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# Workshop Manual

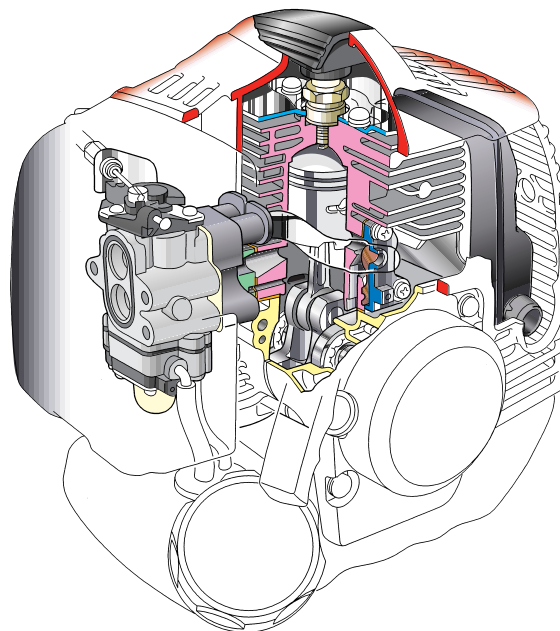
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## STRATO CHARGED ENGINE

# GZ25N

### Applicable Model Name:

1. Brushcutters BCZ2500S/BCZ2500SU
2. Long Reach Trimmer LRTZ2500
3. Short Reach Trimmer SRTZ2500
4. Pole Saw PSZ2500
5. Reciprocator SGCZ2500S
6. Sweeper RMSZ2500
7. Hand Held Edger HEZ2500S
8. Split Boom Trimmer : EXZ2500S



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## 1. OUTLINE OF STRATO-CHARGED ENGINE

STRATO CHARGED ENGINE GZ25N

### 1-1 Special Features

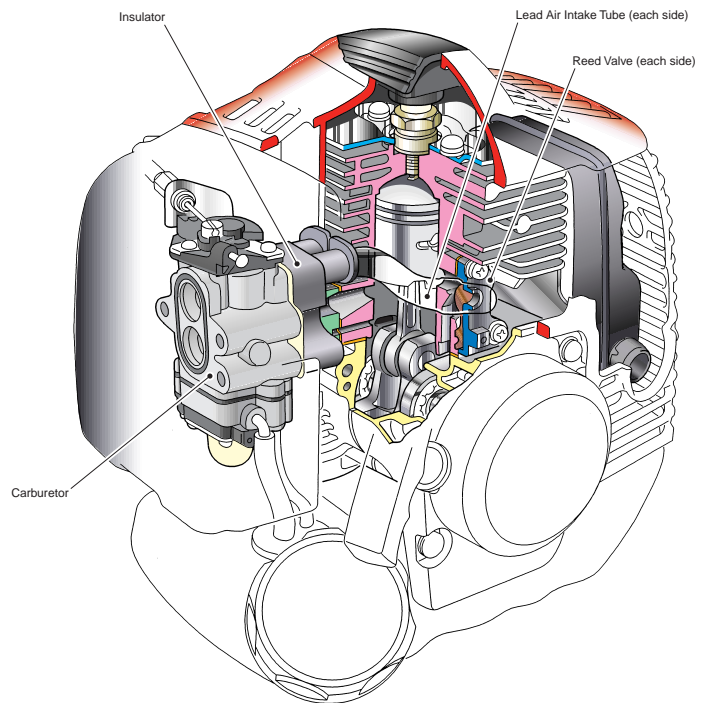
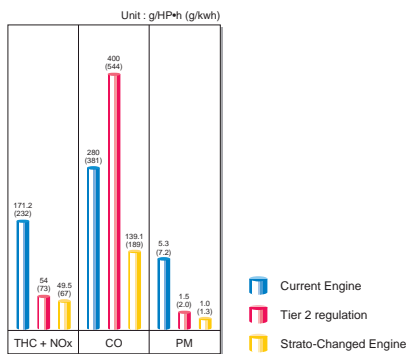
Unlike the conventional 2-stroke engine scavenging system, the Strato-charged Engine scavenges burnt gas by the stratified lead air scavenging method. By creating a stratified air layer between burnt gas and the air-fuel mixture, this system significantly reduces exhaust of unburned air-fuel mixture.

Difference to the conventional 2-stroke engine is its very simple construction applying a new carburetor for independent intake of the air and the air-fuel mixture, an insulator, lead air intake tubes, and reed valves, etc.

● By the stratified lead air scavenging system, the Strato-charged Engine reduces unburned air-fuel mixture exhaust to about 1/3 of the conventional 2-stroke engine level.

● By optimizing the combustion chamber design, ignition plug position, and ignition timing, lean burn operation became possible.

By combining with the stratified lead air scavenging system, pollutant contained in the exhaust was reduced and fuel consumption was reduced by 30% without reducing the power.



● As the catalytic converter is not applied, exhaust gas temperature increase due to the catalytic reactive heat does not occur so that the engine heat load does not increase. Therefore, same level of durability and reliability with the conventional engines are assured.

● A large size silencer and a muffler were employed and the noise level was reduced by 5 dB(A) compared to the conventional 2-stroke engines.

## 1. OUTLINE OF STRATO-CHARGED ENGINE

STRATO CHARGED ENGINE GZ25N

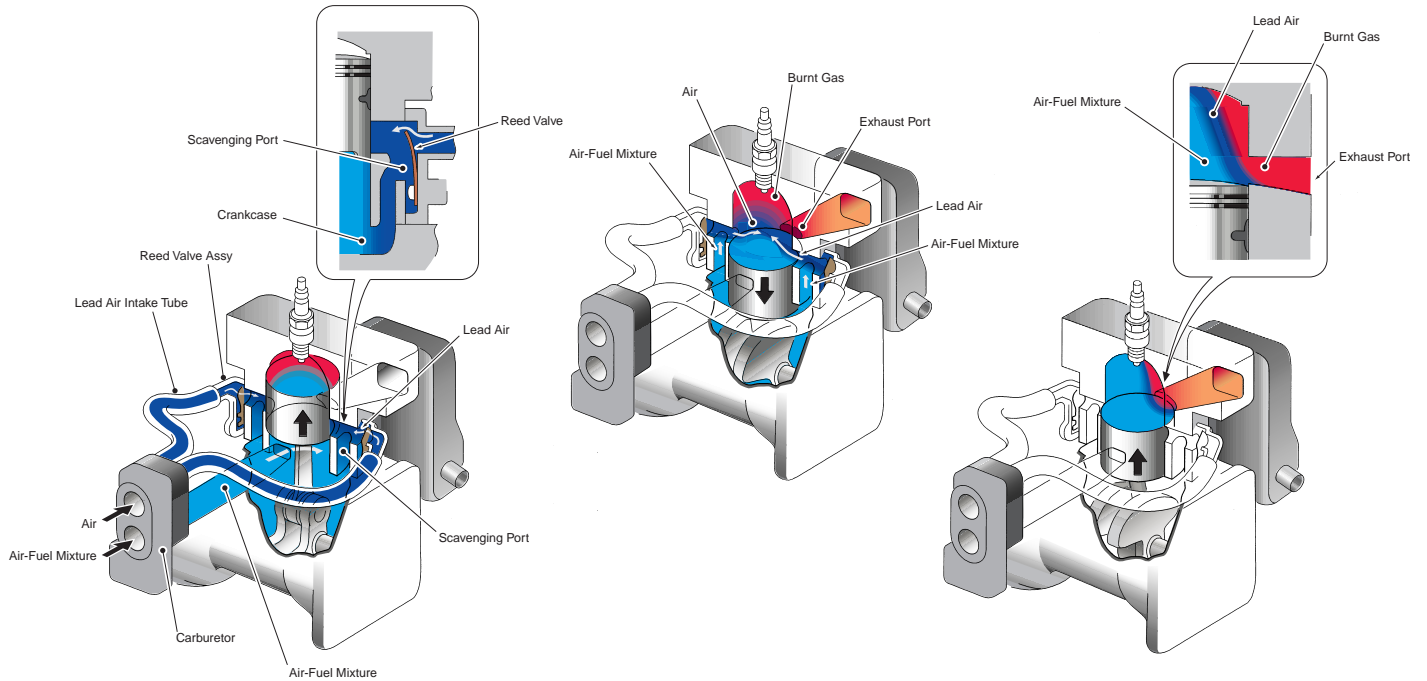
### 1-2 Principle of Operation

Major difference of the Strato-charged Engine to the conventional 2-stroke engine is that as illustrated in the following drawing, there are lead air intake tubes which are connected to the scavenging port via reed valves.

① Due to crankcase depression during the piston upstroke (intake stroke) to the top dead centre, air-fuel mixture is charged to the crankcase and lead air is charged to the scavenging ports through the reed valves.

② As piston proceeds to downstroke after the top dead center, a scavenging port starts to open and lead air in the scavenging port moves into the cylinder earlier than the air-fuel mixture.

