



YAMAHA

YZ250F/YZ400F

ASSEMBLY MANUAL



FOREWORD

This Assembly Manual contains the information required for the unpacking and assembly of Yamaha motorcycles so that the Yamaha serviceman can assemble the machines in the correct manner. To perform machine assembly, a basic knowledge of service and Yamaha machines is required. Therefore, all Yamaha dealers are urged to study the service of Yamaha motorcycles using the relevant service manuals. This Assembly Manual should be used in conjunction with the Service manual and Parts List for this model.

NOTICE

The service specifications given in this Assembly Manual are based on the model as manufactured. When this model may require improvements, the service specifications may be subject to change in the future. Modifications are inevitable and significant changes in specifications or procedures will be forwarded to authorized Yamaha dealers. The assembly procedure is described in the order that the mechanic should follow, and the correct service tools should be used in the correct manner. Failure to do this may result in poor performance and harm to the rider.

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.

**YZ250F/YZ400F
ASSEMBLY MANUAL
FIRST EDITION, OCTOBER 1978
OVERSEAS SERVICE DEPARTMENT
YAMAHA MOTOR CO., LTD.
IWATA, JAPAN
LIT-11666-01-33**

www.legends-yamaha-enduros.com

PREPARATION

To assemble the machine correctly, the proper (or suitable) service tools, supplies and working space are required.

Supplies

Oils, greases, shop rags and solvent for cleaning.

Work shop

The workshop where the machine is assembled should be clean and large. The floor should be level.

UNPACKING

Note on transportation

Use care not to butt the machine packed in the crate against a hard object or give it a heavy shock during transportation or in the service shop.

Procedure for unpacking

To remove the machine and parts packed in the cardboard crate, cut the vinyl bands around the box using scissors. Next, remove the exterior carton by lifting it straight up and remove the foam tray, front wheel.

Remove the nails from each corner of the crate, and remove the struts.

Remove the front and rear fenders from rear wheel.

Remove the semi double seat.

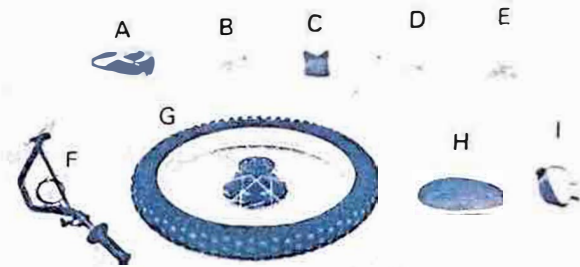
Lift up the machine, and remove the rear wheel section from the lower wooden case. Then take out the machine.

PARTS CHECK LIST

Before starting the assembly, check for damaged or missing parts (listed below). Also check the machine for damage, scratches and other defects.

Foam styrol case

No.	Q'ty	Part name
A	1	Brake shoe plate assembly
B	1	Vinyl bag 1
C	1	Tool bag
D	1	Vinyl bag 3
E	1	Vinyl bag 2
F	1	Handle bar assembly
G	1	Front wheel
H	1	Number plate
I	1	Wire guide



Parts List: Carton box

No.	Part name	Q'ty
1	Semi double seat	1
2	Front fender	1
3	Rear fender	1



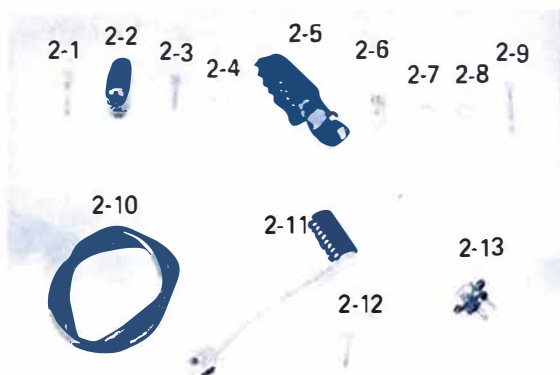
Vinyl bag 1

No.	Q'ty	Part name	Remarks
1-1	2	U-nut	Seat
1-2	2	Plate washer	
1-3	2	Hexagon head bolt with washer	
1-4	4	Special washer	Front fender
1-5	4	Hexagon head bolt with washer	
1-6	4	Collar	
1-7	4	Damper	
1-8	4	Hexagon head bolt with washer	Rear fender
1-9	4	Special washer	
1-10	2	Band	Number plate



Vinyl bag 2

No.	Q'ty	Part name	Remarks
2-1	4	Flange bolt	Steering handle
2-2	2	Upper holder	
2-3	1	Pinch bolt	Front wheel
2-4	1	Spring washer	
2-5	2	Footrest (R)	Foot rest
2-6	1	Spring	
2-7	1	U-nut	
2-8	2	Plain washer	
2-9	1	Hexagon bolt	
2-10	1	Breather pipe	
2-11	1	Change pedal	Change pedal
2-12	1	Bolt	
2-13	1	Front wheel collar	



