



# YAMAHA

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# DT 100D

# ASSEMBLY MANUAL



90894-07620

# 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.

YAMAHA DT100D  
ASSEMBLY MANUAL  
1st EDITION, OCTOBER, 1976  
OVERSEAS SERVICE DEPARTMENT  
YAMAHA MOTOR CO., LTD  
IWATA, JAPAN  
LIT-11666-00-36

# PREPARATION

To assemble the machine correctly, the following 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

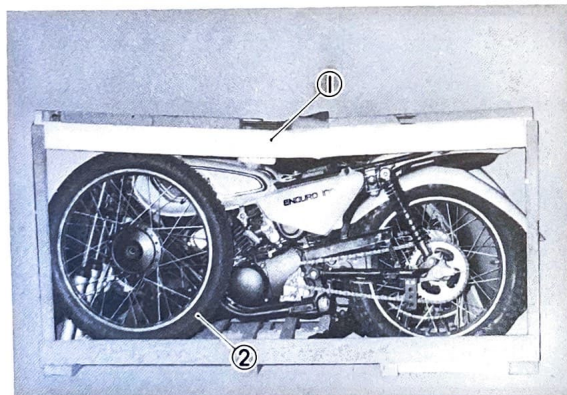
### Note on transportation

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.

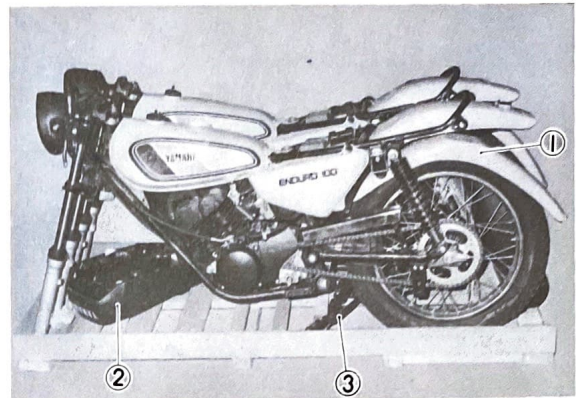
Next, remove the exterior carton by lifting it straight up. Remove foam tray and front wheel.



1. Foam tray 2. Front wheel

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. Next, remove the seat and footrest assembly.



1 Front fender 2 Seat 3 Foot rest assembly

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

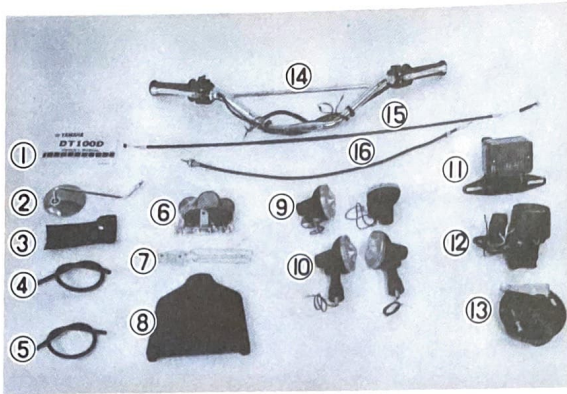
# PARTS CHECK LIST

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

The following parts are contained in the cardboard box and the vinyl bag in the box. Check the quantity of parts. Also check for damage.

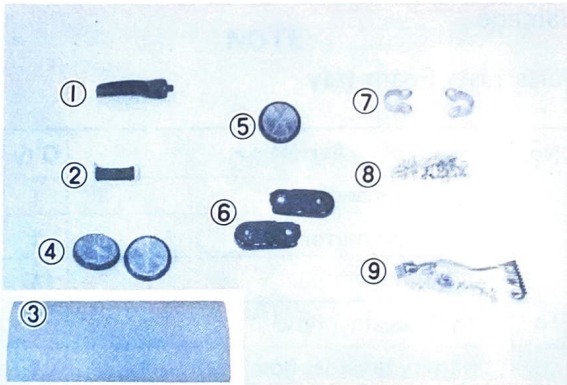
Parts List: Foam tray

No.	Part name	Q'ty
1	Owner's manual	1
2	Rear view mirror	1
3	Tool kit	1
4	Tank breather hose	1
5	Battery breather hose	1
6	Vinyl bag "A"	1
7	Wire holder	1
8	Bracket	1
9	Front flasher light (R and L)	2
10	Rear flasher light (R and L)	2
11	Tail light assembly	1
12	Speedometer assembly	1
13	Brake shoe plate assembly	1
14	Handlebar assembly	1
15	Brake cable assembly	1
16	Speedometer cable assembly	1



Parts List: Vinyl Bag "A"

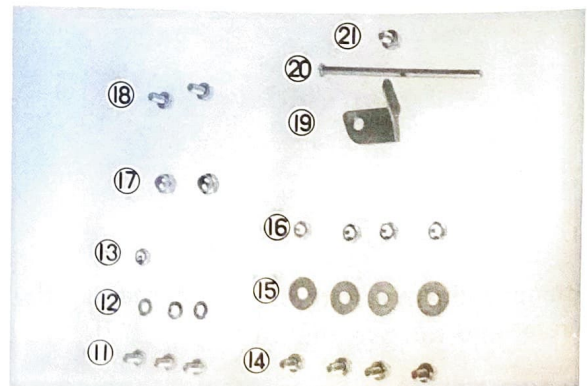
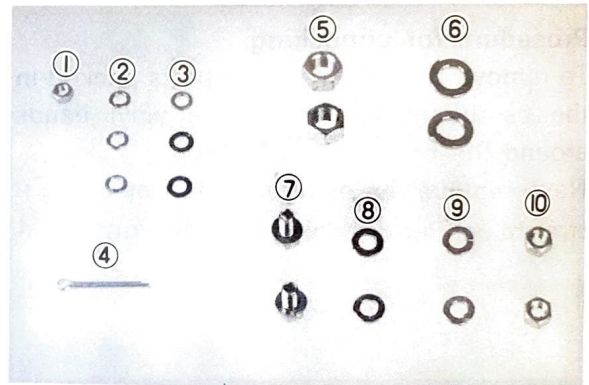
No.	Part name	Q'ty
1	Lever cover	1
2	Tool band	1
3	Tool cover	1
4	Front reflector	2
5	Rear reflector	1
6	Rear flasher stay (R and L)	2
7	Front flasher stay (R and L)	2
8	Vinyl bag "a"	1
9	Vinyl bag "b"	1



Parts List: Vinyl Bag "a"

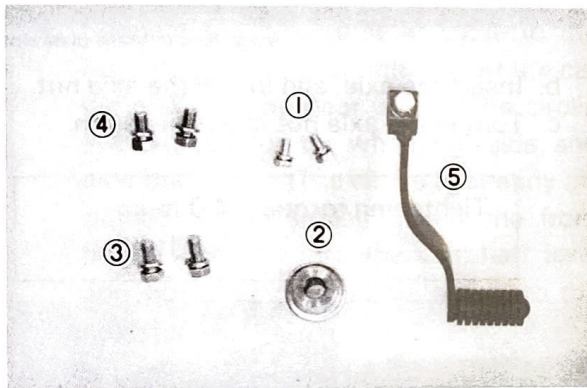
No.	Part name	Q'ty	Remarks
1	Nut	1	Reflector
2	Spring washer (front	3	
3	Plate washer (and rear)	3	
4	Cotter pin	1	Front wheel
5	Nut	2	Rear flasher
6	Spring washer	2	

7	Bolt with spring washer (6x16mm)	2	Licence bracket
8	Plate washer	2	
9	Spring washer	2	
10	Nut	2	Taillight
11	Bolt (6x12mm)	3	
12	Spring washer	3	
13	Nut	1	Front fender
14	Bolt with spring washer (6x14mm)	4	
15	Washer	4	
16	Nut	4	Front flasher
17	Crown nut	2	
18	Bolt with spring washer (6x12mm)	2	Wire holder
19	Stopper	1	Seat
20	Clevis pin	1	
21	Bolt with spring washer	1	



