

# **YAMAHA**

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# **XJ900S(H)'96**

**4KM-SE2**

# **SERVICE INFORMATION**

## **AT YOUR SERVICE**

### **YAMAHA MOTOR SALES, INC.**

**10000 MARKET ST. • SUITE 100 • SEATTLE, WA 98148**

**800-541-1234 • 206-283-2500**

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## **FOREWORD**

This Service Information has been prepared to introduce new service and data for the XJ900S(H) '96. For complete service information procedures it is necessary to use this publication together with the following microfiche service manual.

**XJ900S(G~H) '95 ~ '96 SERVICE MANUAL: 4KM-ME2  
XJ900S(G) '95 SERVICE INFORMATION: 4KM-SE1**

**YAMAHA**

**WORKSHOP MANUAL**

**XJ900S(H) '96  
SERVICE INFORMATION  
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Printed in Japan**

## **YAMAHA MOTORCYCLES NOTICE**

This manual was written by the Yamaha Motor Company primarily for use by Yamaha dealers and their qualified mechanics. It is not possible to put an entire mechanic's education into one manual, so it is assumed that persons using this book to perform maintenance and repairs on Yamaha motorcycles have a basic understanding of the mechanical concepts and procedures inherent in motorcycle repair technology. Without such knowledge, attempted repairs or service to this model may render it unfit to use and/or unsafe.

Yamaha Motor Company, Ltd. is continually striving to improve all models manufactured by Yamaha. Modifications and significant changes in specifications or procedures will be forwarded to all Authorized Yamaha dealers and will, where applicable, appear in future editions of this manual.

## **HOW TO USE THIS MANUAL**

### **PARTICULARLY IMPORTANT INFORMATION**

This material is distinguished by the following notation.



The Safety Alert Symbol means **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**



Failure to follow **WARNING** instructions could result in **severe injury or death** to the motorcycle operator, a bystander, or a person inspecting or repairing the motorcycle.



A **CAUTION** indicates special precautions that must be taken to avoid damage to the motorcycle.

**NOTE:**

A **NOTE** provides key information to make procedures easier or clearer.

### **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, and assembly, inspection operations.

In this revised format, the condition of a faulty component will precede an arrow symbol and the course of action required will follow the symbol, e.g.,

- Bearings → Pitting/Damage → Replace.

### **EXPLODED DIAGRAM**

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



**GENERAL SPECIFICATIONS**

# GENERAL SPECIFICATIONS

## GENERAL SPECIFICATIONS

(GLA 000 3 107)

Model	XJ900S
Model code:	4KM3 4KM4 (E) 4PR2 (CH, A) 4PS2 (AUS)
Engine starting number:	4KM-025101 4KM-047101 (E) 4PR-003101 (CH, A) 4PS-002101 (AUS)
Vehicle identification number:	JYA4KMS0*TA047101 (E) JYA4PST0*TA002101 (AUS)
Frame starting number:	4KM-025101 4PR-003101 (CH, A)
Dimensions:	
Overall length	2,230 mm
Overall width	750 mm
Overall height	1,300 mm
Seat height	795 mm
Wheelbase	1,505 mm
Minimum ground clearance	130 mm
Minimum turning radius	3,000 mm

JAPAN

## MAINTENANCE SPECIFICATIONS

SPEC



## MAINTENANCE SPECIFICATIONS ENGINE

JAPAN ENGLISH

Model	XJ900S
Carburetor:	
I. D. mark	4KM 01 (Except for CH, A) 4PR 01 (for CH, A)
Main jet	(M.J) #100
Main air jet	(M.A.J) #72.5
Jet needle	(J.N) 5DT3-2
Needle jet	(N.J) 0-2
Pilot air jet	(P.A.J.1) #120
Pilot outlet	(P.O) 1.0
Pilot jet	(P.J) #12.5
Bypass 1	(B.P.1) 0.9
Bypass 2	(B.P.2) 0.8
Bypass 3	(B.P.3) 0.9
Pilot screw	(P.S) 1-1/2
Valve seat size	(V.S) 1.5
Starter jet	(G.S.1) #30
Throttle valve size	(Th.V) #125
Fuel level	6 ~ 7 mm
Engine idle speed	950 ~ 1,050 r/min
Intake vacuum	30.7 ~ 33.3 kPa (230 ~ 250 mmHg)

## CHASSIS

Model	XJ900S
Front suspension:	
Front fork travel	140 mm
Fork spring free length	399.5 mm
Spring rate (K1)	4.5 N/mm (0.45 kg/mm)
(K2)	7.0 N/mm (0.70 kg/mm)
Stroke (K1)	0 ~ 100 mm
(K2)	100 ~ 140 mm
Optional spring	No
Oil capacity	444 cm <sup>3</sup>
Oil level	113 mm
Oil grade	Fork oil 10 W or equivalent
Rear suspension:	
Shock absorber travel	50 mm
Spring free length	180 mm
Fitting length	163 mm
Spring rate (K1)	139.7 N/mm (13.97 kg/mm)
Stroke (K1)	0 ~ 50 mm
Optional spring	No

