YAMAHA 2019

SUPPLEMENTARY SERVICE MANUAL

FZN250-A
FZF250-A

BC4-F8197-E1

FORWARD

This supplementary service manual has been prepared to introduce new service and data for the FZN250A & FZF250 2019 For complete information procedures it is necessary to use this supplementary service manual together with the following manual.

FZN250 2017 SERVICE MANUAL: B97-F8197-E0

FZN250-A
FZF250-A
SUPPLEMENTARY SERVICE MANUAL

First edition, April 2019

EAS20071

IMPORTANT

This manual was produced by the India Yamaha Motor Pvt. Ltd. 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. Therefore, anyone who uses this book to perform maintenance and repairs on Yamaha vehicles should have a basic understanding of mechanics and the techniques to repair these types of vehicles. Repair and maintenance work attempted by anyone without this knowledge is likely to render the vehicle unsafe and unfit for use.
India Yamaha Motor Pvt. 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.

TIP

Designs and specifications are subject to change without notice.

EAS20081

IMPORTANT MANUAL INFORMATION

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

⚠	**This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.**

⚠ WARNING	**A WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.**

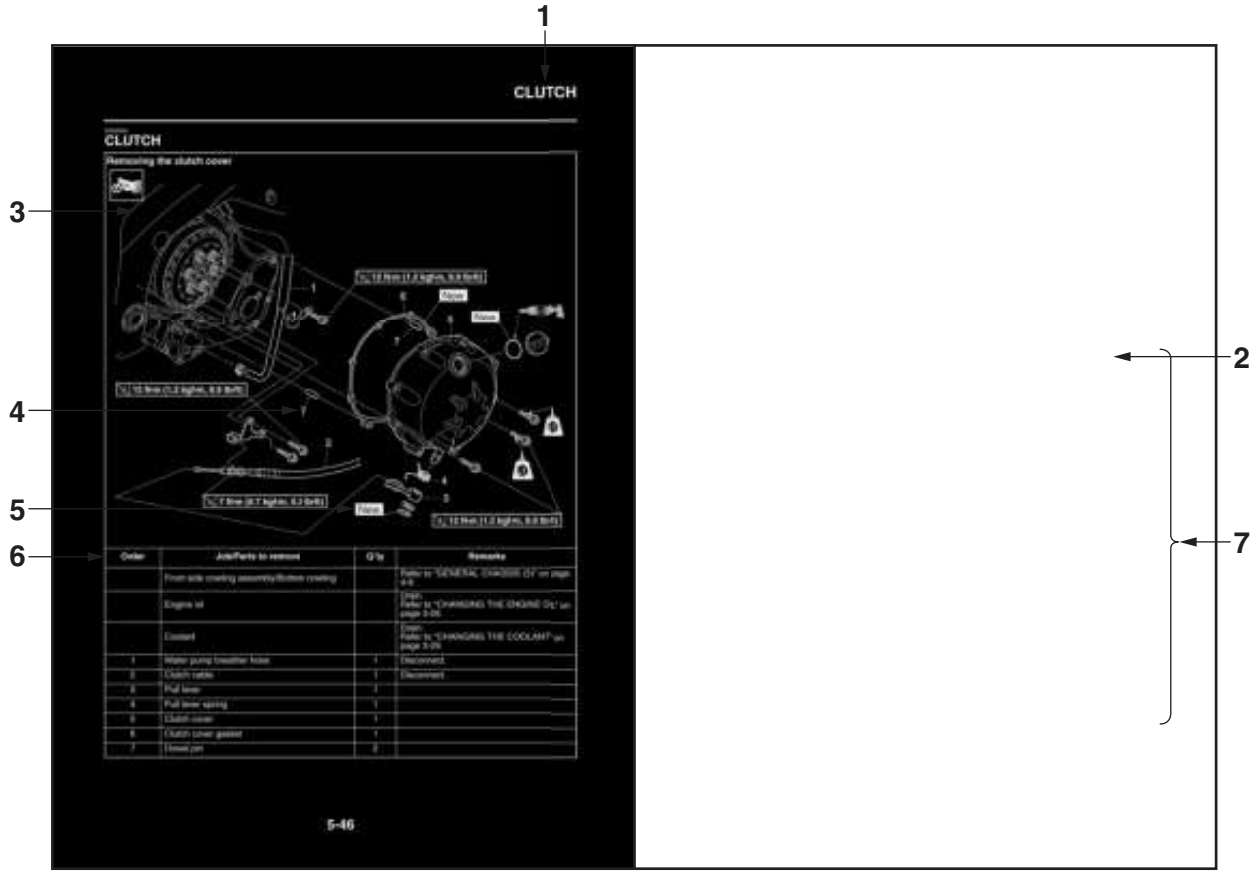
NOTICE	**A NOTICE indicates special precautions that must be taken to avoid damage to the vehicle or other property.**

TIP	A TIP provides key information to make procedures easier or clearer.

HOW TO USE THIS MANUAL

This manual is intended as a handy, easy-to-read reference book for the mechanic. Comprehensive explanations of all installation, removal, disassembly, assembly, repair and check procedures are laid out with the individual steps in sequential order.

- The manual is divided into chapters and each chapter is divided into sections. The current section title “1” is shown at the top of each page.
- Sub-section titles “2” appear in smaller print than the section title.
- To help identify parts and clarify procedure steps, there are exploded diagrams “3” at the start of each removal and disassembly section.
- Numbers “4” are given in the order of the jobs in the exploded diagram. A number indicates a disassembly step.
- Symbols “5” indicate parts to be lubricated or replaced. Refer to “SYMBOLS”.
- A job instruction chart “6” accompanies the exploded diagram, providing the order of jobs, names of parts, notes in jobs, etc.
- Jobs “7” requiring more information (such as special tools and technical data) are described sequentially.



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SYMBOLS

The following symbols are used in this manual for easier understanding.

TIP

The following symbols are not relevant to every vehicle.

SYMBOL	DEFINTION	SYMBOL	DEFINTION
	Serviceable with engine mounted		Molybdenum disulfide oil
	Filling fluid		Brake fluid
	Lubricant		Wheel bearing grease
	Special tool		Lithium-soap-based grease
	Tightening torque		Molybdenum disulfide grease
	Wear limit, clearance		Silicone grease
	Engine speed		Apply locking agent (LOCTITE®).
	Electrical data		Replace the part with a new one.
	Engine oil		

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GENERAL INFORMATION

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FEATURES (for FZ25-ABS)