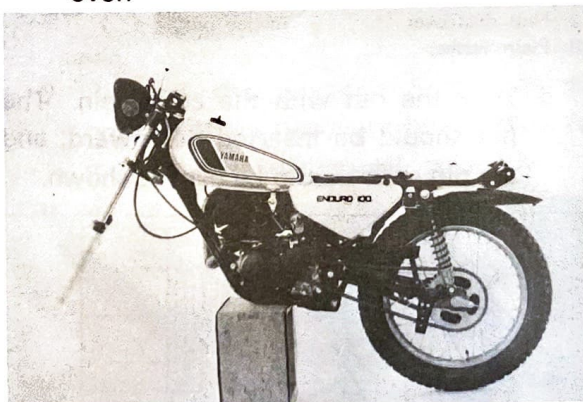
Parts List: Vinyl bag "b"

No.	Part name	Q'ty	Remarks
1	Bolt with spring washer (6x10mm)	2	Speed
2	Hub dust cover	1	F. Wheel
3	Bolt with spring washer (8x20mm)	2	Foot rest
4	Bolt with spring washer (8x16mm)	2	
5	Shift pedal with bolt (6x20mm)	1	—



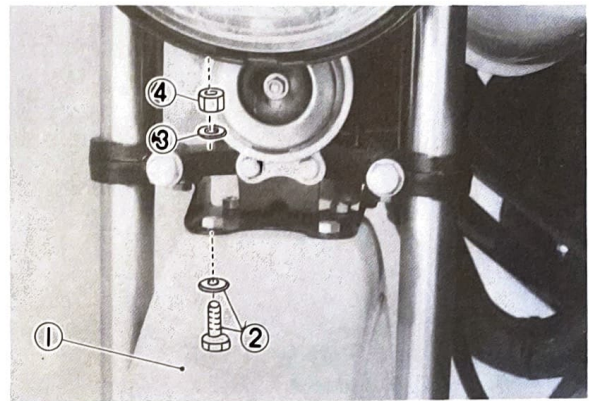
## SET-UP PROCEDURES

1. To set up the machine, place a proper-size wooden box or a wooden block 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 using the plate washers, hexagon head bolts with washers and nuts.

Tightening torque: 0.35 m·kg  
(2.5 ft·lb)



1. Front fender
2. Hexagon head bolt with washer
3. Plate washer
4. Nut

**NOTE:** \_\_\_\_\_

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

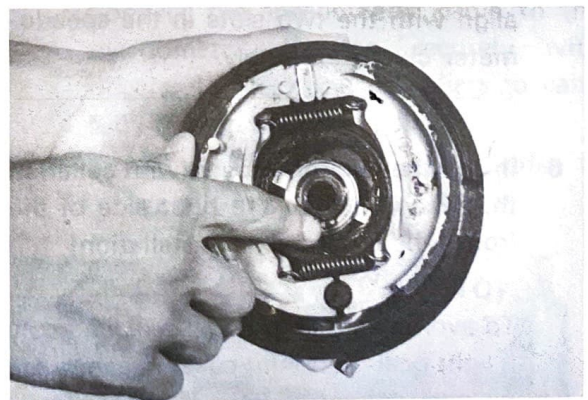


3. Apply a light coat of grease to the speedometer drive gear and oil seal.

**CAUTION:** \_\_\_\_\_

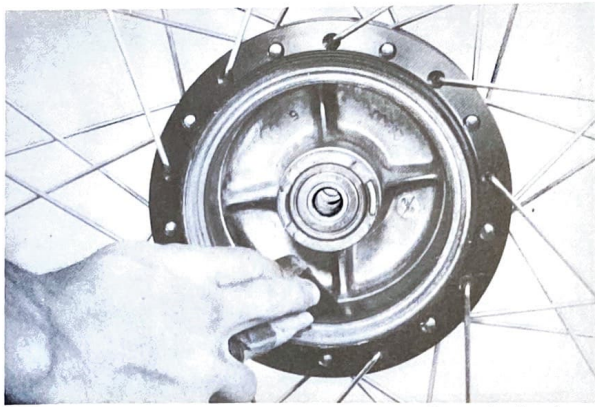
Take care not to put grease on the brake linings or inner surface of the brake drum.

If you do so, clean using a rag dampened with a solvent. Foreign material on braking surfaces can cause impaired braking action.



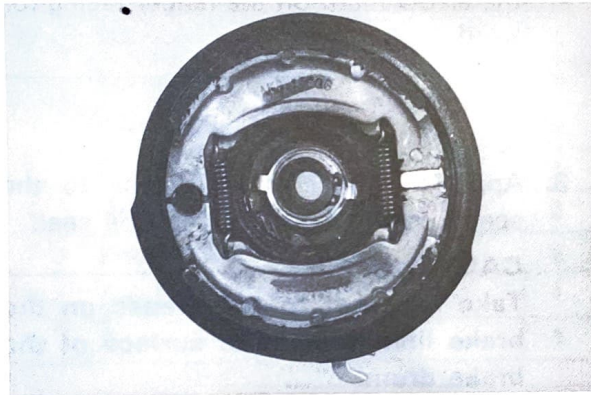
Speedo drive gear, oil seal

4. Remove the front wheel axle nut and remove the wheel axle bolt.
5. Install the brake shoe plate assembly in the front wheel hub.
  - a. Clean the brake shoe linings and wheel hub with a clean cloth.



Clean brake drum

- b. Make sure the brake shoes and springs are correctly installed in the shoe plate assembly.



- c. Install the brake shoe plate assembly in the wheel hub.

**NOTE:** \_\_\_\_\_

Make sure the two legs in the wheel hub align with the two slots in the speedometer clutch assembly.

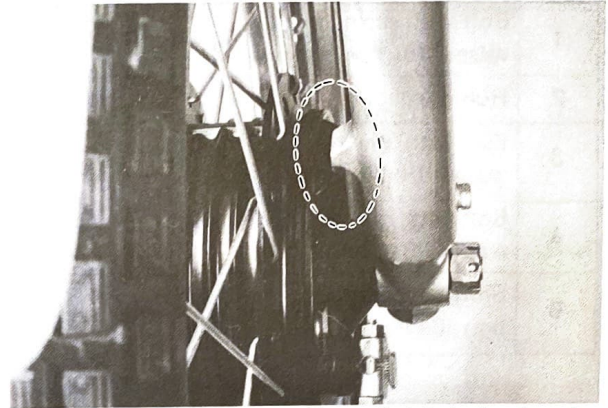
- 6. Install the hub dust cover (with collar) in the wheel hub on the right side of the front wheel. (See axle installation)

**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 front wheel on the front forks.
  - a. Insert the front wheel between the front fork legs so that the stopper (projection) on the front fork end is correctly en-

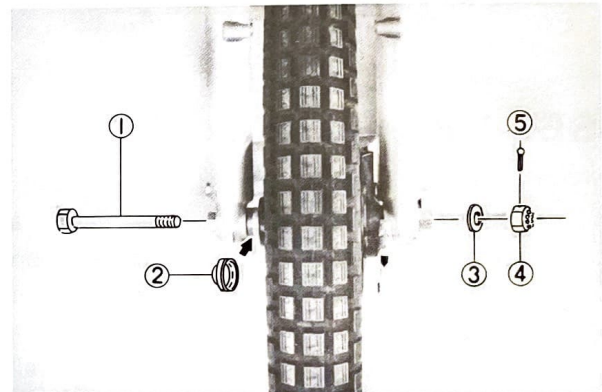
gaged with the slot in the brake shoe plate.



Engage fork in brake plate slot

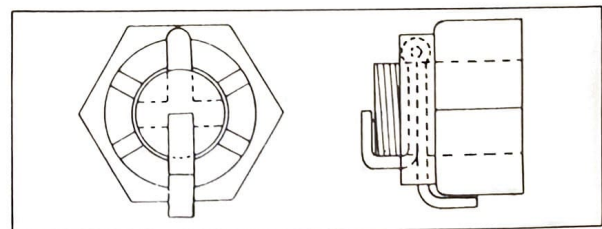
- b. Insert the axle, and install the axle nut.
- c. Torque the axle nut to specification.

