



YAMAHA

YZ80C

OWNER'S SERVICE MANUAL

www.legends-yamaha-enduros.com

598-28199-10

NOTICE

Yamaha Motor Company is confident you will enjoy your new Yamaha to the utmost. We have made every effort to provide you with a safe, well-engineered and constructed product. This Owner's Service Manual will acquaint you with several features and maintenance procedures concerning your Yamaha. However, if you are unfamiliar with the product, or the features or procedures outlined within this manual, we strongly urge you to consult your Authorized Yamaha Dealer for additional information.

YZ80C OWNER'S SERVICE MANUAL

1975

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FOREWORD

We are highly gratified that you have selected the YAMAHA YZ80C a wise choice that promises you many delightful years of motorcycling. Though small in size, this YZ80C is a truly attractive motorcycle that Yamaha presents for easy riding. The design is essentially based on the fully-equipped full size motorcycles, such as the Yamaha YZ400, YZ250 and YZ125.

This Owner's Service Manual has been published to provide you with the fundamentals of the YZ80C. Carefully reading this manual will help you keep your machine in top operating condition. We hope that you will find the YZ80C outstanding wherever you go-across the desert or over the mountains.

SERVICE DEPARTMENT
OVERSEAS ENGINEERING DIVISION
YAMAHA MOTOR CO., LTD.

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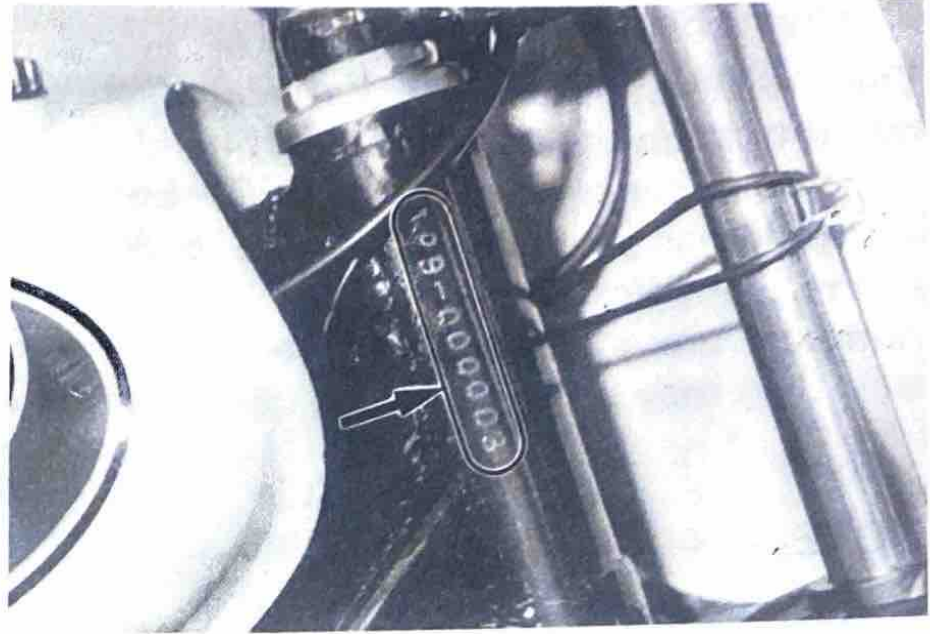
I GENERAL INFORMATION

A. Machine Identification

1. Frame Serial Number

The frame serial number is located on the right-hand side of the headstock assembly. The first three digits identify the model. This is followed by a dash. The remaining digits identify the production number of the unit.

Yamaha production begins – 000101



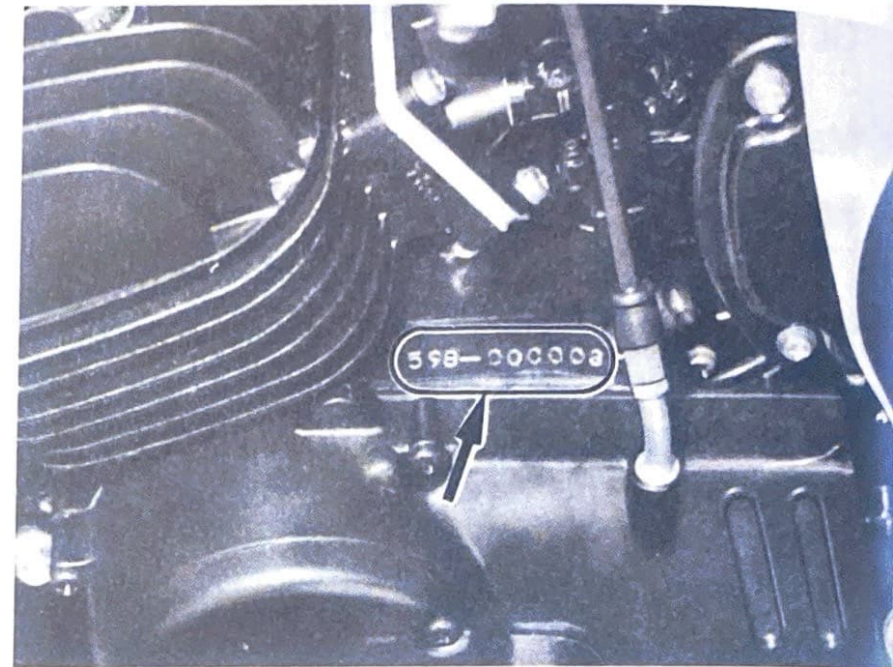
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2. Engine Serial Number

The engine serial number is located on a raised boss on the upper rear, left-hand side of the engine on the YZ80C. Engine identification follows the same code as frame identification. Normally, both serial numbers are identical; however, on occasion they may be two or three numbers off.

NOTE:

Always check your registration papers against the actual machine serial numbers. If any discrepancy is found, have it corrected immediately.



B. General Specifications

These specifications are for general use. For a more complete list, refer to Maintenance Specifications.

DIMENSIONS/WEIGHT

Overall Length	66.9 in	(1,705 mm)
Overall Width	30.9 in	(785 mm)
Overall Height	37.2 in	(945 mm)
Wheel base	46.1 in	(1,170 mm)
Minimum ground clearance	6.7 in	(170 mm)
Sea hight (unloaded)	27.0 in	(685 mm)
Machine net weight	141 lb	(64 kg)

ENGINE

Type	Air cooled, 2-stroke, Single, Torque Induction
Bore/Stroke	1,929 x 1,654 in (49 x 42 mm)
Displacement	4.82 cu in (79 c.c.)
Compretion ratio	7.2 : 1
Starting system	Kick starter (primary kick)
Lubrication system	Mixed Gas 20 : 1

CARBURETION

Manufacturer/Type	MIKUNI/VM24SH
Effective venturi size	(24mm)
Main jet	#200

Needle jet	0 – 0
Jet needle	4J13–2
Pilot jet	#35
Air screw (turns out)	1-1/4
Cut away	1.5
Air cleaner type	Oiled form rubber

CLUTCH

Type	Wet multiple disc
Primary drive system	Helical gear
Primary drive ratio	$68/19 = 3.579$

TRANSMISSION

Type	Constant mesh 5 speed
Reduction ratio	1st $39/12 = 3.250$
	2nd $34/17 = 2.000$
	3rd $30/21 = 1.429$
	4th $27/24 = 1.125$
	5th $25/26 = 0.961$

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SECONDARY DRIVE

Drive/Driven sprockets	14/48
Type/size	Chain/DK420
Reduction ratio	$48/14 = 3.429$

ELECTRICAL

Ignition type	Magneto
Ignition coil resistance (Primary)	$1.02 \pm 0.10\Omega$ at 20°C
Ignition coil resistance (Secondary)	$6.0 \pm 1.2\text{K}\Omega$ at 20°C
Ignition timing	B.T.D.C. 2.0 mm
Spark plug	
Normal	NGK (B-8ES)
Spark plug gap	0.020 ~ 0.024 in (0.5 ~ 0.6 mm)

CHASSIS

Frame type	Double cradle
Front suspension/travel	Telescopic fork/4.3 in (110 mm)
Rear suspension/travel	Swing arm/3.0 in (75 mm)
Caster/Tail	61° /3.4 in (87 mm)
Front tire size/type	2.50-16-4PR Knobby
Rear tire size/type	3.00-14-4PR Knobby
Nominal pressure	Front: 10 lb/in^2 (0.7 kg/cm^2) Rear: 14 lb/in^2 (1.0 kg/cm^2)
Front brake type	Drum
Actuating method	Cable
Rear brake type	Drum
Actuating method (rear)	Link rod

VOLUMES/TYPE FLUID

Gasoline tank/type (ratio)	4.3ℓ (1.1 u.s. gal.)/90 + Octane
----------------------------	----------------------------------

Transmission/type

Total: 550–660cc Oil exchange : 500–550cc

Motor oil SAE 10W/30 Type SE

Front fork(each)/type

105–110cc/10,20,30W Fork oil

NOTE:

The Research and Engineering Departments of Yamaha are continually striving to further perfect all models. Improvements and modifications are therefore inevitable. In light of this fact, the foregoing specifications are subject to change without notice to the owner. Information regarding changes is forwarded to all Authorized Yamaha Dealers as soon as available. If a discrepancy is noted, please consult your dealer.

C. Maintenance Specifications

ENGINE TOP END

Piston clearance	0.0014–0.0016 in	(0.035–0.040 mm)
Piston wear limit	0.004 in	(0.1 mm)
Ring end gap (free)	0.22 in	(5.5 mm)
Ring end gap (installed)	0.016–0.020 in	(0.4–0.5 mm)
Connecting rod/crank side clearance	0.008–0.020 in	(0.2–0.5 mm)

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ENGINE CLUTCH

Friction plate thickness	0.118 in	(3.0 mm)
Clutch spring free length	1.34 in	(34 mm)
Clutch plate warp allowance	0.002 in	(0.05 mm)

CHASSIS

Front brake shoe diameter	3.7 in	(95 mm)
Front brake shoe replacement limit	3.5 in	(90 mm)
Rear brake shoe diameter	4.3 in	(110 mm)
Rear brake shoe replacement limit	4.1 in	(105 mm)
Wheel run-out limit (VERTICAL)	0.008 in	(2 mm)
Wheel run-out limit (LATERAL)	0.008 in	(2 mm)
Front fork spring free length	16.5 in	(418.8 mm)

TORQUE VALUES (Also see Torque Chart page 9)

Cylinder head holding nut	6 mm	9–11 ft-lb (1.2–1.5 m-kg)
Flywheel securing nut	12 mm	36–51 ft-lb (5.0–7.0 m-kg)
Primary drive gear securing nut	12 mm	36–58 ft-lb (5.0–8.0 m-kg)
Spark plug	14 mm	18–22 ft-lb (2.5–3.0 m-kg)
Drive sprocket securing nut	12 mm	36–51 ft-lb (5.0–7.0 m-kg)
Clutch boss securing nut	12 mm	36–51 ft-lb (5.0–7.0 m-kg)
Front wheel shaft securing nut	12 mm	36–51 ft-lb (5.0–7.0 m-kg)
Under bracket securing bolt	10 mm	18–29 ft-lb (2.5–4.0 m-kg)
Handle crown pinch bolt	8 mm	8–13 ft-lb (1.1–1.8 m-kg)
Steering shaft stem bolt	14 mm	30–47 ft-lb (4.2–6.5 m-kg)
Handle bar securing bolt	8 mm	8–13 ft-lb (1.1–1.8 m-kg)
Handle holder securing nut	10 mm	17–27 ft-lb (2.3–3.7 m-kg)
Engine mounting nut (Front)	8 mm	16–22 ft-lb (2.2–3.0 m-kg)
Engine mounting nut (Rear Upper)	8 mm	16–22 ft-lb (2.2–3.0 m-kg)
Engine mounting nut (Rear Under)	8 mm	22–29 ft-lb (3.0–4.0 m-kg)

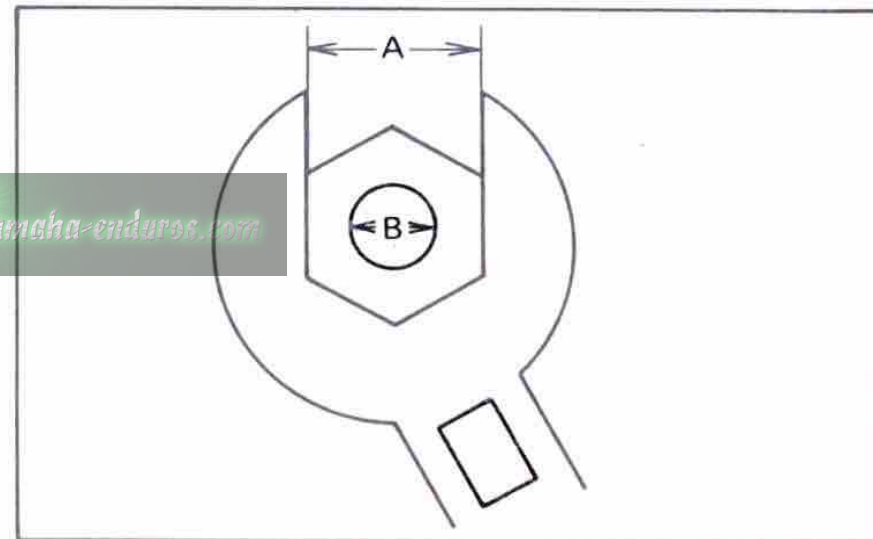
Foot rest securing bolt	8 mm	10–16 ft-lb (1.4–2.2 m-kg)
Pivot shaft securing nut	12 mm	25–36 ft-lb (3.5–5.0 m-kg)
Rear wheel shaft securing nut	12 mm	36–51 ft-lb (5.0–7.0 m-kg)
Tension bar and brake plate	8 mm	10–16 ft-lb (1.4–2.2 m-kg)
Tension bar and rear arm	8 mm	10–16 ft-lb (1.4–2.2 m-kg)
Rear shock absorber securing nut (Upper)	12 mm	22–35 ft-lb (3.0–4.8 m-kg)
Rear shock absorber securing nut (Lower)	12 mm	22–35 ft-lb (3.0–4.8 m-kg)
Driven sprocket securing bolt	8 mm	12–16 ft-lb (1.7–2.2 m-kg)

D. Torque Chart

The chart covers those stud/bolt sizes with standard I.S.O. pitch threads. Torque specifications for components with thread pitches other than standard are given within the applicable chapter.

Torque specifications are for dry, clean threads. Components such as the cylinder or cylinder head should be at room temperature prior to torquing. A cylinder head or any other item with several fasteners should be torqued down in a criss-cross pattern in successive stages until torque specification is reached. The method is similar to installing an automobile wheel and will avoid warping the component.

A (mm) (nut)	B (mm) (bolt)	Torque specification		
		m-kg	ft-lb.	in-lb
10	6	1.0	7	85
12	8	2.0	15	175
14	10	3.5 – 4.0	25 – 29	300 – 350
17	12	4.0 – 4.5	29 – 33	350 – 400
19	14	4.5 – 5.0	33 – 36	400 – 440
22	16	5.5 – 6.5	41 – 49	480 – 570
24	18	6.0 – 7.0	42 – 50	500 – 600
27	20	7.0 – 8.0	50 – 60	600 – 700
Spark plug		2.5 – 3.0	20 – 22	230 – 250



E. Maintenance and Lubrication Schedule

The maintenance and lubrication schedule chart should be considered strictly as a guide to general maintenance and lubrication intervals. You must take into consideration that weather, terrain, geographical locations, and a variety of individual uses all tend to demand that each owner alter this time schedule to match his environment. For example, if the motorcycle 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 rust and damage. If you are in doubt as to how closely you can follow these time recommendations, check with the YAMAHA dealer in your area.

RECOMMENDED LUBRICANTS

(referred to by number on the charts)

- (1) At ambient temperatures of 30~90°F (0~30°C), use 10W/30 "SE". Do not use "additives" in oil.

- (2) Use SAE 10W/30 "SE" motor oil. (If desired, specialty type lubricants of quality manufacture may be used.)
- (3) Use graphite base type (specialty types available—use name-brand, quality manufacturer).
- (4) Light duty: smooth, light-weight, "white" grease. Heavy duty: standard lube grease (do not use lube grease on throttle/housing).
- (5) Use a soft chassis lube grease (short fiber).
- (6) Medium-weight wheel bearing grease of quality manufacturer—preferably waterproof.
- (7) Light-weight machine oil.
- (8) Air filters—form element air filters must be damp with oil at all times to function properly. Clean and lube every meet. If hard usage, clean and lube every heat (MOTO). Do not over-oil. Use SAE 10W/30 "SE".
- (9) Use 10~30W fork oil (non-foaming hydraulic fluid).

MAINTENANCE AND LUBRICATION SCHEDULE CHART

Item	Race/Meet Interval					
	Every meet	Every second	Every third	Every heat (moto)	Every 6 months of racing	As required
PISTON						
• Inspect	○					
• Clean	○					
• Replace						○
PISTON RINGS						
• Replace	○					
CYLINDER						
• Inspect (Compression Check)	○					
• Clean	○					
• Replace						○
• Check head bolt torque				○		
CLUTCH						
• Adjust	○					
• Replace (Plates)						○
TRANSMISSION						
• Change Oil						○ (1)
• Inspect gears					○	
• Replace bearing					○	
• Inspect shift forks					○	

(continued)

Item	Race/Meet Interval					
	Every meet	Every second	Every third	Every heat (moto)	Every 6 months of racing	As required
ENGINE MAIN BEARINGS						
• Replace					○	
CONNECTING ROD						
• Check bearings	○					
• Replace big end bearing					○	
• Replace small end bearing						○
CARBURETOR						
• Check/Adjust/Tighten	○					
• Clean & Inspect	○					
PISTON PIN						
• Inspect	○					
• Replace						○
EXHAUST SYSTEM						
• Inspect	○					
FLYWHEEL NUT						
• Torque	○					
KICK STARTER						
• Inspect idler gear					○	
• Replace						○
FRAME						
• Clean & Inspect	○					

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Item	Race/Meet Interval					
	Every meet	Every second	Every third	Every heat (moto)	Every 6 months of racing	As required
SWING ARM	<input type="radio"/>					
• Check	<input type="radio"/>					
CONTROLS & CABLES	<input type="radio"/>					
• Check & Adjust	<input type="radio"/>					
• Lubricate	<input type="radio"/> (3)					
BRAKES	<input type="radio"/>					<input type="radio"/>
• Clean/Check/Adjust	<input type="radio"/>					<input type="radio"/>
• Replace						<input type="radio"/>
WHEELS AND TIRES	<input type="radio"/>					
• Check pressure	<input type="radio"/>					
• Check runout	<input type="radio"/>					
• Check spoke tension				<input type="radio"/>		
• Check bearings	<input type="radio"/>					<input type="radio"/>
• Replace bearings						<input type="radio"/>
STEERING HEAD	<input type="radio"/>					
• Check	<input type="radio"/>					
• Clean and repack	<input type="radio"/>					
IGNITION WIRING	<input type="radio"/>					
• Check connections	<input type="radio"/>					
AIR FILTER	<input type="radio"/>					
• Clean and oil	<input type="radio"/> (8)					
• Replace						<input type="radio"/>

Item	Race/Meet Interval					
	Every meet	Every second	Every third	Every heat (moto)	Every 6 months of racing	As required
SPARK PLUG <ul style="list-style-type: none"> ● Replace 				○		
DRIVE CHAIN <ul style="list-style-type: none"> ● Clean & lubricate ● Check tension and alignment ● Replace 				○(2) ○		○
FITTINGS AND FASTENERS <ul style="list-style-type: none"> ● Tighten 	○					
FUEL TANK <ul style="list-style-type: none"> ● Clean/Flush ● Clean petcock filter 	○ ○					
FRONT FORKS <ul style="list-style-type: none"> ● Drain & refill ● Replace seals 			○(9)			○
CLUTCH AND BRAKE SHAFTS <ul style="list-style-type: none"> ● Lubricate 	○(4)					

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F. Special Tools

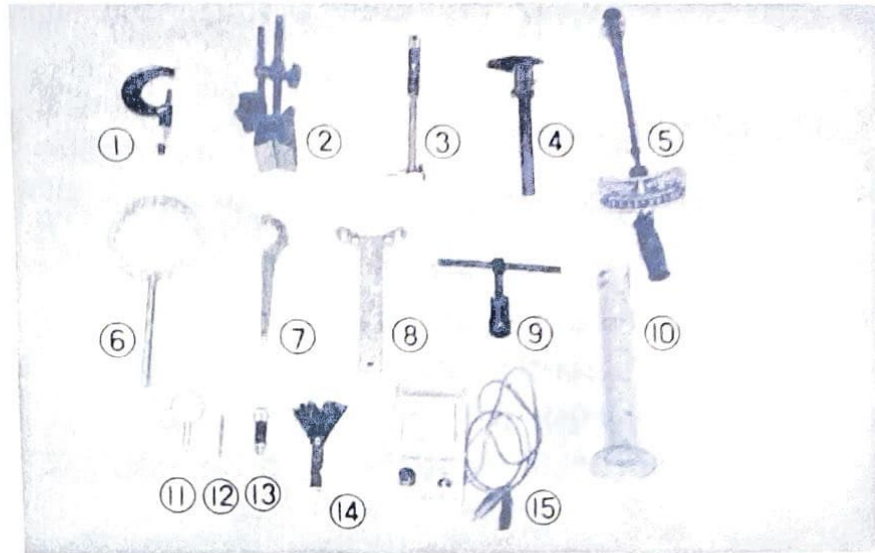
The maintenance procedures outlined within this manual require special tools and instruments. A comprehensive list of the special tools is given below.

NOTE:

These items marked with an asterisk (*) available from YAMAHA.

NOTE:

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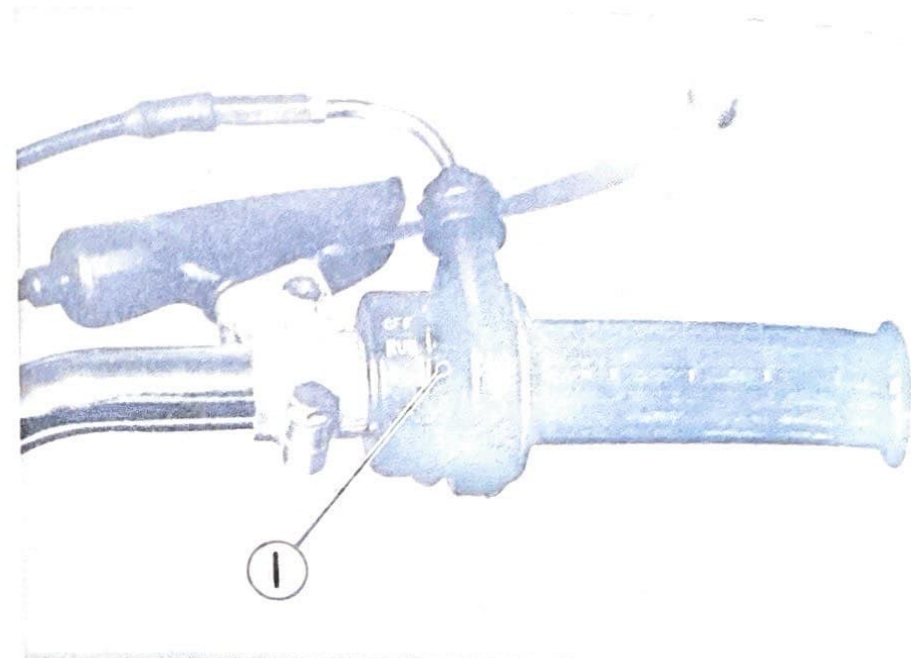
1. Outside Micrometer (25~50mm)
2. Magnetic Base
3. Cylinder Gauge (35~60mm)
4. Verner Caliper (0~150mm)
5. Torque Wrench (0~10m-kg)
- *6. Clutch Holding Tool
- *7. Steering Nut Wrench
- *8. Flywheel Holding Tool
- *9. Flywheel Puller
10. Measuring Cylinder (0~250cc)
- *11. Dial Gauge
- *12. Needle (56mm)
- *13. Dial Gauge Stand
14. Thickness Gauge
- *15. Point checker

II BASIC INSTRUCTIONS

A. Control Functions

1. Engine Stop Switch

The Engine stop switch is located on the right handlebar. Slide the switch to "OFF" position for ignition off, and to "RUN" position for ignition on.



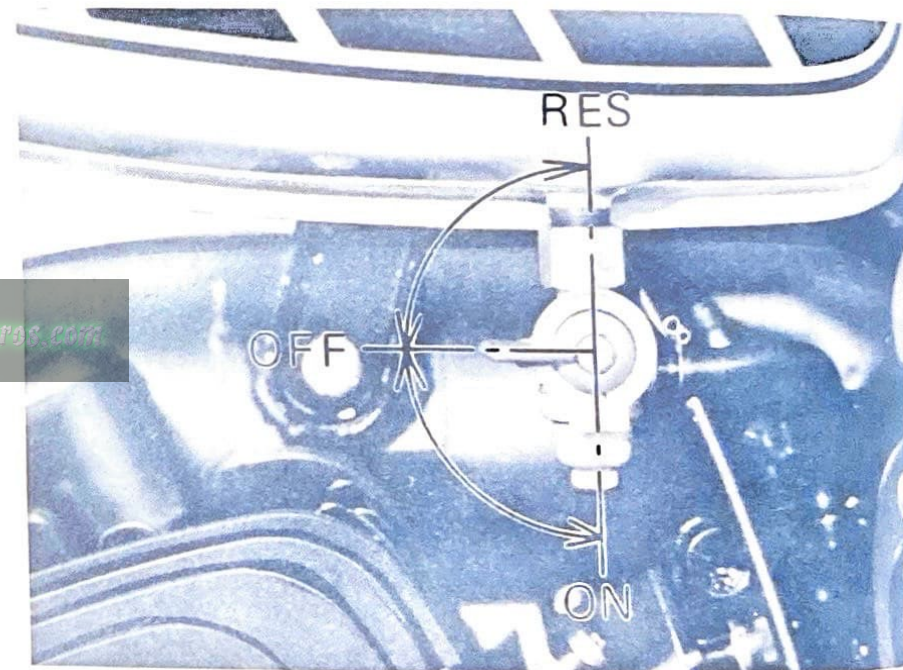
1. Engine stop switch

2. Fuel Tank and Petcock

The fuel tank incorporates a threaded plastic filler cap. The cap has a vent tube which is routed to the front of the tank and down along side a frame tube.

The fuel petcock function to supply fuel from the tank to the carburetor and also to filter the fuel.

The fuel petcock has the following three positions:



RES: This indicates reserve. If you run out of fuel while driving, move the lever to this position. Then, fill the tank at the first opportunity.

OFF: With the lever in this position fuel will not flow. Return the lever to this position when the engine is not running.

ON: With the lever in this position fuel flows to the carburetor. Normal driving is done with the lever in this position.

3. Front Brake Lever

Located on the right handle bar. The front brake lever actuates the single leading-shoe front brake when brake lever is squeezed.

4. Rear Brake Pedal

Located directly in front of the right-hand rider's foot rest. The rear brake pedal actuates the single leading-shoe rear brake when the pedal is depressed.

5. Clutch Lever

Located on the left handle bar. The clutch lever will disengage the wet-type, multi-plate clutch when the lever is squeezed.

6. Throttle

The throttle is the spring-return type, and is located on the right handlebar.

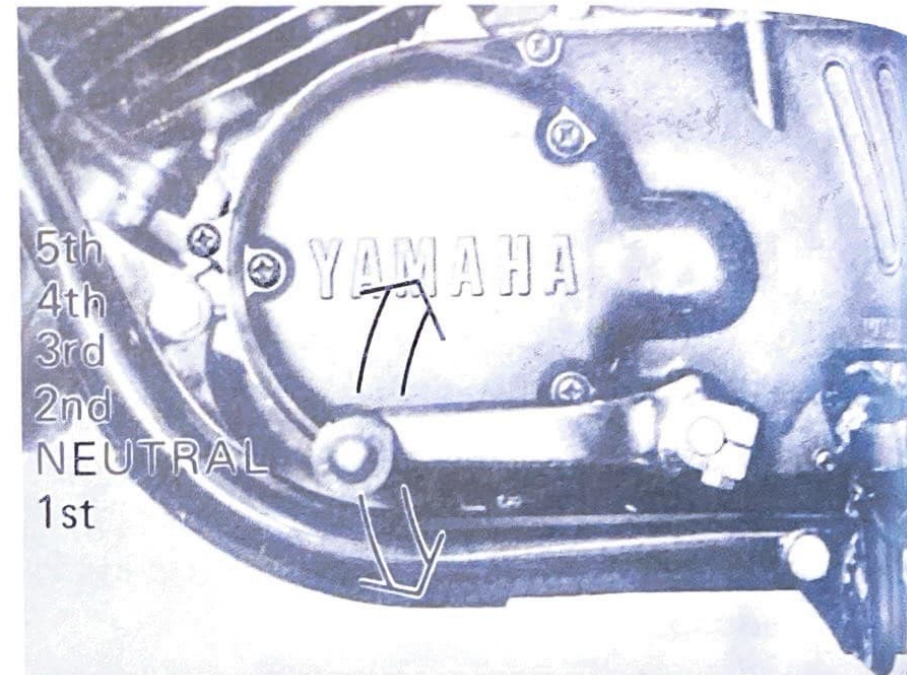
7. Kick Crank

The kick starter crank is located on the right, rear side of the engine. Rotate the crank out, press your foot upon it firmly push down until the gears engage the primary drive train and kick briskly to start the engine. Fold the crank in after engine starts.

