YAMAHA

XVS650AN(C)

SUPPLEMENTARY SERVICE MANUAL

LIT-11616-14-31

5BN-28197-E1

FOREWORD

This Supplementary Service Manual has been prepared to introduce new service and data for the XVS650AN(C). For complete service information procedures it is necessary to use this Supplementary Service Manual together with the following manual.

XVS650AK(C) SERVICE MANUAL: LIT-11616-11-16 (5BN-28197-E0)

XVS650AN(C)
SUPPLEMENTARY
SERVICE MANUAL

Printed in U.S.A.
P/N LIT-11616-14-31

EB001000

NOTICE

This manual was produced by the Yamaha Motor Company primarily for use by Yamaha dealers and their qualified mechanics. It is not possible to include all the knowledge of a mechanic in one manual, so it is assumed that anyone who uses this book to perform maintenance and repairs on Yamaha motorcycles has a basic understanding of the mechanical ideas and the procedures of motorcycle repair. Repairs attempted by anyone without this knowledge are likely to render the motorcycle unsafe and unfit for use.

This model has been designed 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 of its models. Modifications and significant changes in specifications or procedures will be forwarded to all authorized Yamaha dealers and will appear in future editions of this manual where applicable.

NOTE:

- This Service Manual contains information regarding periodic maintenance to the emission control system. Please read this material carefully.
- Designs and specifications are subject to change without notice.

IMPORTANT INFORMATION

Particularly important information is distinguished in this manual by the following notations.

⚠ 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.

EB002000

HOW TO USE THIS MANUAL

MANUAL ORGANIZATION

This manual consists of chapters for the main categories of subjects. (See “Illustrated symbols”)

1st title ①: This is the title of the chapter with its symbol in the upper right comer of each page.

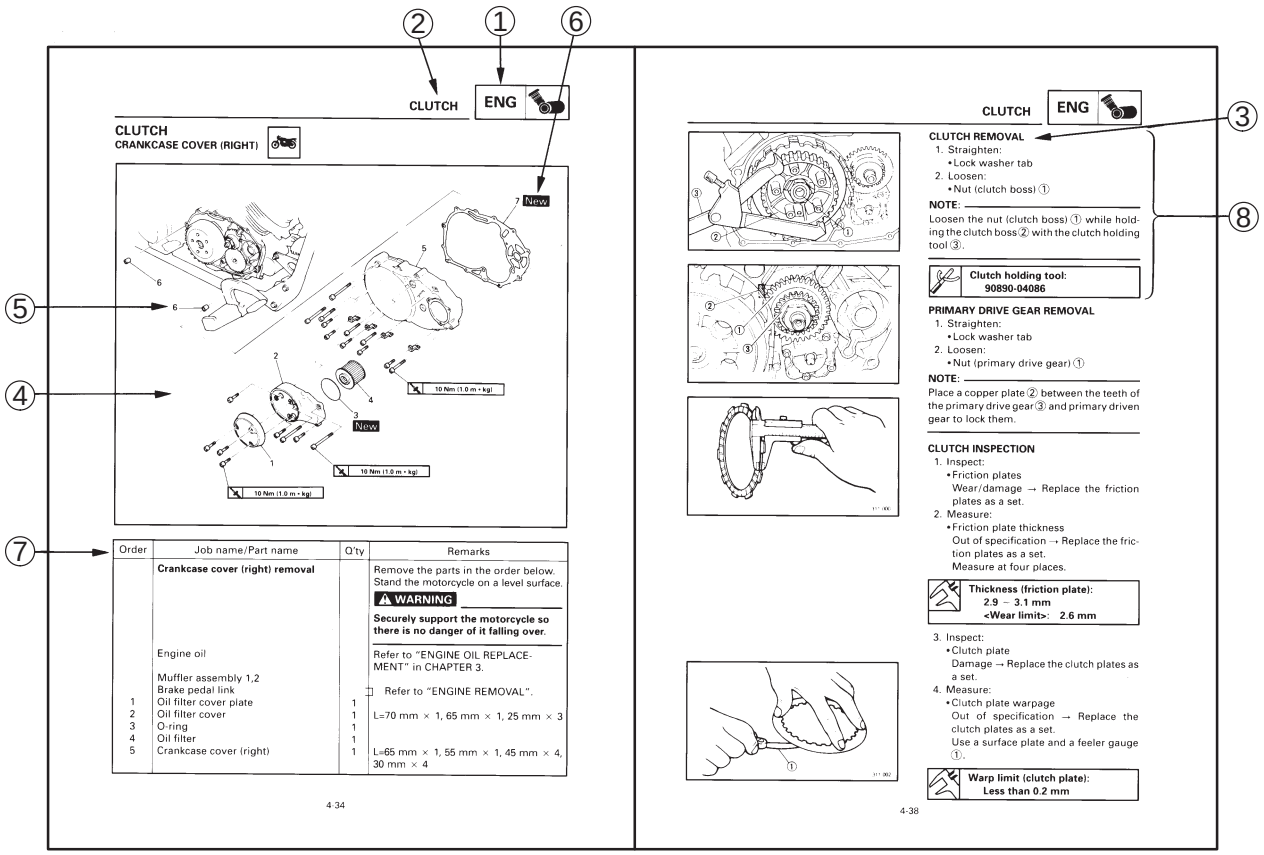
2nd title ②: This title indicates the section of the chapter and only appears on the first page of each section. It is located in the upper left comer of the page.

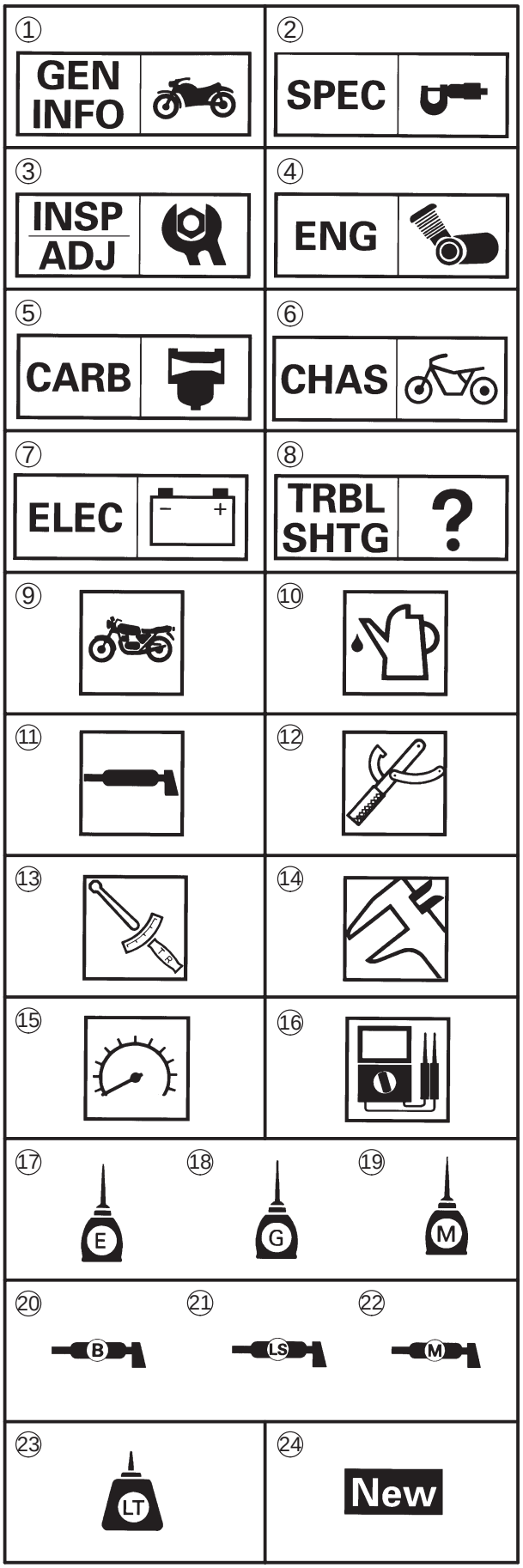
3rd title ③: This title indicates a sub-section that is followed by step-by-step procedures accompanied by corresponding illustrations.

EXPLODED DIAGRAMS

To help identify parts and clarify procedure steps, there are exploded diagrams at the start of each removal and disassembly section.

1. An easy-to-see exploded diagram ④ is provided for removal and disassembly jobs.
2. Numbers ⑤ are given in the order of the jobs in the exploded diagram. A number that is enclosed by a circle indicates a disassembly step.
3. An explanation of jobs and notes is presented in an easy-to-read way by the use of symbol marks ⑥. The meanings of the symbol marks are given on the next page.
4. A job instruction chart ⑦ accompanies the exploded diagram, providing the order of jobs, names of parts, notes in jobs, etc.
5. For jobs requiring more information, the step-by-step format supplements ⑧ are given in addition to the exploded diagram and the job instruction chart.





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SYMBOLS

The following symbols are not relevant to every vehicle.
Symbols ① to ⑧ indicate the subject of each chapter.

① General information
② Specifications
③ Periodic checks and adjustments
④ Engine
⑤ Carburetor(-s)
⑥ Chassis
⑦ Electrical system
⑧ Troubleshooting

Symbols ⑨ to ⑯ indicate the following.

⑨ Serviceable with engine mounted
⑩ Filling fluid
⑪ Lubricant
⑫ Special tool
⑬ Tightening torque
⑭ Wear limit, clearance
⑮ Engine speed
⑯ Electrical data

Symbols ⑰ to ㉒ in the exploded diagrams indicate the types of lubricants and lubrication points.

⑰ Engine oil
⑱ Gear oil
⑲ Molybdenum disulfide oil
⑳ Wheel bearing grease
㉑ Lithium soap base grease
㉒ Molybdenum disulfide grease

Symbols ㉓ to ㉔ in the exploded diagrams indicate the following:

㉓ Apply locking agent (LOCTITE®)
㉔ Replace the part

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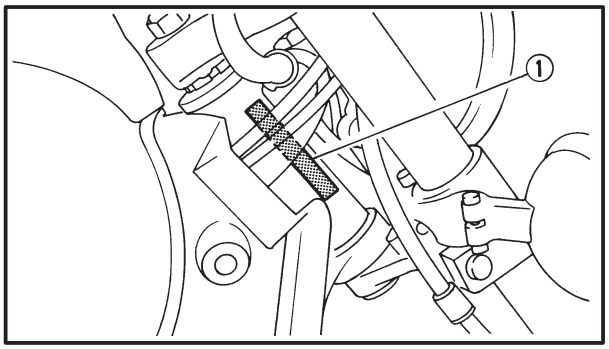

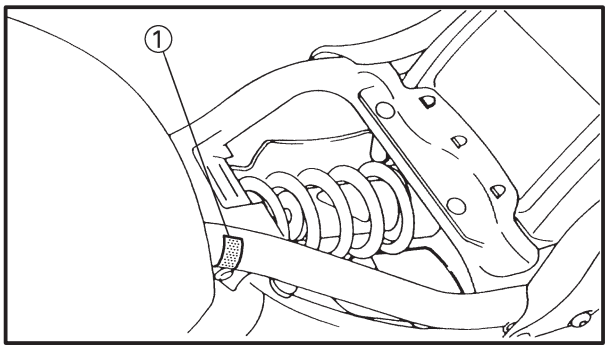

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GENERAL INFORMATION

MOTORCYCLE IDENTIFICATION

EB100010

VEHICLE IDENTIFICATION NUMBER

The vehicle identification number ① is stamped into the right side of the steering head.

MODEL LABEL

The model label ① is affixed to the frame. This information will be needed to order spare parts.