Tightening torque: 4.0 m-kg  
(30 ft-lb)



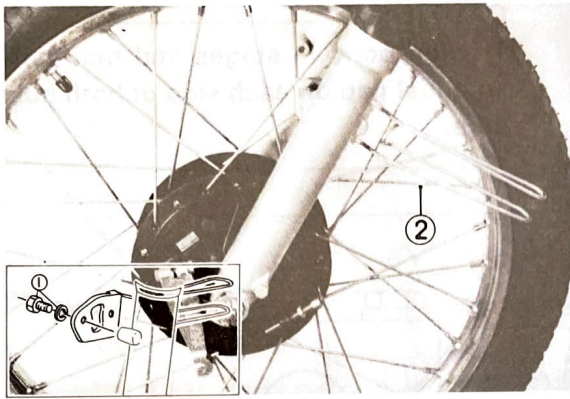
- 1. Axle
- 2. Hub dustcover
- 3. Plain washer
- 4. Nut
- 5. Cotter pin

- d. Lock the nut with the cotter pin. The pin should be inserted downward, and the pin ends should be bent as shown.



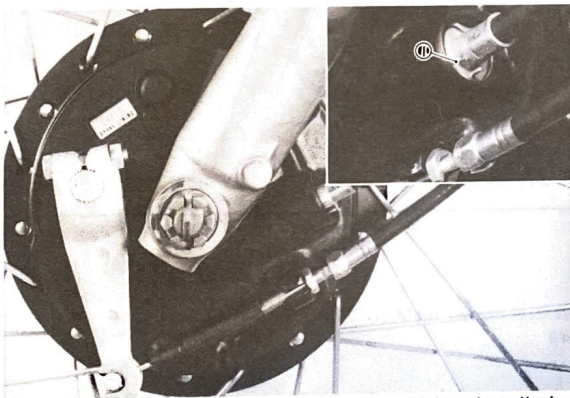
- 8. Install the wire holder on the outer left tube.

Tightening torque: 0.35 m-kg  
(2.5 ft-lb)



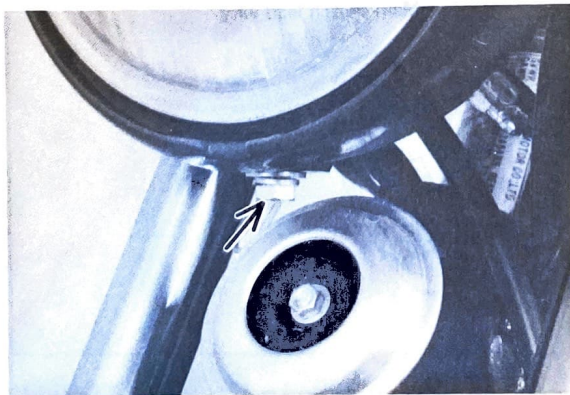
1. Hexagon head Bolt with washer 2. Wire holder

9. Connect the speedometer cable to the front wheel hub gear unit. Insert the cable end into the gear unit, fit the circlip in the groove on the wheel hub side, and lock the cable. (The circlip is already attached to the cable.) Insert the front brake wire end into the camshaft lever and hook the outer cable end onto the adjuster.

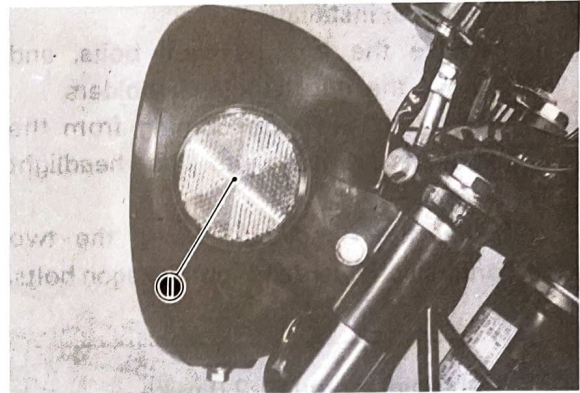


1. Circlip Cables installation

10. Remove the hexagon bolt from the bottom of the headlight body. Then remove the headlight unit assembly.



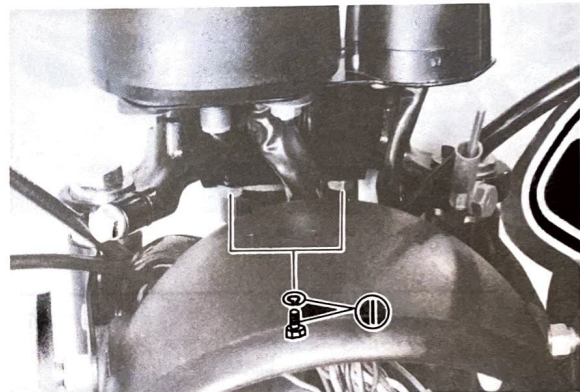
11. Install the front reflector with washers to head light stay.



1. Reflector

12. Install the speedometer assembly bracket under the handle crown using bolts with spring washers.

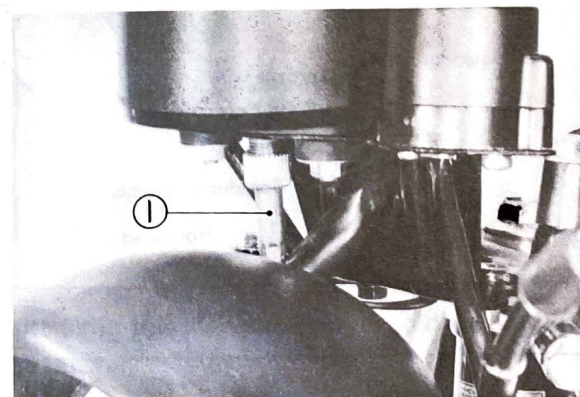
Tightening torque: 0.35 m·kg  
(2.5 ft·lb)



1. Bolt with spring washer

13. Connect the speedometer cable to the speedometer. Tighten securely with fingers. If necessary, use pliers to carefully tighten the cable collar nut.

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

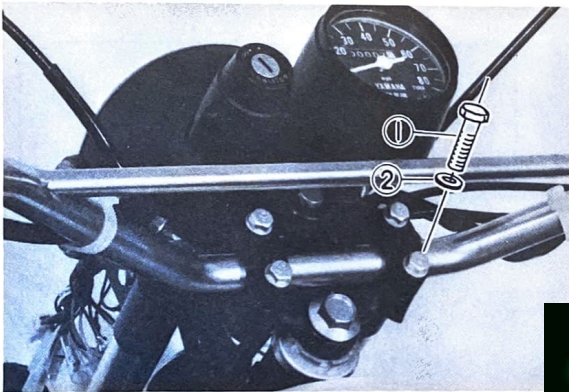


1. Speedometer cable

14. Handlebar installation

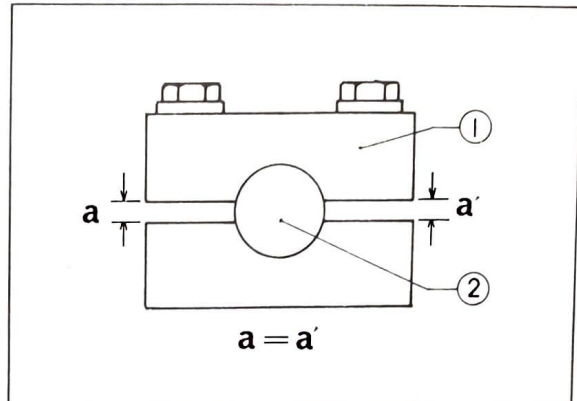
- a. Remove the four hexagon bolts, and remove the two handlebar holders.
- b. Insert the lead wire coming from the handlebar switch into the headlight body.
- c. Install the handlebars using the two handlebar holders and four hexagon bolts.

