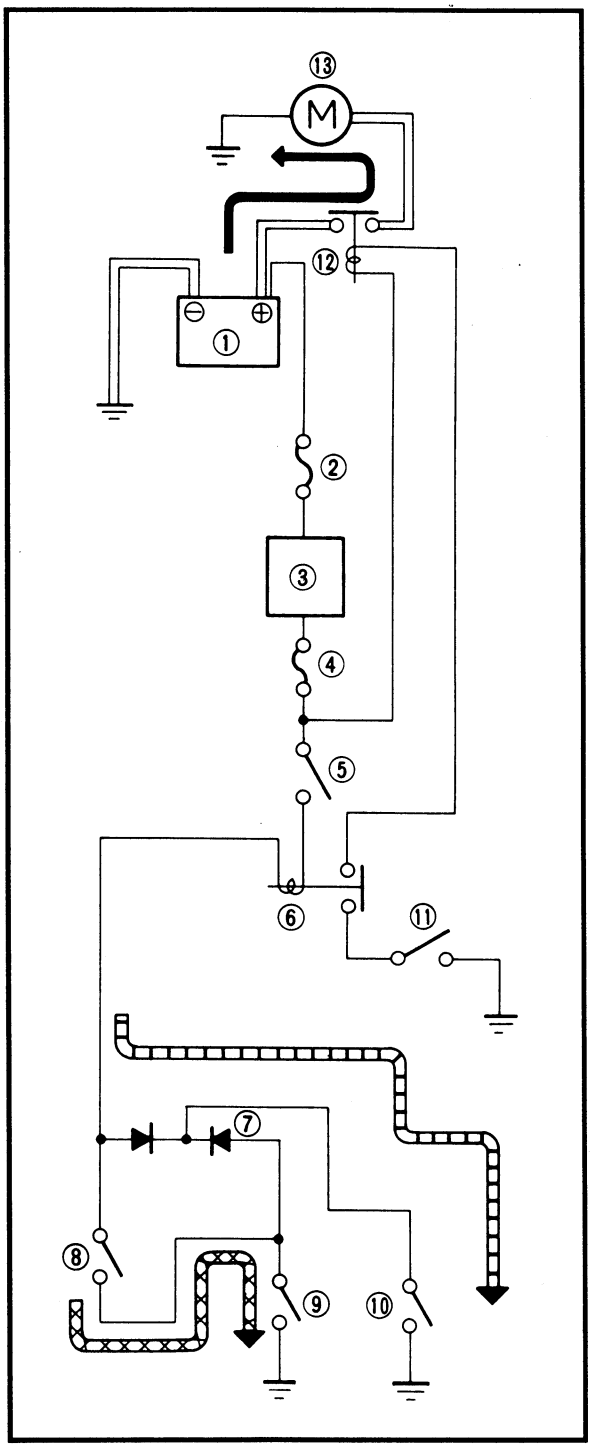


STARTING CIRCUIT OPERATION

The starting circuit on this model consists of the starter motor, starter relay, and the starting circuit cut-off relay. If the engine stop switch and the main switch are both closed, the starter motor can operate only if:

The transmission is in neutral (the neutral switch is closed).

or if

The clutch lever is pulled to the handlebar (the clutch switch is closed) and the sidestand is up (the sidestand switch is closed).

The starting circuit cut-off relay prevents the starter from operating when neither of these conditions have been met. In this instance, the starting circuit cut-off relay is open so current cannot reach the starter motor.

When at least one of the above conditions have been met however, the starting circuit cut-off relay is closed, and the engine can be started by pressing the start switch.

WHEN THE TRANSMISSION IS IN NEUTRAL

WHEN THE SIDESTAND IS UP AND THE CLUTCH LEVER IS PULLED IN

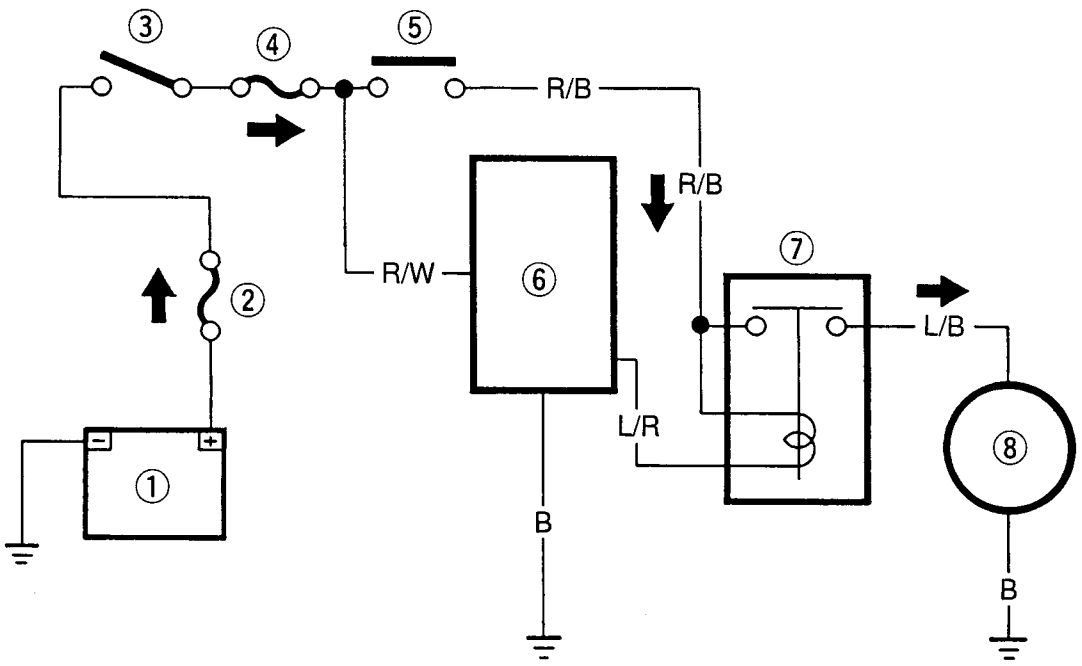
① Battery
② Fuse (main)
③ Main switch
④ Fuse (ignition)
⑤ Engine stop switch
⑥ Starting circuit cut-off relay
⑦ Diode
⑧ Clutch switch
⑨ Sidestand switch
⑩ Neutral switch
⑪ Start switch
⑫ Starter relay
⑬ Starter motor

EB808010

FUEL PUMP CIRCUIT OPERATION

The fuel pump circuit consists of the fuel pump relay, fuel pump, engine stop switch and ignitor unit.
The ignitor unit includes the control unit for the fuel pump.

① Battery
② Main fuse
③ Main switch
④ Ignition fuse
⑤ Engine stop switch
⑥ Ignitor unit
⑦ Fuel pump relay
⑧ Fuel pump

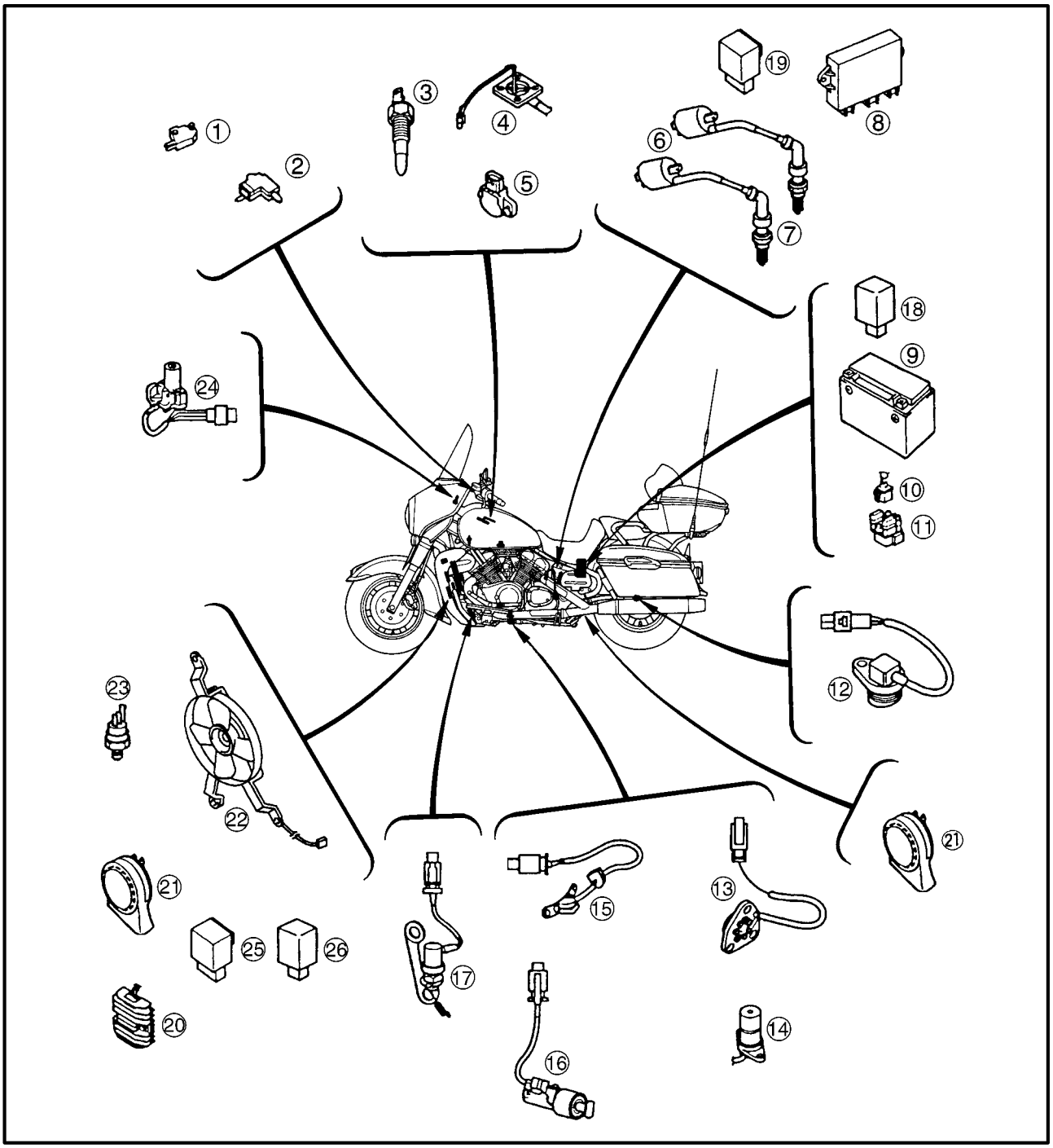


EAS00729

ELECTRICAL

ELECTRICAL COMPONENTS

① Front brake switch
② Clutch switch
③ Thermo unit
④ Fuel sender
⑤ TPS (throttle position sensor)
⑥ Ignition coil
⑦ Spark plug
⑧ Ignitor unit
⑨ Battery
⑩ Fuse (main)
⑪ Starter relay
⑫ Speed sensor
⑬ Neutral switch
⑭ Oil level switch
⑮ Pickup coil
⑯ Sidestand switch
⑰ Rear brake switch
⑱ Flasher relay
⑲ Starting circuit cut-off relay
⑳ Rectifier/regulator
㉑ Horn ~ 2
㉒ Fan motor
㉓ Thermo switch
㉔ Main switch
㉕ Brake light relay (blue)
㉖ Cruise control relay (white)



