YAMAHA

# XV535A
# XV535AC

# SUPPLEMENTARY SERVICE MANUAL

LIT-11616-07-15

# FOREWORD

This Supplementary Service Manual has been prepared to introduce new service and new data for the XV535A/XV535AC. For complete information on service procedures, it is necessary to use this Supplementary Service Manual together with following manuals:

| XV535T/XV535TC Service Manual (LIT-11616-05-54) |
|---|

XV535A/XV535AC
SUPPLEMENTARY
SERVICE MANUAL
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LIT-11616-07-15

# 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.

This model has been disgned and manufactured to perform within certain specifications in regard to performance and emissions. Proper service with the correct tools is 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:**

This Service Manual contains information regarding periodic maintenance to the emission control system for the XV535A/AC. Please read this manual carefully.

**TECHNICAL PUBLICATIONS**
**SERVICE DIVISION**
**MOTORCYCLE GROUP**
**YAMAHA MOTOR CO., LTD.**

# HOW TO USE THIS MANUAL

## PARTICULARLY IMPORTANT INFORMATION

This manual 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.

### MANUAL FORMAT

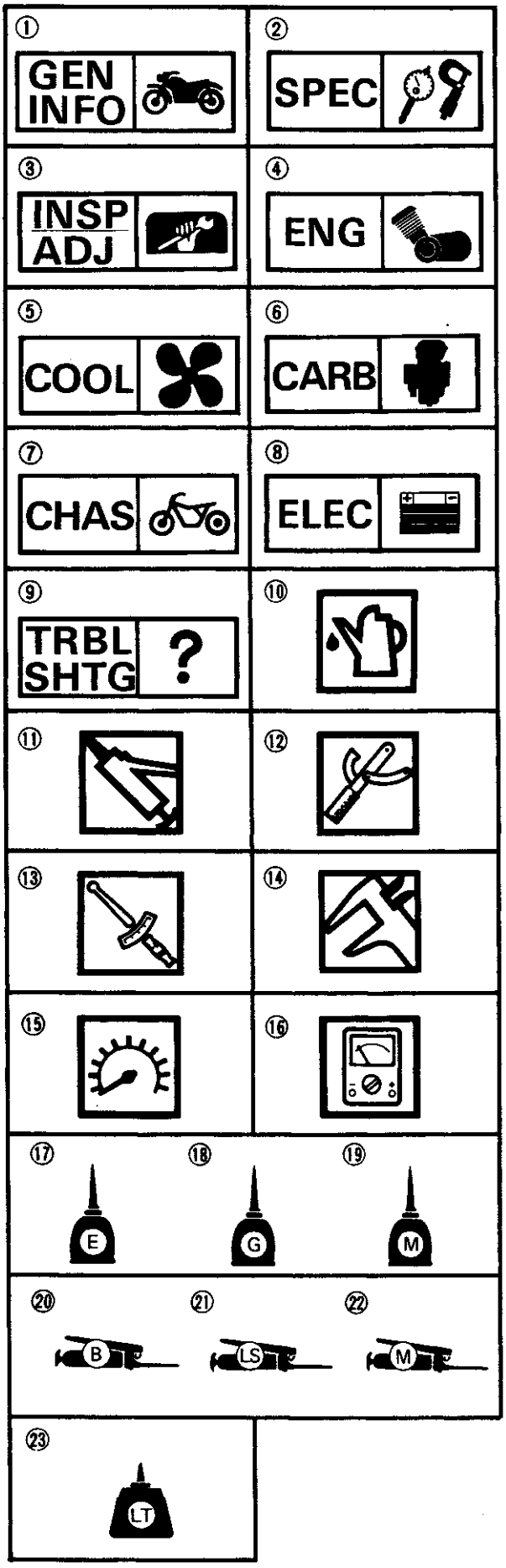
All of the procedures in this manual are organized in a sequential, step-by-step format. The information has been compiled to provide the mechanic with an easy to read, handy reference that contains comprehensive explanations of all disassembly, repair, assembly, and inspection operations.

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.




## 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 Carburetion
⑦ Chassis
⑧ Electrical
⑨ Troubleshooting

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

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 ㉓ 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® )

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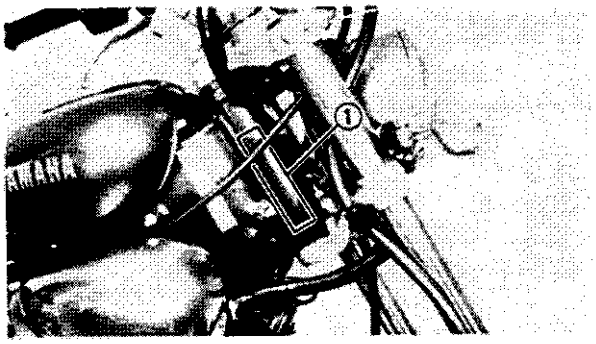
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**XV535A/XV535AC WIRING DIAGRAM**



# GENERAL INFORMATION

## MOTORCYCLE IDENTIFICATION

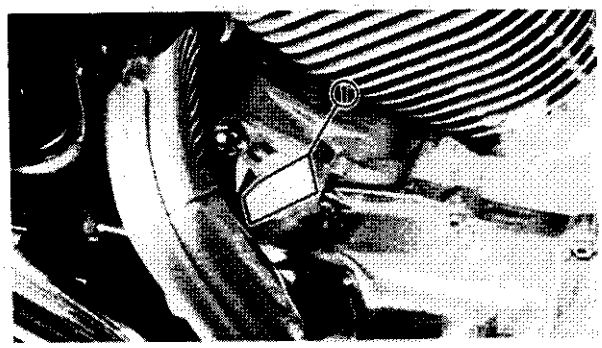
### VEHICLE IDENTIFICATION NUMBER

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

**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.

**Starting Serial Number:**
**XV535A . . . . .JYA3JCE0 * LA007101**
**XV535AC . . .JYA3JCC0 * LA002101**



### ENGINE SERIAL NUMBER

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

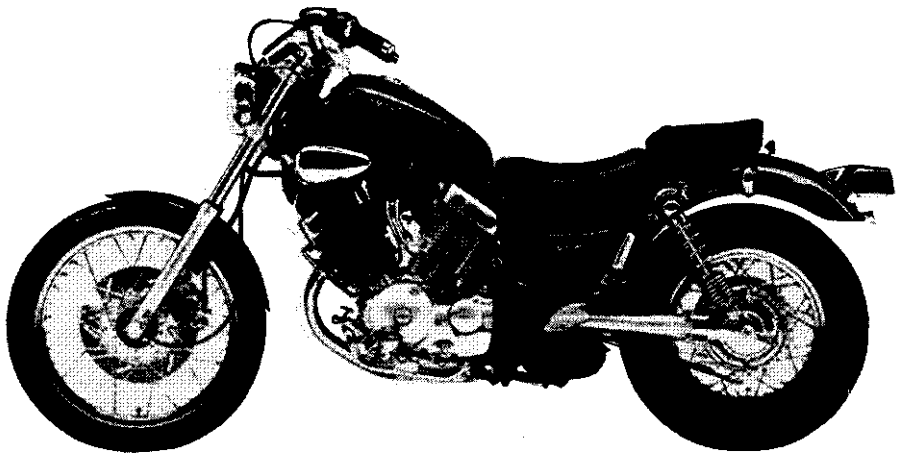
**NOTE:**

The first three digits of these numbers are for model identifications; the remaining digits are the unit production number.

**Starting Serial Number:**
**XV535A . . . . .3JC-007101**
**XV535AC . . .3JC-002101**

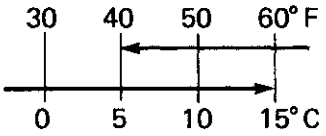
**NOTE:**

Designs and specifications are subject to change without notice.



# SPECIFICATIONS

## GENERAL SPECIFICATIONS

| Model | XV535A/XV535AC |
|---|---|
| Model Code Number<br>Engine Starting Number<br>Vehicle Identification Number | 3JC1/3JC2<br>3JC-002101<br>XV535A: JYA3JCE0 * LA007101<br>XV535AC: JYA3JCC0 * LA002101 |
| Dimensions:<br>Overall Length<br>Overall Width<br>Overall Height<br>Seat Height<br>Wheelbase<br>Minimum Ground Clearance | <br>2,225 mm (87.6 in)<br>810 mm (31.9 in)<br>1,110 mm (43.7 in)<br>720 mm (28.3 in)<br>1,520 mm (59.8 in)<br>160 mm ( 6.3 in) |
| Basic Weight:<br>Weight Oil and Full Fuel Tank | <br>XV535A: 195 kg (430 lb)<br>XV535AC: 196 kg (432 lb) |
| Oil Type or Grade:<br>Engine Oil<br><br><br>Final Gear Oil | <br>YAMALUBE 4 (20W40) or SAE 20W40 type SE motor oil<br>YAMALUBE 4 (10W30) or SAE 10W30 type SE motor oil<br>SAE 80 API "GL-4" Hypoid gear oil |
| Fuel:<br>Type<br>Tank Capacity:<br>Total<br>Reserve | <br>UNLEADED FUEL<br><br>13.5 L (3.0 Imp gal, 3.6 US gal)<br>2.5 L (0.5 Imp gal, 0.7 US gal) |
| Chassis:<br>Trail | <br>125 mm (4.9 in) |
| Tire:<br>Type<br>Size (F)<br><br>Size (R)<br><br>Wear Limit | <br>With tube<br>3.00S-19 4PR<br>BRIDGESTONE L303A/DUNLOP F14G<br>140/90-15M/C 70S<br>BRIDGESTONE G508/DUNLOP K425<br>0.8 mm (0.03 in) |
| Tire Pressure (Cold Tire):<br>Basic Weight:<br>With Oil and Full Fuel Tank<br>Maximum Load | <br><br>195 kg (430 lb): XV535A, 196 kg (432 lb): XV535AC<br>220 kg (485 lb): XV535A, 219 kg (483 lb): XV535AC |

Cold Tire Pressure:

| | FRONT | REAR |
|---|---|---|
| Up to 90 kg (198 lb) load | 200 kPa (2.0 kg/cm², 29 psi) | 225 kPa (2.25 kg/cm², 33 psi) |
| 90 kg (198 lb) ~ Maximum Load | 200 kPa (2.0 kg/cm², 29 psi) | 250 kPa (2.5 kg/cm², 36 psi) |
| High Speed Riding | 200 kPa (2.0 kg/cm², 29 psi) | 250 kPa (2.5 kg/cm², 36 psi) |

* Load is the total weight of cargo, rider, passenger, and accessories.

| Model | XV535A/XV535AC |
|---|---|
| Headlight Type: | Quartz Bulb (Halogen) |
| Bulb Wattage x Quantity: | |
| Headlight | 12V, 60W/55W x 1 |
| Tail/Brake Light | 12V, 8W/27W |
| Rear Flasher Light | 12V, 27W x 2 |
| Front Position Light/Front Flasher Light | 12V, 8W x 2 |
| Indicator Light: | |
| "NEUTRAL" | 12V, 3W x 1 |
| "HIGH BEAM" | 12V, 1.7W x 1 |
| "TURN" | 12V, 3W x 1 |
| Meter Light | 12V, 3W x 1 |

## MAINTENANCE SPECIFICATIONS

### ENGINE

| Model | | XV535A/XV535AC |
|---|---|---|
| Carburetor: | | |
| I.D. Mark | | 3JC10 For California: 3JC00 |
| Main Jet | (M.J.) | FRONT: #137.5 REAR: #135 |
| Main Air Jet | (M.A.J.) | #140 |
| Jet Needle | (J.N.) | FRONT: 5DZ17-1 REAR: 5DZ18-1 |
| 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.) | 2½ turns |
| Pilot Outlet | (P.O.) | φ0.95 |
| Bypass | (B.P. 1) | φ0.8 |
| | (B.P. 2) | φ0.8 |
| Valve Seat Size | (V.S.) | φ1.5 |
| Starter Jet | (G.S.) | G.S1: #40, G.S2: 0.7 |
| Fuel Level | | 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) |
| Vacuum Synchronous Difference | | Below 1.3 kPa (10 mmHg, 0.39 inHg) |
| Fuel Pump: | | |
| Type | | Electrical type |
| Consumption Amperage (Max.) | | 0.8A |
| Out-put Pressure | | 12.3 kPa (0.125 kg/cm², 1.78 psi) |

