YAMAHA

XV535(S)F '94
XV535(S)FC

SUPPLEMENTARY SERVICE MANUAL

LIT-11616-09-16

FOREWORD

This Supplementary Service Manual has been prepared to introduce new service and data for the XV535(S)F/XV535(S)FC '94. For complete service information procedures it is necessary to use this Supplementary Service Manual together with the following manual.

XV535T/XV535TC '86 SERVICE MANUAL: 2GV-28197-10
XV535A/XV535AC '89 SUPPLEMENTARY SERVICE MANUAL: 3JC-28197-10

XV535(S)F/XV535(S)FC '94
SUPPLEMENTARY
SERVICE MANUAL
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NOTICE

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

for USA, California
This model has been designed and manufactured to perform within certain specifications in regard to performance and emissions. Proper service with the correct tools in necessary to ensure that the motorcycle will operate as designed. If there is any question about a service procedure, it is imperative that you contact a Yamaha dealer for any service information changes that apply to this model. This policy is intended to provide the customer with the most satisfaction from his motorcycle and to conform with federal environmental quality objectives.

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.

NOTE:
FOR USA, California:
This Service Manual contains information regarding periodic maintenance to the emission control system. Please read this material carefully.

PARTICULARLY IMPORTANT INFORMATION

This material is distinguished by the following notation.

⚠	The Safety Alert Symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!
⚠ WARNING	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.
CAUTION:	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.

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.

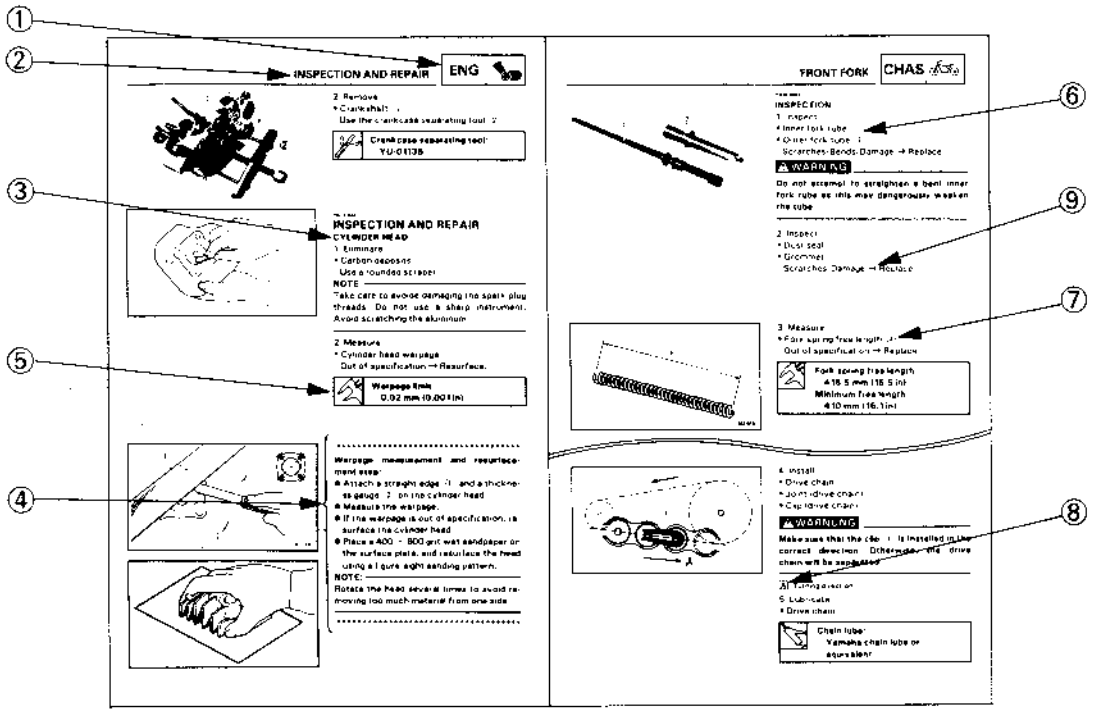
A set of particularly important procedure ④ is placed between a line of asterisks "✻"with each procedure preceded by "●".

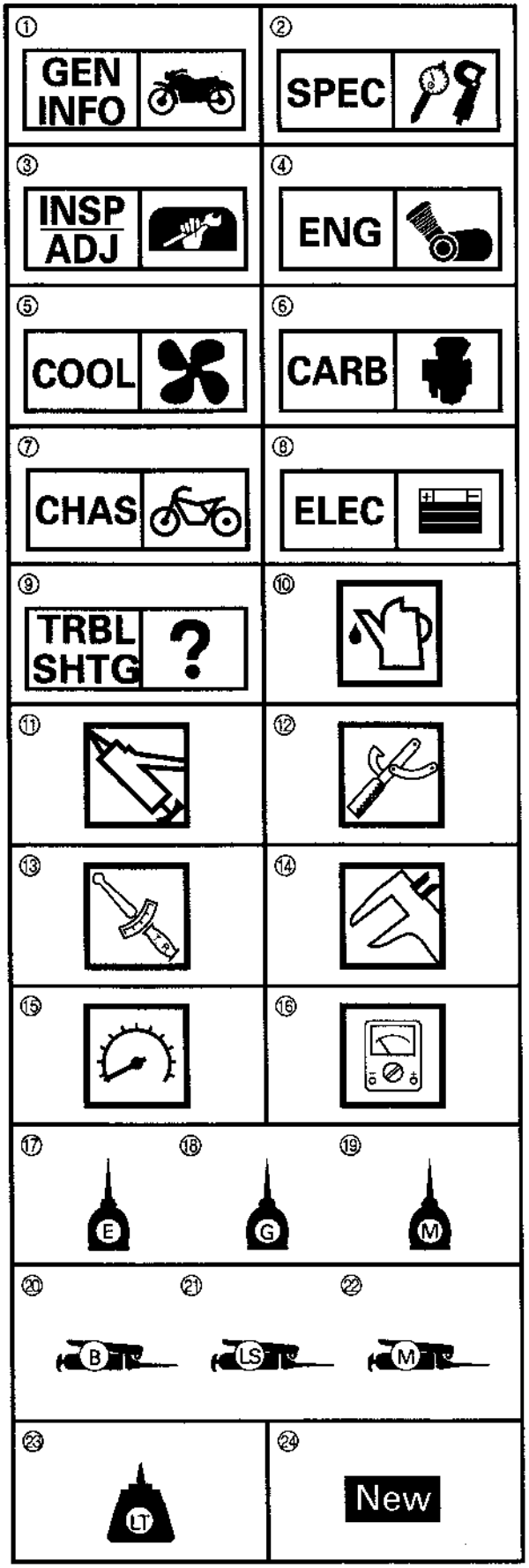
IMPORTANT FEATURES

- 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 ⑨ are designed as thumb tabs to indicate the chapter's number and content.

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

Illustrated symbols ⑩ to ⑯ are used to identify the specifications appearing in the text.

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

Illustrated symbols ⑰ to ㉔ in the exploded diagram indicate grade of lubricant and location of lubrication point.

⑰Apply engine oil
⑱Apply gear oil
⑲Apply molybdenum disulfide oil
⑳Apply wheel bearing grease
㉑Apply lightweight lithium-soap base grease
㉒Apply molybdenum disulfide grease
㉓Apply locking agent (LOCTITE®)
㉔Use new one

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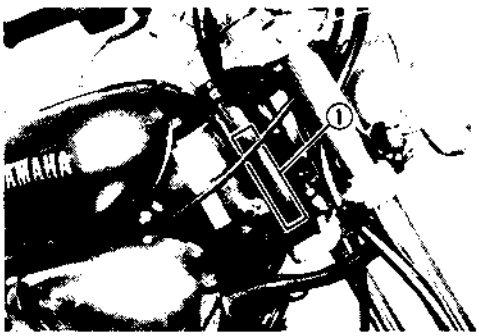
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VEHICLE IDENTIFICATION NUMBER 1
ENGINE SERIAL NUMBER 1

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GENERAL INFORMATION

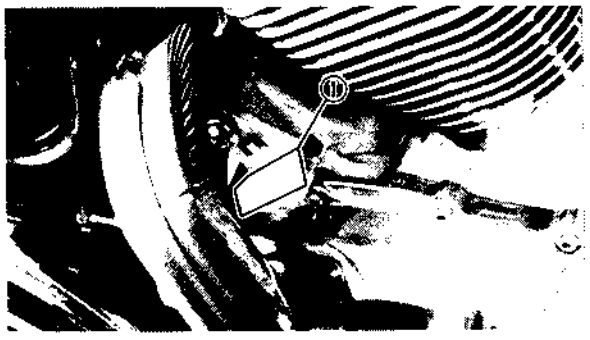
MOTORCYCLE IDENTIFICATION

VEHICLE IDENTIFICATION NUMBER

The vehicle identification number ① is stamped into the steering head pipe.

