



YAMAHA

RS100C

ASSEMBLY MANUAL



www.legends-yamaha-enduros.com

90894-07504

FOREWORD

This Assembly Manual contains the information required for the unpacking and assembly of Yamaha motorcycles so that the Yamaha serviceman can assemble the machine 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 make a full study on the service of Yamaha motorcycles using the relevant service manuals.

NOTICE

The service standards given in this Assembly Manual are based on the model as manufactured when this manual was published. Since this model may require some improvements, the service standards may be subject to partial change in the future. If any change is introduced into the specifications or service procedures, Yamaha dealers will be notified through technical service information to be published by Yamaha. 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 a danger to the rider.

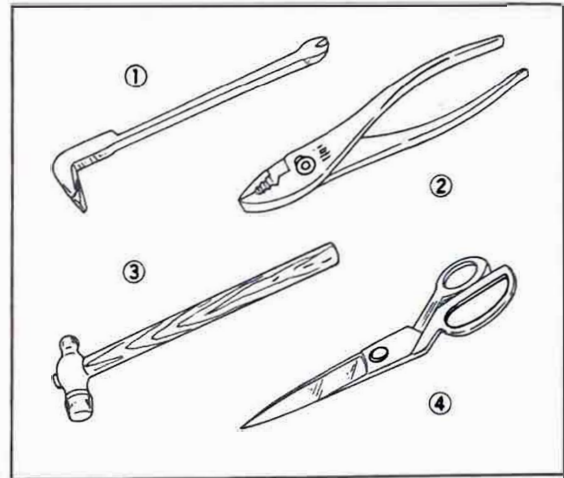
**YAMAHA RS100C
SUPPLEMENTARY ASSEMBLY MANUAL
1st Edition, February 1975
OVERSEAS SERVICE DEPARTMENT
YAMAHA MOTOR CO., LTD.
IWATA, JAPAN
LIT-11666-00-03**

PREPARATION

To assemble the machine correctly, the following service tools, greases and working space are required.

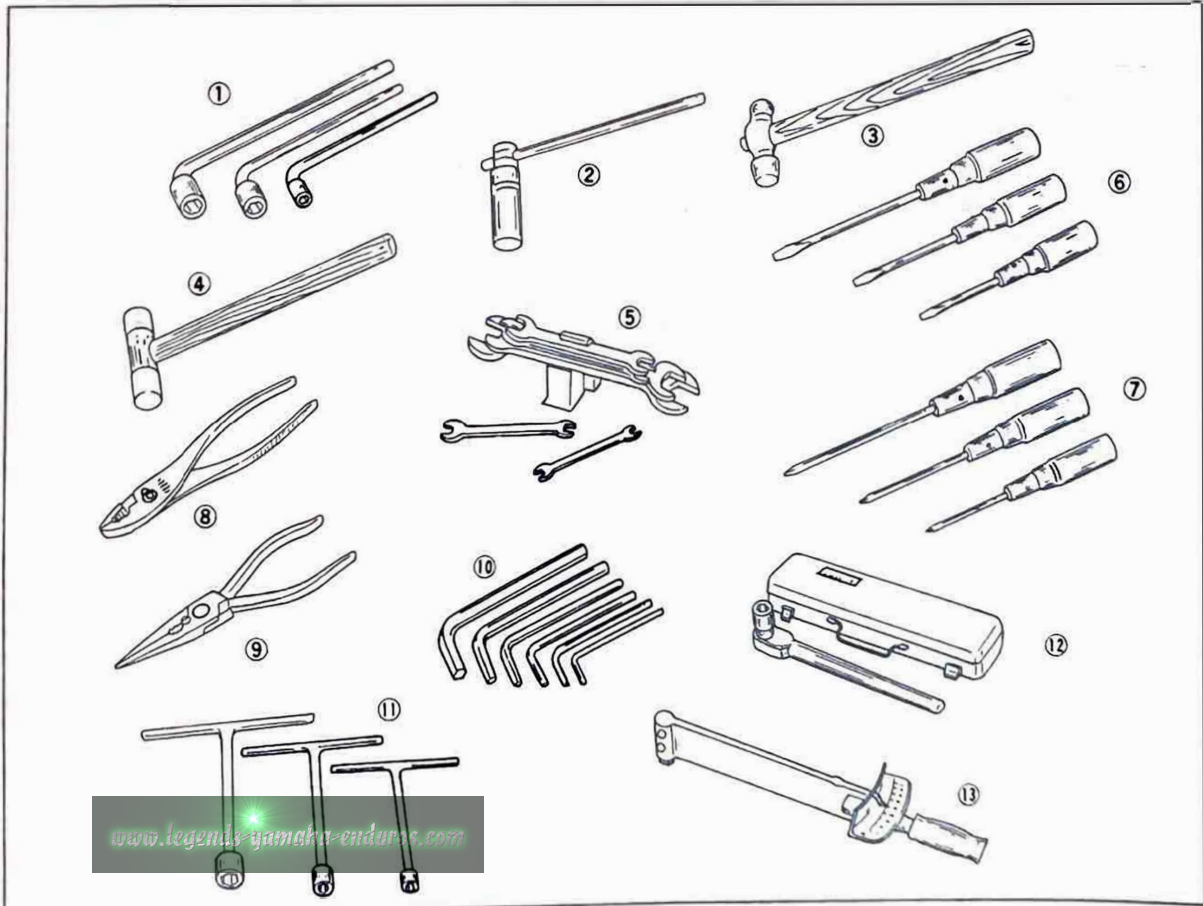
Tools for unpacking

1. Nail puller
2. Pliers
3. Steel hammer
4. Scissors



Tools for assembling

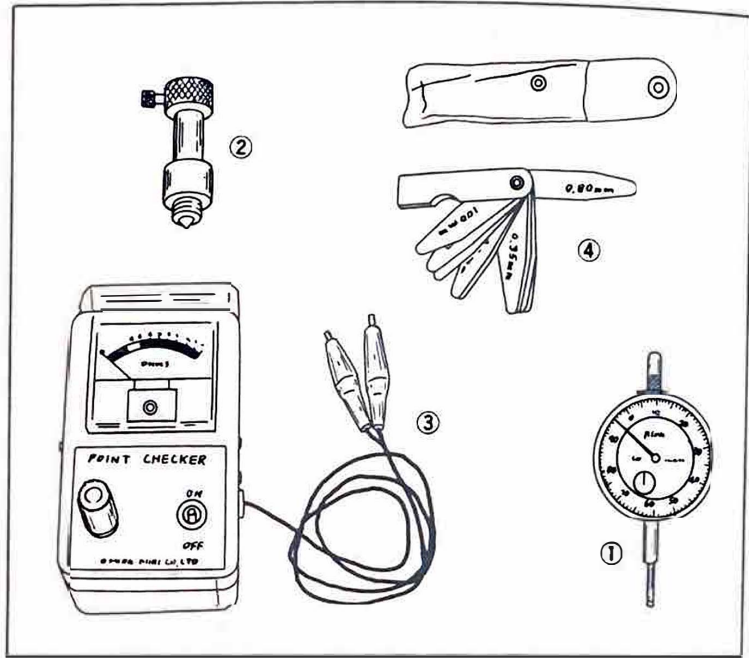
1. L-handle socket wrench
2. Spark plug wrench
3. Steel hammer
4. Soft faced hammer
5. Open end wrench set
6. Slotted head screwdrivers (Large, Medium and Small)
7. Phillips head screwdrivers (Large, Medium and Small)
8. Pliers
9. Long nose pliers
10. Allen wrench set
11. T-handle socket wrench
12. Socket wrench set
13. Torque wrench



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Special tools

1. Dial gauge
2. Dial gauge holder
3. Point checker
4. Thickness gauge



TORQUE SPECIFICATIONS

The following torque specifications must be adhered to on every machine. Some items with several fasteners should be torqued down in a criss-cross pattern in successive stages until torque specification is reached. The method is similar to installing an automobile wheel and will avoid warping the component.