SPECIFICATIONS

GENERAL SPECIFICATIONS

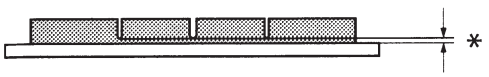
Item	Standard
Model code:	XVS650A: 5BNT (For U.S.A) 5BNU (For CAL)
Dimensions:	
Overall length	2,450 mm (96.5 in)
Overall width	930 mm (36.6 in)
Overall height	1,105 mm (43.5 in)
Seat height	710 mm (28.0 in)
Wheelbase	1,625 mm (64.0 in)
Minimum ground clearance	145 mm (57.1 in)
Minimum turning radius	3,400 mm (133.9 in)
Basic weight:	
With oil and a full fuel tank	247 kg (544.5 lb)
Bulb wattage × quantity:	
Headlight	12 V 60 W/55 W × 1
Tail/brake light	12 V 8 W/27 W × 1
Front turn signal/position light	12 V 27 W/8 W × 2
Rear turn signal light	12 V 27 W × 2
Meter light	12 V 1.7 W × 1
Neutral indicator light	12 V 1.7 W × 1
High beam indicator light	12 V 1.7 W × 1
Turn indicator light	12 V 1.7 W × 1
Engine indicator light	12 V 1.7 W × 1

MAINTENANCE SPECIFICATIONS

ENGINE

Item	Standard	Limit
Connecting rod:		
Oil clearance	0.031 ~ 0.055 mm (0.0012 ~ 0.0022 in)	•••
Color code (corresponding size)	① Blue ② Black ③ Brown ④ Green	•••

CHASSIS

Item		Standard	Limit
Front suspension:			
Front fork travel		140 mm (5.5 in)	•••
Fork spring free length		332.5 mm (3.1 in)	325.9 mm (12.83 in)
Installed length		287.4 mm (11.3 in)	•••
Spring rate	(K1)	3.43 N/mm (0.343 kg/mm, 19.2 lb/in)	•••
Stroke	(K1)	0 ~ 140 mm (0 ~ 5.5 in)	•••
Optional spring		No	•••
Oil capacity		0.507 L (17.4 US oz)	•••
Oil level		95 mm (3.74 in)	•••
Oil grade		Yamaha fork oil 10 WT or equivalent	•••
Front brake:			
Type		Single disk	•••
Disc outside diameter × thickness		298 × 5 mm (11.73 × 0.2 in)	4.5 mm (0.18 in)
Pad thickness	inner	6.0 mm (0.24 in)	0.8 mm (0.03 in)
Pad thickness	outer	6.0 mm (0.24 in)	0.8 mm (0.03 in)
			
Master cylinder inside diameter		14.0 mm (0.55 in)	•••
Caliper cylinder inside diameter		30.2 mm (1.19 in)	•••
Caliper cylinder inside diameter		33.3 mm (1.31 in)	•••
Brake fluid type		DOT 4	•••
Brake lever & brake pedal:			
Brake lever free play (at pivot)		1 ~ 2 mm (0.04 ~ 0.08 in)	•••
Brake lever free play (at lever end)		10 ~ 15 mm (0.39 ~ 0.59 in)	•••
Brake pedal position		108 mm (4.25 in)	•••
Brake pedal free play		20 ~ 30 mm (0.79 ~ 1.18 in)	•••
Clutch lever free play (at pivot)		2 ~ 3 mm (0.08 ~ 0.12 in)	•••
Clutch lever free play (at lever end)		10 ~ 15 mm (0.39 ~ 0.59 in)	•••

ELECTRICAL

Item	Standard	Limit
T.C.I.:		
Pickup coil resistance/color	182 ~ 222 Ω at 20°C (68°F)/Gray – Black	•••
T.C.I. unit model/manufacturer	J4T088/MITSUBISHI (U.S.A)	•••
	J4T128/MITSUBISHI (CAL)	•••
Ignition coil:		
Model/manufacturer	F6T541/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	10.7 ~ 14.5 kΩ at 20°C (68°F)	•••
Voltage regulator:		
Type	Semi-conductor, short-circuit type	•••
Model/manufacturer	SH650C-11/SHINDENGEN	•••
No load regulated voltage	14.1 ~ 14.9 V	•••
Rectifier:		
Model/manufacturer	SH650C-11/SHINDENGEN	•••
Capacity	18 A	•••
Withstand voltage	200 V	•••
Electric starter system:		
Type	Constant mesh type	•••
Starter motor:		
Model/manufacturer	SM-13/MITSUBA	•••
I.D. number	SM-13	•••
Output	0.7 kW	•••
Brush overall length	10 mm (0.39 in)	4 mm (0.16 in)
Commutator diameter	28 mm (1.10 in)	27 mm (1.06 in)
Mica undercut	0.7 mm (0.08 in)	•••
Starter relay:		
Model/manufacturer	MS-5F-441/JIDECO	•••
Amperage rating	180 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	•••
Fuel pump relay:		
Model/manufacturer	G8R-30Y-Q/OMRON	•••

Item	Standard	Limit
Circuit breaker:		
Type	Fuse	•••
Amperage for individual circuit		
MAIN	30 A × 1	•••
HEADLIGHT	15 A × 1	•••
SIGNALS	10 A × 1	•••
IGNITION	10 A × 1	•••
CARBURETOR HEATER	15 A × 1	•••
Reserve	30 A × 1	•••
Reserve	15 A × 1	•••
Reserve	10 A × 1	•••

EB203000

LUBRICATION POINTS AND LUBRICANT TYPES

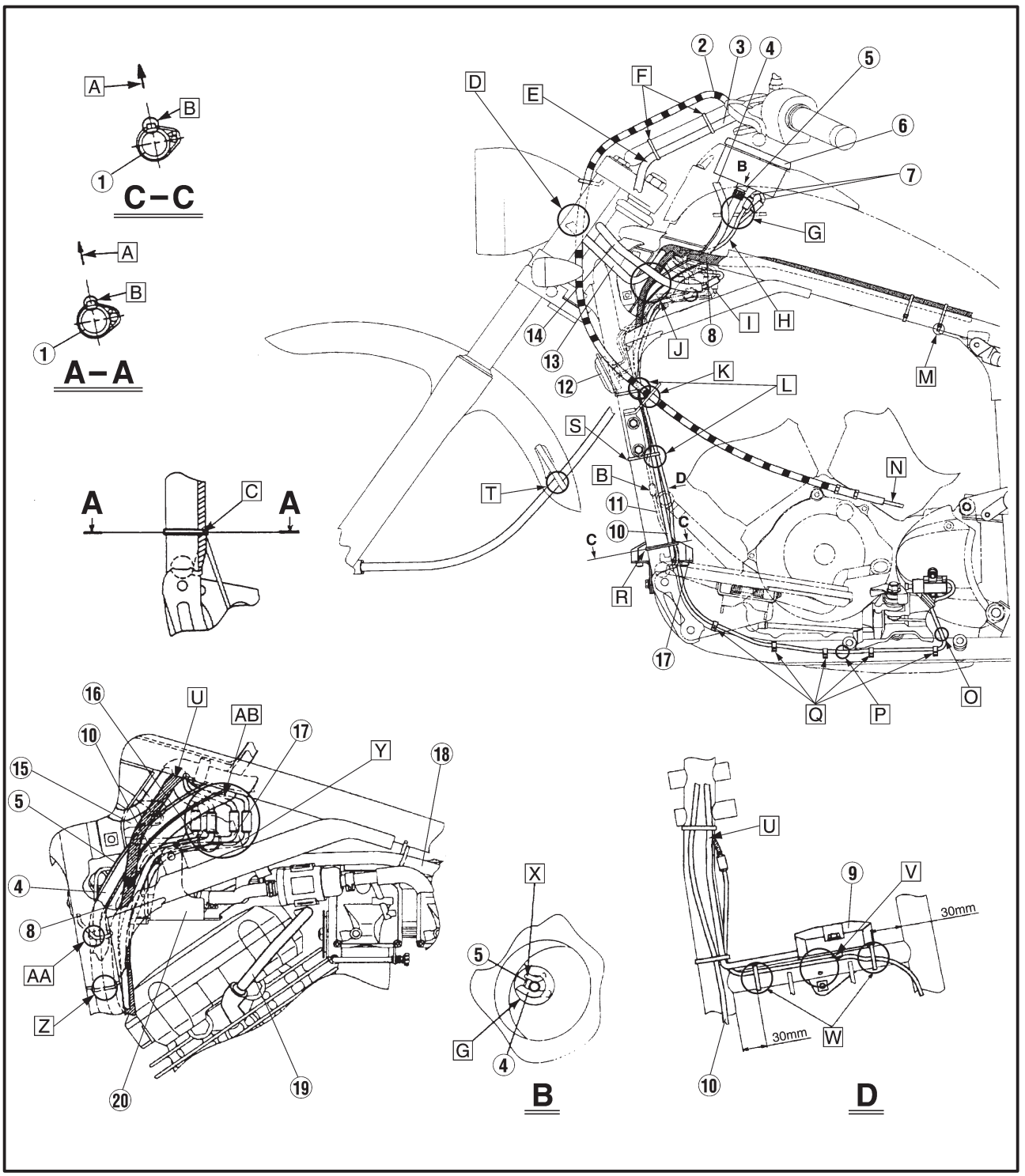
ENGINE

Lubrication point	Symbol
Crankshaft journal	
Camshaft cam lobe	
Primary driven gear	