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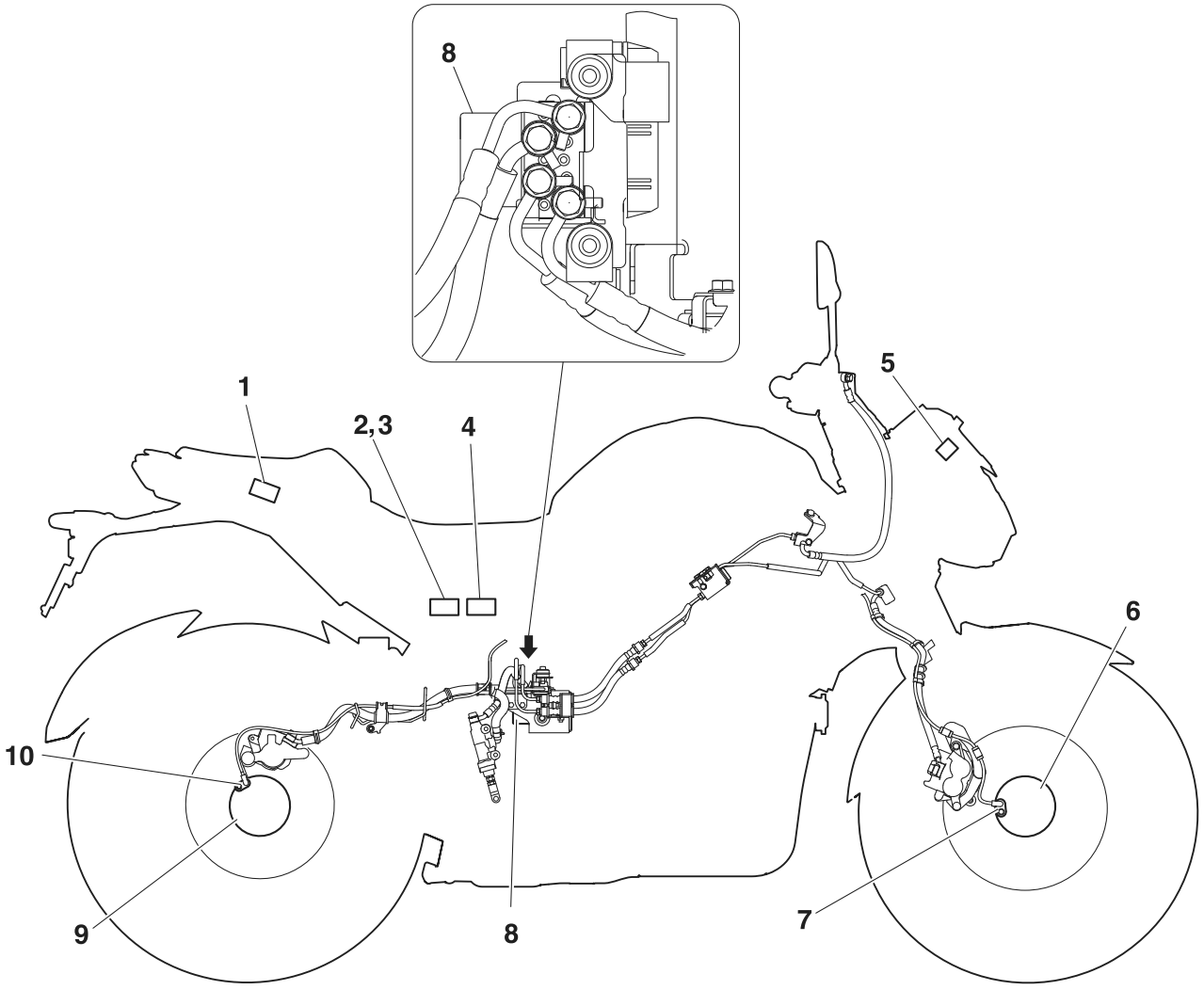
OUTLINE OF THE ABS

1. The Yamaha ABS (anti-lock brake system) features an electronic control system, which acts on the front and rear brakes independently.
2. The ABS features a compact and lightweight design to help maintain the basic maneuverability of the vehicle.
3. The hydraulic unit assembly, which is the main component of the ABS, is centrally located on the vehicle to increase mass centralization.

ABS layout



1. ABS test coupler
2. ABS solenoid fuse
3. ABS motor fuse
4. ABS control unit fuse
5. ABS warning light
6. Front wheel sensor rotor
7. Front wheel sensor
8. Hydraulic unit assembly
9. Rear wheel sensor rotor
10. Rear wheel sensor

EAS20008
FEATURES (for FAZER25-ABS)

EAS30683
OUTLINE OF THE ABS

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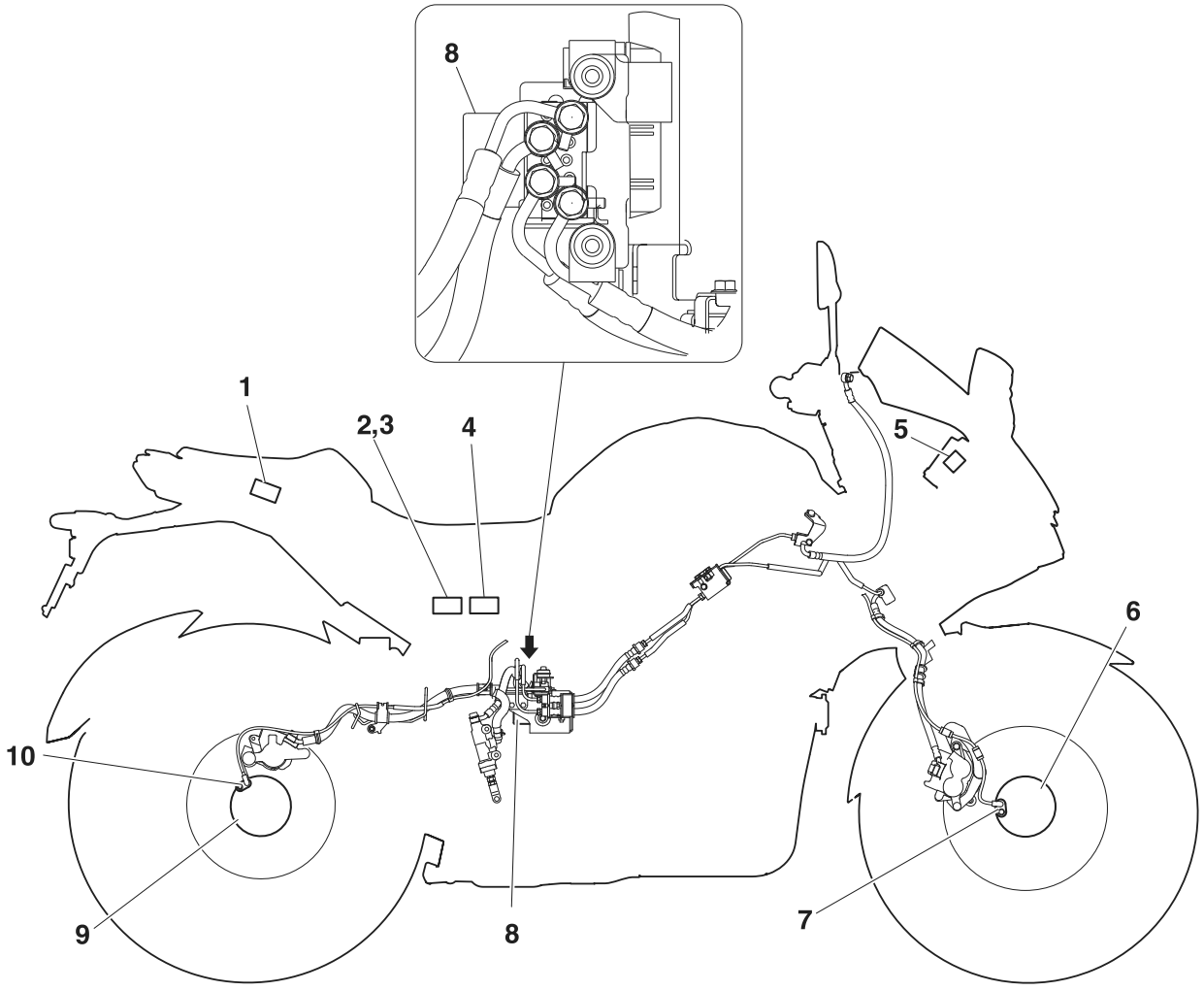
ABS layout



1. ABS test coupler
2. ABS solenoid fuse
3. ABS motor fuse
4. ABS control unit fuse
5. ABS warning light
6. Front wheel sensor rotor
7. Front wheel sensor
8. Hydraulic unit assembly
9. Rear wheel sensor rotor
10. Rear wheel sensor

ABS

The operation of the Yamaha ABS brakes is the same as conventional brakes on other vehicles, with a brake lever for operating the front brake and a brake pedal for operating the rear brake.
When wheel lock is detected during braking, hydraulic control is performed by the hydraulic system on the front and rear brakes independently.