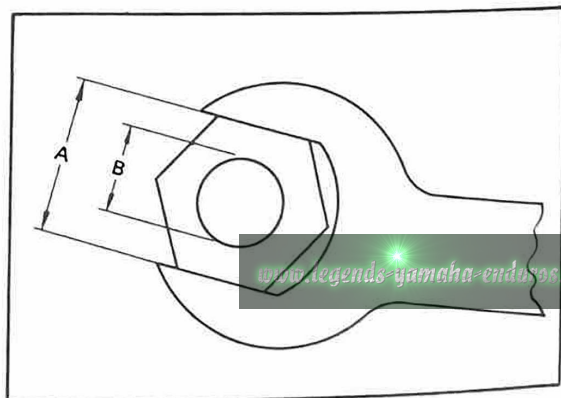
Torque settings are for dry, clean threads. Torquing should always be done to the nut, never to the bolt head.

NOTE: _____

Certain items with other than standard thread pitches may require differing torque. Consult the model Service Manual or distributor if a question arises.

Torque Specifications

A (Nut)	B (Bolt)	m-kg	ft-lb	in-lb
10 mm	6 mm	1.0	7.2	85
10 mm	7 mm	1.5	11	135
13 mm 14 mm	8 mm	2.0	15	175
17 mm	10 mm	3.5~4.0	20~29	300~350
19 mm	12 mm	4.0~4.5	29~33	350~400
22 mm	14 mm	4.5~5.0	33~36	400~440
26 mm	17 mm	5.8~7.0	42~50	500~600
27 mm	18 mm	5.8~7.0	42~50	500~600
30 mm	20 mm	7.0~8.3	50~60	600~700
SPARK PLUGS		2.5~3.0	18~22	220~260



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 card board crate, cut the vinyl bands around the box using a cutter or scissors. Next remove the exterior carton by lifting it straight up.



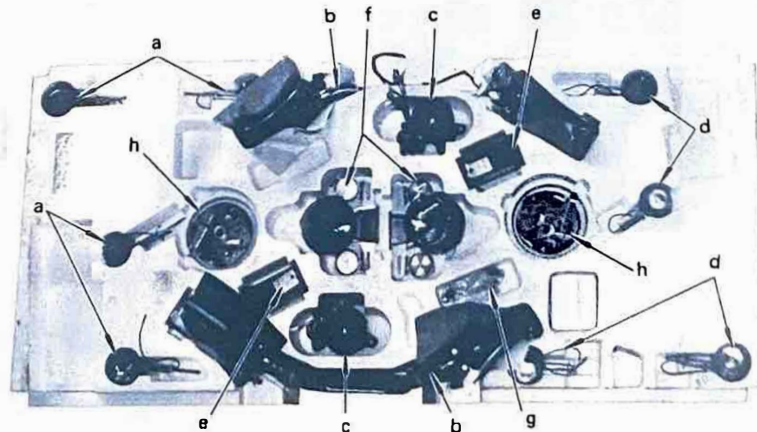
PARTS CHECK LIST

Before starting the assembly, check for damaged or missing. Also check the machine for damage, scratches and other defects.

The following parts are contained in the foam tray and the vinyl bag in the package. Check the quantity of parts against the list. Also check for damaged.

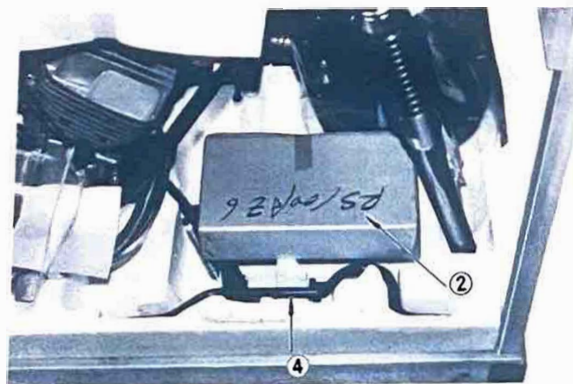
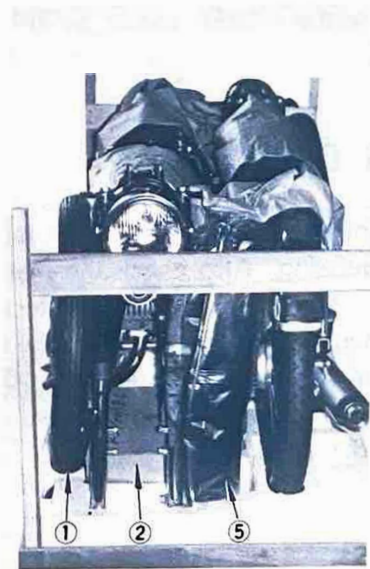
In the foam tray

	Parts name	Q'ty/unit	Remarks		Parts name	Q'ty/unit	Remarks
a	Flasher light	2	for rear	e	Battery	1	
b	Handle bar	1		f	Taillight	1	
c	Speedometer	1		g	Vinyl bag	1	
d	Flasher light	2	for front	h	Brake shoe plate	1	


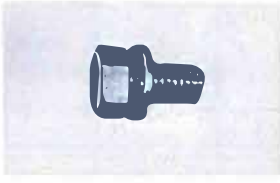


On the wooden frame

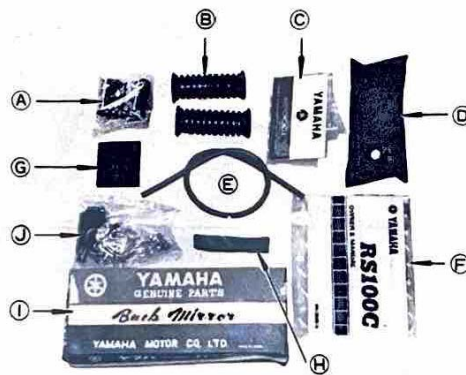
	Parts name	Q'ty/unit
1	Front wheel	1
2	Carton box	1
3	Front fender	1
4	Footrest	1
5	Double seat	1

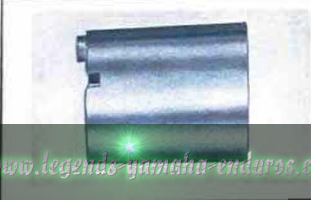







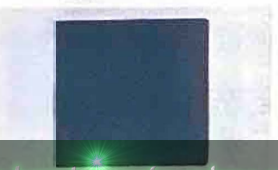



Details of parts in the vinyl bag 'g'.

No.	Photo	Parts name	Q'ty/unit	Remarks
g-1		Bolt (M8)	1	For footrest
g-2		Bolt with spring washer (M8)	2	For speedometer


Details of parts in the carton box '2'.









No.	Photo	Parts name	Q'ty/unit	Remarks
A		Vinyl bag	1	Flasher collar
B		Footrest rubber	2	For footrest bar
C		Owner's warranty guide book	1	





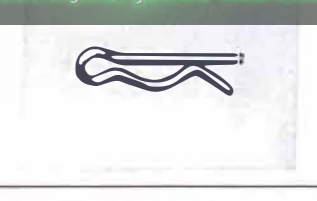
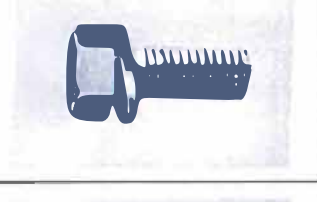

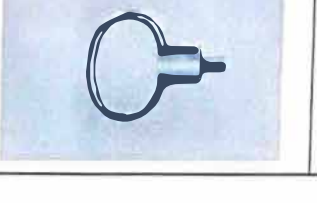
No.	Photo	Parts name	Q'ty/unit	Remarks
D		Service tool	1	
E		Breather pipe	1	For battery
F		Owner's manual	1	
G	 www.legends-yamaha-enduros.com	Battery seat	1	For battery
H		Battery band	1	
I		Rear view mirror	1	
J		Vinyl bag	1	



Details of parts in the vinyl bag 'A'.

No.	Photo	Parts name	Q'ty/unit	Remarks
A-1		Flasher collar	2	For rear flasher light

Details of parts in the vinyl bag 'J'.