## TIGHTENING TORQUE

| Parts to be tightened | Part name | Thread size | Q'ty | Tightening torque | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | Nm | m·kg | ft·lb | |
| Cylinder Head | Nut | M10 x 1.25 | 8 | 35 | 3.5 | 25 | |
| | Flange nut | M8 x 1.25 | 2 | 20 | 2.0 | 14 | |
| | Bolt | M8 x 1.25 | 4 | 20 | 2.0 | 14 | |
| | Bolt | M16 x 1.5 | 4 | 38 | 3.8 | 27 | |
| Cylinder Head (exhaust pipe) | Stud bolt | M8 x 1.25 | 4 | 13 | 1.3 | 8.4 | |
| Cylinder Head (tappet cover) | Bolt | M6 x 1.0 | 8 | 10 | 1.0 | 7.2 | |
| Cylinder Head (side cover) | Bolt | M6 x 1.0 | 8 | 10 | 1.0 | 7.2 | |
| Cam Sprocket Cover | Bolt | M6 x 1.0 | 4 | 10 | 1.0 | 7.2 | |
| Rocker Arm Shaft Stopper | Bolt | M8 x 1.25 | 4 | 20 | 2.0 | 14 | Use lock washer |
| Spark Plug | — | M14 x 1.25 | 2 | 20 | 2.0 | 14 | |
| Cylinder | Bolt | M8 x 1.25 | 2 | 10 | 1.0 | 7.2 | |
| Connecting Rod | Nut | M8 x 0.75 | 4 | 36 | 3.6 | 25 | M |
| Flywheel | Bolt | M10 x 1.25 | 1 | 80 | 8.0 | 58 | |
| Valve Adjusting Locknut | Nut | M6 x 1.0 | 4 | 14 | 1.4 | 10 | |
| Cam Sprocket | Bolt | M10 x 1.25 | 2 | 55 | 5.5 | 40 | |
| Cam Chain Tensioner | Bolt | M6 x 1.0 | 4 | 12 | 1.2 | 8.7 | |
| Cam Chain Damper Stopper | Bolt | M6 x 1.0 | 4 | 10 | 1.0 | 7.2 | |
| Oil Pump | Bolt | M6 x 1.0 | 3 | 7 | 0.7 | 5.1 | |
| Oil Strainer Cover | Bolt | M6 x 1.0 | 3 | 10 | 1.0 | 7.2 | |
| Oil Filter Cover | Bolt | M6 x 1.0 | 3 | 10 | 1.0 | 7.2 | |
| Carburetor Joint | Bolt | M6 x 1.0 | 4 | 12 | 1.2 | 8.7 | |
| Air Filter Element | Screw | M6 x 1.0 | 1 | 7 | 0.7 | 5.1 | |
| Front Side Cover | Bolt | M6 x 1.0 | 2 | 10 | 1.0 | 7.2 | |
| Sidestand | Stud bolt | M10 x 1.25 | 1 | 20 | 2.0 | 14 | |
| Exhaust Pipe | Nut | M8 x 1.25 | 2 | 20 | 2.0 | 14 | |
| Exhaust Pipe (rear joint) | Bolt | M6 x 1.0 | 2 | 10 | 1.0 | 7.2 | |
| Crankcase | Stud bolt | M10 x 1.25 | 8 | 20 | 2.0 | 14 | |
| | Stud bolt | M8 x 1.25 | 2 | 13 | 1.3 | 9.4 | |
| | Bolt | M8 x 1.25 | 2 | 24 | 2.4 | 17 | |
| | Bolt | M6 x 1.0 | 9 | 10 | 1.0 | 7.2 | |
| Bearing Stopper (drive axle) | Screw | M8 x 1.25 | 4 | 25 | 2.5 | 18 | Stake |
| Crankcase Cover (left) | Bolt | M6 x 1.0 | 10 | 10 | 1.0 | 7.2 | |
| Crankcase Cover (right) | Bolt | M6 x 1.0 | 11 | 10 | 1.0 | 7.2 | |
| Starter Clutch | Bolt | M8 x 1.25 | 3 | 20 | 2.0 | 14 | Stake |
| Primary Drive Gear | Nut | M16 x 1.0 | 1 | 70 | 7.0 | 50 | Use lock washer |
| Clutch Pressure Plate | Screw | M6 x 1.0 | 5 | 8 | 0.8 | 5.8 | |
| Clutch Adjuster Locknut | Nut | M6 x 1.0 | 1 | 8 | 0.8 | 5.8 | |
| Clutch Boss | Nut | M20 x 1.0 | 1 | 70 | 7.0 | 50 | Use lock washer |
| Clutch Push Lever | Screw | M8 x 1.0 | 1 | 12 | 1.2 | 8.7 | |
| Middle Drive Gear | Nut | M20 x 1.0 | 1 | 120 | 12.0 | 85 | Stake |
| Universal Joint | Nut | M14 x 1.5 | 1 | 90 | 9.0 | 65 | |
| Bearing Housing (middle driven shaft) | Bolt | M8 x 1.25 | 4 | 25 | 2.5 | 18 | |
| Cam Shaft Segment | Screw | M5 x 0.8 | 1 | 4 | 0.4 | 2.9 | |
| Change Pedal | Bolt | M6 x 1.0 | 1 | 10 | 1.0 | 7.2 | |
| Bearing Housing (ring gear) | Bolt | M10 x 1.25 | 2 | 23 | 2.3 | 17 | |
| | Bolt | M8 x 1.25 | 6 | 23 | 2.3 | 17 | |
| Shift Lever | Screw | M8 x 1.25 | 1 | 22 | 2.2 | 16 | Use lock washer |
| Muffler Chamber | Bolt | M8 x 1.25 | 1 | 20 | 2.0 | 14 | |
| | Nut | M8 x 1.25 | 1 | 20 | 2.0 | 14 | |
| Engine Stay | Nut | M10 x 1.25 | 8 | 55 | 5.5 | 40 | |
| Stator | Screw | M6 x 1.0 | 3 | 7 | 0.7 | 5.1 | |
| Pickup Coil | Screw | M6 x 1.0 | 3 | 7 | 0.7 | 5.1 | |

## CHASSIS

| Model | | XV535A/XV535AC |
|---|---|---|
| Front Suspension: | | |
| Front Fork Travel | | 150 mm (5.91 in) |
| Fork Spring Free Length | | 546.6 mm (21.5 in) |
| < Limit > | | < 541.6 mm (21.3 in) > |
| Spring Rate: | K1 | 3.43 N/mm (0.35 kg/mm, 19.6 lb/in) |
| | K2 | 5.20 N/mm (0.53 kg/mm, 29.7 lb/in) |
| Stroke: | K1 | 0 ~ 65 mm (0 ~ 2.56 in) |
| | K2 | 65 ~ 150 mm (2.56 ~ 5.91 in) |
| Optional Spring | | No. |
| Oil Capacity | | 228 $cm^3$ (8.03 Imp oz, 7.71 US oz) |
| Oil Level | | 176 mm (6.93 in)<br>From top of fully compressed inner tube without fork spring |
| Oil Grade | | Yamaha fork oil 10wt or equivalent |
| Rear Suspension: | | |
| Shock Absorber Travel | | 70 mm (2.76 in) |
| Spring Free Length | | 237.5 mm (9.35 in) |
| < Limit > | | < 232.5 mm (9.15 in) > |
| Fitting Length | | 229 mm (9.01 in) |
| Spring Rate: | K1 | 13.7 N/mm (1.4 kg/mm, 78.4 lb/in) |
| | K2 | 24.5 N/mm (2.5 kg/mm, 140 lb/in) |
| Stroke: | K1 | 0 ~ 34.5 mm (0 ~ 1.36 in) |
| | K2 | 34.5 ~ 70.0 mm (1.36 ~ 2.76 in) |
| Optional Spring | | No. |
| Enclosed Gas Pressure (Standard) | | 490 kPa (5.0 $kg/cm^2$, 71 psi) |
| < Min. ~ Max. > | | < 490 ~ 686 kPa (5.0 ~ 7.0 $kg/cm^2$, 71 ~ 100 psi) > |
| Rear Wheel: | | |
| Type | | Spoke wheel |
| Rim Size | | MT3.00 x 15 M/C |
| Rim Material | | Steel |
| Rim Runout Limit: | Vertical | < 2 mm (0.08 in) > |
| | Lateral | < 2 mm (0.08 in) > |
| Brake Lever and Brake Pedal: | | |
| Brake Lever Free Play | | 5 ~ 8 mm (0.20 ~ 0.32 in) |
| Brake Pedal Position | | 38 mm (1.50 in) |
| Brake Pedal Free Play | | 20 ~ 30 mm (0.8 ~ 1.2 in) |

TIGHTENING TORQUE:

| Part to be tightened | Thread size | Tightening torque | | | Remarks |
|---|---|---|---|---|---|
| | | Nm | m·kg | ft·lb | |
| Front Wheel Axle | M14 x 1.5 | 58 | 5.8 | 42 | |
| Front Axle Pinch Bolt | M8 x 1.25 | 20 | 2.0 | 14 | |
| Under Bracket and Inner Tube | M12 x 1.25 | 38 | 3.8 | 27 | |
| Front Fender and Front Fork | M8 x 1.25 | 10 | 1.0 | 7.2 | |
| Front Brake Caliper and Front Fork | M10 x 1.25 | 35 | 3.5 | 25 | |
| Under Bracket and Clamp | M6 x 1.0 | 7 | 0.7 | 5.1 | |
| Headlight Stay and Under Bracket | M6 x 1.0 | 7 | 0.7 | 5.1 | |
| Headlight Stay and Headlight (lower) | M8 x 1.25 | 16 | 1.6 | 11 | |
| Handle Crown and Inner Tube | M8 x 1.25 | 20 | 2.0 | 14 | |
| Handle Crown and Steering Shaft | M14 x 1.25 | 54 | 5.4 | 39 | |
| Steering Shaft and Ring Nut | M25 x 1.0 | 20 | 2.0 | 14 | See NOTE |
| Handle Crown and Handlebar Holder (lower) | M8 x 1.25 | 20 | 2.0 | 14 | |
| Handlebar and Handlebar Holder (upper) | M8 x 1.25 | 20 | 2.0 | 14 | |
| Speedometer and Handle Crown | M6 x 1.0 | 7 | 0.7 | 5.1 | |
| Headlight (upper) and Meter Stay | M6 x 1.0 | 7 | 0.7 | 5.1 | |
| Headlight Stay and Flasher Light Stay | M12 x 1.25 | 20 | 2.0 | 14 | |
| Front Brake Disc and Hub | M8 x 1.25 | 20 | 2.0 | 14 | Use lock washer 9 |
| Front Brake Hose and Caliper | M10 x 1.25 | 26 | 2.6 | 19 | |
| Front Brake Bleed Screw | M8 x 1.25 | 6 | 0.6 | 4.3 | |
| Master Cylinder and Brake Hose | M10 x 1.25 | 26 | 2.6 | 19 | |
| Master Cylinder and Bracket | M6 x 1.0 | 9 | 0.9 | 6.5 | |
| Horn and Frame | M6 x 1.0 | 7 | 0.7 | 5.1 | |
| Cylinder Stud Bolt and Engine Stay (front) | M10 x 1.25 | 55 | 5.5 | 40 | |
| Engine Stay (front) and Ignition Coil Stay | M6 x 1.0 | 7 | 0.7 | 5.1 | |
| Ignition Coil and Coil Stay | M6 x 1.0 | 7 | 0.7 | 5.1 | |
| Engine Stay (front) and Frame | M10 x 1.25 | 55 | 5.5 | 40 | |
| Top Cover and Frame | M6 x 1.0 | 7 | 0.7 | 5.1 | |
| Engine Stay (rear) and Frame | M10 x 1.25 | 55 | 5.5 | 40 | |
| Engine Mounting (rear-top) and Frame | M10 x 1.25 | 55 | 5.5 | 40 | |
| Engine Mounting (rear-bottom) and Frame | M12 x 1.25 | 70 | 7.0 | 50 | |
| Main Switch and Frame | M8 x 1.25 | 20 | 2.0 | 14 | |
| Rear-Under-Side Cover (top) and Frame | M6 x 1.0 | 7 | 0.7 | 5.1 | |
| Rear-Under-Side Cover (bottom) and Frame | M12 x 1.25 | 20 | 2.0 | 14 | |
| Engine and Footrest Bar (front) | M10 x 1.25 | 55 | 5.5 | 40 | |
| Engine and Footrest Bar (rear) | M10 x 1.25 | 55 | 5.5 | 40 | |
| Footrest and Footreat Bar | M10 x 1.25 | 45 | 4.5 | 32 | |
| Brake Pedal Adjuster Locknut | M6 x 1.0 | 7 | 0.7 | 5.1 | |
| Sidestand | M10 x 1.25 | 26 | 2.6 | 19 | |
| Rear Footrest and Frame | M10 x 1.25 | 45 | 4.5 | 32 | |
| Pivot Shaft and Swingarm | M16 x 1.5 | 75 | 7.5 | 54 | |
| Tank Bracket and Frame | M6 x 1.0 | 7 | 0.7 | 5.1 | |
| Pump Bracket and Fuel Tank | M6 x 1.0 | 4 | 0.4 | 2.9 | |
| Fuel Tank (rear-top) and Frame | M6 x 1.0 | 9 | 0.9 | 6.5 | |
| Battery Box and Frame | M6 x 1.0 | 7 | 0.7 | 5.1 | |
| Rear Stay and Frame | M8 x 1.25 | 20 | 2.0 | 14 | |
| Rear Shock Absorber Cover and Frame | M8 x 1.25 | 9 | 0.9 | 6.5 | |
| Seatlock and Seat | M6 x 1.0 | 7 | 0.7 | 5.1 | |
| Seat and Frame | M6 x 1.0 | 7 | 0.7 | 5.1 | |

