YAMAHA

RT100A

ASSEMBLY MANUAL

LIT-11666-07-35

3UL-28107-10

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.

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

⚠ The Safety Alert Symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

⚠WARNING Failure to follow WARNING instructions could result in severe injury or death to the machine operator, a bystander, or a person inspecting or repairing the machine.

CAUTION: A CAUTION indicates special precautions that must be taken to avoid damage to the machine.

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

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

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)

FWD : Front ward of the vehicle.

: Provide a clearance.

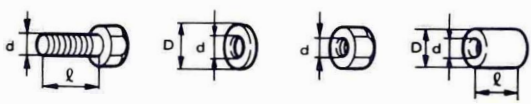
UP : Install so that the arrow mark faces upward.

: 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 vehicle.
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)

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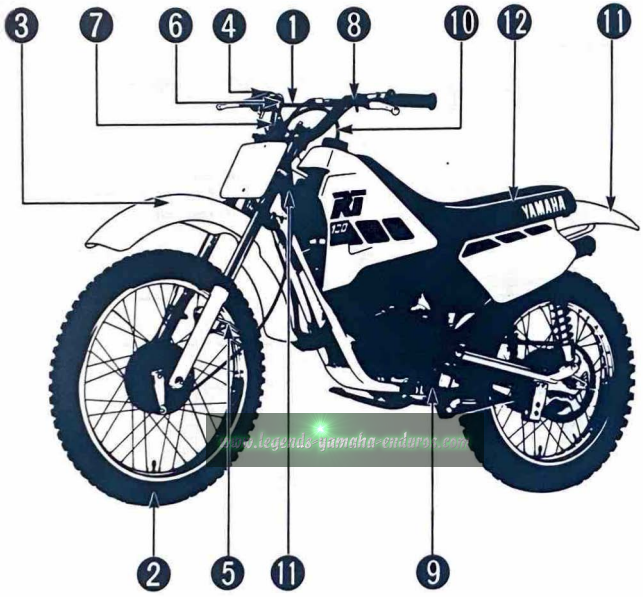
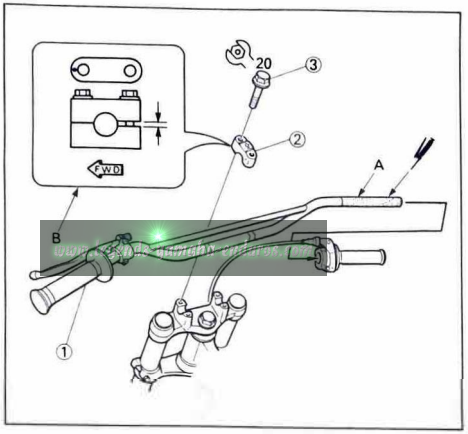


1. Handlebar



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

A: Clean the right handlebar end. Apply the light coat grease.

⚠WARNING

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

NOTE:

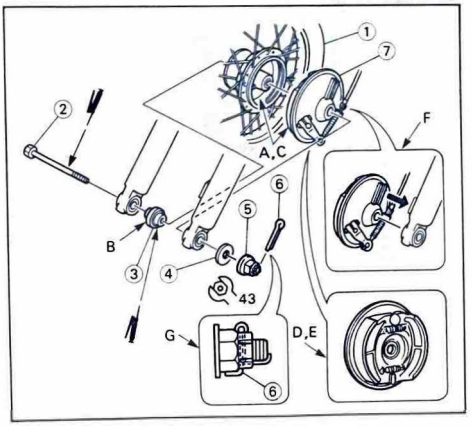
The throttle cables should not be twisted, and make certain the throttle grip rotates on the handlebar freely, without binding.

B: The handlebar holder should be installed with the punched 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	Collar	1	V	
4	Plain washer	1	✻	d = 12 (0.47)
5	Castle nut	1	✻	
6	Cotter pin	1	V	
7	Brake shoe plate	1	S	

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.

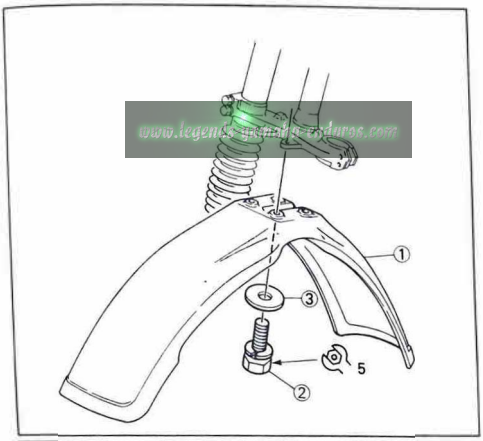
D: Make sure the brake shoes and springs are correctly installed in the shoe plate assembly. If any one of them is out of position, correct per the figure.

