

YAMAHA

XTZ660(L) '94

JYF-AE1

**SUPPLEMENTARY
SERVICE MANUAL**

HOW TO USE THIS MANUAL

CONSTRUCTION OF THIS MANUAL

This manual consists of chapters for the main categories of subjects. (See "Illustrated symbols")

- 1st title ①: This is a chapter with its symbol on the upper right of each page.
- 2nd title ②: This title appears on the upper of each page on the left of the chapter symbol. (For the chapter "Periodic inspection and adjustment" the 3rd title appears.)
- 3rd title ③: This is a final title.

MANUAL FORMAT

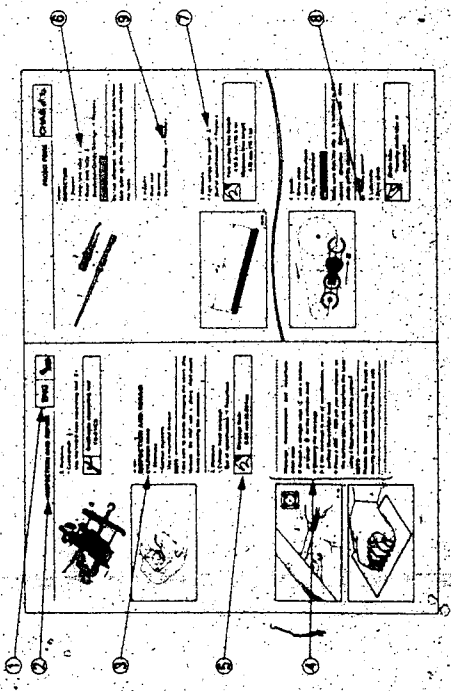
All of the procedures in this manual are organized in a sequential, step-by-step format. The information has been compiled to provide the mechanic with an easy to read, handy reference that contains comprehensive explanations of all disassembly, repair, assembly, and inspections. A set of particularly important procedure ④ is placed between a line of asterisks "*" with each procedure preceded by •.

IMPORTANT FEATURES

- Data and a special tool are framed in a box preceded by a relevant symbol ⑤.
- An encircled numeral ⑥ indicates a part name, and an encircled alphabetical letter data or an alignment mark ⑦, the others being indicated by an alphabetical letter in a box ⑧.
- A condition of a faulty component will precede an arrow symbol and the course of action required the symbol ⑨.

EXPLODED DIAGRAM

Each chapter provides exploded diagrams before each disassembly section for ease in identifying correct disassembly and assembly procedures.



ILLUSTRATED SYMBOLS (Refer to the illustration)

Illustrated symbols ① to ③ are designed as thumb tabs to indicate the chapter's number and content.

- ① General information
- ② Specifications
- ③ Periodic inspection and adjustment
- ④ Engine
- ⑤ Cooling system
- ⑥ Carburetion
- ⑦ Chassis
- ⑧ Electrical
- ⑨ Troubleshooting

Illustrated symbols ⑩ to ⑮ are used to identify the specifications appearing in the text.

- ⑩ Filling fluid
- ⑪ Lubricant
- ⑫ Special tool
- ⑬ Tightening
- ⑭ Wear limit, clearance
- ⑮ Engine speed
- ⑯ Ω , V, A

Illustrated symbols ⑰ to ⑳ in the exploded diagram indicate grade of lubricant and location of lubrication point.

- ⑰ Apply engine oil
- ⑱ Apply gear oil
- ⑲ Apply molybdenum disulfide oil
- ⑳ Apply wheel bearing grease
- ⑲ Apply lightweight immunosorb base grease
- ⑲ Apply molybdenum disulfide grease
- ⑲ Apply locking agent (LOCTITE®)
- ⑲ Use new one

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| ③ | INSP ADJ | ④ | ENG |
| ⑤ | COOL | ⑥ | CARR |
| ⑦ | CHAS | ⑧ | ELEC |
| ⑨ | TRBL SHTG ? | ⑩ | |
| ⑪ | | ⑫ | |
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XTZ660 (L) '94 WIRING DIAGRAM

MBOL
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chapter's number and

adjustment

⑥ are used to identify
ing in the text.

⑦ in the exploded dis-
bracket and location of

file of
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m-sond fuse green
file green
XCTTER)

GEN INFO

MOTORCYCLE IDENTIFICATION INFO

GENERAL INFORMATION

MOTORCYCLE IDENTIFICATION

VEHICLE IDENTIFICATION NUMBER (For E)

The vehicle identification number ① is stamped into the right side of the steering head.



Starting serial number:
JYA3YF50*RA104101

FRAME SERIAL NUMBER (Except for E)

The frame serial number ② is stamped into the right side of the steering head.

Starting serial number:
XTZ6603YF-088101 (BX)(DK) (FX)(GB)(GR)(I) (NX)(NL)(PRT) (SX)(SF)
XTZ6604BW-007101 (AX)(CH)
XTZ660L4MD-001101 (D)

ENGINE SERIAL NUMBER

The engine serial number ③ is stamped into the elevated part of the right rear section of the engine.



Starting serial number:
XTZ6603YF-088101 (BX)(DK) (FX)(GB)(GR)(I) (NX)(NL)(PRT) (SX)(SF)
XTZ6603YF-104101 (E)
XTZ6604BW-007101 (AX)(CH)
XTZ660L4MD-001101 (D)

NOTE:

- The first three digits of these numbers are for model identification; the remaining digits are the unit production number.
- Designs and specifications are subject to change without notice.

C-5

SPEC

GENERAL SPECIFICATIONS

SPECIFICATIONS

| Model | Model | XTZ660L |
|--------------------------------|---------|---|
| Model code number: | XTZ660 | 4MY1: (B)(D)(DK)(F)(GB)(GR)(I)(H)(NL) (PRT)(S)(SF) 4MY2: (E) 4MY1: (A)(CH) 4MY1: (D) |
| Vehicle identification number: | XTZ660L | JYA3YF50*RA104101: (E) |
| Frame starting number: | XTZ660 | 3YF-088101: (B)(DK)(F)(GB)(GR)(I)(H)(NL) (PRT)(S)(SF) 4BW-007101: (A)(CH) 4MD-001101: (D) |
| Engine starting number: | XTZ660 | 3YF-088101: (B)(DK)(F)(GB)(GR)(I)(H)(NL) (PRT)(S)(SF) X 3YF-104101: (E) 4BW-007101: (A)(CH) 4MD-001101: (D) |
| Dimensions: | XTZ660L | Overall length: 2,265 mm (89.2 in) 2,355 mm (92.7 in): (CH)(DK)(NL)(S)(SF) Overall width: 845 mm (33.3 in) Overall height: 1,385 mm (54.5 in) Seat height: 865 mm (34.1 in) Wheelbase: 1,495 mm (58.9 in) Minimum ground clearance: 245 mm (9.6 in) |
| Basic weight: | | 197 kg (435 lb) |
| With oil and full fuel tank: | | |
| Headlight type: | | Quartz bulb (Halogen) (B)(F)(GB)(GR)(PRT) (D)(S)(E)(CH) Bulb: (DK) (I) (N)(NL) (SF) (A) |
| Bulb wattage x quantity: | | 12V 60W+55W/55W (B)(F)(GR)(PRT)(S) (E)(D) 12V 45W+45W/40W+40W (DK)(NL)(NL)(SF)(A) 12V 35W+35W x 2 (GB)(I) 12V 4W x 1 12V 3W x 2 (I) 12V 3.1W x 1 (GB) 12V 5W/21W x 1 12V 21W x 1 |
| Headlight: | | |
| Auxiliary light: | | |
| Tail/brake light: | | |
| Flasher light: | | |

| | |
|--------------------------|--|
| 600(L) | |
| BI(GR)(N)(NL) | |
| (E) | |
| FX(BK)(G)(N)(NL) | |
| YGB(K)(R)(J)(N)(NL) | |
| (I)(D)(N)(N)(S)(S) | |
| (B)(F)(GB)(GR)(PRT) | |
| (D)(S)(E)(R)(CH) | |
| (F)(GR)(PRT)(S) | |
| (D) | |
| (W)(K)(N)(N)(N)(S)(P)(A) | |
| (I) | |

| Model | XTZ660(L) |
|--|--|
| Indicator light: Wattage x quantity | 12V 1.7W x 2 12V 3.4W x 1 12V 3.4W x 1 12V 3.4W x 2 |
| Meter light: "NEUTRAL" "HIGH BEAM" "TURN" | |