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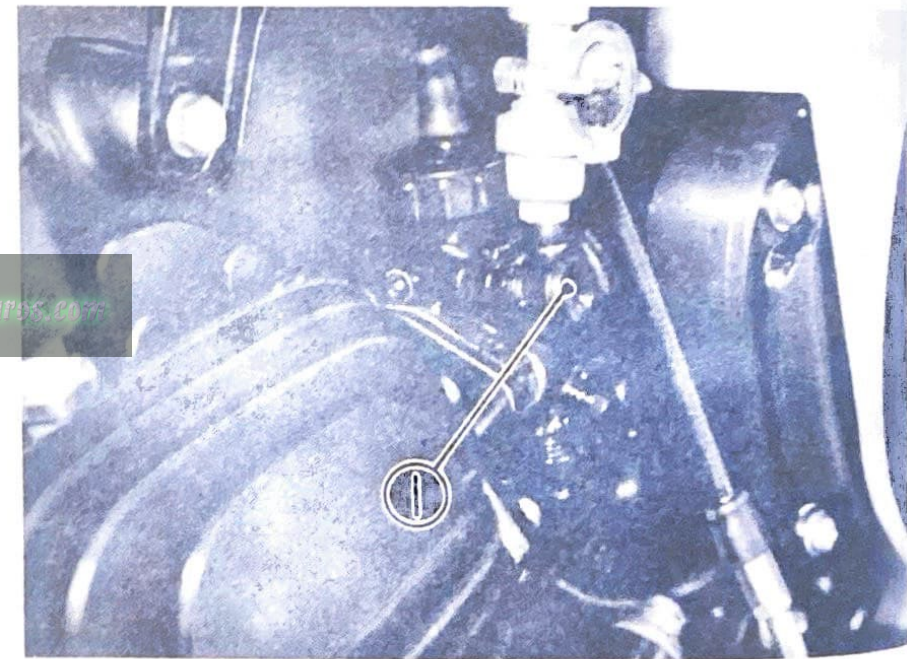
8. Shift Lever

The transmission shift lever is located on the left-hand side of the machine directly in front of the rider's foot rest. The shift mechanism is of the ratcheting type and controls gear selection for the 5-speed transmission.



9. Carburetor Starter Jet

The carburetor starter jet is located on the left side of the carburetor assembly. The jet is designed to supply an extra-rich fuel/air mixture for cold engine starts. It is actuated by pulling the knob. Always push in the knob after the engine is running smoothly. Never ride the machine with the starter jet on.



1. Starter jet knob

B. Fuel and Oil

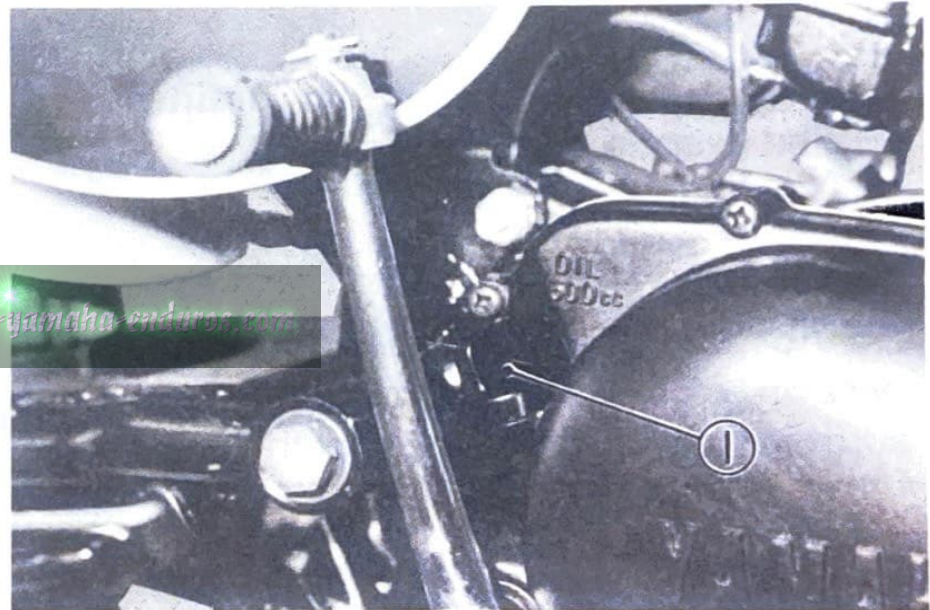
1. Fuel

Use premium gasoline with an octane rating of 90 + mixed with oil at a gas/oil ratio of 20:1. Always use fresh, name-brand gasoline.

Always mix a fresh batch of fuel the morning of the race and do not retain a mixed batch overnight.

2. Oil

- a. Motor Oil: We recommended that your first choice be Yamalube 2-cycle. If for any reason you should use another type, the oil should meet or exceed BIA certification "TC-W" check the container top or label for service specification and mixing ratios.
- b. Transmission Oil: The transmission filler plug is located above the kick-starter.



1. Transmission filler plug

Recommended oil:
YAMALUBE 4-CYCLE or SAE 10W/30
type "SE" name-brand motor oil.

On the bottom of the engine there is a drain plug. Remove it and drain all the oil from the transmission. Reinstall the drain plug (make sure it is tight). Add oil through filler hole.

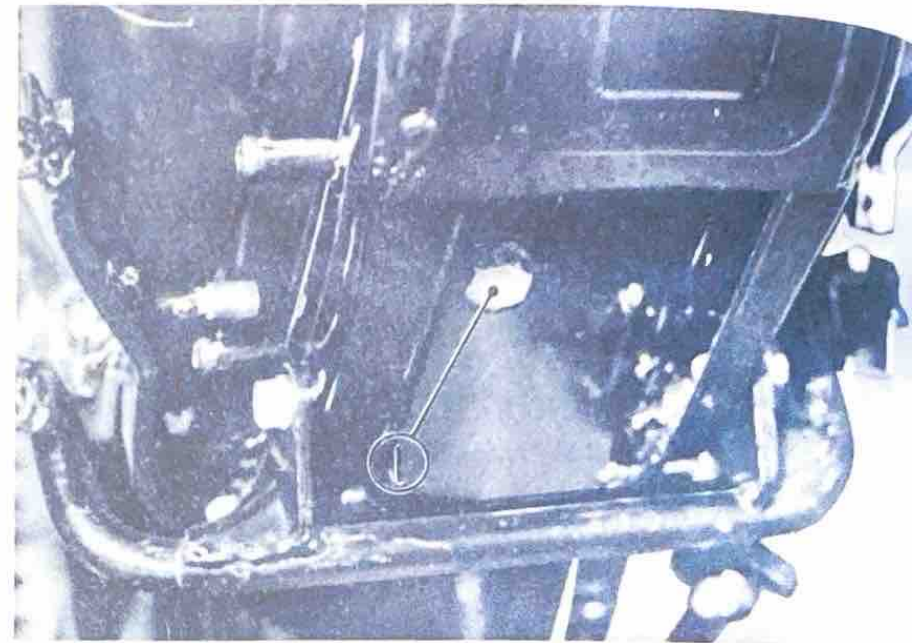
Transmission Oil Capacity:
500 – 550 cc (Oil exchange)
550 – 660 cc (Total)

The transmission should be drained and refilled every second race meet.

NOTE:

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Do not add any chemical additives. Transmission oil also lubricates the clutch and additives could cause the clutch to slip.



1. Drain plug

III OPERATION

CAUTION:

1. Before riding this motorcycle, become thoroughly familiar with all operating controls and their function. Consult your Yamaha dealer regarding any control or function you do not thoroughly understand.
2. This model is designed for competition use only. It is not equipped with highway approved lighting, mirrors, horn or directional signals. In most instances, it is illegal to ride this model (either day or night) on any public street or highway.
3. Observe the break-in procedures to preclude mechanical failures.

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A. Pre-operation Check List

ITEM	ROUTINE
BRAKE	Check operation/adjustment
CLUTCH	Check operation/lever adjustment
FUEL TANK	Fill with proper fuel/oil mix
TRANSMISSION	Change oil as required
DRIVE CHAIN	Check alignment/adjustment/lubrication
SPARK PLUG	Replace each race (moto)
THROTTLE	Check for proper cable operation
AIR FILTER	Foam type—must be clean and damp with oil always
WHEELS & TIRES	Check pressure/runout/spoke tightness/axle nuts
FITTINGS/FASTENERS	Check all/tighten as necessary

NOTE:

Pre-operation checks should be made each time the machine is used. Such an inspection can be thoroughly accomplished in a very short time and the added safety it assures is more than worth the time involved.

B. Break-in Procedure

1. Prior to starting, fill tank with a break-in gasoline/oil mixture of 15:1.
2. After fueling and pre-operational checks have been made, refer to Starting and Operation (Section C) and start engine.
3. Allow engine to warm up. Check engine idle speed. Check operating controls and engine stop switch operation.
4. Operate machine in lower gears at moderate throttle settings for 3–5 minutes. Check spark plug condition.
5. Allow engine to cool. Repeat procedure, running for 5 minutes. Very briefly, shift to higher gears (4th, or 5th) and check full throttle response. Check spark plug condition.
6. Allow engine to cool. Repeat procedure, running for 5 minutes. Full throttle and higher gears may be used, but avoid sustained full throttle operation. Check spark plug condition.
7. Allow engine to cool. Remove top end and inspect. Remove “high” spots on piston with No. 600 grit, wet sandpaper. Clean, and carefully reassemble.
8. Remove break-in fuel/oil mixture from tank. Refill with 20:1 operation fuel/oil mixture. Check entire unit for loose or mis-adjusted fittings/controls/fastens.
9. Re-start engine and check through entire operating range thoroughly. Stop. Check spark plug condition. Re-start. After 10–15 minutes operation, machine is ready to race.

C. Starting and Operation

CAUTION: _____
**PRIOR TO OPERATING THE MACHINE,
REFORM STEPS LISTED IN PRE-
OPERATION CHECK LIST.**

NOTE: _____

Observe break-in procedures for initial operation. Agitate machine prior to starting and fuel prior to filling to provide correct mixture. Never leave the fuel in tank for long periods. The fuel/oil mix will denature. Turn fuel pet-cock lever to open (vertical) position.

1. Starting Cold

Pull the knob to open the starter jet. Keep the throttle completely closed. Engage the kick starter and start the engine.

The kick mechanism is of the primary type. Therefore, the engine may be started in any gear, provided the clutch is disengaged. The engine may be started in neutral with clutch engaged or disengaged.

2. Starting with Engine Warm

Do not engage starter jet. Open throttle slightly. Engage the kick starter and start the engine.

3. Warm-Up

Run the engine at idle or slightly higher using the starter jet as required until the engine is warm. This procedure normally takes 1 to 2 minutes. To check, see if the engine responds normally to throttle with starter jet off.

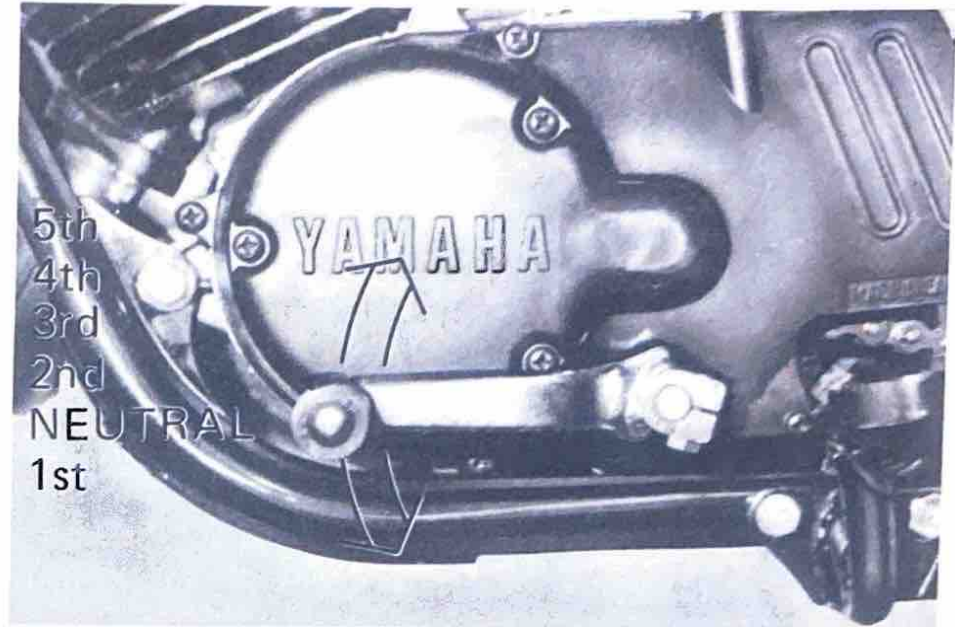
CAUTION: _____
**DO NOT OPERATE ENGINE FOR EX-
TENDED WARM-UP PERIODS.**

4. Shifting

A 5-speed transmission is used. Low gear is at the bottom of the shift pattern; high gear at the top of the shift pattern; neutral is located half-way between first and second positions.

The shift mechanism is of the ratcheting type common to most motorcycles. Allow the lever to return to its "at rest" position after shifting. Neutral is selected by pulling up or depressing on the shift lever halfway between first and second gears.

With the engine running in the neutral position, disengage the clutch (pull in clutch lever), press down on the shift lever until low gear is engaged, remove foot from shift lever, increase engine speed slightly, slowly release clutch lever while advancing throttle. Repeat procedure for remaining gears.



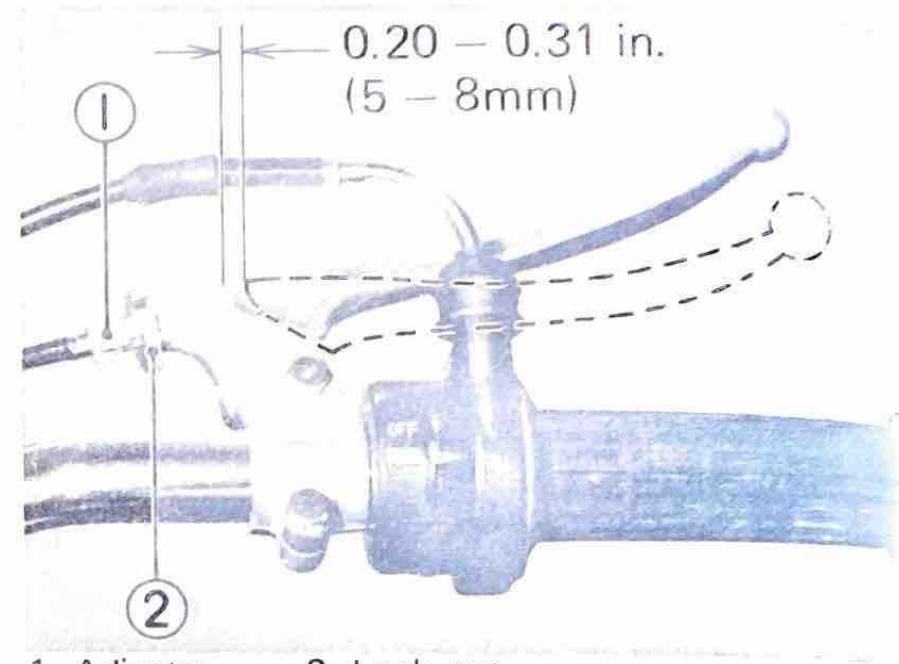
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IV. MECHANICAL ADJUSTMENTS

A. Brakes

1. Front Brake

Front brake should be adjusted to suit rider preference with a minimum of 0.2~0.3in (5~8mm) play at the brake lever pivot point.

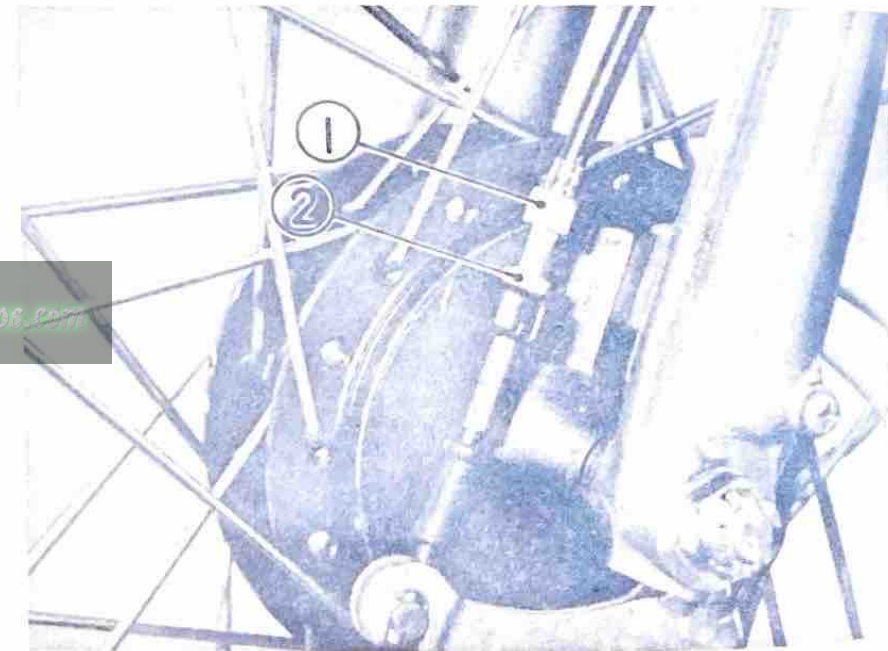


1. Adjuster

2. Lock nut

Adjustment is accomplished at one of two places; either the handle lever or the front brake hub.

- Loosen the adjuster locknut.
- Turn the cable length adjuster in or out until adjustment is suitable
- Tighten the adjuster locknut.



1. Adjuster

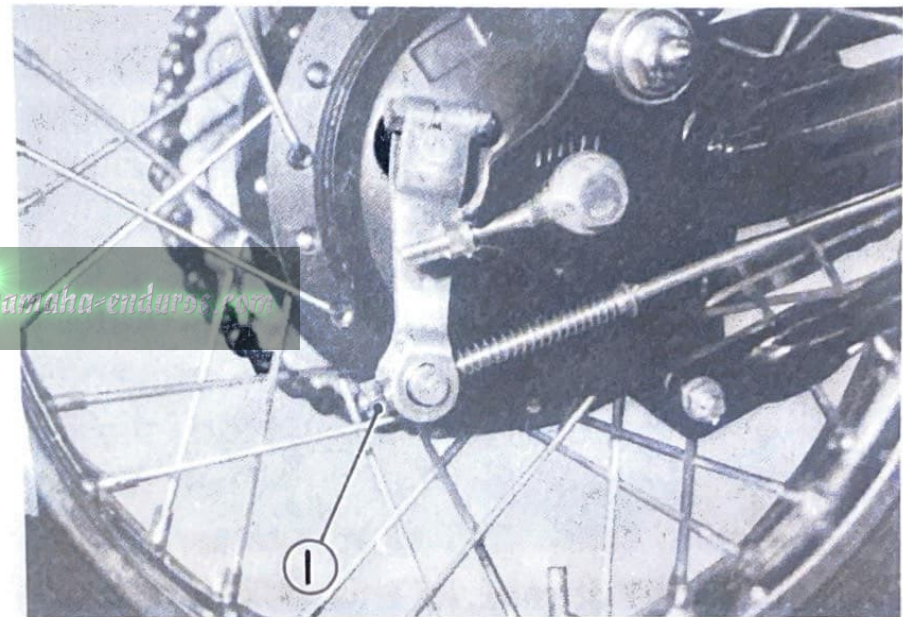
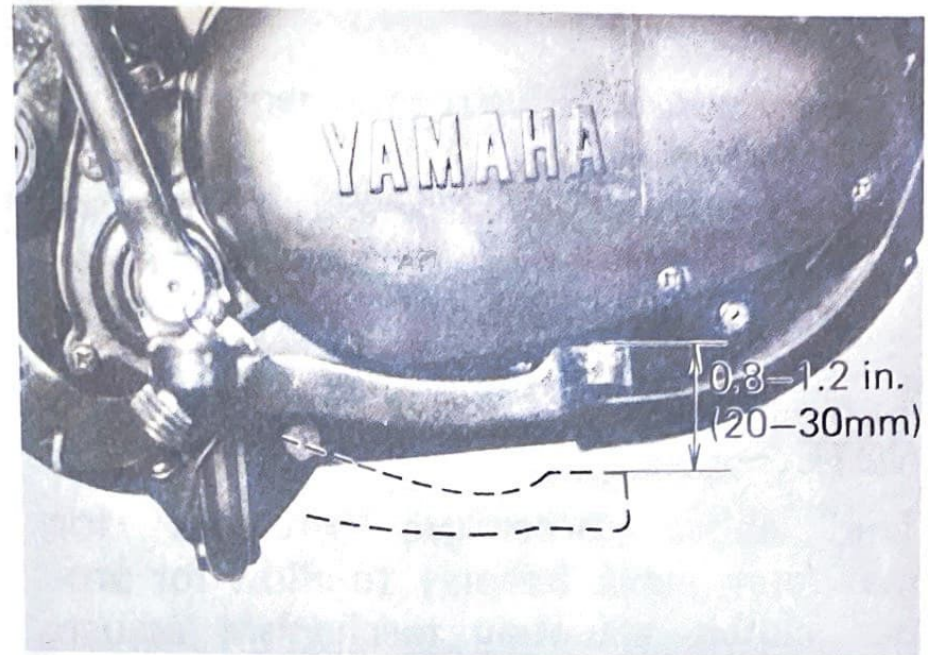
2. Lock nut

2. Rear Brake

Adjust rear brake pedal play to suit, providing a minimum of **0.8–1.20 in** (20~30mm) freeplay. Turn the adjusting nut on the rear brake rod in or out until brake pedal freeplay is suitable.

NOTE:

Rear brake pedal adjustment must be checked anytime chain is adjusted or rear wheel is removed and then reinstalled.



1. Adjusting nut

B. Clutch

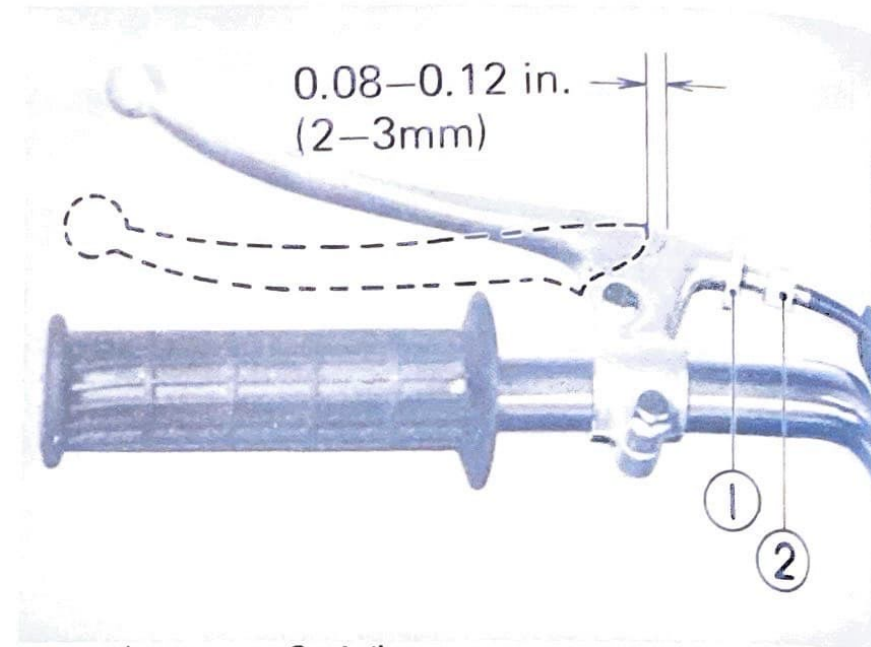
Proper clutch adjustments requires two separate procedures.

- a. Loosen cable adjuster locknut (at lever).
- b. Turn clutch cable adjuster all the way into the lever holder.

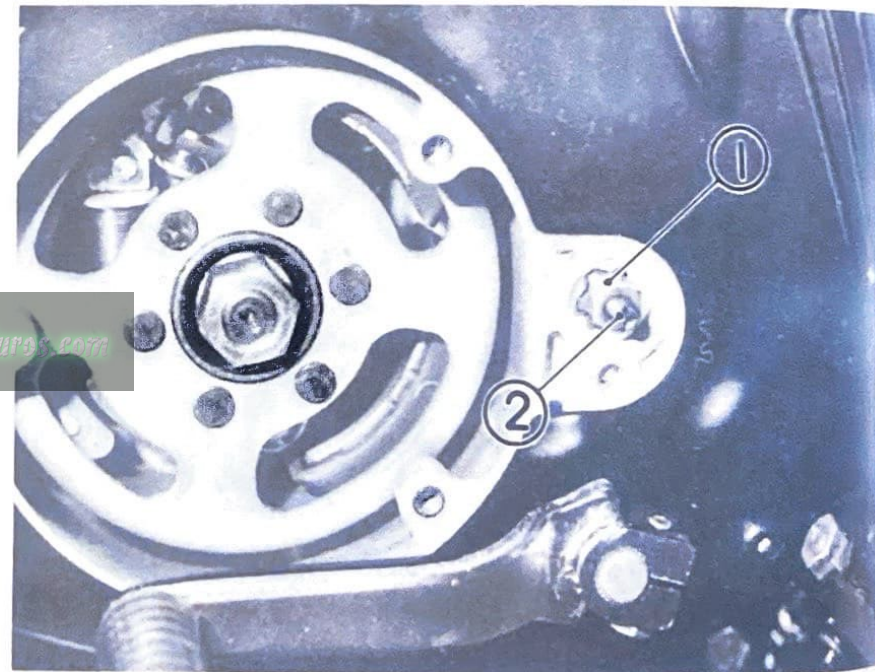
NOTE:

The above procedure provides for maximum cable freeplay to allow for proper clutch actuating mechanism adjustment.

- c. Remove the lefthand crankcase cover.
- d. Loosen the push screw locknut. Back off the nut 2 or 3 turns.
- e. Using a Phillips screwdriver, back off the adjusting screw until it rotates freely. Then turn clockwise until end of screw touches clutch push rod (slight resistance will be felt). Then turn adjusting screw 1/4 turn counterclockwise, hold firmly in this position and tighten locknut.



1. Lock nut 2. Adjuster



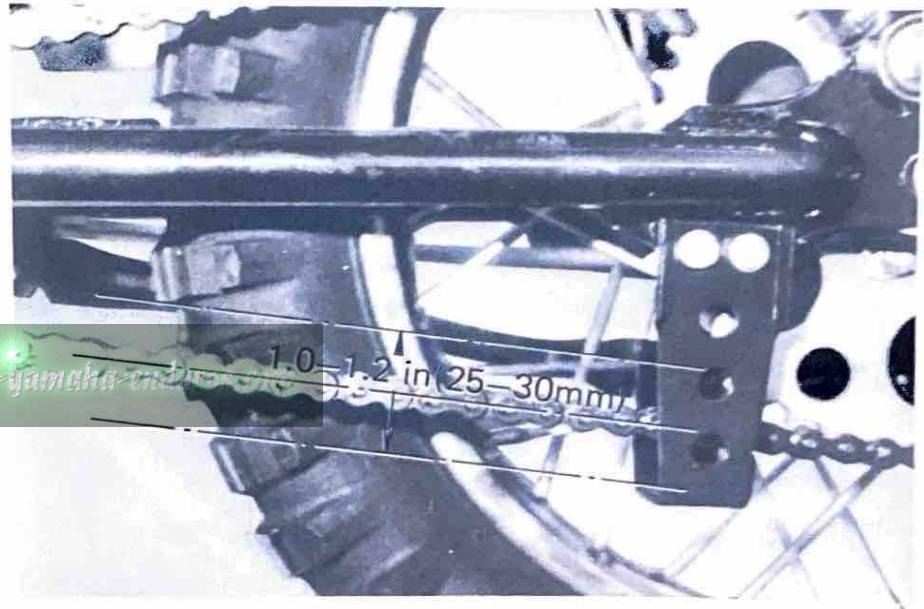
1. Lock nut 2. Adjusting screw

- f. At clutch lever (lefthand handlebar), turn cable adjuster in or out until freeplay is as specified. Finally, tighten locknut.
- g. Reinstall the lefthand crankcase cover.

C. Drive Chain

To adjust drive chain, proceed as follows:

1. Remove rear axle cotter pin.
2. Loosen axle securing nut while holding the opposite side with a box wrench.
3. With rider in position on machine, both wheels on ground, set chain puller until there is 1.0 – 1.2 in (25 – 30 mm) slack in the drive chain at the bottom of the chain at a point midway between the drive and driven sprocket.

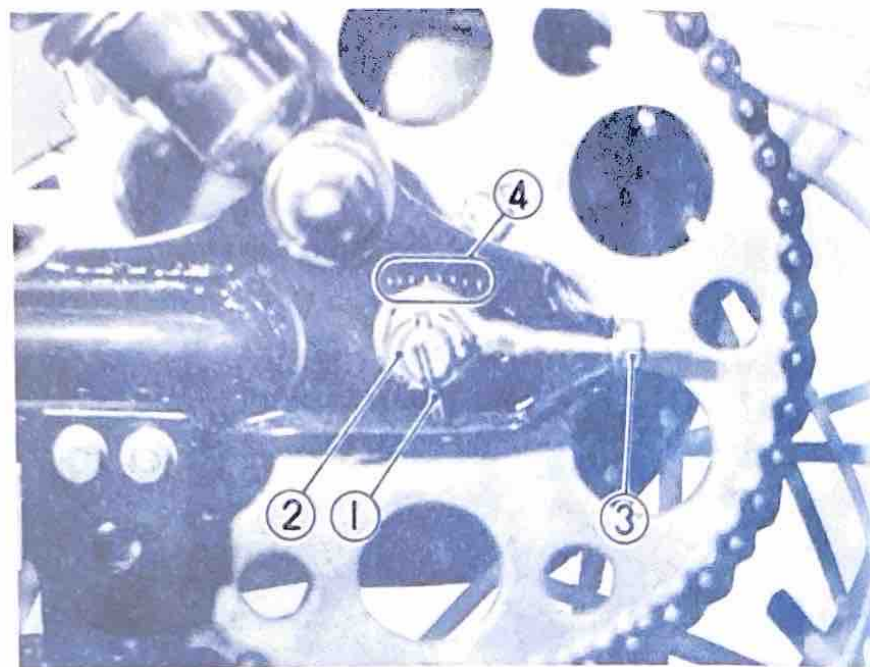


4. Turn chain puller adjusting nuts both left and right until the adjust marks on the adjusters are aligned with corresponding adjust marks on the swing arm.
5. Tighten the rear axle securing nut.