Vinyl bag 3

No.	Q'ty	Part name
3-1	1	Owner's service manual
3-2	1	Air gauge

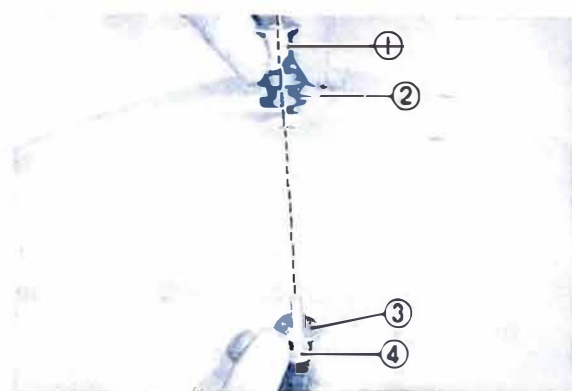


SET-UP PROCEDURES

- To set up the machine, place a proper-size wooden box under the engine to keep the front of the machine raised off the floor. Take care so that the machine does not fall over.
- Remove the washers, collars and dampers from the under bracket. Install dampers to front fender. Next, insert the front fender between the fork legs, and secure the fender using the bolts, spring washers and collars.

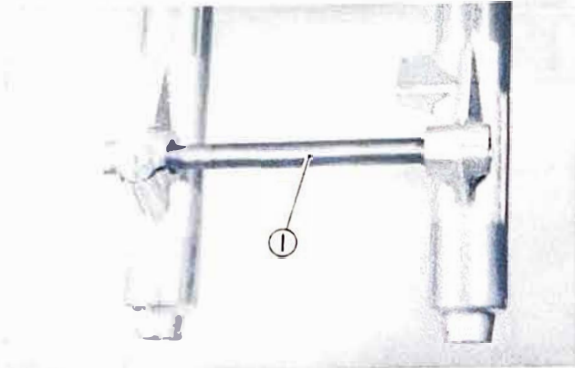
Tightening torque:
0.55 m·kg (3.6 ft·lb)

NOTE: The front fender should be installed with the arrow mark on the fender facing forward.



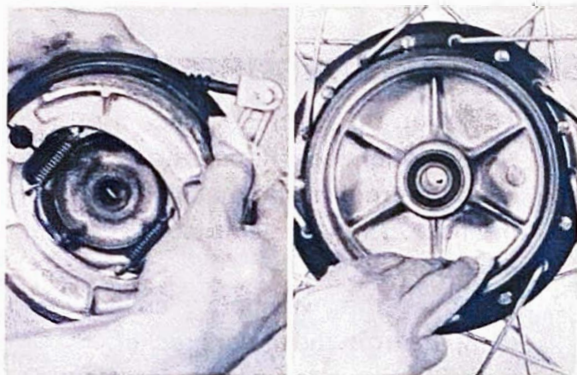
- Fender collar (1-6)
- Damper (1-7)
- Plain washer (1-4)
- Bolt with washer (1-5)

3. Screw the wheel axle. Pull out the wheel axle.

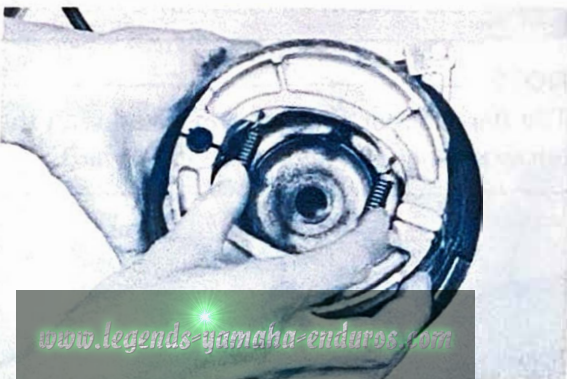


1. Wheel axle

4. Clean the brake shoe linings and wheel hub with a clean cloth.



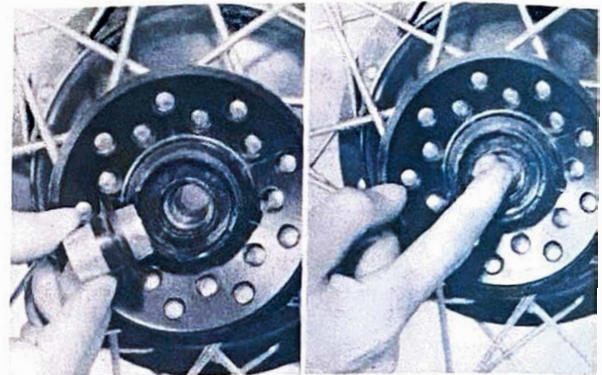
5. Make sure the brake shoes and springs are correctly installed in the shoe plate assembly. If any one of them is out of place, correct per the figure.



