



**YAMAHA**

**YT 60L**

**Service Manual**





**YAMAHA**

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**YT60L**

**Service Manual**

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# CHAPTER 1. GENERAL INFORMATION

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# CHAPTER 1. GENERAL INFORMATION

## MACHINE IDENTIFICATION

### Frame Serial Number

The frame serial number is stamped into the right-side of the steering head pipe.



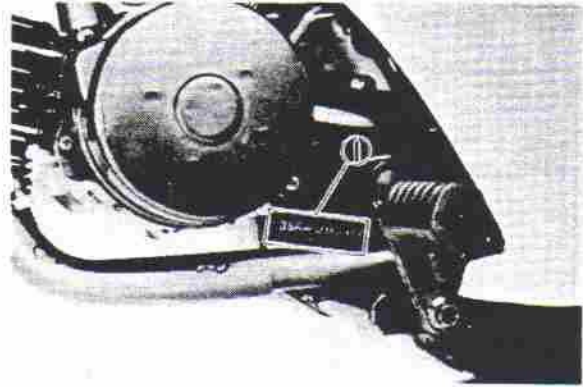
1. Frame serial number

### NOTE:

The first three digits of these numbers are for model identification; the remaining digits are the unit production number.

### Engine Serial Number

The engine serial number is stamped into the elevated part of the right rear section of the engine.



1. Engine serial number

### Starting Serial Number:

YT60L .....36R-000101



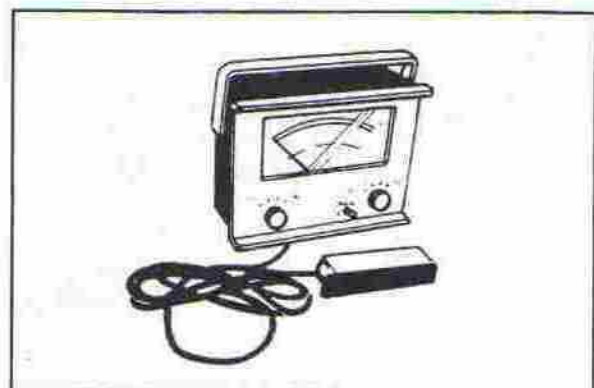
## SPECIAL TOOLS

The proper special tools are necessary for complete and accurate tune-up and assembly. Using the correct special tool will help prevent damage caused by the use of improper tools or improvised techniques.

### For Tune-up

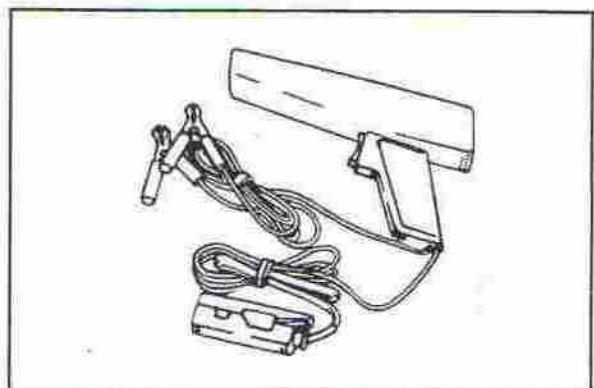
Inductive Tachometer

P/N. YU-08036



Inductive Timing Light

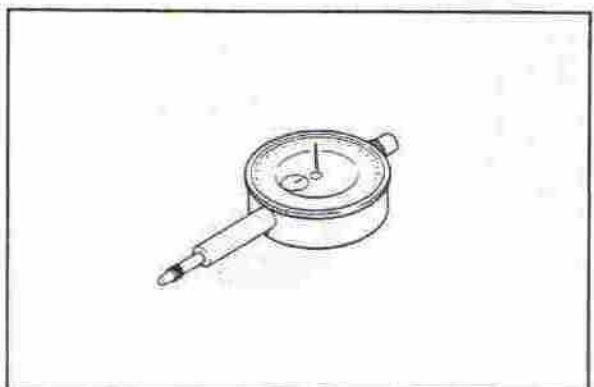
P/N. YU-08037



### For Engine Service

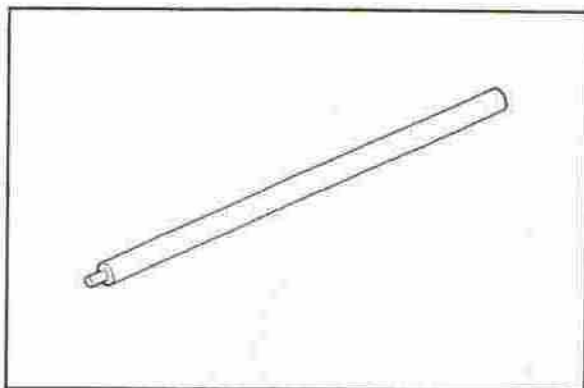
Dial Gauge

P/N. YU-03097



Extension Tip

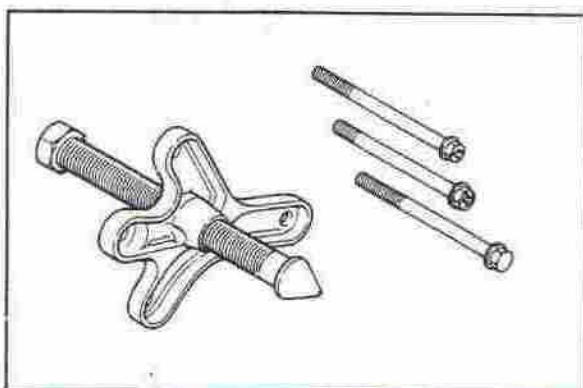
P/N. YU-01256



These tools are used to check and adjust the oil pump minimum stroke.