2024 MAINTENANCE SPECIFICATIONS

SPEC

ELECTRICAL

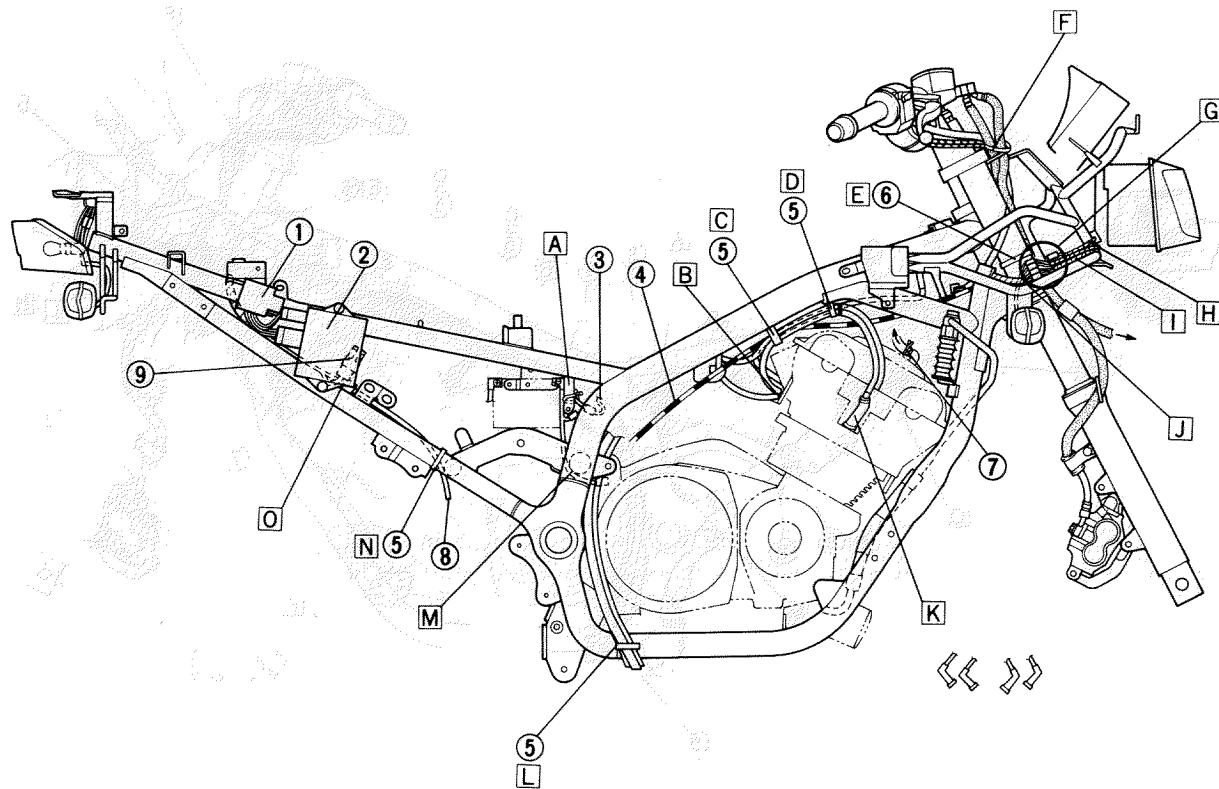
Model	XJ900S
Starter motor:	DB4DT/NIPPONDENSO
Model / manufacturer	DB4DT/NIPPONDENSO
Output	0.6 kW
Armature coil resistance	0.013 ~ 0.015 Ω at 20°C
Brush overall length	12 mm
<Limit>	<8.5 mm>
Spring force	653 ~ 948 g
Commutator diameter	28 mm
<Wear limit>	<27 mm>
Mica undercut	0.6 mm

2.5%	(2.5%)	100.00
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6.0	(6.0%)	100.00
8.0	(8.0%)	100.00
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88.0	(88.0%)	100.00
90.0	(90.0%)	100.00
92.0	(92.0%)	100.00
94.0	(94.0%)	100.00
96.0	(96.0%)	100.00
98.0	(98.0%)	100.00
100.0	(100.0%)	100.00

**CABLE ROUTING****SPEC****CABLE ROUTING**

- ① Fuse box
- ② Ignitor unit
- ③ Fuel sender lead
- ④ Clutch cable
- ⑤ Clamp of band
- ⑥ Band
- ⑦ Clip
- ⑧ Rear brake switch lead
- ⑨ Main fuse

- A Clamp the fuel sender wire harness to the side cover stay.
- B Clamp the high tension cord #4 to the upper part, and the #2 cord to the lower part at the marked position.
- C Clamp the high tension cords and clutch cable and sensing hose.
- D Clamp the high tension cords #1, #2, #3 and #4 to the clamp on the frame at the marked positions accordingly.
- E Clamp the brake hoses to the inner tube.
- F Clamp the brake hoses to the guide wire.



