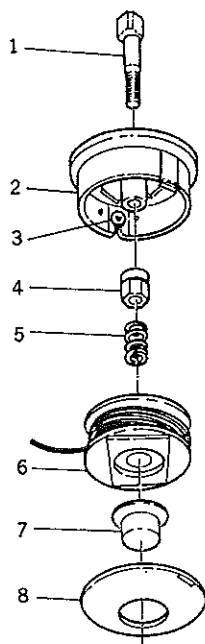
- 4 Replace inner spool with new line into spool housing, at the same time push the eyelets into the slots provided.

- 5 Reset spring in place and tighten knob.

### B. F-18 AUTO

1. Use one line, .095 (2.5 mm) 15' long only.

PARTS DESCRIPTION	Q'TY
1. Shaft Bolt	1
2. Spool Housing	1
3. Eyelet	1
4. Nut	1
5. Spring	1
6. Inner Spool	1
7. Button	1
8. Cover	1



## 2. To refill head

### TO DISASSEMBLE

- 1 Push in on tab on head marked "PUSH" and cover will pop open.  
Take cover and tap button off, pull spool out.

### TO REWIND SPOOL

- 2 Thread end of line through hole on spool about one inch.  
Loop over eye and wind line in the same direction of arrow.  
(Marked R-for Right, corresponding to rotation of trimmer.)

#### **CAUTION:**

Wind tightly and evenly from side to side and do not twist line.  
(Recommended length of cutting line not to exceed 5" .)  
Always replace worn out spools.

### TO REASSEMBLE

- 3 Pass end of line through eyelet on housing (be sure words "THIS SIDE UP" on spool faces up); push Spool down over nut.  
Do not let line slip under spool, and be sure spring is under spool. Place bump button on top of spool.  
Take the cover, look for slot in cover, slot must match up with the side that reads "OPEN HERE".  
First place tabs opposite end down into lock position, then press down on side which reads "OPEN HERE".  
Cover will then snap and lock into place.  
Be sure to listen for snap.

#### **CAUTION:**

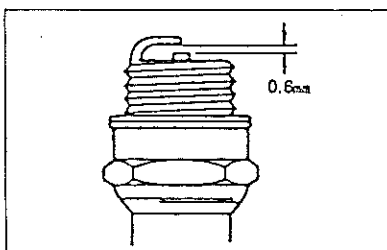
Do not allow the cutting head to contact the ground during normal use.  
Constant contact with the ground can result in damage and premature wear to the cutting head. Always wear eye protection.

## G. MAINTENANCE

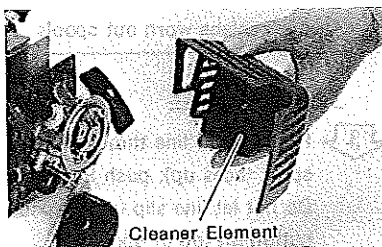
### G-1 Routine Maintenance

1. Remove all grass clippings and dirt from trimmer. Check cooling fins and air cleaner for excessive clogging (clean if necessary).
2. Check for loose or missing screws and components.
3. Check for leaking fuel or grease.

1. Remove and clean spark plug. Adjust gap to 0.6 mm (0.025"). When replacing spark plug, use Champion CJ8 or equivalent.

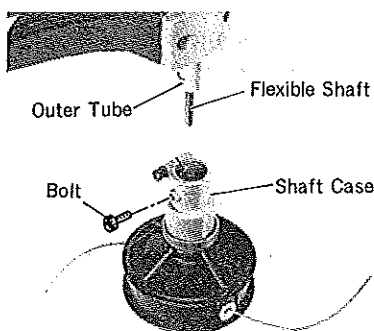


2. Remove air cleaner element from carburetor and clean in mixed fuel. Reassemble after squeezing out excess fuel.
3. Remove Cylinder Cover from a unit and clean cylinder and coil.



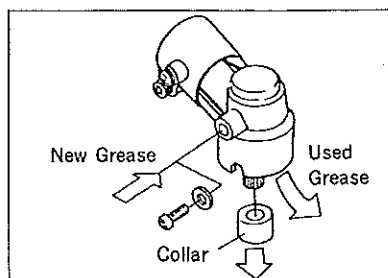
### F-18

3. Remove shaftcase from outer tube. Remove flexible shaft, wipe clean and recoat with fresh lithium-base grease. Reinstall flexible shaft into outer tube and replace shaftcase. Align bolt hole with hole in outer tube, then tighten clamping and safety bolts securely.



## 4. Refill gearcase with grease.

Pull collar out of gear shaft and refill with new grease to push out old grease. Always use only the recommended type of grease (Lithium type).