Torque: 36~51 ft-lb
(5.0~7.0 m-kg)

6. Install a new cotter pin.
7. Check brake pedal freeplay.

CAUTION: _____
WHENEVER THE CHAIN IS ADJUSTED AND/OR THE REAR WHEEL IS REMOVED, ALWAYS CHECK THE REAR AXLE ALIGNMENT AND BRAKE PEDAL FREE-PLAY.



- | | |
|---------------|------------------|
| 1. Cotter pin | 3. Adjusting nut |
| 2. Axle nut | 4. Adjust mark |

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D. Carburetor

Under normal operating conditions, there are only three adjustments to be made to the carburetor.

1. Idle speed and idle air adjustments:

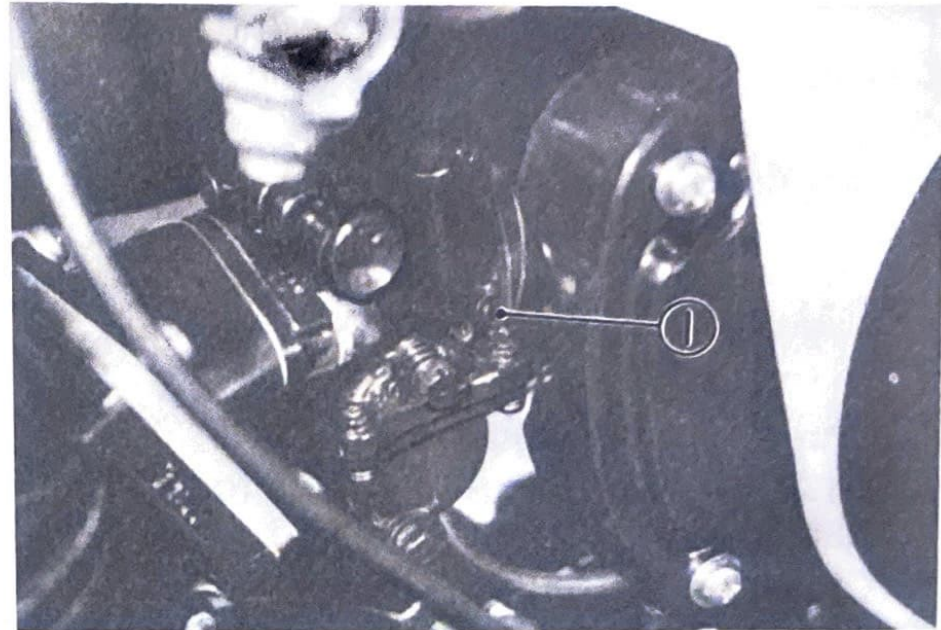
- a. Turn pilot air screw in until lightly seated.
- b. Turn out 1-1/4 turn.
- c. Turn the throttle stop screw until idle is at desired r.p.m.
- d. Turn the pilot air screw in or out until idle speed is at highest r.p.m. .
- e. Turn the throttle stop screw in or out until idle speed is at desired r.p.m.

NOTE: _____

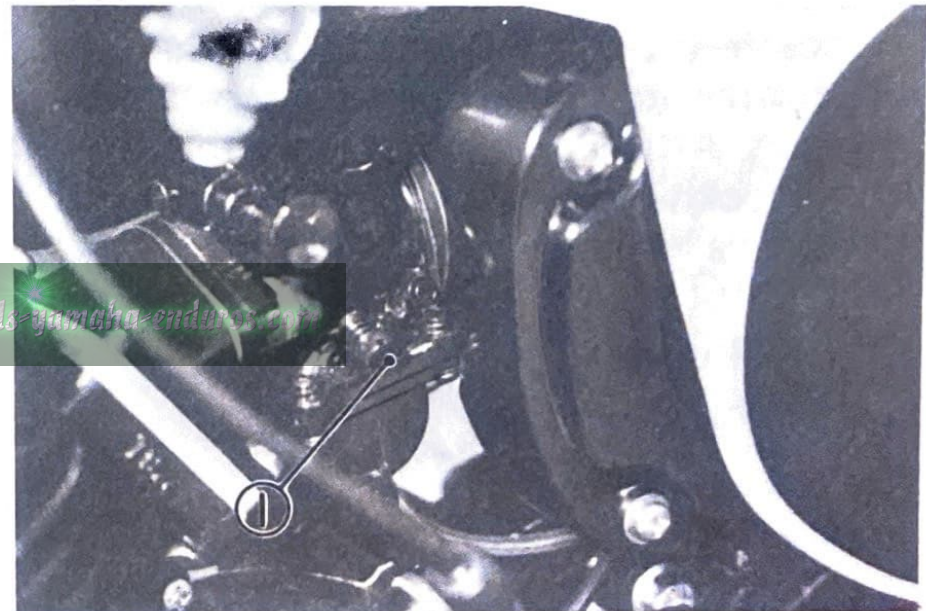
Pilot air and throttle stop screw should be so adjusted that engine response to throttle changes from idle position is rapid and without hesitation.

Pilot Air Screw: Turn out 1-1/4 turn.

Idle Speed: As desired.



1. Pilot air screw



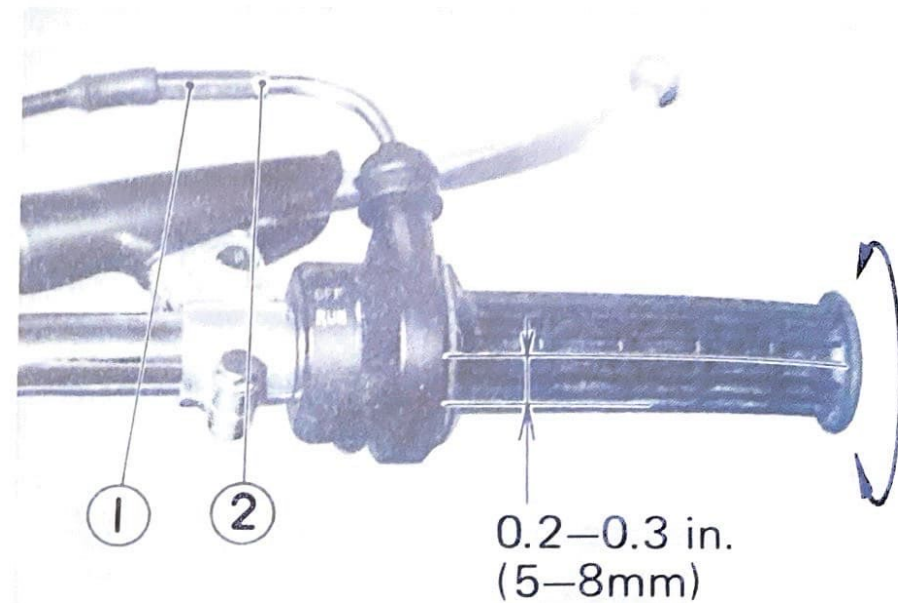
1. Throttle stop screw

If the engine, when warm, hesitates after adjusting as described, turn the pilot air screw in or out in 1/4 turn increments until the problem is eliminated.

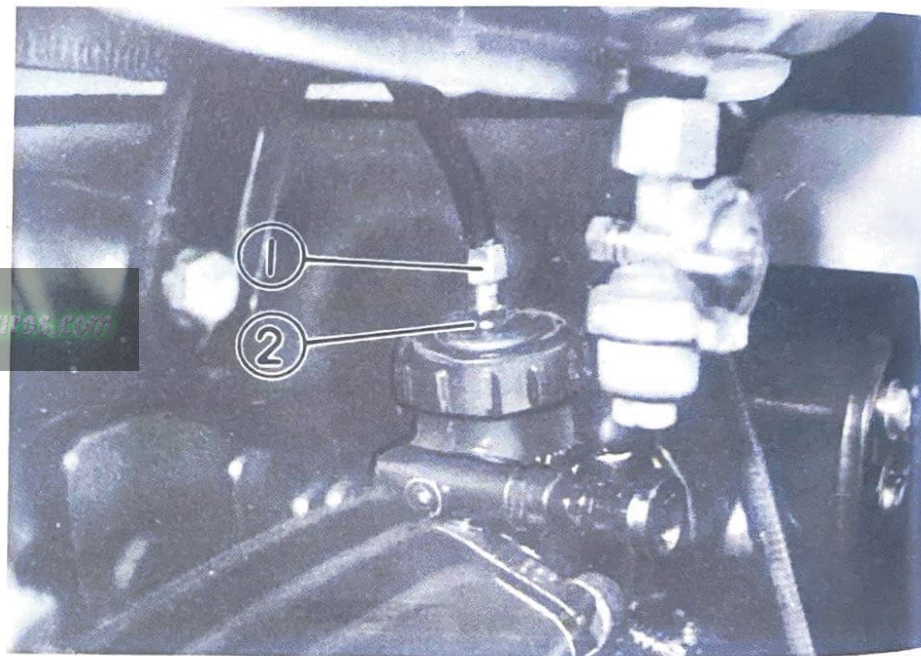
2. Throttle cable adjustment:

- a. Slide the rubber cover off the top of the carburetor.
- b. Check play in turning direction of throttle grip. The play should be 0.20~0.31 in (5~8 mm) at grip flange, loosen the lock nut and turn the wire adjuster to make the necessary adjustment. After adjusting, be sure to tighten the locknut properly. Reinstall the cap cover.

- c. Tighten the adjuster lock nut.



1. Adjuster 2. Lock nut



1. Adjuster 2. Lock nut

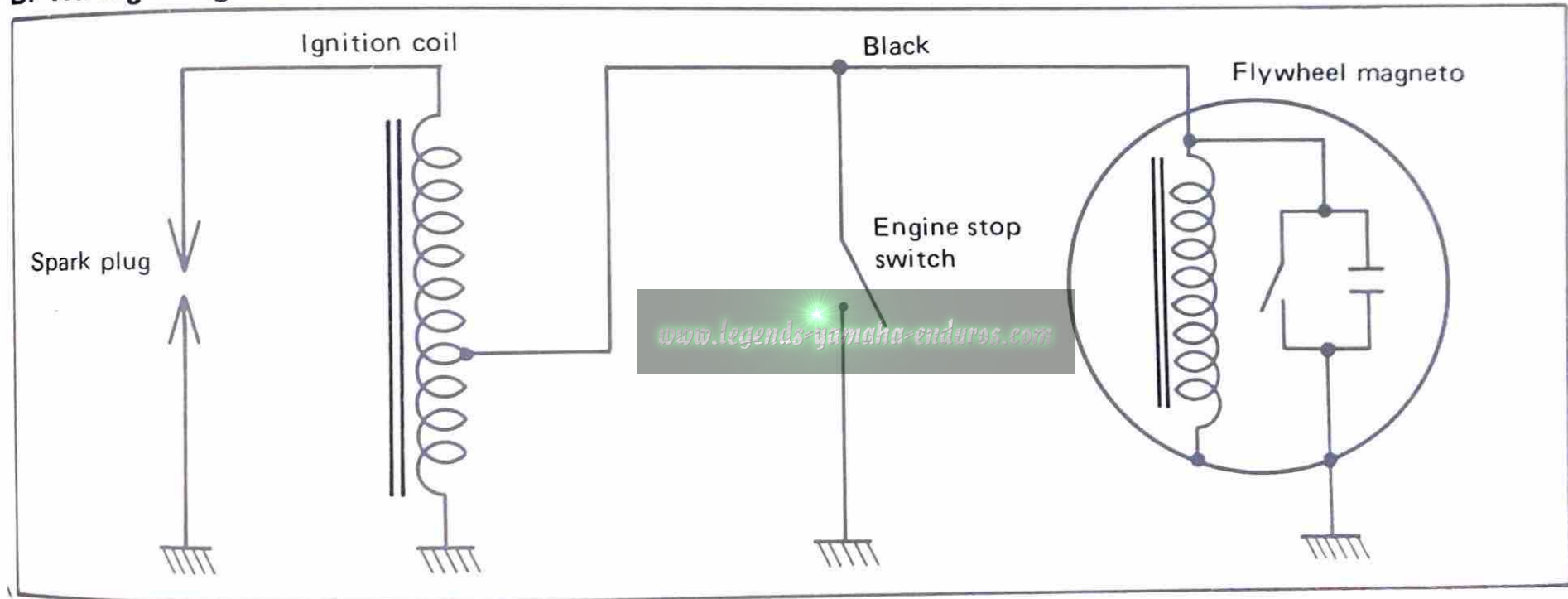
V. IGNITION SYSTEM

A. Location of Components

The system consists of a flywheel magneto and an ignition coil. The magneto is located behind the case on the left side of the engine. The ignition coil is mounted on the frame under the fuel tank.

An engine's stop switch is located on the right handlebar to stop the engine.

B. Wiring Diagram



C. Ignition Timing

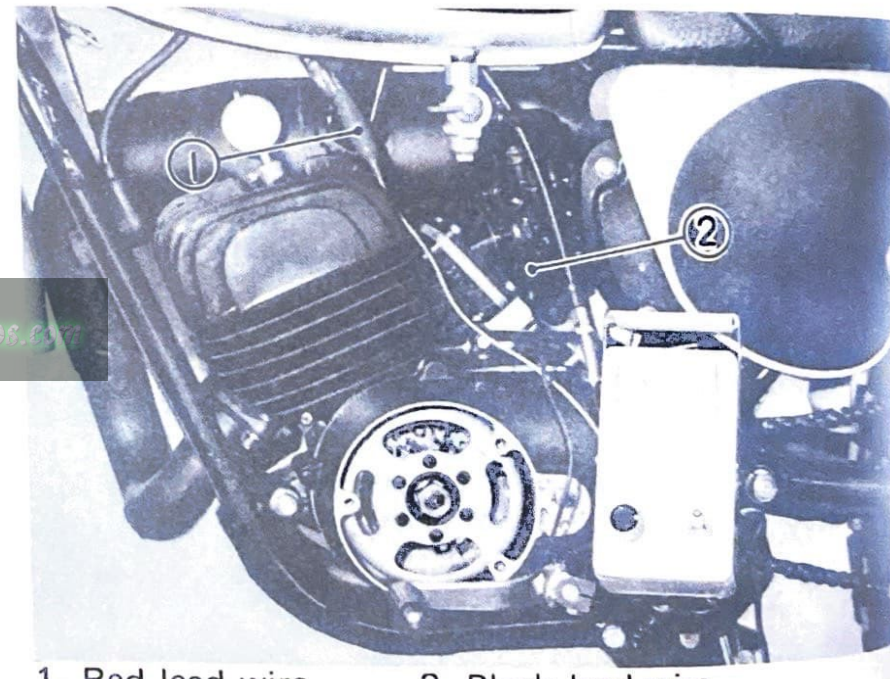
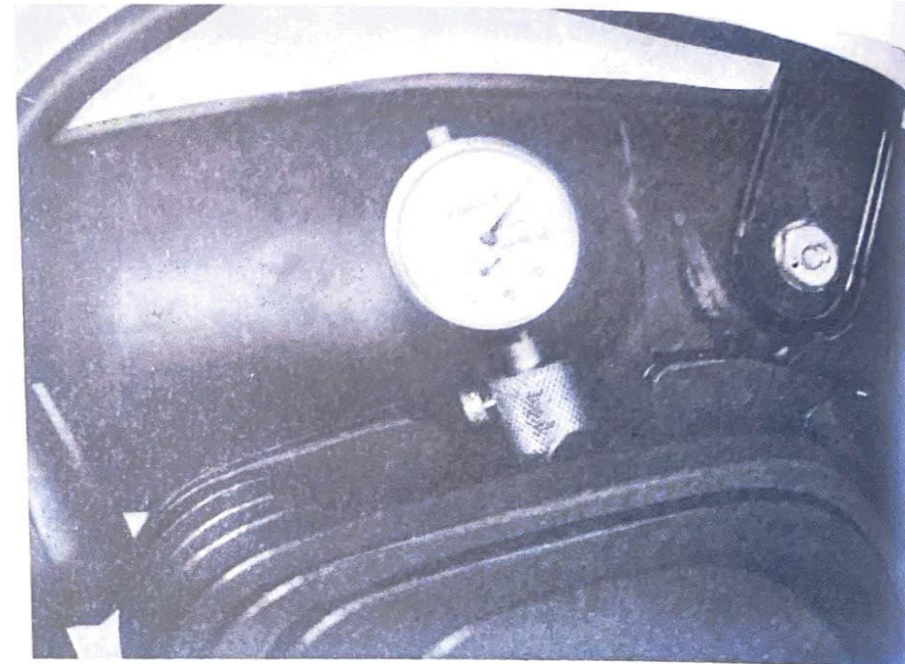
Ignition timing must be set with a dial indicator (to determine piston position) and a point checker (to determine exactly when contact breaker points begin to open). Proceed as follows:

1. Remove spark plug and screw Dial Gauge Stand into spark plug hole.
2. Insert Dial Gauge Assembly into stand.

NOTE: _____

Install the needle (2.2 in (56 mm)) on the dial gauge.

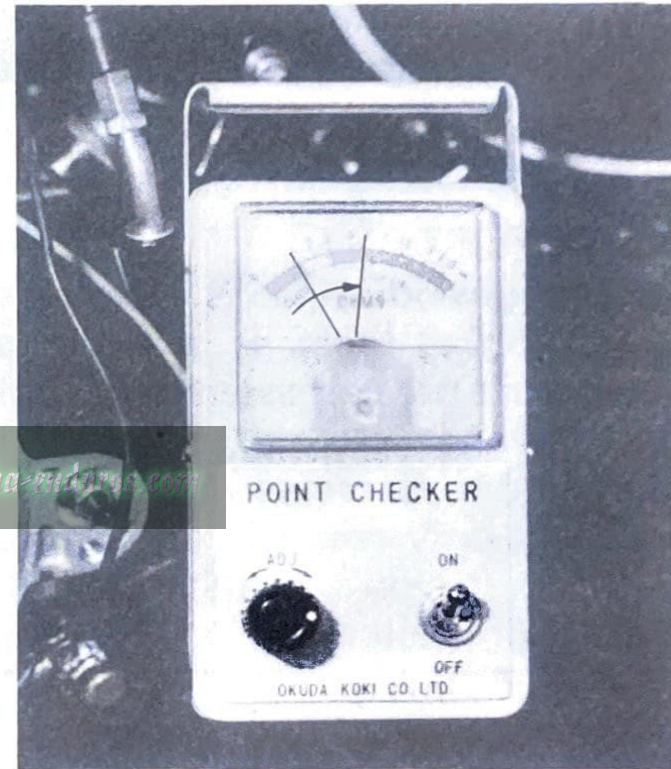
3. Remove left engine crankcase cover.
4. Check point checker for full scale deflection. Connect red lead of Point Checker to black wire in wire harness coming from magneto. www.legends-yamaha-enduros.com
5. Connect black lead of Point Checker to unpainted surface of cylinder fin or unpainted crankcase bolt or screw.



1. Red lead wire

2. Black lead wire

6. Rotate magneto flywheel until piston is at top-dead-center. Tighten set screw on dial gauge stand to secure dial gauge assembly. Set the zero on dial indicator face to line up exactly with dial needle. Rotate flywheel back and forth to be sure that indicator needle does not go past zero.
7. Starting at T.D.C. rotate flywheel clockwise until dial indicator reads approximately 4 needle revolution.
8. Slowly turn flywheel counterclockwise until dial gauge reads ignition advance setting listed in Specifications Table. At this time, the point checker needle should swing from "CLOSED" to "OPEN" position, indicating the contact breaker (ignition points) have just begun to open.
9. Repeat steps 7 and 8 to verify point opening position. If points do not open within specified tolerance, they must be adjusted.



10. Adjust ignition points by barely loosening pan-head screw and carefully rotating contact breaker assembly with a slotted screwdriver. Make minor adjustment and retighten pan-head screw before rechecking timing. Recheck timing by repeating steps 7,8.
11. When correct ignition timing has been accomplished, check maximum point gap by turning flywheel until maximum point opening occurs. Measure point gap with thickness gauge. See Specification Table.

NOTE: _____

If the maximum point gap is over tolerance the point rubbing block is probably worn and the contact breaker assembly should be replaced. Do not attempt to bend fixed point bracket to decrease maximum point gap. This will only result in point misalignment, difficulty in setting timing and premature point failure.

IGNITION TIMING SPECIFICATIONS

Point gap			Timing (B.T.D.C.)
Nominal	Minimum	Maximum	
0.014 in (0.35 mm)	0.012 in (0.30 mm)	0.016 in (0.40 mm)	0.08 in (2.0 mm)

12. Remove dial gauge assembly and gauge stand, Replace spark play.

<p>Spark plug torque 20~22 ft-lb (2.5~3.0 m-kp)</p>

13. Disconnect point checker.
14. Replace engine crankcase cover.

D. Spark Plug

The spark plug in your machine indicates how the engine is operating. If the engine is operating correctly, and the machine is being ridden correctly, then the tip of the white insulator around the positive electrode of the spark plug will be a medium to light tan color. If the porcelain "donut" around the positive electrode is a very dark brown or black color, then a plug with a hotter heat range may be required. This situation is quite common during the engine break-in period.

If the insulator tip shows a very light tan or white color or is actually pure white or if the electrodes show signs of melting, then a spark plug with a colder heat range is required.

Remember, the insulator area surrounding the positive electrode of the spark plug must be a carburetion, timing, and ignition adjustments. If the situation persists, consult your Authorized Yamaha Dealer.

Do not attempt to experiment with different heat range spark plugs. This takes an experienced eye to gauge the proper spark plug heat range to use and to determine if the spark plug itself is at fault.

Engine conditions will cause any spark plug to slowly break down and erode. If erosion begins to increase, or if the electrodes finally become too worn, or if for any reason you believe the spark plug is not functioning correctly, replace it.

When installing the plug, always clean the gasket surface, use a new gasket, wipe off any grime that might be present on the surface of the spark plug, torque the spark plug properly.

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For Normal Operation Use: NGK B-8ES

Spark Plug Gap: 0.020~0.024 in
(0.5~0.6 mm)

Spark plug torque
20~22 ft-lb (2.5~3.0 m-kgr)

The spark plug must be removed and checked prior to using the machine. Check electrode wear, insulator color, and negative to positive electrode gap.

E. Troubleshooting

1. Check for spark at spark plug—if no spark, check connectors.
2. If connections are clean and tight, refer to ignition Timing. Ensure that the timing is correct. Any further troubleshooting of the ignition system must be performed by your Yamaha Dealer.

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VI. ENGINE MAINTENANCE AND MINOR REPAIRS

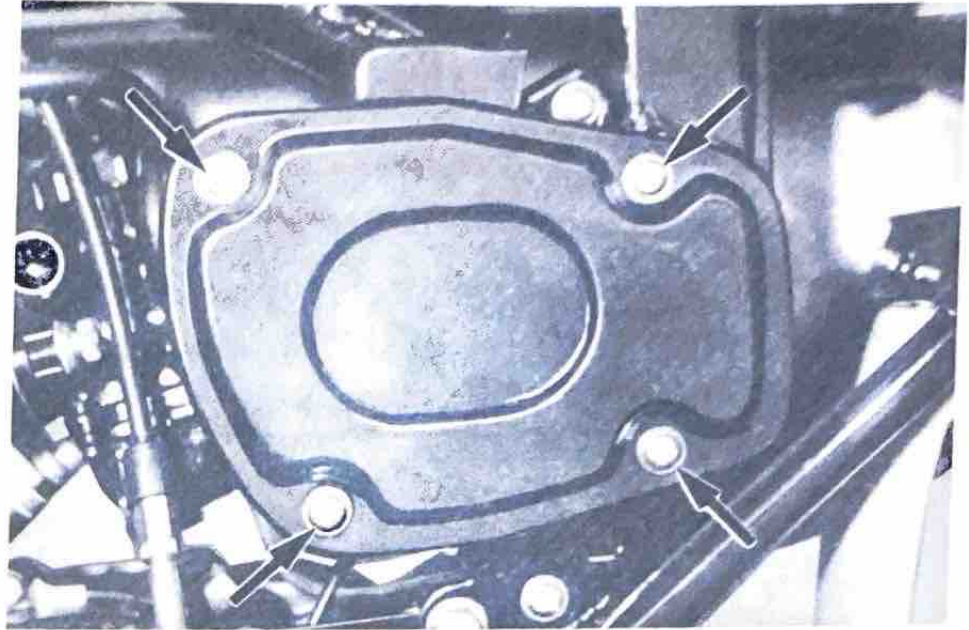
The following sections provide information for the disassembly, troubleshooting and maintenance of various components of the machine. If you do not have the necessary tools and an understanding of the mechanical principles involved, please refrain from attempting repairs. The use of improper tools and/or procedures can cause major damage to units with resultant additional repair costs.

To properly understand the procedures outlined, we suggest you consult the Service Manuals. Finally, we suggest you consult your Yamaha Dealer prior to attempting any repair procedures.

A. Air Filter

1. Air Filter Removal

- a. Remove the side cover (left-hand side) securing bolt. Remove the side cover.
- b. Remove the air filter cover securing bolts (4), and pull out the air filter.
- c. Slip filter from guide.



2. Air Filter Cleaning

- a. Wash the element gently, but thoroughly, in solvent.
- b. Squeeze the excess solvent out of the element and let dry.
- c. Pour a small quantity of 10W-30 "SE" motor oil onto the filter element and work thoroughly into the porous foam material.



- d. Re-insert the filter element guide into the element.

NOTE: _____

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

- e. Coat the upper and lower edges of the filter element with light grease. This will provide an airtight seal between the filter case cover and filter seat.
- f. Reinstall the element assembly and parts removed for access.

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NOTE:

Each time filter element maintenance is performed, check the air inlet to the filter case for obstructions. Check the air cleaner joint rubber to the carburetor and manifold fittings for an air-tight seal. Tighten all fittings thoroughly to avoid the possibility of unfiltered air entering the engine.

CAUTION:

NEVER OPERATE THE ENGINE WITH THE AIR FILTER ELEMENT REMOVED. THIS WILL ALLOW UNFILTERED AIR TO ENTER CAUSING RAPID WEAR AND POSSIBLE ENGINE DAMAGE. ADDITIONALLY, OPERATION WITHOUT THE FILTER ELEMENT WILL AFFECT CARBURETOR JETTING WITH SUBSEQUENT POOR PERFORMANCE AND POSSIBLE ENGINE OVER-HEATING.

B. Carburetor

1. Carburetor removal

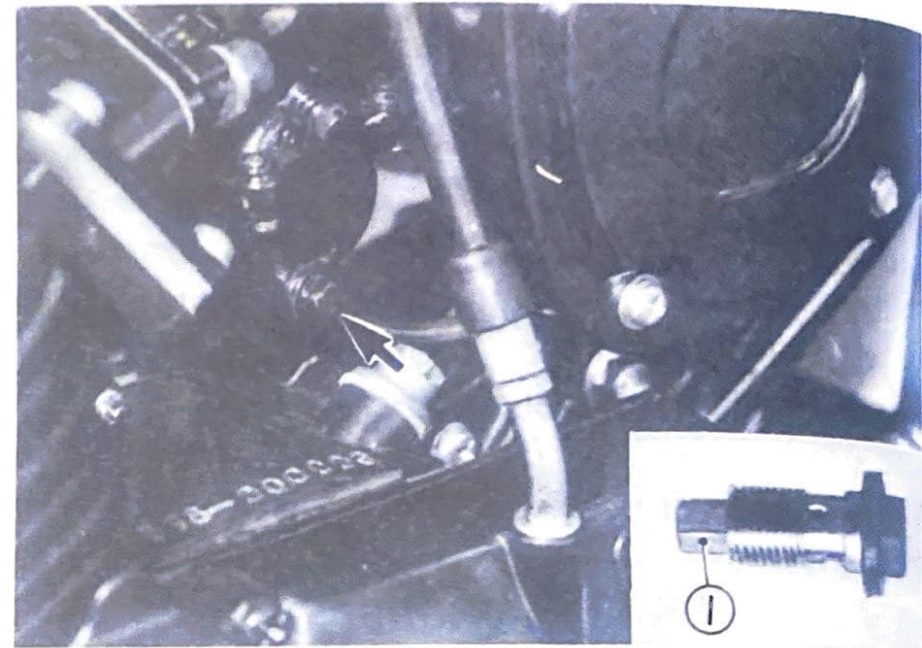
- a. Turn the fuel petcock to the "OFF" position.
- b. Remove the gasoline tank fuel line from the fitting at the carburetor.

NOTE:

For carburetor main jet replacement only, steps a and b, then:

1. Remove the main jet holding bolt
2. Using a 6 mm socket or "Spin-tite", remove the main jet. Change as required. Reinstall holding bolt and reassemble, reversing steps 1 and 2.

Main jet #200



1. Main jet

IMPORTANT:

The YZ80C Carburetor has been set for normal sea level conditions. The standard setting is the result of extensive testing and does not usually require changing. However, under conditions of high atmospheric pressure or heavy load (deep sand or mud) the standard Main jet should be replaced with other main jet. If the carburetor requires any other setting changes to suit local conditions of altitude, weather, etc., the change must be made with great care. Improper carburetor setting changes will cause poor engine performance and possible engine damage.