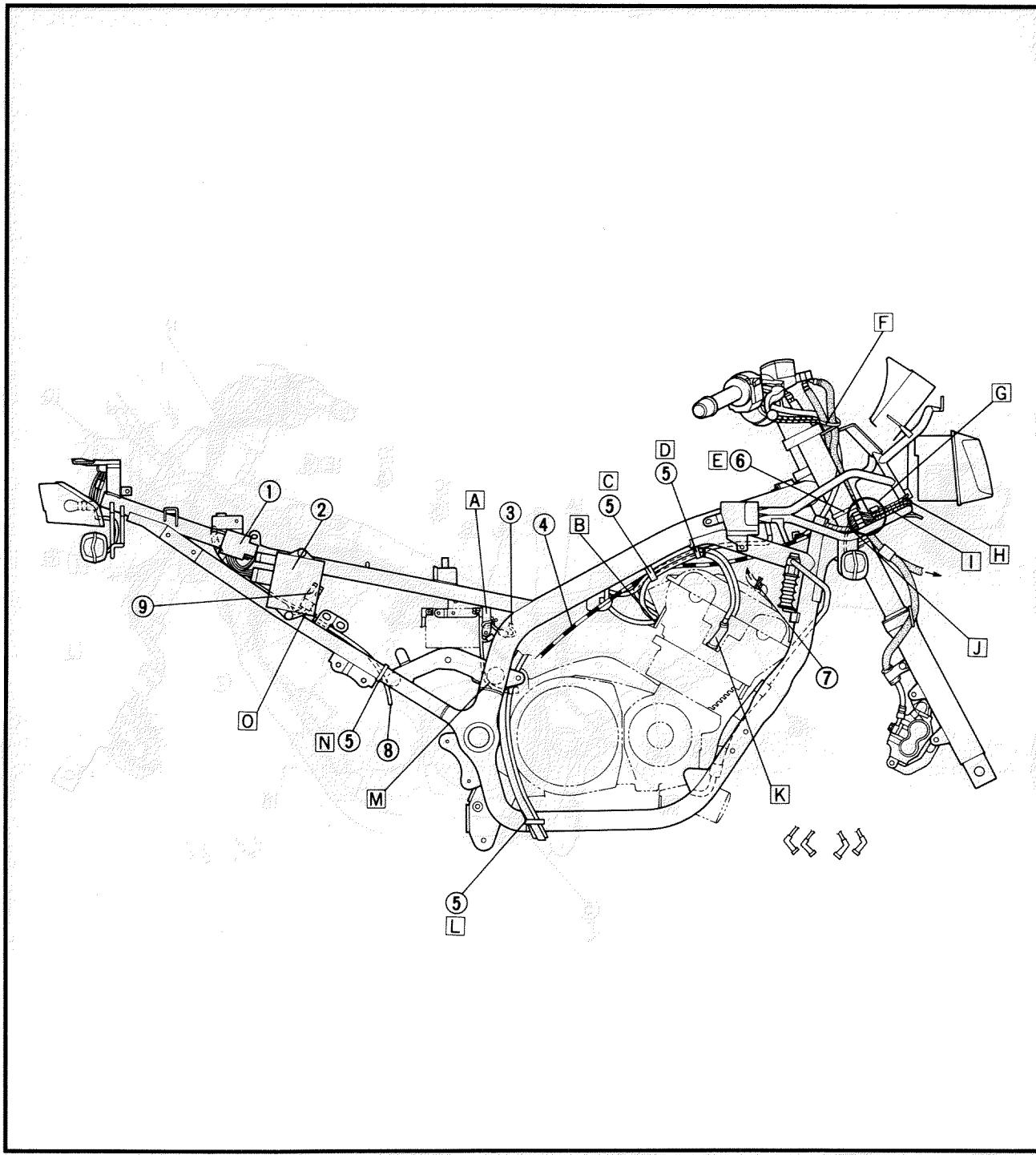
## CABLE ROUTING

## CABLE ROUTING

SPEC



- G** After connecting the left and right flasher leads, clamp them to the cowling stay. Connect the thermo switch lead to the plug with white tape affixed to it.
- H** Pass the auxiliary light lead outside the cowling stay and clamp it onto it.
- I** Clamp the auxiliary light lead and wire harness to the cowling stay.
- J** Clamp the flasher lead and thermo switch lead to the cowling stay.
- K** Position the spark plug cap so that it is facing inwards.
- L** Pass the drain hoses for the tank and the drain hose for the air filter case through the clamp.
- M** Pass the battery  $\ominus$  lead under the cross pipe and secure it to the side of the battery  $\ominus$  terminal.
- N** Clamp the rear brake switch lead to the back stay.
- O** Pass the rear brake light switch lead coupler behind the main fuse bracket.

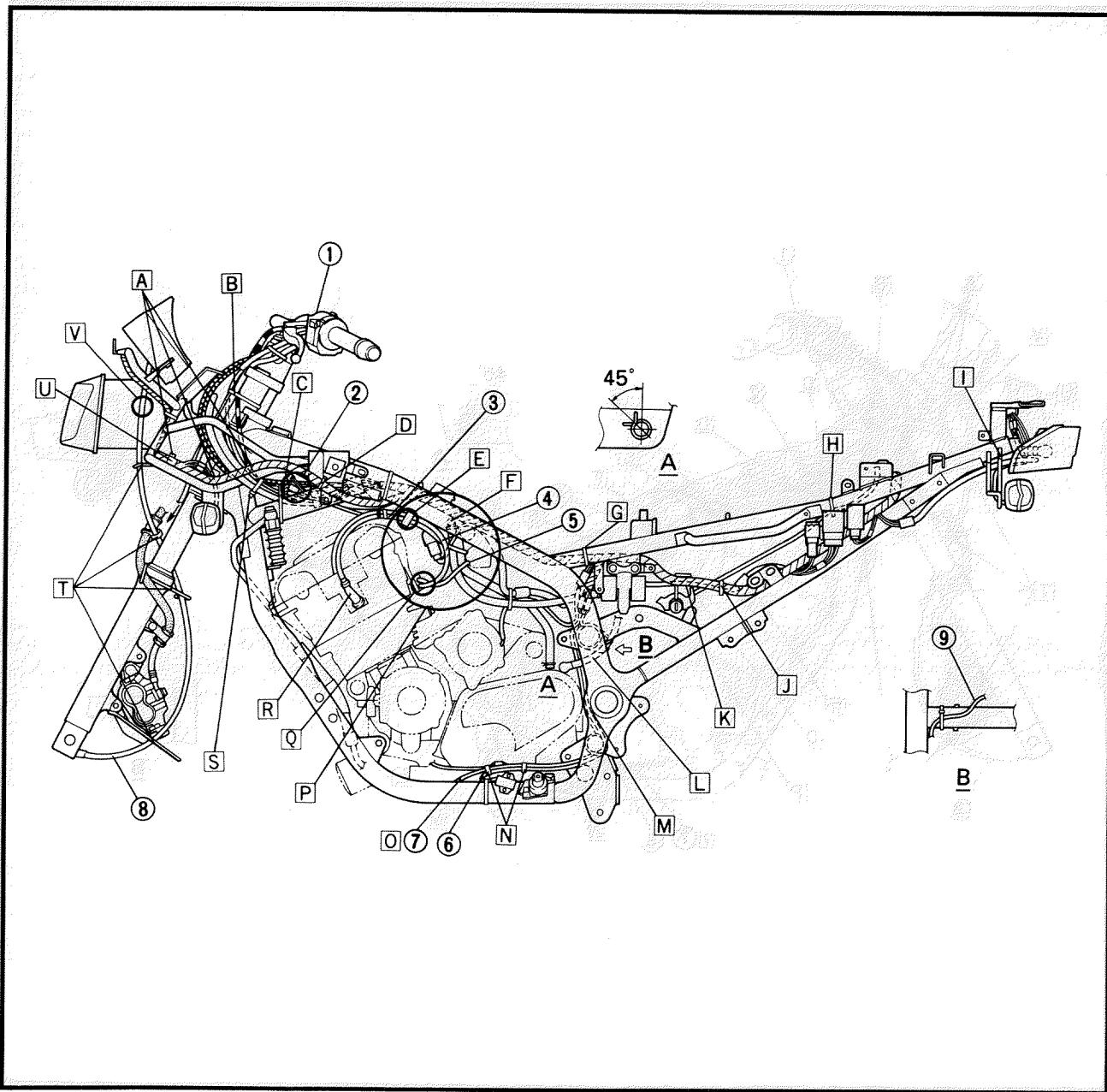


000 2342

2001 FUSION 1300i

**CABLE ROUTING****SPEC**

- ① Handlebar switch (left)      [A] Clamp the wire harness to the cowling stay.  
 ② Main switch coupler      [B] Clamp the left handlebar switch lead to the inner tube.  
 ③ High tension cord (#1)      [C] Clamp the left handlebar switch lead, the main switch lead and the  
 ④ High tension cord (#2)      starter cable to the tension pipe.  
 ⑤ High tension cord (#4)      [D] Clamp the wire harness at the point where the white tape is affixed to it.  
 ⑥ Sidestand switch lead      [E] Clamp the high tension cords (#1 and #2).  
 ⑦ Oil level switch lead      [F] Clip both ends of the fuel hose.  
 ⑧ Speedometer cable      [G] Clamp the wire harness inside the seat rail.  
 ⑨ Starter motor lead      [H] Point the clamp end so that it is facing downwards.  
 ⑩ Starter cable      [I] Pass the flasher lead inside the protruding tab on the rear fender.  
 [J] Clamp the wire harness and the fuel pump lead. Position the fuel  
 pump lead behind the wire harness.  
 [K] Pass the wire harness and the fuel pump lead through the guide wire  
 on the stay lock. Position the fuel pump lead behind the wire harness.  
 [L] Pass the starter motor lead under the cross pipe, then clamp it to the  
 cross pipe. Pass the starter motor lead inside the tab on the rear  
 fender and then inside the bracket on the rear shock absorber.