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.

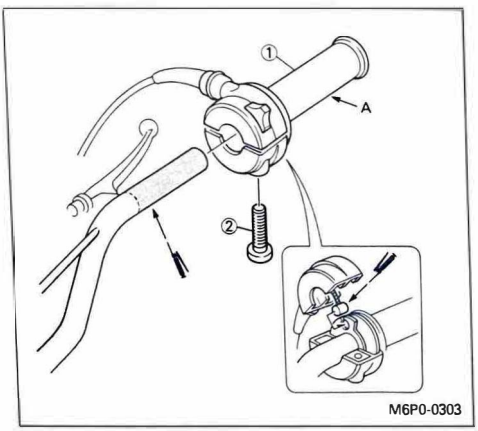
G: Bend the ends of the cotter pin.

3. Front fender



1	Front fender	1	S	
2	Hexagon bolt with spring washer	4	V	d = 6 (0.24), ℓ = 14 (0.55)
3	Plain washer	4	V	d = 6 (0.24)

4. Throttle grip



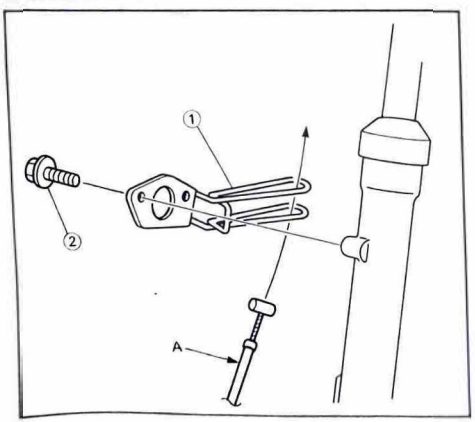
1	Throttle grip	1	*	
2	Panhead screw	2	*	d = 5 (0.20)

A: Slip the throttle grip over the right handlebar to the limit and slide it back about 1 mm (0.04 in).

⚠WARNING

CHECK THE THROTTLE GRIP FOR SMOOTH ACTION!

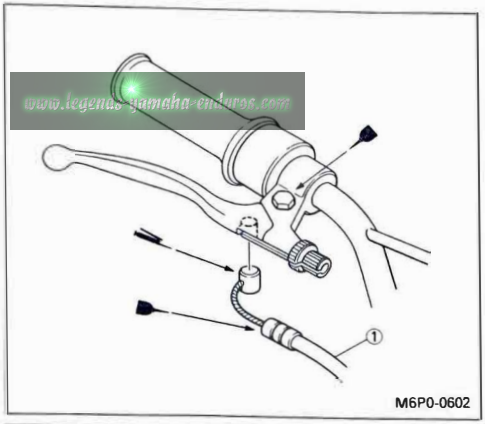
5. Cable holder



1	Cable holder	1	C	
2	Flange bolt	1	C	d = 6 (0.24), ℓ = 12 (0.47)

A: Pass the brake cable through the cable holder.

6. Brake cable



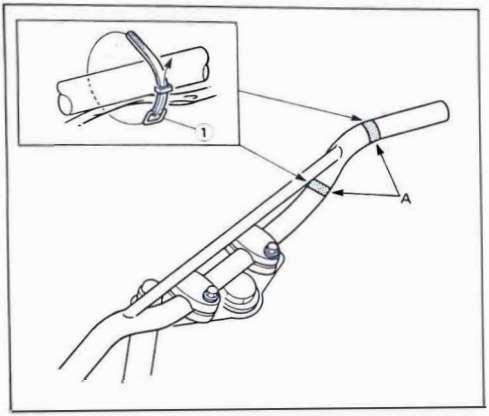
1	Brake cable	1	✻	

A: To install the brake 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.

