



YAMAHA

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DT 100E

ASSEMBLY MANUAL

FOR DT100E MODELS AFTER
ENGINE SERIAL NO. 011001



90894-07805

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.

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YAMAHA DT100E
ASSEMBLY MANUAL
1st EDITION, DECEMBER 1977
OVERSEAS SERVICE DEPARTMENT
YAMAHA MOTOR CO., LTD.
IWATA, JAPAN
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FOREWORD

The assembly manual contains the information required to unpack and assemble Yamaha motorcycles correctly to delivery to the customer. Proper motorcycle set-up assembly and pre-delivery service demands a basic knowledge of motorcycle service procedures, familiarity with Yamaha products, and correct tools. This assembly manual should be used with the Service Manual, Dealer Set-up and Pre-Delivery Check List, and Parts List for this model. Proper set-up and assembly and pre-delivery service is necessary for the following reasons:

- To assure the customer of the long life and performance he expects from his new Yamaha motorcycle.
- To minimize service problems during the break-in period.
- To conform with federal new vehicle regulations.

NOTICE

The service specifications given in this manual are based on the model as manufactured. Modifications and significant changes in specifications and/or procedures will be forwarded to all Authorized Yamaha Dealers.

The procedures below are described in the order that the mechanic should follow. Special care should be taken to ensure that the procedures are carried out correctly and completely. Failure to do so can result in poor performance, excessive emissions, and possible harm to the machine and/or rider.

The DEALER SET-UP and PRE-DELIVERY CHECK LIST have been designed to be used with this Assembly Manual. As each procedure is satisfactorily completed, the mechanic should mark the appropriate space on the sheet. After they have been signed by the assembling mechanic, the servicing mechanic, and the customer, a copy of the Check List should be given to the customer and another copy retained in the DEALERSHIP files. If the Service Manager test rides the machine before delivery, he should also sign the Check List copies.

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IMPORTANT:

This Assembly Manual contains important information regarding procedures designed to ensure proper emissions control functioning and service. Please read this material carefully and carry out the prescribed procedures properly!

CONCERNING CRATE DAMAGE

Follow the instructions in the Dealer Warranty Handbook, Procedure section.

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.

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.

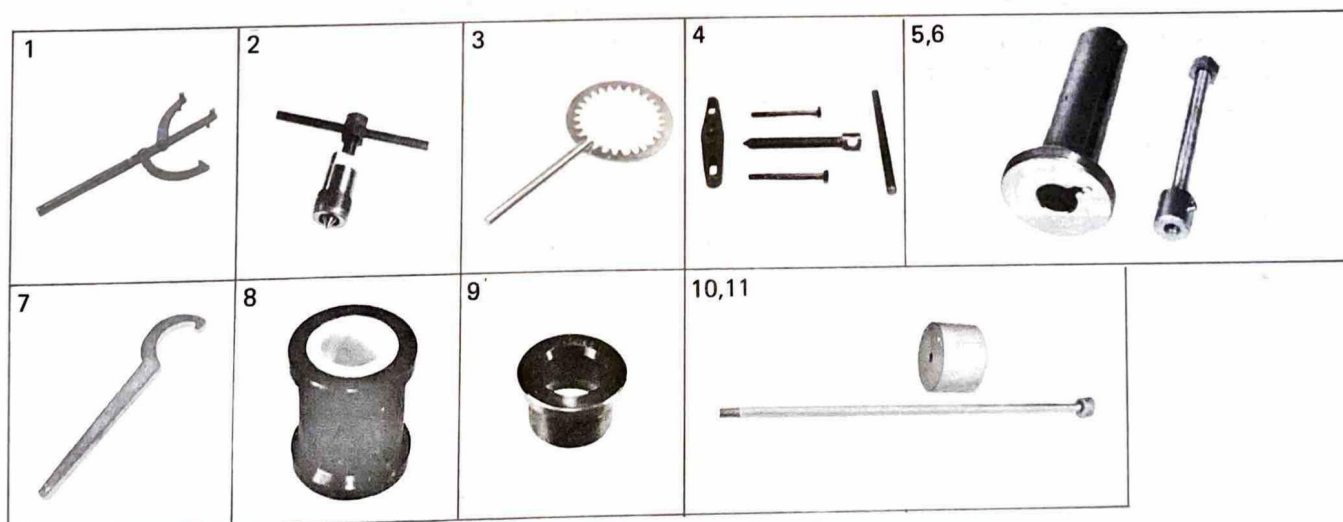
Workshop

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

SPECIAL TOOLS AND GAUGES

A. Special tools

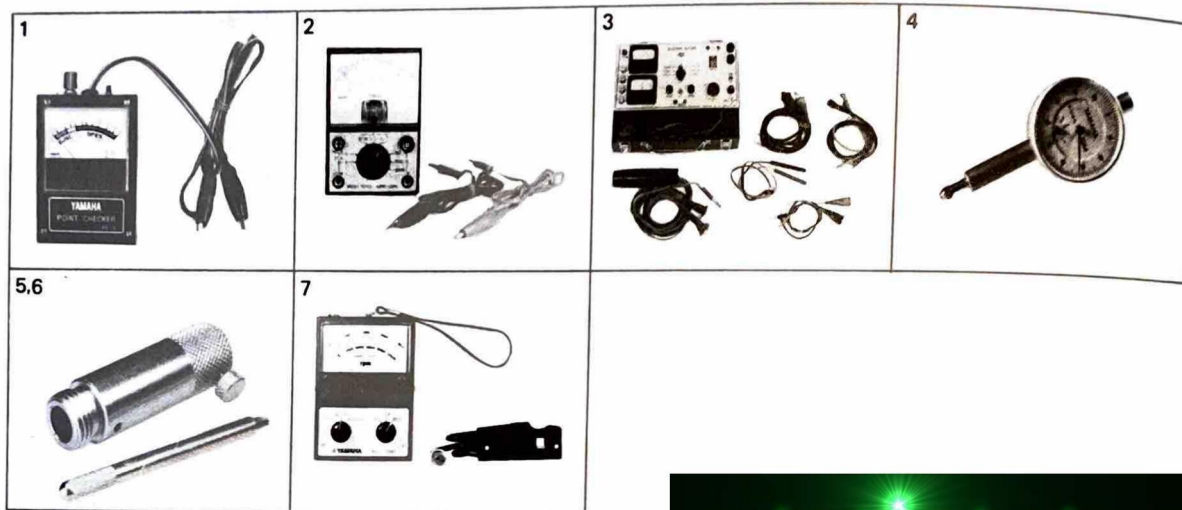
No.	Part name	Part No.	No.	Part name	Part No.
1	Flywheel holding tool	90890-01235	7	Steering nut wrench	90890-01051
2	Flywheel puller	90890-01189	8	Oil seal insertion weight	90890-01184
3	Clutch holding	90890-01022	9	Oil seal insertion attachment	90890-01273
4	Crankcase separating tool	90890-01135	10	Armature shock puller bolt	90890-01049
5	Crankshaft setting pot	90890-01012	11	Weight	90890-01050
6	Crankshaft setting tool	90890-01015			



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B. Gauges

No.	Part name	Part No.	No.	Part name	Part No.
1	Point checker	90890-03064	4	Dial gauge	90890-03002
2	Pocket tester	90890-03096	5	Dial gauge stand	90890-01039
3	Electro tester	90890-03021	6	Dial gauge needle	90890-03042
			7	Engine tachometer	90890-03082



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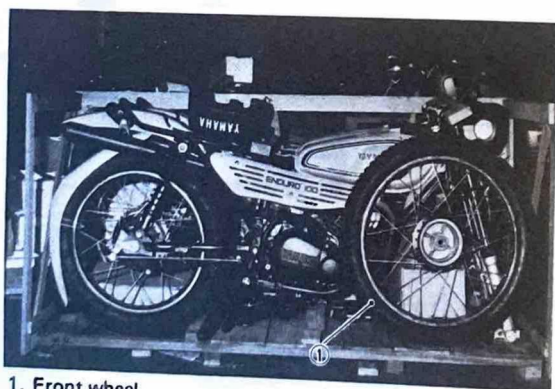
C. Additional tools

1. Thickness gauge
2. Torque wrench
3. Tire pressure gauge
4. Measuring cup
5. Micrometer
6. Vernier caliper
7. Cylinder gauge
8. Grease gun

PROCEDURE FOR UNPACKING

To remove the machine and parts packed in the cardboard crate, cut the vinyl bands around the box using scissors.

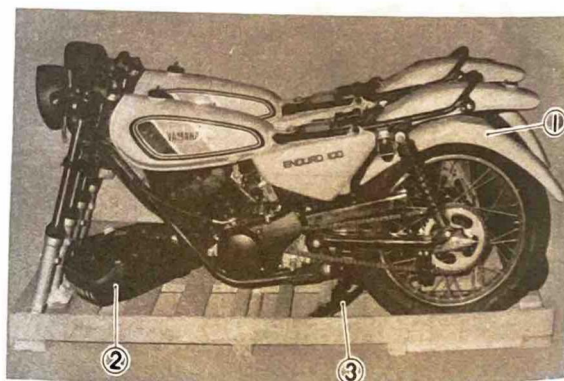
Next, remove the exterior carton by lifting it straight up. Remove foam tray and front wheel.



1. 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.

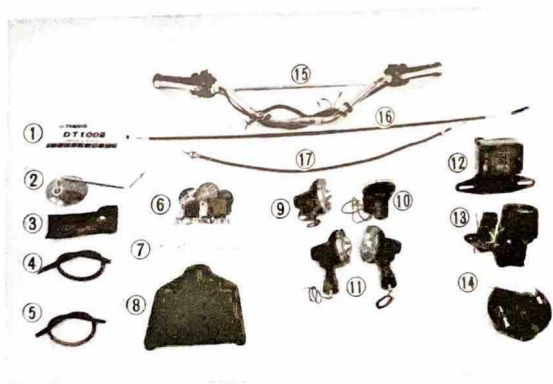
PARTS CHECK LIST

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.

