YAMAHA

XTZ660(L) '94

3YF-AE1

SUPPLEMENTARY SERVICE MANUAL

HOW TO USE THIS MANUAL

CONSTRACTION 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.

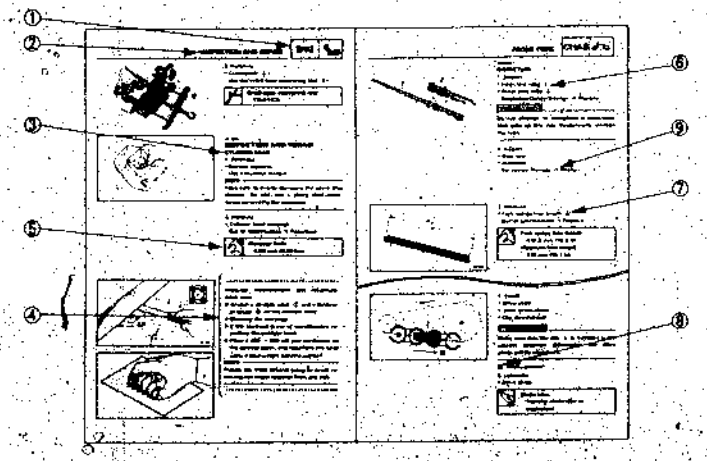
A set of particularly important procedure ④ is placed between a line of asterisks "*" with each procedure preceded by "●".

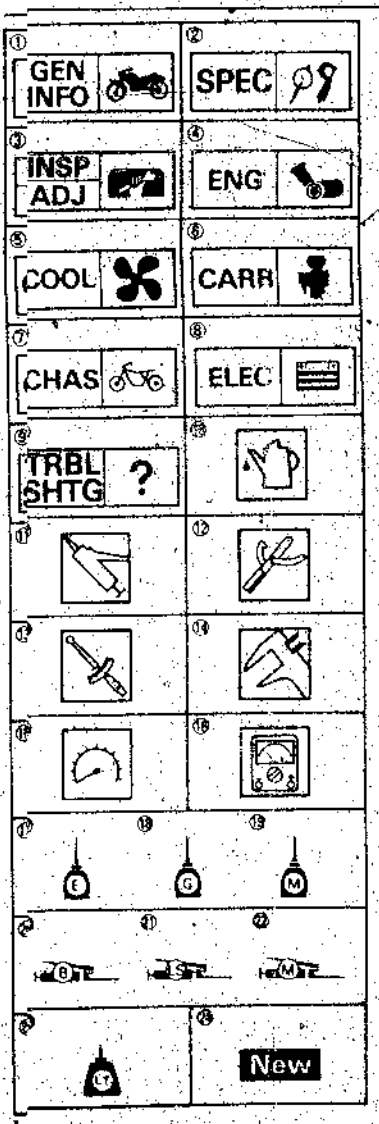
IMPORTANT FEATURES

- Data and a special tool are framed in a box preceded by a relevent 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 befpre each disassembly section for ease in identifying correct disassembly and assembly procedures.





ILLUSTRATED SYMBOLS (Refer to the illustration)

Illustrated symbols ① to ⑨ 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 Carburation
⑦ Chassis
⑧ Electrical
⑨ Troubleshooting

Illustrated symbols ⑩ to ⑯ 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 ㊾ 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
㉑ Apply lightweight lithium-soap base grease
㉒ Apply molybdenum disulfide grease
㉓ Apply locking agent (LOCTITE®)
㉔ Use new one

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GENERALINFORMATION



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:
JYA3YFS0*RA104101

FRAME SERIAL NUMBER

(Except for E)

The frame serial number ① is stamped into the right side of the steering head.

Starting serial number:		
XTZ660 .....3YF-088101	(B)(D)(DK)(F)(GB)(GR)(I)(N)(NL)(PRT)(S)(SF)	
XTZ660 .....4BW-007101	(A)(CH)	
XTZ660L 4MD-001101	(D)	



ENGINE SERIAL NUMBER

The engine serial number ① is stamped into the elevated part of the right rear section of the engine.

Starting serial number:		
XTZ660.....3YF-088101	(B)(D)(DK)(F)(GB)(GR)(I)(N)(NL)(PRT)(S)(SF)	
XTZ660 .....3YF-104101	(E)	
XTZ660 .....4BW-007101	(A)(CH)	
XTZ660L 4MD-001101	(D)	

NOTE:

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

SPECIFICATIONS

GENERAL SPECIFICATIONS

Model		XTZ660(L)
Model code number:	XTZ660	4MY1: (B)(D)(DK)(F)(GB)(GR)(I)(N)(NL)(PRT)(S)(SF) 4MY2: (E) 4NV1: (A)(CH)
	XTZ660L	4NW1: (D)
Vehicle identification number:		JYA3YFS0*RA104101: (E)
Frame starting number:	XTZ660	3YF-088101: (B)(D)(DK)(F)(GB)(GR)(I)(N)(NL)(PRT)(S)(SF) 4BW-007101: (A)(CH)
	XTZ660L	4MD-001101: (D)
Engine starting number:	XTZ660	3YF-088101: (B)(DK)(F)(GB)(GR)(I)(N)(NL)(PRT)(S)(SF) 3YF-104101: (E) 4BW-007101: (A)(CH)
	XTZ660L	4MD-001101: (D)
Dimensions:		
Overall length		2,265 mm (89.2 in) 2,365 mm (92.7 in): (CH)(B)(DK)(N)(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:		
With oil and full fuel tank		197 kg (434 lb)
Headlight type:		Quartz bulb (Halogen) (B)(F)(GB)(GR)(PRT)(D)(S)(E)(CH) Bulb (DK) (I) (N) (NL) (SF) (A)
Bulb wattage × quantity:		
Headlight		12V 60W+55W/55W (B)(F)(GR)(PRT)(S)(E)(D) 12V 45W+45W/40W+40W (DK)(N)(NL)(SF)(A) 12V 35W+35W × 2 (GB)(I)
Auxiliary light		12V 4W × 1 12V 3W × 2 (I) 12V 3.4 W × 1 (GB)
Tail/brake light		12V 5W/21W × 1
Flasher light		12V 21W × 4

