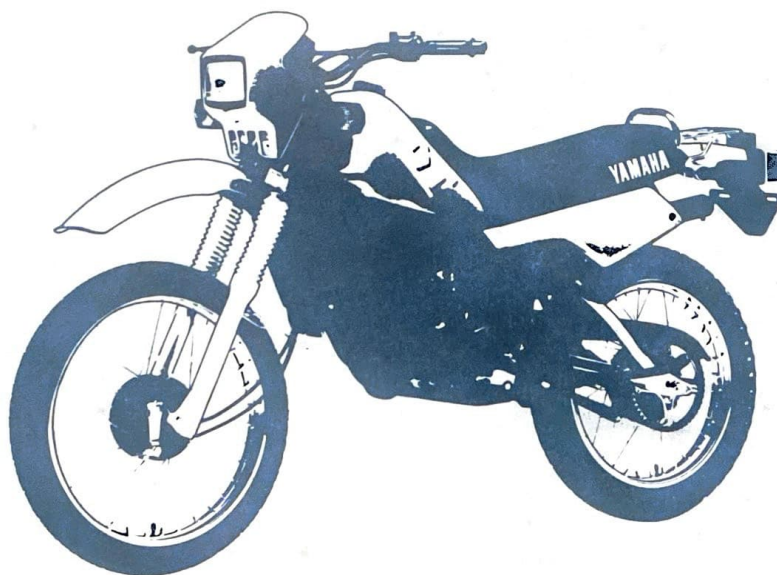




DT50U

ASSEMBLY MANUAL


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SYMBOLS USED IN ASSEMBLY MANUAL

In order to simplify descriptions in assembly manuals, the following symbols are used:


 : Coat with lithium soap base grease.

 10 : Tighten to 10 Nm.
(10 Nm = 1.0 m•kg = 7.2 ft•lb)

 : Frontward of the motorcycle.

 : Provide a clearance.

 : Install so that the arrow mark faces upward.

 : Apply a motor oil.

 : Made of rubber or plastics.

A	B	C	D	E

A: Ref No. (indicating the order or operations.)

B: Part name

C: Quantity of parts per motorcycle.

D: Place where parts are held.

V: Stored in vinyl bag.

C: Stored in carton box.

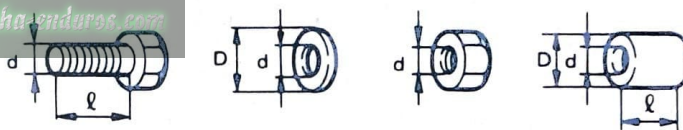
S: Fixed inside the crate and/or contained in the styrofoam tray (upper or lower).

*: Temporarily installed or secured.

E: Size or material of parts.

d/D: Diameter of part.

ℓ : Length of part.



ex. 5 (0.2) = 5 mm (0.2 in)

DT50U

ASSEMBLY MANUAL

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LIT-11666-06-29

FOREWORD

This Assembly Manual contains the information required to reassembly of the Yamaha motorcycles correctly prior to delivery to the customer. Since some external parts of the motorcycle have been removed at the Yamaha factory for convenience of packing, assembly by the Yamaha dealer is required. It should be noted that the reassembled motorcycle should be thoroughly cleaned, inspected, and adjusted prior to delivery to the purchaser.

NOTICE

The service specifications given in this assembly manual are based on the model as manufactured. Modifications and significant changes in specifications and/or procedures will be forwarded to Authorized Yamaha Dealers. The procedures below are described in the order that the procedures are carried out correctly and completely. Failure to do so can result in poor performance and possible harm to the motorcycle and/or rider.

CONCERNING CRATE DAMAGE: _____

Follow the instructions in the Dealer warranty handbook, Procedure section.

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

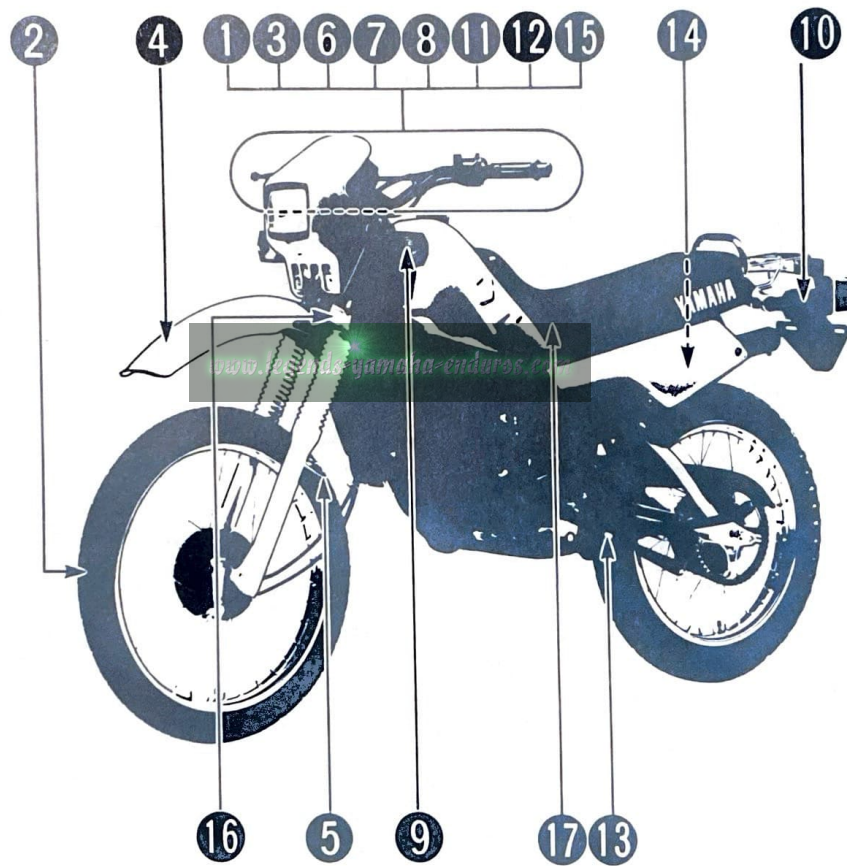
NOTE: A NOTE provides key information to make procedures easier or clearer.

CAUTION: A CAUTION indicates special procedures that must be followed to avoid damage to the motorcycle. www.legends-yamaha-enduros.com

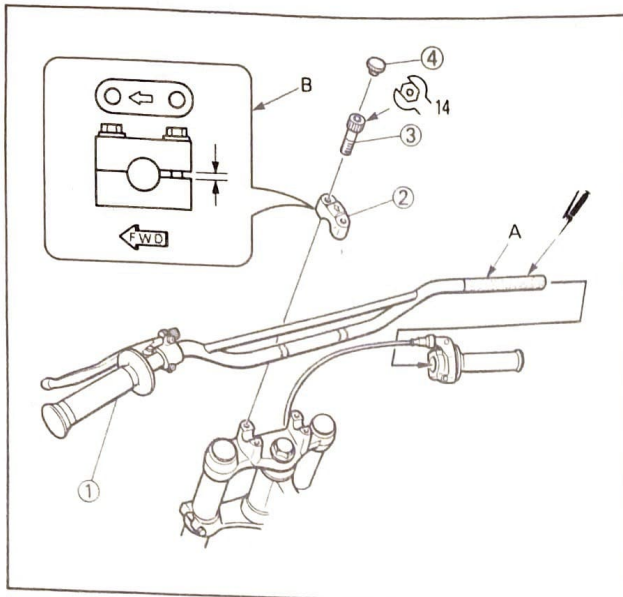
WARNING: A WARNING indicates special procedures that must be followed to avoid injury to a motorcycle operator or person inspecting or repairing the motorcycle.

TECHNICAL PUBLICATIONS
SERVICE DIVISION
MOTORCYCLE OPERATIONS
YAMAHA MOTOR CO., LTD.