ELECTRICAL

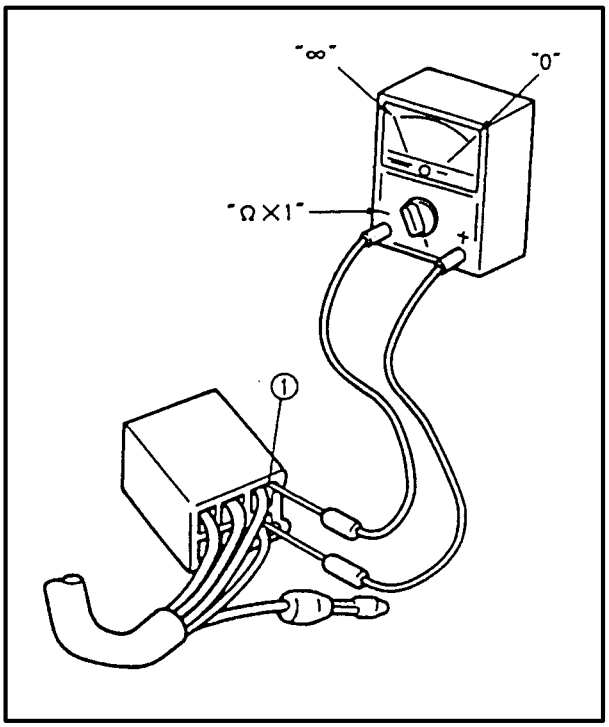
Item	Standard	Limit
Voltage:	12 V	•••
Ignition system:		
Ignition timing (B.T.D.C.)	5 at 1,000 r/min	•••
Advanced timing (B.T.D.C.)	45 at 5,000 r/min	•••
T.C.I.:		
Pickup coil resistance/color	189 ~ 231 Ω at 20 C (68 F)/Gray/Black	•••
T.C.I. unit model/manufacturer	J4T104/MITSUBISHI	•••
Ignition coil:		
Model/manufacturer	F6T541/MITSUBISHI	•••
Minimum spark gap	6 mm (0.24 in)	•••
Primary winding resistance	3.57 ~ 4.83 Ω at 20 C (68 F)	•••
Secondary winding resistance	10.71 ~ 14.49 kΩ at 20 C (68 F)	•••
Spark plug cap:		
Type	Resin type	•••
Resistance	10 kΩ	•••
Charging system:		
Type	A.C. magneto generator	•••
Model/manufacturer	F4T655/MITSUBISHI	•••
Nominal output	14 V 30 A at 5,000 r/min	•••
Stator coil resistance/color	0.279 ~ 0.341 Ω at 20 C (68 F)/White – White	•••
Rectifier/regulator:		
Type	Semi-conductor, short-circuit type	•••
Model/manufacturer	SH678-11/SHINDENGEN	•••
No load regulated voltage	14.1 ~ 14.9	•••
Capacity	30 A	•••
Withstand voltage	200 V	•••

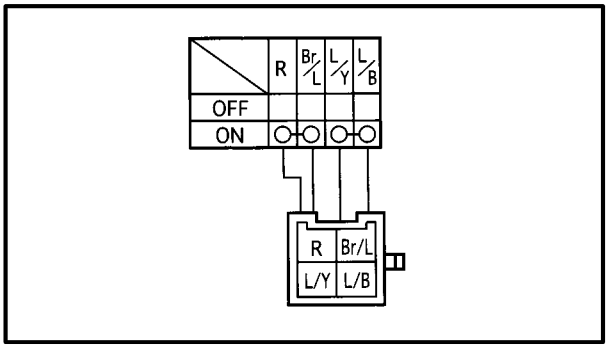
Item	Standard	Limit
Battery:		
Specific gravity	1.320	•••
Electric starter system:		
Type	Constant mesh type	•••
Starter motor:		
Model/manufacturer	SM-13/MITSUBA	•••
I.D. number	SM-13	•••
Output	0.8 kW	•••
Brush overall length	10 mm (0.4 in)	5 mm (0.20 in)
Commutator diameter	28 mm (1.10 in)	27 mm (1.06 in)
Mica undercut	0.7 mm (0.03 in)	•••
Starter relay:		
Model/manufacturer	MS5F-441/JIDECO	•••
Amperage rating	180 A	•••
Coil winding resistance	4.18 ~ 4.62 Ω at 20 C (68 F)	•••
Horn:		
Type	Eddy type	•••
Quantity	2	•••
Model/manufacturer	YML-12/NIKKO	•••
Maximum amperage	4 A	•••
Flasher relay:		
Type	Semi transistor type	•••
Model/manufacturer	FB257H/DENSO	•••
Self cancelling device	Yes	•••
Flasher frequency	75 ~ 95 cycle/min	•••
Wattage	27 W × 2 + 3.4 W	•••
Oil level switch:		
Model/manufacturer	4XY/DENSO	•••
Fuel sensor:		
Model/manufacturer	4XY/NIPPON SEIKI	•••
Sidestand relay:		
Model/manufacturer	G8R-30Y-B/OMRON	•••
Coil winding resistance	202.5 ~ 247.5 Ω	•••
Diode	Yes	•••
Fuel pump relay:		
Model/manufacturer	G8R-30Y/OMRON	•••
Electric fan:		
Model/manufacturer	4XY/DENSO	•••

Item	Standard	Limit
Thermo switch: Model/manufacturer	 5EB/NIPPON THERMOSTAT	 •••
Thermo unit: Model/manufacturer	 3YX/NIPPON SEIKI	 •••
Vacume actuator:	4XY/MITSUBISHI	•••
Vacume pump:	4XY/MITSUBISHI	•••
Circuit breaker: Type Amperage for individual circuit MAIN HEAD SIGNAL IGNITION FAN Back up (odometer) Cruse control Carburetor Audio DC outlet Reserve Reserve Reserve Reserve	 Fuse 30 A × 1 15 A × 1 15 A × 1 10 A × 1 10 A × 1 10 A × 1 10 A × 1 10 A × 1 10 A × 1 5 A × 2 10 A × 2 15 A × 1 30 A × 1 5 A × 1	 ••• ••• ••• ••• ••• ••• ••• ••• ••• ••• ••• ••• ••• ••• •••

AUDIO SYSTEM AND C.B. RADIO SPECIFICATIONS

Item	Standard
AM/FM Radio:	
Tuning Range: AM	530 ~ 1,710 KHz
FM	87.75, 87.9 ~ 107.9 MHz
Intermediate Frequency: AM	450 KHz
FM	10.7 MHz
Bass	±10dB/100 HZ
Treb	±10dB/10KHz
Amplifier:	
Output Power	14W x 4 (SP)/1W x 2 (HS)
Auto-Vol. Range	5 steps
Output Impedance: Speaker	4 Ω
Headset	8 Ω ~ 16 Ω
Deck:	
Circuit System	4-track. 2-channel, Stereo for reproduction
Tape Speed	4.75 cm/sec.
Tape	Normal and Metal
C.B. Radio:	
Channels	40
Frequency Range	26.965 ~ 27.405 MHz
Frequency Tolerance	+0.005 %
Antenna Impedance	50 Ω
Transmitter:	
Power Output	4 W
Frequency Response	400 ~ 3,000 Hz
Receiver:	
Sensitivity (S + N/N: 10 dB)	6 dB
Squelch Sensitivity	Threshold: 8dB Tight: 25 dB
Frequency Response	400 ~ 3,000 Hz





EAS00730

SWITCHES

CHECKING SWITCH CONTINUITY

Check each switch for continuity with the pocket tester. If the continuity reading is incorrect, check the wiring connections and if necessary, replace the switch.

CAUTION:

Never insert the tester probes into the coupler terminal slots ①. Always insert the probes from the opposite end of the coupler, taking care not to loosen or damage the leads.

	Pocket tester **90890-03112**

NOTE:

- Before checking for continuity, set the pocket tester to "0" and to the "Ω ~ 1" range.
- When checking for continuity, switch back and forth between the switch positions a few times.

The terminal connections for switches (e.g., main switch, engine stop switch) are shown in an illustration similar to the one on the left.
The switch positions ⓐ are shown in the far left column and the switch lead colors ⓑ are shown in the top row in the switch illustration.

NOTE:

"○——○" indicates a continuity of electricity between switch terminals (i.e., a closed circuit at the respective switch position).