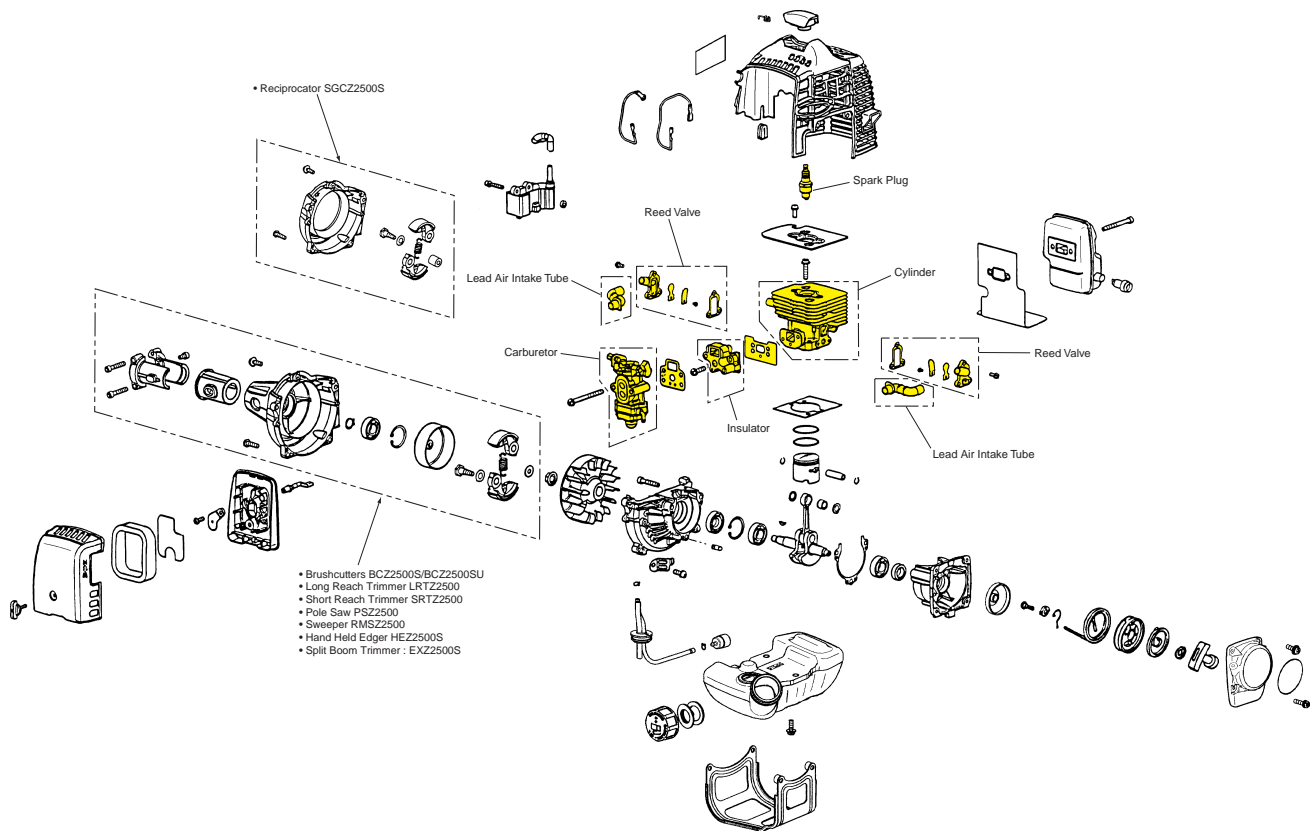
③ As piston proceeds to upstroke after the bottom dead center, burnt gas in the cylinder is pushed out through the exhaust port by lead air. Therefore, direct exhaust of air-fuel mixture is almost non.



# 1. OUTLINE OF STRATO-CHARGED ENGINE

## 1-3 Construction (Developed Drawing)

Parts in the frames are exclusively designed for the Strato-charged Engine.



## 2. SPECIFICATIONS AND TECHNICAL DATA

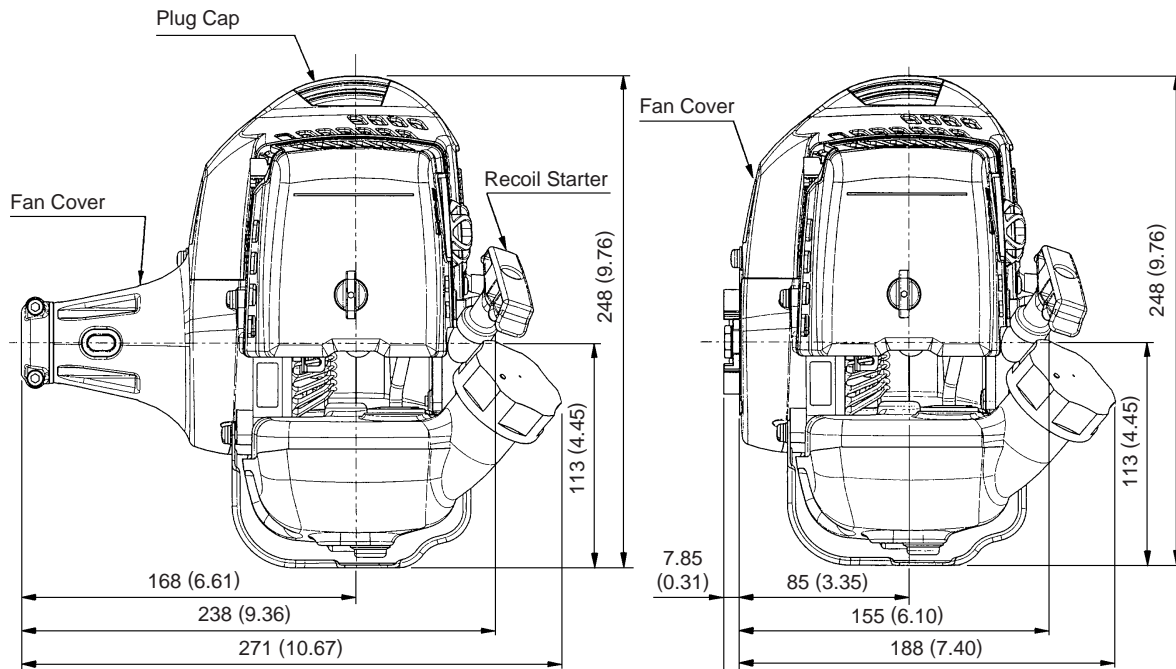
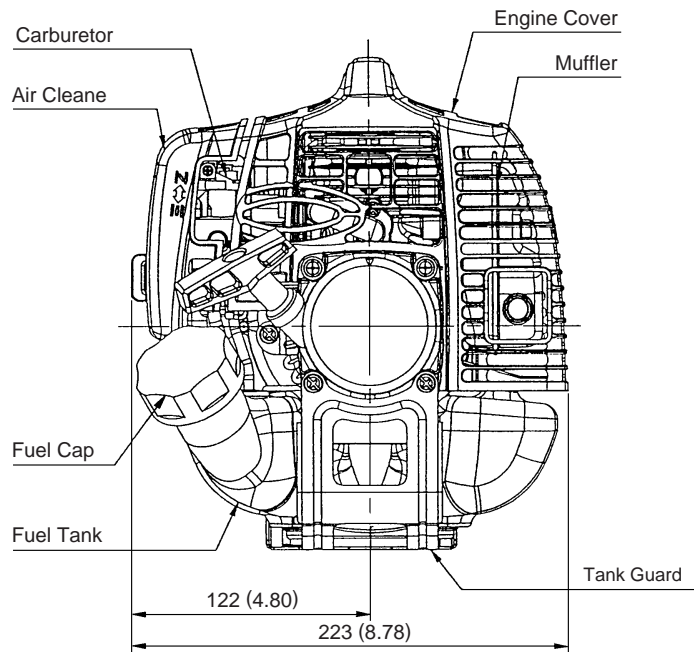
STRATO CHARGED ENGINE **GZ25N**

Item		Unit	Specifications		Remarks	
Engine			GZ25N			
Engine Type			Air cooled 2-stroke single cylinder piston valve gasoline engine			
Cylinder Bore x Stroke		mm (in.)	ø34 x 28 (1.339 x 1.102)			
Displacement		cc (cu.in.)	25.4 (1.6)			
Effective Compression Ratio			8.0			
Fuel			Mixture of 87 octane or above unleaded gasoline and RedMax 2-cycle engine oil (ratio 50 :1) or quality oil for air cooled 2-cycle engines (ratio 32:1).		Use JASO FC or ISO EDG grade 2-cycle engine oil.	
Carburetor	Type		Diaphragm Rotary valve			
	Model		Walbro WYA-1B			
Starting Method			Recoil starter			
Ignition System			CDI with automatic timing advance system.			
Ignition Timing		° / rpm	35 / 7000			
Spark Plug			NGK CMR7A			
Stopping Method			Primary coil short-circuiting			
Cooling System			Forced Air Cooling			
Air Cleaner			Dry Type			
Output Axle Rotation Direction			Counterclockwise		(View from PTO)	
Clutch Type			Automatic Centrifugal Clutch (Sintered Clutch Shoe)			
Overall Size			Engine GZ25N for exopt SGCZ2500S	Engine GZ25N2 for SGCZ2500S		
		Length	mm (in.)	271 (10.67)	188 (7.40)	
		Width	mm (in.)	223 (8.78)	223 (8.78)	
		Height	mm (in.)	248 ( 9.76 )	248 ( 9.76 )	
Dry Weight		kg (lbs.)	3.1 ( 6.8 )	2.8 ( 6.2 )		
Fuel tank Capacity		lit. (fl,oz)	0.65 ( 22.0 )			
Operating Speed		rpm	6000~10000			
Idling Speed		rpm	3000 ±200			
Clutch Engagement Speed		rpm	4000 ±200			
No-Load Max Speed		rpm	10000		With Standard Head	
Max Output		HP(kW) / rpm	1.2 (0.9) / 7500			
Max Torque		kg•m(in.lbs) / rpm	0.12 (10.4) / 6500			
Full Load Fuel Consumption		g/HP.h(g/kW.h)	330 (449)			

### 3. OUTLINE DRAWING

STRATO CHARGED ENGINE **GZ25N**

Unit : mm (in.)



