



YAMAHA

GT800G

**Supplementary
Service Manual**

www.legends-yamaha-enduros.com

FOREWORD

This Supplementary Service Manual has been prepared to introduce new service and new data for the GT80G.

For complete information on service procedures, it is necessary to use this Supplementary Service Manual together with Service Manual for the GT80E/GTMXE (2F4-28197-10).

NOTE:

This Supplementary Service Manual contains special information regarding periodic maintenance to the emissions control system for the GT80G.

Please read this material carefully.

SERVICE DEPT.
INTERNATIONAL DIVISION
YAMAHA MOTOR CO., LTD.

NOTICE

This manual was written by the Yamaha Motor Company primarily for use by Yamaha dealers and their qualified mechanics. It is not possible to put an entire mechanic's education into one manual, so it is assumed that persons using this book to perform maintenance and repairs on Yamaha motorcycles have a basic understanding of the mechanical precepts and procedures inherent to motorcycle repair technology. Without such knowledge, attempted repairs or service to this model may render it unfit for use and/or unsafe.

This model has been designed and manufactured to perform within certain specifications in regard to performance and emissions. Proper service with the correct tools is necessary to ensure that the machine will operate as designed. If there is any question about a service procedure, it is imperative that you contact a Yamaha dealer before continuing. Before attempting any service, check with your Yamaha dealer for any service information changes that apply to this model. This policy is intended to provide the customer with the most satisfaction from his machine and to conform with federal environmental quality objectives.

Yamaha Motor Company Ltd. is continually striving to further improve all models manufactured by Yamaha. Modifications and significant changes in specifications or procedures will be forwarded to all Authorized Yamaha dealers and will, where applicable, appear in future editions of this manual.

Particularly Important information is distinguished in this manual by the following notations:

- NOTE:** A NOTE provides key information to make procedures easier or clearer.
- CAUTION:** A CAUTION indicates special procedures that must be followed to avoid damage to the motorcycle.
- WARNING:** A WARNING indicates special procedures that must be followed to avoid injury to a motorcycle operator or person inspecting or repairing the motorcycle.

NEW SERVICE MAINTENANCE AND LUBRICATION CHART

A. Periodic Maintenance Emission Control System

NO.	ITEM	REMARKS	INITIAL BREAK-IN		THEREAFTER EVERY
			1,000 km or 1 month (600 mi)	4,000 km or 7 months (2,500 mi)	3,000 km or 6 months (2,000 mi)
1.	Spark Plug	Check spark plug condition and plug gap. Replace plug every 3,000 km (2,000 mi).		Replace	Replace
2.	Fuel Hose	Check fuel for cracks and damage. Replace if necessary.		○	○
3.	Fuel Petcock	Check fuel filter screen. Clean it, if necessary.	○	○	○
4.	Exhaust System	Check for leakage. Retighten; if necessary. Replace gasket(s), if necessary.		○	○
5.	Idle Speed	Check and adjust engine idle speed.		○	○

B. General Maintenance/Lubrication

NO.	ITEM	REMARKS	TYPE	INITIAL BREAK-IN		THEREAFTER EVERY	
				1,000 km or 1 month (600 mi)	4,000 km or 7 months (2,500 mi)	3,000 km or 6 months (2,000 mi)	15,000 km or 24 months (9,500 mi)
1.	Transmission Oil	Warm-up engine before draining.	Yamalube 4-cycle oil or SAE 10W/30 "SE" motor oil or "GL" gear oil	Replace	Replace	Replace	
2.	Autolube Pump	Check and adjust pump cable and minimum pump stroke.	—	○	○	○	
3.	Air Filter	Check for clogging. If necessary clean and dampen with oil.	—	○	○	○	
4.	Control and Meter Cables	Inspect and lubricate thoroughly.	Yamaha chain and cable lube or SAE 10W/30 Motor oil	○	○	○	
5.	Clutch	Adjust free play.	—	○	○	○	
6.	Brake System	Inspect and adjust. Replace shoes, if necessary.	—	○	○	○	
7.	Throttle	Adjust as necessary. Lightly lubricate.	Lithium base grease		○	○	

General Maintenance/Lubrication (cont.)

NO.	ITEM	REMARKS	TYPE	INITIAL BREAK-IN		THEREAFTER EVERY	
				1,000 km or 1 month (600 mi)	4,000 km or 7 months (2,500 mi)	3,000 km or 6 months (2,000 mi)	15,000 km or 24 months (9,500 mi)
8.	Brake/Clutch Pivot Shaft	Lubricate. Apply lightly.	Yamaha chain and cable lube or SAE 10W/30 motor oil		○	○	
9.	Drive Chain	Check chain condi- tion. Adjust chain tension. Lubricate chain thoroughly.	Yamaha chain and cable lube or SAE 10W/30 motor oil	Every 500 km (300 mi)			
10.	Side Stand Pivot Shaft	Lubricate. Apply lightly.	Yamaha chain and cable lube or SAE 10W/30 motor oil		○	○	
11.	Front Fork Oil	Drain completely. Fill to specification.	Yamaha fork oil 10 wt or equivalent				Replace
12.	Steering Bearings	Check steering as- sembly for looseness. Moderately repack every 15,000 km (9,500 mi)	Medium weight Wheel bearing grease		○	○	Repack
13.	Wheel Bearings	Check bearings for smooth rotation. Moderately repack every 15,000 km (9,500 mi).	Medium weight wheel bearing grease		○	○	Repack
14.	Battery	Check specific gravity and breather pipe for proper function.	—		○	○	

C. ANTICIPATED MAINTENANCE

The maintenance items in this table are set apart from the regular periodic maintenance items because of their anticipated need of irregular service intervals. The service interval

is dependent upon variable factors such as the severity of use, operating conditions, etc.

Therefore, perform this maintenance when the described symptoms warrant it.

NO.	ITEM	REMARKS
1.	Spark Plug	If any spark plug failure is noticed replace the spark plug. Symptoms indicating spark plug failure are anticipated to occur around 3,000 km (2,000 mi).
2.	Decarbonization	If heavy power loss is evident, decarbonize the cylinder head, piston head, and exhaust system. Carbon build-up is anticipated to occur around 5,000 ~ 10,000 km (3,000 ~ 6,000 mi).
3.	Piston	If the piston rattles, the vehicle becomes hard to start, appears to be lacking power, or becomes in-operative, repair as follows: replace the piston and piston rings, clean, hone, or replace the cylinder. These symptoms are anticipated to occur mainly below 500 km (300 mi).

1. Spark plug

- a. Symptoms — If the spark plug becomes wet with fuel or oil, or receives an accumulation of carbon, the spark plug will become electrically shorted and ineffective. As a result, engine misfiring may occur, possibly the engine may suddenly stop and restarting will be impossible. These symptoms are anticipated to occur at about 3,000 km.
- b. Maintenance criterion — If above mentioned symptoms are noticed, remove the spark plug and inspect the electrode for carbon bridging and/or oily electrode condition.
- c. Maintenance — After inspection, replace plug if necessary.

