

YAMAHA

Supplementary Service Information for New Model Change

MODEL SINGLE ENDURO DT-1B



YAMAHA MOTOR CO., LTD.

FOREWORD

Many improvements have been introduced to the new Yamaha Single Enduro DT-1B, which has been the center of interest for all young Yamaha fans. The new design features include the new coloring of the fuel tank and side cover, additional safety parts, large-sized tachometer and improved handlebar grips.

Emphasis of this Supplement is on the comparable descriptions of the major differences in the former and new models. We hope that all Yamaha dealers will make full use of this booklet in fulfilling their service activities.

**YAMAHA MOTOR CO., LTD.
SERVICE DIVISION**

I. FEATURES

1. Highly-reliable Engine Performance

The Yamaha Single Enduro DT-1B assures steady engine performance throughout the entire range of speed from low to high, with the 5-port cylinder. It also incorporates Yamaha's high level of technology that developed Yamaha Autolube, the world's first of its kind, and the metallic bond iron-sleeved aluminum cylinder with outstanding radiation efficiency. Equipped with the primary kick stater system, this machine allows the rider to start the engine with the gears in any engagement.

2. Large-sized Tachometer

To offer a way to make full use of the engine power, the tachometer has been increased in diameter from 65 mm to 80 mm, the same size as the speedometer, thus providing an easy check for engine speed.

3. Employment of Reflex Reflectors

The reflex reflectors are installed on both sides of the front fork, with the aim of increasing the safety of the rider. They are designed to easily draw the attention of on-coming cars on the road, thus assuring extra safety for night riding.

4. Front Brake Stop Light

Applying the front brake makes the stop light turn on. It is a welcome device for protecting the rider.

5. Improved Handlebar Grips

The new grips, having an axially curved surface, provide an easier grip for the rider, so that a long trip will be more enjoyable and less tiresome.

6. Superior Riding Comfort

The front fork with the built-in-spring, along with the three-way adjustable rear suspension, assures the rider of superb riding comfort even on rough roads. Among other features are the light-weight, sturdy frame and knobby tires which are perfect for off-the-road riding

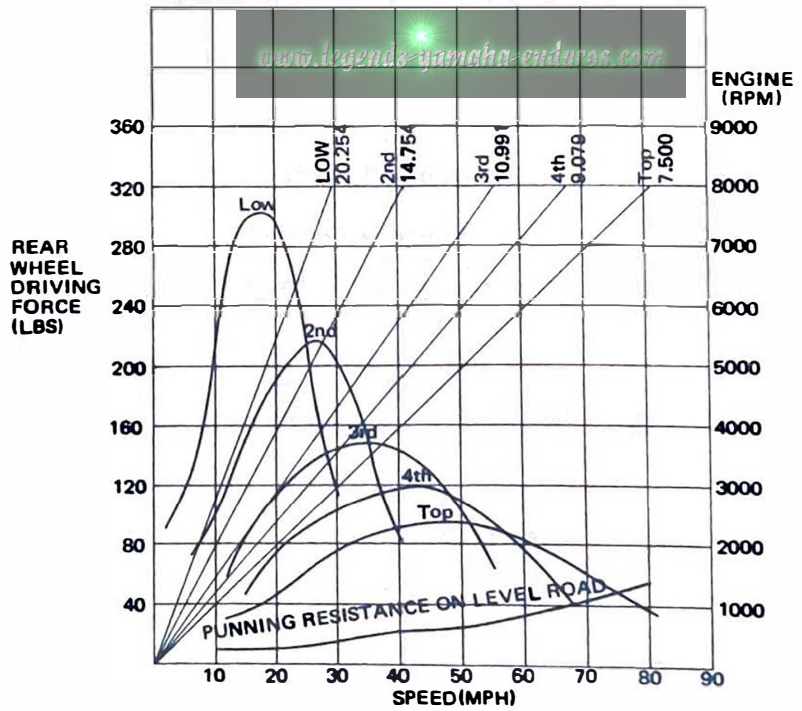
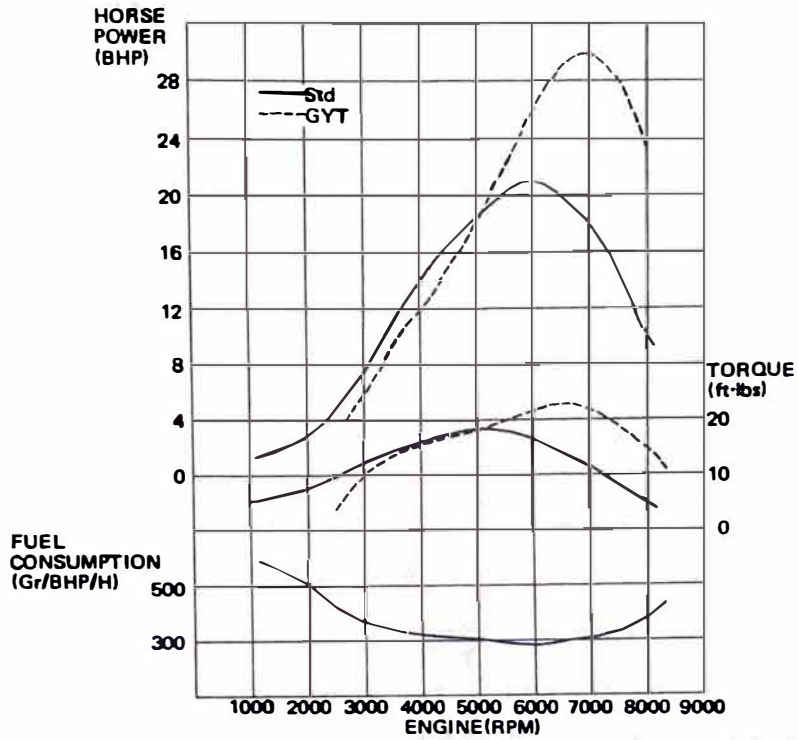
II. SPECIFICATIONS & PERFORMANCE MODEL DT-1B