SETUP PROCEDURES



1. Handlebar



1	Handlebar	1	S	
2	Handlebar upper holder	2	V	
3	Flange bolt	4	V	d = 8 (0.32), ℓ = 35 (1.38)
4	Cap	4	V	

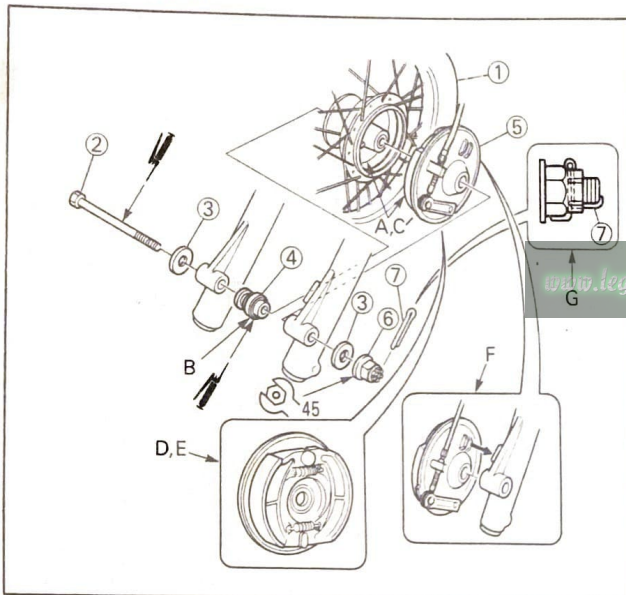
A: Clean the right handlebar end.

B: The handlebar holder should be installed with arrow mark forward.

CAUTION:

First tighten the bolts on the front side, and then tighten the bolts on the rear side.

2. Front wheel



1	Front wheel	1	S	
2	Wheel axle	1	*	
3	Plain washer	1	*	d = 12 (0.47)
4	Collar	1	V	
5	Brake shoe plate	1	S	
6	Castle nut	1	*	
7	Cotter pin	1	V	

A: Clean the brake shoe linings and the inner surface of the wheel hub.

B: Clean the collar.

C: **WARNING:** Take care not to put grease on the brake linings or inner surface of the brake drum. If you do so, clean using a rag dampened with a solvent. Foreign material on braking surfaces can cause impaired braking action.

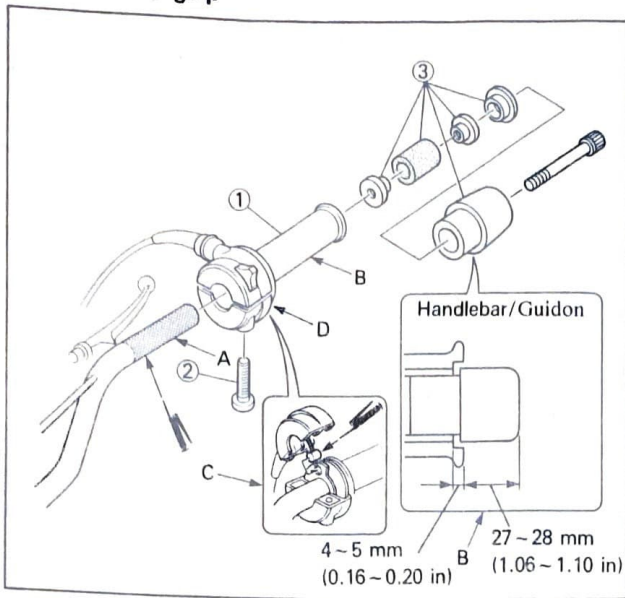
D: Make sure the brake shoes and springs are correctly installed in the shoe plate assembly. If any one of them is out of position, correct per the figure.

E: Make sure the two projections inside the brake shoe plate assembly are meshed with the two flats in the wheel hub.

F: Before tightening the axle nut, make sure the projection (torque stopper) on the front fork end is placed in the slot in the brake shoe plate.

G: Bend the ends of the cotter pin.

3. Throttle grip



1	Throttle grip	1	*	
2	Panhead screw	2	*	d = 5 (0.20), ℓ = 20 (0.78)

A: Clean the right handlebar end.

WARNING:

Proper cable and lead routing is essential to assure safe vehicle operation. REFER TO "CABLE ROUTING".

B: **CAUTION:**

- Install the throttle grip ① so that the distance between handlebar end and throttle grip end is 4~5 mm (0.16~0.20 in).
- Install the grip end ③ so that the distance between throttle grip end and grip end's end is 27~28 mm (1.06~1.10 in).

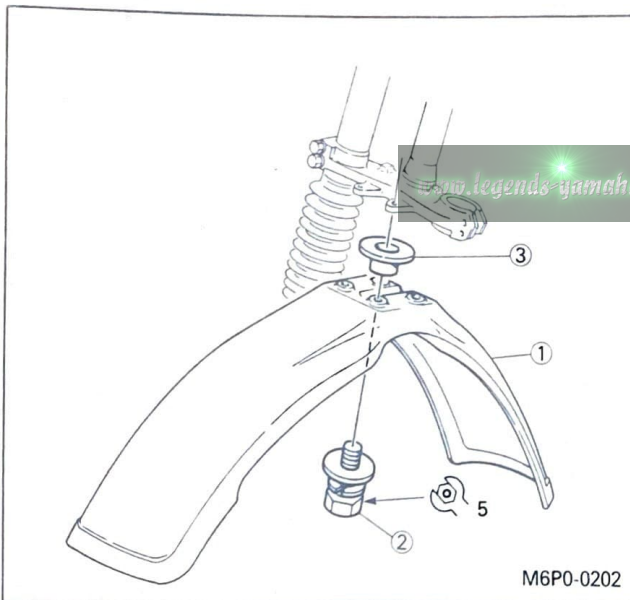
C: Hook the throttle cable end onto its seat in the throttle grip housing.

D: Check the throttle grip for smooth action.

CAUTION:

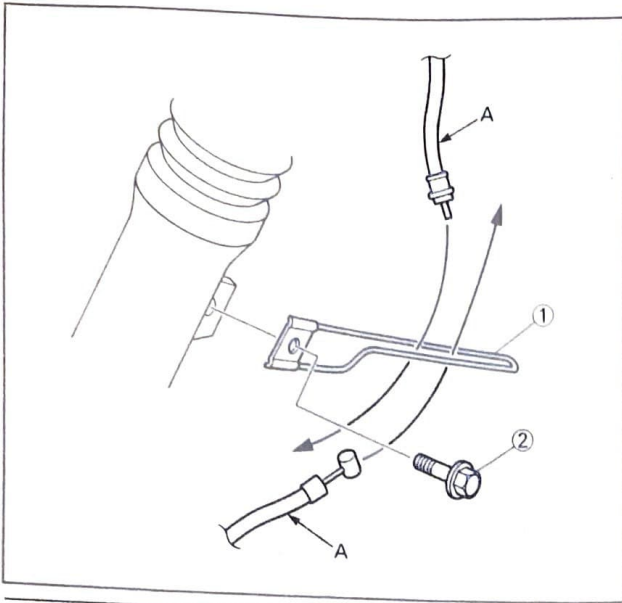
Tighten the screws in stages and maintain an equal gap on each side of the handlebar switch.

4. Front fender



1	Front fender	1	S	
2	Hexagon bolt with spring washer and plain washer	4	V	
3	Special washer	4	V	

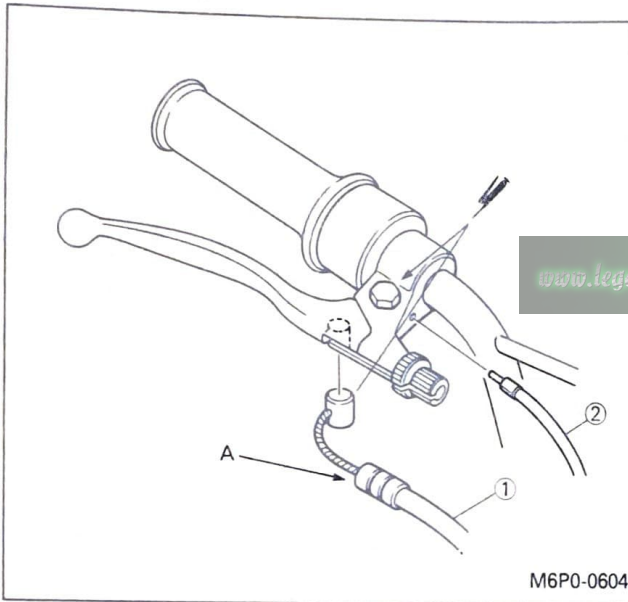
5. Cable holder



1	Cable holder	1	C	
2	Flange bolt	1	C	d = 6 (0.24), ℓ = 10 (0.39)

A: Pass the speedometer cable and brake cable through the cable holder.