**GZ25N for**  
BCZ2500S, BCZ2500SU,  
LRTZ2500, SRTZ2500,  
PSZ2500, RMSZ2500,  
HEZ2500S and EXZ2500S.

**GZ25N2 for**  
SGCZ2500S.

# 4. MAINTENANCE SPECIFICATIONS

STRATO CHARGED ENGINEGZ25N

## 4-1 Engine Block

Maintenance Item	Standard	Limit	Measuring Instrument	Remarks
Cylinder				
Compression kg/cm <sup>2</sup> (psi)	8.7(124)	5.5(78)	Compression Gauge	
Bore mm(in.)	ø34(1.339)	Peel off of plating or expose of base met	Cylinder Gauge	
Piston				
Piston dia. mm(in.)	ø33.96(1.3370)~ ø33.975(1.3376)	ø33.86(1.3331)	Micrometer	At right angle to piston pin.
Piston Ring Groove Width mm(in.)	1.2(0.047)	1.3(0.051)	Thickness Gauge	
Piston Pin Hole Bore mm(in.)	ø8(0.3150)	ø8.04(0.3165)	Cylinder Gauge	
Clearance between Piston & Cylinder mm(in.)	0.025(0.0010)~ 0.065(0.0026)	0.15(0.0059)	Micrometer / Cylinder Gauge	
Clearance between Groove and Piston Ring mm(in.)	0.04~(0.0016)~ 0.08(0.0031)	0.1(0.0039)	Thickness Gauge	
Fitting between Piston Pin & Piston Pin Hole mm(in.)	0.005T(0.00020T)~ 0.011L(0.00043L)	0.05L(0.0020L)	Micrometer / Cylinder Gauge	
Piston Ring				
End Gap mm(in.)	0.1(0.0038)~ 0.3(0.0118)	0.5(0.0197)	Thickness Gauge	Measure at cylinder skirt.
Width mm(in.)	1.2(0.0472)	1.1(0.0433)	Micrometer	
Piston Pin				
Diameter mm(in.)	ø8(0.315)	ø7.98(0.314)	Micrometer	No stepwear is allowed
Connecting Rod				
Small End Bore mm(in.)	ø11(0.433)	ø11.05(0.435)	Cylinder Gauge	
Clearance between Small End Piston Pin & Needle Bearing mm(in.)	0~0.021(0.0008)	0.045(0.0018)	Micrometer / Cylinder Gauge	
Clearance between Large End Crank Pin & Needle Bearing mm(in.)	0.005(0.0002)~ 0.028(0.0011)	0.05(0.0020)	Micrometer / Cylinder Gauge	
Parallelness of Large/Small End Bores mm(in.)	—	0.15/100	Mandrel Dial Gauge	
Crankshaft				
Diameter at Main Bearing (MAG, PTO) mm(in.)	ø12(0.4724)	ø11.97(0.4713)	Micrometer	
Diameter at Oil Seal (MAG, PTO) mm(in.)	ø12(0.472)	ø11.09(0.469)	Micrometer	
Diameter at Clutch Drum Bearing ( PTO) mm(in.)	ø12(0.4724)	ø11.97(0.4713)	Micrometer	
Eccentricity mm(in.)	—	0.07(0.028)	Dial Gauge / Centre Support	Adjust or exchange
Width between crank webs mm(in.)	22	21.9~22.1	Micrometer	
Axial Play mm(in.)	—	0.5(0.020)	Thickness Gauge	
Main Bearing (Ball Bearing)	—	Flutter, irregular noise generated		
Clutch Drum				
Bore at Bearing mm(in.)	ø12 (0.472)	ø12.05(0.474)	Cylinder Gauge	
Bore at Drum mm(in.)	ø54(2.126)	ø54.6(2.150)	Vernia Calipers	



## 4. MAINTENANCE SPECIFICATIONS

STRATO CHARGED ENGINE GZ25N

### 4-2 Carburetor

Maintenance Item	Standards	Limit	Measuring instrument	Remarks
Carburetor WYA-1B				
① Metering Lever set. mm.(in.)	1.5 (0.059)	±0.16 (±0.006)	Vanier	
② Inlet valve opening pressure. kg/cm <sup>2</sup> (p.s.i)	1.5 (21.3)	±0.5 (±7.1)	Leak Tester	
③ Inlet valve reseating pressure. kg/cm <sup>2</sup> (p.s.i)	0.9 (12.8)	±0.5 (±7.1)	Leak Tester	

### 4-3 Ignition System

Maintenance Item	Standards	Limit	Measuring instrument	Remarks
Electric parts				
① Spark plug air gap. mm.(in.)	0.6~0.7 (0.025~0.028)	0.7 (0.028)	Vanier	
② Ignition coil air gap. mm.(in.)	0.3 (0.012)	0.4 (0.016)	Air gap gauge	
③ Ignition coil resistance				
Primary side Ohm	2300		Volt Meter	Reading between primary terminal and iron core.
Secondary side Ohm	1100		Volt Meter	Reading between high tension terminal and iron core.

### 4-4 Fastening Specifications

Unit : kg.cm(in.lbs)

Fixing Components	Screw Size	Fixing torque		Screw Lock Agent
		Target	Tolerance	
Standard fix torque				
Carburetor Fix Bol	M5 (P=0.8)	38(33)	30(26)~45(39)	
Insulator Fix Bolt	M5 (P=0.8)	45(39)	40(35)~55(48)	
Clutch	M5 (P=1.0)	65(56)	50(43)~80(69)	
Rotor Fix Nut	M8 (P=1.0)	130(112)	100(87)~150(130)	
Cylinder Fix Bolt	M5 (P=0.8)	70(61)	60(52)~80(69)	
Crankcase Fix Bolt	M5 (P=0.8)	65(56)	50(43)~80(69)	
Grass Guard Fix Bolt	M5 (P=0.8)	38(33)	30(26)~45(39)	
Spark Plug	M10 (P=1.0)	110(96)	100(87)~120(104)	
Muffler Fix Bolt	M5 (P=0.8)	90(78)	70(61)~100(87)	
Engine Cover Fix Bolt	M5 (P=0.8)	38(33)	30(26)~45(39)	
Fan Cover Fix Bolt	M5 (P=0.8)	38(33)	30(26)~45(39)	
Ignition Coil Fix Bol	M4 (P=0.7)	33(29)	25(22)~40(35)	
Recoil Starter Fix Bolt	M5 (P=0.8)	38(33)	30(26)~45(39)	
Recoil Pulley	M8 (P=1.25)	90(78)	80(69)~100(87)	
Fuel Tank Fix Bolt	M5 (P=0.8)	38(33)	30(26)~45(39)	
Common fixing torque				
Tapping Screw	TP4.3	10 (9)	7(6)~15(13)	
	TP5.4	25(22)	20(17)~30(26)	

### 4-5 Sealant and Lubricant Specifications

#### Recoil Starter:

AREA	MATERIAL TO BE APPLIED
Recoil spring	Grease
Reel center hub	Grease

#### Clutch:

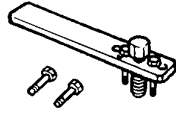
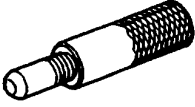


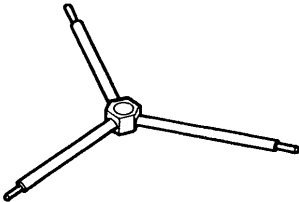

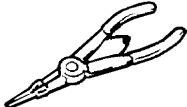
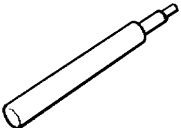
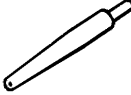
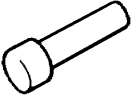
AREA	MATERIAL TO BE APPLIED
Sliding portion of screw.	Grease

#### Engine Block:

AREA	MATERIAL TO BE APPLIED
Oil seal lip	Grease
Piston sliding area	2-cycle oil
Main bearing	2-cycle oil
Piston pin bearing	2-cycle oil
Crank pin bearing	2-cycle oil

## 5. SPECIAL TOOLS

STRATO CHARGED ENGINEGZ25N

	Part name	Part No.	External appearance	Usage
1	Puller Assy	2890-96100		To remove rotor.
2	Piston Stopper	4810-96220		To hold crankshaft when disassembling / assembling clutch and rotor.
3	Rod Assy	1101-96220		To remove / install piston pin.
4	Air Gap Gauge	3350-96240		To set ignition coil.
5	Hex Wrench	3304-97611		For socket screw of Hex.3mm,4mm and 5mm.
6	Puller	4500-96100		To remove / install recoil pulley
7	Snap Ring Pliers	5500-96110		To remove snap ring.
8	Drum Remover	5500-96120		To remove clutch drum.
9	Snap Ring Guide	5500-96130		To install clutch drum.
10	Snap Ring Push Guide	5500-96140		To install clutch drum.