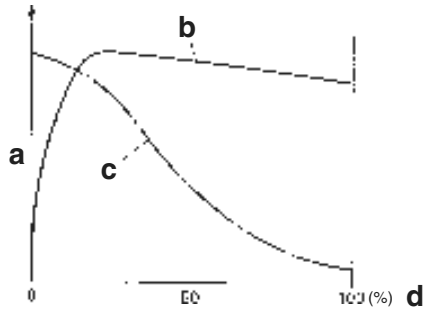
Useful terms

- Wheel speed:
  The rotation speed of the front and rear wheels.
- Chassis speed:
  The speed of the chassis.
  When the brakes are applied, wheel speed and chassis speed are reduced. However, the chassis travels forward by its inertia even though the wheel speed is reduced.
- Brake force:
  The force applied by braking to reduce the wheel speed.
- Wheel lock:
  A condition that occurs when the rotation of one or both of the wheels has stopped, but the vehicle continues to travel.
- Side force:
  The force on the tires which supports the vehicle when cornering.
- Slip ratio:
  When the brakes are applied, slipping occurs between the tires and the road surface. This causes a difference between the wheel speed and the chassis speed.
  Slip ratio is the value that shows the rate of wheel slippage and is defined by the following formula.
  Slip ratio = (Chassis speed – Wheel speed)/Chassis speed × 100 (%)
  0%: There is no slipping between the wheel and the road surface. The chassis speed is equal to the wheel speed.
  100%: The wheel speed is “0”, but the chassis is moving (i.e., wheel lock).

Brake force and vehicle stability

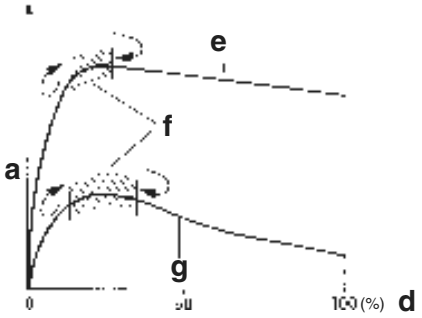
When the brake pressure is increased, wheel speed is reduced. Slipping occurs between the tire and the road surface and brake force is generated. The limit of this brake force is determined by the friction force between the tire and the road surface and is closely related to wheel slippage. Wheel slippage is represented by the slip ratio.
Side force is also closely related to wheel slippage. See figure “A”. If the brakes are applied while keeping the proper slip ratio, it is possible to obtain the maximum brake force without losing much side force. ABS allows full use of the tires’ capabilities even on slippery road surfaces or less slippery road surfaces. See figure “B”.

A



a. Friction force between the tire and road surface
b. Brake force
c. Side force
d. Slip ratio

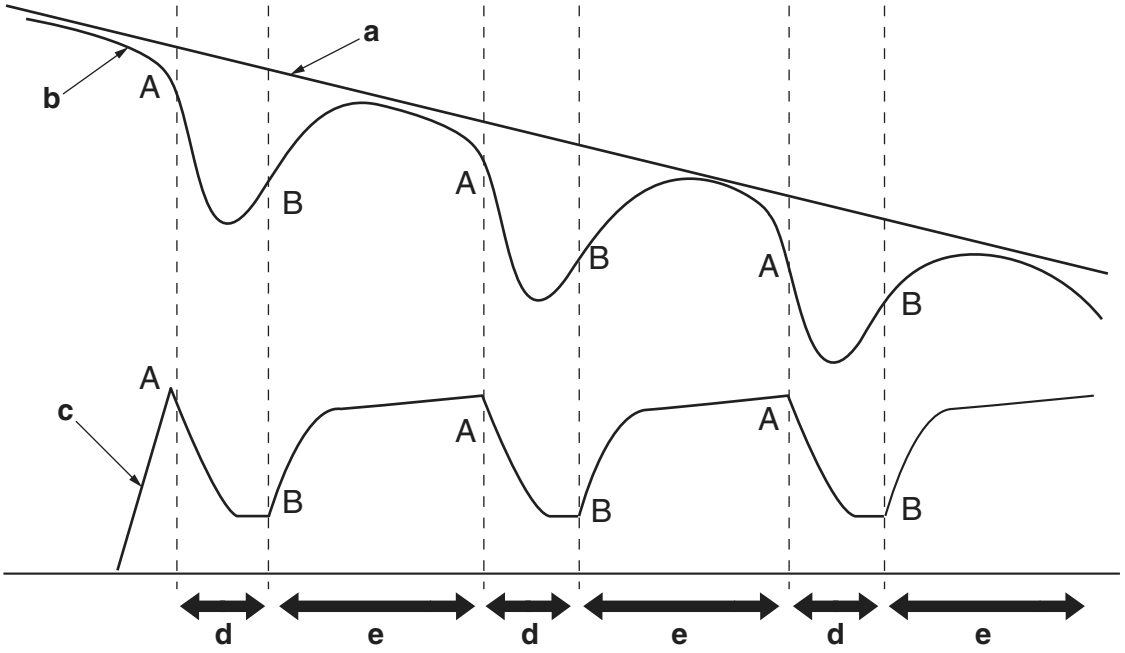
B



e. Less slippery road surface
f. Controlling zone
g. Slippery road surface

Wheel slip and hydraulic control

The ABS ECU calculates the wheel speed of each wheel according to the rotation signal received from the front and rear wheel sensors. In addition, the ABS ECU calculates the vehicle chassis speed and the rate of speed reduction based on the wheel speed values.
The difference between the chassis speed and the wheel speed calculated in the slip ratio formula is equal to the wheel slip. When the wheel speed is suddenly reduced, the wheel has a tendency to lock. When the wheel slip and the wheel speed reduction rate exceed the preset values, the ABS ECU determines that the wheel has a tendency to lock.
If the slip is large and the wheel has a tendency to lock (point "A" in the following figure), the ABS ECU reduces the hydraulic pressure in the brake caliper. Once the ABS ECU determines that the tendency of the wheel to lock has diminished after the hydraulic pressure is reduced, it increases the hydraulic pressure (point "B" in the following figure). The hydraulic pressure is initially increased quickly, and then it is increased gradually.



a. Chassis speed
b. Wheel speed
c. Brake force
d. Depressurizing phase
e. Pressurizing phase

ABS operation and vehicle control

If the ABS starts operating, there is a tendency of the wheel to lock, and the vehicle is approaching the limit of control. To make the rider aware of this condition, the ABS has been designed to generate a reaction-force pulsating action in the brake lever and brake pedal independently.

TIP
When the ABS is activated, a pulsating action may be felt at the brake lever or brake pedal, but this does not indicate a malfunction.

The higher the side force on a tire, the less traction there is available for braking. This is true whether the vehicle is equipped with ABS or not. Therefore, sudden braking while cornering is not recommended. Excessive side force, which ABS cannot prevent, could cause the tire to slip sideways.