6. Brake cable



M6P0-0604

1	Brake cable	1	*	
2	Brake switch	1	*	

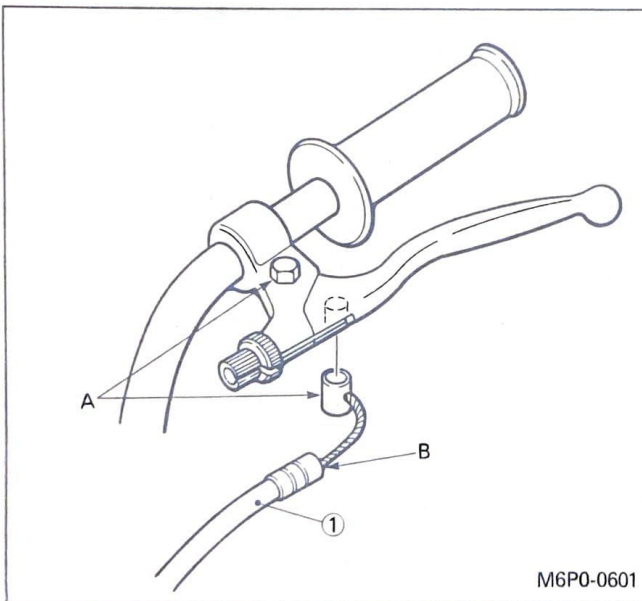
A: To install the brake cable, be sure to proceed as follows:

- Fully loosen the locknut on the lever holder, and screw in the adjuster on the lever holder until tight. Next, align the slit in the adjuster and locknut with the slit in the lever holder.
- Insert the cable end into the lever hole, and hook the outer cable end onto the locknut, then squeeze the lever. Next, while pulling the outer cable in the direction opposite to the lever, release the lever quickly while releasing it seat the outer cable into the adjuster.

NOTE: _____
Check the brake lever for smooth action.

WARNING: _____
Proper cable and lead routing is essential to assure safe vehicle operation. REFER TO "CABLE ROUTING".

7. Clutch cable



M6P0-0601

1	Clutch cable	1	*	
---	--------------	---	---	--

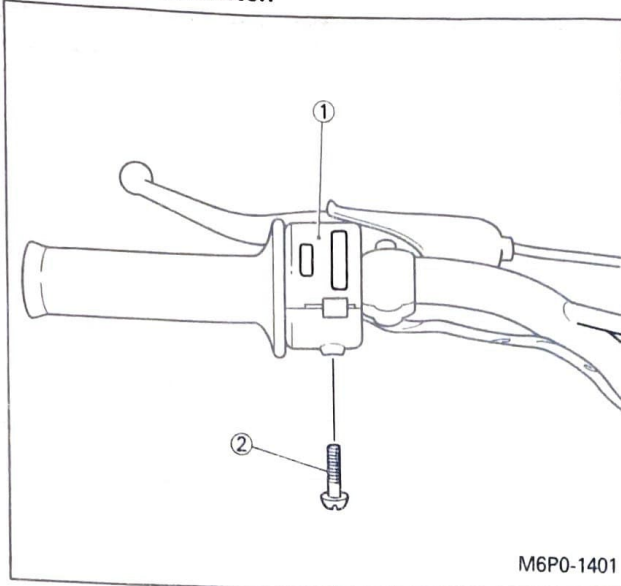
A: To install the clutch cable, be sure to proceed as follows:

- Fully loosen the locknut on the lever holder, and screw in the adjuster on the lever holder until tight. Next, align the slit in the adjuster and locknut with the slit in the lever holder.
- Insert the cable end into the lever hole, and hook the outer cable end onto the locknut, then squeeze the lever. Next, while pulling the outer cable in the direction opposite to the lever, release the lever quickly while releasing it seat the outer cable into the adjuster.

NOTE: _____
Check the clutch lever for smooth action.

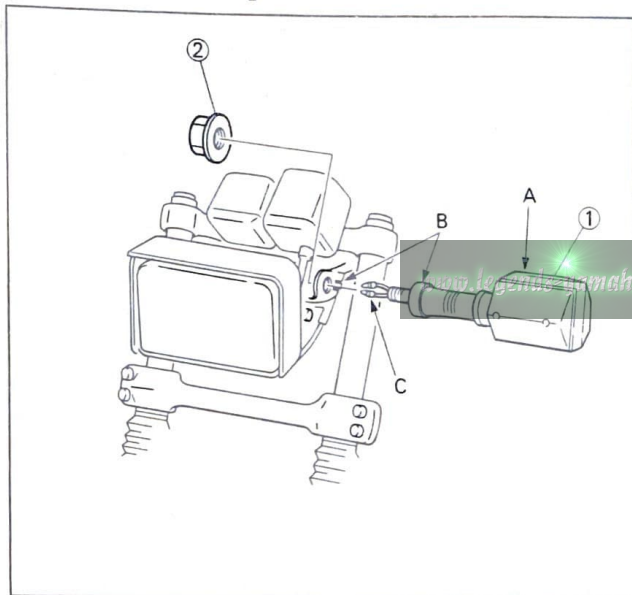
WARNING: _____
Proper cable and lead routing is essential to assure safe vehicle operation. REFER TO "CABLE ROUTING".

8. Handlebar switch



1	Handlebar switch	1	*	
2	Panhead screw	2	*	d = 5 (0.20)

9. Front flasher light



1	Flasher light	2	S	
2	Flange nut	2	V	d = 12 (0.48)

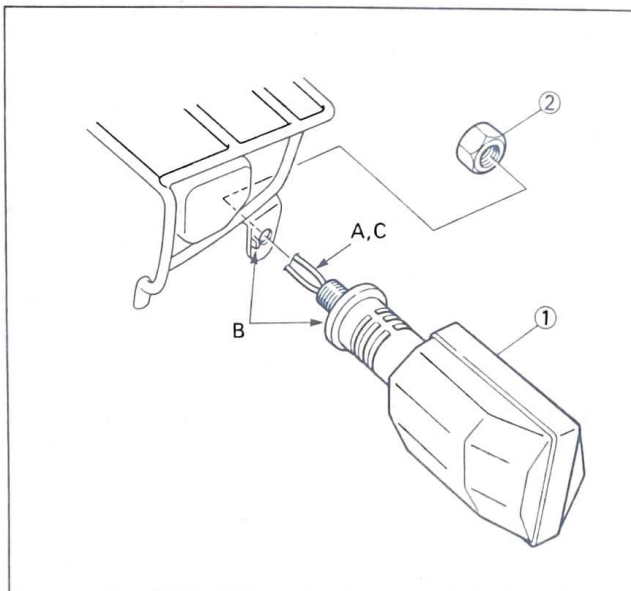
A: On the left side, install the flasher light having a chocolate color lead. Next, install the other flasher light with a dark green color lead on the right side.

B: Install the flasher light with the notch in its end fitting the convex part of the flasher light stay.

C: Connect the front flasher light lead to the wire harness. The leads of identical colors should be connected.

NOTE: _____
REFER TO "CABLE ROUTING".