MAINTENANCE SPECIFICATIONS

ENGINE

| Model | XTZ660(L) |
|---------------------------------|--|
| Carburetor: I.D. mark | 3YF 00.4BW 00 (A)(CH) |
| Main jet | (M.J.) #130 |
| Main air jet | (M.A.J.) #1.0 |
| Jet needle | (J.N.) 5D96-35 5D97-35 (A) (CH) |
| Needle jet | (N.J.) V00 |
| Pilot jet | (P.J.) 948 |
| Pilot air jet | (P.A.J.) 90.6 |
| Bypass | (B.R.) #1.0 |
| Pilot screw | (P.S.) 2 and 1/2 turns out |
| Valve seat | (V.S.) #2.5 |
| Starter jet | (S.J.) #76 |
| Pilot outlet | (P.O.) 90.8 |
| Fuel level | (F.L.) 6.0-8.0 mm (0.24-0.31 in) Below from the float chamber mating surface |
| Float height | (F.H.) 25-27 mm (0.98-1.06 in) |
| Engine idling speed | 1,200-1,400 r/min |
| Engine idling speed | 1,250-1,350 r/min (A)(CH) |
| Vacuum pressure at idling speed | 26.4-34.6 kPa (200-260 mmHg, 7.57-10.24 in Hg) |

CHASSIS

| Model | XTZ660(L) |
|------------------------|--|
| Rear suspension: | |
| Shock absorber travel | 66 mm (2.60 in) |
| Spring free length | 222 mm (8.74 in) |
| Fitting length | 212 mm (8.35 in) |
| Spring rate | K1 125 N/mm (12.5 kg/mm, 700 lb/in) |
| Stroke | K1 Zero-66 mm (Zero-2.6 in) |
| Optional spring | No |
| Enclosed gas pressure: | |
| Standard | 1,500 kPa (115 kg/cm ² , 213 psi) |
| Drive chain: | |
| Type/manufacturer: | 520V&DAIDO |
| No. of links | 110 |
| Chain free play | 25-40 mm (1.0-1.57 in) |

MAINTENANCE SPECIFICATIONS

| Part to be tightened | Thread size | Tightening torque | | Remarks |
|---|-------------|-------------------|------|---------|
| | | ft-lb | kg-m | |
| Front fork/handlebar: | | | | |
| Handle crown and inner tube | M 8 x 1.25 | 23 | 2.3 | 17 |
| Handle crown and steering shaft | M14 x 1.25 | 110 | 11 | 80 |
| Handlebar holder (under) and handlebar holder (upper) | M 8 x 1.25 | 23 | 2.3 | 17 |
| Steering shaft and ring nut | M25 x 1.0 | 7 | 0.7 | 5.1 |
| Front brake hose and clamp | M 6 x 1.0 | 7 | 0.7 | 5.1 |
| Front master cylinder cap | M 4 x 0.7 | 2 | 0.2 | 1.4 |
| Front master cylinder and handlebar | M 6 x 1.0 | 7 | 0.7 | 5.1 |
| Cowling stay and cowling | M 6 x 1.0 | 7 | 0.7 | 5.1 |
| Horn and frame | M 6 x 1.0 | 7 | 0.7 | 5.1 |
| Main switch and handle crown | M 6 x 1.0 | 7 | 0.7 | 5.1 |
| Handlebar holder (under) and nut | M10 x 1.25 | 30 | 3.0 | 22 |
| Band (meter cables) | M 5 x 0.8 | 0.7 | 0.07 | 3.5 |
| Console panel and side cowling (left and right) | M 5 x 0.8 | 0.7 | 0.07 | 0.5 |
| Headlight and cowling stay | M 8 x 1.0 | 7 | 0.7 | 5.1 |
| Front flasher light and cowling stay | M12 x 1.25 | 4 | 0.4 | 2.9 |
| Rectifier/regulator and cowling stay | M 6 x 1.0 | 7 | 0.7 | 5.1 |
| Under bracket and inner tube | M 8 x 1.25 | 23 | 2.3 | 17 |
| Handlebar and grip and | M 6 x 1.0 | 7 | 0.7 | 5.1 |
| Cowling stay and frame | M 8 x 1.0 | 7 | 0.7 | 5.1 |
| Cowling and fuel tank | M 8 x 1.25 | 15 | 1.5 | 11 |
| Side cowling (left and right) and cowling | M 6 x 1.0 | 7 | 0.7 | 5.1 |
| Cowling and wind protector | M 5 x 0.8 | 0.7 | 0.07 | 0.5 |
| Side cowling (left and right) and radiator stay | M 5 x 0.8 | 0.7 | 0.07 | 0.5 |
| Engine mount: | | | | |
| Front engine stay and frame | M10 x 1.25 | 65 | 6.5 | 47 |
| Top engine stay and frame | M10 x 1.25 | 65 | 6.5 | 47 |
| Engine (rear under) and frame | M10 x 1.25 | 65 | 6.5 | 47 |
| Engine protector and frame | M 6 x 1.0 | 9 | 0.9 | 6.5 |
| Swingarm/rear shock absorber: | | | | |
| Pivot shaft and frame | M12 x 1.5 | 100 | 10.0 | 72 |
| Swingarm and relay arm | M12 x 1.25 | 80 | 8.0 | 58 |
| Relay arm and connecting rod | M10 x 1.25 | 48 | 4.8 | 35 |
| Connecting rod and frame | M10 x 1.25 | 48 | 4.8 | 35 |
| Rear shock absorber and frame | M12 x 1.25 | 58 | 5.8 | 42 |
| Chain tensioner securing bolt | M 8 x 1.25 | 23 | 2.3 | 17 |
| Chain case and swingarm | M 6 x 1.0 | 4 | 0.4 | 2.9 |
| Guard seal and swingarm | M 6 x 1.0 | 7 | 0.7 | 5.1 |
| Chain support and swingarm | M 6 x 1.0 | 7 | 0.7 | 5.1 |