C-6

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

MAINTENANCE SPECIFICATIONS

ENGINE

Model		XTZ660(L)	
Carburetor:			
I.D. mark		3YF 00, 4BW 00 (A)(CH)	
		Primary	Secondary
Main jet	(M.J.)	#130	#165
Main air jet	(M.A.J.)	ϕ1.0	ϕ1.0
Jet needle	(J.N.)	5D96-3/5	5×7C-3/5
		5D97-3/5 (A) (CH)	
Needle jet	(N.J.)	V00	ϕ 2.7
Pilot jet	(P.J.)	#48	–
Pilot air jet	(P.A.J.)	ϕ0.6	–
Bypass	(B.P.)	ϕ1.0	–
Pilot screw	(P.S.)	2 and 1/2 turns out	–
Valve seat	(V.S.)	ϕ2.5	–
Starter jet	(G.S.)	# 76	
Pilot outlet	(P.O.)	ϕ0.8	
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	
Vacuum pressure at idling speed		1,250–1,350 r/min (A)(CH)	
		26.6–34.6 kPa (200–260 mmHg, 7.87–10.24 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 (15 kg/cm², 213 psi)
Drive chain:		
Type/manufacturer		520V6/DAIDO
No. of links		110
Chain free play		25–40 mm (1.0–1.57 in)

Tightening torque

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

Part to be tightened	Thread size	Tightening torque Nm	m•kg	ft•lb	Remarks
Fuel tank/Seat/Rear fender/Side cover:					
License bracket and number plate stay	M 6 × 1.0	7	0.7	5.1	
Rear reflector and stay	M 5 × 0.8	4	0.4	2.9	
Fuel tank and fuel cock	M 6 × 1.0	7	0.7	5.1	
License bracket and flap	M 4 × 0.7	3	0.3	2.2	
Helmet holder and carrier	M 6 × 1.0	7	0.7	5.1	
Fuel tank back stay and frame	M 6 × 1.0	7	0.7	5.1	
Clutch cable and engine	M 8 × 1.0	9	0.9	6.5	
Starter relay and lead	M 6 × 1.0	3	0.3	2.2	
License bracket and taillight	M 6 × 1.0	7	0.7	5.1	
Regulator and frame	M 6 × 1.0	7	0.7	5.1	
Fuel tank bracket and frame (upper)	M 8 × 1.25	15	1.5	11	
Fuel tank bracket and frame (lower)	M 8 × 1.25	15	1.5	11	
Fuel pump and frame	M 5 × 1.0	4	0.4	2.9	
Carrier and frame (front and rear)	M 8 × 1.25	15	1.5	11	
Fuel tank bracket and fuel tank	M 6 × 1.0	7	0.7	5.1	
Tool box and frame	M 6 × 1.0	7	0.7	5.1	
License bracket and frame	M 6 × 1.0	7	0.7	5.1	
Bracket 1 and frame	M 8 × 1.25	23	2.3	17	
Front wheel/Rear wheel:					
Front wheel and brake disc	M 8 × 1.25	20	2.0	14	◀1
Front wheel axle and front fork	M14 × 1.5	59	5.8	42	
Rear wheel axle and nut	M16 × 1.5	105	10.5	75	
Front axle holder	M 6 × 1.0	9	0.9	6.5	
Front brake caliper and front fork	M10 × 1.25	35	3.5	25	
Union bolt	M10 × 1.25	26	2.6	19	
Front brake caliper and bleed screw	M 8 × 1.25	6	0.6	4.3	
Rear brake caliper and bleed screw	M 7 × 1.0	6	0.6	4.3	
Rear wheel and sprocket	M10 × 1.25	60	6.0	43	
Rear wheel and brake disc	M 8 × 1.0	10	1.0	7.2	◀1
Footrest/Pedal:					
Side stand securing bolt and nut	M12 × 1.25	45	4.5	32	
Side stand securing bolt and frame	M12 × 1.25	45	4.5	32	
Rear brake switch and frame	M 6 × 1.0	4	0.4	2.9	
Footrest and frame	M10 × 1.25	50	5.0	36	
Rear footrest and frame	M 8 × 1.25	23	2.3	17	
Rear master cylinder and frame	M 8 × 1.25	23	2.3	17	
Rear brake reservoir tank and frame	M 6 × 1.0	4	0.4	2.9	
Rear brake pedal shaft and frame	M10 × 1.25	35	3.5	25	

NOTE:

1. First, tighten the ring nut (lower) approximately 43 Nm (4.3 m•kg, 31 ft•lb) by using the torque wrench. Turn the handlebar 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.