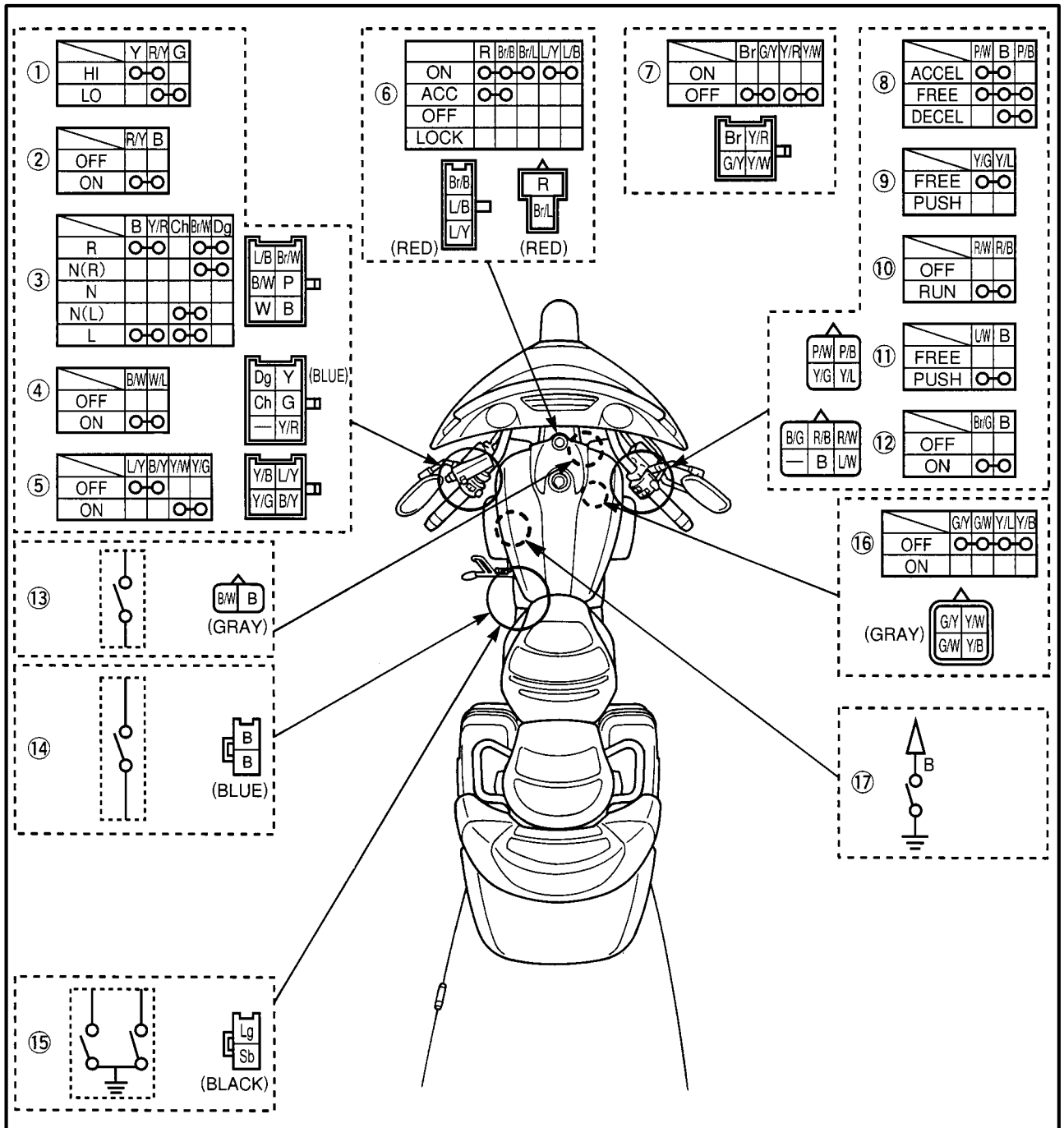
The example illustration on the left shows that:

There is continuity, between brown/blue and red, and between blue/yellow and blue/black when the switch is set to "ON".

EAS00731
SWITCH CONTINUITY INSPECTION

Check each switch for damage or wear, proper connections, and also for continuity between the terminals. Refer to “CHECKING SWITCH CONTINUITY”.

Damage/wear → Repair or replace the switch.
Improperly connected → Properly connect.
Incorrect continuity reading → Replace the switch.

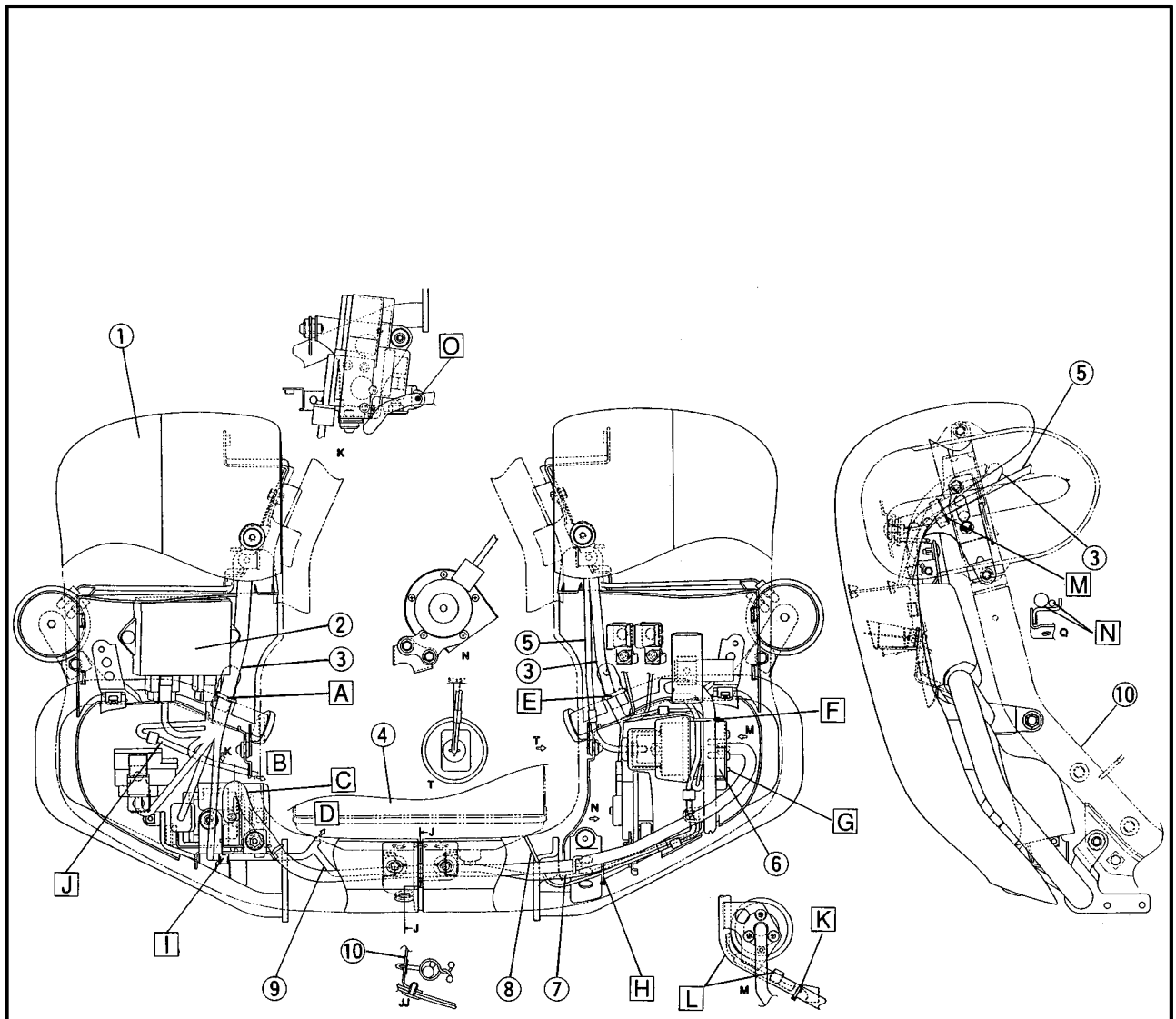


① Dimmer switch
② Horn switch
③ Turn signal switch
④ Talk switch
⑤ Clutch switch
⑥ Main switch
⑦ Front brake switch
⑧ Gruise control switch
⑨ “CANCEL” switch
⑩ Engine stop switch
⑪ Start switch
⑫ Hazard switch
⑬ Emargency stop switch
⑭ Side stand switch
⑮ Neutral switch
⑯ Rear brake switch
⑰ Oil level switch

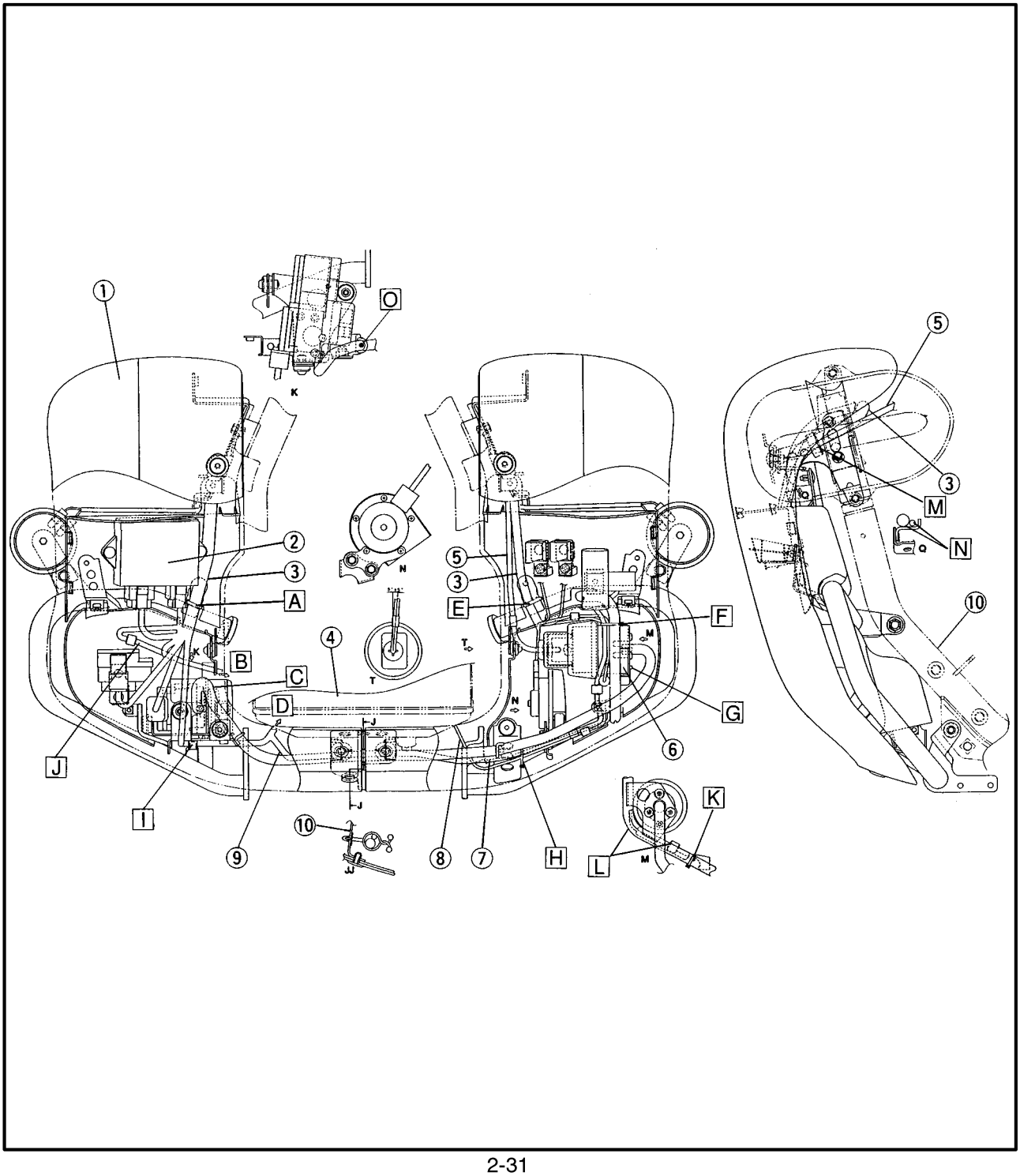
EAS00035
CABLE ROUTING

① Under cover (right)
② Cruise control unit
③ Wire harness
④ Radiator assembly
⑤ Cruise control cable
⑥ Vacuum actuator
⑦ Sidestand switch lead
⑧ Fan motor lead
⑨ Noise filter lead
⑩ Frame complete