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⚠ WARNING

The braking of the vehicle, even in the worst case, is principally executed when the vehicle is advancing straight ahead. During a turn, sudden braking is liable to cause a loss of traction of the tires. Even in vehicles equipped with ABS, overturning of the vehicle cannot be prevented if it is braked suddenly.

The ABS functions to prevent the tendency of the wheel to lock by controlling the hydraulic pressure. However, if there is a tendency of the wheel to lock on a slippery road surface, due to engine braking, the ABS may not be able to prevent the wheel from locking.

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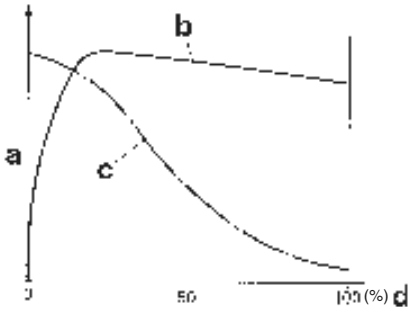
⚠ WARNING

The ABS controls only the tendency of the wheel to lock caused by applying the brakes. The ABS cannot prevent wheel lock on slippery surfaces, such as ice, when it is caused by engine braking, even if the ABS is operating.

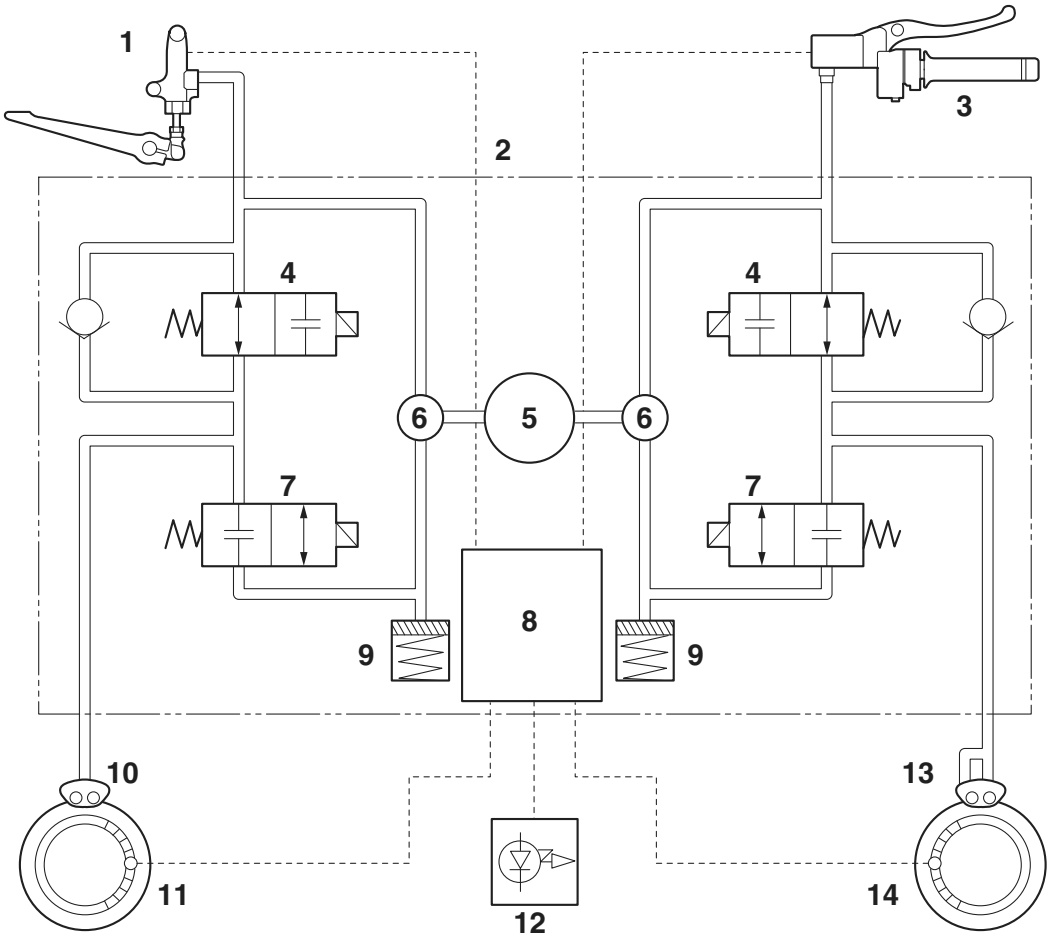


a. Friction force between the tire and road surface
b. Brake force
c. Side force
d. Slip ratio

Electronic ABS features

The Yamaha ABS (anti-lock brake system) has been developed with the most advanced electronic technology.
The ABS control is processed with good response under various vehicle travel conditions.
The ABS also includes a highly developed self-diagnosis function. The ABS detects any problem condition and allows normal braking even if the ABS is not operating properly.
When this occurs, the ABS warning light on the meter assembly comes on.
The ABS stores the fault codes in the memory of the ABS ECU for easy problem identification and troubleshooting.

ABS block diagram



1. Rear brake master cylinder
2. Hydraulic unit assembly
3. Front brake master cylinder
4. Inlet solenoid valve
5. ABS motor
6. Hydraulic pump
7. Outlet solenoid valve
8. ABS ECU
9. Buffer chamber
10. Rear brake caliper
11. Rear wheel sensor
12. ABS warning light
13. Front brake caliper
14. Front wheel sensor

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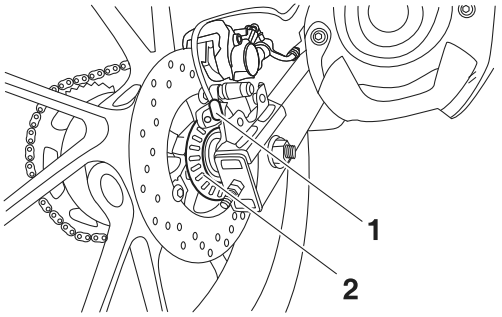
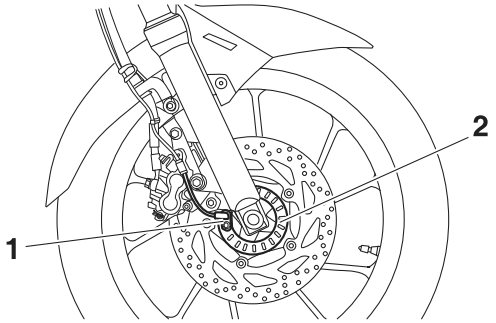
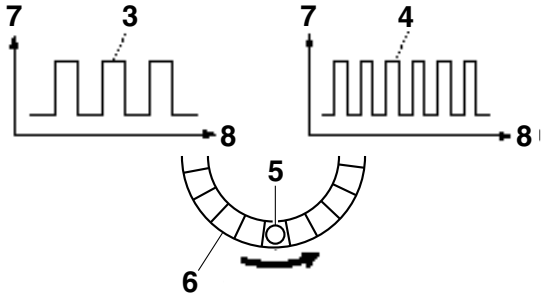
ABS COMPONENT FUNCTIONS

Wheel sensors and wheel sensor rotors

Wheel sensors “1” detect the wheel speed and transmit the rotation signal to the ABS ECU.
Each wheel sensor is composed of a permanent magnet and a hall IC. The sensor rotors “2” rotate with the wheels. The sensor rotors “2” have 40 slots and are installed close to the wheel sensors. As the sensor rotor rotates, the hall element in the hall IC installed in the wheel sensor generates pulses. The pulse frequency, which is proportional to the wheel speed, is converted into a wave in the hall IC so that it can be output.
The ABS ECU calculates the wheel rotation speed by detecting the pulse frequency.