10. Rear flasher light



1	Flasher light	2	S	
2	Flange nut	2	V	d = 12 (0.48)

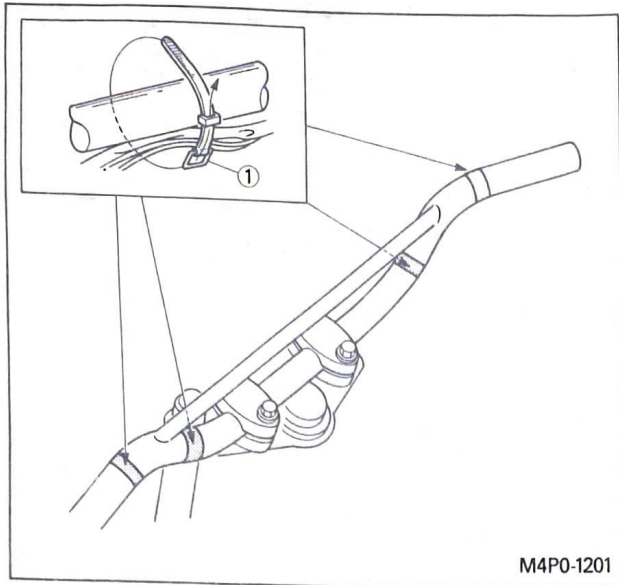
A: On the left side, install the flasher light having a chocolate color lead. Next, install the other flasher light with a dark green color lead on the right side.

B: Install the flasher light with the notch in its end fitting the convex part of the flasher light stay.

C: Connect the rear flasher light leads to the wire harness. The leads of identical colors should be connected.

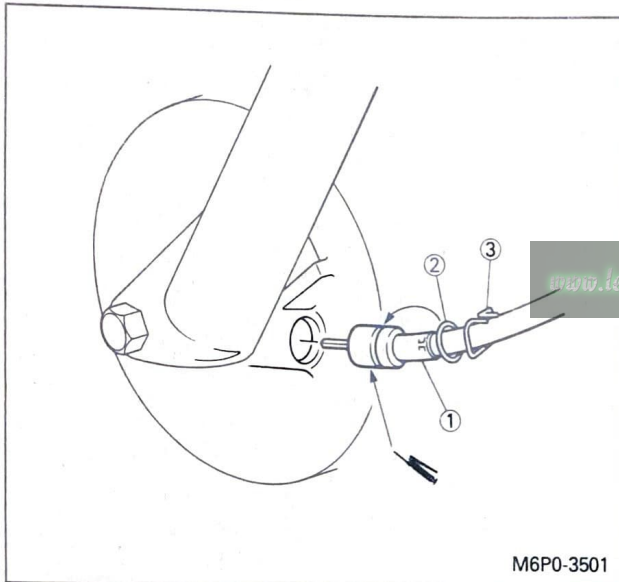
NOTE: _____
REFER TO "CABLE ROUTING".

11. Handlebar band



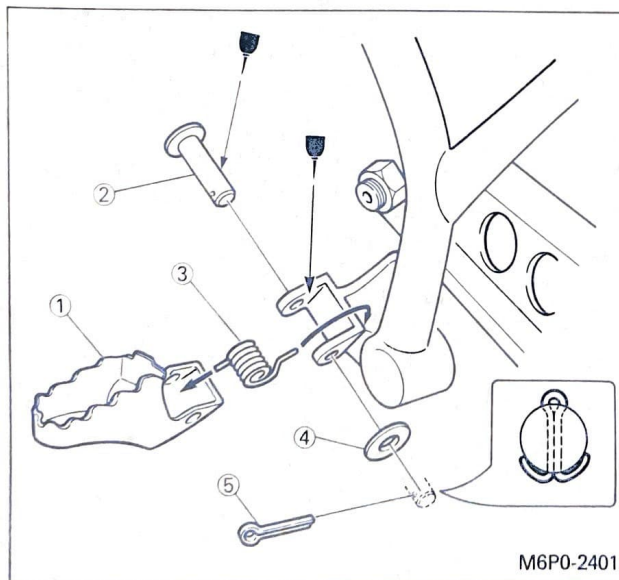
1	Band	4	C	
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12. Speedometer cable



1	Speedometer cable	1	*	
3	O-ring	1	V	Rubber
4	Circlip	1	V	

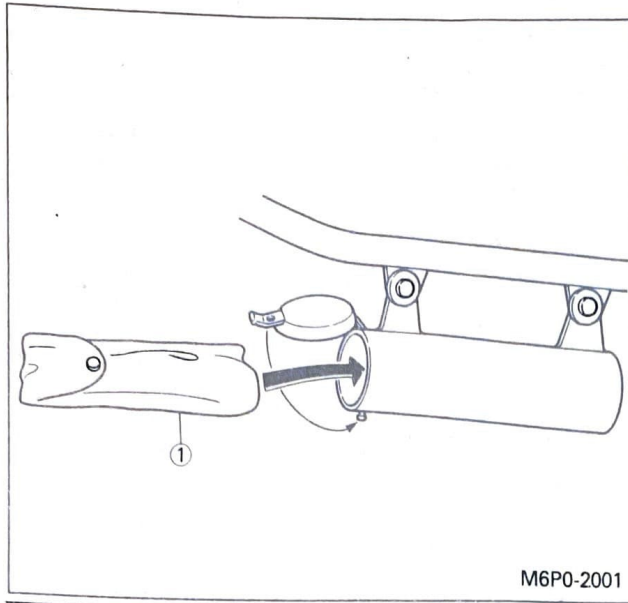
13. Footrest (Left)



1	Footrest (Left and right)	2	V	
2	Clevis pin	2	V	d = 10 (0.39)
3	Return spring	2	V	
4	Plain washer	2	V	d = 10 (0.39), D = 16 (0.62)
5	Cotter pin	2	V	

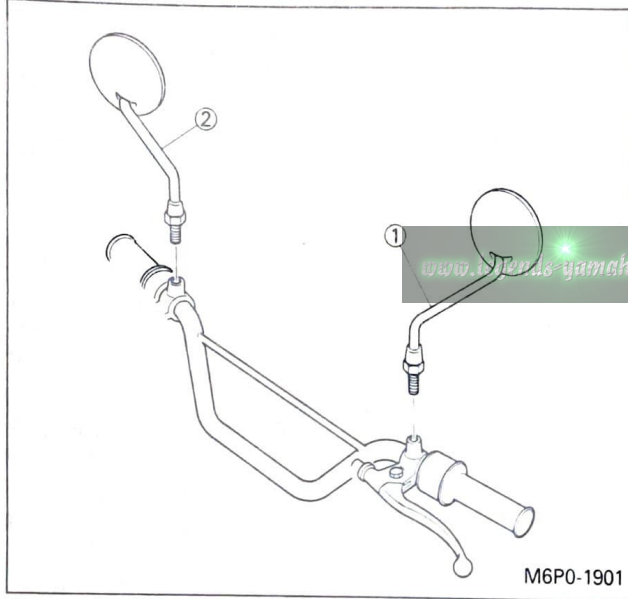
A: Bend the end of cotter pin.

14. Tool kit



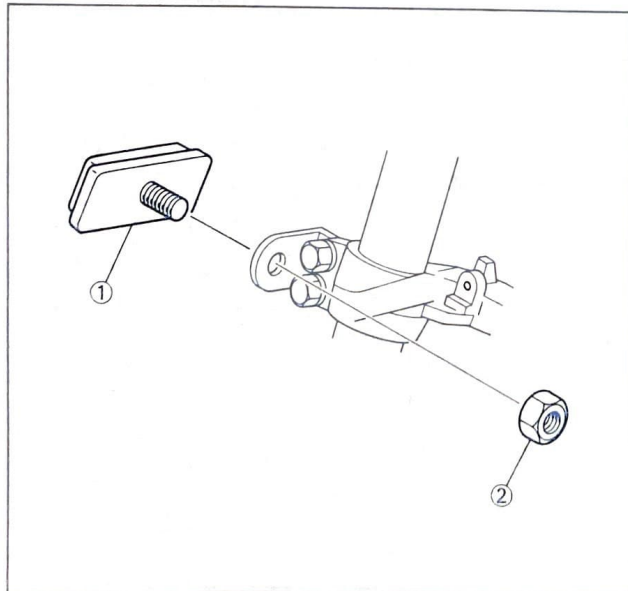
1	Tool kit	1	C	
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15. Mirror



