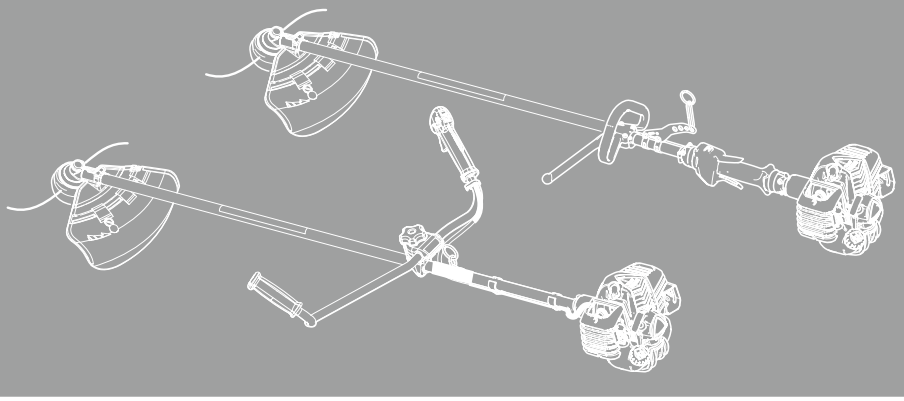


SERVICE MANUAL

ECHO: SRM-2620ES
SRM-2620TES

shindaiwa: T262XS C262S
T262TXS C262TS

(Serial number: 37000001 and after)

Ref. No. 402-43

INTRODUCTION

This service manual contains information for service and maintenance of **ECHO TRIMMER / BRUSHCUTTER**, models **SRM-2620ES**, **SRM-2620TES**, **shindaiwa T262XS, C262S, T262TXS and C262TS**.
For systematic diagnosis, to avoid extra work and time loss, please refer to “Troubleshooting guide” that describes problems, testings, remedies and references. We recommend you make use of Operator’s Manual and Parts Catalogue together with this manual when servicing.
We are constantly working on technical improvement of our products. For this reason, technical data, equipment and design are subject to change without notice. All specifications, illustrations and directions in this manual are based on the latest products information available at the time of publication.

NOTE: This service manual contains pictures with different model name for other markets and different colored model.

TABLE OF CONTENTS

Page

1 SERVICE INFORMATION 2
1-1 Specifications 2
1-2 Technical data 3
1-3 Torque limits 5
1-4 Special repairing materials 5
1-5 Service limits 6
1-6 Special tools 7

2 STARTER SYSTEM 8
2-1 Disassembling starter assembly 9
2-2 Replacing starter rope 10
2-3 Replacing rope guide 12
2-4 Installing rewind spring 12
2-5 Assembling starter 13
2-6 Replacing starter pawl 15

3 IGNITION SYSTEM 17
3-1 Troubleshooting guide 17
3-2 Testing spark 18
3-3 Inspecting spark plug 18
3-4 Inspecting ignition switch 19
3-5 Replacing ignition switch 20
3-6 Inspecting ignition coil resistance 23
3-7 Replacing spark plug cap and coil 24
3-8 Replacing ignition coil 24
3-9 Setting pole shoe air gaps 25
3-10 Inspecting flywheel and key 25

4 FUEL SYSTEM 27
4-1 Cleaning air filter 28
4-2 Checking fuel cap and fuel strainer 28
4-3 Inspecting fuel tank and tank vent 29
4-4 Replacing fuel line, fuel return line, tank vent line and grommet 30
4-5 Adjusting carburetor 32
4-5-1 General adjusting rules 32
4-5-2 Initial setting Throttle adjust screw, L mixture needle and H mixture needle 32
4-5-3 Adjusting carburetor 33

Page

4-6 Testing carburetor 34
4-7 Inspecting crankcase pulse passage 35
4-8 Inspecting metering lever height 35
4-9 Inspecting inlet needle valve 36
4-10 Inspecting diaphragm and others 36
4-11 Replacing throttle cable and control parts 37
4-12 Checking and adjusting throttle cable 37

5 CLUTCH SYSTEM 38
5-1 Removing clutch shoes and springs 39
5-2 Installing clutch shoes 39
5-3 Removing clutch drum 40
5-4 Removing clutch drum bearings 41
5-5 Installing bearings and clutch drum 41

6 ENGINE 42
6-1 Testing cylinder compression 43
6-2 Cleaning cooling air passages 43
6-3 Inspecting muffler and exhaust port 44
6-4 Testing crankcase and cylinder sealing 45
6-5 Removing and inspecting cylinder 45
6-6 Inspecting piston and piston ring 46
6-7 Inspecting crankcase and crankshaft 47
6-8 Replacing oil seal 47
6-9 Replacing ball bearing 48
6-10 Assembling crankshaft and crankcase 48
6-11 Installing piston 49
6-12 Installing piston ring and cylinder 49

7 CUTTER DRIVE SYSTEM 50
7-1 Disassembling gear case 52
7-2 Replacing gears and PTO shaft 53
7-3 Assembling gear case 55

8 MAINTENANCE GUIDE 56
8-1 Service Intervals 56
8-2 Disassembly Chart 57
8-3 Troubleshooting guide 58

1 SERVICE INFORMATION

1-1 Specifications

Model				SRM-2620ES (L) T262XS	SRM-2620TES (L) T262TXS	SRM-2620ES (U) C262S	SRM-2620TES (U) C262TS
Dimensions*	Length		mm (in)	1778 (70.0)	1789 (70.4)	1778 (70.0)	1789 (70.4)
	Width		mm (in)	340 (13.4)		695 (27.4)	
	Height		mm (in)	311 (12.2)		445 (17.5)	497 (19.6)
Dry weight*			kg (lb)	6.0 (13.3)	6.2 (13.7)	6.1 (13.5)	6.4 (14.3)
Engine	Type			YAMABIKO, air-cooled, two-stroke, single cylinder			
	Rotation			Anticlockwise as viewed from the output end			
	Displacement		cm^3 (in^3)	25.4 (1.550)			
	Bore		mm (in)	34.0 (1.339)			
	Stroke		mm (in)	28.0 (1.102)			
	Compression ratio			7.6			
Carburettor	Type			Diaphragm, horizontal-draught			
	Model			WALBRO WYG-9			
	Venturi size - Throttle bore		mm (in)	10.5 - 10.5 (0.413 - 0.413)			
Ignition	Type			CDI (Capacitor discharge ignition) system Digital magneto			
	Spark plug			NGK CMR7H			
Exhaust	Muffler type			Spark arrester muffler with catalyst			
Starter	Type			ES (Effortless-Start) / S (Soft-start)			
	Rope diameter x length		mm (in)	3.5 x 850 (0.14 x 33.5)			
Fuel**	Type			Premixed two-stroke fuel			
	Mixture ratio			50 : 1 (2%)			
	Petrol			Minimum 89 octane			
	Two-stroke engine oil			ISO-L-EGD (ISO/CD13738), JASO FC/FD			
	Tank capacity		L (U.S.fl.oz.)	Full tank capacity: 0.6 (20.3) Usable capacity: 0.52 (17.6)			
Clutch	Type			Centrifugal, 2-shoe pivot			
Handle	Type		Front	Crescent loop w/ cushion grip		U-handle w/ integrated control grip	
			Rear	Integrated control grip w/ cushion			
Drive shaft	Type			Solid type with spline (7-tooth)			
	Diameter - Length		mm (in)	7 - 1540 (0.27 - 60.62)			
	Housing	OD - ID	mm (in)	25.0 - 22.0 (0.98 - 0.87)			
		Length	mm (in)	1500 (59.1)			
Gear case	Reduction ratio			1.36	2.07	1.36	2.07
	Gear tooth			Spiral bevel gear			
	Lubrication			Lithium based grease			
Cutter	Type			Nylon line cutter F4	Nylon line cutter Z5	Nylon line cutter F4 3-tooth blade (230 mm)	Nylon line cutter Z5
	Pilot diameter for blade		mm (in)	25.4 (1.0)			
	Fastener type, size		mm	Left-hand thread nut, M10 x 1.25 pitch			
	Cutting rotation			Anticlockwise as viewed from top			

OD: Outer diameter. ID: Inner diameter.
* Without shoulder harness and cutter. ** Refer to Operator's manual.

1-2 Technical data

Engine			
Compression pressure		MPa (kgf/cm^2) (psi)	0.97 (9.8) (140)
Clutch engagement speed		r/min	4,100
Engagement Minimum†		r/min	3,800
Ignition system			
Spark plug gap		mm(in)	0.6 - 0.7 (0.024 - 0.028)
Spark test			
Tester gap w/ spark plug		mm(in)	4.0 (0.16)
Tester gap w/o spark plug		mm(in)	6.0 (0.24)
Secondary coil resistance		Ω	960 - 1,000
Pole shoe air gaps		mm(in)	0.3 - 0.4 (0.012 - 0.016)
Ignition timing	at 2,900 r/min	°BTDC	9
	at 6,500 r/min	°BTDC	22
	at 8,500 r/min	°BTDC	33
	at 11,000 r/min	°BTDC	19
Carburettor			
Test Pressure, minimum		MPa (kgf/cm^2) (psi)	0.05 (0.5) (7.0)
Metering lever height		mm(in)	0.66 (0.03) lower than diaphragm seat
Tool to adjust mixture needles			Screwdriver 2.5 mm P/N X603-000050 D-shaped tool (S) P/N X645-000022 (Carb. adjustment tool P/N Y089-000094)

BTDC: Before top dead centre

† If clutch engagement speed is lower than minimum clutch engagement speed, replace clutch assembly with new one.

1-2 Technical data (continued)

Model			SRM-2620ES T262XS, C262S	SRM-2620TES T262TXS, C262TS
Carburettor adjustment				
Cutting head preparation	Nylon line cutter		F4	Z5
	Line length (w/o shield)*[1]		190 mm	285 mm
1) Initial setting				
H mixture needle		turn out	3	
L mixture needle		turn out	3 1/8	
Throttle adjust screw		turn out*[2]	7 3/4	
Engine warm-up	Idle - WOT : Total	sec.	10 - 50 : 180	
2) Find idle maximum speed			Adjust L mixture needle to maximum idle speed*[3]	
3) Set idle maximum speed w/ TAS		r/min	4,000	
4) Set idle speed by turning L mixture needle ACW		r/min	3,000 (2,700 - 3,500)	
5) Find WOT maximum speed			Adjust H mixture needle to maximum WOT speed	
6) WOT setting		r/min	Turn H mixture needle ACW to decrease WOT speed by : 20 - 30	
WOT engine speed with standard equipment		r/min	9,000 - 10,000* 11,000 - 11,900**	10,400 - 11,800

WOT: Wide open throttle ACW: Anticlockwise TAS: Throttle adjust screw

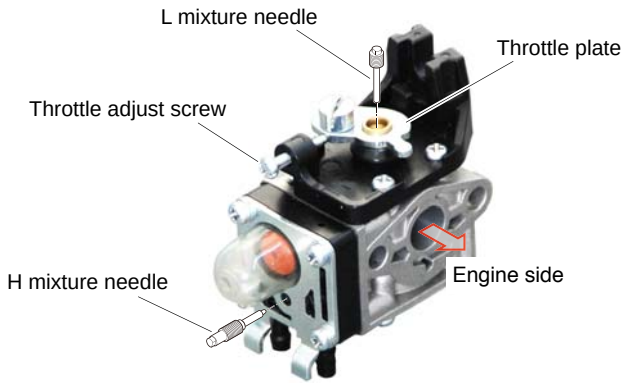
* With Nylon line cutter and shield. ** With 3-tooth blade (230 mm).

*[1] From eyelet on nylon head

*[2] Turn TAS clockwise until its head touches boss. Then turn TAS anticlockwise.

*[3] If clutch engages during adjustment process 2), decrease engine speed by turning TAS ACW until clutch disengages and then redo 2).

Carburetor: WYG-9



1-3 Torque limits

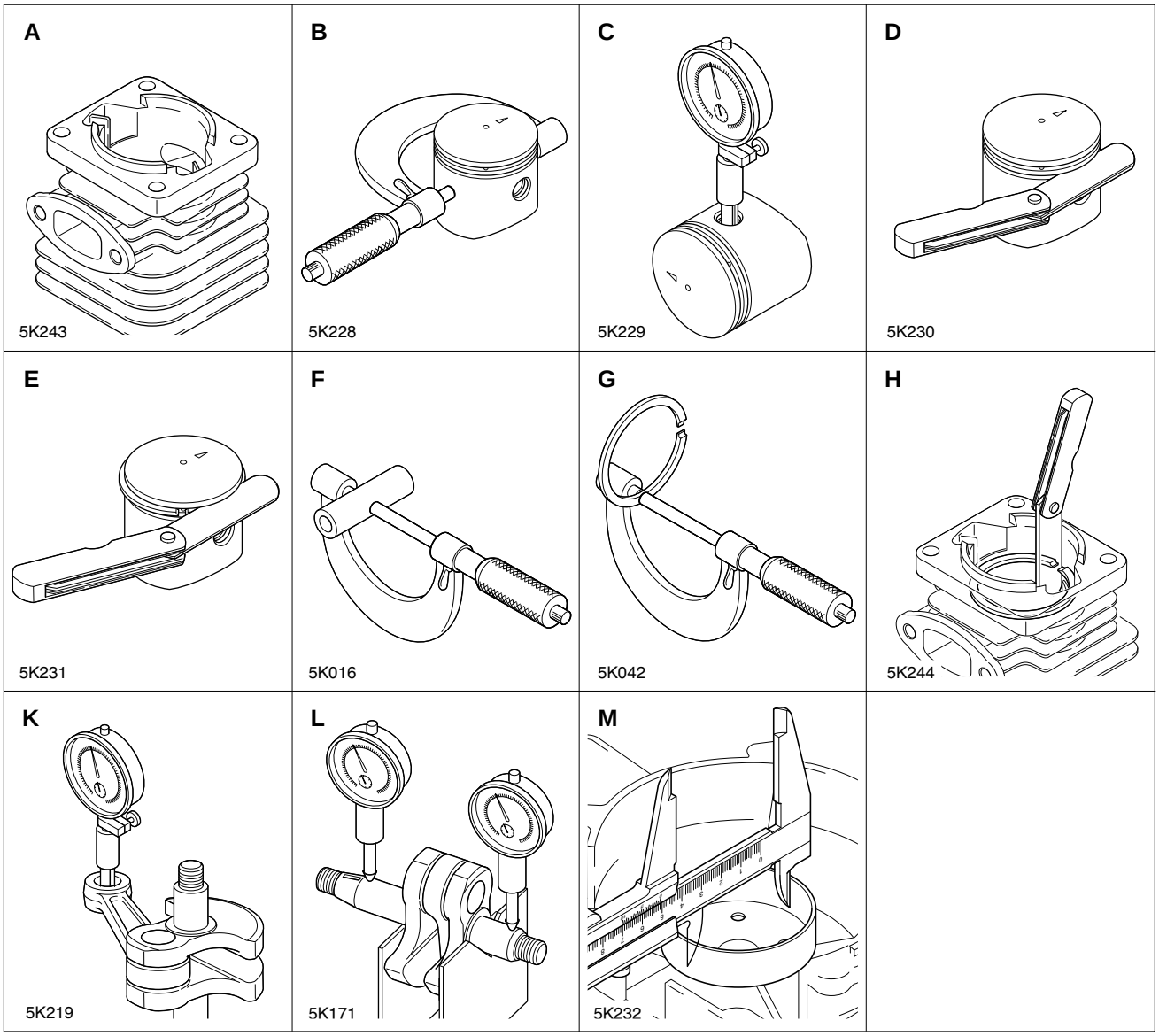
Descriptions		Size	kgf•cm	N•m	in•lbf
Starter system	Starter pawl assembly	M8	70 - 110	7 - 11	60 - 95
	Starter case	M5	40 - 60	4 - 6	32 - 55
Ignition system	Magneto rotor (Flywheel)	M8	160 - 200	16 - 20	140 - 175
	Ignition coil	M5	40 - 60	4 - 6	32 - 55
	Fan cover	M5	50 - 70	5 - 7	45 - 60
	Spark plug	M10	100 - 150	10 - 15	87 - 130
Fuel system	Carburettor	M5	30 - 45	3 - 4.5	25 - 40
	Intake insulator	M5	30 - 45	3 - 4.5	25 - 40
	Fuel tank with stand				
	Starter side	M5*	40 - 60	4 - 6	32 - 55
	Fan cover side	M5*	50 - 70	5 - 7	45 - 60
Clutch	Clutch shoe	M6	70 - 110	7 - 11	60 - 95
Cylinder cover		M5*	30 - 45	3 - 4.5	25 - 40
Engine	Crankcase	M5	70 - 110	7 - 11	60 - 95
	Cylinder	M5	70 - 110	7 - 11	60 - 95
	Muffler	M5	70 - 110	7 - 11	60 - 95
	Muffler cover				
	Starter side	M5*	25 35	2.5 3.5	22 30
	Crankcase side	M5*	30 - 45	3 - 4.5	25 - 40
Other	Cutter fastener	LM10	280 - 320	28 - 32	245 - 280
Regular bolt, nut and screw		M3	6 - 10	0.6 - 1	5 - 9
		M4	15 - 25	1.5 - 2.5	13 - 22
		M5	25 - 45	2.5 - 4.5	22 - 40
		M6	45 - 75	4.5 - 7.5	40 - 65
		M8	110 - 150	11 - 15	95 - 130

LM: Left hand thread * Apply thread locking sealant. (See below)

1-4 Special repairing materials

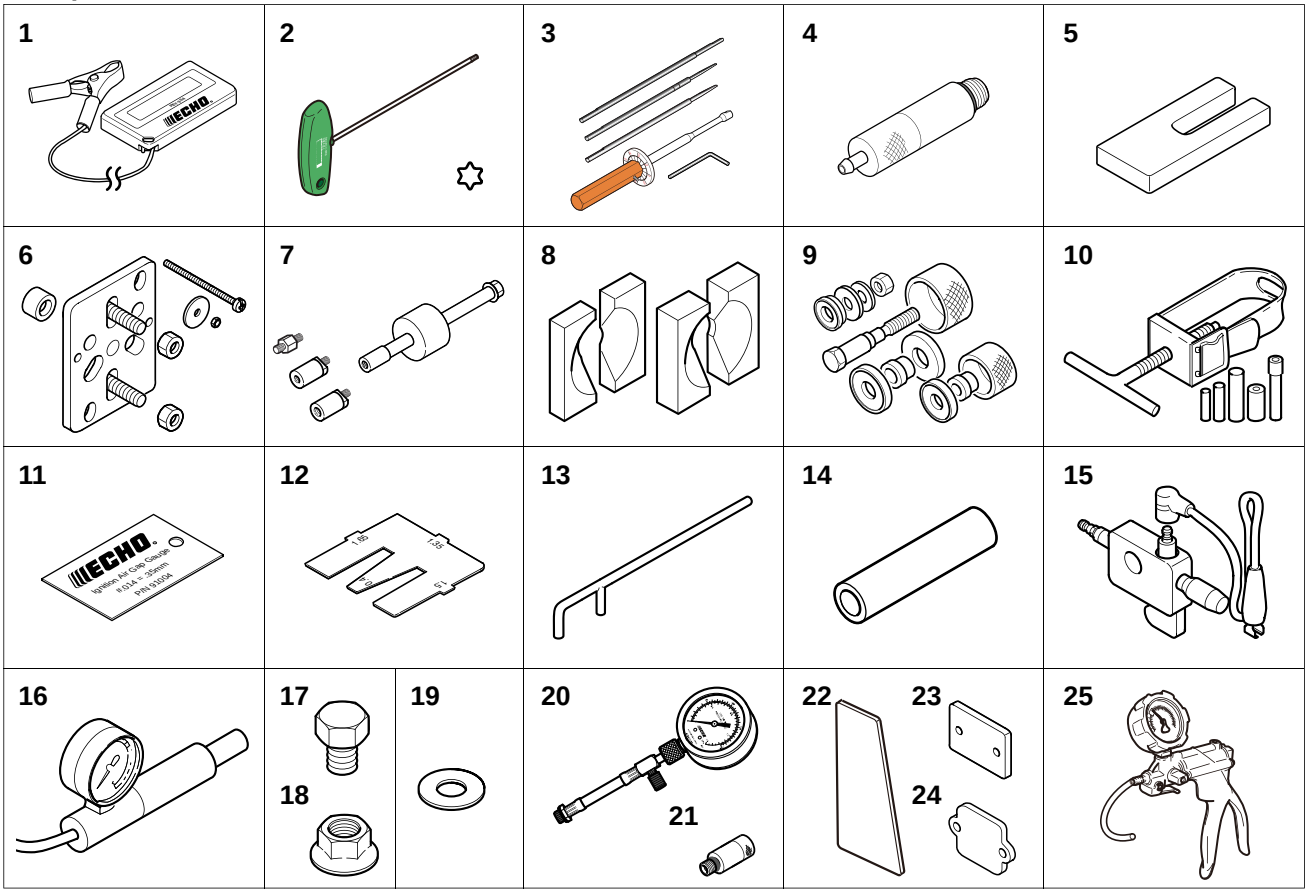
Material	Location	Remarks
Grease	Drive shaft	Lithium based grease
	Gear case	
	Rewind spring	
	Starter centre post	
	Oil seal inner lips	
Thread locking sealant	Fuel tank	Loctite #242, ThreeBond #1324 or equivalent
	Muffler cover	
	Cylinder cover	

1-5 Service limits



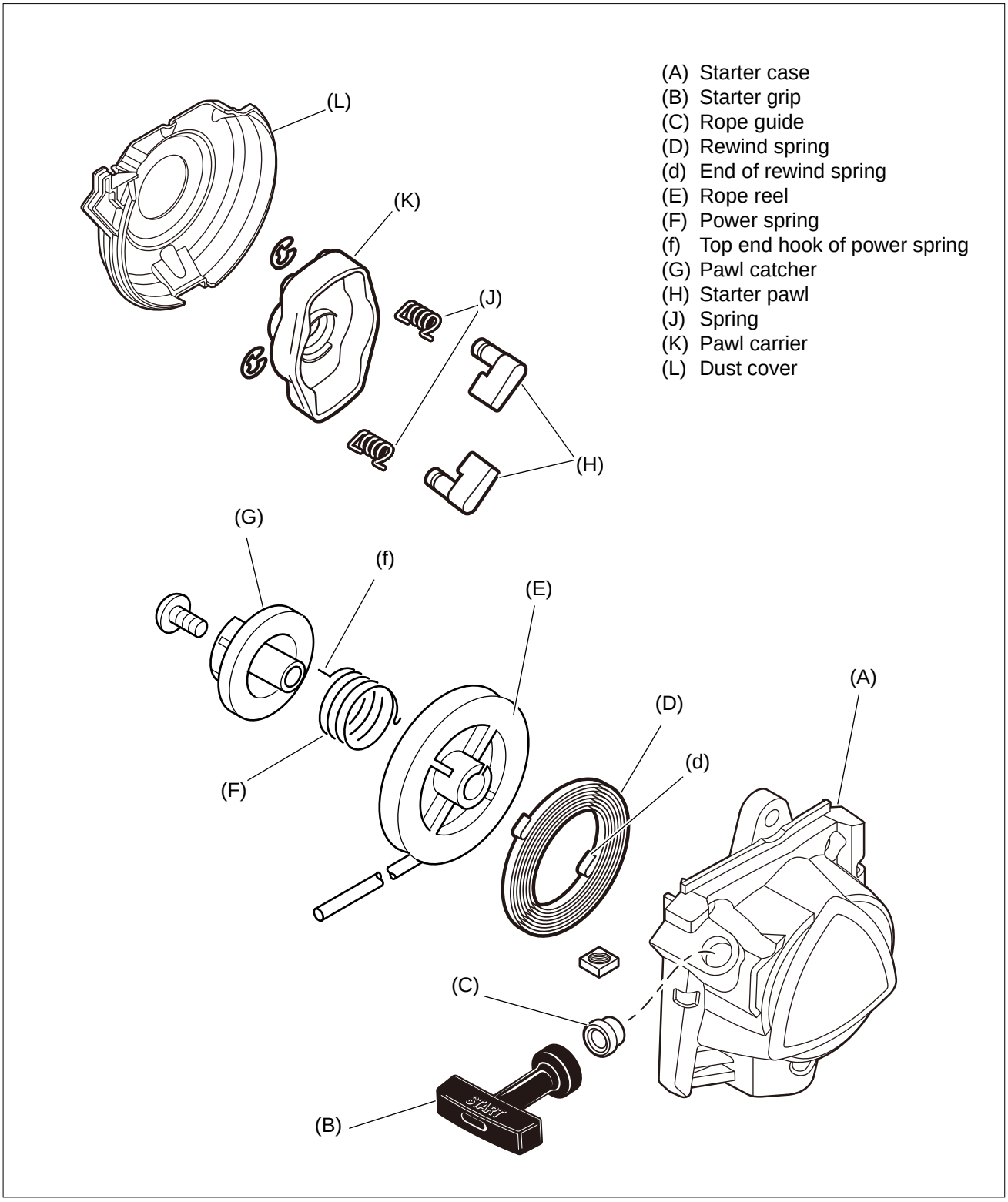
Description			mm (in)
A	Cylinder bore		When plating is worn and aluminum can be seen
B	Piston outer diameter	Min.	33.91 (1.335)
C	Piston pin bore	Max.	9.035 (0.3557)
D	Piston ring groove	Max.	1.6 (0.063)
E	Piston ring side clearance	Max.	0.1 (0.004)
F	Piston pin outer diameter	Min.	8.98 (0.3535)
G	Piston ring width	Min.	1.45 (0.057)
H	Piston ring end gap	Max.	0.5 (0.02)
K	Con-rod small end bore	Max.	12.025 (0.4734)
L	Crankshaft runout	Max.	0.03 (0.001)
M	Clutch drum bore	Max.	59.5 (2.34)