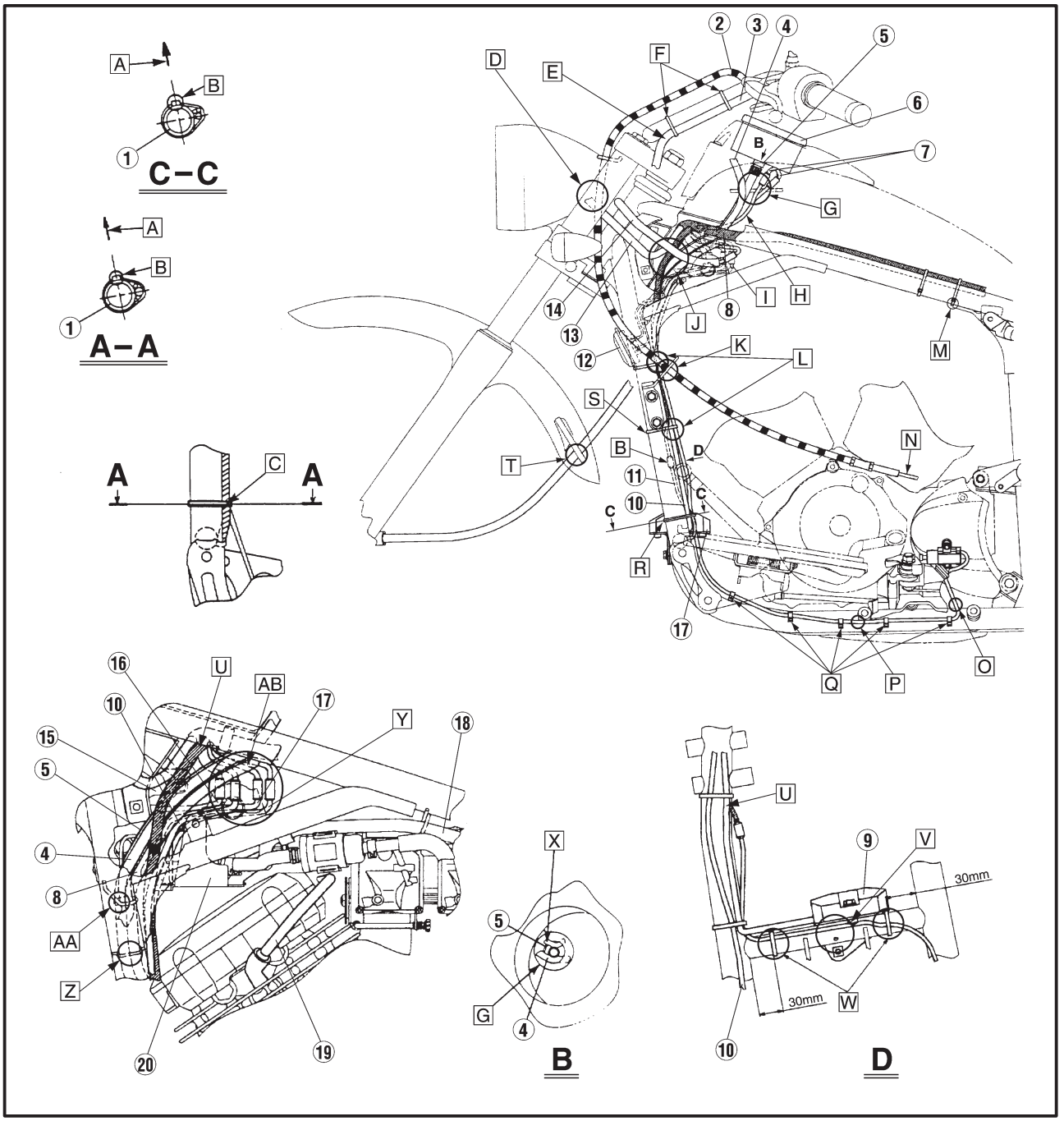
EB206000

CABLE ROUTING

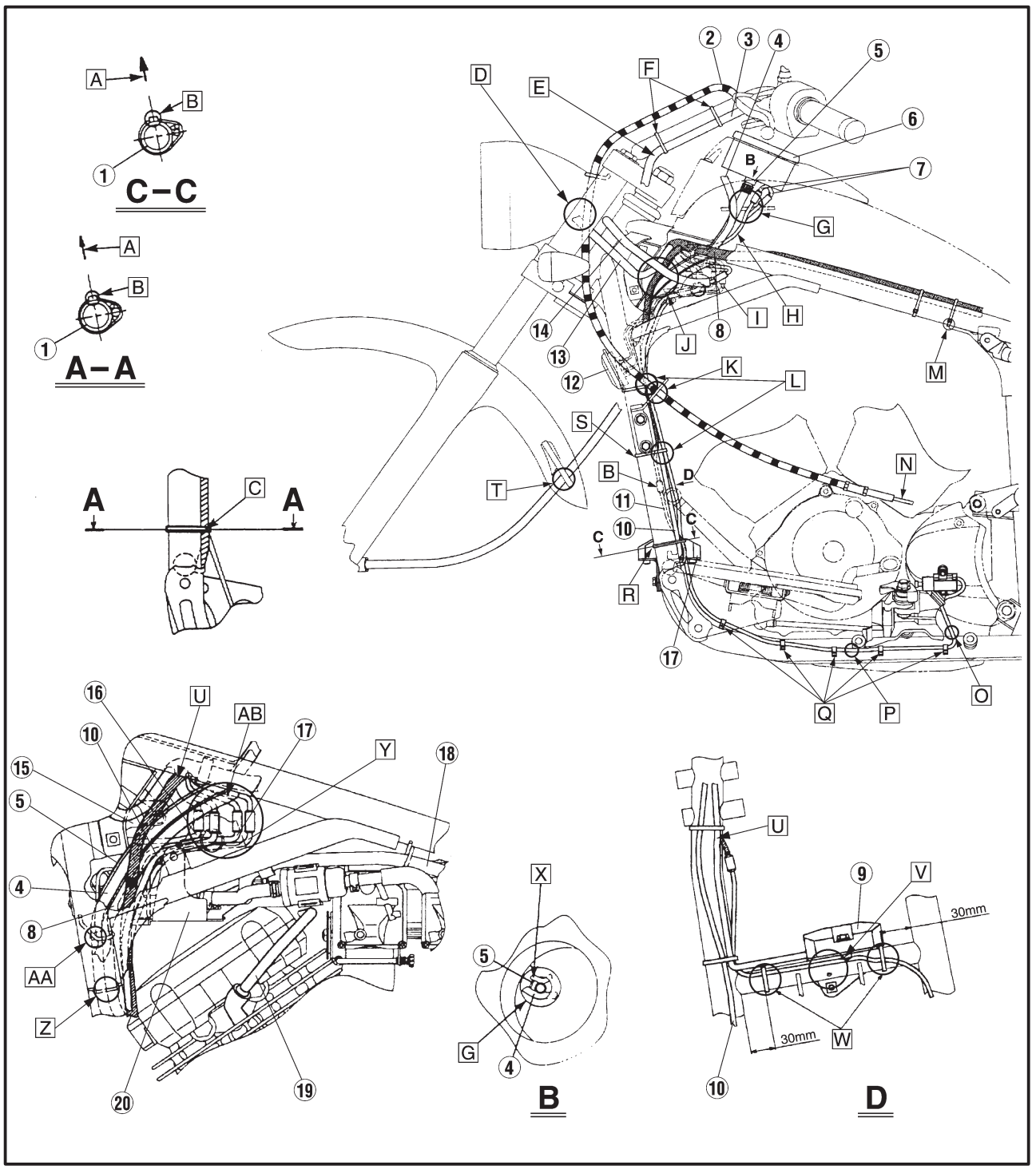
1. Frame
2. Clutch cable
3. Left handlebar switch lead
4. Fuel tank breather hose
5. Speedometer cable
6. Speedometer
7. Speedometer light leads
8. Vacuum chamber air vent hose
9. Rectifier/regulator
10. Sidestand switch lead
11. Rear brake switch lead
12. Horn
13. Headlight lead
14. Right handlebar switch lead
15. Main switch
16. Main switch lead
17. Fuel pump lead
18. Fuel hose
19. Spark plug lead
20. Fuel pump



[A] Inside the motorcycle.
[B] Place the end of the plastic locking tie as shown.
[C] Fasten the rear brake switch lead, sidestand switch lead and rectifier/regulator lead with metal clamp or plastic locking tie.
[D] Pass the front flasher light leads (left and right) and headlight lead through the headlight cover hole.
[E] Pass the left handlebar switch lead behind the upper bracket.
[F] Fasten the left handlebar switch lead with a plastic locking tie.
[G] Pass the speedometer cable, speedometer light leads and fuel tank breather hose through the fuel tank hole.
[H] To the speedometer light leads.
[I] Rectifier/regulator lead should not be out over the bracket.
[J] Pass the right handlebar switch lead and headlight lead over the other harness and leads.
[K] Pass the clutch cable through the cable guide.
[L] Fasten the sidestand switch lead and rectifier/regulator lead with a plastic locking tie.
[M] Install the plastic locking tie so that it is up against the frame projection.
[N] To the engine.
[O] Pass the sidestand switch and the lead wire through the sidestand bracket.
When installing, wake sure not to have any extra loosening.

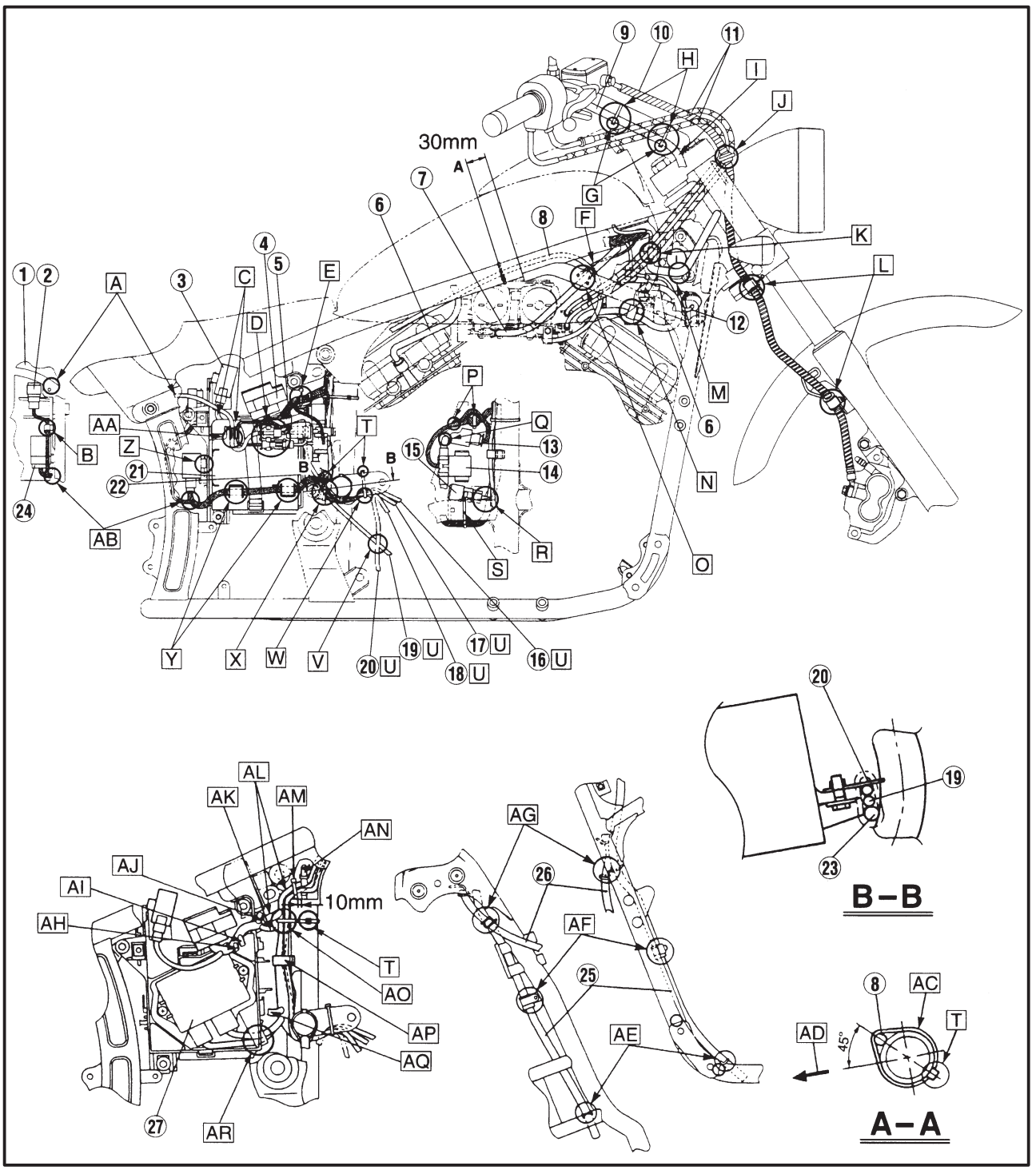


P Route the sidestand switch and the lead wire under the frame boss.
Q Fasten the sidestand switch lead with a metal clamp.
R Connect the rear brake switch coupler in front of the roll over valve stay.
S Install the plastic locking tie immediately below the cable guide bracket.
T Pass the speedometer cable through the speedometer cable holder.
U To the rectifier/regulator.
V Pass the rear brake switch lead between the frame and rectifier/regulator. Do not pinch the rear brake switch lead.
W Fasten the rear brake switch lead with a plastic locking tie.
X To the speedometer light leads.
Y Place the rectifier/regulator coupler completely inside the motorcycle body.
Z Pass the fuel tank breather hose and vacuum chamber air vent hose through the holder.
AA Pass the speedometer cable through the holder.
AB Place the couplers behind the steeirng head.

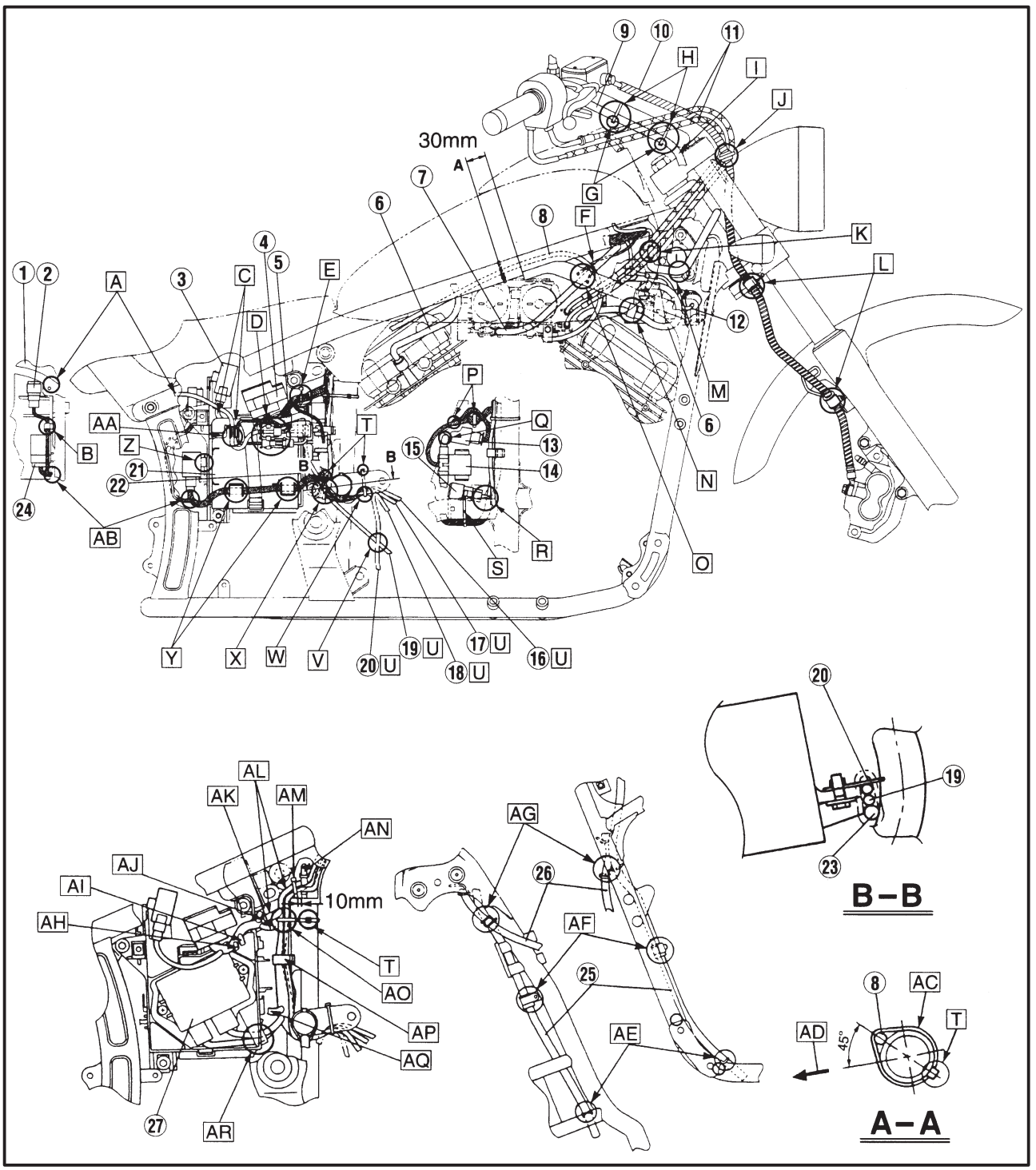


① Frame bracket
② Dimmer switch
③ Self-canceling turn signal relay
④ Fuse box
⑤ Battery positive (+) lead
⑥ Spark plug lead
⑦ Vacuum chamber air bent hose
⑧ Starter cable
⑨ Right handlebar switch lead
⑩ Brake hose
⑪ Throttle cables
⑫ Thermo switch lead
⑬ Flasher light relay
⑭ Starter relay
⑮ Carburetor heater relay
⑯ Neutral switch lead
⑰ Pickup coil lead
⑱ A.C. magneto lead
⑲ Battery negative (–) lead
⑳ Starter motor lead
㉑ Battery cover
㉒ Battery
㉓ Wire harness
㉔ Starting circuit cut-off relay
㉕ Fuel tank breather hose
㉖ Speedometer cable
㉗ Ignitor unit

