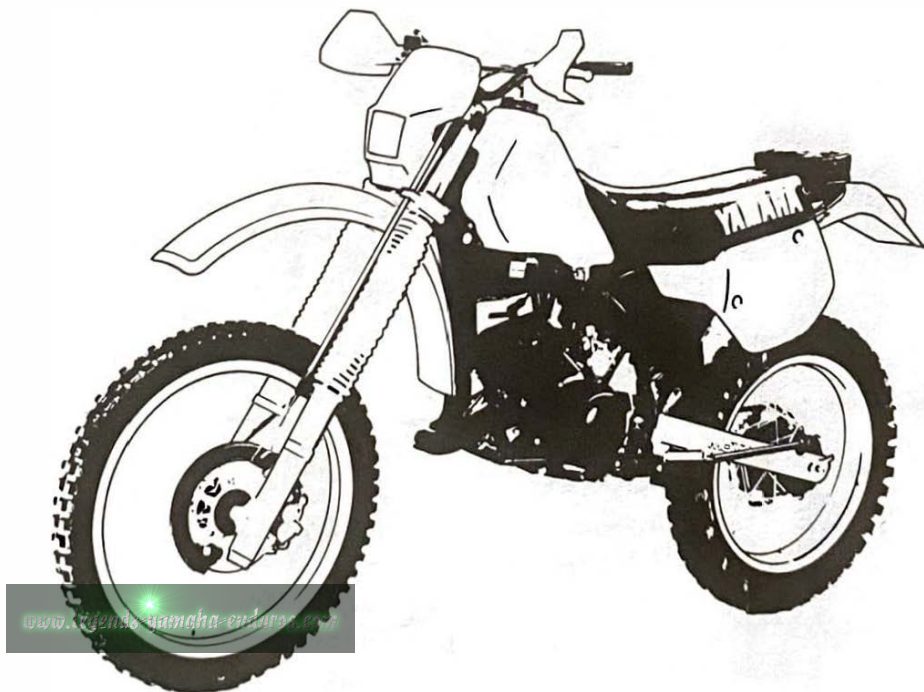




IT200S


ASSEMBLY MANUAL





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)

 : Front ward of the machine.

 : 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 machine.

D: Place where parts are held.

V: Stored in vinyl bag.

C: Stored in carton box.

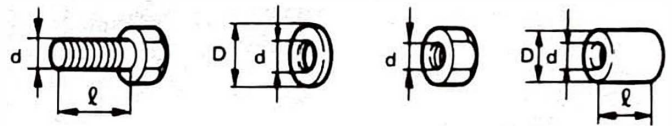
S: Fixed inside the crate and/or contained in the styrofoam tray (upper or lower).

*: 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)

www.legends-yamaha-enduros.com

IT200S

ASSEMBLY MANUAL

©1985 by Yamaha Motor Corporation, U.S.A.

1st edition, NOVEMBER 1985

All rights reserved. Any reprinting or unauthorized use without the written permission of Yamaha Motor Corporation, U.S.A., is expressly prohibited.

Printed in U.S.A.

P/N LIT-1666-05-15

FOREWORD

This Assembly Manual contains the information required to reassembly of the Yamaha machines correctly prior to delivery to the customer. Since some external parts of the machine 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 machine 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 machine 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:

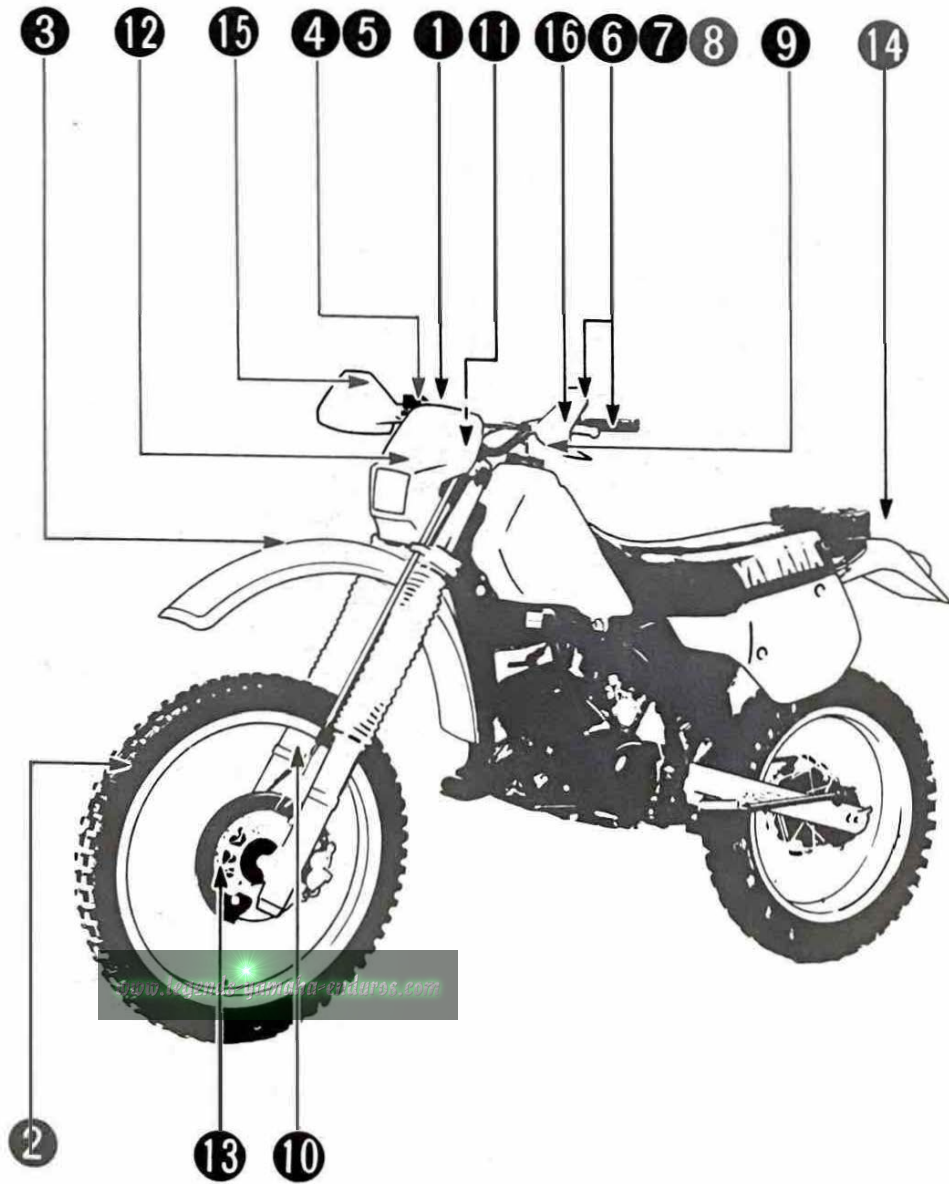
NOTE: A NOTE provides key information to make procedures easier or clearer.

CAUTION: A CAUTION indicates special procedures that must be followed to avoid damage to the machine.