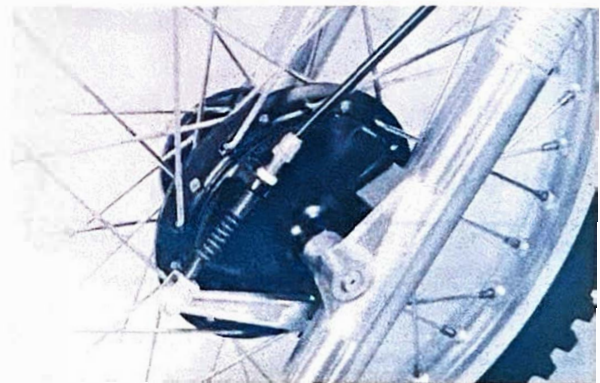
6. Install the hub dust cover (with collar) (2-9) in the wheel hub on the right side of wheel.

NOTE:

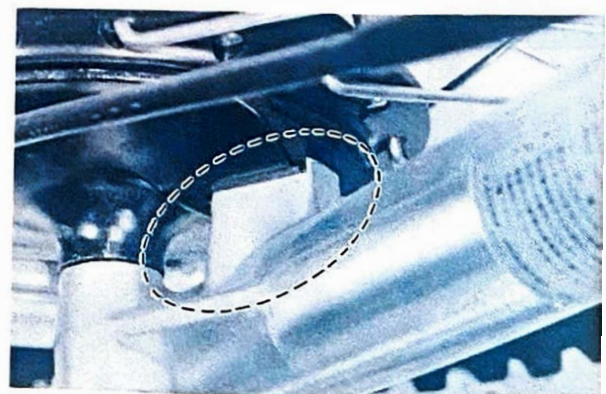
To avoid damaging the oil seal lip, apply a light coat of lithium base grease to the oil seal lip and collar. If the collar is dirty, clean with a rag.



7. Install the brake shoe plate assembly (A) in the wheel hub.

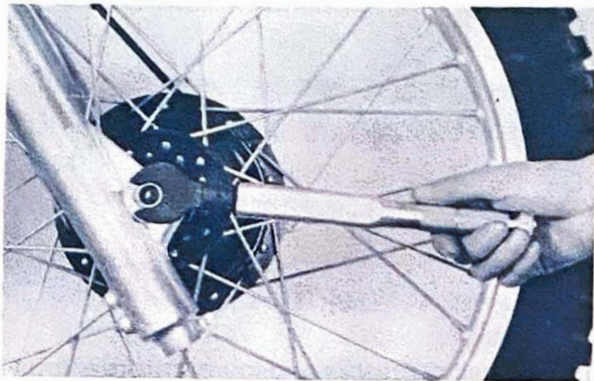


8. Insert the front wheel between the front fork legs so that the stopper (projection) on the front fork end is correctly engaged with the slot in the brake shoe plate.



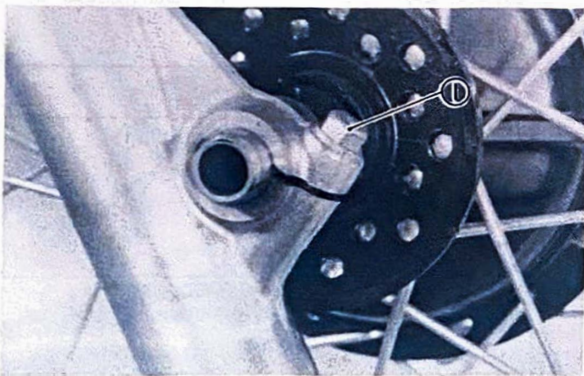
9. Insert the axle, and torque the axle to specification.

Tightening torque: 10 m-kg (72 ft-lb)



10. Tighten the wheel axle pinch bolt (2-5) with specified torque.

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

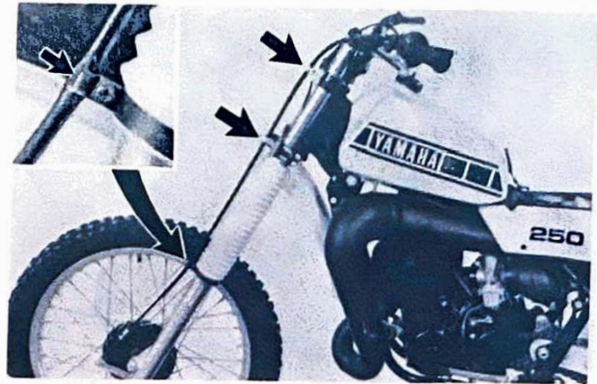


1. Wheel axle pinch bolt (2-3)

11. Pass the front brake wire through three wire holders. And tighten the wire holder screw.

CAUTION:

For detailed cable routing, refer to "CABLE ROUTING DIAGRAM".