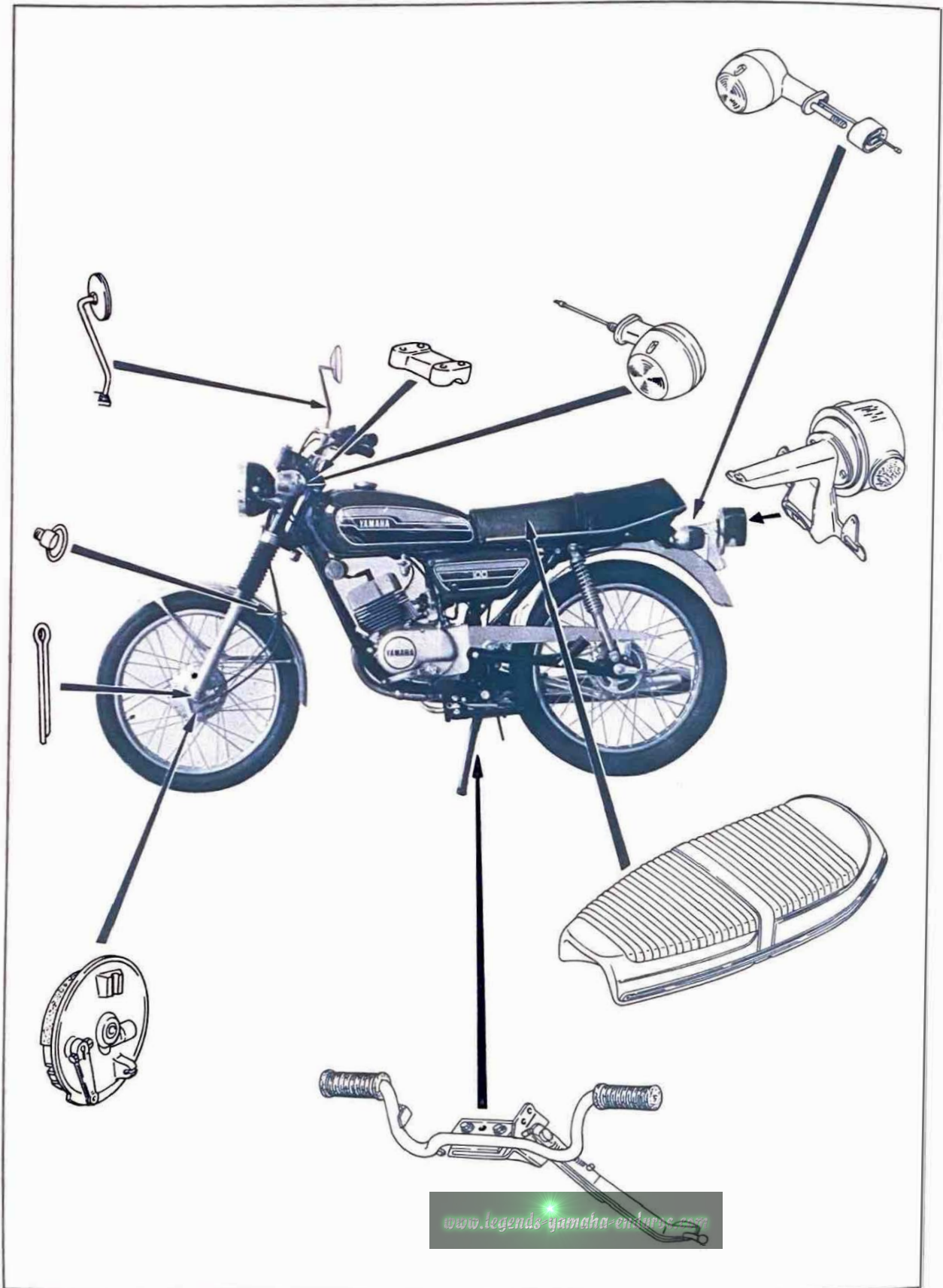
No.	Photo	Parts name	Q'ty/unit	Remarks
J-1		Damper	1	For taillight
J-2		Grommet	2	
J-3		Bolt	2	
J-4		Plain washer	1	
J-5		Collar	1	
J-6		Bolt (M6 x 25)	1	

No.	Photo	Parts name	Q'ty/unit	Remarks
J-7		Nut (M6)	3	For taillight
J-8		Spring washer	3	
J-9		Plain washer	2	
J-10		Clevis pin	2	For double seat
J-11		Clip	2	
J-12		Bolt with spring washer	1	For footrest
J-13		Cotter pin	1	For front wheel axle
J-14		Wire holder	1	For front fender

No.	Photo	Parts name	Q'ty/unit	Remarks
J-15		Spring washer	1	For wire holder
J-16		Nut (M6)	1	
J-17	 www.legends-yamaha-enduro.com	Spring washer	4	For front and rear flasher light
J-18		Nut (M8)	4	

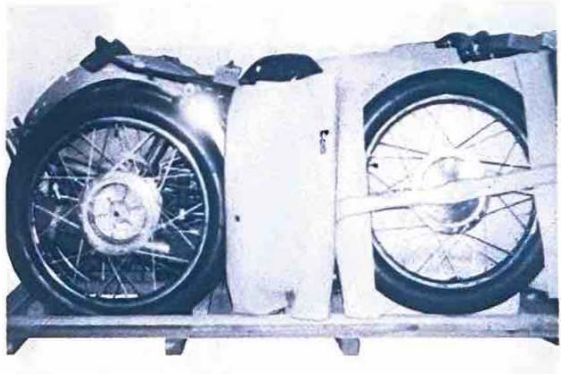
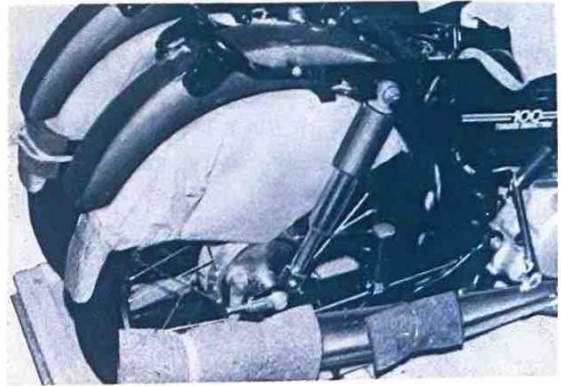
INSTALLATION GUIDE

The removed parts should be installed in the positions identified in the chart below:



SET-UP PROCEDURES

Remove the front fender held between the rear tire and the rear fender. Next, remove the front wheel.

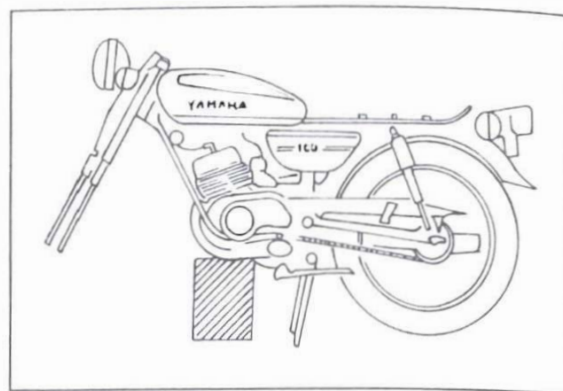


Remove the seat.

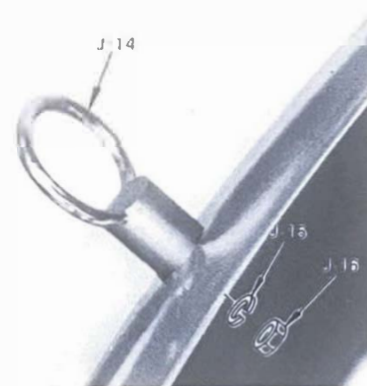


Remove the nails from each corner of the crate, and remove the struts.

To install the front fender and front wheel, place a properly sized 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.



Using the spring washer (J-15) and nut (J-16) contained in the vinyl bag 'J', install the wire holder (J-14) on the front fender.



Insert the front fender (3) between the front forks, and secure it using bolts and spring washers which are fitted to the front fork.

Tightening torque:
2.0 ~ 2.5 m·kg (30 ~ 48 in·lb)



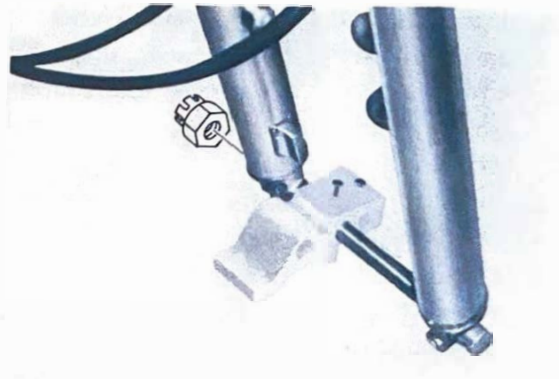
Apply a light coat of grease to the speedometer drive gear and oil seal.

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 surface can cause impaired braking action.



Remove the front wheel axle nut, and loosen the bolt securing the axle.