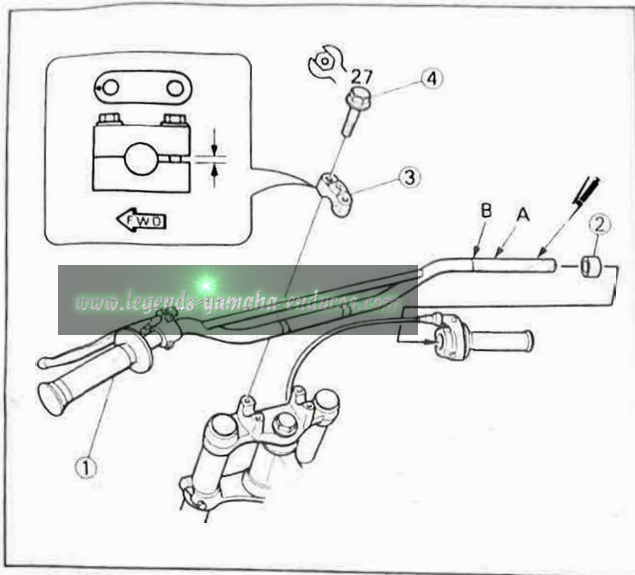
WARNING: A WARNING indicates special procedures that must be followed to avoid injury to a machine operator or person inspecting or repairing the machine.

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

SETUP PROCEDURES



1. Handlebar



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

- A: Clean the right handlebar end. Apply the light coat grease.
 B: Before inserting the handlebar into the throttle grip, make sure the collar is installed.

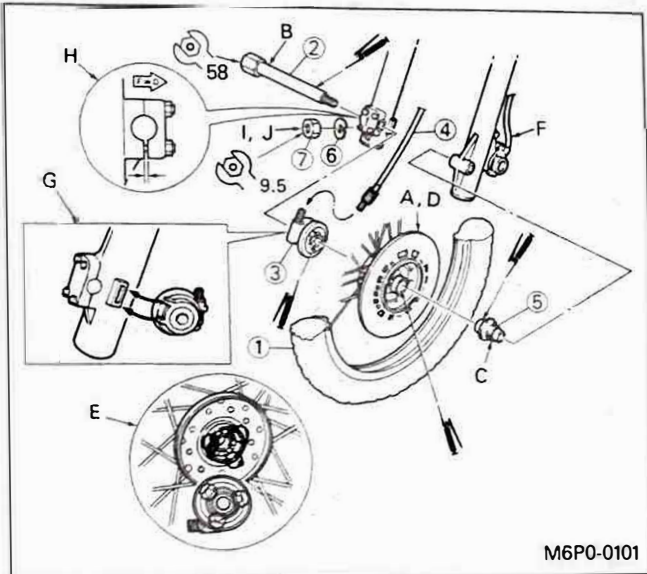
WARNING:

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

NOTE:

The throttle cables should not be twisted, and make certain the throttle grip rotates on the handlebar freely, without binding.

2. Front wheel



1	Front wheel	1	S	
2	Front wheel axle	1	*	d = 15 (0.59)
3	Speedometer gear unit	1	S	
4	Speedometer cable	1	*	
5	Collar	1	V	
6	Spring washer	4	*	d = 6 (0.24)
7	Hexagon nut	4	*	d = 6 (0.24)

- A: Clean the brake disc.
 B: Clean the front wheel axle.
 C: Clean the collar.

D: WARNING:

Take care not to put grease on the brake disc or inner surface of the brake pads. If you do so, clean using a rag dampened with a solvent. Foreign material on braking surface can cause impaired braking action.

- E: Make sure the three slots in the wheel hub are meshed with the three projections in the speedometer gear unit.

- F: Make sure there is an enough gap between the brake pads.

- G: Before tightening the front wheel axle, make sure the projection (torque stopper) on the front fork end is placed in the slot in the speedometer gear unit as shown.

- H: Make sure the arrow mark with the axle holder is pointed upward.

- I: Tighten the pinch nuts temporarily tightening the axle.

- J: Secure the wheel axle with the axle holder.

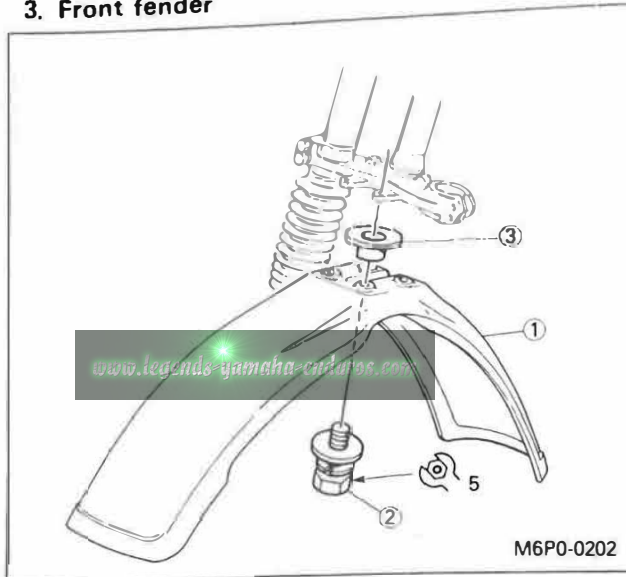
CAUTION:

First tighten the nuts on the upper side of the axle holder, and then tighten the nuts on the lower side.

NOTE:

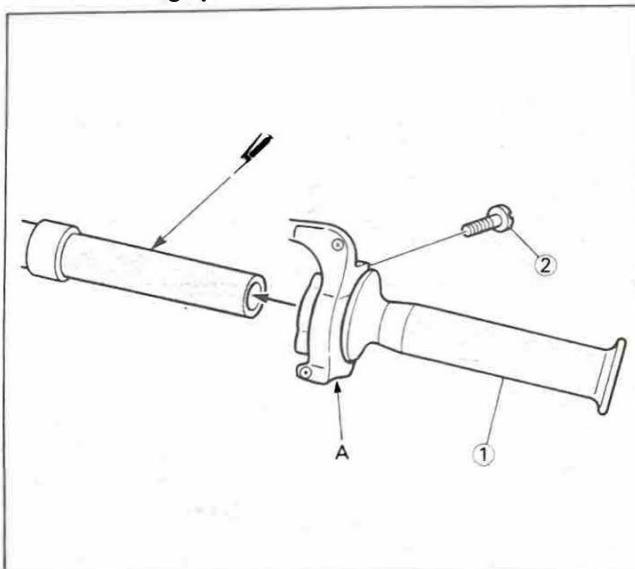
Do not depress the brake lever when the wheel is off the machine as the brake pads will be forced to shut.