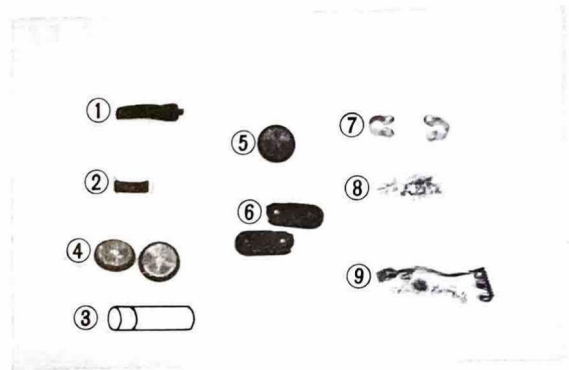
Parts List: Foam tray

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)	1
10	Front flasher light (L)	1
11	Rear flasher light (R and L)	2
12	Taillight assembly	1
13	Speedometer assembly	1
14	Brake shoe plate assembly	1
15	Handlebar assembly	1
16	Brake cable assembly	1
17	Speedometer cable assembly	1



Parts List: Vinyl Bag "A"

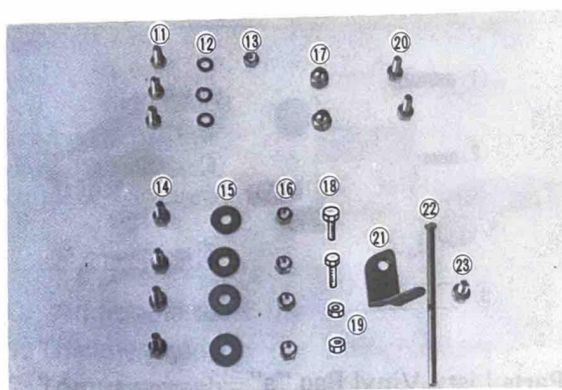
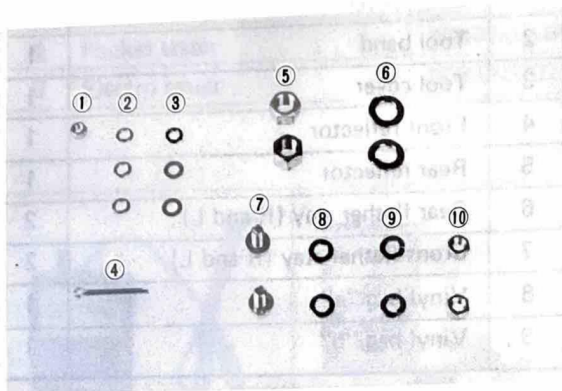
No.	Part name	Q'ty
1	Lever cover	1
2	Tool band	1
3	Tool cover	1
4	Front reflector	1
5	Rear reflector	1
6	Rear flasher stay (R and L)	2
7	Front flasher stay (R and L)	2
8	Vinyl bag "a"	1
9	Vinyl bag "b"	1



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 (6x16 mm)	2	Licence bracket
8	Plate washer	2	
9	Spring washer	2	
10	Nut	2	Taillight
11	Bolt (6x12 mm)	3	
12	Spring washer	3	
13	Nut	1	Front fender
14	Bolt with spring washer (6x14 mm)	4	
15	Washer	4	
16	Nut	4	Front flasher
17	Crown nut	2	
18	Hexagon head bolt (M8x20 mm)	2	
19	Nut	2	Wire holder
20	Bolt with spring washer (6x12 mm)	2	

21	Stopper	1	Seat
22	Clevis pin	1	
23	Bolt with spring washer	1	



Parts List: Vinyl bag "b"

No.	Part name	Q'ty	Remarks
1	Bolt with spring washer (6x10 mm)	2	Speedometer
2	Hub dust cover	1	F. Wheel
3	Bolt with spring washer (8x20 mm)	2	Footrest
4	Bolt with spring washer (8x16 mm)	2	
5	Shift pedal with bolt (6x20 mm)	1	—



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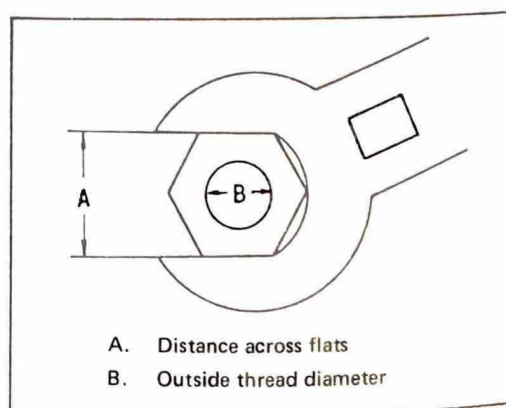
TORQUE SPECIFICATIONS

The list at right covers those stud/bolt sizes with standard I.S.O. pitch threads. Torque specifications for components with thread pitches other than standard are given within the applicable chapter.

Torque specifications call for dry, clean threads. Components such as the cylinder or cylinder head should be at room temperature prior to torquing. A cylinder head or any other item with several fasteners should be torqued down in a crisscross pattern in successive stages until torque specification is reached. The method is similar to installing an automobile wheel and will avoid warping the component.

Standard Torque Setting

A	B	TORQUE SPECIFICATION		
		m-kg	ft-lb	in-lb
10 mm	6 mm	1.0	7.2	85
12 mm	8 mm	2.0	15	175
14 mm	10 mm	3.5 - 4.0	25 - 29	300 - 350
17 mm	12 mm	4.0 - 4.5	29 - 33	350 - 400
19 mm	14 mm	4.5 - 5.0	33 - 36	400 - 440
22 mm	16 mm	5.5 - 6.5	41 - 49	480 - 570
24 mm	18 mm	5.8 - 7.0	42 - 50	500 - 600
27 mm	20 mm	7.0 - 8.3	50 - 60	600 - 700
Spark plug		2.5	18	230



Tightening torque:

Engine		
Cylinder head	2.1 - 2.5 m-kG	(15 - 18 ft-lb)
Spark plug	2.5 m-kG	(18 ft-lb)
Primary drive gear	7.0 - 9.0 m-kG	(50 - 63 ft-lb)
Clutch boss	7.0 - 8.0 m-kG	(50 - 57 ft-lb)
Clutch spring	0.7 - 1.0 m-kG	(5.0 - 7.0 ft-lb)
Drive sprocket	7.0 - 9.0 m-kG	(50 - 63 ft-lb)
Kick crank	2.0 m-kG	(14.5 ft-lb)
Reed valve	8.0 cm-kG	(6.7 in-lb)
Rotor nut	7.0 - 7.5 m-kG	(50 - 54 ft-lb)
Stator	1.0 m-kG	(7.0 ft-lb)
Chassis		
Engine mount, front upper	2.2 - 3.0 m-kG	(16 - 22 ft-lb)
rear upper	2.2 - 3.0 m-kG	(16 - 22 ft-lb)
rear lower	3.0 - 4.8 m-kG	(22 - 35 ft-lb)
Pivot shaft nut	3.5 - 5.0 m-kG	(24.5 - 36 ft-lb)
Rear shock absorber (frame)	3.0 - 4.8 m-kG	(22 - 33.6 ft-lb)
(swing arm)	2.0 - 3.0 m-kG	(14.5 - 22 ft-lb)
Handle crown pinch bolt	2.2 - 3.0 m-kG	(16 - 22 ft-lb)
fitting bolt	5.0 - 8.0 m-kG	(36 - 57 ft-lb)
Handle upper bracket	1.5 - 2.5 m-kG	(11 - 18 ft-lb)
Under bracket pinch bolt	3.0 - 4.8 m-kG	(22 - 35 ft-lb)
Front axle nut	3.5 - 5.0 m-kG	(24.5 - 36 ft-lb)
Rear axle nut	3.0 - 4.8 m-kG	(22 - 35 ft-lb)
Sprocket shaft nut	11.0 - 18.0 m-kG	(80 - 130 ft-lb)
Driven sprocket bolt	1.7 - 2.2 m-kG	(6.8 - 16 ft-lb)
Footrest bolt	1.4 - 2.2 m-kG	(9.4 - 16 ft-lb)
Tension bar (brake plate)	1.4 - 2.2 m-kG	(9.4 - 16 ft-lb)
(rear arm)	1.4 - 2.2 m-kG	(9.4 - 16 ft-lb)

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YAMAHA MOTORCYCLE

DEALER SET-UP AND PRE-DELIVERY CHECK LIST

I hereby certify that prior to delivery to the retail purchaser, assembly and pre-delivery service was performed on the motorcycle listed below in accordance with the following check list and in compliance with established procedures prescribed by Yamaha.

MODEL _____ FRAME NO. _____ ENGINE NO. _____

Assemble according to the assembly manual and any technical bulletin information that applies to this particular model. Pay special attention to the following items.

SET-UP ASSEMBLY

- ☐ FRONT FORK PINCH BOLTS - Torque to specification
- ☐ FRONT WHEEL AND AXLE - Torque axle and axle holder to specification
- ☐ FRONT AXLE COTTER PIN - Install
- ☐ HANDLEBAR HOLDER (spring tension type) - Position die marks on holder to front, torque to specifications
- ☐ HANDLEBAR HOLDER (standard) - tighten bolts evenly, in a crisscross pattern until proper torque is attained
- ☐ WIRING CONNECTORS - Check for color code and proper connection

- ☐ FRONT BRAKE CABLE (drum brake) - Install
- ☐ MASTER CYLINDER (disc brake) - Install
- ☐ INSTRUMENTS - Install instruments and route the cables as shown on cable routing diagrams
- ☐ TAILLIGHT - Install on applicable models
- ☐ BRAKE PEDAL - Install per assembly manual
- ☐ ALL NUTS AND BOLTS - Check tightness and proper torque
- ☐ CONTROLS - Check for proper operation
- ☐ KEYS - Check all locks for proper operation

SET-UP BY _____ DATE _____

PRE-DELIVERY SERVICE

- ☐ ALL NUTS AND BOLTS - Check for torque and tightness, especially ☐ Engine mounting bolts and/or nuts ☐ Steering head, ☐ Rear swingarm pivot shaft ☐ Axles
- ☐ HYDRAULIC DISC BRAKES (front & rear) - Check master cylinder fluid level, bleed systems, check and adjust free play, and check operation
- ☐ TWIN FRONT DISC BRAKE - Check clearances between caliper brackets and disc, reposition if necessary
- ☐ TIRES - Adj. pressure: front _____ rear _____
- ☐ SPOKES - Check tightness
- ☐ FUEL FILTER SCREEN AND FUEL LINE - Clean and check for connection lightness
- ☐ CARBURETOR - Drain stale fuel from lines and float bowls
- ☐ CARBURETOR - Tighten caps and mounting bolts
- ☐ CARBURETOR - Adjust starter lever freeplay (if applicable)
- ☐ CARBURETOR - Adjust throttle cable freeplay
- ☐ MECHANICAL BRAKES - Check and adjust freeplay, check operation
- ☐ CLUTCH - Check and adjust freeplay
- ☐ COMPRESSION RELEASE CABLE (if applicable) - Check and adjust freeplay

- ☐ ENGINE/TRANSMISSION OIL - Drain and refill, qty _____ type _____
- ☐ SHAFT DRIVE GEAR OIL LEVELS - Check oil levels, add as necessary
- ☐ BATTERY - Charge until specific gravity reaches 1.26 ~ 1.28 according to Service Manual procedure. Install and route breather tube checking for restrictions
- ☐ ELECTRICAL COMPONENTS - Check for proper operation of: Headlamp (☐ Hi, ☐ Lo) ☐ Turn signals, (Stoplight ☐ front, ☐ rear), ☐ Taillight, ☐ Indicator lights, ☐ Instrument light, ☐ Horn
- ☐ DRIVE CHAIN - Lubricate, if necessary, and adjust, align rear wheel
- ☐ FOAM AIR FILTER - Service

2-STROKE ONLY:

- ☐ AUTOLUBE TANK - Fill tank, oil type _____ Check breather tube routing
- ☐ AUTOLUBE PUMP - Bleed air from pump and all lines
- ☐ AUTOLUBE PUMP - Adjust cable and check minimum stroke
- ☐ AUTOLUBE OIL DELIVERY - Check oil delivery to cylinders and for leaks

EXHAUST EMISSIONS CONTROL

The following items are related to emissions control. Check and adjust if necessary in accordance with the Yamaha published service manual and technical bulletins for this particular model.