1-6 Special tools

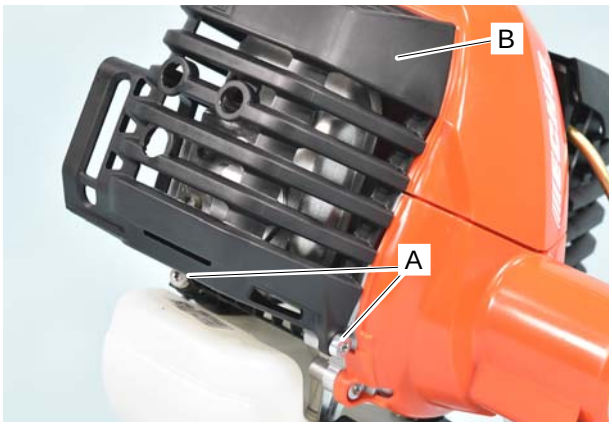


Key	Part Number	Description	Reference
1	G310-000050	Tachometer PET-304	Measuring engine speed to adjust carburettor
2	X602-000340	Torx wrench (T27)	Removing and installing bolt
3	Y089-000094	Carburettor adjustment tool	Adjusting carburettor
4	A131-000160	Pressure connector	Checking crankcase and cylinder leakages
5	897719-02830	Piston holder	Making piston steady to remove and install piston/ring
6	Y089-000111	Puller	Removing magneto rotor
7	P021-044870	PTO shaft puller	Removing PTO shaft
8	897701-02830	Bearing wedge	Removing ball bearings on cankshaft
9	897701-14732	Bearing tool	Removing and installing ball bearings on crankcase
10	897702-30131	Piston pin tool	Removing and installing piston pin (Use 8mm dia. adapter)
11	91004	Module air gap gauge	Adjusting pole shoe air gaps
12	897563-19830	Metering lever gauge	Measuring metering lever height on carburettor
13	897712-04630	2-pin wrench	Removing and installing pawl carrier
14	897726-09130	Oil seal tool	Installing crankcase oil seals
15	897800-79931	Spark tester	Checking ignition system
16	897803-30133	Pressure tester	Testing carburettor and crankcase leakages
17	900100-08008	Bolt	Removing magneto rotor (flywheel), crankshaft from crankcase
18	V265-000200	Flange nut	Removing magneto rotor (flywheel)
19	363018-00310	Washer	Installing crankcase oil seal (starter side)
20	91037	Compression gauge	Measuring cylinder compression
21	P021-051690	Adapter	Measuring cylinder compression (Use with 91037)
22	91041	Pressure rubber plug	Plugging exhaust port to test crankcase / cylinder leakages
23	897826-16131	Pressure rubber plug	Plugging intake port to test crankcase / cylinder leakages
24	897827-16131	Pressure plate	Plugging intake port to test crankcase / cylinder leakages
25	91149	Pressure / vacuum tester	Testing crankcase / cylinder leakages

2 STARTER SYSTEM

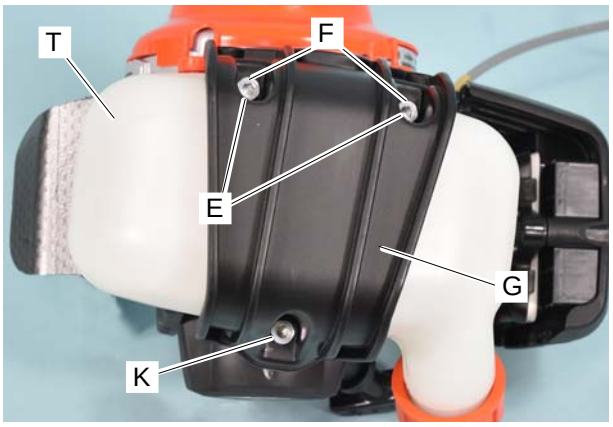


2-1 Disassembling starter assembly



1. Remove bolts (A) and muffler cover (B).

2. Remove bolts (C) and cylinder cover (D).

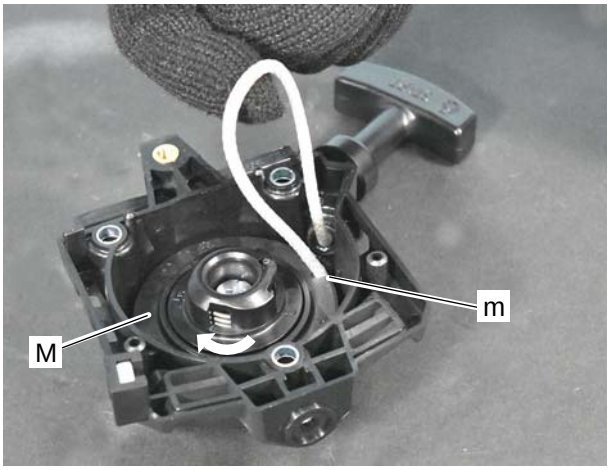


3. Remove bolts (E), washers (F) and bolt (K) under fuel tank.

Remove fuel tank guard (G) and fuel tank (T).

4. Remove bolts (H) and starter assembly (J) from unit.

2-1 Disassembling starter assembly (continued)



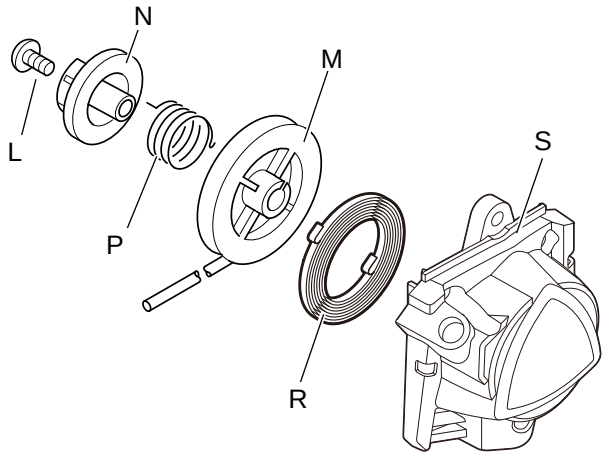
5. Pull out starter rope about 30 cm (12 in) and hold rope reel (M) by hand. Loop excess rope in rope reel notch (m) as shown.

6. Rotate rope reel (M) clockwise to release tension of rewind spring.

7. Remove tapping screw (L).

8. Remove pawl catcher (N) and power spring (P).

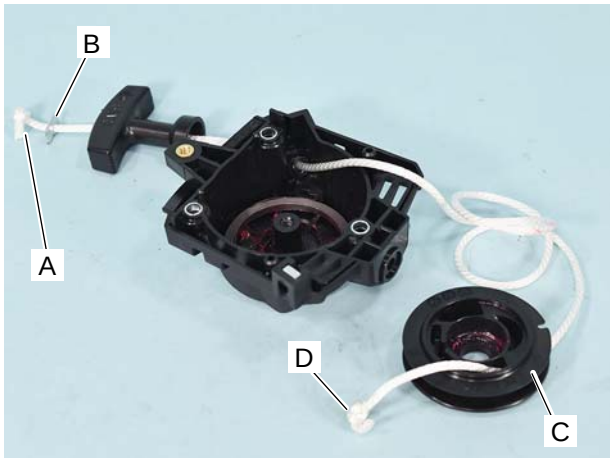
9. Remove rope reel (M) from starter case (S) slowly, taking care of rewind spring (R) not to jump out.



WARNING DANGER

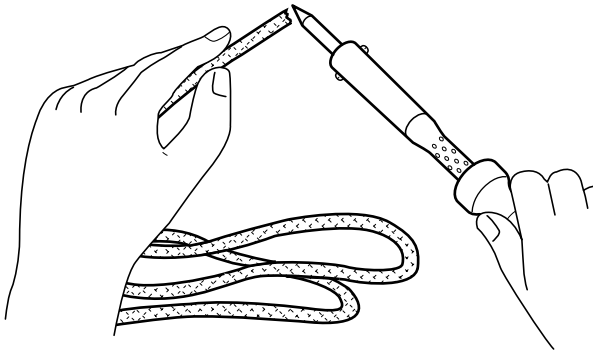
Wear eye protection and take care when removing starter drum, because rewind spring may unwind suddenly and cause injury to eyes and body.

2-2 Replacing starter rope



1. Pull out knot (A) and clip (B). Untie knot (A).

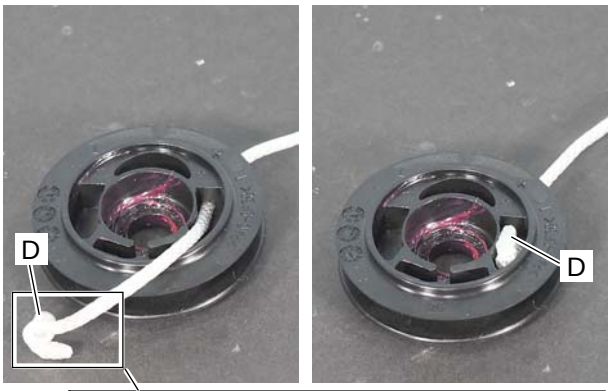
2. Pull out knot (D) from rope reel (C).



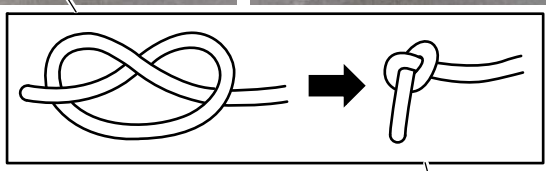
3. When installing a new starter rope, singe both ends of the rope to prevent from fraying.

WARNING ⚠ DANGER

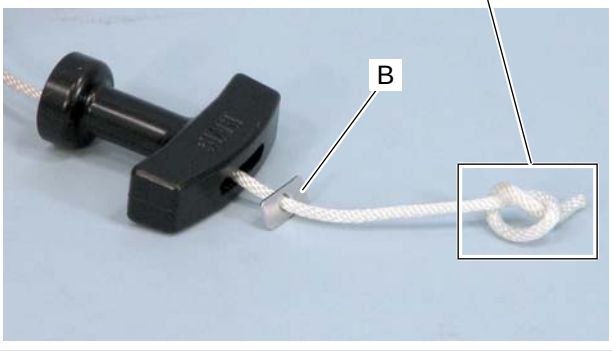
Do not use flame in an area where gasoline is stored or flammable gases may exist.



4. Make a knot (D) at end of starter rope and pass the starter rope through hole of rope reel, then press the knot (D) into reel well as shown.

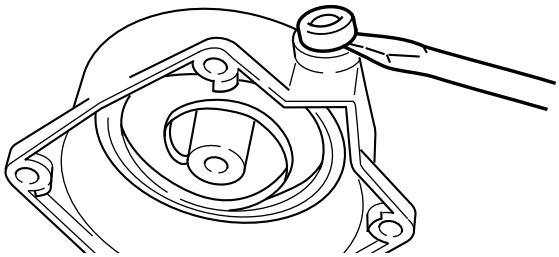


5. Pass the other end of starter rope through rope guide on starter case, then pass starter rope through starter grip and clip (B). Make a knot as shown.



6. Tighten knot. Push knot in starter grip with clip (B).

2-3 Replacing rope guide



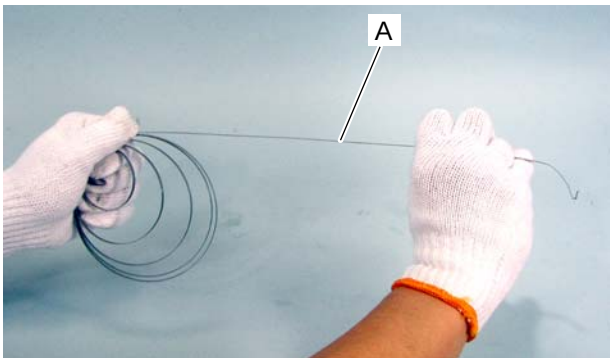
If rope guide is worn out or damaged, replace it as follows:

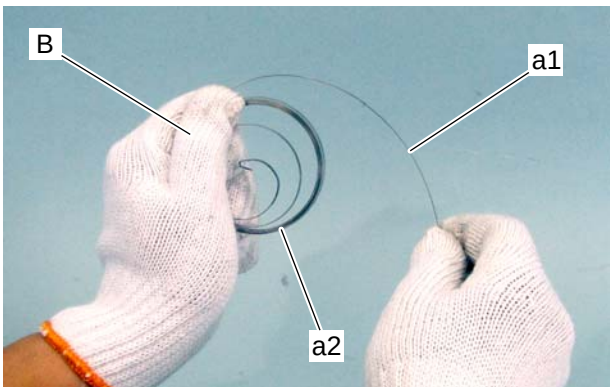
1. Remove or break rope guide by prying from starter case with a blade screwdriver.

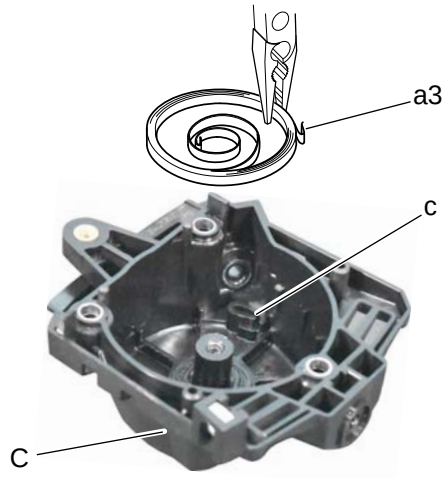
2. Push out remaining guide from case.

3. Press new rope guide into starter case until it bottoms with a sound of click.

2-4 Installing rewind spring







WARNING DANGER

Use of eye protection and safety gloves are strongly recommended while working on re-wind spring.

If rewind spring unwinds unexpectedly, follow steps 1) to 4).

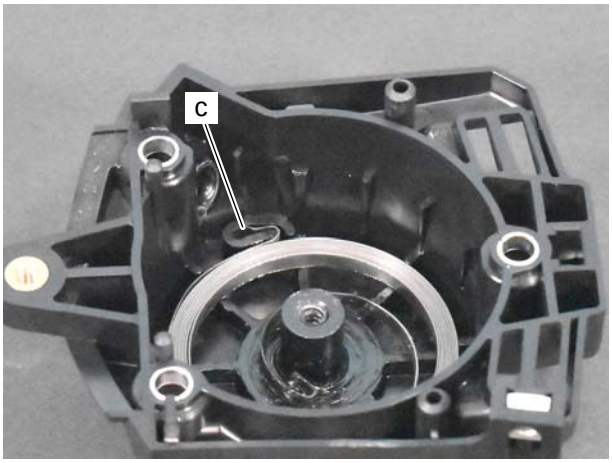
1) Wind rewind spring by hand. Then draw out the end of rewind spring (A) as shown.

2) Wind drawn-out part (a1) to wound part (a2), keeping wound part tight by hand (B) as shown. Repeating this procedure several times, wind rewind spring smaller than inner diameter of starter case.

3) Retain rewind spring with pliers as shown. Set rewind spring in starter case, hooking the outer hook (a3) to the holder (c) of starter case (C).

4) Apply small amount lithium based grease to outside of rewind spring.

2-4 Installing rewind spring (continued)



Rewind spring supplied as spare part is shipped in temporary retainer.

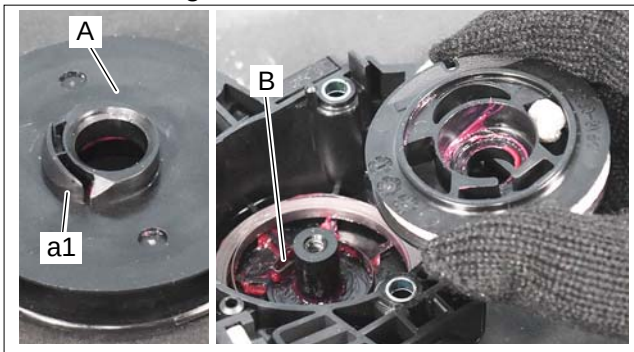
To install new spring wound in retainer:

1) Align outer hook of spring in retainer with the holder (c) of starter case.

2) Push spring down into the bottom of case, keeping spring strongly pressed against case.

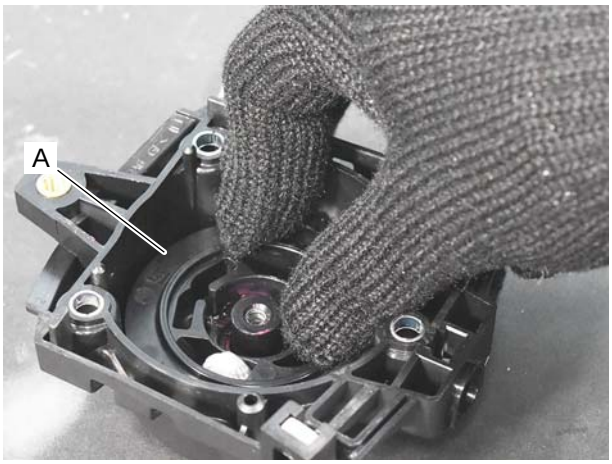
3) Spring should fall into starter case, and retainer is detached by itself.

2-5 Assembling starter

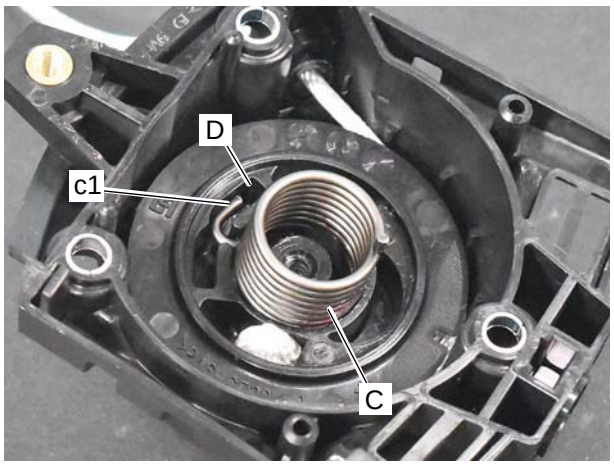


NOTE: Apply Lithium based grease in starter case.

1. Assemble rope reel (A) engaging hook (a1) of rope reel with hook (B) of rewind spring.

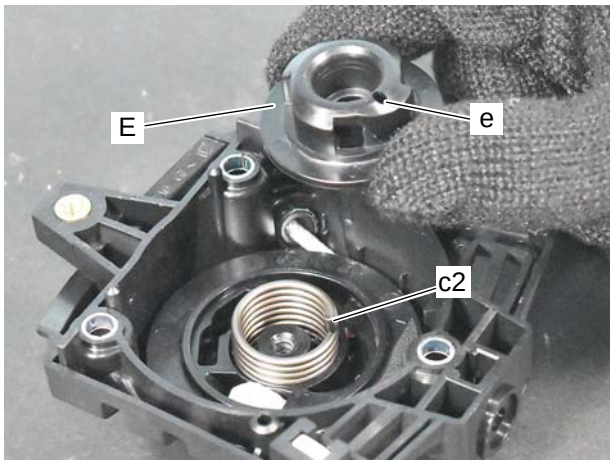


2. Check for proper engagement of rewind spring and rope reel by turning rope reel (A) clockwise and counterclockwise.

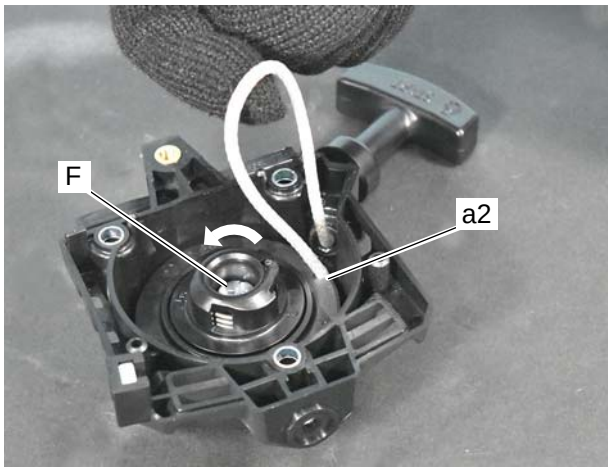


3. Install power spring (C) assembling hook (c1) of power spring into rope reel well (D).

2-5 Assembling starter (continued)

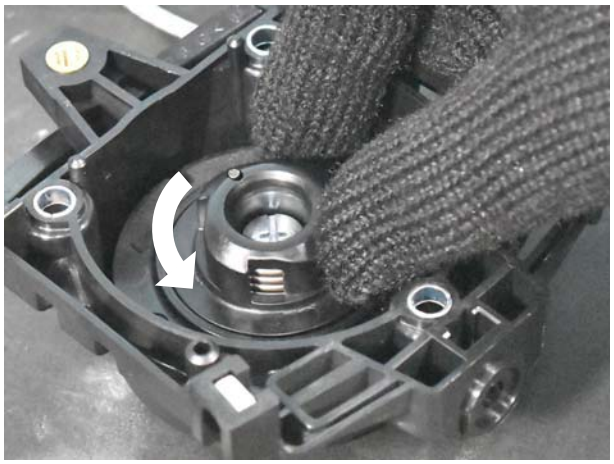


4. Install pawl catcher, assembling power spring hook (c2) into hole (e) of pawl catcher (E).



5. Fasten tapping screw (F) on starter post.

6. Pull out starter rope inside starter case. Rotate rope reel counterclockwise several turns with starter rope hooked at notch (a2) as shown. Hold rope reel to prevent it from rewinding and pull out starter grip to take the rope slack.

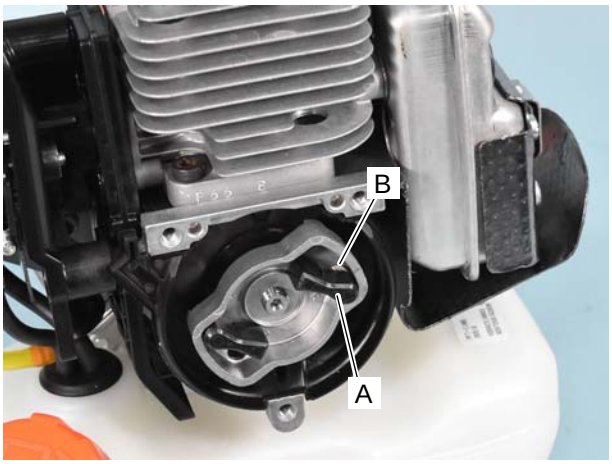


7. Pull starter several times to check rewind spring tension. If starter is not rewinding fully, rotate rope reel one more turn counterclockwise following above step (6).

8. Pull out starter rope all the way, and check that rope reel can be rotated an additional half or more turn counterclockwise as shown, to prevent rewind spring from breaking.

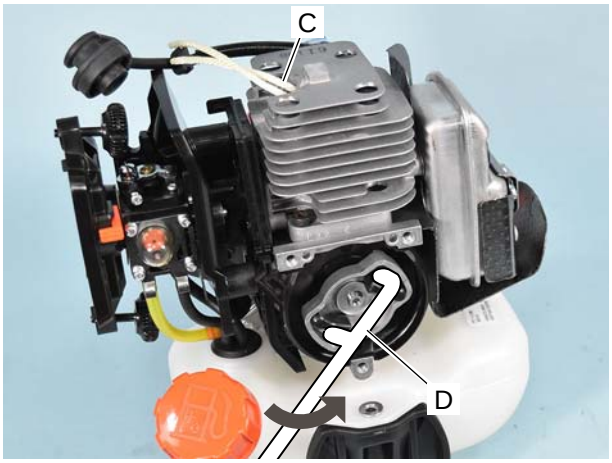
9. If not, reduce tension by rotating rope reel clockwise one turn with starter rope hooked at notch (a2).

2-6 Replacing starter pawl



1. Remove starter assembly, and check starter pawl (A) and pawl spring (B). Replace them if defective.

2. Clean dirt around spark plug, and remove spark plug.

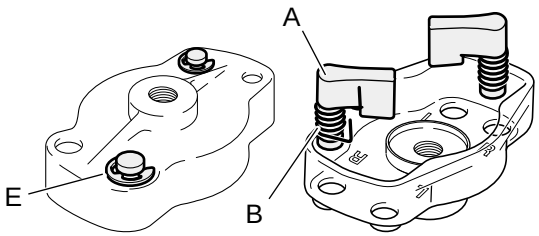


3. Install rope (C) in spark plug hole to stop crankshaft rotation.

4. Rotate starter pawl assembly counterclockwise by hand until it cannot be rotated further.

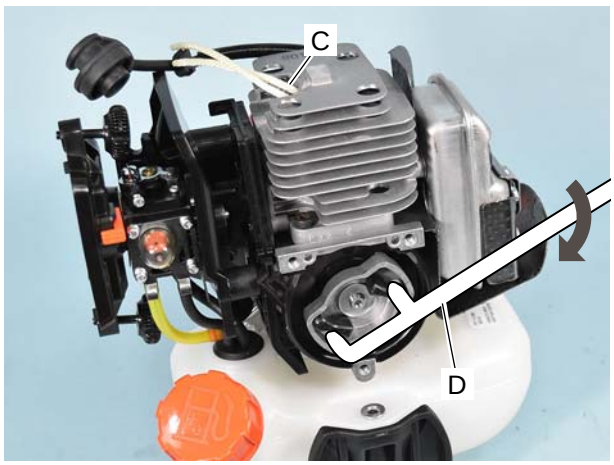
5. Remove starter pawl assembly rotating counterclockwise with 2-pin wrench 897712-04630 (D) as shown.

NOTE: Do not use power tools. Otherwise, piston damage may occur.