MAINTENANCE SPECIFICATIONS

| Part to be tightened | Thread size | Tightening torque | | | Remarks |
|--|-------------|-------------------|-------|-------|---------|
| | | Nm | mt-kg | ft-lb | |
| Fuel tank/Side/Rear fender/Side cover: | | | | | |
| License bracket and number plate stay | M 6 x 1.0 | 7 | 0.7 | 5.1 | |
| Rear reflector and stay | M 5 x 0.8 | 4 | 0.4 | 2.9 | |
| Fuel tank and fuel cock | M 6 x 1.0 | 7 | 0.7 | 5.1 | |
| License bracket and flap | M 4 x 0.7 | 3 | 0.3 | 2.2 | |
| Handle holder and carrier | M 6 x 1.0 | 7 | 0.7 | 5.1 | |
| Fuel tank back stay and frame | M 6 x 1.0 | 7 | 0.7 | 5.1 | |
| Clutch cable and engine | M 6 x 1.0 | 9 | 0.9 | 6.5 | |
| Starter relay and lead | M 8 x 1.0 | 3 | 0.3 | 2.2 | |
| License bracket and taillight | M 6 x 1.0 | 7 | 0.7 | 5.1 | |
| Regulator and frame | M 6 x 1.0 | 7 | 0.7 | 5.1 | |
| Fuel tank bracket and frame (upper) | M 8 x 1.25 | 15 | 1.5 | 11 | |
| Fuel tank bracket and frame (lower) | M 8 x 1.25 | 15 | 1.5 | 11 | |
| Fuel pump and frame | M 5 x 1.0 | 4 | 0.4 | 2.9 | |
| Carrier and frame (front and rear) | M 8 x 1.25 | 15 | 1.5 | 11 | |
| Fuel tank bracket and fuel tank | M 6 x 1.0 | 7 | 0.7 | 5.1 | |
| Tool box and frame | M 8 x 1.0 | 7 | 0.7 | 5.1 | |
| License bracket and frame | M 6 x 1.0 | 7 | 0.7 | 5.1 | |
| Bracket 1 and frame | M 8 x 1.25 | 23 | 2.3 | 17 | |
| Front wheel/Rear wheel: | | | | | |
| Front wheel and brake disc | M 8 x 1.25 | 20 | 2.0 | 14 | |
| Front wheel axle and front fork | M 14 x 1.5 | 59 | 5.8 | 42 | |
| Rear wheel axle and nut | M 16 x 1.5 | 106 | 10.5 | 75 | |
| Front axle holder | M 8 x 1.0 | 9 | 0.9 | 6.5 | |
| Front brake caliper and front fork | M 10 x 1.25 | 36 | 3.6 | 29 | |
| Union bolt | M 10 x 1.25 | 26 | 2.6 | 19 | |
| Front brake caliper and bleed screw | M 8 x 1.25 | 8 | 0.8 | 4.3 | |
| Rear brake caliper and bleed screw | M 7 x 1.0 | 8 | 0.8 | 4.3 | |
| Rear wheel and sprocket | M 10 x 1.25 | 20 | 2.0 | 14 | |
| Rear wheel and brake disc | M 8 x 1.0 | 10 | 1.0 | 7.2 | |
| Footrest/Pedal: | | | | | |
| Side stand securing bolt and nut | M 12 x 1.25 | 45 | 4.5 | 32 | |
| Side stand securing bolt and frame | M 12 x 1.25 | 45 | 4.5 | 32 | |
| Rear brake switch and frame | M 6 x 1.0 | 4 | 0.4 | 2.9 | |
| Footrest and frame | M 10 x 1.25 | 50 | 5.0 | 36 | |
| Rear footrest and frame | M 8 x 1.25 | 23 | 2.3 | 17 | |
| Rear master cylinder and frame | M 8 x 1.25 | 23 | 2.3 | 17 | |
| Rear brake reservoir tank and frame | M 6 x 1.0 | 4 | 0.4 | 2.9 | |
| Rear brake pedal shaft and frame | M 10 x 1.25 | 35 | 3.5 | 26 | |

NOTE: ---

1. First, th wrench loose
2. Retq; in
3. Insist th back th washaf

ELECTRAC

| |
|-------------|
| Ignitor: |
| Pickup & |
| (Color) |
| Ignitor & |
| Rectifier |
| Model/n |
| Type |
| Voltage re |
| No load |
| Rectifier |
| Capacity |
| Withstand |
| Horn: |
| Type/qw |
| Model/m |
| Maximum d |
| Fleisher re |
| Type |
| Model/m |
| Self-cork |
| Fleisher i |
| Wattage |

| ring torque mkg | Remarks |
|--------------------|---------|
| 0.7 5.1 | |
| 0.4 2.9 | |
| 0.7 5.1 | |
| 0.3 2.2 | |
| 0.7 5.1 | |
| 0.7 5.1 | |
| 0.9 6.5 | |
| 0.3 2.2 | |
| 0.7 5.1 | |
| 0.7 5.1 | |
| 1.5 11 | |
| 1.5 11 | |
| 0.4 2.9 | |
| 1.5 11 | |
| 0.7 5.1 | |
| 0.7 5.1 | |
| 0.7 5.1 | |
| 2.3 17 | |
| 2.0 14 | |
| 5.8 42 | |
| 10.5 75 | |
| 0.9 5.5 | |
| 3.5 25 | |
| 2.6 18 | |
| 0.6 4.3 | |
| 0.6 4.3 | |
| 5.0 4.3 | |
| 1.0 7.2 | |
| 4.5 32 | |
| 4.5 32 | |
| 0.4 2.9 | |
| 5.0 36 | |
| 2.3 17 | |
| 2.3 17 | |
| 0.4 2.9 | |
| 3.5 25 | |

MAINTENANCE SPECIFICATIONS

- NOTE:
1. First, tighten the ring nut (yellow) approximately 43 Nm (4.3 mkg, 31 lbf-ft) by using the torque wrench. Turn the handcoupler to the left and right making sure there is no binding and then fully loosen the ring nut.
 2. Retighten the ring nut (lower) to specification.
 3. Install the rubber washer on the ring nut (lower), then finger tighten the ring nut (upper) until it contacts the rubber washer. Align the grooves of the lower and upper nuts and install the stopper washer.

ELECTRICAL

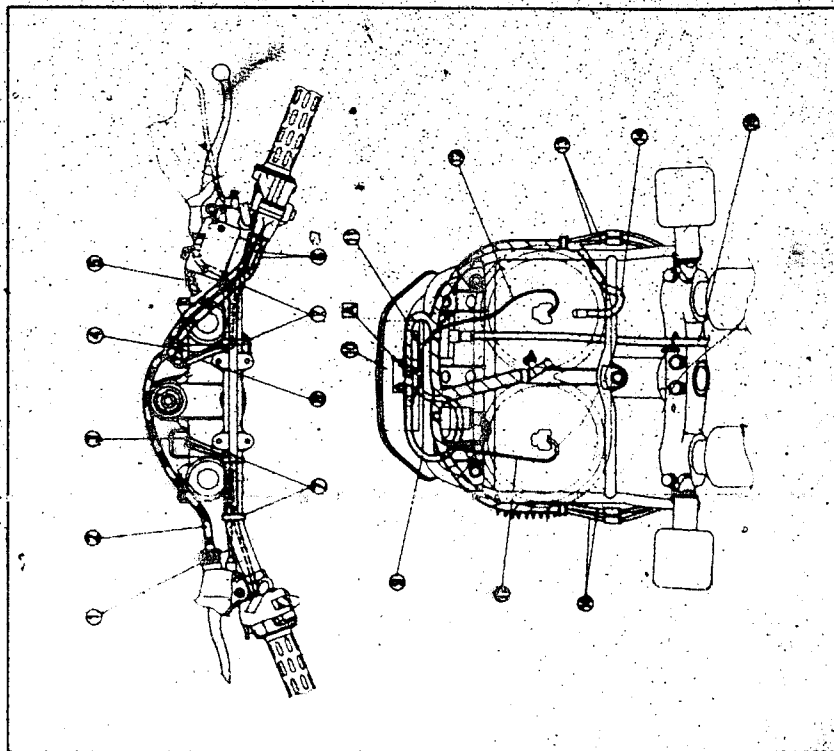
| Model | Model |
|---|---|
| Ignitor: Pickup coil resistance (Color) Ignitor unit/manufacturer | XTZ680(L) 184-276(L) at 20°C (68°F) (Blue/Yellow—Green/White) TND619/NIPPONDENSO |
| Rectifier/regulator: Model/manufacturer | SH650A/SINDENGEN |
| Type | Semi conductor—Shunt circuit type |
| Voltage regulator: No load regulated voltage | 14.2-15.2V |
| Rectifier: Capacity | 25A |
| Withstand voltage | 240V |
| Horn: Type/quantity Model/manufacturer | Plane type/1 pc VF-12/NIKKO GF-12/NIKKO (D) |
| Maximum ampereage | 3A 1.5A (D) |
| Flasher relay (relay assembly): Type Model/manufacturer Self-cancelling device Flasher frequency Wattage | Full transistor type FE249B/NIPPONDENSO No 60x120 cy/min 21W ± 4.34W |

CABLE ROUTING

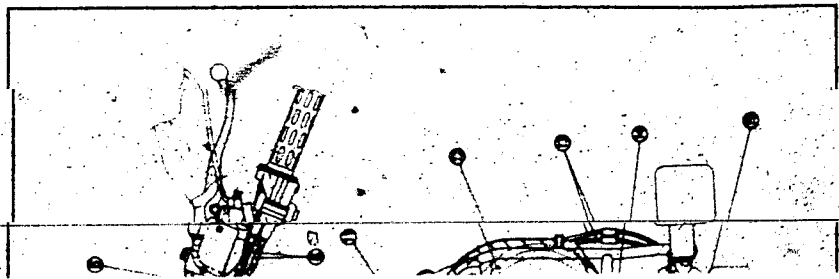
CABLE ROUTING

1. Clutch switch lead
2. Clutch cable
3. Handbrake switch (left) lead
4. Front brake switch lead
5. Brake hose
6. Throttle cable
7. Bend
8. Handbrake switch (right) lead