Starting serial number:
(For USA)
XV535F JYA3JCE0*RA021101
XV535SF JYA3JCC0*RA025101
XV535FC JYA3JCE0*RA028101
XV535SFC..... JYA3JCC0*RA033101
(For CDN)
XV535F JYA3JCN0*RA027101
XV535SF JYA3JCN0*RA035101

NOTE:
The vehicle identification number is used to identify your motorcycle and may be used to register your motorcycle with the licensing authority in your state.



ENGINE SERIAL NUMBER

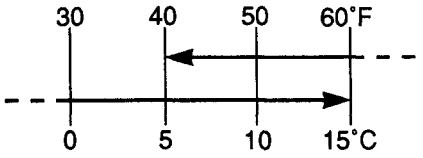
The engine serial number ① is stamped into the right side of the engine.

Starting serial number:
(For USA)
XV535F 3JC-021101
XV535SF 3JC-025101
XV535FC 3JC-028101
XV535SFC..... 3JC-033101
(For CDN)
XV535F 3JC-027101
XV535SF 3JC-035101

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.

SPECIFICATIONS

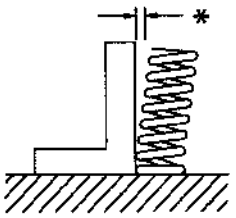
GENERAL SPECIFICATIONS

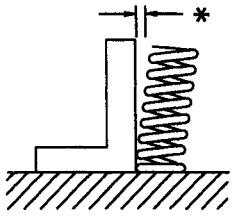
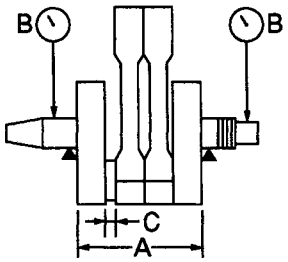
Model	XV535(S)F/XV535(S)FC
Model code number:	3JC
Engine starting number:	For USA: XV535F: 3JC-021101 XV535SF: 3JC-025101 XV535FC: 3JC-028101 XV535SFC: 3JC-033101 For CDN: XV535F: 3JC-027101 XV535SF: 3JC-035101
Vehicle identification number:	For USA: XV535F: JYA3JCE0*RA021101 XV535SF: JYA3JCC0*RA025101 XV535FC: JYA3JCE0*RA028101 XV535SFC: JYA3JCC0*RA033101 For CDN: XV535F: JYA3JCN0*RA027101 XV535SF: JYA3JCN0*RA035101
Minimum turning radius:	2,900 mm (114.2 in)
Oil type or grade: Engine oil  Fuel gear oil	 Yamalube 4 or SAE 20 W 40 type SE/F motor oil Yamalube 4 or SAE 10 W 30 type SE/F motor oil SAE 80 API "GL-4" Hypoid gear oil
Fuel: Type Tank capacity: Total Reserve	 Unleaded fuel recommended (for USA) Regular unleaded gasoline (for CDN) 13.5 L (3.0 Imp gal, 3.6 US gal) 2.5 L (0.5 Imp gal, 0.7 US gal)
Chassis: Frame type Caster angle Trail	 Pressed backbone 31.5° 125 mm (4.9 in)
Tire: Type Size (F) Size (R) Wear limit	 With tube 3.00-19 49S BRIDGESTONE L303A/DUNLOP F14G 140/90-15 M/C 70S BRIDGESTONE G508/DUNLOP K425 1.0 mm (0.04 in)

Model	XV535(S)F/XV535(S)FC
Shock absorber:	
Front shock absorber	Coil spring, Oil damper
Rear shock absorber	Coil spring, Oil damper
Electrical:	
Ignition system	T.C.I. (digital)
Generator system	A.C. magneto generator
Battery type or model	GM12AZ-3A
Battery capacity	12 V 12 AH
Bulb wattage × Quantity:	
Headlight	12 V, 65 W/60 W × 1
Tail/brake light	12 V, 8 W/27 W × 2
Rear flasher light	12 V, 27 W × 2
Front position light/Front flasher light	12 V, 8 W/27 W × 2
Indicator light:	
"NEUTRAL"	12 V, 3 W × 1
"HIGH BEAM"	12 V, 1.7 W × 1
"TURN"	12 V, 3 W × 1
Meter light	12 V, 3.4 W × 1

MAINTENANCE SPECIFICATIONS

ENGINE

Model		XV535(S)F/XV535(S)FC
Valve spring:		
Inner spring:		
Free length	IN.	39.9 mm (1.571 in)
	EX.	39.9 mm (1.571 in)
<Limit>	IN.	<37.7 mm (1.48 in)>
	EX.	<37.7 mm (1.48 in)>
Set length (valve closed)	IN.	34.1 mm (1.343 in)
	EX.	34.1 mm (1.343 in)
Compressed pressure (installed)	IN.	9.5 ~ 11.1 kg (21.0 ~ 24.5 lb)
	EX.	9.5 ~ 11.1 kg (21.0 ~ 24.5 lb)
Tilt limit *	IN.	<2.5°/1.7 mm (0.067 in)>
	EX.	<2.5°/1.7 mm (0.067 in)>
		
Direction of winding	IN.	Clockwise
	EX.	Clockwise

Model		XV535(S)F/XV535(S)FC
Outer spring:		
Free length	IN.	43.6 mm (1.717 in)
	EX.	43.6 mm (1.717 in)
<Limit>	IN.	<41.4 mm (1.630 in)>
	EX.	<41.4 mm (1.630 in)>
Set length (valve closed)	IN.	37.1 mm (1.46 in)
	EX.	37.1 mm (1.46 in)
Compressed pressure (installed)	IN.	18.7 ~ 21.9 kg (41.2 ~ 48.3 lb)
	EX.	18.7 ~ 21.9 kg (41.2 ~ 48.3 lb)
Tilt limit *	IN.	<2.5°/1.9 mm (0.075 in)>
	EX.	<2.5°/1.9 mm (0.075 in)>
		
Direction of winding	IN.	Counter clockwise
	EX.	Counter clockwise
Crankshaft:		
		
Crank width "A"		93.95 ~ 94.00 mm (3.699 ~ 3.701 in)
Runout limit "B"		<0.02 mm (0.0008 in)>
Big end side clearance "C"		0.27 ~ 0.42 mm (0.011 ~ 0.017 in)
Journal oil clearance		0.020 ~ 0.052 mm (0.0008 ~ 0.0020 in)
Bearing color code		1. Blue 2. Green
Transmission:		
Main axle deflection limit		<0.06 mm (0.0024 in)>
Drive axle defection limit		<0.06 mm (0.0024 in)>
Carburetor:		
I.D. Mark		For USA: 3JC50 (3JCA), 3JC40 (3JCB), 3JC30 (3JCD), 3JC20 (3JCE) For CDN: 3BT30 (3JCC), 3BT20 (3JCF)
Main jet	(M.J.)	FRONT: #137.5 REAR: #135 (USA) #135 (CDN)
Main air jet	(M.A.J.)	#140
Jet needle	(J.N.)	FRONT: 5DZ17-1 REAR: 5DZ18-1 (USA) FRONT: 5DZ9-3 REAR: 5DZ10-3 (CDN)

Model		XV535(S)F/XV535(S)FC
Needle jet	(N.J.)	Y-0
Pilot jet	(P.J.)	#35
Pilot air jet	(P.A.J. 1)	#70
	(P.A.J. 2)	#170
Pilot screw	(P.S.)	2-1/2 turns (USA) 2 turns (CDN)
Pilot outlet	(P.O.)	ø0.95
Bypass	(B.P. 1)	ø0.8
	(B.P. 2)	ø0.8
	(B.P. 3)	ø0.8
Valve seat size	(V.S.)	ø1.5
Starter jet	(G.S.)	G.S. 1: #35, G.S. 2: 0.7 (USA) G.S. 1: #40, G.S. 2: 0.7 (CDN)
Fuel level	(F.L.)	13.5 ~ 14.5 mm (0.53 ~ 0.57 in)
Engine idling speed		1,150 ~ 1,250 r/min
Vacuum pressure at idling speed		Above 30.6 kPa (230 mmHg, 9.06 inHg) (USA) Above 24.0 kPa (180 mmHg, 7.09 inHg) (CDN)
Vacuum synchronous difference		Below 1.3 kPa (10 mmHg, 0.39 inHg) (USA)

CHASSIS

Model	XV535(S)F/XV535(S)FC
Front disc brake:	
Type	Single
Disc outside diameter × Thickness	298 × 5 mm (11.7 × 0.2 in)
Pad thickness	6.2 mm (0.26 in)
<Limit> *	<0.8 mm (0.03 in)>
	
Master cylinder inside diameter	14 mm (0.55 in)
Caliper cylinder inside diameter	45.4 mm (1.79 in)
Brake fluid type	DOT #3 or DOT #4