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. Handlebar band

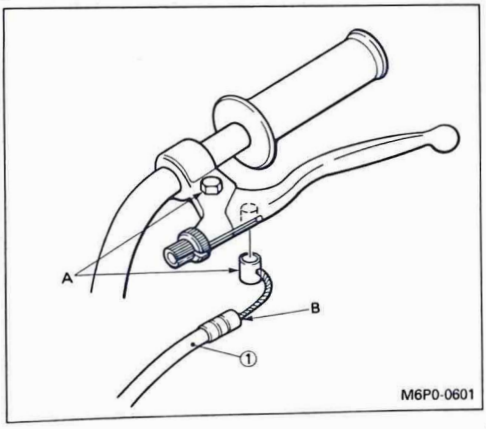


1	Handlebar band	2	V	

A: Secure the leads to the handlebar with the band.

NOTE:
REFER TO "CABLE ROUTING".

8. Clutch cable



1	Clutch cable	1	✻	

A: Lubricate the pivoting part of the clutch lever.

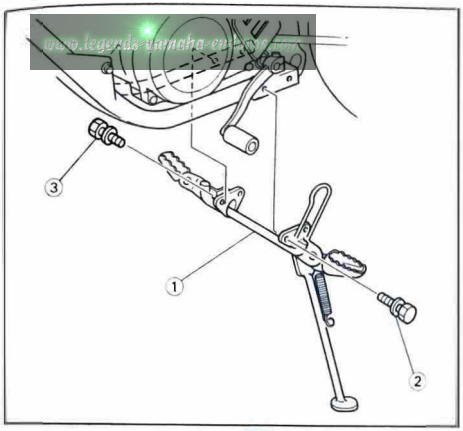
Recommended lubricants:
Yamaha Cable Lube or motor oil

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 seat the outer cable into the adjuster.

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

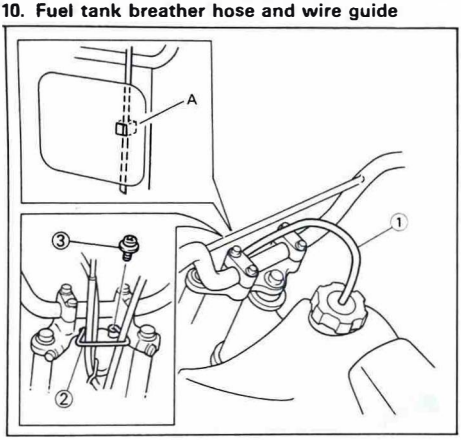
⚠WARNING
Proper cable routing is essential to assure safe machine operation. REFER TO "CABLE ROUTING".

9. Footrest



1	Footrest	1	S	
2	Hexagon bolt with spring washer	2	*	
3	Hexagon bolt with spring washer	2	V	

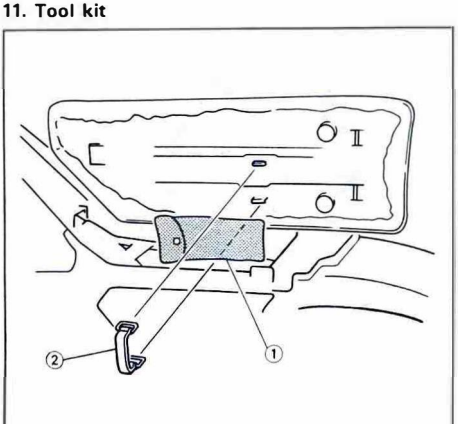
10. Fuel tank breather hose and wire guide



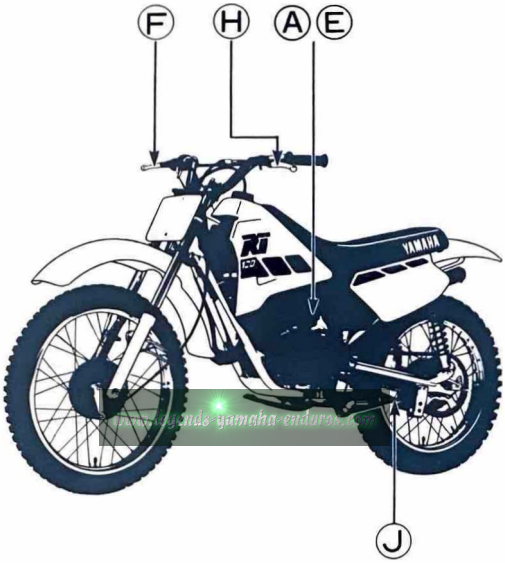
1	Fuel tank breather hose	1	S	Rubber
2	Wire guide	1	V	
3	Panhead screw with spring washer	1	V	

A: Connect one end of the breather hose to the fuel tank filer cap, and insert the other end into the number plate.