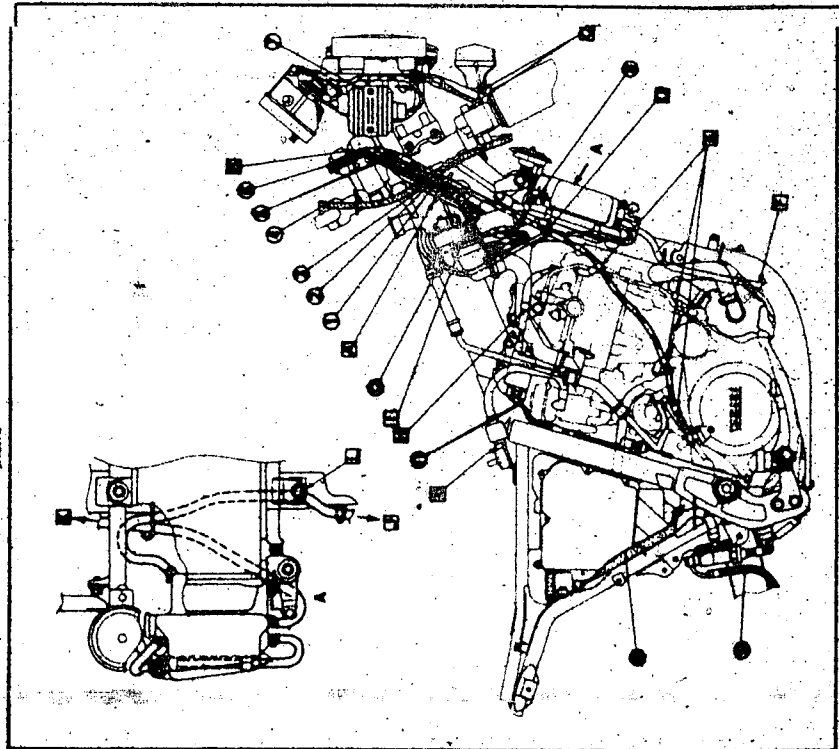
9. Meter lead
10. Damper
11. Headlight cord
12. Headlight lead (left)
13. Flasher light lead (left)
14. Auxiliary light lead
15. Speedometer cable
16. Flasher light lead (right)
17. Headlight lead (right)



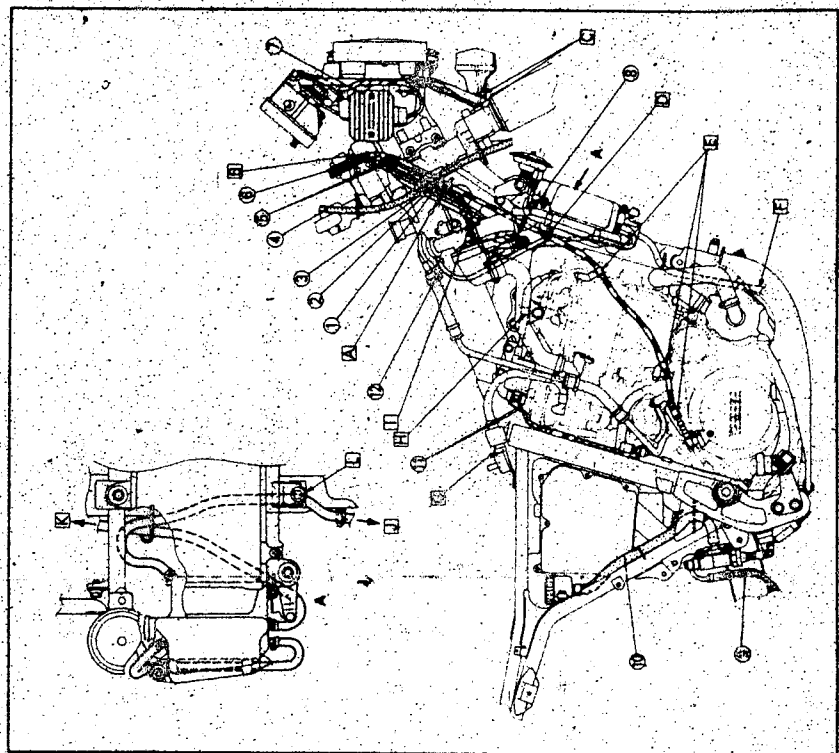
- After connecting the meter lead to the headlight cord, stick the headlight cord and the coupler on the damper.



- ① Front brake switch lead
- ② Handbrake switch (right) lead
- ③ Main switch lead
- ④ Front brake hose
- ⑤ Throttle cable
- ⑥ Clutch cable
- ⑦ Pushrod/steering gear
- ⑧ Horn lead
- ⑨ Rear brake hose
- ⑩ Rear brake reservoir hose
- ⑪ Ignition coil lead
- ⑫ Recovery tank conduction hose
- ⑬ Front brake switch (right) lead, handbrake switch (right) lead, front brake switch lead, front brake cable and clutch cable through the guide.
- ⑭ Clutch cable through the guide.
- ⑮ Pushrod/handbrake switch (right) lead, front brake switch lead, throttle cable and clutch cable through the guide.
- ⑯ Front flasher light leads series, and clamp them.
- ⑰ Press the clutch cable/governor tank, braided hose and recovery tank conduction hoses through the guide.
- ⑱ Put the recovery tank braided hose into the engine protector.

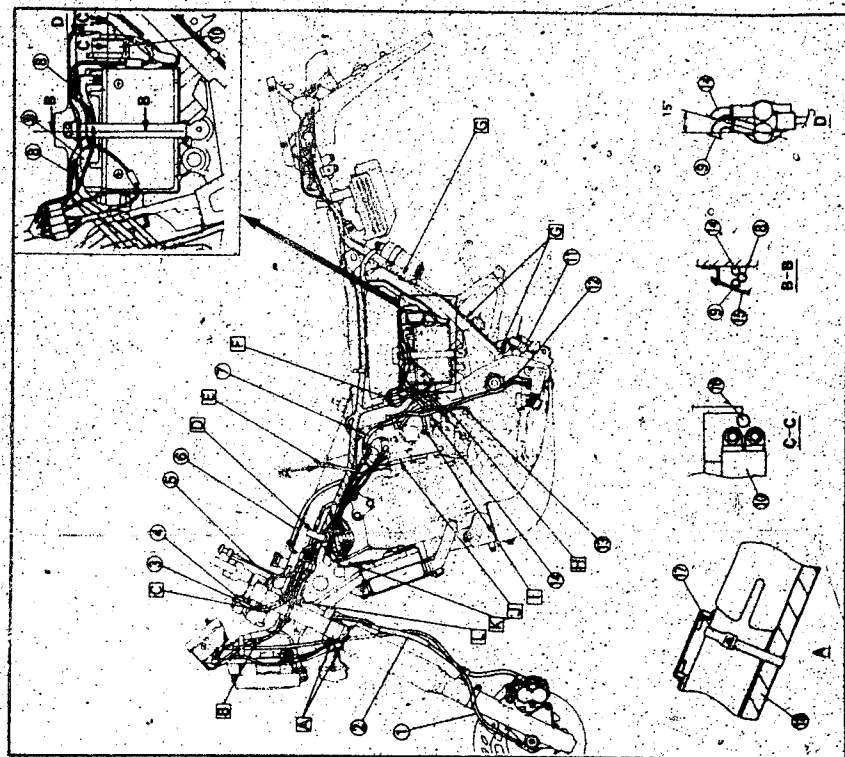
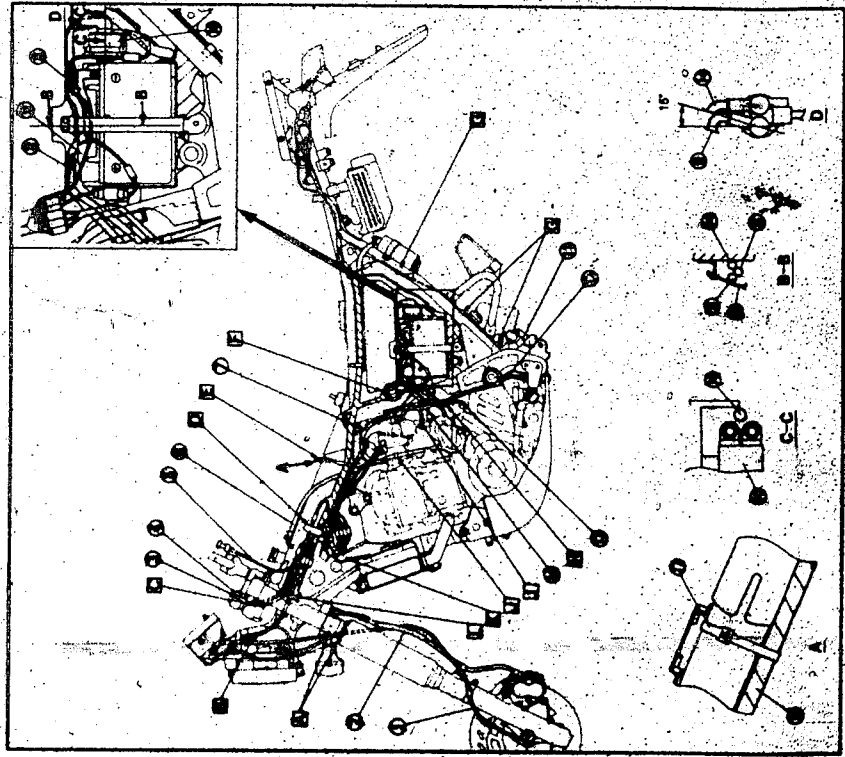