ELECTRICAL

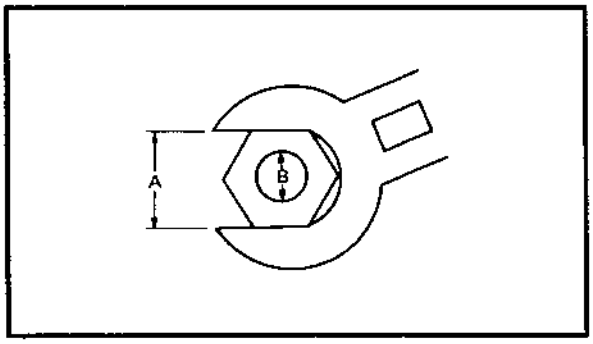
Model	XV535(S)F/XV535(S)FC
T.C.I.:	
Pickup coil resistance (color)	182 ~ 222 Ω at 20°C (68°F) (Gray – Black)
T.C.I. unit-model/manufacturer	J4T033/MITSUBISHI
Ignition coil:	
Model/manufacturer	F6T507/MITSUBISHI
Minimum spark gap	6 mm (0.24 in)
Primary winding resistance	3.6 ~ 4.8 Ω at 20°C (68°F)
Secondary winding resistance	11.2 ~ 15.2 kΩ at 20°C (68°F)
A.C. magneto:	
Model/manufacturer	F4T452/MITSUBISHI
Nominal output	14 V, 20 A at 5,000 r/min
Stator coil resistance	0.34 ~ 0.42 Ω at 20°C (68°F) (White – White)

Model	XV535(S)F/XV535(S)FC
Voltage regulator:	
Type	Semi conductor – short circuit
Model/Manufacture	SH569/SHINDENGEN
No load regulated voltage	14.2 ~ 15.2 V
Electric starter system:	
Type	Constant mesh type
Starter motor:	
Model/manufacturer	SM-13/MITSUBA
Output	0.7 kW
Brush:	
Overall length	12.5 mm (0.49 in)
<Limit>	<4.0 mm (0.16 in)>
Spring pressure	520 ~ 920 g (18.3 ~ 32.4 oz)
Commutator:	
Outside diameter	28 mm (1.1 in)
<Wear limit>	<27 mm (1.06 in)>
Mica undercut	1.6 mm (0.063 in)
Starter relay:	
Model/manufacturer	MS5D-191/HITACHI
Amperage rating	100 A
Coil winding resistance	3.9 ~ 4.7 Ω at 20°C (68°F)
Fuel pump relay:	
Model/manufacturer	25G/TATEISHI
Circuit breaker:	
Type	Fuse
Amperage for individual circuit × Quantity:	
Main	30 A × 1
Headlight	15 A × 1
Signal	15 A × 1
Ignition	15 A × 1
Reserve	30 A × 1
	15 A × 1

GENERAL TORQUE SPECIFICATIONS

This chart specifies torque for standard fasteners with standard I.S.O. pitch threads. Torque specifications for special components or assemblies are included in the applicable sections of this book. To avoid warpage, tighten multi-fastener assemblies in a crisscross fashion, in progressive stages, until full torque is reached. Unless otherwise specified, torque specifications call for clean, dry threads. Components should be at room temperature.

A (Nut)	B (Bolt)	General torque specifications		
		Nm	m • kg	ft • lb
10 mm	6 mm	6	0.6	4.3
12 mm	8 mm	15	1.5	11
14 mm	10 mm	30	3.0	22
17 mm	12 mm	55	5.5	40
19 mm	14 mm	85	8.5	61
22 mm	16 mm	130	13.0	94



A: Distance across flats
B: Outside thread diameter

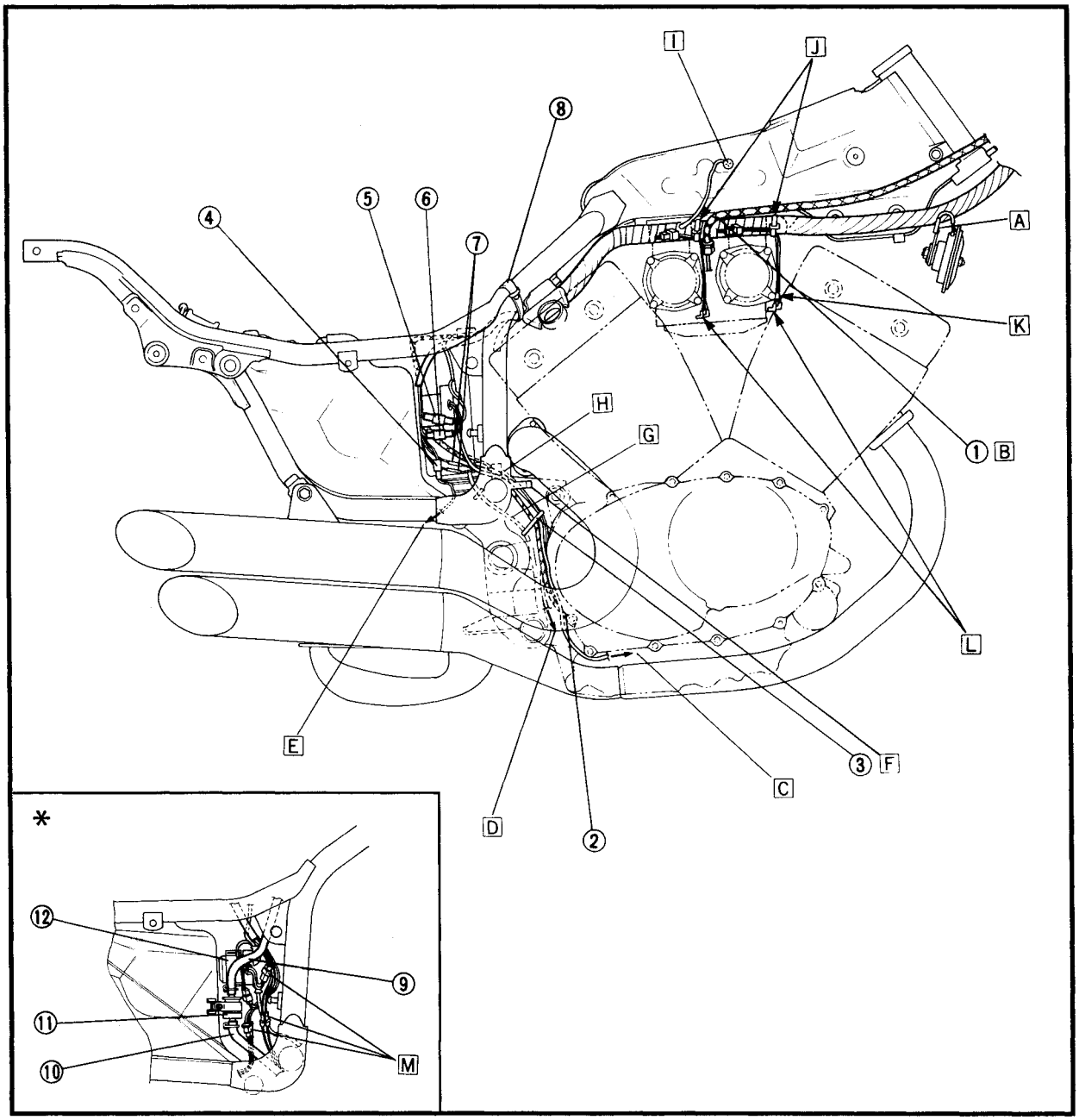
DEFINITIOCN OF UNITS

Unit	Read	Definition	Measure
mm cm	millimeter centimeter	10^{-3} meter 10^{-2} meter	Length Length
kg	kilogram	10^{3} gram	Weight
N	Newton	1 kg × m/sec^2	Force
Nm m•kg	Newton meter Meter kilogram	N × m m × kg	Torque Torque
Pa N/mm	Pascal Newton per millimeter	N/m^2 N/mn	Pressure Spring rate
L cm^3	Liter Cubic centimeter	–	Volume or Capacity
r/min	Rotation per minute	–	Engine Speed