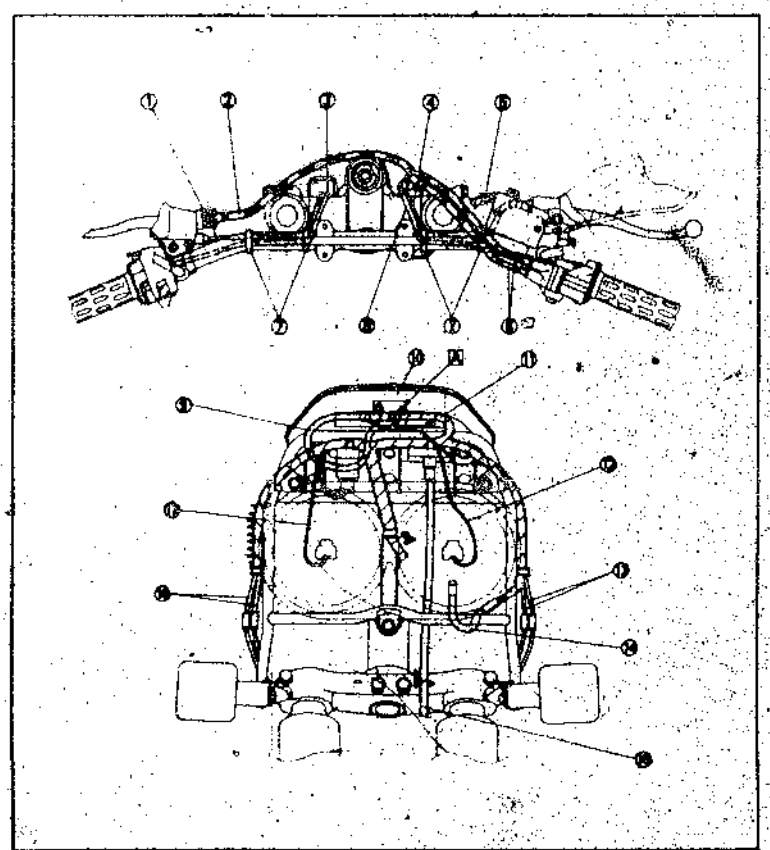
ELECTRICAL

Model	XTZ660(L)
Ignitor:	
Pickup coil resistance	184 - 276Ω at 20°C (68°F)
(Color)	(Blue/Yellow—Green/White)
Ignitor unit/manufacturer	TND719/NIPPONDENSO
Rectifier/regulator:	
Model/manufacturer	SH650A/SINDENGEN
Type	Semi conductor—Short circuit type
Voltage regulator	
No load regulated voltage	14.2 - 15.2V
Rectifier	
Capacity	25A
Withstand voltage	240V
Horn:	
Type/quantity	Plane type/1 pc.
Model/manufacturer	YF-12/NIKKO
	GF-12/NIKKO (D)
Maximum amperage	3A
	1.5A (D)
Flasher relay (relay assembly):	
Type	Full transistor type
Model/manufacturer	FE249BH/NIPPONDENSO
Self-cancelling device	No
Flasher frequency	60∼120 cyl/min
Wattage	21W × 4+3.4W

CABLE ROUTING

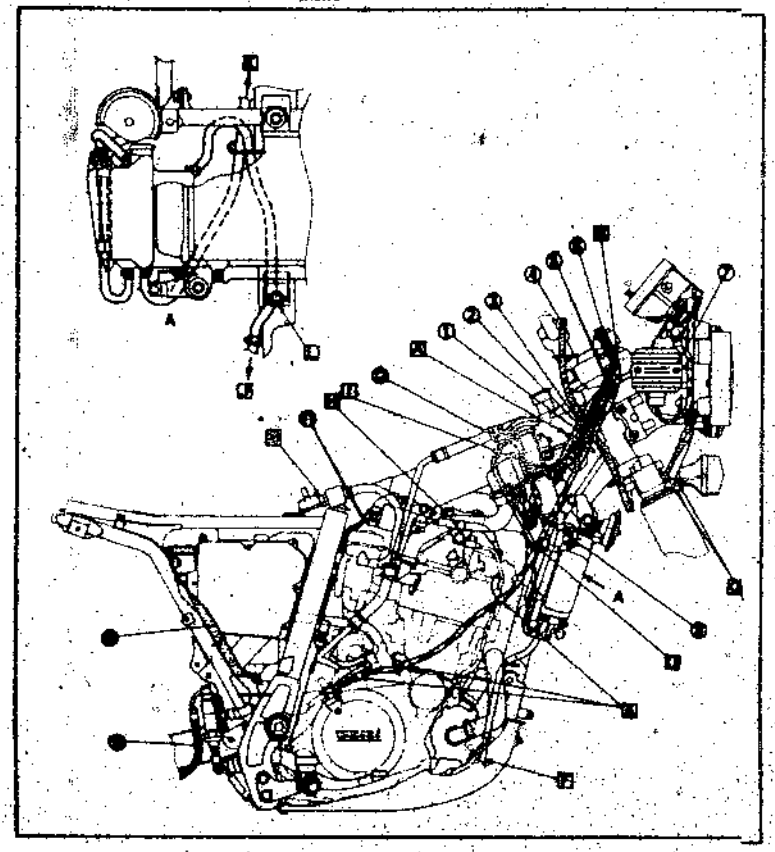
① Clutch switch lead
② Clutch cable
③ Handlebar switch (left) lead
④ Front brake switch lead
⑤ Brake hose
⑥ Throttle cable
⑦ Bend
⑧ Handlebar switch (right) lead
⑨ Meter lead
⑩ Damper
⑪ Headlight cord
⑫ Headlight lead (left)
⑬ Flasher light lead (left)
⑭ Auxiliary light lead
⑮ Speedometer cable
⑯ Flasher light lead (right)
⑰ Headlight lead (right)

[A] After connecting the meter lead to the headlight cord, stick the headlight cord and the coupler on the damper.

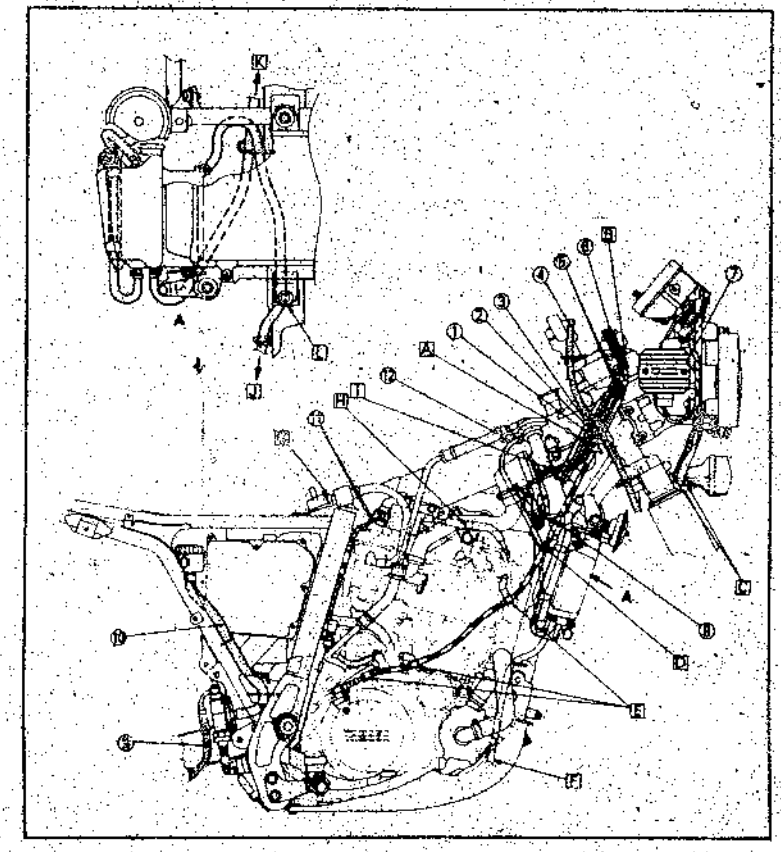


1. Front brake switch lead
2. Handlebar switch (right) lead
3. Main switch lead
4. Front brake hose
5. Throttle cable
6. Clutch cable
7. Rectifier/regulator
8. Horn lead
9. Rear brake hose
10. Rear brake reservoir hose
11. Ignition coil lead
12. Recovery tank conduction hose

A. Pass the main switch lead, handlebar switch (right) lead, front brake switch lead, throttle cable and clutch cable through the guide.
B. Pass the handlebar switch (right) lead, front brake switch lead, throttle cable and clutch cable through the guide.
C. Make the front flasher light leads tense, and clamp them.
D. Pass the clutch cable, recovery tank breather hose and recovery tank conduction hose through the guide.
E. Set the clutch cable on the holders.
F. Put the recovery tank breather hose into the engine protector.