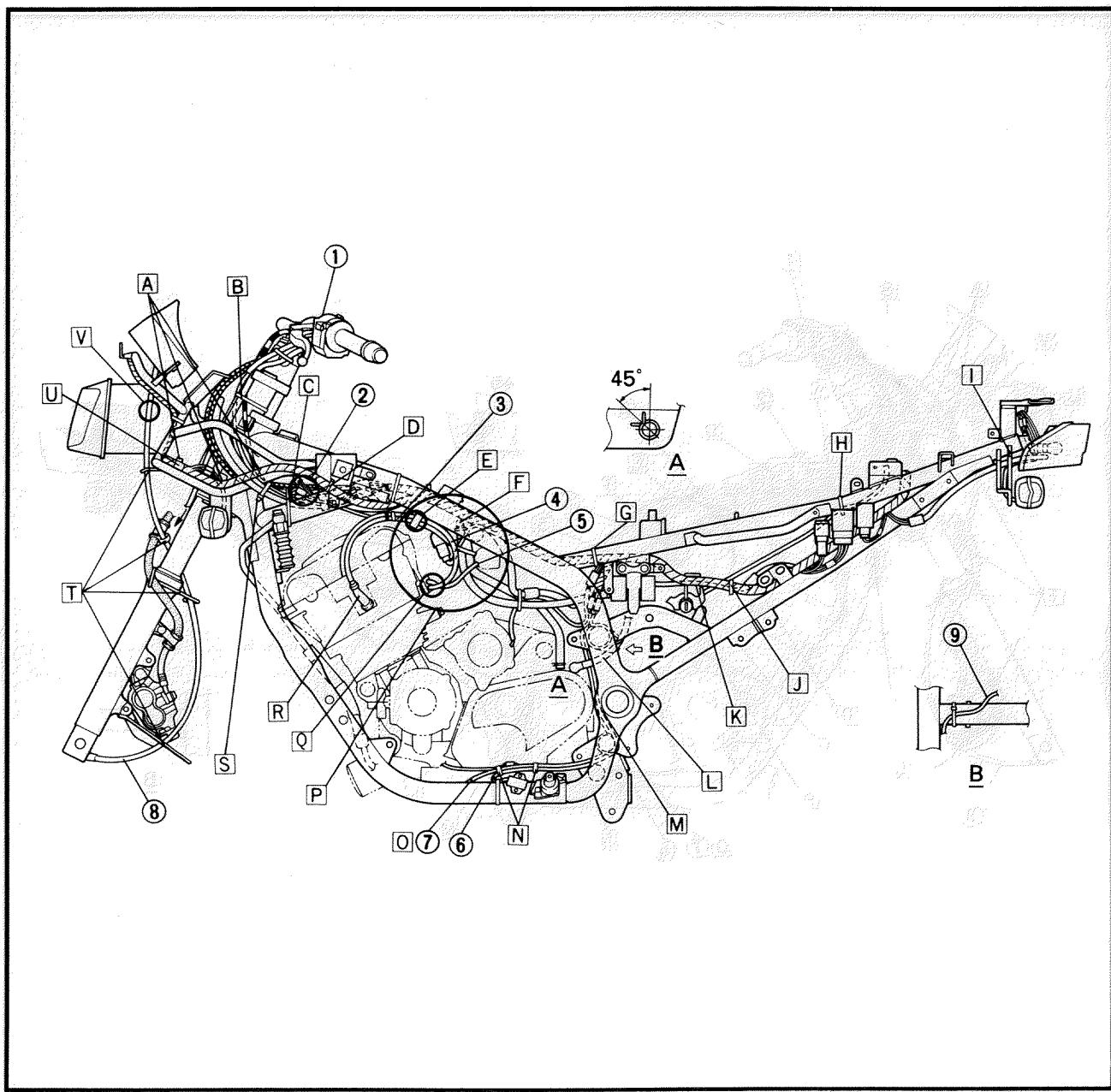
1000 [CB400] 2001 U.S. MODEL

## CABLE ROUTING

SPEC



- M** Pass the sidestand switch lead through the inner part of the rear arm.
- N** Clamp the sidestand switch lead and the oil level switch lead with the engine clamp.
- O** Pull the oil level switch lead backwards slightly so that it is not slack.
- P**
  - Pass the throttle position sensor lead inside the high tension cords (#1 and #2).
  - Either one of the high tension cords (#1) and (#2) can be uppermost.
  - Pass the cord (#4) outside the fuel hose and breather hose.
  - Pass the cord (#1) outside the fuel hose, breather hose and throttle position sensor lead.
- Q** Clamp the high tension cord #4 to the upper part at the marked position, and the high tension cord #2 to the lower part.
- R** Position the spark plug cap so that it is facing inwards.
- S** Clamp the left handlebar switch lead, main switch lead, starter cable and throttle cables.
- T** Pass the speedometer cable to the left of the headlight and pass it through the guide wire which secures the cowling stay guide wire, brake hose holder, fender bracket guide wire and caliper.
- U** Clamp the part of the wire harness which has white tape affixed to it onto the cowling stay.
- V** When installing the cowling, make sure that the speedometer cable is not pinched between the headlight and the cowling.