Universal Puller

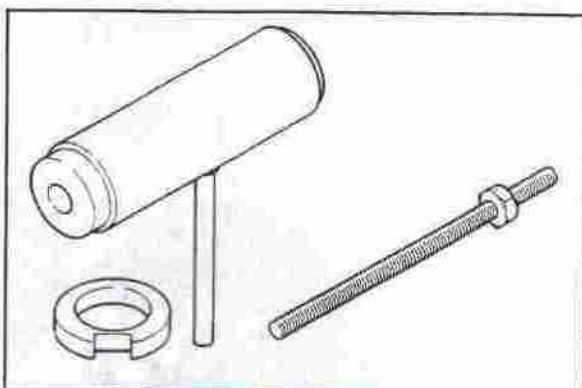
P/N. YU-33270



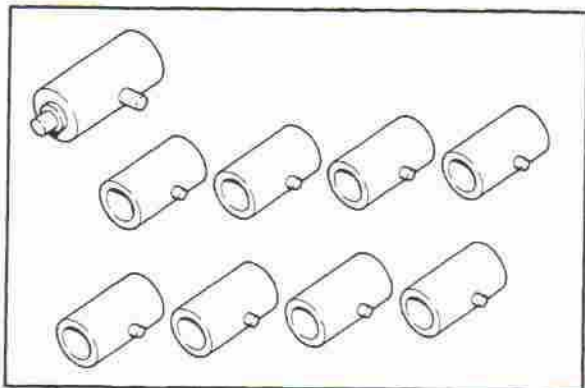
This tool is used to remove the crankshaft from the crankcase.

Crankshaft Installation Set

P/N. YU-90050

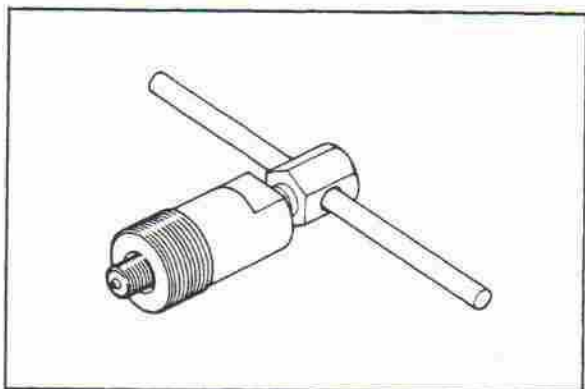


Crankshaft Installer Bolt Adapter Set  
P/N. YU-90051



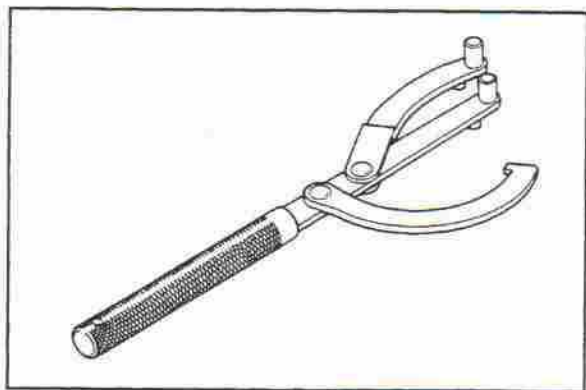
These tools are used to install the crankshaft.

Flywheel Puller  
P/N. YM-01189



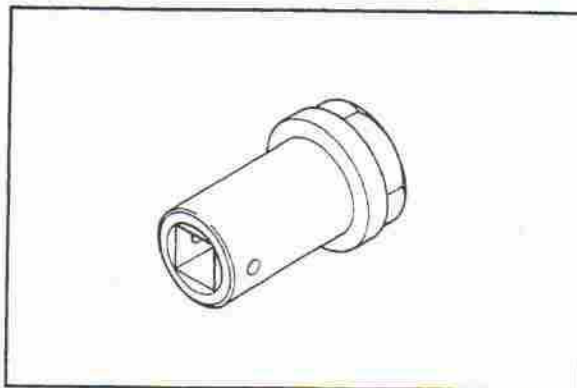
This tool is used to remove the flywheel magneto.

Flywheel Holding Tool  
P/N. YU-01235



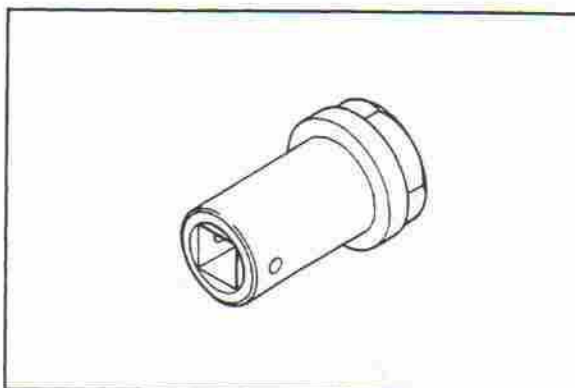
Use this tool to hold the flywheel magneto while removing or tightening the flywheel magneto securing nut.