- ☐ CAM CHAIN TENSIONER (if applicable) - Adjust
- ☐ VALVES - Clearance: Intake _____ mm, Exhaust _____ mm
- ☐ SPARK PLUG GAP - Check _____ mm
- ☐ IGNITION POINTS (if applicable) - Check gap _____ mm

- ☐ IGNITION TIMING Check: ☐ Idle ☐ Advance
- ☐ CARBURETOR - Check synchronization (if applicable)
- ☐ IDLE SPEED - Check: _____ rpm

- ☐ TEST RIDE - Check performance, handling and operation, adjust mirrors
- ☐ OPTIONAL SERVICE MANAGER TEST RIDE _____

CUSTOMER CHECK LIST

- ☐ RECEIVED TOOL KIT (if applicable)
- ☐ RECEIVED OWNERS WARRANTY GUIDE
- ☐ RECEIVED OWNERS MANUAL
- ☐ RECEIVED SERVICE INSTRUCTIONS

CUSTOMER DATE _____

Service Manager Signature

I have performed this pre-delivery adjustments as specified in the assembly manual, service specifications and any technical bulletins applying to this model.

PRE DELIVERED BY DATE _____

DEALERSHIP NAME _____

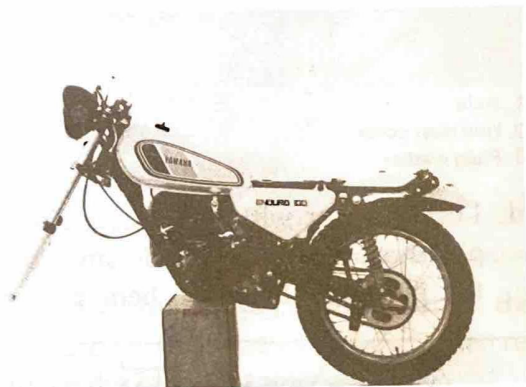
DEALER NO. _____

ADDRESS _____

CITY/STATE/ZIP CODE _____

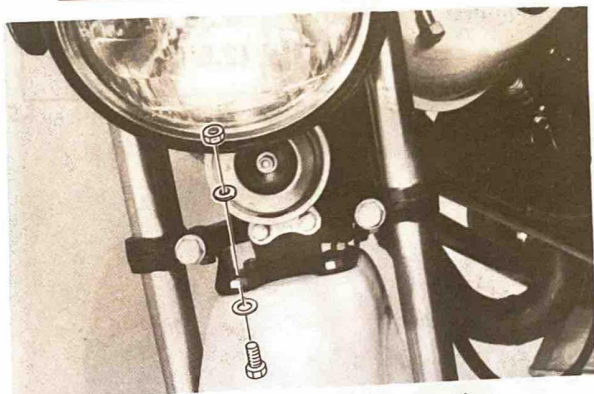
SET-UP PROCEDURES

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

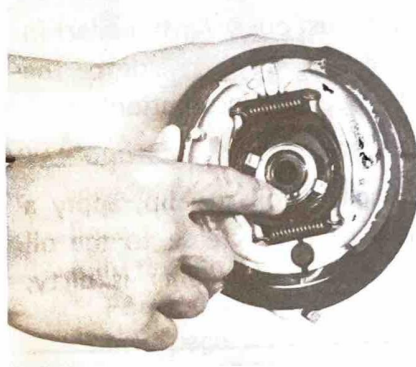
NOTE:

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 lip.

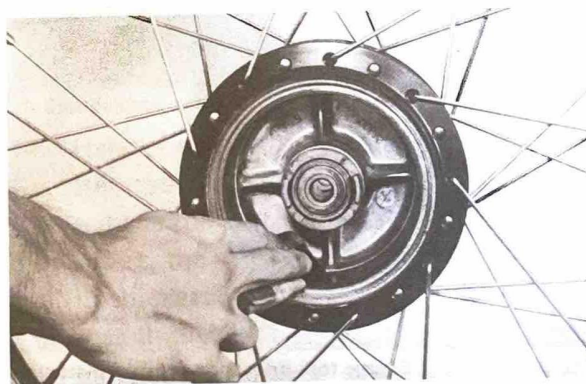
CAUTION:

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.



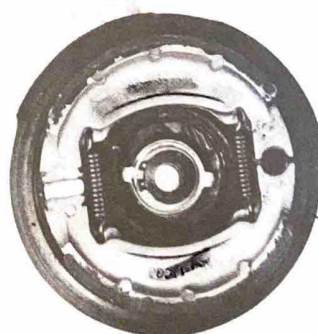
Speedometer drive gear, oil seal

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:

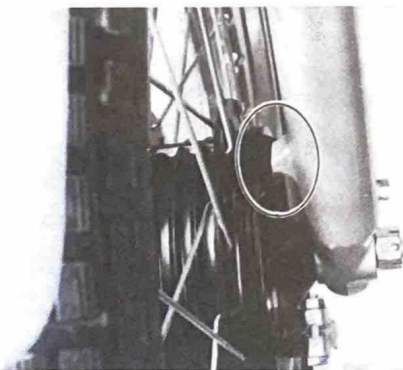
Make sure the two legs in the wheel hub align with the two slots in the speedometer clutch assembly.

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.

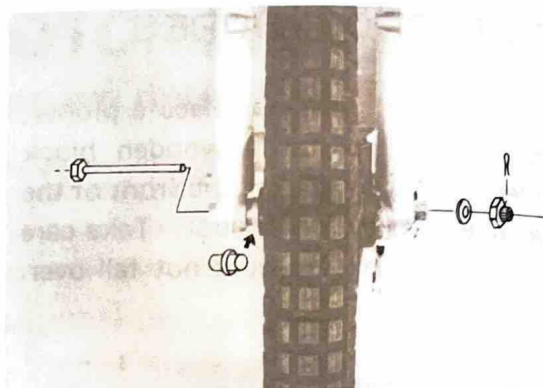
7. Install the front wheel on the front forks.
 - a. Insert the front wheel between the front fork legs so that the stopper (projection) on the front fork end is correctly engaged with the slot in the brake shoe plate.



Engage fork projection in brake plate slot

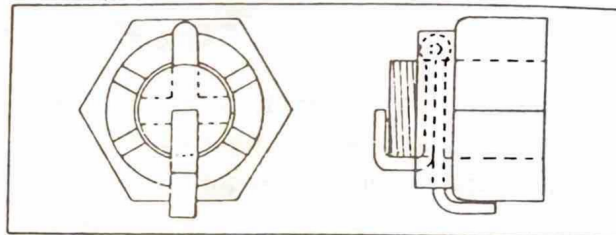
- b. Insert the axle, and install the axle nut.
 - c. Torque the axle nut to specification.

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



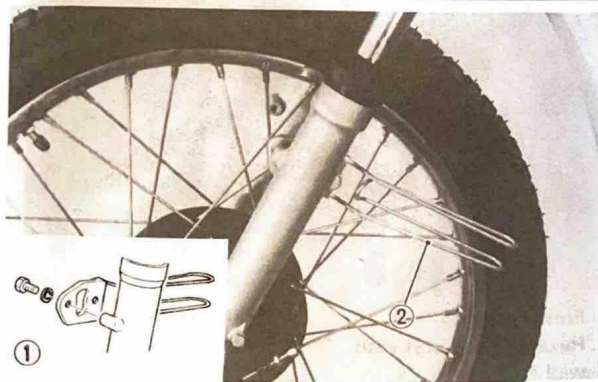
1. Axle
2. Hub dust cover
3. Plain washer
4. Nut
5. Cotter pin

- 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 left outer tube.

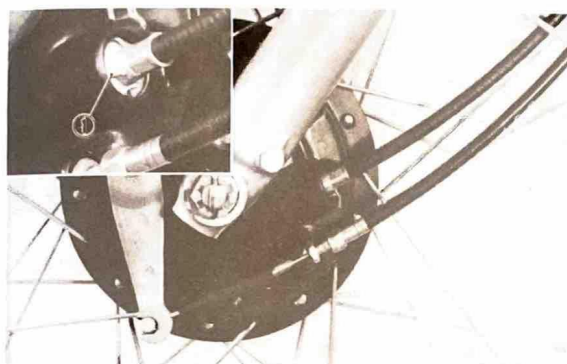
Tightening torque: 0.35 m-kg
(2.5 ft-lb)



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

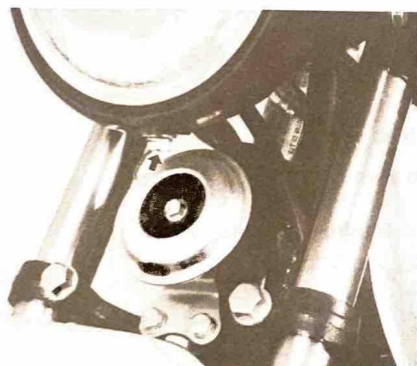
attached to the cable.) Insert the front brake wire end into the camshaft lever and hook the outer cable end onto the adjuster.



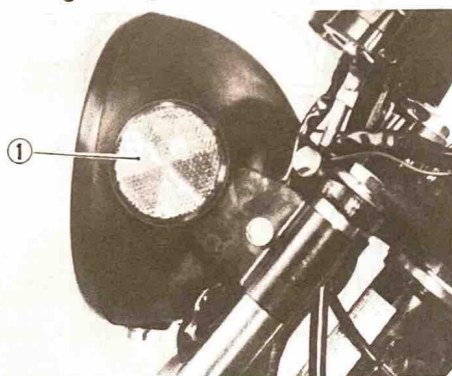
1. Circlip

Cables installation

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



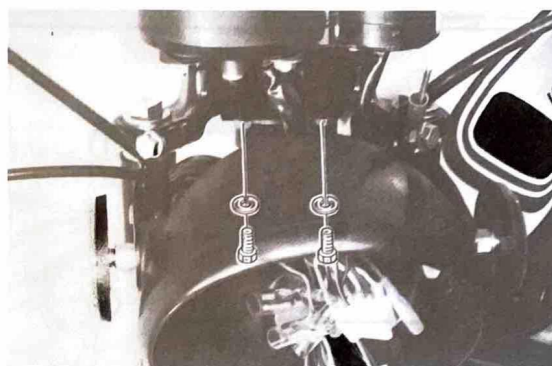
11. Install the front reflector with washers to head light stay.



1. Reflector

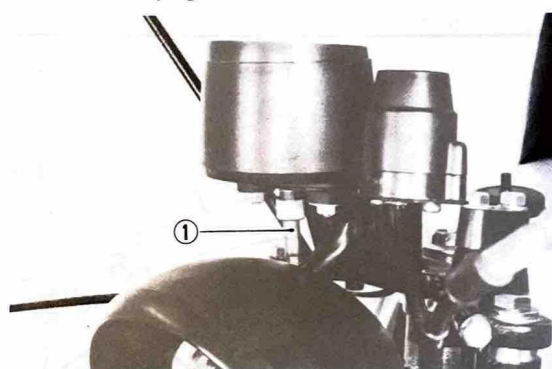
12. Install the speedometer assembly bracket under the handle crown using bolts with spring washers.

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



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 next page.