2. Decarbonization

- a. Symptoms — If a vehicle is driven habitually at low speed, the engine runs cold and thus carbon tends to build up on the cylinder exhaust port, cylinder head, piston head, exhaust passage, in the exhaust pipe, and in the silencer. With sufficient carbon deposits the exhaust passages become clogged and restricts the passage of exhaust gas. Eventually the engine will demonstrate poor performance, poor acceleration (20 to 30% down from original), afterburning, or after running. Sufficient carbon accumulation to justify decarbonization is anticipated to occur between 5,000 to 10,000 km of operation.
- b. Maintenance criterion — If any of the symptoms above are noticed, inspect as follows to determine the necessity for anticipated maintenance.
 - 1) Check fuel flow.
 - 2) Check spark plug for color and carbon build-up. (In the case of heavy carbon build-up, spark plug shows black color and/or the carbon build-up evident.)
- c. Maintenance — After this inspection, if decarbonization is deemed necessary, decarbonize the piston crown, exhaust

port, cylinder head and exhaust passage of exhaust system by disassembling these components and carefully scraping the accumulated carbon with a round scraper.

3. Piston

- a. Symptoms — If the engine develops a rattling piston noise, is difficult to start, provides markedly reduced performance (20% or more), and/or causes a sudden engine stoppage, the piston may be worn excessively. This may be the result of a number of conditions of improper carburetion, inadequate or improper lubrication and/or improper ignition timing. Such conditions can result in overheating and piston wear. These symptoms are anticipated to occur below 500 km.
- b. Maintenance criterion — If any of the above mentioned symptoms are noticed, inspect as follows to determine the necessity for anticipated maintenance.
 - 1) Check fuel flow.
 - 2) Check for kick cranking resistance. (If piston worn, the resistance of the kick crank is unusually heavy or unusually light.)
 - 3) Check spark plug for unusual color or deposit. (If piston is worn, the spark plug may show a bright metallic color or deposit on the spark plug insulator.)
- c. Maintenance — If an inspection reveals damage to the cylinder, bore or replace cylinder, and replace piston and piston rings. Make sure proper piston clearance is maintained.

A. GENERAL

Machine identification

The frame serial number is located on the right-hand side of the head pipe assembly. The first three digits identify the model. This is followed by a dash. The remaining digits identify the production number of the unit. The engine serial number is located on a raised boss on the upper rear, right-hand side of the engine. Engine identification follows the same code as frame identification.

Starting serial number: 3J8-000101

B. ENGINE

Spark plug

1. After a run of initial 1,000 km, check the discoloration of the spark plug and clean it. After that, measure the spark plug gap and adjust it if it does not conform to the specification.

Spark plug gap:
0.5 ~ 0.7 mm (0.028 ~ 0.024 in)

2. Whenever the spark plug is replaced or cleaned, measure the plug gap, and if incorrect, readjust the plug gap.
3. Replace the spark plug when the machine has travelled the specified distance. When replacing the spark plug, always use the proper type.

Replacement limit:
Initial 4,000 km (2,500 mi) and thereafter every 3,000 km (2,000 mi)

Standard spark plug: NGK B7HS

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

Tightening torque:
2.5 m·kg (18 ft·lb)

Carburetor

1. Idle speed

Check and adjust idle speed as follows:

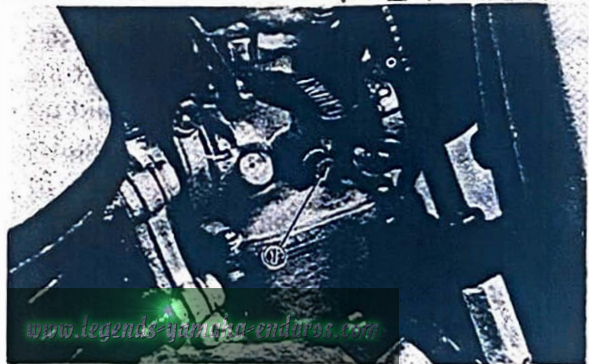
- a. Start the engine and warm it up before setting idle speed.

NOTE:

A warmed engine is defined as one which had been operated for about 3 minutes at 4,000 r/min with no load.

- b. Set the idle speed to specified speed by turning the throttle stop screw in or out with the motorcycle in the upright position.

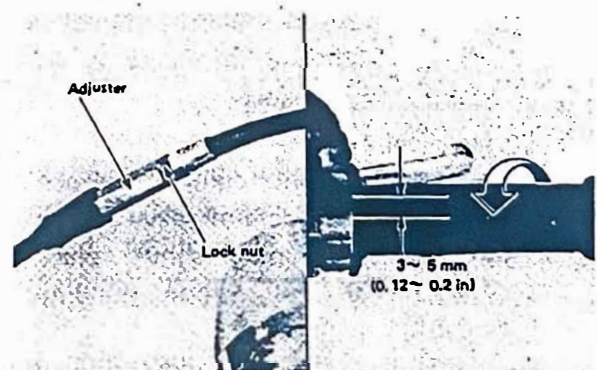
Idle speed: 1,250 ~ 1,400 r/min



1. Throttle stop screw

2. Throttle cable 1

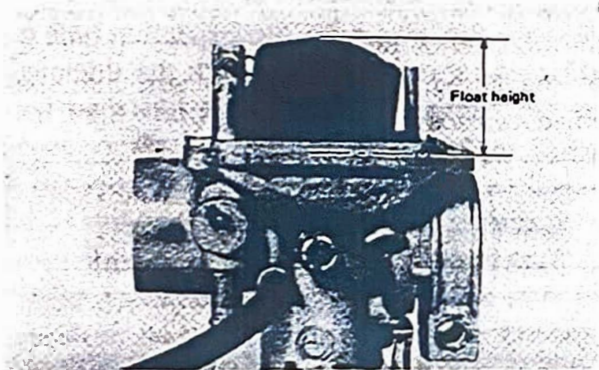
Check play in turning direction of throttle grip. The play should be 3 ~ 5 mm (0.12 ~ 0.20 in) at grip flange. Loosen the lock nut and turn the wire adjuster to make the necessary adjustment. Be sure tighten the lock nut properly.



3. Greasing the throttle grip and housing
Check the smooth turning of throttle grip. If not smooth, grease the throttle grip and housing as follows:
 - a. Remove screws securing the throttle housing to the handlebar.
 - b. To reduce the friction between the handlebar and throttle grip, grease inner surface of the grip assembly.
 - c. Assemble the throttle grip housing, and tighten the screws.

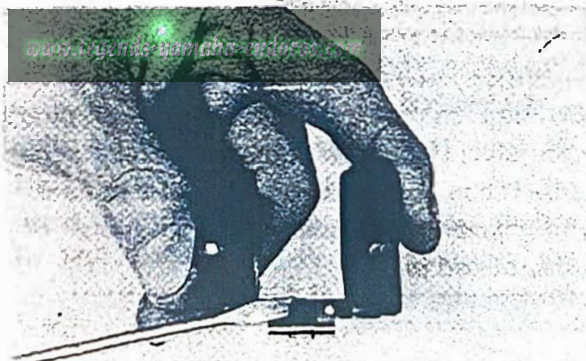
Recommended lubricant:
Lithium base grease

4. Checking the float height
Hold the carburetor in an upside down position. Hold the floats with tang just touching the float needle, measure the distance from the top of the float to the float bowl surface (gasket removed). If distance is not correct, adjust the float height to the specification.



Float height:
22.0 mm ± 2.5 mm (0.87 ± 0.1 in)

To correct the float height, remove the float assembly and slightly bend the tang as required. **BOTH FLOATS MUST BE THE SAME HEIGHT.**



Engine oil

We recommended the Yamalube 2-cycle oil. If for any reason you should use another type, use a 2-cycle engine oil labeled "BIA certified for service TC-W".

Transmission oil

Recommended oil and quantity are changed as follows.