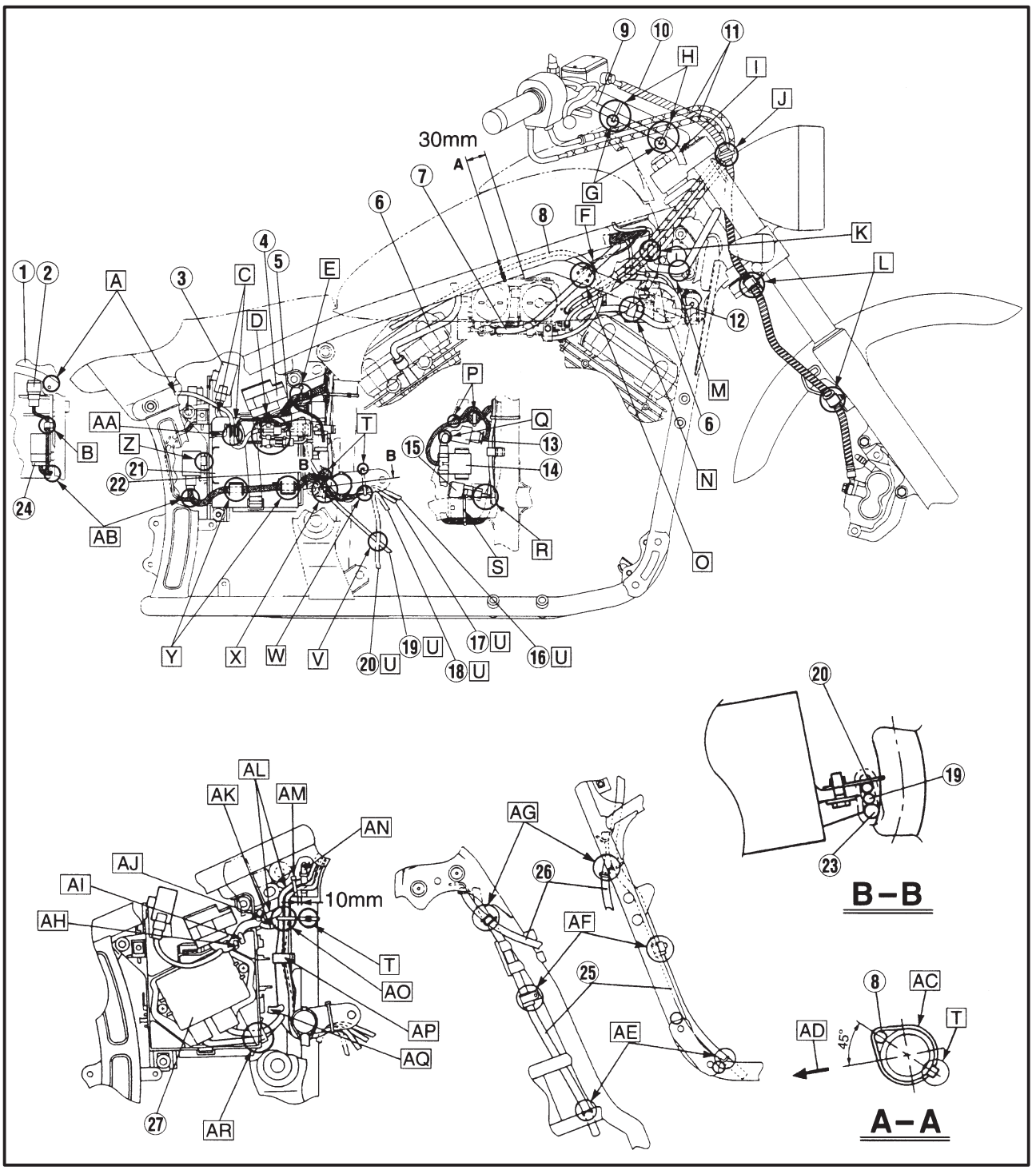
A Pass the tail/brake light lead between the frame bracket and battery box. Position the mud guard the between the edge of the frame bracket and the tail/brake light lead.
B Fasten the dimmer switch lead with a clamp.



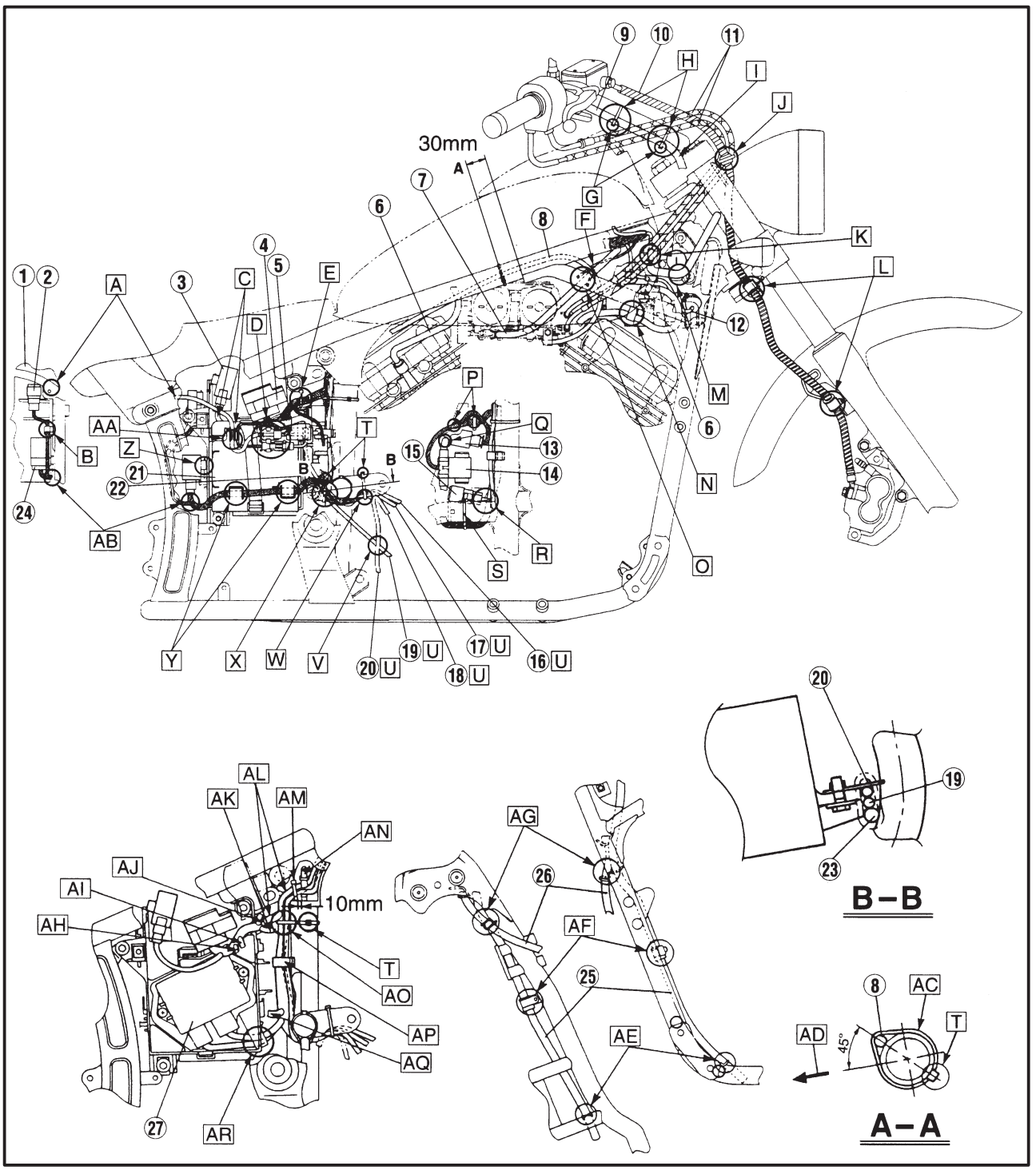
[C] Fasten the self-canceling turn signal relay lead and battery positive (+) lead with a battery band.
[D] Fasten the tail/brake light lead coupler and battery negative (–) lead coupler with a clamp.
[E] Fasten the starter relay lead and fuse box lead with a plastic locking tie.
[F] To the ignition coil.
[G] The end of the plastic locking tie should face towards the under the handlebar.
[H] Fasten the right handlebar switch lead with a plastic locking tie.
[I] Pass the right handlebar switch lead behind the upper bracket.
[J] Fasten the brake hose grommet with a brake hose holder.
[K] Place the left handlebar switch coupler on the side of the main switch.
[L] Fasten the brake hose with a brake hose holder.
[M] Pass the left handlebar switch lead under the main switch.
[N] Fasten the spark plug lead with a metal clamp.
[O] Pass the ignition coil lead inside of the starter cable.
[P] Fasten the fuse box lead with a plastic locking tie.



[Q] Fasten the battery positive (+) lead with a battery box clamp.
[R] The carburetor heater relay should not touch the wire harness.
[S] Fasten the wire harness with a plastic locking tie.
[T] Place the end of the plastic locking tie as shown.
[U] From the engine.
[V] Pass the starter motor lead over the battery negative (–) lead.
[W] Fasten the pickup coil lead, A.C. magneto lead, neutral switch lead and starter motor lead with a plastic locking tie.
[X] Fasten the battery negative (–) lead, starter motor lead and wire harness with a plastic locking tie.
[Y] Fasten the wire harness with a clamp.
[Z] The starting safety relay must be fixed to the battery box after connecting the wire harness.
[AA] Fasten the battery negative (–) lead and tail/brake light lead with a clamp.
[AB] Pass the wire harness between the frame and battery box.
[AC] Fasten the starter cable with a plastic locking tie.
[AD] Inside the motorcycle.

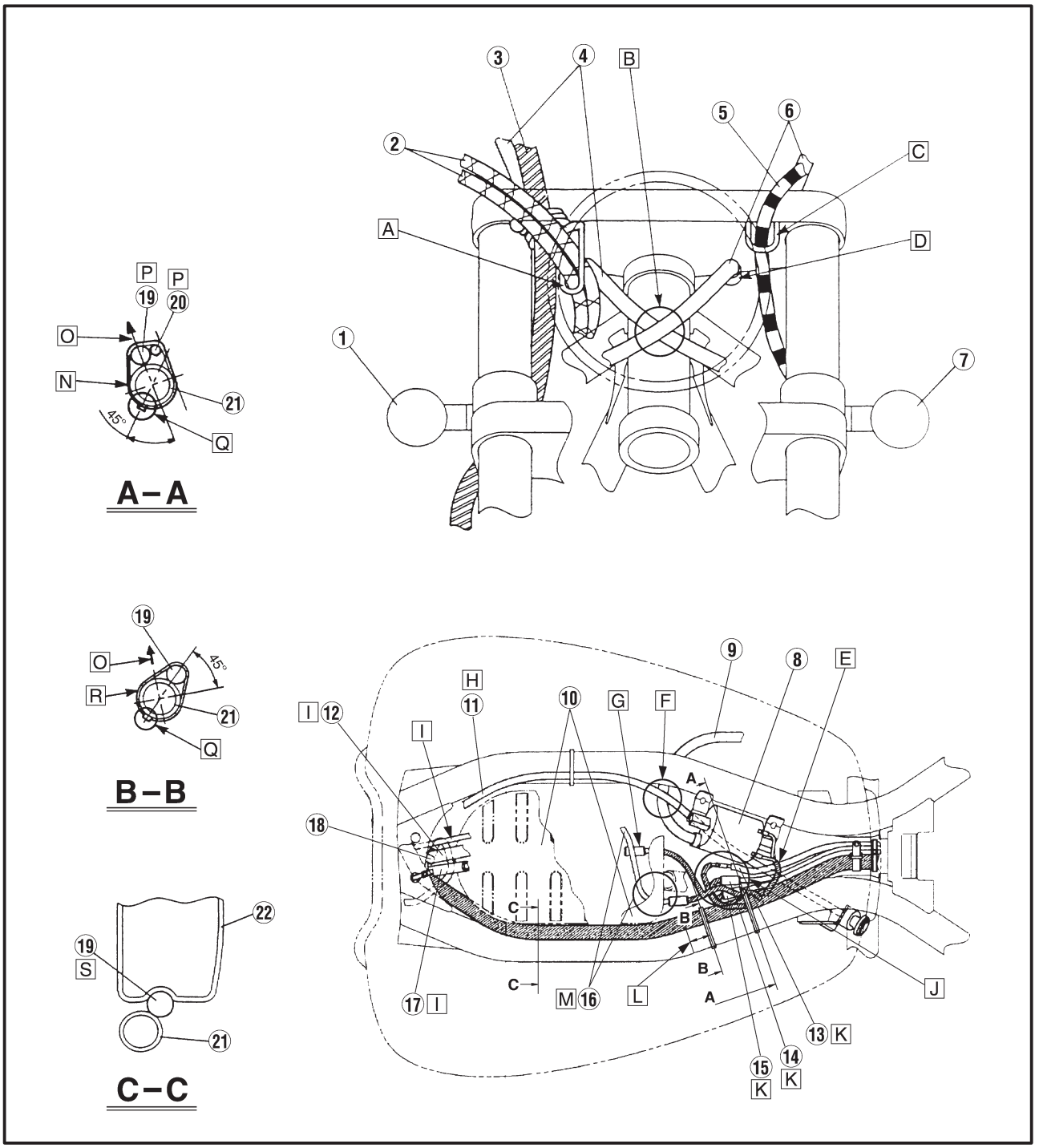


AE Pass the fuel tank breather hose through the holder.
AF Fasten the fuel tank breather hose with a metal clamp.
AG Pass the speedometer cable through the front side guide.
AH To the battery negative (–) lead.
AI To the rear fender.
AJ To the flasher light relay.
AK To the starter relay.
AL The wire harness and leads should not touch the rear shock absorber.
AM Fasten the wire harness and leads with a plastic locking tie.
AN Pass the plastic band through the frame hole. Fasten the wire harness with a plastic band at the point where the tape is located.
AO Fasten the wire harness and leads with a plastic locking tie.
AP Fasten the wire harness and leads with a metal clamp.
AQ To the carburetor heater relay.
AR Pass the ignitor unit leads through the battery box hole.