3. At low speed
4. At high speed
5. Wheel sensor
6. Wheel sensor rotor
7. Voltage
8. Time

ABS warning light

The ABS warning light "1" comes on to warn the rider if a malfunction in the ABS occurs.
When the main switch is turned to "ON", the ABS warning light comes on to check the electrical circuit and the system function (ABS self-diagnosis), and goes off when the vehicle is operated (the function check is properly completed at a speed of about 10 km/h (6.3 mi/h)).

TIP

After all checks and servicing are completed, the ABS warning light will go off when the vehicle is ridden or pushed at a speed of 10 km/h (6.3 mi/h) or faster.

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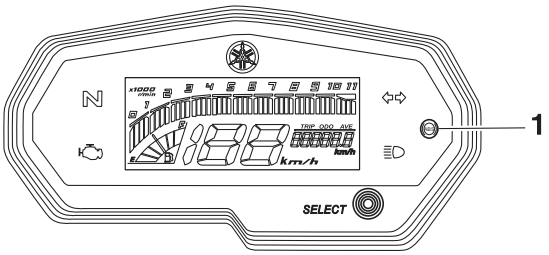
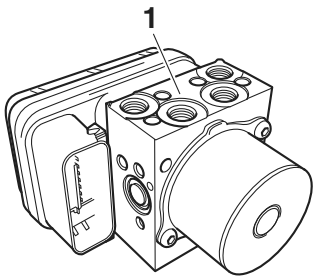
NOTICE

If the rear wheel is raced with the vehicle on a centerstand, the ABS warning light may flash or come on. If this occurs, turn the main switch to "OFF", then back to "ON". The ABS operation is normal if the ABS warning light goes off after the vehicle starts off. If the fault codes are not deleted, the ABS warning light goes off after the vehicle is ridden at a speed of about 30 km/h (19 mi/h).



Hydraulic unit assembly

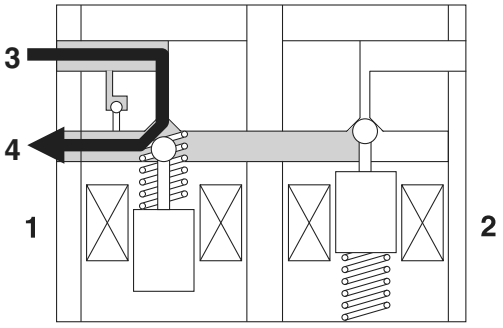
The hydraulic unit assembly “1” is composed of hydraulic control valves (each with a outlet solenoid valve and inlet solenoid valve), buffer chambers, hydraulic pumps, an ABS motor, and ABS ECU. The hydraulic unit adjusts the front and rear wheel brake fluid pressure to control the wheel speed according to signals transmitted from the ABS ECU.



Hydraulic control valve

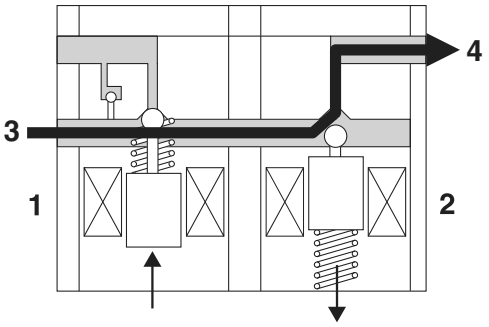
The hydraulic control valve is composed of a inlet solenoid valve and outlet solenoid valve.
The electromagnetic force generated in the inlet solenoid valve varies proportionally with the duty cycle control voltage that is supplied to it. Since this voltage is continuously variable, the solenoid valve moves smoothly and the hydraulic pressure is adjusted linearly.

1. When the brakes are operated normally, the inlet solenoid valve “1” is open and the outlet solenoid valve “2” is closed. The brake line between the brake master cylinder and brake caliper is open.



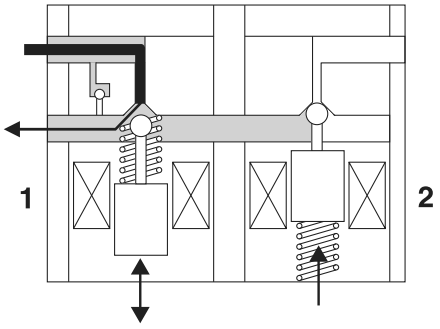
3. Brake master cylinder
4. Brake caliper

2. When the ABS is activated, the inlet solenoid valve “1” closes and the outlet solenoid valve “2” opens using the power supplied from the ABS ECU signals. This reduces the hydraulic pressure.



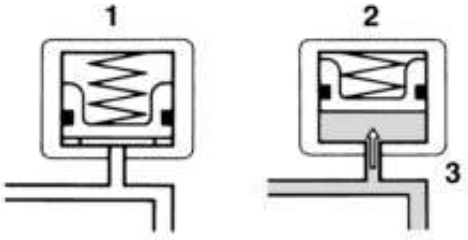
3. Brake caliper
4. ABS motor

3. When the ABS ECU sends a signal to stop reducing the hydraulic pressure, the outlet solenoid valve "2" closes and the brake fluid is pressurized again. The inlet solenoid valve "1" controls the hydraulic pressure difference between the brake fluid in the upper brake lines (brake master cylinder side) and the brake fluid in the lower brake lines (brake caliper side).



Buffer chamber

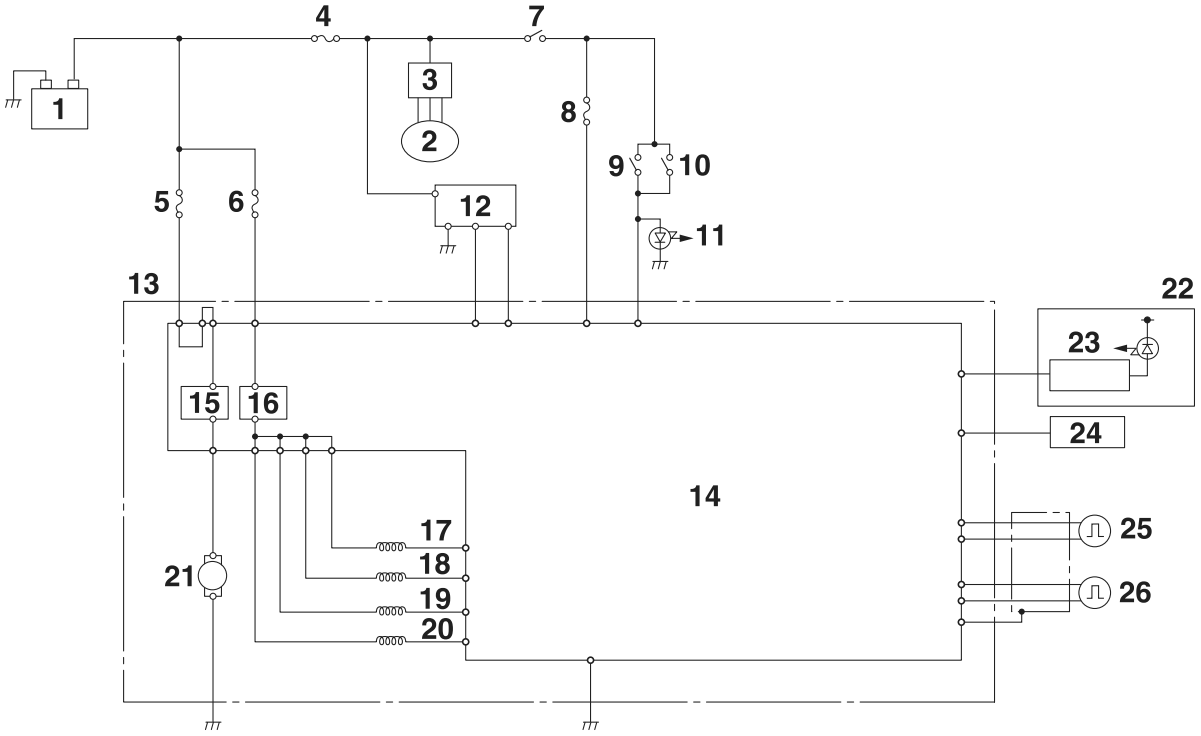
The buffer chamber accumulates the brake fluid that is depressurized while the ABS is operating.