- 13 Insert the end of the air vent hose into the frame.
- 14 Clamp the spurt plug lead.
- 15 Pass the throttle cables through the guide.
- 16 Into the engine portector.
- 17 To the conduction
- 18 Pass the recovery tank breather hose through the frame bracket.

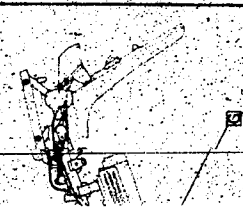
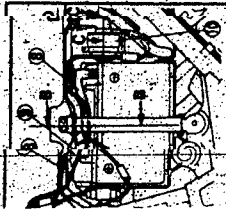


CABLE ROUTING

- ① Speedometer cable
- ② Front brake hose
- ③ Clutch switch lead
- ④ Handbar switch (left) lead
- ⑤ Starter cable
- ⑥ Oil tank breather hose
- ⑦ Vacuum hose
- ⑧ Battery negative (-) lead
- ⑨ Battery positive (+) lead
- ⑩ Starter relay
- ⑪ Sidestand switch
- ⑫ Carburetor over flow pipe
- ⑬ A.C. magneto lead
- ⑭ Starter motor lead
- ⑮ Battery band
- ⑯ Rear shock absorber reservoir tank hose
- ⑰ Band
- ⑱ Wireharness
- ⑲ Make the front flasher light leads tense, and clamp them.
- ⑳ Clamp the headlight cord at the position of the white tape.
- ㉑ Pass the clutch switch lead and handlebar switch (left) lead through the guide.
- ㉒ Clamp the wireharness, starter cable and clutch switch lead.
- ㉓ Band the wireharness and cut the band at the point 5-10 mm (0.2-0.4 in) from the tied portion.
- ㉔ After connecting the leads, put the coupler inside of the frame.
- ㉕ Make the sidestand switch lead tense, and clamp it.
- ㉖ Clamp the A.C. magneto lead and carburetor over flow pipe
- ㉗ To the fuel cock
- ㉘ Clamp the oil tank breather hose.
- ㉙ Clamp the radiator lead.
- ㉚ Pass the clutch switch lead and headlight cord through the guide.



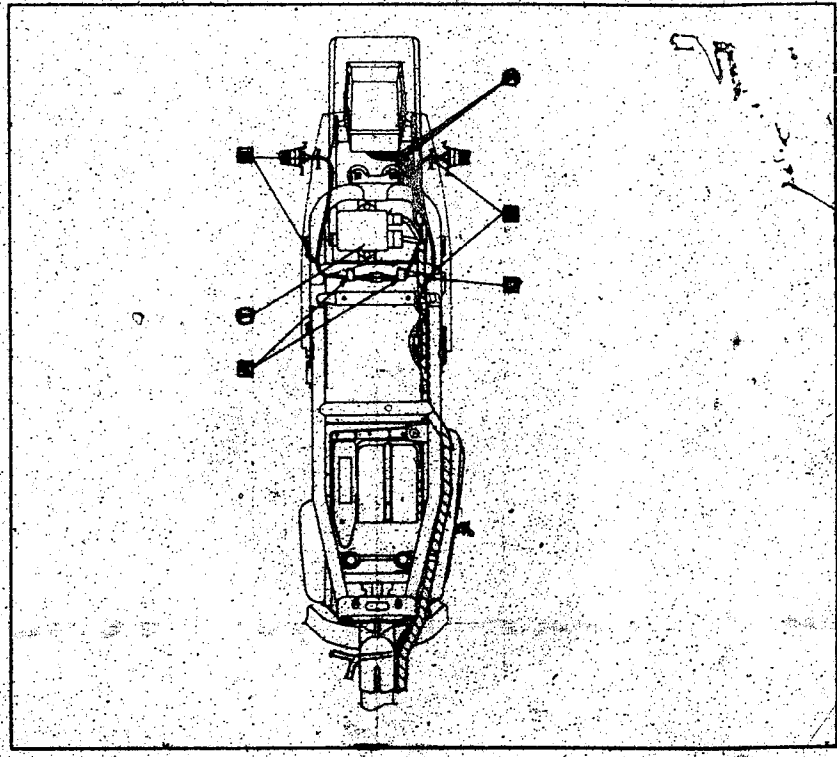
1. breather hose.
2. lead.
3. attach lead and headlight guide.



CABLE ROUTING

1. Clamp the rear flasher light (right) lead.
2. Pass the rear flasher light leads through the rear fender holes (left and right).
3. Pass the wireharness along the frame so that the protected portion of the wireharness is under the rear fender cover. Take care not to pass the wireharness with the rear fender cover.

1. Igniter unit
2. Taillight lead



SEAT, FUEL TANK AND COVER

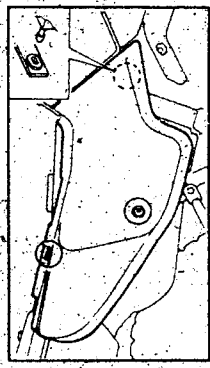
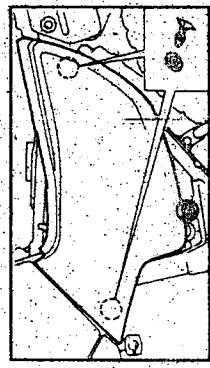
PERIODIC INSPECTION AND ADJUSTMENT

SEAT, FUEL TANK AND COVER REMOVAL

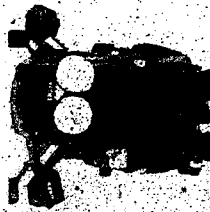
1. Remove:
 - Seat



2. Remove:
 - Side covers (left and right).



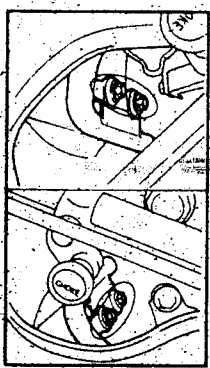
3. Remove:
 - Side cowlings (left and right).



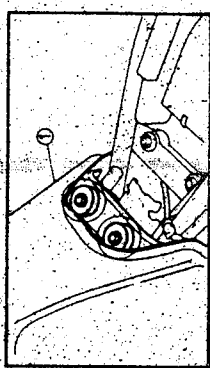


4. Turn fuel cock lever to "OFF".

5. Disconnect:
• Fuel hose ①



6. Remove:
• Fuel tank ①



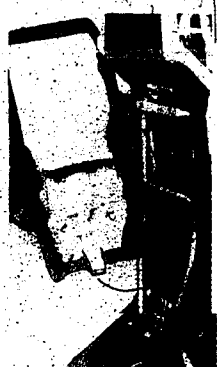
INSTALLATION
Reverse the "REMOVAL" procedure. Note the following points.