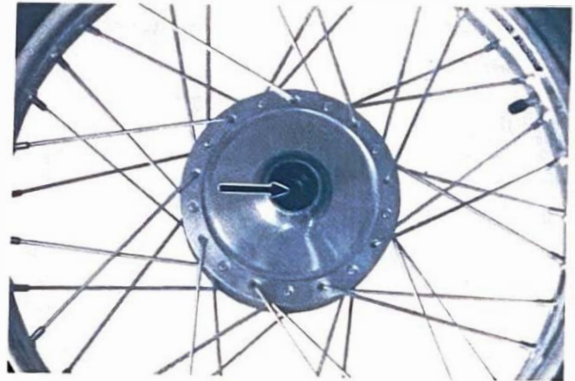


Install the wheel axle collar in the wheel hub on the right side of the front wheel.

NOTE: _____

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

Apply a thin coat of lithium base grease to the oil seal in the wheel hub.

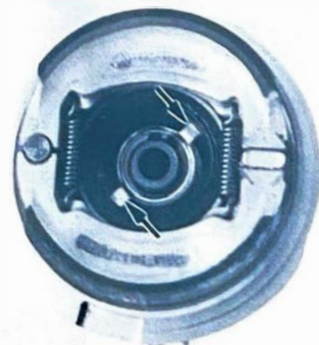


Install the brake shoe plate assembly (h) in the front wheel hub.

1. Clean the inner surface of the front wheel hub with a clean cloth.
2. Make sure the brake shoes and springs are correctly installed in the shoe plate assembly. If any one of them is out of place, correct per the figure.
3. Install the brake shoe plate assembly in the wheel hub.

NOTE: _____

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



Install the front wheel on the front forks.

1. Insert the front wheel between the front fork legs so that the stopper (projection) on the front fork end correctly engages the slot in the brake shoe plate.
2. Insert the axle, mount the plain washer on the axle, and install the axle nut.
3. Lightly tighten the axle holder bolts so that the axle does not turn while the axle nut is tightened.

Tightening torque for axle nut:

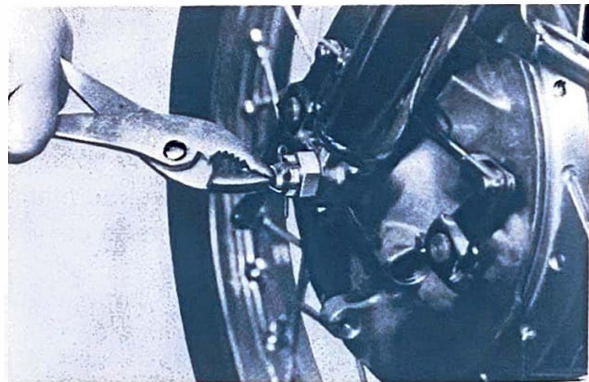
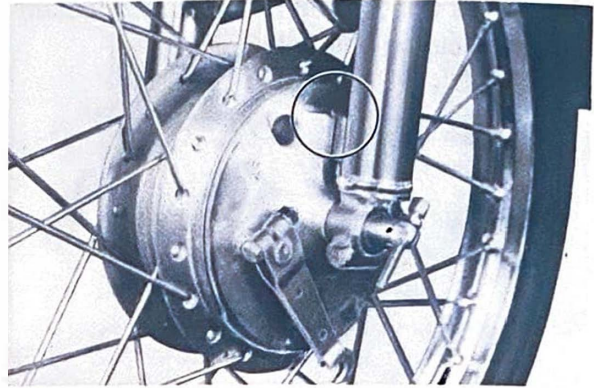
4.0 ~ 4.5 m·kg (29 ~ 33 ft·lb)

4. Tighten the axle holder nut with specified torque.

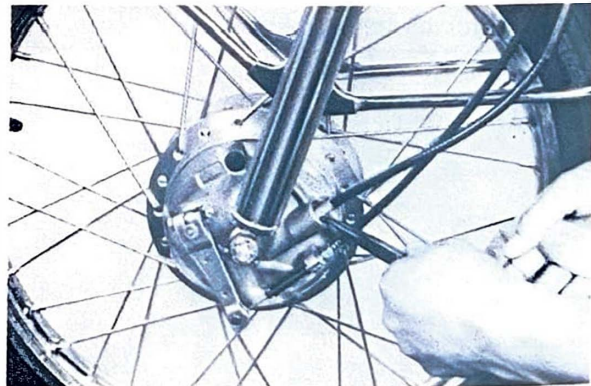
Tightening torque:

2.0 ~ 2.5 m·kg (175 ~ 220 in·lb)

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



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.)



Handlebar installation

1. Remove the four hexagon bolts, and remove the handlebar holder.
2. Insert the lead wire coming from the handle switch into the grommet attached to the headlight body.
3. Install the handlebar using the removed upper holder and four hexagon bolts.

Tightening torque:

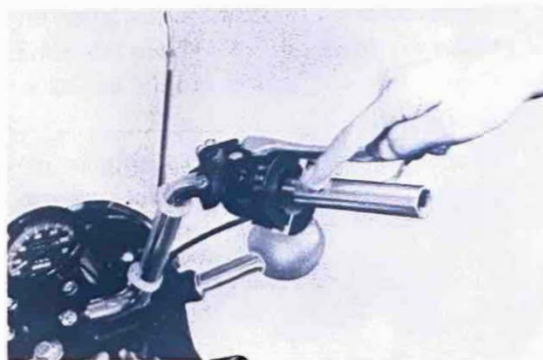
2.0 ~ 2.2 m·kg (14.5 ~ 16.0 ft·lb)



Grease the right end of the handlebar and the throttle grip housing, and install the throttle grip.

CAUTION:

Make certain throttle grip rotates on handlebar freely, without binding. If not, normal throttle return will be impaired.



Secure the brake lever and clutch lever holders with a 6 mm hexagon bolt.



Speedometer installation

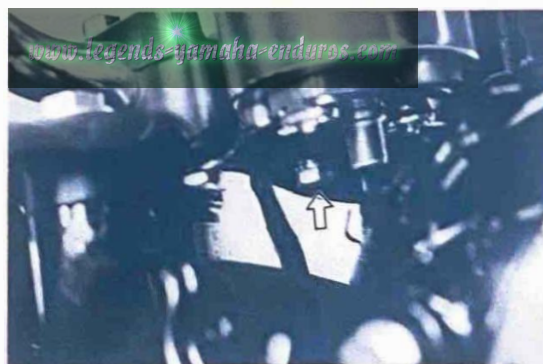
Using the bolt with washers (g-2) contained in the vinyl bag 'g', install the speedometer (with meter stay) under the handle crown.

Tightening torque:

2.0 ~ 2.5 m·kg (175 ~ 220 in·lb)

NOTE:

Before securing the meter bracket, all wires should be threaded through the headlight body grommet. Take care not to kink wires by pressure.

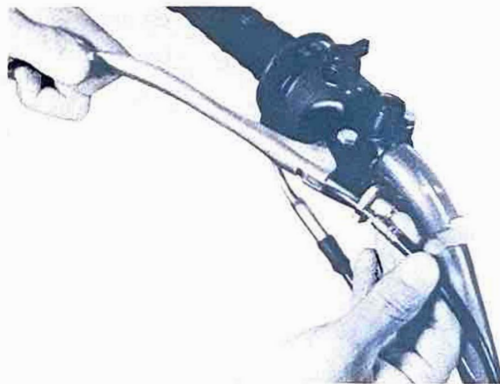
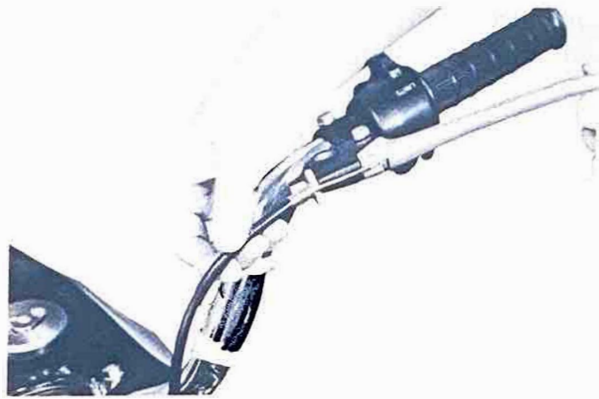
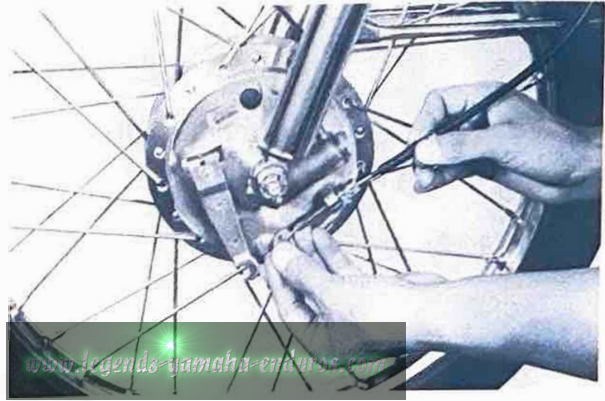