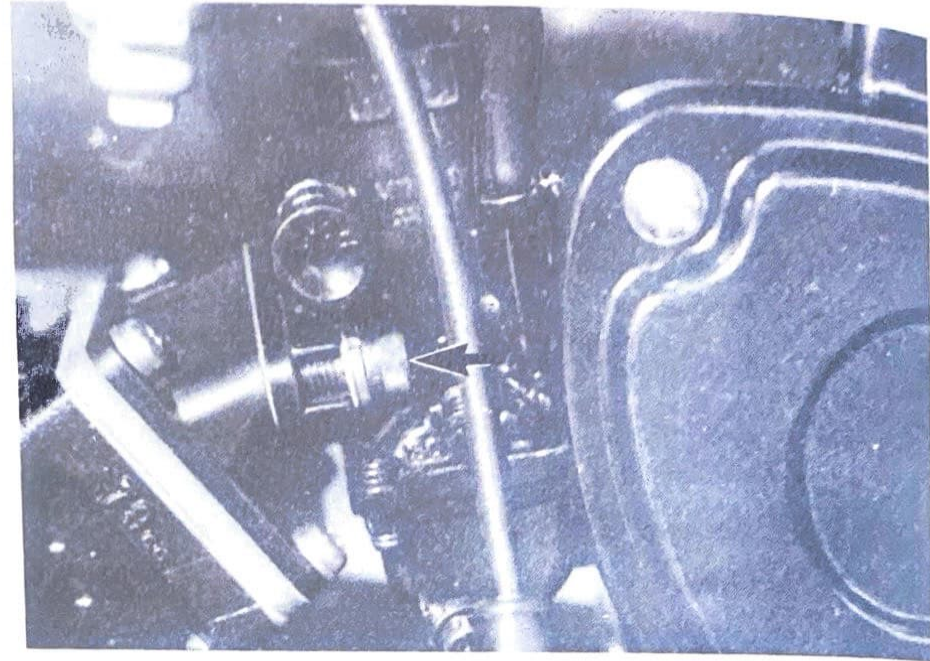
Please consult your Yamaha dealer about any carburetor setting changes before actually going about them.

WARNING:

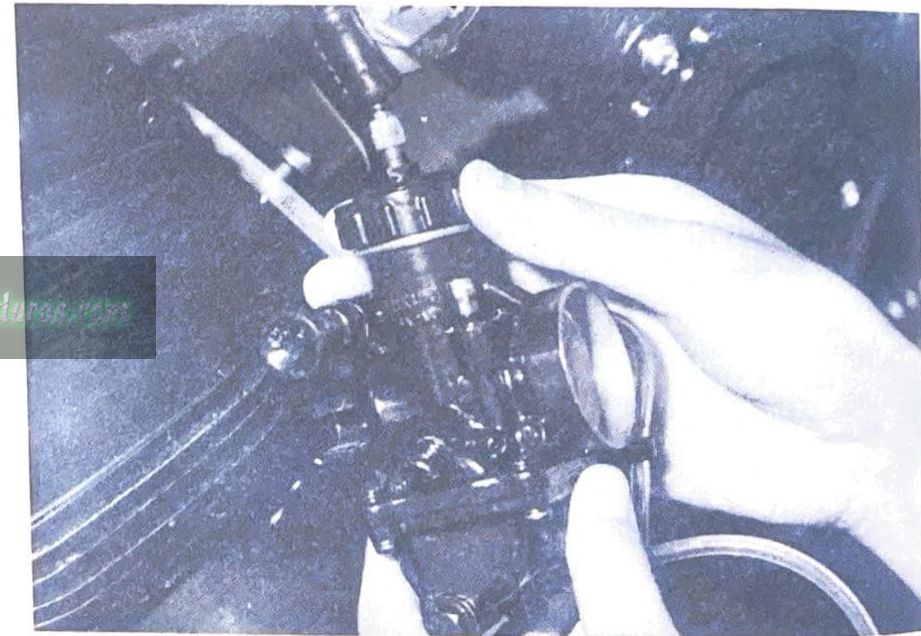
Removing the main jet holding bolt will allow the fuel in the float bowl to drain. Do not remove if engine is hot. Place a rag under carburetor to catch overflow. Remove bolt in well-ventilated area. Do not remove near open flame. Always clean and dry machine after reassembly.

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- c. Remove carburetor securing bolts (L.H) and loosen securing bolt (R.H) from cylinder body.
- d. Loosen the air filter joint band.



- e. Note the presence, location and routing of all vent and overflow tubes, pull the carburetor toward you.
- f. With the carburetor clear of the engine, push the mixing chamber cover off.



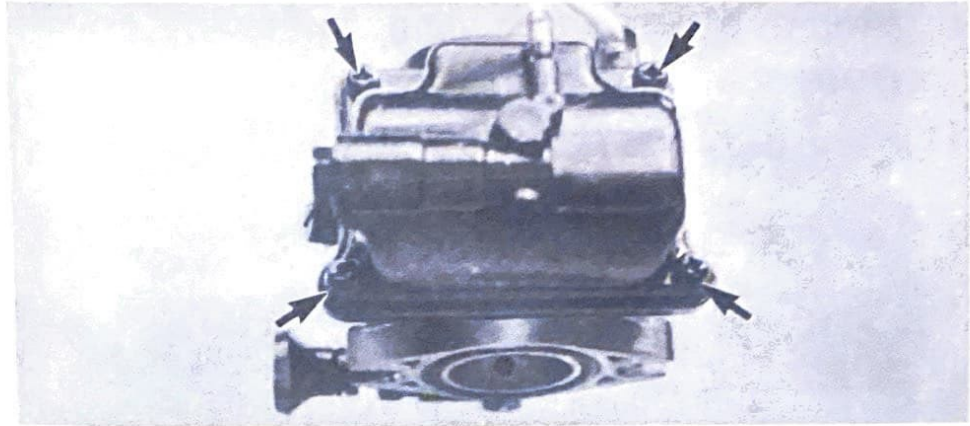
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2. Carburetor Disassembly and Cleaning

Remove, in order, the following components:

- a. Unscrew the mixing chamber top. Remove the slide and needle assembly.

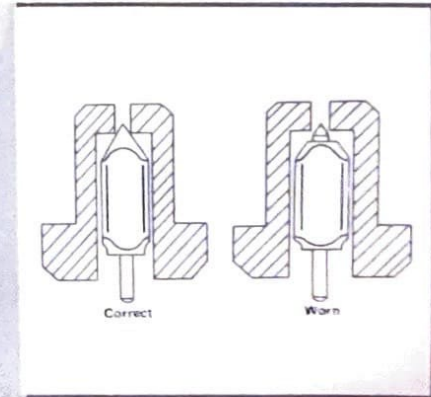
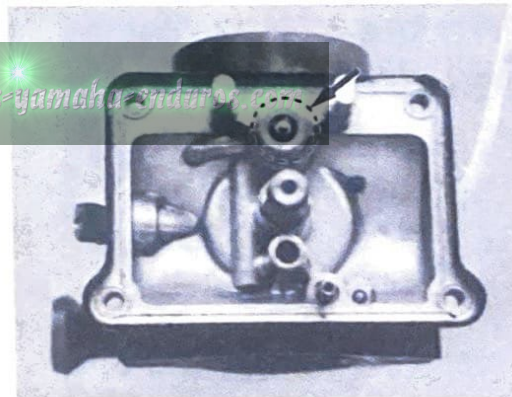
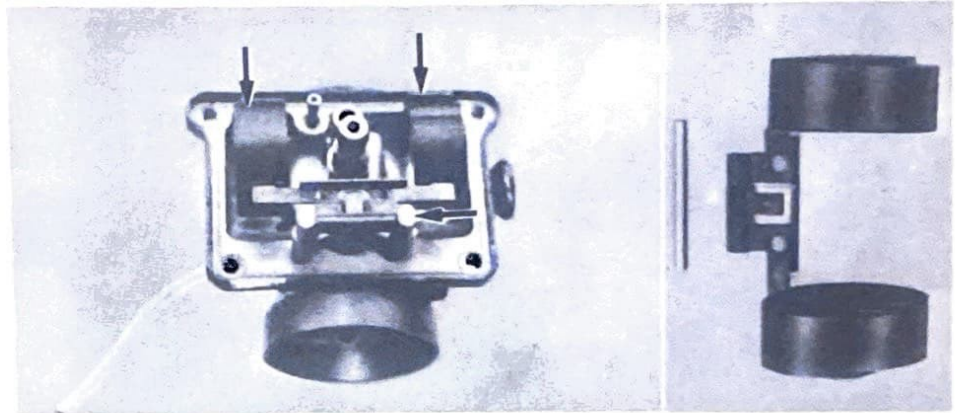
b. Remove the phillips screws (4) holding float bowl to body. Remove float bowl.



c. On the carburetor body, remove the pin securing the float arm.

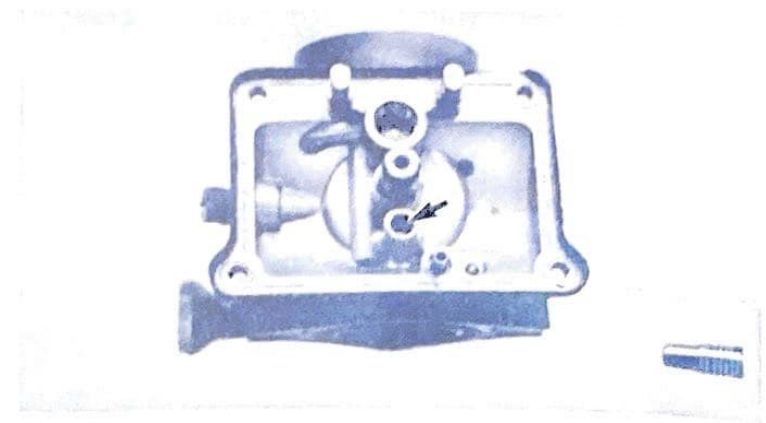
d. Remove dual float assembly. If a pin is loose or missing, or if the float is damaged in any fashion, replace them.

e. Remove the inlet needle directly. Inspect the needle and seat for signs of excessive wear or attached foreign particles. Replace as required. Replace inlet needle and inlet valve seat as an assembly.

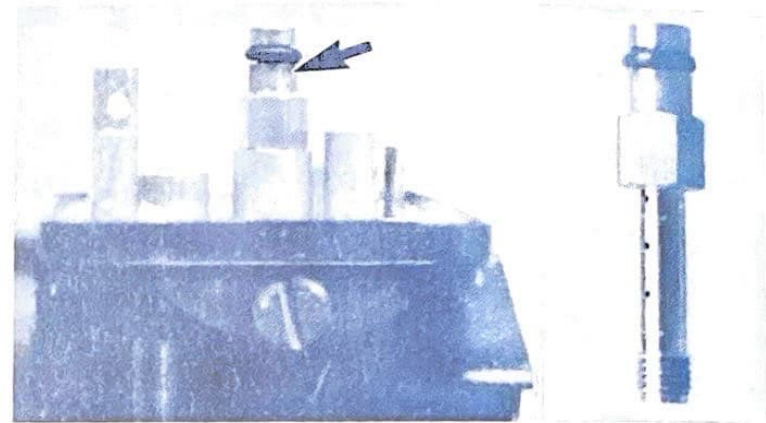


f. Remove, in order, the following components.

1) Pilot Jet

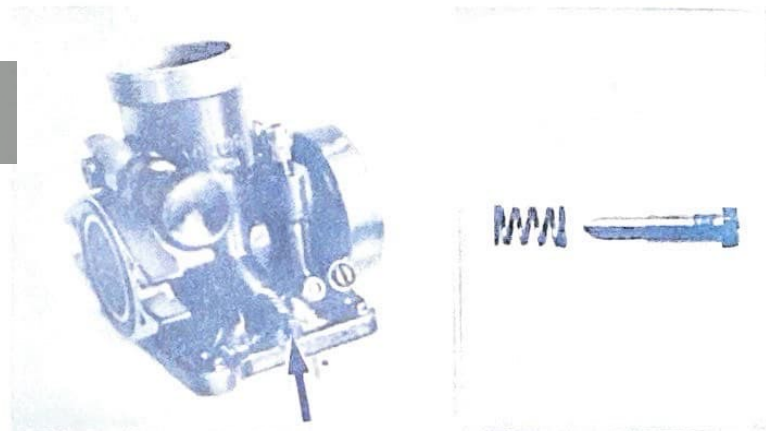


2) Main Nozzle



3) Throttle Screw (Idle Speed Screw)

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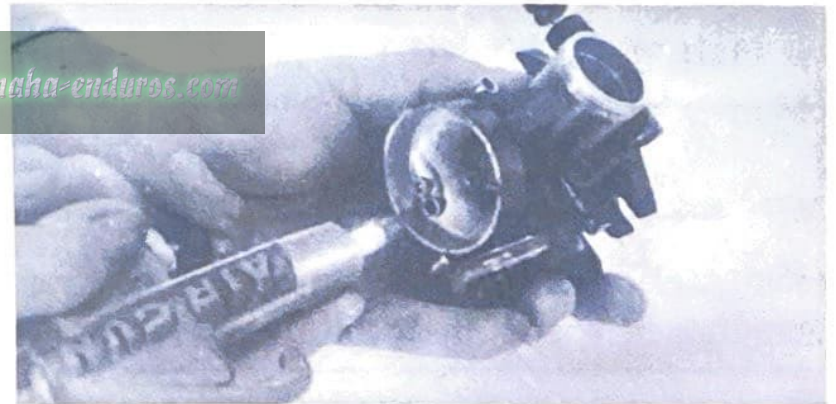
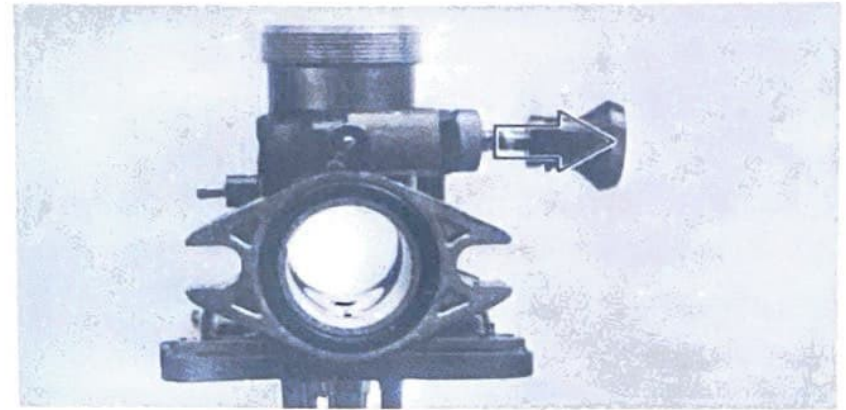
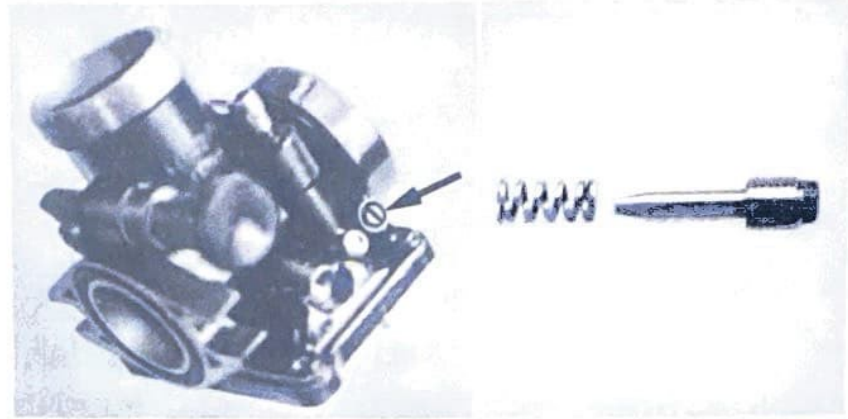
4) Air Adjusting Screw (Idle Mixture Screw)

- g. Actuate the Starter Jet control to open the circuit.
- h. Wash the carburetor in mild solvent. Wash all associated parts.

NOTE: _____

It is rarely necessary to "boil" the carburetor in a warm or hot carburetor bath. If deposits warrant this procedure, remove the Starter Jet Assembly to avoid damaging the jet's neoprene valve seat.

- i. Using high pressure air, blow out all passages and jets.



- j. Reinstall all components, with the exception of the float bowl.

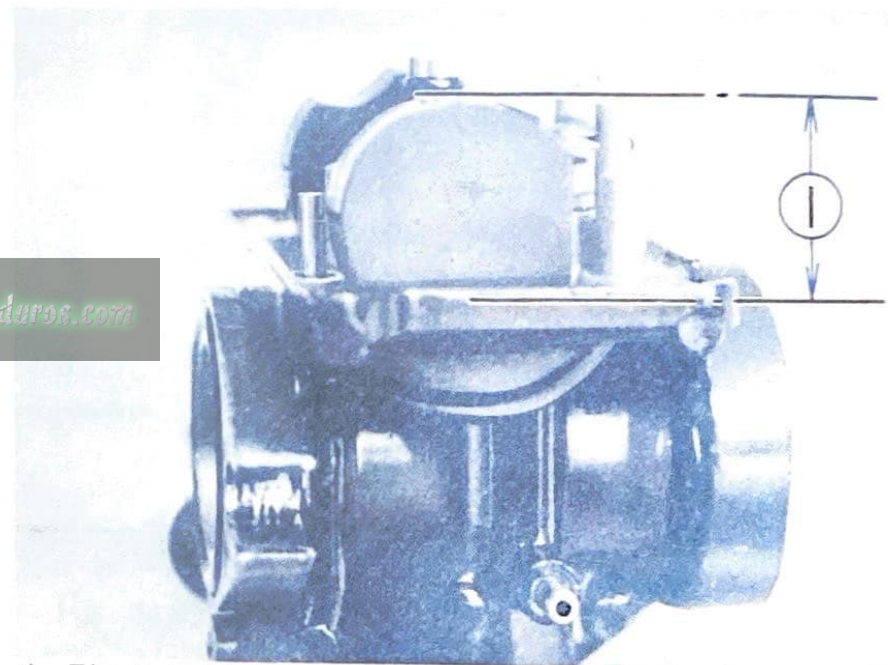
3. Float level Adjustment

- a. Float level is set according to the design of the carburetor and float bowl chamber. Under no circumstances should float level be altered in an attempt to correct a performance problem. Look for the problem in order, related components or carburetor circuits.
- b. Using a vernier caliper, measure distance of the float from the top of the float chamber gasket seat (gasket removed) to the float.

Float Height: 0.83 ± 0.1 in (21 ± 2.5 mm)

NOTE: _____

The float should be just resting on, but not depressing, the spring loaded inlet needle.



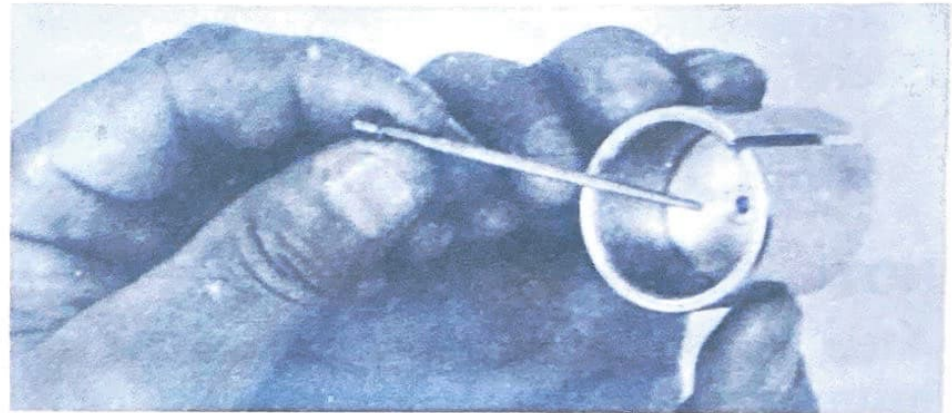
1. Float height

- c. To correct float height, remove the float and bend the tang slight amount as required. Both the right and left sides of the float should measure identically. Correct as required.

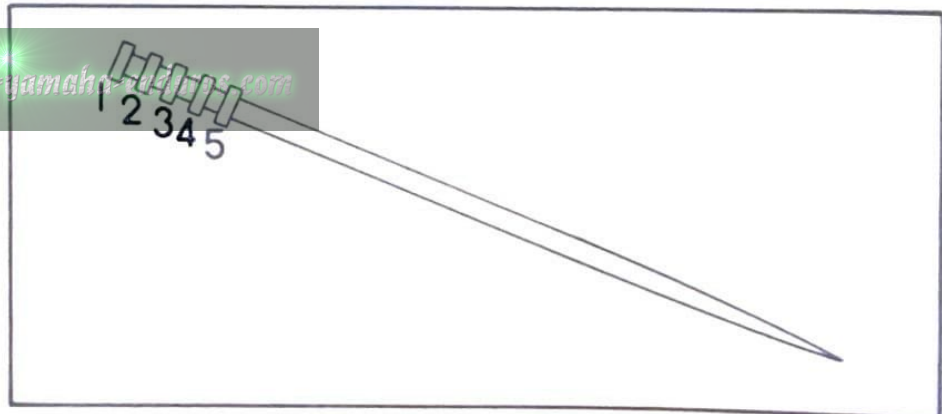


4. Carburetor assembly

- a. Install the float bowl and main jet holding bolt.
- b. Remove throttle valve from throttle wire and remove the needle from the throttle valve (slide). Inspect for bending or scratches. Replace as required.
- c. Check needle clip position. Clip position is counted starting with the first clip groove at the top of the needle. Replace clip if loose.



Jet Needle Type: 4J13
Clip Position: No. 2 Groove



- d. Check throttle valve (slide) for signs of wear. Insert into carburetor body and check for free movement. If slide, or body, is out of round causing slide to stick, replace as required.
- e. Install throttle valve and needle assembly in carburetor. Tighten mixing chamber top as tight as possible by hand.
- f. Install the mixing chamber top cover and all overflow and vent tubes. Reinstall carburetor. Check tightness of all fittings.

NOTE: _____

After installation, check throttle cable adjustment and check to ensure that slide is free by turning and releasing throttle.



5. Troubleshooting

A Motocross machine requires immediate, predictable throttle response over a wide operating range. Cylinder porting, combustion chamber compression, ignition timing, muffler design, and carburetor size and component selection are all balanced to achieve this goal. However, variations in temperature, humidity and altitude, to name a few, will affect carburetion and consequently, engine performance.

The following list gives each of the major components of the carburetor that can be readily changed in order to modify performance if required. If you are unfamiliar with carburetor theory, we suggest you refrain from making changes. Quite often, a performance problem is caused by another related component, such as the exhaust system, ignition timing or combustion chamber compression.

NOTE:

See MECHANICAL ADJUSTMENTS for additional carburetor adjustments.

PILOT AIR SCREW:

Controls the ratio of air-to-fuel in the idle circuit. Turning the screw in decreases the air supply giving a richer mixture.

Operating Range Most Affected by This Adjustment: Zero to 1/8 throttle.

PILOT JET:

Controls the ratio of fuel-to-air in the idle circuit. Changing the jet to one with a higher number supplies more fuel to the circuit giving a richer mixture.

Operating Range Most Affected by the pilot jet: Zero to 1/8 throttle.

THROTTLE VALVE (Slide):

The throttle valve (slide) has a portion of the base cut away to control air flowing over the main nozzle. A wider angle (more "cutaway") will create a leaner mixture. Throttle valves are numbered according to the angle of the cutaway. The higher the number, the more cutaway, the leaner the mixture.

Operating Range Most Affected by The Throttle Valve: 1/8 to 1/4 (+) throttle.

JET NEEDLE:

The jet needle is fitted within the throttle valve. The tapered end of the needle fits into the main nozzle outlet. Raising the needle allows more fuel to flow out of the nozzle outlet giving a richer mixture. There are five circlip grooves at the top of the needle. Moving the needle clip from the first, or top groove, through the fifth, or bottom groove, will give a correspondingly richer mixture.

Operating Range Most Affected by The Jet Needle: 1/4 to 3/4 (+) throttle.

MAIN JET:

The main jet controls overall fuel flow through the main nozzle. Changing the jet to one with a higher number supplies more fuel to the main nozzle giving a richer mixture.

Operating Range Most Affected by The Main Jet: 3/4 to full throttle.

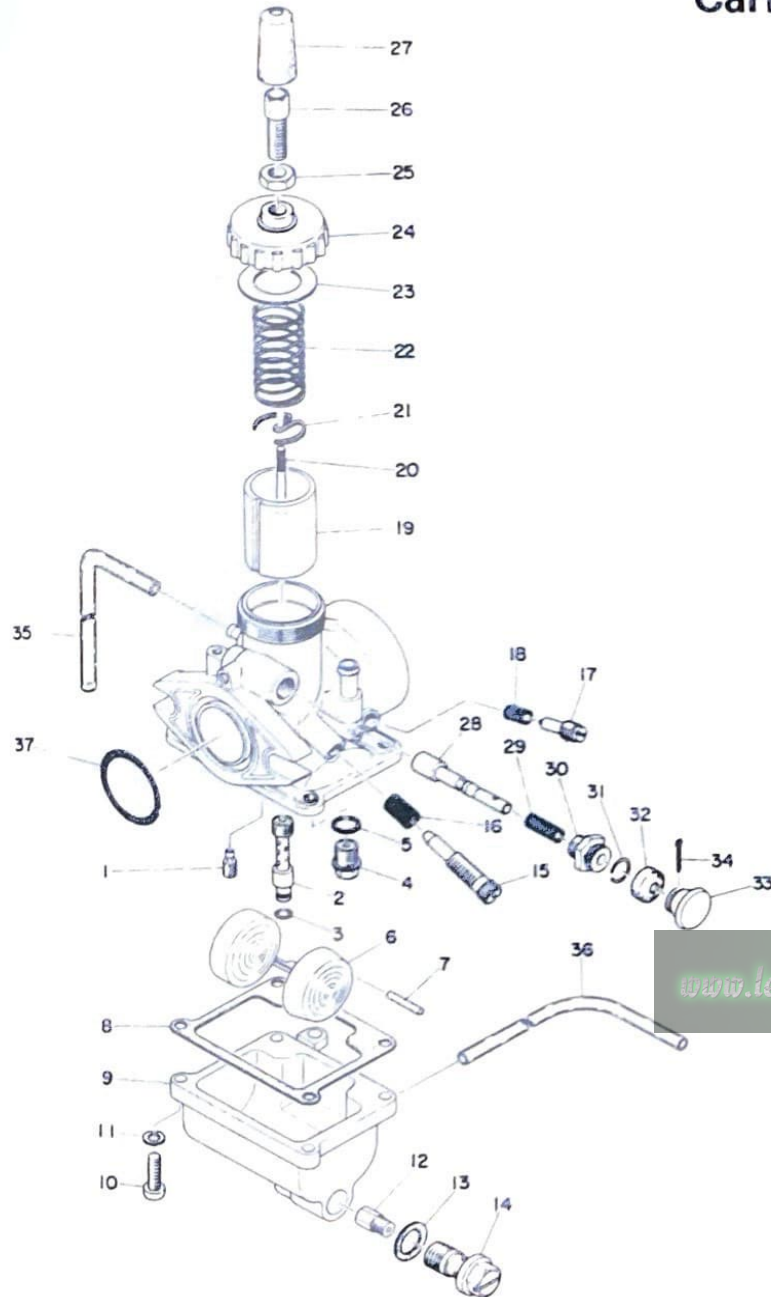
NOTE:

Excessive changes in main jet size can affect performance at all throttle positions.

CAUTION:

THE FUEL/AIR MIXTURE RATIO IS A GOVERNING FACTOR UPON ENGINE OPERATING TEMPERATURE. ANY CARBURETOR CHARGES, WHATSOEVER, MUST BE FOLLOWED BY A THOROUGH SPARK PLUG TEST.

Carburetor



- | | |
|--------------------------|---------------------------|
| 1. Pilot jet | 20. Needle |
| 2. Main nozzle | 21. Spring seat |
| 3. O-ring | 22. Throttle valve spring |
| 4. Valve seat ass'y | 23. Packing |
| 5. Valve seat washer | 24. Mixing chamber top |
| 6. Float | 25. Wire adjusting nut |
| 7. Float pin | 26. Wire adjusting screw |
| 8. Float chamber gasket | 27. Cap |
| 9. Float chamber body | 28. Starter plunger |
| 10. Panhead screw | 29. Plunger spring |
| 11. Plain washer | 30. Plunger cap |
| 12. Main jet | 31. Plunger clip |
| 13. Gasket | 32. Plunger cap cover |
| 14. Banjo bolt | 33. Holder |
| 15. Throttle screw | 34. Cotter pin |
| 16. Throttle stop spring | 35. Air vent pipe |
| 17. Air adjusting screw | 36. Over flow pipe |
| 18. Air adjusting spring | 37. O-ring |
| 19. Throttle valve | |

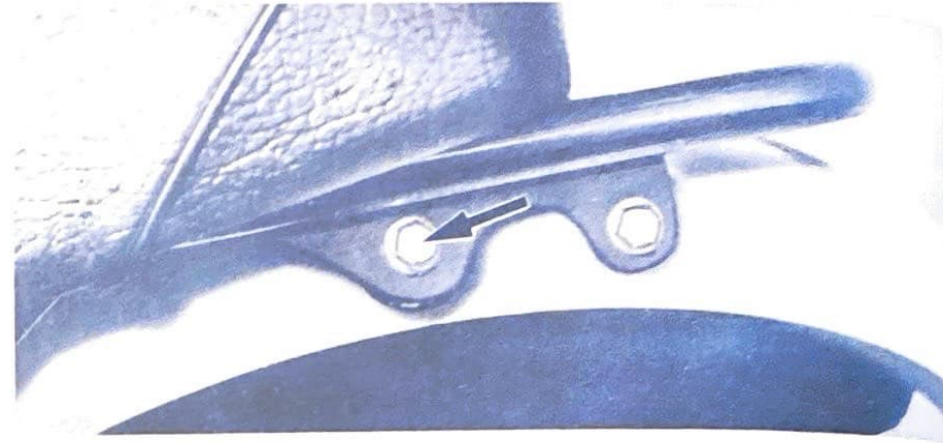
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C. Top End and Muffler

With the carburetor removed, proceed as follows:

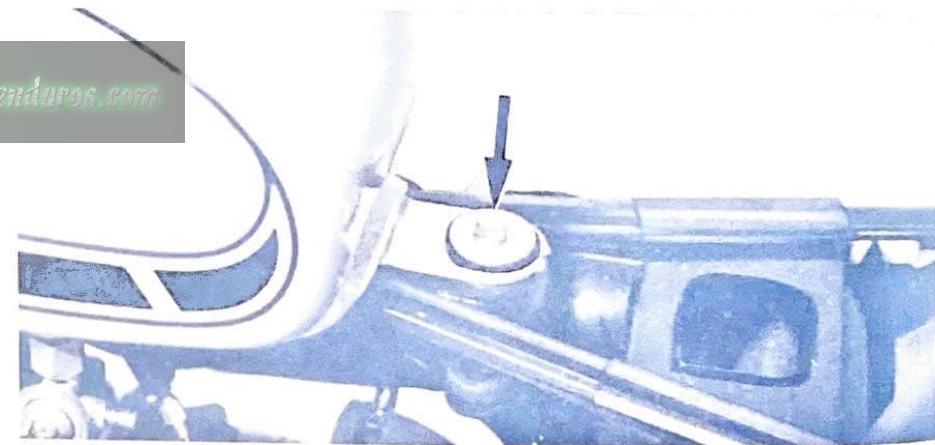
1. Muffler and Cylinder head Removal

a. Remove the two bolts and remove seat.