Recommended oil:
Yamalube 4-cycle oil or SAE 10W/30 type "SE" motor oil or "GL" gear oil

Oil quantity:
Replacement
..... 500 ~ 550 cc (16.9 ~ 18.6 oz)
Overhauling
..... 550 ~ 600 cc (18.6 ~ 20.3 oz)

Exhaust system

- a. Tighten the joint bolts and nuts.
- b. Replace the joint gaskets, if necessary.

C. CHASSIS

Fuel hose

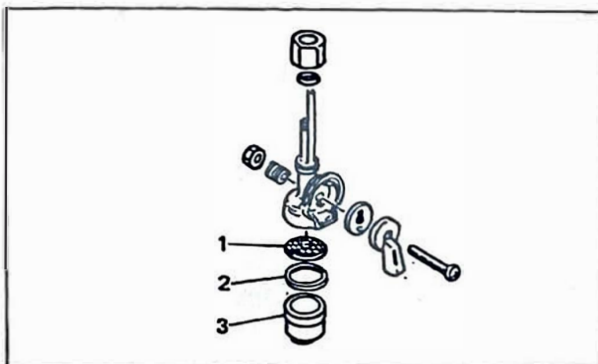
Check the fuel hose.

- a. Visually check for cracks or damage.
- b. If any defect is found, replace the hose.

Fuel petcock

Clean the petcock interior.

- a. Place the cock lever in "OFF" position, and remove the filter cup.



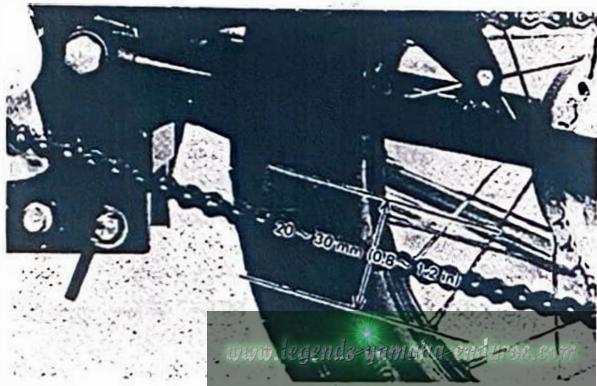
1. Filter screen 2. Filter gasket 3. Filter cup

- b. Clean the filter cup and filter screen with a solvent or compressed air.
- c. Re-install the filter cup and filter screen.
- d. If dust collects or rust develops excessively in the filter cup, clean the inside of the fuel tank with solvent.

Checking the drive chain tension

To check the chain play, the motorcycle must stand vertically with its both wheels on the ground and without passenger on it.

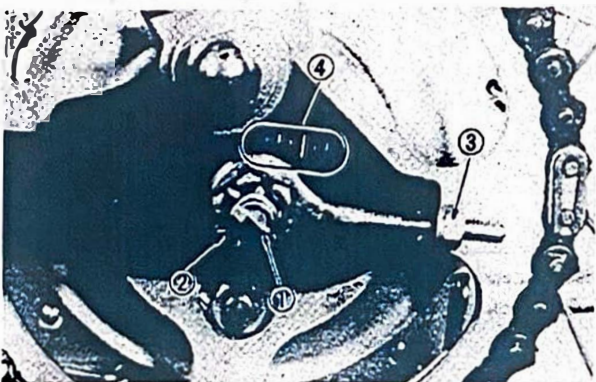
Then measure the play at the bottom of the chain at a point midway between the drive and driven sprockets.



The normal vertical deflection is approximately 20~30 mm (0.8~1.2 in). If the chain deflection is not as specified, adjust the chain tension.

Adjusting the drive chain tension

1. Loosen the brake adjuster and tension bar nut.
2. Remove the rear wheel axle nut cotter pin.
3. Loosen the axle nut.
4. By turning the adjuster clockwise, remove the slack in the chain. Turn the adjuster evenly.



1. Cotter pin
2. Axle nut
3. Adjuster
4. Marks for alignment

5. Tighten the axle nut and adjusting nuts and tension bar nut.

Axle nut torque: 6 m-kg (43 ft-lb)
Tension bar nut torque:
2 m-kg (14 ft-lb)

6. Install the new cotter pin.
7. Check and adjust drive chain and rear brake.

Chain lubrication

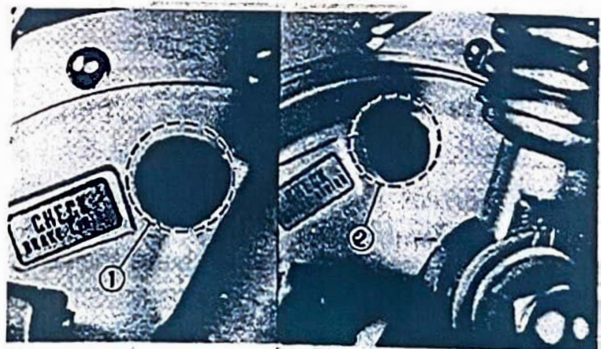
1. Clean the chain in a solvent so the dust and dirt are removed.
2. Spray or apply oil to the side plate and all center rollers.

Recommended lubricant:
Yamaha chain and cable lube or
SAE 10W/30 motor oil

Checking the brake shoe wear

Remove the plug from the inspection hole on the brake shoe plate and check the thickness of the lining. If thickness is less than specified, replace the brake shoes.

Specified thickness: 4 mm (0.16 in)
Wear limit: 2 mm (0.08 in)



1. Front brake checking hole plug
2. Rear brake checking hole plug

WARNING:

Be sure to fit the inspection hole plug securely. If water enters the brake shoe area, it can cause a temporary loss of braking capability which may cause loss of control and injury.

Brake/clutch pivot shaft

Check the smooth operation of the levers and pedal. If not smooth, oil the pivot points.

Recommended lubricant:
Yamaha chain and cable lube or
SAE 10W/30 motor oil

Side stand shaft pivot

Check the condition of side stand shaft pivot. If it is stiff, oil the pivot.

Recommended lubricant:
Yamaha chain and cable lube or
SAE 10W/30 motor oil

Wheel bearings

Check for smooth rotation of wheel bearings. If not smooth, replace bearings.

Recommended lubricant:
Medium weight wheel bearing grease.

C. ELECTRICAL

Capacitor discharged ignition (C.D.I.)

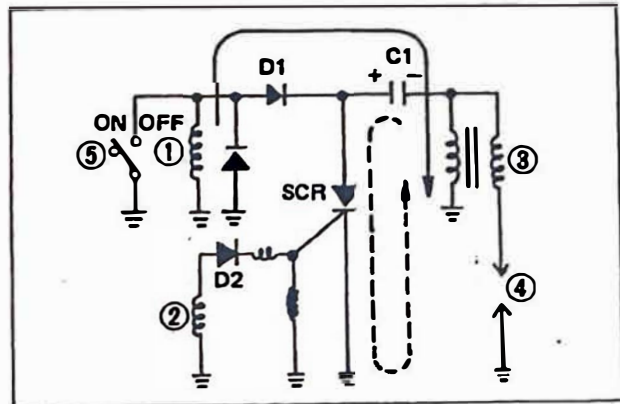
A capacitor discharge ignition (C.D.I.) system eliminates the need for a mechanical contact breaker and its inherent disadvantages. A simple electronic circuit using a large storage capacitor and a Thyristor (Silicon Control Rectifier) provides a correctly timed, high-intensity voltage to the spark plug.

1. Method of ignition operation

The voltage generated by the charge coil is rectified by D1 (diode) and flows in the direction → thus charging C1 (condenser). On the other hand, the voltage generated by the pulser coil is rectified by D2 then applied to SCR as a gate signal.