| Part to be tightened | Thread size | Tightening torque | | | Remarks |
|---|---|---|---|---|---|
| | | Nm | m · kg | ft · lb | |
| Rear Shock Absorber and Frame | M8 x 1.25 | 20 | 2.0 | 14 | |
| Rear Shock Absorber and Swingarm | M10 x 1.25 | 30 | 3.0 | 22 | |
| Rear Shock Absorber and Shaft Drive Housing | M10 x 1.25 | 30 | 3.0 | 22 | |
| Swingarm and Shaft Drive Housing | M10 x 1.25 | 42 | 4.2 | 30 | |
| Rear Wheel Axle | M14 x 1.5 | 107 | 10.7 | 77.1 | |
| Rear Wheel Pinch Bolt | M8 x 1.25 | 16 | 1.6 | 11 | |
| Rear Wheel Hub and Clutch Hub | M10 x 1.25 | 62 | 6.2 | 45 | |
| Rear Fender (front) and Frame | M6 x 1.0 | 7 | 0.7 | 5.1 | |
| Rear Fender (rear) and Frame | M8 x 1.25 | 16 | 1.6 | 11 | |
| Rear Fender and Flasher Light Stay | M12 x 1.25 | 20 | 2.0 | 14 | |
| Rear Fender and Taillight | M6 x 1.0 | 7 | 0.7 | 5.1 | |
| Rear Fender and Licence Bracket | M6 x 1.0 | 7 | 0.7 | 5.1 | |
| Tension Bar and Swingarm | M8 x 1.25 | 20 | 2.0 | 14 | |
| Tension Bar and Brake Shoe Plate | M8 x 1.25 | 20 | 2.0 | 14 | |
| Drain Plug (final gear) | M14 x 1.5 | 23 | 2.3 | 17 | |
| Filler Plug (final gear) | M14 x 1.5 | 23 | 2.3 | 17 | |

**NOTE:**

1. First, tighten the ring nut approximately 38 Nm (3.8 m · kg, 27 ft · lb) by using the torque wrench, then loosen the ring nut one turn.
2. Retighten the ring nut 10 Nm (1.0 m · kg, 7.2 ft · lb).

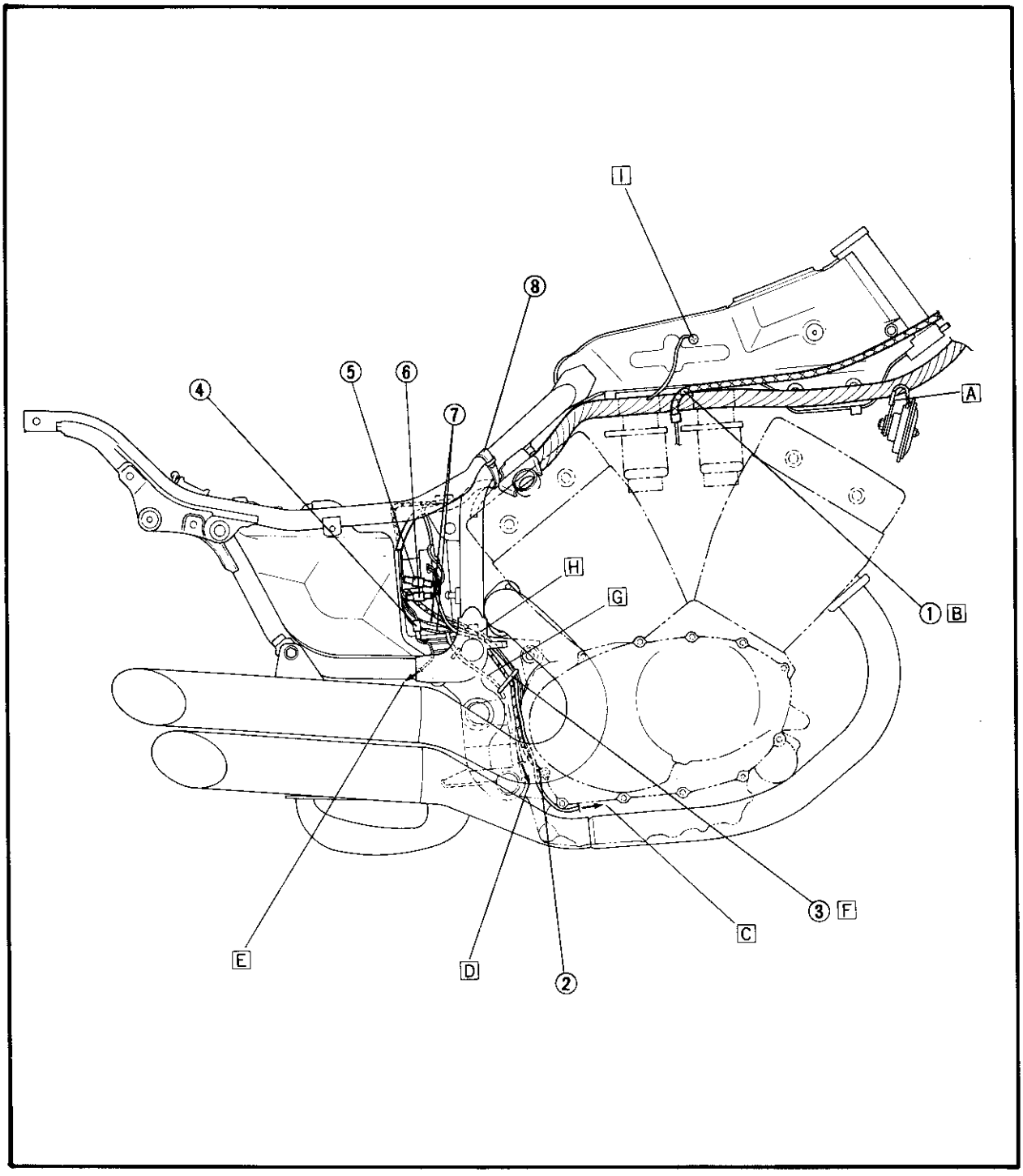
## ELECTRICAL

| Model | XV535A/XV535AC |
|---|---|
| Rectifier: | |
| Model/Manufacturer | SH569/SHINDENGEN |
| Capacity | 25A |
| Withstand Voltage | 240V |
| Flasher Relay: | |
| Type | Semi transister type |
| Model/Manufacturer | FX257N/NIPPONDENSO |
| Self Cancelling Device | Yes. |
| Flasher Frequency | 75 ~ 95 cycle/min |
| Wattage | 27W x 2 + 3W |
| Fuel Pump Relay: | |
| Mode/Manufacturer | G8D-02Y/TATEISHI |

## CABLE ROUTING

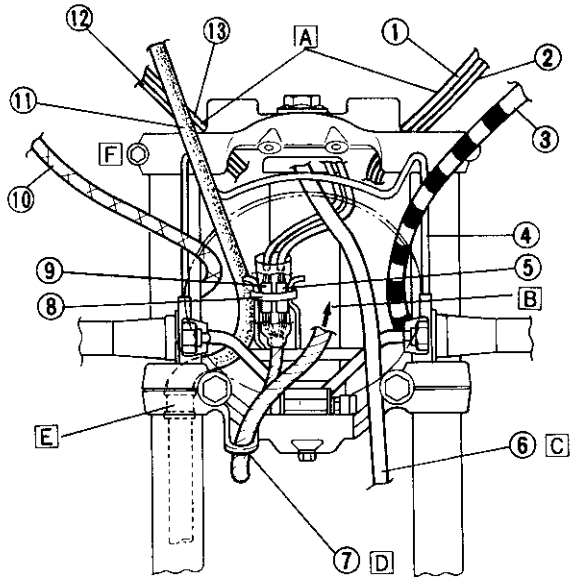
① Throttle cable
② Ground negative lead
③ Clamp
④ Fuel cock lead
⑤ Battery positive lead
⑥ Starter relay lead
⑦ Rear brake switch lead
⑧ Band

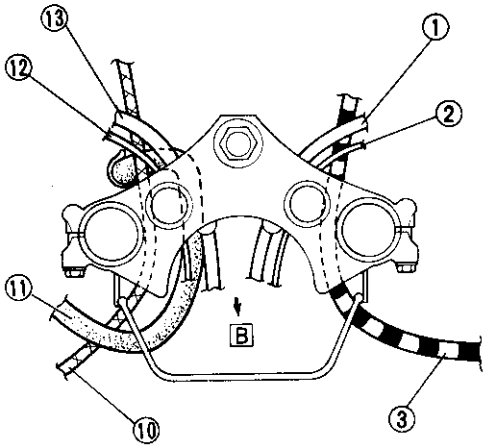
[A] Clamp the wireharness.
[B] Pass the throttle cable outside of the wireharness.
[C] To starter motor.
[D] To rear brake light switch.
[E] To fuel cock.
[F] Clamp the leads to prevent them from contacting the exhaust pipe.
[G] Pass the battery breather hose between cross tubes.
[H] Pass the leads upper the cross tubes and clamp the leads.
[I] Fasten the ground lead on the frame.