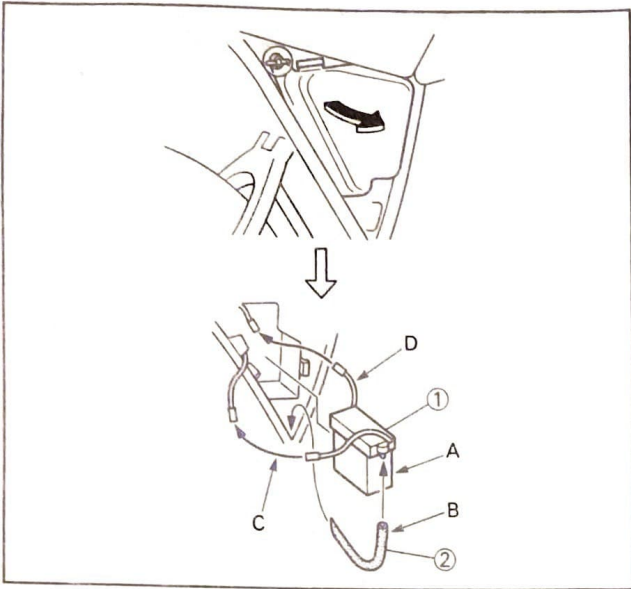
1	Mirror	1	C	Left
2	Mirror	1	C	Right

16. Reflector



1	Reflector	2	C	
2	Nut	2	V	

17. Battery



1	Battery	1	*	
3	Breather pipe	1	C	Rubber

A: Before installing the battery, the battery breather pipe should be routed.

NOTE: _____
REFER TO "CABLE ROUTING".

B: Before installing the battery, charge the battery.

NOTE: _____
REFER TO "ADJUSTMENTS AND PREDELIVERY SERVICE".

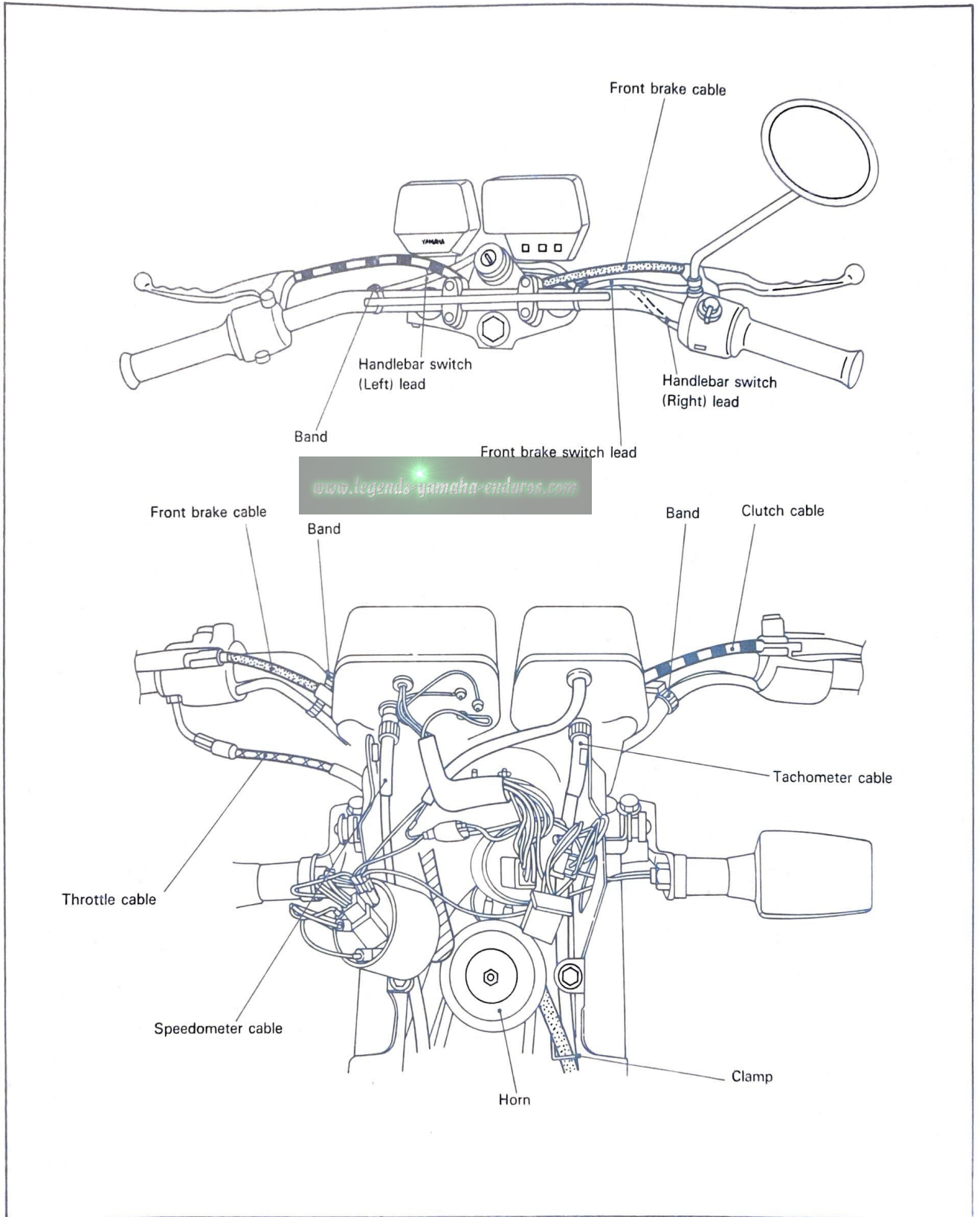
C: Connect the positive lead first, and then connect the negative lead.