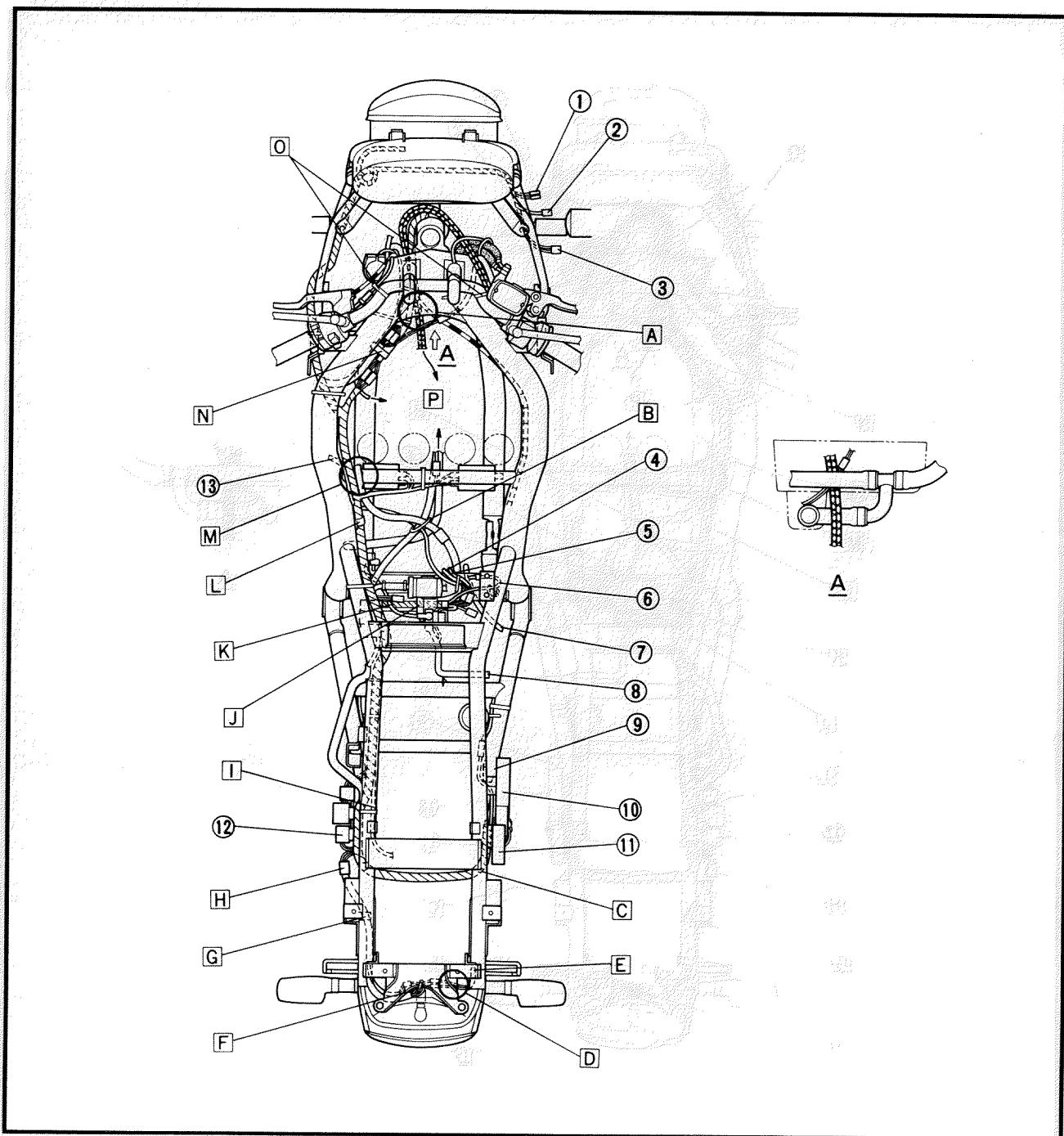


## CABLE ROUTING

SPEC



- ① Front flasher light (right) lead  
 ② Auxiliary light lead  
 ③ Thermo switch lead  
 ④ Oil level switch lead  
 ⑤ Side stand switch lead  
 ⑥ Fuel sender lead  
 ⑦ Battery  $\ominus$  lead  
 ⑧ Battery  $\oplus$  lead  
 ⑨ Main fuse  
 ⑩ Ignitor unit  
 ⑪ Fuse box  
 ⑫ Flasher relay  
 ⑬ Throttle position sensor lead
- A The wire harness must be uppermost, followed by the clutch wire, with the throttle wire underneath.  
 B Clamp the AC generator lead, fuel hose and air filter case drain hose.  
 C Pass the wire harness through the guide on the rear fender, then pass it around to the left side of the motorcycle.  
 D Pass the rear flasher leads underneath the point where the tail-light is installed.  
 E Pass the left and right rear flasher leads through the guide hole in the rear fender.  
 F Connect the leads and clamp them to the frame at the guide hole.