* with GYT kit

Model	YAMAHA 250 DT-1B
Dimensions: Overall length Overall width Overall height Wheelbase Min. ground clearance	81.1 in. 35.0 in. 44.5 in. 53.6 in. 9.6 in.
Weight: Net Performance: Max. speed Fuel consumption (on paved level roads) Climbing ability Min. turning radius Braking distance	232 lbs. (*215 lbs.) 70mph or more (std.) 94 mpg @ 25 mph 35 degrees 82.6 in. 40 ft at 30 mph
Engine: Model Type Lubricating system Cylinder Displacement Bore x Stroke Compression ratio Max. power Max. torque Starting system Ignition system	DT-1 2 stroke, gasoline Separate lubrication (Yamaha Autolube) Single cylinder, vertical, 5 port 15 cu. in. (246 c.c.) 2.77 x 2.52 in. (70 x 64 mm.) 6.8:1 (*8.2:1) 21 BHP/6,000 r.p.m. (*30BHP/7,000 r.p.m.) 16.8 ft-lbs/5,000 r.p.m. (*22.4 ft-lbs/6,500 r.p.m.) Primary-coupled kick starter system Flywheel magneto ignition system with secondary ignition coil
Carburetor: Type M. J. J. N.	VM26SH # 160 5D1-3 stages
Air cleaner:	Dry, Paper filter type
Transmission: Clutch Primary reduction system Primary reduction ratio	Wet, multiple-disk Helical gear 3.095 (65/21)

Model	YAMAHA 250 DT-1B
Gear Box: Type Reduction ratio 1st 2nd 3rd 4th 5th Secondary reduction system Secondary reduction ratio	Constant mesh, 5-speed forward 2.231 (Total r. ratio 20.254) 1.624 (Total r. ratio 14.754) 1.211 (Total r. ratio 10.991) 1.000 (Total r. ratio 9.079) 0.826 (Total r. ratio 7.500) Chain 2.933 (44/15)
Chassis: Frame Suspension system, front Suspension system, rear Cushion system, front Cushion system, rear	Tubular-Double loop Telescopic fork Swinging arm Coil spring, oil damper Coil spring, oil damper
Steering system: Steering angle Caster Trail	49° both right and left 60.5° 5.12 in.
Braking system: Type of brake Operation system, front Operation system, rear	Internal expansion Right hand operation Right foot operation
Tire size: Front Rear	3.25-19-4PR 4.00-18-4PR
Dynamo: Model Manufacturer	FZA-1BL Mitsubishi Elec.
Battery: Model Manufacturer Capacity	MV1-6D Nippon Btry. 6V 2AH
Lighting: Head light Tail light Stop light Meter light	6V 35W/35W 6V 5.3W 6V 17W 6V 3W x 2
Tanks: Gasoline tank capacity Oil tank capacity	2.5 gals. 1.7 qts.

III. PERFORMANCE CURVES



IV. DESCRIPTION

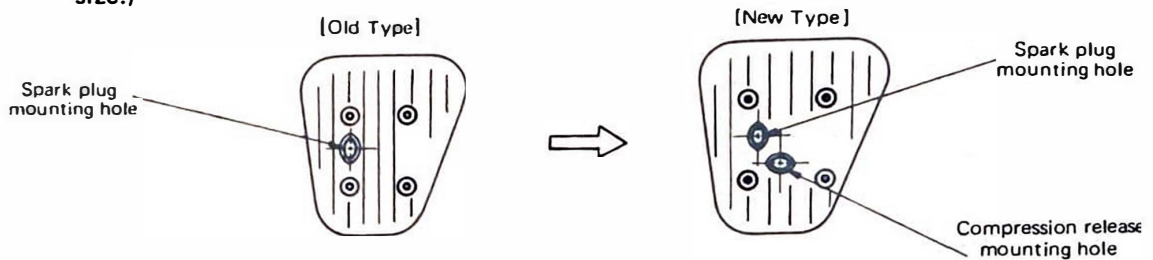
1. Engine

Description will be given as to the differences in the engines between the former and new models.

1) Cylinder Head

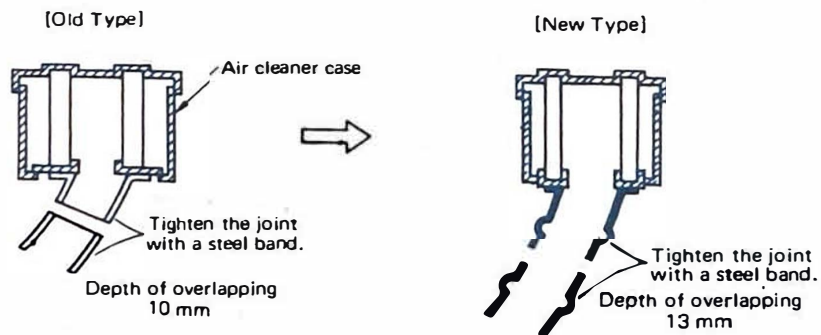
A hole is added for fitting a compression release or another spark plug. On marketed models, the hole is filled with a blind plug and gasket.

(The compression release used should be 19 mm reach in length. Do not use any other size.)

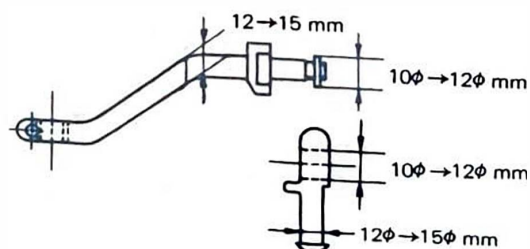


2) Air Cleaner

In order to improve both sealing and dust proofing effects, the element and joint rubber are made into one unit. The joint rubber is designed to be connected in a manner such that the raised portion of the upper joint rubber is fitted into the recessed portion of the lower joint.



3) Kick Crank and Kick Lever

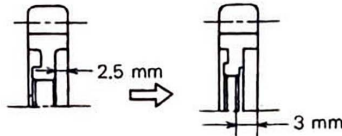


4) 3rd Wheel, 3rd Pinion, 5th Wheel and 5th Pinion

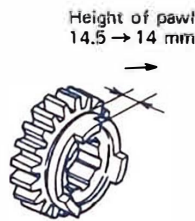
Some dimensions of these parts have been changed as shown below. Be sure that the mounting direction of the 3rd wheel is correct or improper engagement will result. Note that the modified parts are marked with the letter "N", and care must be taken in making sure that mating gears are both so marked.

Interchangeability is the same as before in 3rd wheel is interchangeable with 5th pinion and 3rd pinion is interchangeable with 5th wheel.