6. Remove E-ring (E) from pawl, and replace pawl and spring.

7. Insert spring (B) to pawl and push pawl into hole near mark “R“. Install E-ring (E).

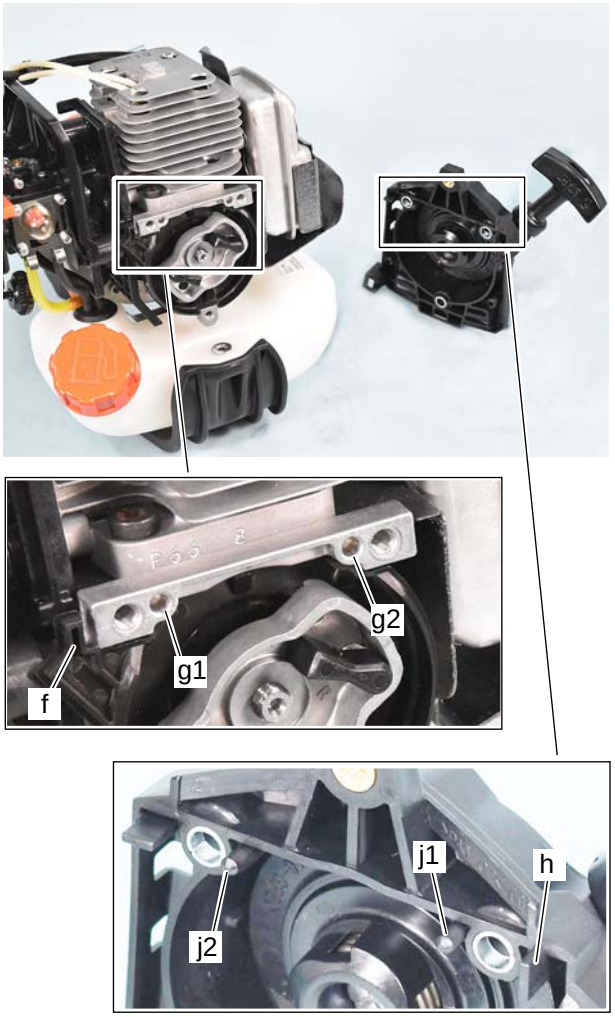


8. Install starter pawl assembly onto crankshaft, rotating clockwise by hand.

9. Tighten starter pawl assembly with 2-pin wrench 897712-04630 (D) as shown.

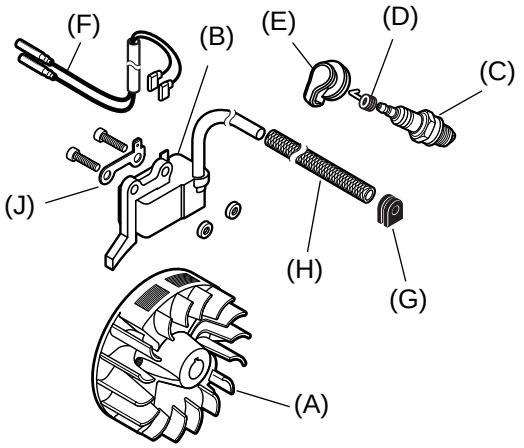
10. Remove rope (C) from spark plug hole and reinstall spark plug. Reinstall starter assembly and other parts.

2-6 Replacing starter pawl (continued)



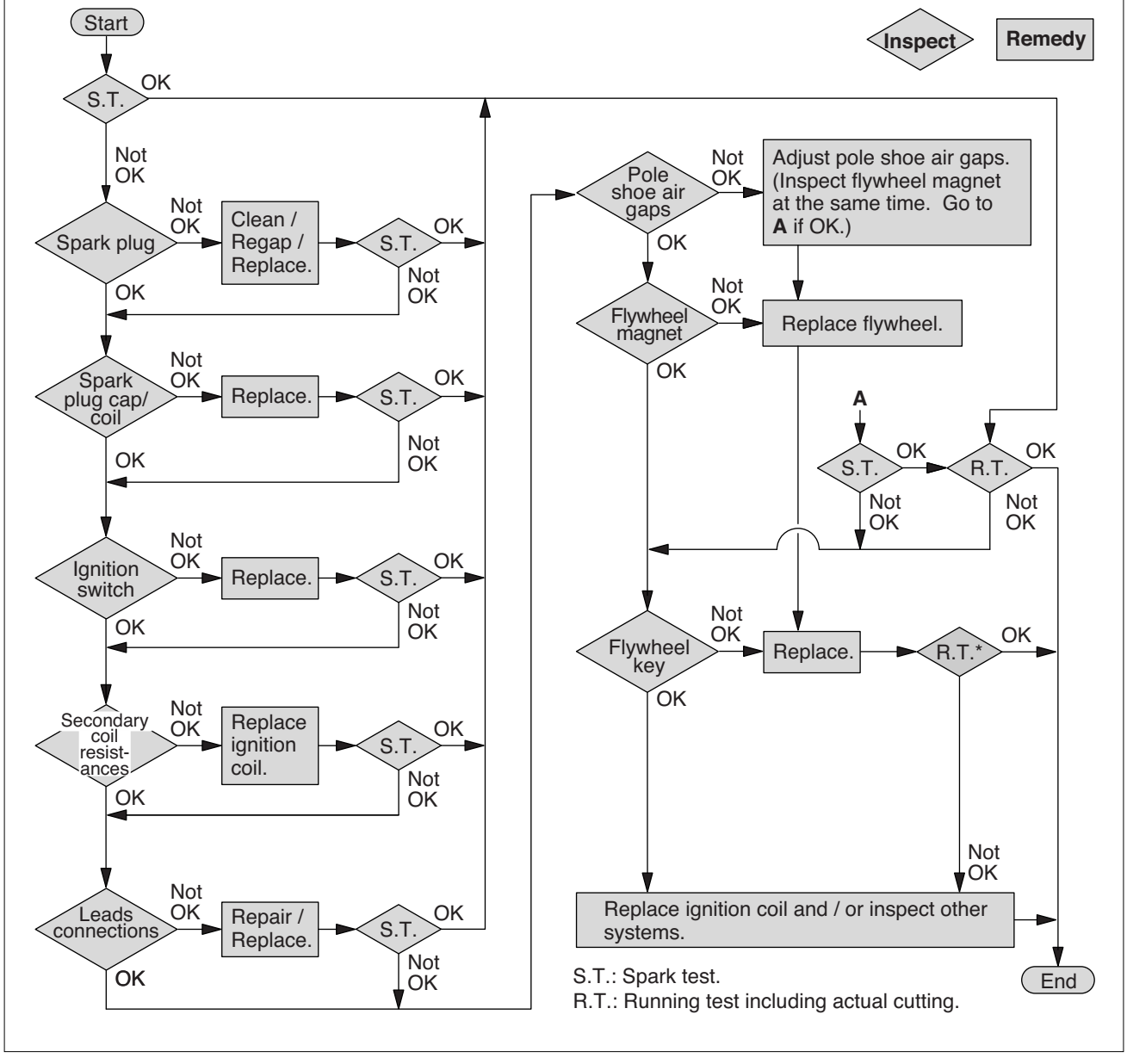
NOTE: Insert rib (h) of starter case to gap (f) between crankacse and dust cover. Insert rib (j1) of starter case to hole (g1) of crankacse. Insert rib (j2) of starter case to hole (g2) of crankacse as shown.

3 IGNITION SYSTEM

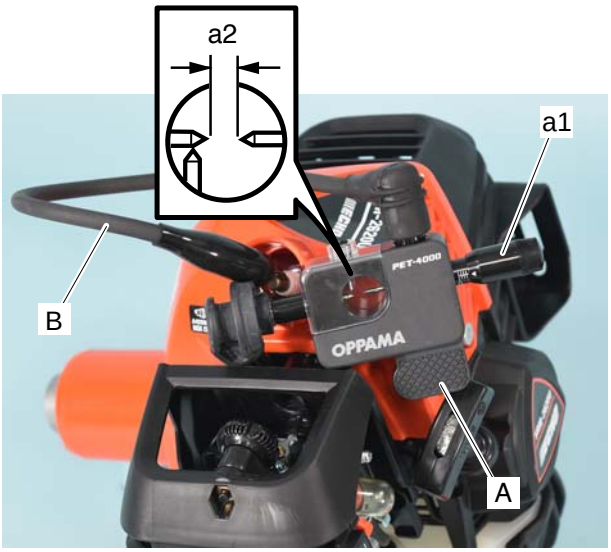


(A) Flywheel
(B) Ignition coil
(C) Spark plug
(D) Spark plug cap coil
(E) Spark plug cap
(F) Ignition lead set
(G) Grommet
(H) Insulator tube
(J) Connector

3-1 Troubleshooting guide



3-2 Testing spark



1. Remove spark plug cap from spark plug.

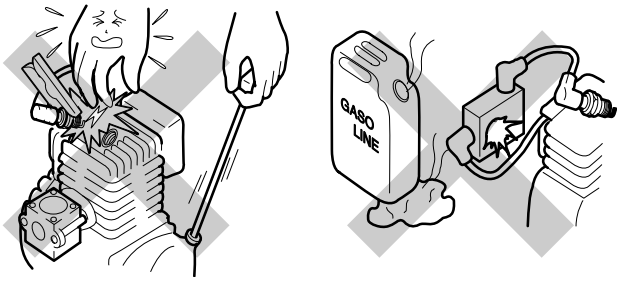
2. Connect spark tester 897800-79931 (A) to high tension lead and connect tester lead (B) on spark plug.

3. Screw in adjuster (a1) until the needle tips contact. Turn out adjuster (a1) 4 turns to set spark tester gap (a2) to 4 mm (0.16 in).

4. Turn ignition switch to “RUN” position. Pull starter grip several times.

5. If spark is steady in blue or white at the tester gap, ignition system is considered good. Go to inspecting spark plug.

6. If no spark exists or spark is nonsequential in yellow, orange, or red, continue with further inspection.



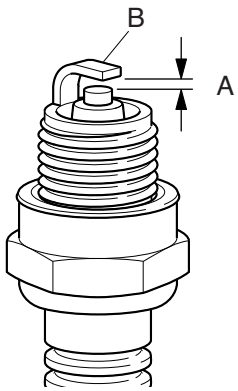
DANGER

***Do not test near spark plug hole without spark plug installed, otherwise there is a chance to ignite fuel mixture inside cylinder.**
***Do not touch metal parts of spark tester while performing the test to avoid receiving electrical shock.**

DANGER

Do not check spark in area where gasoline is spilled or flammable gases may exist.

3-3 Inspecting spark plug



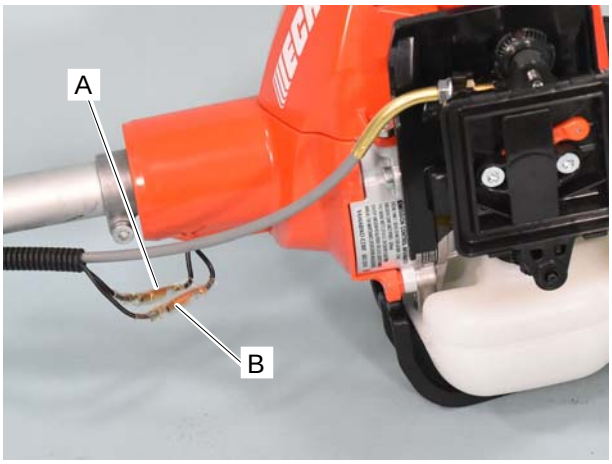
1. Remove spark plug to inspect for fouling, cracked or broken insulator, or rounded center electrode. Clean or replace spark plug as required.

2. Set spark plug gap (A) by bending outer electrode (B).

Standard : 0.6 to 0.7 mm (0.024 to 0.028 in)

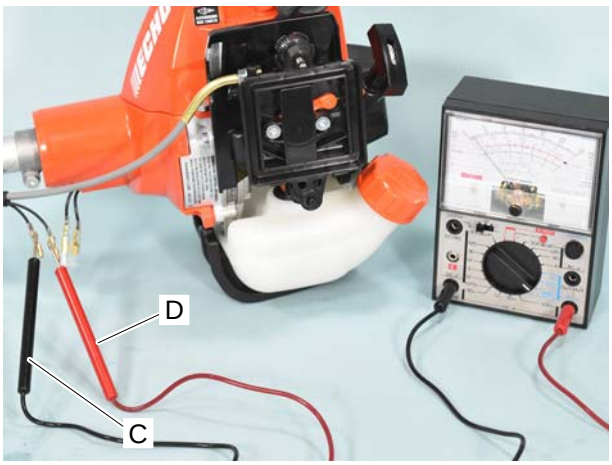
3. If engine does not start with correct spark plug, inspect if spark plug is wet or dry. If it is excessively wet or dry, inspect fuel system.

3-4 Inspecting ignition switch



1. Disconnect primary lead coupler (A).

2. Disconnect ground lead coupler (B).



3. Connect one probe of Ohm-meter or multimeter to primary lead (C) of ignition switch side as shown.

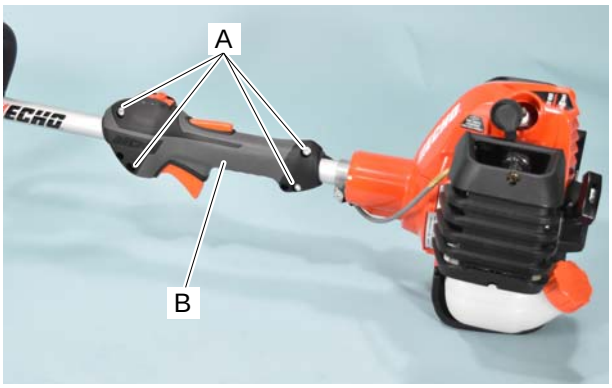
4. Connect the other probe to ground lead (D) of ignition switch side as shown.

5. When ignition switch is in “RUN” position, tester should indicate infinite resistance.

6. When ignition switch is in “STOP” position, tester should show that the circuit is in conducting state (closed circuit).

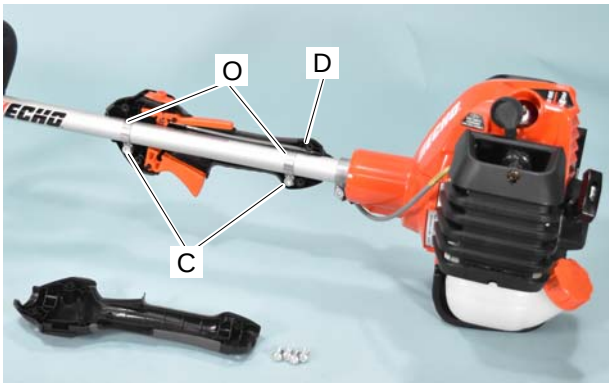
7. If ignition switch is defective, replace with a new one.

3-5 Replacing ignition switch

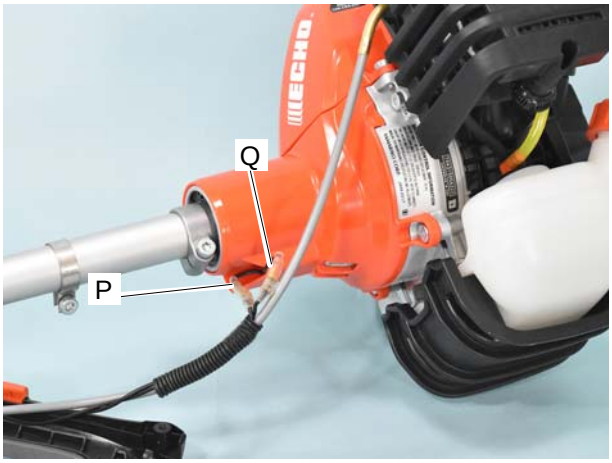


For SRM-2620ES, SRM-2620TES, T262XS and T262TXS (L handle)

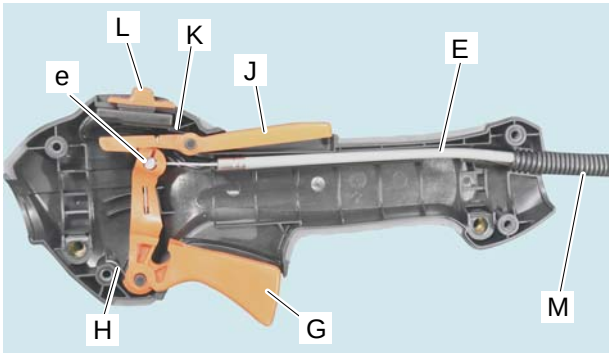
1. Remove screws (A) and remove rear handle grip half (B) from drive shaft housing.



2. Remove screws (C) from brackets (O) and remove another rear handle grip half (D) from drive shaft housing.



3. Disconnect primary lead coupler (P) and ground lead coupler (Q). Disconnect throttle cable from carburetor.



4. Disconnect end (e) of throttle cable (E) from throttle trigger (G).

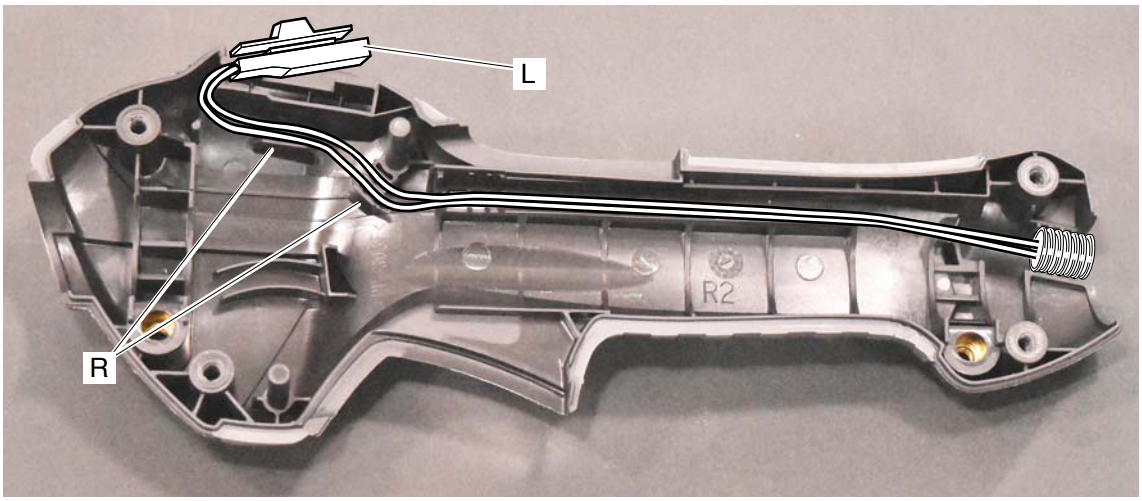
5. Remove throttle trigger (G) with torsion spring (H) and throttle lockout lever (J) with torsion spring (K).

6. Remove ignition switch (L) with leads, corrugated tube (M) and throttle cable (E).

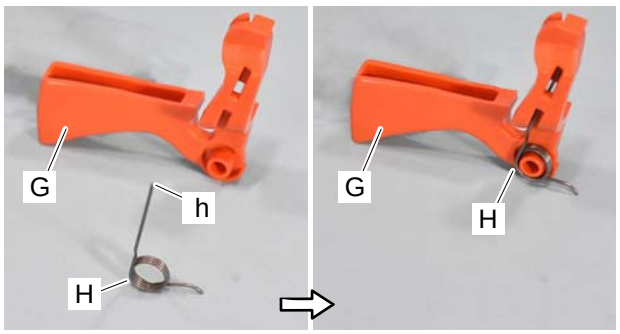
7. Pull out throttle cable from corrugated tube.

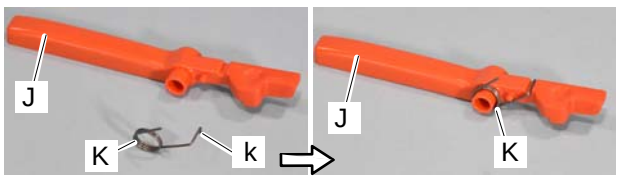
8. Pass throttle cable (E) through corrugated tube (M) of new ignition switch.

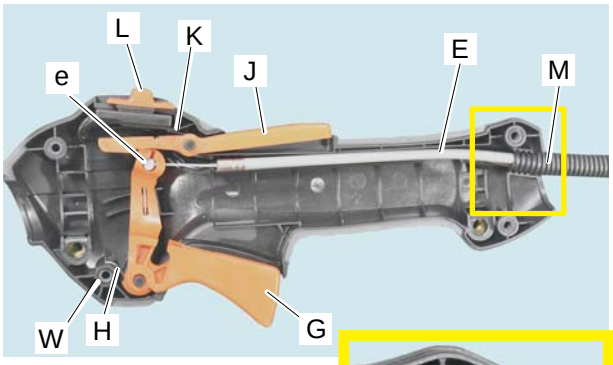
3-5 Replacing ignition switch (continued)

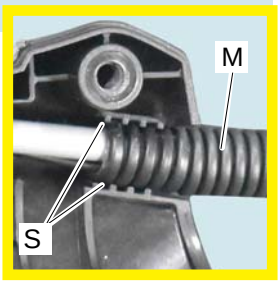


9. Route leads behind ignition switch (L), and then install ignition switch to rear handle grip half. Route leads through grooves and ribs (R) of rear handle grip half as shown.









10. Set torsion spring (H) to throttle trigger (G) as shown.

NOTE: Put longer arm (h) of torsion spring in throttle trigger (G).

11. Set torsion spring (K) to throttle lockout lever (J) as shown.

NOTE: Put longer arm (k) of torsion spring in throttle lockout lever (J).

12. Connect end (e) of throttle cable (E) to throttle trigger (G). Install throttle trigger (G), hooking torsion spring (H) on the post (W) as shown.

13. Install throttle cable (E) and corrugated tube (M) to control handle grip half as shown.

NOTE: Set grooves of corrugated tube (M) on ribs (S) of control handle grip half.

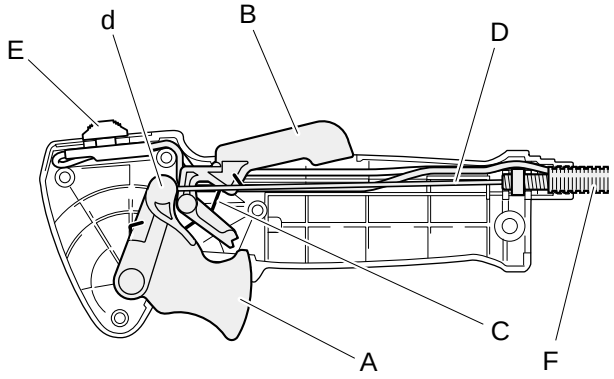
14. Install right handle grip half on drive shaft housing with bracket and screw (refer to 2.).

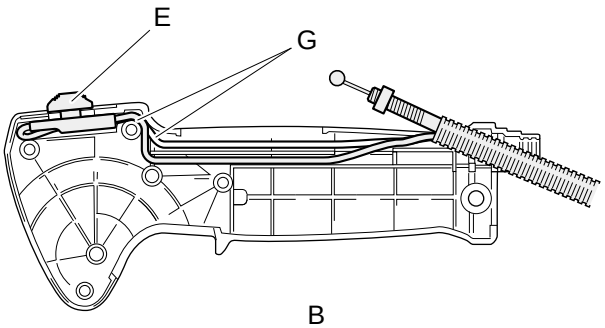
15. Install left handle grip half on drive shaft housing with screws (refer to 1.).

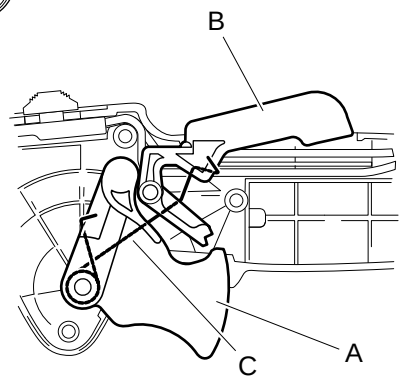
NOTE: Control handle grip position can be adjusted by loosening bracket screw.

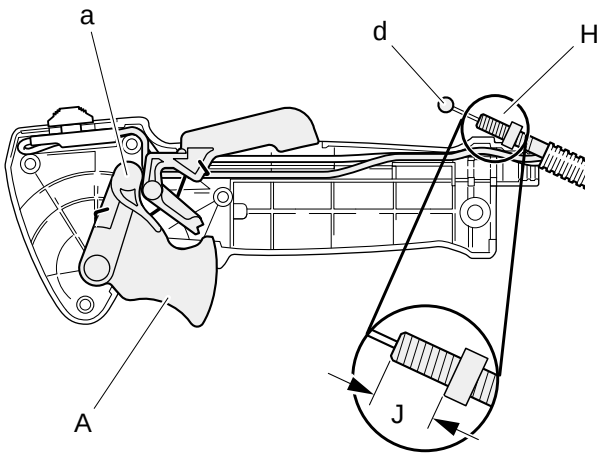
16. Connect throttle cable to carburetor. Connect primary lead coupler and ground lead coupler.(refer to 3.)

3-5 Replacing ignition switch (continued)









For SRM-2620ES, SRM-2620TES, C262XS and C262TXS (U handle)

1. Separate right-hand grip. Disconnect primary lead coupler and ground lead coupler (refer to “3-4 Inspecting ignition switch”). Disconnect throttle cable from carburetor.

2. Remove throttle trigger (A) with throttle latch (B) and torsion spring (C).

3. Disconnect end (d) of throttle cable (D) from throttle trigger (A).

4. Remove ignition switch (E) with leads, corrugated tube (F) and throttle cable (D).

5. Remove corrugated tube (F) from handle shaft, together with cable and leads.

6. Pull out throttle cable from corrugated tube.

7. Pass throttle cable through corrugated tube of new ignition switch.

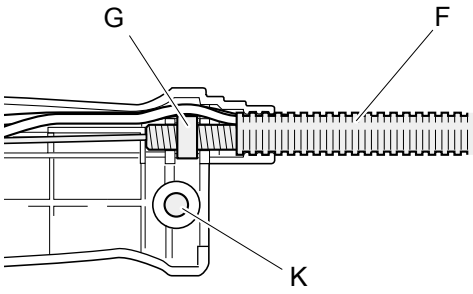
8. Route leads (G) behind ignition switch (E), and then install ignition switch to grip half. Route leads through grooves and ribs of grip half as shown.