### 6-1 GENERAL PRECAUTIONS

#### Before beginning repair work

Check each system thoroughly before beginning repair work. Inspect from the point where it is simplest and easiest for trouble to occur.

Step-by-step inspection in the following order is recommended.

Ignition system: From electric output(spark plug) to electric input(ignition coil).

Fuel system : From fuel input(fuel cap/air vent) to output(carburetor).

#### Precautions before disassembly

- ① Before performing disassembly operations, be sure to drain all the fuel. Remove all dirt and dust from each part. This is to prevent dirt from becoming attached to the important locations.
- ② Tool usage  
Use the indicated tools correctly to avoid damaging parts.
- ③ Only remove the parts that are necessary for adjustment or repair, except when disassembling for an overhaul.
- ④ During disassembly, try to memorize the location and way each part is attached to avoid errors during assembly. Label the parts if necessary.
- ⑤ Pay attention to small parts during disassembly and check carefully for damage.
- ⑥ Be careful when handling gaskets and oil seals as they can be damaged easily.
- ⑦ Be especially careful not to lose parts that have been removed. Arrange the removed parts in a pattern that approximates their actual position to prevent loss or error.
- ⑧ Consider the assembly sequence when cleaning the parts and wash the important parts first.  
It is important to discriminate between the main and sub-assembly steps.

#### Assembly precautions

- ① Assembly sequence is reverse of disassembly.
- ② Use new cleaning oil in the assembly and wash each part while keeping the assembly sequence in mind.

#### Note:

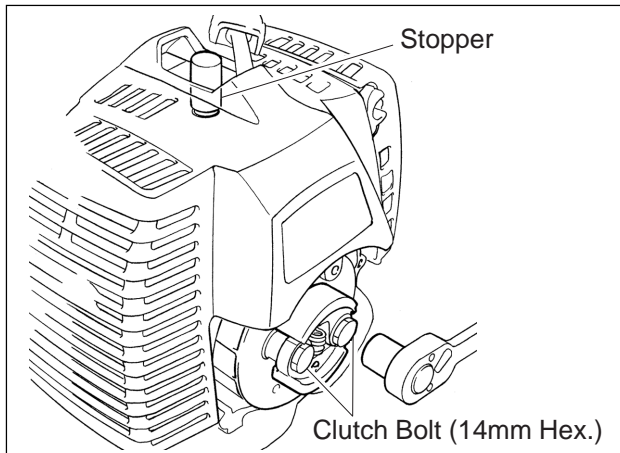
Do not use gasoline or oil to clean vibration damping rubber.

- ③ Verify the function of all disassembled parts or replacement parts for assembly.
- ④ Adequately lubricate any revolving or rubbing parts before assembly.
- ⑤ Always use new or complete gaskets. (As a general rule, always use new parts for the reassembly.)
- ⑥ Be sure to align all assembly marks.
- ⑦ Be careful not to tighten screws or bolts excessively during assembly as they may be damaged.

#### Note:

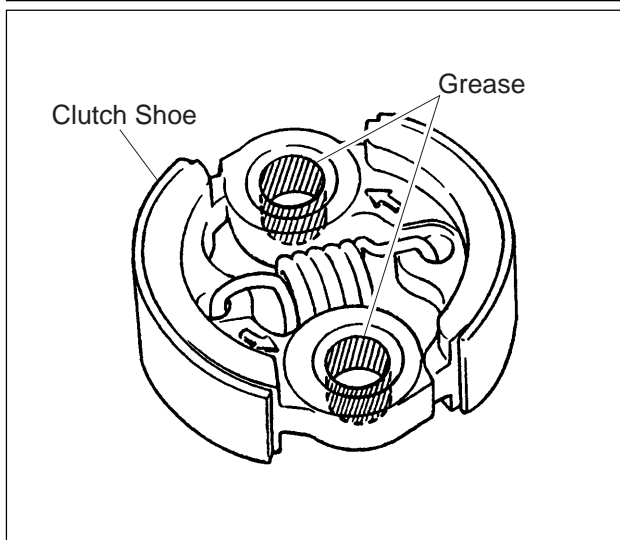
1. Always use the correct tool for the particular screw, bolt, nut or other part.
2. When there are a number of securing screws or bolts for a part, tighten them equally in an alternating sequence.
3. Tighten the nuts and bolts to the specified torque.
4. Use Loctite#81666 to reform damaged threads in plastic parts.

### 6-2 Removing of Clunch Shoe



- ① Remove the housing and plug cap.
- ② Remove the spark plug and fit the stopper (4810-96220) into the plug hole.
- ③ Remove clutch bolts (14mm Hex.) .

### 6-3 Mounting of Clutch Shoe



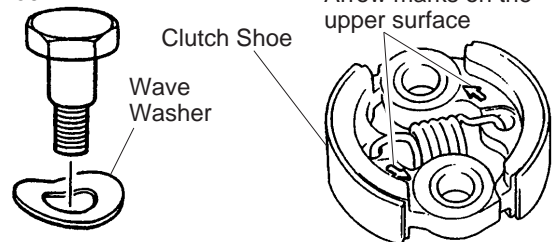
Apply grease into the holes on the clutch shoe before mounting the clutch.

Grease : Molybdenum grease

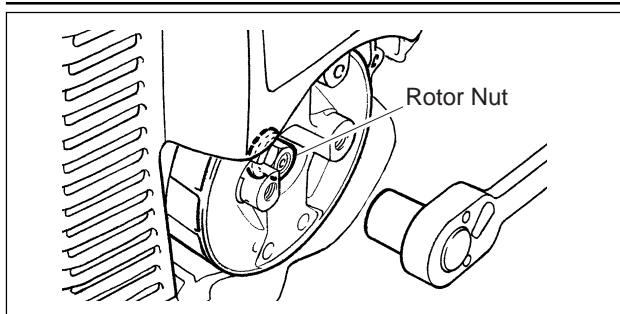
Clutch bolt fixing torque:50 ~80kg.cm(43-69in.bs )

#### Caution:

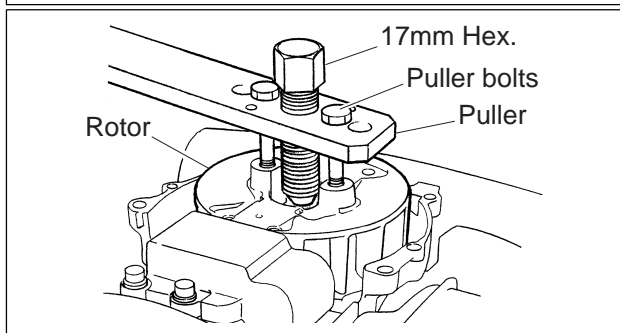
Care for orientation of the wave washers and clutch shoe.



### 6-4 Removing of Rotor

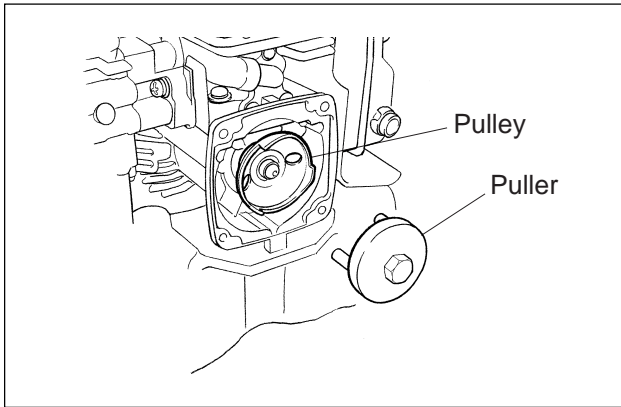


- ④ Remove the rotor nut (12mm Hex.).



- ⑤ Remove the rotor using the puller assy (2890-96100). Apply 8mm puller bolts.

### 6-5 Removing Recoil Pulley

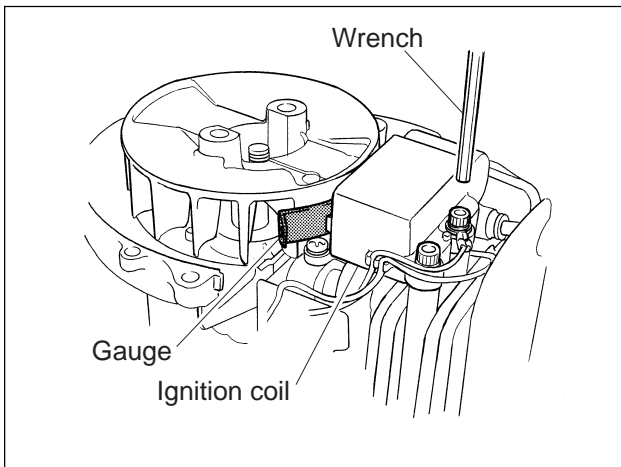


- ① Remove the recoil starter and the spark plug.
- ② Insert the stopper (4810-96220) to the plug hole.
- ③ Engage the puller (4500-96100) to 2 holes on the pulley and pull out the pulley.

**Note:**

Pulley screw is right turn screw.

