YAMAHA

IT250G/IT425G

ASSEMBLY MANUAL

LIT-11666-01-72

90894-07910

IMPORTANT NOTICE

This motorcycle may be equipped for general off road use. It may be illegal to operate this vehicle off-road when it is equipped for competition use.
Check you state and local riding area regurations. This vehicle is not manufactured for use on public streets, roads or high ways. Such use is prohibited by law. An off-road riding kit is provided with each vehicle to comply with noise level and spark arrester laws and regulations for installation instructions see directions in this manual.
Performance will be substantially decreased. Retuning is not required.

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 procedues 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.

IT250G/IT425G
ASSEMBLY MANUAL
FIRST EDITION, JULY 1979
OVERSEAS SERVICE DEPARTMENT
YAMAHA MOTOR CO., LTD.
IWATA, JAPAN
LIT-11666-01-72

PREPARATION

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

Supplies

Oils, greases, shop rags, electrical contact cleaner, solvent for cleaning.

Workshop

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

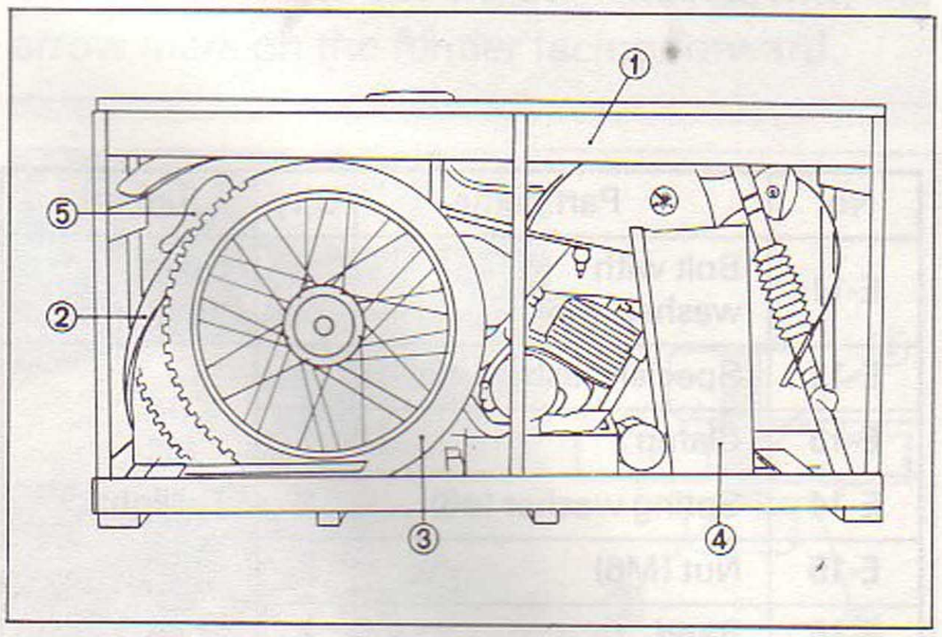
UNPACKING

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, and seat.



1. Foam tray 2. Front fender 3. Front wheel
4. Seat 5. Headlight body

Remove the nails from each corner of the crate, and remove the struts.
Remove the front fender held between the rear tire and the rear fender.

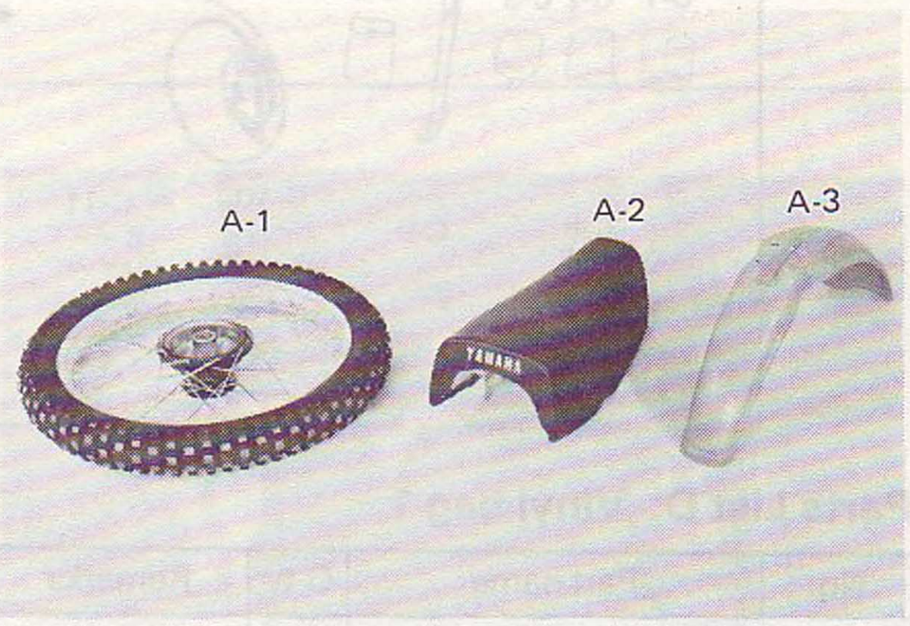
Lift up the machine, and remove the rear wheel section from the lower wooden case.
Then take out the machine.

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.

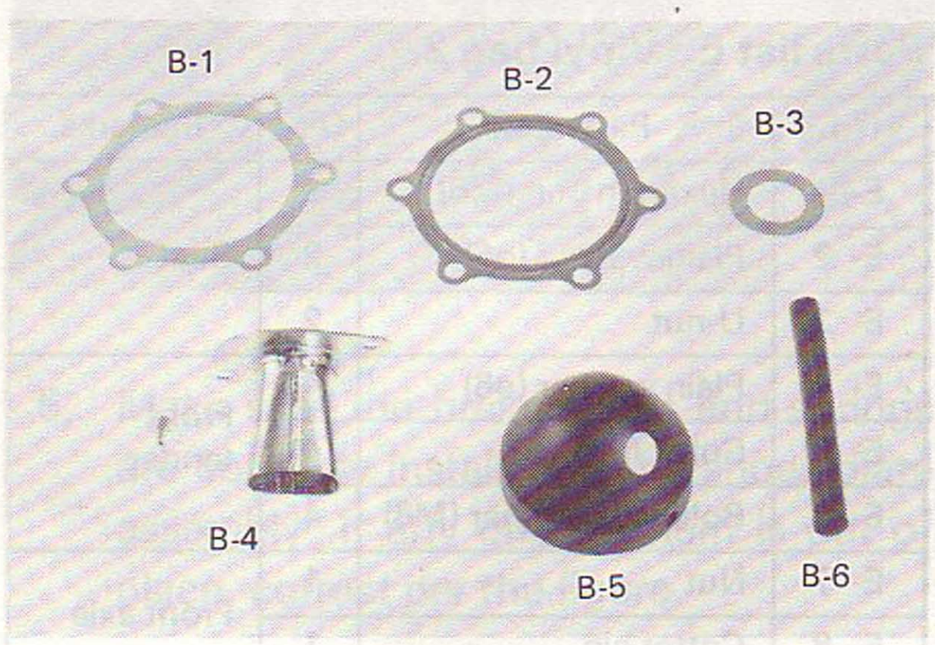
Parts List A: Crate:

No.	Part name	Q'ty
A-1	Front wheel	1
A-2	Semi double seat	1
A-3	Front fender	1



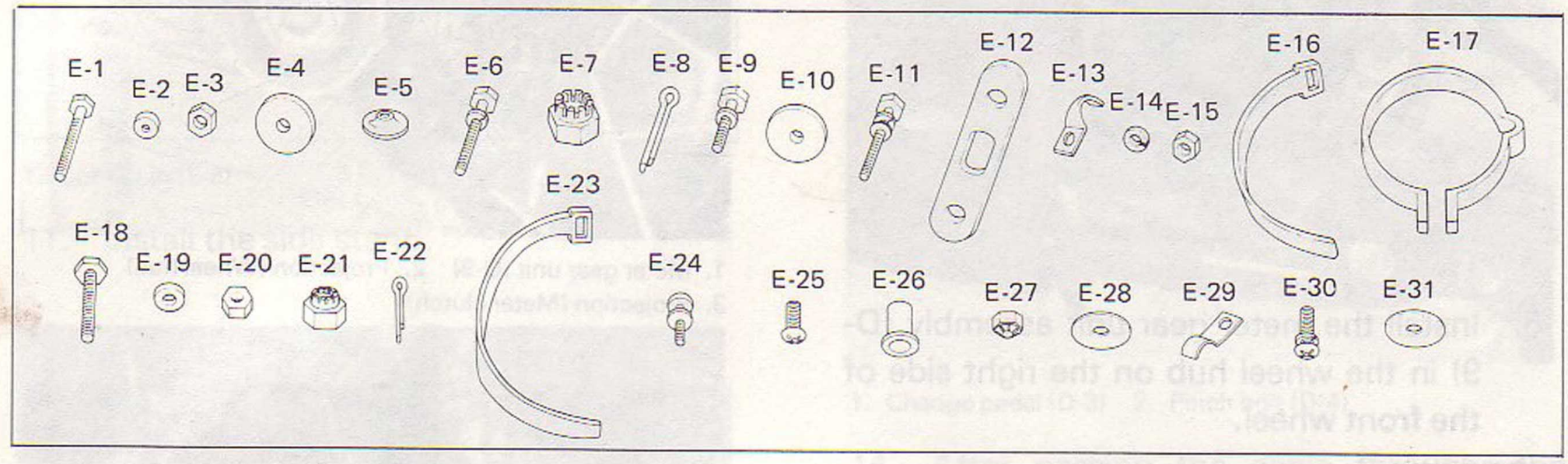
Parts List B: Vinyl bag 1
(Off-road riding kit)

No.	Part name	Q'ty	
		IT250G	IT425G
B-1	Cylinder head gasket	2	—
B-2	Absorber	8	10
B-3	Choke plate	1	—
B-4	Main jet	—	1
B-5	Choke pipe	1	1
B-6	Silender cap	1	1



E-25	Panhead screw (ℓ = 30 mm)	2	Headlight body
E-26	Collar	2	
E-27	Self locking nut	2	
E-28	Plane washer	2	

E-29	Clamp	1	Headlight body
E-30	Screw with washer (ℓ = 12 mm)	2	
E-31	Plane washer	2	



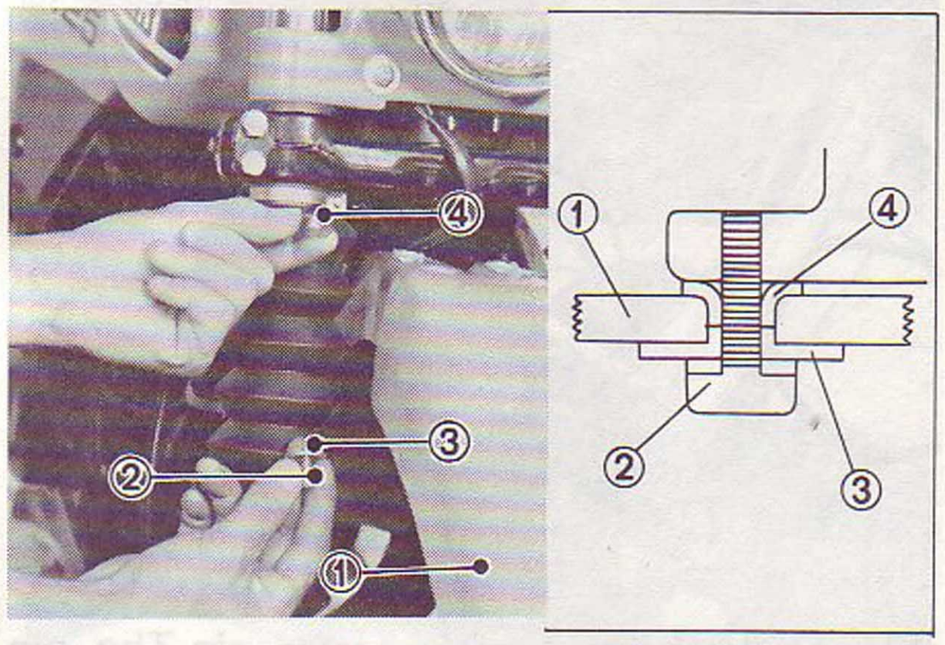
SET-UP PROCEDURES

1. 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.
2. Insert the front fender between the front fork legs, and secure the fender.