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

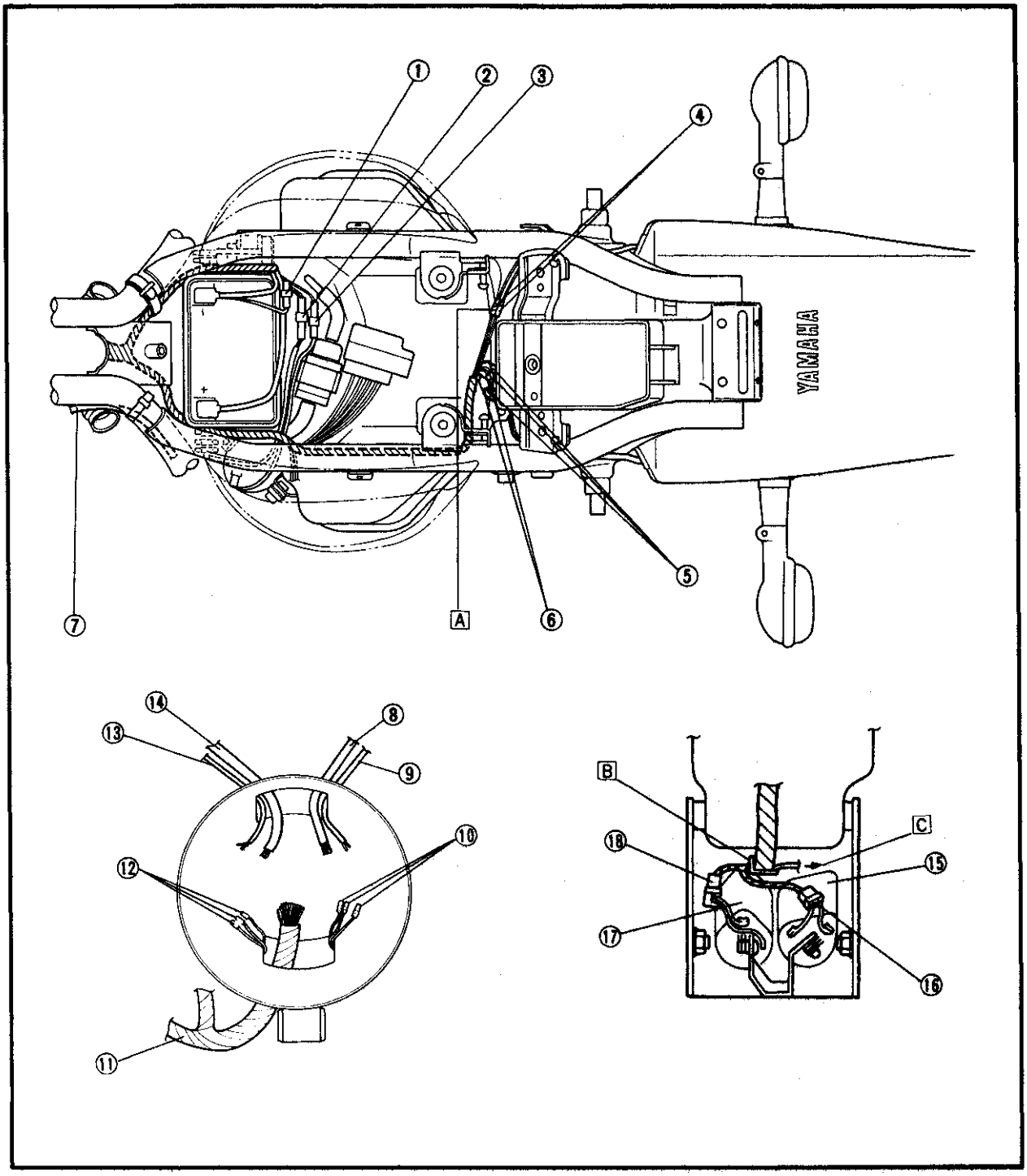
[A] Pass the leads behind the handlebar crown.
[B] To headlight.
[C] Pass the speedometer cable in front of the under bracket.
[D] Pass through the wireharness guide.
[E] Clamp the brake hose behind the underbracket.
[F] Pass the brake hose behind the headlight body and in front of the headlight ground.



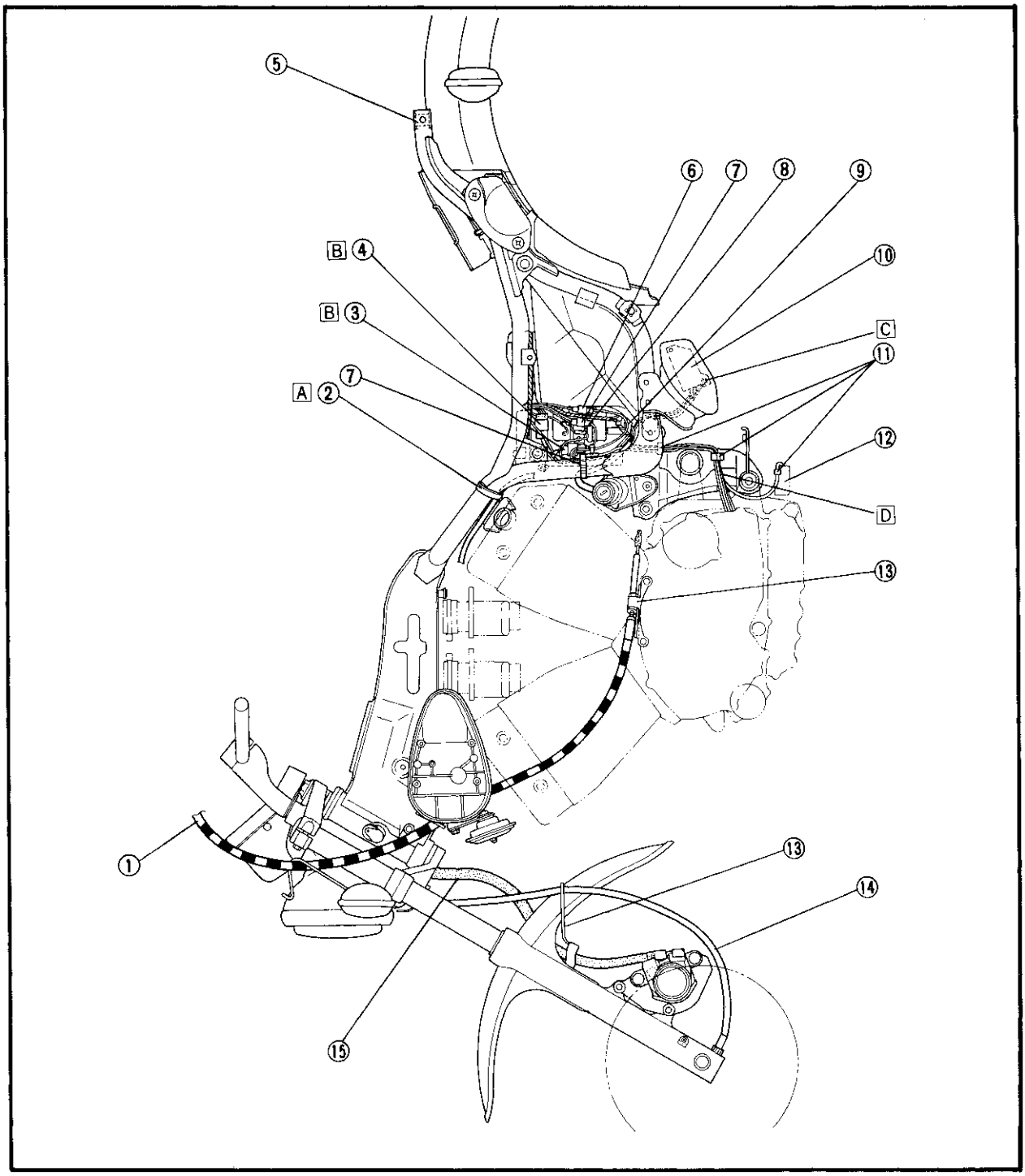
① Battery negative lead
② Sidestand switch lead
③ Fuel pump lead
④ Rear flasher light lead (right)
⑤ Tail/brake light lead
⑥ Rear flasher light lead (left)
⑦ Fuel hose
⑧ Handlebar switch lead (left)
⑨ Clutch cable
⑩ Front flasher light lead (left)
⑪ Wireharness
⑫ Front flasher light lead (right)
⑬ Front brake light switch lead
⑭ Handlebar switch lead (right)
⑮ Ignition coil (rear cylinder)
⑯ Ignition coil lead (yellow coupler)
⑰ Ignition coil (front cylinder)
⑱ Ignition 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.



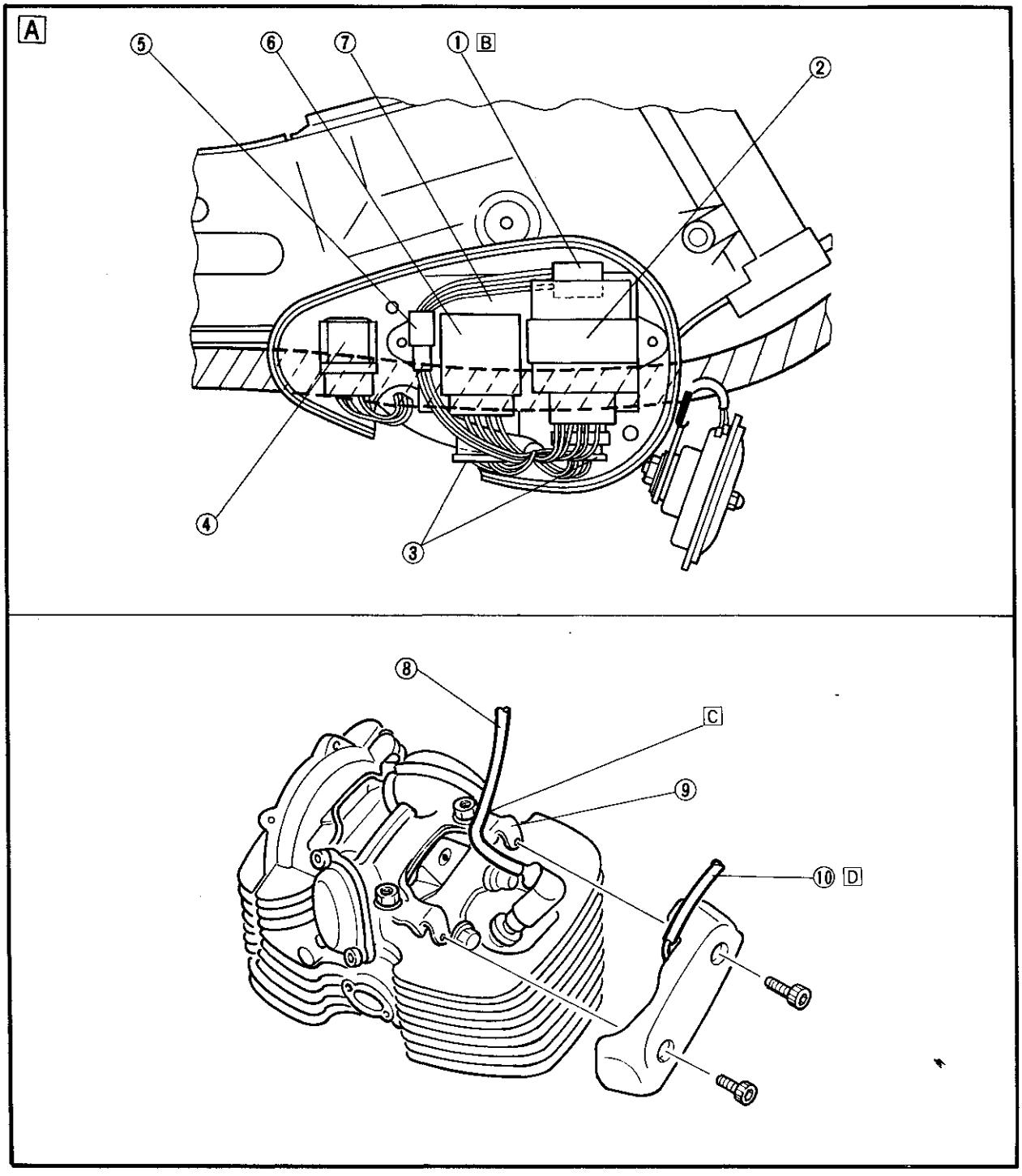
① Clutch cable
② Band
③ A.C. magneto leads
④ Pick up coil leads
⑤ Cap
⑥ Rectifier negative lead
⑦ Rectifier positive lead
⑧ Neutral switch lead
⑨ Main switch lead
⑩ Rectifier with regulator
⑪ Clamp
⑫ Sidestand switch
⑬ Cable holder
⑭ Speedometer cable
⑮ Brake hose

[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.

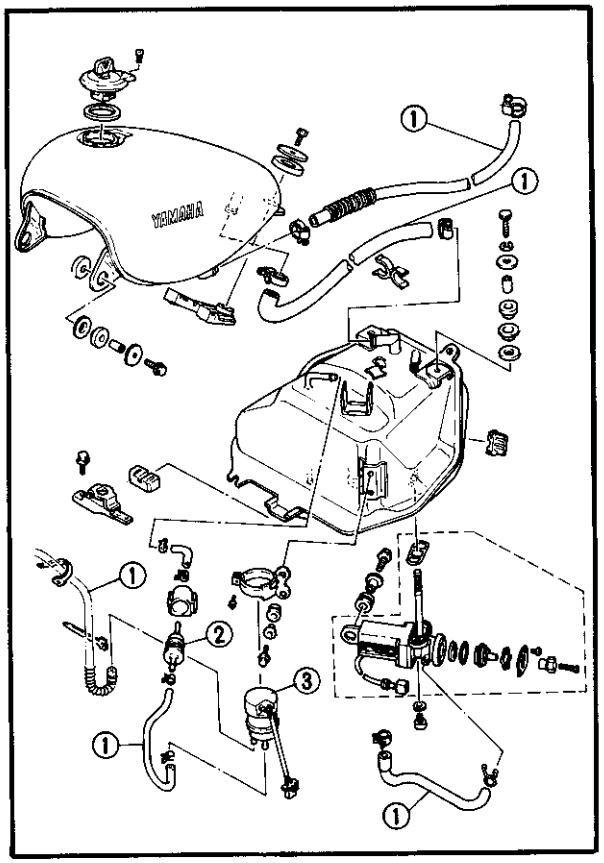


① Diode
② Flasher relay
③ Ignitor leads
④ Sidestand relay
⑤ Diode leads
⑥ Fuel pump control unit
⑦ Ignitor unit
⑧ Spark plug lead (front cylinder)
⑨ Bracket
⑩ Spark plug lead (rear cylinder)

[A] FRONT SIDE COVER BRACKET (right)
[B] Put into the diode between the flahser 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)



# PERIODIC INSPECTIONS AND ADJUSTMENT




## ENGINE

### FUEL LINE INSPECTION

1. Inspect:
   - Fuel hoses ①
     Cracks/Damage → Replace.
     Clogs → Clean.
2. Inspect:
   - Fuel filter ②
     Dirty/Damage → Replace.