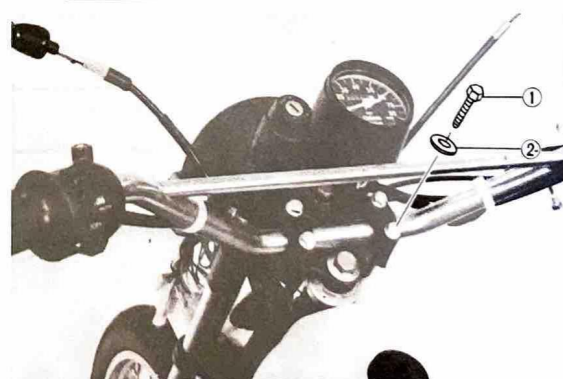


1. Speedometer cable

14. Handlebar installation

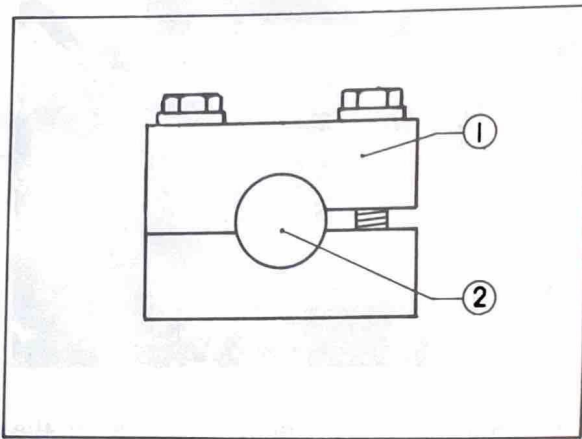
- a. Remove the four hexagon bolts, and remove the two handlebar holders.
- b. Insert the lead wire coming from the handlebar switch into the headlight body.
- c. Install the handlebars using the two handlebar holders and four hexagon bolts.

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



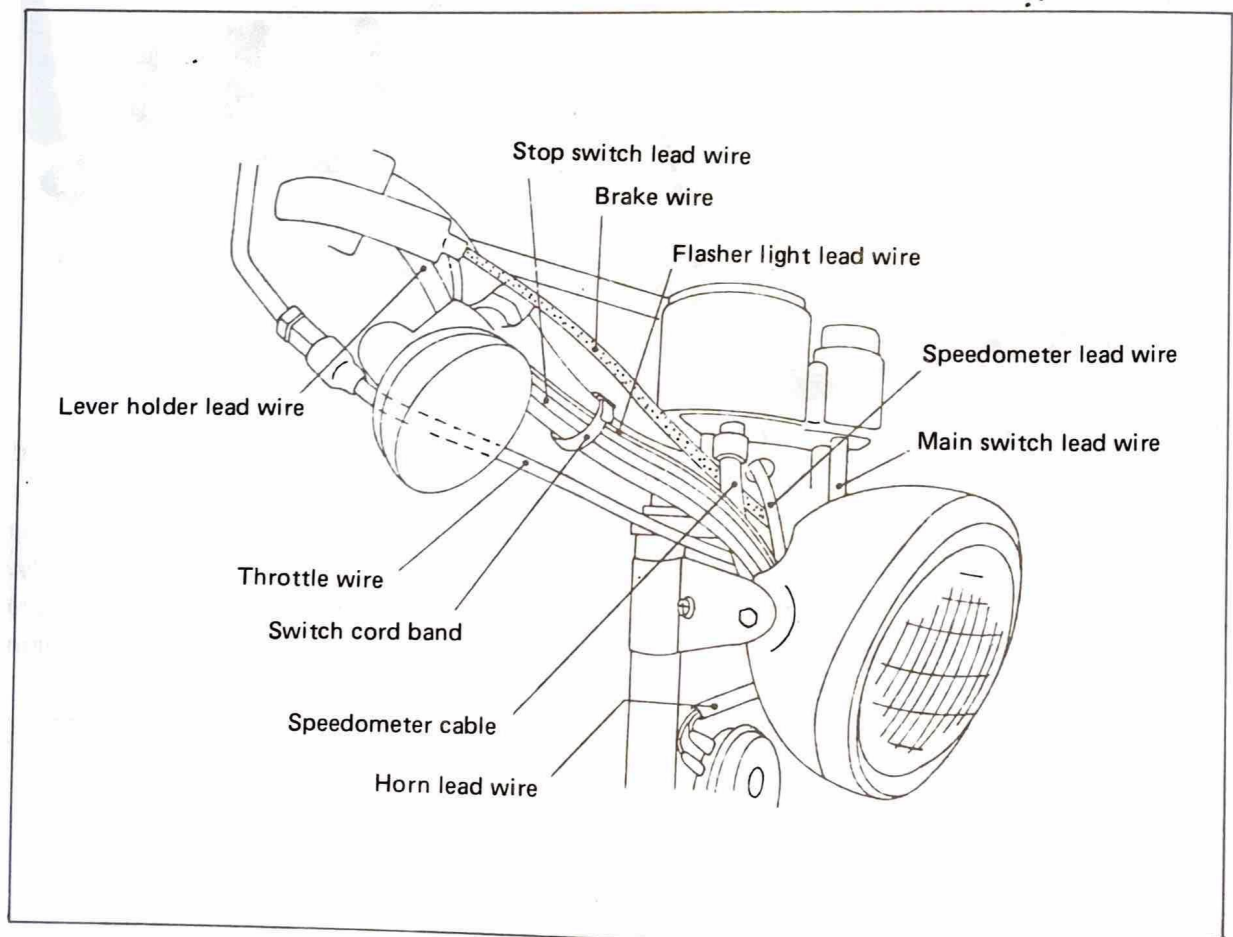
1. Hexagon bolt

2. Spring washer

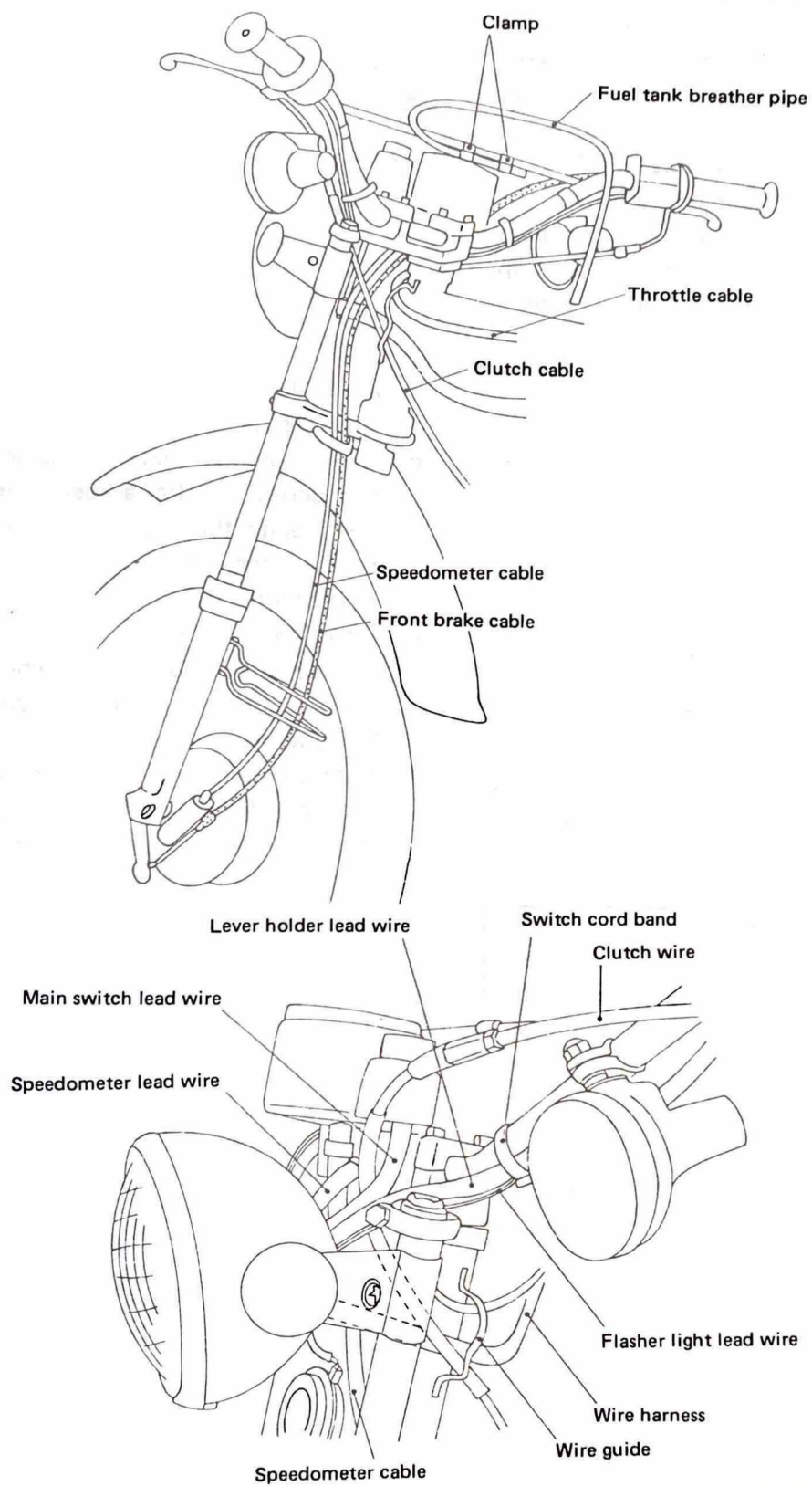


1. Holder 2. Handlebar

* For detailed, refer to next cable routing diagram.



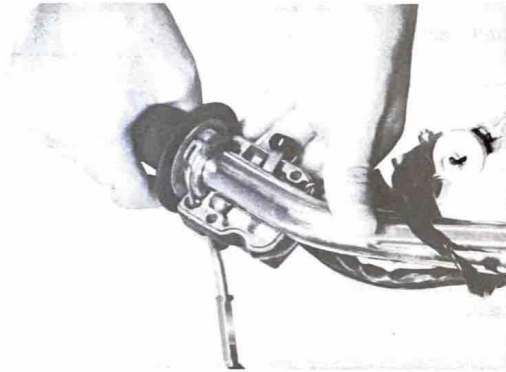
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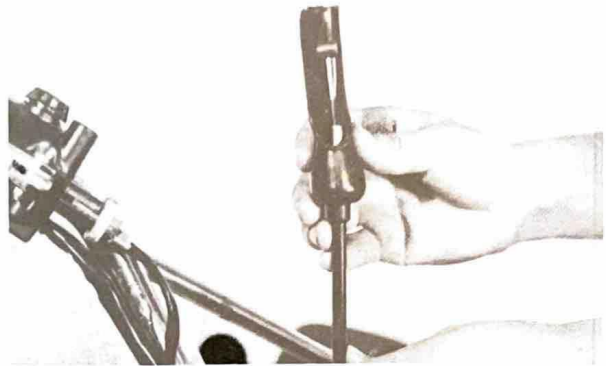
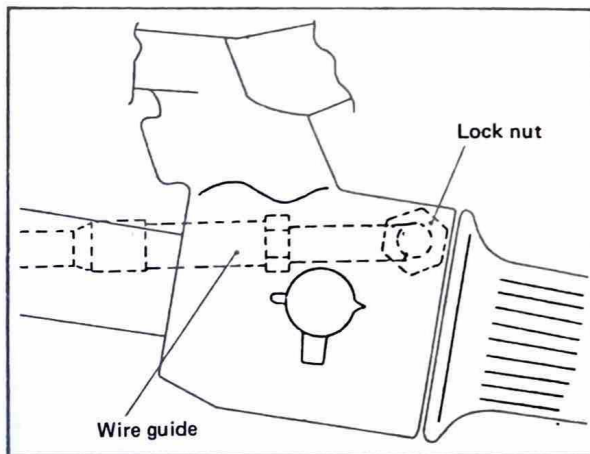
IMPORTANT: Follow correct routing of all items in this diagram. Failure to do so could result in unsafe assembly of the machine.