Hexagon Wrench (25 MM)  
P/N. YM-01306



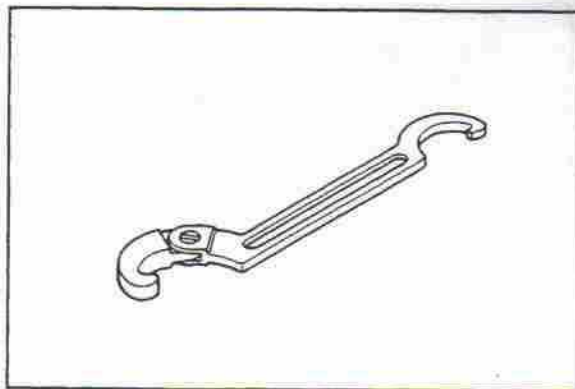
Use this tool to loosen or tighten the middle-driven-shaft-bearing retainer nut.

Hexagon Wrench (22 MM)  
P/N. YM-01307



Use this tool to loosen or tighten the final-drive-shaft-bearing retainer nut.

**For Chassis Service**  
Steering Nut Wrench  
P/N. YU-01268



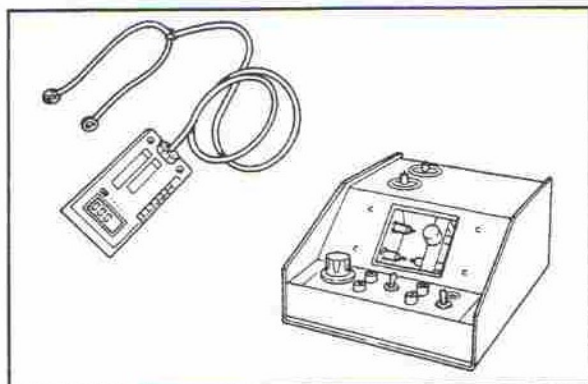
Use this wrench to tighten or loosen the ring nut on the rear axle.

## For Electrical Components

The use of these tools are described in Chapter 6.

### Electro Tester Kit

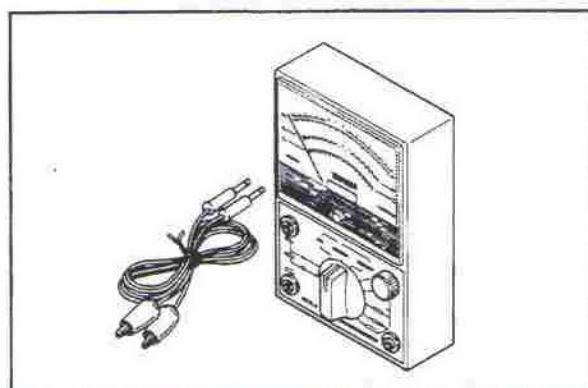
P/N. YU-33260



This kit includes Coil tester and digital Volt-Ohm meter.

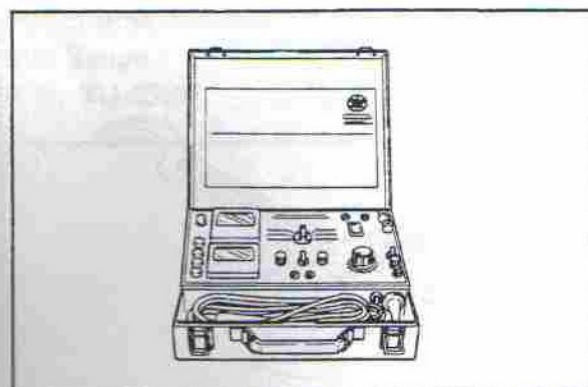
### or Pocket Tester

P/N. YU-03112



### or Electro Tester

P/N. YU-03021





# CHAPTER 2. PERIODIC INSPECTIONS AND ADJUSTMENTS

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# CHAPTER 2. PERIODIC INSPECTIONS AND ADJUSTMENTS

## INTRODUCTION

This chapter includes all information necessary to perform recommended inspections and adjustments. These preventive maintenance procedures, if followed, will ensure more reliable vehicle operation and a longer service life. The need for costly overhaul work will be greatly reduced. This information applies to vehicles already in service and to new vehicles that are being prepared for sale. All service technicians should be familiar with this entire chapter.

## MAINTENANCE INTERVALS CHARTS

The following charts should be considered strictly as a guide to general maintenance and lubrication intervals. You must take into consideration that weather, terrain, geographical location, and a variety of individual uses. This time schedule should be altered to match individual owner's requirements. For example, if the machine is continually operated in an area of high humidity, then all parts must be lubricated much more frequently than shown on the chart to avoid damage caused by water to metal parts.