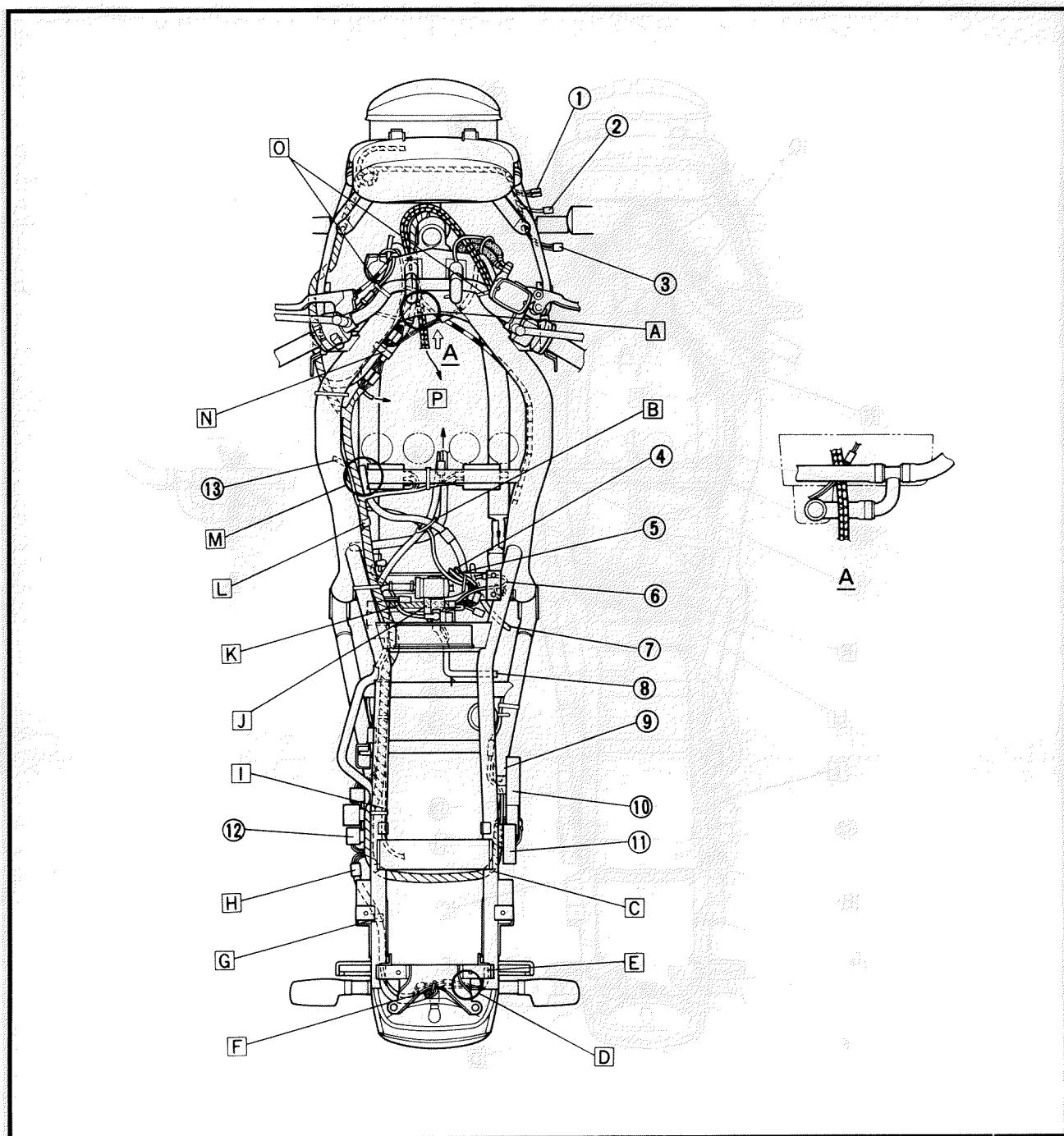


## CABLE ROUTING

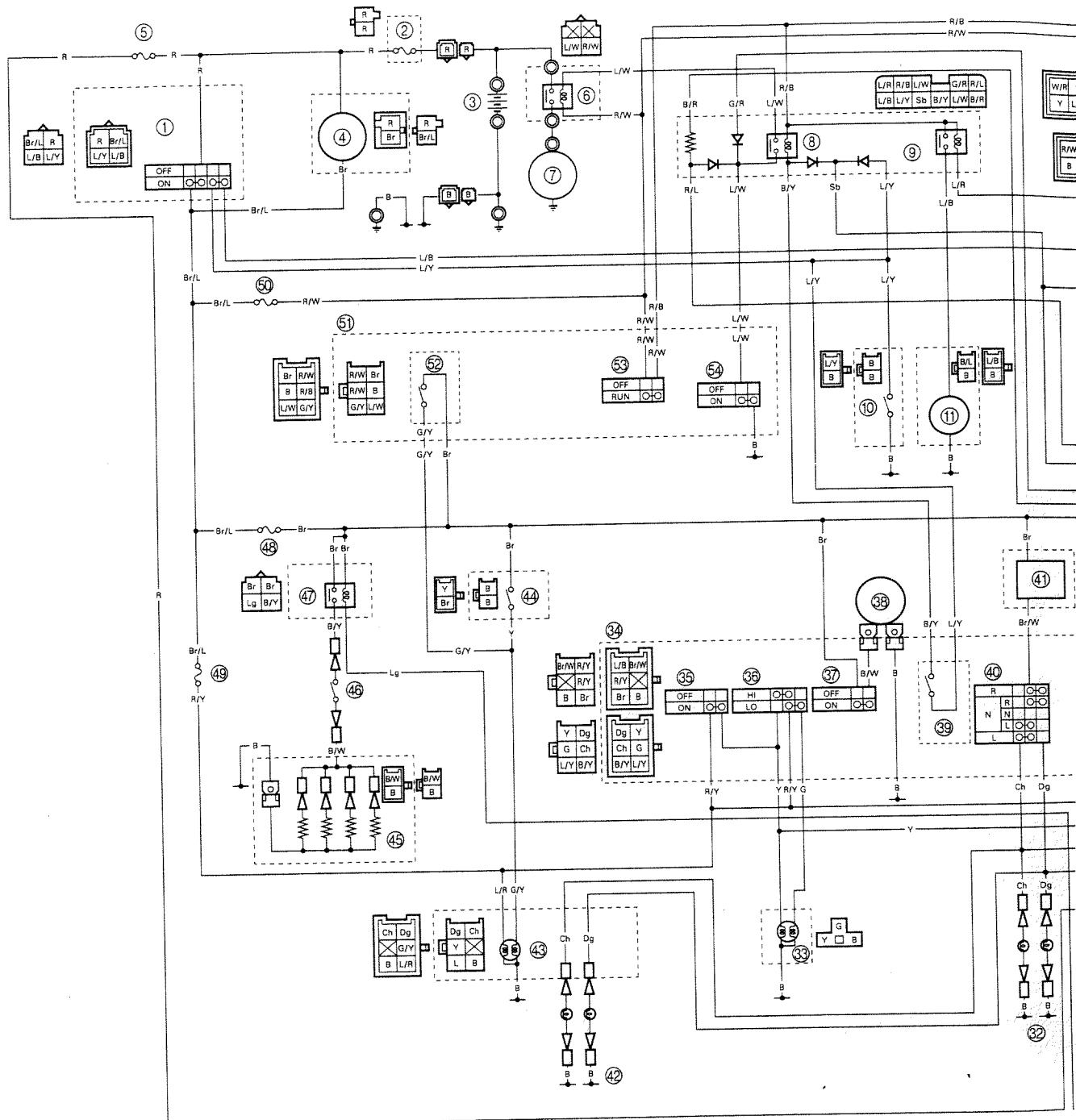
SPEC



- [G] Clamp the wire harness to the rear fender at the tab.
- [H] Pass the coupler for the wire harness outside the rear fender.
- [I] Pass the seat lock wire outside the rear fender.
- [J] Pass the wire harness underneath the point where the rear fender and fuel filter are installed, then pass it above the frame and the bracket of the rear shock absorber.
- [K] Pass the starter motor lead under the wire harness and fuel hose.
- [L] Clamp the portion of the wire harness marked with white tape.
- [M] Fasten the ground terminal and the ignition coil together.
- [N] Clamp the wire harness and main switch lead. Do not clamp the starter cable.
- [O] Clamp the handlebar switch lead to the handlebar. The cables and leads should not obstruct the front fork spring preload adjusters.
- [P] To carburetor