CABLE ROUTING

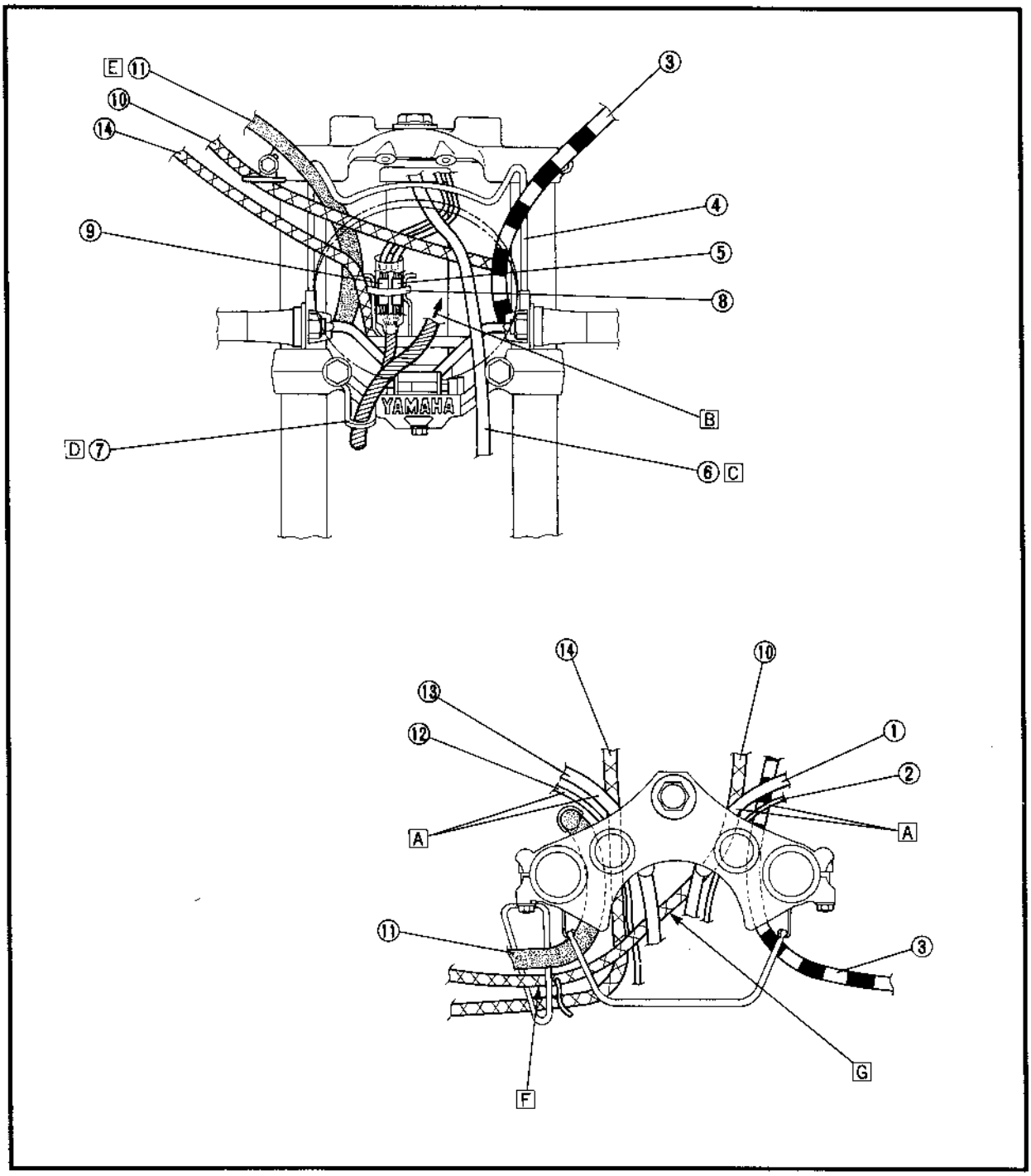
①Throttle cable (open-side)
②Ground negative lead
③Clamp
④Fuel cock lead
⑤Battery positive lead
⑥Starter relay lead
⑦Rear brake switch lead
⑧Band
⑨Fuel hose 3
⑩Fuel hose 4
⑪Roll over valve
⑫Starter relay

[A] Clamp the wireharness.
[B] Attach the throttle cable guide onto the frame and pass the throttle cable on the outside of the wireharness.
[C] To starter motor.
[D] To rear brake light switch.
[E] To fuel cock.
[F] Clamp the leads to prevent them from contacting the exhaust pipe.
[G] Pass the battery breather hose between cross tubes.
[H] Pass the leads above the cross tubes and clamp the leads.
[I] Fasten the ground lead on the frame.
[J] Clamp the main harness and carburetor heater leads.
[K] Clamp the carburetor heater leads to the carburetor.
[L] Clamp the carburetor heater lead wire terminals down onto the heater leads.
[M] Pass the starter relay lead, brake switch lead and solenoid lead inside of fuel hose 3 and 4.
*: For California

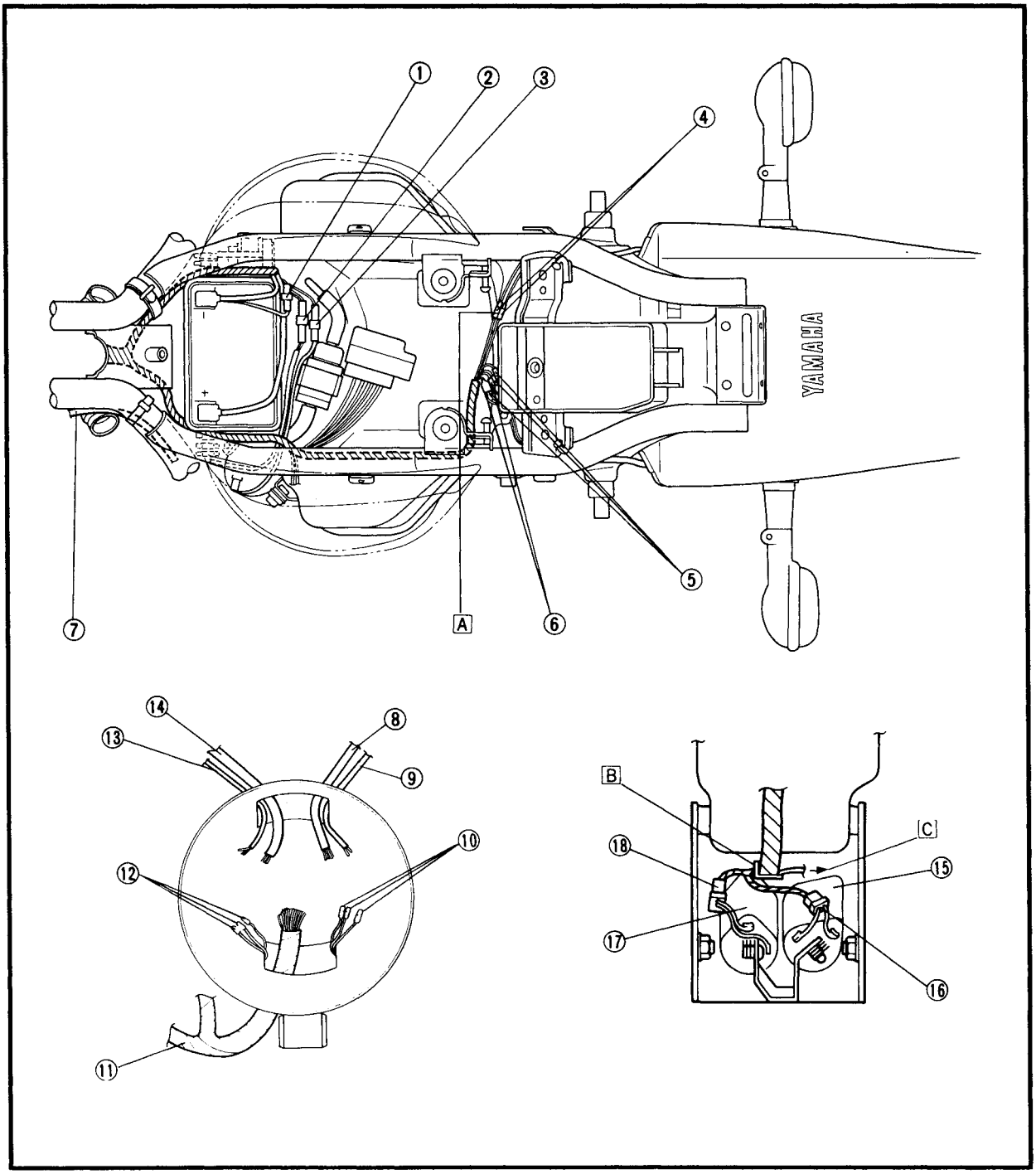


①Handlebar switch lead (left)
②Clutch switch lead
③Clutch cable
④Headlight guard
⑤Indicator light lead
⑥Speedometer cable
⑦Wireharness guide
⑧Band
⑨Meter light lead
⑩Throttle cable (close-side)
⑪Brake hose
⑫Front brake light switch lead
⑬Handlebar switch lead (right)
⑭Throttle cable (open-side)

[A] Pass the leads behind the handlebar crown.
[B] To headlight.
[C] Pass the speedometer cable in front of the under bracket.
[D] Pass through the wireharness guide.
[E] Pass the brake hose behind the headlight body and in front of the headlight ground.
[F] Pass the throttle cable (close-side) only through the wire guide.
[G] Pass the throttle cable (close-side) under the front brake switch lead and handlebar switch lead (right).