1. Install:
• Fuel tank

Bolts (fuel tank):
7 Nm (0.7 m·kg, 5.1 ft·lb)

2. Install:
• Side cowlings (left and right)

Screws (side cowlings):
0.7 Nm (0.07 m·kg, 0.5 ft·lb)



3. Install:
• Side covers
• Seat

Bolt (side cover):
• 7 Nm (0.7 m·kg, 5.1 ft·lb)
Bolt (seat):
• 10 Nm (1.0 m·kg, 7.2 ft·lb)



REAR SHOCK ABSORBER ADJUSTMENT

CHASSIS REAR SHOCK ABSORBER ADJUSTMENT

WARNING

Securely support the motorcycle so there is no danger of it falling over.

1. Adjust:
 - Spring preload

Adjustment steps:

- Spring preload
- Loosen the locknut ① using the ring nut wrench.



Ring nut wrench:
P/N: VM-38520
P/N: 90890-01443

- Turn the adjuster ② in or out.

Turning in - Spring preload is increased.
Turning out - Spring preload is decreased.

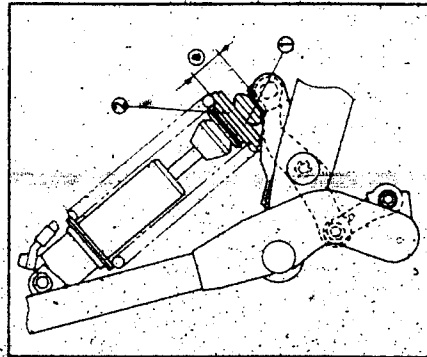
NOTE:

The length of the spring (installed) changes 1.0 mm (0.04 in) per turn of the adjuster.

Measurement length ③:

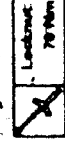
Standard:
37.5 mm (1.5 in)
Minimum:
34.5 mm (1.4 in)
Maximum:
44.5 mm (1.8 in)

Never attempt to turn the adjuster beyond the maximum or minimum setting.



REAR SHOCK ABSORBER ADJUSTMENT

1. Tighten the locknut.



Locknut
78 Nm (7.8 m-tg, 50 ft-lb)

Always tighten the locknut against the spring adjuster and torque the locknut to specification.

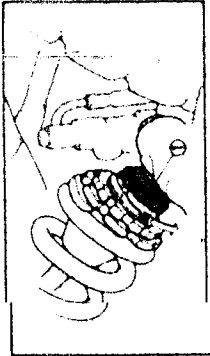
2. Adjust:
 - Damping force

Adjustment steps:

- Damping force
- Adjust the damping force with the damping adjuster ①

| Adjuster position | Hard | S.T.D. | Soft |
|-------------------|------|--------|------|
| 1 | 4 | 3 | 2 |
| 2 | 3 | 2 | 1 |

Never attempt to turn the adjuster beyond the maximum or minimum setting.



50 ft-lb

nut against the
locknut to

with the damping

| S.T.D. Set | |
|------------|-----|
| 3 | 2 1 |

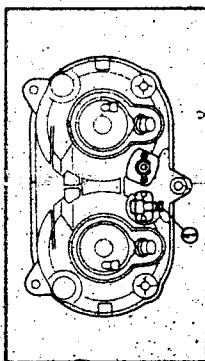
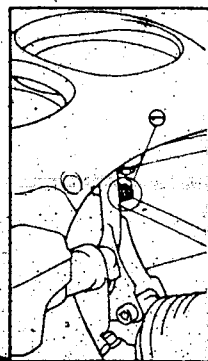
adjuster beyond
setting

HEADLIGHT BEAM ADJUSTMENT/ HEADLIGHT BULB REPLACEMENT

ELECTRICAL

HEADLIGHT BEAM ADJUSTMENT

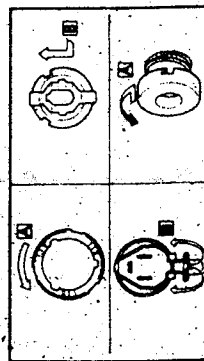
- Adjust
 - Headlight beams (left and right)
- Turn the adjuster ① in or out.



| | |
|-------------|---|
| Turning in | Both headlight beams move outside upper |
| Turning out | Both headlight beams move inside lower |

HEADLIGHT BULB REPLACEMENT

- Disconnect:
 - Headlight leads ①
- Remove:
 - Bulb cover ②
- Remove:
 - Bulb



NOTE:

Removal procedure is different according to the bulb holder. Remove your bulb holder by referring to the illustration.

WARNING

Keep flammable products and your hands away from the bulb while it is on, it will be hot. Do not touch the bulb until it cools down.

- A Turn
- B Unhook

HEADLIGHT BULB REPLACEMENT

4. Install:

- Bulb (new)
- Secure the new bulb with the bulb holder.

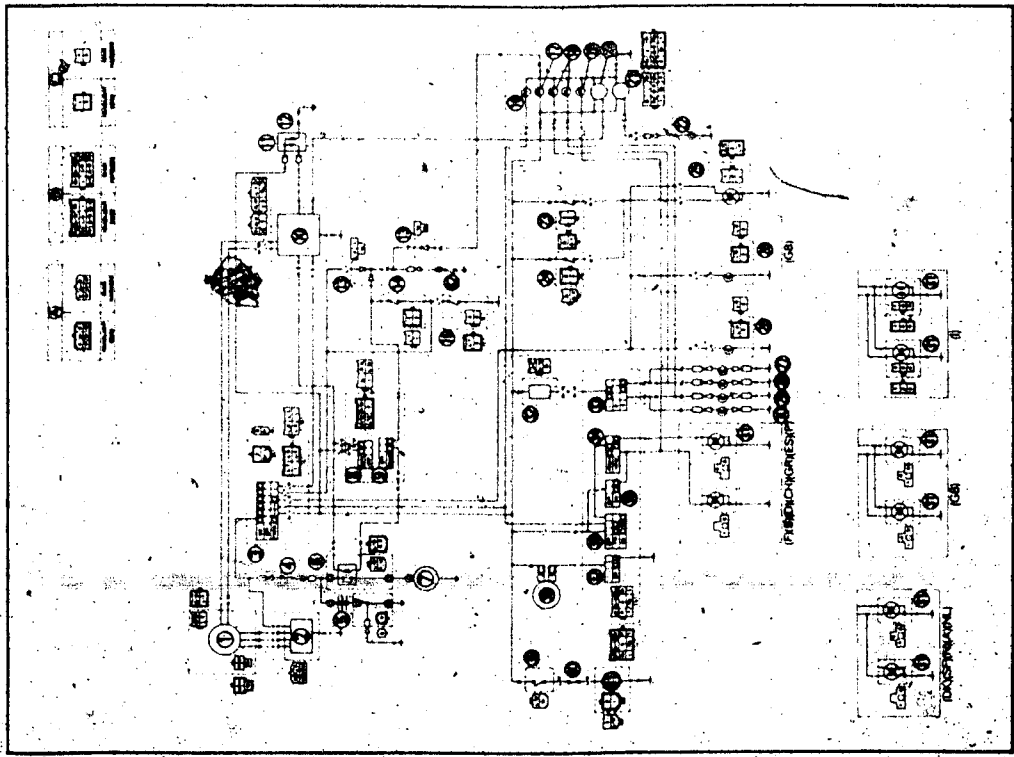
Avoid touching glass part of bulb. Also keep it free from oil otherwise, transparency of glass, bulb life and luminous flux will be adversely affected. If oil gets on bulb, clean it with a cloth moistened thoroughly with alcohol or lacquer thinner.