3. Front fender



1	Front fender	1	S	
2	Hexagon bolt with spring washer and plain washer	4	V	d = 6 (0.24), l = 20 (0.78)
3	Collar	4	V	d = 6 (0.24)

4. Throttle grip

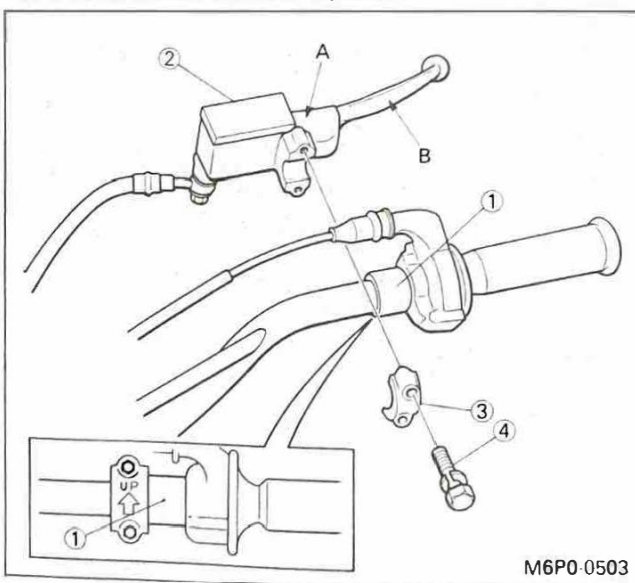


1	Throttle grip	1	*	
2	Panhead screw	2	*	d = 5 (0.20)

A: Slip the throttle grip over the right handlebar to the limit and slide it back about 2 mm (0.08 in).

WARNING:
CHECK THE THROTTLE GRIP FOR SMOOTH ACTION!

5. Front brake master cylinder



1	Collar	1	*	
2	Front brake master cylinder	1	*	
3	Master cylinder bracket	1	V	d = 6 (0.24), l = 25 (0.98)
4	Hexagon bolt with spring washer	2	V	

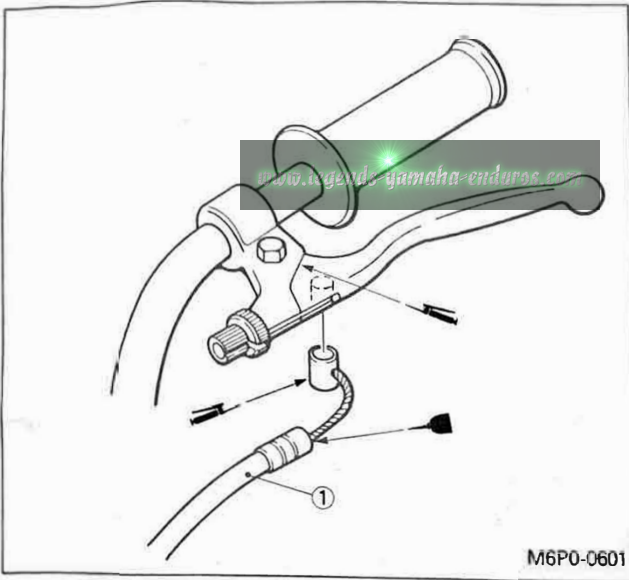
A: Lubricate the pivoting part of the brake lever.

Recommended lubricants:
Yamaha cable lube

B: Check the brake lever for smooth action.

WARNING:
Proper hose routing is essential to assure safe machine operation. REFER TO "CABLE ROUTING."

6. Clutch cable



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

A: Lubricate the pivoting part of the clutch lever.

Recommended lubricants:
Yamaha Cable Lube or motor oil

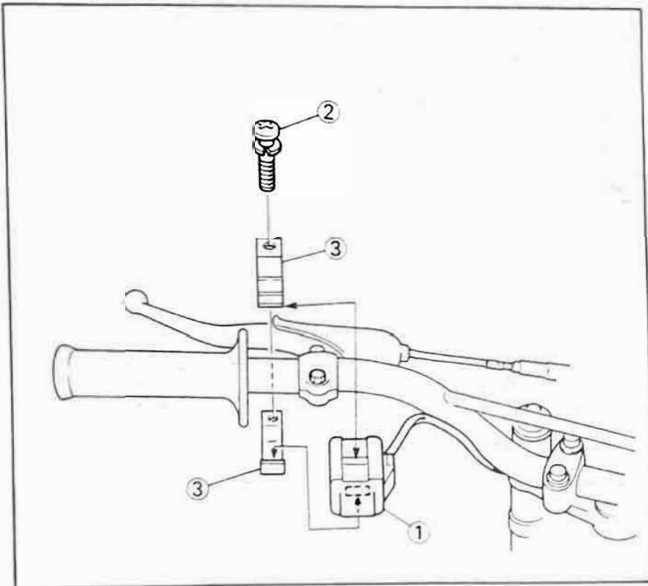
NOTE: Check the clutch lever for smooth motion. REFER TO "ADJUSTMENT AND PREDELIVERY SERVICE."

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

- a. 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.
- b. 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.

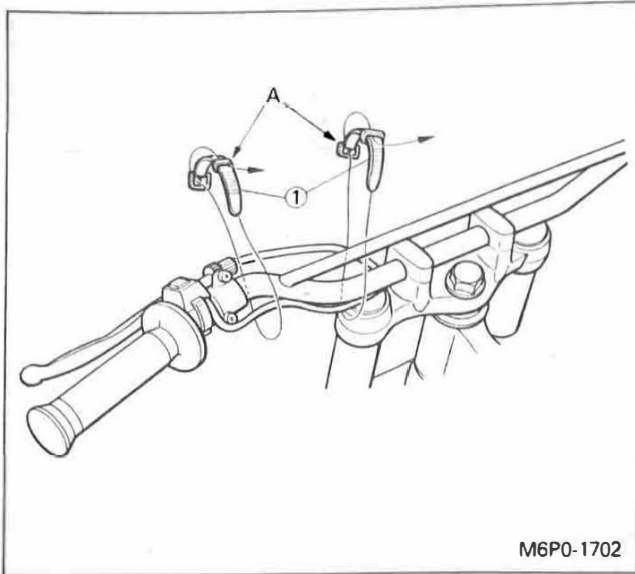
WARNING: Proper cable routing is essential to assure safe machine operation. REFER TO "CABLE ROUTING."

7. Engine stop switch



1	Engine stop switch	1	*	
2	Panhead screw with spring washer	1	V	d = 3 (0.12), l = 14 (0.55)
3	Engine stop switch holder (Upper and lower)	2	V	

8. Handlebar band

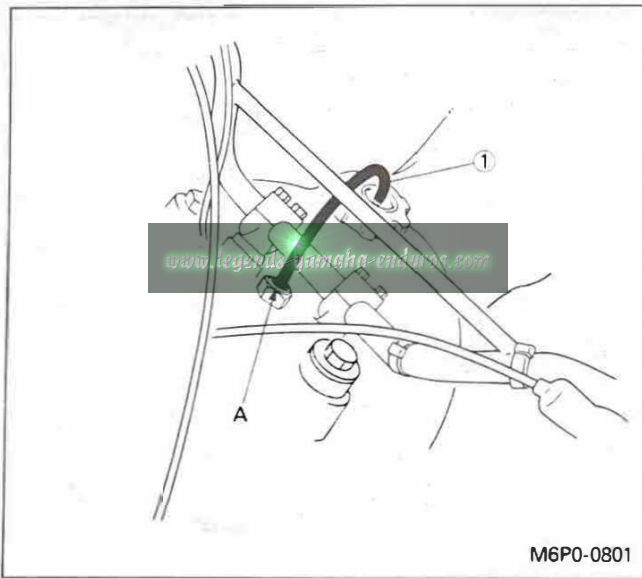


M6P0-1702

1	Handlebar band	2	V
---	----------------	---	---

A: Clamp the engine stop switch lead.