15. Throttle wire installation

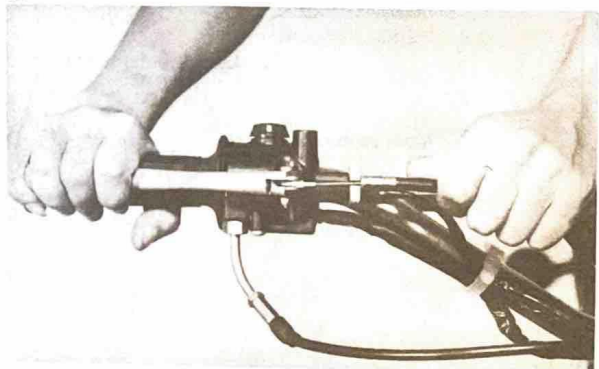
- a. Remove the two screws securing the right handle switch assembly, and separate the switch assembly into the upper and lower halves.
- b. Lubrication: Use suitable cable lubricant on throttle cable during assembly.
- c. Pass the throttle wire through the hole in the lower half of the throttle grip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



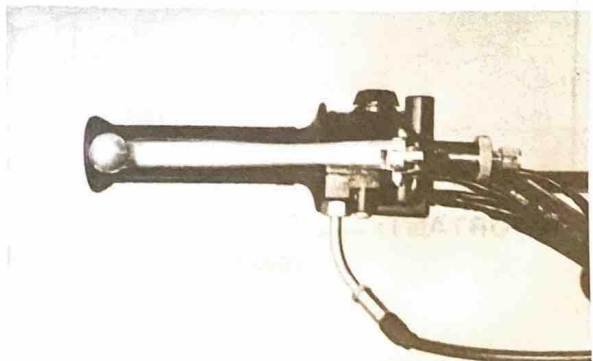
- d. Put together the two throttle grip housing halves (right handle switch assembly), and secure to the handlebar.
- e. Check to see that the throttle grip moves smoothly.



- 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 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.
- d. 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 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

16. Brake wire and clutch wire installation

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

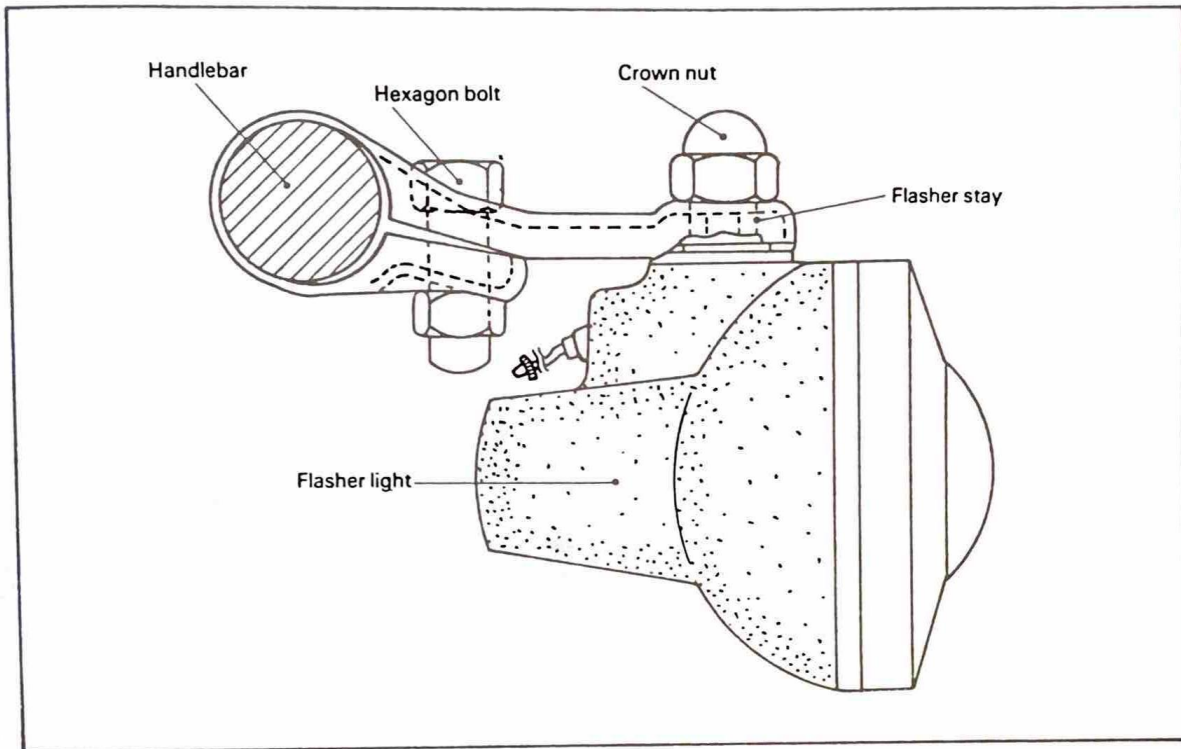
- a. Pass brake cable through the holder cover.

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 using hexagon head bolts and nuts.

Install flasher lights to stays using crown nuts.



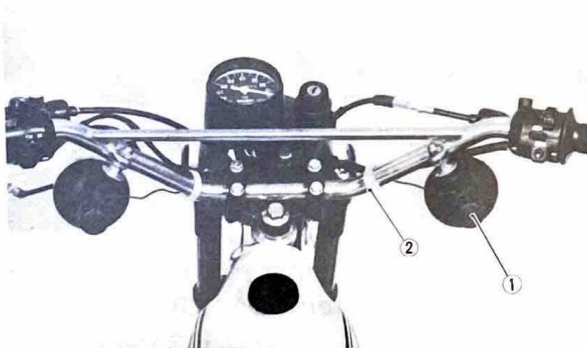
Tightening torque: 0.8 m·kg
(5.7 ft·lb)

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

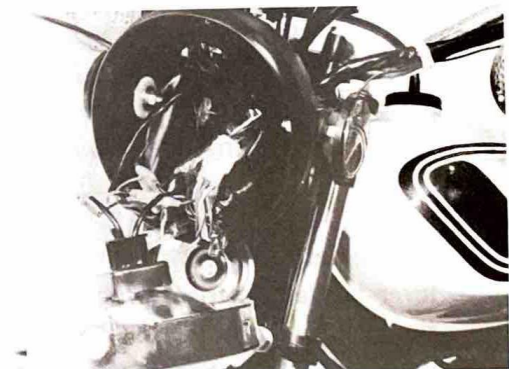
19. Connect all lead wires inside the headlight body. The wires of identical color should be connected.

Lead wire color:

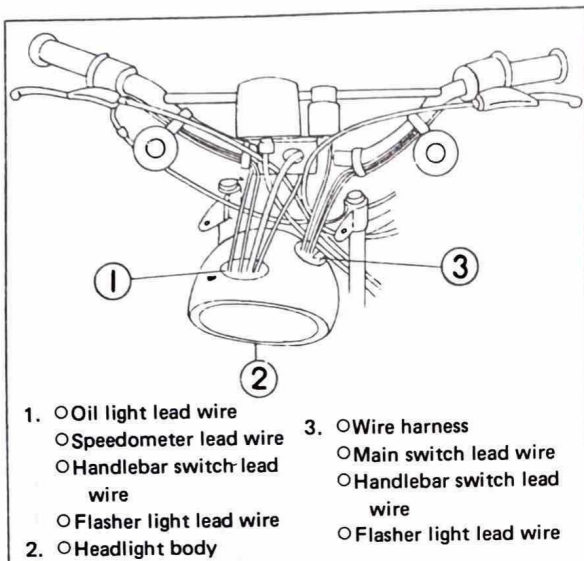
Right: Dark green
Left: Dark brown



1. Flasher
2. Band



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

NOTE:

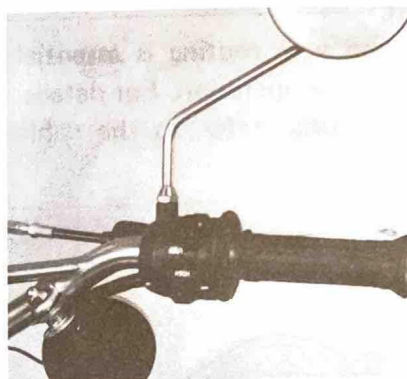
Fit the hole in the headlight unit assembly, over the projection of the headlight body.



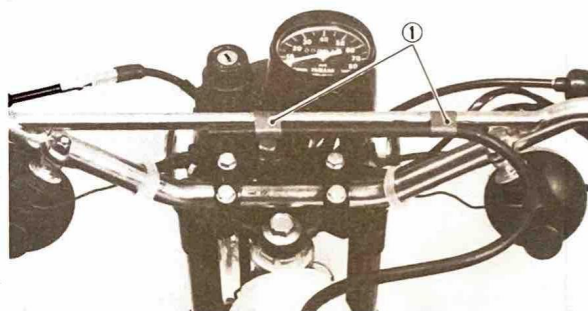
Secure the headlight assembly in place with the bolt.

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 lock nut.

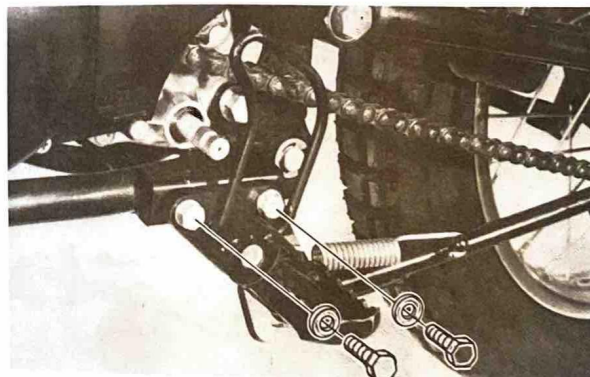


22. Connect one end of the air breather pipe to the fuel tank filler cap, and install the other end to the handlebar with clamp. (See page 8.)



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).



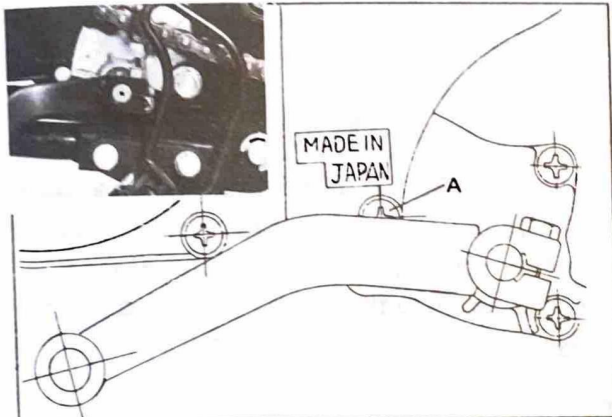
Tightening torque: 1.8 m-kg
(13 ft-lb)

Left hand side: 8 x 20 mm bolt
Right hand side: 8 x 16 mm bolt

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).