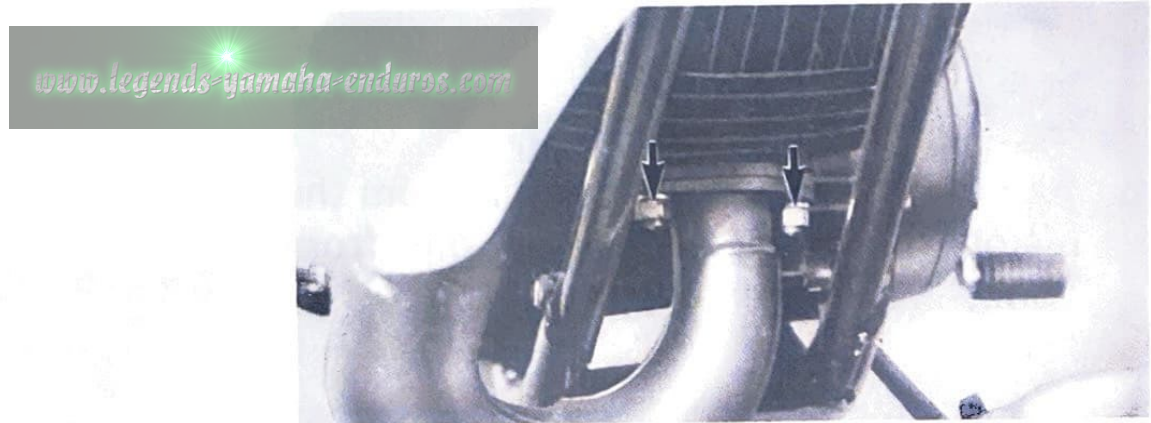
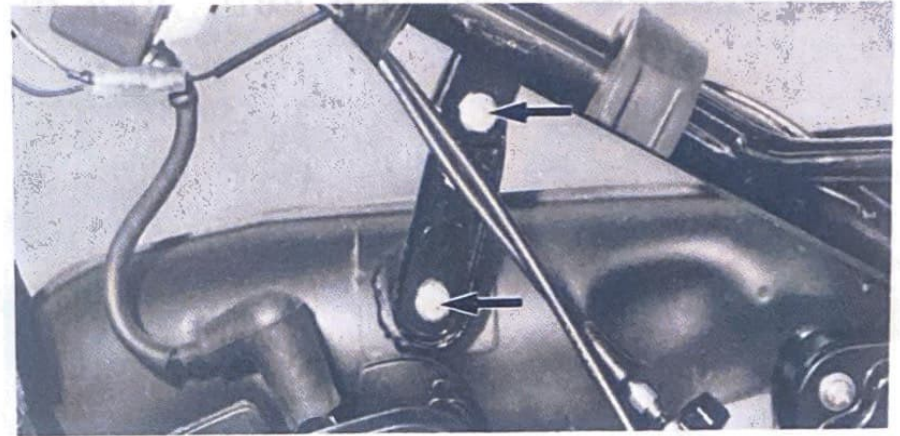
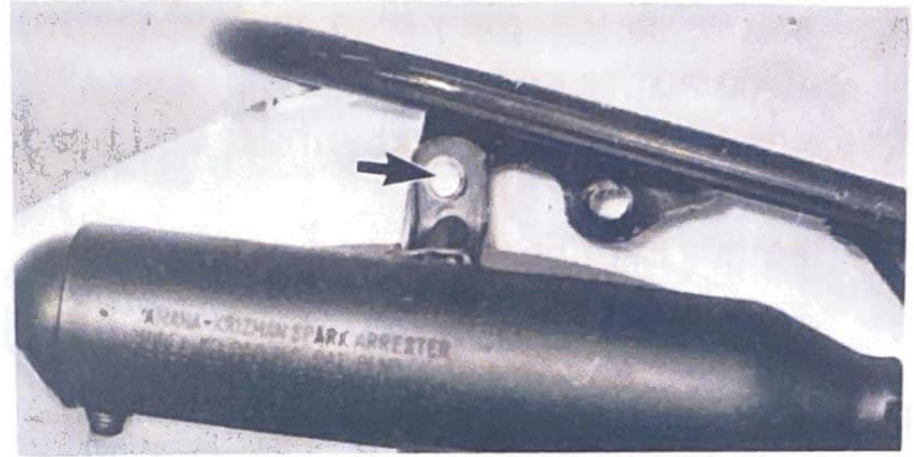


b. Remove the securing bolt from fuel tank.

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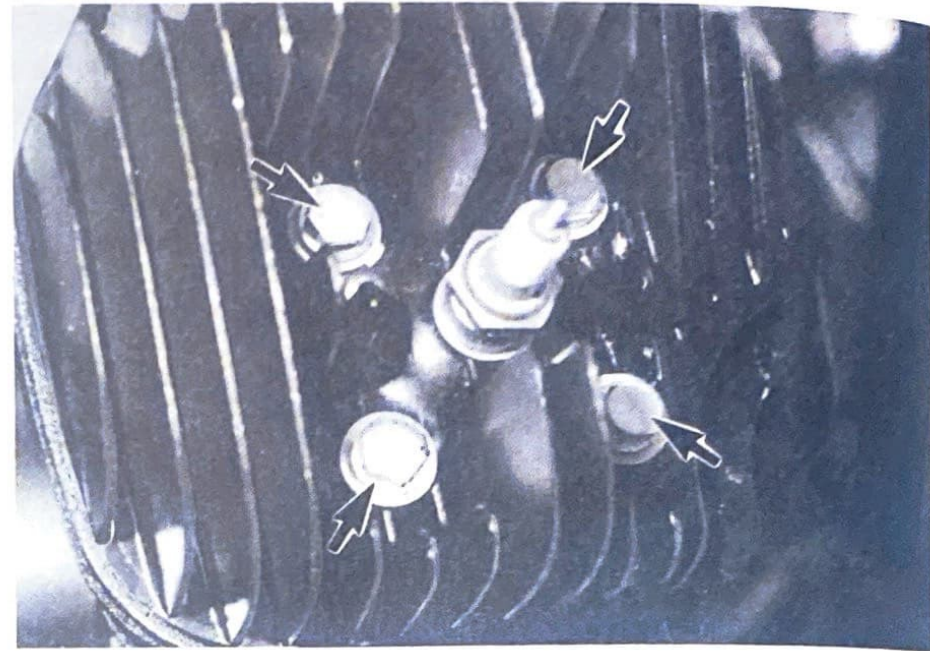
- c. Lift rear of fuel tank up and pull back to clear frame mounts. Remove tank.
- d. Remove the nuts holding muffler to cylinder and remove the muffler mounting bolts. Remove the muffler.



- e. Remove spark plug lead wire. Loosen, but do not remove spark plug.
- f. Remove nuts securing cylinder and head (4 nuts).
Remove cylinder head and gasket.

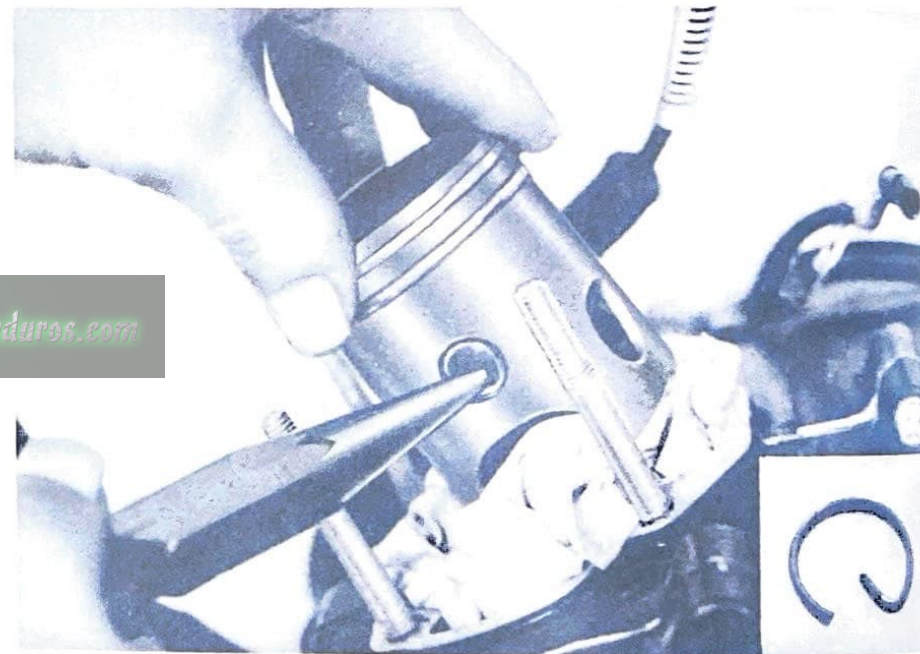
NOTE: _____

Break each nut loose (1/4 turn) prior to removing.



2. Cylinder Removal

- a. With the piston at top dead center, rise the cylinder until the cylinder skirts clear crankcase. Stuff a clean shop rag into crankcase cavity, around rod, to prevent dirt and other foreign particles from entering. Remove cylinder.
- b. Remove the piston pin clip (1) from the piston. Push the piston pin out from opposite side. Remove the piston.



NOTE:

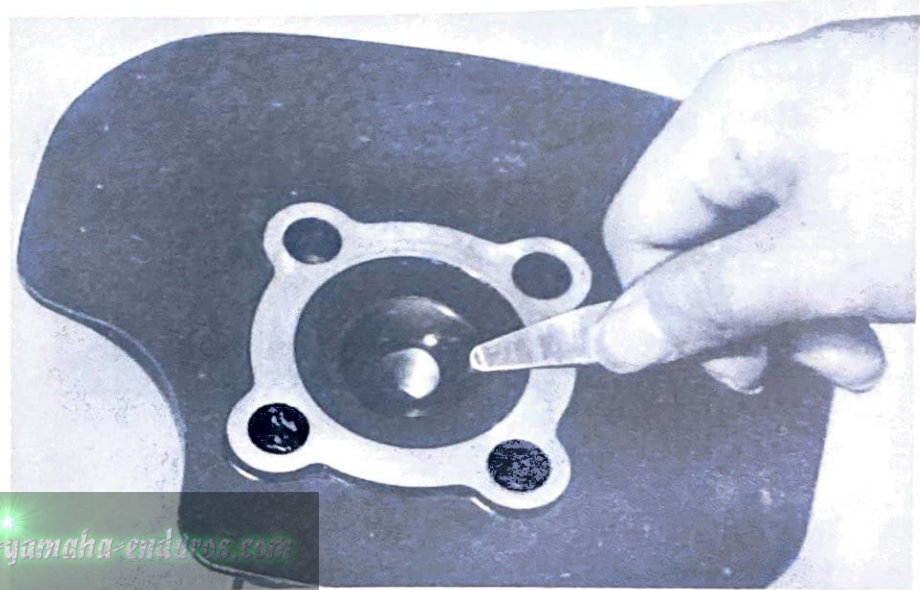
If the pin hangs up, use a piston pin puller. Do not hammer on pin as damage to rod, piston and bearing will result.

3. Exhaust Pipe Maintenance

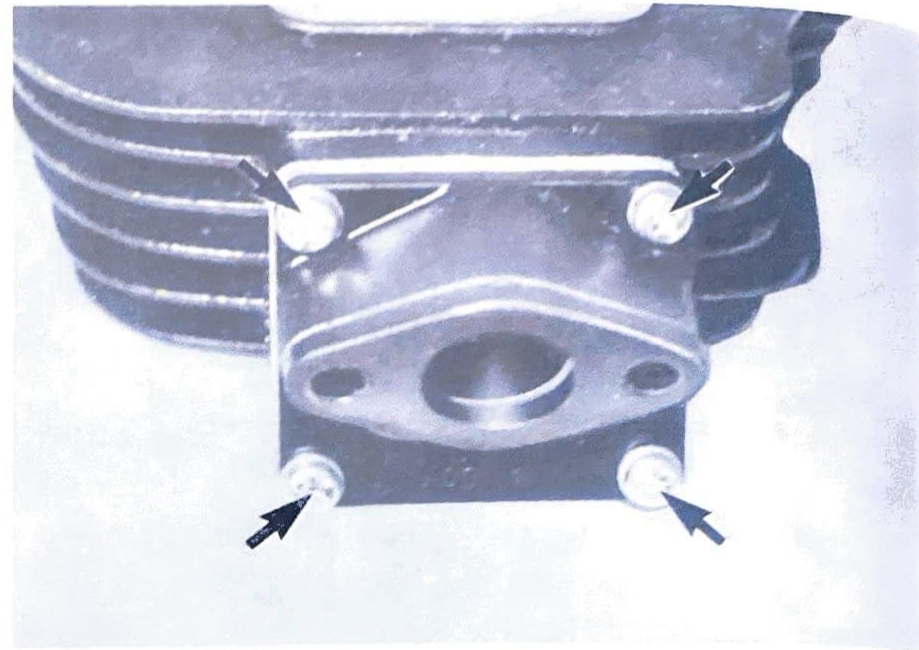
- a. Using a rounded scraper, remove excess carbon deposits from manifold area of exhaust pipe. Check muffler gasket condition. The gasket seat is located around the cylinder exhaust pot.
- b. Carbon deposits within the silencer may be removed by lightly tapping the outer shell with a hammer and then blowing out with compressed air. Heavy wire, such as a coat hanger, may be inserted to break loose deposits. Use care.
- c. Reinstall muffler.

4. Maintenance—Cylinder Head

- a. Remove spark plug.
- b. Using a rounded scraper, remove carbon deposits from combustion chamber. Take care to avoid damaging the spark plug threads. Do not use a sharp instrument. Avoid scratching the metal surface.



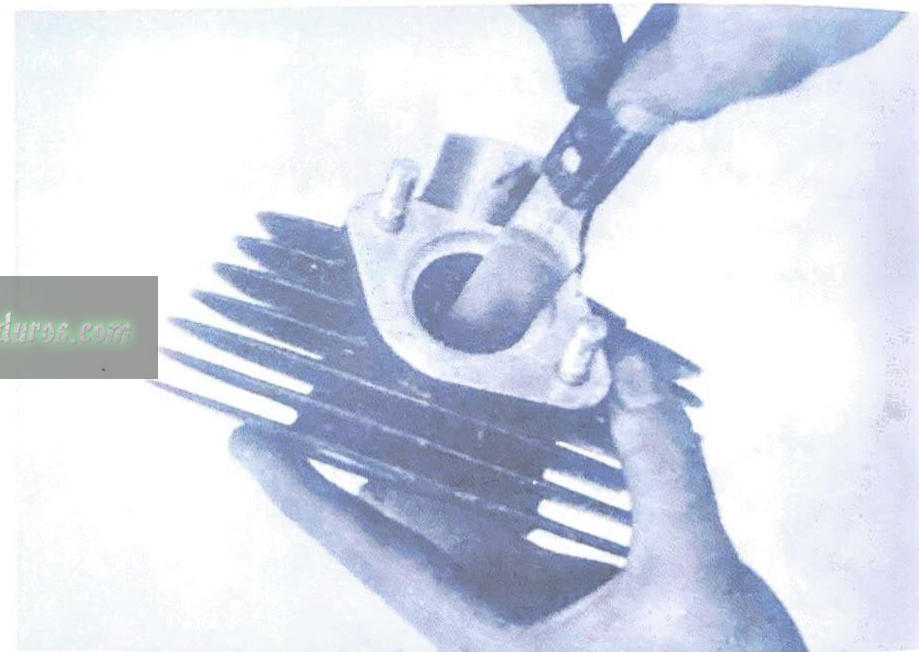
- c. Place the head on a surface plate. There should be no warpage. Correct by re-surfacing. Place 400–600 grit wet emery sandpaper on surface plate and re-surface head using a figure-eight sanding pattern. Rotate head several times to avoid removing too much material from one side.
- d. Clean the spark plug gasket mating surface thoroughly.
- e. Wash the head in solvent and wipe dry.
- f. Install new cylinder head gasket during reassembly.



Cylinder Head Nut Torque:
9–11 ft-lb (1.2–1.5 m-kg)

5. Maintenance—Cylinder

- a. Remove reed valve assembly www.legends-yamaha-enduros.com
- b. Using a rounded scraper, remove carbon deposits from exhaust port.



- c. Remove cylinder base gasket and clean gasket seat on cylinder and crankcase thoroughly.
- d. Check cylinder bore. Using a cylinder hone, remove any scoring. Hone lightly, using smooth stones. Hone no more than required to avoid excess piston clearance.
- e. Using a cylinder gauge set to standard bore size, measure the cylinder. Measure front-to-rear and side-to-side at top, center and bottom just above exhaust port. Compare minimum and maximum measurements. If over tolerance and not correctable by honing, rebore to next over-size.

Standard bore:

1.929 in (49 mm)

Max. allowable taper:

0.002 in (0.05 mm)

Max. allowable out-of-round:

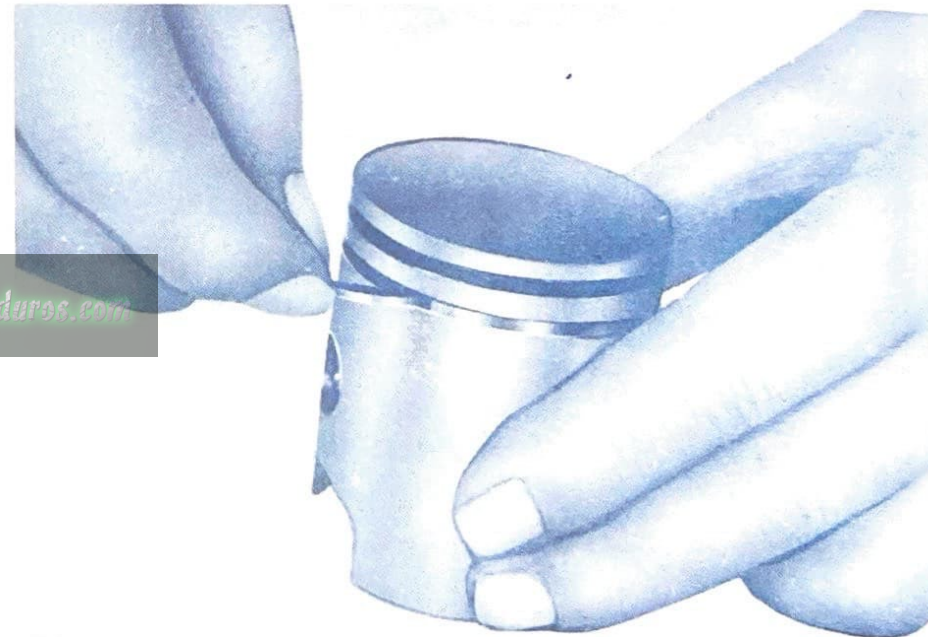
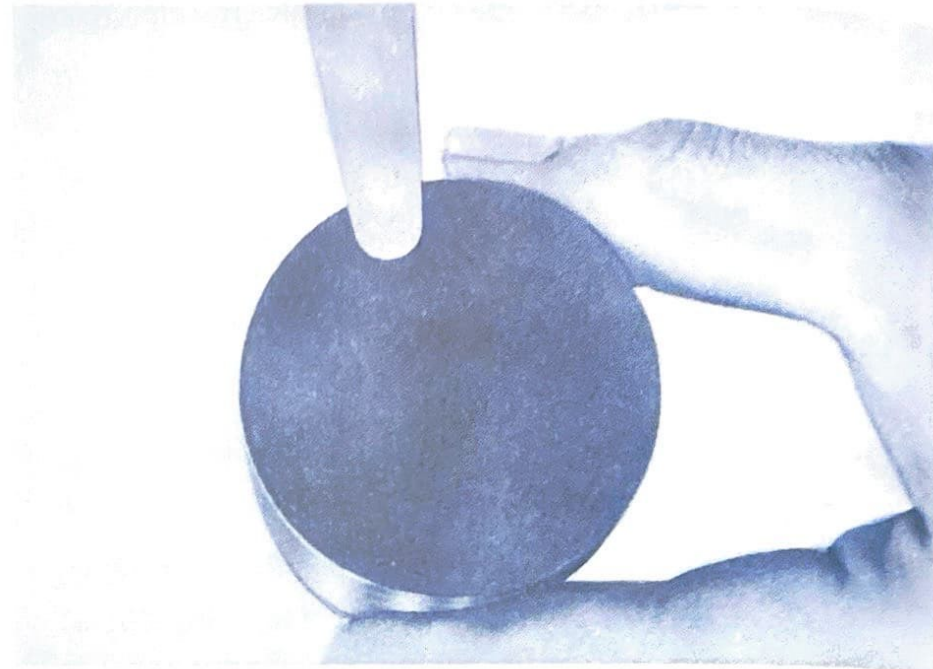
0.0004 in (0.01 mm)



- f. Clean cylinder in solvent, then wash with hot soapy water. Dry. Coat walls with light oil film.
- g. During re-assembly, always use a new cylinder base gasket.

6. Maintenance—Piston

- a. Using a rounded scraper, remove carbon deposits from piston crown.
- b. Break a used piston ring in two. File end square. De-burr edges to avoid scratching ring groove and clean carbon deposits from ring grooves.



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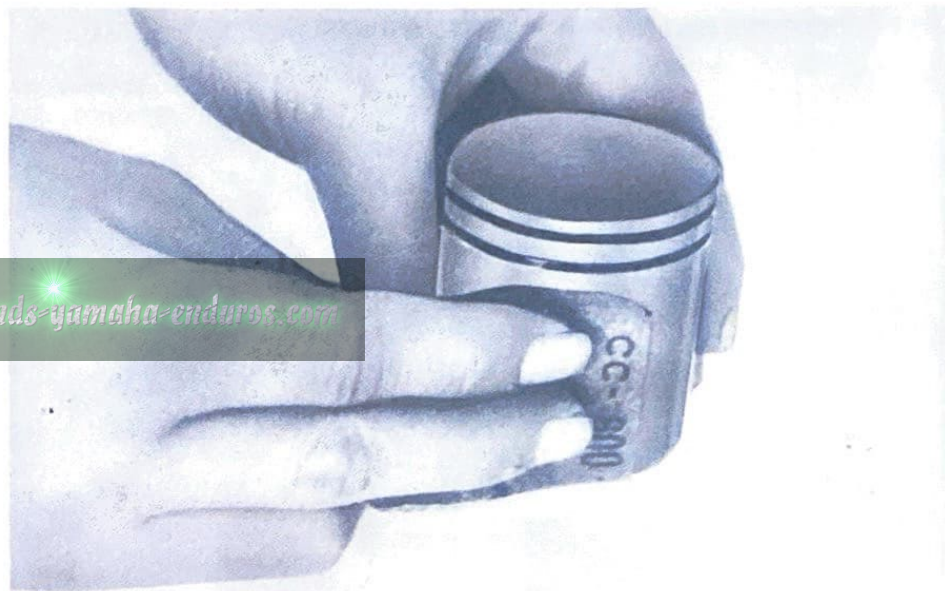
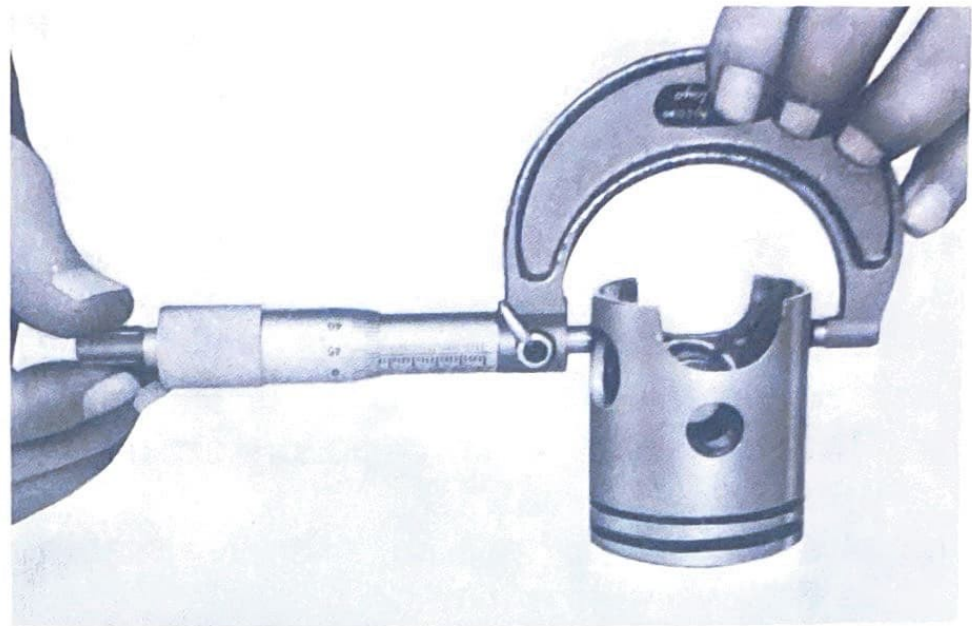
- c. Using 400–600 grit wet sandpaper, lightly sand score marks and lacquer deposits from sides of piston. Sand in cross-hatch pattern. Do not sand excessively.
- d. Wash piston in solvent and wipe dry.
- e. Using an outside micrometer, measure piston diameter. The piston is cam-ground and tapered. The only measuring point is at right-angles to the piston pin holes about 0.5 in (10 mm) bottom of the piston skirt. Compare piston diameter to cylinder bore measurements (bottom two measurements at right angles to piston pin line). Piston maximum diameter subtracted from minimum cylinder diameter gives piston clearance. If beyond tolerance, replace piston or bore cylinder as required.

Nominal Piston Clearance:

0.0014–0.0016 in (0.035–0.040 mm)

Maximum Wear Limit:

0.004 in (0.1 mm)



- f. During re-assembly, coat the piston skirt areas liberally with two-stroke oil.
- g. Install new piston pin circlips and make sure they are fully seated within their grooves.
- h. Take care during installation to avoid damaging the piston skirts against the crankcase as the cylinder is installed. Note the arrow mark on piston dome must face forward.
- i. Make sure the rings are properly seated as the cylinder is installed.

7. Maintenance—Piston Rings

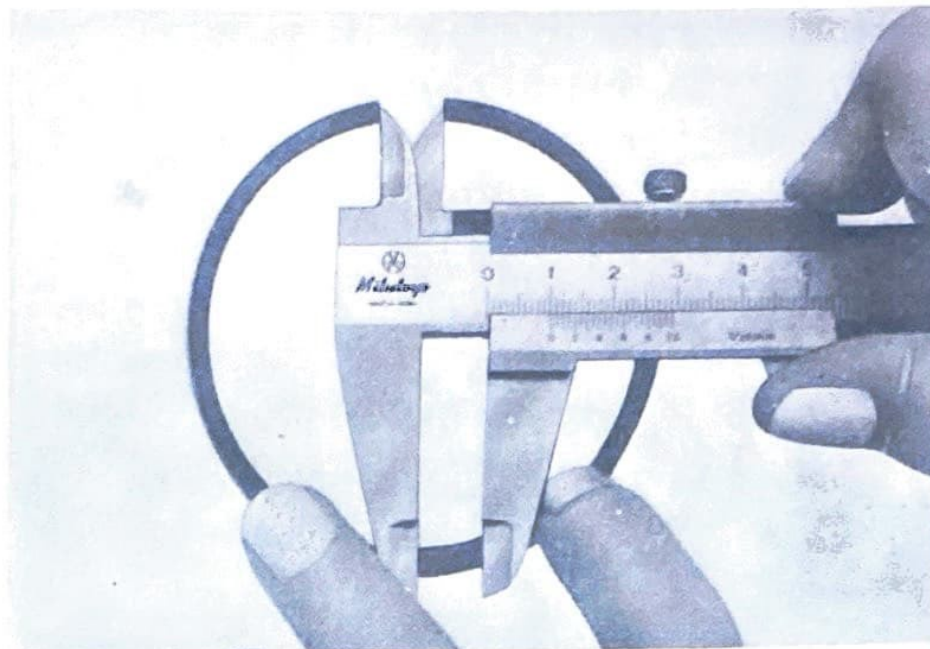
- a. Remove ring from piston.