11. Tool kit



1	Tool kit	1	C	
2	Band	1	C	


F
H
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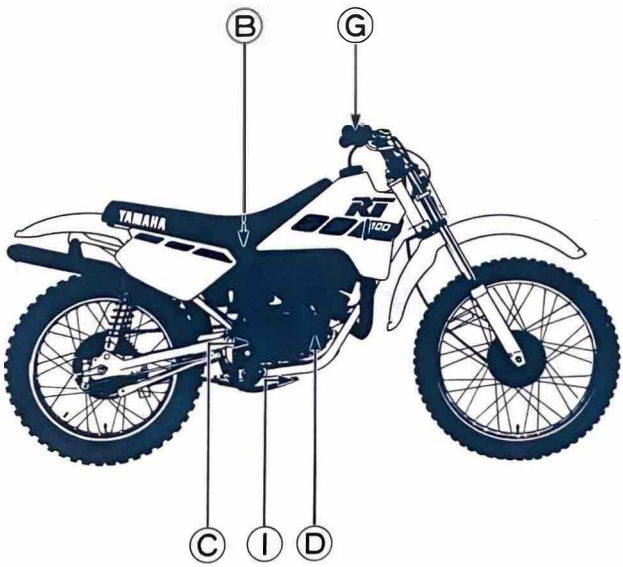
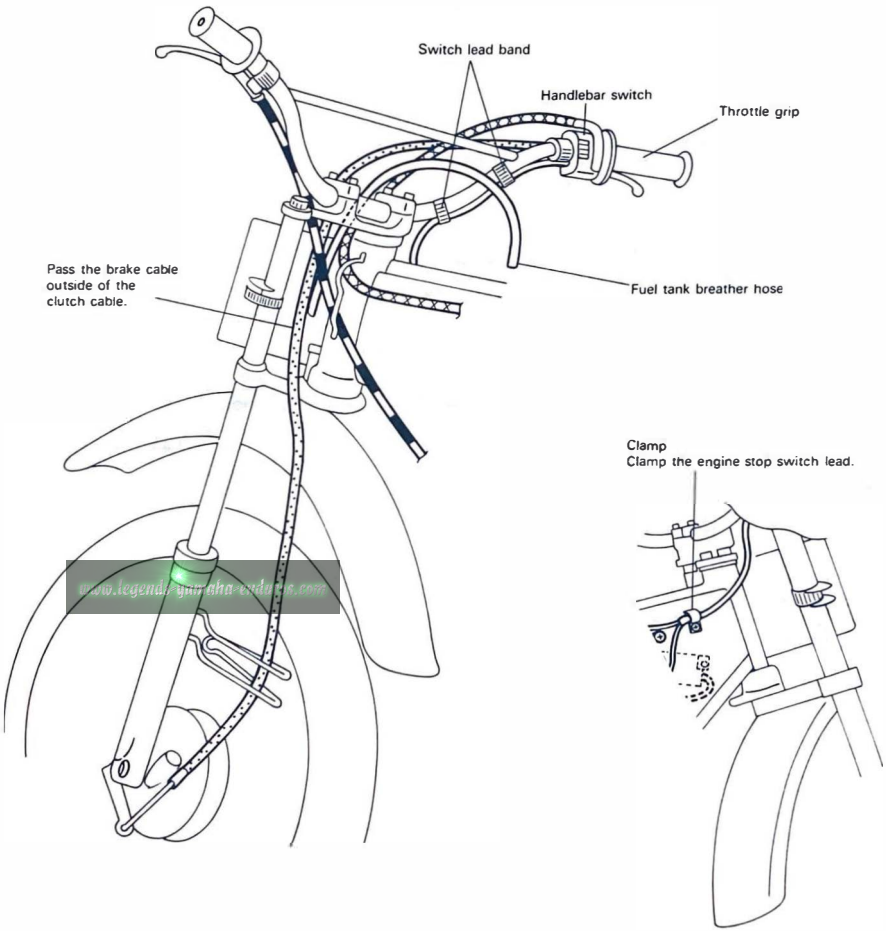
J

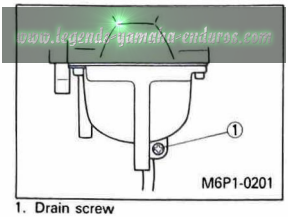

B
G
C
I
D

CABLE ROUTING

CAUTION:

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





1. Drain screw

A. Fuel draining

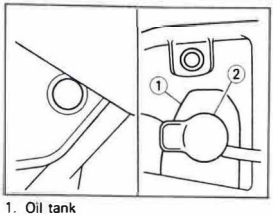
1. Put a rag under the carburetor drain hose so fuel does not contact the crankcase.
2. Loosen the drain screw and drain the standing fuel.