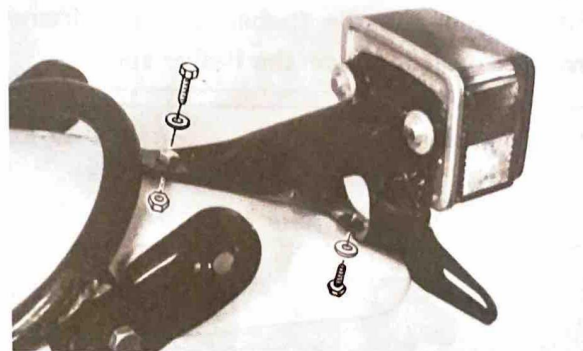
25. Install the taillight assembly

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

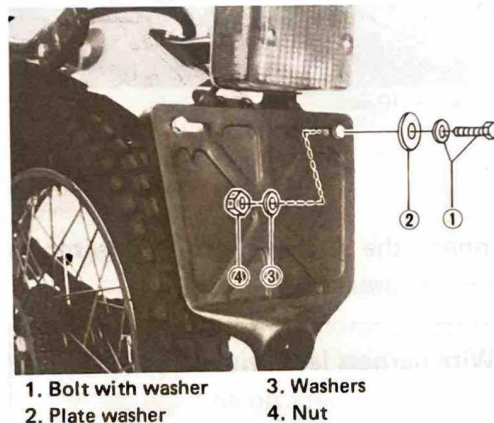


- b. Install the taillight assembly using the bolts, washers and nuts.

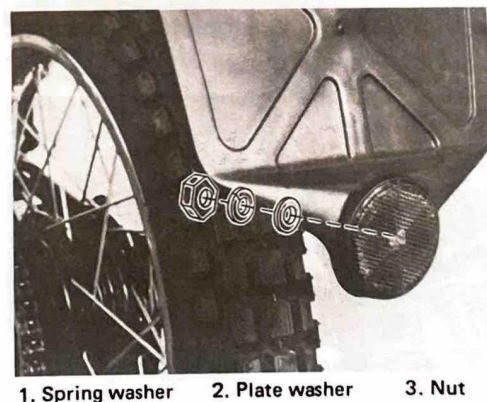
Tightening torque: 1 m-kg
(7 ft-lb)



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



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



28. Install the flasher lights.

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

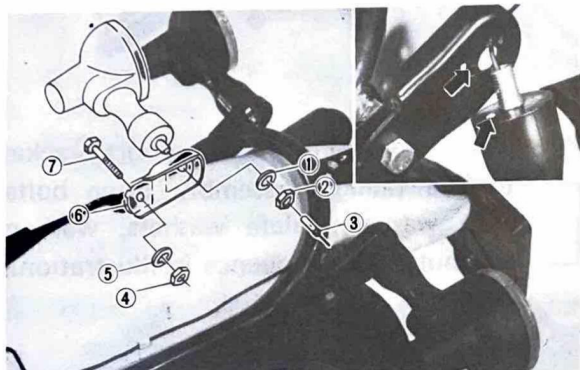
NOTE:

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. Plate washer (8 mm)
6. Flasher stay
7. Hexagon bolt

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

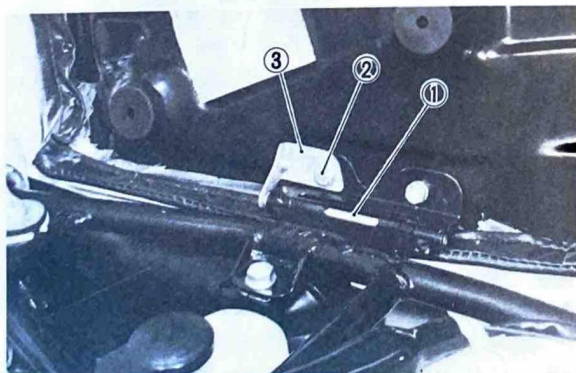
Wire harness lead wire color:

Right: Dark green

Left: Dark brown

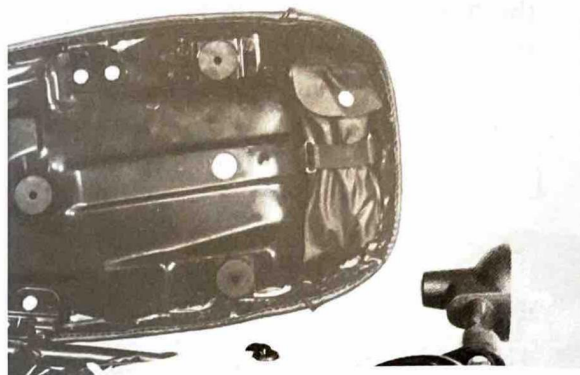
After connecting wires, secure the lead wires with the clamps.

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.



ADJUSTMENTS - Pre-delivery Service

The following adjustments must be made before delivery of the motorcycle to a customer. Use the Check List to mark off each operation when it is complete.

Tires

1. Check tires for damage during shipping. Be sure there is no oil or other slippery material on the tires.

2. Check tire pressure.

Recommended pressures:

	Off-road	On paved road
Front:	1.0 kg/cm ² (15 p.s.i.)	1.6 kg/cm ² (23 p.s.i.)
Rear:	1.2 kg/cm ² (17 p.s.i.)	2.0 kg/cm ² (28 p.s.i.)

Drive chain adjustment

1. Remove rear axle cotter pin.
2. Loosen rear axle securing nut and sprocket shaft nut.
3. With rider in position on machine both wheels on ground, set axle adjusters until there is 20 to 30 mm freeplay in the drive chain at the bottom of the chain at a point midway between the drive and driven axles.



4. Turn left and right adjusters (chain puller bolts) until axle is situated in the same position as shown by position marks on swing arm axle locating tabs.
5. Tighten the securing nuts.

Rear axle nut torque:

3.0 ~ 4.8 m·kg
(22 ~ 35 ft·lb)

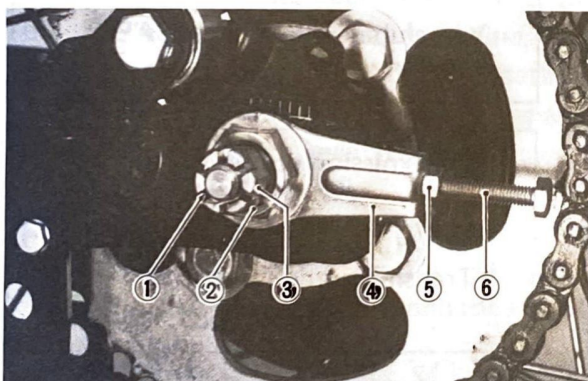
Sprocket shaft nut torque:

11 ~ 18 m·kg
(80 ~ 130 ft·lb)

6. Install a new cotter pin and bend the end over.

NOTE:

Tighten adjuster lock nuts thoroughly.



- | | |
|-----------------------|-----------------|
| 1. Cotter pin | 4. Chain puller |
| 2. Sprocket shaft nut | 5. Lock nut |
| 3. Axle nut | 6. Adjuster |

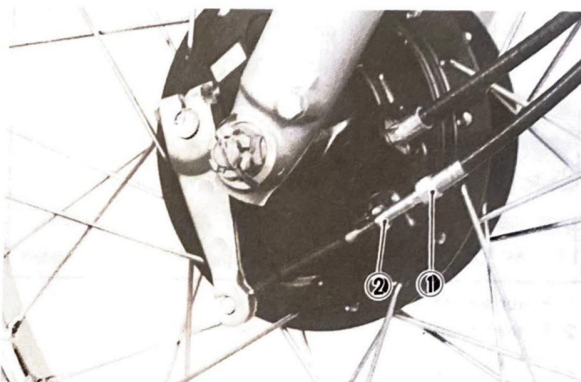
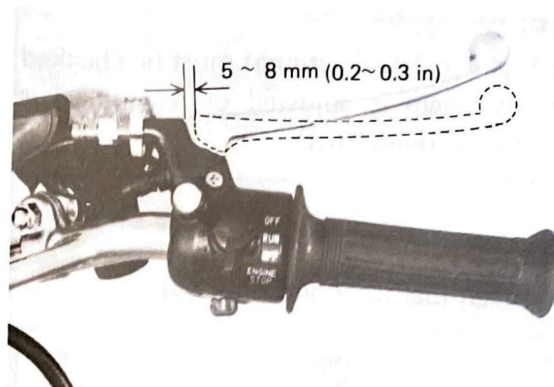
Brakes and wheels

1. Front brake adjustment

Front brake cable freeplay can be adjusted to suit rider preference, but a minimum freeplay of 5 ~ 8 mm (0.2 ~ 0.3 in) should be maintained.

Freeplay can be adjusted at handlebar lever or brake shoe plate.

- a. Loosen the adjuster lock nut (2).
- b. Turn the adjuster (1) in or out until adjustment is suitable.
- c. Tighten the adjuster lock nut (2).

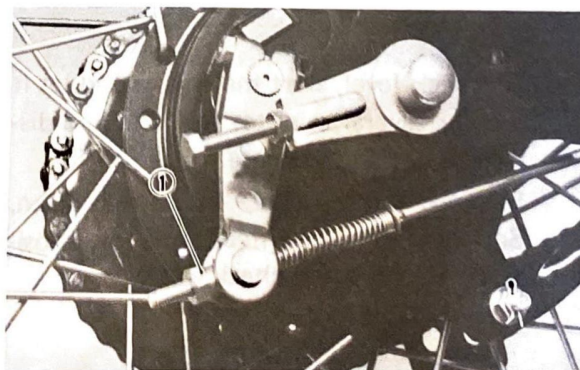
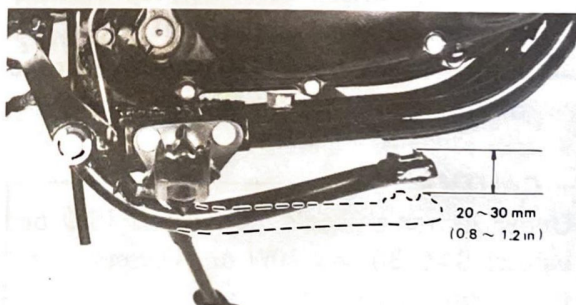


- | | |
|-------------|-------------|
| 1. Adjuster | 2. Lock nut |
|-------------|-------------|

2. Rear brake adjustment

Adjust rear brake pedal play to suit, providing the minimum of 20 mm (0.8 in) freeplay.

- a. Turn the adjuster on the rear brake rod in or out until brake pedal freeplay is suitable.



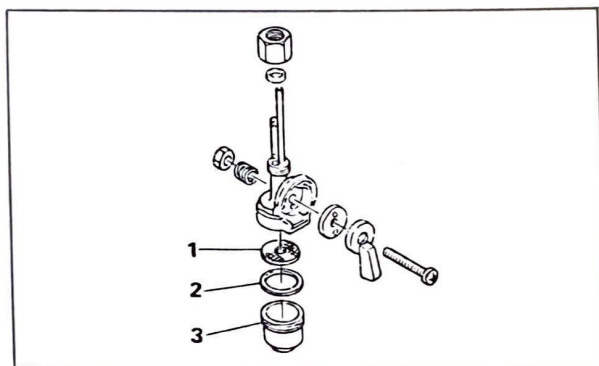
- | |
|-------------|
| 1. Adjuster |
|-------------|

NOTE: _____

Rear brake pedal adjustment must be checked whenever chain is adjusted or rear wheel is removed and re-installed.