9. Install throttle trigger (A) and throttle latch (B) with torsion spring (C) as shown.

10. Move square nut (H) at distance of 11 mm (0.43 inch) (J) from outer throttle cable end, turning square nut.

11. Connect end (d) of throttle cable to holder (a) of throttle trigger (A).

3-5 Replacing ignition switch (continued)



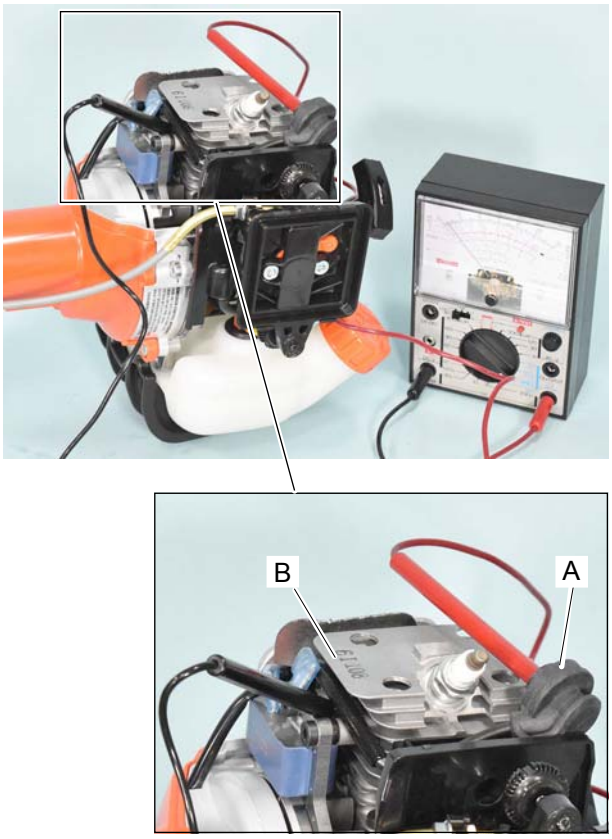
12. Seat square nut (G) in dent of handle grip and push in corrugated tube (F) to the grip two or three grooves from tube end.

13. Put together both grip halves.

14. Insert grip to handle aligning hole (K) with holes on handle, and fasten grip with screw and nut.

15. Connect throttle cable to carburetor. Connect primary lead coupler and ground lead coupler.

3-6 Inspecting ignition coil resistance



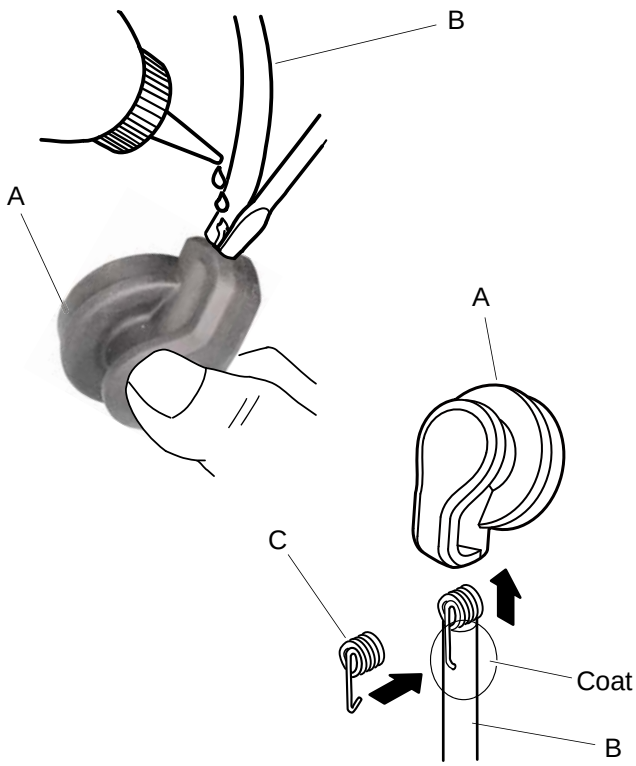
1. Connect one probe of Ohm-meter or multimeter to spark plug cap coil (A).

2. Connect the other probe to cylinder (B) to measure secondary coil resistance. Secondary coil resistance should be in the range of 960 to 1,000 Ω.

3. If the meter reading indicates infinite resistance, remove spark plug cap and spark plug cap coil, and measure resistance between the conduction wire of high tension lead and ignition coil core.

4. If the reading at step 2 or 3 is not in the range of 960 to 1,000 Ω, replace with a new ignition coil (Go to “3-8 Replacing ignition coil”).

3-7 Replacing spark plug cap and coil



1. Disconnect spark plug cap (A) from spark plug.

2. Apply some oil in spark plug cap (A) for easy removal from high tension lead (B).

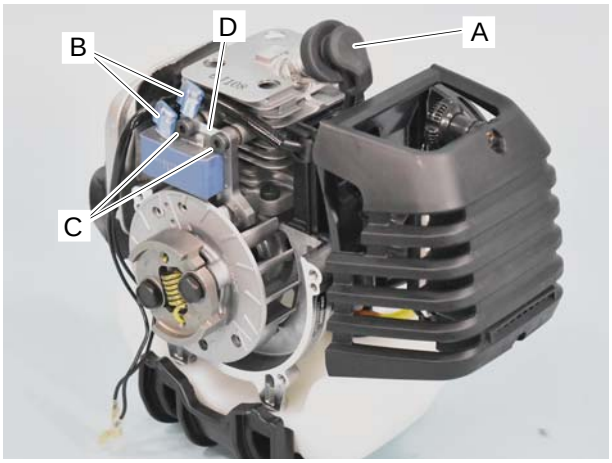
3. Pull spark plug cap away from high tension lead.

4. Inspect spark plug cap coil (C) for correct connection and corrosion. Inspect spark plug cap for cracks. Replace as required.

NOTE: Make sure spark plug cap coil (C) contacts center core of high tension lead when reinstalling it.

5. Coat with small amount of oil to the end of high tension lead (B) and insert it to spark plug cap (A) as shown until the spark plug cap coil is properly seated in the cap.

3-8 Replacing ignition coil



1. Disconnect spark plug cap (A) from spark plug.

2. Remove muffler cover, cylinder cover and fan cover.

3. Disconnect ignition lead set (B) from ignition coil. Loosen bolts (C) and connector (D) of ignition coil.

4. Remove ignition coil from cylinder.

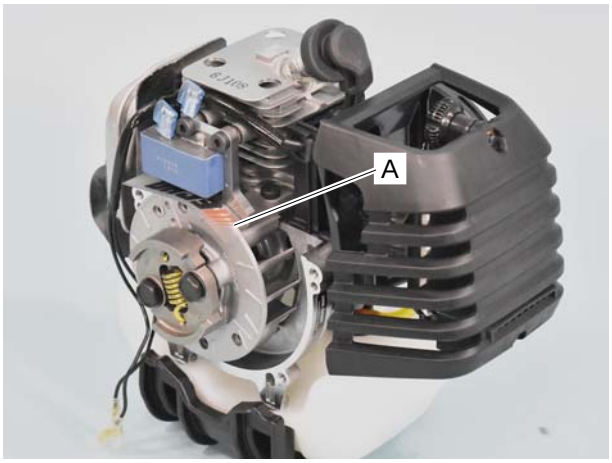
5. Remove spark plug cap (A) and spark plug cap coil from high tension lead (Refer to “3-7 Replacing spark plug cap and coil”).

6. Install spark plug cap (A) and spark plug cap coil, ignition lead set (B) to new ignition coil.

7. Install new ignition coil by bolts (C) loosely. Set air gap (Refer to “3-9 Setting pole shoe air gaps“). Install fan cover, cylinder cover and muffler cover.

8. Connect spark plug cap (A) to spark plug.

3-9 Setting pole shoe air gaps



1. Insert Module air gap gauge: 91004 (A) or 0.3 - 0.4 mm (0.012 - 0.016 in) thick feeler gauge between flywheel and ignition coil shoes.

2. Rotate flywheel until magnetic poles of flywheel face ignition coil shoes.

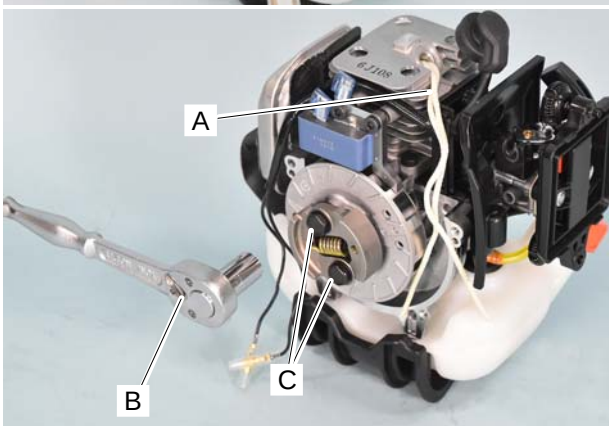
3. Hold ignition coil against flywheel and tighten the bolts to specified torque (Refer to “Service information 1-3 Torque limits”). After tightening bolts, remove Module air gap gauge: 91004 (A) (or feeler gauge).

NOTE: When air gap is too narrow, contact with flywheel may result. When the air gap is too wide, spark is weak.

3-10 Inspecting flywheel and key

1. Inspect magnetic force of flywheel using flux meter, or bridging with a screwdriver as shown.

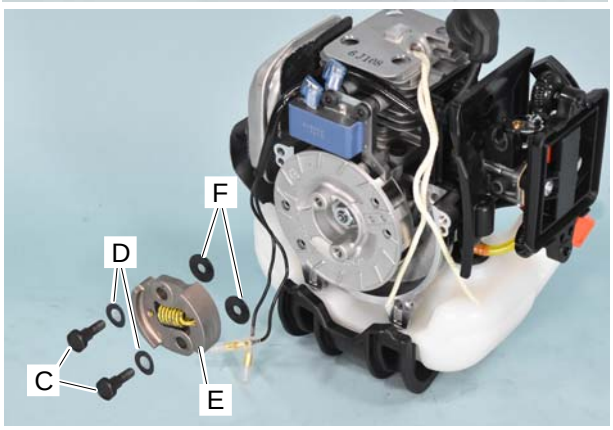
2. If magnetic force is weak, replace flywheel as follows.



3. Install rope (A) into spark plug hole by hand, to stop crankshaft rotation.

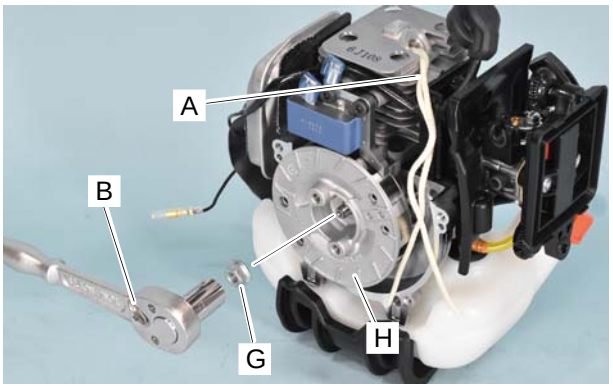
NOTE: Do not use power tool. Otherwise, piston damage may occur.

4. Rotate bolts (C) counterclockwise using 13 mm (0.51 in) box wrench (B) or similar tool to remove clutch assembly.

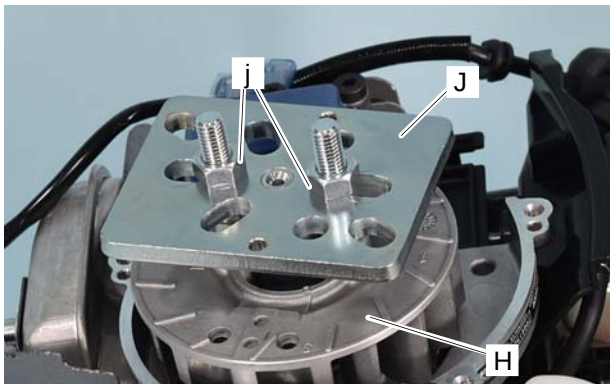


5. Remove bolts (C), spring washers (D), clutch shoe (E) and washers (F).

3-10 Inspecting flywheel and key (continued)

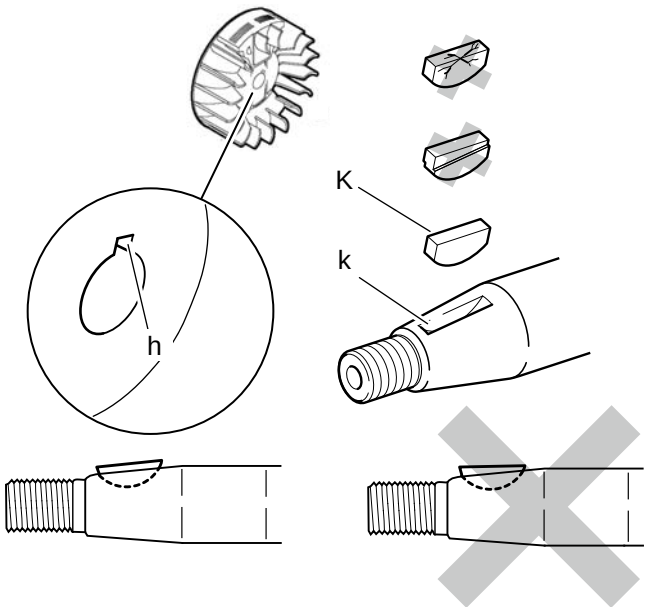


6. Remove flange nut (G) on flywheel (H) using 13 mm (0.51 in) box wrench (B) or similar tool.



7. Set puller Y089-000111 (J) on flywheel (H) as shown.

8. Tighten two nuts (j) on the puller alternately to remove flywheel (H).



9. Check key groove (h), key groove(k) and woodruff key (K) for damage. Replace with a new one if deformed.

10. Wipe off oil from taper part of crankshaft and flywheel before assembling flywheel.

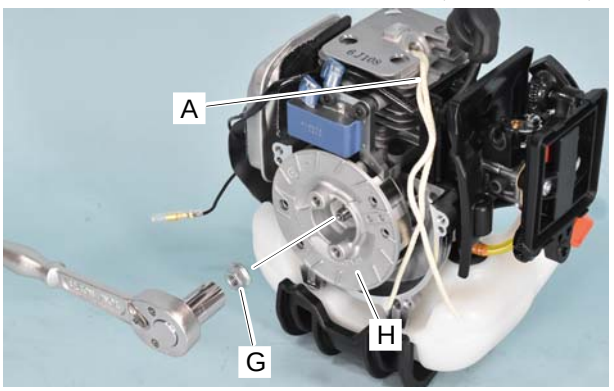
11. Install woodruff key (K) into key groove (k) as shown in the picture.

NOTE: If key groove (k) is too tight, file woodruff key before installation.

12. Align flywheel key groove (h) with woodruff key (K) on crankshaft.

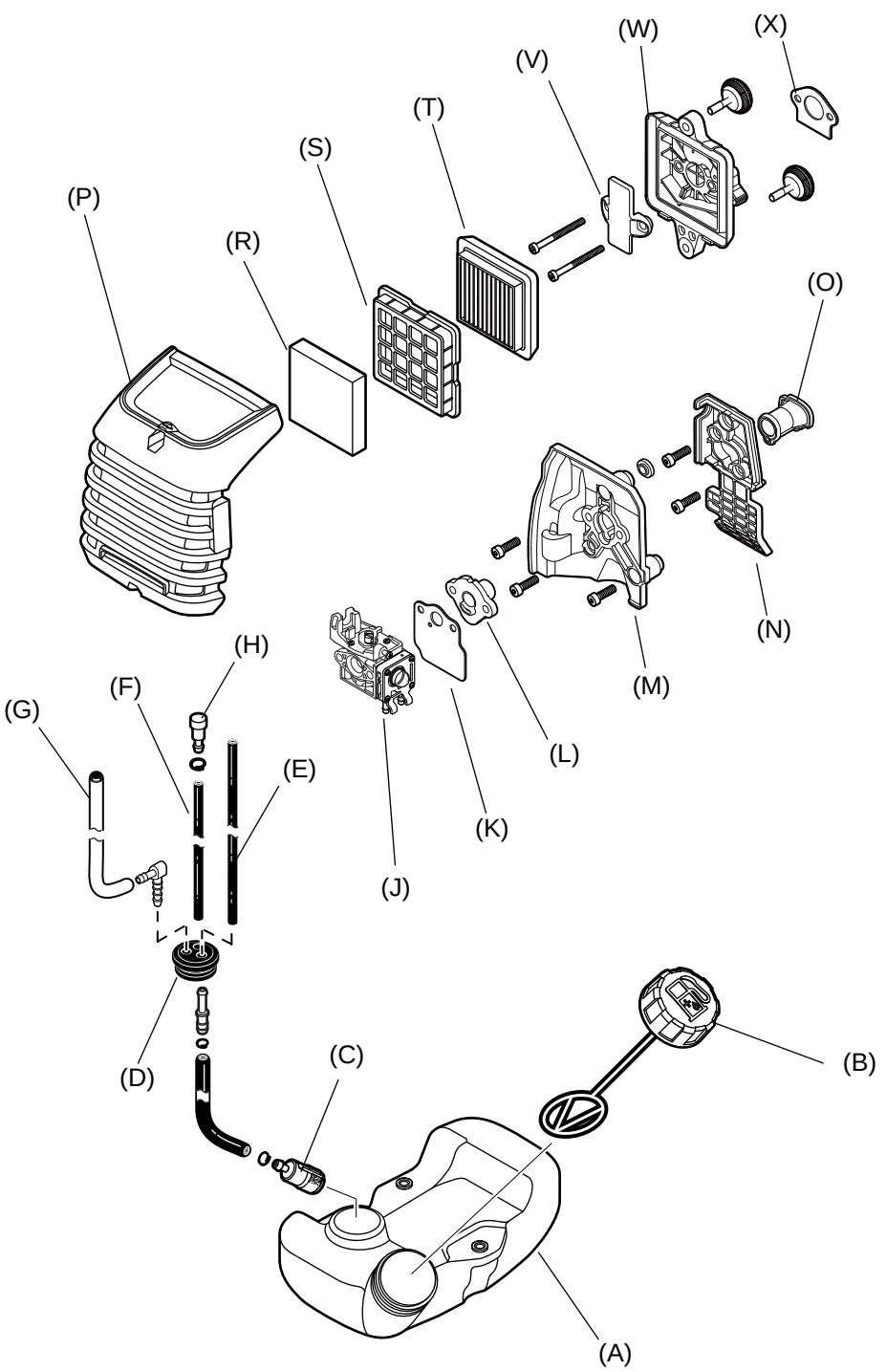
13. Insert flywheel (H) and tighten nut (G) to specified torque (Refer to “Service information 1-3 Torque limits”).

NOTE: Be sure not to exceed specified torque. Otherwise, flywheel deformation will result.



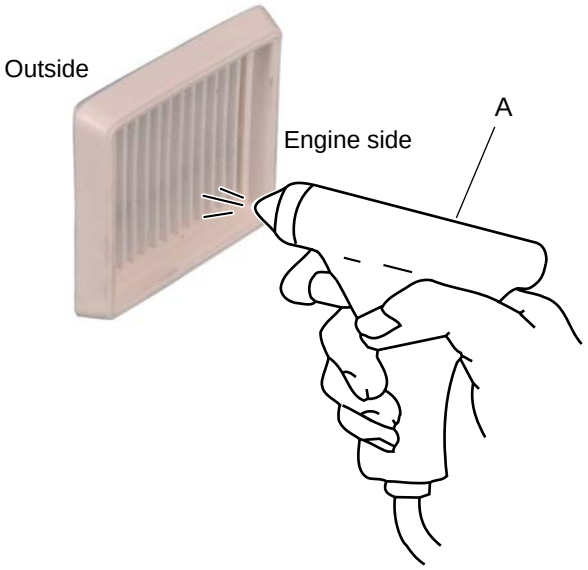
14. Pull out rope (A) from spark plug hole.

4 FUEL SYSTEM



(A) Fuel tank
(B) Fuel cap
(C) Fuel strainer
(D) Fuel line grommet
(E) Fuel line
(F) Tank vent line
(G) Fuel return line
(H) Tank vent
(J) Carburetor
(K) Intake heat shield
(L) Insulator plate boot
(M) Insulator plate
(N) Bellows holder
(O) Intake bellows
(P) Air cleaner cover
(R) Form pre-filter
(S) Retainer pre-filter
(T) Air filter
(V) Prevent plate
(W) Air cleaner case
(X) Intake gasket

4-1 Cleaning air filter



1. Close choke shutter and remove air cleaner cover and air filter.

2. Clean air cleaner cover and air filter with compressed air or wash air filter in a suitable cleaning solvent. Air filter should be dried completely after washing.

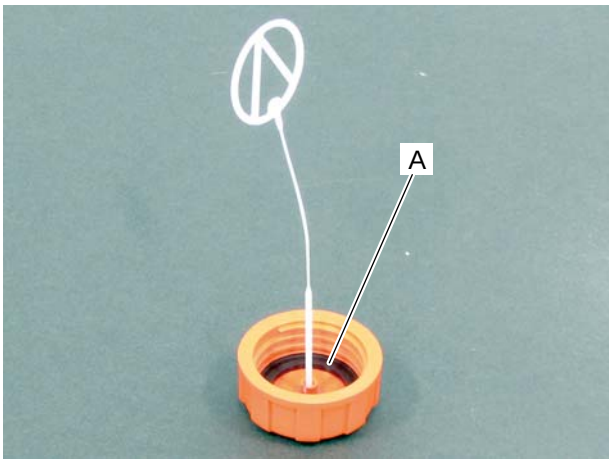
NOTE: When using compressed air gun (A), blow air from engine side.

WARNING ⚠ DANGER

Wear eye protection when working with compressed air. Eye damage can occur from flying particles.

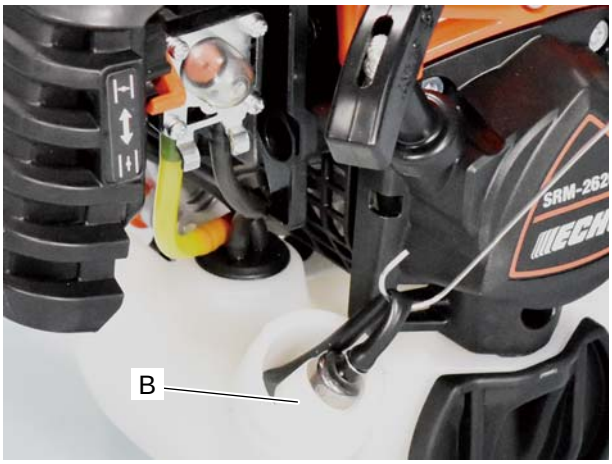
3. Replace air filter if heavily soiled or damaged.

4-2 Checking fuel cap and fuel strainer



1. Remove fuel cap.

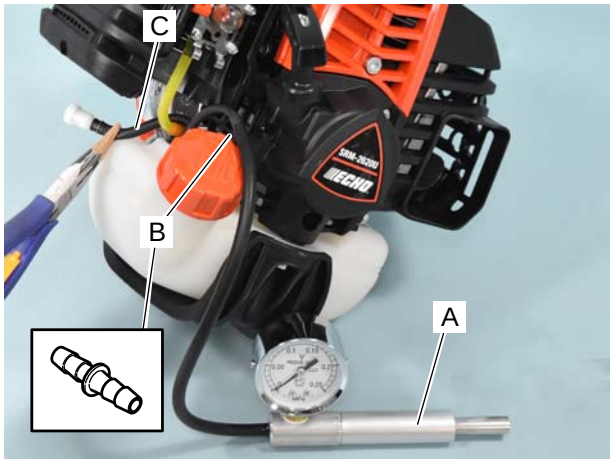
2. Check fuel cap for cracks and gasket (A) for cuts or damage. Replace defective parts as required.



3. Pull fuel strainer (B) from fuel tank using a wire hook and replace with a new one if it is blocked with dirt.

4. Put fuel strainer and reinstall fuel cap.

4-3 Inspecting fuel tank and tank vent



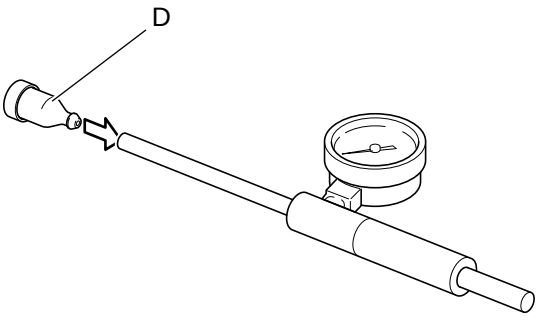
1. Remove air cleaner cover. Disconnect black fuel line from carburetor and connect pressure tester 897803-30133 (A) to fuel line with joint pipe V186-000150 (B).

2. Pinch tank vent line (C) with longnose pliers to block air passage. And then apply 0.05MPa(0.5 kgf/cm^2)(7 psi) of pressure.

NOTE: Wrap the ends of longnose pliers with tape (or cover with soft pipes) to prevent tank vent line from damage.

3. The pressure should not drop. If the pressure drops, leakage may be occurring from fuel cap gasket, fuel tank, fuel lines, tank vent line or fuel line grommet. Check and replace them as required.

4. Release tank vent line. The pressure should stay at or above 0.01MPa(0.1 kgf/cm^2)(1.5 psi). If pressure drops under 0.01MPa(0.1 kgf/cm^2)(1.5 psi), tank vent or tank vent line is defective.

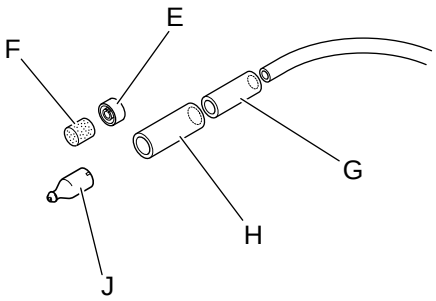


NOTE: Tank vent prevents a vacuum from forming in fuel tank when fuel in fuel tank is being consumed. When pressure in fuel tank becomes too high, tank vent releases the pressure.