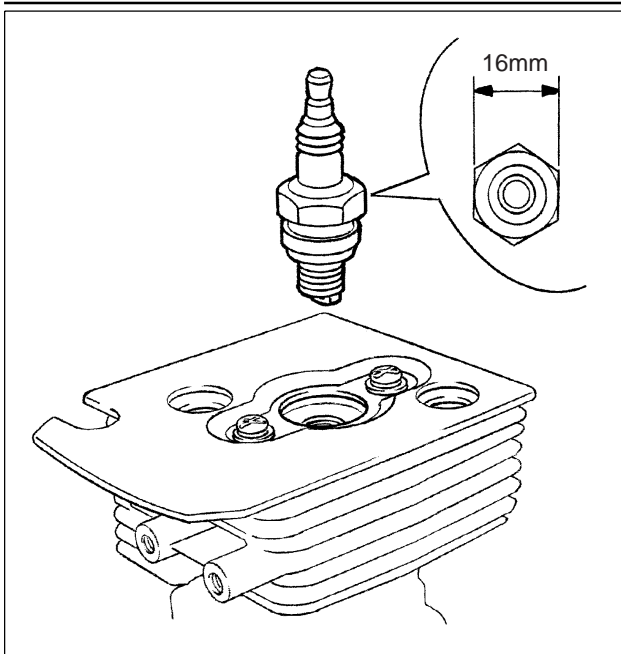
### 6-6 Assembling of Ignition Coil



Insert the gauge (3350-96240) in between the rotor magnet metal and the coil. Tighten screws while pressing the coil against the rotor.

Gap specification 0.3 ~ 0.4mm(0.012 ~ 0.016in.)

### 6-7 Installing of Spark Plug

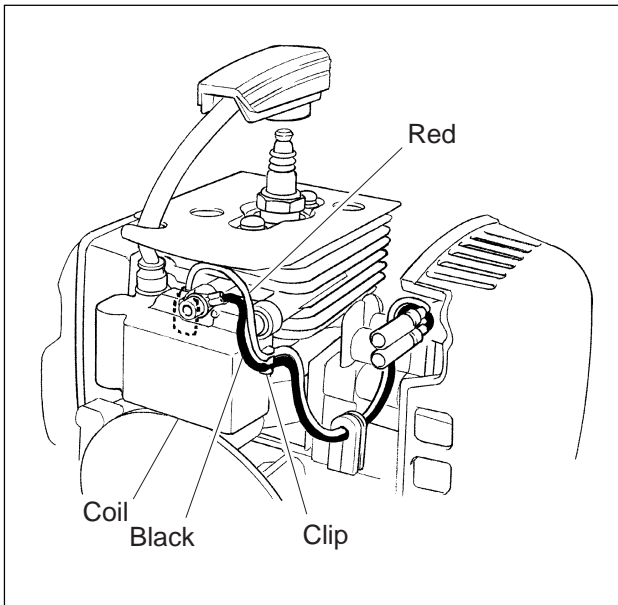


The spark plug nut is 16mm hex. so that conventional plug wrench (19mm) cannot be used. Make sure to use the custom plug wrench.

**Important:**

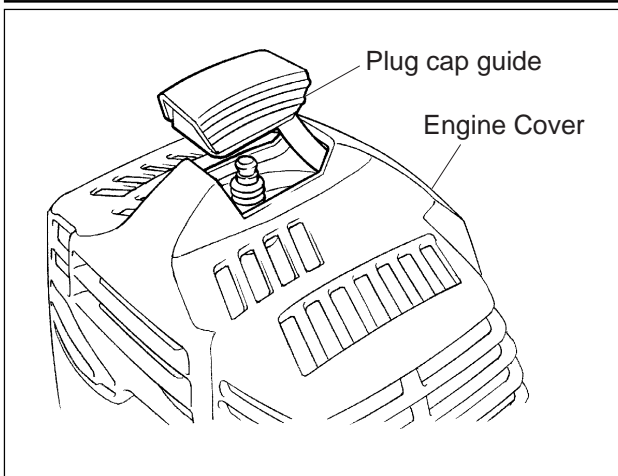
Fixing the spark plug using other tools than the custom plug wrench may apply over torque and end up with damages of threads on the cylinder.

### 6-8 Laying of Switch Cable



Fit the lead wires with the clips on the side of the coil. Confirm that they do not touch with the rotor.

### 6-9 Fitting of Plug Cap



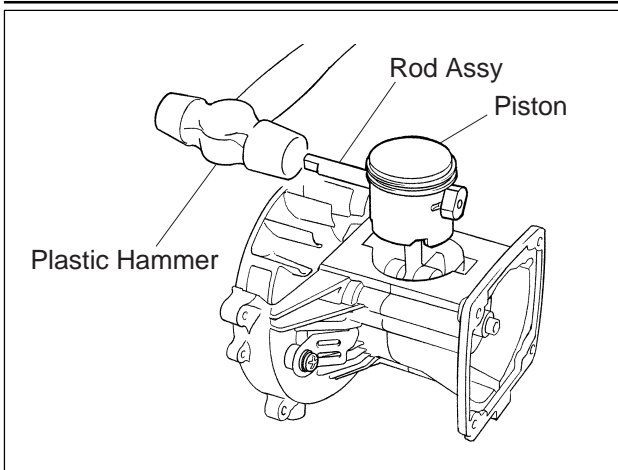
Insert the guide of the plug cap into the engine cover securely.

**Caution:**

Check that the plug cap is not deteriorated, stiffened, nor has cracks.

Also check that there is no play after fitting the cap.

### 6-10 Removing Piston Pin

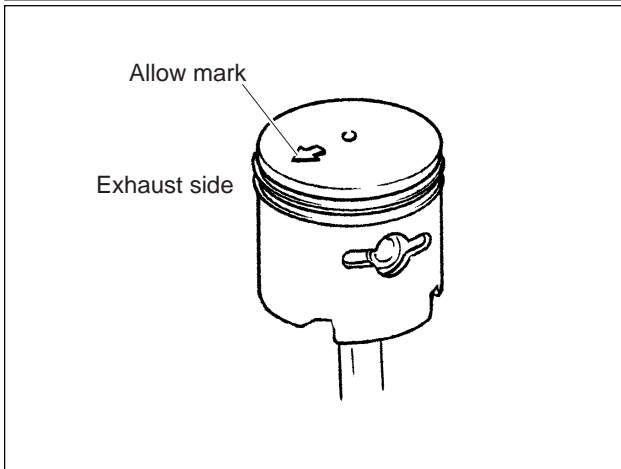


- ① Remove snap rings from both sides of the piston pin.
- ② Engage the rod assy (1101-96220) to the piston pin and gently tap with a plastic hammer to push out the pin.

**Caution:**

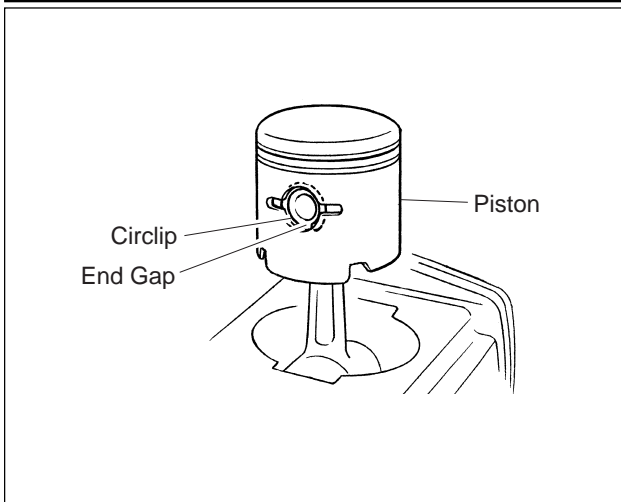
Hard hammering may damage the big end of the connecting rod.

### 6-11 Installing of Piston



Make sure to point the arrow mark on the piston to the exhaust side.

### 6-12 Assembling of Piston Pin Circlip

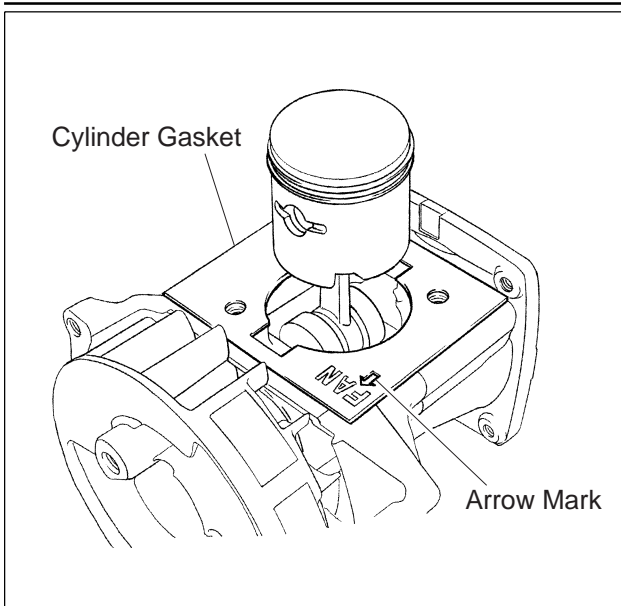


Fit the circlip in the groove so as to face the end gap below.

**Caution:**

Deformed circlip may come off during engine operation and damage the engine.