- Install:
 - Bulb cover
- Connect:
 - Headlight leads

ulb, w th the bulb
t of bul. Also keep
e, transparency of
nious flux will be
ets on bulb, clean it
oroughly with alco-

XTZ660(L) '94 CIRCUIT DIAGRAM

ELECTRICAL
XTZ660(L) '94 CIRCUIT DIAGRAM



XTZ660(L) '94 CIRCUIT DIAGRAM

- ① A.C. magnet
- ② rectifier/regulator
- ③ Main switch
- ④ Main fuse
- ⑤ Battery
- ⑥ Starter relay
- ⑦ Starter motor
- ⑧ -ENGINE STOP- switch
- ⑨ -START- switch
- ⑩ Ignition unit
- ⑪ Ignition coil
- ⑫ Spark plug
- ⑬ Choke
- ⑭ Clutch switch
- ⑮ Sidestand switch
- ⑯ Horn light
- ⑰ -NEUTRAL- indicator light
- ⑱ -TURN- indicator light
- ⑲ -HIGH BEAM- indicator light
- ⑳ Tachometer
- ㉑ Engine temperature gauge
- ㉒ Thermo unit
- ㉓ Rear brake switch
- ㉔ Front brake switch
- ㉕ Tail/brake light
- ㉖ Auxiliary light
- ㉗ Rear flasher light (right)
- ㉘ Rear flasher light (left)
- ㉙ Front flasher light (right)
- ㉚ Front flasher light (left)
- ㉛ Headlight
- ㉜ Flasher relay
- ㉝ -TURN- signal switch
- ㉞ -LIGHTS- (dimmer) switch
- ㉟ -PASS- switch
- ㊱ -LIGHTS- switch
- ㊲ -HORN- switch
- ㊳ Horn
- ㊴ Thermo switch
- ㊵ Fuse (fan motor)
- ㊶ Cooling fan motor
- ㊷ Neutral switch

NOTE:

- "START" switch is closed while the button (switch) is pushed.
- "HORN" switch is closed while the button (switch) is pushed.
- Clutch switch is closed while the clutch lever is pulled.
- Sidestand switch is closed while the sidestand is upped.
- Neutral switch is closed while the transmission is in neutral.
- Brake switch is closed while the brake is applied.

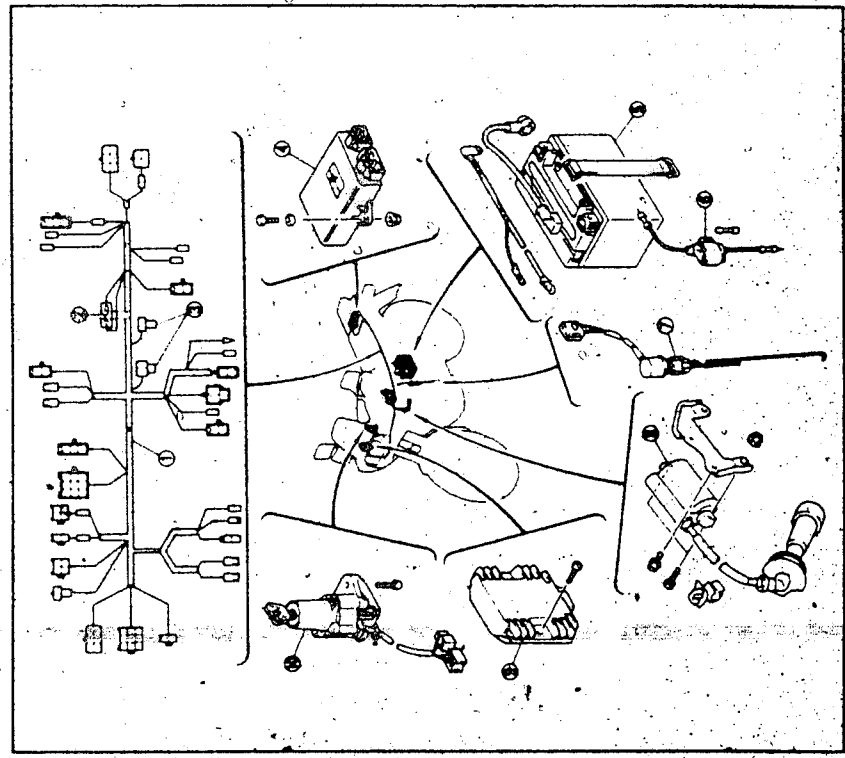
COLOR CODE

| B | Black | P | Pink | GW | Green/White |
|----|-------------|-----|--------------|----|--------------|
| Br | Brown | P | Red | GY | Green/Yellow |
| Ch | Chocolate | S6 | Sky blue | LB | Blue/Black |
| Dg | Dark green | W | White | LR | Blue/Red |
| G | Green | Y | Yellow | LW | Blue/White |
| GY | Grey | BW | Black/White | LY | Blue/Yellow |
| L | Blue | BY | Black/Yellow | RB | Red/Black |
| Lg | Light green | BrW | Brown/White | RW | Red/White |
| O | Orange | G/R | Green/Red | | |

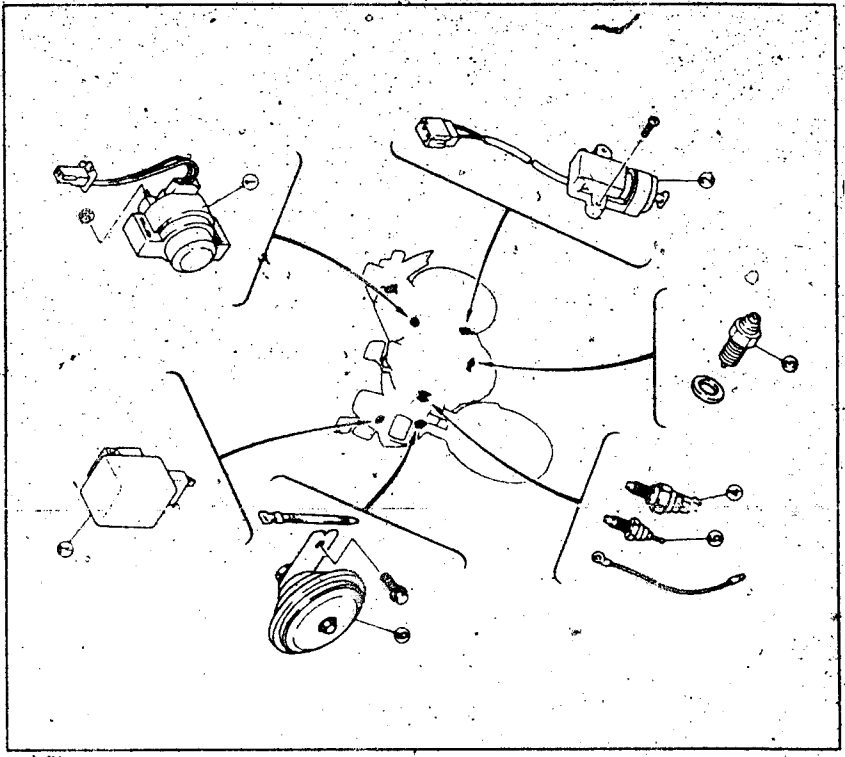
ELECTRICAL COMPONENTS

- ① Wireharness
- ② Fuse (cooling fan)
- ③ Diode
- ④ Ignitor unit
- ⑤ Battery
- ⑥ Fuse (main)
- ⑦ Rear brake switch
- ⑧ Ignition coil
- ⑨ Rectifier/regulator
- ⑩ Main switch

| |
|--|
| BATTERY: |
| CAPACITY: 12V 8AH |
| SPECIFIC GRAVITY: 1.320 |
| IGNITION COIL: |
| PRIMARY COIL RESISTANCE: 2.4-4.8Ω at 20°C (68°F) |
| SECONDARY COIL RESISTANCE: 10.4-15.8kΩ at 20°C (68°F) |