**NOTE:**

- Drain and flush fuel tank if abrasive damage to any components is evident.
- Arrow mark on the fuel filter should face toward the fuel pump ③ side.

## CHASSIS

### TIRE INSPECTION

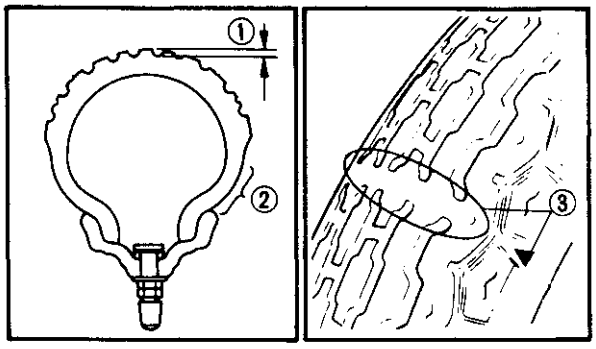
1. Measure:
   - Tire pressure
     Out of specification → Adjust.

| | | |
|---|---|---|
| Basic weight:<br>With oil and full fuel tank | 195 kg (430 lb): XV535A<br>196 kg (432 lb): XV535AC | |
| Maximum load* | 220 kg (485 lb): XV535A<br>219 kg (483 lb): XV535AC | |
| Cold tire pressure | Front | Rear |
| Up to 90 kg (198 lb) load* | 200 kPa (2.0 kg/cm², 29 psi) | 225 kPa (2.25 kg/cm², 33 psi) |
| 90 kg (198 lb) ~ Maximum load* | 200 kPa (2.0 kg/cm², 29 psi) | 250 kPa (2.5 kg/cm², 36 psi) |
| High speed riding | 200 kPa (2.0 kg/cm², 29 psi) | 250 kPa (2.5 kg/cm², 36 psi) |

* Load is the total weight of cargo, rider, passenger, and accessories.

**⚠ WARNING**

- Tire inflation pressure should be checked and adjusted when the temperature of the tire equals the ambient air temperature.
  Tire inflation pressure must be adjusted according to total weight of cargo, rider, passenger, and accessories (fairing, saddlebags, etc. if approved for this model), and vehicle speed.
- Proper loading of your motorcycle is important for the handling, braking, and other performance and safety characteristics of your motorcyle. Do not carry loosely packed items that can shift. Securely pack your heaviest items close to the center of the motorcycle, and destribute the weight evenly from side to side. Properly adjust the suspension for your load, and check the condition and pressure of your tires. NEVER OVERLOAD YOUR MOTORCYCLE. Make sure the total weight of the cargo, rider, passenger, and accessories (fairing, saddlebags, etc. if approved for this model) does not exceed the maximum load of the motorcycle. Operation of an overloaded motorcycle could cause tire damage, an accident, or even injury.



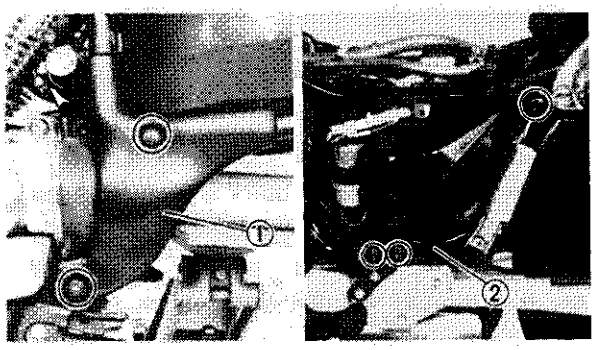

2. Inspect:
   - Tire surfaces
     Wear/Damage → Replace.

**Minimum tire tread depth:**
**(front and rear)**
**0.8 mm (0.03 in)**

① Tread depth
② Side wall
③ Wear indicator

**⚠ WARNING**

- It is dangerous to ride with a wornout tire. When a tire tread begins to show lines, replace the tire immediately.
- Patching a punctured tube is not recommended. If it is absolutely necessary to do so, use great care and replace the tube as soon as possible with a good quality replacement.

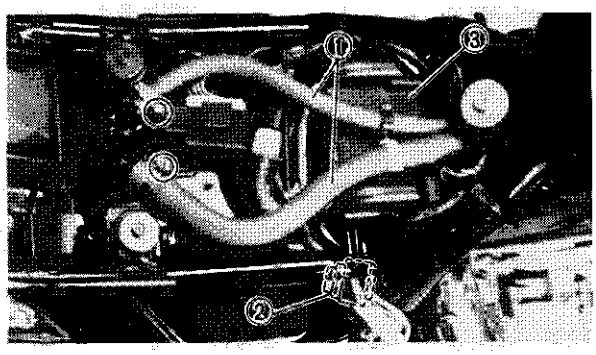


# CARBURETION

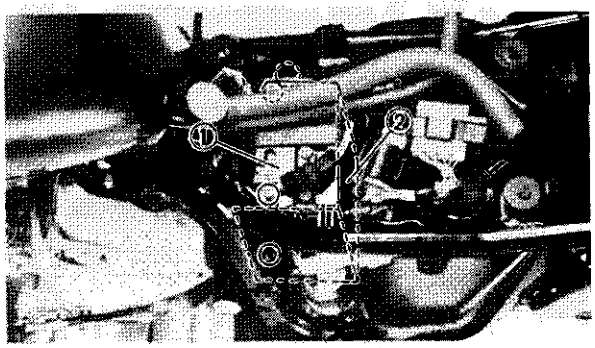
## FUEL COCK

### REMOVAL

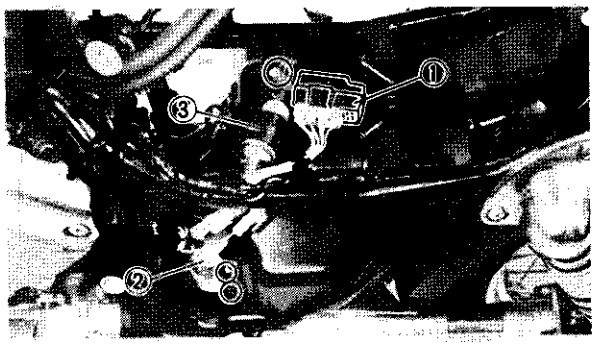
1. Remove:
   - Seats
   - Side covers (left and right)
   - Rear-under-side cover ①
   - Rear stay ②



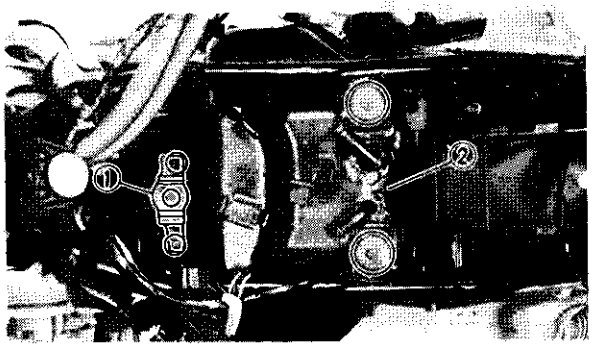
2. Remove:
   - Fuel hoses ①
   - Starter relay ②
   - Battery cover ③



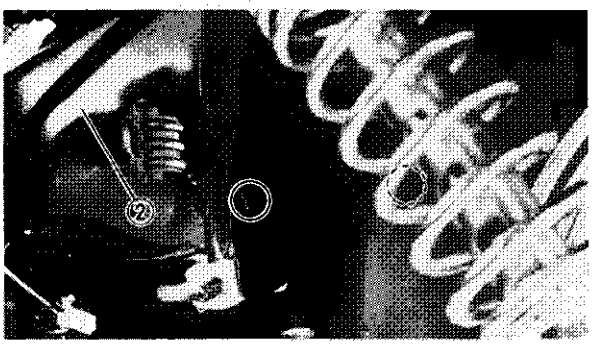
3. Disconnect:
   - Leads
4. Remove:
   - Battery band
   - Battery ①
   - Battery box ②

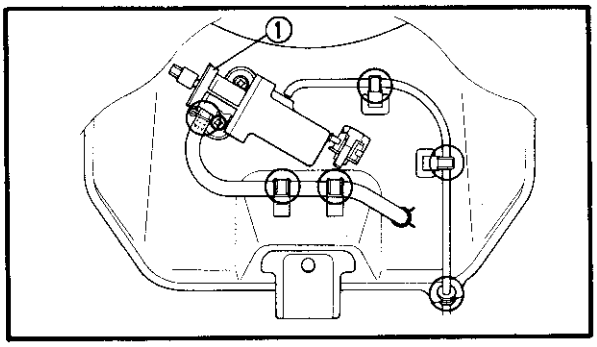


5. Remove:
   - Fuse box ①
   - Fuel pump ②
   - Fuel filter ③



6. Remove:
   - Fuel tank bracket ①
   - Fuel tank ②

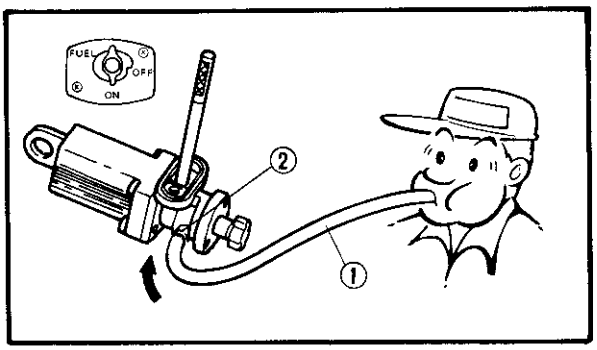


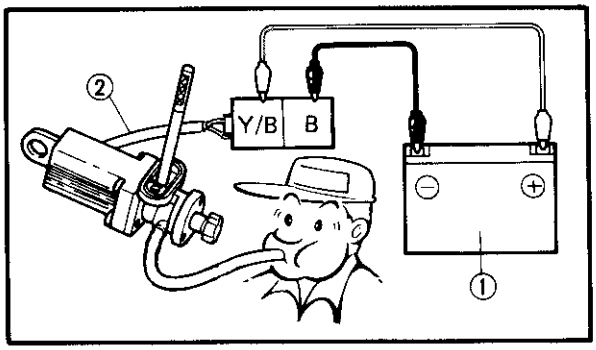




7. Remove:
   - Fuel cock ①
     (with solenoid valve)

## INSPECTION

1. Inspect:
   - Fuel cock
   - Solenoid valve
     Cracks/Damage → Replace.
2. Inspect:
   - Fuel hose
     Cracks/Damage → Replace.
3. Inspect:
   - Fuel cock operation
     Faulty → Replace.




**Inspection steps:**

**1st step:**

- Connect a suitable hose ① to the fuel nozzle ② .
- With the fuel cock lever on, blow through the hose to check the fuel cock.
  The air does not go through → Replace the fuel cock.
  The air goes through → The operation is correct.

**2nd step:**

- Connect the battery (12V) ① to the solenoid valve unit leads (B-Y/B) ② .
- Blow through the hose to check the solenoid valve.
  The air goes through → Replace the fuel cock assembly.
  The air does not go through → The operation is correct.