### PERIODIC MAINTENANCE

Item	Remarks	Initial			Thereafter every	
		1 Month	4 Months	7 Months	6 Months	1 Year
Cylinder head/ Exhaust system/ Spark arrester	Decarbonize		○	○	○	
Spark plug	Inspect/ Cleaning or replace as required	○	○	○	○	
Air filter	Wet type-Must be washed and damped with Yamalube 2-cycle Oil or air cooled 2-cycle engine oil		○	○	○	
Carburetor	Check operation/ Fittings		○	○	○	
	Clean/ Refit/ Adjust					○
Autolube pump	Clean/ Check/ Adjust/ Air bleeding	○	○	○	○	
*Brake system (complete)	Check/ Adjust as required- Repair as required	○	○	○	3 Months	
*Wheels and tires	Check pressure/ Wear/ Balance/ Run out	○	○	○	○	
Fuel cock	Clean/ Flush tank as required	○	○	○	○	
*Fittings/ Fasteners	Tighten before each trip and/or...	○	○	○	○	

\*Indicates pre-operation check items.

### LUBRICATION INTERVALS

Item	Remarks	Type	Initial			Thereafter every	
			1 Month	4 Months	7 Months	6 Months	1 Year
*Transmission oil	Replace/ Warm engine before draining	Yamalube 4-cycle oil or SAE 10W30 type SE motor oil	○	Check	○	○	
Throttle lever and housing	Apply lightly	Lithium base grease			○	○	
Brake lever	Apply lightly	Lithium base grease		○	○	○	
Brake cam shaft	Apply lightly	Lithium base grease		○	○	○	
Steering bearings	Inspect thoroughly/ pack moderately	Medium-weight wheel bearing grease			Check		2 Years
Wheel bearings	Do not over-pack yearly or...	Medium-weight wheel bearing grease					○

\*Indicates pre-operation check items.

## ENGINE

### Spark Plug

1. Check electrode condition and wear, insulator color, and electrode gap.
2. Clean the spark plug with spark plug cleaner if necessary. Use a wire gauge to adjust the plug gap to the specification.
3. If the electrode becomes too worn, replace the spark plug.
4. When installing the plug, always clean the gasket surface, wipe off any grime that might be present on the surface of the spark plug, and torque the spark plug properly.

#### Standard Spark Plug:

BP6HS (NGK) or W20FP-U  
(NIPPONDENSO)

#### Spark Plug Gap:

0.6~0.7 mm (0.028~0.031 in)

#### Spark Plug Tightening Torque:

20 Nm (2.0 m·kg, 14 ft·lb)

### Fuel Line

Check the fuel hose for cracks or damage; replace if necessary.

### Idle Speed

1. Turn the pilot air screw until it lightly seats, then back it out to specification. This adjustment can be made with engine stopped.

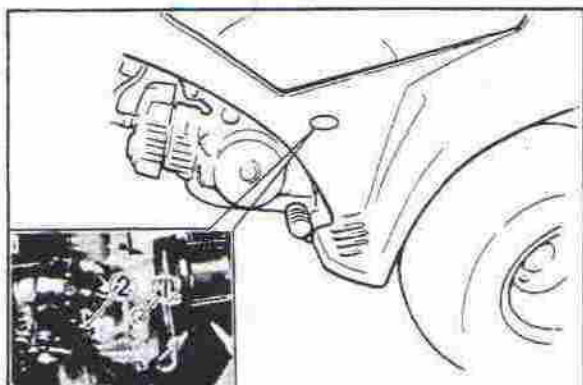
Pilot Air Screw: 2 turns out

2. Start the engine and let it warm up.
3. Throttle stop screw  
Turn throttle stop screw in or out to achieve smooth engine operation at specified idle speed.

Idling Speed: 1,700 r/min

### NOTE:

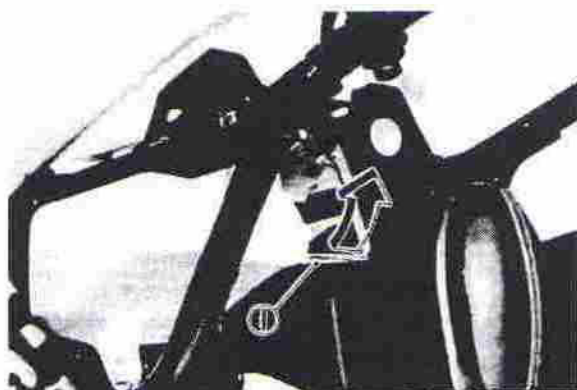
The pilot air and throttle stop screws are separate adjustments but they must be adjusted at the same time to achieve optimum operating condition at engine idle speeds.