1. Buffer chamber (pressurizing phase)
2. Buffer chamber (depressurizing phase)
3. Raised piston

ABS ECU

The ABS ECU is integrated with the hydraulic unit to achieve a compact and lightweight design. As shown in the following block diagram, the ABS ECU receives wheel sensor signals from the front and rear wheels and also receives signals from other monitor circuits.



1. Battery
2. AC magneto
3. Rectifier/regulator
4. Main fuse
5. ABS motor fuse
6. ABS solenoid fuse
7. Main switch
8. ABS control unit fuse
9. Rear brake light switch
10. Front brake light switch
11. Tail/brake light
12. ABS test coupler
13. Hydraulic unit assembly
14. ABS ECU
15. ABS motor relay
16. Solenoid relay
17. Front brake outlet solenoid
18. Front brake inlet solenoid
19. Rear brake outlet solenoid
20. Rear brake inlet solenoid
21. ABS motor
22. Meter assembly
23. ABS warning light
24. ECU (Engine Control Unit)
25. Front wheel sensor
26. Rear wheel sensor

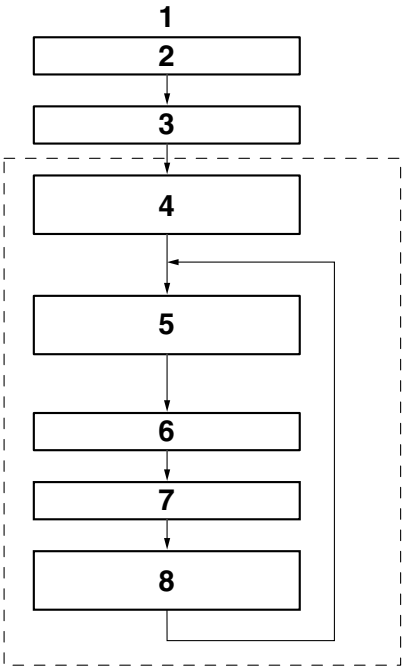
The necessary actions are confirmed using the monitor circuit and control signals are transmitted to the hydraulic unit assembly.

ABS control operation

The ABS control operation performed in the ABS ECU is divided into the following two parts.
• Hydraulic control
• Self-diagnosis
When a malfunction is detected in the ABS, a fault code is stored in the memory of the ABS ECU for easy problem identification and troubleshooting.

TIP

- Some types of malfunctions are not recorded in the memory of the ABS ECU (e.g., a blown ABS control unit fuse).
- The ABS performs a self-diagnosis test for a few seconds each time the vehicle first starts off after the main switch was turned on. During this test, a “clicking” noise can be heard from under the seat, and if the brake lever or brake pedal is even slightly operated, a vibration can be felt at the lever and pedal, but these do not indicate a malfunction.



1. Software operation flow
2. Main switch “ON”
3. Initialize
4. Self-diagnosis (when static)
5. Self-diagnosis (when riding)
6. Receive signals
7. Control operation
8. Depressurize/pressurize

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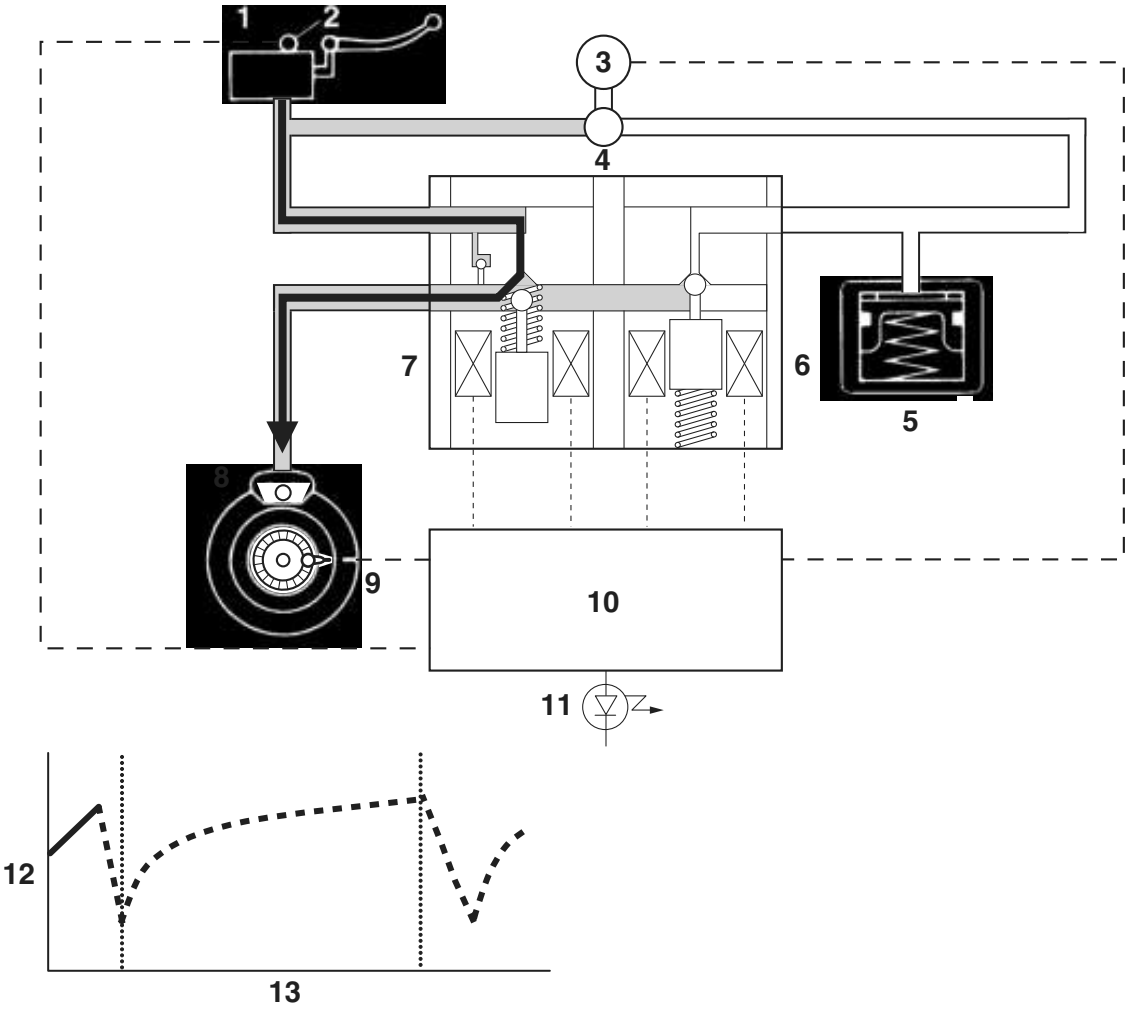
ABS OPERATION

The ABS hydraulic circuit consists of two systems: the front wheel, and rear wheel. The following describes the system for the front wheel only.