Brake wire and clutch wire installation

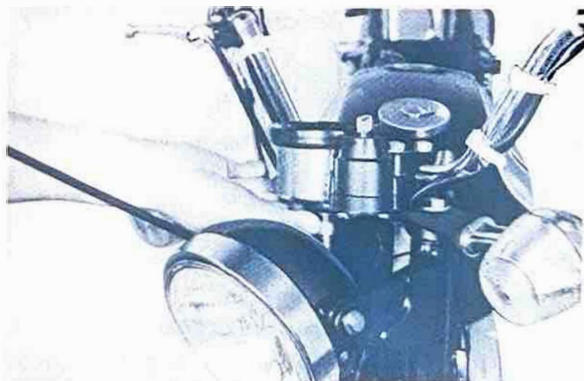
1. Screw in the cable length adjusters on the brake shoe plate (brake wire) and the crankcase cover (clutch wire).
2. Fully loosen the lever adjuster lock nut, and screw in the adjuster until tight. Next, align the slit in the adjuster and adjuster lock nut with the slit in the lever holder.
3. Insert 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 to the lever, release the lever quickly. While releasing it, seat the outer cable into the adjuster.

CAUTION: _____

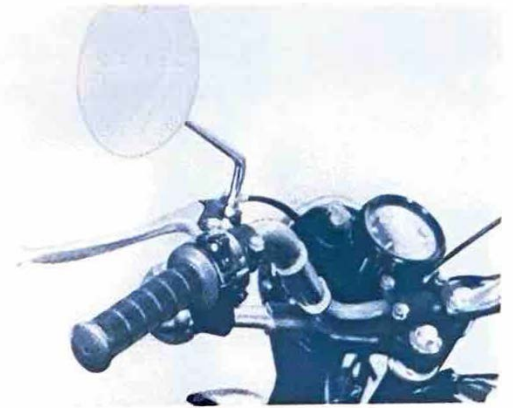
Proper cable and wire routing is essential to insure safe vehicle operation. For details of the cable routing, refer to the cable routing diagram.



Connect the meter cable to the speedometer.



Install the rear view mirror on the clutch lever holder (left hand side), and tighten the lock-nut.



Remove the Phillips head screw from the bottom of the headlight body. Insert a slotted head screwdriver between the headlight body and the headlight rim, pry out the lens assembly.

NOTE: _____
During the operation, care should be taken not to scratch the headlight body and lens rim. Also take care so that the screw is not lost.



Front flasher light installation

1. Using nut (J-18) and spring washer (J-17) contained in the vinyl bag 'J', install both right and left front flasher lights (d) on the handlebar as illustrated.

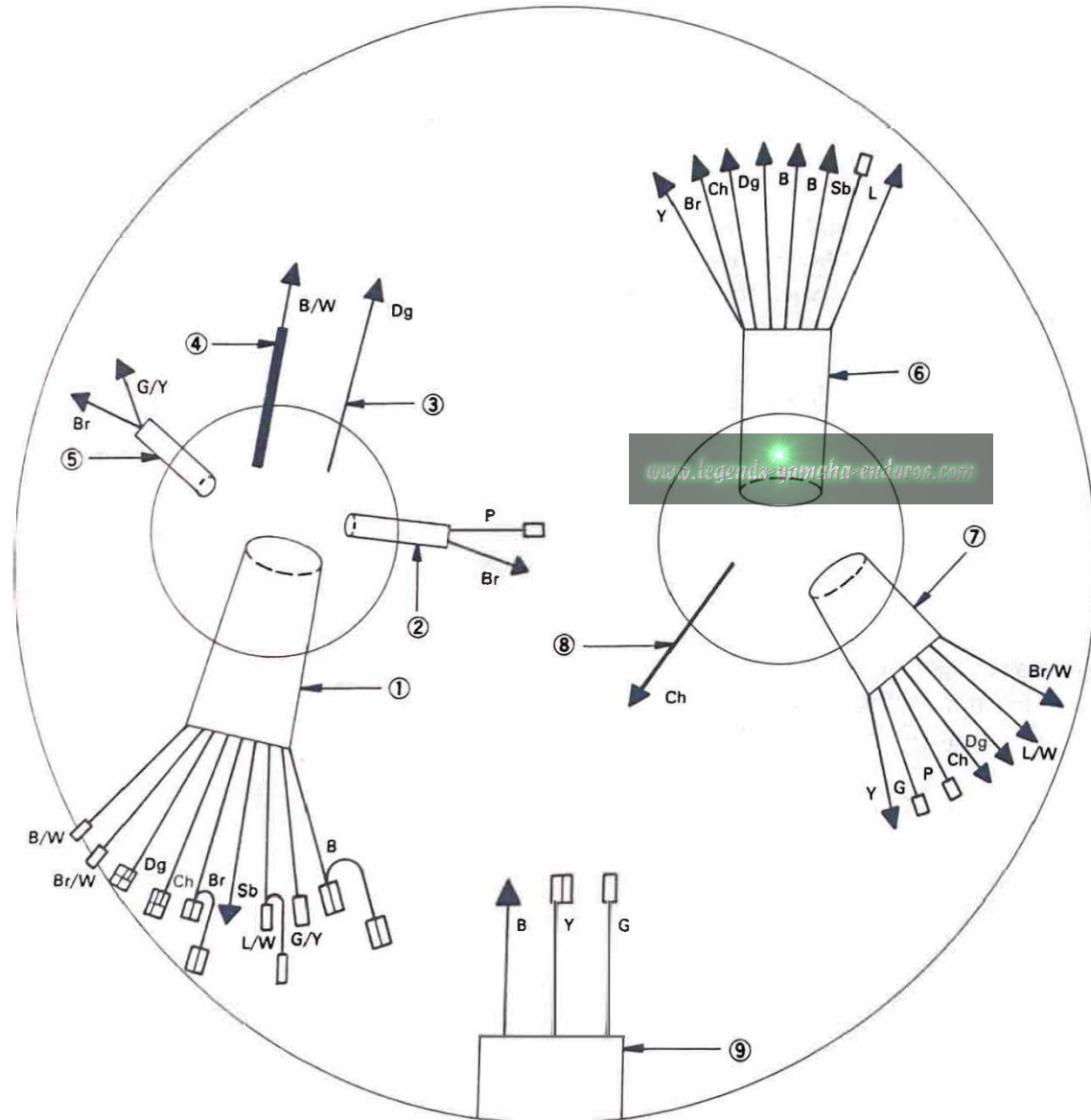


2. Hold the lamp lead wire to the fork cover upper clamp and insert the lead wire end into the headlight body. (See illustration.)



LEAD WIRE CONNECTION

Connect all lead wires inside the headlight body (without main switch wires). The wires of identical colors should be connected. (Some lead wires are excluded.)



- | | |
|------------------------------------|------------------------------------|
| 1. From wire harness | 6. From speedometer |
| 2. From horn | 7. From handle switch No. 3 |
| 3. From front flasher light (R.H.) | 8. From front flasher light (L.H.) |
| 4. From engine stop switch | 9. From headlight |
| 5. From front brake stop switch | |

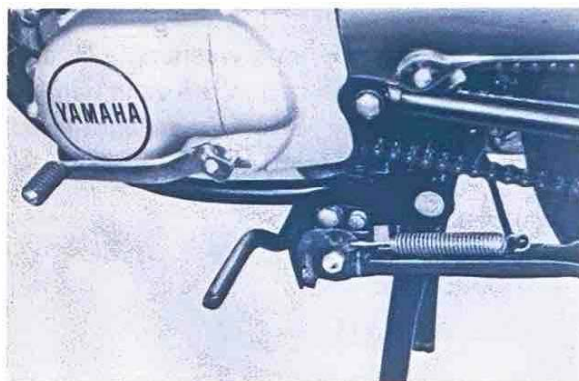
When installing the headlight lens assembly, care should be used so that wires are not pinched. Secure the headlight assembly in place with the Phillips head screw.