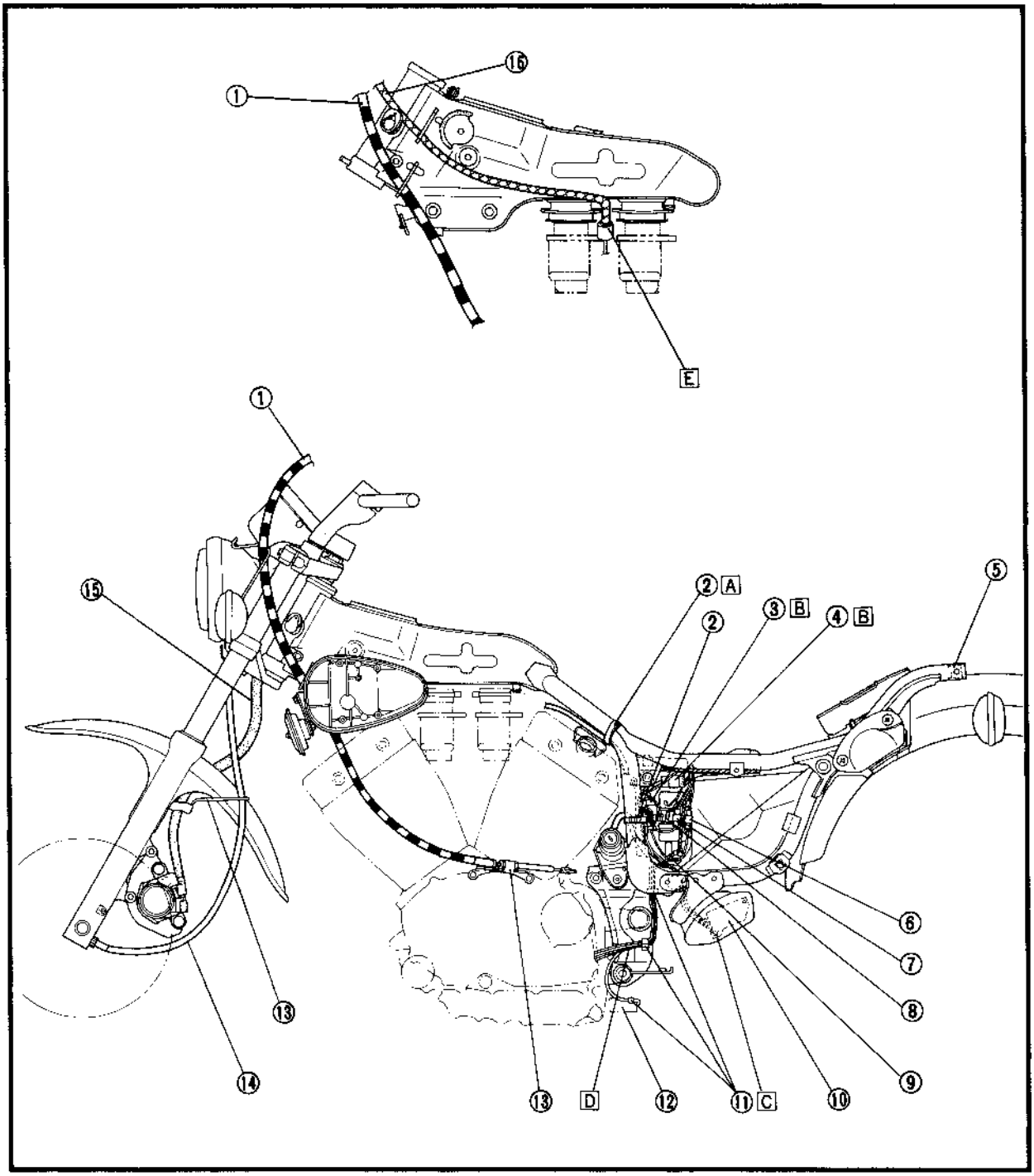


①Battery negative lead
②Sidestand switch lead
③Fuel pump lead
④Rear flasher light lead (right)
⑤Tail/brake light lead
⑥Rear flasher light lead (left)
⑦Fuel hose
⑧Handlebar switch lead (left)
⑨Clutch cable
⑩Front flasher light lead (left)
⑪Wireharness
⑫Front flasher light lead (right)
⑬Front brake light switch lead
⑭Handlebar switch lead (right)
⑮Ignition coil (rear cylinder)
⑯Ignition coil lead (yellow coupler)
⑰Ignition coil (front cylinder)
⑱Ignition coil lead (white coupler)
[A] Pass the leads under the flange of fuel tank.
[B] Pass the wireharness (for ignition coil) behind the clamp, and pass the wireharness (for horn) in front of the clamp.
[C] To horn.



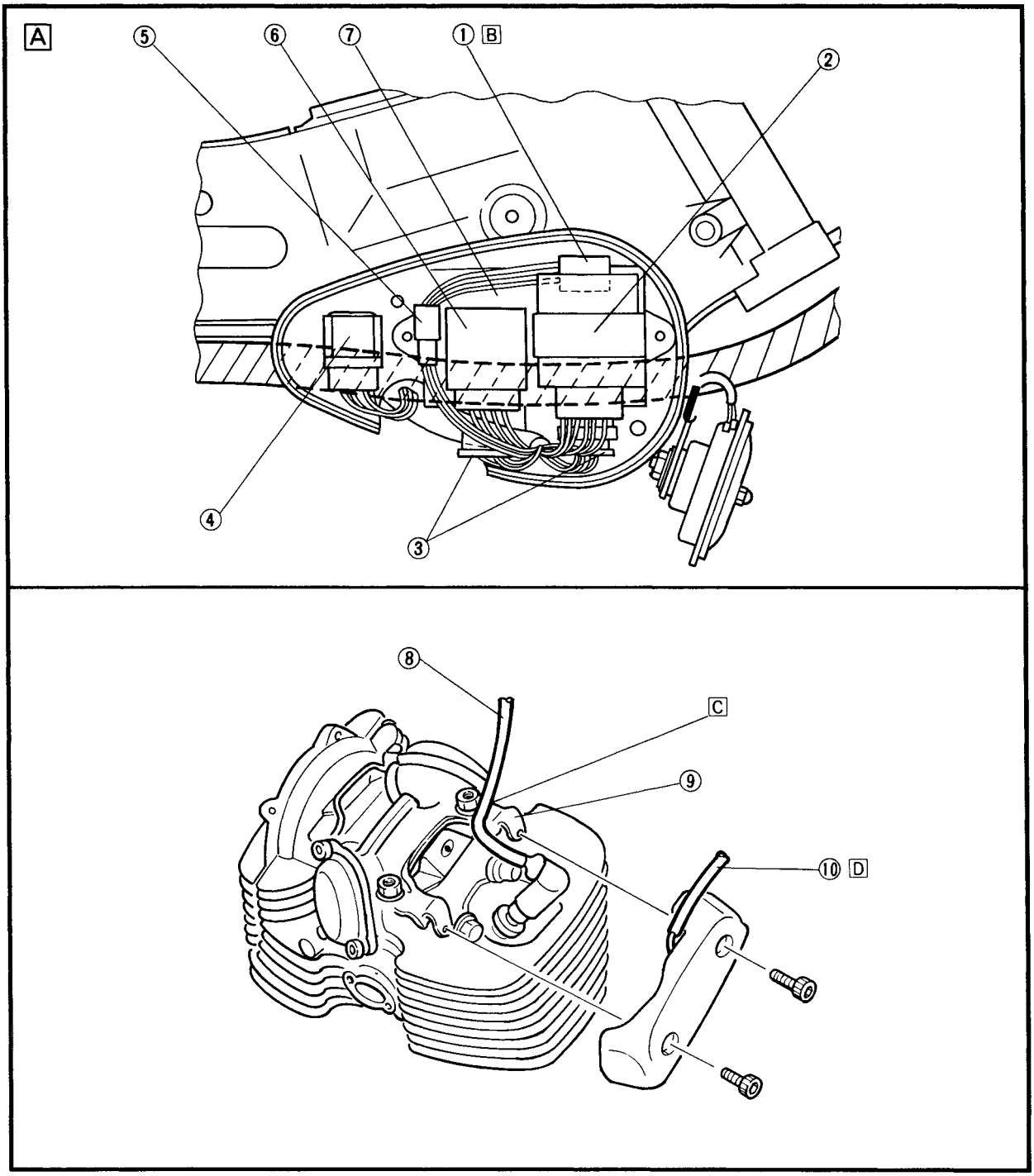
①Clutch cable
②Band
③A.C. magneto leads
④Pick up coil leads
⑤Cap
⑥Rectifier negative lead
⑦Rectifier positive lead
⑧Neutral switch lead
⑨Main switch lead
⑩Rectifier with regulator
⑪Clamp
⑫Sidestand switch
⑬Cable holder
⑭Speedometer cable
⑮Brake hose
⑯Throttle cable (close-side)

[A] Clamp the fuel hose.
[B] After connecting, put in the leads between the frame and the fuel pump.
[C] Fasten with the ground negative lead on the rectifier with regulator.
[D] Pass the leads between the frame and the swingarm.
[E] Insert the throttle cable until it reaches the back of the cable holder.