Tightening torque: 2.0 m·kg  
(14 ft·lb)



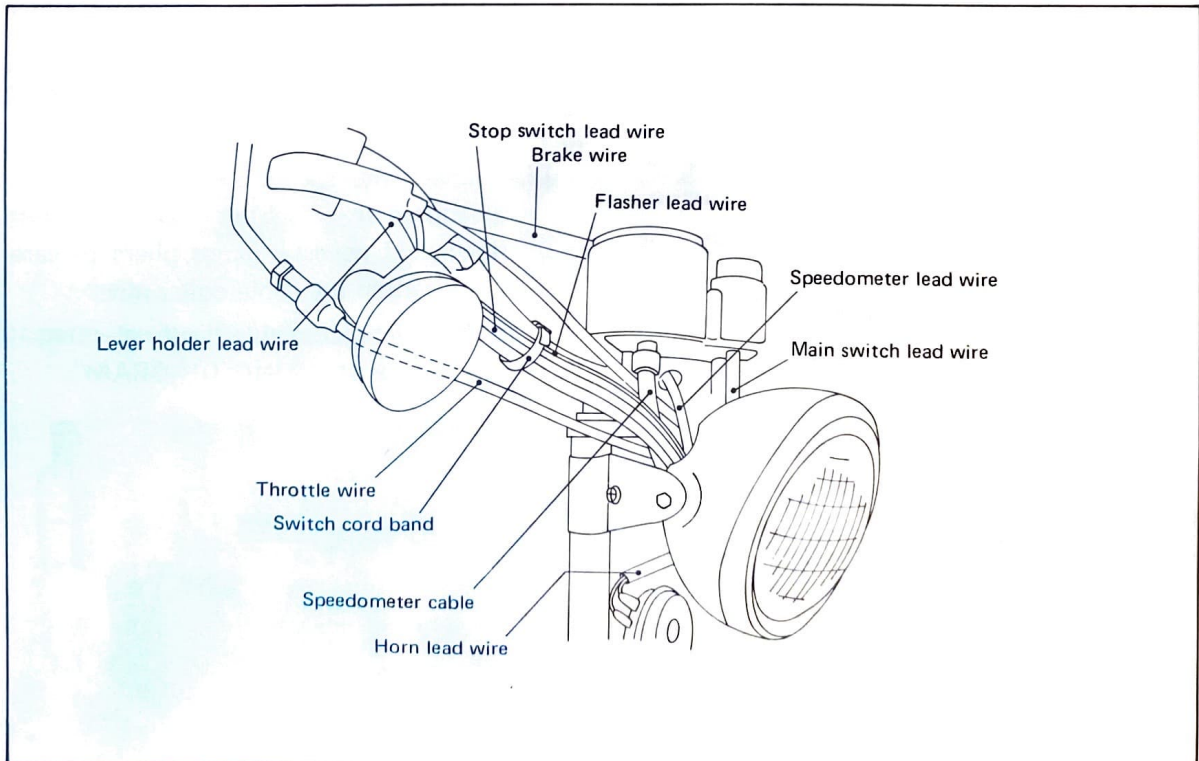
1. Hexagon bolt 2. Spring washer

**CAUTION:** \_\_\_\_\_  
Tighten bolts in stages and maintain an equal gap on each side of both holders.  
\_\_\_\_\_

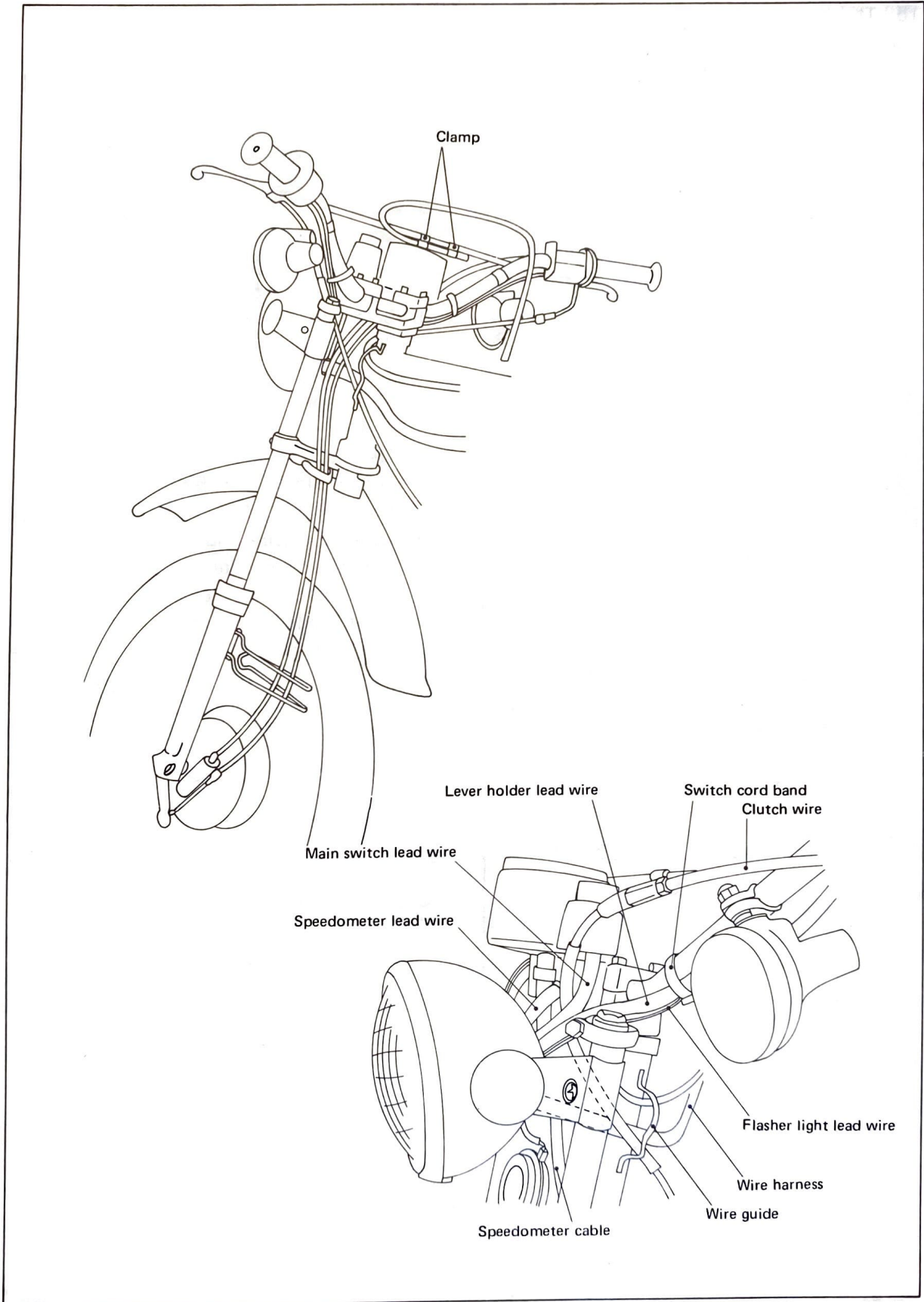


1. Holder 2. Handlebar

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



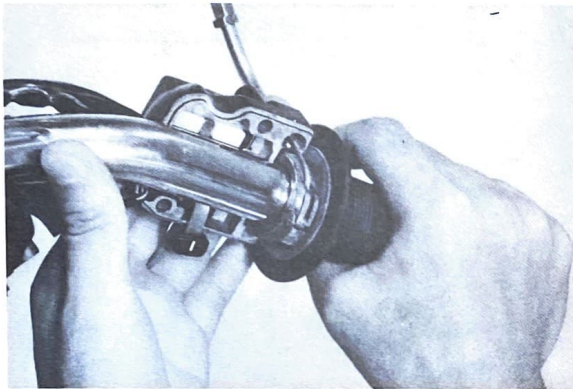




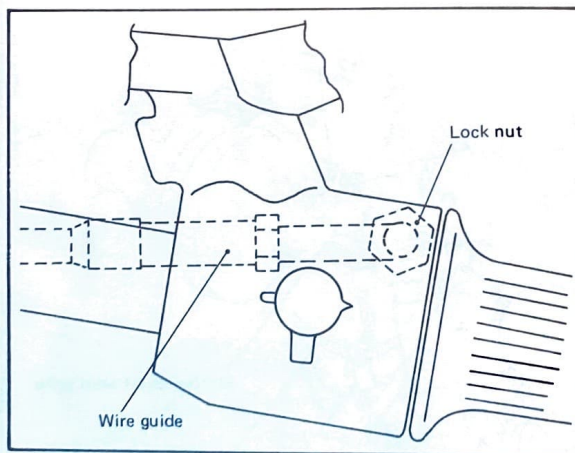
**IMPORTANT:.. .....**Follow correct routing of all items in this diagram. Failure to do so could result in unsafe assembly of the machine.