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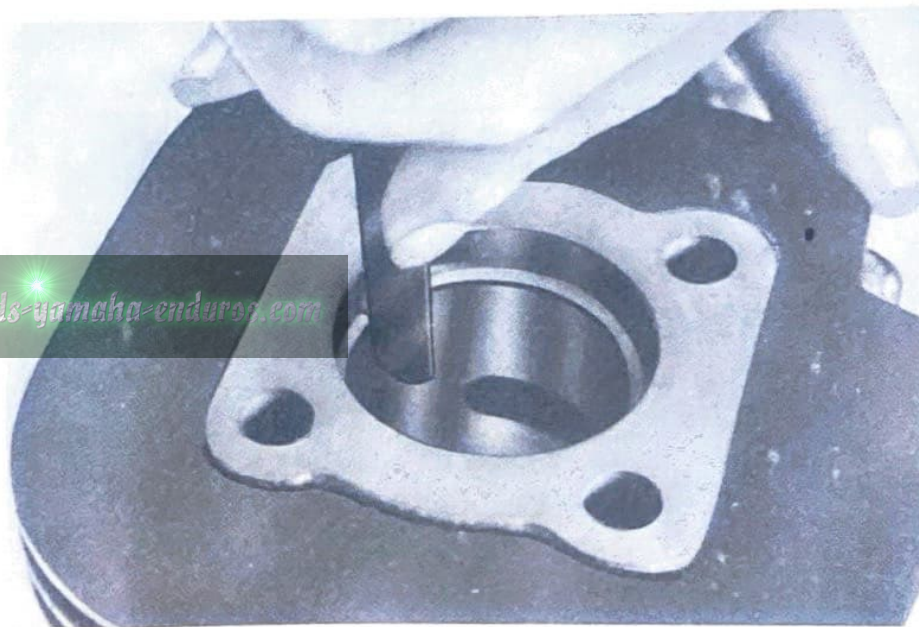
- b. Measure ring end gap in free position. If beyond tolerance, replace.

Ring End Gap (Top and 2nd), free:
0.22 in (5.5 mm)



- c. Insert ring into cylinder. Push down approximately 3/4" (20 mm) using piston crown to maintain right-angle to bore. Measure installed end gap. If beyond tolerance, replace.

Ring End Gap Installed (top and 2nd):
0.016–0.020 in (0.4–0.5 mm)



- d. Holding cylinder towards light, check for full seating of ring around bore. If not fully seated, check cylinder. If cylinder not out-of-round, replace piston ring.
- e. During installation, make sure ring ends are properly fitted around ring locating pin in piston groove. Apply liberal coating of two-stroke oil to ring.

NOTE: _____

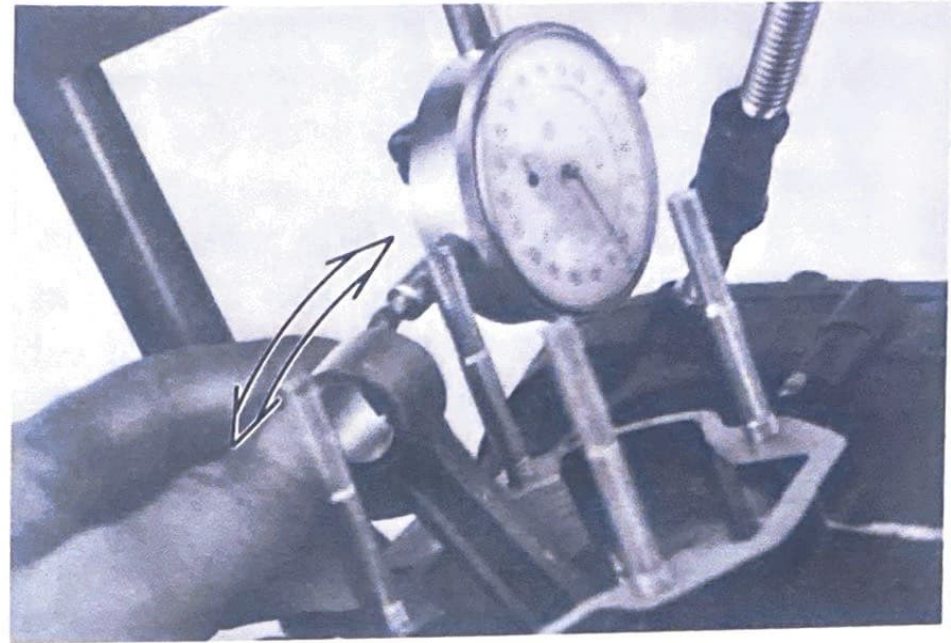
New ring requires break-in. Follow first portion of new machine break-in procedure.

8. Maintenance—Piston Pin, Bearing and Connecting Rod

- a. Check the pin for signs of wear. If any wear is evident, replace pin and bearing.
- b. Check the pin and bearing for signs of heat discoloration. If excessive (heavily blued), replace both.
- c. Check the bearing cage for excessive wear. Check the rollers for signs of flat spots. If found, replace pin and bearing.
- d. Apply a light film of oil to pin and bearing surfaces. Install in connecting rod small end. Check for play. There should be no noticeable vertical play. If play exists, check connecting rod small end diameter for wear. Replace pin and bearing or all as required.

- e. Mount the dial gauge at right angles to the connecting rod small end holding the bottom of rod toward the dial indicator, rock top of rod and measure axial play.

Connecting Rod Axial Play:
0.031–0.079 in (0.8–2.0 mm)

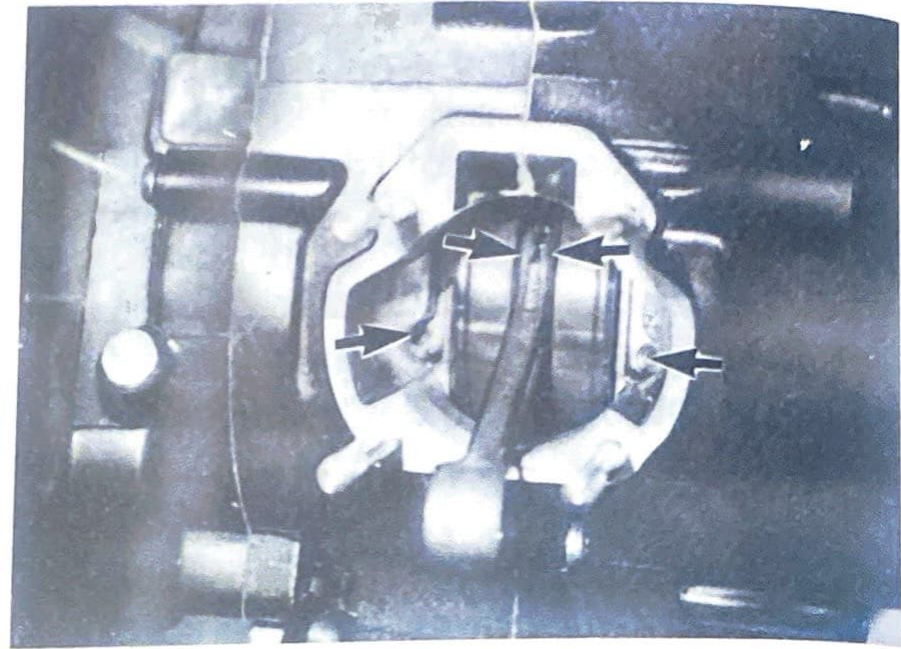


- f. Remove the dial gauge and slide the connecting rod to one side. Insert a feeler gauge between the side of the connecting rod big end and the crank wheel. Measure clearance.

Connecting Rod/Crank Side Clearance:
0.008–0.020 in (0.2–0.5 mm)



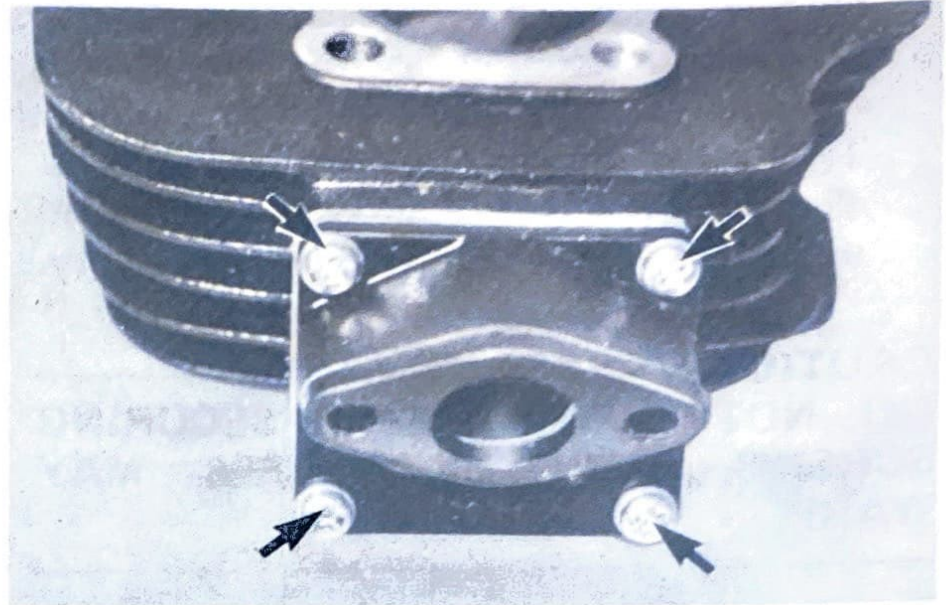
- g. If any of the above measurements exceed tolerance, crankshaft repair is required. Take the machine to your Authorized Dealer.
- h. During reassembly, apply a liberal coating of two-stroke oil to the piston pin and bearing. Apply several drops of oil to the connecting rod big end. Apply several drops of oil into each crankshaft bearing oil delivery hole.



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D. Reed Valve

- a. With carburetor, top end, and muffler removed, remove the four (4) bolts holding the intake manifold and reed valve assembly to the cylinder. Remove the assembly.
- b. Inspect reed petals for signs of fatigue cracks. Reed petals should fit flush or nearly flush against neoprene seats. If in doubt as to sealing ability, apply suction to carburetor side of assembly. Leakage should be slight to moderate.
- c. If disassembly of the reed valve assembly is required, proceed as follows:
 - 1) Remove philips screws (2) securing stopper plate and reed to reed block. Handle reed carefully. Avoid scratches and do not bend. Note from which side of the reed block the reed and stopper plate were removed. Reinstall on same side.



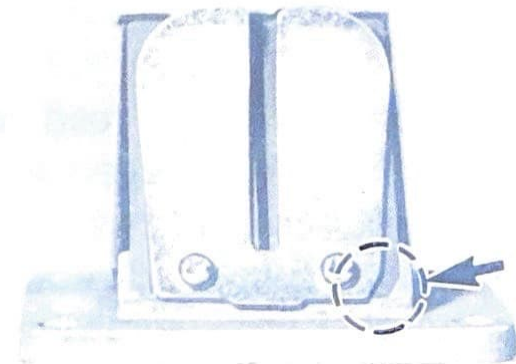
2) During reassembly, clean reed block, reed, and stopper plate thoroughly. Apply a holding agent, such as "Look-Tite", to threads of philips screws. Tighten each screw gradually to avoid warping. Tighten the screws thoroughly.

CAUTION: _____
DO NOT OVER-TIGHTEN SECURING SCREWS, STOPPER PLATES MAY WARP.

Securing Screw Torque:
6.9 in-lb (8.0 cm-kg)

NOTE: _____
During reassembly, observe the cut in the lower corner of the reed and stopper plate. Use as aid to direction of reed installation.

d. During reassembly of the reed valve assembly and manifold, install new gaskets and torque the securing bolts gradually and in pattern.



E. Clutch, Shifter and Kick Starter

NOTE: _____
Clutch adjustment is covered in Chapter IV, "Mechanical Adjustments."

1. Clutch Removal

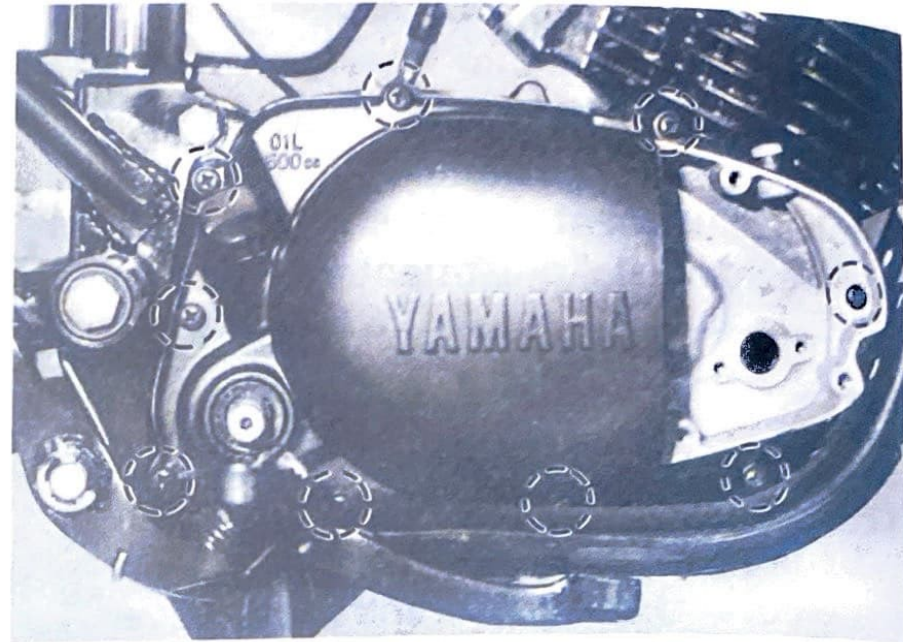
- a. Remove the kick starter lever.
- b. Remove the right crank case cover 1.
- c. Remove the foot rest retaining bolt and remove the foot rest.



- d. Remove the Allen bolts holding the case cover in place and remove the cover. Note the position of the dowel pins.

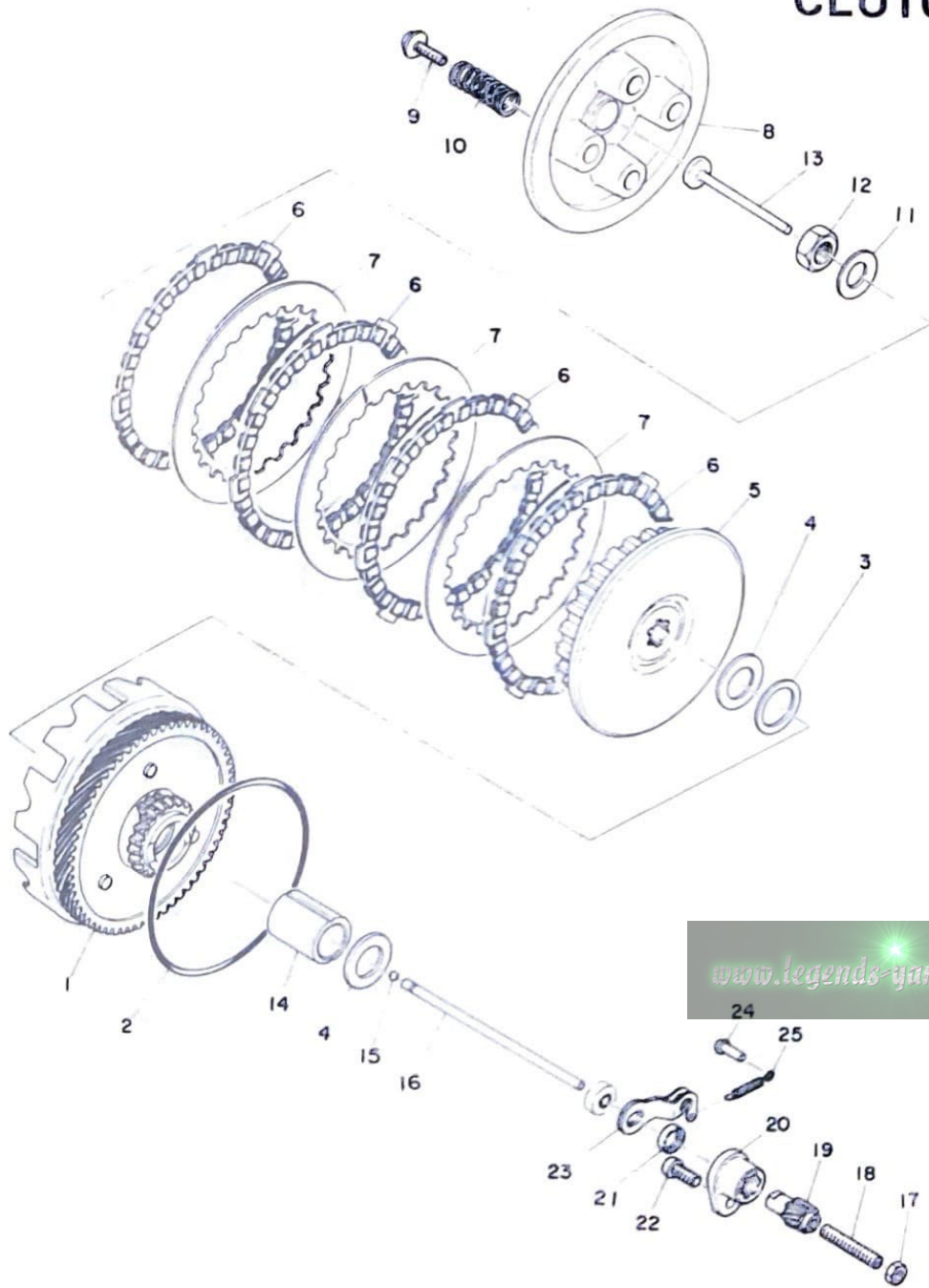
NOTE: _____

Drain transmission oil before removing cover.



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CLUTCH



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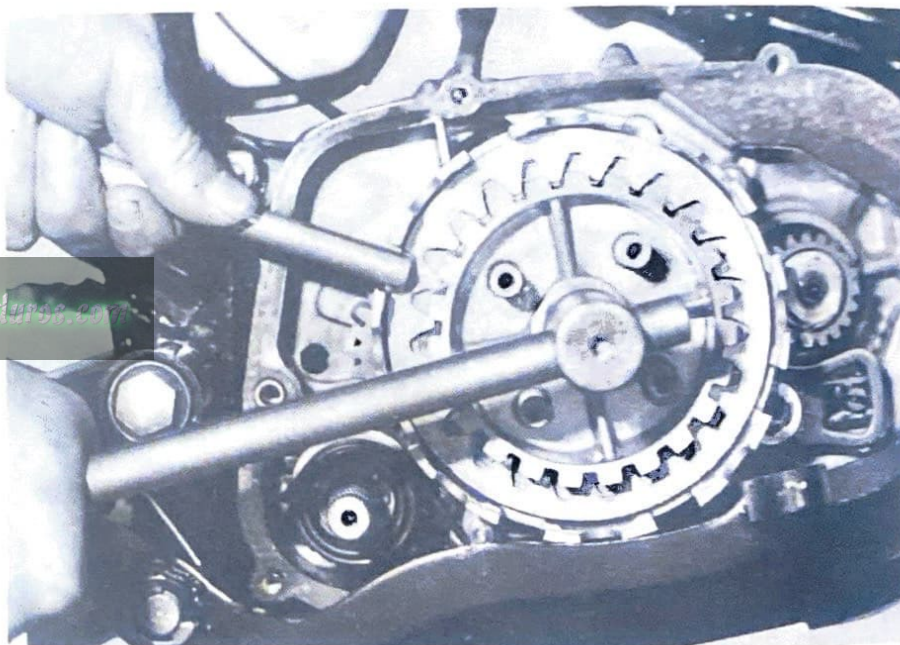
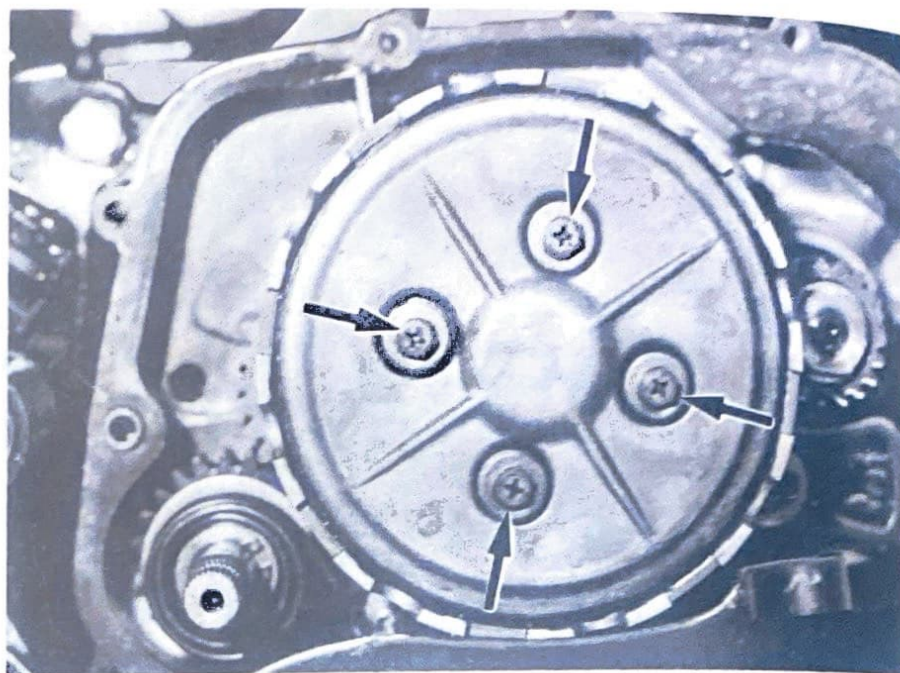
1. Driven gear comp.
2. O-ring
3. Plate washer
4. Thrust plate
5. Clutch boss
6. Friction plate
7. Clutch plate
8. Pressure plate
9. Bolt
10. Clutch spring
11. Clutch boss washer
12. Clutch boss nut
13. Push rod 1
14. Spacer
15. Ball
16. Push rod 2
17. Nut
18. Adjusting screw
19. Push screw
20. Push screw housing
21. Oil seal
22. Pan head screw
23. Push lever
24. Spring hook
25. Return spring lever

- e. Remove the phillips (hexagon) screws (4) holding the pressure plate. Remove the clutch springs (4) pressure plate and push rod. Remove the clutch plates and friction plates.

NOTE: _____

When removing phillips (hexagon) spring screws, loosen each screw in several stages working in a cross-hatch pattern to avoid any unnecessary warpage. Note the condition of each piece as it is removed and its location with the assembly.

- f. Using the clutch holding tool, remove the clutch securing nut and lockwasher. Remove the clutch boss and driven gear (clutch housing)



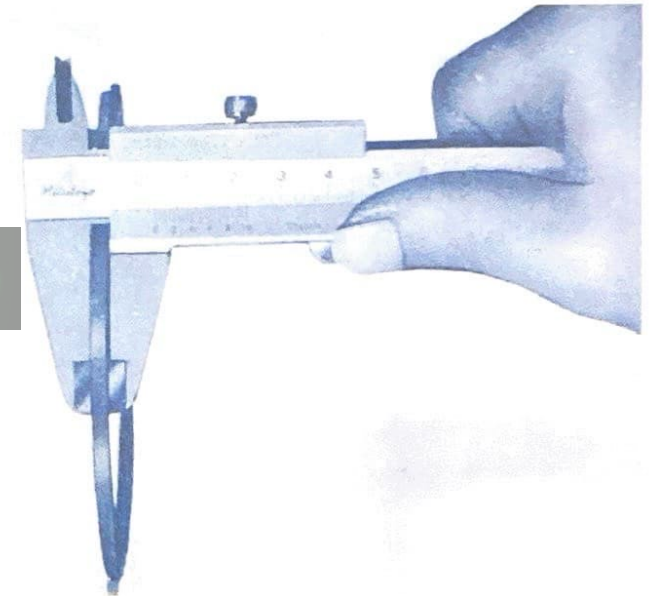
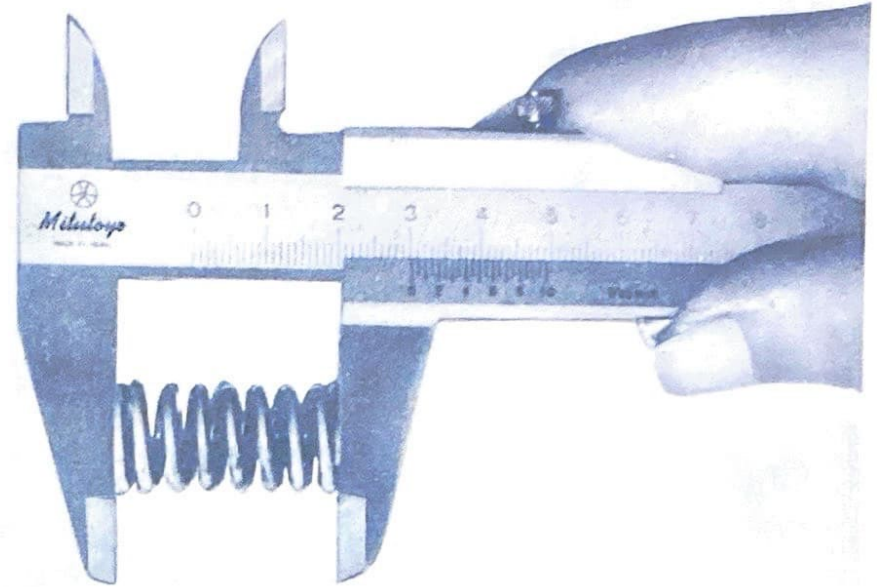
2. Troubleshooting—Clutch Assembly

- a. Measure each clutch spring. If beyond tolerance, replace.

	New	Minimum
Clutch spring free length	1.34 in (34.0 mm)	1.30 in (33.0 mm)

- b. Measure the friction plates at three or four points. If their minimum thickness exceeds tolerance, replace.

	New	Wear limit
Friction plate thickness	0.118 in (3.0 mm)	0.106 in (2.7 mm)



- c. Check the plates for signs of warpage and heat damage, replace as required.

NOTE: _____

For optimum performance, if any plate requires replacement, it is advisable to replace the entire set.

- d. Check each clutch plate for signs of heat damage and warpage. Place on surface plate (plate glass is acceptable) and use feeler gauge.

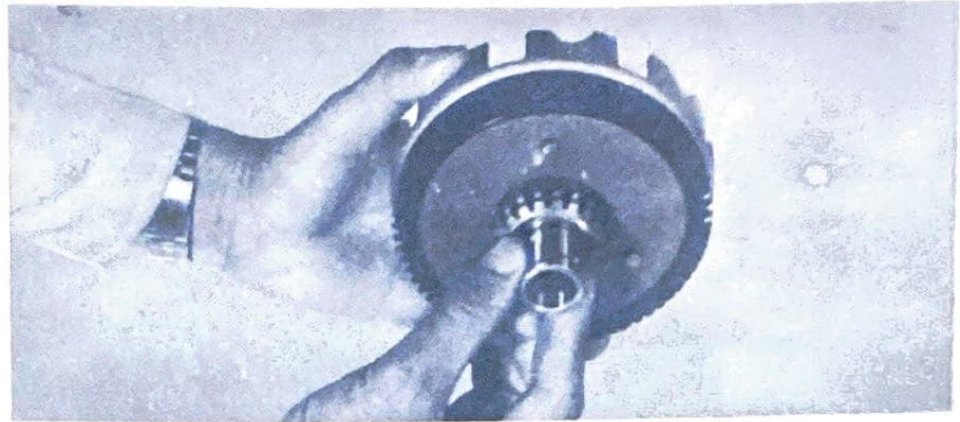
Clutch plate warp allowance:
0.002 in (0.05 mm) maximum

- e. Clutch Housing Assembly (integrated with the primary driven gear)
There is a rubber friction ring place on the outside of the clutch between the primary driven gear and the clutch housing in order to reduce gear noise at low engine speeds.



Inspection:

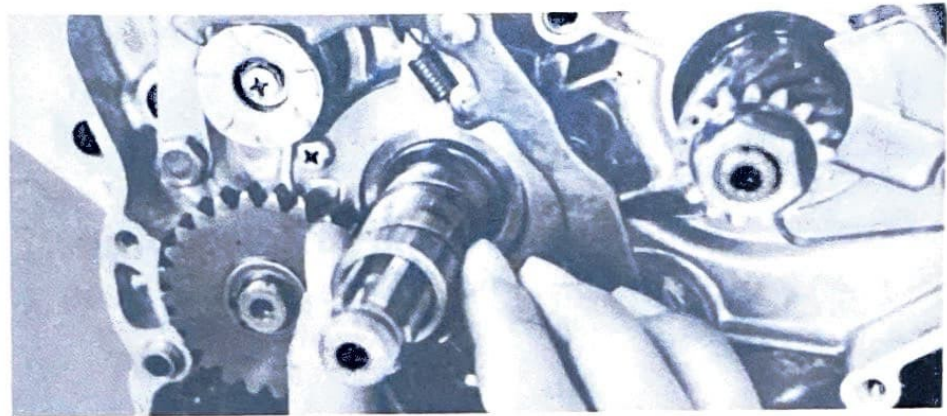
Insert the primary gear retaining collar (spacer) in the primary driven gear boss and check it for radial play. If the play is excessive, replace the gear retaining collar because it will cause excessive noise. If any scratches are found, replace the spacer to avoid impaired clutch action.



f. Checking the Primary Gear Retaining Collar (Spacer)

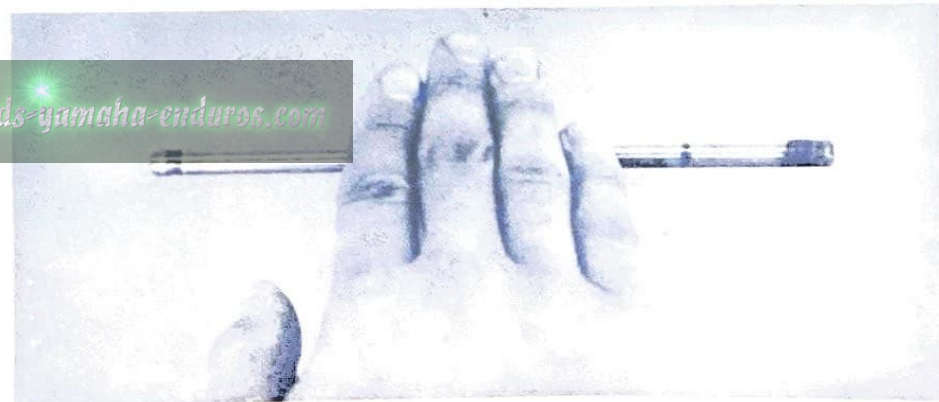
Place the primary gear retaining collar around the main axle and again check it for radial play. If play exists, replace the gear retaining collar.