Tightening torque: 0.8 m-kg (5.8 ft-lb)

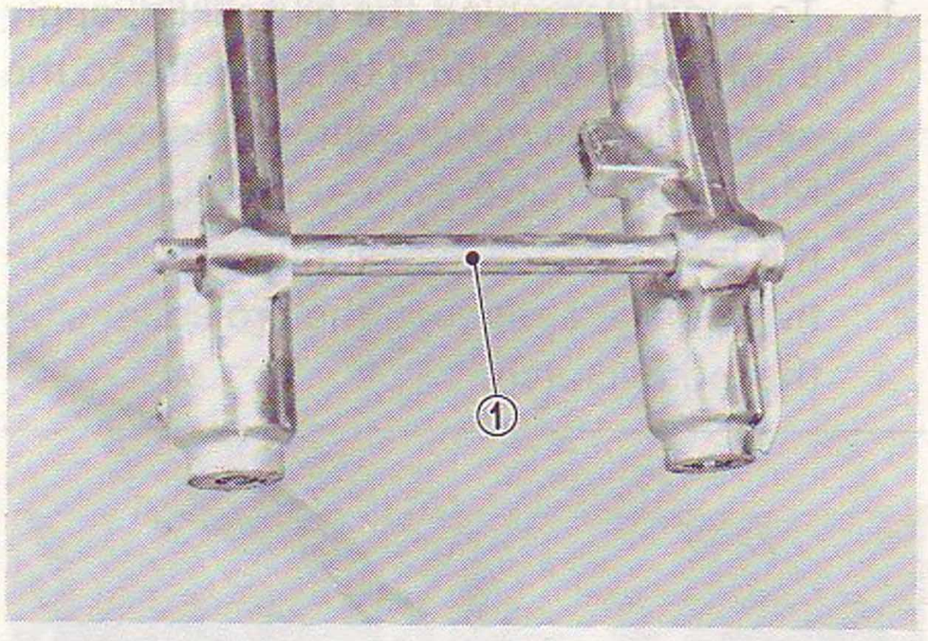
NOTE:

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



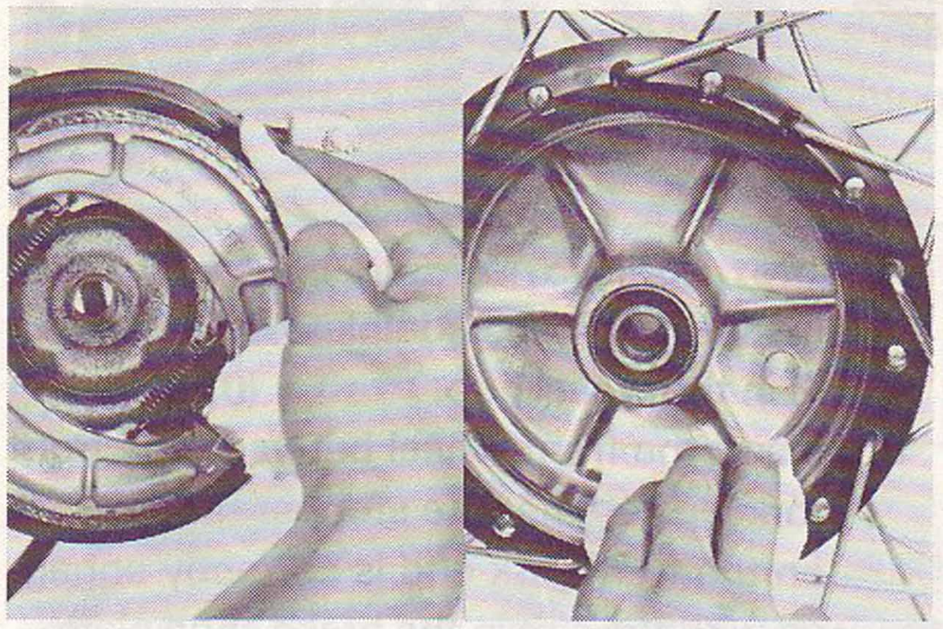
1. Front fender
2. Bolt with spring washer (E-6)
3. Plain washer (E-7)
4. Fender collar (E-5)

3. Remove the fron wheel axle nut and plain washer. Then remove the wheel axle.

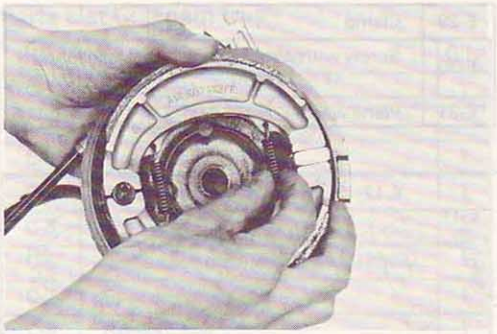


1. Wheel axle.

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



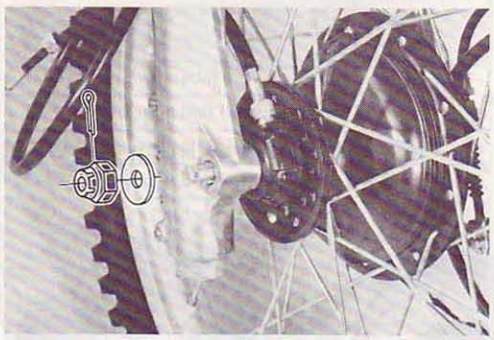
5. Make sure the brake shoes and springs are correctly installed in the shoes plate assembly. If any one of them is out of place, correct per the figure.



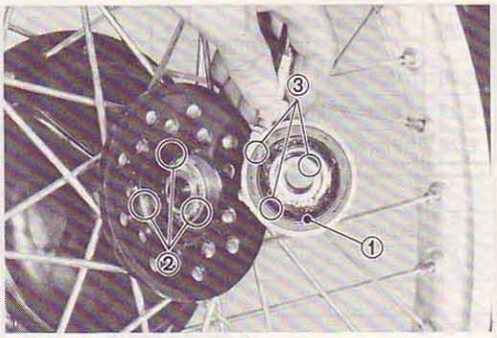
6. Install the meter gear unit assembly (D-9) in the wheel hub on the right side of the front wheel.

NOTE:

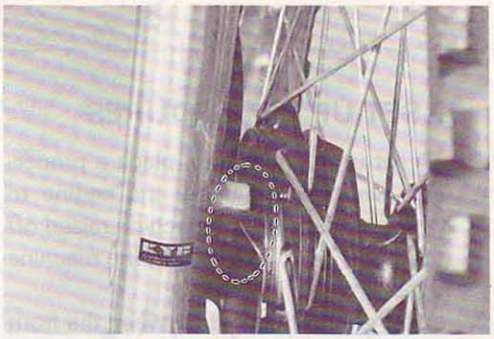
1. To avoid damaging the oil seal lip, apply a light coat of lithium base grease to the oil seal lip and meter gear unit assembly.
2. Make sure that the three projections on the inside of the wheel hub are respectively placed between the projections on the meter clutch.