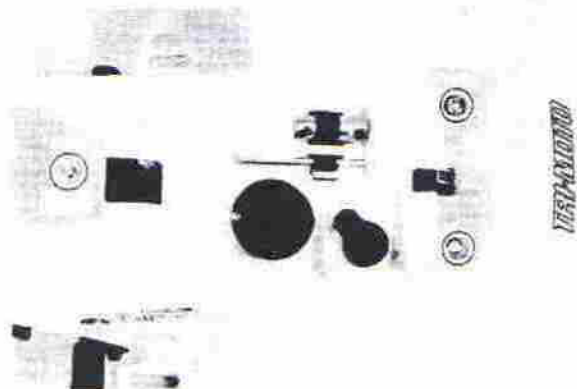
1. Pilot air screw 2. Throttle stop screw

### Throttle Cable

1. Remove the seat and body cowl assembly.

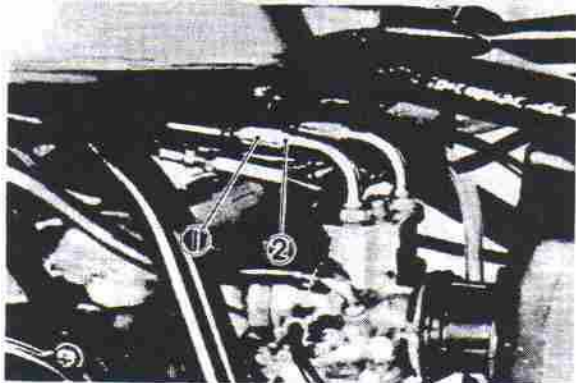


1. Seat lock lever



- Loosen the throttle cable adjuster locknut (at top of carburetor) and turn cable adjuster until specified free play is obtained. Retighten locknut.

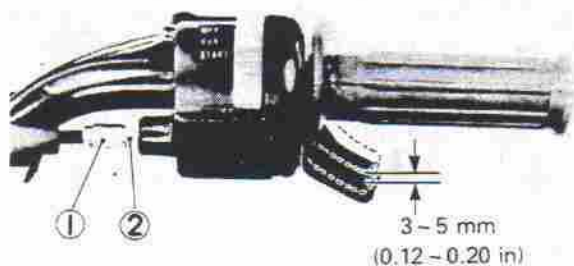
Free Play: 1.0 mm (0.04 in)



1. Adjuster 2. Locknut

### Throttle Lever

Loosen the locknut and turn the adjuster until there is the specified free play at throttle lever.

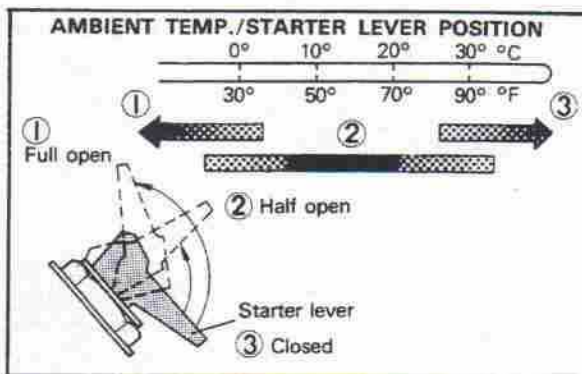


1. Adjuster 2. Locknut

Throttle Lever Play:  
3~5 mm (0.12~0.20 in)

### Starter (Choke) Lever and Cable

Use the starter lever (CHOKE) by reference to the figure below:



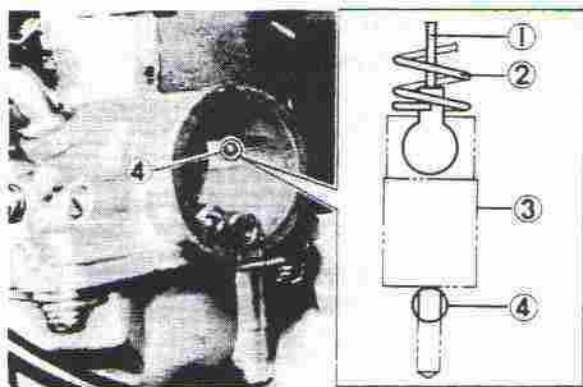
- position: Cold engine start-ambient temp. below 5°C (40°F)
- position: Cold engine start-ambient temp. at 0°C (30°F) ~ 30°C (90°F) and warming up position.
- position: Cold engine start-ambient temp. above 25°C (80°F) and warm engine start position.

### NOTE:

- After the engine started at the ① position, the starter lever is returned to the half open position ② for warming up the engine. If the engine started at the ② position, keep this position ② for warming up the engine.
- Continue warming up the engine until it idles smoothly and return the starter lever to the original position ③ for riding.

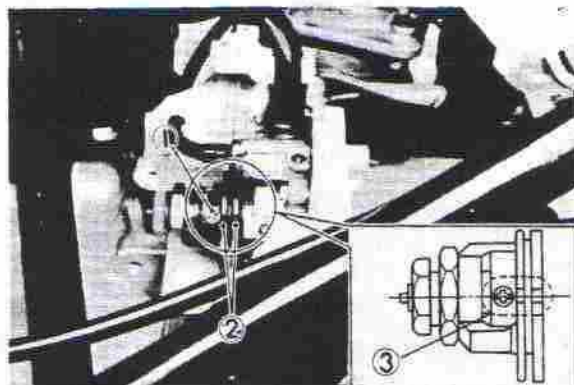
### Starter (Choke) Cable Adjustment

- Remove the seat and body cowl assembly.
- Remove the air filter case assembly.
- Turn the starter lever to the half open (②), then check to see that the bottom of the starter plunger piston is aligned with the top of the starter outlet hole as shown in the photograph.