3rd wheel
(5th pinion)

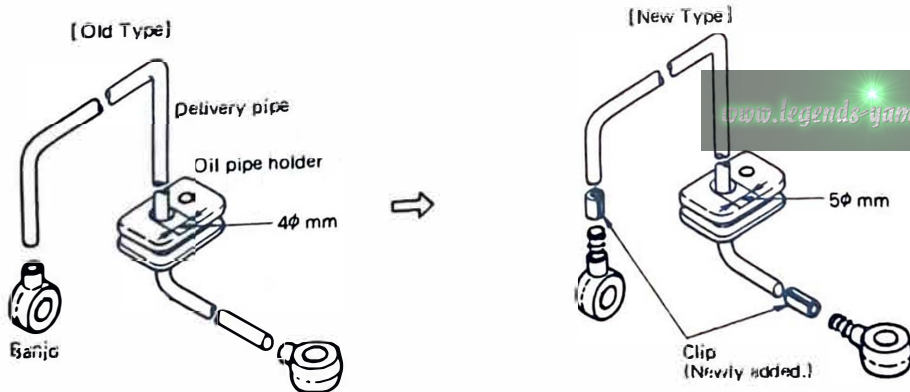


3rd pinion
(5th wheel)



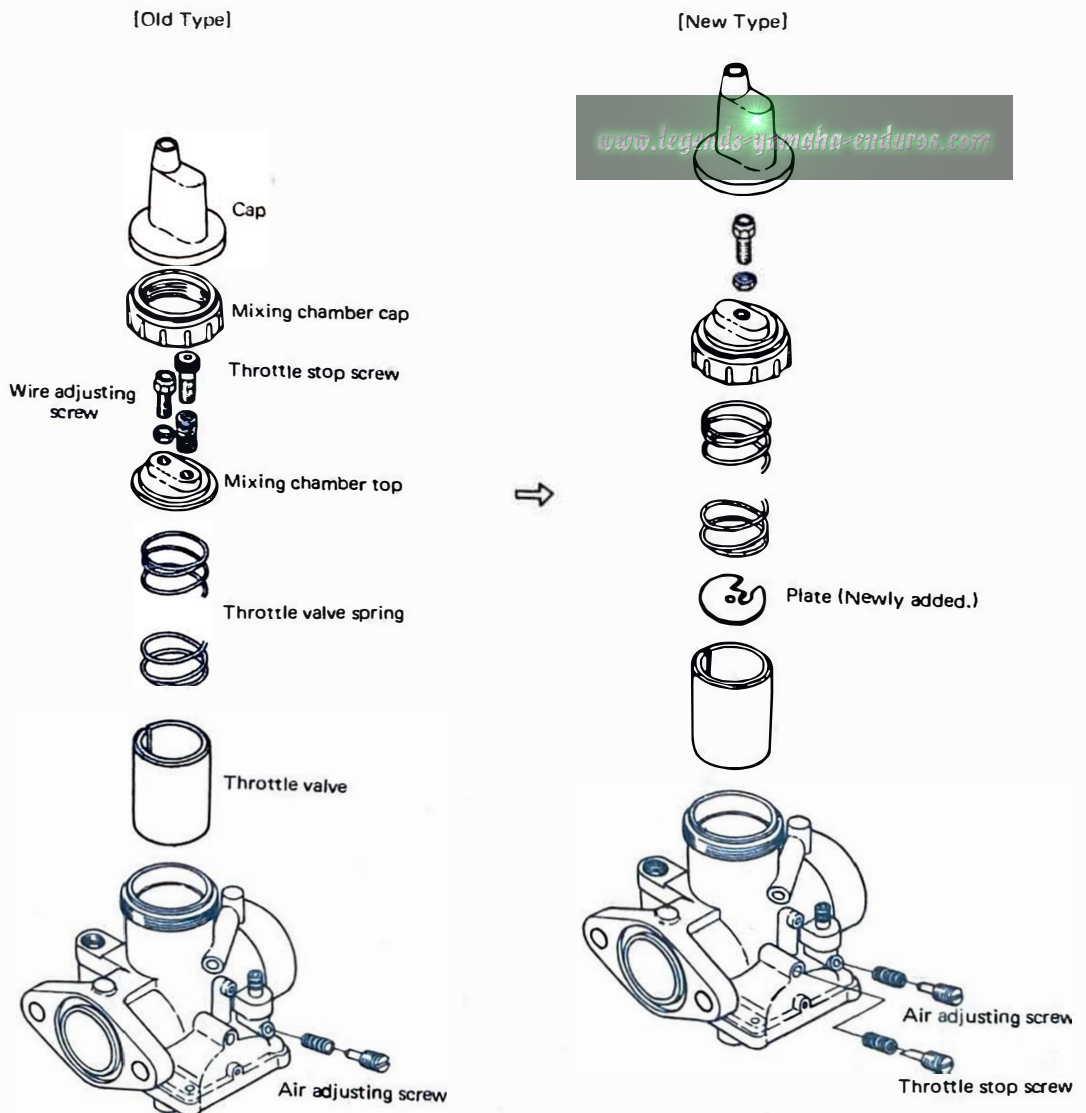
5) Delivery Pipe and Related Parts

The material of the oil delivery pipe has been changed from Nylon to rubber. With this change, the oil pipe holder has been modified. The banjo is connected to the delivery pipe by means of a clip.



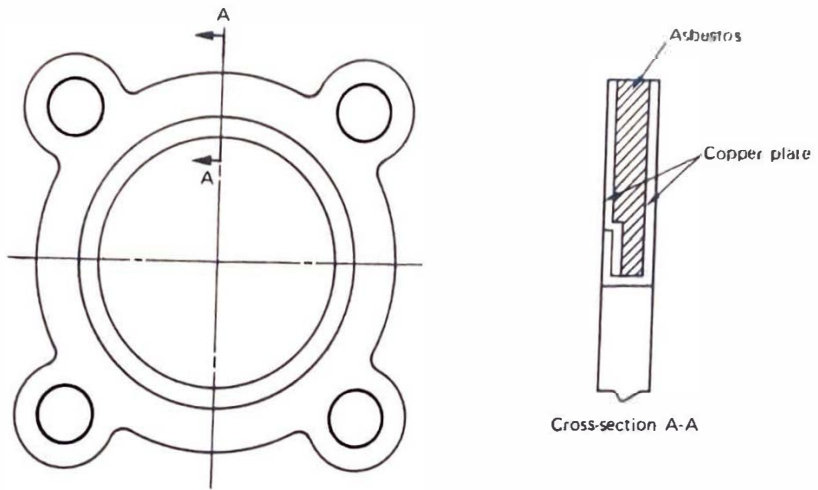
6) Carburetor

- 1 The idle speed adjustment screw (throttle stop screw) is installed in a horizontal position, instead of the vertical position.
- 2 Following the change in 1 above, both mixing chamber top and mixing chamber cap are made into one unit.
- 3 To prevent the mixing chamber cap from becoming loose, a rubber patch is bonded to the cap surface which is in contact with the throttle valve.
- 4 To tightly secure the throttle wire to the throttle valve, a plate is added.