Replace any collar with step-wear on its outer surface.



g. Checking the Push Rod

Remove the push rod and roll it over a surface plate. If the rod is bent, straighten or replace it.

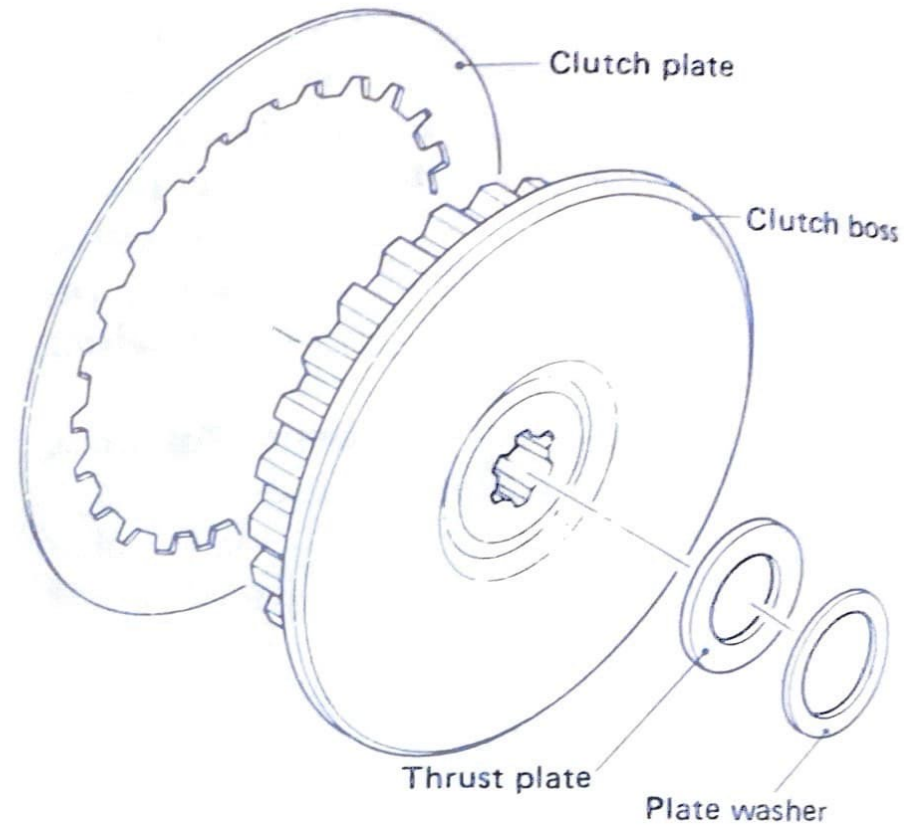


h. Caution on Re-assembling the Clutch

*On both ends of the primary driven gear spaces are plate washer and thrust plates. If these washer and plates are incorrectly installed, the clutch boss will rub directly on the driven gear, impairing clutch action.

*The thrust plate fits on the primary retaining collar, but it may slip out of place when installing clutch boss. Therefore, apply grease to both surfaces of the plate to make it stick to the gear retaining collar.

*Before installing the clutch plate, friction plate, etc., install the clutch boss on the main axle.

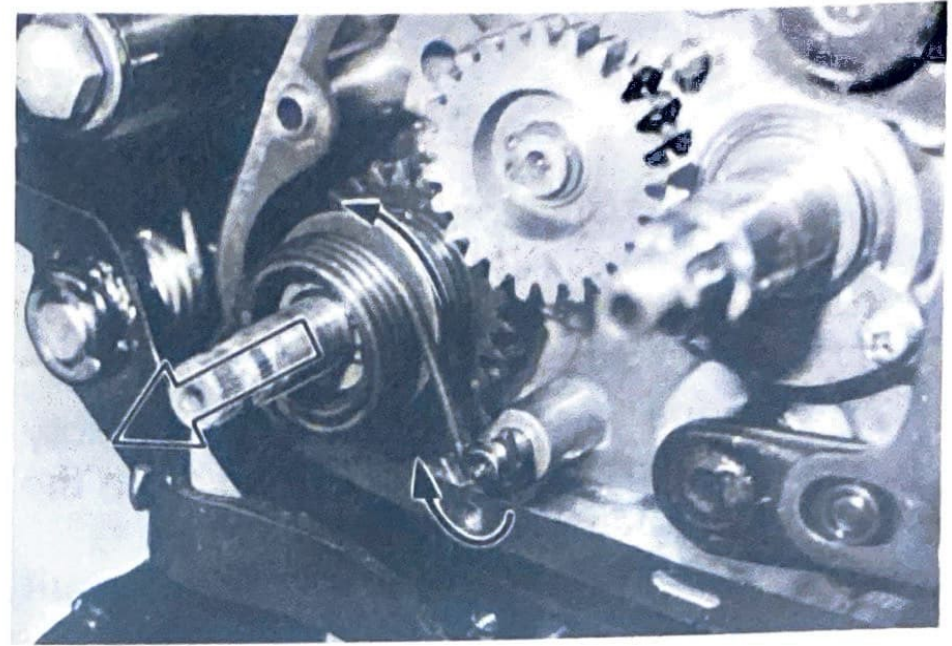


3. Kick starter removal

- a. Unhook Kick spring from its post in crankcase.

Allow it to relax. Then remove kick axle assembly by rotating the shaft counterclockwise and then pulling out the entire assembly.

- b. Check to see that the Kick gear spirals freely on the worm shaft. Check the gear teeth for wear and breakage.



- c. Install the Kick starter assembly.

- 1) Set the Kick gear clip in the groove of crankcase.
- 2) Rotate Kick spring clockwise and hook it on kick spring stopper.

NOTE:

Make sure that the Kick stopper is stopped at projection of crankcase.

- 3) Check whether the Kick starter acts correctly and whether it returns to its home position.

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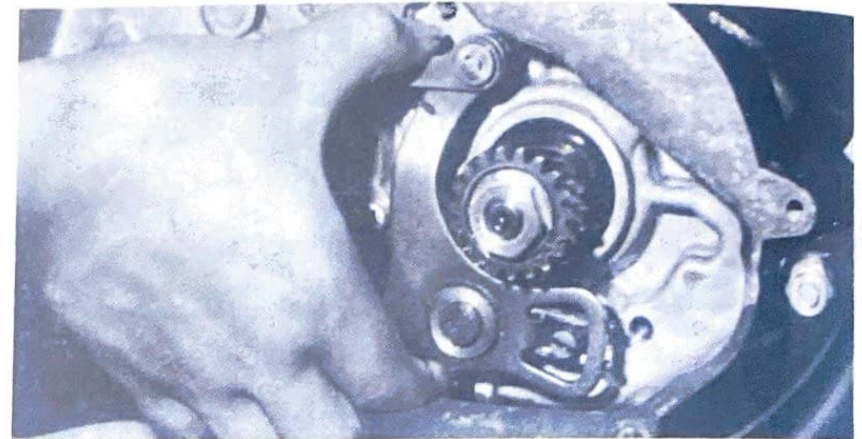
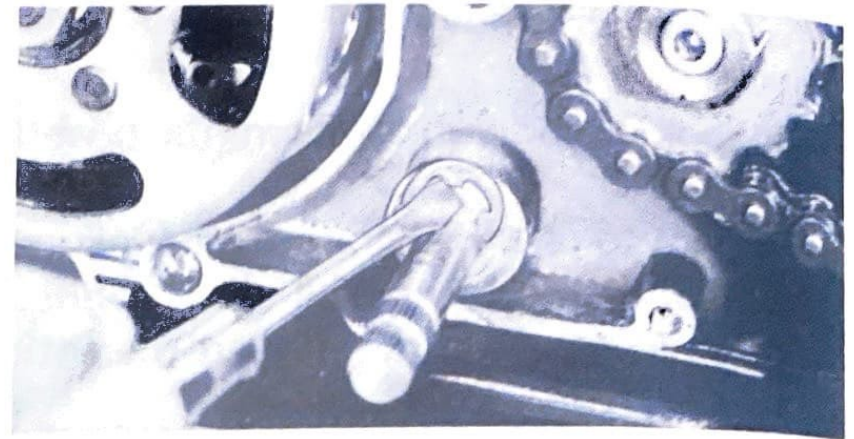
4. Shift Mechanism

NOTE: _____

Shifter maintenance and adjustment should be performance with clutch assembly by removed.

a. Removing the Change Shaft Assembly

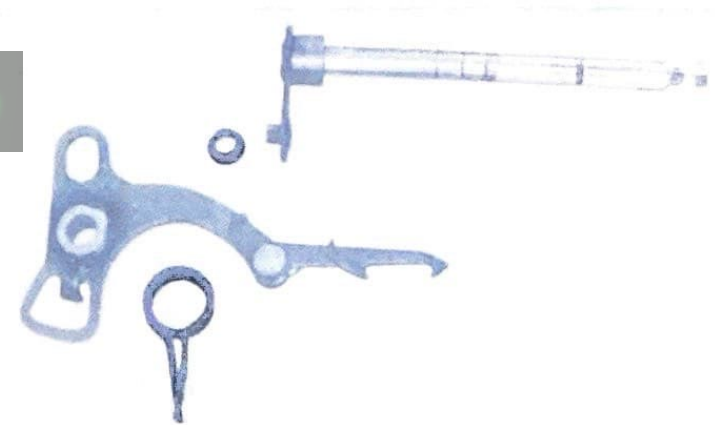
- 1) Remove the circlip and washer from the change axle (left side crank case).
- 2) On the otherside of the machine, pull out the change shaft assembly.



b. Checking the change shaft assembly

- 1) Inspect shift return spring. A broken or worn spring will inpair the return action of the shifting mechanism.
- 2) Inspect change shaft assembly for bending of shaft, worn or bent splines and broken or worn shift arm spring.

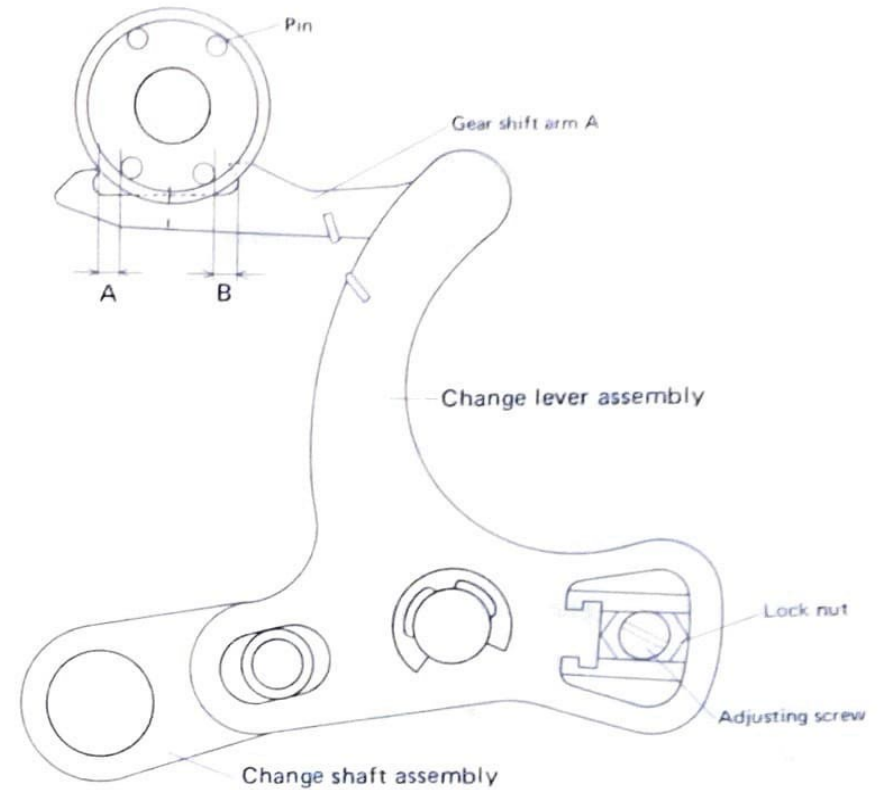
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c. Adjustment

If over-shifting (excessive turning of shift cam) or short-shifting (insufficient turning of shift cam) occurs, make adjustment of the gear shift arms by turning the stop screw (eccentric bolt) at the gear shift arm return spring. Shift the gear to second, then make adjustment so that "A" becomes identical "B".

Make sure to tighten lock nut upon completion of adjustment.



VII CHASSIS MAINTENANCE AND MINOR REPAIRS

A. Wheels and Tires

1. Front wheel removal

- a. Disconnect the brake cable at the front brake lever.
- b. Remove the cotter pin from front axle nut.
- c. Remove the front axle nut and axle.

2. Tire Removal

- a. Remove valve cap, valve core, and valve stem lock nut.
- b. When all air is out of tube, separate tire bead from rim (both) sides by stepping on tire with your foot.
- c. Use two tire removal irons (with rounded edges) and begin to work the tire bead over the edge of the rim, starting 180° opposite the tube stem. Take care to avoid pinching the tube as you do this.

- d. After you have worked one side of the tire completely off the rim, then you can slip the tube out. Be very careful not to damage the stem while pushing it back out of the rim hole.

NOTE: _____

If you are changing the tire itself, then finish the removal by working the tire off the same rim edge just previously mentioned.

3. Installing Tire and Tube

Reinstalling the tire and tube can be accomplished by reversing the disassembly procedure. The only difference in procedure would be right after the tube has been installed, but before the tire has been completely slipped onto the rim, inflate the tube. This removes any creases that might exist. Release the air and continue with reassembly. Also, right after the tire has been completely slipped onto the rim, check to make sure that the stem is squarely in the center of the hole in the rim.

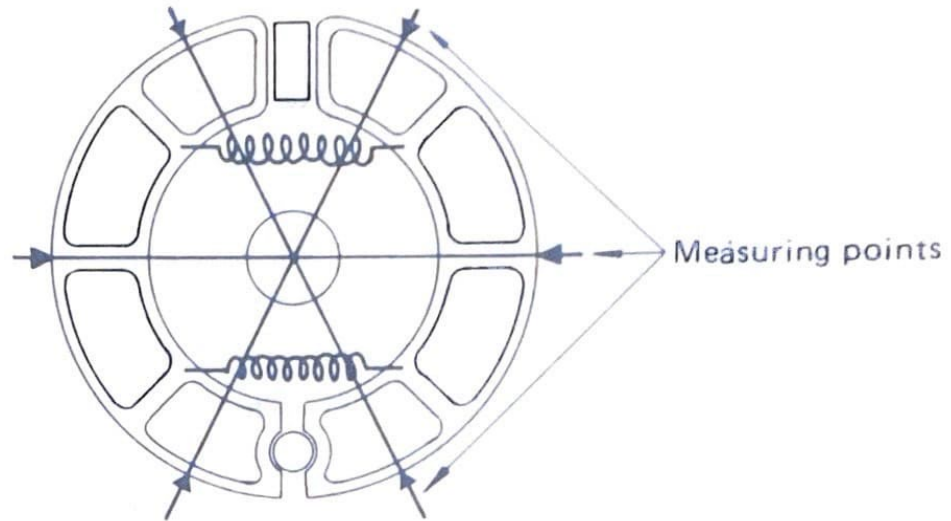
Tire pressure for normal riding	Front	10 lb/in ² (0.7 kgs/cm ²)
	Rear	14 lb/in ² (1.0 kgs/cm ²)

4. Checking Brake Shoe Wear

Measure the outside diameter at the brake shoes with slide calipers. If they measure less than replacement limit, replace them.

Front Brake Shoe Diameter:
3.7 in (95 mm)

Replacement Limit: 3.5 in (90 mm)



5. Brake Drum

Oil or scratches on the inner surface of the brake drum will impair braking performance or result in abnormal noises. Remove oil by wiping with a rag soaked in lacquer thinner or solvent. Remove scratches by lightly and evenly rubbing with emery cloth.

6. Replacing Wheel Bearings

If the bearings allow excessive play in the wheel or if it does not turn smoothly, replace the bearing as follows:

- a. First clean the outside of the wheel hub.
- b. Insert the bent end of the special tool into the hole located in the center of the bearing spacer, and drive the spacer out from the hub by tapping the other end of the special tool with a hammer. (Both bearing spacer and space flange can easily be removed.)
- c. Push out the bearing on the other side.
- d. To install the wheel bearing, reverse the above sequence. Be sure to grease the bearing before installation.
- e. Check the lips of the seals for damage or warpage. Replace if necessary.

7. Spokes

Check the spokes. If they are loose or bent, tighten or replace them. If the machine is ridden in rough country often, or raced, the spokes should be checked regularly.

8. Rear Wheel removal

- a. Remove the tension bar and brake rod from rear shoe plate.
- b. Remove cotter pin from rear wheel axle nut.
- c. Remove the rear wheel axle nut.
- d. Pull out the rear wheel axle by simultaneously twisting and pulling out.
- e. Remove the rear brake shoe plate.
- f. Lean the machine to the left and remove the rear wheel assembly.

9. Checking Brake Shoe Wear

- a. Measure the outside diameter of the brake shoes with slide calipers. If they measure less than replacement limit, replace them.
- b. Smooth out a rough shoe surface with sand-paper or with a file.

Rear Brake Shoe Diameter:

4.3 in (110 mm)

Replacement Limit: 4.1 in (105 mm)

10. Brake Drum

Oil or scratches on the inner surface or the brake drum will impair braking performance or result in abnormal noises. Remove oil by wiping with a rag soaked in lacquer thinner or solvent. Remove scratches by lightly and evenly rubbing with emery cloth.

11. Bead Spacers (Rear wheel)

A motocrosser has lower tire pressures and is usually driven at high power over a rough, tortuous terrain. Therefore, the tire and tube tends to slip around the wheel rim. To prevent this, a bead spacer is used. If the tire valve is tilted, it should be corrected in the following manner:

- a. Deflate the tire, and loosen the tire valve lock nut and bead spacer lock nut(s).

b. Lightly strike the tire wall with a hammer until both beads have broken free of the rim.

c. Turn the tire in the reverse direction as shown in the figure, and apply quick brake. By using the inertia of the turning tire, the fault can be corrected.

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12. Replacing Wheel Bearings

Refer to front wheel section.

13. Checking Rims and Spokes (Front and Rear Wheels)

a. Checking for Loose Spokes

Loose spokes can be checked by bracing the machine off the ground so that the wheel can spin free. Slowly revolve the wheel and at the same time let the metal shaft of a fairly heavy screwdriver bounce off each spoke. If all the spokes are tightened approximately the same then the sound given off by the screwdriver hitting the spokes should sound the same. If one spoke makes a dull flat sound, then check it for looseness.

b. Checking rim "run-out"

While you have the machine up in the air, you should check that the wheel does not have too much run-out" is the amount the front wheel deviates from a straight line as it spins. Set up a dial indicator or solidly anchor a pointer about 0.12 in (3 mm) away from the side of the rim.

As the wheel spins, the distance between the pointer and the rim should not change more than 0.080 in (2 mm) total. Any greater fluctuation means that you should remove this rim warpage by properly adjusting the spokes.

Run-out limits: 0.080 in (2 mm)

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B. Driven Sprocket and Chain

1. Driven Sprocket

With the rear wheel removed, proceed as follows:

- a. Using a blunt chisel, flatten the securing bolt lock washer tabs. Remove the securing bolts (4). Remove the lock washers and sprocket.
- b. Check sprocket wear per procedures for the drive sprocket.

- c. During reassembly, make sure the sprocket and sprocket seat are clean. Tighten the securing bolts in a cross-hatch pattern. Bend the tabs of the lock washers fully against the securing bolt flats.

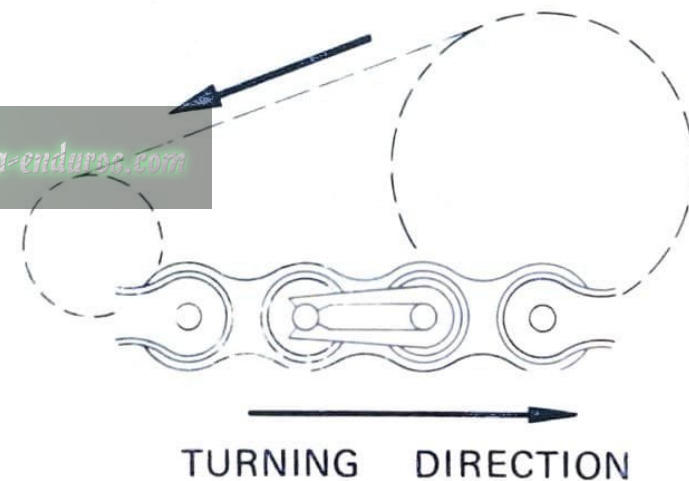
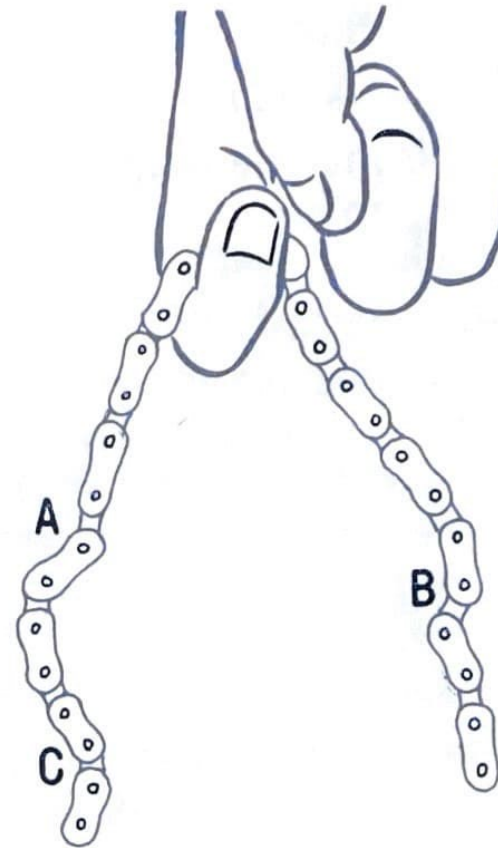
Driven Sprocket Securing Bolt Torque:
12–16 ft-lb (1.7 – 2.2 m-kg)

2. Drive Chain

NOTE: _____

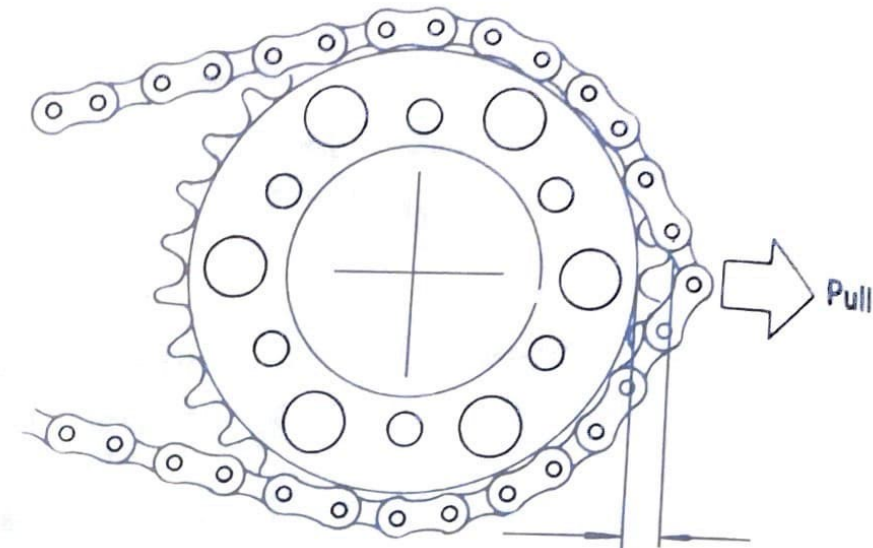
Refer to Maintenance and Lubrication Charts located in Chapter 1 for additional information.

- a. Using a blunt-nosed pliers, remove the master link clip and side plate. Remove the chain.
- b. Check the chain for stiffness. Hold as illustrated. If stiff, soak in solvent solution, clean with medium bristle brush, dry with high pressure air. Oil chain thoroughly and attempt to work out kinks. If still stiff, replace.
- c. Check the side plates for visible wear. Check to see if excessive play exists in pins and roller. Check for damaged rollers. Replace as required.
- d. During reassembly, the master link clip must be installed with the rounded end facing the direction of travel.



3. Troubleshooting

With the chain installed on the machine, excessive wear may be roughly determined by attempting to pull the chain away from the rear sprocket. If the chain will lift away more than one-half the length of the sprocket teeth, remove and inspect. If any portion of the chain shows signs of damage, or if either sprocket shows signs of excessive wear, remove and inspect.



Checking for excessively worn chain $\frac{1}{2}$ tooth

4. Maintenance

The chain should be lubricated per the recommendations given in the Maintenance and Lubrication Schedule Chart located in Chapter 1. More often if possible. Preferably after every use.

- a. Wipe off dirt with shop rag. If accumulation is severe, use a wire brush, then rag.

- b. Apply lubricant between roller and side plates on both inside and outside of chain. Don't skip a portion as this will cause uneven wear. Apply thoroughly. Wipe off excess.

NOTE: _____

Chain and lubricant should be at room temperature to assure penetration of lubricant into rollers.

Choice of lubricant is determined by use and terrain. SAE 20wt. or 30 wt. may be used, but several specialty types by accessory manufacturers offer more penetration, corrosion resistance and shear strength for roller protection.

In certain areas, semi-drying lubricants are preferable. These will resist picking up sand particles, dust, etc. Consult your Authorized Yamaha Dealer.

- c. Periodically, remove the chain, wipe and/or brush excess dirt off. Blow off with high pressure air.

- d. Soak chain in solvent, brushing off remaining dirt. Dry with high pressure air. Lubricate thoroughly while off machine. Work each roller thoroughly to make sure lubricant penetrates. Wipe off excess. Re-install.

NOTE: _____

See Maintenance and Lubrication Schedule Charts located in Chapter 1 for additional information.

5. Cables

Cable maintenance is primarily concerned with preventing deterioration through rust and weathering; and providing for proper lubrication to allow the cable to move freely within its housing.

Cable removal is straightforward and uncomplicated. Removal will not be discussed within this section. For details, see the individual maintenance section for which the cable is an integral part.

6. Maintenance

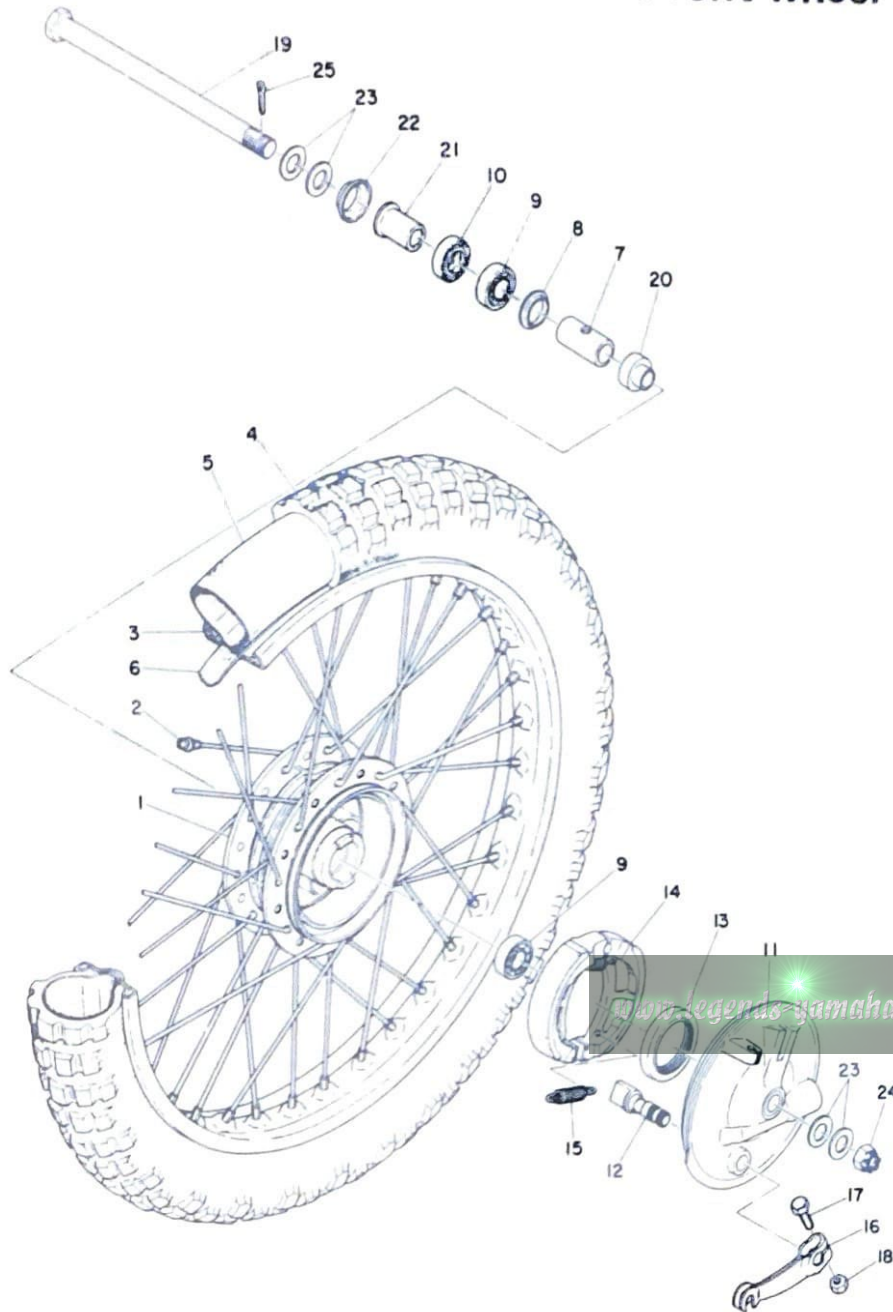
- a. Remove the cable.
- b. Check for free movement of the cable within its housing. If movement is obstructed, check for fraying of the cable strands. If fraying is evident, replace the cable assembly.
- c. To lubricate cable, hold in vertical position. Apply lubricant to uppermost end of cable. Leave in vertical position until lubricant appears at bottom end. Allow excess to drain and reinstall.