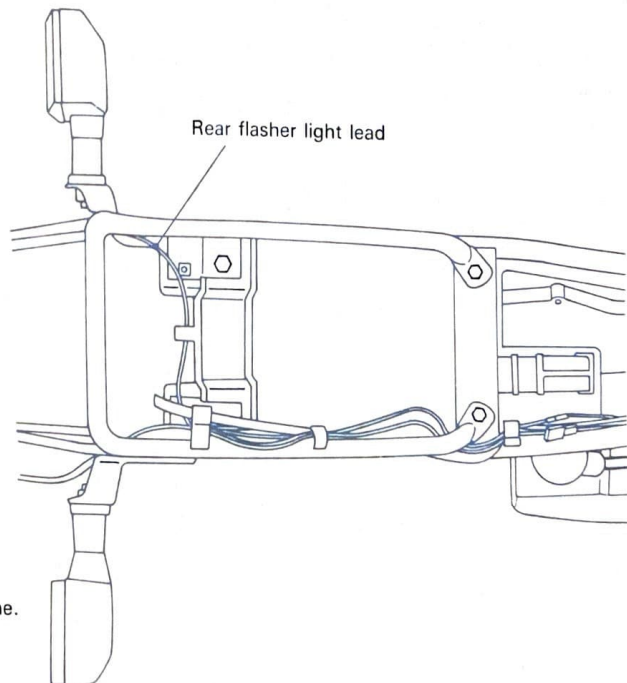
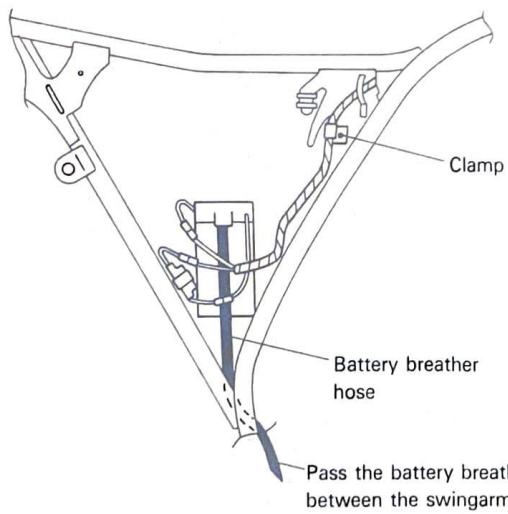
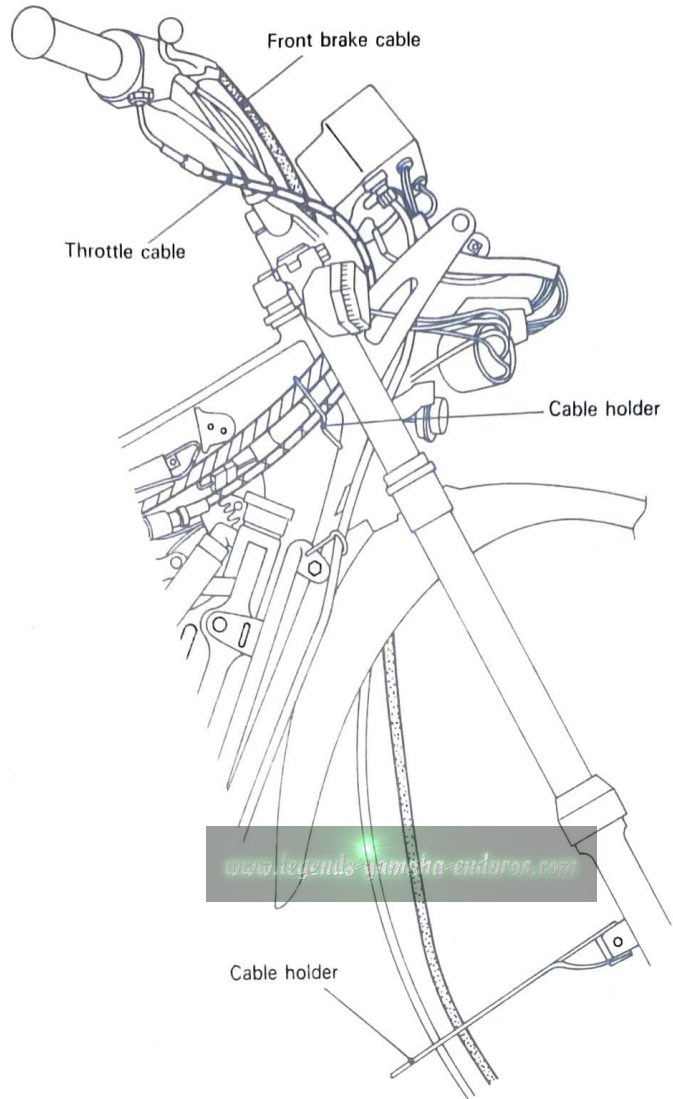
D: After connecting the positive lead, cover the positive terminal with the rubber cap.

CABLE ROUTING

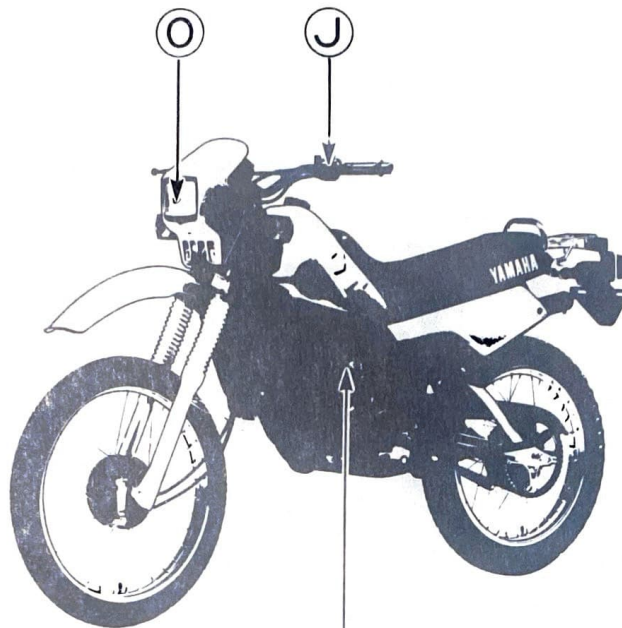
CAUTION:

Proper cable and lead routing is essential to insure safe machine operation.

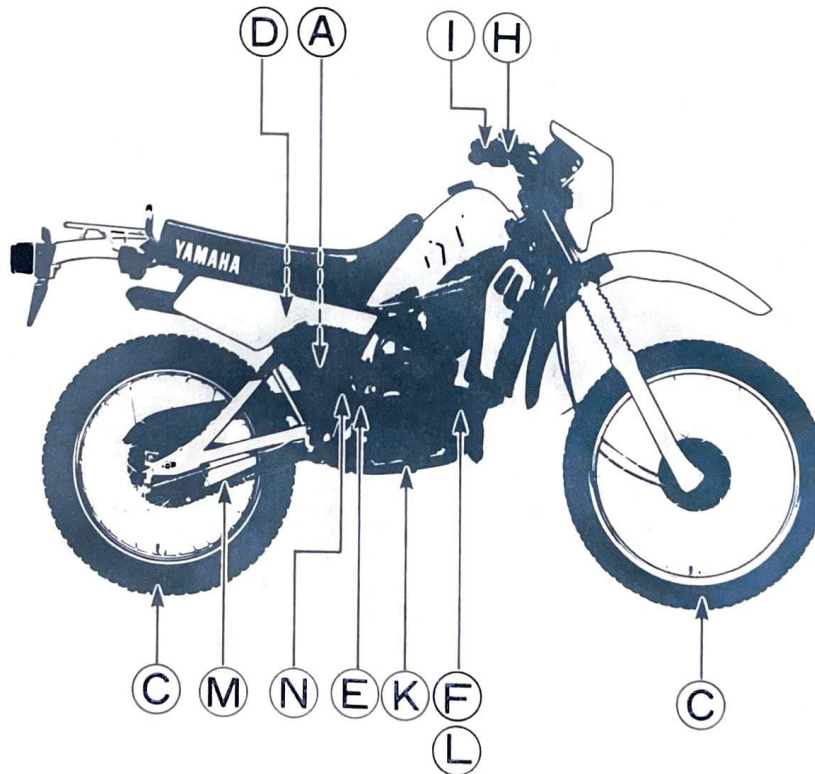




ADJUSTMENTS AND PREDELIVERY SERVICE



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A. Battery

1. Charging

The battery must be charged properly before using for the first time. This initial charge will prolong the life of the battery.

CAUTION:

Never try to add battery electrolyte (battery acid) to a battery that is installed on a machine. Even a skilled mechanic will spill enough acid to damage metal parts. Always remove the battery before filling with electrolyte and during charging. Always completely clean the exterior of the battery before reinstalling.

- Remove all filler caps from the battery, and remove the breather hose cap at the same time.

NOTE:

Place the battery on a level place.

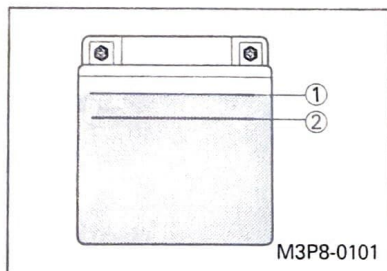
- Cool the electrolyte down the below 30°C (86°F).
- Pour electrolyte into each cell little by little up to the upper level line, and leave it for a while. When the battery fluid permeates the plates and separators, the fluid level begins to lower. Add electrolyte and bring back to upper level line.

NOTE:

Fill the battery with diluted sulfuric acid (electrolyte).

- Charge the battery as required and measure the specific gravity of the fluid. Use a battery hydrometer of the single float type.

Specific gravity at 20°C (68°F):
1.280
Battery capacity:
6V 4AH



- Upper level
- Lower level

- Install the filler caps, and thoroughly wipe off the fluid around the filler caps. Wipe off the battery completely before installation.

WARNING:

Battery electrolyte is poisonous and dangerous, causing severe burns, etc. Contains sulfuric acid. Avoid contact with skin, eyes or clothing.

Antidote: External — Flush with water. Internal — Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg, or vegetable oil. Call physician immediately.

Eyes: Flush with water for 15 minutes and get prompt medical attention. Batteries produce explosive gases. Keep sparks, flame, cigarettes, etc., away. Ventilate when charging or using in enclosed space. Always shield eyes when working near batteries.