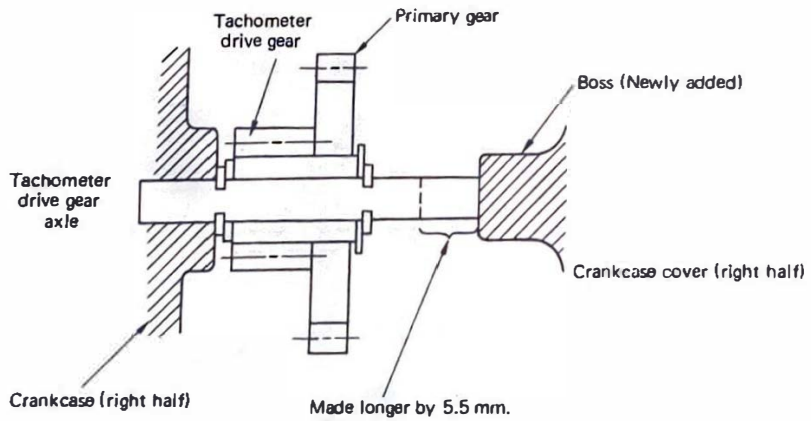
7) Cylinder Head Gasket

Asbestos is used for better airtightness of the combustion chamber of the cylinder.



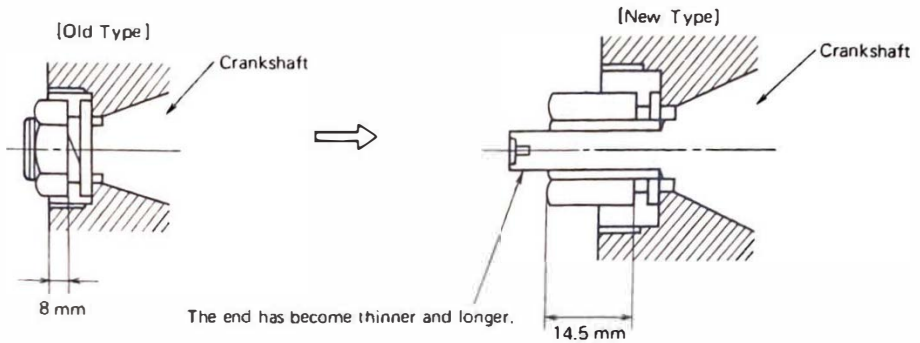
8) Tachometer Drive Gear Axle

To prevent the tachometer drive gear axle from becoming loose, a boss is provided for the crank case cover (right half).



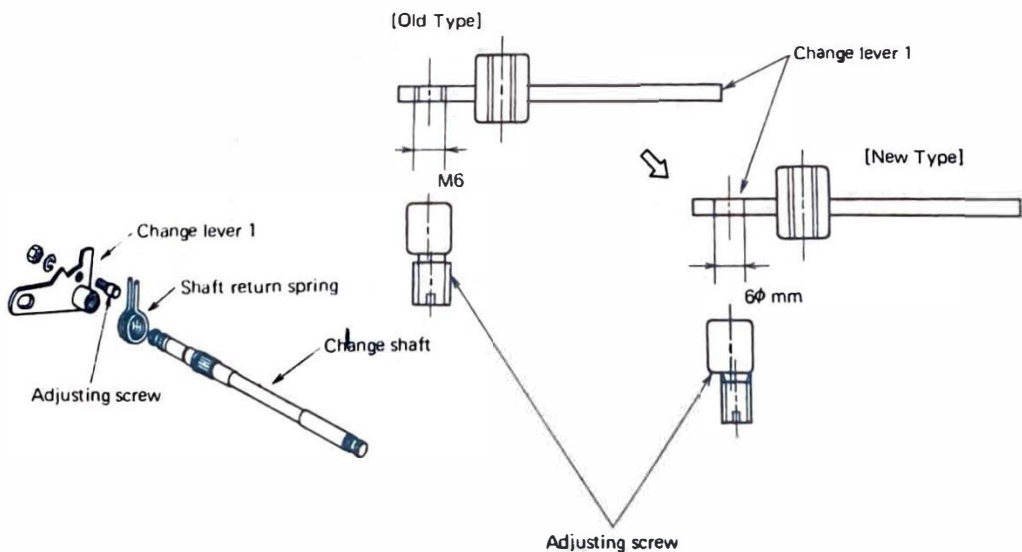
9) Flywheel Magneto Mounting on Crankshaft

To keep the flywheel magneto secured to the crankshaft, improvements have been introduced to these components, and at the same time, the threaded portion has been treated with hardening.



10) Change Lever 1 and Adjusting Screw

The adjusting screw hole tapped in the change lever 1 is no longer in use. No machined portions will be provided for both the 6-mm hole and the screw in order to increase tightness of the screw.



2. Chassis

Aimed at providing greater accessibility for service as well as simplicity of maneuverability, many improvements have been introduced, including flasher light brackets and modified handlebar grips.