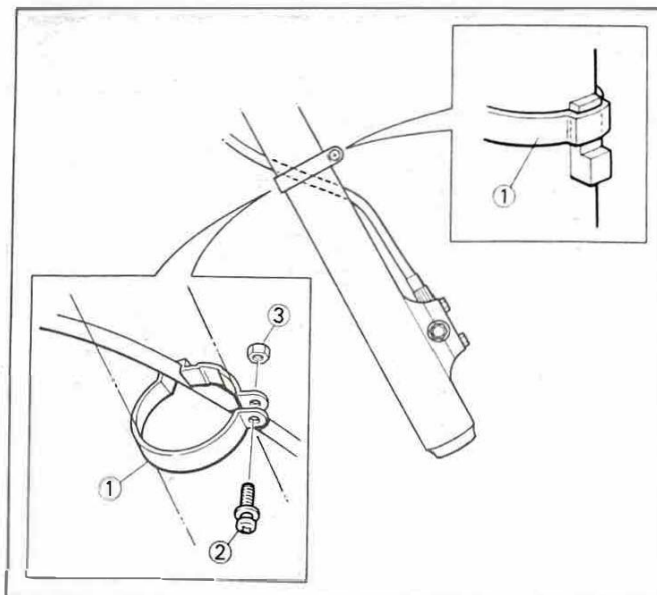
9. Fuel tank breather hose



M6P0-0801

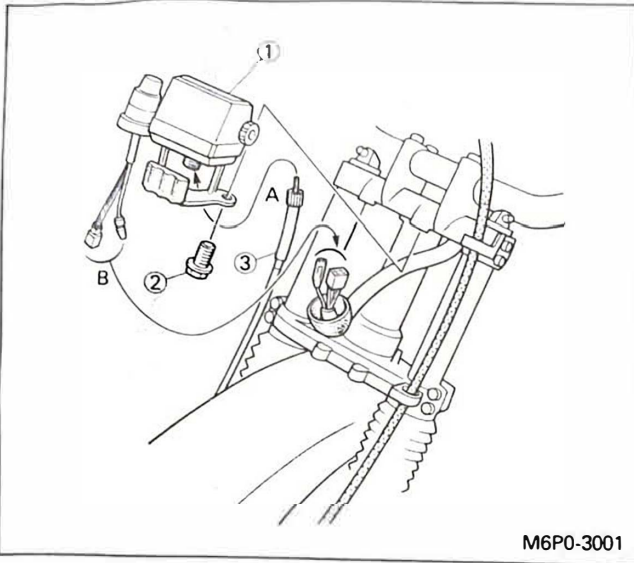
1	Fuel tank breather hose	1	C	Rubber Caoutchouc
---	-------------------------	---	---	-------------------

10. Cable holder



1	Cable holder	1	V	
2	Panhead screw with plain washer	1	V	d = 5 (0.20), l = 30 (1.17)
3	Hexagon nut	1	V	d = 5 (0.20)

11. Meter

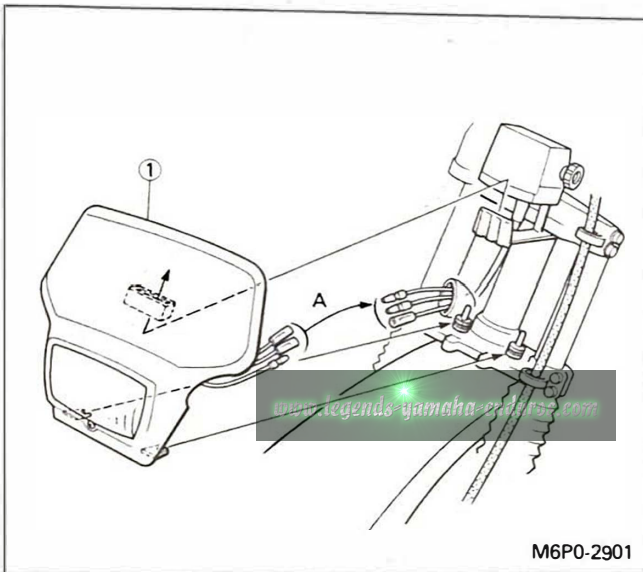


M6P0-3001

1	Meter	1	S	
2	Hexagon bolt with spring washer and plain washer	2	V	d = 6 (0.32), ℓ = 12 (0.47)
3	Speedometer cable	1	✳	

- A: Connect the speedometer cable to speedometer.
- B: Connect the meter leads to wireharness.

12. Headlight

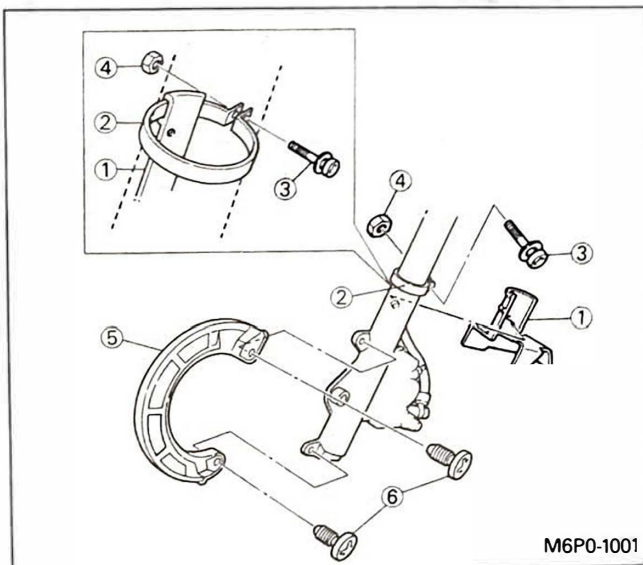


M6P0-2901

1	Headlight	1	S	
---	-----------	---	---	--

- A: Connect the Headlight lead to wireharness.