When the gate signal reaches the trigger level, SCR becomes conductive, thus allowing C1 to discharge its stored current. The current flows in the direction →. This change in the current generates a high surge of voltage in the secondary winding of the ignition coil, thus causing

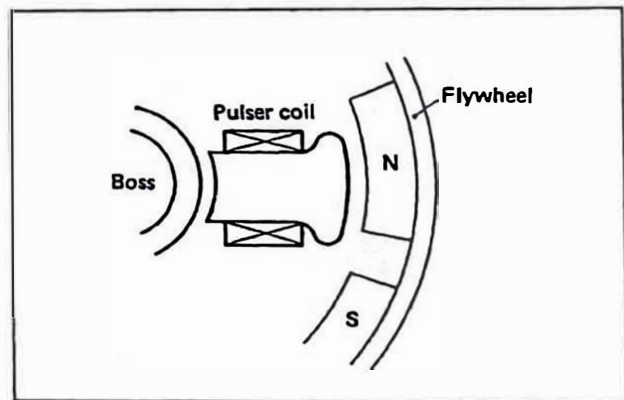
a spark to jump.



1. Charge coil 4. Spark plug
2. Pulser coil 5. Main switch
3. Ignition coil

2. Generation of pulses

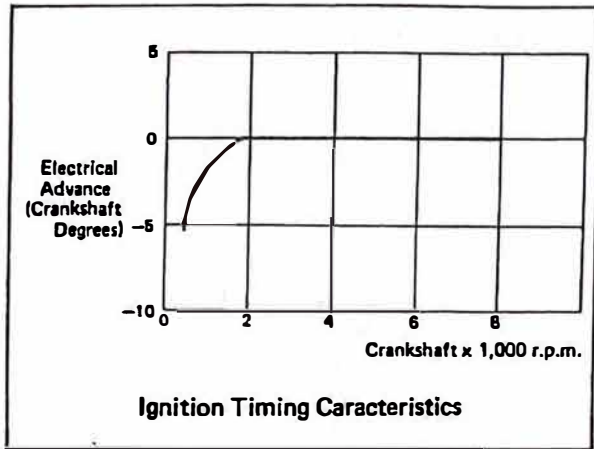
- The magnetic circuit is formed by the pulser core, boss, flywheel and magneto. As the rotor turns, the magnetic flux varies, and according to the variations, a voltage is produced in the pulser coil.



- The voltage is generated in the pulser coil, and when it reaches the trigger level, the SCR becomes conductive, thus causing the capacitor to discharge and to induce a spark to jump at the spark plug.

3. Method of ignition advance

Basically the ignition system for this engine has no ignition advance device, but the ignition timing delays slightly below 2,000 r/min due to electrical characteristics as illustrated below, and is not controlled.



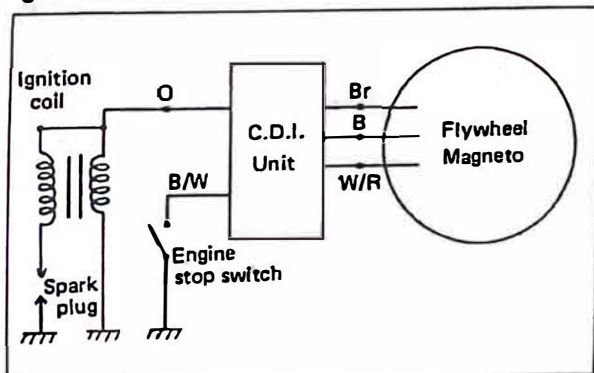
4. Handling notes

The wiring between the magneto, C.D.I. unit, and ignition coil uses couplers to prevent any wrong connection.

When connecting the ground circuit and the ignition coil, particular care should be taken. If these are connected incorrectly, the C.D.I. unit will become inoperative.

- a. Connection must be done accurately. Special care is required for connection of the ground circuit and ignition coil.
- b. The C.D.I. unit and ignition coil should be installed in the specified positions. If position is to be changed, a dry and airy place should be selected. Keep free from mud and water.
- c. To remove the rotor, be sure to use the flywheel magneto puller. Avoid using a hammer or the rotor may be damaged.
- d. Handle the C.D.I. unit with special care. If you should drop it, the incorporated electronic components will be damaged.

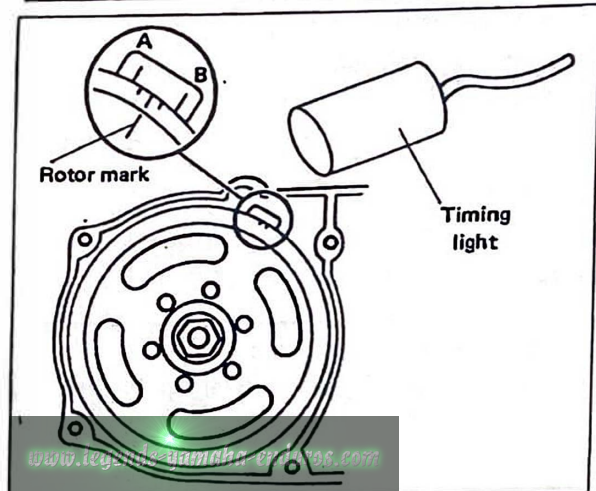
Ignition circuit



1. Checking the ignition timing
Ignition timing is checked with a timing light by observing the position of the marks stamped on the case and the mark on the rotor.

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

Specified speed: 2,000 r/min

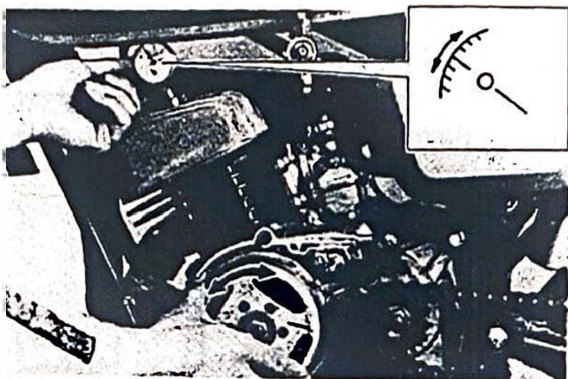


d. While keeping the engine running at a specified speeds, check that the mark on the rotor is within the range of marks (A, B) stamped on the case. If off the range, check the woodruff key for damage and/or crankshaft bearing for damage.

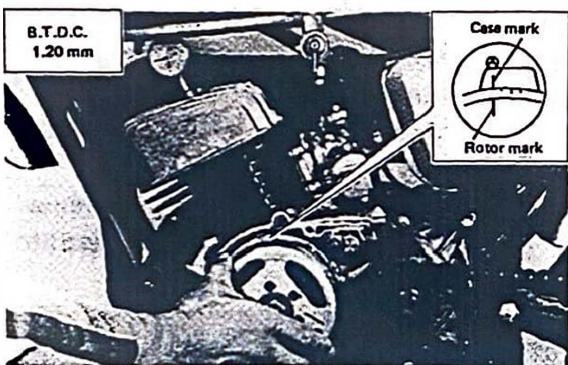
2. Stamping of check marks

When the crankcase (L) has been replaced, stamp marks on the case to indicate that the ignition timing has been checked, in the following way:

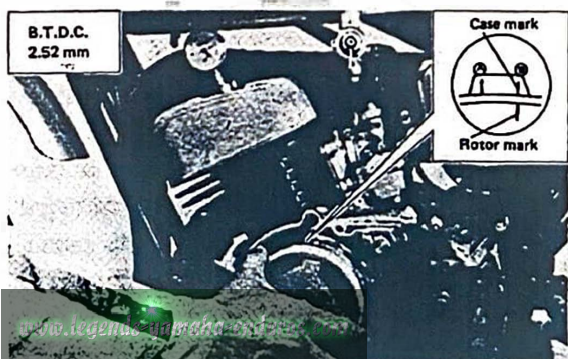
- a. Shift transmission in neutral.
- b. Remove the spark plug and screw the dial gauge stand and the dial gauge into the plug hole.
- c. Rotate the magneto flywheel until piston is at top-dead-center (T.D.C.). Set the zero on the dial gauge face to line up exactly with a dial gauge needle. Tighten the set screw on the dial gauge stand to secure the dial gauge assembly. Rotate the flywheel back and forth to be sure that indicator needle does not go past zero.