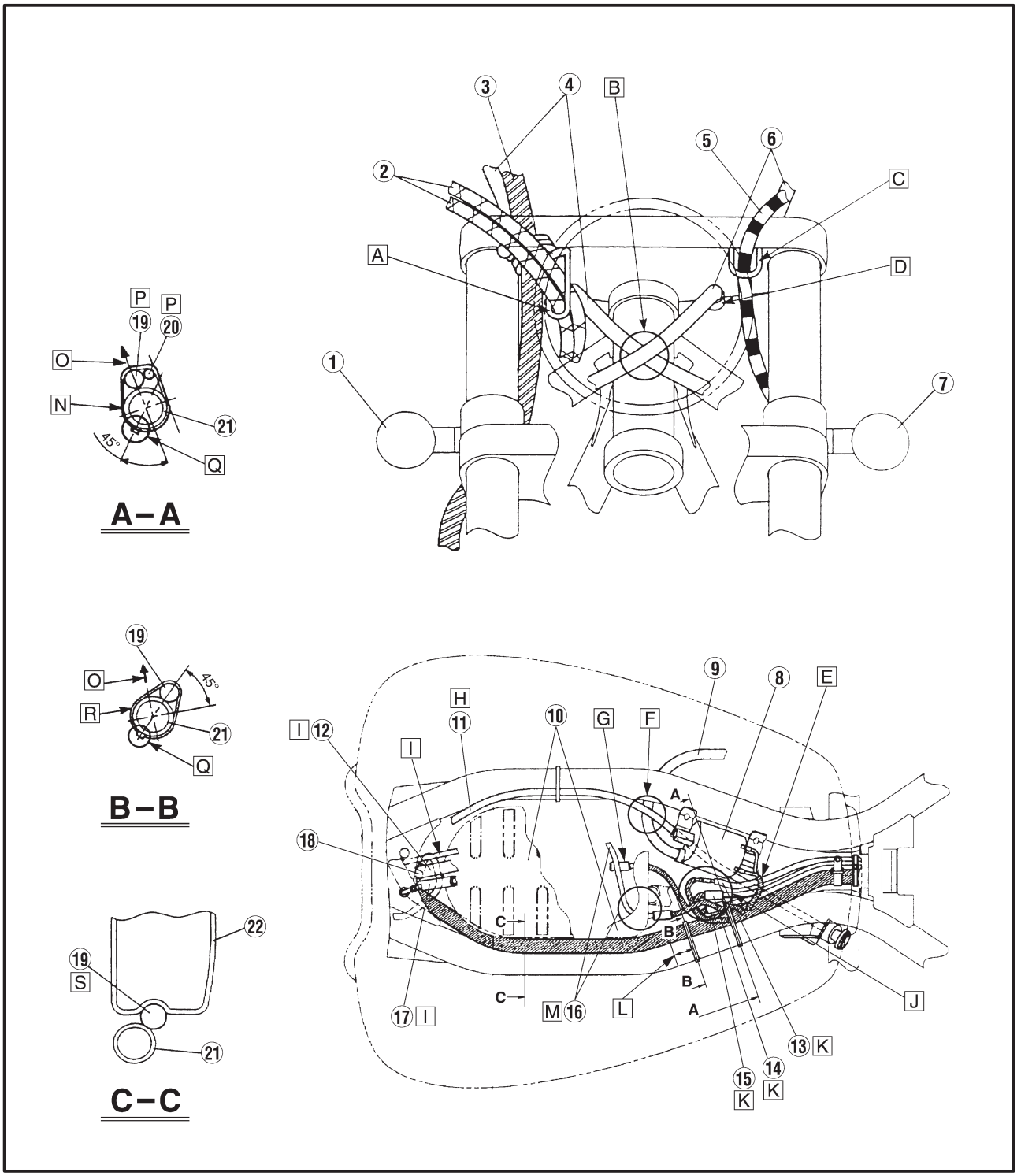


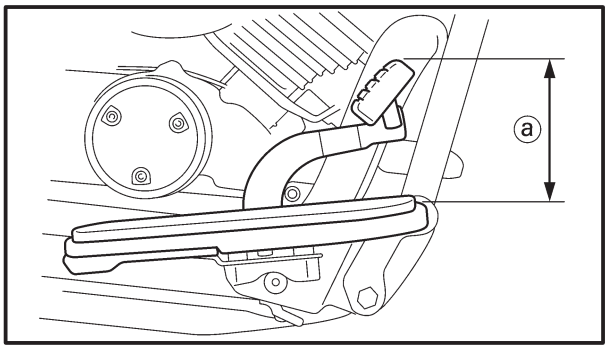
① Front flasher light (right)
② Throttle cables
③ Brake hose
④ Right handlebar switch lead
⑤ Clutch cable
⑥ Left handlebar switch lead
⑦ Front flasher light (left)
⑧ Ignition coil
⑨ Spark plug lead
⑩ Silencer
⑪ Starter cable
⑫ Speedometer cable
⑬ Neutral switch lead
⑭ Pickup coil lead
⑮ A.C. magneto lead
⑯ Thermo switch lead
⑰ Fuel tank breather hose
⑱ Rectifier/regulator coupler
⑲ Wire harness
⑳ Throttle position sensor (TPS) lead
㉑ Frame
㉒ Air filter case

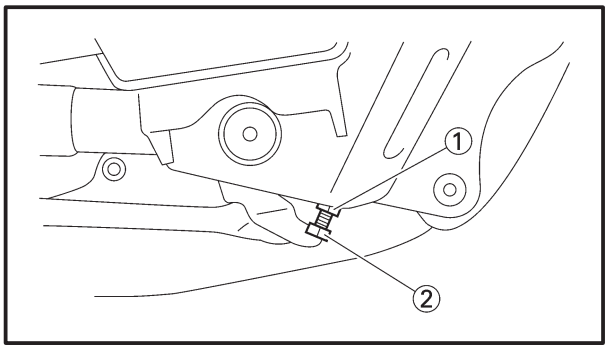
Ⓐ Pass the throttle cables through the cable guide.
Ⓑ Pass the left handlebar switch lead over the right handlebar switch lead.
Ⓒ Pass the clutch cable through the cable guide.
Ⓓ Fasten the handlebar switch leads with a plastic band.
Ⓔ To the ignition coil.
Ⓕ Pass the starter cable between the ignition coil and spark plug lead.

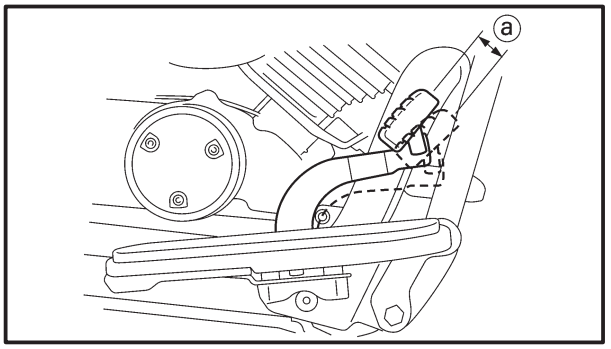


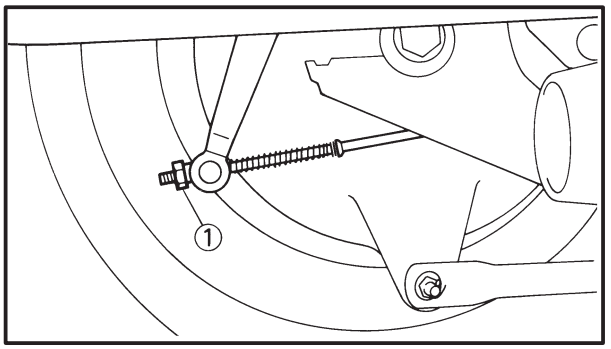
[G] To the throttle position sensor (TPS).
[H] To the carburetor.
[I] To the fuel tank.
[J] Pass the neutral switch lead, pickup coil lead and A.C. magneto lead under the ignition coil lead, thermo switch lead and throttle position sensor (TPS) lead.
[K] From the engine.
[L] 20 mm (0.79 in)
[M] Pass the thermo switch lead inside of the silencer breather hose.
[N] Fasten the wire harness and throttle position sensor (TPS) lead with a plastic locking tie.
[O] Inside the motorcycle.
[P] Route the wire harness and throttle position sensor (TPS) lead so they run along the bottom of the frame tube.
[Q] Place the end of the plastic locking tie as shown.
[R] Fasten the wire harness with a plastic locking tie.
[S] Pass the wire harness between the air filter case groove and frame.











PERIODIC INSPECTION AND ADJUSTMENT

EB304012

REAR BRAKE ADJUSTMENT

1. Check:
   • Brake pedal height ⓐ
   Out of specification → Adjust.

Brake pedal height:
108 mm (4.25 in)
(above the top of the footrest)

2. Adjust:
   • Brake pedal height

****

Adjustment steps:

• Loosen the locknut ①.
• Turn the adjuster ② in or out until the specified pedal height is obtained.

Turning in:	**brake pedal height is decreased.**
Turning out:	**brake pedal height is increased.**

• Tighten the locknut.

Locknut:
7 Nm (0.7 m•kg, 5.1 ft•lb)

****

3. Check:
   • Brake pedal free play ⓐ
   Out of specification → Adjust.

Free play (brake pedal):
20 × 30 mm (0.79 × 1.18 in)

4. Adjust:
   • Brake pedal free play

****

Adjustment steps:

Turn the adjuster ① in or out until the specified free play is obtained.

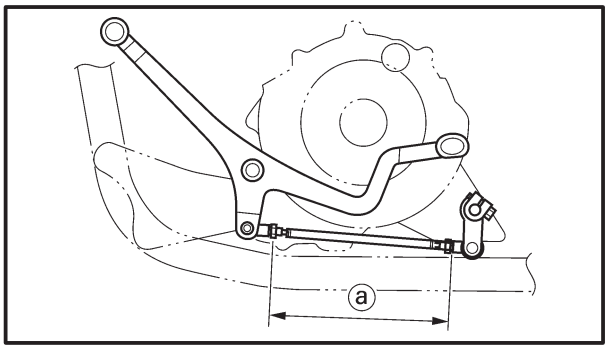
Turning in:	**brake pedal free play is decreased.**
Turning out:	**brake pedal free play is increased.**

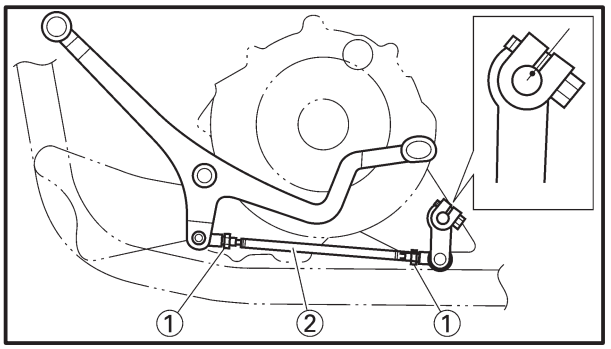
CAUTION:

Make sure that there is no brake drag after adjusting the brake pedal height and the free play.

****

5. Adjust:
   • Brake light switch
   Refer to “BRAKE LIGHT SWITCH ADJUSTMENT”.





EB304080

SHIFT PEDAL ADJUSTMENT

1. Check:
   - Shift pedal position
     Check the shift pedal rod length ⓐ.
     If the position is incorrect → Adjust.

	Shift pedal rod length: 168 mm (6.6 in)

2. Adjust:
   - Shift pedal position

****

Adjustment steps:

- Loosen both locknuts ①.
- To obtain the correct pedal position turn the shift pedal rod ② in or out.