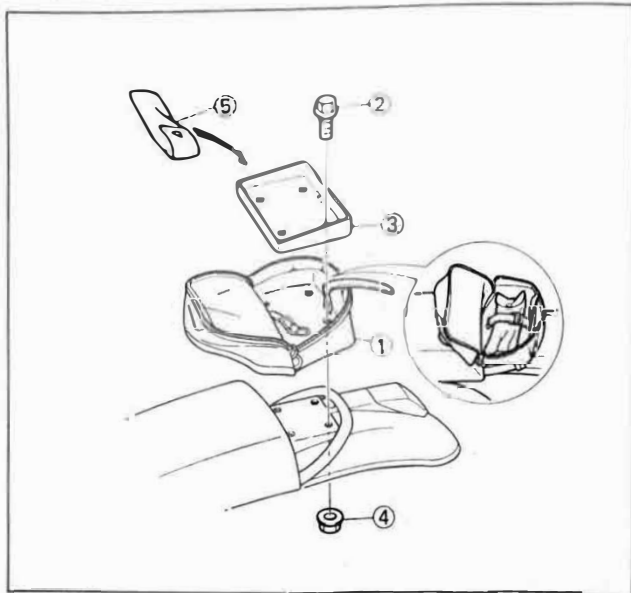
13. Brake disc cover



M6P0-1001

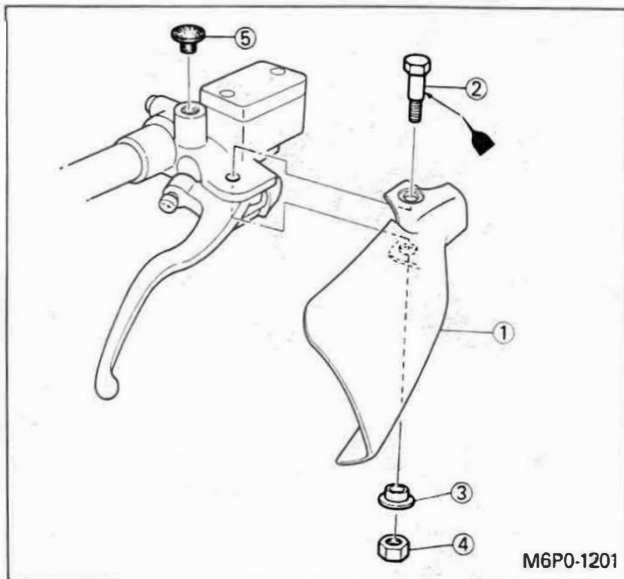
1	Brake disc cover 1	1	C	
2	Band	1	V	
3	Panhead screw with plain washer	1	V	d = 5 (0.20), ℓ = 16 (0.62)
4	Hexagon nut	1	V	d = 5 (0.20)
5	Brake disc	1	C	
6	Bind screw	2	V	d = 6 (0.24), ℓ = 15 (0.59)

14. Rear carrier



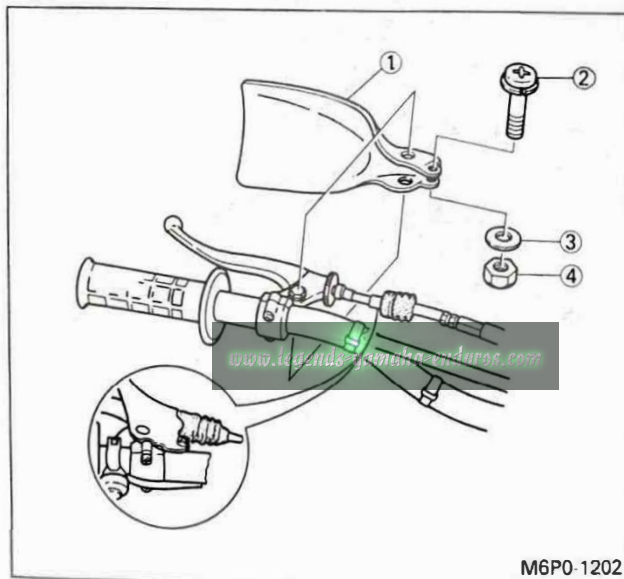
1	Rear carrier box	1	C	
2	Flange bolt	4	V	d = 6 (0.24), ℓ = 16 (0.63)
3	Rear carrier bracket	1	C	
4	Flange-U nut	4	V	d = 6 (0.24)
5	Tool kit	1	C	

15. Brush guard (Right)



1	Brush guard (Right)	1	C	
2	Hexagon bolt	1	*	d = 6 (0.24)
3	Collar	1	V	d = 6 (0.24)
4	Hexagon nut	1	*	d = 6 (0.24)

16. Brush guard (Left)

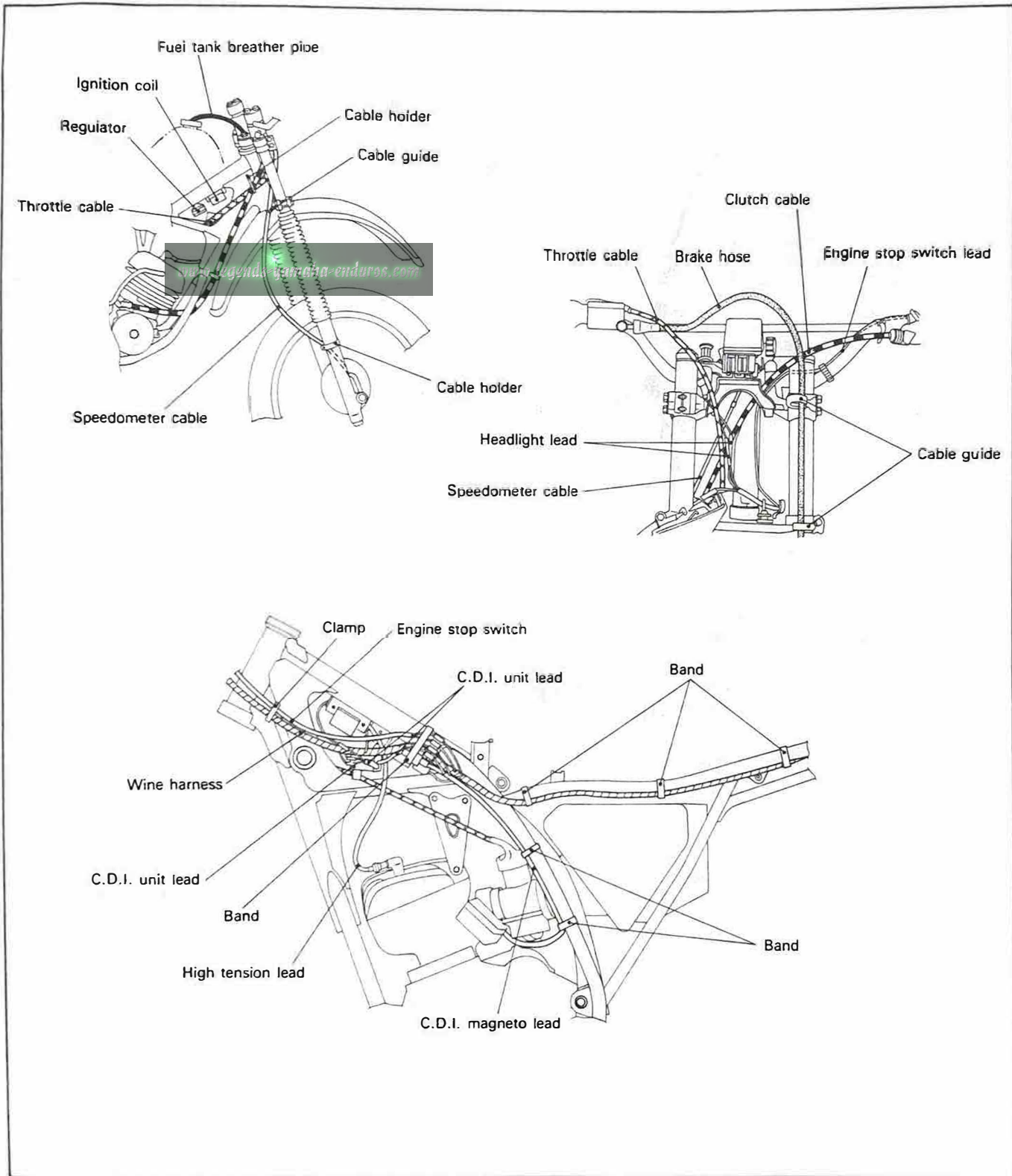


1	Brush guard (Left)	1	C	
2	Panhead screw with plain washer	1	V	d = 6 (0.24), ℓ = 16 (0.63)
3	Plain washer	1	V	d = 6 (0.24)
4	Hexagon nut	1	V	d = 6 (0.24)