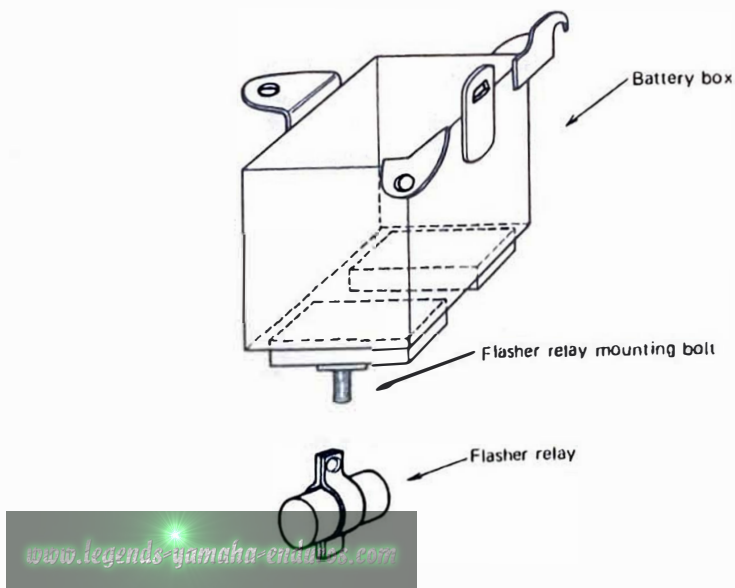
1) Grips

The handlebar grips are modified so that the rider may grip them more firmly. (A curved surface is provided as shown in the figure below.)



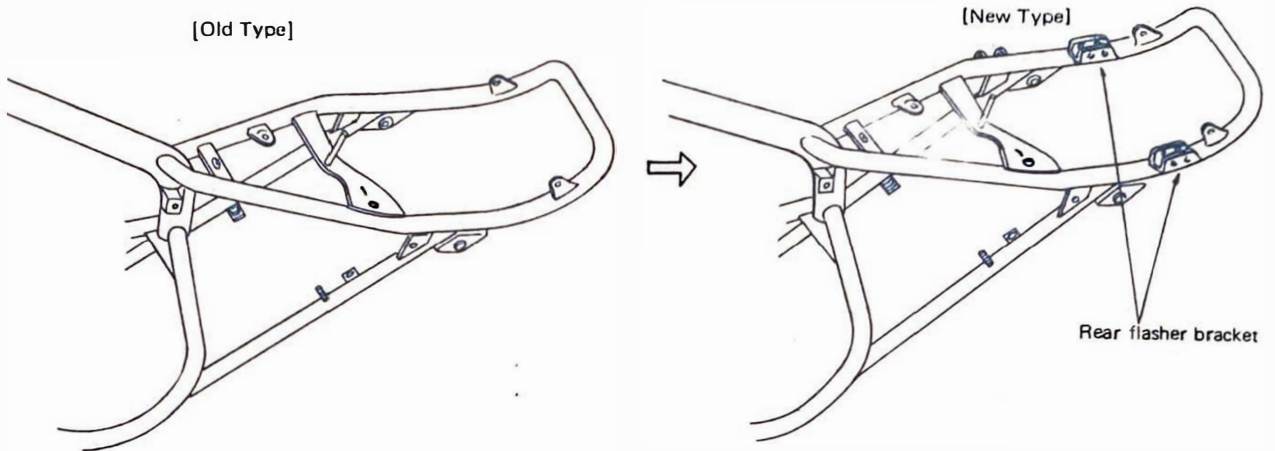
2) Battery Box

The battery box is provided with a flasher relay bracket.



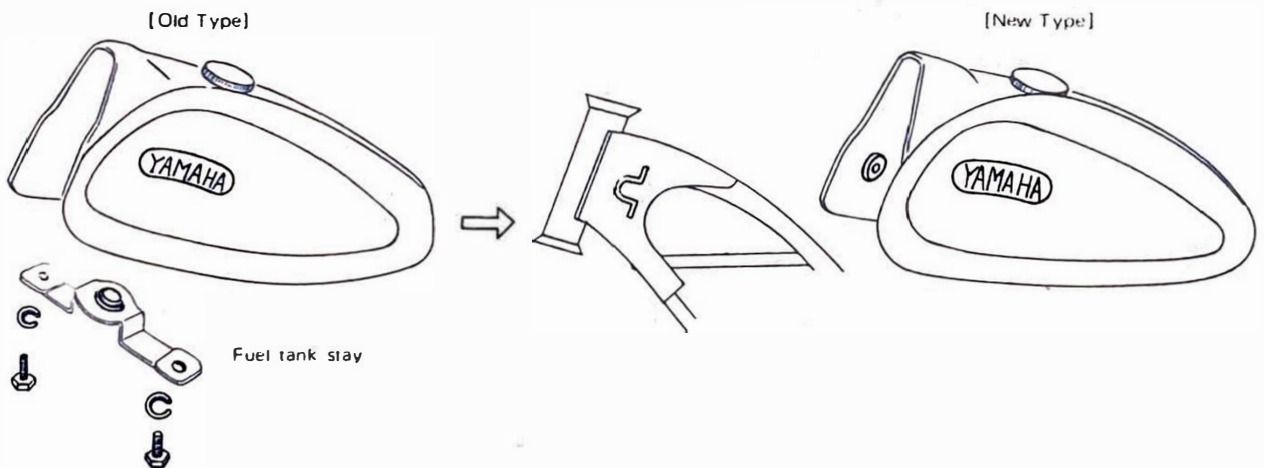
3) Frame

Two flasher light brackets are installed, one each on the right and left side.



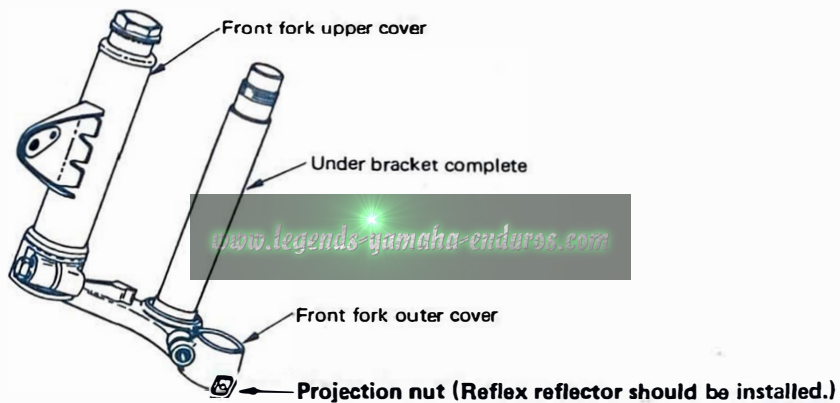
4) Fuel Tank Installation

This change in fuel tank installation had been introduced for some previous models before the new model are produced.