KEEP OUT OF REACH OF CHILDREN.

2. Installation

- The breather pipe should be connected and routed properly.

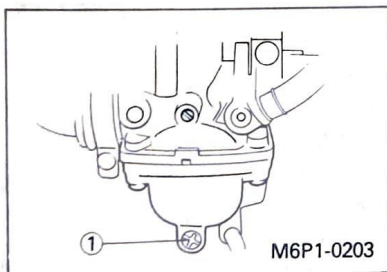
WARNING:

Proper cable and lead routing is essential to assure safe machine operation. REFER TO "CABLE ROUTING".

- Make sure the main switch is turned off, and install the battery in the battery box.
- Connect the positive lead first, and then connect the negative lead.

CAUTION:

Make sure battery leads are connected properly. Reversing leads can seriously damage the electrical system.



- Drain screw

B. Fuel draining

- Put a rag under the carburetor so fuel does not contact the crankcase.
- Loosen the drain screw and drain the standing fuel.

WARNING:

FUEL IS HIGHLY FLAMMABLE:

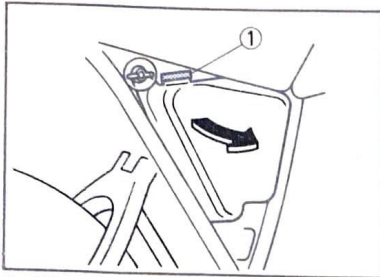
- Always turn off the engine when draining.
- Take care not to spill any fuel on the engine or exhaust pipe(s)/muffler(s) when draining.
- Never drain fuel while smoking or in the vicinity of an open flame.

- Retighten the drain screw securely.

C. Tire pressure measurement

1. Set tire pressures to the following specification:

Reference tire pressure:
130 kPa (1.3 kg/cm², 18 psi)
Refer to the "SERVICE DATA" for further information.



1. Oil tank
2. Oil cap

D. Engine oil level check

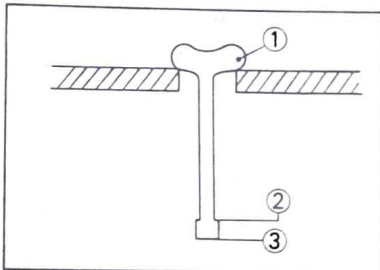
1. Check Oil level
2. Adjust
Full the oil tank up with specific 2-cycle engine oil.

Recommended oil:
Yamalube 2-cycle oil or Air cooled 2-stroke engine oil
Oil capacity:
1.3 L (1.1 Imp qt, 1.4 US qt)

E. Transmission oil level

1. Check
 - a. Place the motorcycle on the centerstand.

NOTE: _____
Be sure the motorcycle is positioned straight up when checking the oil level; a slight tilt toward the side can produce false readings.



1. Dipstick
2. Maximum mark
3. Minimum mark

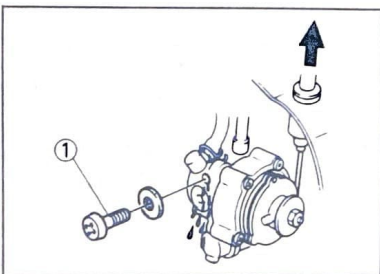
- NOTE:** _____
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- b. Warm up the engine for a few minutes.
 - c. Stop the engine.
 - d. Remove the dipstick and then just rest the dipstick in the hole.

NOTE: _____
When checking the engine oil level with the dipstick, let the unscrewed dipstick just rest on the case threads.

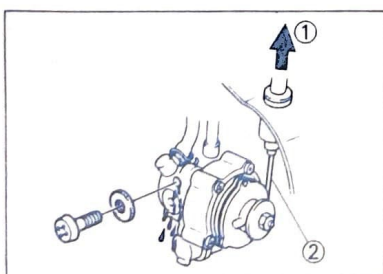
- e. The oil level is satisfactory, if it is between the maximum mark and minimum mark on the dipstick.
2. Adjust
To increase oil level, add the oil to proper level.

Oil capacity (Periodic oil change):
0.7 L (0.61 Imp qt, 0.74 US qt)
Recommended oil:
YAMALUBE 4 (10W30) or
SAE 10W30 type SE motor oil

CAUTION: _____
Do not add any chemical additives to the oil. The engine oil also lubricates the clutch, and additives could cause the clutch to slip.



1. Bleed screw



1. Pull
2. Pump cable

F. Bleeding the Autolube pump

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

- Setting up a new motorcycle out of the crate.
- Whenever the Autolube tank has run dry.
- Whenever any portion of the Autolube system is disconnected.

1. Bleeding the pump case and/or oil pipe:
 - a. Remove the pump cover and remove the bleed screw.
 - b. Keep the oil running out until air bubbles disappear.

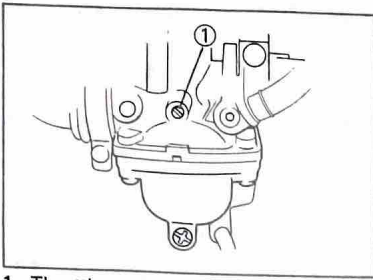
NOTE: _____
Check the bleed screw gasket, and if damaged, replace with a new one.

- c. When air bubbles are expelled completely, tighten the bleed screw.

2. Bleeding the pump distributor and/or delivery pipe:
 - a. Start the engine.
 - b. Pull the pump cable all the way out to set the pump stroke to a maximum.

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

- c. Keep the engine running at about 2,000 r/min for two minutes or so, and both distributor and delivery pipe can be completely bled. Then, install the pump cover.



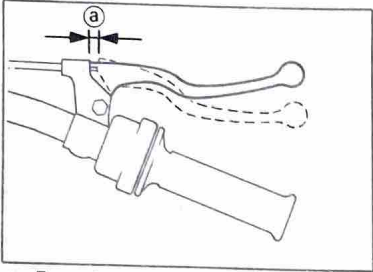
1. Throttle stop screw

G. Engine idle speed

1. Check
 - a. Start the engine and warm it up for a few minutes.
 - b. Check the engine idle speed.

Engine idle: 1,300 r/min

2. Adjust
 - Turning the throttle stop screw in (Clockwise) → Engine speed increases.
 - Turning the throttle stop screw out (Counterclockwise) → Engine speed decreases.



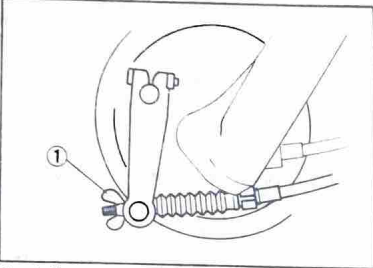
a. Free play

H. Front brake adjustment

The front brake should be adjusted to suit the rider's preference within specified free play at the lever pivot side.

Free play (a):
5 ~ 8 mm (0.2 ~ 0.3 in)

1. Turn the adjuster in or out on the brake shoe plate until adjustment is suitable.



1. Adjuster

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I. Throttle grip free play

1. Check

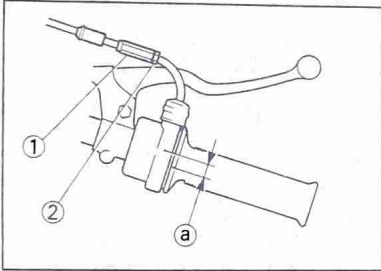
Free play: 2 ~ 5 mm (0.08 ~ 0.20 in)

2. Adjust

- a. Loosen the locknut.
- b. Turn the adjuster in or out until the correct free play is obtained.
- c. Tighten the locknut.

NOTE:

Before adjusting the throttle cable free play, the engine idling speed should be adjusted.



1. Adjuster
2. Locknut
a. Free play

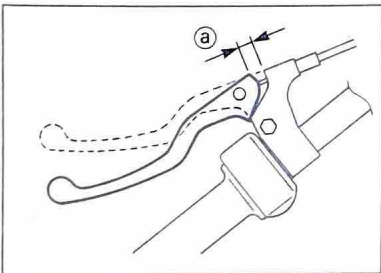
J. Clutch adjustment

The clutch should be adjusted to suit the rider's preference within specified free play at the clutch lever pivot.