5. Remove tank vent (D) from tank vent line and connect pressure tester.

6. Apply pressure approximately 0.05MPa(0.5 kgf/cm^2)(7 psi), make sure the pressure is stable in range of 0.1 - 0.4 kgf/cm^2 (1.4 - 6 psi).

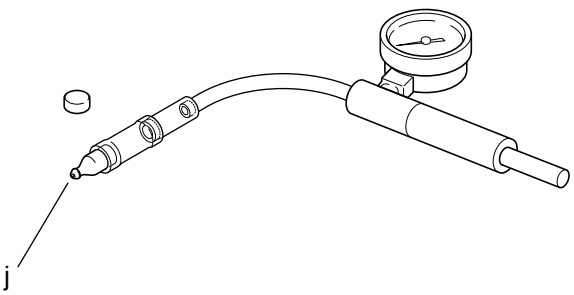
7. If it is not in the range, gently clean tank vent with compressed air or replace with new one.



NOTE: Do not disassemble valves in tank vent assembly. Damage to valves will occur.

8. Remove cap (E) of tank vent, and clean sponge (F).

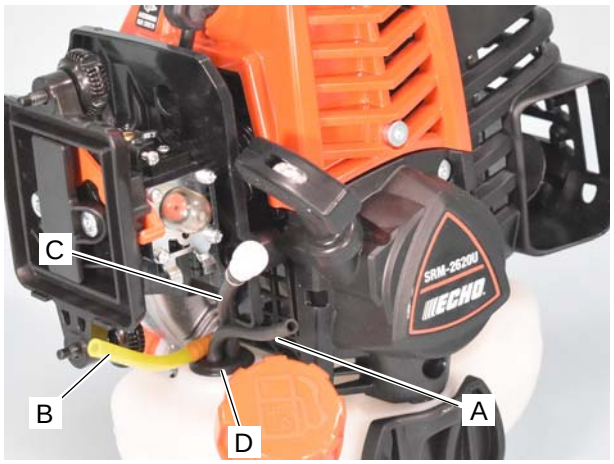
9. Cut pipe 363011-00210 (G: 7x11x170mm) and 382011-01110 (H: 9x13x350) in approximately 30mm (1 1/4 in) length, and connect them to pressure tester as shown. Connect tank vent (J) without cap to pipe as shown.



10. Plug hole (j) with finger and apply pressure 0.02MPa(0.2 kgf/cm^2)(3 psi). The pressure should hold steady.

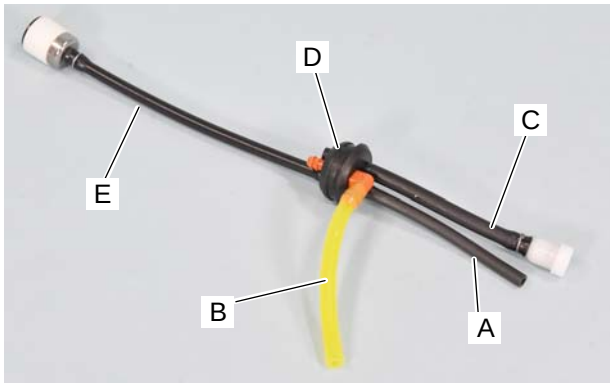
11. When the finger is removed from hole (j), tank vent should pass air freely without holding any pressure. If it does not, replace tank vent with new one.

4-4 Replacing fuel line, fuel return line, tank vent line and grommet



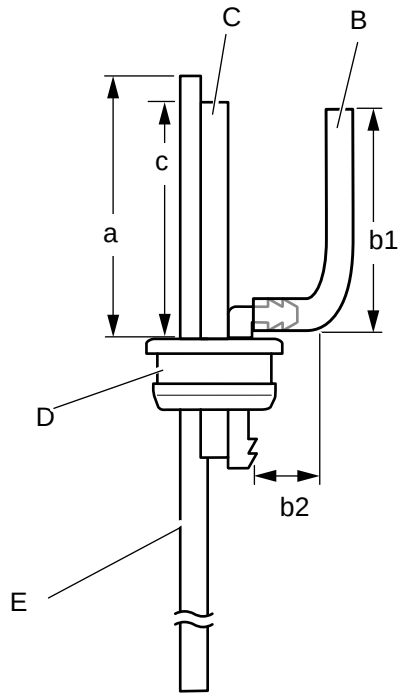
1. Disconnect fuel line (A) and fuel return line (B) from carburetor.

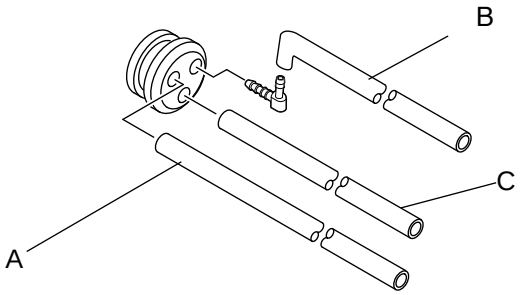
2. Remove fuel line grommet (D) from fuel tank, together with fuel line (A), fuel return line (B) and tank vent line (C). Fuel strainer can be directly pulled out through grommet hole.



3. Remove fuel line (A), fuel return line (B), tank vent line (C) and fuel line (E) from fuel line grommet (D). If line is defective, replace with a new one.

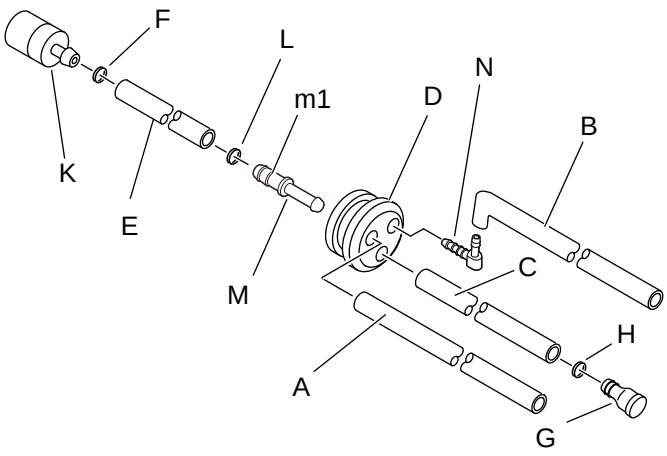
4. Adjust length as follows:

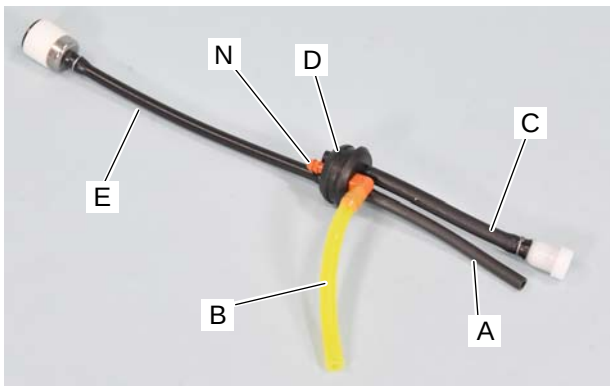


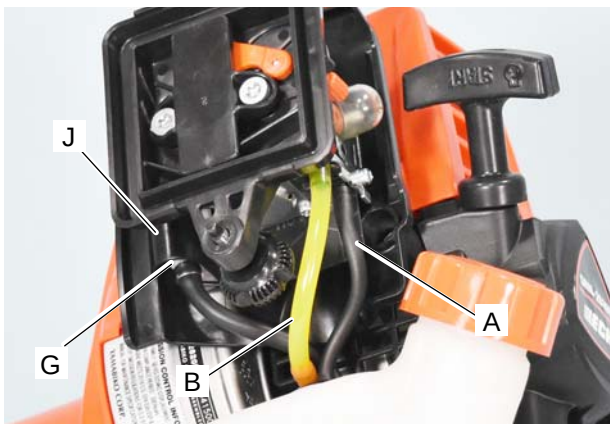


Line	(A)+(E) Fuel line	(B) Fuel return line	(C) Tank vent line
	Black	Transparent	Black
Length mm (inch)	207 (8.15)	80 (3.15)	85 (3.35)
Distance mm (inch)	(a) 67-69 (2.64-2.72)	(b1+b2) 80 (3.15)	(c) 71-73 (2.80-2.87)

4-4 Replacing fuel line, fuel return line, tank vent line and grommet (continued)







5. Set clip (F) on fuel line (E) and connect fuel strainer (K) as shown.

6. Connect fuel line (A) on connector pipe (M).

7. Set clip (L) on fuel pipe (E) and connect connector pipe (M) with fuel line (A).

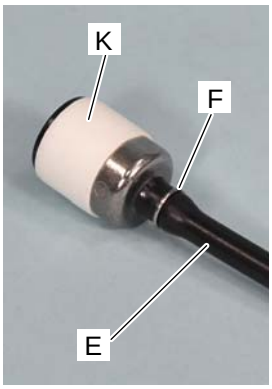
NOTE: Set clip (L) second groove(m1) on connector pipe (M).

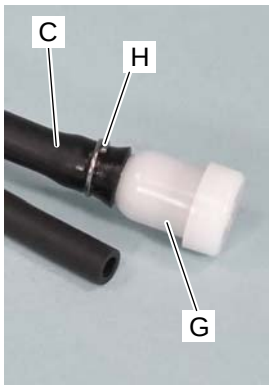
8. Insert fuel line (A) with connector pipe (M), clip (L) and fuel pipe (E) in grommet (D).

9. Insert tank vent line (C) in grommet (D).

10. Set clip (H) on tank vent line (C) and connect tank vent (G) as shown.

11. Install fuel return line (B) with connector pipe (N) in grommet (D).





12. Install grommet (D) with lines and fuel strainer to fuel tank as shown.

13. Put tank vent (G) in place (J) of insulator plate. Connect fuel line (A) and fuel return line (B) to carburetor.

4-5 Adjusting carburetor

4-5-1 General adjusting rules

A. Before adjustment, check the following items

1. Correct spark plug must be clean and properly gapped.

2. Air filter element must be clean and properly installed.

3. Muffler exhaust port must be clear of carbon.

4. Fuel lines, tank vent and fuel strainer are in good condition and clear of debris.

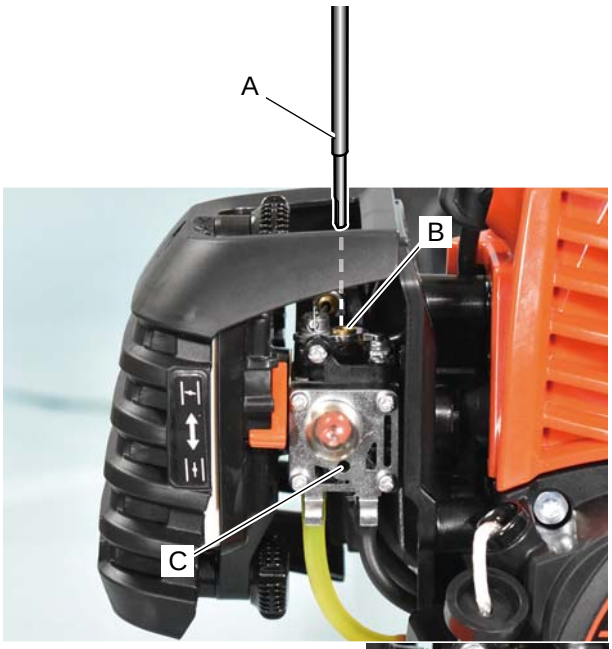
5. Fuel is fresh (> 89 octane $\div \frac{\text{RON+MON}}{2}$) and properly mixed at 50:1 with “ISO L-EGD” or “JASO FC/FD” 2-stroke oil.

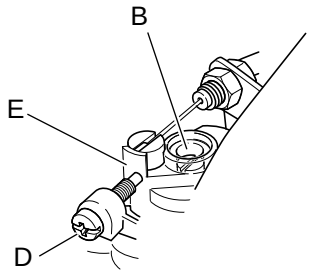
6. Cut nylon trimmer line to proper length for proper engine loading to adjust carburetor.

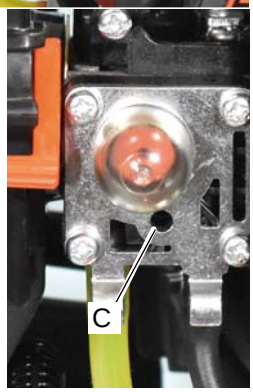
SRM-2620ES, T262XS, C262S: 190 mm (7.5 inches)
SRM-2620TES, T262TXS, C262TS: 285 mm (11.2 inches)

B. Start and run engine for 180 seconds alternating RPM between idle for 10 seconds and WOT for 50 seconds. Adjust Idle speed screw to 3,000 +/- 200 RPM. If engine does not run correctly after this adjustment, proceed to the next step 4-5-2.

4-5-2 Initial setting Throttle adjust screw, L mixture needle and H mixture needle







Tools Required : Small screwdriver with 2.5 mm blade, P/N G310-000050 electronic tachometer, P/N Y089-000094(A) small D-shaped tool.

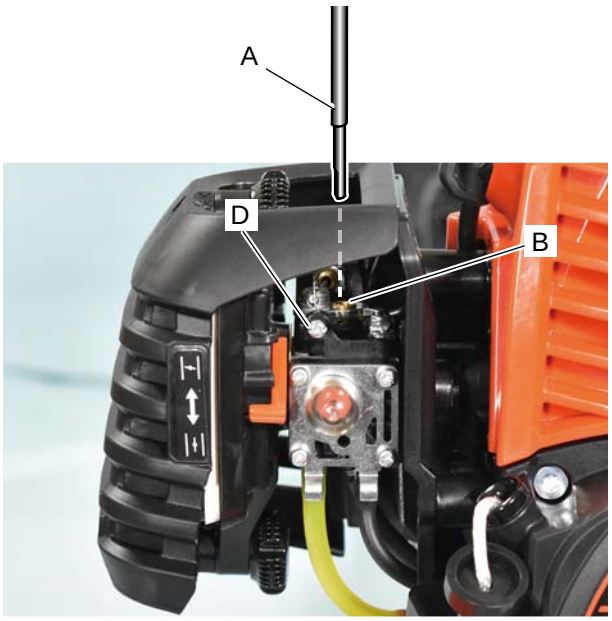
1. Turn L mixture needle (B) clockwise(CW) until lightly seated. Then turn it counterclockwise(CCW) 3 turns. Turn H mixture needle (C) CW until lightly seated. Then turn it CCW 3 1/8 turns.

2. Turn Throttle adjust screw (D) CW until its head touches boss(E). Then turn Throttle adjust screw (D) CCW 7 3/4 turns.

NOTE: The initial carburetor settings for Throttle adjust screw, L and H speed mixture needles are intended to start and run the engine before final carburetor adjustments are made to conform the unit to meet Emission Regulations. Actual number of turns needed for engine operation may vary.

4-5 Adjusting carburetor (continued)

4-5-3 Adjusting carburetor



1. Start and warm engine for 180 seconds alternating RPM between idle for 10 seconds and WOT for 50 seconds.

2. Adjust L mixture needle (B) to reach maximum idle speed using D-shaped tool(A).

3. Set idle speed to 4,000 RPM by turning Throttle adjust screw (D). Engine speed should be stable at 4,000 +/- 50 RPM.

4. Turn L mixture needle CCW to reduce engine idle speed 1,000 RPM to set idle speed at 3,000 RPM. The idle speed range is 2,900 - 3,100 RPM.

NOTE: Engine speed must be allowed to stabilize a minimum of 20 seconds after each adjustment of Idle mixture needle to assure accurate tachometer readings.

5. Adjust H mixture needle (C) to reach maximum WOT engine speed. Then turn H mixture needle CCW to decrease WOT engine speed by 20-30 RPM.

NOTE :

For SRM-2620ES, T262XS, C262S:
Nylon line length should be 190 mm without shield.

For SRM-2620TES, T262TXS, C262TS:
Nylon line length should be 285 mm without shield.

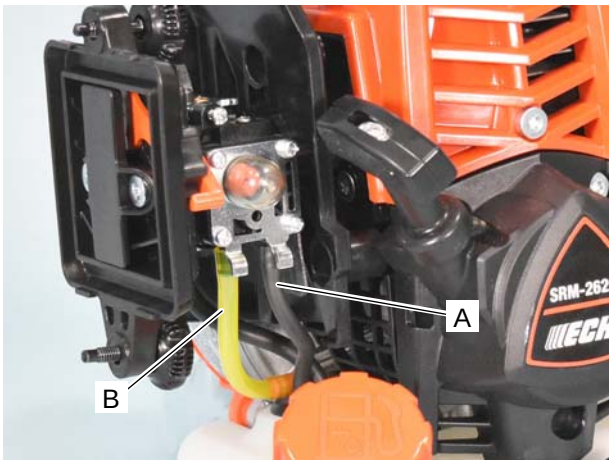
6. Stop engine, restart again and verify engine idle speed ranges from 2,700 to 3,500 RPM, and expand and cut nylon line by shield knife and WOT engine speed ranges from 9,000 to 10,000 RPM for SRM-2620ES, T262XS, C262S, from 10,400 to 11,800 RPM for SRM-2620TES, T262TXS, C262TS.

NOTE: Nylon line length should be approx. 180 mm by cutter knife with shield.

Make sure the nylon line cutter does not rotate when engine is at idle. Engine should start and accelerate smoothly.

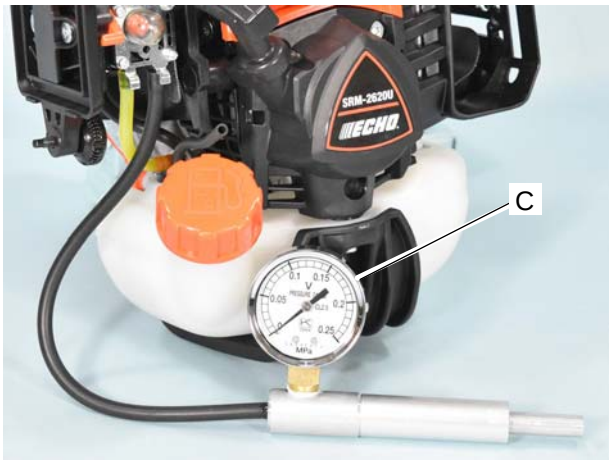
NOTE: WOT, and idle speed in field operation maty vary from final adjustment specifications due to changing ambient conditions, fuel, and engine loads. Safe engine speed variances should be within the WOT and idle speed ranges listed in Section 1-2, otherwise the carburetor should be readjusted.

4-6 Testing carburetor



1. Remove air cleaner cover. Push purge bulb several times to fill and wet fuel pump circuit with fuel.

2. Pull off black fuel line (A) from carburetor and connect pressure tester 897803-30133 (C) to fuel fitting of carburetor.

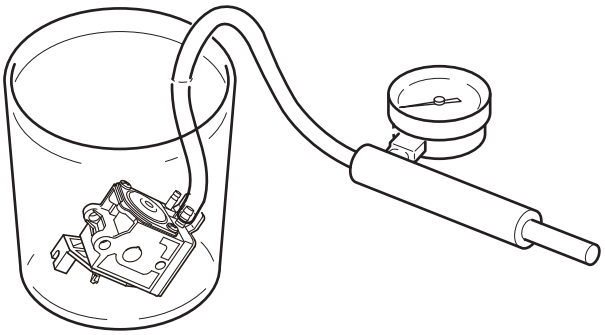


3. Apply pressure to 1.5 kgf/cm^2 (21 psi).

4. If pressure remains steady, follow step 5 to 6. If pressure drops to zero, proceed to step 7.

5. Lightly push purge bulb once (just one time). Pressure tester reading should drop and remain above 0.05 MPa(0.5 kgf/cm^2)(7 psi).

6. If the reading does not drop, check if purge bulb is defective or check metering lever height is too low (according to “4-8 Inspecting metering lever height”), or inlet needle valve for sticking (according to “4-9 Inspecting inlet needle valve”).

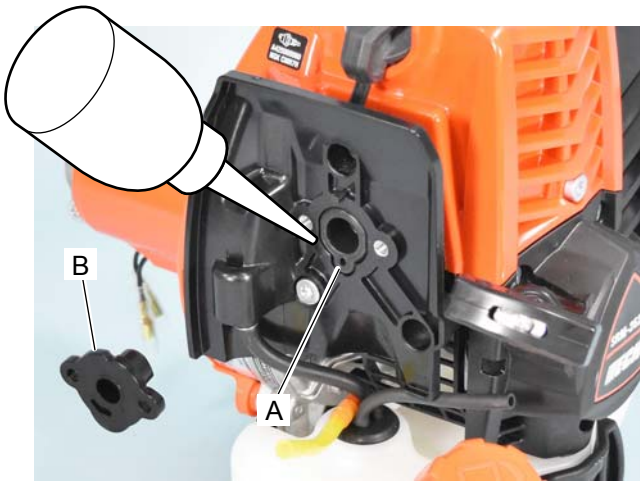


7. Remove fuel return line (B) and throttle wire from carburetor, then remove carburetor from engine. With pressure tester attached, submerge carburetor in suitable clean solvent and apply 0.05 MPa(0.5 kgf/cm^2)(7 psi) pressure to locate the leak.

8. If the air bubbles come out between pump body and carburetor body, check the pump diaphragm, pump gasket, and diaphragm seat of carburetor body. Refer to 4-10.

9. If air bubbles come out from carburetor bore, check inlet valve, metering lever spring and metering lever height. Refer to 4-8 and 4-9.

4-7 Inspecting crankcase pulse passage



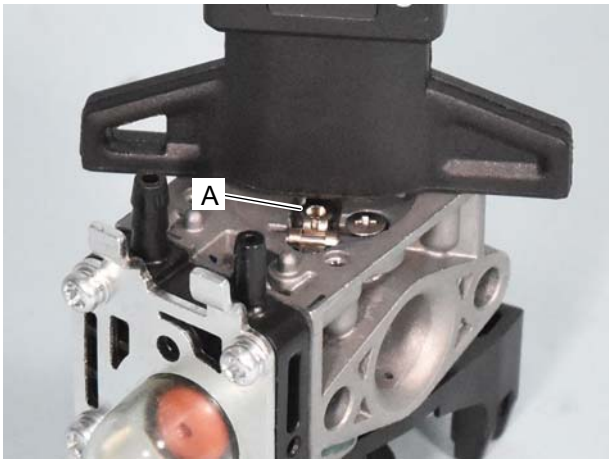
1. Remove carburetor and insulator plate boot (B), and drop a little oil in pulse hole (A) on intake bellows.

2. Remove spark plug and pull starter grip several times. Oil should spit back from the hole.

3. If not, remove intake bellows and gasket from cylinder. Check gasket for misassembly or remove oil residue clogging pulse passages in intake insulator and cylinder.

4. Install gasket, intake bellows and other remaining parts to cylinder.

4-8 Inspecting metering lever height



1. Remove metering diaphragm cover, metering diaphragm and gasket.

2. Check metering lever (A) height.

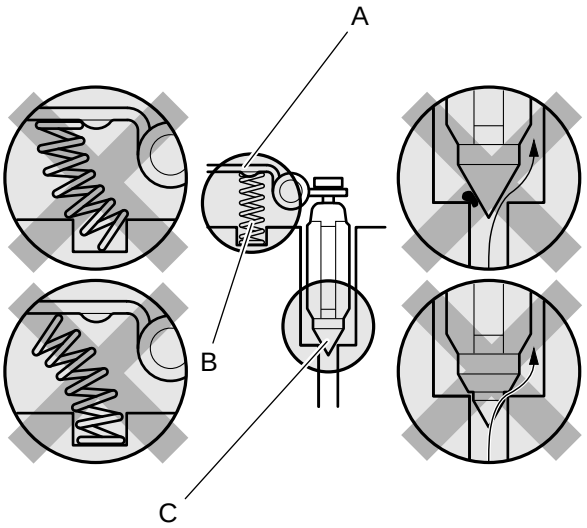
Metering lever height: 0.66 mm (0.03 in) lower than diaphragm seat.

3. If necessary, gently bend metering lever up or down to set the metering lever to proper position.

NOTE: When metering lever is:

Too high → Fuel flooding
Too low → Fuel starvation

4-9 Inspecting inlet needle valve



1. Remove metering lever (A) and pivot pin. Remove spring (B) and inlet needle valve (C).

2. Inspect inlet needle valve if worn or sticky. Clean or replace as required.

NOTE: Causes of fuel flooding from carburetor to cylinder are as follows:

- Improper assembling of metering lever and spring.
- Dirt between inlet needle valve and valve seat.
- Worn inlet needle valve tip.

3. Clean inlet needle valve seat using suitable clean solvent (do not use metal tools).

4. Reassemble inlet needle valve, spring, metering lever and pivot pin.

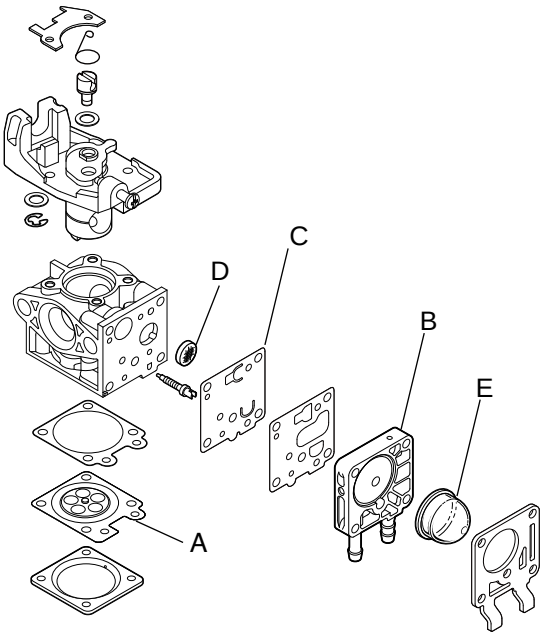
NOTE: Make sure of metering lever installation as follows.