12. Install the handlebar using the two upper holders and four hexagon bolts.

Tightening torque: 2.9 m-kg (21 ft-lb)

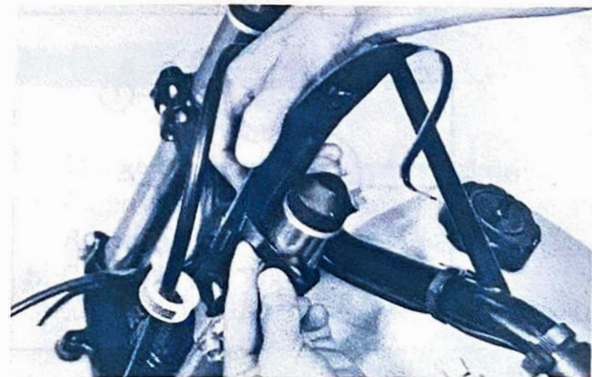


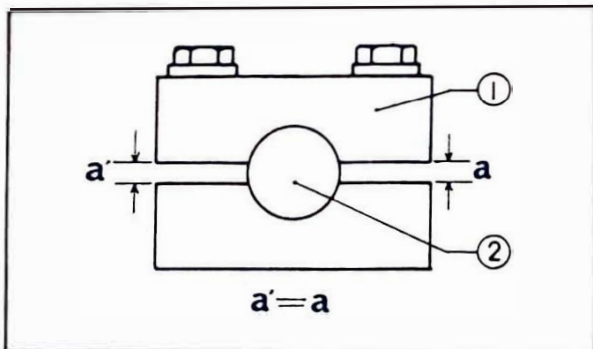
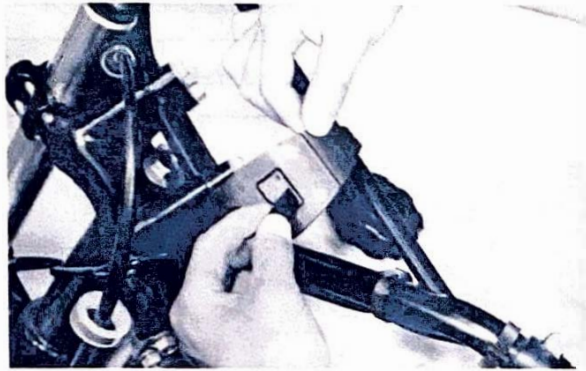
1. Upper holder (2-2) 2. Flange bolt (2-1)

CAUTION:

First tighten the bolt on the front end of holder, and tighten the bolt on the rear end.

13. Install the wire guide (1) as shown.

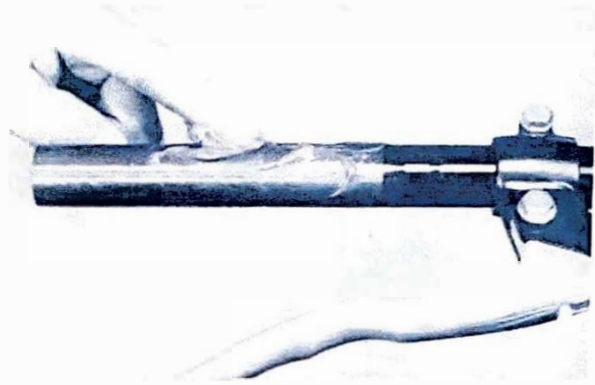




1. Holder 2. Handlebar

Tightening torque: 1.5 m·kg (11 ft·lb)

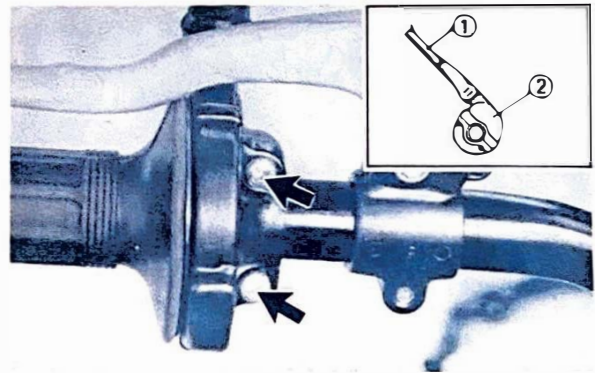
14. Wipe off any dust on right handlebar end, and apply a light coating of grease to handlebar end throttle grip housing.