1. Starter Cable  
2. Spring  
3. Starter plunger piston  
4. Starter outlet hole

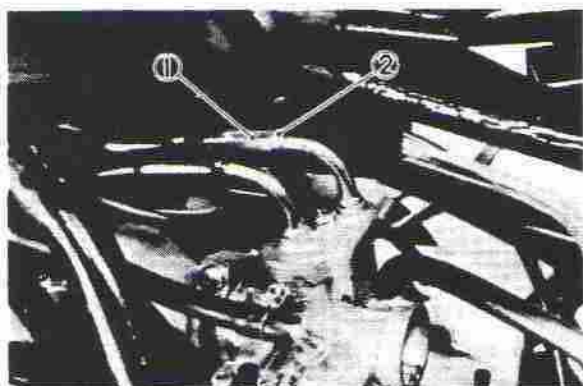
4. Close the throttle lever completely, then check to see that the Autolube pump plunger pin is aligned with the mark on the Autolube pump pulley.



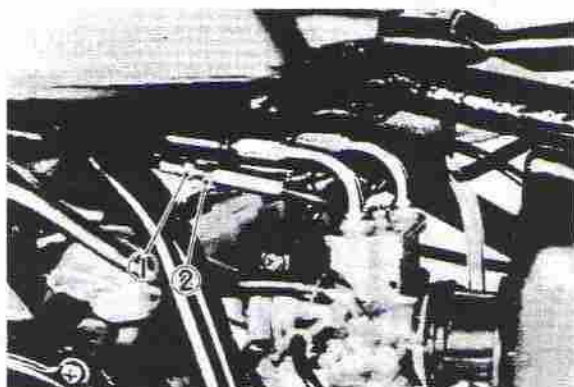
1. Plunger pin 2. Mark 3. Set position

4. If the starter plunger position is not correct, loosen the cable length adjuster locknut and adjust the cable length until alignment is achieved.

5. If the mark and pin are not in alignment, loosen the cable length adjuster locknut and adjust cable length until alignment is achieved.



1. Cable adjuster 2. Locknut



1. Cable adjuster 2. Locknut

### Autolube Pump Cable Adjustment

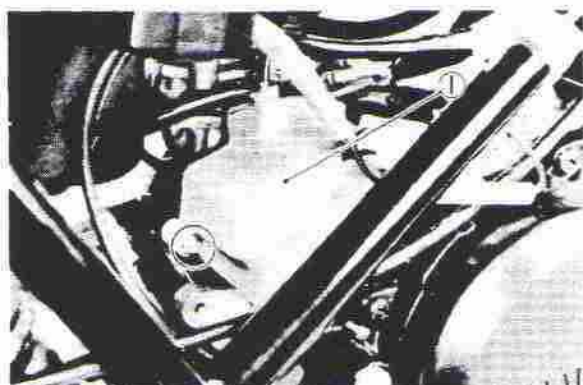
Before adjusting the pump cable, adjust the throttle cable free play.

6. Tighten adjuster locknut.

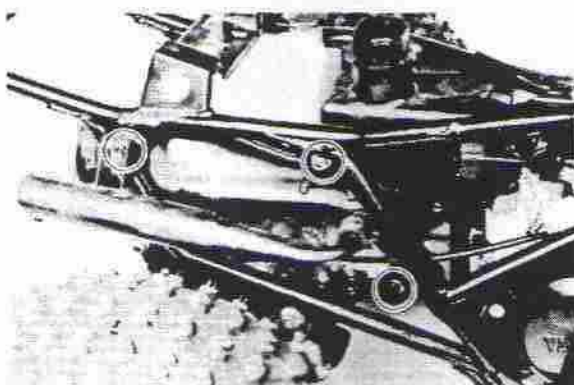
1. Remove the seat and body cowl assembly.
2. Adjust the throttle cable free play of 1.0 mm (0.04 in) at the cable adjuster on the carburetor.
3. Remove the Autolube pump cover.

### Minimum Pump Stroke Check and Adjustment

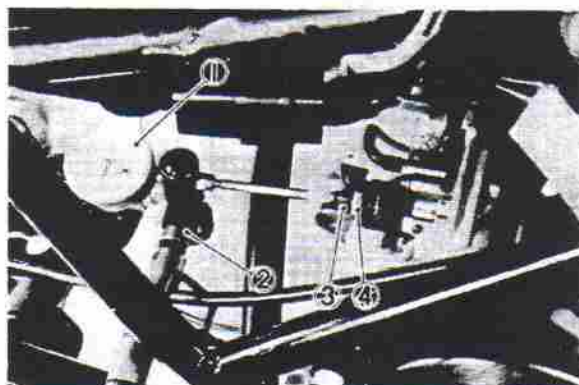
1. Remove the muffler securing bolts and remove the muffler assembly.



1. Cover




- Set the magnetic stand and dial gauge, and measure the pump stroke while keeping the engine idle.



- Dial gauge
- Magnetic stand
- Adjuster
- Locknut

- To adjust the plunger stroke, first loosen the locknut.
- Turn the adjusting bolt in or out for proper adjustment.  
Turning the adjusting bolt clockwise decreases the plunger stroke; while turning counterclockwise increases the plunger stroke.
- When the correct stroke is attained, tighten the locknut.