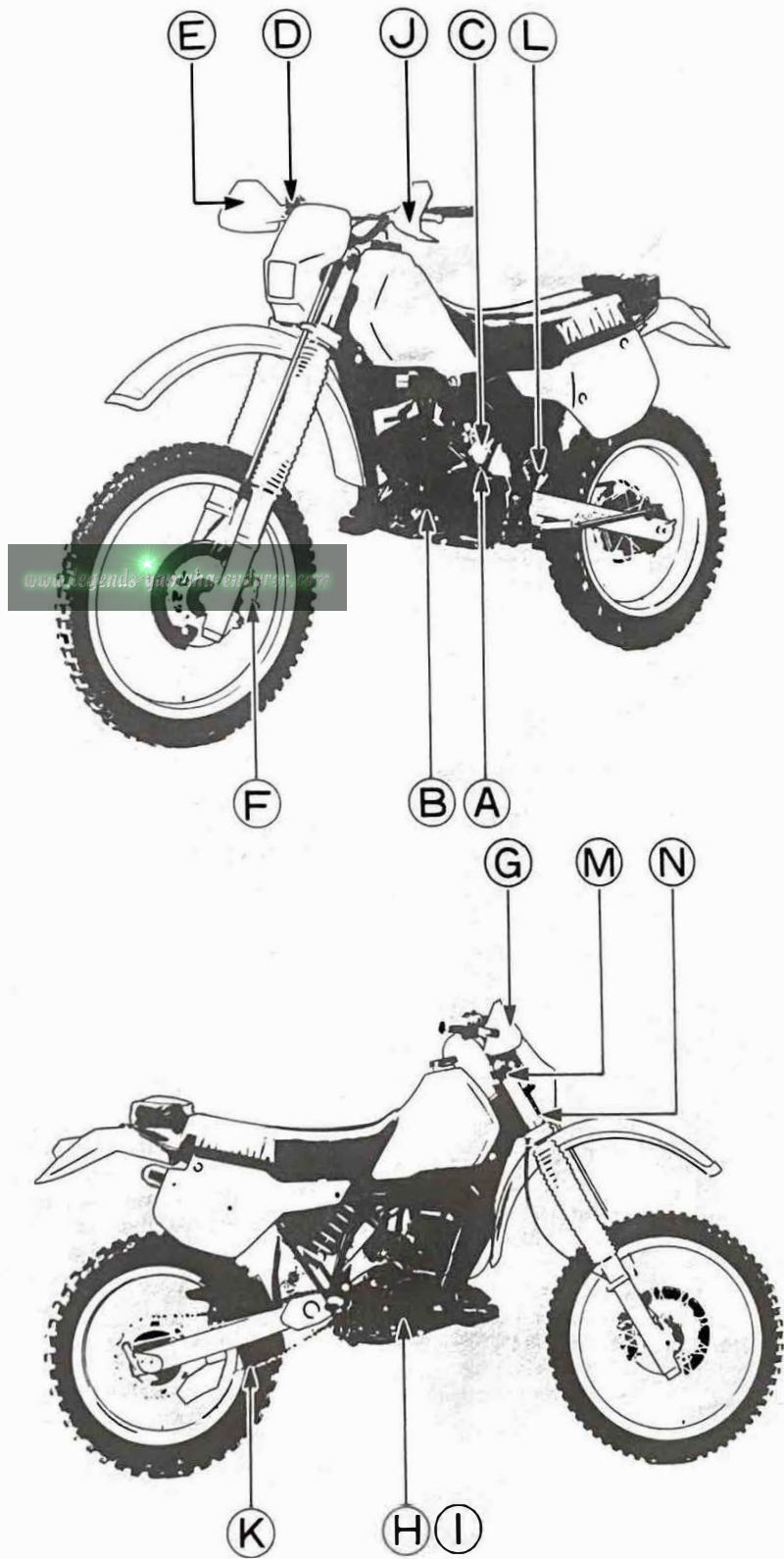
CABLE ROUTING

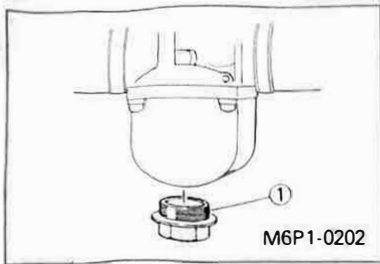
CAUTION:

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



ADJUSTMENT AND PREDELIVERY SERVICE





1. Drain plug

A. Fuel draining

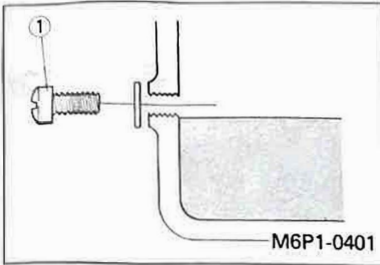
1. Turn the fuel cock to "OFF".
2. Put a rag under the carburetor so fuel does not contact the crankcase.
3. Loosen the drain plug and drain the standing fuel.

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.

4. Retighten the drain plug securely.



1. Checking bolt

B. Transmission oil level

1. Check
 - a. Place the machine on a level place.
 - b. Warm up the engine for a few minutes.
 - c. Stop the engine.
 - d. Remove the checking bolt.
 - e. The oil level is satisfactory if it is up to the hole bottom brim.

2. Adjust

To increase oil level, add the oil to proper level.

Recommended oil:

SAE 10W30 type SE motor oil or
Yamalube 4-Cycle oil

Oil capacity (Periodic change)

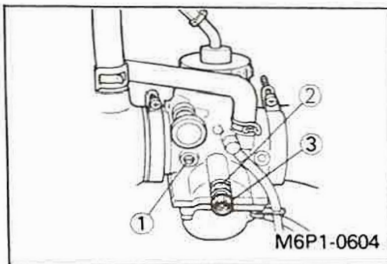
0.7 L (0.62 Imp qt, 0.74 US qt)

NOTE:

Be sure the machine is positioned straight up when checking the oil level.

CAUTION:

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



1. Pilot air screw
2. Locknut
3. Throttle stop screw

C. Idle Speed

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

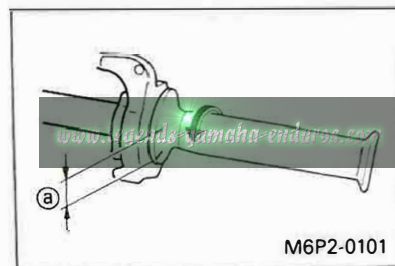
Engine idle speed: As desired

2. Adjust
 - a. Screw in the pilot air screw ① until it is lightly seated.
 - b. Back out by specified number of turns.

Pilot air screw:

3/4 turns out

- c. Loosen the locknut ② on the throttle stop screw ③ and turn the screw until the idle is at the desired rpm.
- d. Turn the pilot screw ① in or out in 1/8 turn increments to achieve the highest rpm with just the pilot screw.
- e. Once again, turn the throttle stop screw ③ to attain the desired idle rpm, and tighten the locknut ②.



a. Free play

D. Throttle grip free play

1. Check

Free play:
3 - 5 mm (0.12 ~ 0.20 in)

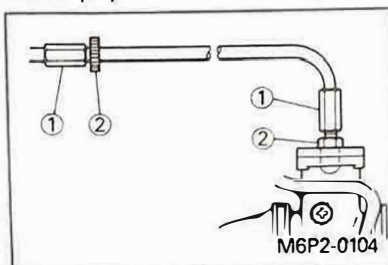
2. Adjust
 - a. Loosen the locknut.
 - b. Turn the adjuster in or out until the adjustment is suitable.
 - c. Tighten the locknut.