⚠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.**

3. Retighten the drain screw securely.

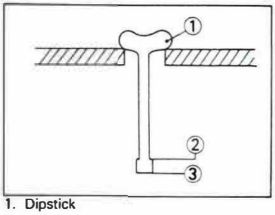


1. Oil tank
2. Oil cap

B. 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:
1.0 L (0.88 Imp qt, 1.06 US qt)



1. Dipstick
2. Maximum mark
3. Minimum mark

C. 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.

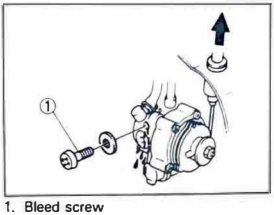
   b. Warm up the engine for a few minutes.
   c. Stop the engine.
   d. Remove the dipstick and then just rest the dipstick in the hole.

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

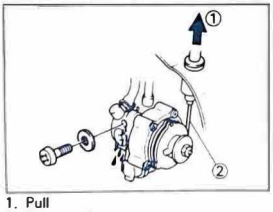
   e. The oil level is satisfactory, if it is between the maximum mark and minimum mark on the dipstick.
2. Adjust
   To increase oil level, add the oil to proper level.

Oil capacity (Periodic oil change):
0.65 L (0.57 Imp qt, 0.69 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

D. 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.

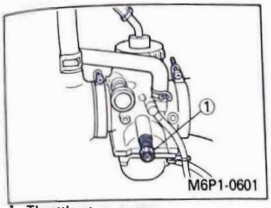
NOTE:
Check the bleed screw gasket, and if damaged, replace with a new one.

   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:
If 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.



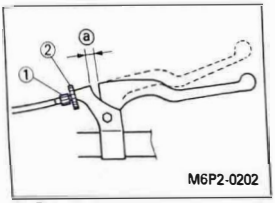
1. Throttle stop screw

E. Eninge 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 ~ 1,450 r/min

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



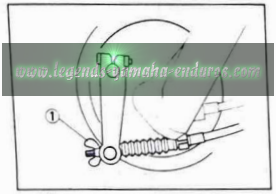
a. Free play
1. Lock nut
2. Adjuster

F. Front brake adjustment

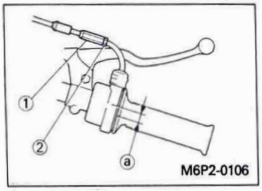
The front brake should be adjusted to suit the rider's preference within specified free play at the lever pivot side.

Free play ⓐ: 5 ~ 8 mm (0.2 ~ 0.3 in)

1. Loosen the lock nut.
2. Turn the adjuster in or out on the brake shoe plate until adjustment is suitable.
3. Tighten the lock nut.



1. Adjuster



1. Adjuter
2. Locknut
a. Free play

G. Throttle grip free play

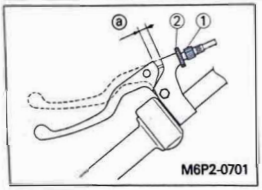
1. Check

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

2. Adjust

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

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



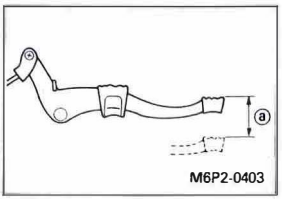
1. Adjuster
2. Locknut
a. Free play

H. Clutch lever free play

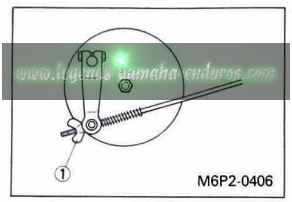
1. Check

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. Free play



1. Adjuster

I. Rear brake adjustment

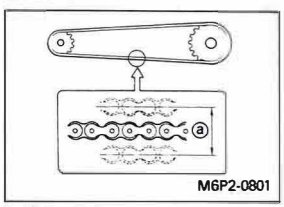
The rear brake should be adjusted to suit the rider's preference within specified free play at the end of the brake pedal.
Adjustment is made at the brake shoe plate.