Minimum Stroke	0.25 ~ 0.30 mm (0.010 ~ 0.012 in)
Maximum Stroke	1.00 ~ 1.15 mm (0.039 ~ 0.045 in)
Pulley Color Code	Yellow
Pulley Adjust Mark	

- Install the muffler and torque the bolts to specification.

#### TIGHTENING TORQUE:

##### Muffler:

27 Nm (2.7 m · kg, 19 ft · lb)

##### Muffler clamp:

20 Nm (2.0 m · kg, 14 ft · lb)

- Install the Autolube pump cover, body cowl assembly, and seat.

#### Air Bleeding

The Autolube pump and delivery lines must be bled on the following occasions:

- Whenever the Autolube tank has run dry.
  - Whenever any portion of the Autolube system is disconnected.
  - If the machine lies on its side after falling over.
- Remove the pump cover and remove the bleed screw.

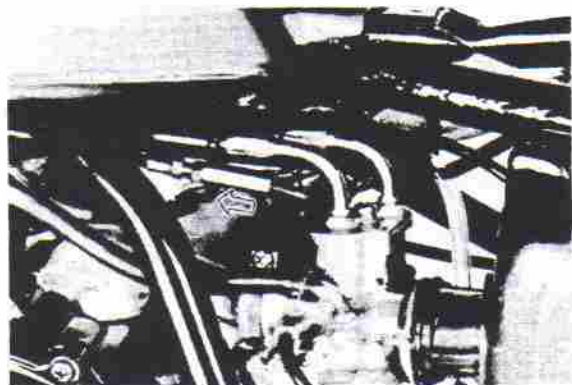


- Bleed screw
- Keep the oil running out until air bubbles disappear.

#### NOTE:

Check the bleed screw gasket, and if damaged, replace with a new one.

- When air bubbles are expelled completely, tighten the bleed screw and install the pump cover.
- Start the engine, pull the pump wire all the way out to set the pump stroke to a maximum.



**NOTE:**

It is difficult to bleed the distributor completely with the pump stroke at a minimum, and therefore the pump stroke should be set to a maximum.

5. Keep the engine running at about 2,000 r/min for two minutes or so, and both distributor and delivery pipe can be completely bled.

**Engine Oil**

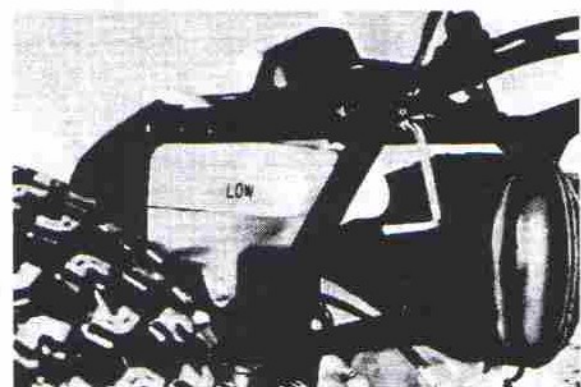
Check the engine oil level in the oil tank. If the oil level is low, add the sufficient oil.

**Recommended Oil:**

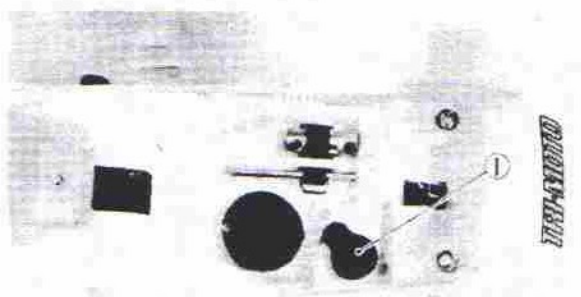
Yamalube 2-Cycle Oil or Air-Cooled 2-Stroke Engine Oil

**Oil Tank Capacity:**

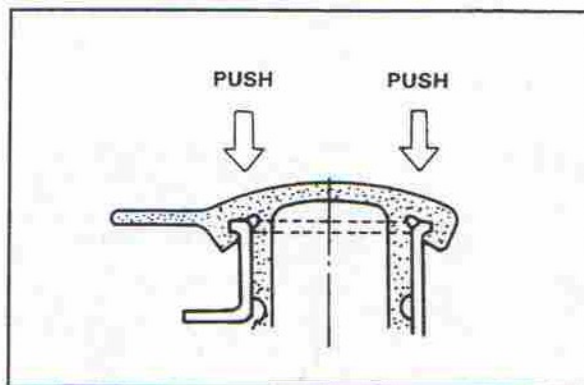
0.7 L (0.62 Imp qt, 0.74 US qt)

**NOTE:**

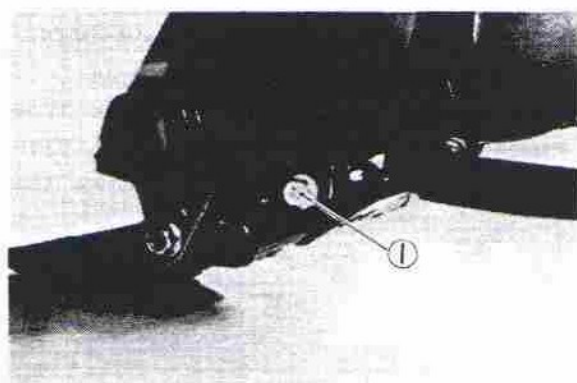
Install the oil tank filler cap and push it fully into the filler.