Turning in:	**shift pedal is lowered.**
Turning out:	**shift pedal is raised.**

- Tighten both locknuts.

****

NOTE:

- Align the mark on the shift shaft with the center of the slit.
- Turn in the both side of the shift pedal rod more than 4 times.

EB601000

CARBURETION

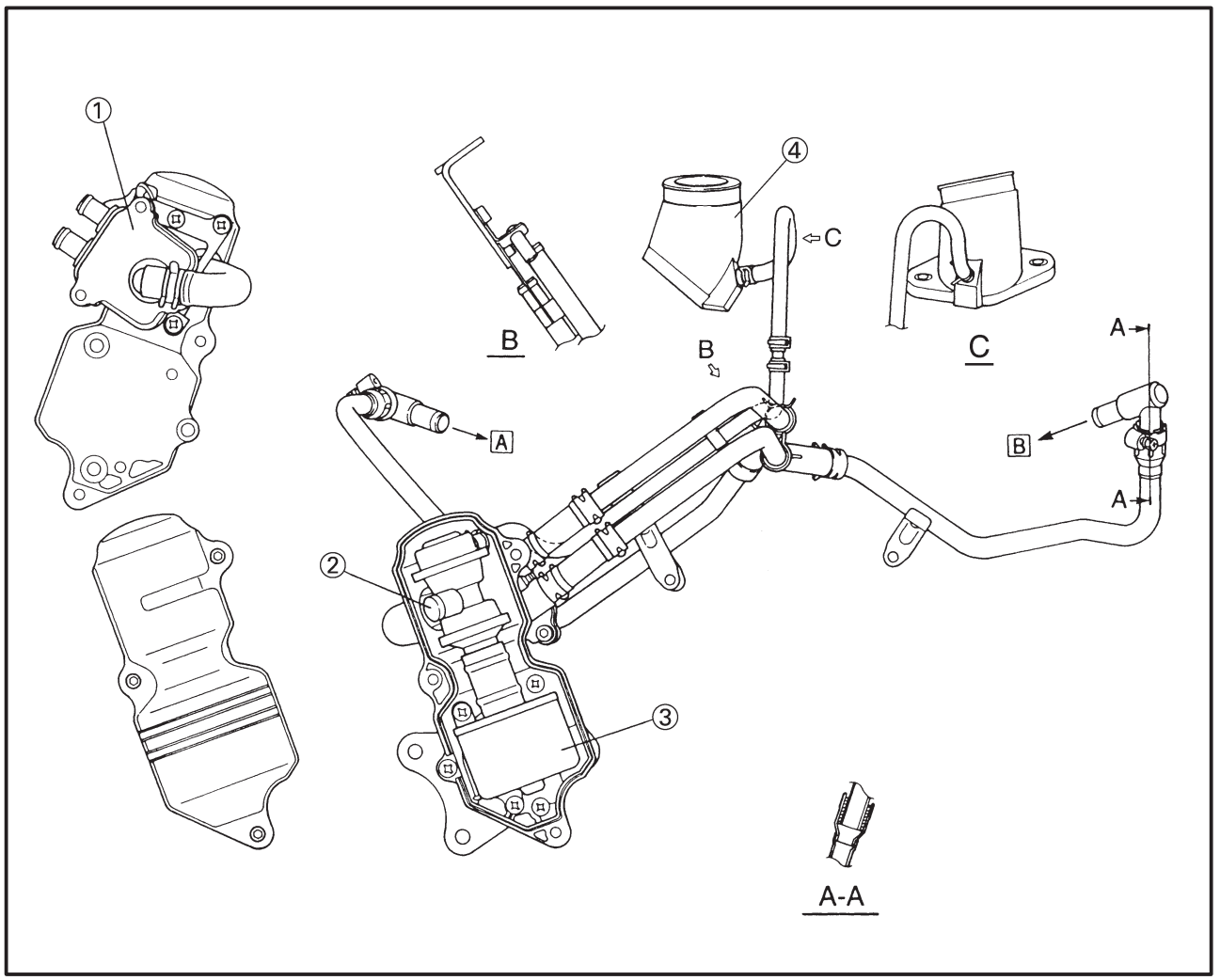
AIR INDUCTION SYSTEM

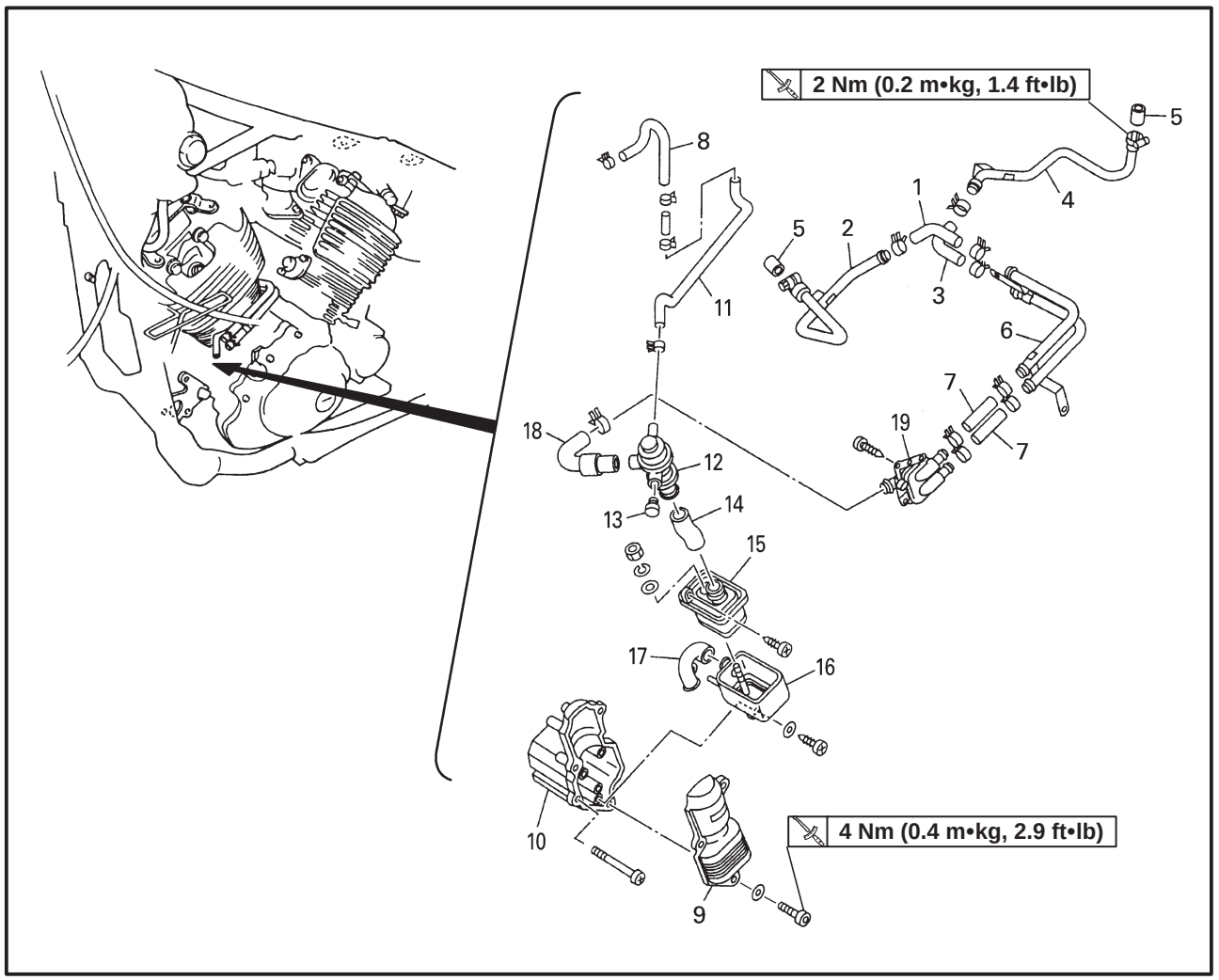
EAS00509

AIR INDUCTION SYSTEM DIAGRAMS

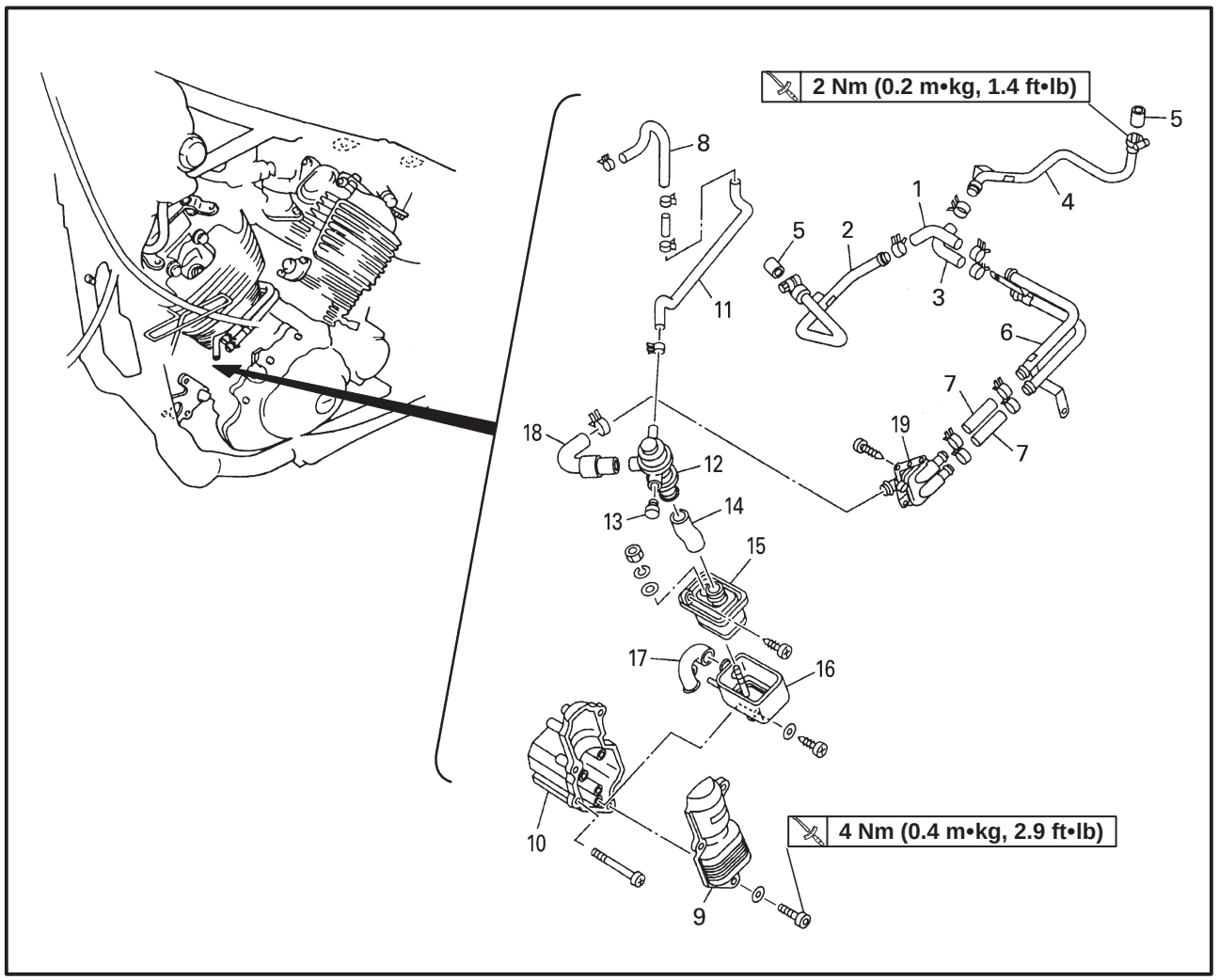
① Reed valve
② Air cut valve
③ Air cleaner
④ Carburetor joint

[A] To the front cylinder head
[B] To the rear cylinder head





Order	Job/Part	Q'ty	Remarks
	Removing the air induction system		Remove the parts in the order listed.
1	Reed valve case to front cylinder head hose	1	
2	Reed valve case to front cylinder head pipe	1	
3	Reed valve case to rear cylinder head hose	1	
4	Reed valve case to rear cylinder head hose	1	
5	Gasket	2	
6	Reed valve case to cylinder head pipe	1	
7	Reed valve case to cylinder head hose	2	
8	Vacuum hose 2	1	

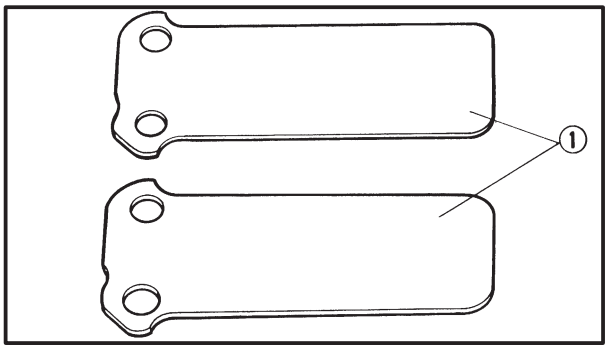


Order	Job/Part	Q'ty	Remarks
9	Cover	1	
10	Cover	1	
11	Vacuum hose 1	1	
12	Air cut valve	1	
13	Plug	1	
14	Air cut valve to air cleaner hose	1	
15	Air cleaner	1	
16	Air Cleaner case	1	
17	Bend hose	1	
18	Air cut valve to reed valve hose	1	
19	Reed valve	1	
			For installation, reverse the removal procedure.