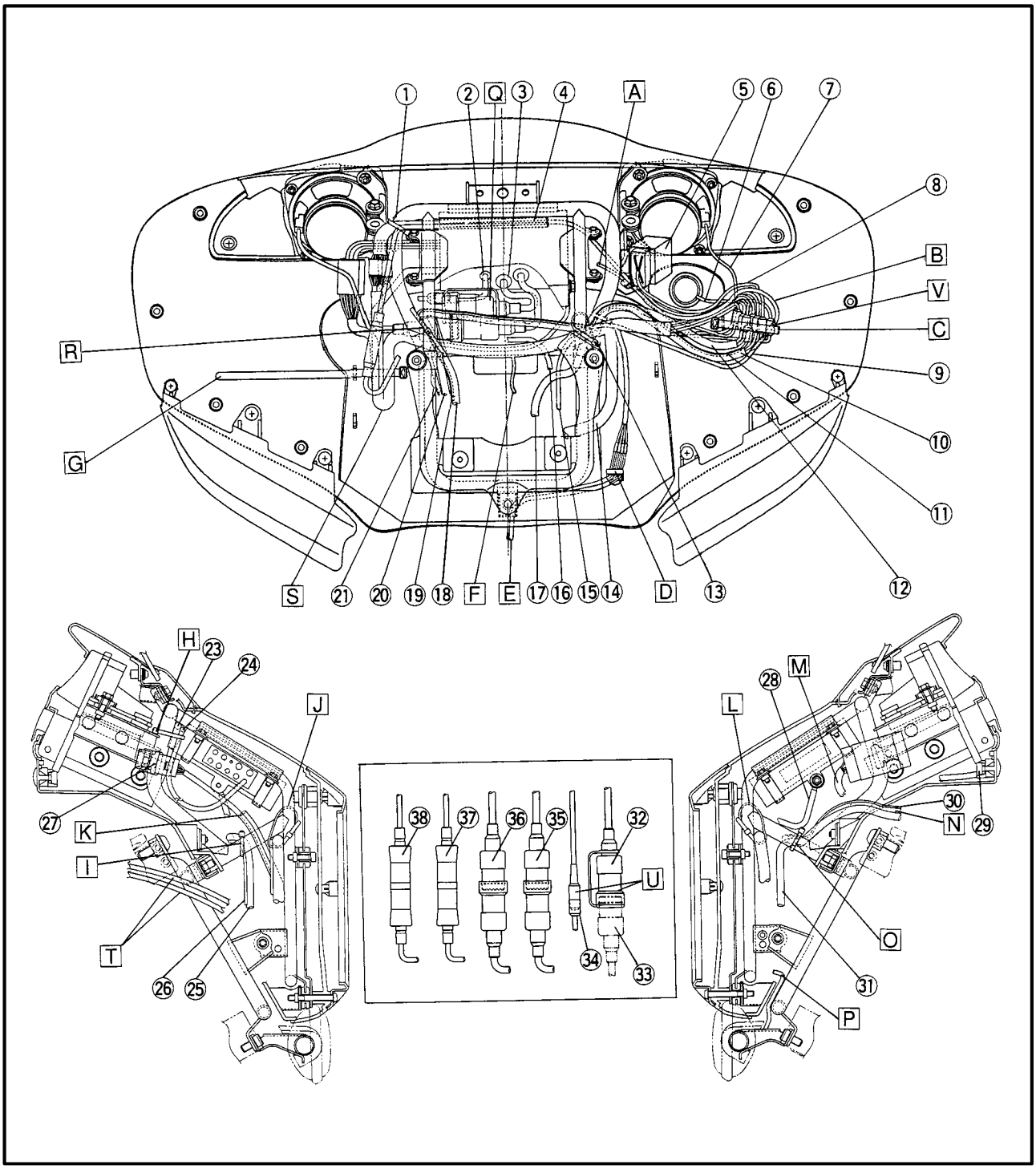
[A] Fasten the wire harness with a plastic clamp.
[B] To rear brake switch
[C] Position the vacuum hose as shown.
[D] To regulator
[E] Fasten the wire harness with a plastic clamp.
[F] Fasten the side stand switch lead, fan motor lead and noise filter lead with a plastic clamp.
[G] Align the projection downward.
[H] Fasten teh side stand switch lead, fan motor lead and noise filter lead with a plastic clamp.



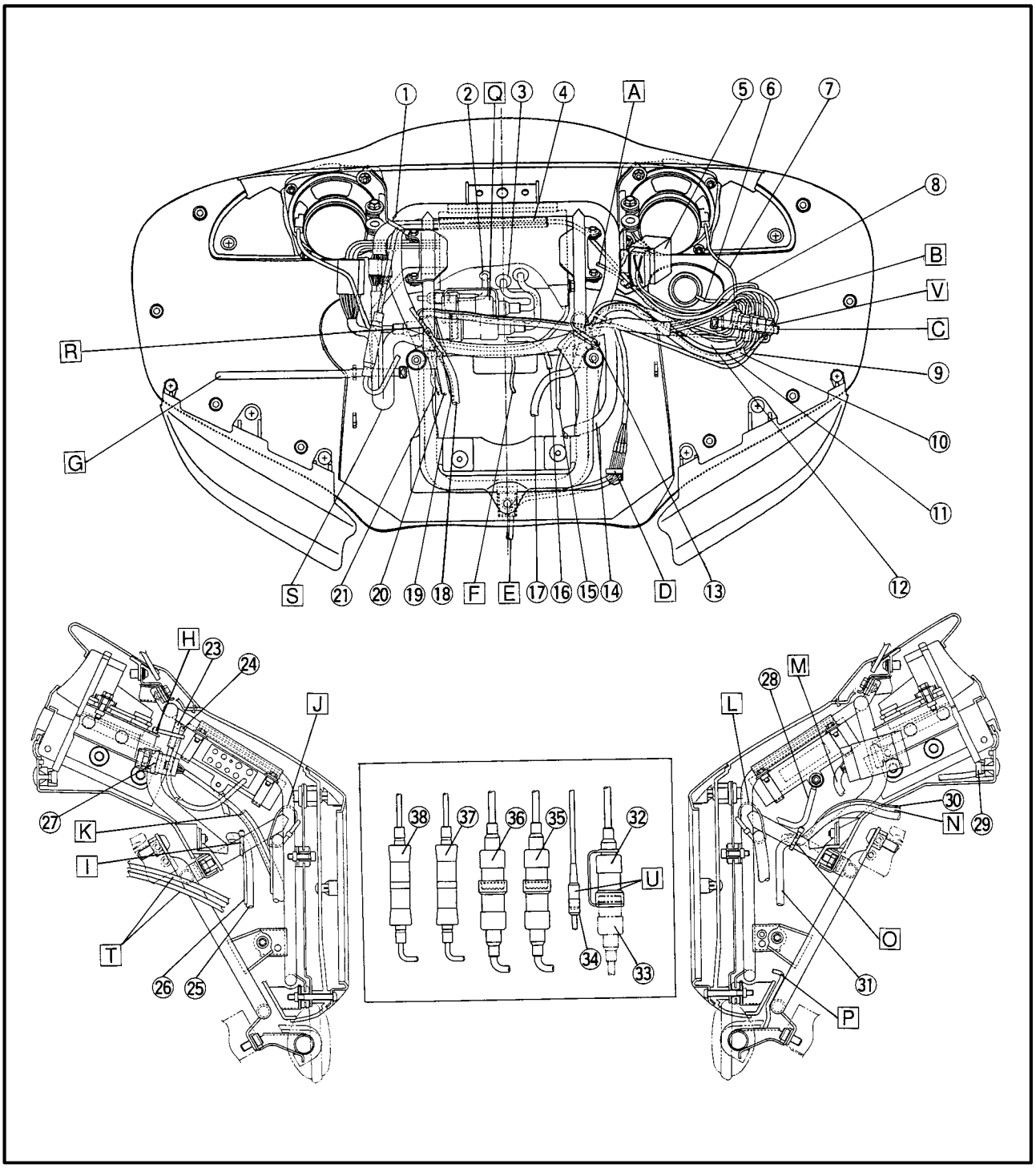
[I] Fasten the regulator lead with a steel clamp.
[J] Route the rear brake switch lead between the wire harness and cover.
[K] Fasten the side stand switch lead, fan motor lead and noise filter lead with a plastic clamp.
[L] Route the side stand switch lead, fan motor lead and noise filter lead inside the pipe.
Make sure that the leads are not come out of the pipe.
[M] Fasten the cruise control cable and wire harness with a plastic clamp.
[N] Route the cruise control cable and wire harness outside of the steel clamp.
[O] Align the white mark on the rear brake switch lead with the metal clamp.