Normal braking (ABS not activated)

When the ABS is not activated, the inlet solenoid valve is open and the outlet solenoid valve is closed because a control signal has not been transmitted from the ABS ECU. Therefore, when the brake lever is squeezed, the hydraulic pressure in the brake master cylinder increases and the brake fluid is sent to the brake caliper.

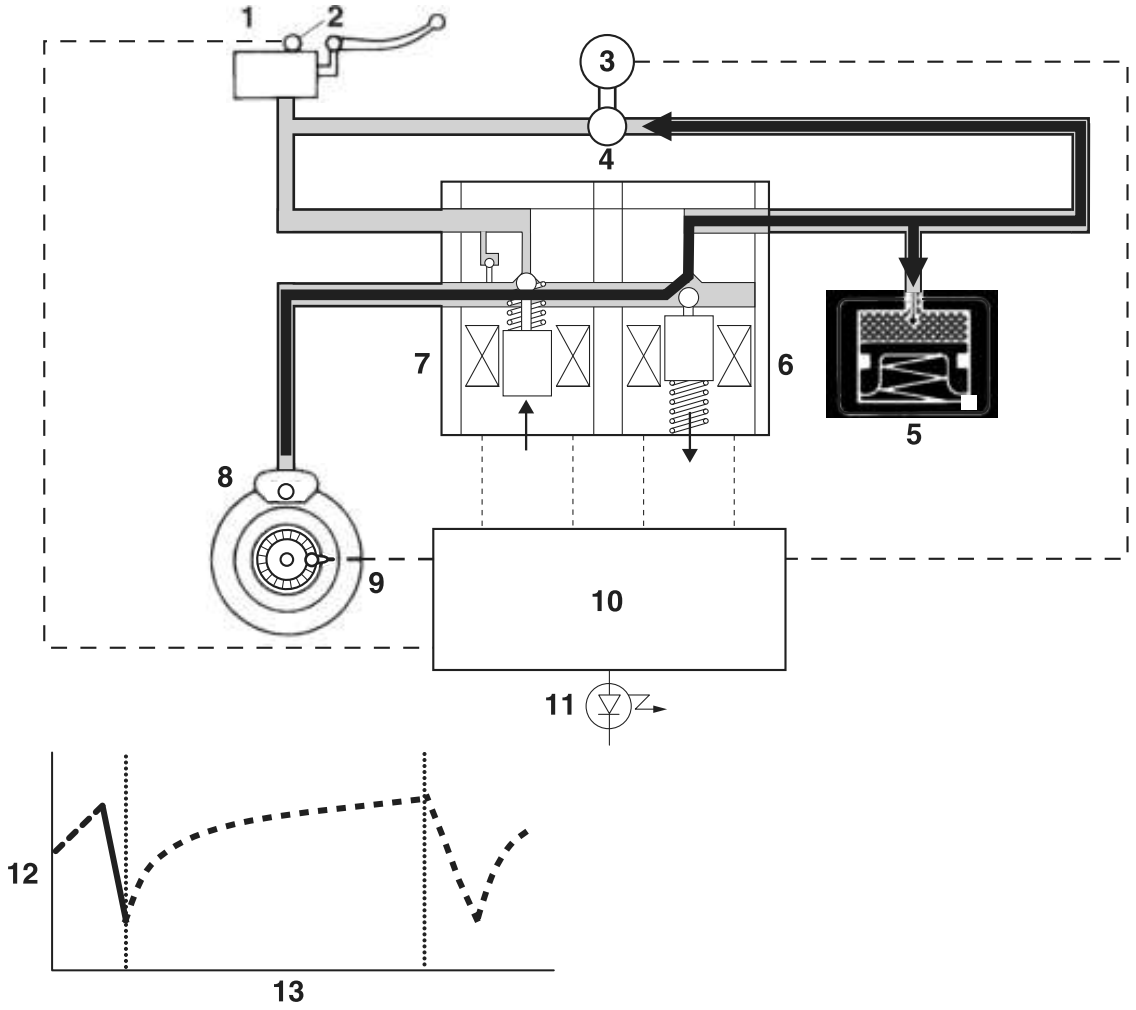
At this time, the inlet and outlet check valves of the hydraulic pump are closed. As a result of eliminating the orifice, the brake master cylinder directly pressurizes the brake caliper during normal braking. When the brake lever is released, the brake fluid in the brake caliper returns to the brake master cylinder.



1. Brake master cylinder
2. Brake light switch
3. ABS motor
4. Hydraulic pump
5. Buffer chamber
6. Outlet solenoid valve
7. Inlet solenoid valve
8. Brake caliper
9. Wheel sensor
10. ABS ECU
11. ABS warning light
12. Brake fluid pressure
13. Time

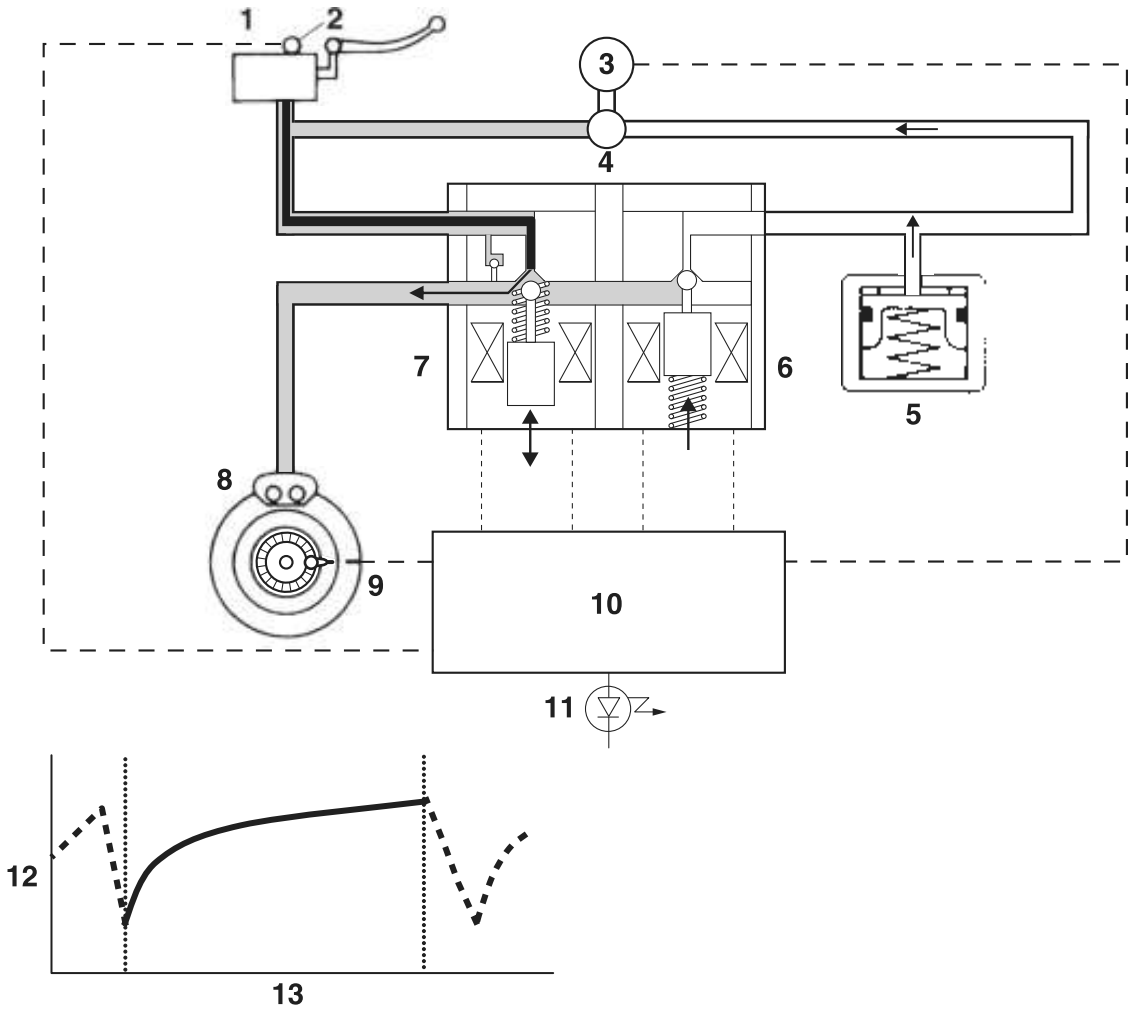
Emergency braking (ABS activated)