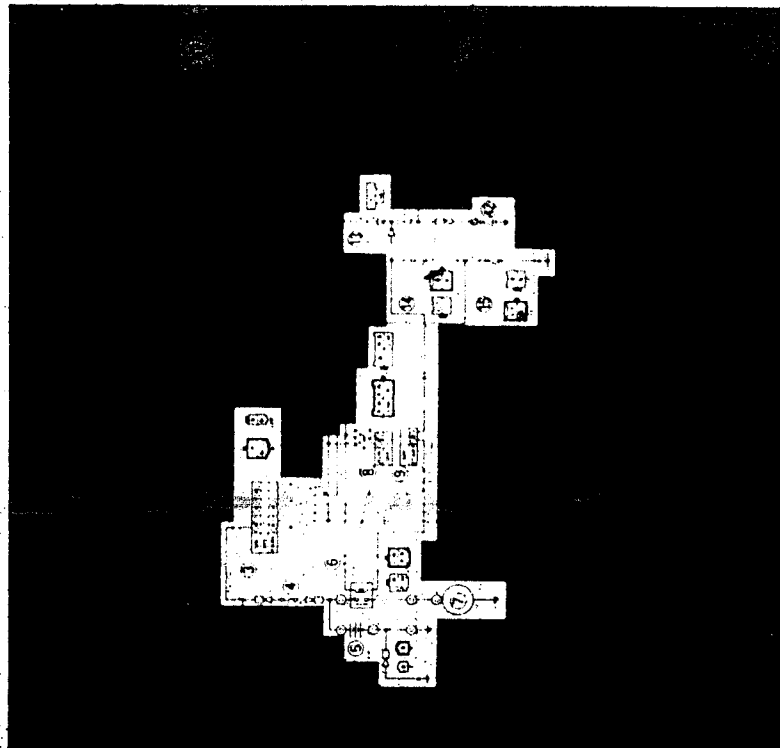


- ① Starter relay
- ② Sidestand switch
- ③ Neutral switch
- ④ Thermo switch
- ⑤ Horn
- ⑥ Flasher relay



ELECTRICAL STARTING SYSTEM

ELECTRICAL STARTING SYSTEM CIRCUIT DIAGRAM



- 1. Main switch
- 2. Fuse (main)
- 3. Battery
- 4. Starter relay
- 5. Starter motor
- 6. "ENGINE STOP" switch
- 7. "START" switch
- 8. Diode
- 9. Clutch switch

- 10. Side stand switch
- 11. Neutral switch

ELECTRICAL STARTING SYSTEM

TROUBLESHOOTING

STARTER MOTOR DOES NOT OPERATE

Procedure

Check

1. Fuse (main)
2. Battery
3. Starter motor
4. Starter relay
5. Diode
6. Main switch
7. "ENGINE STOP" switch
8. Neutral switch
9. Side stand switch
10. Clutch switch
11. "START" switch
12. Wiring connection (Entire electric starting system)

NOTE

- Remove the following parts before troubleshooting:
 - 1) Seat
 - 2) Side covers
 - 3) Side cowlings
- Use the following special tool in this troubleshooting:
 - 4) Fuel tank

Pocket tester
P/N YM-03112, 9089G-03112

1. Fuse (main)

- Remove the fuse
- Connect the pocket tester (1) to the fuse
- Check the fuse for continuity

CONTINUITY

2. Battery

- Check the battery condition. Refer to the "BATTERY INSPECTION" section in the CHAPTER 3

Voltage:
12.8 V or higher at 20 °C (68 °F)

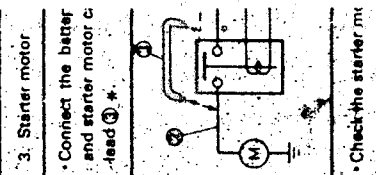
CORRECT

NO CONTINUITY

Fuse is faulty, replace it.

INCORRECT

- Clean battery terminals.
- Recharge or replace battery.
- Refer to the "BATTERY INSPECTION" section in the CHAPTER 3.



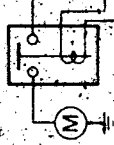
3. Starter motor

- Connect the battery and starter motor cable lead (3).

Check the starter motor

4. Starter relay

- Disconnect the starter wire harness.
- Connect the battery leads as shown in the diagram.



Check the starter motor

ELECTRICAL STARTING SYSTEM

ELECTRICAL STARTING SYSTEM

3. Starter motor

- Connect the battery positive terminal ① and starter motor cable ② using a jumper lead ③ *

- Check the starter motor for operation.

DOES NOT MOVE

Starter motor is faulty, repair or replace it.

MOVES

5. Diode

- Disconnect the diode from the wire harness.
- Check the diode component for the continuity between "Blue ① and Light green ②".

| Pocket tester | | Good | | Bad | |
|---------------|------------|------|---|-----|---|
| (+) lead | (-) lead | ① | ② | ① | ② |
| ① | ② | ○ | ○ | × | × |
| ② | ① | ○ | ○ | × | × |
| ② | Continuity | × | × | × | × |

BAD CONDITION

Diode is faulty, replace it.

GOOD CONDITION

4. Starter relay

- Disconnect the starter relay coupler from the wire harness.
- Connect the battery to the starter relay leads as shown using the jumper leads ①

- Check the starter motor for operation.

DOES NOT MOVE

Starter relay is faulty, replace it.

MOVES

6. Main switch

- Disconnect the main switch coupler from the wire harness.
- Check the switch component for the continuity between "Red ① and Brown ②".

| Pocket tester | | Good | | Bad | |
|---------------|------------|------|---|-----|---|
| (+) lead | (-) lead | ① | ② | ① | ② |
| ① | ② | ○ | ○ | × | × |
| ② | ① | ○ | ○ | × | × |
| ② | Continuity | × | × | × | × |

INCORRECT

Main switch is faulty, replace it.

CORRECT

7. "H"

- Disconnect the coupler
- Check nut / Red M

8. New

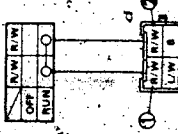
- Disconnect the wire harness
- Check nut / Red M

ELECTRICAL STARTING SYSTEM

ELECTRICAL STARTING SYSTEM

7. "ENGINE STOP" switch

- Disconnect the handlebar switch (right) coupler from the wireharness.
- Check the switch component for the continuity between "Red/White ①" and "Red/White ②".

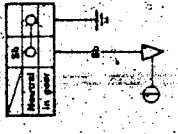


INCORRECT → "ENGINE STOP" switch is faulty, replace it.

CORRECT →

8. Neutral switch

- Disconnect the neutral switch lead from the wireharness.
- Check the switch component for the continuity between "Sky blue ①" and "Ground".

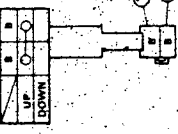


INCORRECT → Neutral switch is faulty, replace it.

CORRECT → *

9. Sidestand switch

- Disconnect the sidestand switch coupler from the wireharness.
- Check the switch component for the continuity between "Black ①" and "Black ②".

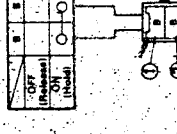


INCORRECT → Sidestand switch is faulty, replace it.

CORRECT →

10. Clutch switch

- Disconnect the clutch switch coupler from the wireharness.
- Check the clutch switch component for the continuity between "Black ①" and "Black ②". Refer to the "CHECKING OF SWITCHES" section.



INCORRECT → Clutch switch is faulty, replace it.

CORRECT → *

11. "START" switch

- Disconnect handlebar switch from wireharness.
- Check the "START" the continuity between "Black ①" and "Black ②".



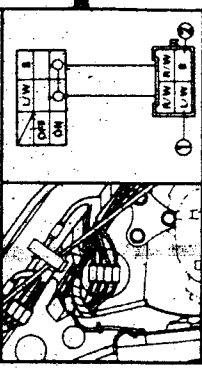
12. Wiring connections

Check the entire of for connections. Refer to the "WIRING" section.

ELECTRICAL STARTING SYSTEM

* ↓

11. "START" switch.
• Disconnect handlebar switch (right) coupler from wireharness.
• Check the "START" switch component for the continuity between "Blue/White ①" and Black ②.



INCORRECT

"START" switch is faulty, replace handlebar switch (right).

CORRECT

12. Wiring connection
Check the entire electrical starting system for connections.
Refer to the "WIRING DIAGRAM" section.

POOR CONNECTION

Correct.

is faulty, replace it.

is faulty, replace it.