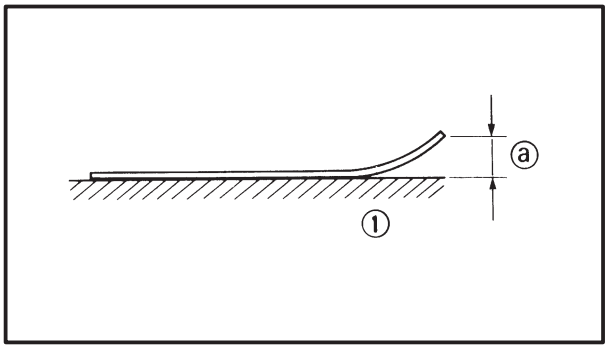
EAS00510

CHECKING THE AIR INDUCTION SYSTEM

1. Check:
   - hoses
     Loose connection → Connect properly.
     Cracks/damage → Replace.
   - pipes
     Cracks/damage → Replace.



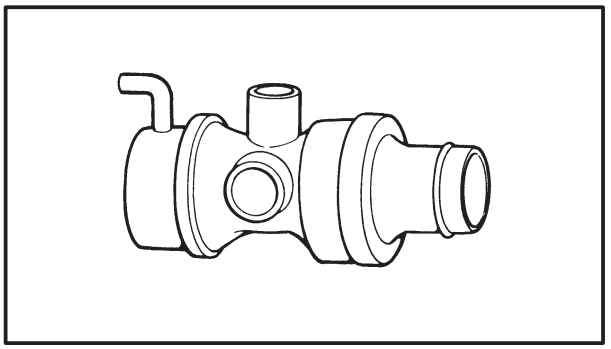
2. Check:
   - reed valve ①
   - reed valve stopper
   - reed valve seat
     Cracks/damage → Replace the reed valve.



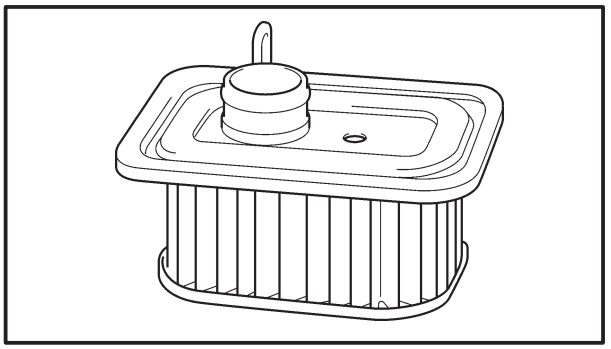
3. Measure:
   - reed valve bending ⓐ
     Out of specification → Replace the reed valve.

Maximum reed valve bending
0.4 mm (0.016 in)

① Surface plate



4. Check:
   - air cutoff valve
     Cracks/damage → Replace.

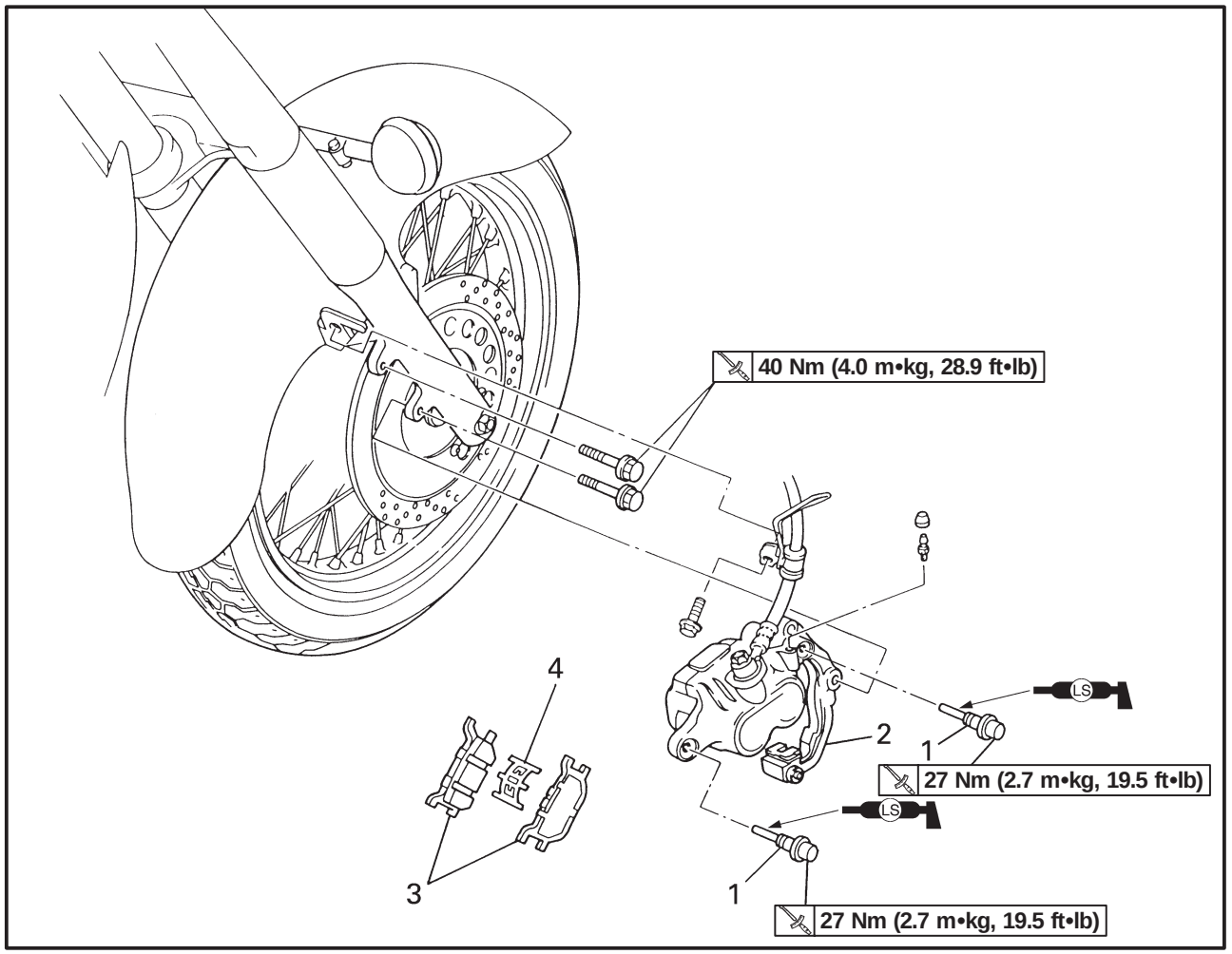


5. Check:
   - air cleaner
     Cracks/damage → Replace.
     Clogged → Clean.

CHASSIS

FRONT BRAKE

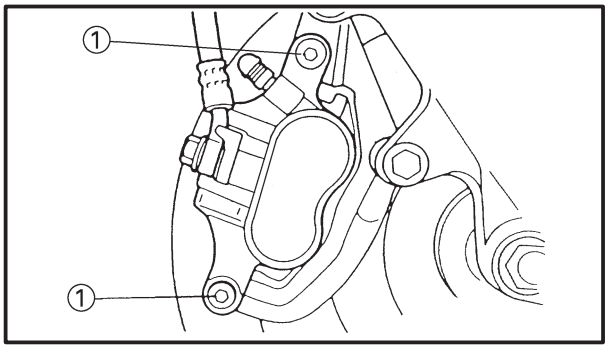
FRONT BRAKE PADS



Order	Job/Part	Q'ty	Remarks
	Front brake pad removal		Remove the parts in the order below.
1	Retaining bolt	2	
2	Brake caliper	1	Refer to "BRAKE PAD REPLACEMENT".
3	Brake pads	2	
4	Pad spring	1	
			For installation, reverse the removal procedure.

CAUTION:

Disc brake components rarely require disassembly. DO NOT:
- **disassemble components unless absolutely necessary;**
- **use solvents on internal brake components;**
- **use spent brake fluid for cleaning; (use only clean brake fluid)**
- **allow brake fluid to come in contact with the eyes, as this may cause eye injury;**
- **splash brake fluid onto painted surfaces or plastic parts, as this may cause damage;**
- **disconnect any hydraulic connection, as this would require the entire brake system to be disassembled, drained, cleaned, properly filled and bled after reassembly.**

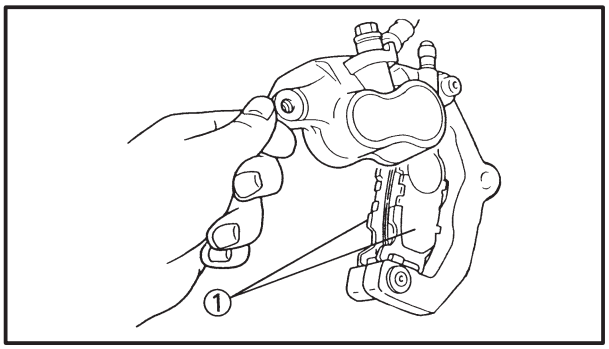


BRAKE PAD REPLACEMENT

NOTE:

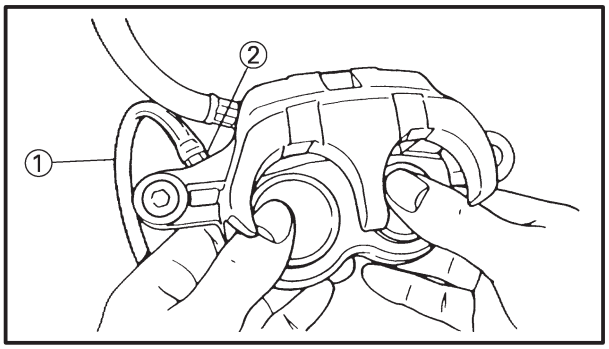
It is not necessary to disassemble the brake caliper and brake hose to replace the brake pads.

1. Remove:
   - Retaining bolt ①



2. Remove:
   - Brake pads ①

NOTE:
- Install new brake pad springs when the brake pads have to be replaced.
- Replace the brake pads as a set if either is found to be worn to the wear limit.



3. Install:
   - Brake pads
   - Brake pads spring

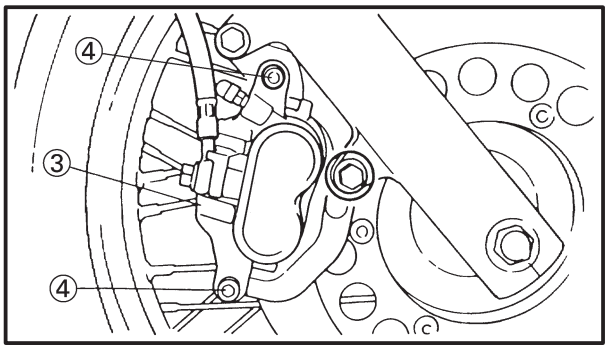
****

Installation steps:
- Connect a suitable hose ① tightely to the brake caliper bleed screw ②. Put the other end of this hose into an open container.

- Loosen the brake caliper bleed screw and using a finger push the caliper pistons into the brake caliper.
- Tighten the brake caliper bleed screw ②.

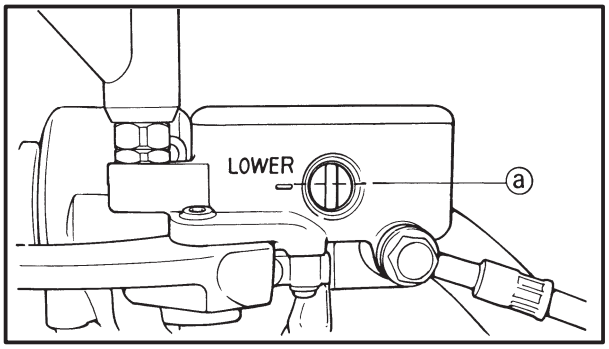
Brake caliper bleed screw:
6 Nm (0.6 m•kg, 4.3 ft•lb)

- Install new brake pads and a new brake pad spring.
- Install the brake caliper ③ and retaining bolt ④.