### 6-13 Direction of Setting Cylinder Gasket

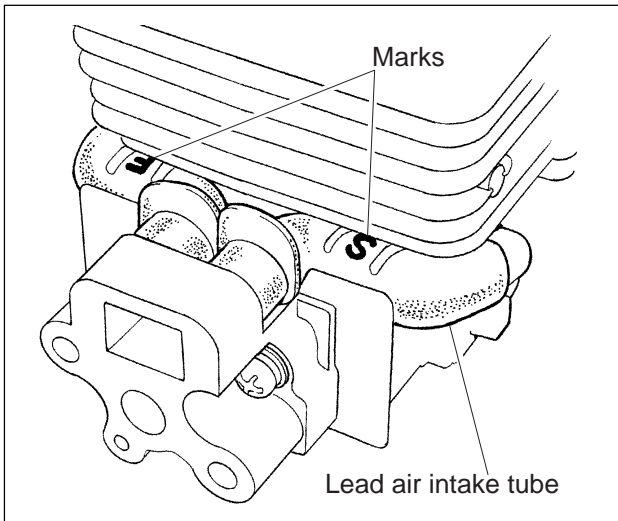


Set an arrow mark (punched out) on the cylinder gasket toward the fan.

**Caution:**

An oppositely set gasket will touch with the insulator, and makes a gap between the muffler. Therefore, the cooling air to the cylinder is leaked toward the tank and the cooling performance is reduced.

### 6-14 Positioning of Lead Air Intake Tube



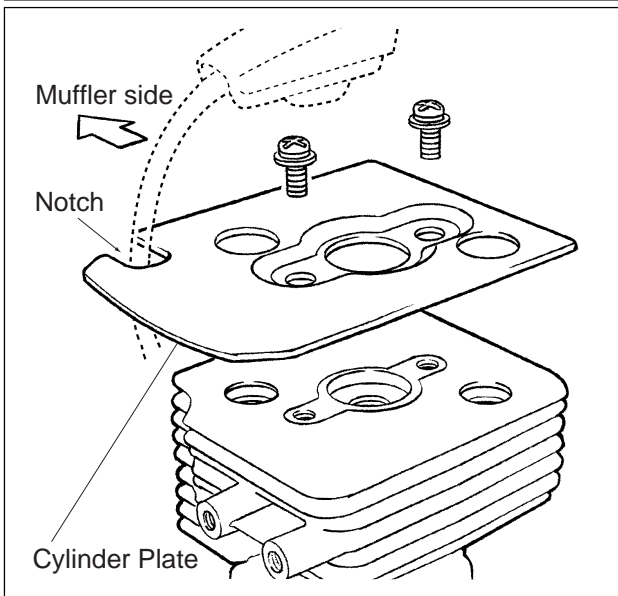
The lead air intake tube has cast marking of either "F" or "S".

"S" is for the starter end, and "F" for the fan end. Assembling position shall not be mixed up.

**Caution:**

Oppositely assembled tubes will cause a sealing failure. Before assembling the tubes, check for deterioration or cracks and change with new ones if necessary.

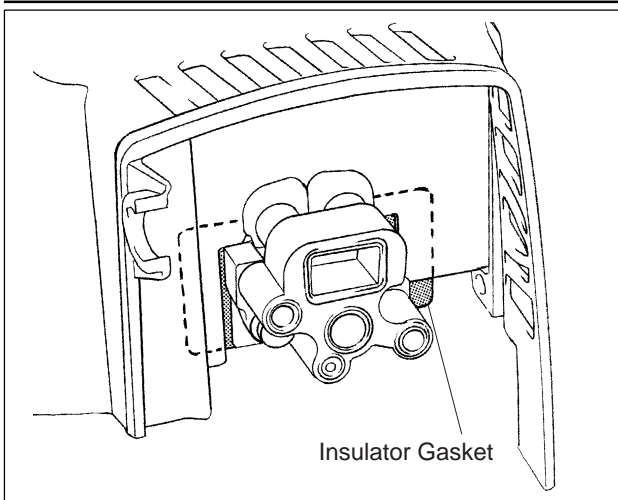
### 6-15 Assembling of Cylinder Plate



A notch on the cylinder plate is to lay the high tension cable.

Set the cylinder plate with the notch at the muffler side.

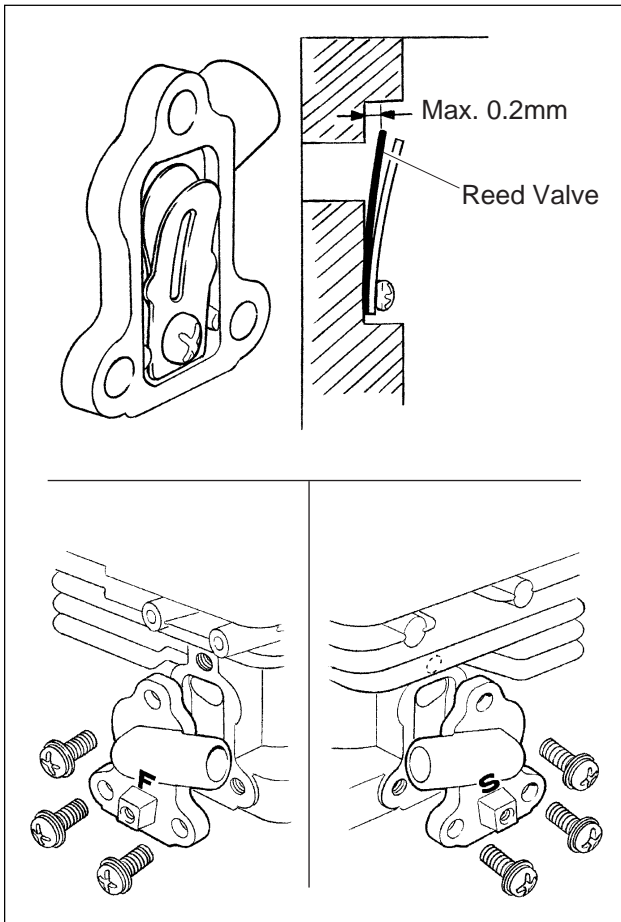
### 6-16 Setting of Insulator Gasket



Set the insulator gasket under the engine cover with care for not turning it up by the engine cover.



## 6-17 Mounting of Reed Valve



Check that there is no foreign matter inside the valve case.

**Important:**

- Check the gap between the valve case and the reed valve.
- Replace with new valve if the gap is larger than 0.2mm (0.008in.), or the valve is distorted.

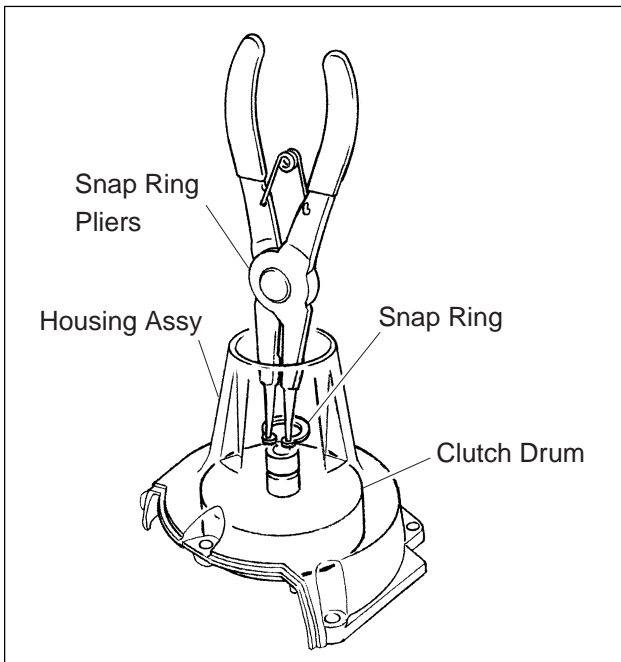
Screw lock agent shall be applied to the reed valve and the stopper fixing screw.

The reed valve case has a marking either “ **S** ” or “ **F** ”.

“ **S** ” is for the starter side, and “ **F** ” for the fan side. Assembling position shall not be mixed up.

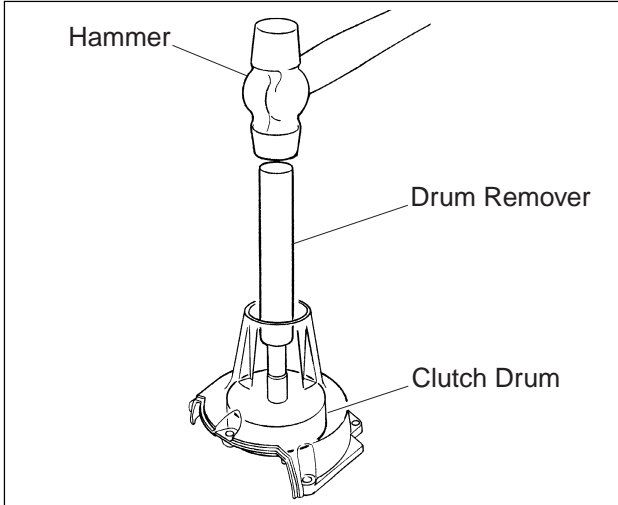
## 6-18 Removal of Clutch Drum

### 1) Removing Snap Ring



- ① Remove the snap ring on the clutch drum end using a snap ring pliers (5500-96110).