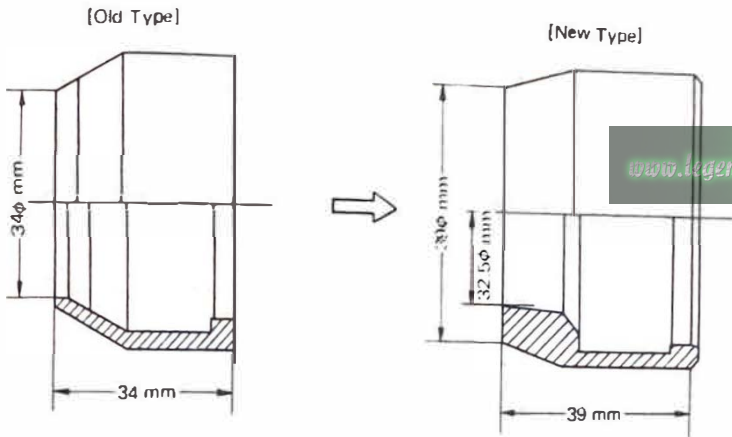
5) Front Fork Outer Covers (right and left)

Nuts are welded in place for mounting the reflex reflecters.



6) Front Fork Dust Seal

Modification has been introduced to the shape of the dust seal for better airtightness of the front fork.

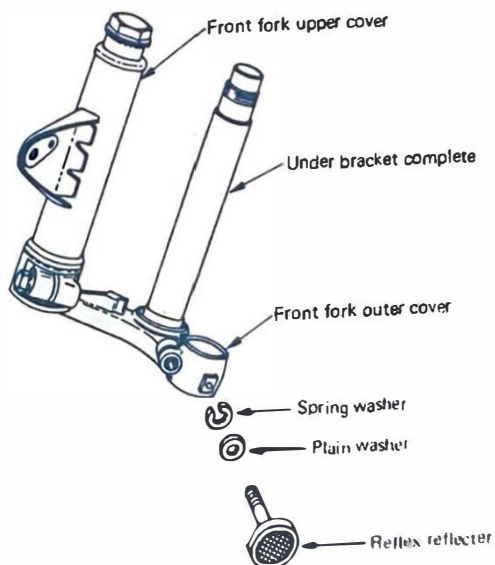


3. Electrical Equipment

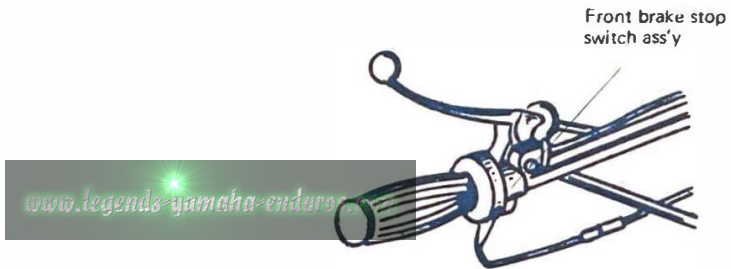
With the aim of improving the service life of light bulbs and additionally securing the additional safety of the rider, the Enduro DT-1B is equipped with new safety oriented electrical components.

1) Reflex Reflector

To draw extra attention from on-coming vehicles, reflex reflector are newly installed so that the rider may enjoy night driving with greater safety.



2) Front Brake Stop Switch Ass'y



3) Tachometer

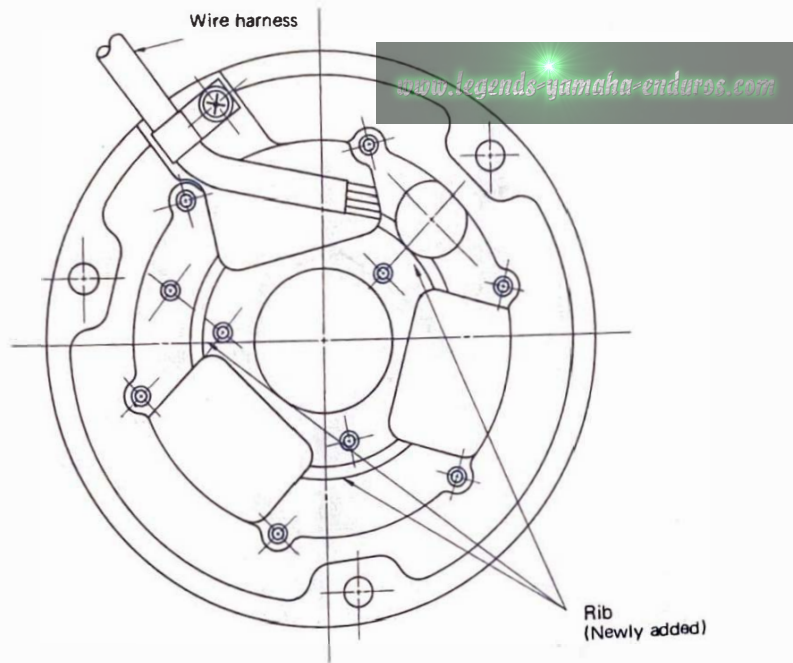
The tachometer has been increased in diameter from 65 mm to 80 mm, the same size as the speedometer.



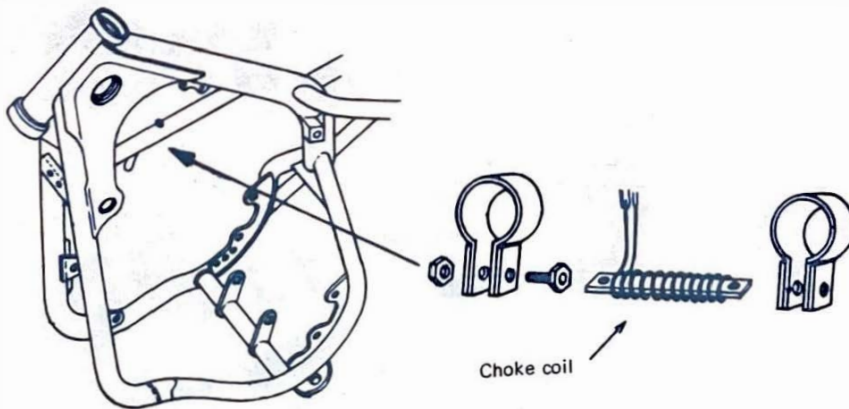
- 4) The wire harness has been modified with the addition of a choke coil and front brake stop switch.

5) Flywheel Magneto Assembly

To prevent the oil seal from coming off the crankshaft, three ribs are provided for the flywheel magneto base.