Using the bolt (g-1) and bolt (J-12) contained in the vinyl bag 'g' and 'J', install the footrest (4) under the frame.

Tightening torque for bolt (g-1):
3.5 ~ 4.0 m-kg (25 ~ 29 ft-lb)

Tightening torque for bolt (J-12):
2.5 ~ 3.0 m-kg (18 ~ 22 ft-lb)

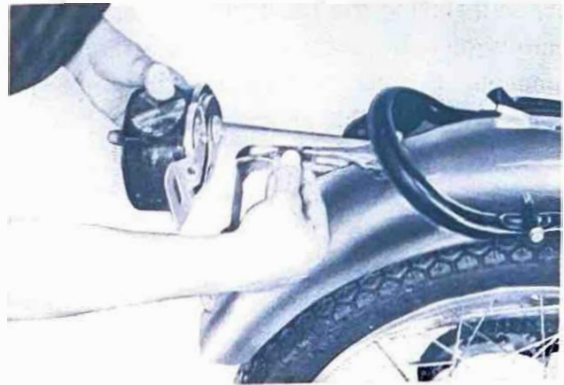


Taillight assembly installation

1. Install the two damper rubbers (J-1, J-2) on the taillight assembly bracket.
2. Using the bolt (J-6), washer (J-4), grommet mount collar (J-5), spring washer (J-8) and nut (J-7) contained in the vinyl bag 'J', secure the front part of taillight assembly bracket to the rear fender.



3. Connect the taillight assembly lead wire to the wire harness, and lock it with the hook. (The wires of identical color should be connected.)



4. Using the shoulder bolts (J-3), plain washers (J-9), spring washers (J-8) and nuts (J-7) contained in the vinyl bag 'J', secure the rear part of the taillight bracket to the rear fender.



Rear flasher light installation

1. Install the both flasher light assembly (a) using collar (A-1), spring washer (J-17) and nut (J-18) contained in the vinyl bag 'A' and 'J'.



2. Connect the flasher lead wires to the wire harness on the rear fender.
Right flasher light lead wire
→ Dark green
Left flasher light lead wire
→ Dark brown



Battery

1. When filled with diluted sulfuric acid electrolyte, this battery can be put into use immediately. That is, it is a dry-charged battery. It is advisable, however, that the battery be charged as much as possible before using for the first time for maximum performance. This initial charge will prolong the life of the battery.

Charging current: 0.4A

Charging hours: 10 Hrs

2. How to prepare diluted sulfuric acid

The diluted sulfuric acid can be prepared by adding sulfuric acid to distilled water at specific mixing ratio.

Specific gravity at 68° F (20° C)	Ratio of distilled water to sulfuric acid
1.25	3.4
1.26	3.2
1.27	3.0
1.28	2.8
1.29	2.7
1.30	2.6

Pour distilled water into a glass container, and add sulfuric acid while stirring with a glass stick. Adding the acid will generate heat, and therefore, care should be taken so that heat does not rise excessively.

CAUTION:

Never attempt to add distilled water to sulfuric acid.

3. Filling the battery with diluted sulfuric acid
 - a. Remove all filter caps from the battery, and remove the breather pipe cap at the same time.
 - b. Cool the diluted sulfuric acid down to below 86° F (30° C).
 - c. Pour diluted sulfuric 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 diluted sulfuric acid again.
 - d. Charge the battery as required, and measure the specific gravity of the fluid.
 - e. Install the filler caps, and thoroughly wipe off the fluid around the filler caps.

Wire harness connection

Connect the tail/stop light lead wires to the wire harness on the oil tank cap. The wires of identical colors should be connected.



Battery installation

1. Make sure the main switch is turned off, and install the battery in the battery box. (Secure the battery with a band (H) and a battery seat (G).)

Connect the positive lead wire first, and then connect the negative lead wire.

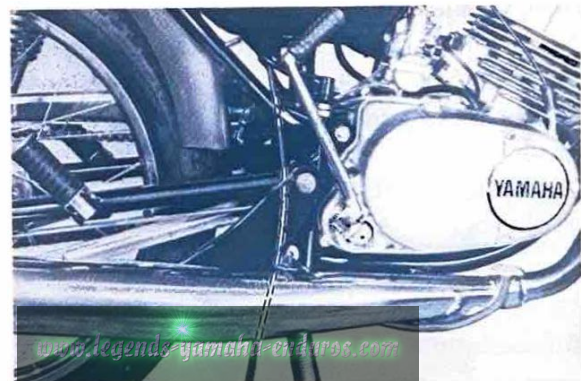
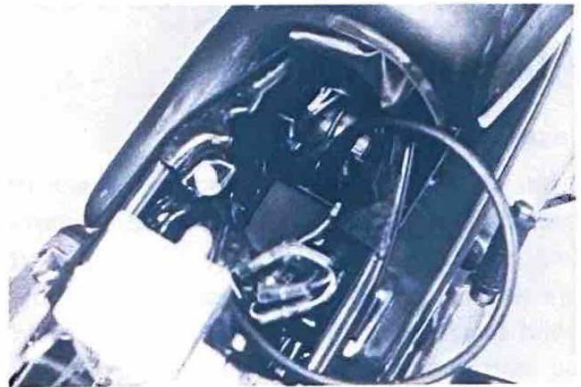
NOTE: _____

After connecting the positive lead wire, be sure to place the vinyl cover to prevent shorting.

2. The breather pipe (E) should be connected as photo.

NOTE: _____

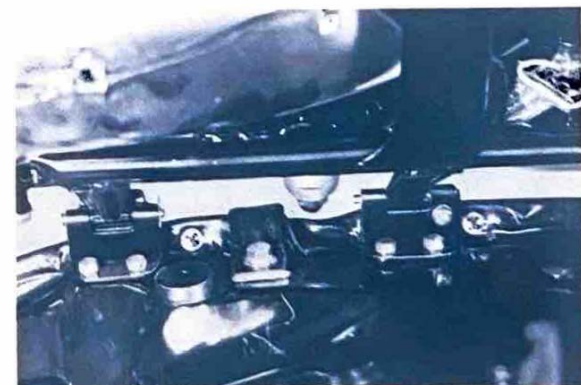
Rout the breather pipe outlet down and away from any part of the machine.



Seat installation

Remove the seat pin stopper, using two clevis pins (J-10) and two clips (J-11), secure the seat to the frame.

The clevis pin should be inserted into the stay from the rear side and its front end should be locked with clip (J-11).



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	Hopping, deflection
Front wheel tire	Tire pressure
Front wheel axle nut	Cotter pin, tightening torque
Front wheel axle holder lock nuts	Tightening torque
Front fork pinch bolts	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 bolts	Tightening torque
Carburetor joint(s)	Tightness

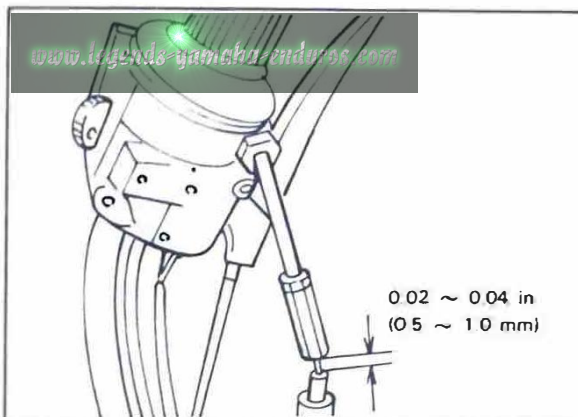
Footrests	Position, tightening torque
Change pedal	Position, looseness, operation
Brake pedal	Position, looseness, operation
Seat	Mounting, clevis pin, clips
Fuel tank	Mounting
Fuel pipe	Connection
Battery	Mounting, fluid level, wiring
Rear fender	Mounting
Taillight	Mounting, wiring
Rear flasher light	Mounting, wiring
Rear cushion	Mounting, tightening torque
Carrier	Mounting, tightness
Rear swing arm pivot shaft	Tightening torque
Rear axle nut	Cotter pin, tightening torque
Chain puller	Locknut
Rear wheel	Spoke tension
Rear wheel rim	Hopping, deflection
Rear wheel tire	Tire pressure
Transmission oil	Oil level
Autolube oil	Oil level

Adjustments

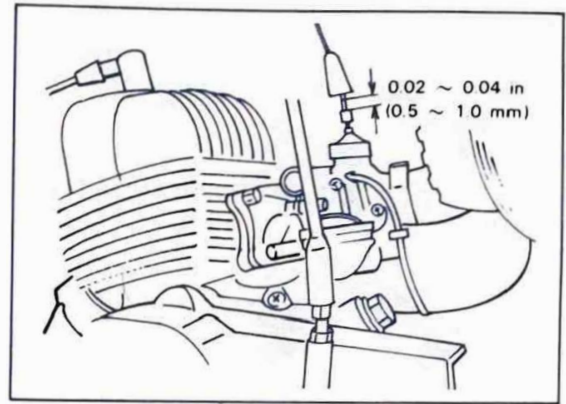
NOTE: _____
 This section deals with the main points only. For details, refer to the service manual for this model.