①Diode
②Flasher relay
③Ignitor leads
④Sidestand relay
⑤Diode leads
⑥Fuel pump control unit
⑦Ignitor unit
⑧Spark plug lead (front cylinder)
⑨Bracket
⑩Spark plug lead (rear cylinder)

[A] FRONT SIDE COVER BRACKET (right)
[B] Put into the diode between the flasher relay and ignitor.
[C] Pass the spark plug lead over the bracket. Do not pinch the spark plug lead with the side cover. (front cylinder)
[D] Pass the spark plug lead over the side cover. (rear cylinder)

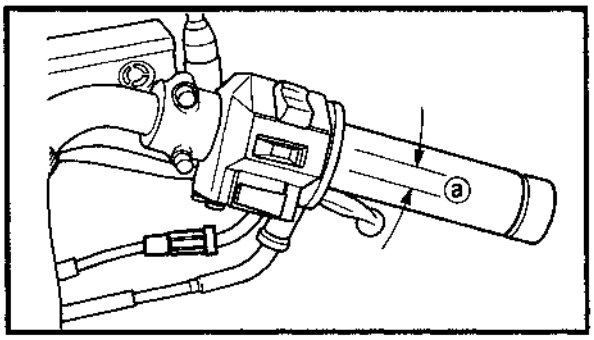


PERODIC INSPECTIONS AND ADJUSTMENT

ENGINE

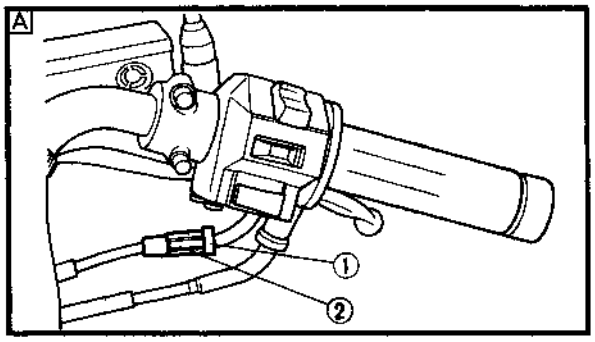
THROTTLE CABLE ADJUSTMENT

NOTE:
Before adjusting the throttle cable free play, the engine idling speed should be adjusted.



1.Check:
- Throttle cable free play ⓐ
  Out of specification → Adjust.

Free play:
3 ~ 5 mm (0.12 ~ 0.20 in)
At throttle grip end



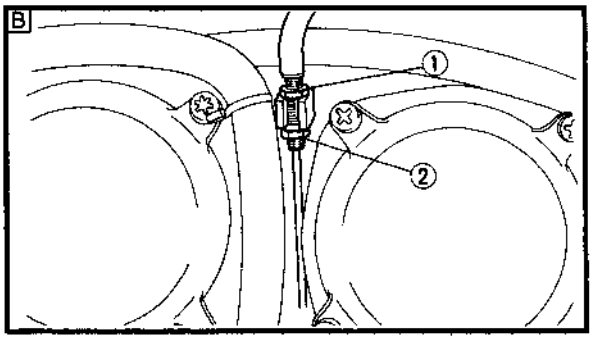
2.Adjust:
- Throttle cable free play

****

Adjustment steps:
- Loosen the lock nut ①.
- Turn the adjuster ② in or out until the specified free play is obtained.

Turning in → Free play is increased.
Turning out → Free play is decreased.

- Tighten the locknut.