(1) Spring is seated in its hole at chamber floor.

(2) Spring is under dimple of metering lever.

(3) metering lever fork is holding inlet needle valve.

4-10 Inspecting diaphragm and others



1. Check metering diaphragm (A) for hardening, distortion or pin hole. Replace it as required.

2. Remove pump body assembly (B) and pump diaphragm (C).

3. Check pump diaphragm and replace it if hardened or curled at the valve tabs.

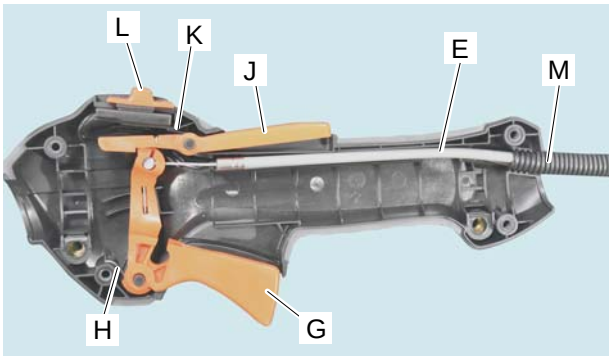
4. Check metering and pump gaskets and replace if defective.

5. Check inlet screen (D) if blocked with dust. Remove and clean it or replace it if defective.

6. Check purge bulb (E) for crack, or fatigue. Replace it as required.

4-11 Replacing throttle cable and control parts

When throttle cable inner wire does not move smoothly, disconnect throttle cable from carburetor and apply lubricating oil inside the cable. If it is still hard to move, replace throttle cable.

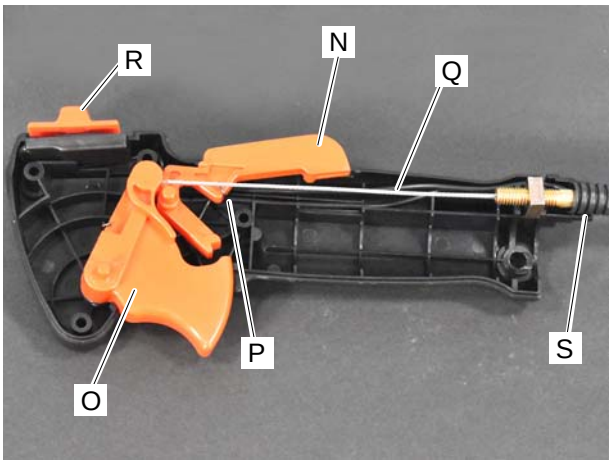


For SRM-2620ES, SRM-2620TES, T262XS and T262TXS (L handle)

1. Referring to “3-5 Replacing ignition switch”, remove rear handle grip half.

2. Remove throttle trigger (G) with torsion spring (H), throttle lockout lever (J) with torsion spring (K), throttle cable (E), ignition switch (L) and corrugated tube (M) from rear handle. Check parts and replace with new one if defective.

3. Pull out throttle cable (E) from corrugated tube (M). Pass new throttle cable through corrugated tube. Install all parts on rear handle (Refer to “3-5 Replacing ignition switch”).



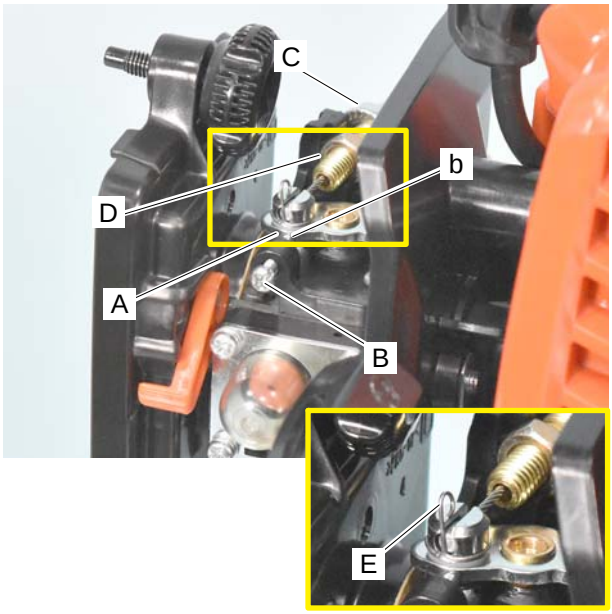
For SRM-2620ES, SRM-2620TES, C262XS and C262TXS (U handle)

1. Referring to “3-5 Replacing ignition switch”, remove right handle grip half.

2. Remove throttle lockout (N) and throttle trigger (O) with torsion spring (P), throttle cable (Q), ignition switch (R) and corrugated tube (S) from rear handle. Check parts and replace with new one if defective.

3. Pull out throttle cable (Q) from corrugated tube (S). Pass new throttle cable through corrugated tube. Install all parts on rear handle (Refer to “3-5 Replacing ignition switch”).

4-12 Checking and adjusting throttle cable



1. Confirm throttle plate (A) contacts tip (b) of throttle adjust screw (B) when throttle trigger is in idling position.

2. Make sure carburetor become WOT (wide open throttle) when throttle trigger is fully squeezed.

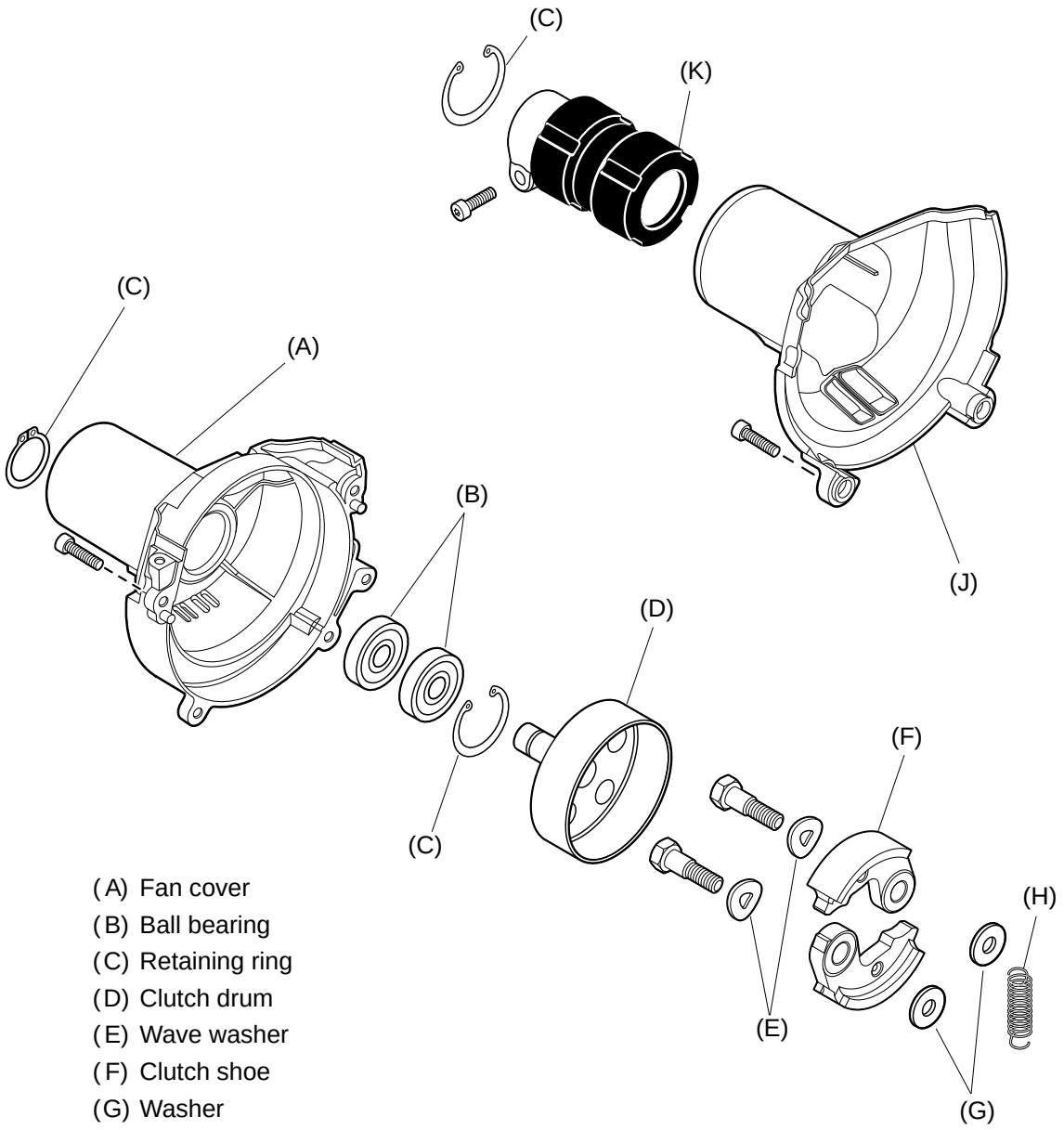
3. Rotate the clip (E) on the throttle cable attachment point so the vertical portion rests inside of the groove and does not slide out.

NOTE: The clip (E) position is critical as this prevents the throttle cable from popping out.

4. If result of 1 and 2 is not sufficient, loosen nut (C) and adjust nut (D) to obtain correct position and movement.

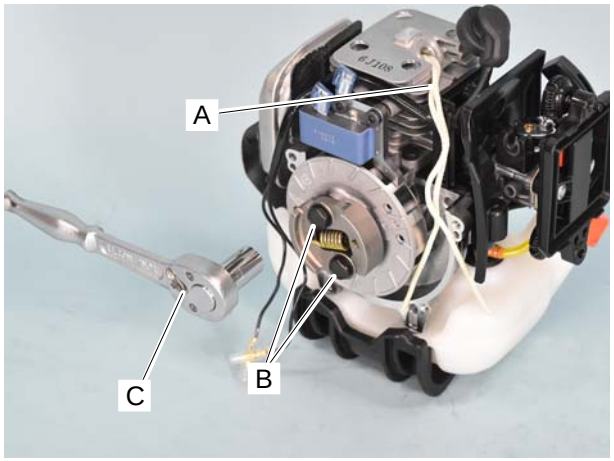
5. After confirming throttle cable inner wire moves smoothly when throttle trigger is squeezed, fasten nut (C) to fix outer throttle cable.

5 CLUTCH SYSTEM



(A) Fan cover
(B) Ball bearing
(C) Retaining ring
(D) Clutch drum
(E) Wave washer
(F) Clutch shoe
(G) Washer
(H) Spring
(J) Fan cover protector
(K) Main pipe holder

5-1 Removing clutch shoes and springs



1. Remove muffler cover, engine cover and fan cover.

2. Install rope (A) into spark plug hole by hand, to stop crankshaft rotation.

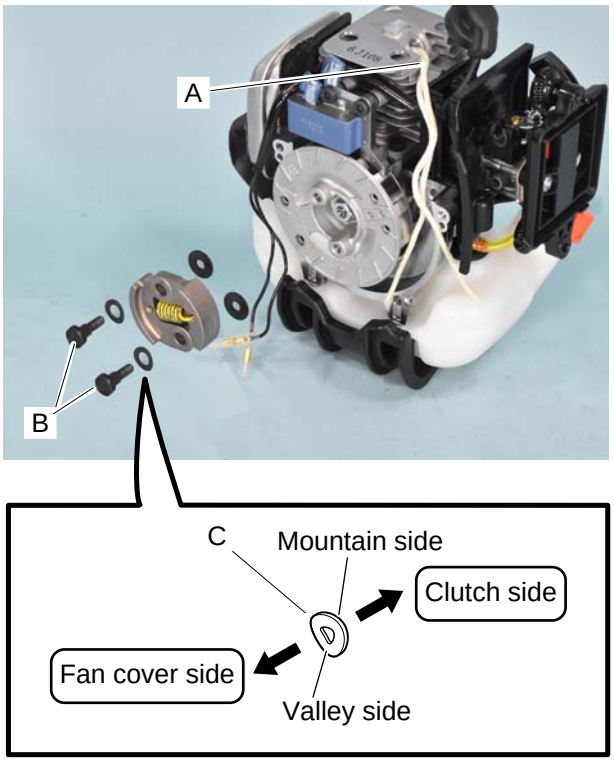
NOTE: Do not use power tool. Otherwise, piston damage may occur.

3. Rotate bolts (B) counterclockwise using 13 mm (0.51 in.) box wrench (C) or similar tool to remove clutch assembly.

4. Check clutch shoes for wear and spring for weakness or damage. Replace clutch parts as required.

NOTE: Replace two shoes together with new ones to maintain balance even if one shoe is defective.

5-2 Installing clutch shoes



1. Pre-assemble clutch hub, clutch shoes and springs.

2. Install rope (A) into spark plug hole by hand, to stop crankshaft rotation.

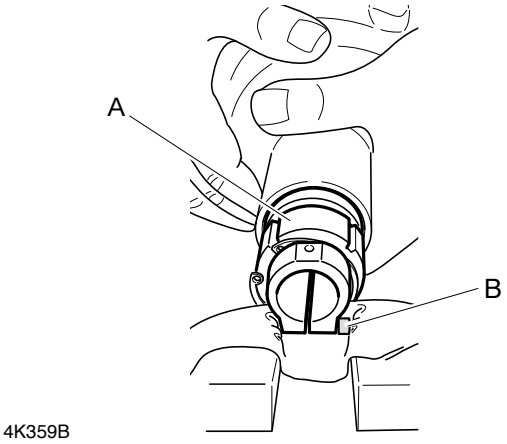
NOTE: Do not use power tool. Otherwise, piston damage may occur.

3. Tighten bolts (B) clockwise using 13 mm (0.51 in.) box wrench or similar tool.

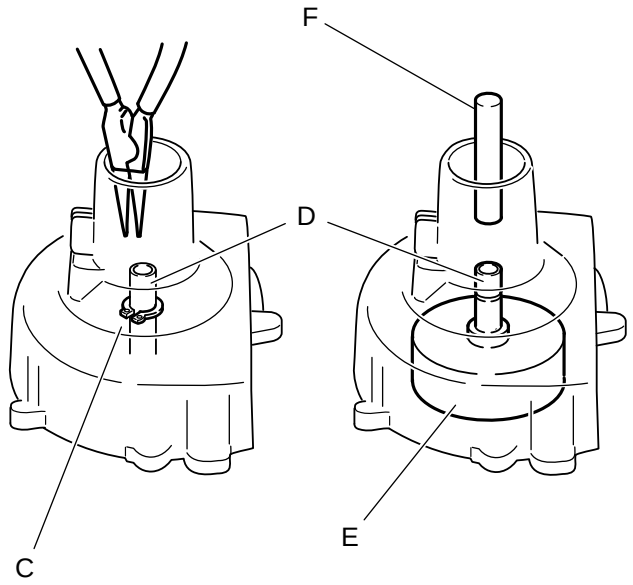
4. Remove rope (A), and reinstall other parts in place.

NOTE: Install spring washers (C) paying attention direction as shown.

5-3 Removing clutch drum



4K359B



1. Remove muffler cover, cylinder cover, fan cover protector and fan cover.

2. Remove retaining clip from main pipe holder (A).

3. Lightly tighten drive shaft housing holder bolt (B).

4. Clamp drive shaft housing holder bolt (B) with a vise.

NOTE: Cover bolt with a cloth so as not to damage it.

5. While holding fan cover with both hands, pull and remove main pipe holder (A) out straight.

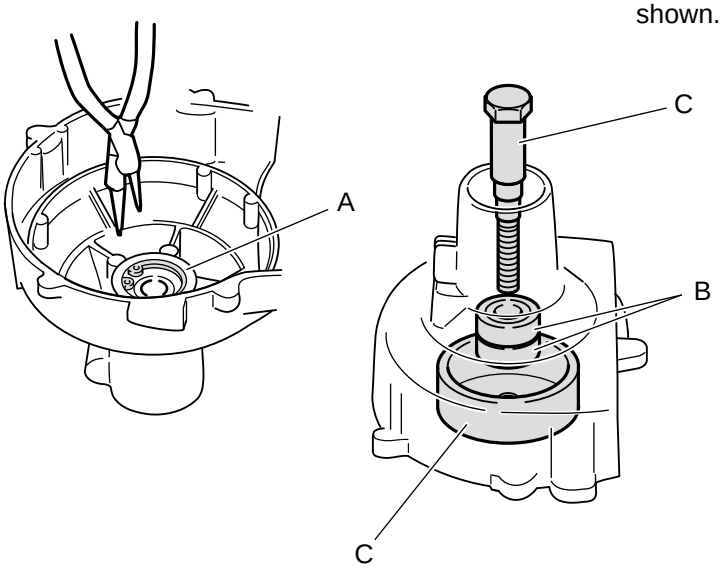
NOTE: Apply oil around main pipe holder (A) so that it can be removed easily.

6. Replace the defected mount with new one.

7. Remove retaining ring (C) from clutch drum shaft (D).

8. Push out clutch drum (E) using press machine with 12 mm (0.47 in.) diameter pusher (F).

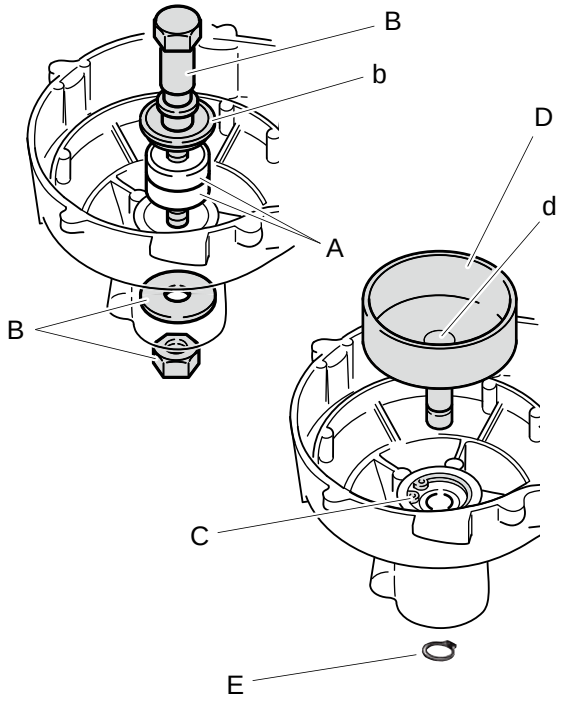
5-4 Removing clutch drum bearings



1. Remove retaining ring (A) from fan cover.

2. Remove two ball bearings (B) together from fan cover, using bearing tool 897701-14732 (C) as shown.

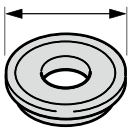
5-5 Installing bearings and clutch drum



1. Lightly lubricate bearing bore of fan cover with oil or grease.

2. Meet each open side of new ball bearings (A) and push them together in fan cover until they bottom. To install bearings, use bearing tool 897701-14732 (B) as shown.

Outer diameter of adapter (b) : 27.5 mm



3. Check bearings for rotating smoothly.

4. Install retaining ring (C) in groove of fan cover bore.

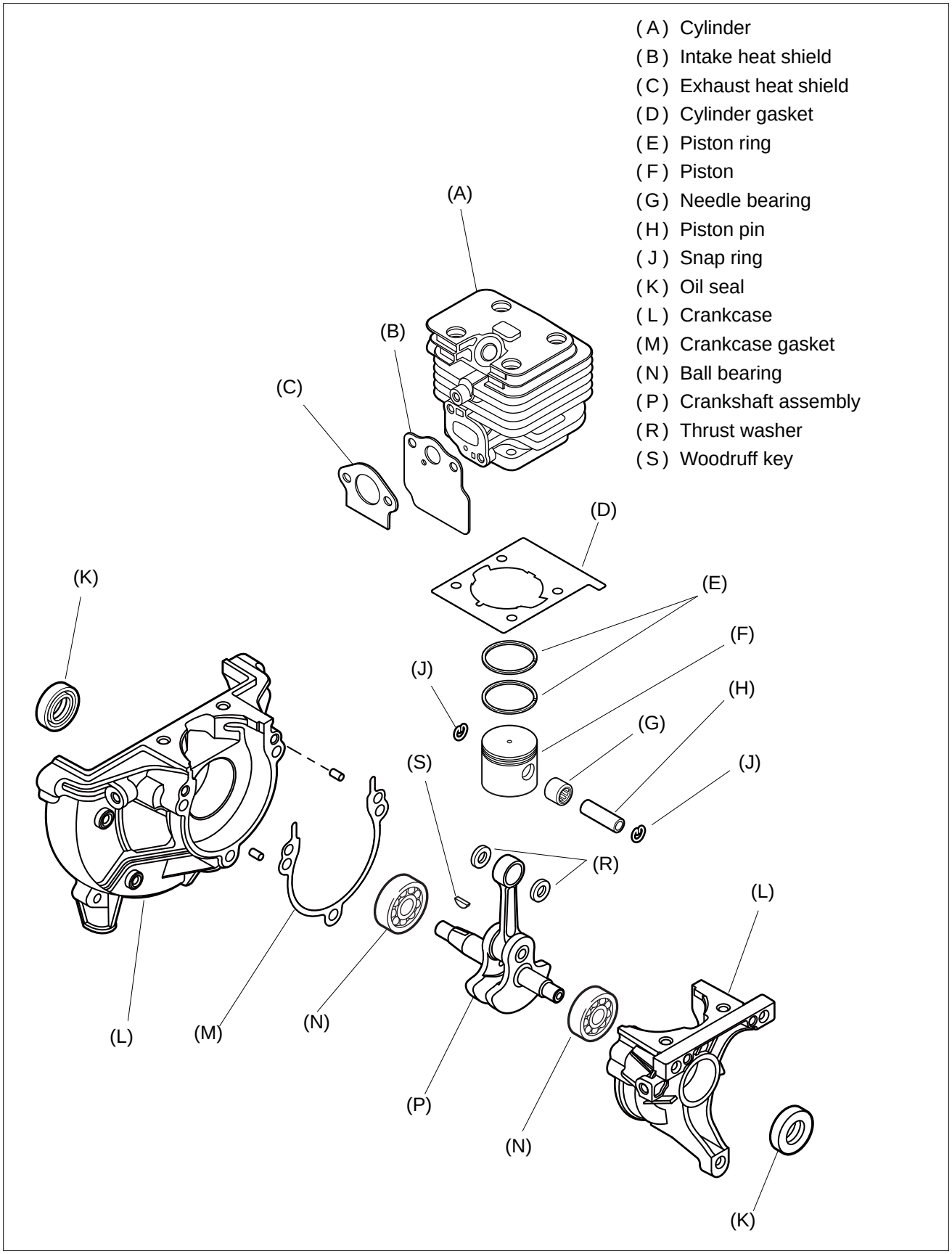
5. Push center (d) of clutch drum (D) in ball bearings with press machine, until it bottoms.

6. Make sure clutch drum rotates freely.

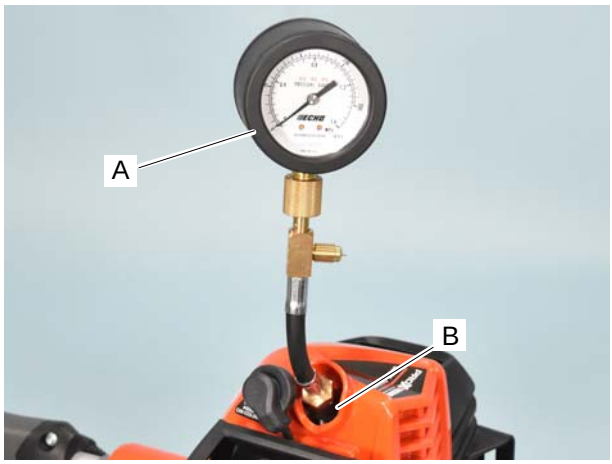
7. Install retaining ring (E) in groove of crutch drum shaft.

8. Reinstall fan cover and other parts.

6 ENGINE


(A) Cylinder
(B) Intake heat shield
(C) Exhaust heat shield
(D) Cylinder gasket
(E) Piston ring
(F) Piston
(G) Needle bearing
(H) Piston pin
(J) Snap ring
(K) Oil seal
(L) Crankcase
(M) Crankcase gasket
(N) Ball bearing
(P) Crankshaft assembly
(R) Thrust washer
(S) Woodruff key
(A)
(B)
(C)
(D)
(K)
(E)
(F)
(J)
(H)
(G)
(S)
(J)
(R)
(L)
(L)
(M)
(N)
(P)
(N)
(K)

6-1 Testing cylinder compression



NOTE: Test cylinder compression when engine is cold.

1. Move ignition switch to STOP position. Then remove spark plug.

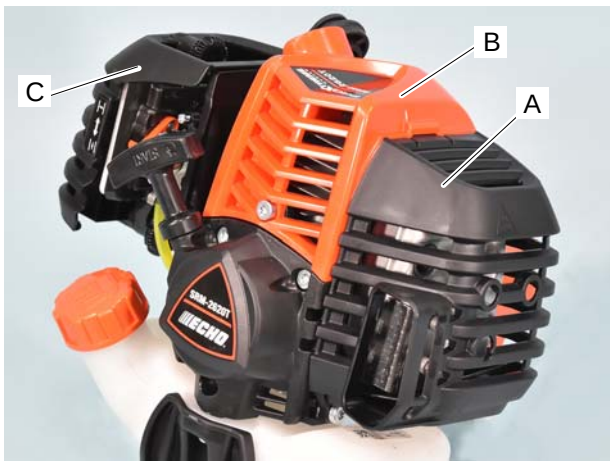
2. Install compression gauge 91037 (A) with Adapter P021-051690 (B) in spark plug hole and tighten by hand. Pull starter several times to stabilize reading on compression gauge.

3. If pressure is lower than approx. 80% of standard compression pressure (Refer to “1-2 Technical data ”), inspect cylinder bore, piston, and piston ring for wear or damage.