## 15. Throttle wire installation

- a. Remove the two screws securing the right handle switch assembly, and separate the switch assembly into the upper and lower halves.
- b. Lubrication: Use suitable cable lubricant on throttle cable during assembly.
- c. Pass the throttle wire through the hole in the lower half of the throttle grip housing, and install the throttle wire.



- d. Put together the two throttle grip housing halves (right handle switch assembly), and secure to the handlebar.
- e. Check to see that the throttle grip moves smoothly.



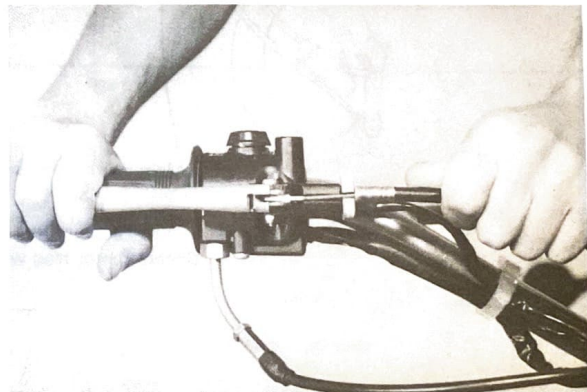
## 16. Brake wire and clutch wire installation

Lubrication: Before assembly, lubricate cables with suitable cable lubricant.

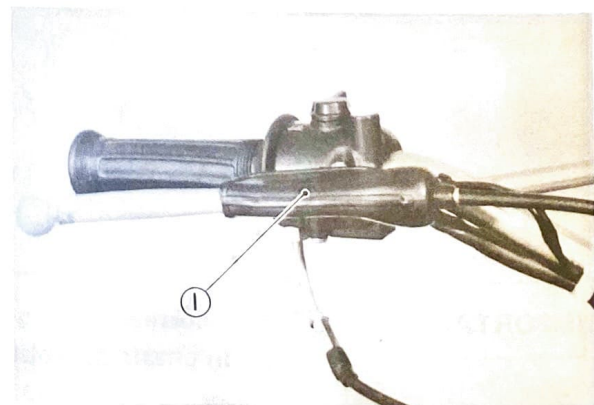
- a. Pass brake cable through the holder cover.



- b. Screw in the cable length adjusters on the brake shoe plate (brake wire) and the crankcase cover (clutch wire).
- c. Fully loosen the lever adjuster locknut, and screw in the adjuster until tight. Next, align the slits in the adjuster and adjuster locknut with the slit in the lever holder.
- d. Insert the wire end into the lever hole, and hook the outer cable end onto the adjuster locknut, then squeeze the lever. Next, while pulling the outer cable in the direction opposite the lever, release the lever quickly. While releasing it, seat the outer cable into the adjuster.



- e. Cover the brake and clutch lever holders with holder covers.



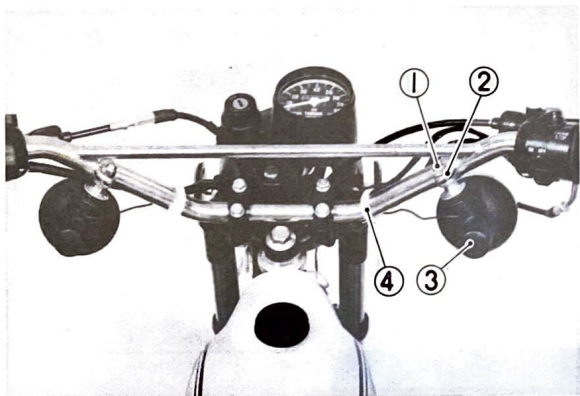
1 Holder cover.

**WARNING:** \_\_\_\_\_  
**Proper cable and wire routing is essential to insure safe vehicle operation. For details of the cable routing, refer to the cable routing diagram.**

17. Install both right and left flasher stays on the handlebar. Install the flashers to the stays using nuts.

Lead wire color:  
 Right: Dark green  
 Left: Dark brown

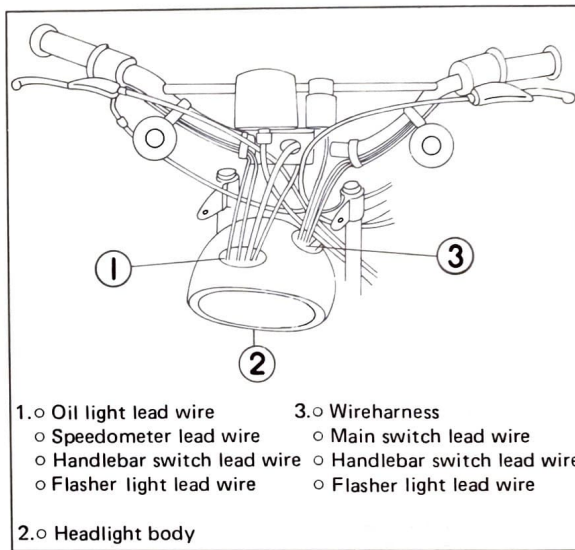
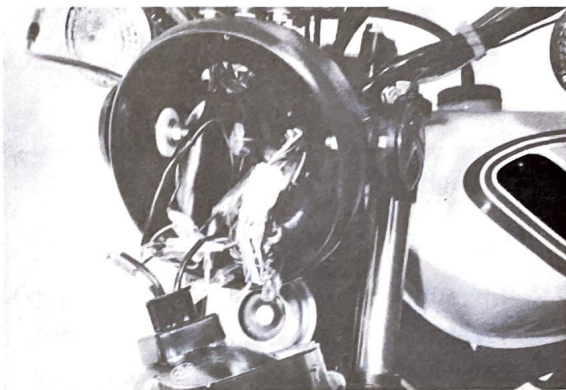
Tightening torque: 0.8 m-kg  
 (5.7 ft-lb)



1 Nut                    3 Flasher  
 2 Flasher stay      4 Band

18. Hold the flasher lead wire to the handlebar with a band, and insert the lead wire end into the headlight body.

19. Connect all lead wires inside the headlight body. The wires of identical color should be connected.



20. When installing the headlight lens assembly, care should be used so that wires are not pinched.

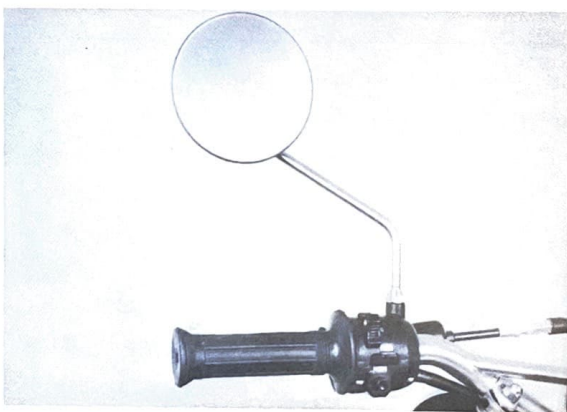


**NOTE:**  
Fit the hole in the headlight unit assembly, over the projection of the headlight body.

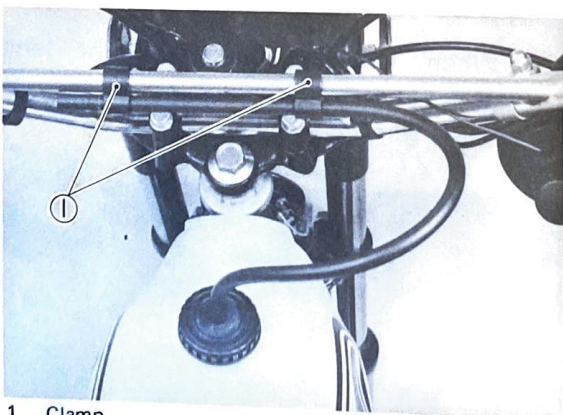
Secure the headlight assembly in place with the bolt.