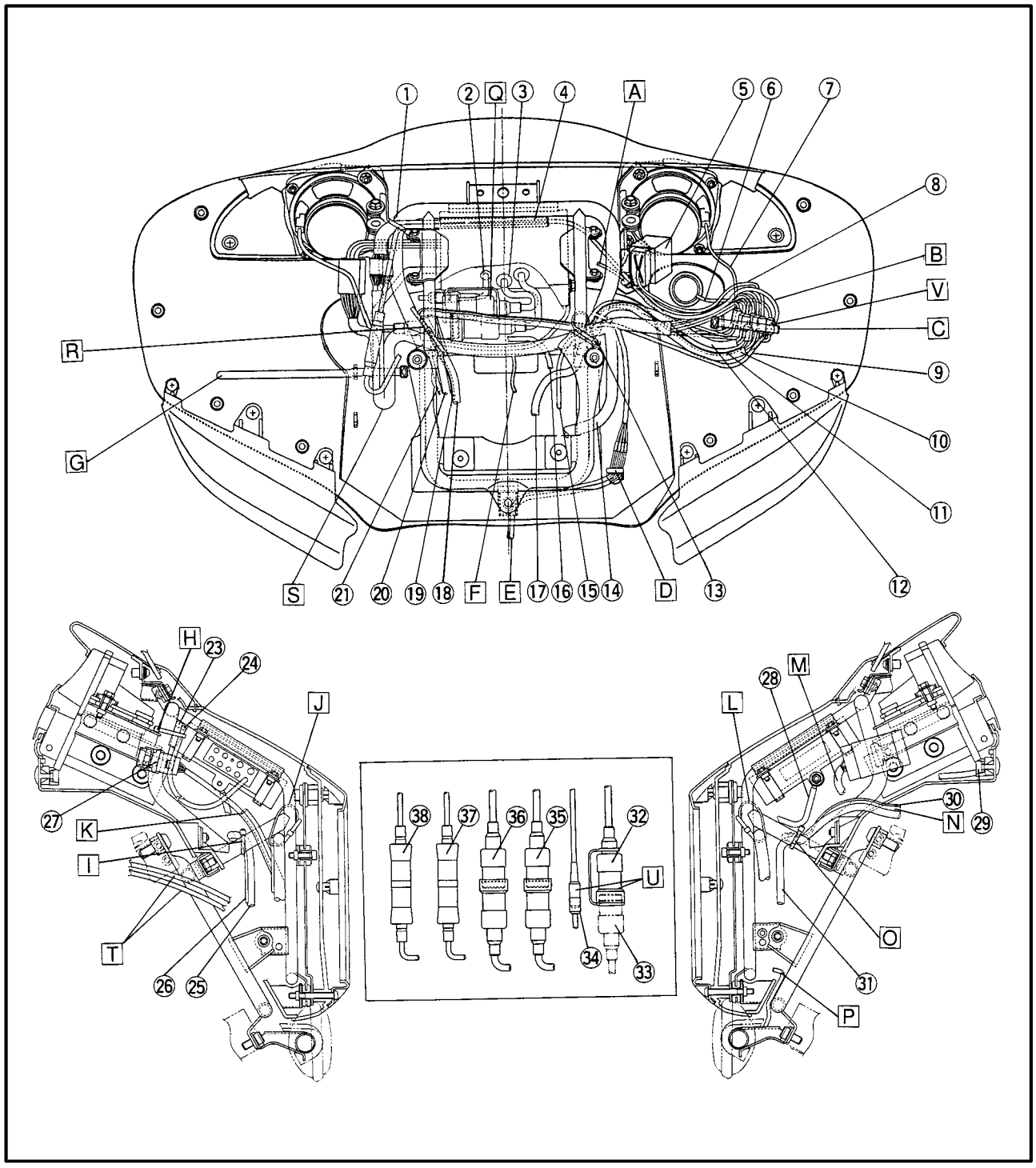
① Antenna lead (with cover)
② Auxiliary terminal
③ CD code
④ Meter lead
⑤ Hazard relay
⑥ DC outlet lead
⑦ Speaker lead
⑧ Hazard relay lead
⑨ Antenna lead
⑩ Handlebar switch lead (right)
⑪ Front brake switch lead
⑫ Handlebar switch lead (left)
⑬ Plastic clamp
⑭ Headlight harness
⑮ Antenna lead
⑯ Front head set lead
⑰ Handlebar switch lead (left)
⑱ Handlebar switch lead (right)
⑲ Front brake switch lead
⑳ Wire harness sub lead (right)
㉑ Ground lead
㉒ Headlight harness
㉓ Meter lead
㉔ Antenna lead (with cover)
㉕ Handlebar switch lead (right)
㉖ Front brake switch lead
㉗ Flasher relay
㉘ Ground lead
㉙ "CRUISE" switch lead
㉚ Front brake switch lead
㉛ Handlebar switch lead (left)
㉜ CD cord 13P (green)
㉝ CD cord (option)
㉞ Auxiliary terminal lead
㉟ Front remote controller 13P (blue)
㊱ CB cord 13P (yellow)
㊲ EXT lead 5P (white)
㊳ Head set lead 5P (red)



A To the “CRUISE” switch.
B Connect the couplers with same color.
C Fasten the headlight harness and handlebar switch (left and right) lead with a plastic clamp.
D Fasten the turn signal lead with a plastic clamp.
E To the turn signal light.
F To headlight.
G Fasten the audio coupler and headlight harness with a plastic clamp.
H Fasten the meter lead and antenna harness with a plastic clamp.
I Fasten the handlebar switch lead (right) and front brake switch lead with a plastic clamp.
J Fasten the headlight harness to the pipe with plastic clamp.
K To the speedometer.
L Fasten the headlight harness to the pipe with a plastic clamp.
M To the headlight (harness).
N Connect the handlebar switch lead (right) with the headlight harness.
O Fasten the handlebar switch lead (left and right) and front brake switch lead with a plastic clamp.
P To the headlight harness.
Q Put the plug for CD cord under the cassette deck.

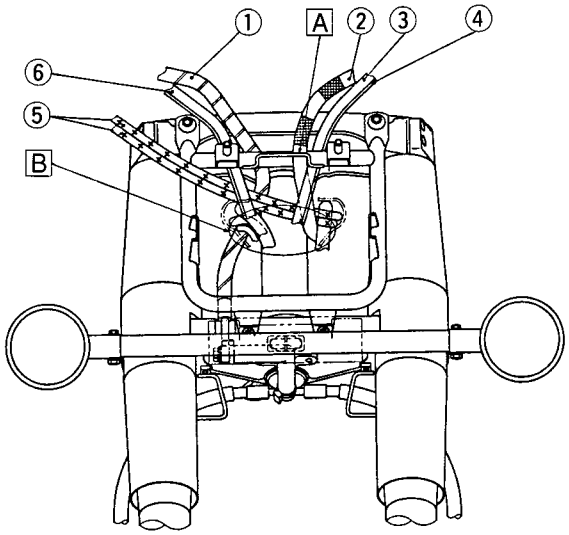


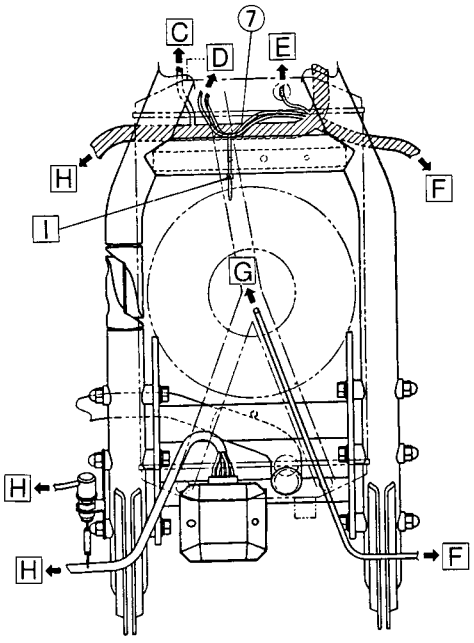
[R] Align the ground lead paint mark and main harness sub lead with a plastic clamp.
[S] Clamp the head light harness (right). Route the head light harness so that DIN cable set comes upper side.
[T] For installing the stay, do not catch the throttle cable.
[U] Put it under the cassette deck sideways. Not clamped.
[V] At the white tape on the antenna lead attach a plastic clamp.



① Brake hose
② Clutch hose
③ Handlebar switch lead (left)
④ Remote controller lead
⑤ Throttle cable
⑥ Handlebar switch lead (right)
⑦ Wire harness assembly

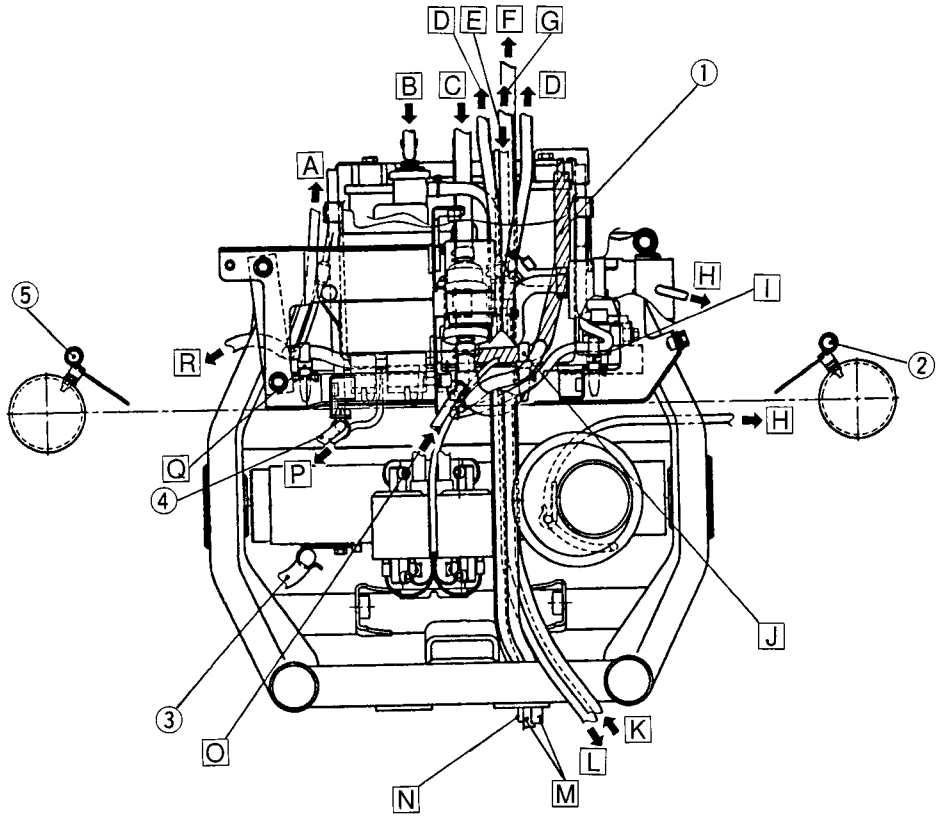
A Pass the clutch hose through the guide.
B To the upper cowling.
C To the engine stop switch.
D To the ignition coil #2.
E To the thermo switch.
F To the left under cowling.
G To the fan motor.
H To the right under cowling.
I Fasten the ignition coil lead with a plastic clamp (with the end towards the under side of the motorcycle).