4. If pressure is more than approx. 125% of standard compression pressure, inspect cylinder combustion chamber and exhaust port, piston crown, and muffler for carbon deposits.

NOTE: Compression pressure varies with volume of compression gauge tip occupying cylinder combustion chamber. If gauge tip volume is considerably different from spark plug volume, it is recommended to measure and note compression pressure of brand-new engines as standard pressure in advance.

6-2 Cleaning cooling air passages



1. Inspect muffler cover (A). If blocked with leaves or other debris, clean out debris as required.

2. Remove cylinder cover (B) and air cleaner cover (C).

3. Inspect cylinder cooling fins (D) for blockage with dirt or dust.

4. Clean all other air passages with wooden stick or compressed air as required.

WARNING ⚠ DANGER

Always wear eye protection when using compressed air for cleaning. Otherwise, eye damage can occur from flying particles.

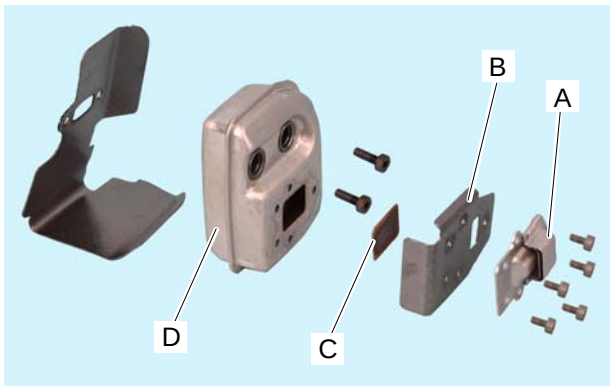
6-3 Inspecting muffler and exhaust port

1. Remove muffler cover and cylinder cover.

2. Remove muffler.

3. Inspect cylinder exhaust port and clean exhaust port using wooden or plastic stick if carbon is found.

NOTE: When cleaning exhaust port, always position piston at Top Dead Center (TDC) to prevent carbon from entering cylinder. Do not use metal tool, and be careful not to scratch piston or cylinder.

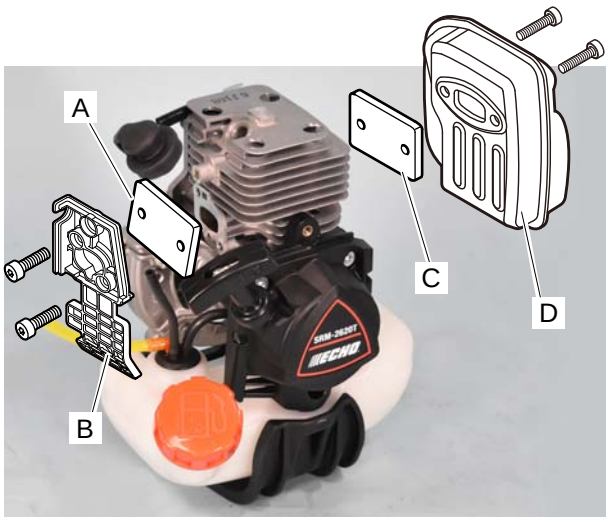


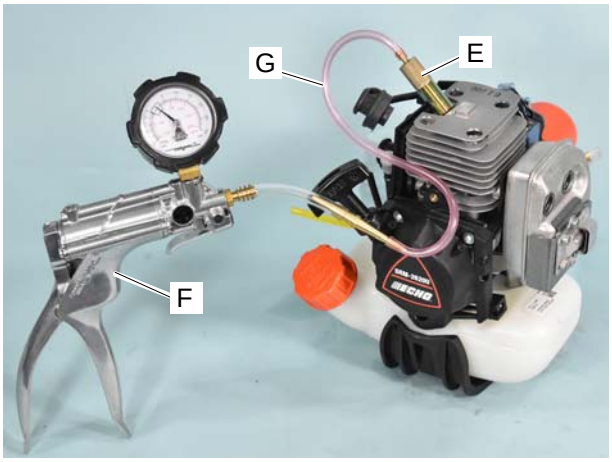
4. Remove exhaust guide (A), exhaust gasket (B) and spark arrester screen (C) from muffler (D).

5. Remove carbon deposits from spark arrester screen (C) and exhaust gasket (B). If screen has heavy deposits, replace with new one.

6. Reinstall muffler (D) with spark arrester screen (C), new exhaust gasket and exhaust guide. Reinstall muffler cover.

6-4 Testing crankcase and cylinder sealing





1. Remove cylinder cover, muffler, air cleaner cover and carburetor.

2. Close intake port and crankcase pulse passage using pressure rubber plug 897826-16131 (A) and Bellows holder (B).

3. Close exhaust port with pressure rubber plug 897826-16131 (C) and muffler (D).

4. Remove spark plug and install pressure connector A131-000160 (E) to spark plug hole.

5. Connect pressure tester 91149 (F) to pipe (G).

6. Apply pressure approx. 50 kPa (0.5 kgf/cm2) (7.3 psi) by pressure tester and leave for 30 seconds.

NOTE: Do not exceed 0.05 MPa(0.5 kgf/cm^2)(7 psi), or damage to seal will result.

7. Gauge should indicate constant pressure at a minimum of 0.05 MPa(0.5 kgf/cm^2)(7 psi).

NOTE: Leak less than the value of 0.005 MPa(0.05 kgf/cm^2)(1 psi) per minute is allowed.

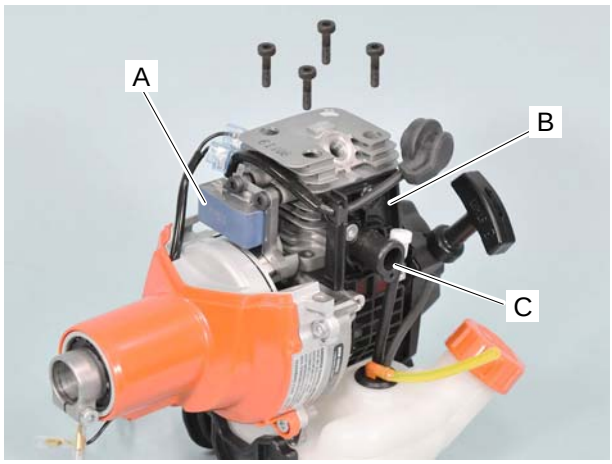
8. If the reading constantly drops, use soapy water to locate leakage. Leakage may occur from the cylinder base, crankcase seal, or oil seal.

9. Then, apply negative pressure approx. 30 kPa (0.3 kgf/cm2) (4.4 psi) by pressure tester and leave for 30 seconds.

10. If the reading drops, leakage may occur from oil seal. Inspect oil seal for damage or wear.

11. Remove plugs from exhaust port and intake port after this inspection, and reinstall all the removed parts.

6-5 Removing and inspecting cylinder



1. Remove cylinder from engine.

NOTE: Cylinder can be removed together with ignition coil (A), bellows holder (B) and intake bellows (C).

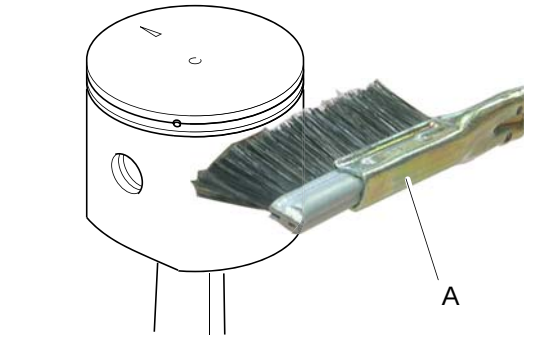
NOTE: Gently tap cylinder head at carburetor side and muffler side with plastic hammer, if it is difficult to remove.

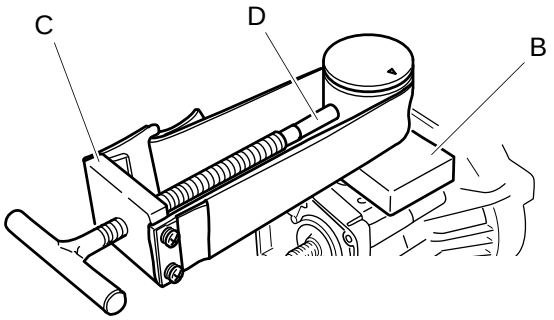
2. Inspect cylinder combustion chamber. Clean it with a wooden scraper if carbon is deposited.

NOTE: Never use metal scraper in cylinder combustion chamber to avoid damage.

3. Replace cylinder with new one if plating is worn, peeled away or scored, exposing cylinder base metal.

6-6 Inspecting piston and piston ring





1. Inspect piston rings and replace them if broken or scored, or if it exceeds service limits (Refer to “1-5”).

2. Inspect piston crown, top land, ring groove and skirt. Clean them with fine sand paper, oil stone, or soft cleaning brush (A) if carbon is found.

NOTE: Do not use square end of broken piston ring when cleaning piston ring groove, otherwise piston ring groove might be damaged.

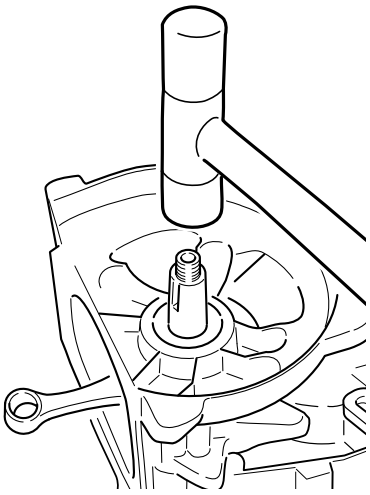
3. Remove snap rings from both sides of piston pin.

4. Push piston pin out from piston with piston holder 897719-02830 (B).

NOTE: If piston pin is tight, use piston pin tool 897702-30131 (C) with adapter (D) stamped “8” on an end.

5. Inspect needle bearing and spacers, and replace if wear or discoloration is noted.

6-7 Inspecting crankcase and crankshaft



1. Remove three bolts securing crankcase.

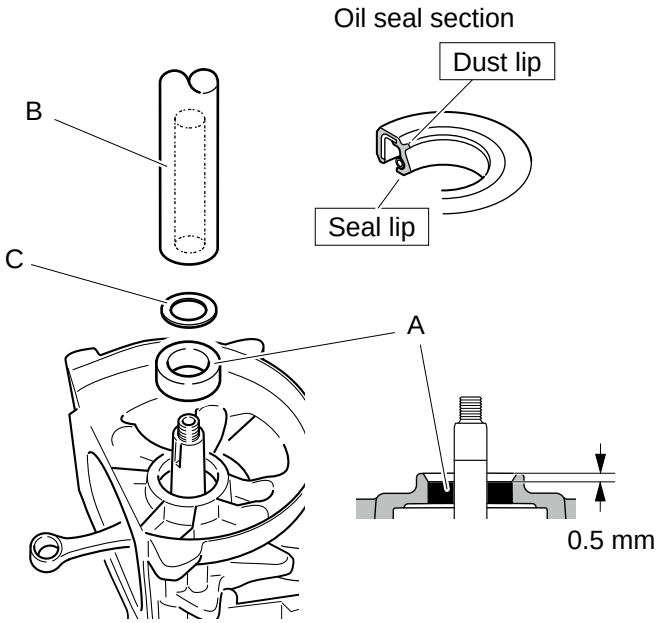
2. Hold a crankcase half and tap crankshaft end using plastic hammer to separate the halves with a heat gun.

3. Hold the other crankcase half and tap the end of crankshaft to remove crankshaft with a heat gun.

4. Clean inside of crankcase halves if dirty. Replace as a set if damaged.

5. Inspect connecting rod big end and needle bearing for discoloration or damage. Replace crankshaft with a new one as required.

6-8 Replacing oil seal



1. Pry defective oil seal from engine.

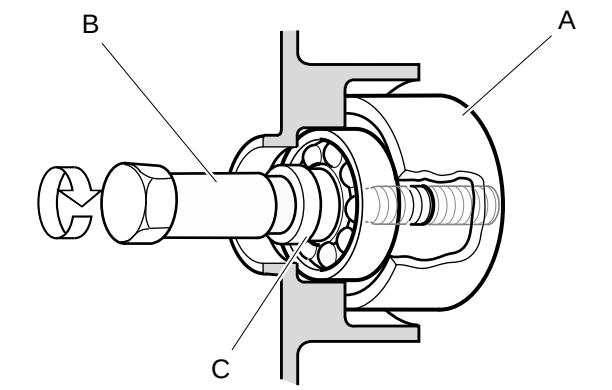
NOTE: Be careful not to damage housing of oil seal in crankcase.

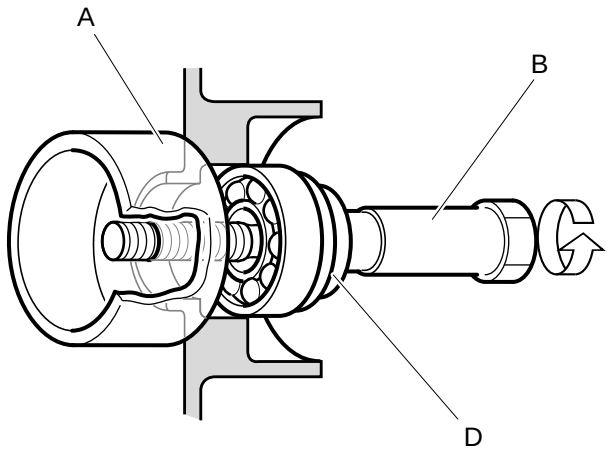
2. Apply Echo Lube grease on dust lip and seal lip of oil seal to avoid damage of lips while inserting crankshaft into oil seal.

3. Lubricate circumferences of oil seal with thinner.

4. Push oil seal (A) by maximum 0.5 mm (0.02 in.) deep using oil seal tool 897726-21430 (B) with washer 10001-418430 (C) (inner dia. 12.2 mm, outer dia. 20 mm, thickness 0.5 mm).

6-9 Replacing ball bearing





1. Check main ball bearing for smooth rotation, after disassembling crankshaft. If rough, replace it (them) with new one.

2. Pry oil seal from crankcase.

3. Remove main ball bearing from crankcase half using bearing tool 897701-14732 as follows.

4. Set boss (A) and shaft (B) with adapter (C) (inner dia. 12 mm, outer dia. 19 mm) as shown.

5. Tighten shaft (B) with wrench to remove ball bearing.

6. Coat bearing housing in crankcase with a lithium grease.

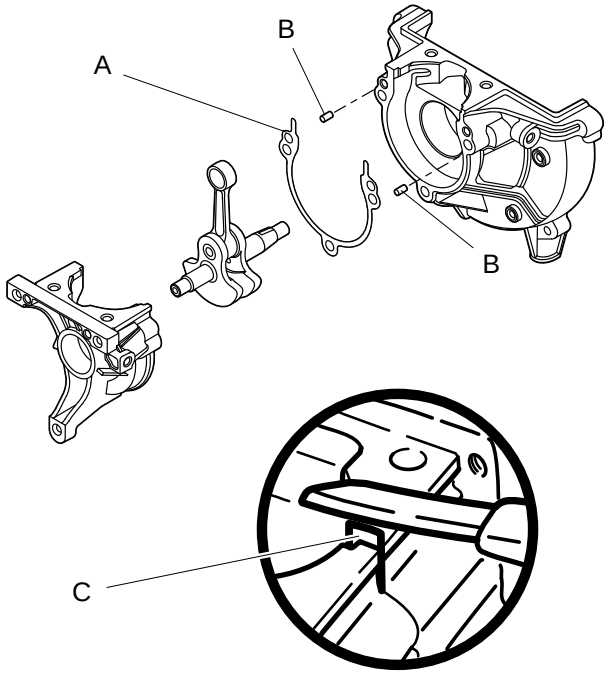
7. Set ball bearing with boss (A), shaft (B) and adapter (D) (inner dia. 12 mm, outer dia. 27.5 mm) as shown.

8. Tighten shaft (B) with wrench to press ball bearing into the crankcase half.

NOTE: Preheat around bearing housing of crankcase using a floodlight or a suitable heater for easier assembly.

9. Check that bearing is seated to the bottom and rotates smoothly. Install new oil seal.

6-10 Assembling crankshaft and crankcase



1. Clean the mating surface of each crankcase half.

2. Insert crankshaft clutch end into clutch side of crankcase half until seated to the bottom.

NOTE: If it is hard to insert crankshaft to crankcase, preheat ball bearing for easier installation.

3. Put a new crankcase gasket (A) on clutch side crankcase half.

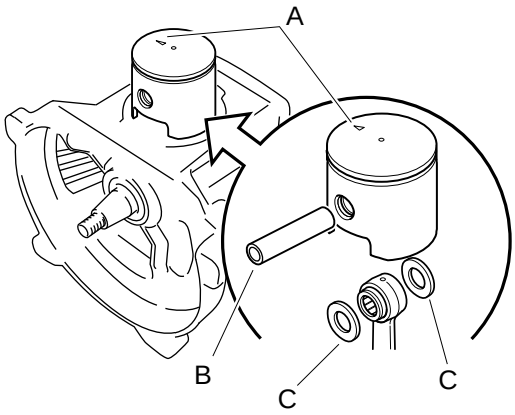
4. Reassemble both crankcase halves together ensuring that dowel pins (B) on crankcase half are properly seated in the holes on the other half.

5. Tighten three bolts to secure the crankcase halves together and check the crankshaft rotation.

NOTE: Tighten three bolts with standard torque (refer to “1-3 Torque limits“).

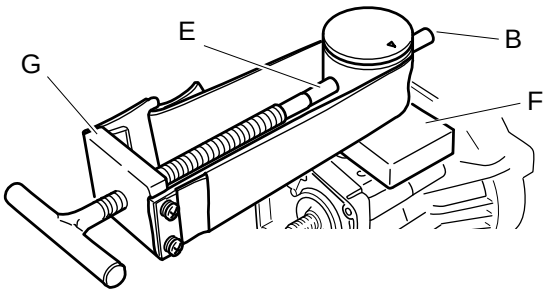
6. Carefully remove protruding portion of crankcase gasket (C) with a sharp knife.

6-11 Installing piston



1. Place piston over the small end of connecting rod, so that the arrow mark (A) on piston points toward muffler.

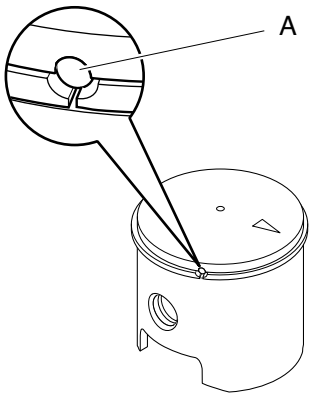
2. Insert piston pin guide (B) stamped “8”, through piston and washers (C) in connecting rod as shown.



3. Insert piston pin (E) in piston pushing out piston pin guide (B) using piston pin tool 897702-30131 (G) and piston holder 897719-02830 (F).

4. Install new snap rings to the piston pin bore, and be sure that they are correctly seated in the grooves.

6-12 Installing piston ring and cylinder

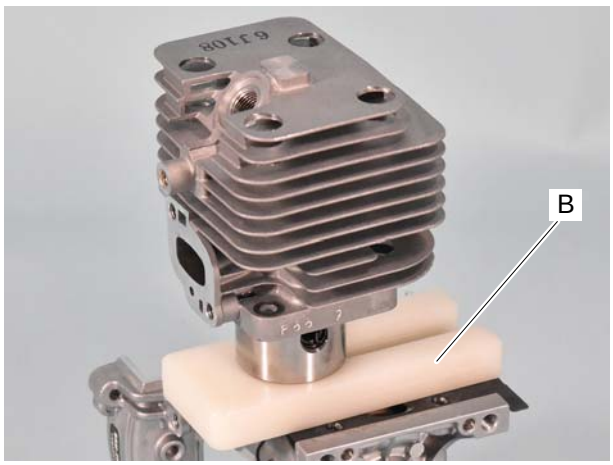


1. Install piston ring on piston, ensuring the end gaps of piston ring are properly positioned around locating pin (A) as shown.

2. Stick new cylinder gasket on cylinder base with a little glue for easier installation of cylinder.

3. Apply oil to piston ring and internal wall of cylinder.

4. Install cylinder over piston ensuring that the exhaust side of cylinder should face the arrow side of piston.

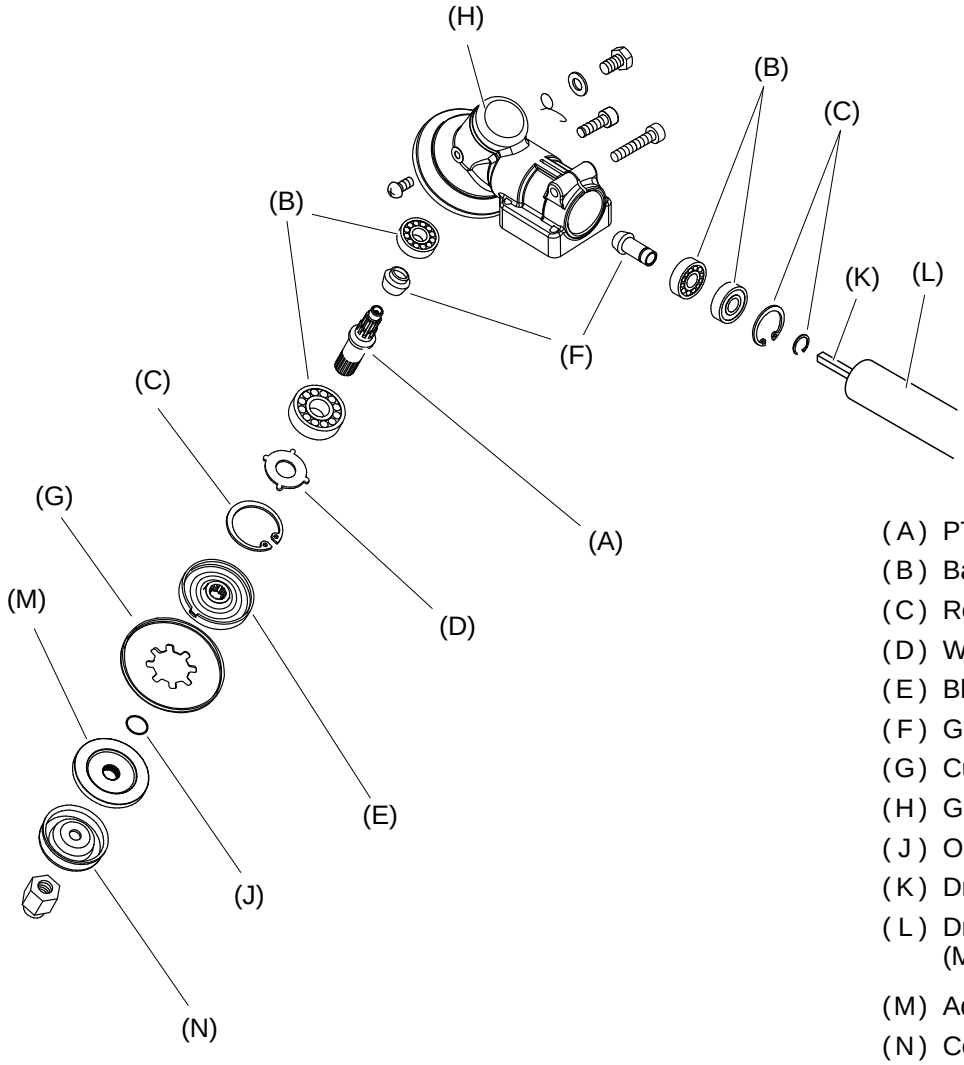


NOTE: When installing cylinder, it is convenient to use piston holder 897719-02830 (B) for stabilizing piston.

NOTE: When installing piston in cylinder, do not twist cylinder to avoid breakage of piston ring and scoring cylinder bore.

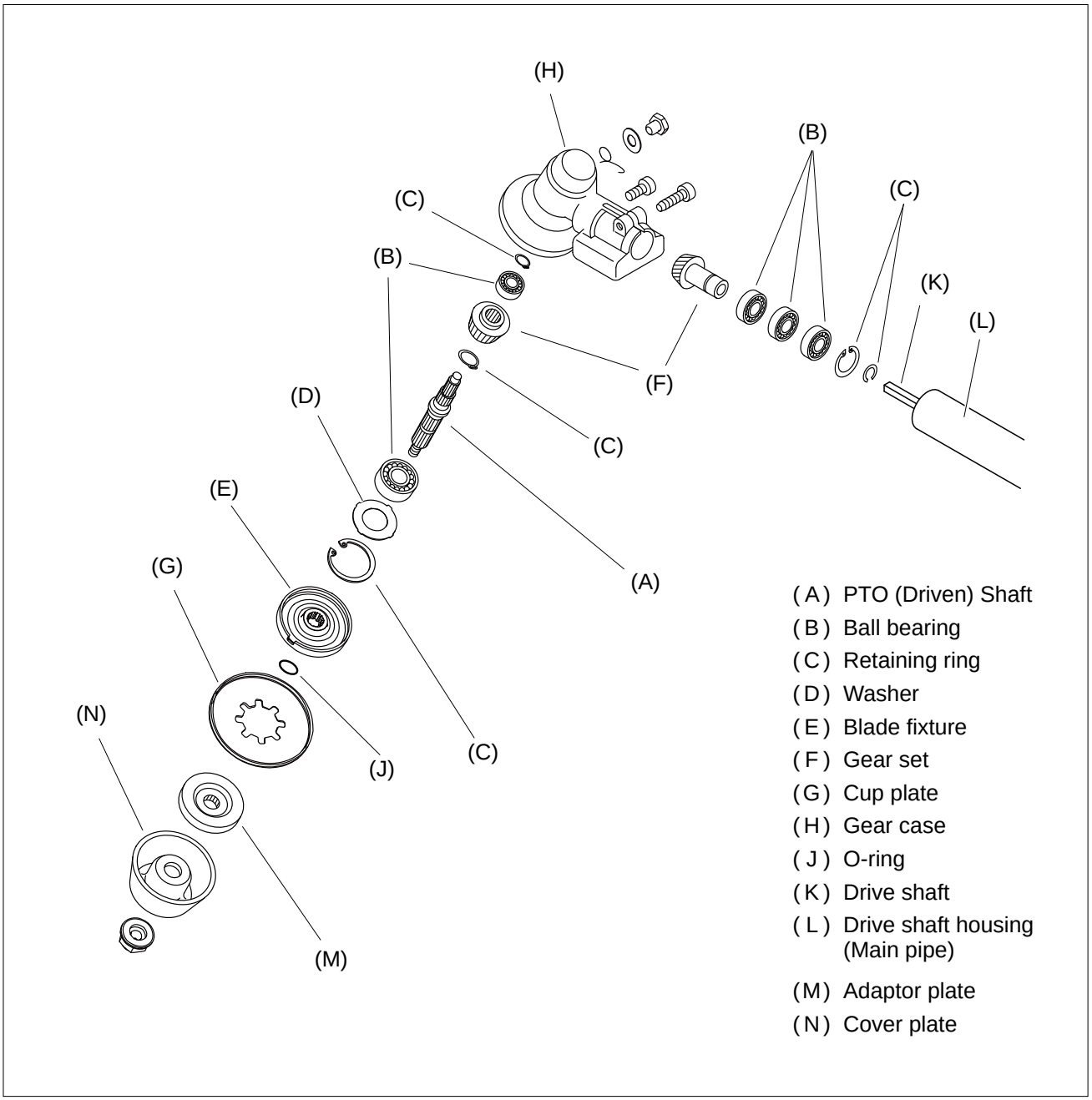
5. Reinstall all removed parts in place.