- d. Turn the flywheel clockwise, starting from TDC, and when the dial gauge reads 1.20 mm before TDC, hold the flywheel. With the flywheel in this position, stamp a mark (A) on the crankcase which is aligned with the mark on the rotor.



- e. After backing out the flywheel to TDC, again turn the flywheel clockwise until the dial gauge reads 2.52 mm before TDC, and hold it. With the flywheel in this position, stamp a mark (B) on the crankcase which is aligned with the mark on the rotor.



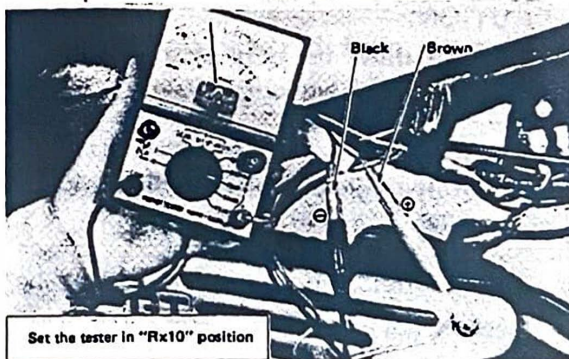
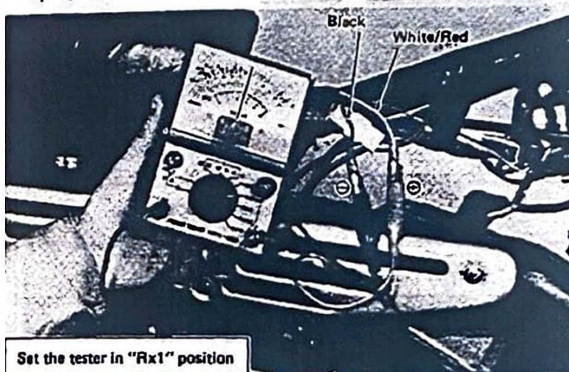
- f. After stamping the mark, check the ignition timing.

Checking the magneto charge coil and pulser coil

The resistance of the magneto charge coil and pulser coil are as specified below. To locate the cause of trouble (broken coil, short-circuit, etc.), disconnect the magneto lead wires under the fuel tank and measure the resistance across each lead.

Charge coil: Br - B $300\ \Omega \pm 10\%$

Pulser coil: W/R - B $10\ \Omega \pm 10\%$

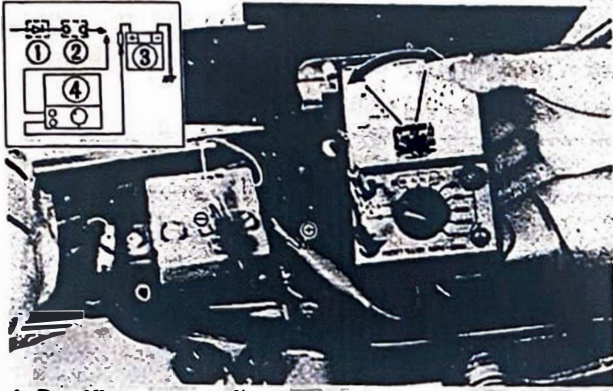


CHARGING SYSTEM

The charging system consists of the flywheel, the charging/lighting coil, rectifier, and battery. Alternating current from the charging/lighting coil flows to the headlight, meter lights, high beam indicator and, also, to the rectifier where it is converted to direct current for charging the battery. So long as all electrical load items are installed and working properly, the system does not require a regulator. This is due to the fact that as engine r.p.m. increases, frequency increases, lighting/charging coil impedance increases. This impedance increase acts to control the output of the magneto.

Charging amperage test

1. Connect the engine tachometer and start the engine.
2. Disconnect the red wire connection at the battery and connect Pocket Tester. Take amperage readings at specified speed.



1. Rectifier
2. Fuse.
3. Battery
4. Set the tester in "DC. A-5" position

Charging amperage (D.C.)

0.5A or more at 3,000 r/min

3.5A or less at 8,000 r/min

CAUTION:

The battery must be fully charged when measuring the charging output test.

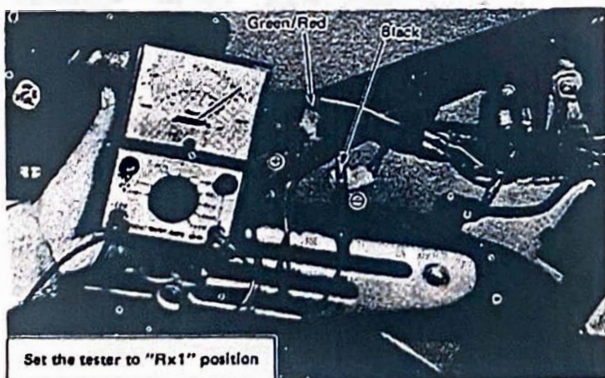
NOTE:

Disconnect the Pocket Tester before stopping the engine.

5. If the indicated amperage cannot be reached, perform the next test.

Charging coil resistance

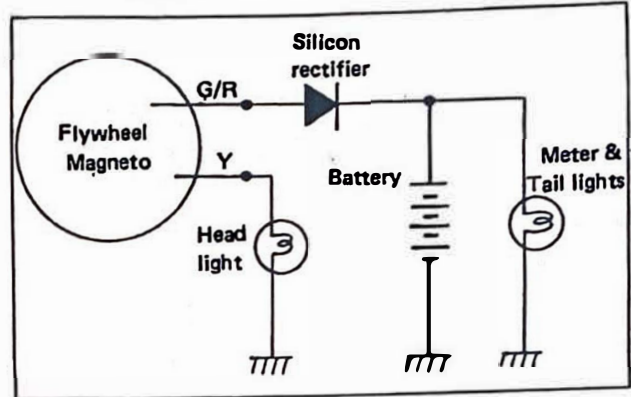
Check the resistance between terminal and ground. If resistance is out of specification, coil is broken. Check the coil connections. If the coil connections are good, then the coil is broken inside and it should be replaced.



Set the tester to "Rx1" position

Charge coil resistance

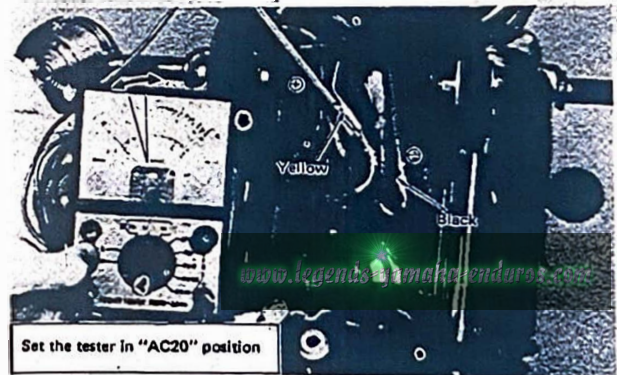
Green/Red – Ground: $0.32\Omega \pm 10\%$



Lighting output test

With all A.C. lights in operation, the circuit will be balanced and the voltage will be the same at all points at a given r/min.