7. Install the brake shoe plate assembly (C-5) 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.

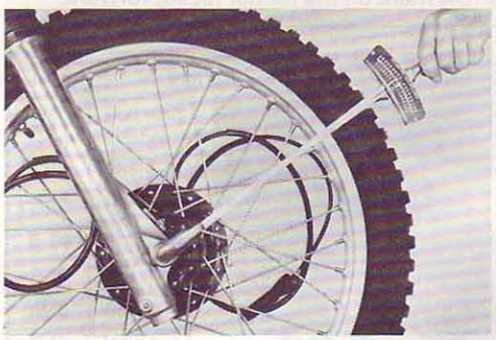


1. Meter gear unit (D-9) 2. Projection (Wheel hub)
3. Projection (Meter clutch)

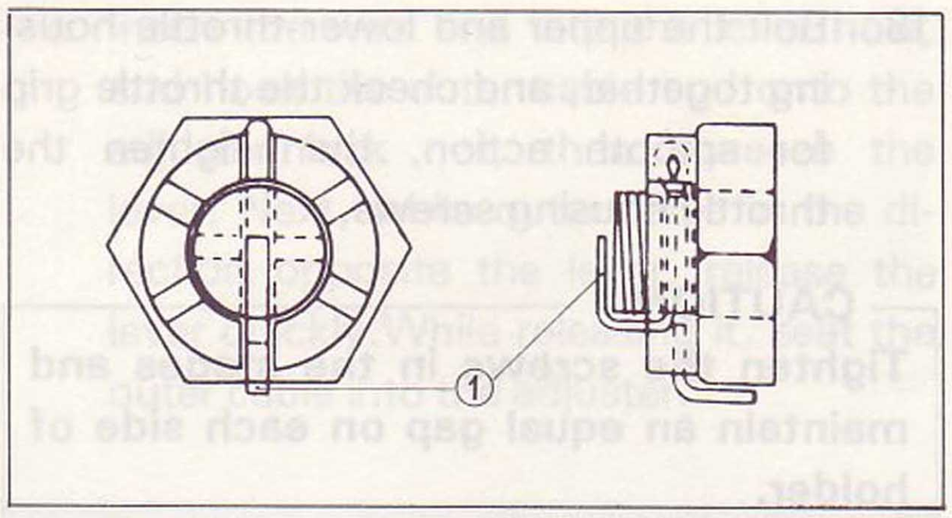


9. Insert the axle, and torque the axle nut to specification.

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

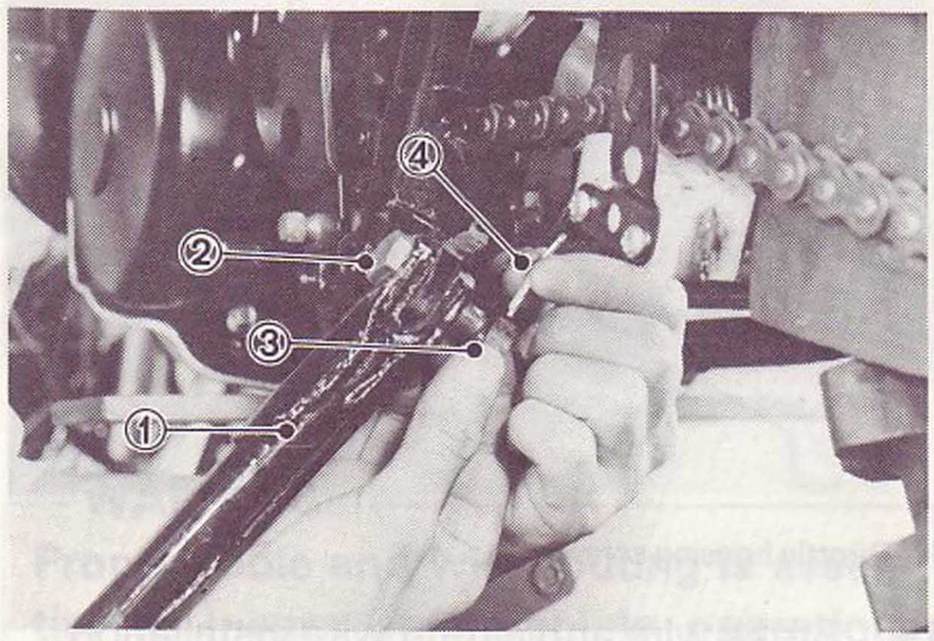


10. Lock the nut with cotter pin. The pin should be inserted downward, and the pin ends hould be bent.

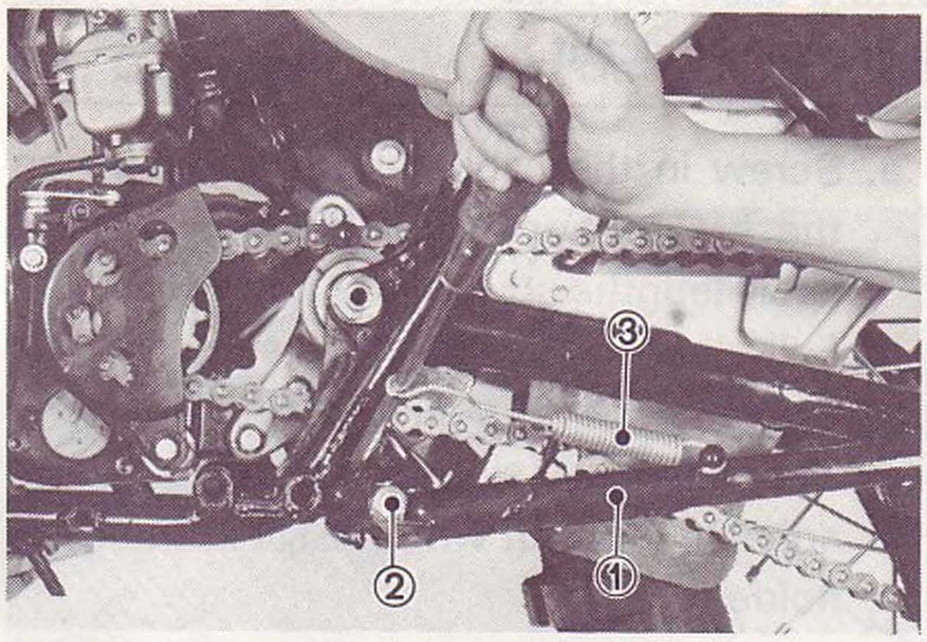


1. Cotter pin (E-8)

11. Install the side stand.

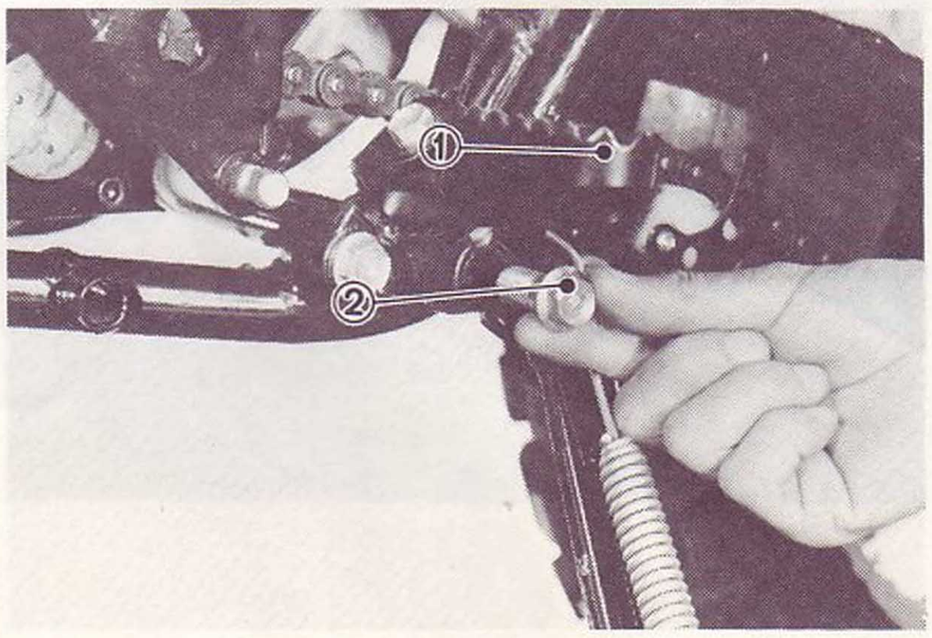


1. Side stand (C-4) 2. Bolt (D-6)
3. Nut (E-21) 4. Cotter pin (E-22)



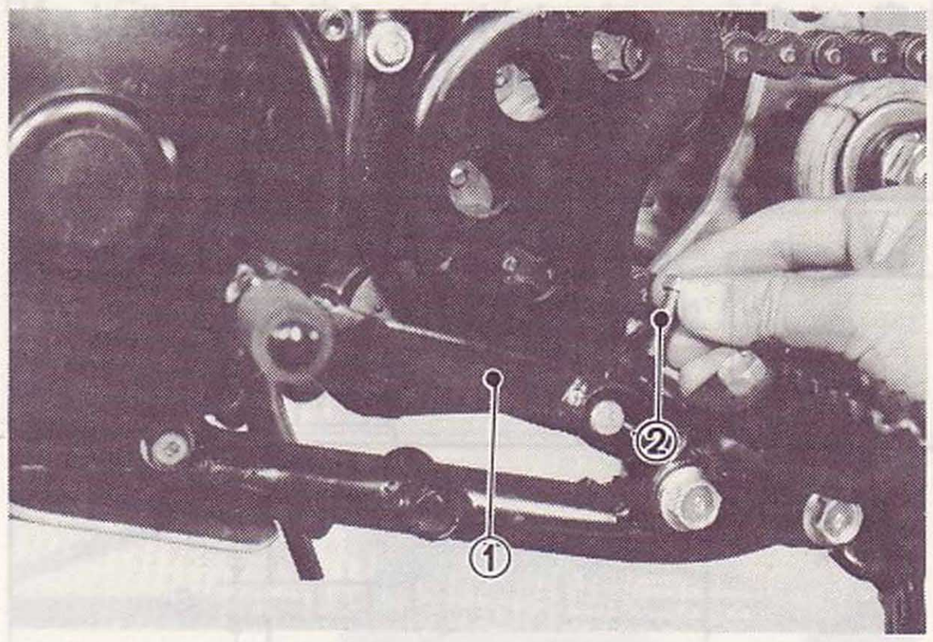
1. Side stand (C-4) 2. Bolt (D-6) 3. Spring (D-7)

12. Install the footrest assembly.



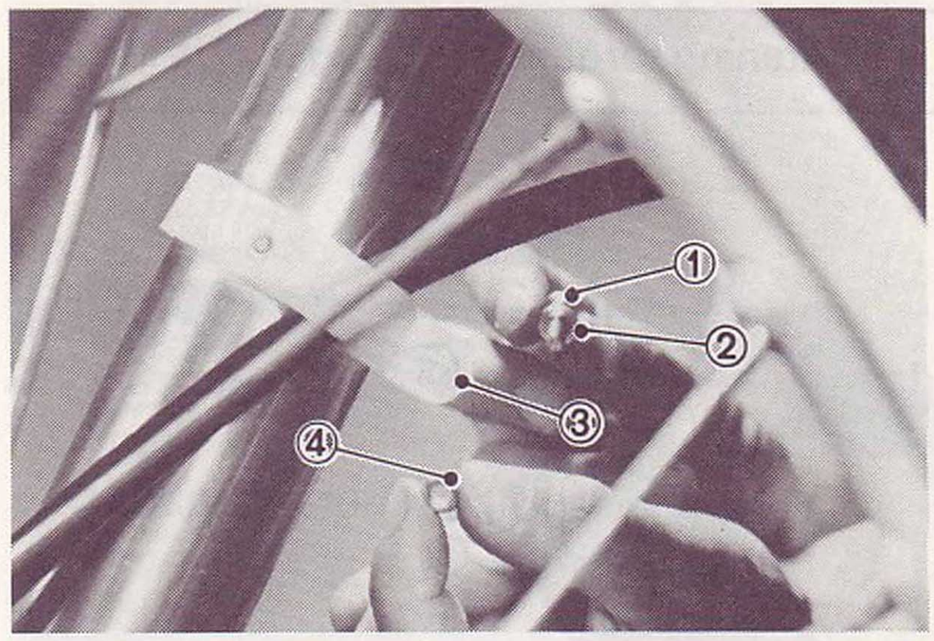
1. Footrest assembly (C-9) 2. Bolt (D-5)

13. Install the change pedal and tighten the pinch bolt.



1. Change pedal (D-3) 2. Pinch bolt (D-4)

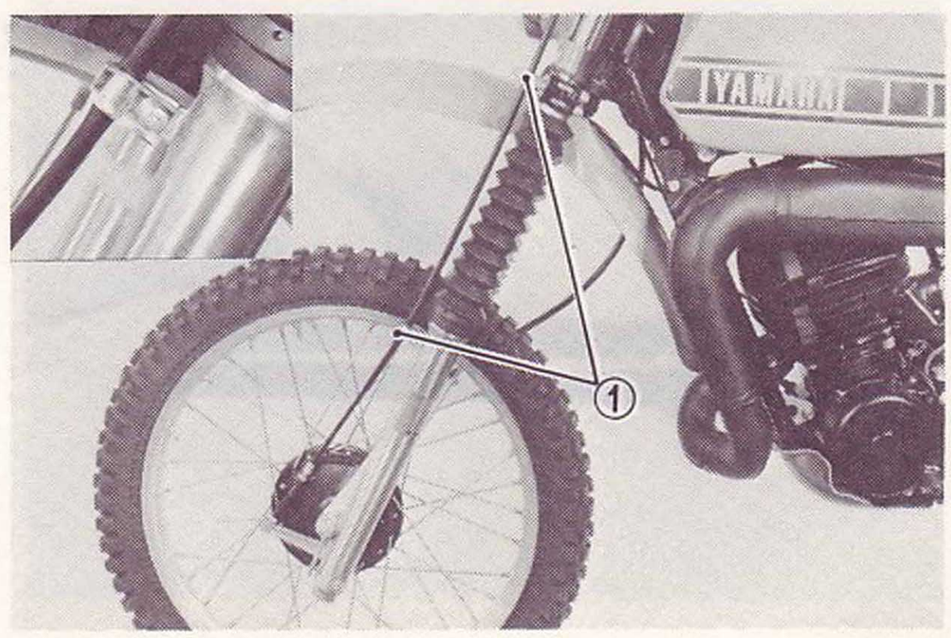
14. After passing the cable throught the holder, install it to outer tube.
Connect the meter cable to gear unit.



1. Panhead screw (E-18) 2. Plane wahser (E-19)
3. Holder (E-17) 4. Nut (E-20)

15. Pass the front brake wire through three wire holders as shown. And tighten screw.

For detailed cable routing, refer to "CABLE ROUTING DIAGRAM" (P.9 ~ 10)

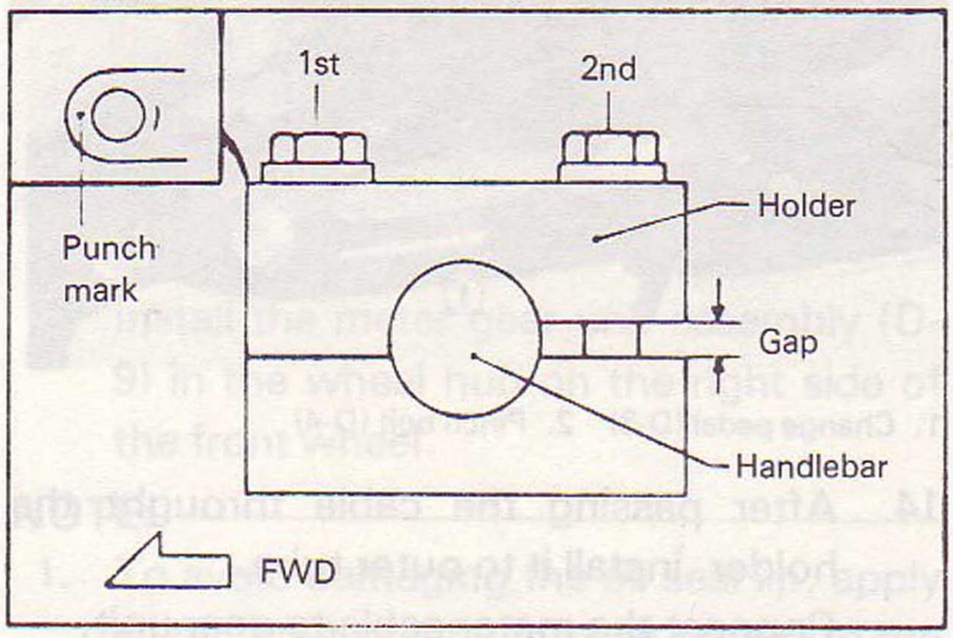


1. Wire holder

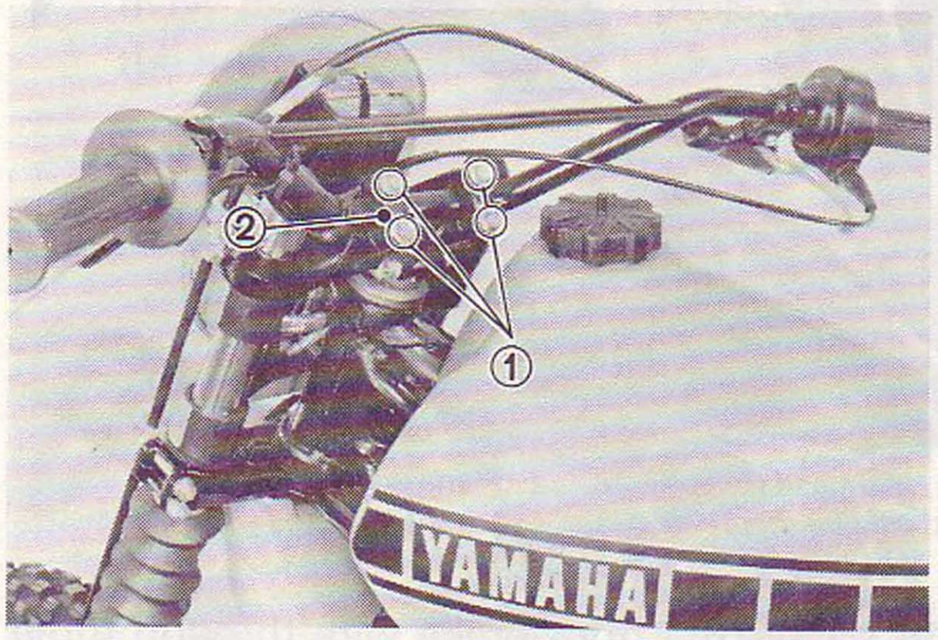
16. Install the handlebars.