Fuel petcock

1. Clean fuel filter and filter cup.



1. Filter screen 3. Filter cup
2. Filter gasket

Engine and transmission oil

1. Engine
 - a. Autolube oil

We recommend that first choice be Yamalube 2-cycle oil. If for any reason you should use another type, the oil should meet or exceed BIA certification "TC-W". Check container top or label for service specification. If above oils not available, use a 30W or 40W 2-stroke oil for air-cooled engines.

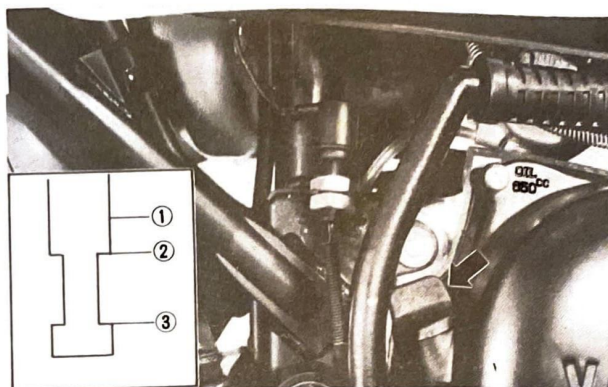
CAUTION: _____

Under extremely cold conditions (0°C or below) SAE 30 and 40W oils become very thick and will not flow as readily to the Autolube pump. This may cause oil pump starvation and engine damage.

2. Transmission

- a. To check level, start the engine and let it run for several minutes to warm and distribute oil. Stop engine.

Unscrew the dip stick and wipe it clean. Set it on the case threads in a level position. Remove and check level.



1. Dip stick 2. Max. level 3. Min. level

NOTE: _____

Be sure the machine is level and on both wheels.

- b. The oil level should be between the minimum and maximum marks. Top off as required.

Recommended oil:

Yamalube 4-cycle oil or SAE
10W/30 "SE" motor oil

Transmission drain plug torque:

2.0 ~ 2.5 m·kg
(14.5 ~ 18.1 ft·lb)

Transmission oil quantity:

650 cc (687.1 US. qt)

CAUTION: _____

Under no circumstances should any additives be included with the transmission oil. This oil also lubricates and cools the clutch. Many additives will cause severe clutch slippage.

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).

Battery type	6V, 4AH
Electrolyte	Specific gravity: 1.260 Quantity: 200 cc
Initial charging current	0.25 Amperes/15 hours (New battery)
Re-charging current	0.4 Amperes/10 hours (or until specific gravity reaches 1.26)
Re-fill fluid	Distilled water to maximum level line
Re-fill period	Check once per month or more often as required

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.

Refer to Technical Bulletin.
m7-075 for charging details.

Electrolyte Specific Gravity

Specific gravity at 20°C (68°F)
1.260

- 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.

WARNING: Battery fluid is poisonous and dangerous, causing severe burns, etc. Contains sulfuric acid. Avoid contact with skin, eyes or clothing.

Antidote:

EXTERNAL-Flush with water.

INTERNAL-Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg or veg. oil. Call physician immediately.

Eyes: Flush with water for 15 minutes and get prompt medical attention.

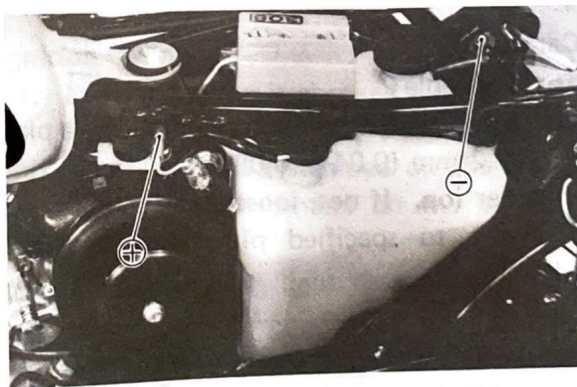
Batteries produce explosive gases. Keep sparks, flame, cigarettes, etc. away. Ventilate when charging or using in enclosed space. Always shield eyes when working near batteries. **KEEP OUT OF REACH OF CHILDREN.**

Battery installation

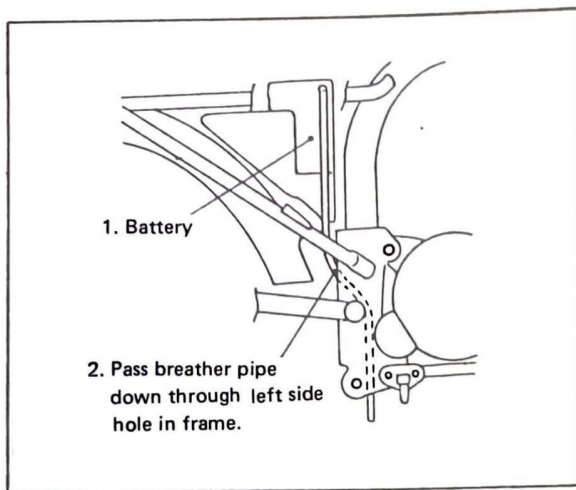
- a. Make sure the main switch is turned off, and install the battery in the battery box. Connect the positive lead wire first, and then connect the negative lead wire.

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.



Spark plug

a. Check spark plug gap and torque.

Model	Spark plug type	Spark plug gap
DT100E	B-7ES	0.6~0.8 mm (0.024~0.031 in)

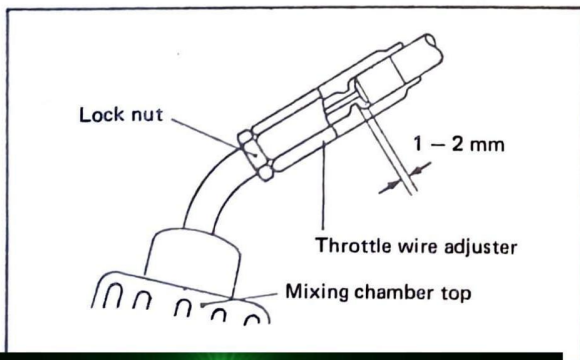
Spark plug torque:
2.5 m·kg (18 ft·lb)

b. When installing the plug, always clean the gasket surface, wipe off any grime that might be present on the surface of the spark plug, and torque the spark plug properly.

Carburetor

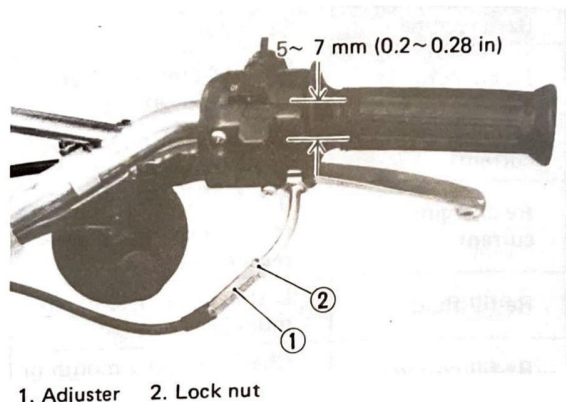
Throttle cable 2

Check to see whether this cable allows a play of 1 ~ 2 mm (0.04 ~ 0.08 in) on the mixing chamber top. If not, loosen the lock nut and adjust it to specified play with the wire adjuster.



Throttle freeplay adjustment

Check play in turning direction 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.

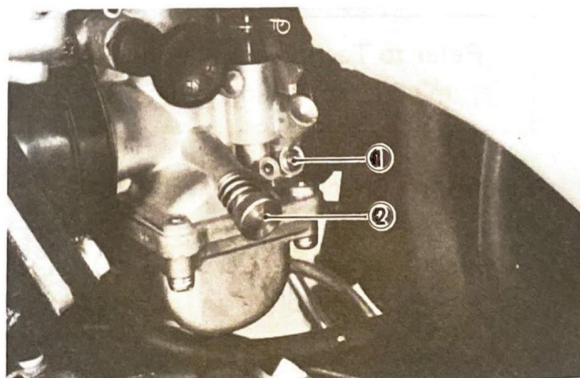


Drain the carburetor and fuel lines of any stale fuel.

Throttle stop screw

Turn throttle stop screw (1) in or out to achieve smooth engine operation at idle speed specified below.

Idling speed: 1,300 ~ 1,450 r/min



Contact breaker point

- The contact breaker should be checked for the following:
 - Damage of contact point surfaces
 - Rust on the breaker arm or arm shaft.
 - Oil or dirt on the assembly.
- Apply a few drops of light-weight machine oil or distributor lubricant to the point cam lubricator. Do not over oil.

3. To clean the points, spray the points with ignition point cleaner or lacquer thinner, and place a piece of clean paper between the points, let them close, and remove the paper. Repeat until no residue shows.

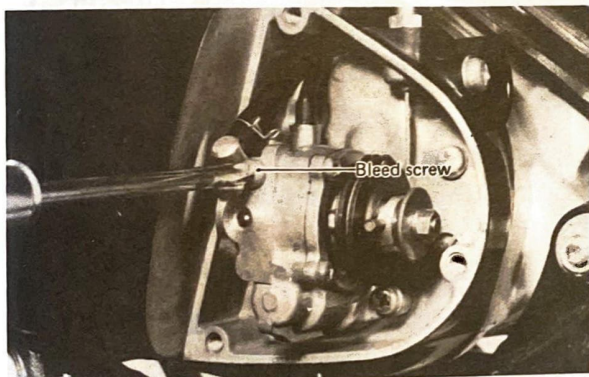
Autolube pump

Air bleeding

The Autolube pump and delivery lines must be bled on the following occasions:

- Setting up a new machine out of the crate.
- Whenever the Autolube tank has run dry.
- Whenever any portion of the Autolube system is disconnected.

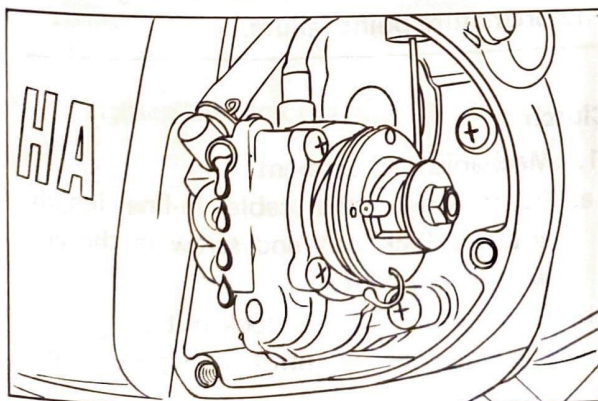
- a. Bleeding the pump case and/or oil pipe
 - 1) Remove the bleed screw.



- 2) Keep the oil running out until air bubbles disappear.

NOTE: _____

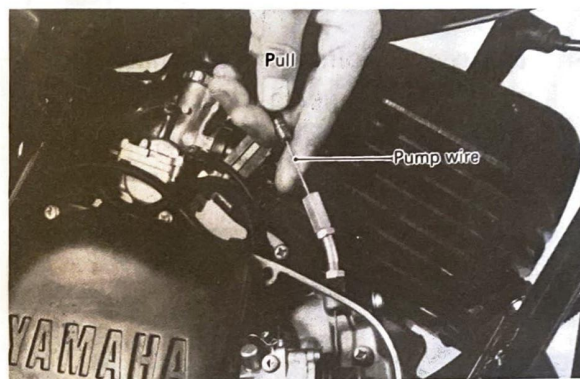
Check the bleed screw gasket, and if damaged, replace with a new one.