15. Install the upper and lower throttle housing together, and check the throttle grip for smooth action, then fully tighten the throttle housing screws.

CAUTION:

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



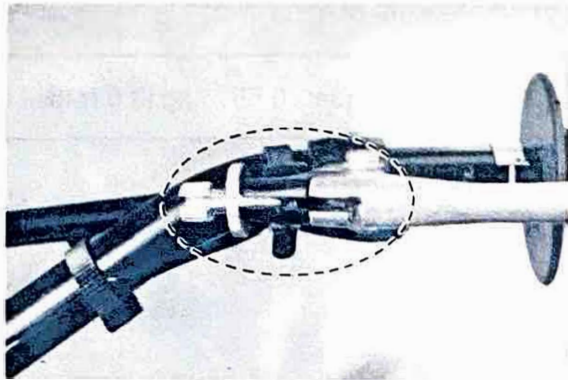
1. Throttle wire 2. Throttle grip

16. Brake wire and clutch wire installation

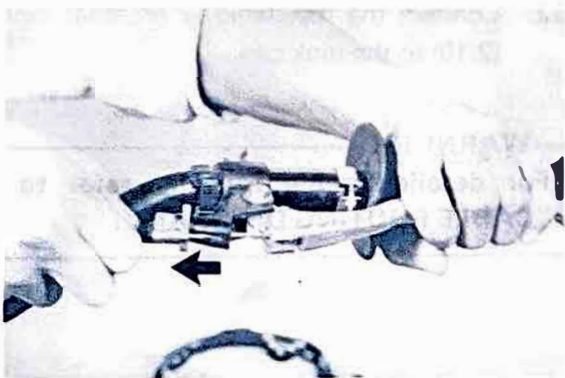
NOTE:

Before assembly, lubricate cables with suitable cable lubricant.

- a. Screw in the cable length adjusters on the brake shoe plate (brake wire) and cable length adjuster (clutch wire).
- b. Fully loosen the lever adjuster lock nut and screw in the adjuster until tight. Next, align the slits in the adjuster and adjuster lock nut with the slit in the lever holder.

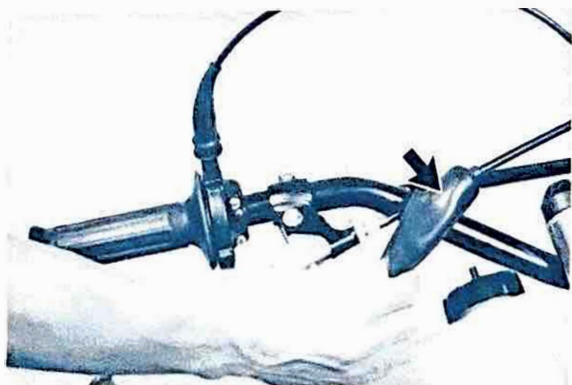


c. Insert the wire end into the lever hole, and hook the outer cable end onto the adjuster lock nut, then squeeze the lever. Next, while pulling outer cable in the direction opposite the lever, release the lever quickly. While releasing it, seat the outer cable into the adjuster.



WARNING:
Proper cable and wire routing is essential to insure safe vehicle operation, refer to "CABLE ROUTING DIAGRAM".

d. Cover the brake and clutch lever holders with holder covers.



17. Install the number plate (D) on the front forks using holders (1-8).



18. Engine stop switch connection

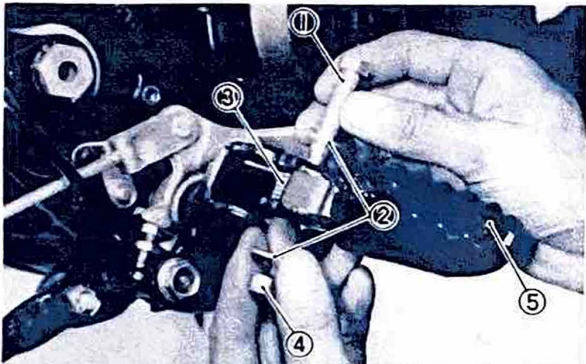
- a. Remove the bolts and tank fitting band. Remove the tank.
- b. Connect the engine stop switch cord wire to the lead wire of C.D.I. unit (Black/White, Black) and clamp the wire.
- c. Reinstall the tank, fitting band and tighten bolts.

WARNING:
For detailed cable routing, refer to
"CABLE ROUTING DIAGRAM".