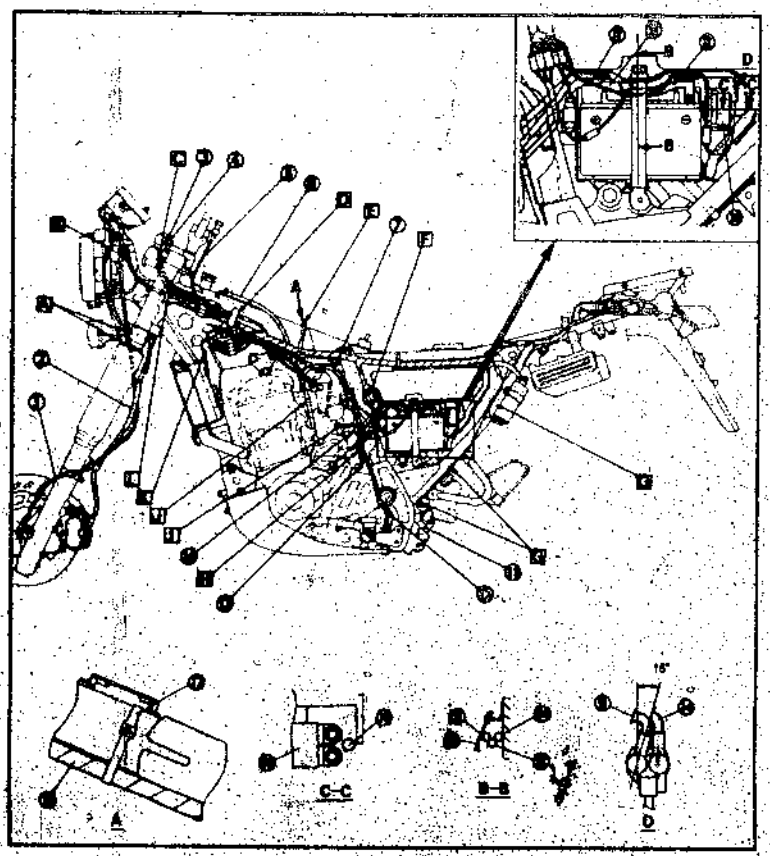


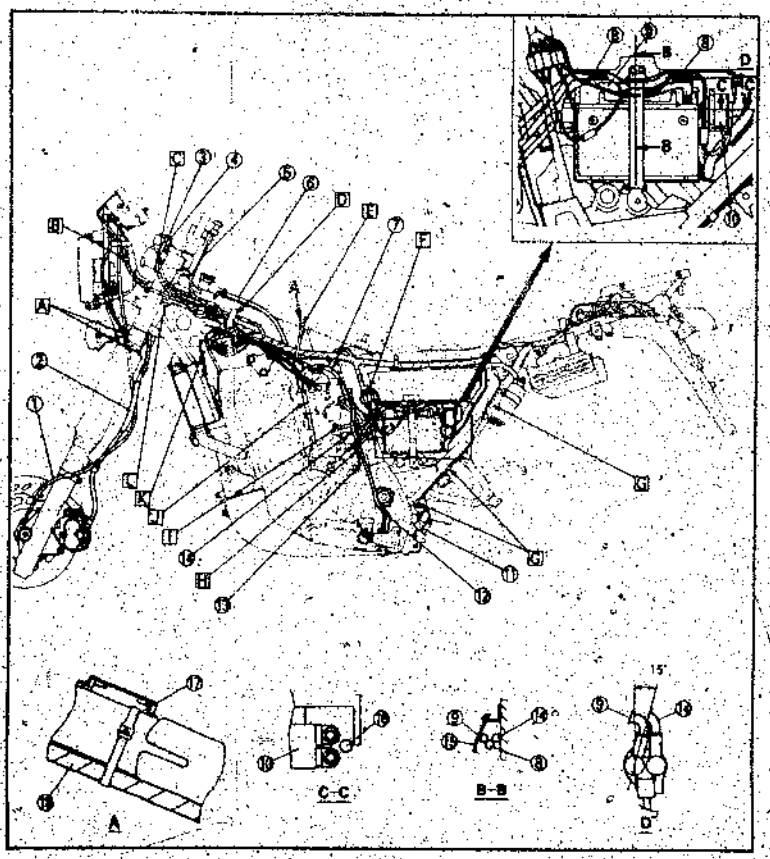
G. Insert the end of the air vent hose into the frame.
H. Clamp the spark plug lead.
I. Pass the throttle cables through the guide.
J. Into the engine protector
K. To the conduction
L. Pass the recovery tank breather hose through the frame bracket.



① Speedometer cable
② Front brake hose
③ Clutch switch lead
④ Handlebar 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