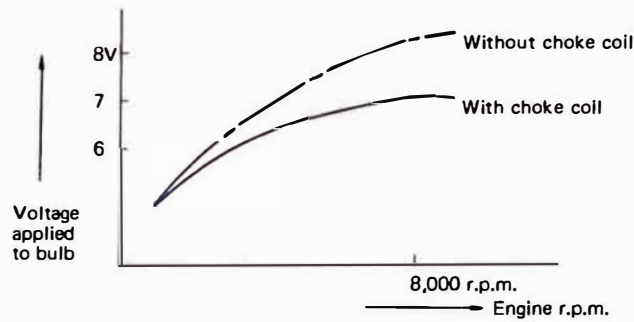


6) Choke Coil



As portrayed in the figure below the voltage induced to the head light and tail light tends to rise as the engine speed increases. Excessive in voltage will result in shorter life of light bulbs.

In order to control the voltage (generated by the flywheel magneto) which is delivered to the lights, a choke coil is provided between the flywheel magneto and the bulbs. The bulbs can thus be protected from the heavier voltages generated by the flywheel dynamo while the engine is running at high speeds, thereby securing longer service life.



* Checking the Choke Coil

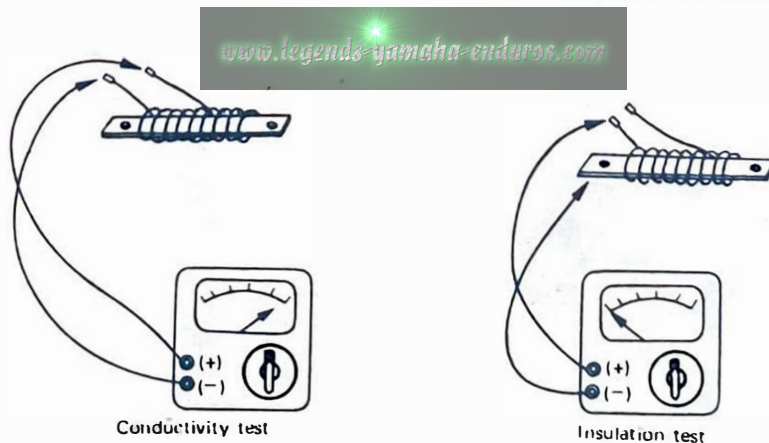
(1) Conductivity Test

Conductivity test should be conducted by connecting the tester with each end of the choke coil as shown in the figure below. If the pointer will not swing, replace the choke coil.

(If the choke coil is faulty, no light will turn on.)

(2) Insulation Test

Insulation test should be performed by connecting the tester with the coil and coil plate as shown in the figure below. If insulation is faulty, replace the choke coil.



V. SERVICE DATA

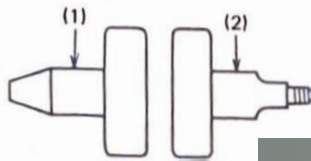
1) Clearance between the piston and the cylinder

0.040–0.045 mm. (0.0016–0.0018 in.)

0.040–0.050 mm. (0.0016–0.0019 in.) with GYT Kit.

2) Crankshaft assembly

Run-out at (1) and (2) should be less than 0.03 mm measured with a dial gauge.



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3) Gear box oil

Grade Motor oil SAE 10W/30

Quantity 1,000 c.c. (1.0 qt.)

4) Autolube pump

Minimum plunger stroke 0.20 - 0.25 mm. (0.0078 - 0.0098 in.)

5) Ignition system

a. Spark plug B-8E(N) (B-9E(N) with GYT Kit)

b. Spark plug gap 0.5 - 0.6 mm. (0.020 - 0.024 in.)

c. Ignition timing 3.2 mm. B.T.D.C. (2.3 mm. B.T.D.C. with CYT Kit.)

d. Maximum ignition point gap 0.3-0.4 mm. (0.012 - 0.015 in.)

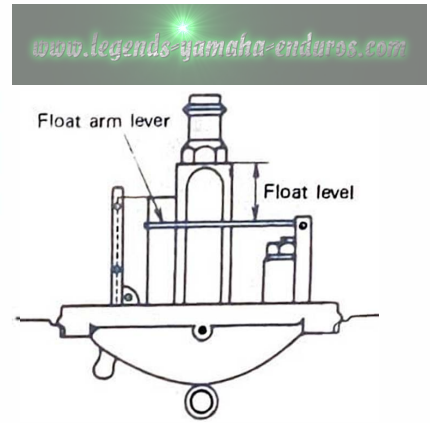
6) Front fork

Grade Motor oil SAE 10W/30

Quantity 210 c.c. (7.1 oz.)

7) Carburetor Specifications (Same as before.)

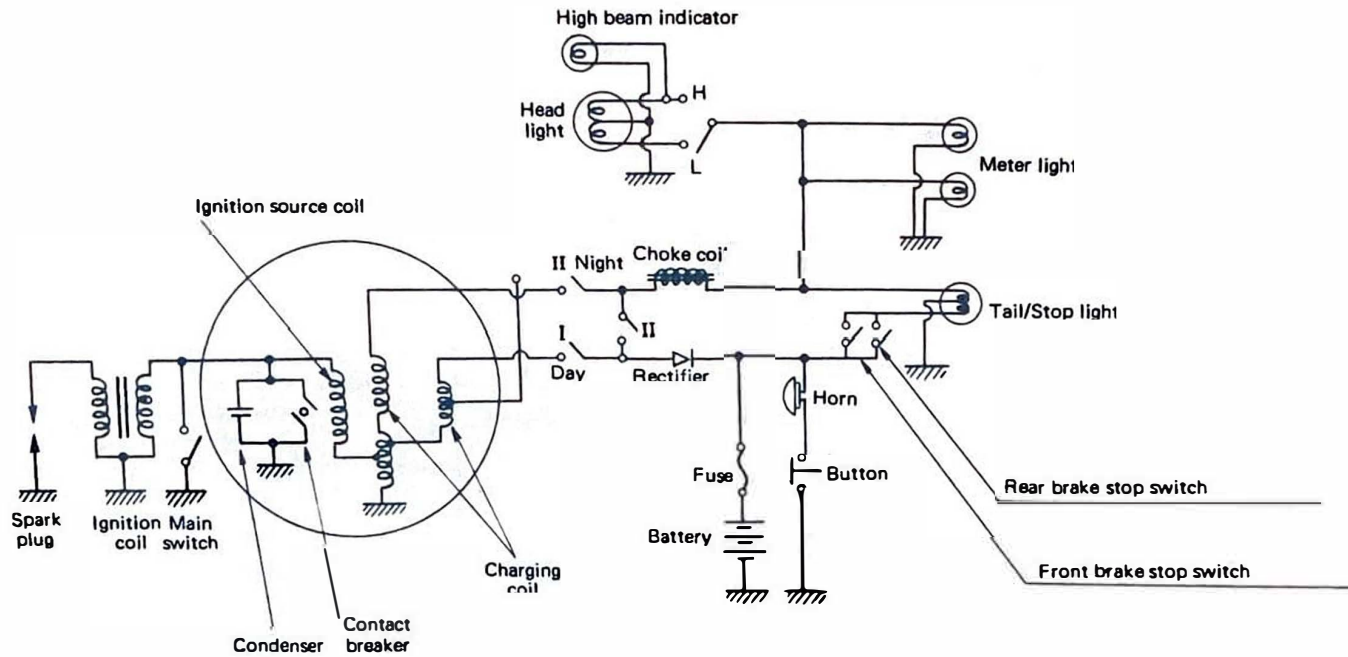
	Standard	With GYT Kit*
Type	VM26SH	VM30SH
M.J.	160	210
N.J.	0-2	0-4
J.N.	5D1-3 stages	5D5-3 stages
C.A.	2.5	3.5
P.J.	35	80
A.S.	1-1/2	1/2
Idling	1,300 ± 100 r.p.m.	—
Float level	14.1 mm.	14.1 mm.