## INSTALLATION

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

1. Install:
   - Fuel tank
   - Starter relay
   - Battery
   - Rear stay
   - Seat



**Fuel tank:**
**9 Nm (0.9 m · kg, 6.5 ft · lb)**
**Starter relay (relay bracket):**
**4 Nm (0.4 m · kg, 2.9 ft · lb)**
**Battery (box):**
**7 Nm (0.7 m · kg, 5.1 ft · lb)**
**Rear stay:**
**20 Nm (2.0 m · kg, 14 ft · lb)**
**Seat:**
**7 Nm (0.7 m · kg, 5.1 ft · lb)**

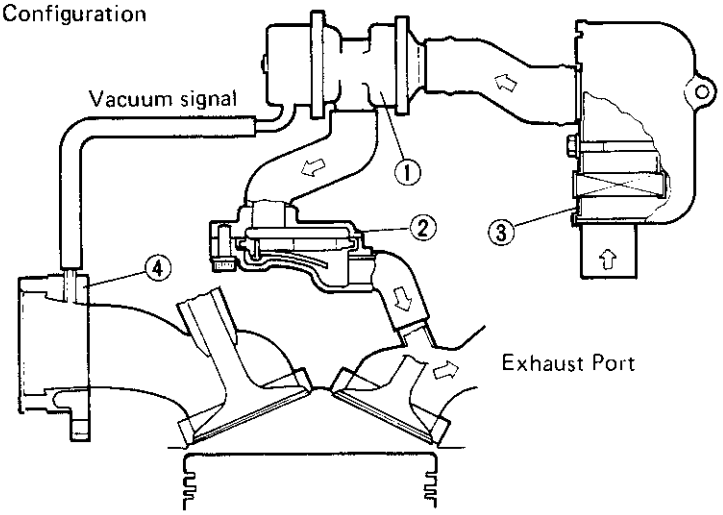
# AIR INJECTION

## AIR INJECTION (AIR INDUCTION SYSTEM)

It is re-burning of un-burned exhaust gas by mixing fresh air (secondary air) at the exhaust port to reduce hydrocarbon.

When the pressure around the exhaust port becomes negative, the reed valve is opened and the secondary air flows into the exhaust port. Required temperature for re-burning of un-burned exhaust gas is approximately 600° to 700° C.

Air Injection System Configuration

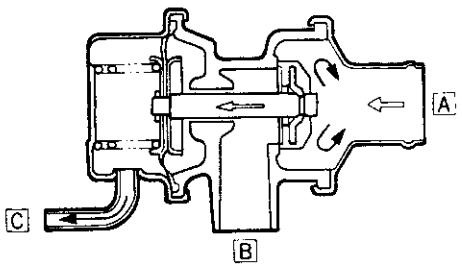



① Air cut valve
② Reed valve
③ Air cleaner
④ Carburetor joint

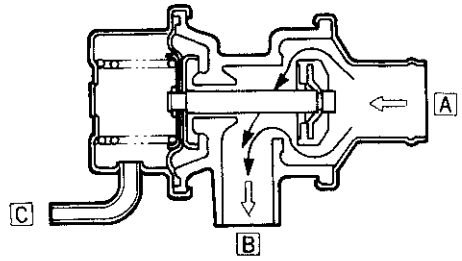
## AIR CUT VALVE

Air cut valve is operated by intake gas pressure through the diaphram. Normally, this valve is opened in order to allow fresh air to flow into the exhaust port. When the throttle is closed rapidly, negative pressure is generated and this valve is closed in order to prevent after-burning.

Air Cut Valve




VIEW 1. (NO FLOW)




VIEW 2. (FLOW)

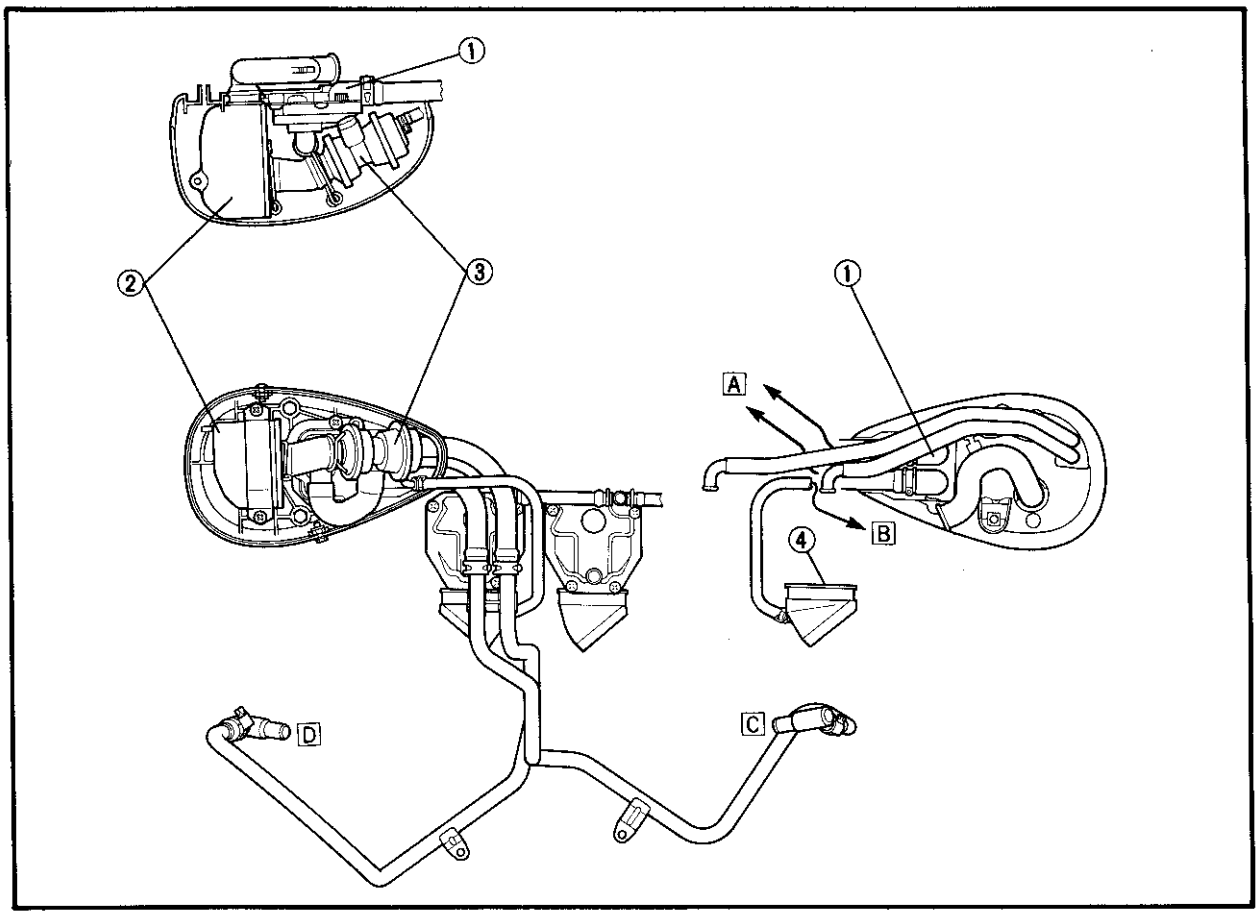
VIEW 1. (NO FLOW)
Valve will be closed at the time of decelaration by closing throttle.

VIEW 2. (FLOW)
Valve is opened during normal operation.

[A] From air cleaner
[B] To reed valve
[C] To carburetor joint

① Reed valve
② Air cleaner
③ Air cut valve
④ No. 2 cylinder (Carburetor joint)

[A] To cylinders
[B] To air cut valve
[C] To No. 1 cylinder
[D] To No. 2 cylinder

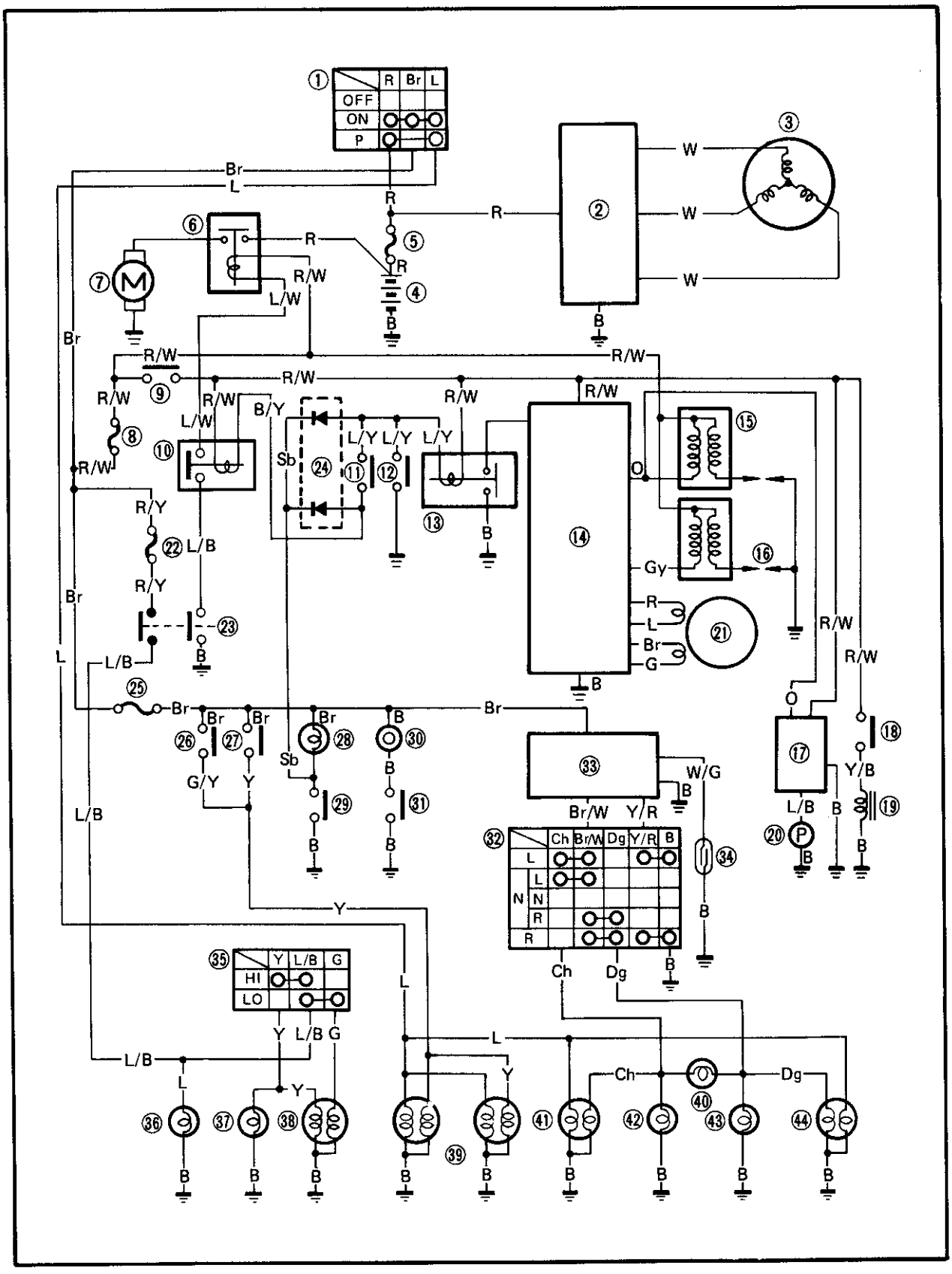



## AIR INDUCTION SYSTEM INSPECTION

1. Inspect:
   - Hose connection
     Poor connection → Correct.
   - Hoses
   - Reed valves
   - Air cut valve
   - Air filter
     Cracks/Damage → Replace.
     Clogs → Clean.