CAUTIION:

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

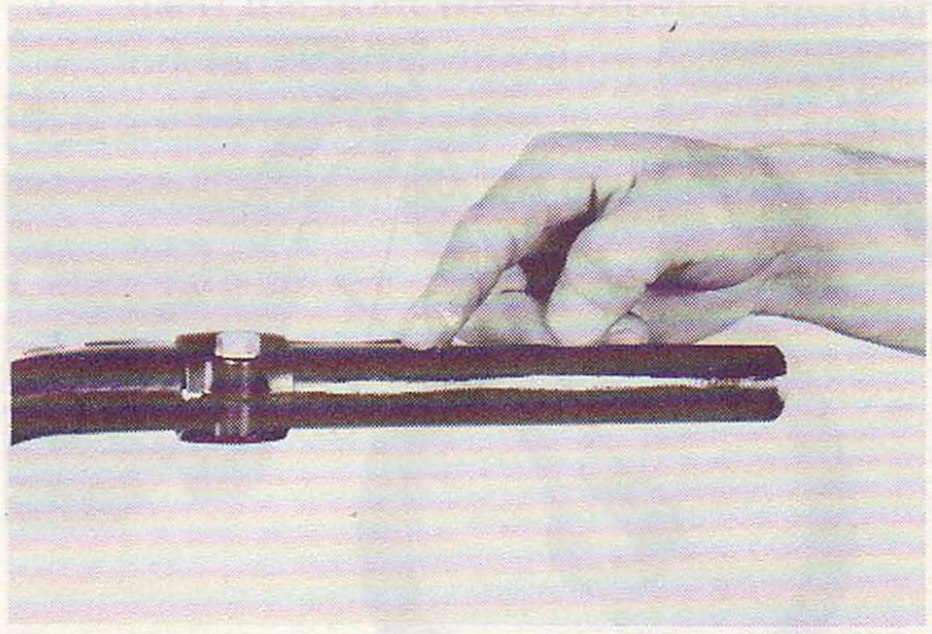


Tightening torque: 1.2 m-kg (8.6 ft-lb)



1. Flange bolt (D-2) 2. Handle upper holder (D-1)

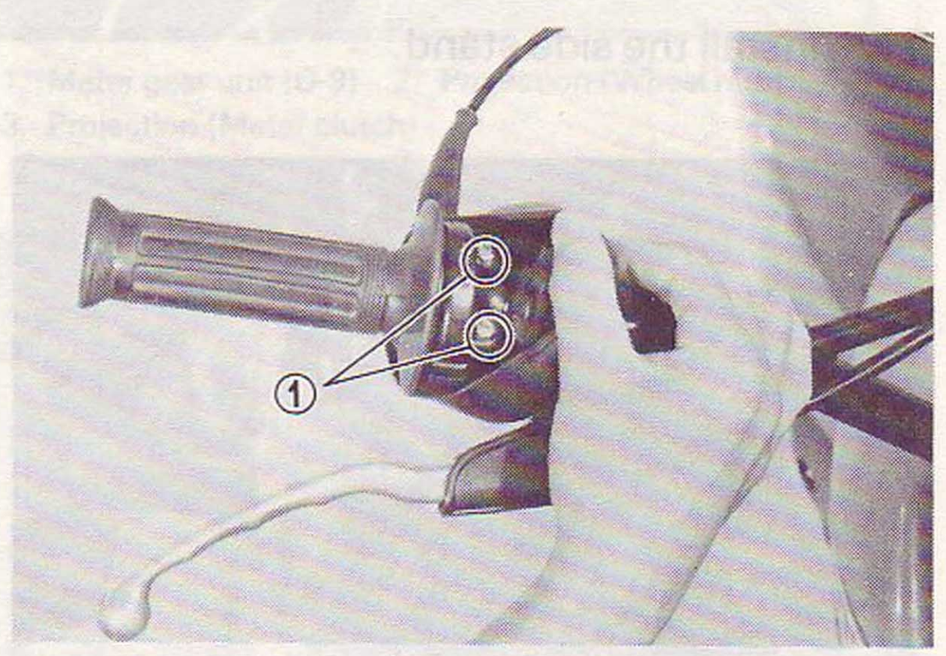
17. Wipe off any dust on right handlebar end, and apply a light coating of grease to handlebar end and throttle grip housing.



18. Bolt the upper and lower throttle housing together, and check the throttle grip for smooth action, then tighten the throttle housing screws.

CAUTION:

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



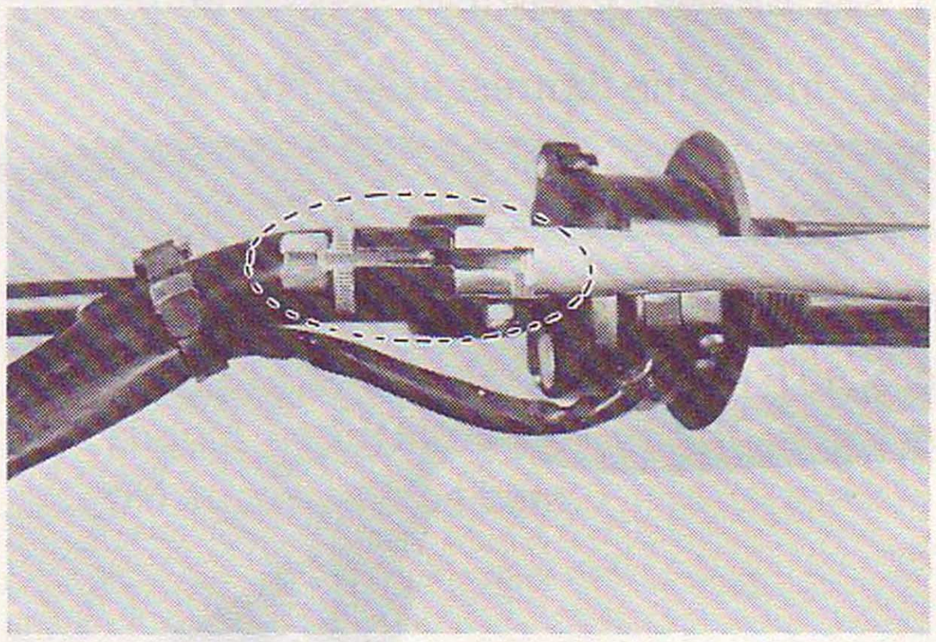
1. Throttle housing screws

19. Brake wire and clutch wire installation.

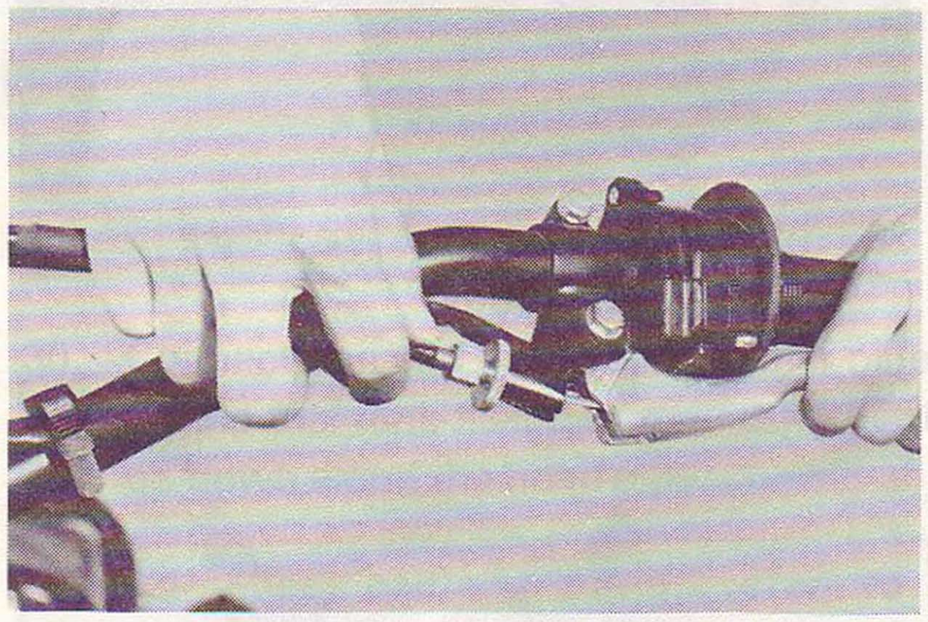
NOTE:

Before assembly, lubricate cables with suitable cable lubricant.

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



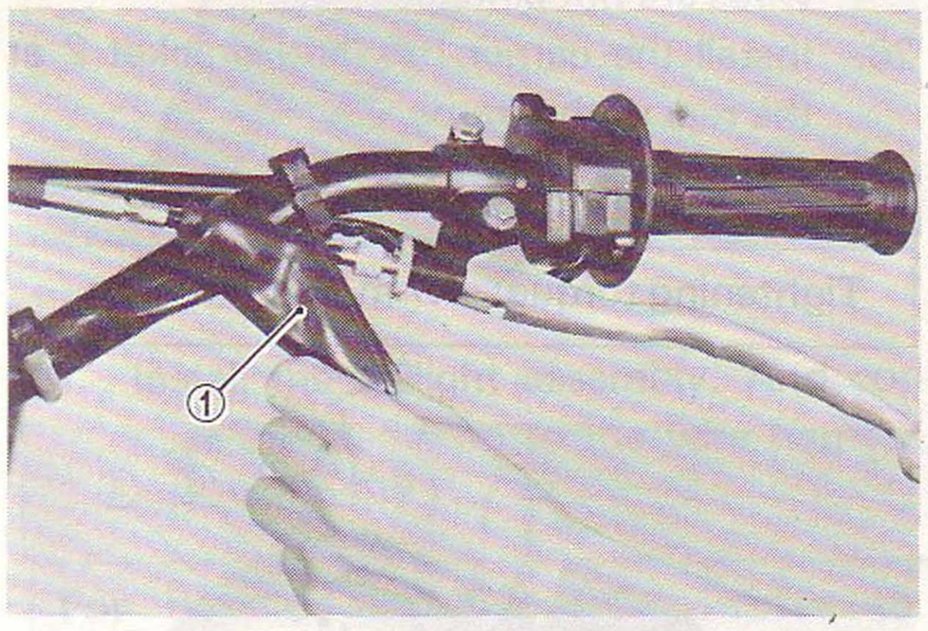
c. Insert the wire end into the lever hole, and hook the outer cable end onto the adjuster lock nut, then squeeze the lever. Next, while outer cable in the direction opposite the lever, release the lever quickly. While releasing it, seat the outer cable into the adjuster.



WARNING:

Proper cable and wire routing is essential to insure safe vehicle operation, refer to "CABLE ROUTING DIAGRAM" (P.9 ~ 10).

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



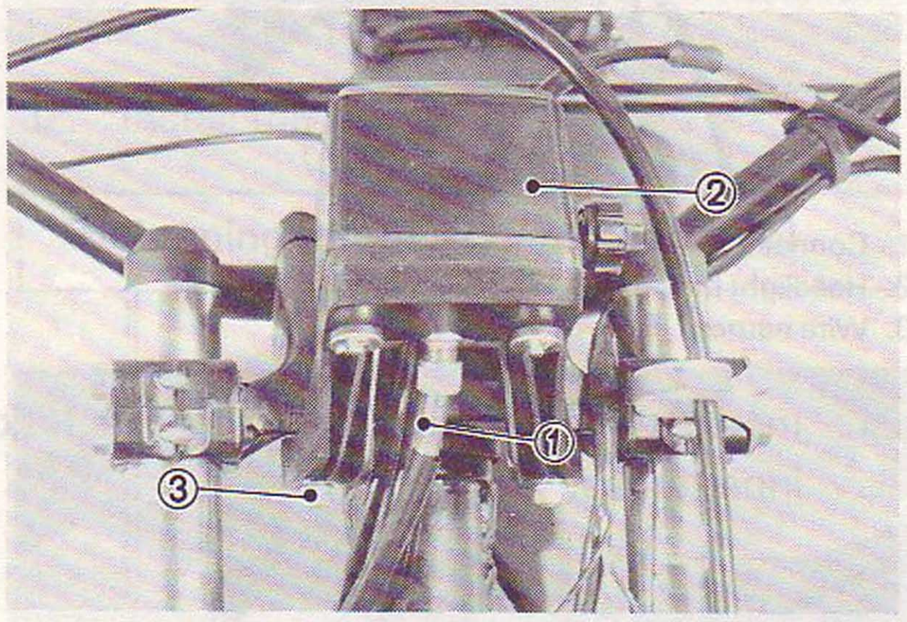
1. Holder cover

20 Install the speedometer assembly under the handle crown.

Tightening torque: 0.7 m-kg (5ft-lb)

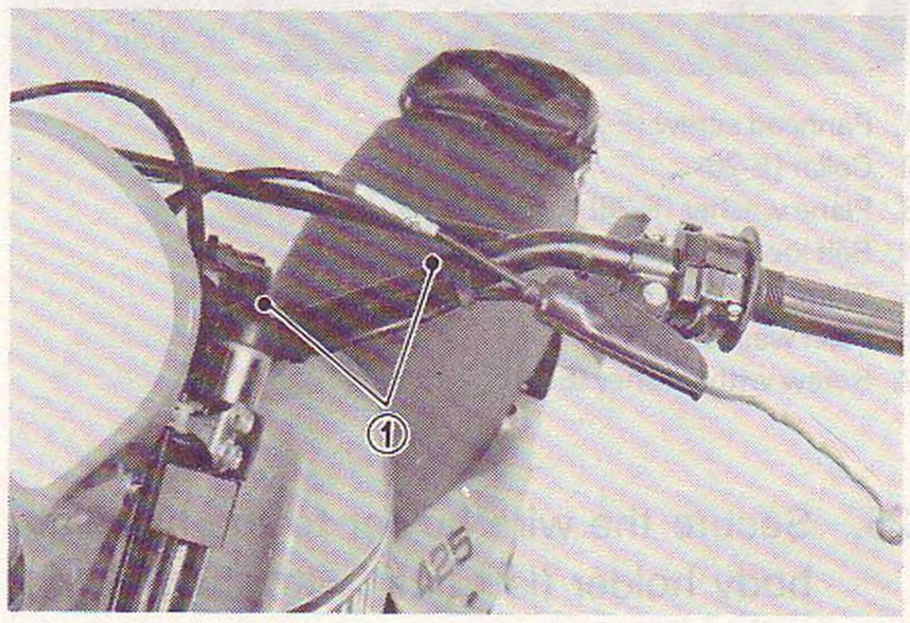
21. Connect the speedometer cable to the speedometer. Tighten securely with fingers.