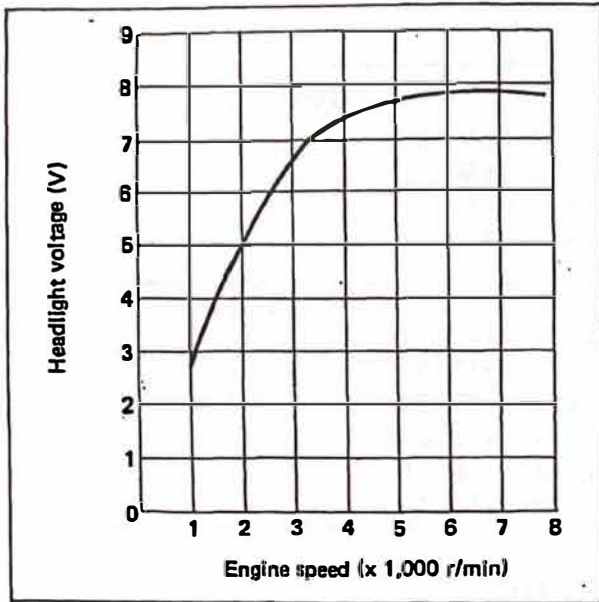
1. Switch Pocket Tester to "AC20V" position.
2. Connect positive (+) test lead to yellow connection and negative (-) test lead to a good ground.



Set the tester in "AC20" position

3. Start the engine, and check voltage at each engine speed in table below (approximate engine speed). If measured voltage is too high or too low, check for bad connections, damaged wires, burned out bulbs or bulb capacities which are too large throughout the A.C. lighting circuit.

Engine speed	Voltage
3,000 r/min	6.0V or more
8,000 r/min	7.0V to 8.0V



- If AC lighting circuit components check out properly but circuit voltage is still excessive, go to charging circuit checks. If voltage is low in charging circuit due to a defective battery, rectifier, or connection voltage will be too high in lighting circuit.

NOTE:

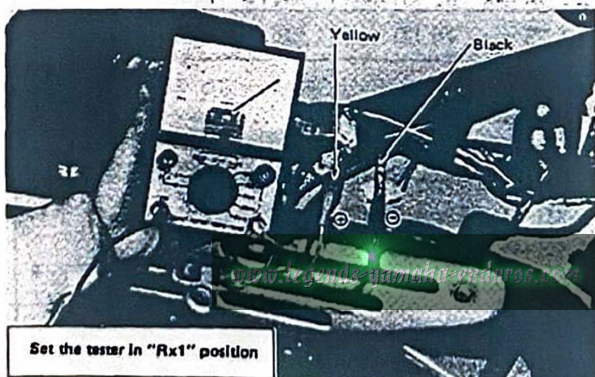
This voltage test can be made at any point throughout the A.C. lighting circuit and the readings should be the same as specified above.

Lighting coil resistance check

If voltage is incorrect in A.C. lighting circuit, check the resistance of the yellow wire windings of the lighting coil.

- Switch Pocket Tester to "Rx1" position and zero meter.
- Disconnect the magneto lead wires under the fuel tank.
- Connect positive (+) test lead to yellow from magneto and negative (-) test lead to a good ground on engine. Read the resistance on ohms scale.

Lighting coil resistance
Ground to yellow: $0.22\Omega \pm 10\%$ at 20°C



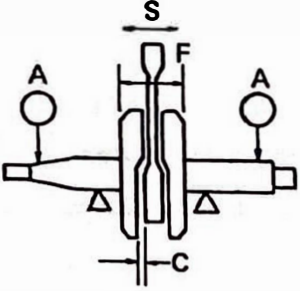
7-1. GENERAL SPECIFICATIONS

A. General

Item	GT80G
Model Model (I.B.M. No.) Frame I.D. & Starting Number Engine I.D. & Starting Number	GT80G (3J8) 3J8-000101 3J8-000101
Dimension: Overall Length Overall Width (standard) Overall Height (standard) Seat Height Wheelbase Minimum Ground Clearance	1,565 mm (61.6 in) 710 mm (28.0 in) 930 mm (36.6 in) 655 mm (25.8 in) 1,045 mm (41.1 in) 170 mm (6.7 in)
Weight: Net Weight	64 kg (141.1 lb)
Performance: Minimum Turning Radius	1,500 mm (59.1 in)

B. Engine

Description: Engine Type Engine Model Displacement Bore x Stroke Compression Ratio Starting System Ignition System Lubrication System	Air cooled 2 stroke, gasoline, Torque induction 3J8 73 cc (4.45 cu.in) 47 mm x 42 mm (1.850 in x 1.654 in) 6.9 : 1 (9.5 : 1) Primary kick Capacitor Discharge Ignition Separate lubrication (Yamaha Autolube)
Cylinder head: Volume (with plug)	9.1 cc (0.56 cu.in)
Cylinder Material Bore Size Taper Limit Out of Round Limit	Special cast iron $47^{+0.020}_{-0}$ mm ($1.850^{+0.0008}_{-0}$ in) 0.05 mm (0.002 in) 0.01 mm (0.0004 in)
Piston. Piston Clearance Piston Over Size	0.035 ~ 0.040 mm (0.0014 ~ 0.0016 in) 47.25 mm, 47.50 mm (1.860 in, 1.870 in) 47.75 mm, 48.00 mm (1.880 in, 1.890 in)
Piston Ring: Piston Ring Design (Top) " (2nd) Ring End Gap (Installed) (Top) " (2nd) Ring Groove Side Clearance (Top) " (2nd)	Keystone ring Plain ring (with expander) 0.15 ~ 0.35 mm (0.006 ~ 0.014 in) 0.15 ~ 0.35 mm (0.006 ~ 0.014 in) 0.03 ~ 0.05 mm (0.001 ~ 0.002 in) 0.03 ~ 0.05 mm (0.001 ~ 0.002 in)
Small End Bearing: Type	Needle bearing
Big End Bearing: Type	Needle bearing