19. Install the footrest (2-5).

Tightening torque: 7 m-kG (50 ft-lb)



1. Bolt (2-9) 2. Plain washer (2-8) 3. Spring (2-6)
4. U nut (2-7) 5. Footrest (2-5)

20. Install the rear fender.

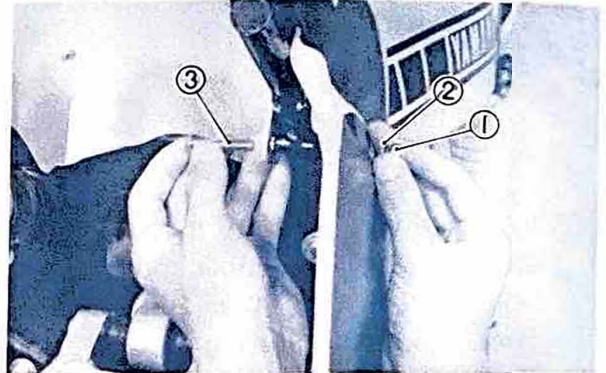
Tightening torque: 0.55 m-kG (3.5 ft-lb)



1. Hexagon head bolt with washer (1-9) 2. Washer (1-10)

21. Install the seat.

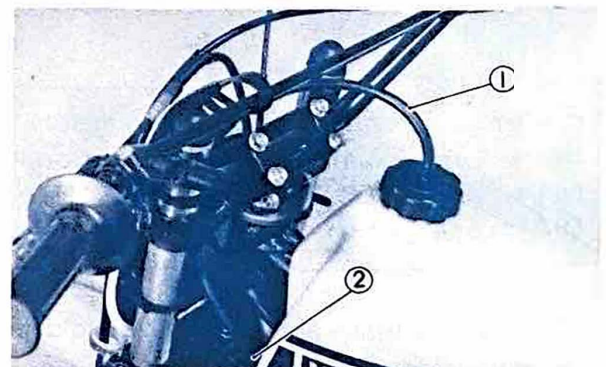
Tightening torque: 0.55 m-kG (3.6 ft-lbs)



1. U nut (1-1) 2. Plate washer (1-2) 3. Bolt with washer (1-3)

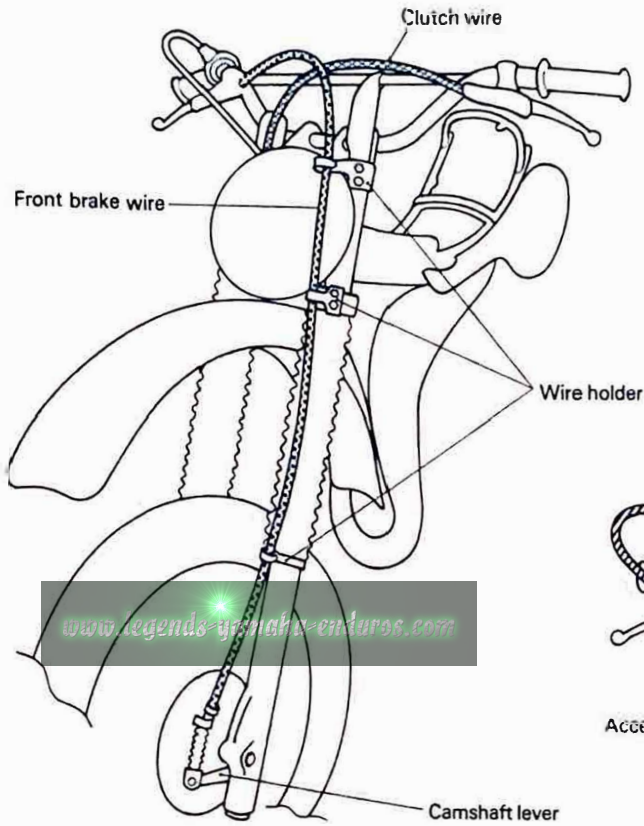
22. Connect the fuel tank air breather pipe (2-10) to the tank cap.

WARNING:
For detailed cable routing, refer to
"CABLE ROUTING DIAGRAM".