For detailed cable routing, refer to "CABLE ROUTING DIAGRAM" (P.9 ~ 10)



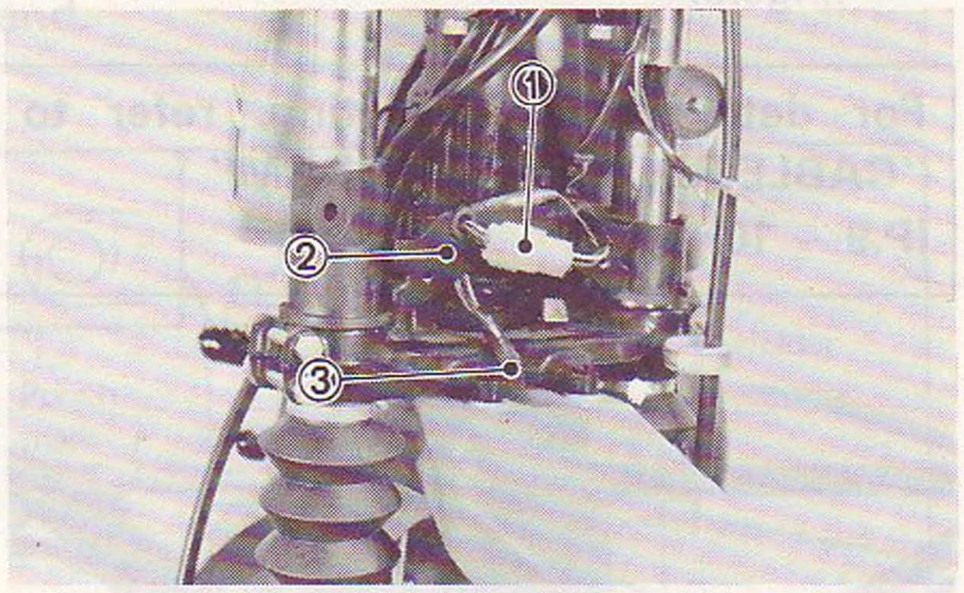
1. Meter cable (C-7) 2. Meter assembly (C-12)
3. Bolt with washer (E-11)

22. Clamp the switch lead wire with switch cord bands. Connect the lead wire to the coupler in the headlight body.



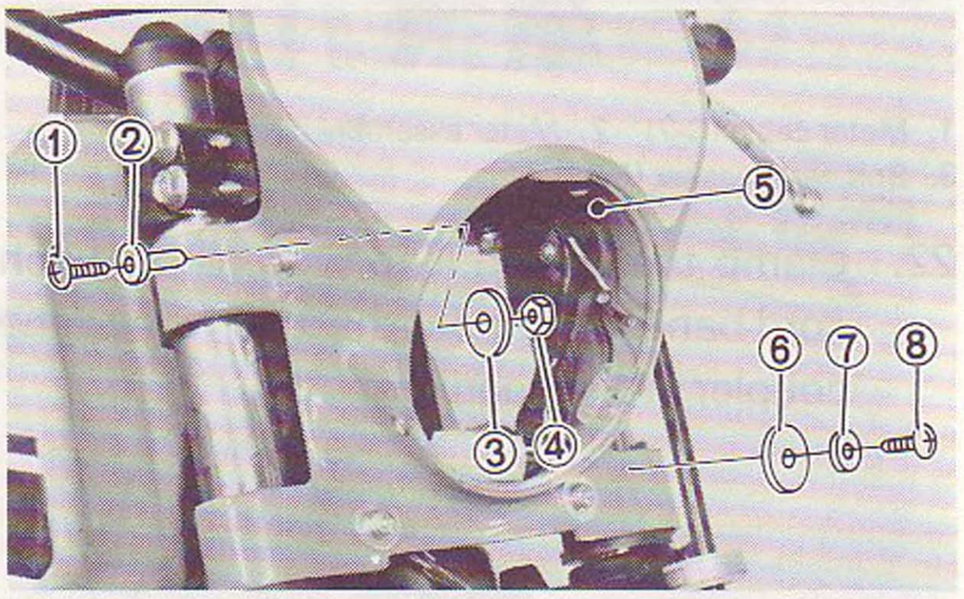
1. Switch cord band (E-23)

23. Mount the headlight bracket between the fork inner tubes, and as illustrated below, fit the wire harness to the slits in the headlight bracket.



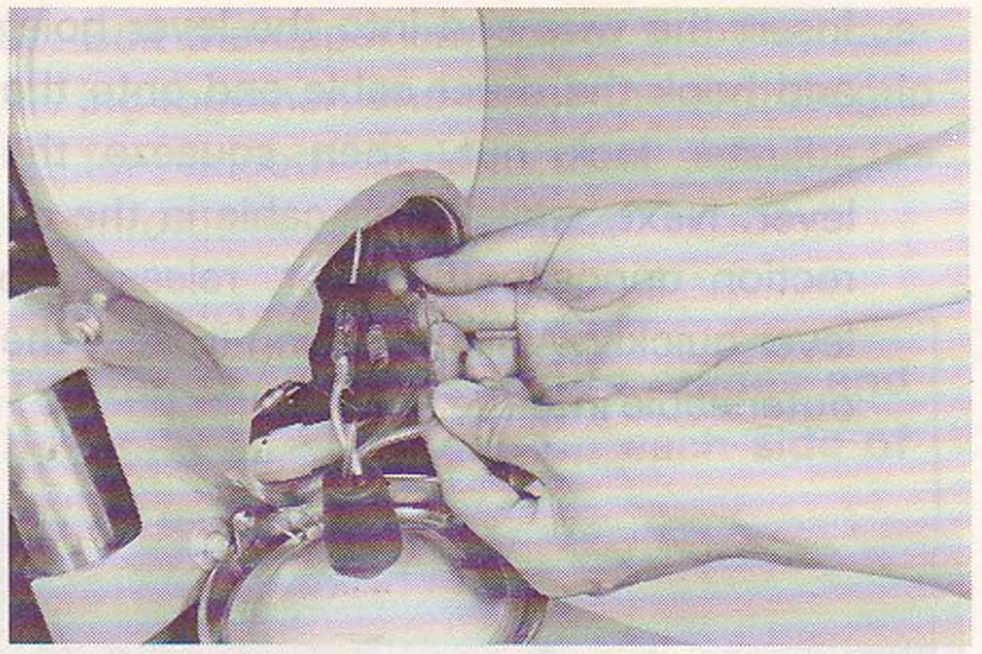
1. Connector
2. Headlight bracket (C-17)
3. Wire harness

24. Install the headlight body on the fork inner tubes.

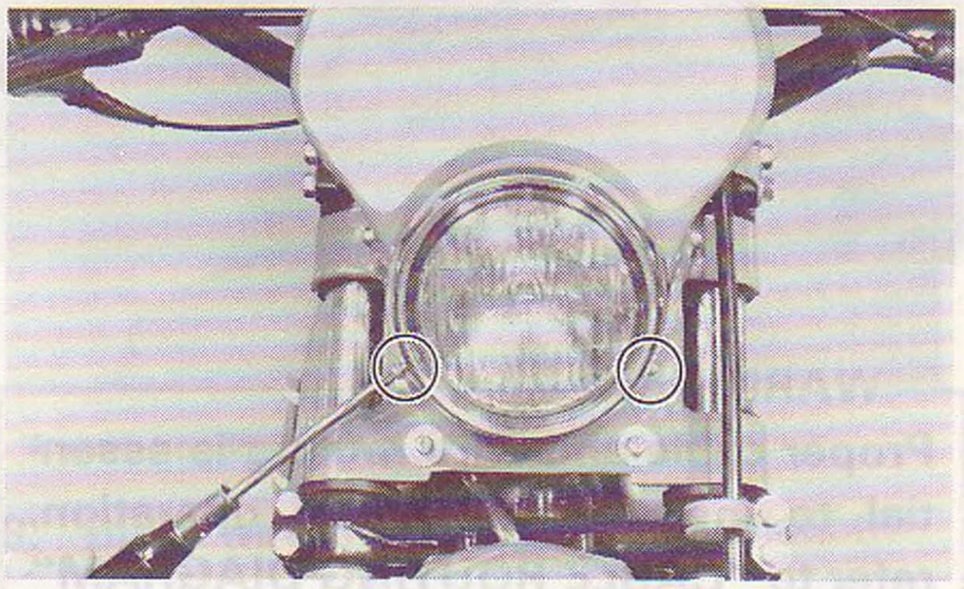


1. Panhead screw (E-25)
2. Collar (E-26)
3. Plane washer (E-28)
4. Self locking nut (E-27)
5. Clamp (E-29)
6. Plain washer (E-31)
7. Screw with washer (E-30)

25. Secure the wire holder to the headlight body holder (left half) with the bolt (8), hold the handle switch wire with the wire holder, and connect the headlight unit wires.



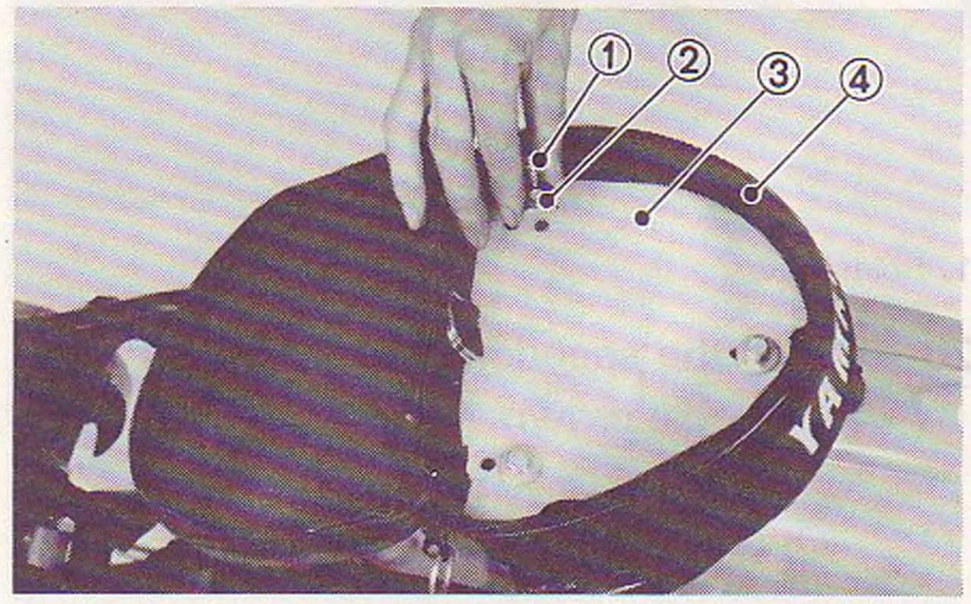
26. Install the headlight unit assembly on the headlight body.



1. Screw with washer (E-24)

27. When installing the headlight lens assembly, care should be used so that wires are not pinched.
28. Install the carrier box and bracket 2 at the rear of the frame.