Tightening torque: 0.35 m-kg  
(2.5 ft-lb)

21. Install the rear view mirror on the clutch lever holder (lefthand side), and tighten the locknut.

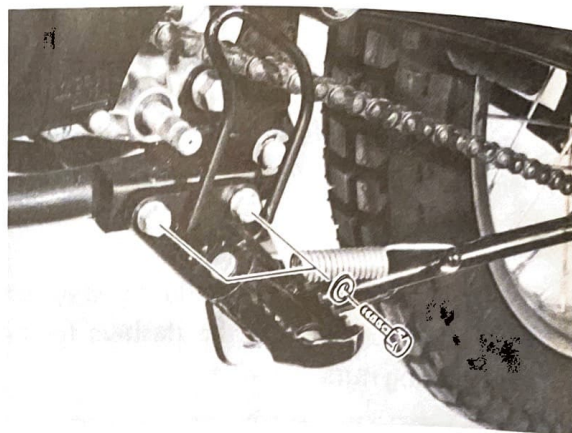


22. Connect one end of the air breather pipe to the fuel tank filler cap, and install the other end to the handlebar with clamp.  
(See CABLE ROUTING DIAGRAM.)



1 . Clamp

23. Insert the footrest assembly into the frame bracket from under the frame. Then install the footrest using bolt with washer (right and left side).



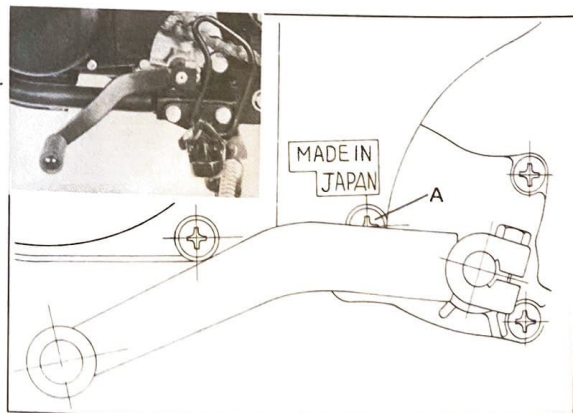
Tightening torque: 1.8 m-kg  
(13 ft-lb)

Left hand side: 8 × 20 mm

Right hand side: 8 × 16 mm

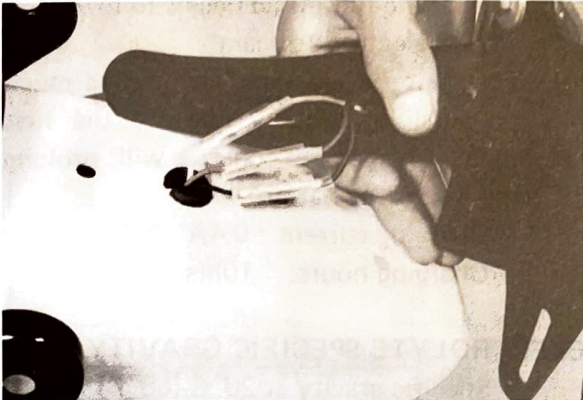
24. Grease the change shaft. And install the change pedal on the change shaft. Install the mounting bolt. The mounting position should be as illustrated.

Tightening torque: 0.35 m-kg  
(2.5 ft-lb)



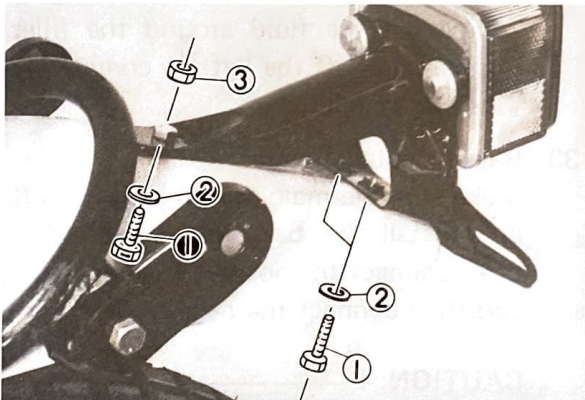
**NOTE:**  
The change pedal should be so installed that its top is flush with the center of the screw head (A).

25. Install the taillight assembly
- Connect the taillight assembly lead wire to the wire harness. (The wires of the same color should be connected.)



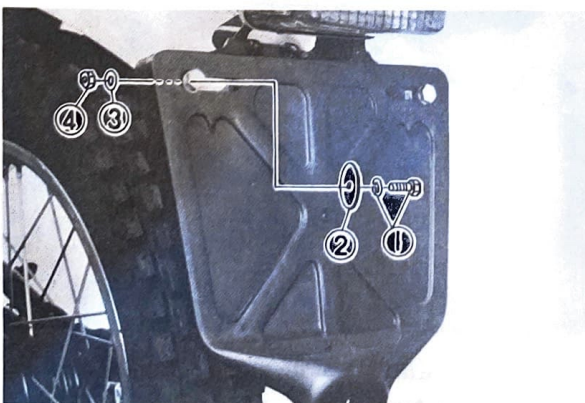
- Install the tail light assembly using the bolts, washers and nuts.

Tightening torque: 1 m-kg  
(7 ft-lb)



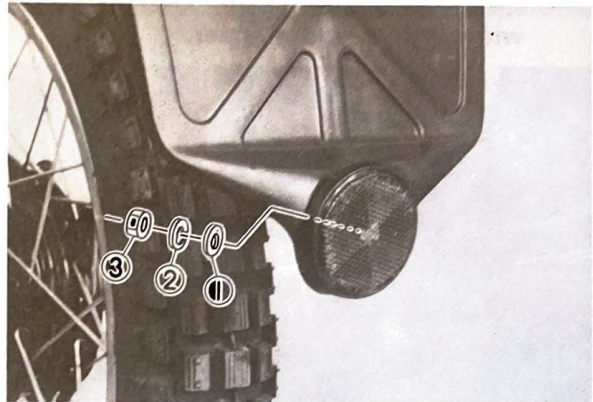
1. Bolt 2. Washer 3. Nut

26. Install the license plate support bracket to the tail light assembly using bolts, with washers, plate washers, washers and nuts. (See sequence in illustration.)



1. Bolt with washer 2. Plate washer  
3. Washers 4. Nut

27. Install the reflector to licence support bracket using the spring washer, plate washer and nut.



1. Spring washer 2. Plate washer 3. Nut

- Install the flasher lights.

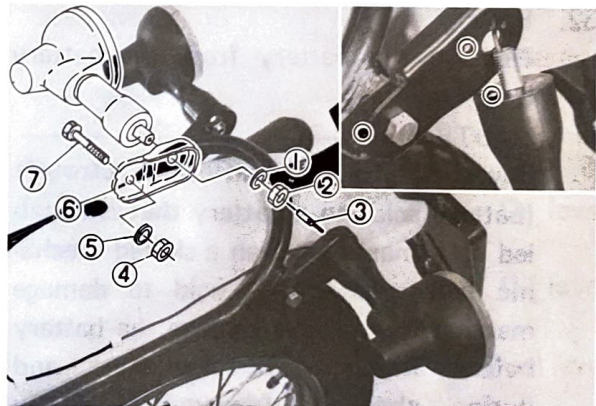
  - Install the flasher stays to frame using bolts, washers and nuts.
  - Install the flasher lights using the washers and nuts.

**NOTE:**

Fit the holes in the flasher light and frame over the projections on the flasher stay.