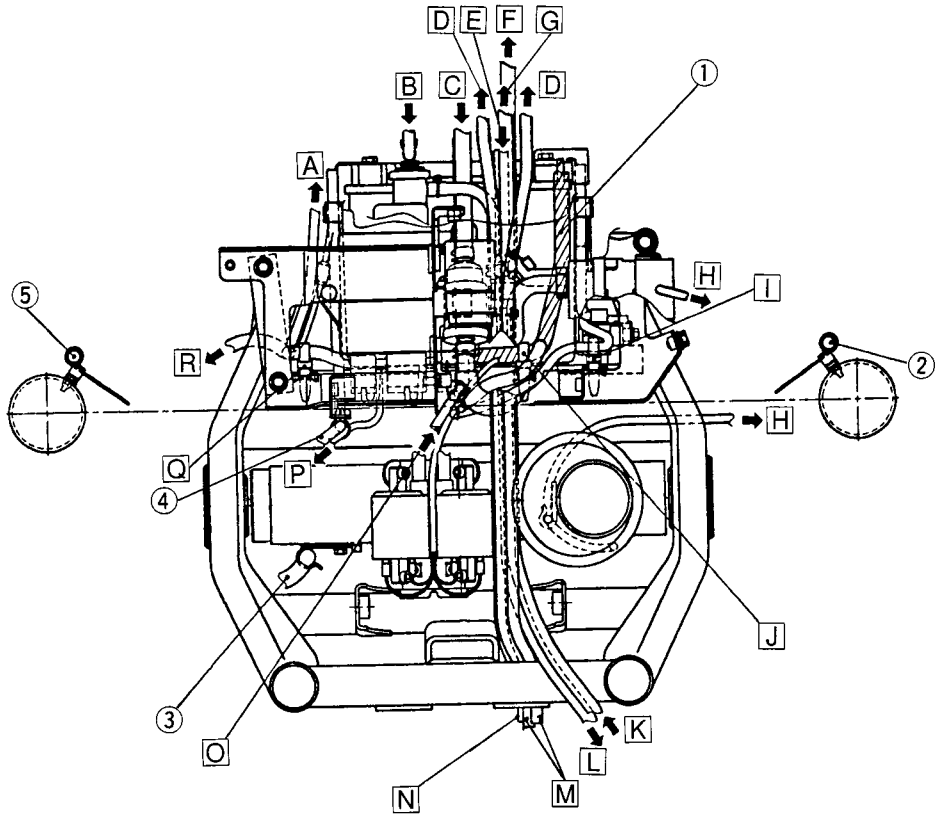


① Wire harness
② Starter lead
③ Brake hose
④ Battery negative lead
⑤ Wire harness

A To the rear fender.
B From the radiator (breather hose).
C From the fuel tank.
D To the air cleaner.
E From the fuel tank (breather hose).
F To the carburetor.
G To the carburetor (for California).
H To the wire harness.
I Fasten the starter lead with a plastic clamp (with the end towards the front side of the motorcycle).
J Align the white mark on the wire harness with the plastic clamp (with the end towards the front side of the motor cycle).
K From the canister (for California).

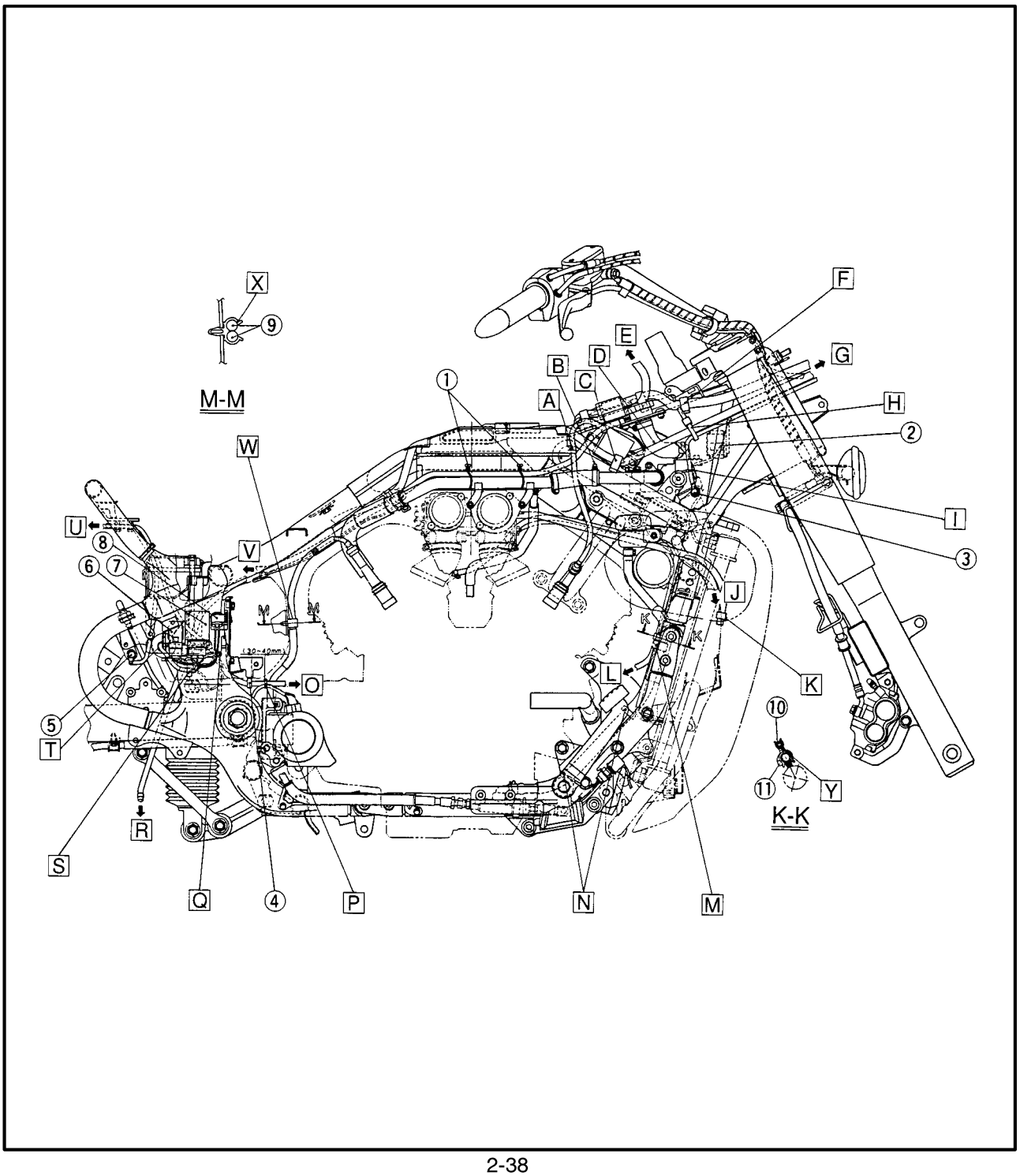


[L] To the canister (for California). Without California, same rute with air cleaner drain hose.
[M] Front the air cleaner.
[N] From the coolant reservoir tank.
[O] From the engine.
[P] To the horn.
[Q] Fasten the wire harness with a plastic clamp (with the end towards the front side of the motorcycle).
[R] To the relay.

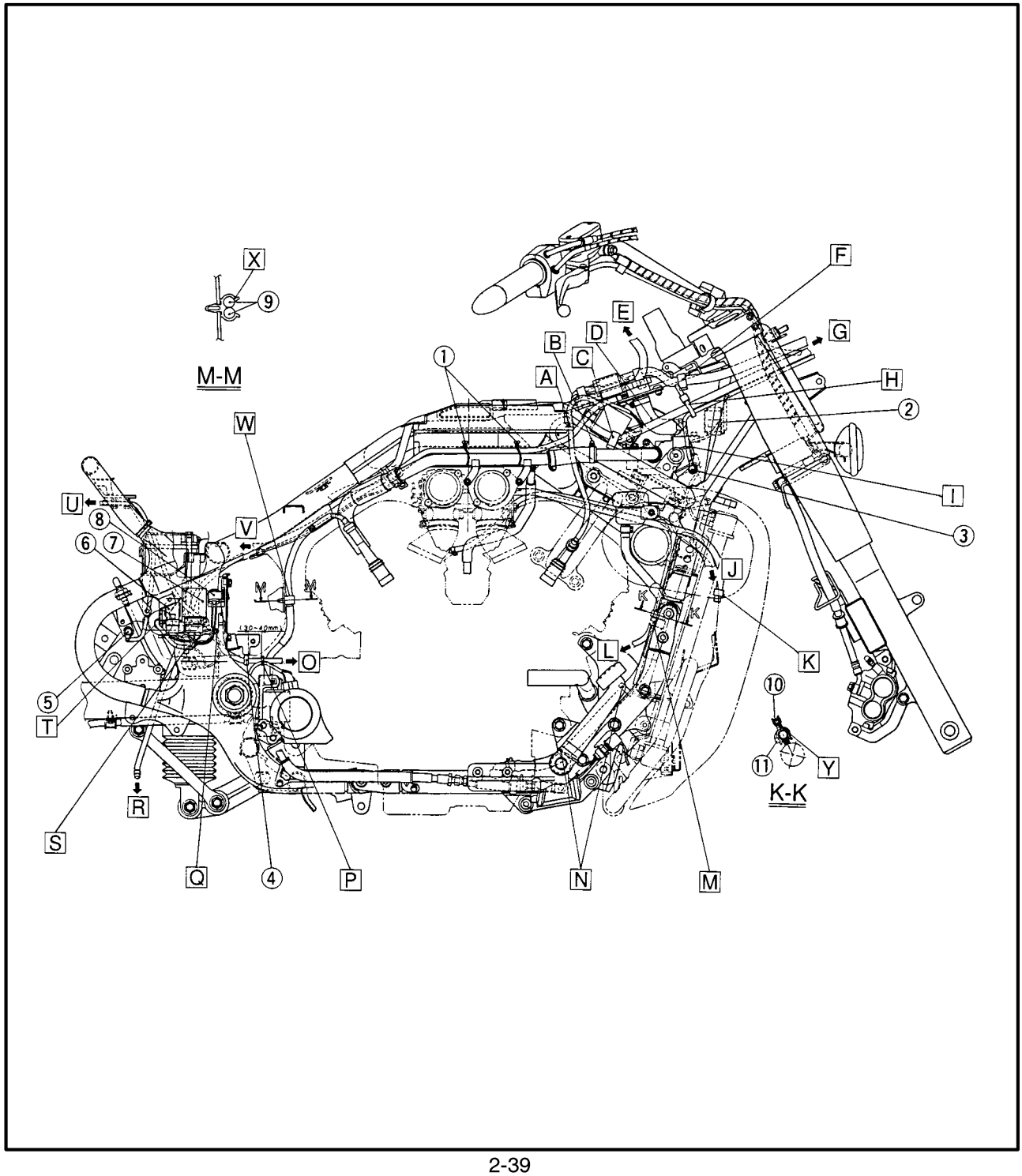


① Plastic clamp
② Emergency stop switch
③ Bolt (ground)
④ Platic clamp
⑤ Bolt (ground)
⑥ Carburetor heater relay
⑦ Flasher relay
⑧ Thermo switch
⑨ High tension code
⑩ AIS hose
⑪ Coolant reservoir hose

A Route the high tension cord throgh the guide on the air induction box.
B Clamp the coolant hose inside of the motorcycle with hose clamp.
C Fasten the audio lead and CD lead (option) with a plastic clamp.
D Route the audio lead tensely.
E To the fuel tank.
F Fasten the wire harness sub lead with a plastic clamp.
G To the upper cowling.
H Fasten the audio lead, CD lead (option) and ground lead with a plastic clamp.
I Fasten the ground lead and engine stop switch lead.
J To the under cowling.
K Insert the hose through the metal clilp.
L To the AIS.