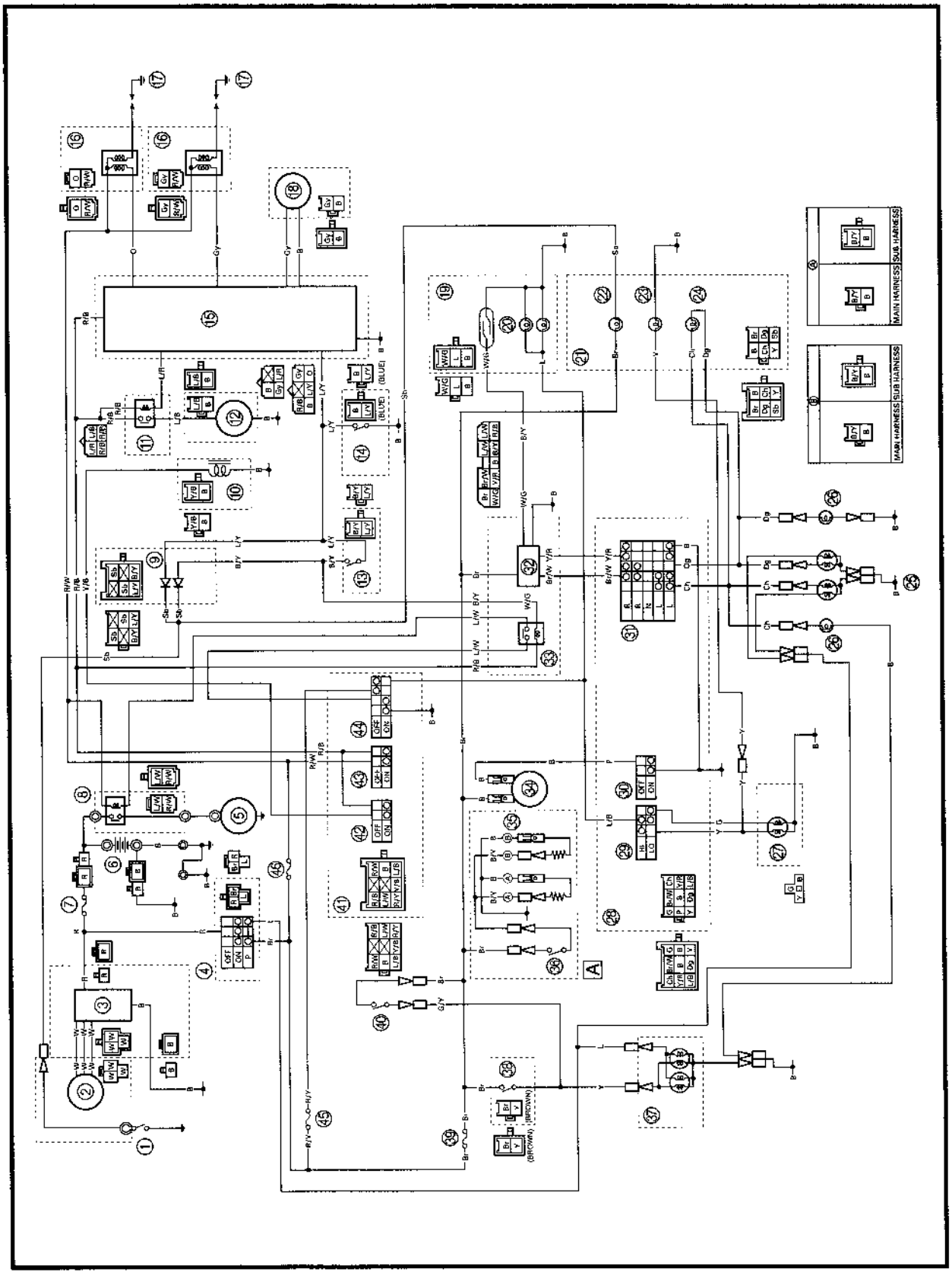


A Handlebar side
B Carburetor side

****

ELECTRICAL

XV535(S)F/XV535(S)FC CIRCUIT DIAGRAM



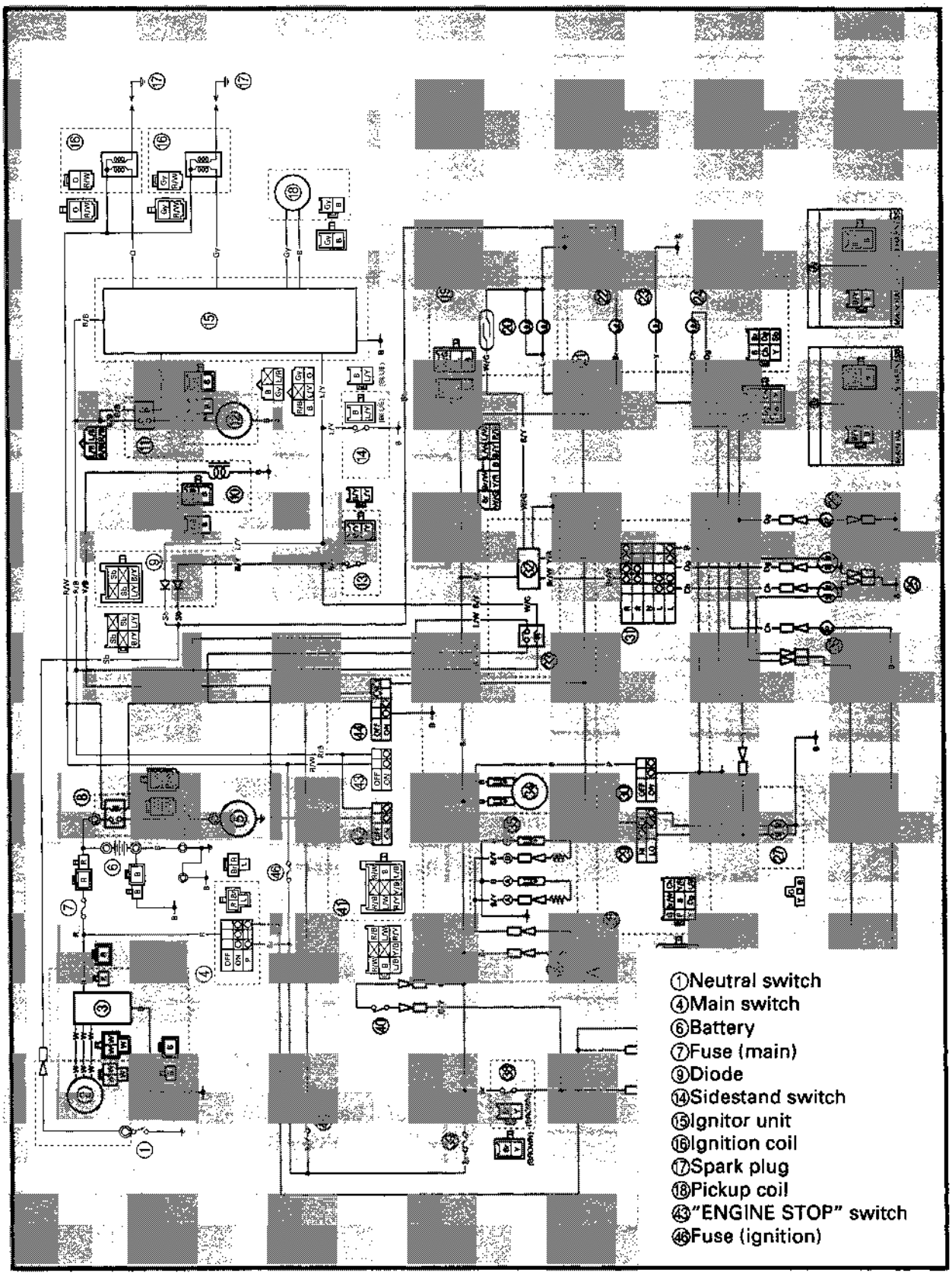
①Neutral switch
②A.C. magneto
③Rectifier/regulator
④Main switch
⑤Starter motor
⑥Battery
⑦Fuse (main)
⑧Starter relay
⑨Diode
⑩Solenoid
⑪Pump relay
⑫Fuel pump
⑬Clutch switch
⑭Sidestand switch
⑮Ignitor unit
⑯Ignition coil
⑰Spark plug
⑱Pickup coil
⑲Speedometer
⑳Meter light
㉑Pilot box
㉒"NEUTRAL" indicator light
㉓"HIGH BEAM" indicator light
㉔"TURN" indicator light
㉕Front flasher light
㉖Rear flasher light
㉗Headlight
㉘Handlebar switch (left)
㉙"LIGHTS" (Dimmer) switch
㉚"HORN" switch
㉛"TURN" switch
㉜Flasher relay
㉝Starting circuit cut-off relay
㉞Horn
㉟Carburetor heater
㊱Thermo switch
㊲Tail/brake light
㊳Rear brake switch
㊴Fuse (signal)
㊵Front brake switch
㊶Handlebar switch (right)
㊷"FUEL" (RESERVE) switch
㊸"ENGINE STOP" switch
㊹"START" switch
㊺Fuse (headlight)
㊻Fuse (ignition)
[A]For CDN

COLOR CODE

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

IGNITION SYSTEM

CIRCUIT DIAGRAM



TROUBLESHOOTING

IF IGNITION SYSTEM SHOULD BECOME INOPERATIVE (NO SPARK OR INTERMITTENT SPARK)

Procedure

Check;

1. Fuse (main and ignition)
2. Battery
3. Spark plug
4. Ignition spark gap
5. Spark plug cap resistance
6. Ignition coil resistance
7. Main switch
8. "ENGINE STOP" switch
9. Neutral switch
10. Sidestand switch
11. Pick up coil resistance
12. Wiring connection (entire ignition system)

NOTE:

- Remove the following parts before troubleshooting.
  1) Seat
  2) Side cover (left)
  3) Headlight unit
- Use the following special tool(s) in this troubleshooting.



Ignition checker:
90890-06754
Pocket tester:
90890-03112

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

NO CONTINUITY → Replace fuse(s).

CONTINUITY ↓

2. Battery
   - Check the battery condition. Refer to "BATTERY INSPECTION" in CHAPTER 2.

   Specific gravity:
   1.280 at 20° C(68° F)

INCORRECT →
- Refill battery fluid
- Clean battery terminals.
- Recharge or replace the battery.

CORRECT ↓

*

*

3.Spark plug

- Check the spark plug condition.
- Check the spark plug type.
- Check the spark plug gap.
  Refer to "SPARK PLUG INSPECTION" in CHAPTER 3.

Standard spark plug:
BP7ES/W22EP-U (USA)
BPR7ES/W22EPR-U (CDN)
NGK/NIPPONDENSO

Spark plug gap:
0.7 ~ 0.8 mm (0.028 ~ 0.031 in)

INCORRECT

Repair or replace spark plug.

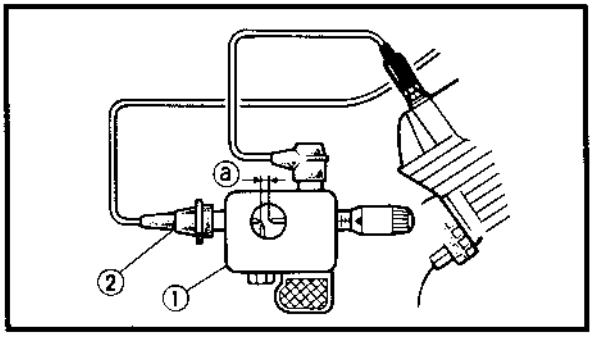
CORRECT

4.Ignition spark gap

- Disconnect the spark plug cap from spark plug.
- Connect the ignition checker (dynamic spark tester) ① as shown.

② Spark plug cap

- Turn the main switch to "ON".



- Check the ignition spark gap ⓐ.
- Start engine, and increase spark gap until misfire occurs.

Minimum spark gap:
6.0 mm (0.24 in)

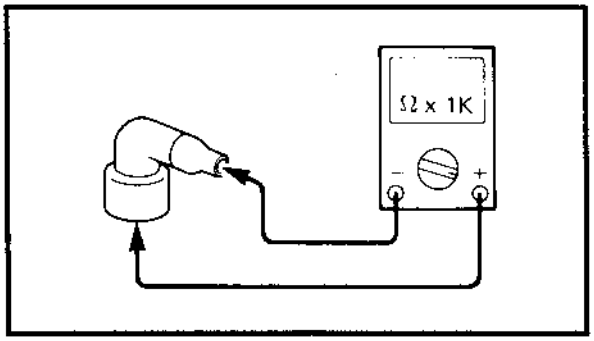
MEETS SPECIFICATION

Ignition system is good.

OUT OF SPECIFICATION OR NO SPARK

5.Spark plug cap resistance

- Remove the spark plug cap.
- Connect the pocket tester (Ω × 1k) to the spark plug cap.



- Check the spark plug cap for specificated resistance.

Spark plug cap resistance:
10 kΩ at 20°C (68°F)

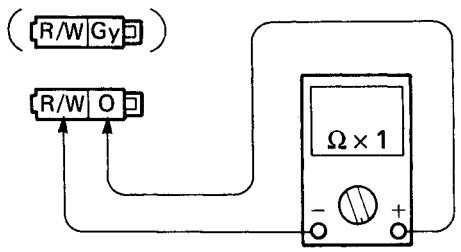
OUT OF SPECIFICATION → Replace spark plug cap.

MEETS SPECIFICATION

6.Ignition coil resistance

- Disconnect the ignition coil coupler from the wireharness.
- Connect the pocket tester (Ω × 1) to the ignition coil.

Tester (+) lead → Orange (Gray) terminal
Tester (–) lead → Red/White terminal



Tester (+) lead → Spark plug lead
Tester (–) lead → Frame ground

- Check the primary coil for specificated resistance.

Primary coil resistance:
3.6 ~ 4.8 Ω at 20°C (68°F)

- Connect the pocket tester (Ω × 1k) to the ignition coil.

- Check the secondary coil for specificated resistance.

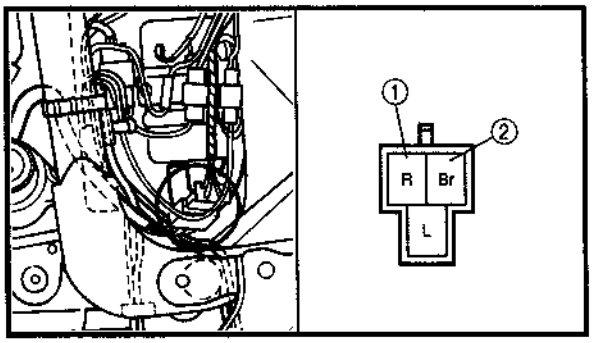
Secondary coil resistance:
11.2 ~ 15.2 kΩ at 20°C (68°F)

OUT OF SPECIFICATION → Replace ignition coil.