Tightening Torque:  
8 mm nut: 0.8 m-kg (5.7 ft-lb)  
10 mm nut: 1.5 m-kg (11 ft-lb)



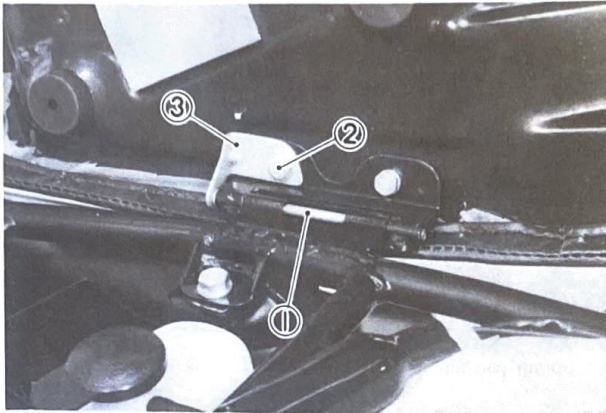
1. Spring washer (10 mm) 2. Nut (10 mm)  
3. Lead wire 4. Nut (8 mm)  
5. Plat washer (8 mm) 6. Flasher stay  
7. Hexagon bolt

29. Connect the flasher light lead wires to the wire harness.

Wire harness lead wire color:  
Right: Dark green  
Left: Dark brown

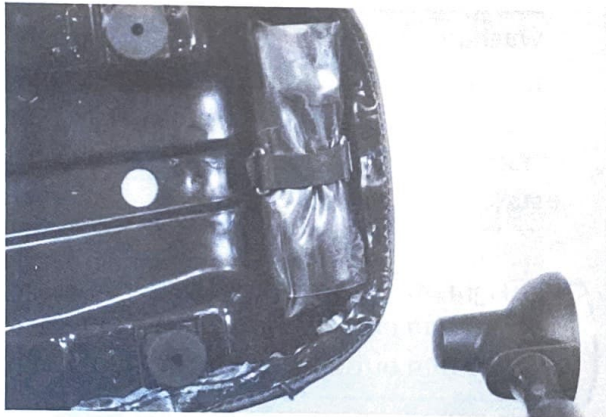
After connecting wires, secure the lead wires with the clamps.

30. Install the seat using the clevis pin, bolt with washer and stopper.



1. Clevis pin 2. Bolt with washer 3. Stopper

31. Put the tool kit in tool cover and install it under the seat with the tool band.



32. Battery
  - a. Remove the battery from the battery box.

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

- b. Filling the battery with diluted sulfuric acid (electrolyte)
  - 1) Remove all filler caps from the battery, and remove the breather pipe cap at the same time.
  - 2) Cool the electrolyte down to below 30°C (80° F).

- 3) Pour acid into each cell little by little up to the upper level line, and leave it for a while. When the battery fluid permeates the plates and separators, the fluid level begins to lower. Add electrolyte again.

- c. The battery must be charged as much as possible before using for the first time. This initial charge will prolong the life of the battery.

Charging current : 0.4A

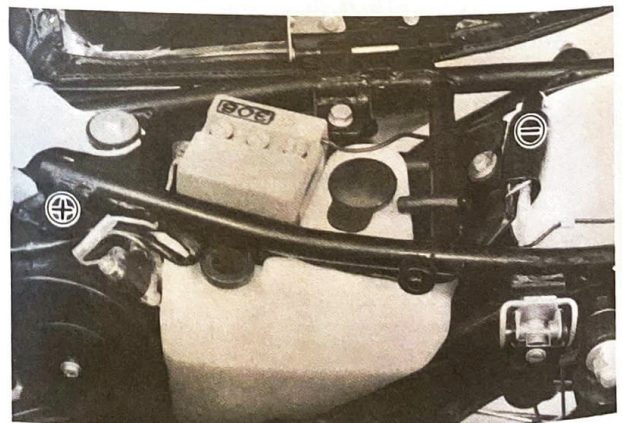
Charging hours: 10hrs

### ELECTROLYTE SPECIFIC GRAVITY

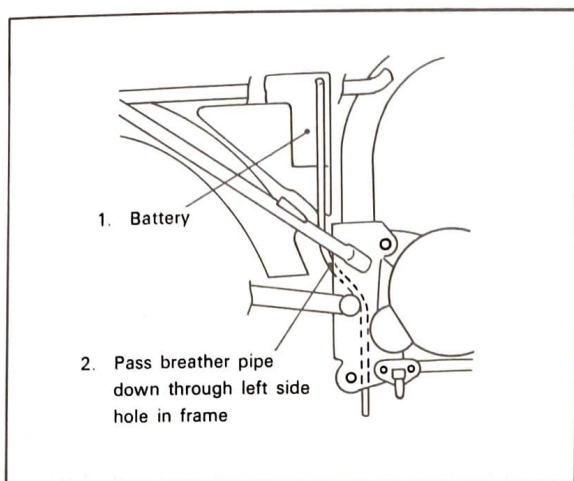
Specific gravity at 20°C (68° F) 1.26
------------------------------------------

- 1) Charge the battery as required and measure the specific gravity of the fluid. Use a battery hydrometer.
  - 2) Install the filler caps, and thoroughly wipe off the fluid around the filler caps. Wipe off the battery completely before installation.
33. Battery installation
    - a. Make sure the main switch is turned off, and install the battery in the battery box. Connect the positive lead wire first, and then connect the negative lead wire.

**CAUTION:** \_\_\_\_\_  
Make sure battery leads are connected properly. Reversing leads can seriously damage the electrical system.



- b. The breather pipe should be connected as illustrated.



## INSPECTIONS AND ADJUSTMENTS

### Inspections

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, or tightened 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 locknut	..... Tightening torque
Handlebar holder	..... Tightening torque
Clutch lever holder	..... Tightening torque
Brake lever holder	..... Tightening torque
Front flasher light	..... Mounting, wiring
Throttle housing	..... Position, operation, tightness
Engine mounting bolt	..... Tightening torque
Carburetor joint(s)	..... Tightness

Footrests	..... Position, tightening torque
Change pedal	..... Position, looseness, operation
Brake pedal	..... Position, looseness, operation
Seat	..... Mounting, clevis pin, stopper
Fuel tank	..... Mounting
Fuel pipe	..... clips, Connection
Battery	..... Charge, Mounting, fluid level, wiring
Rear fender	..... Mounting
Taillight	..... Mounting, wiring
Rear flasher light	..... Mounting, wiring
Rear shock absorber	..... Mounting, tightening torque
Rear swing arm pivot shaft	..... Tightening torque
Rear axle nut	..... Cotter pin, tightening torque
Chain puller	..... Tightness of locknut
Rear wheel	..... Spoke tension
Rear wheel rim	..... Deflection
Rear wheel tire	..... Tire pressure
Transmission	..... Oil level
Engine oil	..... Oil level
Fuel	..... Fuel level
Electrical components	..... Adjustment and operation
Cables	..... Lubrication and operation

### Adjustments

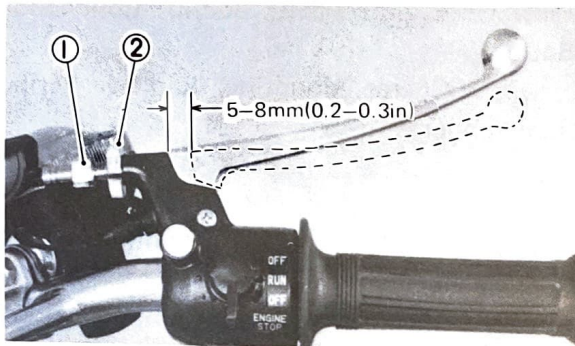
**NOTE:** \_\_\_\_\_  
 This section deals with the main points only. For details, refer to the service manual for this model.

### Front brake wire adjustment

Loosen the brake wire adjuster locknut, and adjust the play of the brake lever (at the position illustrated) to specification. After the adjustment, be sure to screw in the locknut until tight.

Standard value:

5 ~ 8 mm (0.2 ~ 0.3 in)

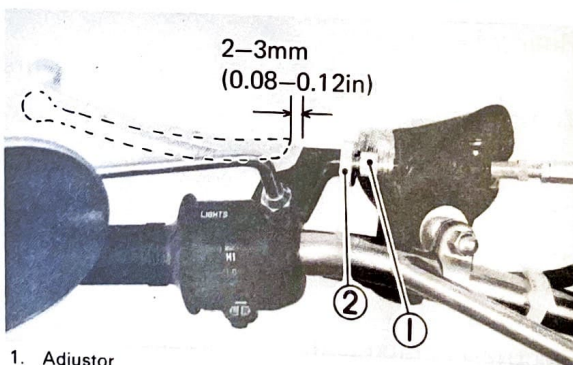


1. Adjuster 2. Locknut

### Clutch wire adjustment

Loosen the clutch wire adjuster locknut at the clutch lever, and adjust the clutch wire by turning the wire adjuster.