# ELECTRICAL

## XV535A/XV535AC CIRCUIT DIAGRAM



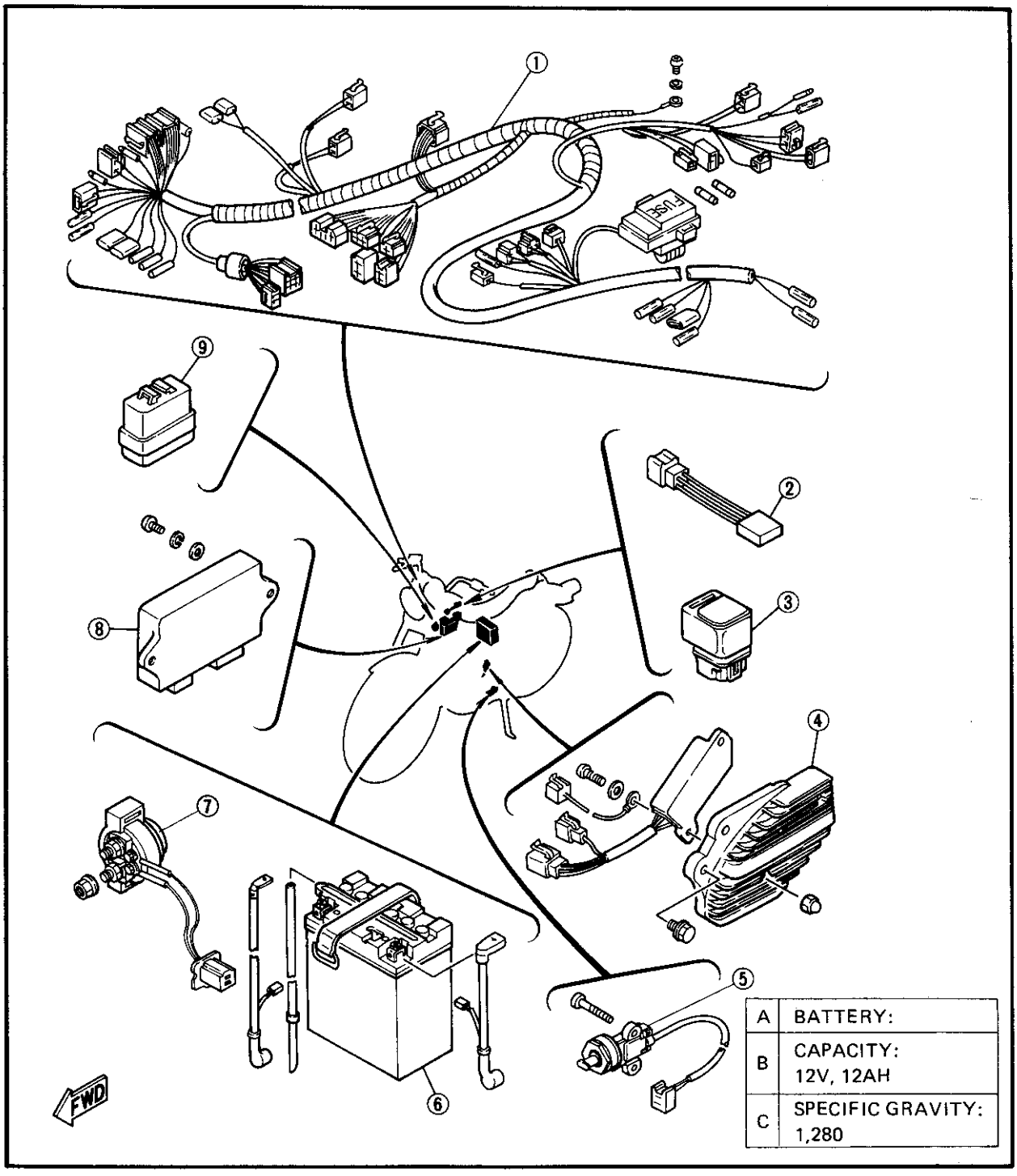
① Main switch
② Rectifier/regulator
③ A.C. magneto
④ Battery
⑤ Fuse "MAIN"
⑥ Starter relay
⑦ Starter motor
⑧ Fuse "IGNITION"
⑨ "START" switch
⑩ Starting circuit cut-off relay
⑪ Clutch switch
⑫ Sidestand switch
⑬ Sidestand relay
⑭ Ignitor unit
⑮ Ignition coil
⑯ Spark plug
⑰ Fuel pump relay
⑱ "FUEL" (reserve) switch
⑲ Solenoid valve
⑳ Fuel pump
㉑ Pick up coil
㉒ Fuse "HEAD"
㉓ "ENGINE STOP" switch
㉔ Diode
㉕ Fuse "SIGNAL"
㉖ Front brake switch
㉗ Rear brake switch
㉘ "NEUTRAL" indicator light
㉙ Neutral switch
㉚ Horn
㉛ "HORN" switch
㉜ "TURN" switch
㉝ Flasher relay
㉞ Reed switch
㉟ "LIGHTS" (dimmer) switch
㊱ Meter light
㊲ "HIGH BEAM" indicator light
㊳ Headlight
㊴ Tail/brake light
㊵ "TURN" indicator light
㊶ Front position light/
Front flasher light (left)
㊷ Rear flasher light (left)
㊸ Rear flasher light (right)
㊹ Front position light/
Front flasher light (right)

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

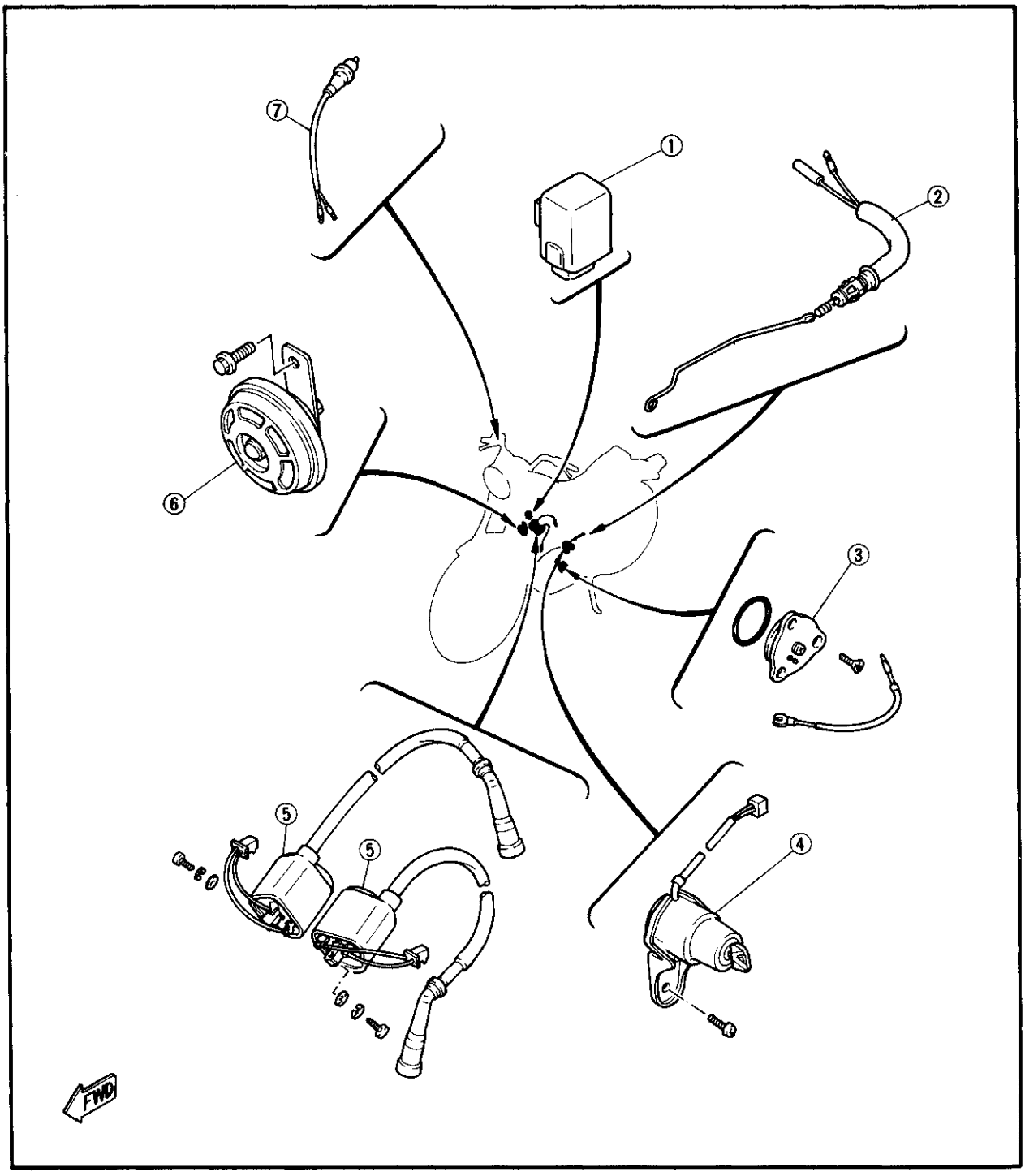
## ELECTRICAL COMPONENTS

① Wireharness
② Diode
③ Sidestand relay
④ Rectifier/regulator
⑤ Sidestand switch
⑥ Battery
⑦ Starter relay
⑧ Ignitor unit
⑨ Flasher relay



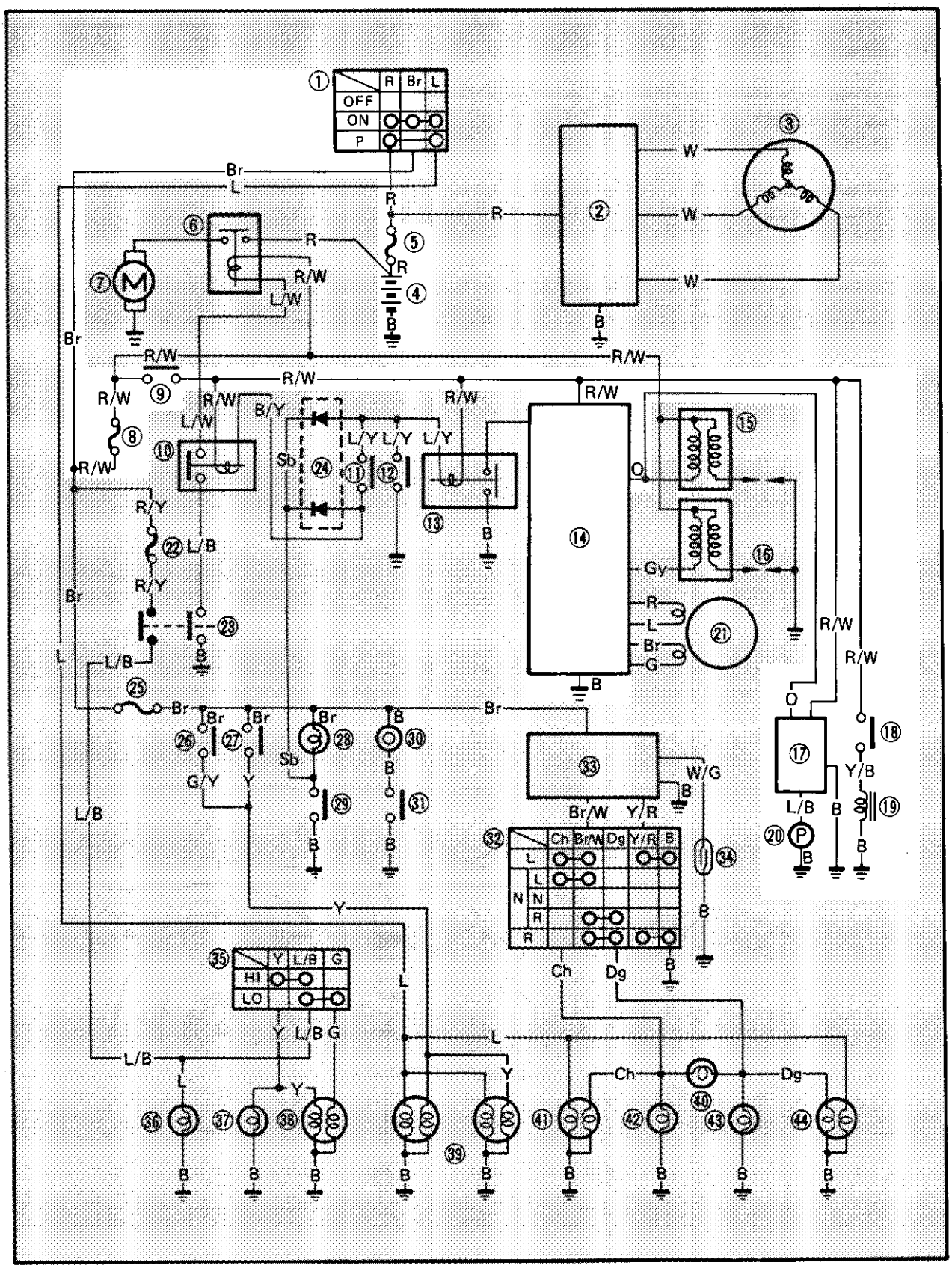
① Fuel pump
② Rear brake switch
③ Neutral switch
④ Main switch
⑤ Ignition coil
⑥ Horn
⑦ Front brake switch

| SPECIFICATIONS | RESISTANCE |
|---|---|
| IGNITION COIL: | |
| PRIMARY | 3.8 ~ 4.6Ω |
| SECONDARY | 10.6 ~ 15.8kΩ |
| PICKUP COIL | 140 ~ 170Ω |
| CHARGING COIL | 0.34 ~ 0.42Ω |