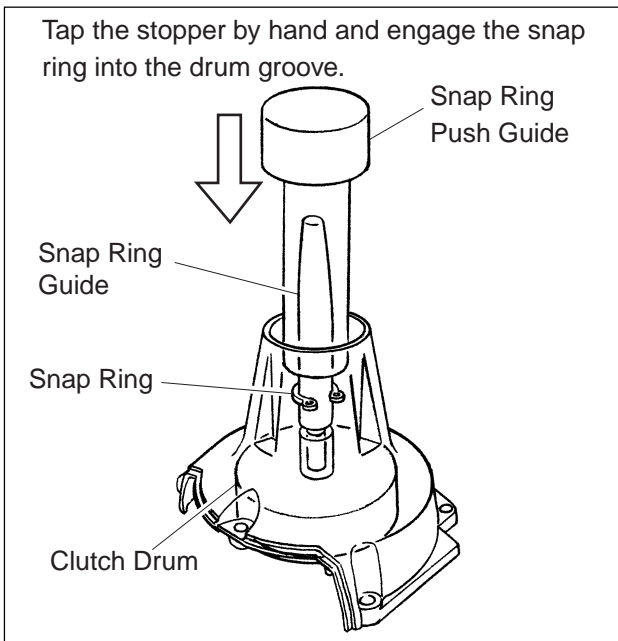
### 2) Removing Clutch Drum



- ② Hold the drum remover (5500-96120) on the clutch drum, and gently hammer to pull out the clutch drum.

## 6-19 Assembling Clutch Drum

### 1) Assembling Snap Ring



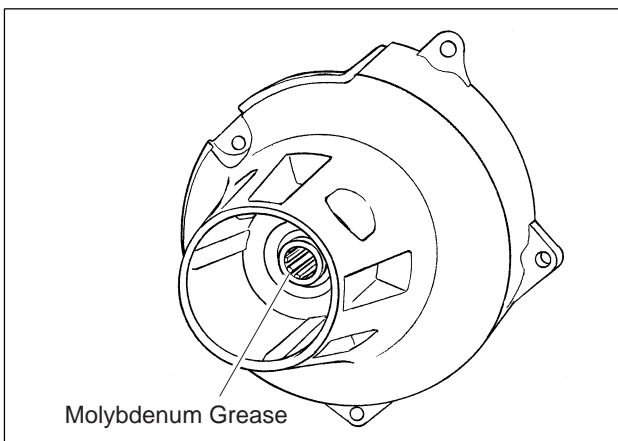
- ③ Assembling shall be done by an reverse order to the disassembling.

- Assemble the clutch drum into the clutch housing and set the snap ring using a snap ring guide (5500-96130) and the snap ring push guide (5500-96140).

**Caution:**

Make sure to replace the snap ring if it is deformed.

### 2) Applying grease

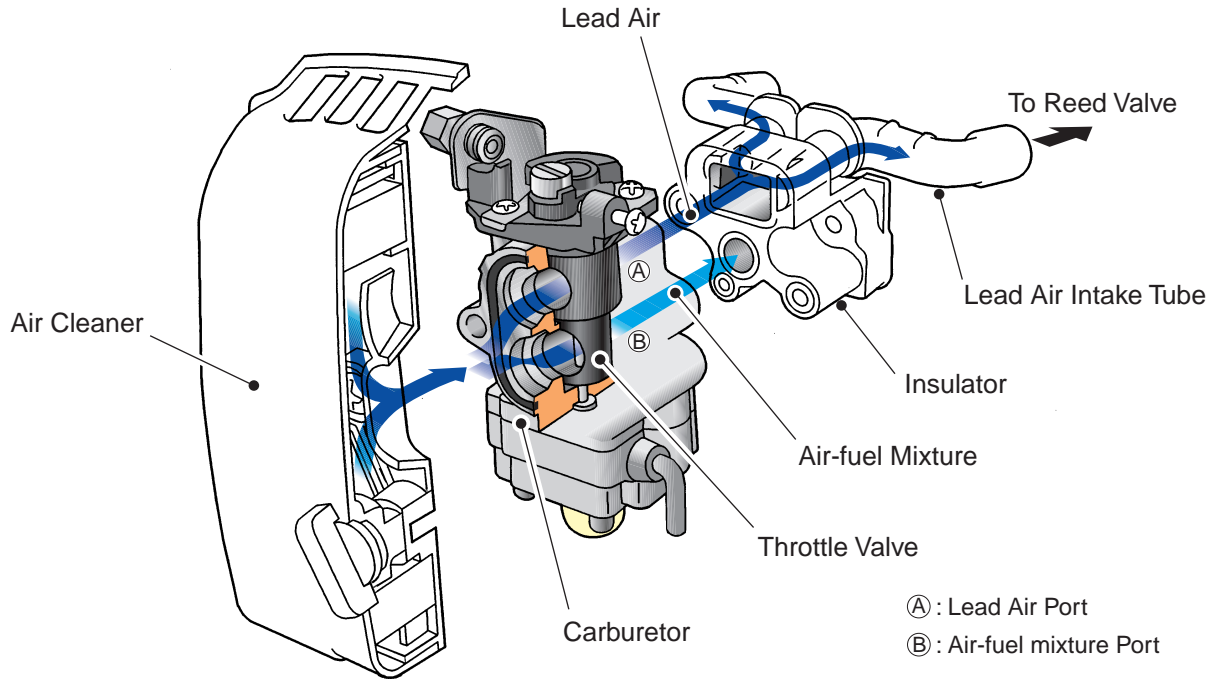


- After the assembly, apply molybdenum grease on the clutch drum spline.

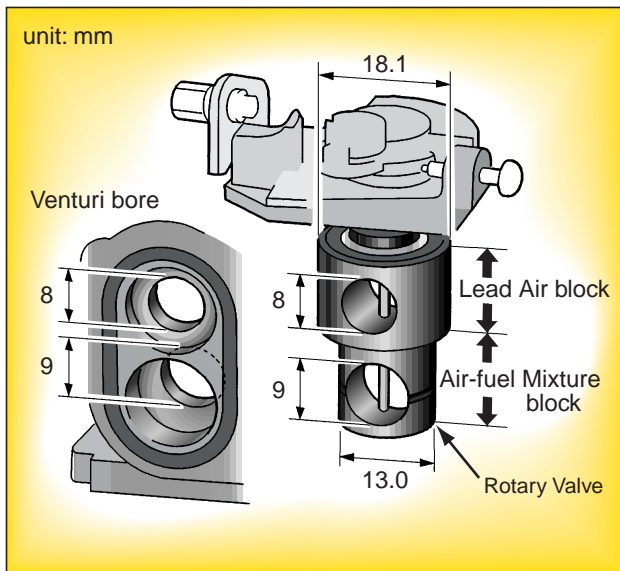
# 7. CARBURETOR

## 7-1 Construction

The Strato-charged Engine is applied with a custom designed carburetor employing diaphragm rotary valves and 2 venturies, one for the lead air and the other for the air-fuel mixture.



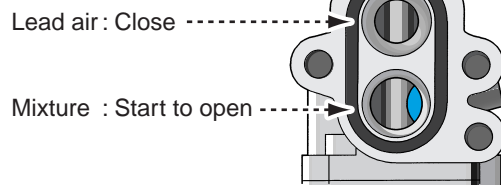
## 7-2 Function and Operation of Throttle Valve



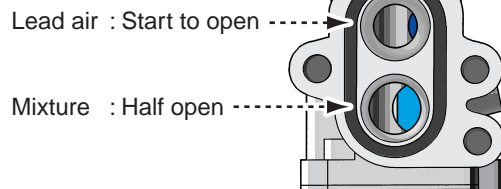
- The throttle valve has 2 ports. Upper port is for the lead air and lower port for the air-fuel mixture.
- As shown above, the rotary valves are coaxially arranged while their air passage bores and valve outside diameters differ each other. As the venturi bore sizes also differ each other, air intake timing can be changed by rotation of the rotary valves.

● Intake timing for the air-fuel mixture and the lead air are as illustrated below:

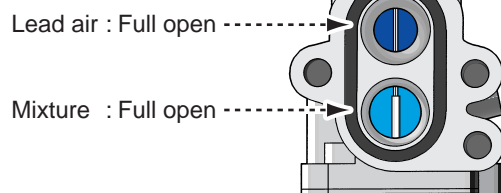
### Idling



### Mid speed



### High speed



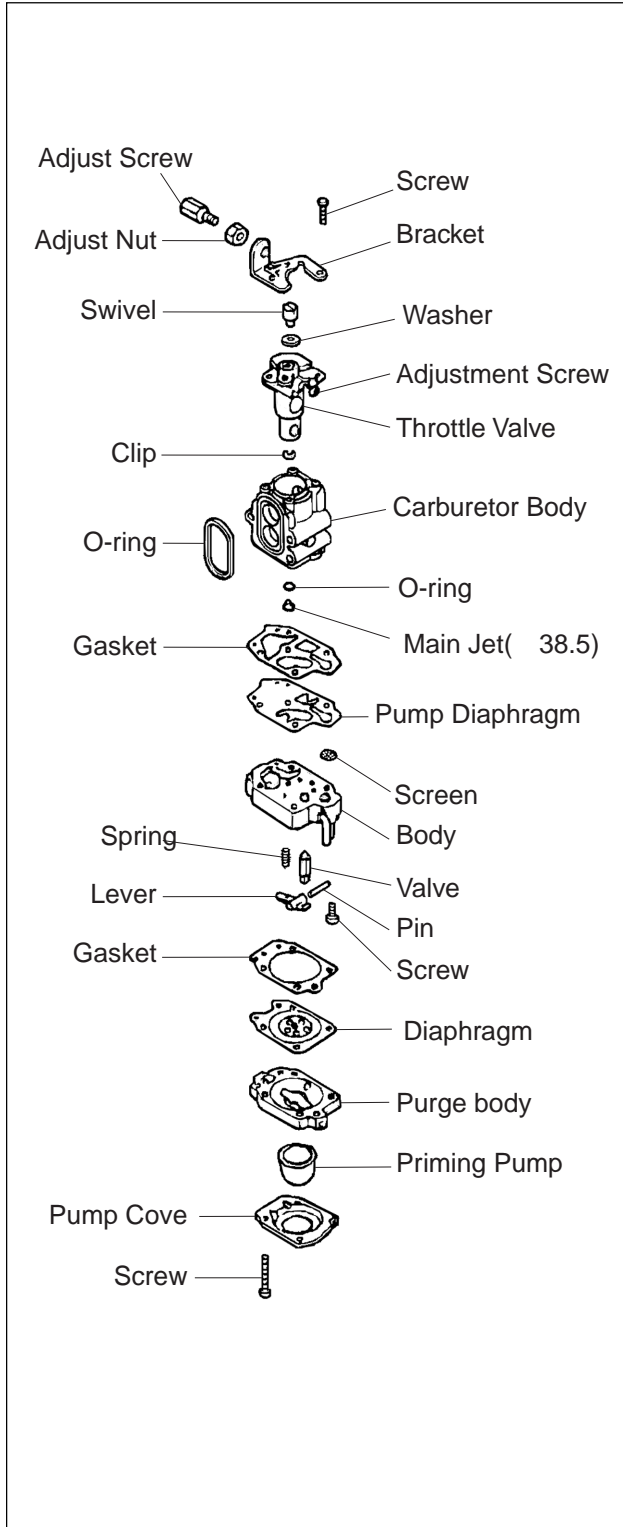
## 7. CARBURETOR

STRATO CHARGED ENGINE **GZ25N**

### 7-3 Specifications

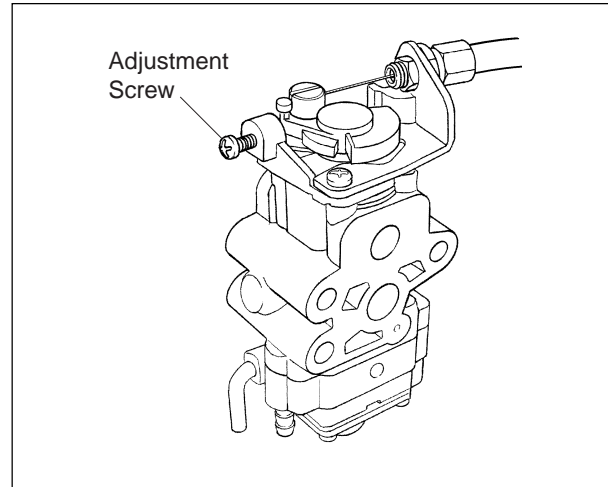
Item	Unit	Specifications
Product Name		
Engine Type		GZ25N
Carburetor		
Type Name		WYA-1B
Part Number		4810-81001
Carburetor Specification		
Main Jet		#38.5
Metering Lever Height	mm (in.)	1.5 ±0.16 (0.059 ±0.006)
Venturi Bore	mm (in.)	MIX 9.0 (0.354) AIR 8.0 (0.315)
Choke Bore	mm (in.)	∅13.2 (∅0.5210)
Valve Opening Pressure	kg/cm <sup>2</sup> (psi)	1.0~2.0 (14.2~28.4)
Valve Closing Pressure	kg/cm <sup>2</sup> (psi)	0.4 ~1.4 (5.69 ~19.91)
Speed		
Idling	rpm	2800 ~3200
Clutch engaging	rpm	3800 ~4200
Stall	rpm	5650 ~6150
Operating Speed	rpm	6000 ~ 10000
No Load Max Speed	rpm	10000

## 7-4 Composition and Inspection



### a) Adjusting Idle Speed

The idle speed is set for 3000rpm at the factory. If it is necessary to adjust the idle speed, use the adjustment screw on the top side of carburetor



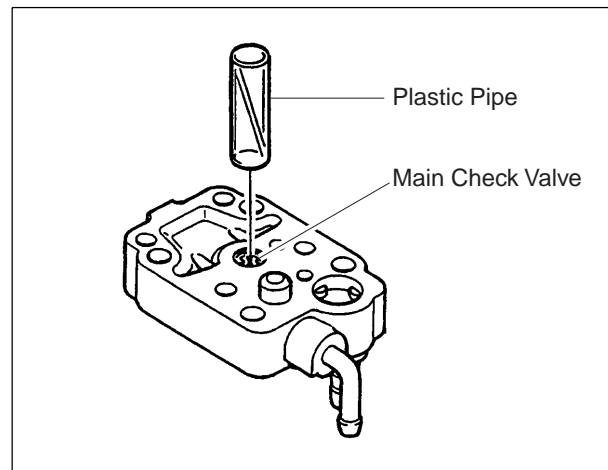
(Main Jet No. : #38.5)

### b) Judgement of the main check valve

As illustrated, hold a plastic pipe on the check valve and blow and suck air by your mouth. If the air is stopped by blowing, and open by sucking, the valve has no failure.

In case of failure, soak the valve into gasoline for about 10 minutes and repeat blowing and sucking several times. If this is not successful, exchange with new one.

(Make sure to check the valve in case fuel is not supplied though the priming pump is operated)



## 8. TROUBLE SHOOTING

STRATO CHARGED ENGINE GZ25N

### 8-1 Engine does not start

Description	Cause	Countermeasure
No spark in the spark plug		
Spark Plug	1.Wet spark plug electrodes	Make them dry
	2.Carbon deposited on the electrodes	Cleaning
	3.Insulation failure by insulator damage	Exchange
	4.Inproper spark gap	Adjust to 0.6-0.7mm (0.023-0.028in.)
	5.Burn out of electrodes	Exchange
Magneto	1.Ignition coil inside failure	Exchange
	2.Damaged cable sheath or disconnected cable	Exchange or repair
Switch	1.Switch is OFF	ON the switch
	2. Switch failure	Exchange
	3. Primary wiring earthed	Repair
Sparks appear in the spark plug		
Compression & fueling is normal	1.Over sucking of fuel	Drain excess fuel
	2.Too rich fuel	Adjust carburetor
	3.Overflow	Carburetor adjust or exchange
	4. Clogging of air cleaner	Wash with mixed gasoline
	5.Faulty fuel	Change with proper fuel
Fueling normal but poor compression	1.Worn out cylinder, piston, or piston ring	Exchange
	2.Gas leakage from cylinder and crank case gasket	Apply liquid gasket and reassemble.
No fuel supply	1. Choked breather air hole	Cleaning
	2.Clogged carburetor	Cleaning
	3.Clogged fuel filter	Exchange fuel filter

### 8-2 Stalled during Operation

Description	Cause	Countermeasure
Suddenly stopped	1.Switch is OFF	ON the switch
	2.Plug cap disconnected	Properly fit as original
	3.Short circuit of spark plug electrodes by carbon	Remove carbon
	4. Switch cable or high tension cable sheath worn out	Exchange
	5. Ignition coil inside failure	Exchange
	6. Engine seizure	Overhaul
Gradual speed reduction and stalled	1.Lack of fuel	Supply fuel
	2.Clogging inside carburetor	Cleaning
	3.Water mixed to fuel	Drain and apply new fuel

## 8. TROUBLE SHOOTING

STRATO CHARGED ENGINE GZ25N

### 8-3 Engine cannot be stopped

Description	Cause	Countermeasure
Overheating	1. Lean fuel	Adjust carburetor
	2. Cylinder fin clogged with dusts	Cleaning
	3. Improper fuel	Change with proper fuel
	4. Carbon deposited inside of combustion chamber	Cleaning
	5. Spark plug electrode red hot	Clean thoroughly and adjust spark gap [ 0.6-0.7mm (0.023-0.028in.) ]
Switch	1. Faulty switch	Exchange
	2. Cable failure	Repair

### 8-4 Lack of output power or unstable revolution

Description	Cause	Countermeasure
Compression is normal and no misfire	1. Air penetration from fuel pipe joints, etc	Secure connection
	2. Air penetration from intake tube joint or carburetor joint	Change gasket or tightening screws
	3. Water in fuel	Change with good fuel
	4. Piston start to seizure	Filing of seized surface with fine files
	5. Muffler choked with carbon	Cleaning
	6. Crack on lead air intake pipe	Exchange
	7. Reed valve clogged with dusts or valve tip opening is larger than specification [ 0.2mm (0.008in.) ]	Cleaning or exchange components
	8. Reed valve stuck	Cleaning or exchange
Overheating	1. Fuel too lean	Adjust carburetor
	2. Clogging of cylinder fin with dust	Cleaning
	3. Poor fuel quality	Exchange with proper fuel
	4. Carbon deposited in the combustion chamber	Cleaning
	5. Spark plug electrode red hot	Thoroughly clean, adjust spark gap [ 0.6-0.7mm (0.023-0.028in.) ]
Others	1. Dirty air cleaner	Wash with mixed gasoline
	2. Over loading	Reduce load

Note : Hatched columns above are potential failures unique to the stratified scavenging engine.







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