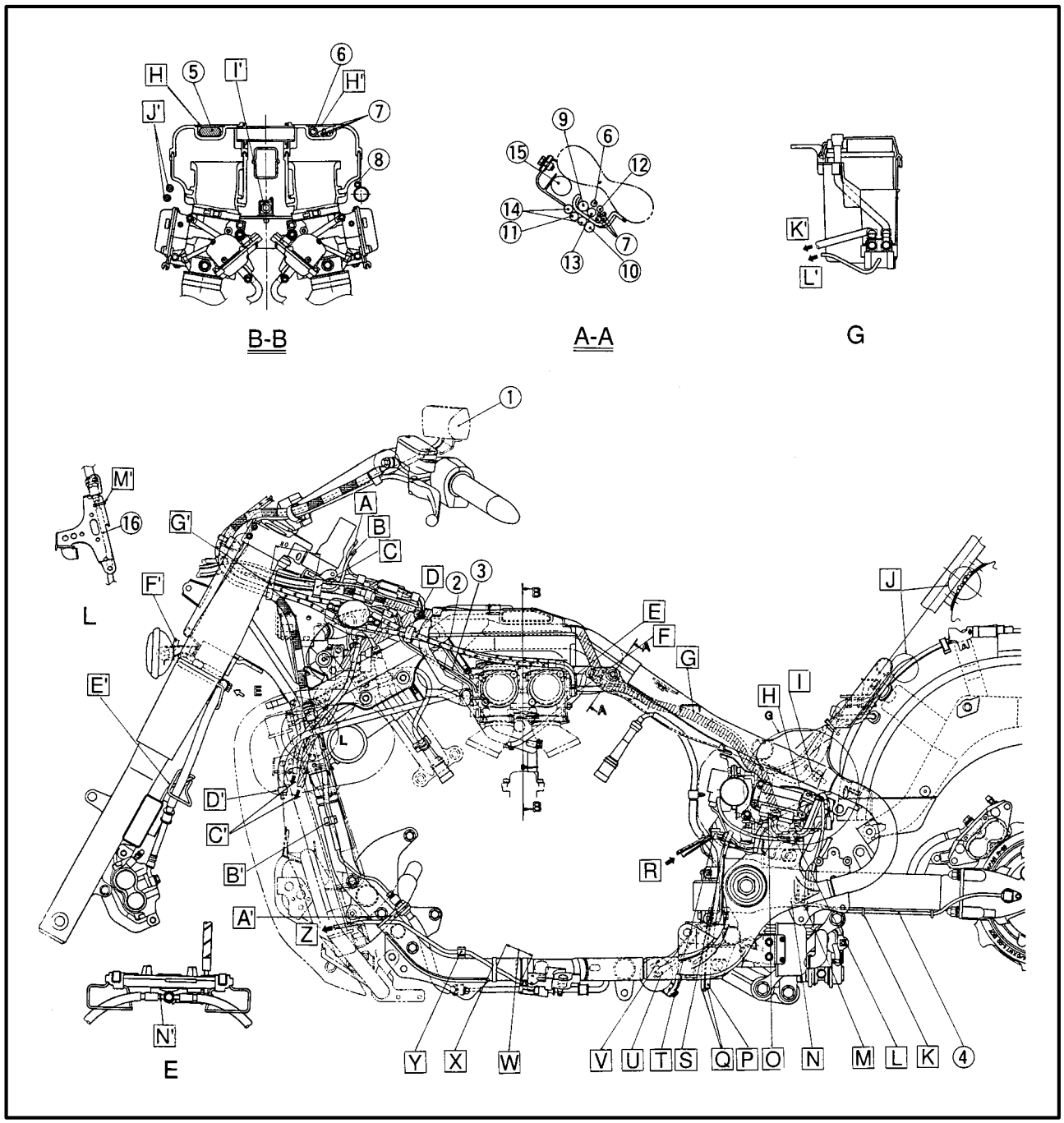


[M] Position the end of clamp to the rear side of the motorcycle.
[N] Position the end of clamp to the rear side of the motorcycle.
[O] To the engine.
[P] Clamp the horn lead white mark and ground lead.
[Q] Route the battery negative lead between the wire harness and pipe.
[R] To the AIS.
[S] Fasten the wire harness, flasher relay and thermo switch lead with a plastic clamp.
[T] Fasten the wire harness with a plastic clamp.
[U] To the rear fender.
[V] To the coolant reservoir tank cap.
[W] Fasten the high tension cord #1 and #3 with a plastic clamp.
[X] Align the cover on the high tension cord with the clamp.
[Y] Clamp the AIS hose as far as possible from the frame.

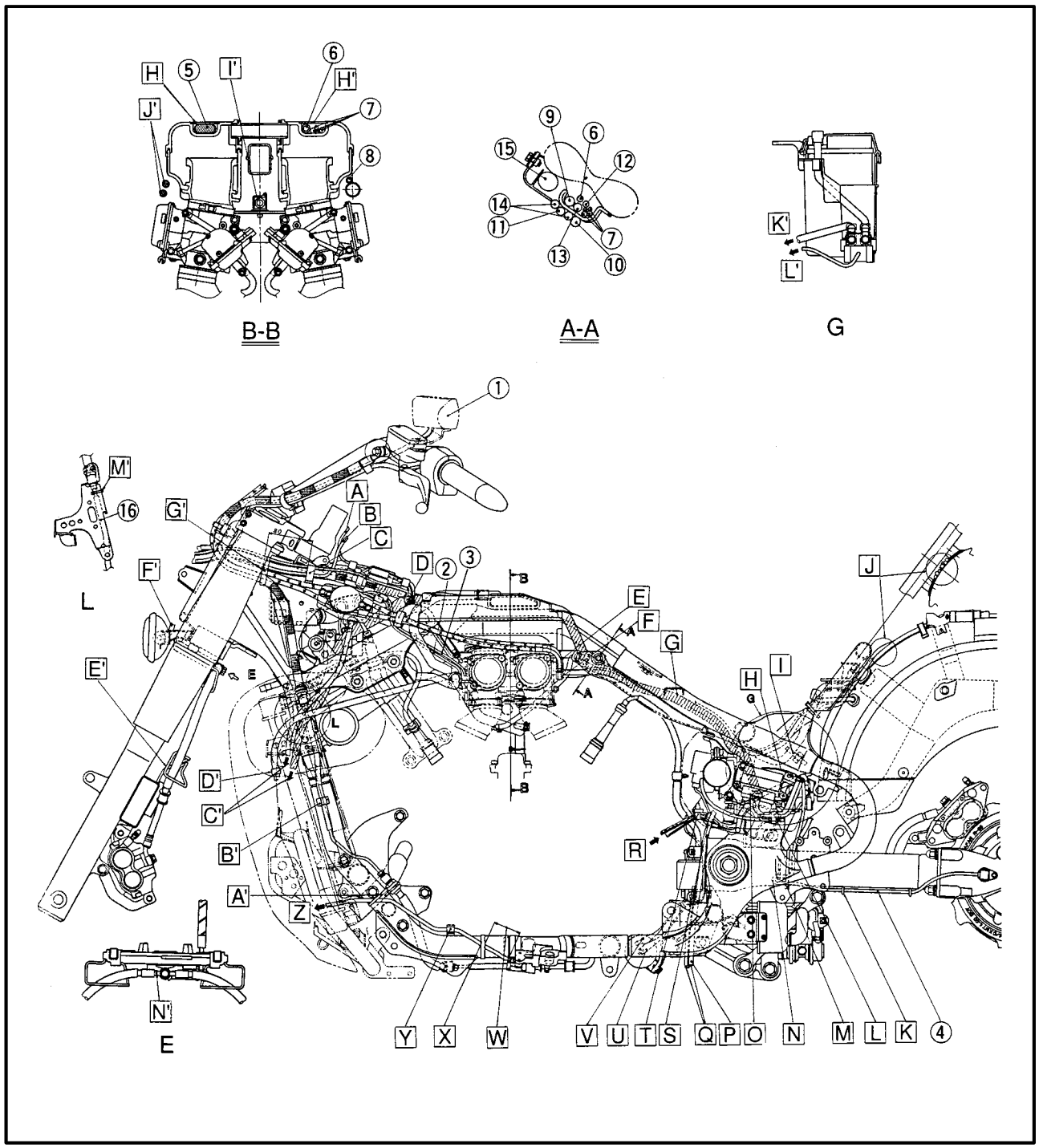


① Front remote controller
② TPS lead
③ Carburetor heater lead
④ Speed sensor lead
⑤ Main harness
⑥ Fuel tank breather hose
⑦ Audio lead
⑧ Coolant reservoir hose
⑨ Fuel hose (from fuel tank)
⑩ Fuel hose (from fuel pump)
⑪ Canister purge hose
⑫ AIS hose
⑬ Breather hose
⑭ Air cleaner case drain hose
⑮ Wire harness
⑯ Support stay

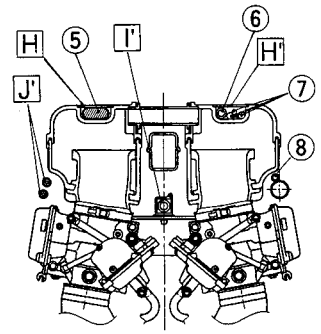
[A] Connect the fuel sender lead on the fuel tank.
[B] Route the head set lead to the switch cover on the fuel tank.
[C] Fasten the wire harness sub lead, antenna lead and head set lead with a plastic clamp. Align the wire harness sub lead and mark on the head set lead with the clamp. At the cover on the antenna lead attach a clamp.
[D] Fasten the throttle cable with a plastic clamp.
[E] Position the throttle cable (return side) at inside of the cable holder.
[F] Position the throttle cable (pull side) at outside of the cable holder.
[G] Route the wire harness with the frame guide (T-bar).
[H] Fasten the speed sensor lead and wire harness.
[I] Align the marking tape on the head set lead, CD cord (option), antenna lead and CB cord and fasten them, tail lead and DC outlet lead with a plastic clamp.
[J] Position the lead wires on the rear fender as shown.
[K] Clamp the speed sensor lead in the clip on the rear arms.