Throttle wire adjustment

1. Adjust the free play of throttle wire 1 to 0.02 ~ 0.04 in (0.5 ~ 1.0 mm).

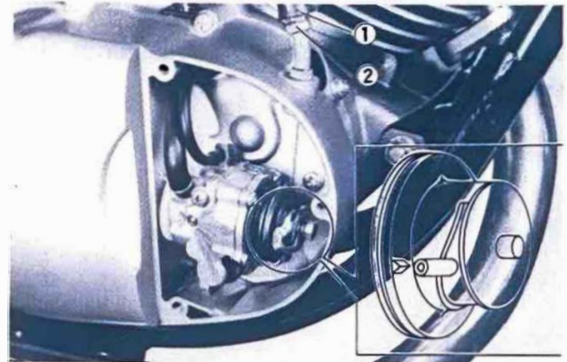


- After adjusting the idling speed, adjust the free play in throttle wire 2 to 0.02 ~ 0.04 in (0.5 ~ 1.0 mm).



Pump wire adjustment

- Remove pump cover.
- Open throttle slightly to take up all play.
- Loosen wire adjuster locknut and turn adjuster in or out until the proper mark on the adjusting pulley is aligned with the guide pin.



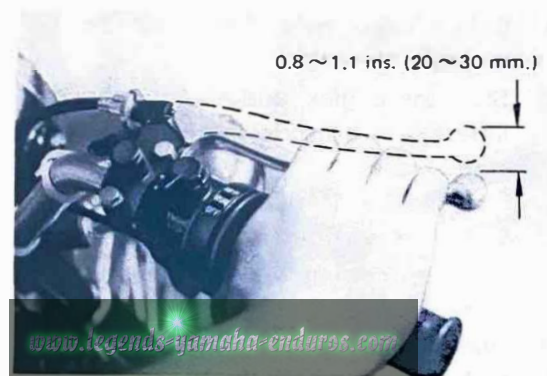
- Adjuster
- Adjuster locknut

Front brake wire adjustment

Loosen the adjusting nut, and adjust the play of the brake lever (at the position illustrated) to specification by turning the adjusting screw. After the adjustment, screw in the locknut until tight.

Standard value:

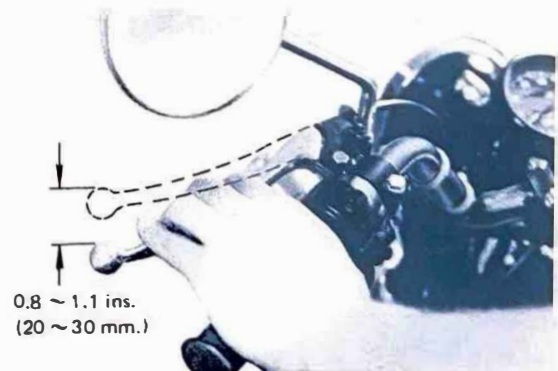
0.8 ~ 1.1 in (20 ~ 30 mm)



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 0.8 ~ 1.1 in (20 ~ 30 mm) at the position shown in the figure.

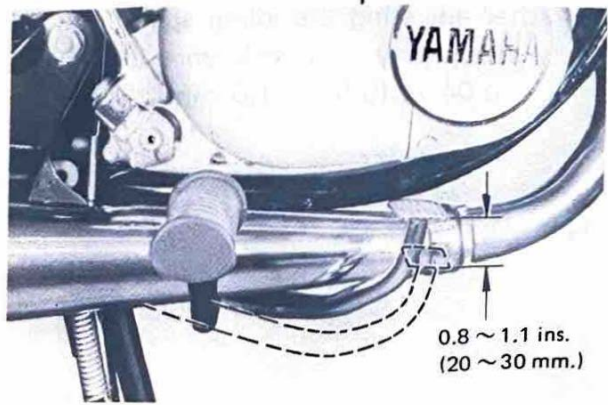


Rear brake pedal adjustment

Rear brake pedal play can be adjusted by turning the adjusting nut on the rear end of the brake rod.

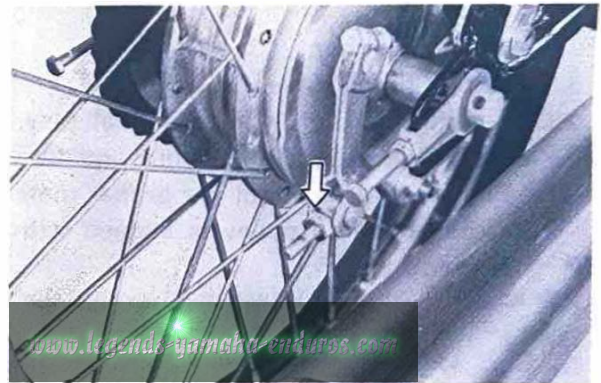
Standard:

0.8 ~ 1.1 in (20 ~ 30 mm) at the brake pedal.



Turning clockwise (tightening) decreases play.

Turning counterclockwise (loosening) increases play.



Idling speed adjustment

1. Before adjustment, fully warm up the engine.
2. Start the engine, and idle the engine a little faster by screwing in the throttle stop screws.

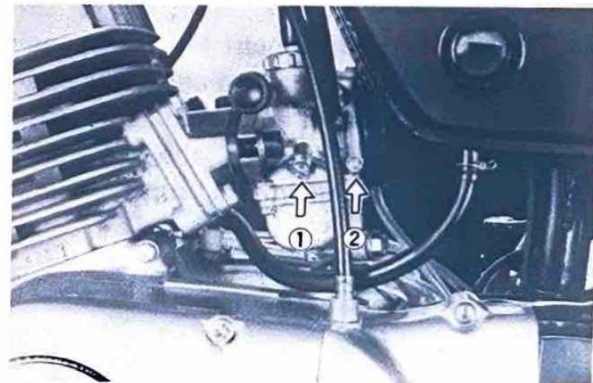
1,300 ~ 1,400 rpm

3. Screw in and out slowly pilot screws, and stop turning when the engine idles faster.

Standard turns out: 1-1/2

4. By backing out both throttle stop screws evenly, reduce the idling speed to specification.

Standard speed: 1,250 ~ 1,350 rpm



1. Throttle stop screw
2. Pilot air screw

Breaker points — checking and cleaning
If the engine is hard to start, the breaker point surfaces are considered to be dirty. Clean with a clean cloth dampened with a solvent, 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 ± 0.15 mm (0.07 ± 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.