Tightening torque: 0.7 m-kg (5 ft-lb)

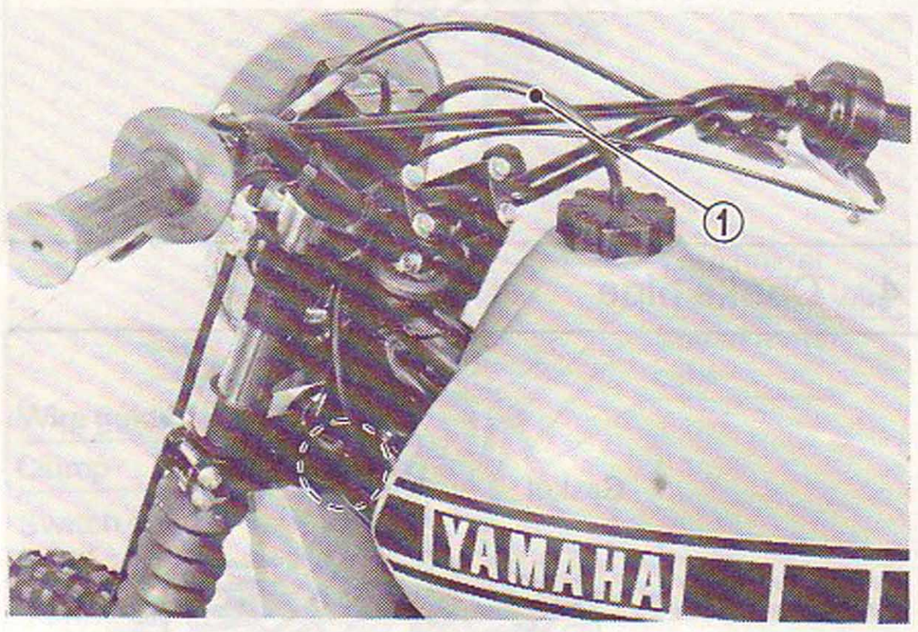


1. Bolt with washer (E-9)
2. Plain washer (E-10)
3. Carrier bracket (C-16)
4. Carrier box (C-15)

29. Install the tool kit in the carrier box and secure the kit with a band.

30. Connect one end of the air breather pipe on the fuel tank filler cap, and other end go down along the head pipe.

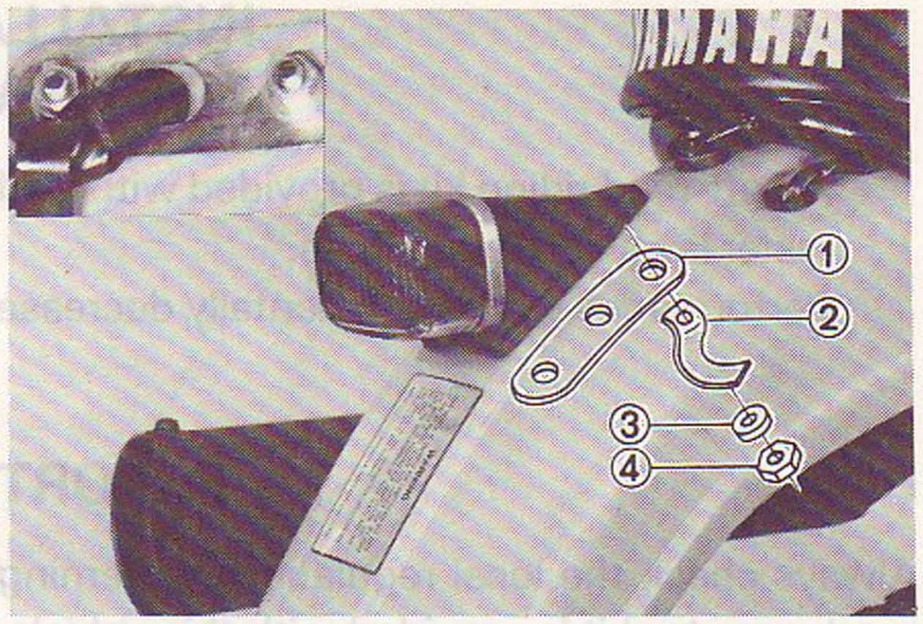
For detailed cable routing, refer to "CABLE ROUTING DIAGRAM" (P.9 ~ 10)



1. Breather pipe (D-8)

31. Install the taillight assembly. And connect the lead wire to the wire harness, and clamp it.

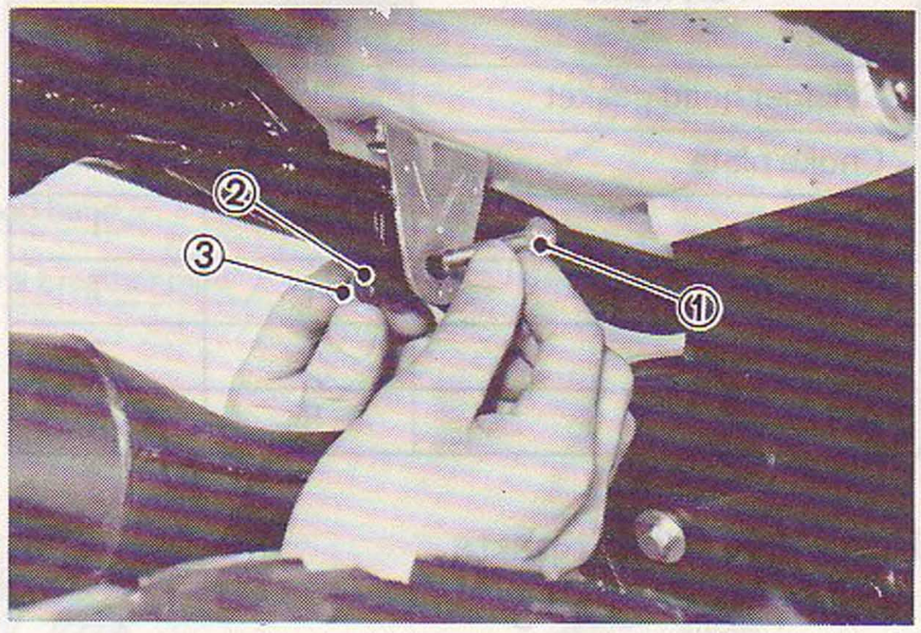
For detailed cable routing, refer to "CABLE ROUTING DIAGRAM"



1. Special washer (E-12) 2. Clamp (E-13) 3. Nut (E-15)
4. Spring washer (E-14)

32. Install the seat to the frame.

Tightening torque: 0.7 m-kg (5 ft-lb)



1. Hexagon bolt (E-1) 2. Plain washer (E-2)
3. U nut (E-3)

INSTALLATION OF THE OFF-ROAD RIDING KIT

An off-road riding kit is provided with each vehicle to comply with noise level and spark arrester laws and regulations.
Performance will be substantally decreased.

IMPORTANT NOTICE

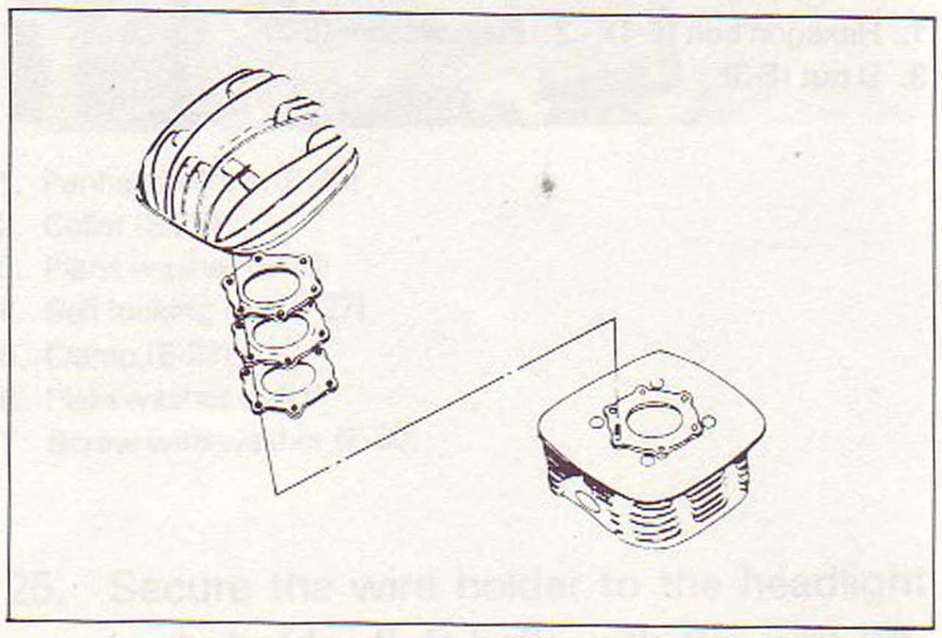
Always check the local regulations governing the areas where you will ride. An 86 dB(A) silencer spark arrestor kit is provided with this vehicle for use where required. Installation of kit will reduce performance substantially. This vehicle may not be legally operated public streets, roads or highways. Such use is prohibited by law.

Description of the kit

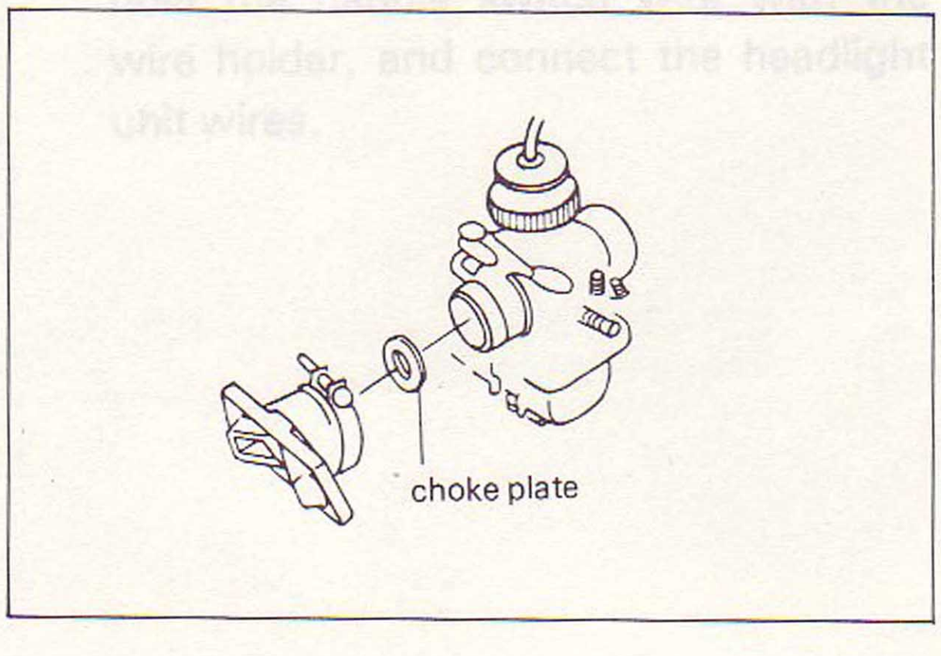
Part name	Q'ty	
	IT250G	IT425G
Cylinder head gasket	2	–
Choke plate	1	–
Main jet	–	1
Choke pipe	1	1
Silencer cap	1	1
Absorber	8	10

Installing the kit parts.