# XJ900S H WIRING DIAGRAM (For AUS)

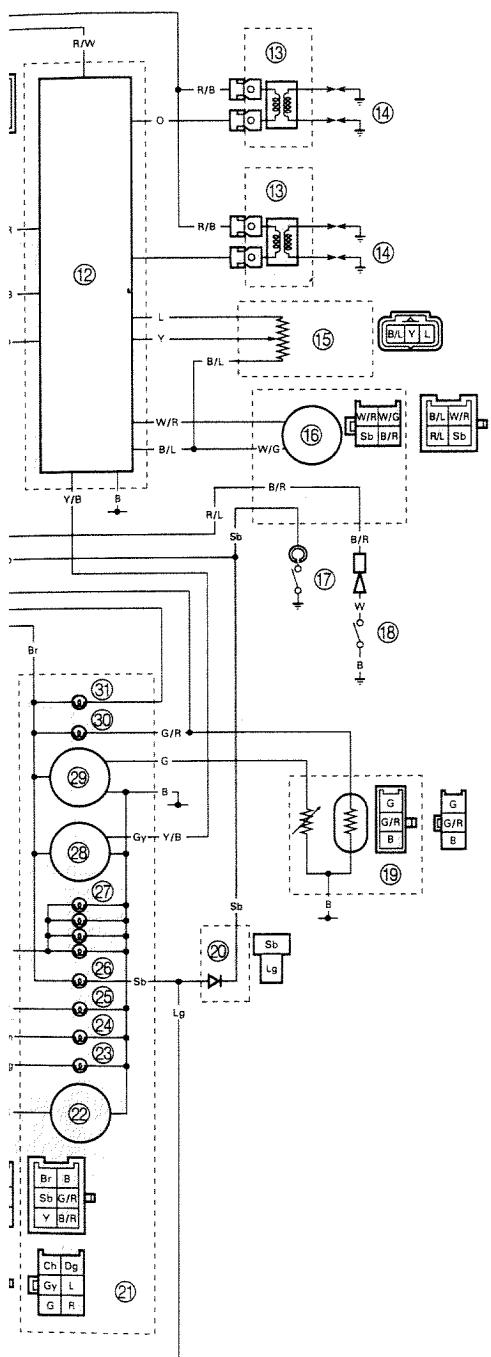


## COLOR CODE

B .....	Black
Br .....	Brown
Ch .....	Chocolate
Dg .....	Dark green
G .....	Green
Gy .....	Gray
L .....	Blue
Lg .....	Light green

O .....	Orange
R .....	Red
Sb .....	Sky blue
Y .....	Yellow
B/L .....	Black/Blue
B/R .....	Black/Red
B/W .....	Black/White
B/Y .....	Black/Yellow

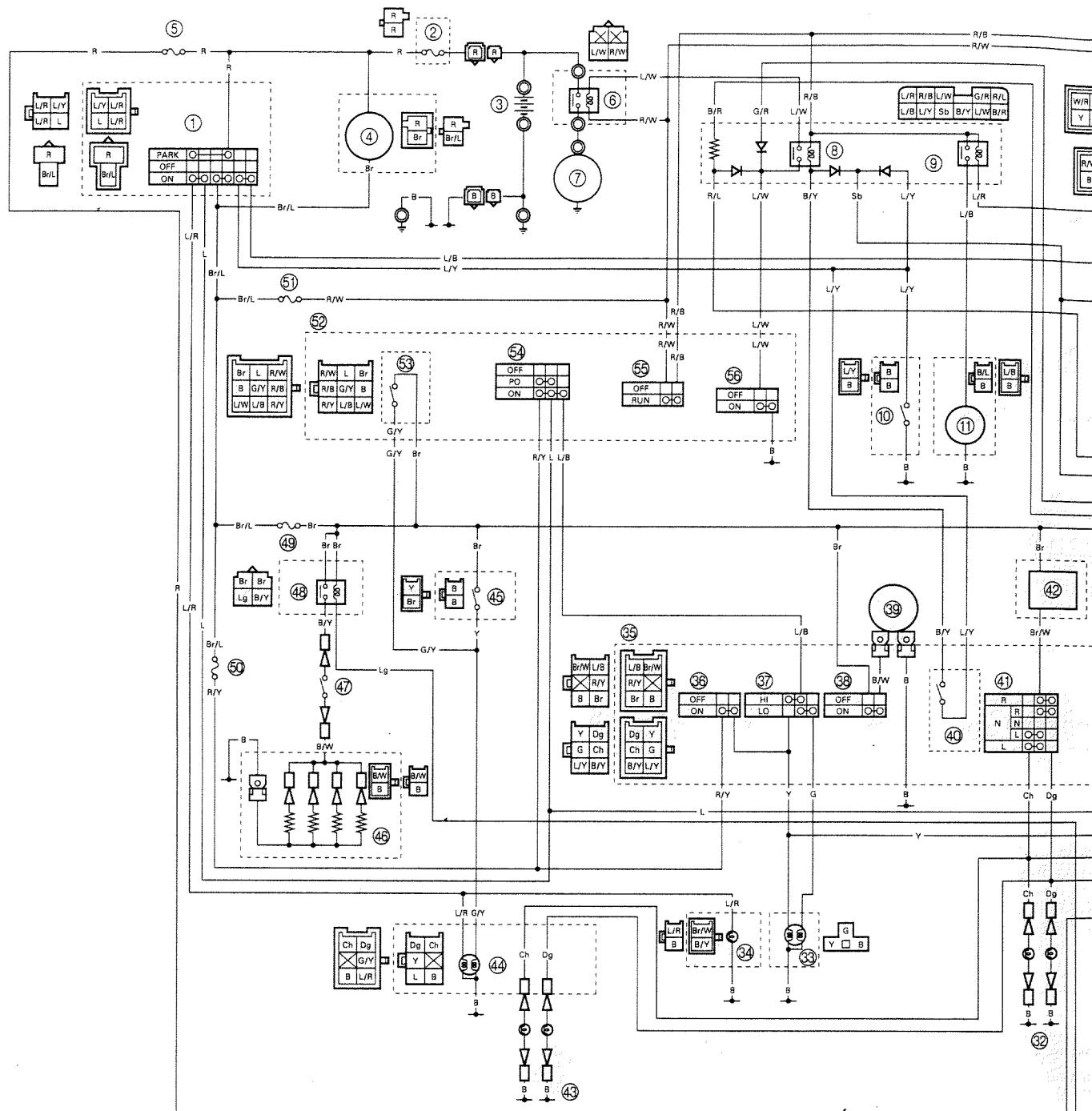
Br/L.....	Brown/Blue
Br/W.....	Brown/White
G/R .....	Green/Red
G/Y .....	Green/Yellow
L/B .....	Blue/Black
L/R .....	Blue/Red
L/W .....	Blue/White
L/Y .....	Blue/Yellow