Normal spark plug gap	
NGK — B-8HS	0.5 ~ 0.7 mm
CHAMPION — L-78	(0.019 ~ 0.027 in)

Service specifications

SERVICE DATA

	Item	Service standards
Engine:	Ignition timing	1.8 ± 0.15 mm (0.07 ± 0.006 in)
	Ignition point gap	0.3 ~ 0.35 mm (0.012 ~ 0.014 in)
Autolube:	Minimum pump stroke (at idle)	0.20 ~ 0.25 mm (0.0078 ~ 0.0098 in)
	Maximum pump stroke (at full throttle)	1.85 ~ 2.05 mm (0.073 ~ 0.081 in)
Carburetor:	Main jet	#110
	Jet needle/Clip position	4F10-3
	Air screw (Turns out)	1-1/2
	Float level	21.0 ± 1.0 mm (0.826 ± 0.04 in)
	Idling engine speed	1.300 ± 50 rpm
Fuel tank:	Capacity	9.0 liter (2.37 gal)
Engine oil tank:	Capacity	1.5 liter (0.39 gal)
Transmission:	Gear oil capacity	700 ± 50 cc (42.7 ± 3.05 cu in)
Front fork:	Oil quantity	157 cc (10.6 cu in)
Tire pressure:	Front	1.6 kg/cm ² (22.7 lb/in ²)
	Rear	2.0 kg/cm ² (28.4 lb/in ²)
Battery:	Type	6N4A-4D
	Capacity	6V4AH
	Specific gravity	1.260 at 20°C
	Charging rate	0.4A × 10 hours

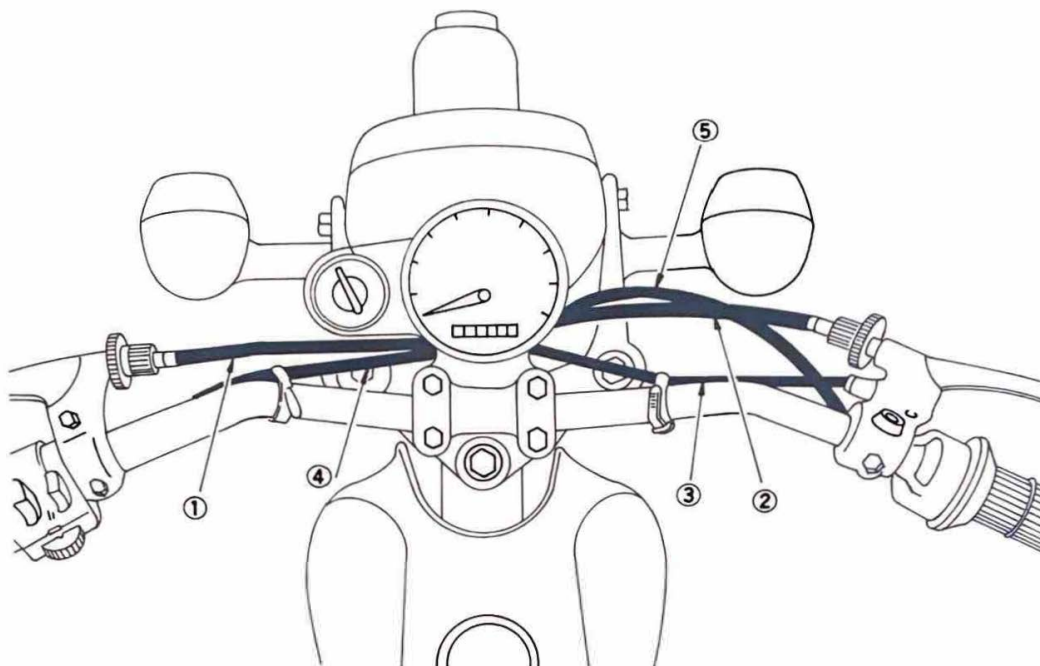
NOTE:

All specifications/data within this manual are subject to change without notice.

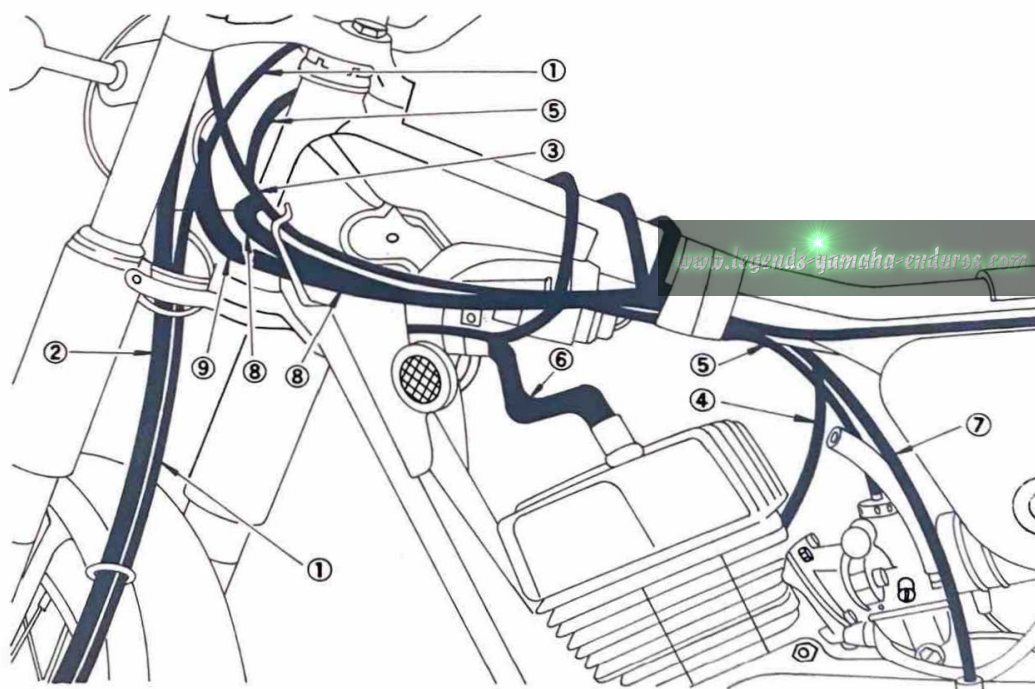
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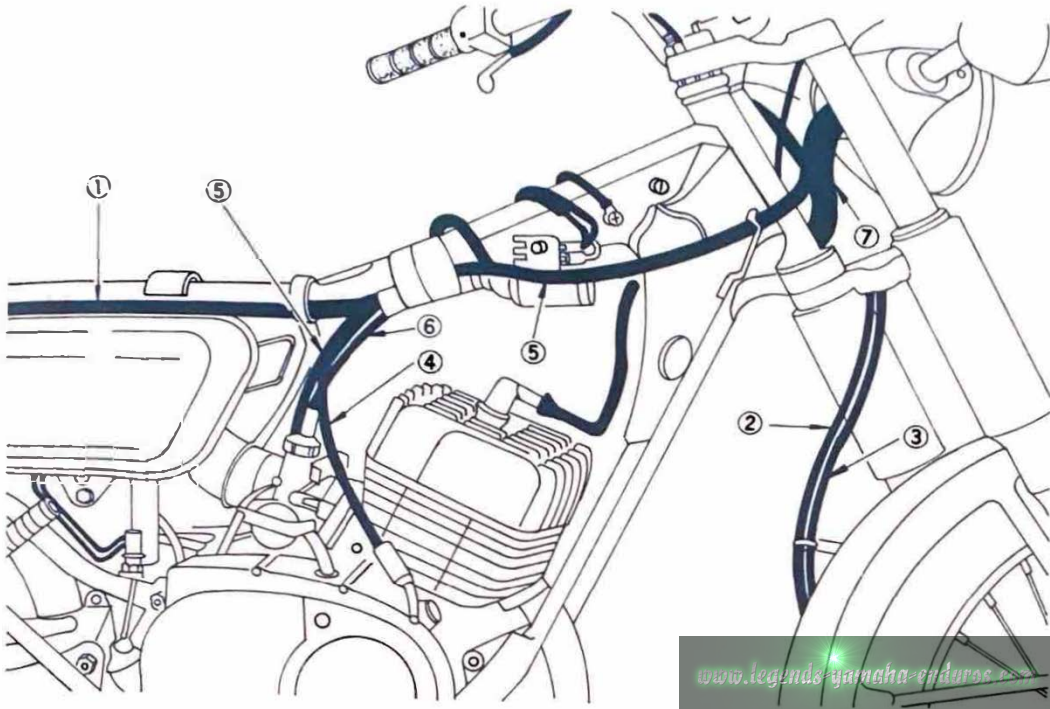
CABLE ROUTING DIAGRAM



1. Clutch cable
2. Front brake cable
3. Front stoplight wire
4. Handle switch No. 3 wire
5. Throttle cable



- | | |
|---|--|
| <ol style="list-style-type: none"> 1. Front brake cable
(In front of clutch cable) 2. Speedometer cable 3. Clutch cable 4. Pump cable | <ol style="list-style-type: none"> 5. Throttle cable 6. High tension cord 7. Clutch cable 8. Wire harness 9. Main switch wire |
|---|--|



1. Wire harness
2. Speedometer cable
3. Front brake cable
4. Pump cable
5. Clutch cable
6. Throttle cable
7. Wire harness

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