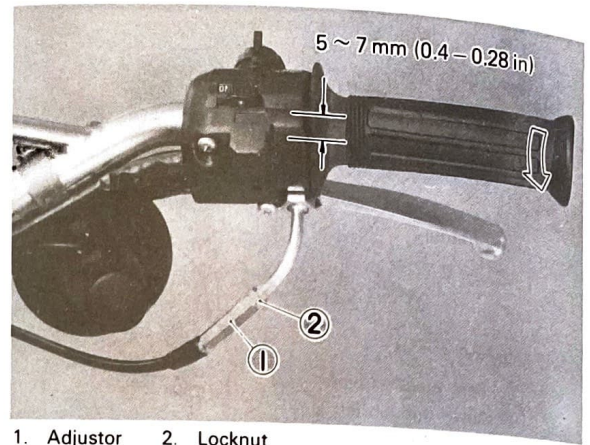
Turning the adjuster clockwise (the adjuster is tightened) increases clutch wire play, while turning counterclockwise decreases the play. The play should be 2 ~ 3 mm (0.08 ~ 0.12 in) at the position shown in the figure.



1. Adjustor  
2. Adjustor locknut

### Throttle cable adjustment

Check play in turning direction of throttle grip. Play should be 5 ~ 7 mm (0.4 ~ 0.28 in) at grip flange. Loosen the locknut and turn the wire adjuster to make the necessary adjustment. After adjusting, be sure to tighten the locknut properly.



1. Adjustor 2. Locknut

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

### Carburetor

Petcock lever to "OFF" position, remove the filter cup, drain off gasoline and clean the bottom of the cup with solvent. Reinstall cup. Add fresh gasoline.

### Breaker point — checking and cleaning

If the engine is hard to start, the breaker point surfaces may be dirty. Clean with electrical contact cleaner and try to start the engine.

### Ignition timing — checking and adjustment

After starting the engine, check the ignition timing, and if necessary, adjust.

Ignition timing:

$1.8 \pm 0.15$  mm ( $0.07 \pm 0.006$  in)

### NOTE:

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

### 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. Check spark plug heat range and gap.



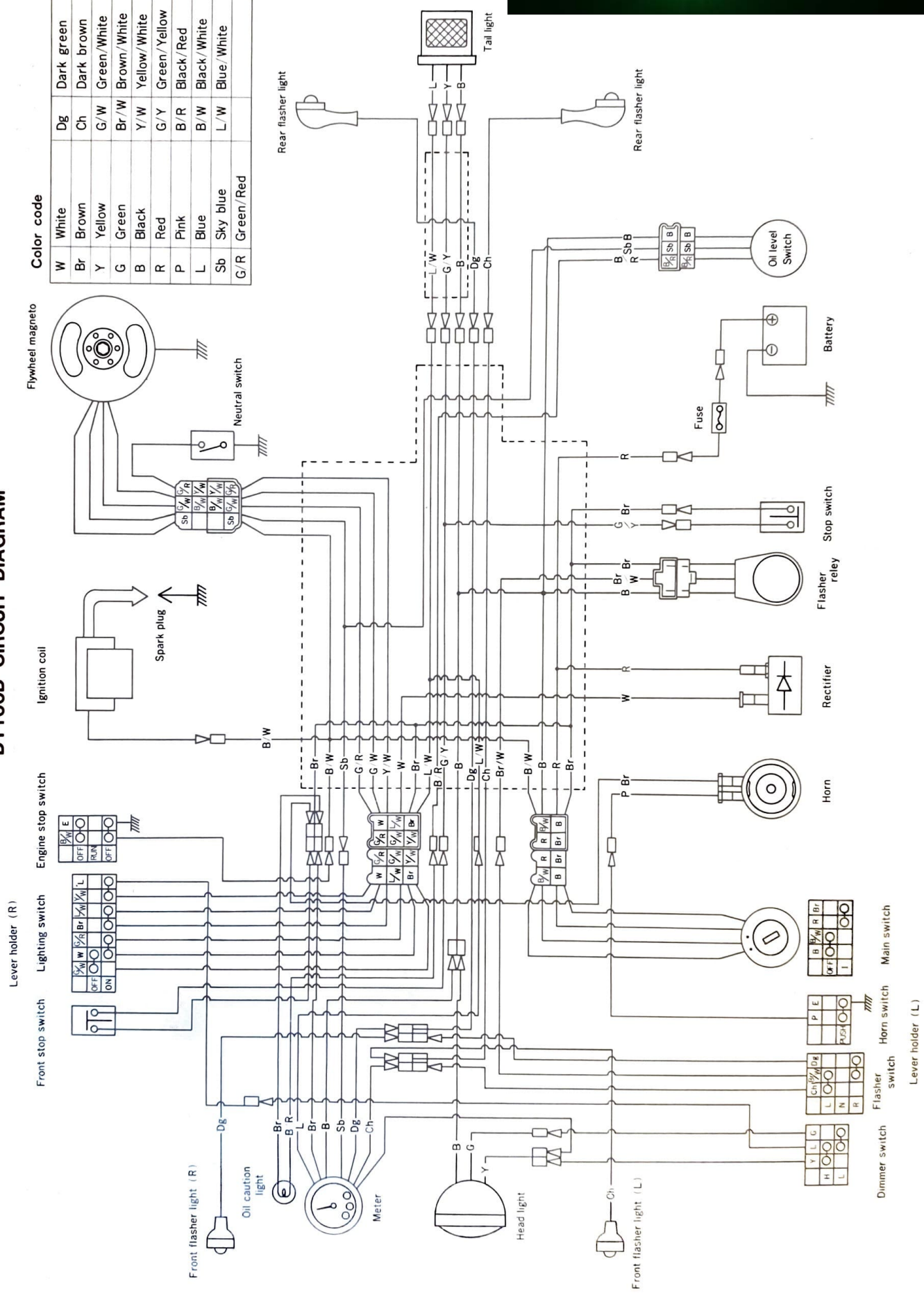
## Service specifications

SERVICE DATA	
ITEM	SERVICE STANDARDS
Engine: Ignition timing (B.T.D.C.) Ignition point gap	1.8 ± 0.15 mm (0.07 ± 0.06 in) 0.6 ~ 0.7 mm (0.024 ~ 0.028 in)
Autolube: Minimum pump stroke (at idle) Maximum pump stroke (at full throttle)	0.20 ~ 0.25 mm (0.008 ~ 0.01 in) 1.85 ~ 2.05 mm (0.073 ~ 0.081 in)
Carburetor: Main jet Jet needle/Clip position Air screw/(turns out) Float level Idling engine speed	#130 4J13-3 2.0 26 mm (1.02 in) 1,300 rpm
Fuel tank: Capacity	4.5 lit (1.19 US.gal)
Engine oil tank: Capacity	1.0 lit (0.26 US.gal)
Transmission: Gear oil capacity	650 ± 50 cc (687 ± 53 US.qt)
Front fork: Oil quantity	116 ± 2 cc (3.9 ± 0.06 oz)
Tire pressure: Front Rear	1.6 kg/cm <sup>2</sup> (23 psi) 2.0 kg/cm <sup>2</sup> (28 psi)
Battery: Type Capacity Specific gravity Charging rate	6N4-2A-2 6V, 4AH 1.26 0.4A × 10 hours

[www.legends-yamaha-enduro.com](http://www.legends-yamaha-enduro.com)

# DT100D CIRCUIT DIAGRAM

Color code	W	Dg	Dark green
White	Br	Ch	Dark brown
Brown	Y	G/W	Green/White
Yellow	G	Br/W	Brown/White
Green	B	Y/W	Yellow/White
Black	R	G/Y	Green/Yellow
Red	P	B/R	Black/Red
Pink	L	B/W	Black/White
Blue	Sb	L/W	Blue/White
Sky blue	G/R	Green/Red	



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SINCE 1887

**YAMAHA MOTOR CO., LTD.**

IWATA, JAPAN

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