7 CUTTER DRIVE SYSTEM on SRM-2620ES, C262S and T262XS

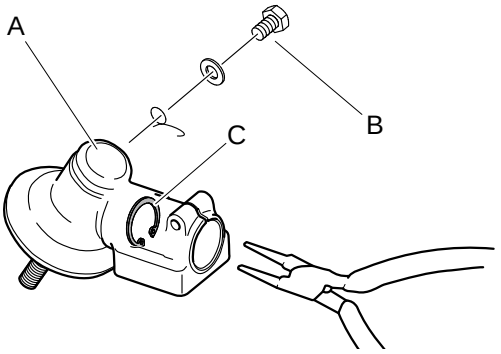


(A) PTO (Driven) Shaft
(B) Ball bearing
(C) Retaining ring
(D) Washer
(E) Blade fixture
(F) Gear set
(G) Cup plate
(H) Gear case
(J) O-ring
(K) Drive shaft
(L) Drive shaft housing (Main pipe)
(M) Adaptor plate
(N) Cover plate

7 CUTTER DRIVE SYSTEM on SRM-2620TES, C262TS and T262TXS



7-1 Disassembling gear case

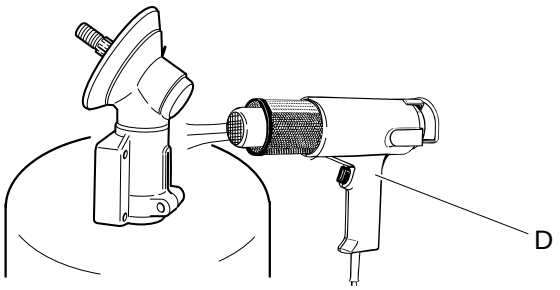


1. Check gear case for cracks and PTO shaft for smooth rotation. Disassemble gear case as follows if defective.

2. Remove nylon line head from PTO shaft, and gear case (A) from drive shaft housing. Remove cover plate, adaptor plate and blade fixture from PTO shaft.

3. Remove bolt (B) with torsion spring and washer.

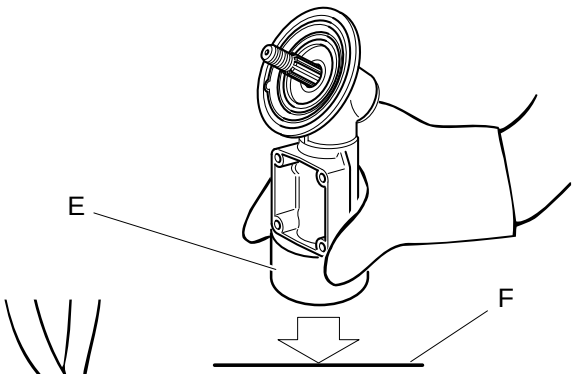
4. Remove retaining ring (C) using needle nose pliers.

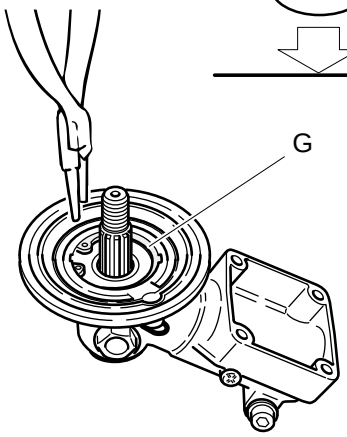


5. Heat up the middle of gear case with a heat gun (D) as shown, then tap the gear case with a cup (E) of bearing tool set 897701-14732 vertically against a flat surface (F) several times until drive gear with two ball bearings (SRM-2620TES, C262TS and T262TXS: three ball bearings) come out.

WARNING ⚠ DANGER

When using a heat gun, put on gloves. Otherwise, a burn will result.

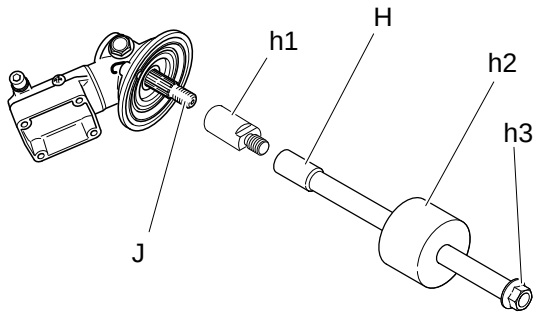




6. Remove retaining ring (G) from the groove of gear case using pliers, then remove washer.

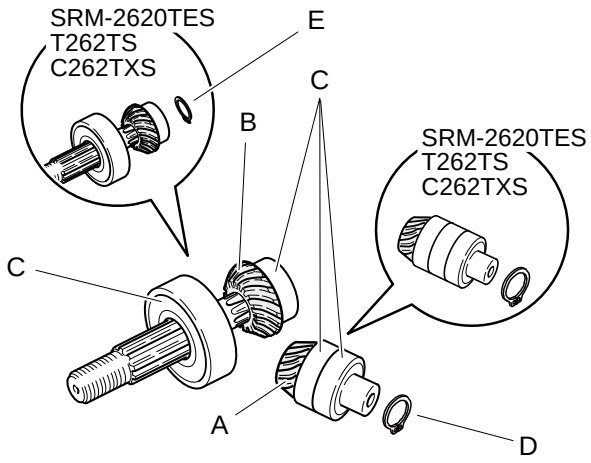
7. Connect PTO shaft puller P021-044870 (H) with connector (h1) to PTO shaft (J) as shown. Then strike weight (h2) to nut (h3) holding gear case, to pull out PTO shaft together with the relevant parts.

NOTE: Do not let go of weight (h2) while using it. Puller and PTO shaft may fly out, and cause damage.



8. Check gears, PTO shaft, and ball bearings. If worn or hard rotation is found, replace the defective parts as required.

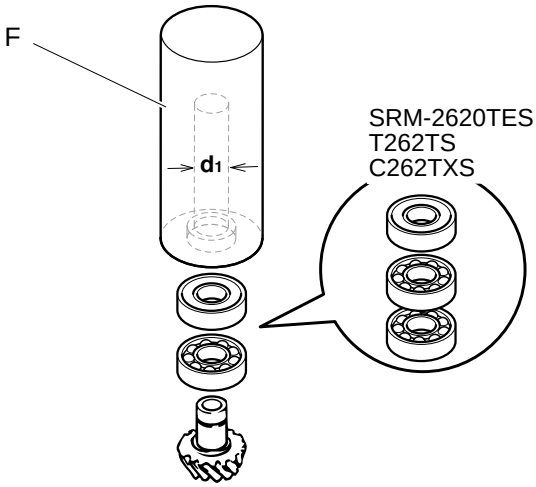
7-2 Replacing gears and PTO shaft



NOTE : Replace drive gear (A), driven gear (B) and ball bearings (C) as a set.

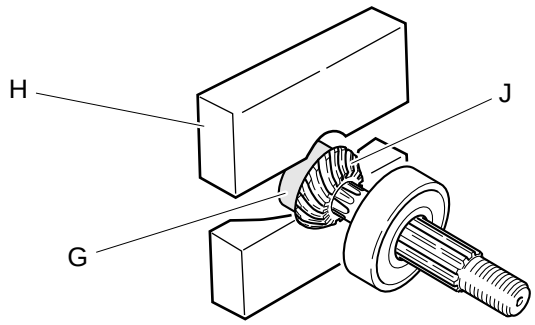
1. Remove retaining ring (D) using needle nose pliers. Then the gear and ball bearings can be saparated.

For SRM-2620TES, T262TS and C262TXS, remove retaining ring (E) using needle nose pliers.

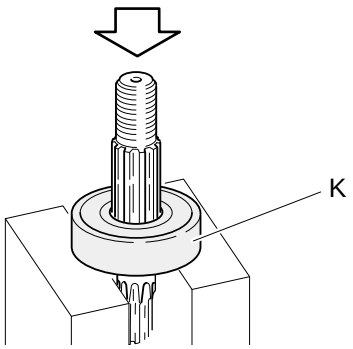


2. Lubricate inside of new ball bearings with small amount of lithium based grease, and then install them on new drive gear using oil seal tool 897714-24330 (F). Reinstall retaining ring (D).

Inner diameter (d_1) : 12 mm

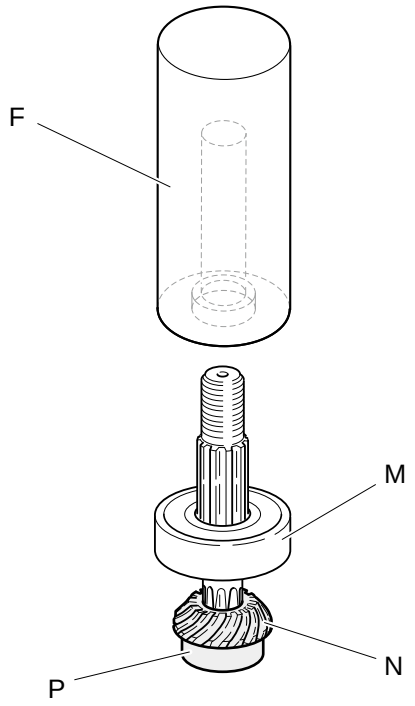


3. Remove ball bearing (G) from PTO shaft using bearing wedge 897701-06030 (H) or two screwdrivers, and remove driven gear (J) from PTO shaft.



4. If PTO shaft or ball bearing (K) is damaged, push out PTO shaft to remove bearing.

7-2 Replacing gears and PTO shaft (continued)

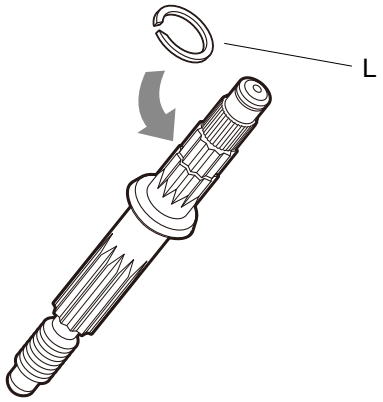


For SRM-2620ES, C262S and T262XS

5. Install a new ball bearing (M) to the PTO shaft using oil seal tool 897714-24330 (F).

6. Install a new driven gear (N) to PTO shaft.

7. Insert PTO shaft in a new ball bearing (P) until the end of shaft is flush with bearing.

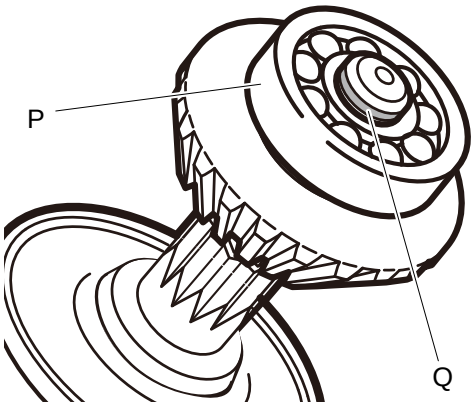


For SRM-2620TES, T262TS and T262TXS

5. If retaining ring (L) is defective, replace with a new one.

6. Install a new ball bearing (M) to the PTO shaft using oil seal tool 897714-24330.

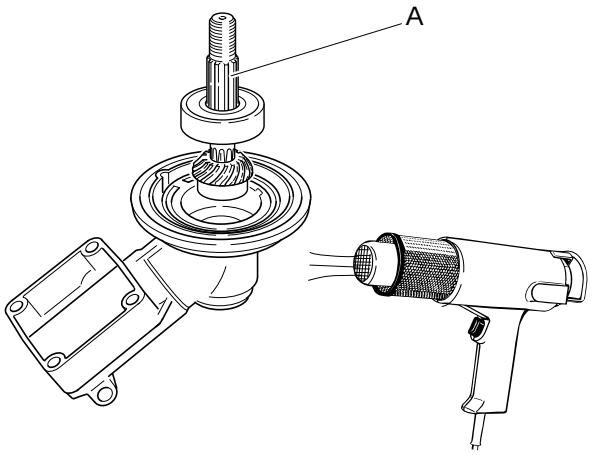
7. Install a new driven gear (N) to PTO shaft.



8. Install a new ball bearing (P) to PTO shaft until it becomes slightly lower than groove (Q) as shown.

9. Reinstall retaining ring (E) to the groove (Q).

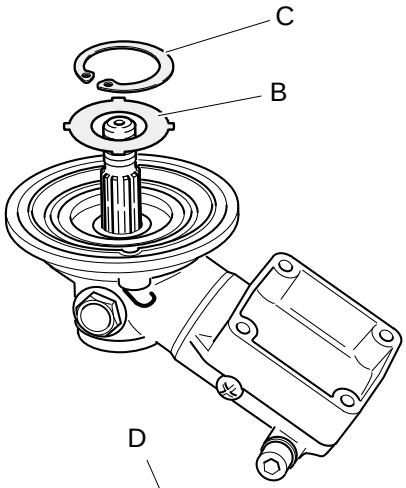
7-3 Assembling gear case



1. Heat up the top of gear case with a heat gun as shown, then insert the assembled PTO shaft (A) into gear case until its bottom.

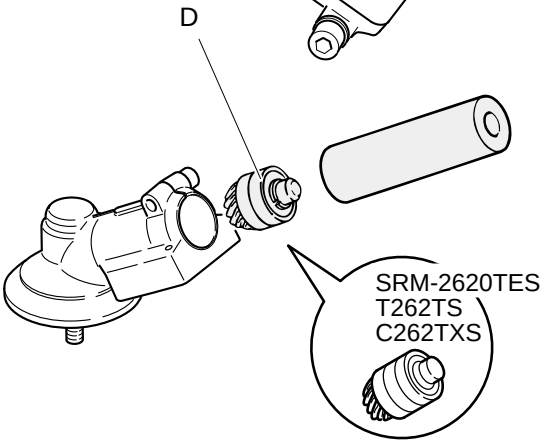
WARNING ⚠ DANGER

When using a heat gun, put on gloves. Otherwise, a burn will result.



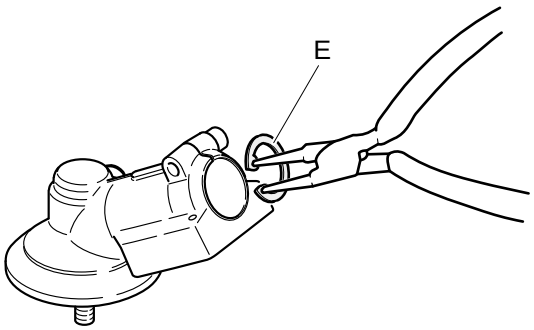
2. Install washer (B) in gear case until its bottom.

3. Install retaining ring (C) to the groove of gear case.



4. Insert drive gear assembly (D) into gear case.

NOTE: 28 mm diameter drive shaft housing cut to a suitable length can be used as a pusher.



5. Install retaining ring (E) to the groove of the gear case bore.

6. Fill gear case with about 20 grams (0.7 oz.) of lithium based grease.

7. Reinstall cover plate, adaptor plate and blade fixture on gear case assembly.

8 MAINTENANCE GUIDE

8-1 Service intervals

Inspecting point	Service	Reference	Intervals		
			Daily or Before use	3 months or 100 hours	6 months or 300 hours
Screws and bolts *	Retighten / Replace		◯		
Air filter	Inspect / Clean	4-1	◯		
Choke system	Inspect / Clean		◯		
Carburetor	Inspect / Repair	4-5 to 4-10			◯
Fuel leaks	Inspect / Repair	4-2	◯		
Fuel line	Inspect / Repair	4-4	◯		
Fuel strainer	Clean / Replace	4-2		◯	
Fuel tank	Clean inside			◯	
Spark plug	Clean / Re-gap / Inspect / Replace	3-3		◯	
Muffler Spark Arrestor	Inspect / Clean / Replace	6-3		◯	
Cylinder exhaust port	Inspect / Clean	6-3		◯	
Cooling system	Inspect / Clean	6-2	◯		
Gear housing	None				
Drive shaft **	Grease			◯	
Leads and connections	Inspect / Repair	3-5		◯	
Starter system	Inspect / Repair	2-2, 2-6	◯		

Daily: Inspecting in every service.

IMPORTANT: Service intervals shown above are maximum. Actual use and experience will determine the frequency of required maintenance. Replacement is recommended based on the finding of damage or wear during inspection.

* Retighten the following screws and bolts after first 1 week use, and every 3 months.

Fuel tank bolts (3 pcs.)

Starter assembly bolts (3 pcs.)

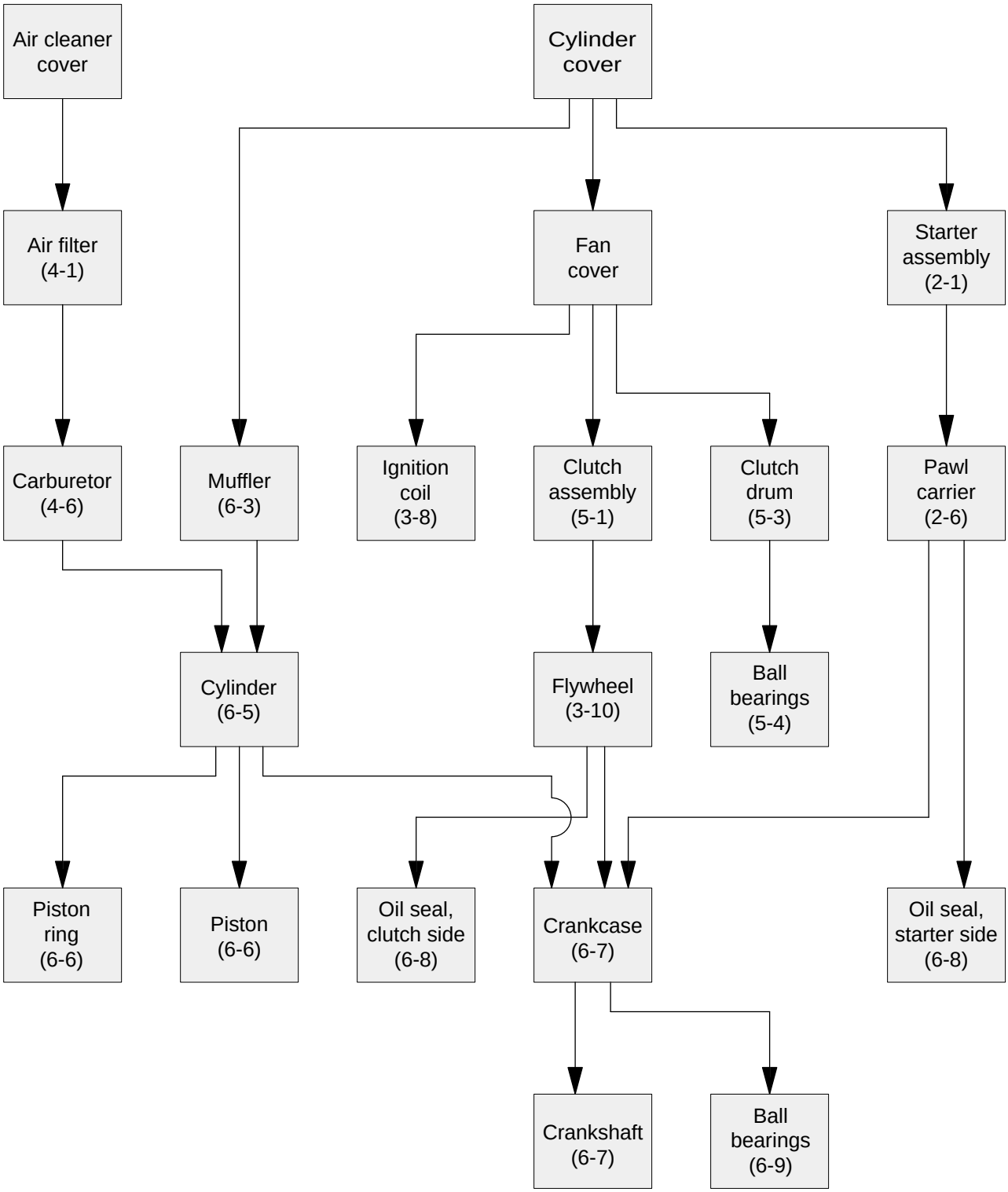
Front handle bolts (2 pcs.)

Engine block mount bolts (2 pcs.)

Cylinder cover screws (2 pcs.)

** Apply lithium based grease every 25 hours of use.

8-2 Disassembly chart



8-3 Troubleshooting guide

TROUBLE	
Engine does not crank.	**01**
Engine does not start.	**02**
Fuel leaks.	**03**
Idling is not stable.	**04**
Acceleration is poor.	**05**
Engine stalls at high speed.	**06**
Engine lacks power.	**07**
Engine overheats.	**08**
Engine misfires.	**09**
Engine / others are extremely noisy.	**10**
Fuel consumption is excessive.	**11**
Vibration is excessive.	**12**
Engine does not stop.	**13**
Nylon cord head does not rotate.	**14**
Nylon cord head does not cut well.	**15**

CHECKING	REFERENCES	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01
																Check ◎ first.
Starter system																
Rewind spring	2-4															○
Starter drum / rope	2-1, 2-2, 2-5															○
Starter pawl / spring	2-6															◎
Ignition system		**15**	**14**	**13**	**12**	**11**	**10**	**09**	**08**	**07**	**06**	**05**	**04**	**03**	**02**	**01**
Sparks	3-2							◎			○	○	○		◎	
Spark plug	3-3							○			○	○	○		○	
Spark plug cap / coil	3-7							○							○	
Ignition switch	3-4, 3-5			◎				○							○	
Ignition coil	3-6, 3-8							○			○	○	○		○	
Pole shoe air gaps	3-9							○		○			○			○
Flywheel	3-10							○					○		○	
Flywheel key	3-10									○			○		○	

(Continued)

8-3 Troubleshooting guide (continued)

CHECKING	REFERENCES	Check ◎ first.														
Fuel system / Carburetor		**15**	**14**	**13**	**12**	**11**	**10**	**09**	**08**	**07**	**06**	**05**	**04**	**03**	**02**	**01**
Air filter	4-1					○				○	○	○	○			
Fuel cap / strainer	4-2								○	○	○	○	○		○	
Carburetor adjustment	4-5					◎			○	◎	◎	◎	◎		○	
Carburetor leakage	4-6					○				○	○	○	○	○	○	
Fuel tank / vent / line	4-3, 4-4									○	○	○	○	○		
Carburetor metering lever height	4-8					○				○	○	○	○	○	○	
Carburetor inlet valve	4-9					○					○	○	○	◎	○	
Carburetor diaphragms	4-10					○				○	○	○	○	○	○	
Purge bulb	4-10													○	○	
Crankcase pulse passage	4-7										○	○	○			
Throttle control parts	3-5, 4-11									○		○	○			
Compression / Exhaust system		**15**	**14**	**13**	**12**	**11**	**10**	**09**	**08**	**07**	**06**	**05**	**04**	**03**	**02**	**01**
Cooling air passage	6-2								◎	○						
Muffler / exhaust port	6-3						◎			○	○	○				
Cylinder compression	6-1						○		○	○			○		○	
Crankcase / cylinder seal	6-4								○	○	○		○		○	
Cylinder / crankcase	6-5, 6-7, 6-10						○		○	○			○			
Piston / piston ring	6-6, 6-11, 6-12						○		○	○			○		○	○
Crankshaft / ball bearings	6-7, 6-9				○		○	○		○			○		○	○
Clutch / Cutter drive system		**15**	**14**	**13**	**12**	**11**	**10**	**09**	**08**	**07**	**06**	**05**	**04**	**03**	**02**	**01**
Clutch shoes / spring	5-1, 5-2	○			○		○			◎			○			
Clutch drum	5-3	○	○		○		○			○			○			
Clutch drum ball bearings	5-4, 5-5		○				○			○						
Drive shaft	7-1	○	◎		○											
Gears / Bearings	7-2, 7-3, 7-4	○	○		○		○									
Cutter / Others		**15**	**14**	**13**	**12**	**11**	**10**	**09**	**08**	**07**	**06**	**05**	**04**	**03**	**02**	**01**
Nylon cord head	Replace	◎			○											
Nylon cord head mounting	Replace / Retighten	○	○		◎											

ECHO

shindaiwa®

YAMABIKO

Published by
YAMABIKO Corp.
Tokyo Japan
1802