<p>Crankshaft:</p> <p>Crankshaft Assembly Width (F)</p> <p>Crankshaft Deflection (A)</p> <p>Connecting Rod Big End Side Clearance (C)</p> <p>Connecting Rod Small End Deflection (S)</p>  <p>Crank Bearing Type (Left) x Q'ty</p> <p>" (Right) "</p> <p>Crank Oil Seal Type (Left) "</p> <p>" (Right) "</p>	<p>$38 \begin{smallmatrix} -0.05 \\ -0.10 \end{smallmatrix}$ mm ($1.50 \begin{smallmatrix} -0.002 \\ -0.004 \end{smallmatrix}$ in)</p> <p>0.03 mm (0.0012 in)</p> <p>0.5 ~ 0.7 mm (0.019 ~ 0.027 in)</p> <p>0.8 ~ 1.0 mm (0.031 ~ 0.040 in)</p> <p>6204</p> <p>6204</p> <p>SD20-35-7</p> <p>SW28-40-8</p>
<p>Clutch:</p> <p>Clutch Type</p> <p>Clutch Push Mechanism</p> <p>Primary Reduction Ratio & Method</p> <p>Friction Plate - Thickness/Quantity</p> <p>- Wear Limit</p> <p>Clutch Plate - Thickness/Quantity</p> <p>- Warp Limit</p> <p>Clutch Spring - Free Length/Quantity</p> <p>- Warp Limit</p> <p>Clutch Housing Axial Play (Wear Limit)</p> <p>Push Rod Bending Limit</p>	<p>Wet, multiple disc type</p> <p>Inner push type, screw push system</p> <p>68/19 (3.578), Helical gear</p> <p>3.5 mm (0.14 in) x 3 pcs</p> <p>3.2 mm (0.13 in)</p> <p>1.6 mm (0.06 in) x 2 pcs</p> <p>0.05 mm (0.002 in),</p> <p>31.5 mm (1.24 in) x 4 pcs</p> <p>30.5 mm (1.20 in)</p> <p>0.05 mm ~ 0.25 mm (0.002 in ~ 0.010 in)</p> <p>0.15 mm (0.006 in)</p>
<p>Transmission:</p> <p>Type</p> <p>Gear Ratio 1st (Teeth)(Ratio)</p> <p>2nd</p> <p>3rd</p> <p>4th</p> <p>Transmission Gear Oil Quantity & Type</p> <p>Secondary Reduction Ratio & Method</p>	<p>Constant mesh 4 speed</p> <p>39/12 (3.250)</p> <p>34/17 (2.000)</p> <p>30/21 (1.428)</p> <p>27/24 (1.125)</p> <p>Replacement: 500 ~ 550 cc (16.9 ~ 18.6 oz)</p> <p>Overhauling: 550 ~ 600 cc (18.6 ~ 20.3 oz)</p> <p>Yamalube 4-cycle oil or SAE 10W/30 "SE" motor oil or "GL" gear oil</p> <p>41/14 (2.928), Chain</p>
<p>Kick Starter.</p> <p>Type</p>	<p>Kick, Mesh type</p>
<p>Intake:</p> <p>Air Cleaner - Type/Quantity</p> <p>Reed Valve</p> <p>Type</p> <p>Bending Limit</p> <p>Valve Lift</p> <p>Tightening Torque</p>	<p>Oiled foam rubber</p> <p>"V" type</p> <p>0.8 mm (0.031 in) or less</p> <p>8 mm (0.31 in)</p> <p>0.08 m·kg (0.6 ft·lb)</p>

Carburetor: Type & Manufacturer/Quantity I.D. Mark Main Jet (M.J.) Air Jet (A.J.) Jet Needle (J.N.) Needle Jet (N.J.) Cutaway (C.A.) Pilot Jet (P.J.) Air Screw (turns out) (A.S.) Starter Jet (G.S.) Float Level (F.L.) Engine Idling Speed	Y16P-3A, TEIKEI/1 pc 3J8-60 # 86 0.5 3N21 φ 2.095 2.0 # 32 1-3/8 # 56 22.0 mm ± 1.0 mm (0.87 ± 0.04 in) 1,250 ~ 1,400 rpm
Lubrication: Autolube Pump-Color Code Autolube Pump-Minimum Stroke Throttle Position (Adjusting Mark) Oil Tank Capacity Oil Grade	Yellow 0.20 ~ 0.25 mm (0.008 ~ 0.01 in) At idle (when throttle valve begins to open) (○) 0.7 lit (0.74 U.S.qt) Yamalube 2-cycle oil or 2-cycle oil with "BIA certified for service TC-W"

C. Chassis

Frame: Frame Design	Tubular steel double cradle frame
Steering system : Caster Trail Number & Size of Balls in Steering Head Upper Race Lower Race Lock to Lock Angle (each)	63°30' 68 mm (2.7 in) 22 pcs 3/16 in 19 pcs 1/4 in 47°
Front Suspension. Type Damper Type Front Fork Cushion Travel Front Fork Spring Free Length Spring Constant Front Fork Oil Quantity & Type	Telescopic fork Coil spring, Oil damper 75 mm (2.95 in) 386 mm (15.20 in) k₁ = 0.4 kg/mm (22.4 lb/in) k₂ = 0.9 kg/mm (50.1 lb/in) 112 ± 4 cc (3.79 ± 0.135 oz), YAMAHA FORK OIL 10 wt or equivalent
Rear Suspension: Type Damper Type Rear Shock Absorber Travel Rear Wheel Travel Swing Arm Free Play	Swing arm Coil spring, Oil damper 65 mm (2.56 in) 72 mm (2.83 in) 1.0 mm (0.04 in)
Fuel Tank: Capacity	4.8 lit (1.3 U.S. gal)

Wheel: Tire Size (Front) (Rear) Tire Pressure (Front) (Rear) Rim Size (Front) (Rear) Rim Run Out Limit (Front/Rear) Vertical Lateral Secondary Drive Chain Type Type Number of Links Chain Free Play	2.60-16-4PR 2.75-14-4PR <table border="1"> <thead> <tr> <th>OFF load</th> <th>ON load</th> </tr> </thead> <tbody> <tr> <td>1.0 kg/cm²</td> <td>2.0 kg/cm²</td> </tr> <tr> <td>1.5 kg/cm²</td> <td>2.3 kg/cm²</td> </tr> </tbody> </table> 1.40 x 15 1.40 x 14 1 mm (0.04 in) 0.7 mm (0.03 in) DK420 91L + Joint 20 mm (0.79 in)	OFF load	ON load	1.0 kg/cm ²	2.0 kg/cm ²	1.5 kg/cm ²	2.3 kg/cm ²
OFF load	ON load						
1.0 kg/cm ²	2.0 kg/cm ²						
1.5 kg/cm ²	2.3 kg/cm ²						
Brake: Front brake Type Drum Diameter (Limit) Shoe Diameter x Width Lining Thickness (Wear Limit) Rear Brake Type Drum Diameter Shoe Diameter x Width Lining Thickness (Wear Limit)	Drum brake 110 mm (4.33 in) 110 x 25 mm (4.33 x 0.98 in) 2 mm (0.08 in) Drum brake 110 mm (4.33 in) 110 x 25 mm (4.33 x 0.98 in) 2 mm (0.08 in)						

D. Electrical

www.legend-yamaha-enduro.com

Ignition System: (Capacitor Discharge Ignition) Model/Manufacturer Voltage Pulser Coil Resistance (White/Red) Source Coil Resistance (Brown)	F03T15271/Mitsubishi 6V 10Ω ± 10% 300Ω ± 10%
Ignition Timing:	21° B.T.D.C. at 2,000 r/min (1.8 ± 0.15 mm / 0.07 ± 0.006 in)
Ignition Coil: Model/Manufacturer Spark Gap Primary Winding Resistance Secondary Winding Resistance Diode Spark Plug: Type/Manufacturer Spark Plug Gap	F06T41674/Mitsubishi 6 mm (0.24 in)/300 r/min 1.0Ω ± 10% at 20°C (68°F) 5.9kΩ ± 20% at 20°C (68°F) No B7HS/N.G.K. 0.5 ~ 0.7 mm (0.02 ~ 0.028 in)