NOTE:

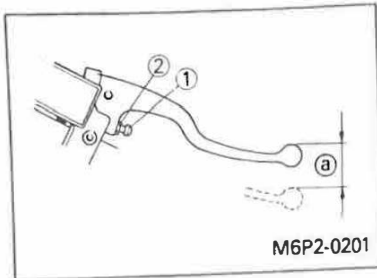
- Before adjusting the throttle cable free play, the engine idling speed should be adjusted.
- After adjustment, start the engine and check throttle operation. Turn the handlebars from lock to lock and note if the engine speeds up; if it does, the cable adjustment is too tight and must be readjusted.

CAUTION:

After adjusting, turn the handlebar to right and left and make sure the engine idling does not run faster.



1. Adjuster
2. Locknut



1. Adjuster
2. Locknut
- a. Free play

E. Front brake lever free play

1. Check

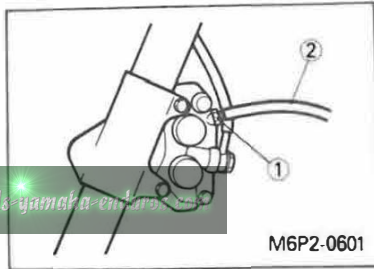
Free play:
10~20 mm (0.4~0.8 in)

2. Adjust
 - a. Loosen the locknut.
 - b. Turn the adjuster in or out until the adjustment is suitable.
 - c. Tighten the locknut.

NOTE: _____
Make sure the brake is working properly.

WARNING: _____

A soft or spongy feeling in the brake lever can indicate the presence of air in the brake system. This air must be removed by bleeding the brake system before the machine is operated. Air in the system will result in greatly diminished braking capability and can result in loss of control and an accident. Inspect and bleed the system if necessary.



1. Bleed screw
2. Transparent hose

F. Bleeding the brake system (Front brake)

WARNING: _____

Bleed the brake system if:

- The system has been disassembled.
- A brake hose has been loosened or removed.
- The brake fluid is very low.
- The brake operation is faulty.

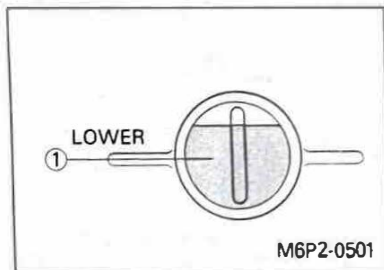
A dangerous loss of braking performance may occur if the brake system is not properly bled.

Air bleeding steps:

- a. Add proper brake fluid to the reservoir.
- b. Install diaphragm.
Be careful not to spill any fluid or allow the reservoir to over flow.
- c. Connect the clear plastic hose (4.5 mm, 3/16 in inside dia.) tightly to the caliper bleed screw ①.
- d. Place the other end of the tube into a container.

- e. Slowly apply the brake lever several times.
- f. Pull the lever and hold the lever in "ON" position.
- g. Loosen the bleed screw and allow the lever to travel towards its limit.
- h. Tighten the bleed screw when the lever or pedal limit has been reached; then release the lever.
- i. Repeat steps (e) to (h) until all of the air bubbles have been removed from the system.

NOTE: _____
If bleeding is difficult, it may be necessary to let the brake fluid system stabilize for a few hours. Repeat the bleeding procedure when the tiny bubbles in system have disappeared.



1. "LOWER" level

G. Brake fluid level

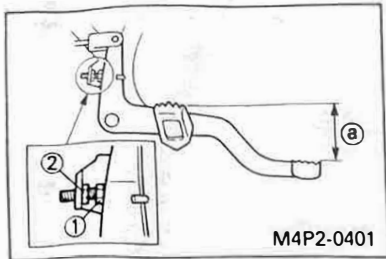
1. Check
The brake fluid level is satisfactory if it is over the "LOWER" level.
2. Adjust
To increase brake fluid level, add the brake fluid to proper level.

Recommended brake fluid:
DOT #3

NOTE: _____
Check the operation of the brake after refilling with the brake fluid.

WARNING: _____

- Use only designated quality brake fluid to avoid poor brake performance.
- Refill with same type and brand of brake fluid; mixing fluids could result in poor brake performance.
- Be sure that water or other contaminants do not enter master cylinder when refilling.
- Clean up spilled fluid immediately to avoid erosion of painted surfaces or plastic parts.



M4P2-0401

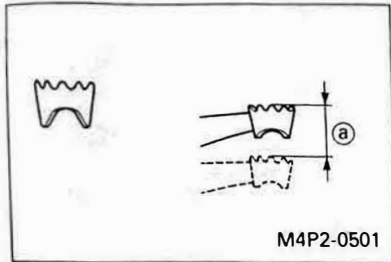
1. Adjuster
2. Locknut
- a. Pedal position

H. Rear brake pedal position

1. Check

Brake pedal position:
0 ~ 10 mm (0 ~ 0.39 in)

2. Adjust
 - a. Loosen the locknut
 - b. Turn the adjuster in or out until the adjustment is suitable.
 - c. Tighten the locknut



M4P2-0501

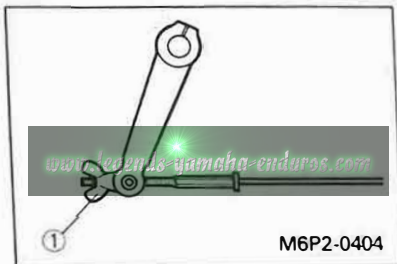
- a. Free play

I. Rear brake pedal free play

1. Check

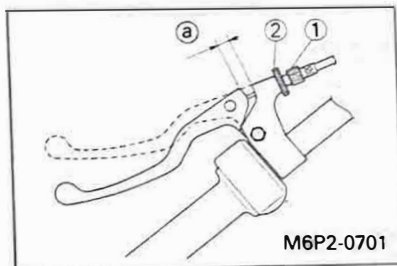
Free play:
20 ~ 30 mm (0.8 ~ 1.2 in)

2. Adjust
 - a. Turn the adjuster in or out until the adjustment is suitable.



M6P2-0404

1. Adjuster



M6P2-0701

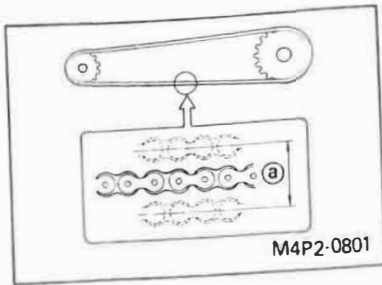
1. Adjuster
2. Locknut
- a. Free play

J. Clutch lever free play

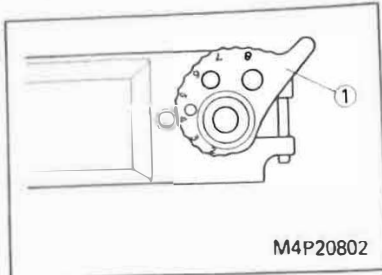
1. Check

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

2. Adjust
 - a. Loosen the locknut.
 - b. Turn the adjuster in or out until the adjustment is suitable.
 - c. Tighten the locknut.



a. Chain slack



1. Chain puller

K. 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.

Chain slack:
30 ~ 35 mm (1.2 ~ 1.4 in)

CAUTION:

Too small chain slack will overload the engine and other vital parts; keep the slack within the specified limits.