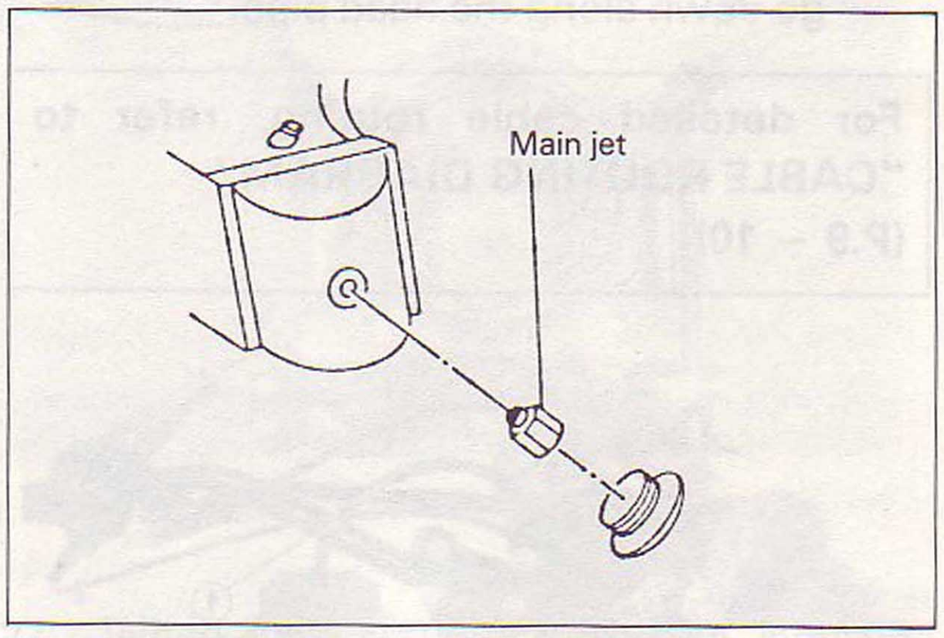
1. Cylinder head gasket



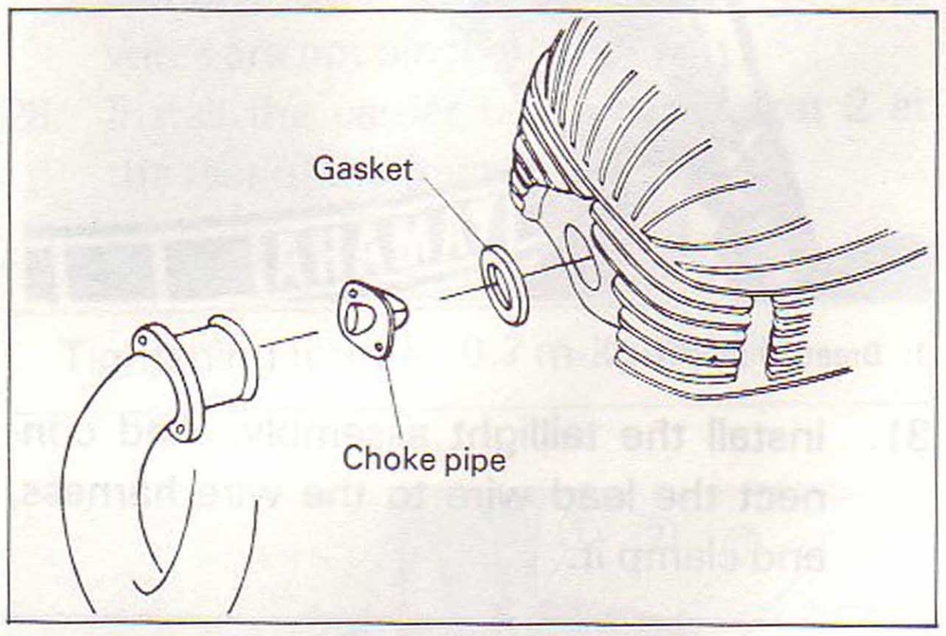
2. Choke plate



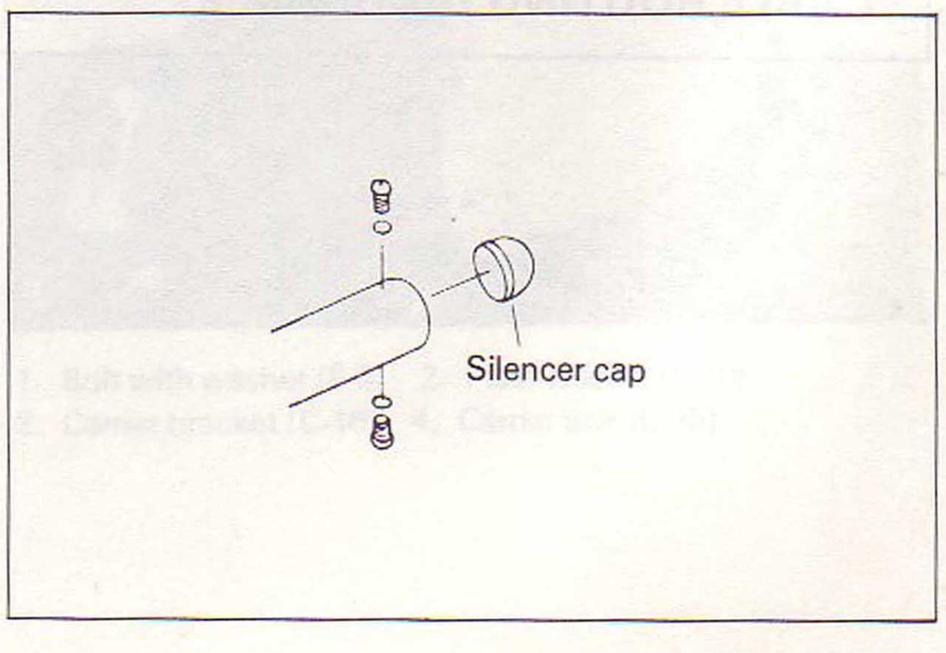
3. Main jet



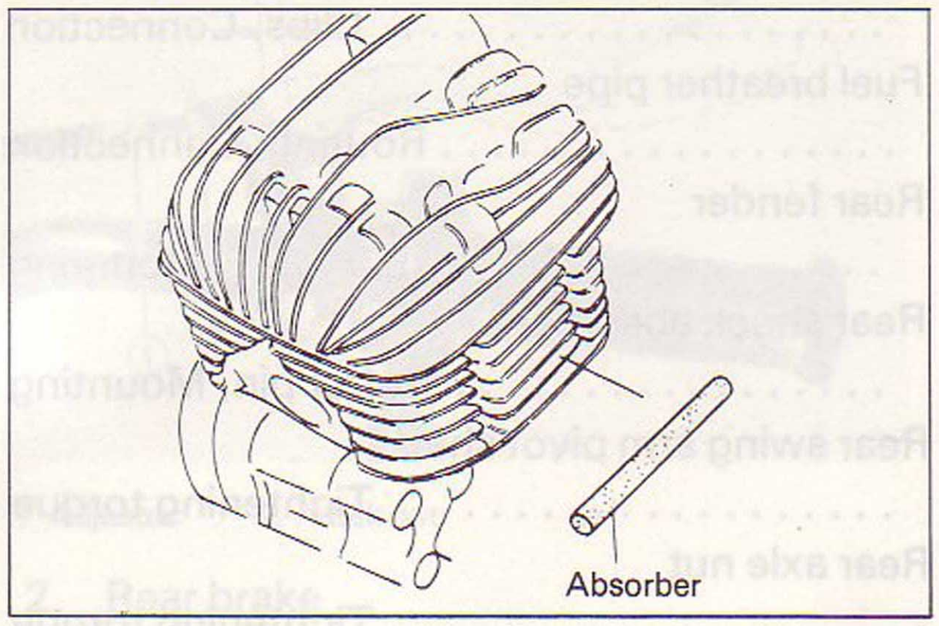
4. Choke pipe



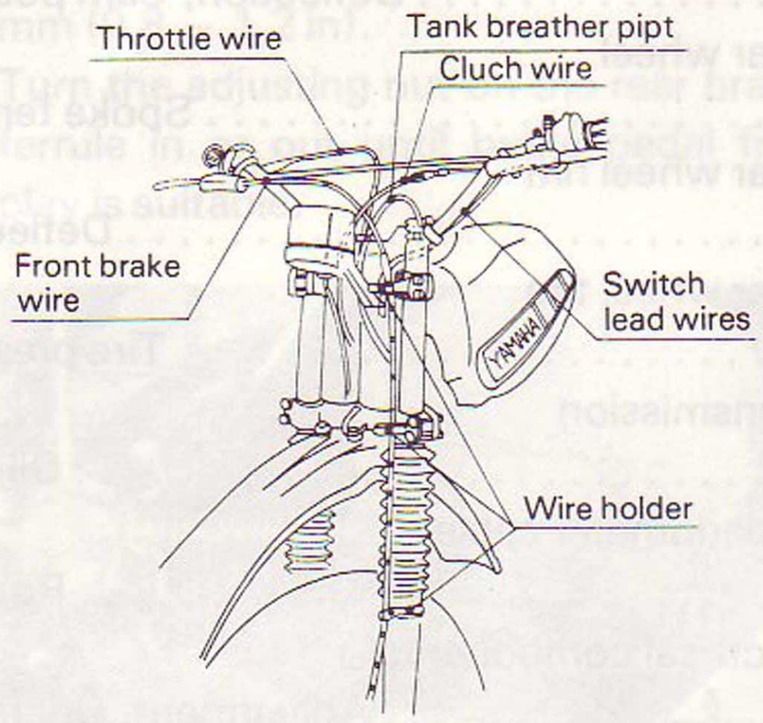
5. Silencer cap

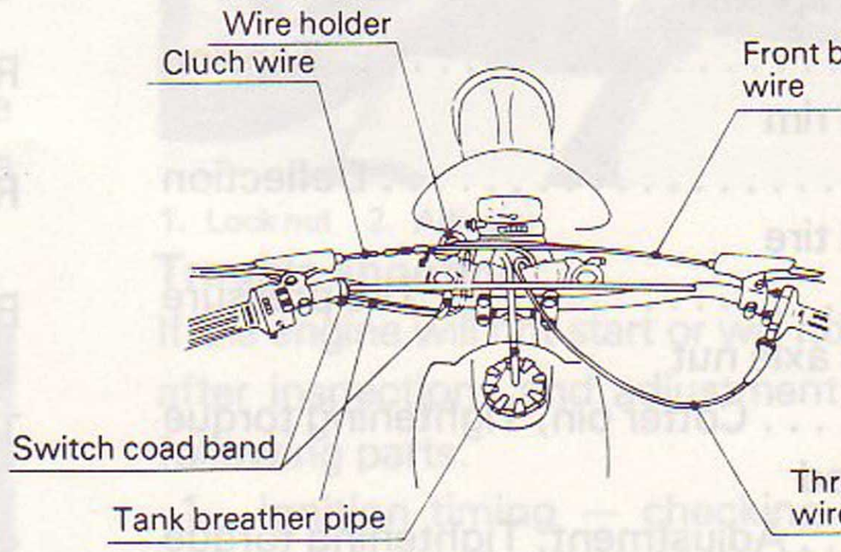


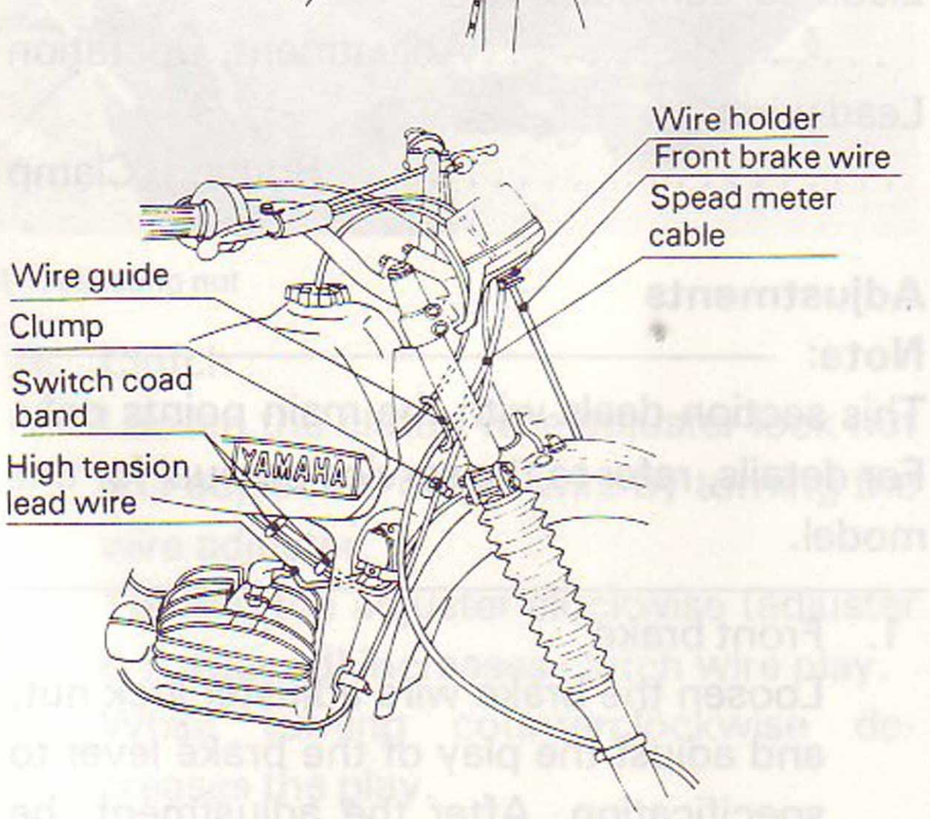
6. Absorber

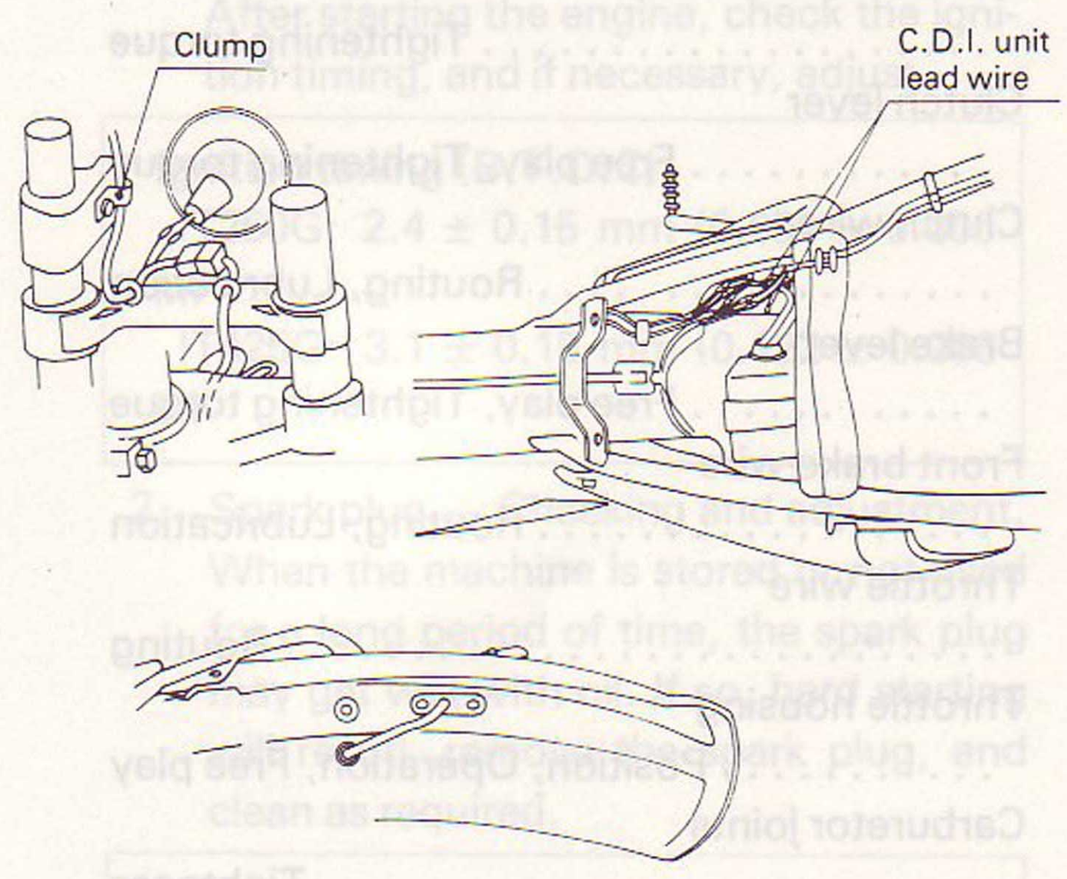


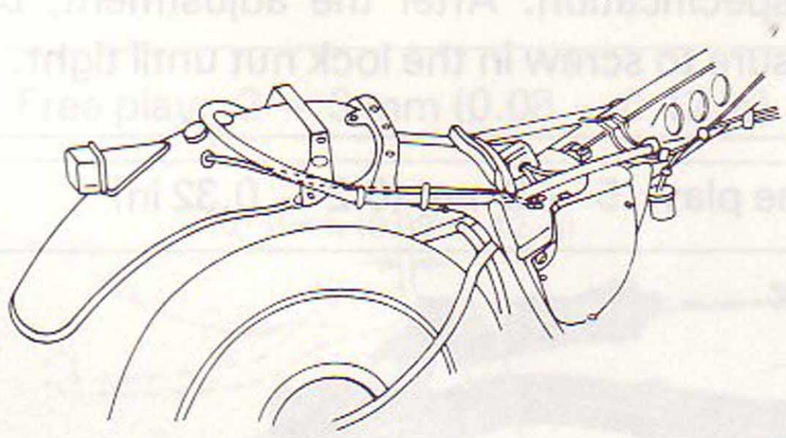
CABLE ROUTING DIAGRAM

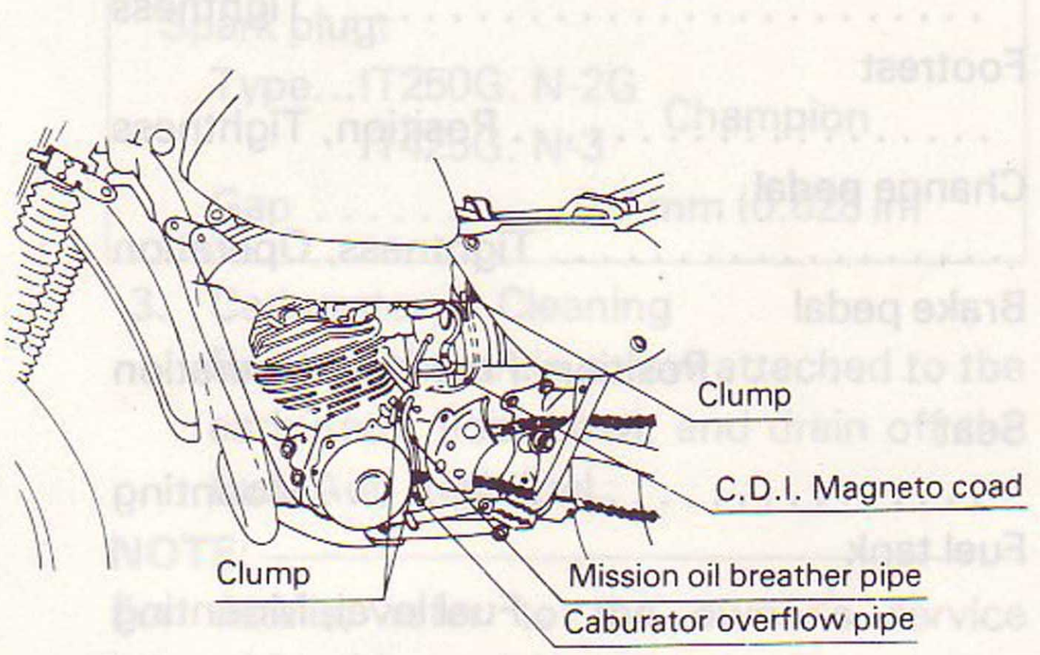












INSPECTIONS AND ADJUSTMENTS

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

Front wheel spokes
. . . . . Tension

Front wheel rim
. . . . . Deflection

Front wheel tire
. . . . . Tire pressure

Front wheel axle nut
. . . . . Cotter pin, Tightening torque

Steering head
. . . . . Adjustment, Tightening torque

Handle holder
. . . . . Tightening torque

Clutch lever
. . . . . Free play, Tightening torque

Clutch wire
. . . . . Routing, Lubrication

Brake lever
. . . . . Free play, Tightening torque

Front brake wire
. . . . . Routing, Lubrication

Throttle wire
. . . . . Routing

Throttle housing
. . . . . Position, Operation, Free play

Carburetor joints
. . . . . Tightness

Footrest
. . . . . Position, Tightness

Change pedal
. . . . . Tightness, Operation

Brake pedal
. . . . . Position, Free play, Operation

Seat
. . . . . Mounting

Fuel tank
. . . . . Fuel level, Mounting

Fuel pipe
. . . . . Clips, Connection

Fuel breather pipe
. . . . . Routing, Connection

Rear fender
. . . . . Mounting

Rear shock absorber
. . . . . Cotter pin, Mounting

Rear swing arm pivot shaft
. . . . . Tightening torque

Rear axle nut
. . . . . Tightening torque

Chain
. . . . . Deflection, Cam position

Rear wheel
. . . . . Spoke tension

Rear wheel rim