* NOTE A 15:1 fuel/oil premix ratio should be used in the gas tank when the Autolube pump is removed.

If the oil pump is retained, a 35:1 fuel/oil premix ratio should be used in the gas tank in conjunction with the Autolube pump.

VI. CONNECTION DIAGRAM



VII. WIRING DIAGRAM

Color Position	E	B	R	Br	G	W	Y	L
OFF	○	○						
I			○	○	○	○		
II			○	○	○	○	○	○

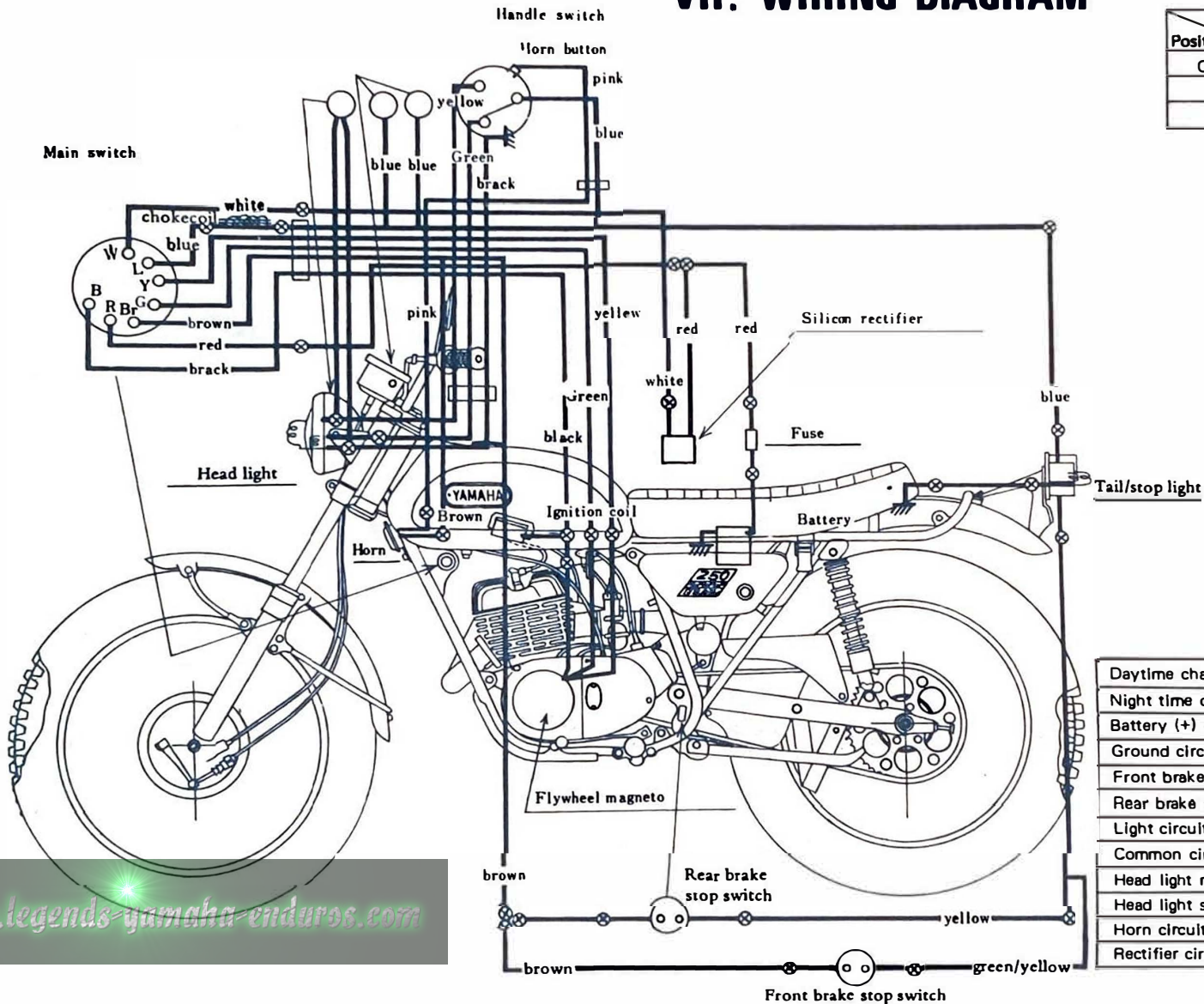


Chart of wire colors

Daytime charging circuit	Green
Night time charging circuit	Yellow
Battery (+) circuit	Red
Ground circuit	Black
Front brake stop light circuit	Green/Yellow
Rear brake stop light circuit	Yellow
Light circuit	Blue
Common circuit	Brown
Head light main circuit	Yellow
Head light sub circuit	Green
Horn circuit	Pink
Rectifier circuit	White

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PRINTED IN JAPAN
43.9.6. G.P.C.