- ① Main switch
  - ② Fuse (main)
  - ③ Battery
  - ④ A.C. generator
  - ⑤ Fuse (clock)
  - ⑥ Starter relay
  - ⑦ Starter motor
  - ⑧ Starter circuit cut-off relay
  - ⑨ Fuel pump relay
  - ⑩ Sidestand switch
  - ⑪ Fuel pump
  - ⑫ Ignitor unit
  - ⑬ Ignition coil
  - ⑭ Spark plug
  - ⑮ Throttle sensor
  - ⑯ Pickup coil
  - ⑰ Neutral switch
  - ⑱ Oil level switch
  - ⑲ Fuel sensor
  - ⑳ Diode
  - ㉑ Meter assembly
  - ㉒ Clock
  - ㉓ "TURN" indicator light (right)
  - ㉔ "TURN" indicator light (left)
  - ㉕ "HIGH BEAM" indicator light
  - ㉖ "NEUTRAL" indicator light
  - ㉗ Meter light
  - ㉘ Tachometer
  - ㉙ Fuel meter
  - ㉚ "FUEL LEVEL" indicator light
  - ㉛ "OIL LEVEL" indicator light
  - ㉜ Front flasher light
  - ㉝ Headlight
  - ㉞ Auxiliary light
  - ㉟ Handlebar switch (left)
  - ㉞ "PASS" switch
  - ㉞ "LIGHTS" (dimmer) switch
  - ㉞ "HORN" switch
  - ㉞ Horn
  - ㉞ Clutch switch
  - ㉞ "TURN" signal switch
  - ㉞ Flasher relay
  - ㉞ Rear flasher light
  - ㉞ Tail/brake light
  - ㉞ Rear brake switch
  - ㉞ Heater
  - ㉞ Thermo switch
  - ㉞ Heater relay
  - ㉞ Fuse (signal)
  - ㉞ Fuse (head)
  - ㉞ Fuse (ignition)
  - ㉞ Handlebar switch (right)
  - ㉞ Front brake switch
  - ㉞ "LIGHTS" switch
  - ㉞ "ENGINE STOP" switch
  - ㉞ "START" switch

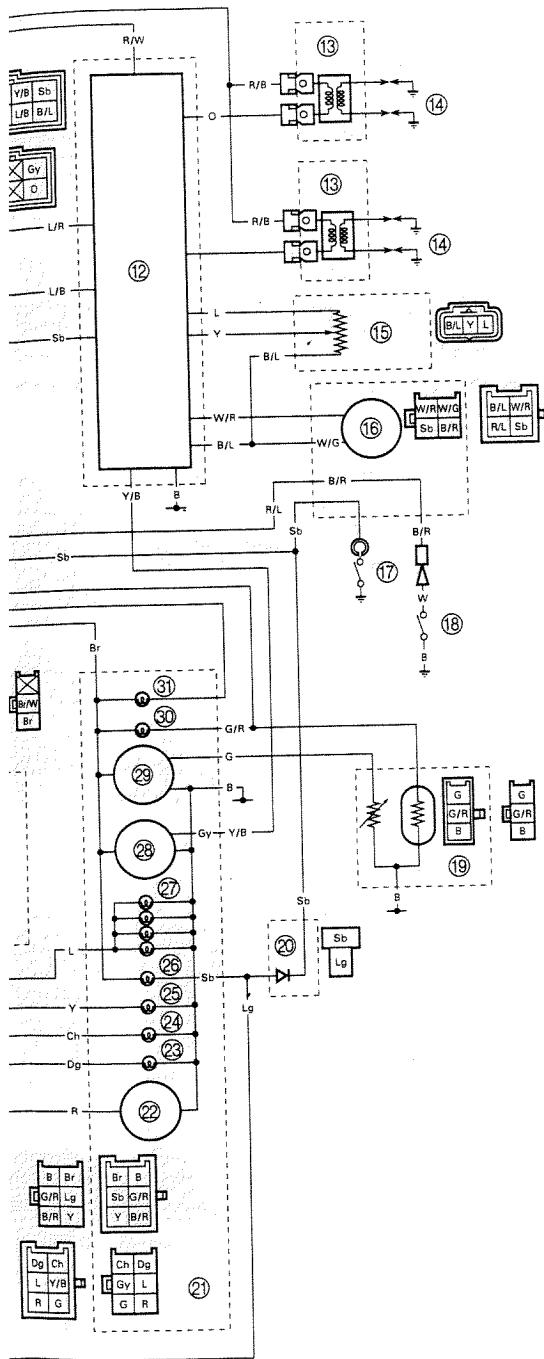
R/B..... Red/Black  
R/L..... Red/Blue  
R/W..... Red/White  
R/Y..... Red/Yellow  
Y/R..... Yellow/Red  
W/G..... White/Green  
W/R..... White/Red  
Y/B..... Yellow/Black

## XJ900S '96 WIRING DIAGRAM (For Europe)



## COLOR CODE

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



- ① Main switch
- ② Fuse (main)
- ③ Battery
- ④ A.C. generator
- ⑤ Fuse (clock)
- ⑥ Starter relay
- ⑦ Starter motor
- ⑧ Starter circuit cut-off relay
- ⑨ Fuel pump relay
- ⑩ Side stand switch
- ⑪ Fuel pump
- ⑫ Ignitor unit
- ⑬ Ignition coil
- ⑭ Spark plug
- ⑮ Throttle sensor
- ⑯ Pickup coil
- ⑰ Neutral switch
- ⑱ Oil level switch
- ⑲ Fuel sensor
- ⑳ Diode
- ㉑ Meter assembly
- ㉒ Clock
- ㉓ "TURN" indicator light (right)
- ㉔ "TURN" indicator light (left)
- ㉕ "HIGH BEAM" indicator light
- ㉖ "NEUTRAL" indicator light
- ㉗ Meter light
- ㉘ Tachometer
- ㉙ Fuel meter
- ㉚ "FUEL LEVEL" indicator light
- ㉛ "OIL LEVEL" indicator light
- ㉜ Front flasher light
- ㉝ Headlight
- ㉞ Handlebar switch (left)
- ㉟ "PASS" switch
- ㉟ "LIGHTS" (dimmer) switch
- ㉞ "HORN" switch
- ㉟ Horn
- ㉞ Clutch switch
- ㉞ "TURN" signal switch
- ㉞ Flasher relay
- ㉞ Rear flasher light
- ㉞ Tail/brake light
- ㉞ Rear brake switch
- ㉞ Heater
- ㉞ Thermo switch
- ㉞ Heater relay
- ㉞ Fuse (signal)
- ㉞ Fuse (head)
- ㉞ Fuse (ignition)
- ㉞ Handlebar switch (right)
- ㉞ Front brake switch
- ㉞ "ENGINE STOP" switch
- ㉞ "START" switch

R/B.....	Red/Black
R/L.....	Red/Blue
R/W .....	Red/White
R/Y.....	Red/Yellow
Y/R.....	Yellow/Red
W/G .....	White/Green
W/R .....	White/Red
Y/B.....	Yellow/Black