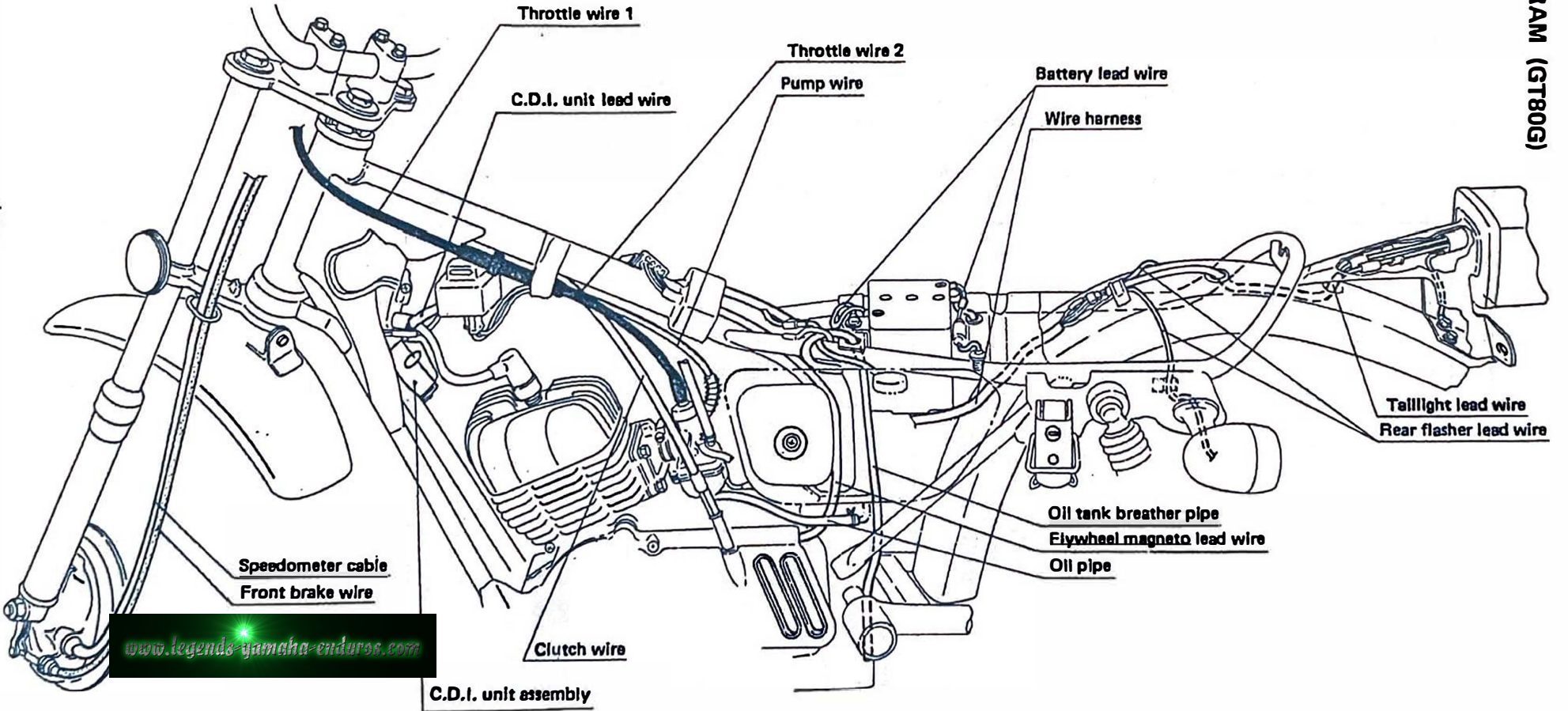
Charging System: Flywheel Magneto Charge Coil Resistance (Green/Red) Lighting Output Lighting Coil Resistance (Yellow) Rectifier: Type Capacity Withstand Voltage Rating Battery: Model/Manufacture Capacity Charging Rate Specific Gravity	F03T15271/Mitsubishi $0.32\Omega \pm 10\%$ 6.0V or more at 3,000 r/min 7.0 ~ 8.0V at 8,000 r/min $0.22\Omega \pm 10\%$ DE4504, S5108 4A 400V Silicon 6N4-2A-2/GS 6V-4AH 0.4A x 10 hours 1.26 at 20°C
Lighting System: Headlight Type Bulb Wattage Headlight Wattage Tail/Brake Light Wattage Flasher Light Wattage Flasher Pilot Light Wattage Meter Light Wattage High Beam Indicator Light Wattage Oil Level Warning Light Wattage	Sealed beam 6V, 30W/30W 6V, 5.3W/25W 6V, 17W 6V, 3W 6V, 3W 6V, 3W 6V, 3W
Horn: Model Maximum Amperage	FM2-6 1.5A
Flasher Relay: Type Flasher Frequency	Condenser 85 cycle/min
Fuse: Rating/Q'ty	10A/1 pc

www.legends-yamaha-enduros.com

E. Tightening torque

Engine	Tightening torque	
Cylinder holding nut	M 6	1.0 m·kg (7 ft·lb)
Spark plug	M14	2.5 m·kg (18 ft·lb)
Oil pump	M 5	0.4 m·kg (3 ft·lb)
Exhaust pipe	M 6	1.0 m·kg (7 ft·lb)
Crank case (Right and Left)	M 6	0.8 m·kg (6 ft·lb)
Crank case cover (Right and Left)	M 6	1.0 m·kg (7 ft·lb)
Magneto cover	M 6	0.8 m·kg (6 ft·lb)
Oil pump cover	M 6	0.8 m·kg (6ft·lb)
Drain plug	M12	2.0 m·kg (14 ft·lb)
Kick crank	M 6	1.0 m·kg (7 ft·lb)
Primary drive gear	M12	6.0 m·kg (43 ft·lb)
Primary driven gear	M12	4.5 m·kg (32 ft·lb)
Clutch spring	M 5	0.6 m·kg (4 ft·lb)
Drive sprocket	M12	4.0 m·kg (29 ft·lb)
Bearing plate cover	M 6	1.0 m·kg (7 ft·lb)
Neutral switch	M10	0.4 m·kg (3 ft·lb)
Flywheel magneto	M12	5.0 m·kg (36 ft·lb)
Cam stopper spring	M14	2.5 m·kg (18 ft·lb)
Stopper plate (Cam stopper)	M 6	1.0 m·kg (7 ft·lb)
Shift pedal	M 6	1.0 m·kg (7 ft·lb)
Chassis	Tightening torque	
Front axle nut	M10	4.0 m·kg (29 ft·lb)
Front fender	M 6	0.4 m·kg (3 ft·lb)
Under bracket - Inner tube	M10	2.0 m·kg (14 ft·lb)
Handle crown - Steering shaft	M10	3.0 m·kg (22 ft·lb)
- Handle under holder	M10	3.0 m·kg (22 ft·lb)
Handle upper - Handle under holder	M 6	1.2 m·kg (9 ft·lb)
Engine mount	M 8	2.5 m·kg (18 ft·lb)
Pivot shaft - Frame	M10	2.5 m·kg (18 ft·lb)
Rear wheel axle	M12	6.0 m·kg (43 ft·lb)
Tension bar - Brake plate	M 8	2.0 m·kg (14 ft·lb)
- Rear arm	M 8	2.0 m·kg (14 ft·lb)
Rear shock absorber	M10	3.0 m·kg (21 ft·lb)
Rear sprocket	M 8	2.0 m·kg (14 ft·lb)
Cam lever	M 6	0.8 m·kg (6 ft·lb)
Rear fender	M 6	0.5 m·kg (3.5 ft·lb)
Handle crown - Inner tube	M10	2.0 m·kg (14 ft·lb)
Steering lock	M 5	0.5 m·kg (4 ft·lb)

www.legends-yamaha-enduros.com



www.legends-yamaha-enduros.com