NOTE:

Choice of lubricant depends upon conditions and preference. However, a semi-drying, graphite-base lubricant will probably perform most adequately under most conditions.

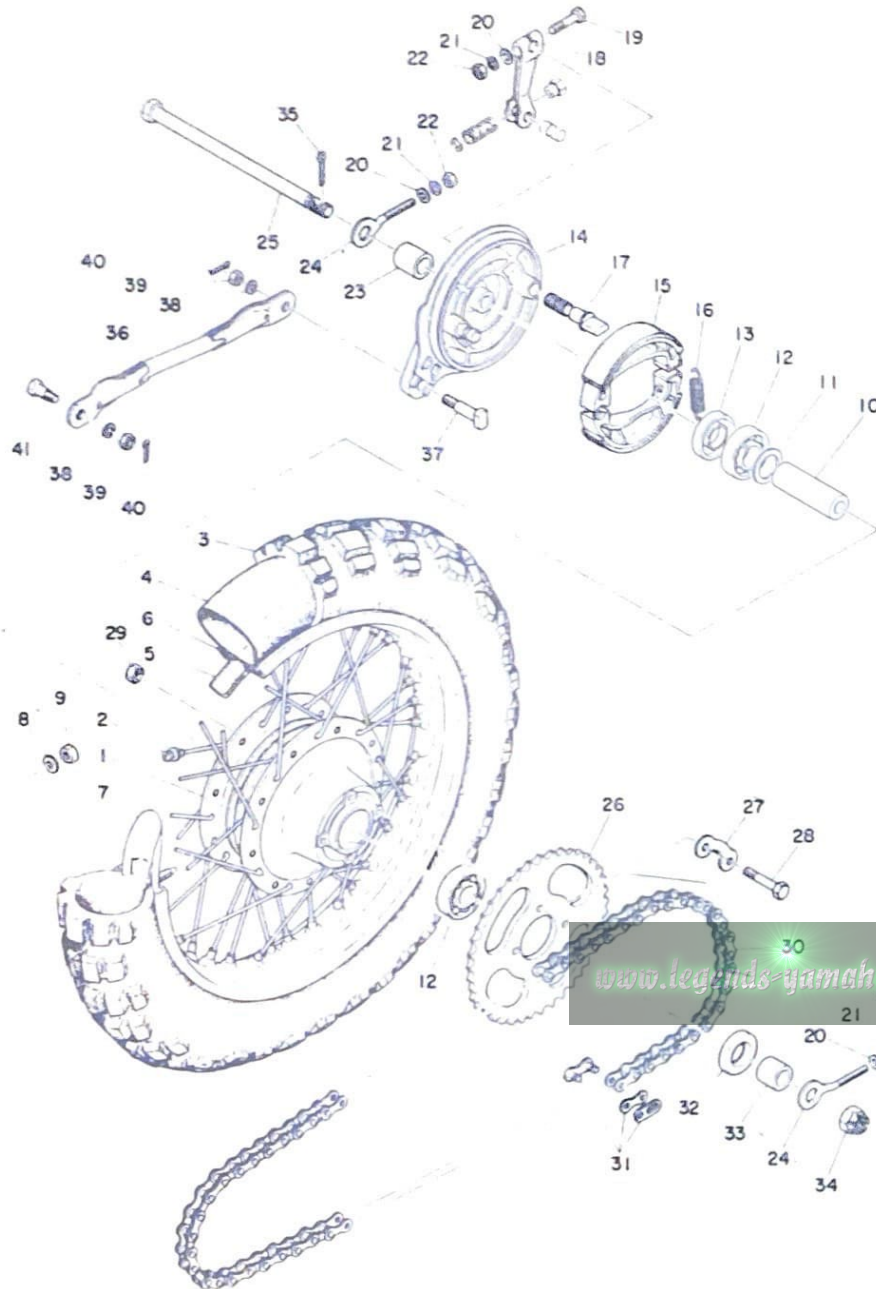
Under certain conditions, a water displacing lubricant is more suitable. Check with the Authorized Yamaha Dealer in your area.

Front wheel



1. Front hub
2. Spoke set
3. Front rim
4. Front tire
5. Front tube
6. Rim band
7. Spacer
8. Spacer flange
9. Bearing
10. Oil seal
11. Brake shoe plate
12. Camshaft
13. Oil seal
14. Brake shoe comp.
15. Tension spring
16. Cam shaft lever
17. Bolt
18. Nut
19. Wheel shaft
20. Wheel shaft collar 2
21. Wheel shaft collar 1
22. Hub dust cover
23. Plate washer
24. Castle nut
25. Cotter pin

Rear wheel



- | | |
|----------------------|-------------------------|
| 1. Rear hub | 22. Nut |
| 2. Spoke set | 23. Collar |
| 3. Rear tire | 24. Chain puller |
| 4. Rear tube | 25. Wheel shaft |
| 5. Rim band | 26. Sprocket wheel gear |
| 6. Rear rim | 27. Lock washer |
| 7. Bead spacer | 28. Fitting bolt |
| 8. Plain washer | 29. Nut |
| 9. Nut | 30. Chain |
| 10. Spacer | 31. Chain joint |
| 11. Spacer flange | 32. Oil seal |
| 12. Bearing | 33. Collar |
| 13. Oil seal | 34. Castle nut |
| 14. Brake shoe plate | 35. Cotter pin |
| 15. Brake shoe comp. | 36. Tension bar |
| 16. Tension spring | 37. Tension bar bolt |
| 17. Camshaft | 38. Spring washer |
| 18. Camshaft lever | 39. Nut |
| 19. Bolt | 40. Cotter pin |
| 20. Plain washer | 41. Tension bar bolt |
| 21. Spring washer | |

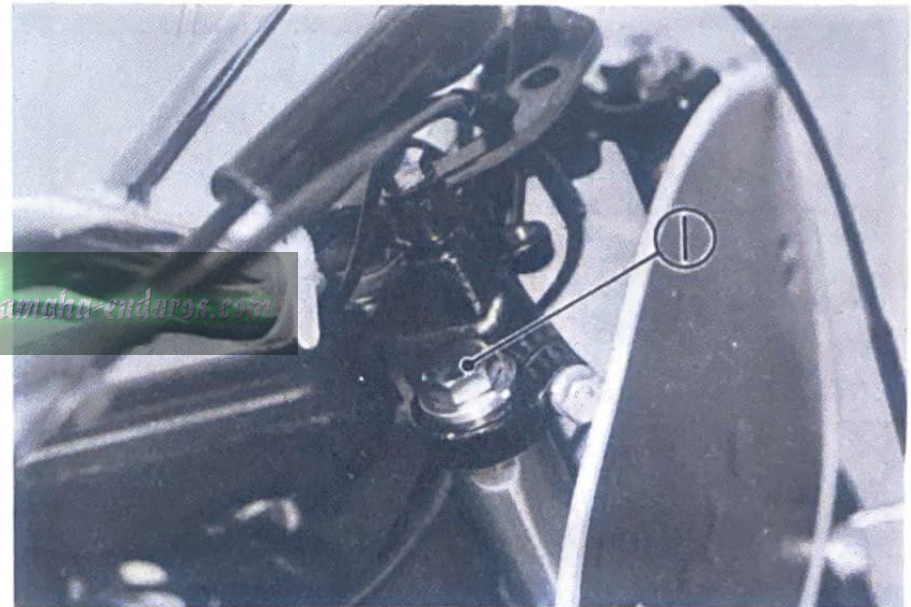
C. Front Forks and Steering Head

1. General

The front forks on your machine utilize chrome plated tubular steel fork legs (inner tubes) and tubular aluminium sliders (outer tubes). The bearing surface is the entire inside surface of the aluminum outer tube. The steering head pivot is supported by two sets of uncaged ball and race bearing assemblies.

2. Front Fork Oil Change

- a. With the front wheel removed or raised off the floor with a suitable frame stand, remove cap bolts on inner fork tubes.



1. Cap bolt

- b. Remove drain screw from each outer tube with open container under each drain hole.
- c. After most of oil has drained, slowly raise and lower outer tubes to pump out remaining oil.
- d. Replace drain screws.

NOTE: _____

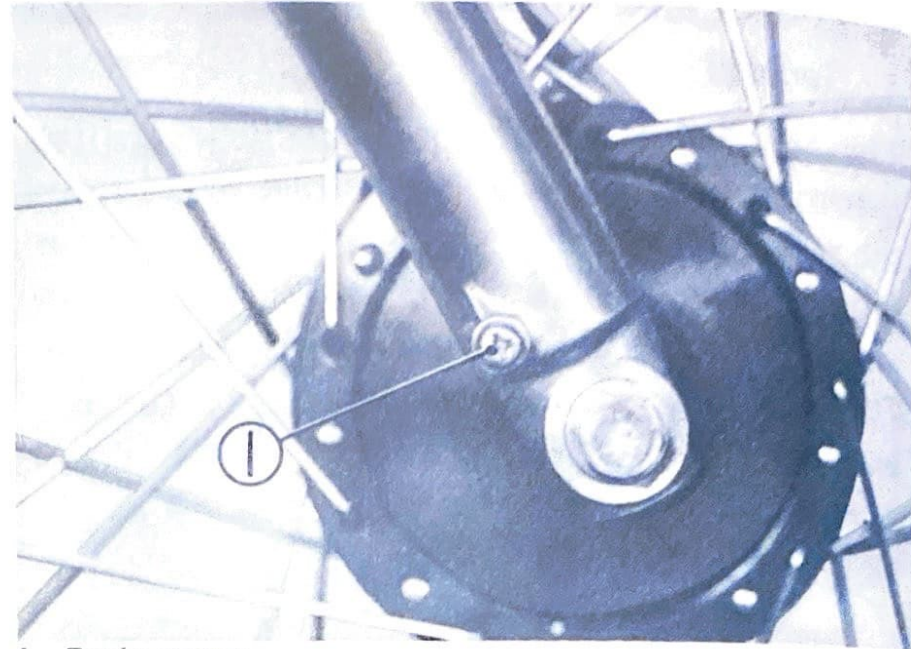
Check gaskets, replace if damaged.

- e. Measure correct amount of oil and pour into each leg.

Recommended Oil:
Non-foaming hydraulic fluid
10, 20, 30 wt. (fork oil)

Quantity per Leg:
3.6 – 3.7 OZ (105 – 110 c.c.)

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1. Drain screw

NOTE: _____

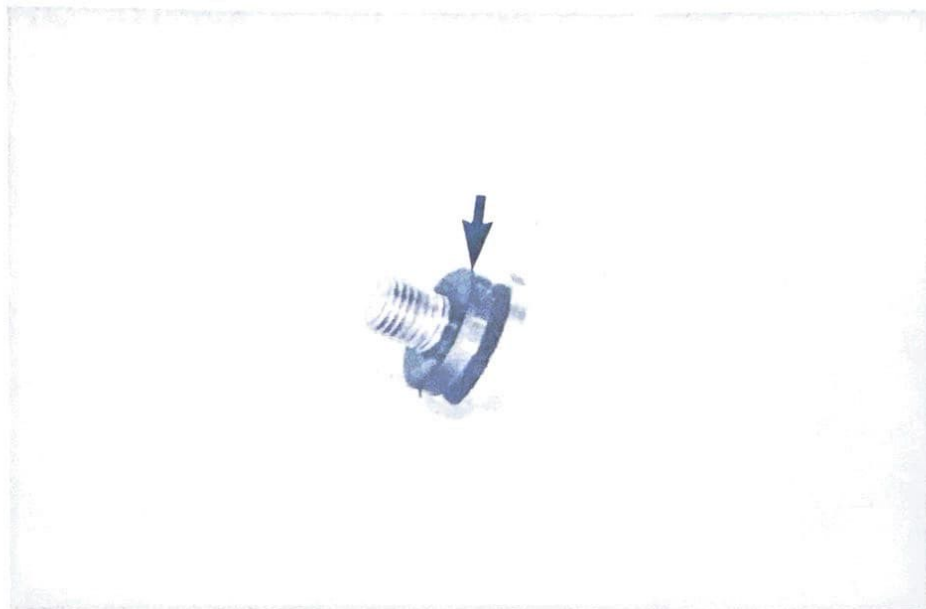
Select the weight oil that suits local conditions and your preference (lighter for less damping; heavier for more damping).

- f. After filling, slowly pump the outer tubes up and down to distribute the oil.
- g. Inspect packing on fork cap bolts and replace if damaged.
- h. Replace fork cap bolts and torque to specification.

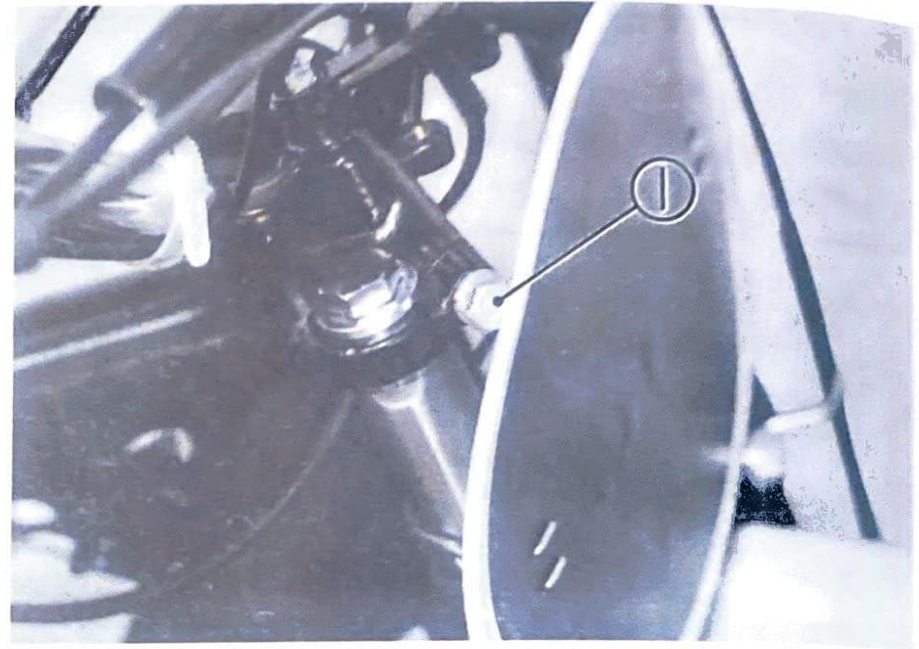
Fork Cap Bolt Torque: 22 – 29 ft-lb
(3.0 – 4.0 m-kg)

3. Steering Head Adjustment

- a. With front wheel elevated, grasp bottoms of fork legs and gently push and pull to check steering head freeplay. There should be no noticeable freeplay.



- b. To adjust, first loosen upper stem pinch bolt.

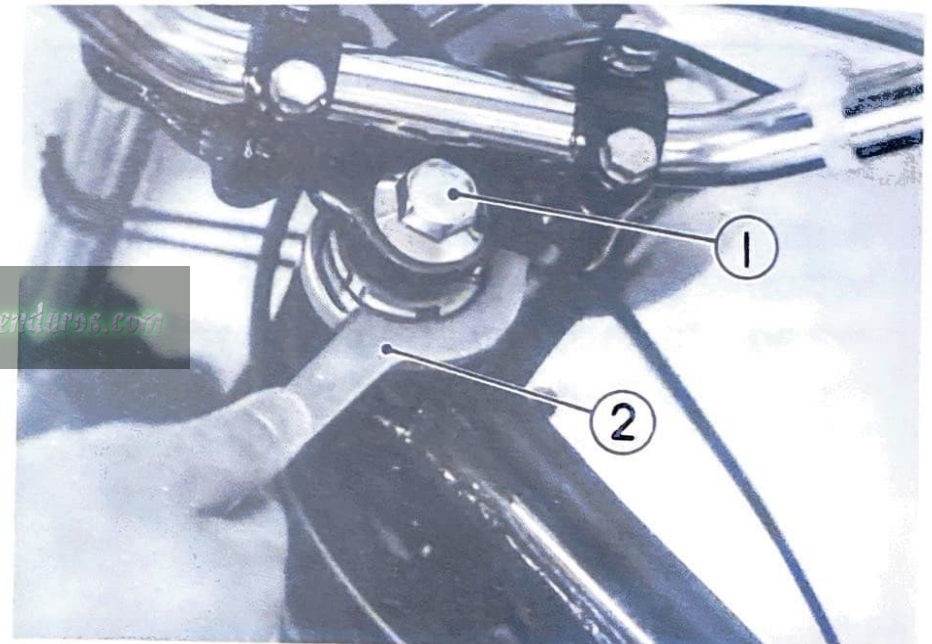


1. Pinch bolt

- c. Loosen stem bolt.
d. Use ring nut wrench to tighten adjust nut. Tighten until freeplay is eliminated.

CAUTION: _____

FORKS MUST SWING FROM LOCK TO LOCK WITHOUT BINDING OR CATCHING.



1. Stem bolt 2. Ring nut wrench

- e. Tighten stem bolt and pinch bolt and torque to specification.

Stem Bolt Torque:

30–47 ft-lb (4.2–6.5 m-kg)

Pinch Bolt Torque:

8–13 ft-lb (1.1–1.8 m-kg)

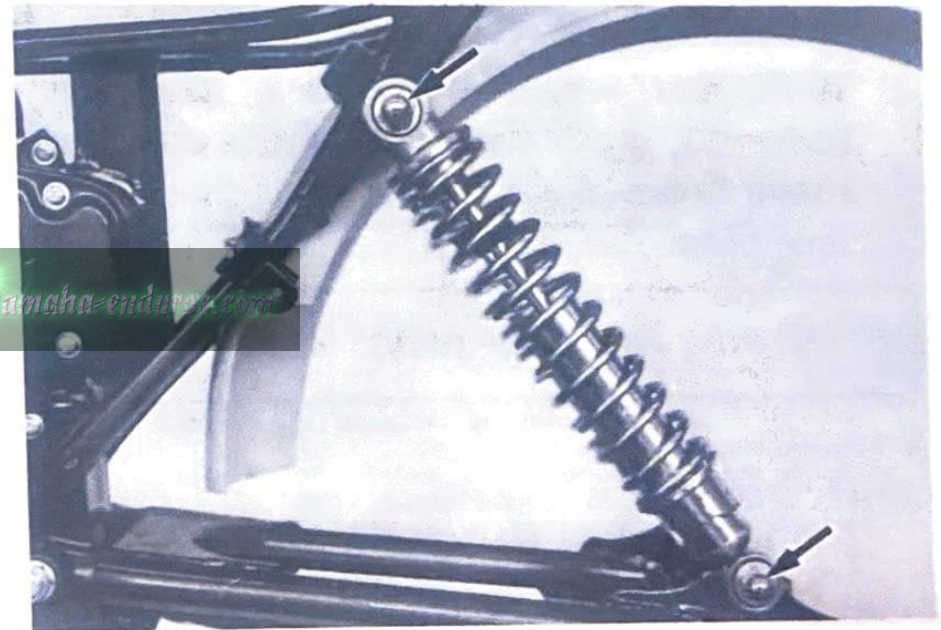
NOTE: _____

For steering head disassembly must be performed by your Yamaha Dealer.

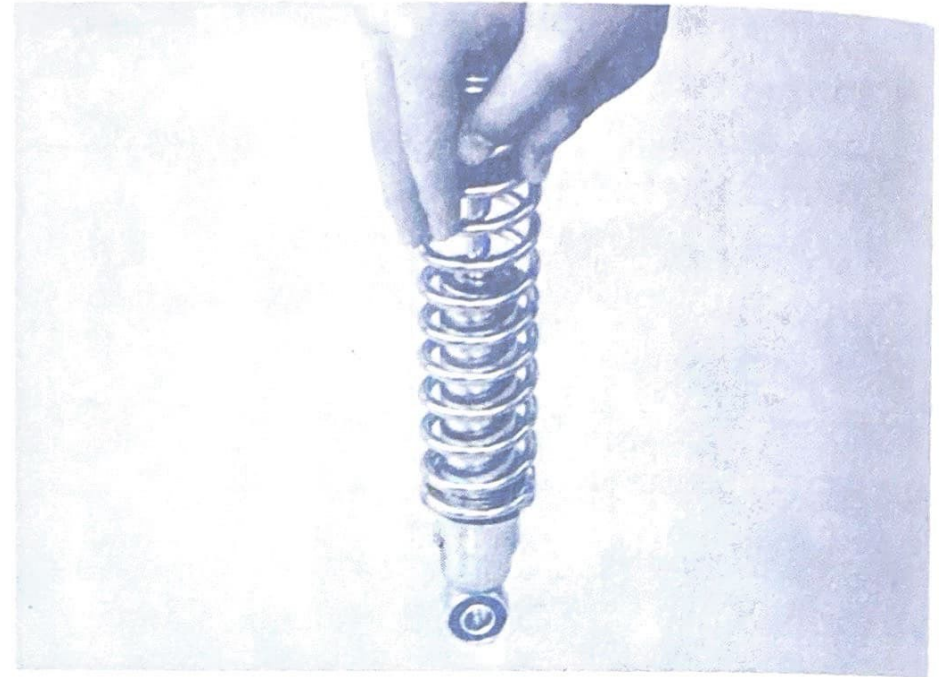
D. Rear Shocks and Swing Arm

1. Rear Shock Removal and Inspection

- a. After rear wheel has been removed, remove four cap nuts and washers from each shock.



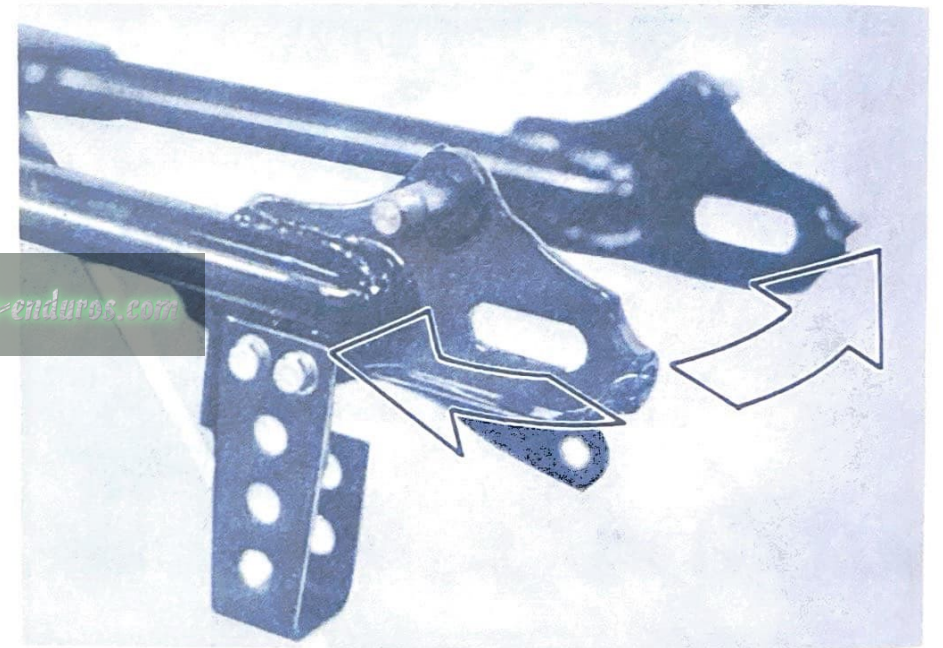
- b. Check for oil leakage. If oil leakage is evident, replace the shock absorber.
- c. Operate shock absorber shaft to check damping. As you push down, only slight damping should be felt. Return stroke will have considerable damping. If there is no damping, replace shock.



2. Swing Arm Inspection

- a. With rear wheel and shock absorbers removed, grasp the ends of the arm and move from right to left to check for free play.

Swing Arm Free play: None



- b. If freeplay is excessive, remove swing arm and replace swing arm bushing.

VIII MISCELLANEOUS

A. Conversion Tables

Metric to Inch System

KNOWN	MULTIPLIER (Rounded off)	RESULT
TORQUE		
m-kg.	7.233	ft-lg.
m-kg.	86.796	in-lb.
cm-kg.	0.0723	ft-lb.
cm-kg.	0.8679	in-lb.
WEIGHT		
kg.	2.205	lb.
g.	0.0353	oz.
FLOW/DISTANCE		
km/lit.	2.352	m.p.g.
km/h.	0.6214	m.p.h.
km.	0.6214	mi.
m.	3.2809	ft.
m.	1.0936	yd.
cm.	0.3937	in.
mm.	0.03937	in.
VOLUME/CAPACITY		
c.c.	0.03381	oz. (U.S. liq.)
c.c.	0.06103	cu.in.
lit.	2.1134	pt. (U.S. liq.)
lit.	1.057	qt. (U.S. liq.)
lit.	0.2642	gal. (U.S. liq.)
MISC'		
kg/mm.	55.9970	lb/in.
kg/cm ²	14.2233	psi. (lb/in. ²)
$\frac{9}{5}$ Centigrade (°C) +32		Fahrenheit (°F)

DEFINITION OF TERMS:

- m-kg. — Meter-kilogram: Usually torque.
- g. — Gram(s).
- kg. — Kilogram(s): 1,000 grams.
- km. — Kilometer(s).

Inch to Metric System

KNOWN	MULTIPLIER (Rounded off)	RESULT
TORQUE		
ft-lb.	0.1383	m-kg.
ft-lb.	13.8313	cm-kg.
in-lb.	0.01152	m-kg.
in-lb.	1.1522	cm-kg.
WEIGHT		
lb.	0.4536	kg.
oz.	28.3286	g.
FLOW/DISTANCE		
mi/gal.	0.4252	km/lit.
mi/h.	1.6093	km/h.
mi.	1.6903	km.
ft.	0.3048	m.
yd.	0.9144	m.
in.	2.540	cm.
in.	25.40	mm.
VOLUME/CAPACITY		
oz. (U.S. liq.)	29.57	c.c.
cu.in.	16.385	c.c.
pt. (U.S. liq.)	0.4732	lit.
qt. (U.S. liq.)	0.9461	lit.
gal. (U.S. liq.)	3.7850	lit.
MISC'		
lb/in.	0.01786	kg/mm.
psi. (lb/in. ²)	0.07031	kg/cm ²
$\frac{5}{9}$ [Fahrenheit (°F)-32]		Centigrade (°C)

- lit. — Liter(s).
- km/lit. — Kilometer(s) per liter: Mileage.
- c.c. — Cubic centimeter(s) (cm³): Volume or capacity.
- kg/mm. — Kilogram(s) per millimeter: Usually spring compression rate.
- kg/cm² — Kilogram(s) per square centimeter: Pressure.

B. Cleaning and Storage

CLEANING

Frequent thorough cleaning of your motorcycle will not only enhance its appearance, but will improve general performance and extend the useful life of many components.

1. Before cleaning the machine:
 - a. Block off end of exhaust pipe to prevent water entry; a plastic bag and strong rubber band may be used.
 - b. Remove air cleaner or protect it from water with plastic covering.

NOTE: _____

With air cleaner removed make sure no water enters intake.

- c. Make sure spark plug, fuel tank cap, and transmission oil filler cap are properly installed.
2. If engine case is excessively greasy, apply degreaser with a paint brush. Do not apply degreaser to chain, sprockets, or wheel axles.
 3. Rinse dirt and degreaser off with garden hose, using only enough hose pressure may cause water seepage and contamination of wheel bearings, front forks, brake drums, and transmission seals. Many expensive repair bills have resulted from improper high-pressure detergent applications such as those available in coin-operated car washes.
 4. Once the majority of dirt has been hosed off, wash all surfaces with warm water and mild, detergent-type soap. An old tooth brush or bottle brush is handy to reach those hard to get to places.
 5. Rinse machine off immediately with clean water and dry all surfaces with a chamois skin, clean towel, or soft absorbent cloth.
 6. Immediately after washing, remove excess moisture from chain and lubricate to prevent rust.

7. Chrome-plated parts such as handlebars, rims, spokes, forks, etc. may be further cleaned with automotive chrome cleaner.
8. Clean the seat with a vinyl upholstery cleaner to keep the cover pliable and glossy.
9. Automotive-type wax. may be applied to all painted and chrome-plated surfaces. Avoid combination cleaner-waxes. Many contain abrasives which may mar paint or protective finish on fuel tank.
10. After finishing, start the engine immediately and allow to idle for several minutes.

STORAGE

Long term storage (30 days or more) of your motorcycle will require some preventive procedures to insure against deterioration. After cleaning machine thoroughly, prepare for storage as follows:

1. Drain fuel tank, fuel lines, and carburetor float bowl.

2. Remove empty fuel tank, pour a cup of 10W to 30W oil in tank, shake tank to coat inner surfaces thoroughly and drain off excess oil. Re-install tank.
3. Remove spark plug, pour about one tablespoon of 10W to 30W oil in spark plug hole and reinstall spark plug. Kick engine over several times (with ignition off) to coat cylinder wall with oil.
4. Remove drive chain. Clean thoroughly with solvent and lubricate with graphite-base chain lubricant. Re-install chain or store in a plastic bag (tie to frame for safe-keeping).
5. Lubricate all control cables.
6. Kick up frame to raise both wheels off ground. (Main stands can be used on machines so equipped).
7. Tie a plastic bag over exhaust pipe outlet to prevent moisture entering.
8. If storing in humid or salt-air atmosphere, coat all exposed metal surfaces with a light film of oil. Do not apply oil to rubber parts or seat cover.

STATEMENT OF PURCHASER'S RESPONSIBILITY

This (model) Yamaha motorcycle is sold AS IS, WITHOUT ANY WARRANTIES EXPRESSED OR IMPLIED REGARDLESS OF THE INTENDED USE.

THE PURCHASER OF THIS MOTORCYCLE, which is intended for competition purposes, IS RESPONSIBLE FOR ALL COSTS OF SERVICE AND/OR REPAIR.

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