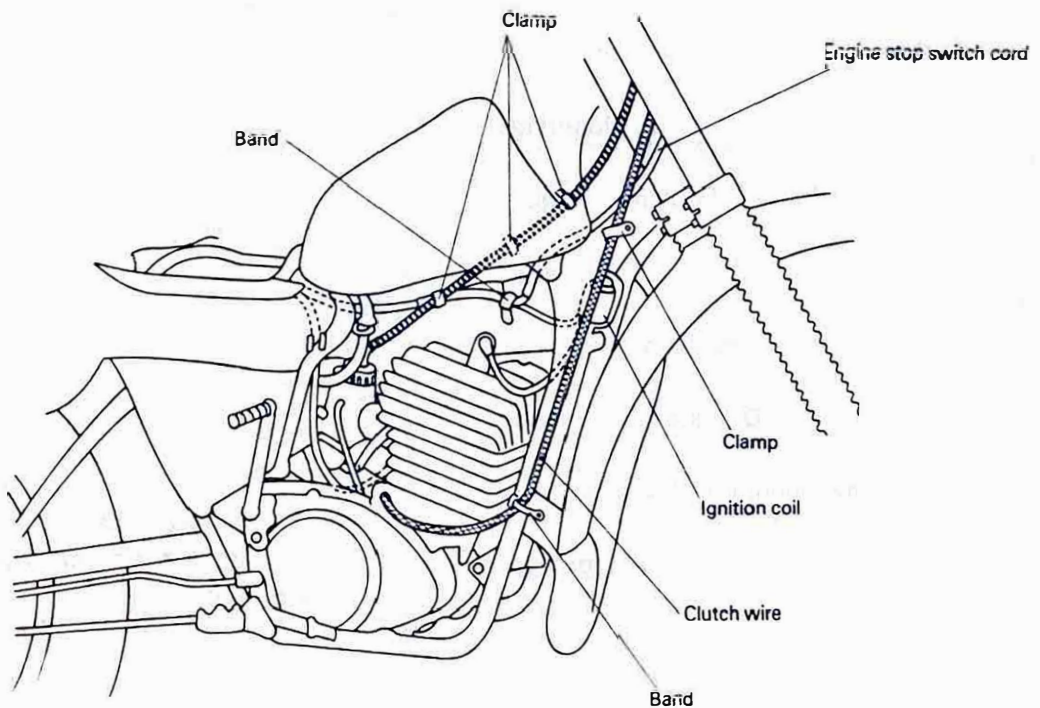
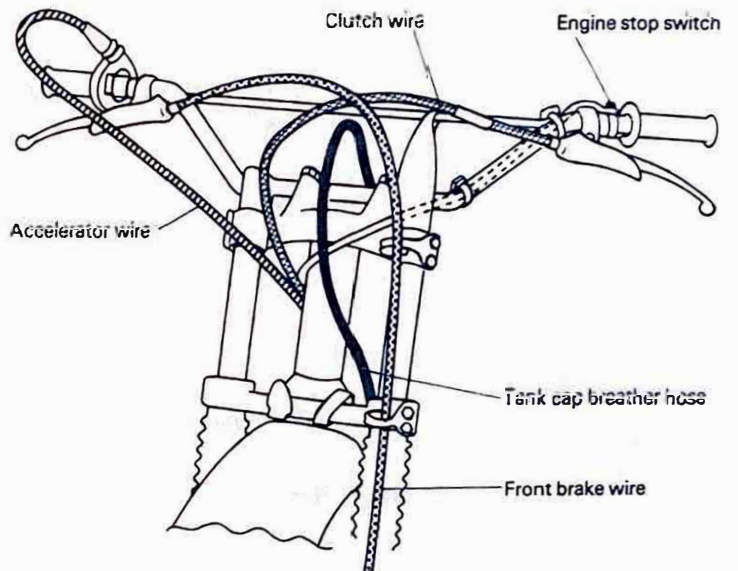


1. Tank breather pipe 2. Handle stopper

CABLE ROUTING DIAGRAM



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INSPECTIONS AND ADJUSTMENTS

Inspection

After all packed parts are installed, check to see that all these parts and other parts (mounted or installed at the Yamaha factory) are correctly mounted or installed, tightened or adjusted to specification. This check-up should be started with the front of the machine.

Item	
Wheel spokes	..... Tension
Wheel rims	..... Deflection, alignment
Wheel tires	..... Tire pressure
Wheel axle nuts	..... Tightening torque
Fenders	..... Mounting
Steering head	..... Operation adjustment
Handle holder	..... Tightening torque
Clutch lever	..... Operation, freeplay, mounting
Brake lever	..... Operation, freeplay, mounting
Throttle housing	.. Operation, position, freeplay, mounting
Number plate	..... Mounting
Engine mounting bolt	..... Tightening torque
Carburetor joints	..... Tightness
Footrest	..... Position, mounting
Shift pedal	..... Operation, mounting
Brake pedal	..... Operation, freeplay, mounting
Seat	..... Mounting
Fuel tank	..... Mounting

Fuel pipe	..... Connection, mounting
Fuel breather pipe	..... Connection, routing
Rear shock absorber	..... Mounting, cotter pin
Swing arm pivot shaft	..... Tightening torque
Chain puller	..... Alignment
Transmission	..... Oil level
Control cables	..... Lubrication
Electrical components	..... Operation adjustment

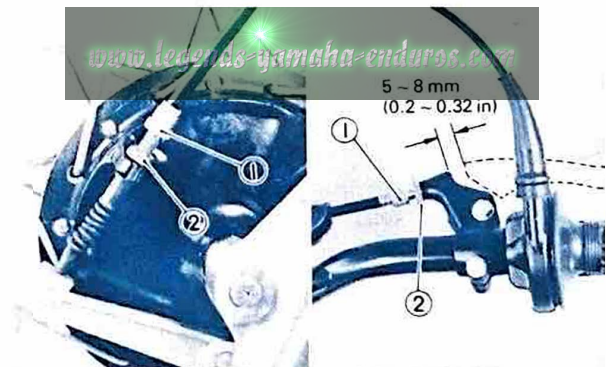
Adjustment

NOTE:

This section deals with the main points only. For details, refer to the service manual of this model.