- 3) When air bubbles are expelled completely, tighten the bleed screw and install the pump cover.

- b. Bleeding the pump distributor and/or delivery pipe

- 1) Start the engine
- 2) Pull the pump wire all the way out to set the pump stroke to a maximum.



NOTE: _____

It 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.

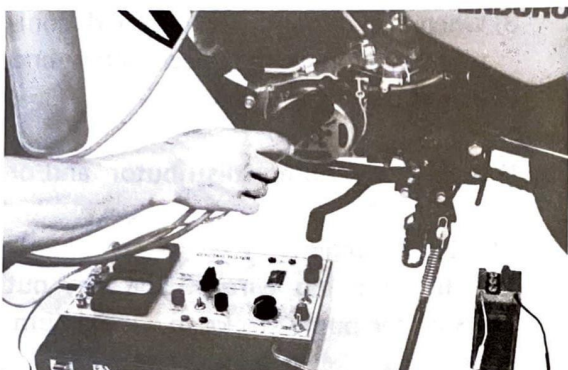
- 3) Keep the engine running at about 2,000 rpm for two minutes or so, and both distributor and delivery pipe can be completely bled.

Ignition timing

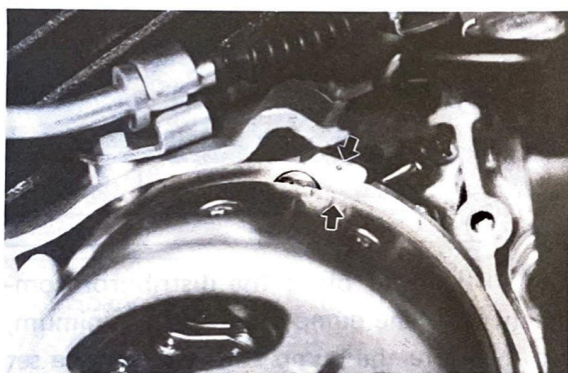
1. Ignition timing is checked with a timing light by observing the position of the stationary mark stamped on the crankcase and the pointers on the magneto flywheel.
2. Connect timing light to spark plug lead wire.
3. Start the engine and keep the engine speed as specified. Use a tachometer for checking.

Engine speed:
1,300 ~ 1,450 r/min

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4. The center pointer of the magneto flywheel should line up the stationary mark on the crankcase at a specified engine speed.



5. If they are not aligned or a new crankcase is used for replacement, proceed as follows.
6. Switch on point checker and adjust zero point. Disconnect magneto harness from main harness, connect red lead of point checker to black/white lead in wire harness coming from magneto.
7. Connect black lead of point checker to unpainted surface of cylinder fin or unpainted crankcase bolt.
8. Rotate magneto flywheel until the center pointer on the magneto flywheel lines up the stationary mark on the crankcase. At this time, point checker needle should swing from "CLOSE" to "OPEN" position, indicating the contact breaker (ignition points) have just begun to open.



9. Adjust ignition timing by slightly loosening Phillips head screw and carefully rotating contact breaker assembly with a slotted screw driver, and retighten Phillips head screw before rechecking timing. Recheck the timing by repeating step 8 and 2-4.



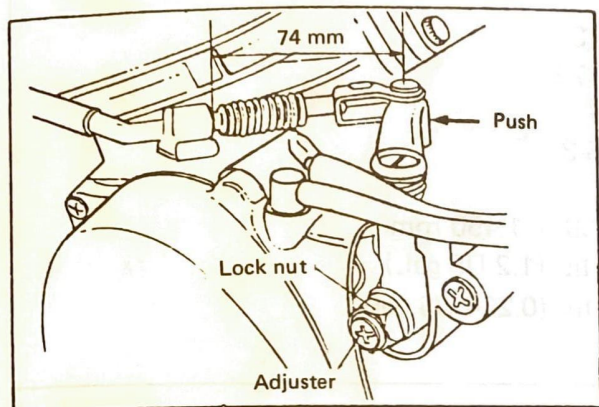
NOTE:

After ignition timing has been set, check point gap. If it is over tolerance, (0.3 ~ 0.4 mm), the contact breaker assembly should be replaced. Do not attempt to bend the fixed point breaker to decrease maximum point gap. This will only result in point misalignment, difficulty in setting timing and premature point failure.

Clutch

1. Mechanism adjustment
 - a. Fully loosen the cable in-line length adjuster lock nut and screw in the adjuster until tight.
 - b. Loosen the adjuster lock nut and screw the adjuster in until it lightly seats against push cam.

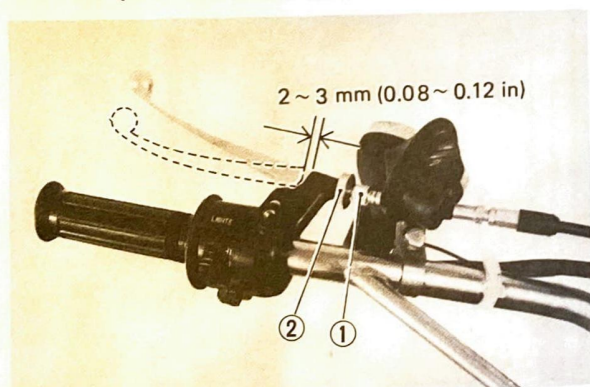
- c. Push the push lever forward with your finger until it stops. With the push lever in this position, back out the adjuster (within full one turn) and adjust the distance to specified distance.



- d. Tighten the adjuster lock nut.

2. Freeplay adjustment

- a. Loosen either the handle lever adjuster lock nut or the cable inline length adjuster lock nut.
- b. Turn the length adjuster either in or out until proper lever freeplay is achieved. The play should be 2 ~ 3 mm (0.08 ~ 0.12 in) at the position shown in the figure.

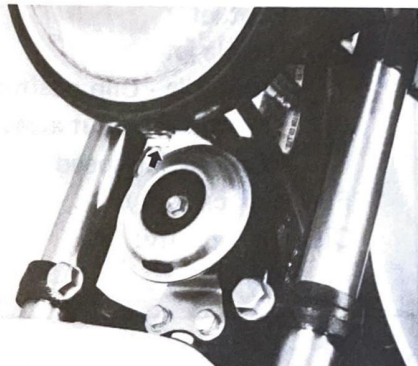


1. Adjuster
2. Adjuster lock nut

- c. Tighten the lock nut.

Headlight

1. Adjust horizontally as follows:
 - a. Loosen the bolt holding the rim. To adjust to the right; move the lens assembly to right side. To adjust to the left; move the lens assembly to left side.



2. Adjust vertically as follows:
 - a. Remove the headlight and loosen the headlight shell mounting nuts.
 - b. Next, adjust vertically by moving the headlight body. When adjustment is complete hold the body in place, and tighten the two mounting nuts. Then refit the headlight body.

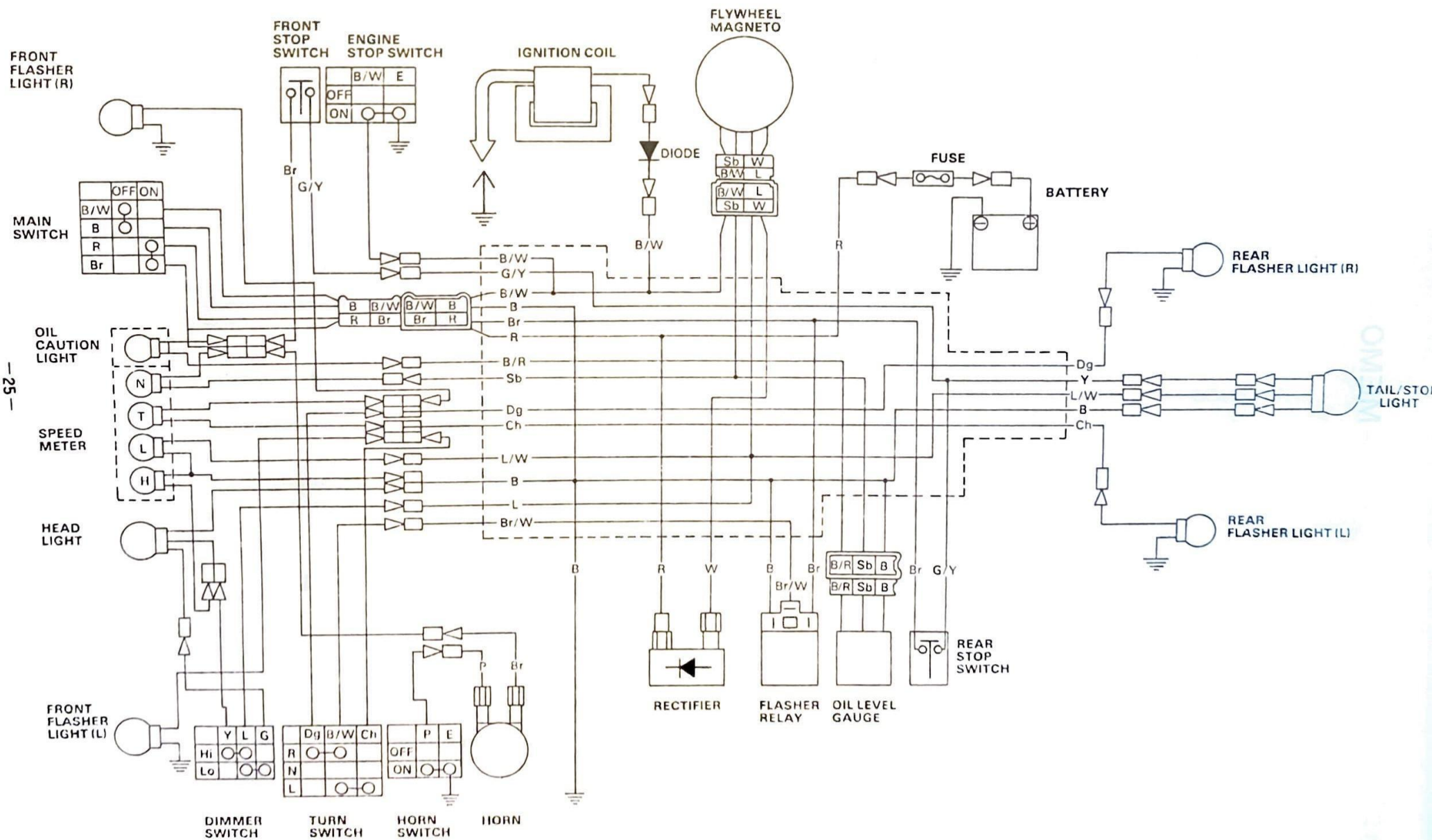
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Specification Table

Ignition timing:	1.8 ± 0.15 mm (0.07 ± 0.006 in) (B.T.D.C.)
Contact breaker point gap:	0.3 – 0.4 mm (0.012 – 0.016 in)
Carburetor:	
Main jet	# 130
Pilot jet	# 17.5
Needle jet	O-6
Jet needle - Clip position	4L6-3
Throttle valve cut away	2.0
Idling engine speed	1,300 ~ 1,450 rpm
Fuel tank capacity:	4.5 lit. (1.2 US gal.)
Oil tank capacity:	1.0 lit. (0.264 US gal)

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