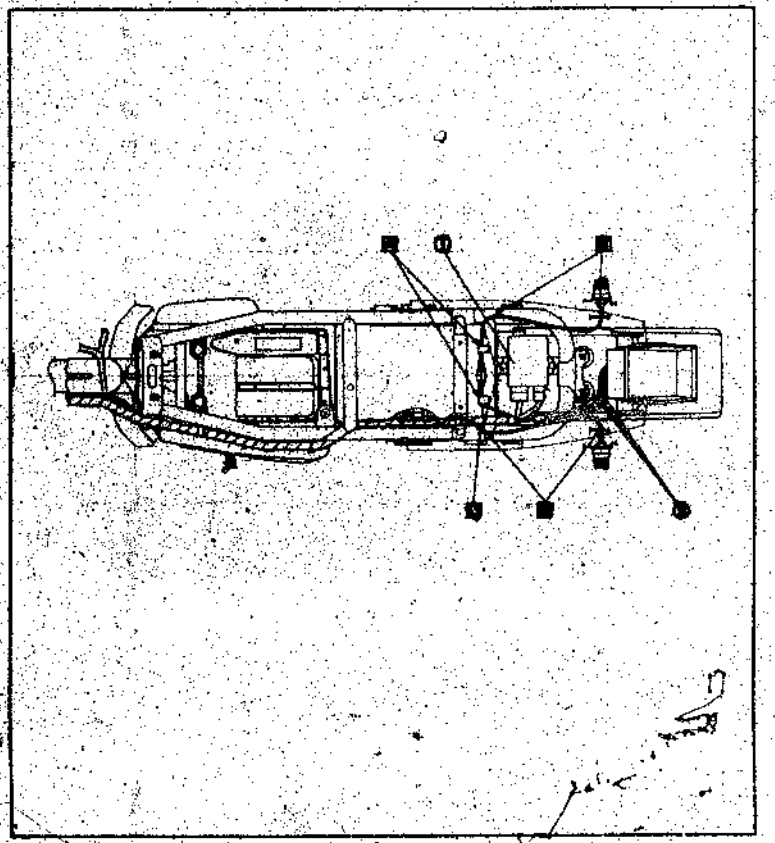
[A] Make the front flasher light leads tense, and clamp them.
[B] Clamp the headlight cord at the position of the white tape.
[C] Pass the clutch switch lead and handlebar switch (left) lead through the guide.
[D] Clamp the wireharness, starter cable and clutch switch lead.
[E] Band the wireharness and cut the band end at the point 5~10 mm (0.2~0.4 in) from the tied portion.
[F] After connecting the leads, put the coupler inside of the frame.
[G] Make the sidestand switch lead tense, and clamp it.
[H] Clamp the A.C. magneto lead and carburetor over flow pipe.
[I] To the fuel cock
[J] Clamp the oil tank breather hose.
[K] Clamp the radiator lead.
[L] Pass the clutch switch lead and headlight cord through the guide.

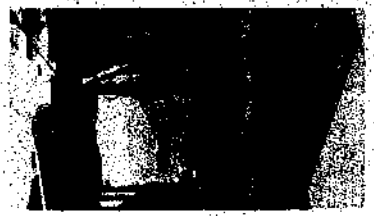


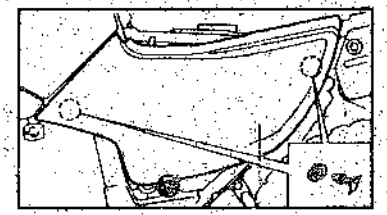


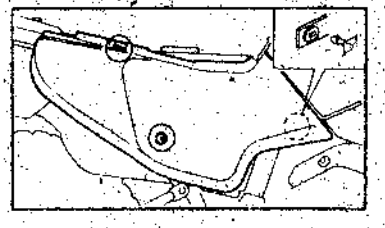
① Ignitor unit
② Taillight lead

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













PERIODIC INSPECTION AND ADJUSTMENT

SEAT, FUEL TANK AND COVER

REMOVAL

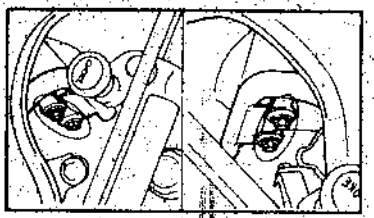
1. Remove:
   - Seat

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

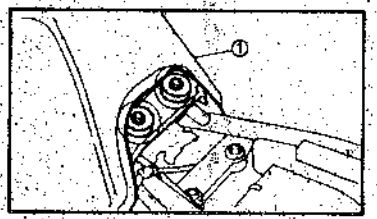
3. Remove:
   - Side cowlings (left and right)



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)

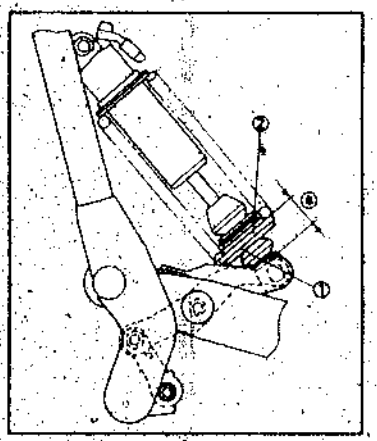
	Screws (side cowlings): **0.7 Nm (0.07 m-kg, 0.5 ft-lb)**





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)**



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. YM-38520
P/N. 90890-01443

* Turn the adjuster ② in or out.

Turning in : Spring preload is increased.
Turning out : Spring preload is degreased.

NOTE:

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

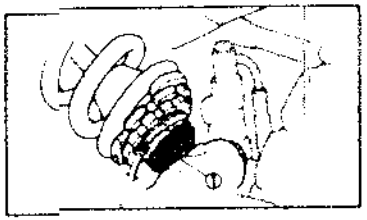
Measurement length ⓐ:
Standard:
37.5 mm (1.5 in)
Minimum:
36.5 mm (1.4 in)
Maximum:
44.5 mm (1.8 in)

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

* Tighten the locknut.

Locknut:
70 Nm (7.0 m-kg, 50 ft-lb)

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



2. Adjust
   - Damping force

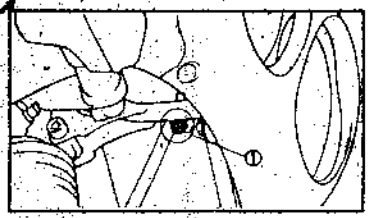
Adjustment steps:

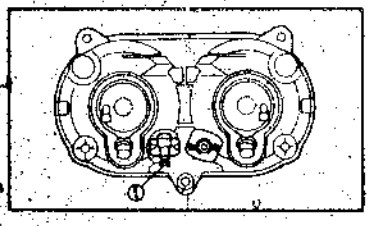
Damping force

* Adjust the damping force with the damping adjuster ①.