## H. TROUBLE SHOOTING

### H-1 Engine will not start

Trouble	Possible cause	Remedy
Spark plug (No Spark)	<ol style="list-style-type: none"> <li>1. Electrode is wet or fouled.</li> <li>2. Carbon deposit on electrode.</li> <li>3. Cracked insulator.</li> <li>4. Too small or large of electrode gap.</li> <li>5. Burned electrode.</li> </ol>	<ol style="list-style-type: none"> <li>1. Dry plug.</li> <li>2. Clean plug.</li> <li>3. Replace plug.</li> <li>4. Adjust gap to 0.6 mm (.024")</li> <li>5. Replace plug.</li> </ol>
Ignition system (No Spark)	<ol style="list-style-type: none"> <li>1. Coil is burned out.</li> <li>2. Coil insulation failure.</li> <li>3. Break in coil wire.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace coil.</li> <li>2. Replace coil.</li> <li>3. Replace coil wire.</li> </ol>
With good compression, sufficient fuel (With Spark)	<ol style="list-style-type: none"> <li>1. Engine is flooded.</li> <li>2. Excessive thick fuel.</li> <li>3. Use of improper fuel.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discharge fuel by cranking engine-choke off.</li> <li>2. Adjust carburetor.</li> <li>3. Drain and replace with proper fuel.</li> </ol>
Sufficient fuel, poor compression. (With Spark)	<ol style="list-style-type: none"> <li>1. Excessive wear on cylinder, piston, rings.</li> <li>2. Loose spark plug.</li> </ol>	<ol style="list-style-type: none"> <li>1. Inspect and replace all worn parts.</li> <li>2. Tighten spark plug.</li> </ol>
No fuel in carburetor (With Spark)	<ol style="list-style-type: none"> <li>1. No fuel in tank.</li> <li>2. Loose fuel line fitting.</li> <li>3. Clogged fuel line.</li> <li>4. Fuel in tank does not reach carburetor.</li> <li>5. Plugged air vent in fuel tank.</li> </ol>	<ol style="list-style-type: none"> <li>1. Refuel.</li> <li>2. Inspect and tighten.</li> <li>3. Clean or replace filter.</li> <li>4. Refer to starting procedure p. 9</li> <li>5. Clean vent.</li> </ol>

## H-2 Insufficient power

Trouble	Possible cause	Remedy
Blockages	<ol style="list-style-type: none"><li>1. Clogged air filter.</li><li>2. Carbon build-up in muffler.</li><li>3. Air leakage in fuel pickup tube fitting.</li><li>4. Fuel line/passage clogged.</li><li>5. Piston seizure.</li><li>6. Carburetor diaphragm is inoperative.</li><li>7. Water in fuel.</li></ol>	<ol style="list-style-type: none"><li>1. Clean.</li><li>2. Clean.</li><li>3. Tighten fitting.</li><li>4. Clean.</li><li>5. Examine for scoring, replace worn parts.</li><li>6. Replace diaphragm or carburetor.</li><li>7. Replace with clean fuel mix.</li></ol>
Overheating	<ol style="list-style-type: none"><li>1. Excessively lean mixture.</li><li>2. Improper fuel mixing ratio.</li><li>3. Carbon deposits on piston.</li><li>4. Fan cover, cylinder fins, etc. plugged with dirt and debris.</li><li>5. Machine is overworked by operator.</li></ol>	<ol style="list-style-type: none"><li>1. Adjust carburetor.</li><li>2. Replace with proper 25 : 1 fuel mix (40 : 1 if using SHINDAIWA brand oil.</li><li>3. Remove carbon.</li><li>4. Clean and remove dirt and debris.</li><li>5. Operate properly-DO NOT overload.</li></ol>
Engine makes knocking noise	<ol style="list-style-type: none"><li>1. Cylinder overheating.</li><li>2. Use of improper fuel.</li><li>3. Carbon deposits in combustion chamber.</li></ol>	<ol style="list-style-type: none"><li>1. Adjust carburetor, clean cylinder fins.</li><li>2. Replace with proper fuel.</li><li>3. Clean combustion chamber.</li></ol>

## H-3 Poor acceleration

Trouble	Possible cause	Remedy
Fuel system, clogged	<ol style="list-style-type: none"><li>1. Fuel filter clogged.</li><li>2. Excessively lean carburetor setting.</li><li>3. Clogged air cleaner.</li><li>4. Excessively low idle.</li></ol>	<ol style="list-style-type: none"><li>1. Clean or replace.</li><li>2. Adjust carburetor.</li><li>3. Clean filter.</li><li>4. Speed up idle.</li></ol>
Air leakage	<ol style="list-style-type: none"><li>1. Loose carburetor.</li><li>2. Loose fuel pick-up tube.</li></ol>	<ol style="list-style-type: none"><li>1. Tighten securely.</li><li>2. Insert firmly.</li></ol>

#### H-4 Engine stops during operation

Trouble	Possible cause	Remedy
Engine stops abruptly	1. Switch is bumped. 2. Loose spark plug wire. 3. Piston is scored, indicating seizure. 4. Shorting of spark plug due to carbon build-up. 5. Failure of ignition system.	1. Keep hands clear of switch. 2. Replace. 3. Repair or replace all worn parts. 4. Clean spark plug. 5. Disassemble and inspect.
Miscellaneous	1. Fuel tank empty. 2. Carburetor clogged. 3. Fuel tank clogged. 4. Water in fuel.	1. Refuel. 2. Disassemble and clean. 3. Disassemble and clean vent. 4. Replace with clean fuel mix.

#### H-5 Engine is difficult to shut off

Trouble	Possible cause	Remedy
Overheating	1. Overheated engine. 2. Overheated spark plug.	1. Run at idle. 2. Clean and adjust gap to 0.6 mm (.024").
Electrical	1. Poor contact of ground wire. 2. Defective kill switch.	1. Inspect and correct. 2. Replace switch.

#### H-6 Lower unit

Trouble	Possible cause	Remedy
Nylon blade rotates with engine idling	1. Broken clutch spring. 2. Loose cutter holder.	1. Replace. 2. Tighten firmly.
Irregular vibration	1. Nylon blade warped or damaged. 2. Bent main shaft. 3. Loose housing bearing.	1. Replace or reinstall. 2. Straighten or replace. 3. Tighten bolt securely.

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