Bolt (brake caliper):
40 Nm (4.0 m•kg, 28.9 ft•lb)
Retaining bolt:
27 Nm (2.7 m•kg, 19.5 ft•lb)

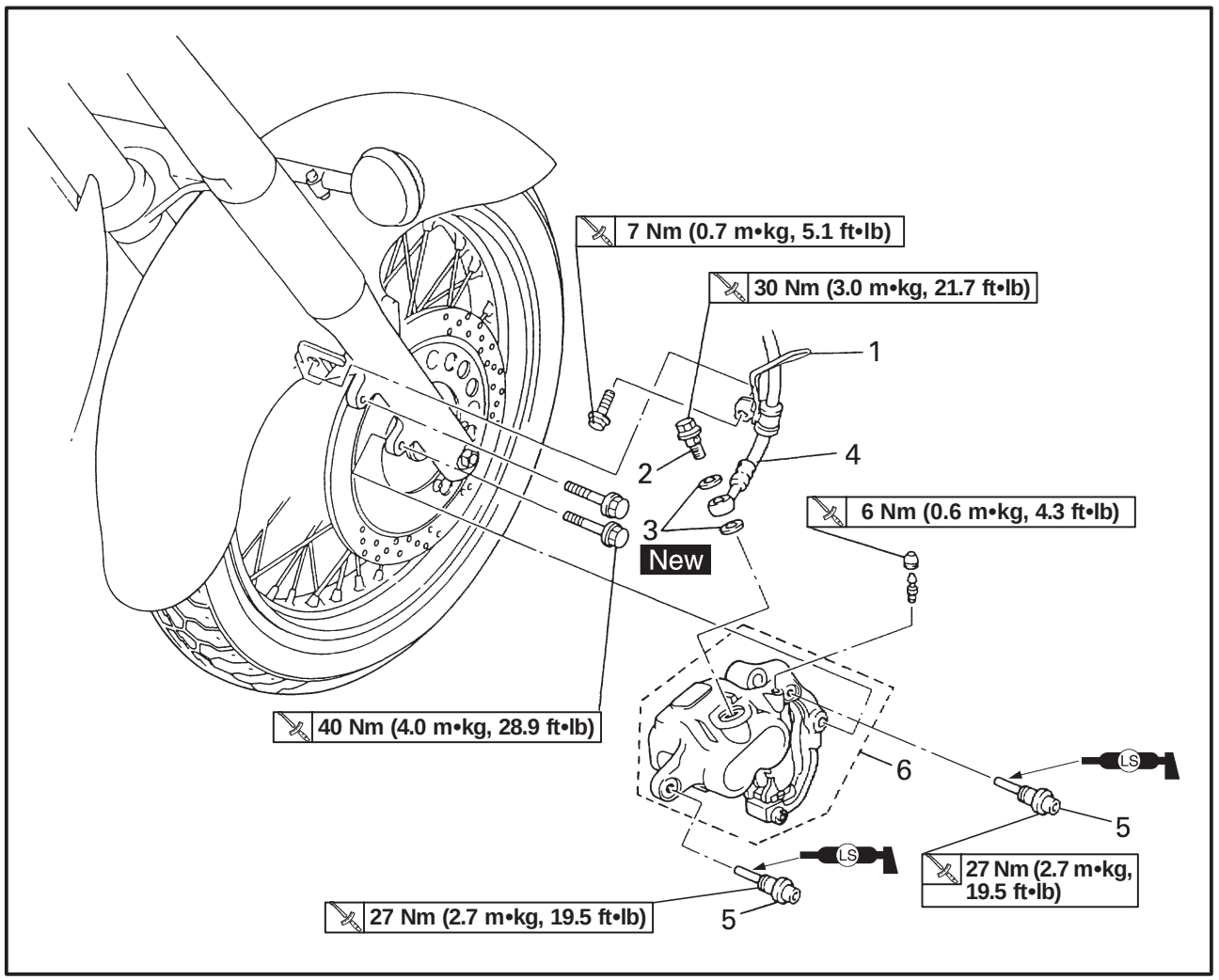
****



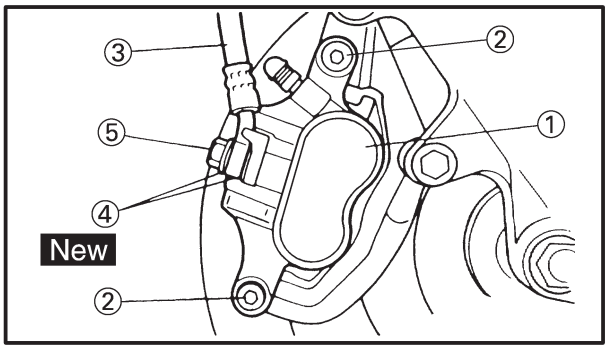
4. Check
   - Brake fluid level
     Refer to “BRAKE FLUID LEVEL INSPECTION” in CHAPTER 3.
     ⓐ “LOWER” level line

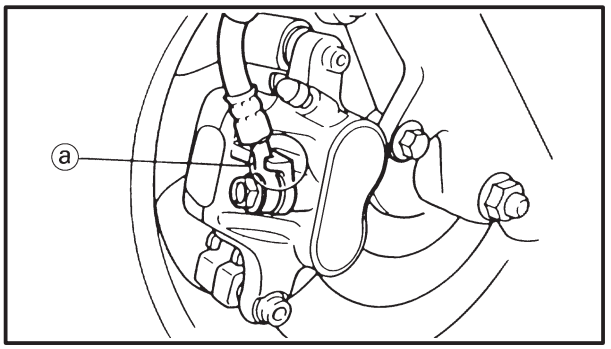
5. Check:
   - Brake lever operaiton
     Soft or spongy feeling → Bleed the brake system.
     Refer to “AIR BLEEDING (HYDRAULIC BRAKE SYSTEM)” in CHAPTER 3.

FRONT BRAKE CALIPER



Order	Job/Part	Q'ty	Remarks
	Front brake caliper removal		Remove the parts in the order below.
	Brake fluid		Drain
1	Brake hose holder	1	
2	Union bolts	1	
3	Copper washers	2	
4	Brake hose	1	Refer to "CALIPER INSTALLATION".
5	Retaining bolt	2	
6	Brake caliper assembly	1	
			For installation, reverse the removal procedure.





CALIPER INSTALLATION

1. Install:
   - Brake caliper ①
   - Retaining bolt ②

     27 Nm (2.7 m•kg, 19.5 ft•lb)
   - Brake hose ③
   - Copper washers ④ New
   - Union bolt ⑤ **30 Nm (3.0 m•kg, 21.7 ft•lb)**

CAUTION:

When installing the brake hose on the brake caliper, make sure that the brake pipe touches the projection ⓐ on the brake caliper.

⚠ WARNING

Proper brake hose routing is essential to insure safe motorcycle operation. Refer to "CABLE ROUTING".

2. Fill:
   - Brake reservoir

Recommended brake fluid:
DOT 4

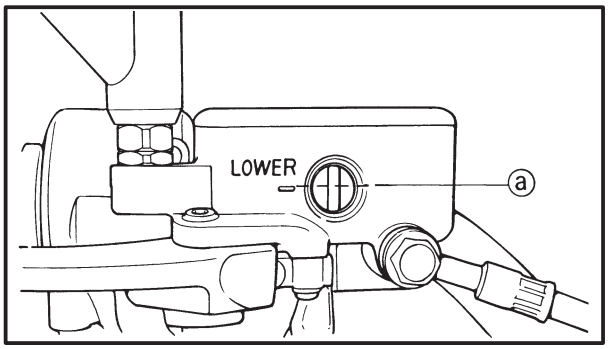
CAUTION:

Brake fluid may damage painted surfaces or plastic parts. Always clean up spilled brake fluid immediately.

⚠ WARNING

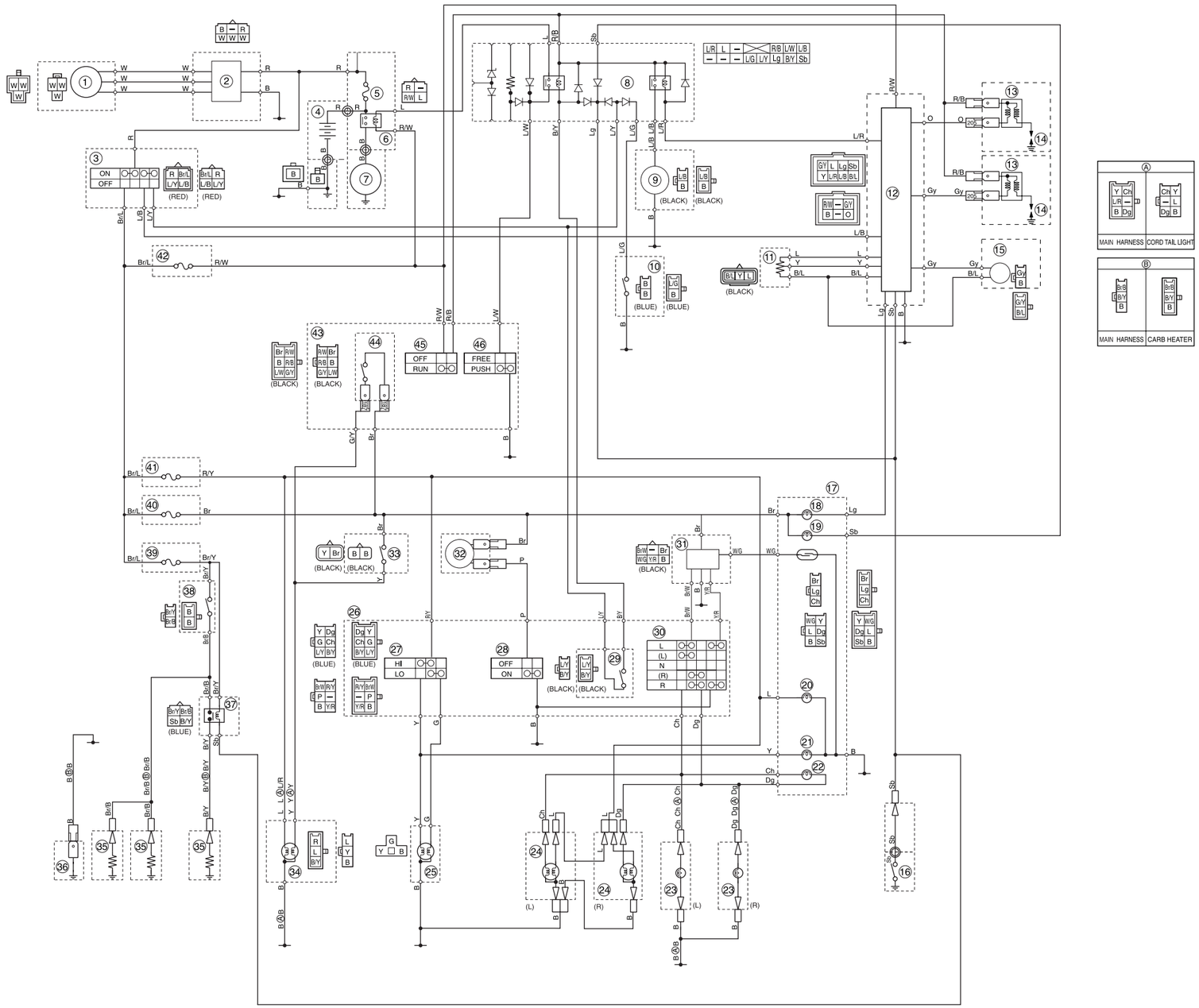
- **Use only the designated quality brake fluid: other brake fluids may deteriorate the rubber seals, causing leakage and poor brake performance.**
- **Refill with the same type of brake fluid: mixing brake fluids may result in a harmful chemical reaction and lead to poor brake performance.**
- **Be careful that water does not enter the master cylinder when refilling. Water will significantly lower the boiling point of the brake fluid and may result in vapor lock.**

3. Air bleed
   • Brake system
   Refer to “AIR BLEEDING (HYDRAULIC BRAKE SYSTEM)” in CHAPTER 3.



4. Check:
   • Brake fluid level
   Brake fluid level is under the “LOWER” level line → Fill up.
   Refer to “BRAKE FLUID LEVEL INSPECTION” in CHAPTER 3.
   ⓐ “LOWER” level line

XVS650AN(C) WIRING DIAGRAM



1. A.C. magneto
2. Rectifier/regulator
3. Main switch
4. Battery
5. Main fuse
6. Starter relay
7. Starter motor
8. Relay unit
9. Fuel pump
10. Sidestand switch
11. Throttle position sensor (TPS)
12. Ignitor unit
13. Ignition coil
14. Spark plug
15. Pickup coil
16. Neutral switch
17. Meter assembly
18. Engine indicator light
19. Neutral indicator light
20. Meter light
21. High beam indicator light
22. Turn indicator light
23. Rear turn signal
24. Front turn signal
25. Headlight
26. Left handlebar switch
27. Dimmer switch
28. Horn switch
29. Clutch switch
30. Turn switch
31. Flasher relay
32. Horn
33. Rear brake switch
34. Tail/brake light
35. Carburetor heater
36. Carburetor heater earth
37. Carburetor heater relay
38. Thermo switch
39. Carburetor heater fuse
40. Signal system fuse
41. Headlight fuse
42. Ignition fuse
43. Right handlebar switch
44. Front brake switch
45. Engine stop switch
46. Start switch

COLOR CODE

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

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