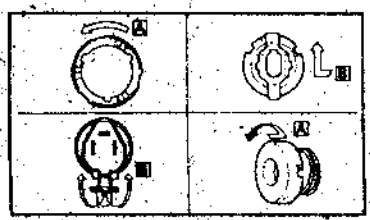
	Hard			STD	Soft
Adjuster position	5	4	3	2	1

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









ELECTRICAL

HEADLIGHT BEAM ADJUSTMENT

1. 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 lever

HEADLIGHT BULB REPLACEMENT

1. Disconnect:
   - Headlight leads ①
2. Remove:
   - Bulb cover ②
3. 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

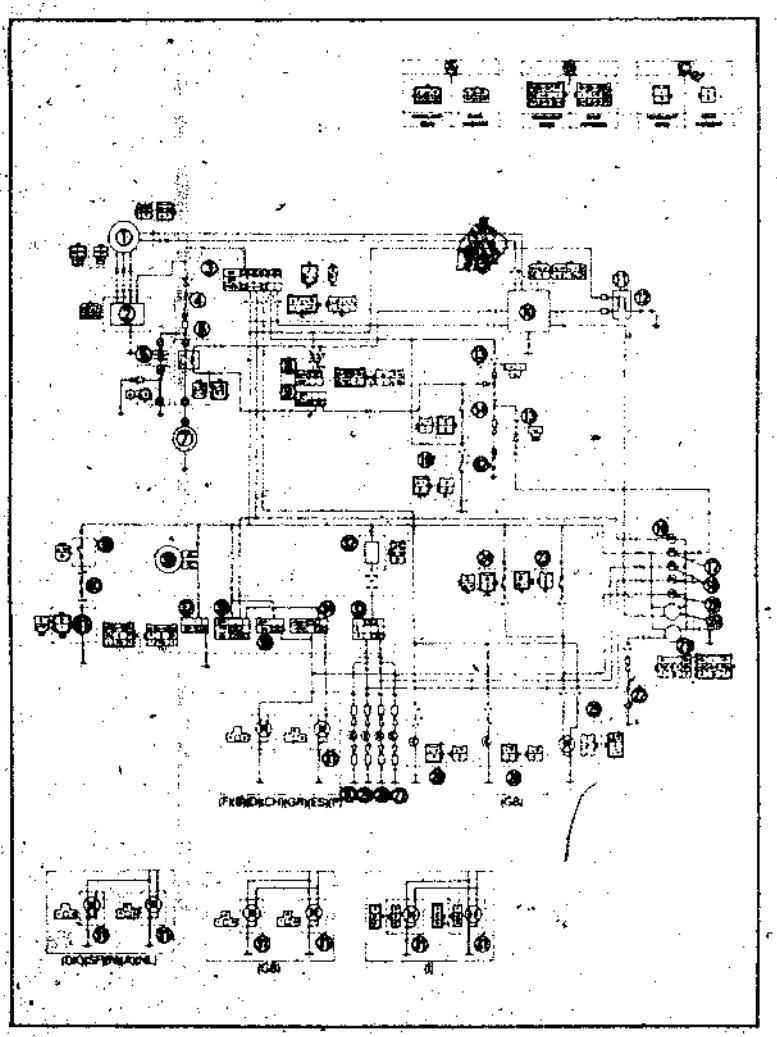
4. Install:
   - Bulb (new)
     Secure the new bulb with the bulb holder.

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

5. Install:
   - Bulb cover
6. Connect:
   - Headlight leads

ELECTRICAL

XTZ660 (L) '94 CIRCUIT DIAGRAM



① A.C. magneto
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 Ignitor unit
⑪ Ignition coil
⑫ Spark plug
⑬ Diode
⑭ Clutch switch
⑮ Sidestand switch
⑯ Meter 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.

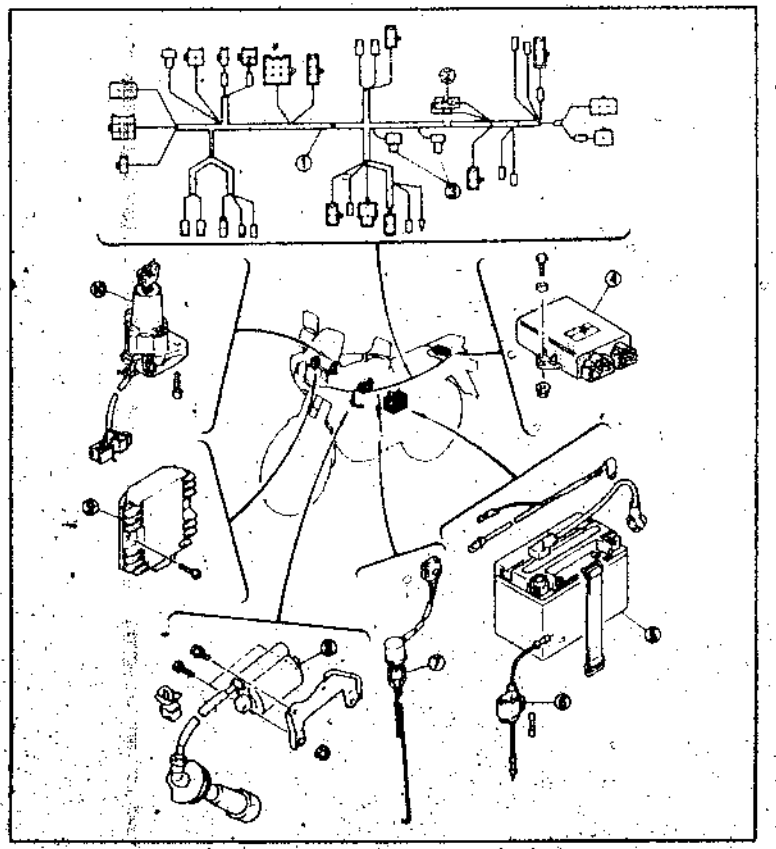
COLOR CODE

B	Black	P	Pink	G/W	Green/White
Br	Brown	R	Red	G/Y	Green/Yellow
Ch	Chocolate	Sb	Sky blue	L/B	Blue/Black
Dg	Dark green	W	White	L/R	Blue/Red
G	Green	Y	Yellow	L/W	Blue/White
Gy	Gray	B/W	Black/White	L/Y	Blue/Yellow
L	Blue	B/Y	Black/Yellow	R/B	Red/Black
Lg	Light green	Br/W	Brown/White	R/W	Red/White
O	Orange	G/R	Green/Red		