# FUEL SYSTEM

## CIRCUIT DIAGRAM

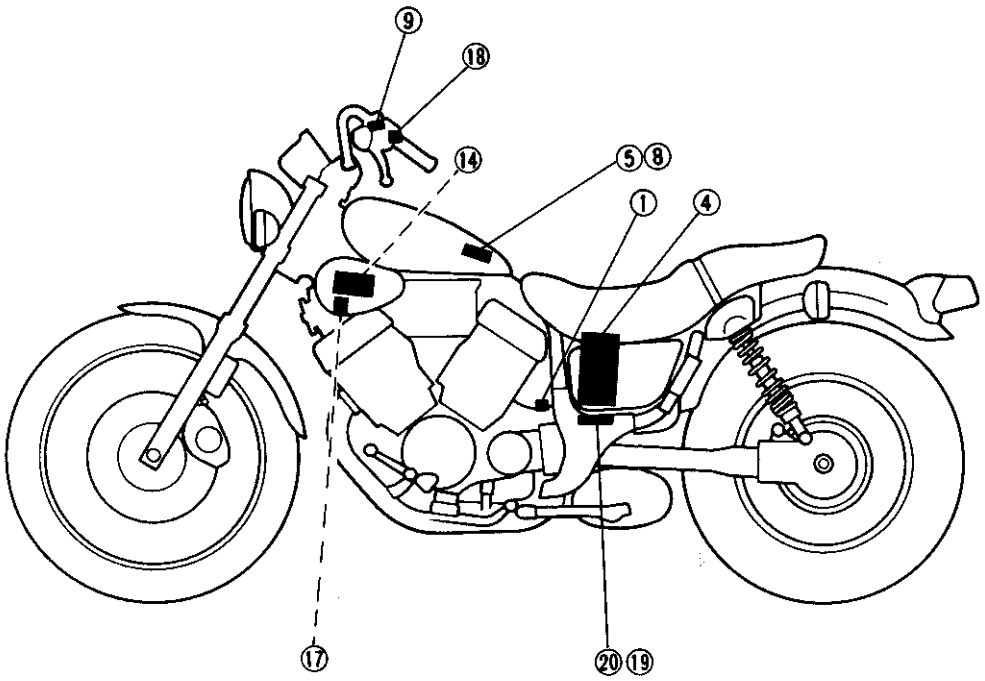


Aforementioned circuit diagram shows fuel circuit in circuit diagram.

NOTE:

For the color codes, see page 22.

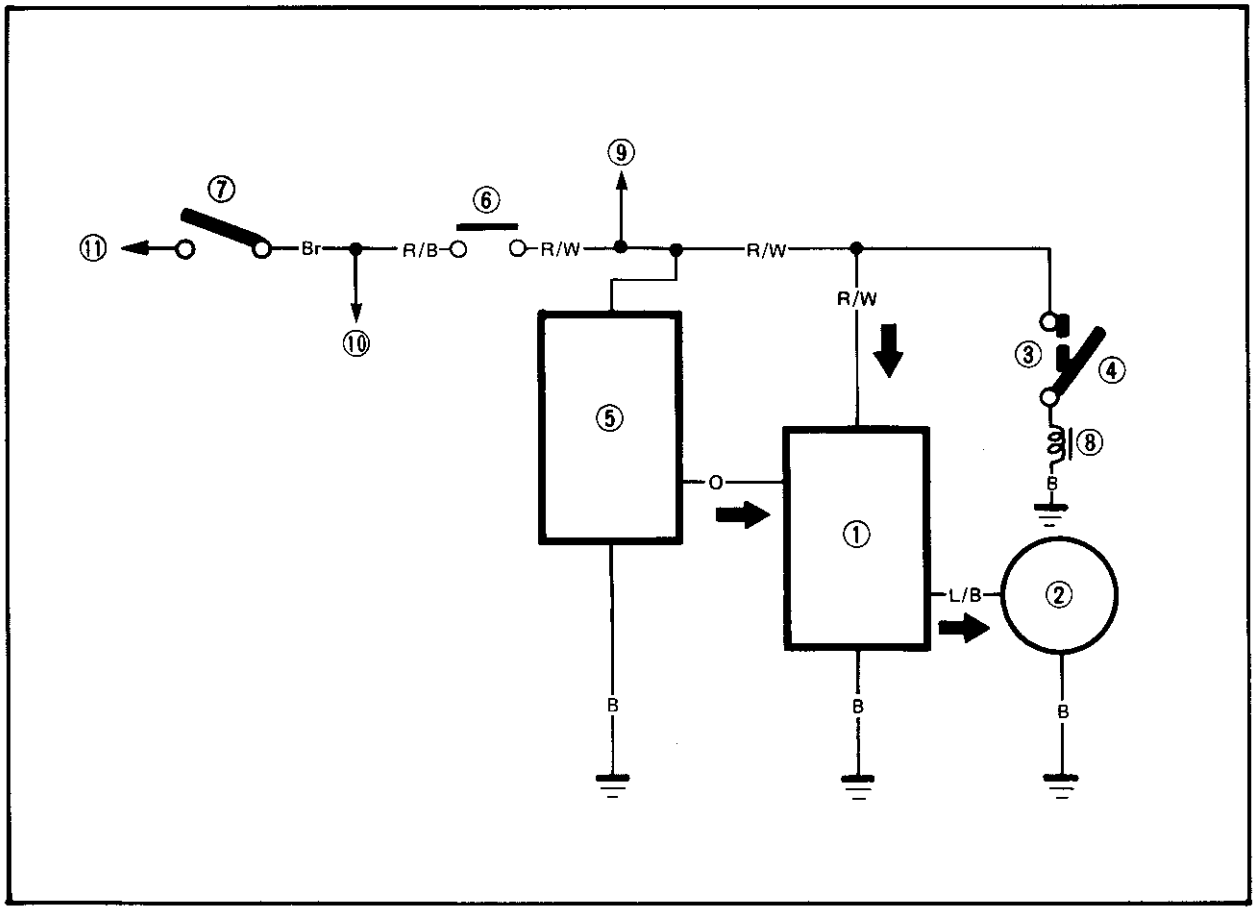
① Main switch
④ Battery
⑤ Fuse "MAIN"
⑧ Fuse "IGNITION"
⑨ "START" switch
⑭ Ignitor unit
⑰ Fuel pump relay
⑱ "FUEL" (reserve) switch
⑲ Solenoid valve
⑳ Fuel pump



## FUEL PUMP CIRCUIT OPERATION

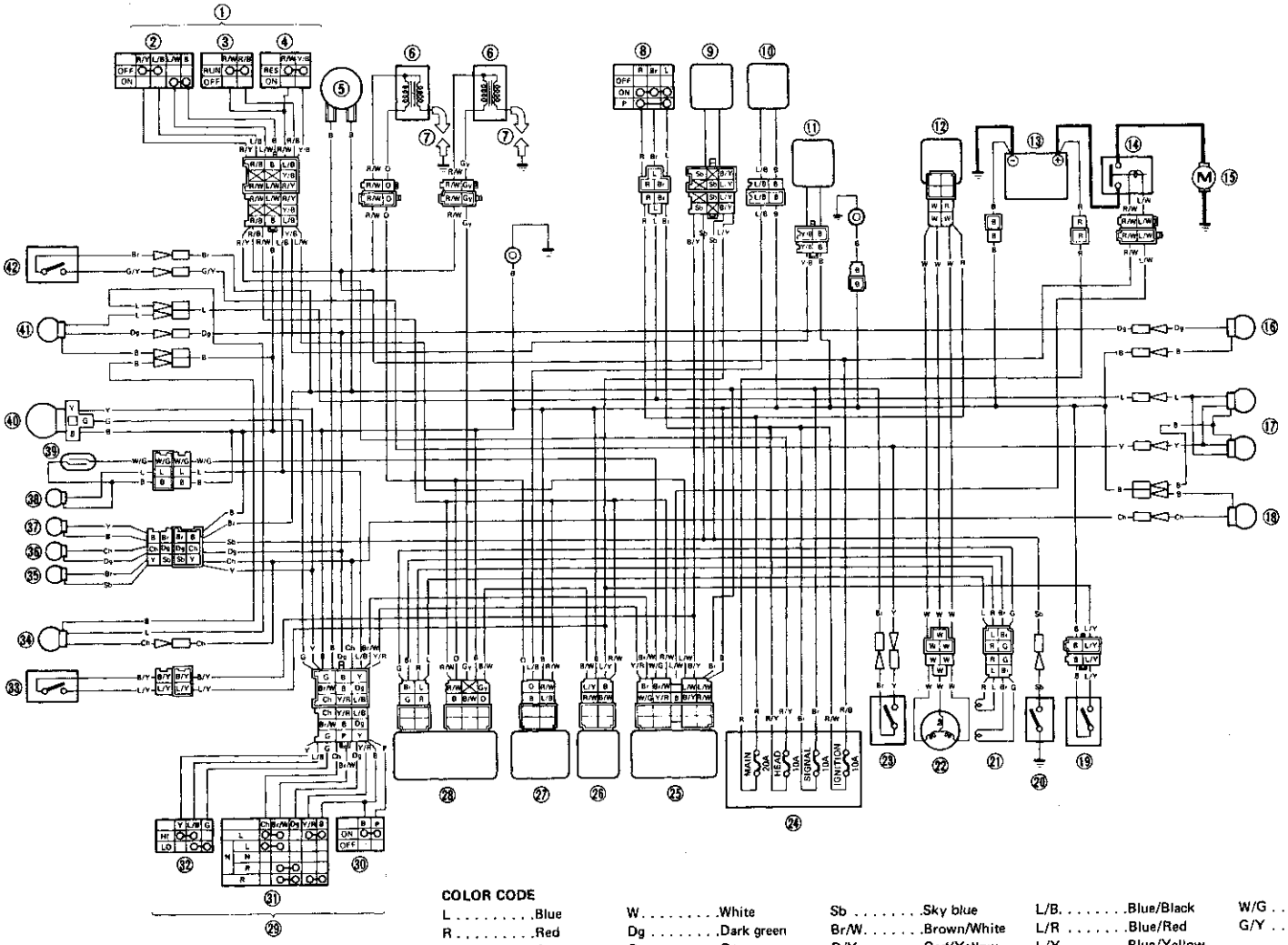
The fuel pump circuit consists of the fuel pump relay, and fuel pump.
The fuel pump starts and stops as indicated in the chart below.

① Fuel pump relay
② Fuel pump
③ Fuel reserve switch in "RES" position
④ Fuel reserve switch in "ON" position
⑤ Ignitor unit
⑥ "ENGINE STOP" switch
⑦ Main switch
⑧ Solenoid valve
⑨ To starting circuit cut-off relay
⑩ To fuse "SIGNAL"
⑪ To main fuse and battery




| FUEL PUMP | |
|---|---|
| START | |
| •Main/Engine stop switch turned to "ON" | • Engine turned on |
| For about 5 seconds when carburetor fuel level is low | After about 0.1 second |

# XV535A/XV535AC WIRING DIAGRAM



① Handlebar switch (right)
② "START" switch
③ "ENGINE STOP" switch
④ "FUEL" (reserve) switch
⑤ Horn
⑥ Ignition coil
⑦ Spark plug
⑧ Main switch
⑨ Diode
⑩ Fuel pump
⑪ Solenoid valve
⑫ Rectifier/Regulator
⑬ Battery
⑭ Starter relay
⑮ Starter motor
⑯ Rear flasher light (right)
⑰ Tail/brake light
⑱ Rear flasher light (left)
⑲ Sidestand switch
⑳ Neutral switch
㉑ Pick up coil
㉒ A.C. magneto
㉓ Rear brake switch
㉔ Fuse box
㉕ Flasher relay
㉖ Sidestand relay
㉗ Fuel pump
㉘ Ignitor unit
㉙ Handlebar switch (left)
㉚ "HORN" switch
㉛ "TURN" switch
㉜ "LIGHTS" (dimmer) switch
㉝ Clutch switch
㉞ Front position light/
Front flasher light (left)
㉟ "NEUTRAL" indicator light
㊱ "TURN" indicator light
㊲ "HIGH BEAM" indicator light
㊳ Meter illumination
㊴ Reed switch
㊵ Headlight
㊶ Front position light/
Front flasher light (right)
㊷ Front brake switch

**COLOR CODE**

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

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