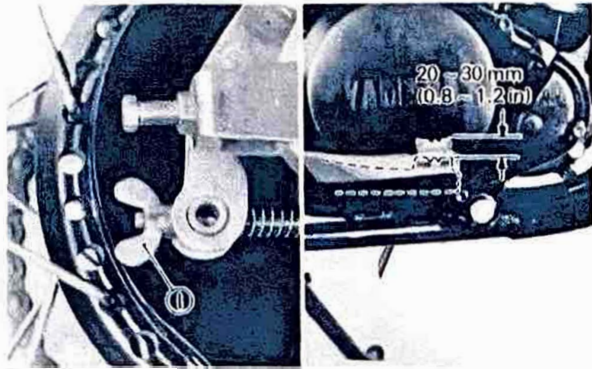
1. Front brake
Loosen the brake wire adjuster lock nut, and adjust the play of the brake lever to specification. After adjustment, tighten the lock nut.

Free play: 5 ~ 8 mm (0.2 ~ 0.32 in)

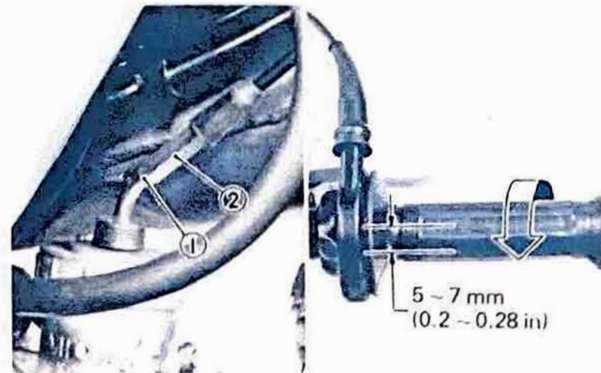


1. Adjuster 2. Lock nut

2. Rear brake
Adjust the rear brake pedal free play to suit, providing a minimum of 20 ~ 30 mm (0.8 ~ 1.2 in).
Turn the adjuster on the rear brake ferule in or out until brake pedal free play is suitable.



1. Adjuster



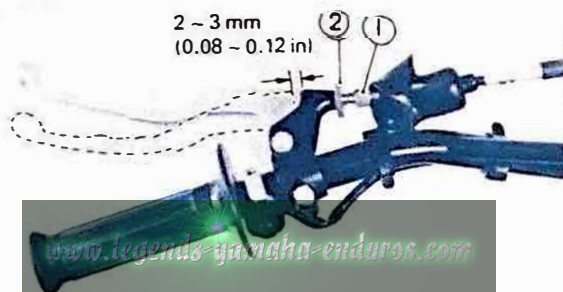
1. Lock nut 2. Adjuster

3. Clutch

Loosen the clutch wire adjuster lock nut and adjust the clutch wire by turning the wire adjuster.

Tuning the adjuster clockwise (adjuster is tightened) increases clutch wire play. While turning counter clockwise decreases the play.

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



1. Adjuster 2. Lock nut

4. Throttle wire

Check play in turning deflection of throttle grip. Play should be 5 ~ 7 mm (0.2 ~ 0.28 in) at grip flange. Loosen the lock nut and turn the wire adjuster to make the necessary adjustment. After adjusting, be sure to tighten the lock nut properly.

Trouble shooting

If the engine will not start or will not start easily after inspections and adjustment, check the following parts.

1. Ignition timing — checking and adjustment
After starting the engine, check the ignition timing, and if necessary, adjust.

Ignition timing (B.T.D.C):

YZ250F	1.37 ± 0.15 mm (0.054 ± 0.006 in)
YZ400F	3.1 ± 0.15 mm (0.122 ± 0.006 in)

2. Spark plug — Checking and adjustment
When the machine is stored or not used for a long period of time, the spark plug may get wet with oil. IF so, hard starting will result, remove the spark plug, and clean as required.

Spark plug:

Type	YZ250F: N2G YZ400F: N-3
Gap	0.7 mm (0.028 in)

3. Carburetor — Cleaning

Remove the drain cover attached to the carburetor float bowl, and drain off the fuel. Add fresh fuel.

NOTE:

For details, refer to the Owner's service manual for this model.

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IWATA, JAPAN

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