. . . . . Deflection

Rear wheel tire
. . . . . Tire pressure

Transmission
. . . . . Oil level

Speedometer cable
. . . . . Routing

Electrical components
. . . . . Adjustment, Operation

Lead wires
. . . . . Routing, Clamp

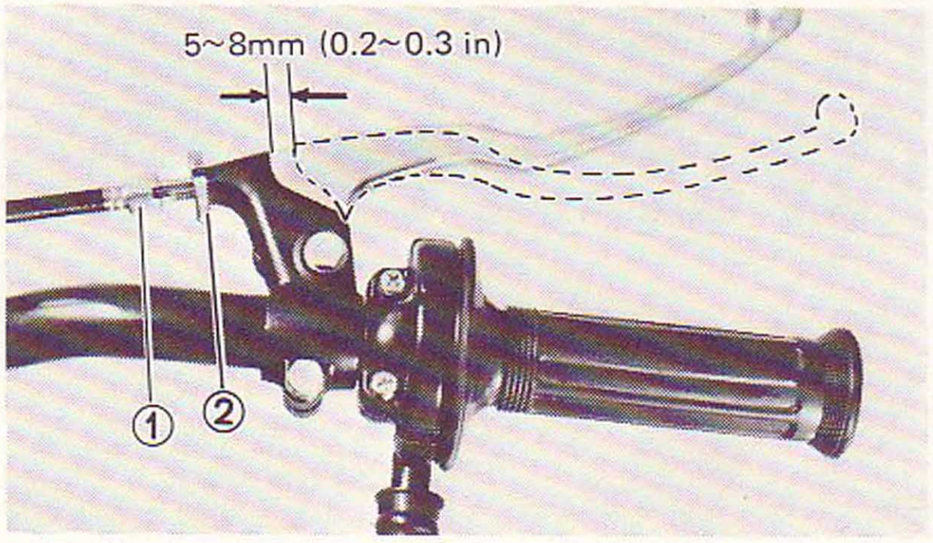
Adjustments

Note:

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

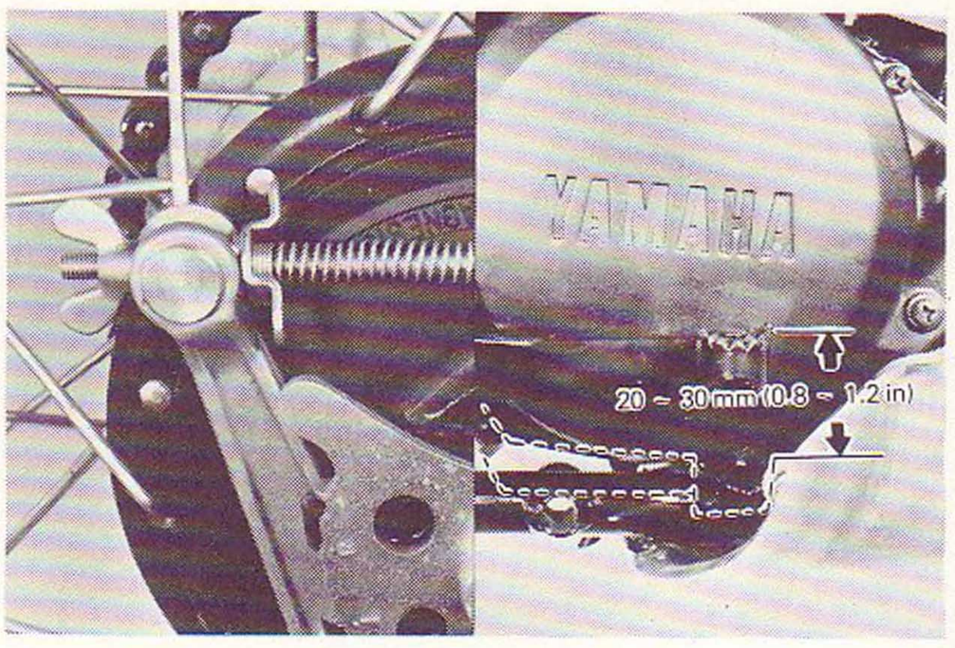
1. Front brake
   Loosen the brake wire adjuster lock nut, and adjust the play of the brake lever to specification. After the adjustment, be sure to screw in the lock nut until tight.

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



1. Adjuster 2. Lock nut

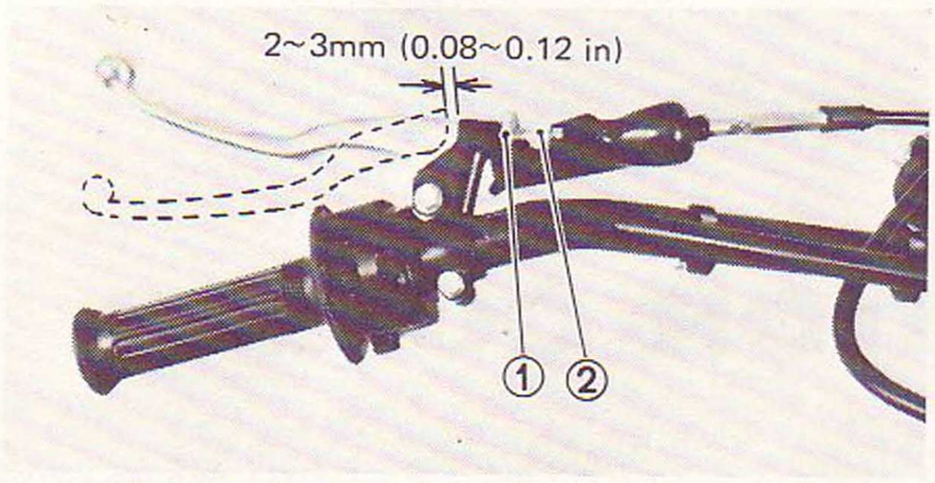
2. Rear brake
   Adjust the rear brake pedal free play to suit, providing a minimum of 20 ~ 30 mm (0.8 ~ 1.2 in).
   Turn the adjusting nut on the rear brake ferrule in or out until brake pedal free play is suitable.



1. Adjusting nut

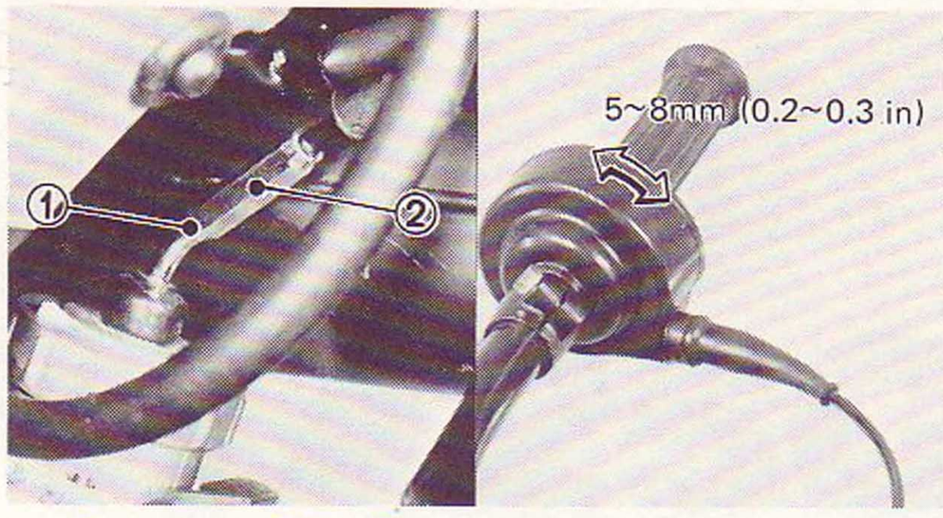
3. Clutch
   Loosen the clutch wire adjuster lock nut and adjust the clutch wire by turning the wire adjuster.
   Turning the adjuster clockwise (adjuster is tightened) increases clutch wire play.
   While turning counterclockwise decreases the play.

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



1. Adjuster 2. Lock nut

4. Throttle
   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.



1. Lock nut 2. Adjuster

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): IT250G: 2.4 ± 0.15 mm (0.094 ± 0.006 in) IT425G: 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 resutl, remove the spark plug, and clean as required.

Spark plug: Type...IT250G. N-2G, IT425G. N-3 Champion Gap . . . . . 0.7 mm (0.028 in)

3. Carburetor — Cleaning
   Remove the drain screw 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.