NOTE:

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

2. Adjust

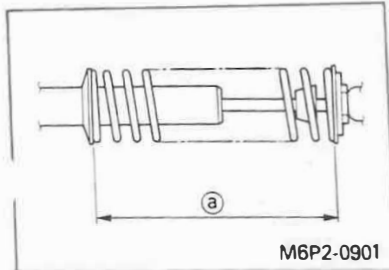
- a. Loosen the rear brake adjuster
- b. Loosen the rear wheel axle nut.
- c. Turn the chain puller both left and right, until axle is situated in same puller slot position on each side.
- d. Tighten the rear axle nut.

Axle nut torque:
85 Nm (8.5 m·kg, 61 ft·lb)

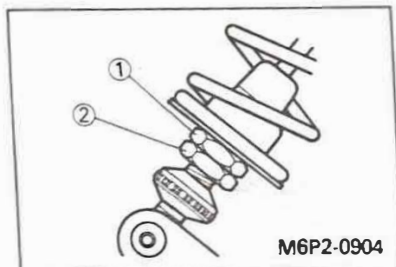
- e. Adjust the free play in the brake pedal.

WARNING:

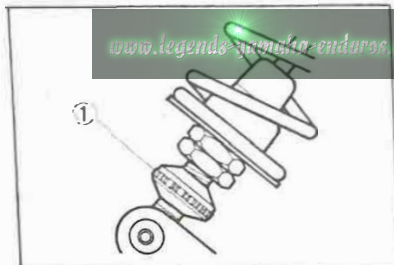
Check the operation of the brake light after adjusting the rear brake.



a. Installed length



1. Adjuster
2. Locknut



1. Adjuster

L. Rear shock absorber

1. Check

Installed length (STD SETTING):
260 mm (10.24 in)
Rebound damping (STD SETTING):
8 clicks turns out

NOTE:

When checking the installed length, place a suitable stand under the engine to keep the rear wheel raised off the floor. No weight on rear wheel.

2. Adjust

- Spring preload
- a. Loosen the locknut.
 - b. Turn the adjuster in or out until the adjustment is suitable.
 - c. Tighten the locknut.

Tightening torque:
55 Nm (5.5 m·kg, 40 ft·lb)

NOTE:

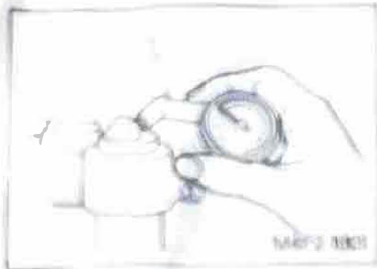
When adjusting, use the special wrench which is included in the owner's tool kit.

- Rebound damping

- a. Turn in the adjuster stiffest position.
- b. Turn out the adjuster 8 clicks from the stiffest position.

CAUTION:

Don't turn out the adjuster more than 25 clicks from the adjuster position.



1 Air check gauge

M. Front fork air pressure

- 1 Check
 - a. Place a suitable stand under the engine to keep the front of machine raised off the floor. No weight on front wheel.
 - b. Use an air check gauge.

Standard air pressure:

Zero kPa

(Zero kg/cm² Zero psi)

Maximum air pressure:

285 kPa

(2.5 kg/cm² 35.8 psi)

2 Adjust

- To decrease air pressure

Release air by pushing valve pin



1 Vertical adjusting screw

N. Headlight beam adjustment

Vertical adjustment

To raise the beam, turn the adjusting screw clockwise.

To lower the beam, turn the screw counterclockwise.

APPENDICES

SERVICE DATA

Idling engine speed:	As desired	
Spark plug: Type	N-86, N-86G, N-2G, N-2C (CHAMPION), B8EG, B8EGV (NGK)	
Gap	0.5 – 0.6 mm (0.020 ~ 0.024 in)	
Fuel: Recommended fuel	Premium fuel with an octane rating of at least 90	
Fuel tank capacity	11.0 L (2.42 Imp gal, 2.91 US gal)	
Engine oil: Recommended oil, Mixing ratio:	Yamalube Racing 2-cycle oil (24 : 1) Castrol R30 (20 : 1) A545 (20 : 1) A747 (20 : 1)	
Tire pressure (Cold tire pressure):	Front	Rear
	98 kPa (1.0 kg/cm ² , 14 psi)	98 kPa (1.0 kg/cm ² , 14 psi)

TIGHTENING TORQUE

Parts to be tightened	Thread size	Tightening torque		
		Nm	m•kg	ft•lb
Engine:				
Spark plug	M14 × 1.25	20	2.0	14
Mission oil drain bolt	M12 × 1.5	20	2.0	14
Chassis:				
Front wheel axle	M14 × 1.5	60	6.0	43
Axle holder	M6 × 1.5	10	1.0	7.2
Handle crown -Inner tube	M8 × 1.25	23	2.3	17
-Steering shaft	M22 × 1.0	85	8.5	61
-Handle holder	M8 × 1.25	23	2.3	17
Under bracket-Inner tube	M8 × 1.25	23	2.3	17
Steering nut	M25 × 1.0	10	1.0	7.2
Brake disc	M6 × 1.0	12	1.2	9
Caliper bolt	M8 × 1.25	23	2.3	17
Caliper bracket	M8 × 1.25	30	3.0	22
Engine mount -Front, Frame	M8 × 1.25	34	3.4	24
-Front, Engine	M8 × 1.25	30	3.0	22
-Lower	M8 × 1.25	30	3.0	22
-Rear, Upper	M8 × 1.25	30	3.0	22
-Rear, Engine head	M10 × 1.25	65	6.5	47
Rear wheel axle	M16 × 1.5	85	8.5	61
Sprocket wheel -Hub	M8 × 1.25	30	3.0	22
Rear shock -Frame	M10 × 1.25	30	3.0	22
Pivot axle	M16 × 1.5	85	8.5	61
Brake cam lever	M6 × 1.0	10	1.0	7.2
Relay arm -Swingarm	M12 × 1.25	60	6.0	43
-Rear shock	M10 × 1.25	30	3.0	22
-Connection rod	M10 × 1.25	30	3.0	22
Frame -Connecting rod	M10 × 1.25	60	6.0	43

www.legends-yamaha-enduros.com



YAMAHA MOTOR CO., LTD.

IWATA JAPAN

PRINTED IN U.S.A.