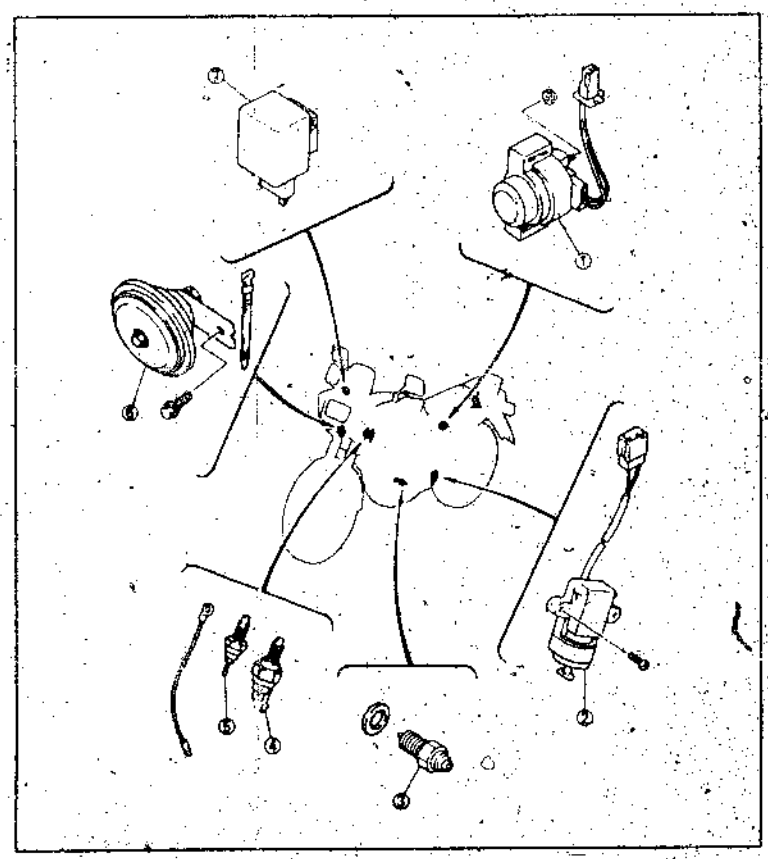
ELECTRICAL COMPONENTS

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:
3.4~4.6Ω at 20°C (68°F)
SECONDARY COIL RESISTANCE:
10.4~15.6kΩ at 20°C (68°F)

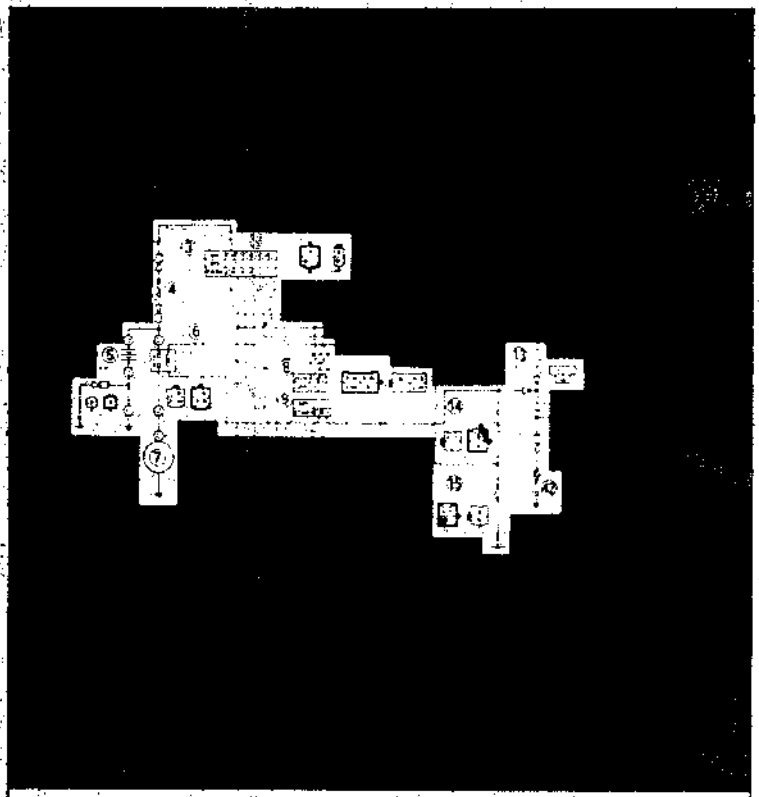


① Starter relay
② Sidestand switch
③ Neutral switch
④ Thermo switch
⑤ Thermo unit
⑥ Horn
⑦ Flasher relay



ELECTRICAL STARTING SYSTEM

CIRCUIT DIAGRAM



(3) Main switch
(4) Fuse (main)
(5) Battery
(6) Starter relay
(7) Starter motor
(8) "ENGINE STOP" switch
(9) "START" switch
(12) Diode
(16) Clutch switch
(17) Sidestand switch
(21) Neutral switch

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. Sidestand 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 cover
  3) Side coverings
  4) Fuel tank
- Use the following special tool in this troubleshooting.

Pocket tester
P/N YM-03112, 90890-03112

1. Fuse (main)
- Remove the fuse.
- Connect the pocket tester (Ω×1) to the fuse.
- Check the fuse for continuity.

NO CONTINUITY → Fuse is faulty, replace it.

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)

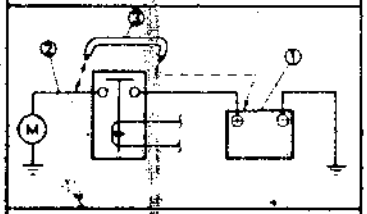
INCORRECT →
- Clean battery terminals.
- Recharge or replace battery.
- Refer to the "BATTERY INSPECTION" section in the CHAPTER 3.

CORRECT ↓

*

3. Starter motor

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



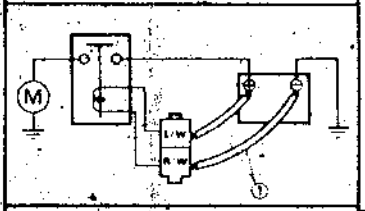
- Check the starter motor for operation.

DOES NOT MOVE → Stacter motor is faulty, repair or replace it.

MOVES ↓

4. Starter relay

- Disconnect the starter relay coupler from the wireharness.
- 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 ↓

*

WARNING

- A wire for the jumper lead must have the equivalent capacity as that of the battery lead or more, otherwise it may cause the jumper lead to be burned.
- This check is likely to produce sparks, so be sure that no flammable gas or fluid is in the vicinity.