BOTH MEET SPECIFICATION

7.Main switch

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



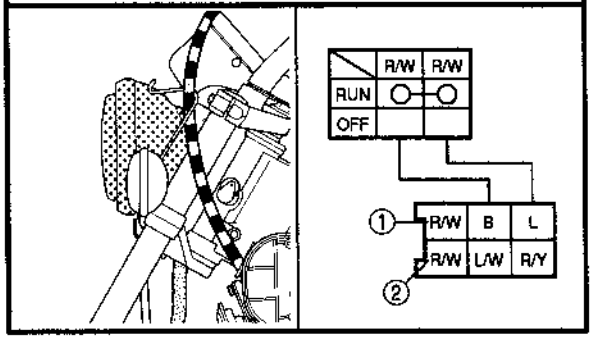
INCORRECT

Replace main switch.

CORRECT

8."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 ".
  Refer to "CHECKING OF SWITCHES".



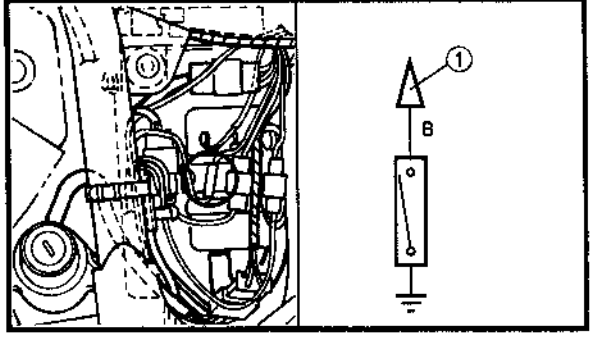
INCORRECT

Replace handlebar switch (right).

CORRECT

9.Neutral switch

- Disconnect the neutral switch coupler from the wireharness.
- Check the switch component for the continuity between "Sky blue ①" and Ground.
  Refer to "CHECKING OF SWITCHES".



INCORRECT

Replace neutral switch.

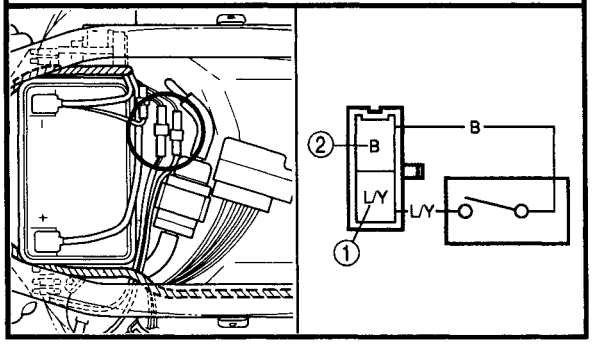
CORRECT

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10.Sidestand switch

- Disconnect the sidestand switch coupler from the wireharness.
- Check the switch component for the continuity between "Blue/Yellow ① and Black ②".
  Refer to "CHECKING OF SWITCHES".



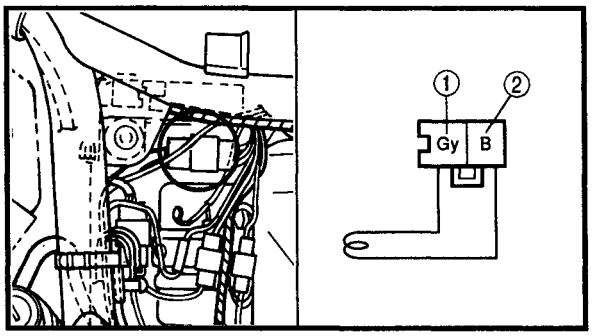
INCORRECT → Replace sidestand switch.

CORRECT ↓

11.Pickup coil resistance

- Disconnect the pickup coil coupler from the wireharness.
- Connect the pocket tester (Ω × 100) to the pickup coil terminal.

Tester (+) lead → Gray terminal ①
Tester (–) lead → Black terminal ②



- Check the pickup coil for specificated resistance.

Pickup coil resistance:
182 ~ 222 Ω at 20°C (68°F)
(Gray–Black)

OUT OF SPECIFICATION → Replace pickup coil.

MEET SPECIFICATION ↓

12.Wiring connection

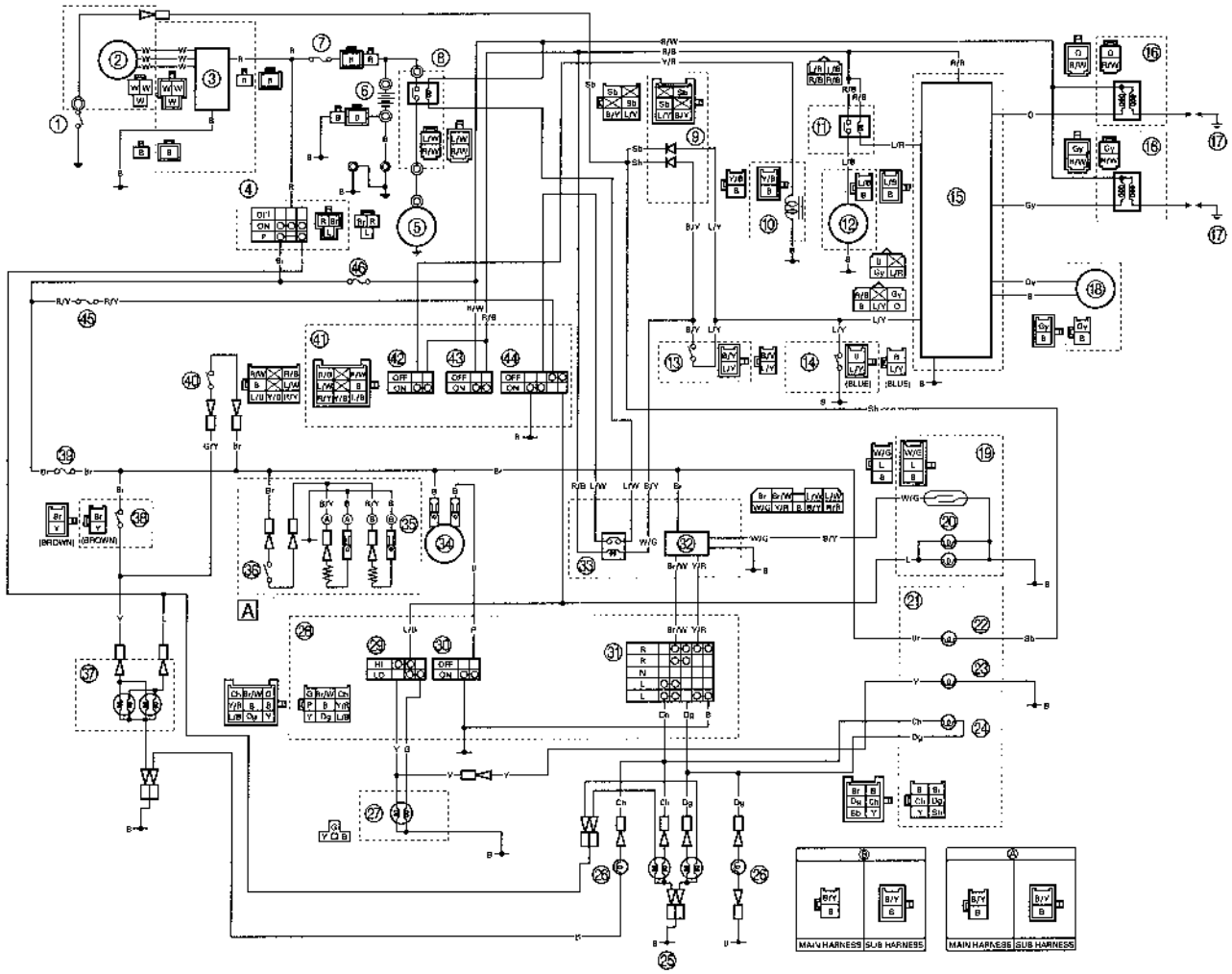
- Check the entire ignition system for connections.
  Refer to "CIRCUIT DIAGRAM".

POOR CONNECTION → Correct.

CORRECT ↓

Replace ignitor unit.

XV535(S)F/XV535(S)FC WIRING DIAGRAM



①Neutral switch
②A.C. magneto
③Rectifier/regulator
④Main switch
⑤Starter motor
⑥Battery
⑦Fuse (main)
⑧Starter relay
⑨Diode
⑩Solenoid
⑪Pump relay
⑫Fuel pump
⑬Clutch switch
⑭Sidestand switch
⑮Ignitor unit
⑯Ignition coil
⑰Spark plug
⑱Pickup coil
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㊹"START" switch
㊺Fuse (headlight)
㊻Fuse (ignition)
[A] For CDN

COLOR CODE

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

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