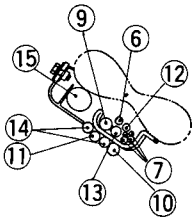
[L] Fasten the speed sensor lead, fuel pump lead and fuse box lead with a plastic clamp.
[M] Fasten the speed sensor lead with a plastic clamp.
[N] Turn the lead wire to clamp on the rear arm section.
[O] Route the wire harness behind the igniter unit.
[P] From coolant reservoir tank.
[Q] From air cleaner case.
[R] From engine.
[S] Route the hoses on the left side of the engine leads.
[T] Fasten the starter lead, pick up lead, AC magneto lead, neutral switch lead, ignition coil sub lead and oil level gauge lead with a plastic clamp.
[U] From roll over valve (for California).
[V] To carburetor (for California).
[W] Make sure that the sidestand switch lead has no loosening.



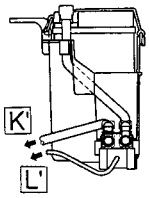
[X] Fasten the side stand switch lead with a plastic clamp.
[Y] Fasten the side stand switch lead with a plastic clamp.
[Z] To under cowling.
[A'] Fasten the sidestand switch lead with a metal band.
[B'] Fasten the clutch pipe with a plastic clamp.
[C'] To under cowling
[D'] Insert the hose through the metal clip.
[E'] Through the brake hose in the guide wire.
[F'] To upper cowling.
[G'] Fasten the wire harness sub lead, throttle cable, head set lead and clutch hose with a plastic clamp.
[H'] Insert the wire harness into the air induction box guide and hold it with clamp.
[I'] Fasten the fuel hose on the carburetor with a plastic clamp.
[J'] Position the throttle cables do not outside of the carburetors.
[K'] To plastic clamp on the cross pipe.
[L'] To wire harness assembly.



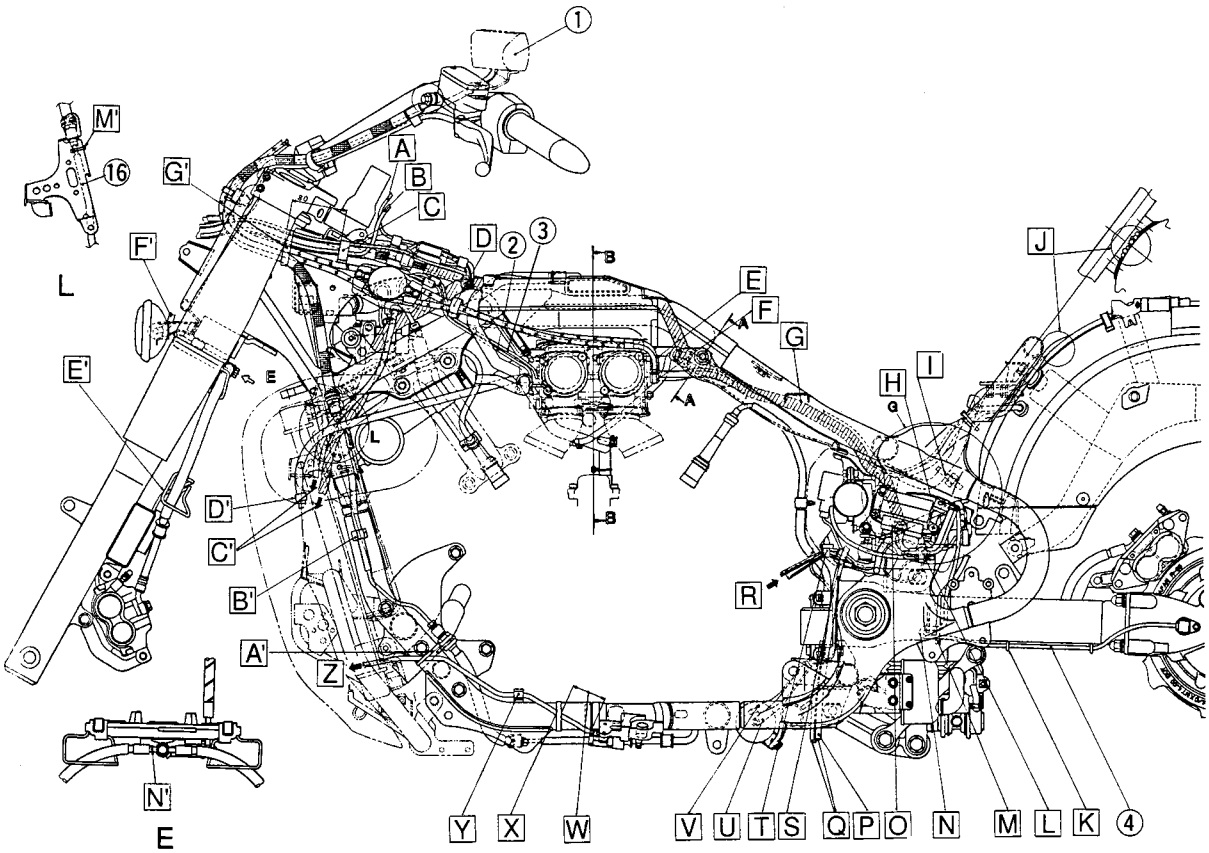
B-B



A-A

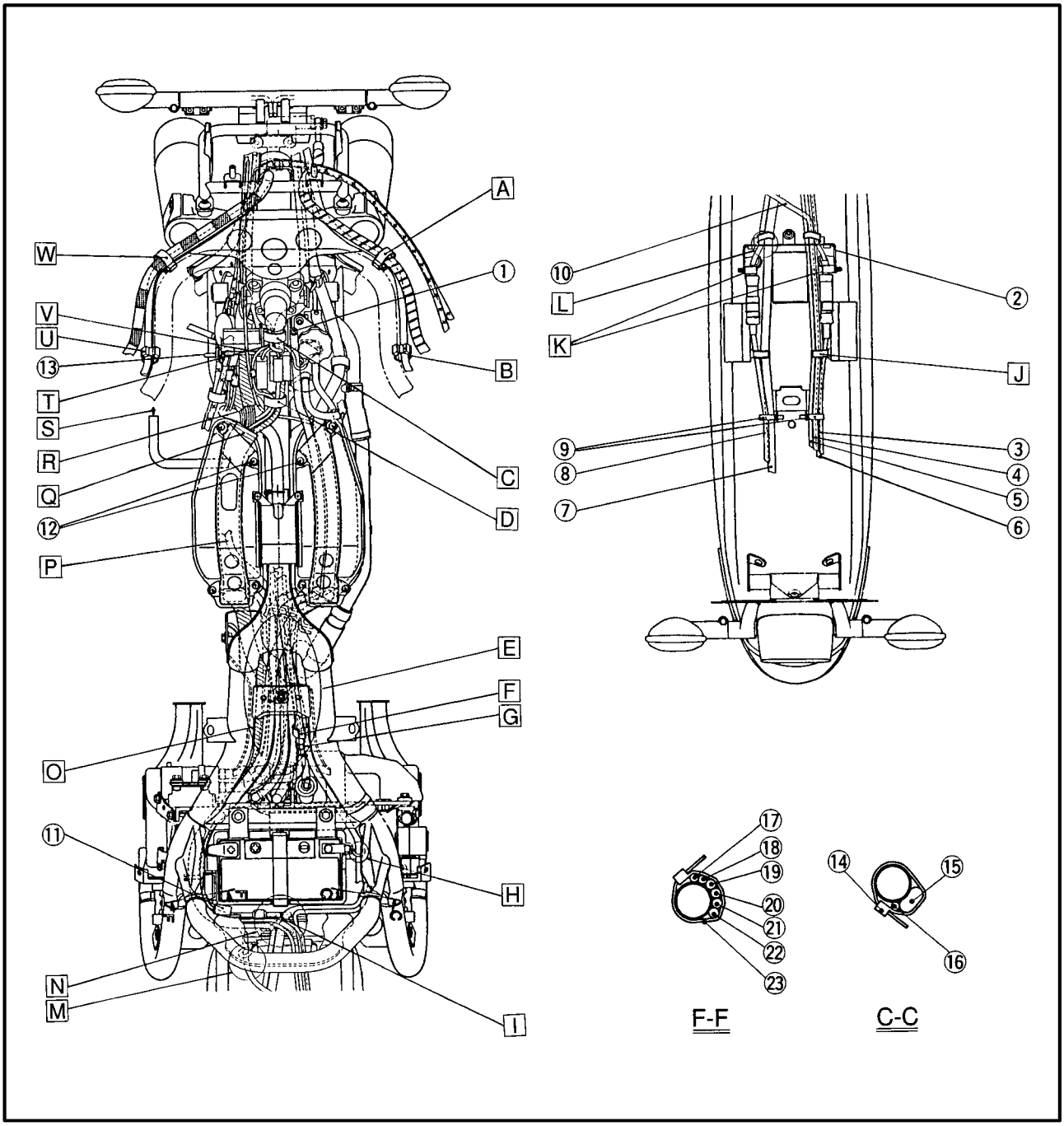


G



① Fuel tank breather hose
② Bracket
③ Head set lead
④ CD code (option)
⑤ Antenna lead
⑥ Ground lead
⑦ Wire harness
⑧ CB code
⑨ Plastic clamp
⑩ CD cord (option)
⑪ DC outlet
⑫ Screw
⑬ Fuel sender lead
⑭ Plastic clamp
⑮ Wire harness
⑯ Ground lead
⑰ DC outlet
⑱ Tail/brake light lead
⑲ Head set lead
⑳ CD cord (option)
㉑ CB cord
㉒ Antenna lead
㉓ Plastic clamp

[A] Fasten the handlebar switch lead (right) and clutch hose with a plastic clamp.
[B] Fasten the handlebar switch lead (right) with a plastic clamp.
[C] Fasten the wirek harness, main switch lead and fuel sender lead with a plastic clamp.
[D] Fasten the wire harness, main switch lead and ignition coil #4 lead with a plastic clamp.
[E] Be sure not to squeeze each leads.
[F] Fasten the carburetor parse hose with a plastic clamp (for California).



G Positon the clip end at upper.
H Route the AIS hose through the clip.
I Route the tail/brake light lead through the hole in the cover at the back of the frame.
J After routing the leads, fasten them with clamp.
K Fix the connector with a clamp as shwon.
L Route the CB cord and wireharness between bracket and rear fender.
M Route the CD cord (option) outside the rear frame into the hole on the cover.
N Make sure if the lead wires go to the left or right side.
O Route the wire harness with the guide (T-bar).
P Route the AIS hose between the carburetor joints.
Q The protector section must be exposed.
R Route the antenna lead at the left side.
S To the fuel cock.
T Fasten the wire harness with a plastic clamp.
U Fasten the handlebar switch lead and remote controller lead with a plastic clamp.
V Route the ignition coil lead downward the main harness.
W Fasten the handlebar switch lead (left), clutch hose and remote controler lead with a plastic clamp.