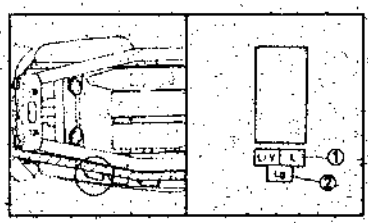
*

5. Diode

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

Pocket tester connecting point		Good	Bad		
(+) lead	(–) lead				
①	②	○	○	×	×
②	①	○	×	×	○

○: Continuity ×: Nocontinuity

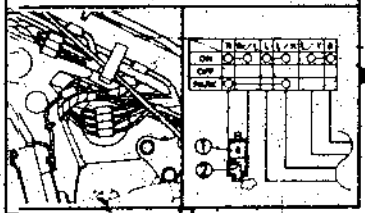


BAD CONDITION → Diode is faulty, replace it.

GOOD CONDITION ↓

6. Main switch

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



INCORRECT → Male switch is faulty, replace it.

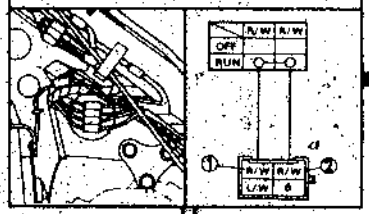
CORRECT ↓

*

*

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".

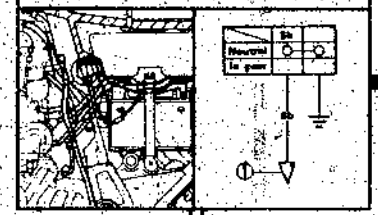


INCORRECT → "ENGINE STOP" switch is faulty, replace handlebar switch (right).

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

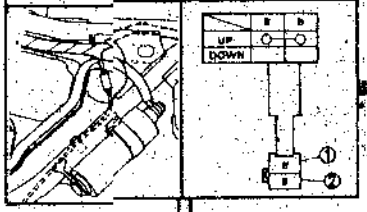
CORRECT

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9. Sidestand switch

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

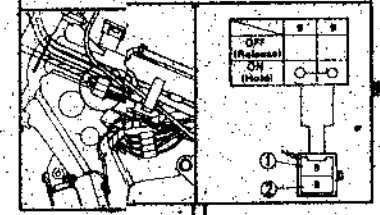


INCORRECT → Sidestand switch is faulty, replace it.

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.

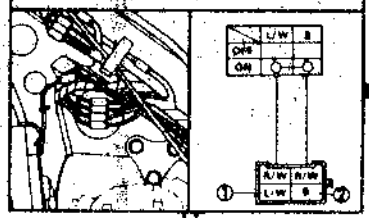
CORRECT

*

*

11. "START" switch.

- Disconnect handlebar switch (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

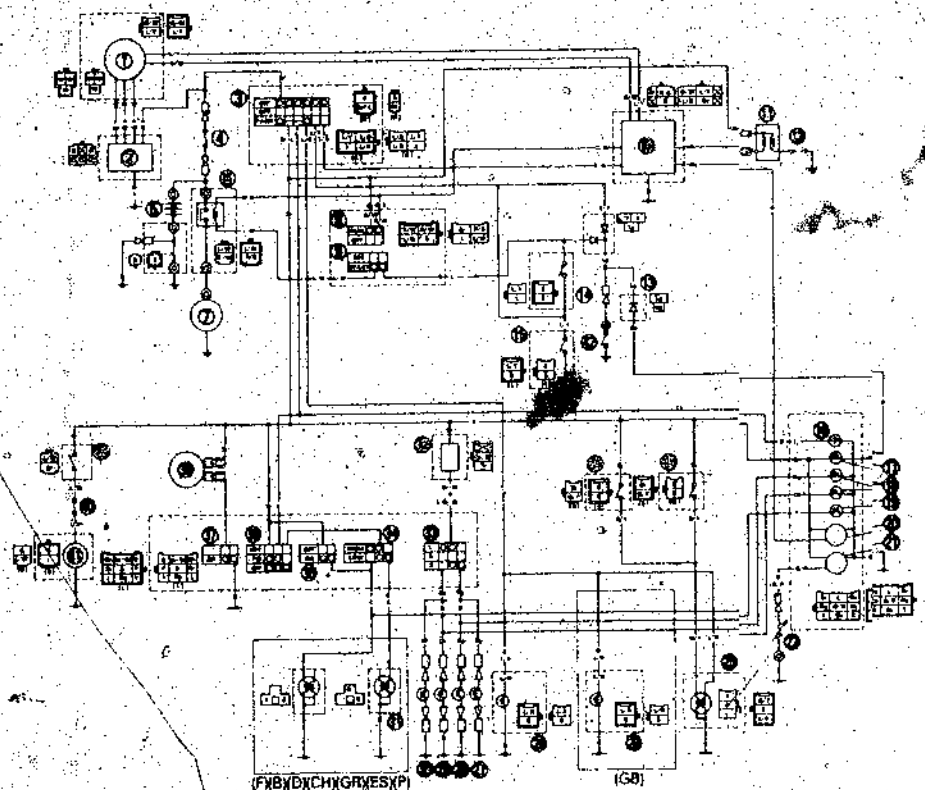
12. Wiring connection

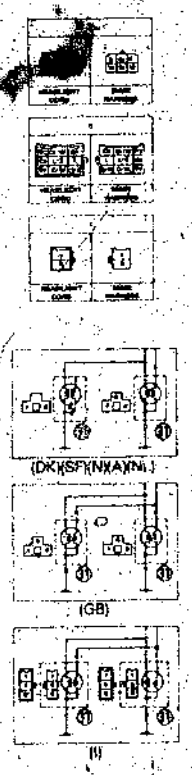
Check the entire electrical starting system for connections.
Refer to the "WIRING DIAGRAM" section.

POOR CONNECTION → Correct.

XTZ660(L) '94 WIRING DIAGRAM

D-5





1. A.C. magneto
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. Ignitor unit
11. Ignition coil
12. Spark plug
13. Diode
14. Clutch switch
15. Sidestand switch
16. Meter 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. Fan motor
42. Neutral switch

COLOR CODE

B	Black	Y	Yellow
Br	Brown	B/W	Black/White
Ch	Chocolate	B/Y	Black/Yellow
Dg	Dark green	Br/W	Brown/White
G	Green	G/R	Green/Red
Gy	Grey	G/W	Green/White
L	Blue	G/Y	Green/Yellow
Lg	Light green	L/B	Blue/Black
O	Orange	L/R	Blue/Red
P	Pink	L/W	Blue/White
R	Red	L/Y	Blue/Yellow
Sb	Sky blue	R/B	Red/Black
W	White	R/W	Red/White