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

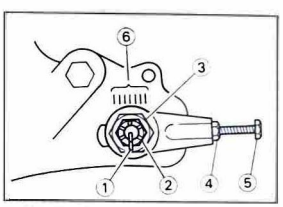
1. Turn the adjuster on the brake rod clockwise to reduce the play or counterclockwise to increase the play, until the adjustment is suitable.

⚠WARNING

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



a. Chain slack



1. Cotter pin
2. Axle nut
3. Sprocket shaft nut
4. Lock nut
5. Adjuster
6. Marks of alignment

J. 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:
20 ~ 30 mm (0.8 ~ 1.2 in)

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

2. Adjust

- Loosen the rear brake adjuster.
- Remove the cotter pin from the rear wheel axle nut.
- Loosen the rear wheel axle nut.
- Loosen the sprocket shaft nut and lock nuts on each side. To tighten the chain, turn chain adjuster clockwise. To loosen the chain, turn the adjuster counterclockwise and push the wheel forward.
  Turn each adjuster exactly the same amount to maintain correct axle alignment.
  (There are make on each side of swingarm and on each chain adjuster; use them to check for proper alignment.)

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

- After adjusting, be sure to tighten the lock nuts, sprocket shaft nut and the axle nut.

Tightening torque:
Sprocket shaft nut:
85 Nm (8.5 m•kg, 61 ft•lb)
Axle nut:
39 Nm (3.9 m•kg, 28 ft•lb)

- Insert a new cotter pin into the rear wheel axle nut and bend the end of the cotter pin as shown in the illustration. (If the nut notch and the cotter pin hole do not match tighten the nut slightly to align them.)

⚠WARNING

Always use a new cotter pin on the axle nut.

- Adjust the free play in the brake pedal.

APPENDICES

SERVICE DATA

Model	RT100A	
Idling engine speed:	1,300 ~ 1,450 r/min	
Spark plug: Type Gap	 B7ES (N.G.K.) 0.5 ~ 0.6 mm (0.020 ~ 0.024 in)	
Fuel: Recommended fuel Fuel tank capacity: Total Reserve	 UNLEADED FUEL **5.0 L (1.2 Imp gal, 1.3 US gal)** **1.5 L (.3 Imp gal, 0.4 US gal)**	
Tire pressure (Cold tire):	Front	Rear
	125 kPa (1.25 kg/cm^2, 18 psi)	125 kPa (1.25 kg/cm^2, 18 psi)

TIGHTENING TORQUE

Parts to be tightened	Thread size	Tightening torque		
		Nm	m•kg	ft•lb
Spark plug	M14×1.25	25	2.5	18
Engine oil drain bolt	M12×1.25	20	2.0	14
Handle crown and inner tube	M 8×1.25	26	2.6	19
Handle crown and handle halder (Upper)	M 8×1.25	20	2.0	14
Handle crown and steering shaft	M14×1.25	65	6.5	47
Under bracket and inner tube	M10×1.25	39	3.9	28
Steering lock and under bracket	M 5×0.8	6	0.6	4.4
Front wheel and nut	M12×1.25	43	4.3	31
Engine front (Upper)	M 8×1.25	26	2.6	19
Engine rear (Upper)	M 8×1.25	26	2.6	19
Engine rear (Lower)	M10×1.25	39	3.9	28
Pivot shaft and frame	M12×1.25	43	4.3	31
Rear wheel axle and rear arm	M10×1.25	39	3.9	28
Tension bar and brake plate	M 8×1.25	18	1.8	13
Tension bar and rear arm	M 8×1.25	18	1.8	13
Frame and rear shock (Upper)	M12×1.25	39	3.9	28
Frame and rear shock (Lower)	M10×1.25	25	2.5	18
Footrest and frame	M 8×1.25	18	1.8	13

STANDARD EQUIPMENT

No.	Parts name	Q'ty
1	Owner's tool kit*	1
2	Owner's manual	1
3	Safety handbook	1

*OWNER'S TOOL KIT

No.	Parts name	Q'ty
1	Owner's tool bag	1
2	Spark plug wrench (19-21)	1
3	Spark plug wrench handle	1
4	Spanner (10-12)	1
5	Spanner (14-17)	1
6	Screwdriver grip	1
7	Screwdriver bit (Phillips-head)	1
8	Driver cap	1

YAMAHA MOTOR CO.,LTD.

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