1. Oil tank filler cap

**Transmission Oil**

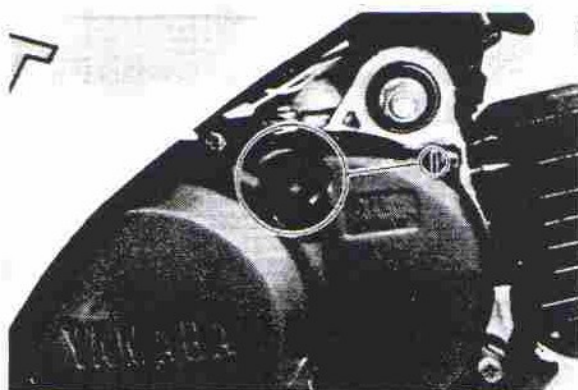
To drain the oil, warm the engine up and remove the drain plug and drain all transmission oil. Reinstall the drain plug (make sure it is secure). Add oil through the filler cap.



1. Drain plug

**TIGHTENING TORQUE:**

18 Nm (1.8 m·kg, 13 ft·lb)



1. Filler cap

#### Recommended Oil:

Yamalube 4-Cycle Oil or SAE 10W30  
Type SE Motor Oil

#### Transmission Oil Capacity:

##### Periodic Oil Change:

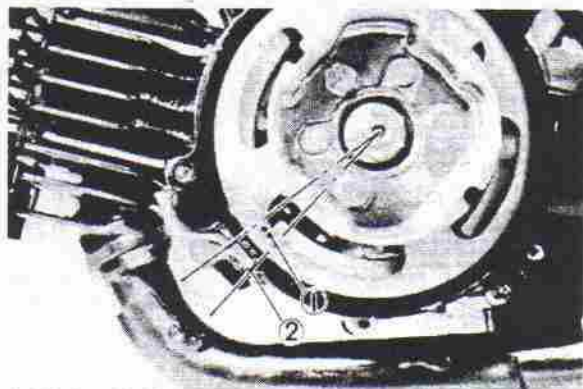
0.30 L (0.26 Imp qt, 0.32 US qt)

##### Total Amount:

0.35 L (0.31 Imp qt, 0.37 US qt)

### Checking Ignition Timing

1. Ignition timing is checked with timing light by observing the position of the stationary pointer marked on the crankcase and the marks on the flywheel magneto.



1. Mark 2. Stationary pointer

2. Remove the crankcase cover (L).
3. Connect the timing light to the spark plug lead.
4. Start the engine and keep it running at the specified speed. Use a tachometer for checking.

#### Specified Engine Speed:

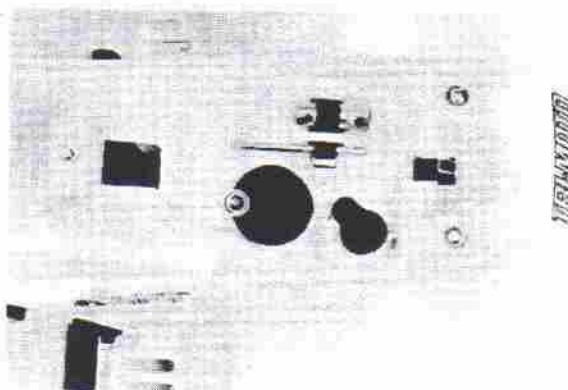
1,600 ± 50 r/min

5. While running the engine at the specified speed, check to see that the stationary pointer is aligned with the magneto center mark. If the marks are out of alignment, check the woodruff key for damage and/or crankshaft for damage.

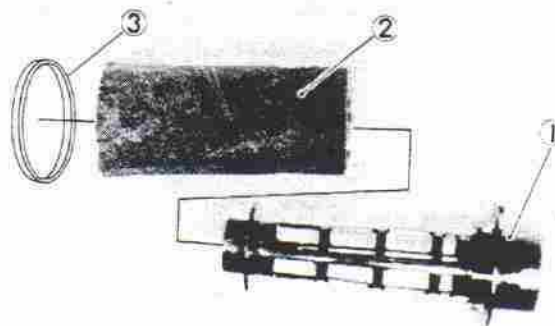
## CHASSIS

### Air Filter Cleaning

1. Remove the pan head screw from the filter case.



2. Pull out case cap.
3. Remove the element from the case cap.



1. Case cap 2. Element 3. Band

4. Wash the element gently, but thoroughly, in solvent.
5. Squeeze the excess solvent out of the filter and let dry.
6. Pour a small quantity of foam-air-filter oil or Air-cooled 2-stroke engine oil onto the filter element and work thoroughly into the porous foam material.

#### NOTE:

In order to function properly, the element must be damp with oil at all times, but not dripping with oil.





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