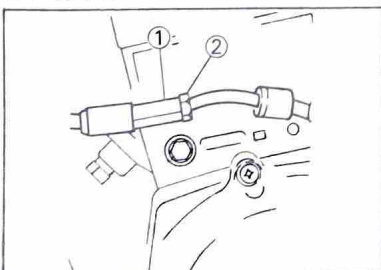
Adjustment is made at two places, though normally the adjustment is required only at the lever holder.

Free play (a):
2 ~ 3 mm (0.08 ~ 0.12 in)

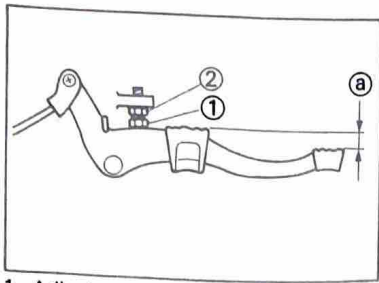
1. Loosen the locknut.
2. Turn the adjuster in or out until the adjustment is suitable.
3. Tighten the locknut.



a. Free play



1. Adjuster
2. Locknut



1. Adjuster
 2. Locknut
- a. Pedal position

K. Rear brake pedal position adjustment

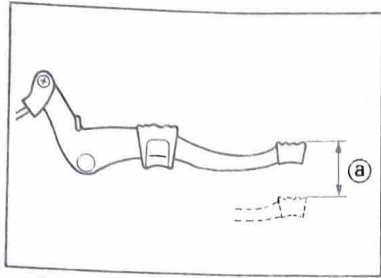
The rear brake pedal position should be adjusted to suit the rider's preference within the specified position at the end of the brake pedal.

Brake pedal position (a):
20 mm (0.8 in)

WARNING:

After adjusting the pedal position, the brake pedal free play should be adjusted.

1. Loosen the locknut.
2. Turn the adjuster in or out until the adjustment is suitable.
3. Tighten the locknut.



- a. Free play

L. Rear brake adjustment

The rear brake should be adjusted to suit the rider's preference within specified free play at the end of the brake pedal.

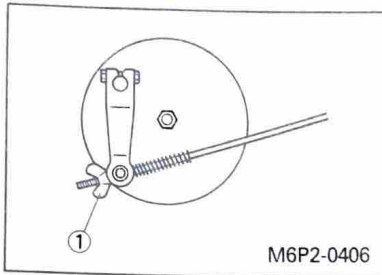
Adjustment is made at the brake shoe plate.

Free play (a):
20 ~ 30 mm (0.8 ~ 1.2 in)

1. Turn the adjuster on the brake rod clockwise to reduce the play or counterclockwise to increase the play, until the adjustment is suitable.

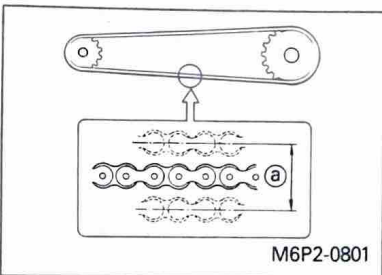
WARNING:

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



1. Adjuster

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- a. Chain slack

M. Drive chain slack

1. Check

NOTE:

Before checking the drive chain slack, rotate the rear wheel several turns and check slack at several points to find the tightest point. Check the chain slack with the rear wheel in this "tightest" position.

- a. Place the machine on a level place.

Check slack:
40 ~ 50 mm (1.6 ~ 2.0 in)

NOTE:

Be sure the machine is positioned straight up without an operator on it when checking the chain slack.

2. Adjust

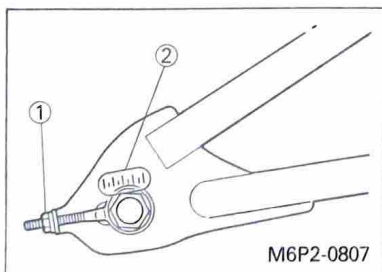
- a. Loosen the rear brake adjuster.
- b. Loosen the rear wheel axle nut.
- c. To loosen the chain, turn the adjuster counter-clockwise and push the wheel forward.

NOTE:

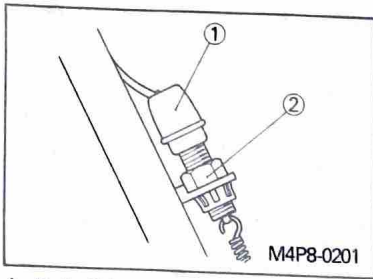
Turn each adjuster exactly the same amount to maintain correct axle alignment.

- d. Tighten the rear axle nut.
- e. Adjust the brake pedal free play.

Tightening torque:
60 Nm (6.0 m·kg, 43 ft·lb)



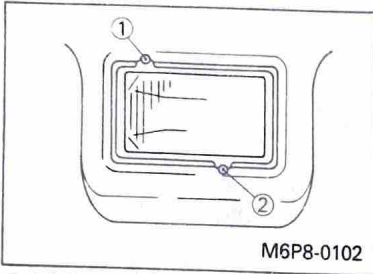
1. Adjuster
2. Mark for alignment



1. Brake light switch
2. Adjuster

N. Brake light switch

1. Check
 - a. Proper adjustment is achieved when the brake light comes on just before the brake begins to take effect.
2. Adjust
 - a. Turn the adjuster in or out until the adjustment is suitable.



1. Horizontal adjusting screw
2. Vertical adjusting screw

O. Headlight beam adjustment

When necessary, adjust the headlight beam as follows:

1. Horizontal adjustment:

To adjust the beam to the left, turn the adjusting screw clockwise.

To adjust the beam to the right, turn the screw counterclockwise.
2. Vertical adjustment:

To raise the beam, turn the adjusting screw clockwise.

To lower the beam, turn the screw counterclockwise.

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APPENDICES

SERVICE DATA

Model		DT50U	
Engine idling speed:		1,300 r/min	
Spark plug: Type Gap		B8ES (N.G.K.) 0.7 ~ 0.8 mm (0.028 ~ 0.031 in)	
Fuel: Recommended fuel Fuel tank capacity: Total		Regular gasoline 8.5 L (1.9 Imp gal, 2.2 US gal)	
Tire pressure	Zero kg (Zero lb) ~ Maximum load (71 kg (157 lb))*	Front	Rear
		130 kPa (1.3 kg/cm ² , 18 psi)	130 kPa (1.3 kg/cm ² , 18 psi)

* Load is the total weight of cargo, rider passenger, and accessories.

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TORQUE SPECIFICATION CHART

Part to be tightened	Bolt/Nut size	Tightening torque		
		Nm	m•kg	ft•lb
Engine:				
Spark plug	M12	25	2.5	18
Drain bolt (Engine oil)	M35	20	2.0	14
Chassis:				
Front wheel axle and nut	M12 × 1.25	45	4.5	32
Rear wheel axle and nut	M12 × 1.25	60	6.0	43
Rear wheel sprocket	M8 × 1.25	20	2.0	14
Engine mounting:				
Front	M8 × 1.25	22	2.2	16
Rear	M10 × 1.25	53	5.3	38
Pivot shaft	M12 × 1.25	53	5.3	38
Handle crown and inner tube	M8 × 1.25	23	2.3	17
Handle crown and steering shaft	M10 × 1.25	40	4.0	29
Handlebar holder	M6 × 1.0	14	1.4	10
Ring nut (Steering shaft)	M25 × 1.0	8	0.8	5.8
Under bracket and inner tube	M10 × 1.25	33	3.3	24
Tension bar and rear arm	M8 × 1.25	18	1.8	13
Tension bar and brake shoe plate	M8 × 1.25	18	1.8	13

NOTE:

1. First, tighten the ring nut approximately 38 Nm (3.8 m•kg, 27 ft•lb) by using the torque wrench, then loosen the ring nut one turn.
2. Retighten the ring nut to specification.

STANDARD EQUIPMENT

No.	Part name	Q'ty
1	Owner's manual	1
2	Owner's tool kit*	1

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