1. Depressurizing phase
   When the front wheel is about to lock, the outlet solenoid valve is opened by the “depressurization” signal transmitted from the ABS ECU. When this occurs, the inlet solenoid valve compresses the spring and closes the brake line from the brake master cylinder. Because the outlet solenoid valve is open, the brake fluid is sent to the buffer chamber. As a result, the hydraulic pressure in the brake caliper is reduced.
   The brake fluid stored in the buffer chamber is pumped back to the brake master cylinder by the hydraulic pump linked to the ABS motor.



1. Brake master cylinder
2. Brake light switch
3. ABS motor
4. Hydraulic pump
5. Buffer chamber
6. Outlet solenoid valve
7. Inlet solenoid valve
8. Brake caliper
9. Wheel sensor
10. ABS ECU
11. ABS warning light
12. Brake fluid pressure
13. Time

2. Pressurizing phase
   The outlet solenoid valve is closed by the “pressurization” signal transmitted from the ABS ECU. At this time, the ABS ECU controls the opening of the inlet solenoid valve. As the inlet solenoid valve opens, the brake line from the brake master cylinder opens, allowing the brake fluid to be sent to the brake caliper.



1. Brake master cylinder
2. Brake light switch
3. ABS motor
4. Hydraulic pump
5. Buffer chamber
6. Outlet solenoid valve
7. Inlet solenoid valve
8. Brake caliper
9. Wheel sensor
10. ABS ECU
11. ABS warning light
12. Brake fluid pressure
13. Time

EAS30712
ABS WARNING LIGHT AND OPERATION

ABS warning light

- If the ABS warning light comes on while riding, stop the vehicle, and then turn the main switch to “OFF”, then back to “ON”. The ABS operation is normal if the ABS warning light goes off after the vehicle starts off.
- If the rear wheel is raced with the vehicle on a centerstand, the ABS warning light may flash or come on. If this occurs, turn the main switch to “OFF”, then back to “ON”. The ABS operation is normal if the ABS warning light goes off after the vehicle starts off.
- The ABS operation is normal if the ABS warning light flashes.
- Even if the ABS warning light remains on and does not go off, or if it comes on after riding, conventional braking performance of the vehicle is maintained.

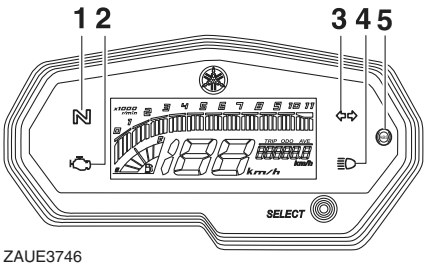
ABS function

EWA16521

⚠ WARNING

• When hydraulic control is performed by the ABS, the brake system alerts the rider that the wheels have a tendency to lock by generating a reaction-force pulsating action in the brake lever or brake pedal. When the ABS is activated, the grip between the road surface and tires is close to the limit. The ABS cannot prevent wheel lock* on slippery surfaces, such as ice, when it is caused by engine braking, even if the ABS is activated.
Use extreme care when operating the vehicle under these conditions.
• The ABS is not designed to shorten the braking distance or improve the cornering performance.
• Depending on the road conditions, the braking distance may be longer compared to that of vehicles not equipped with ABS. Therefore, ride at a safe speed and keep a safe distance between yourself and other vehicles.
• The braking of the vehicle, even in the worst case, is principally executed when the vehicle is advancing straight ahead. During a turn, sudden braking is liable to cause a loss of traction of the tires. Even vehicles equipped with ABS cannot be prevented from falling over if braked suddenly.
• The ABS does not work when the main switch is turned to "OFF". The conventional braking function can be used.
*** Wheel lock: A condition that occurs when the rotation of one or both of the wheels has stopped, but the vehicle continues to travel.**

INDICATOR LIGHTS AND WARNING LIGHT



ZAUE3746

1. Neutral indicator light "N"
2. Engine trouble warning light "⚙"
3. Turn signal indicator light "◁ ▷"
4. High beam indicator light "≡D"
5. Anti-lock Brake System (ABS) warning light "(ABS)"

Turn signal indicator light "◁ ▷"

This indicator light flashes when a turn signal light is flashing.

Neutral indicator light "N"

This indicator light comes on when the transmission is in the neutral position.

High beam indicator light "≡D"

This indicator light comes on when the high beam of the headlight is switched on.

Engine trouble warning light "⚙"

This warning light comes on or flashes if a problem is detected in the engine. If this occurs, have a Yamaha dealer check the vehicle as soon as possible.

TIP

When the vehicle is turned on, this light should come on for a few seconds and then go off. Otherwise, have a Yamaha dealer check the electrical circuit.

ABS warning light "(ABS)"

This warning light comes on when the vehicle is first turned on, and goes off after starting riding. If the warning light comes on while riding, the anti-lock brake system may not work correctly.

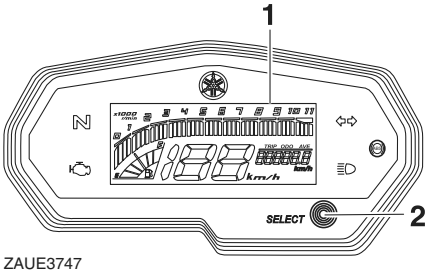
⚠ WARNING

If the ABS warning light does not turn off after reaching 10 km/h (6 mi/h), or if the warning light comes on while riding:

- **Use extra caution to avoid possible wheel lock during emergency braking.**
- **Have a Yamaha dealer check the vehicle as soon as possible.**

EAU79723

MULTI-FUNCTION DISPLAY



ZAUE3747

1. Multi-function display
2. Selection button "SELECT"

EWA12313

⚠ WARNING

Be sure to stop the vehicle before making any setting changes to the multi-function display. Changing settings while riding can distract the operator and increase the risk of an accident.

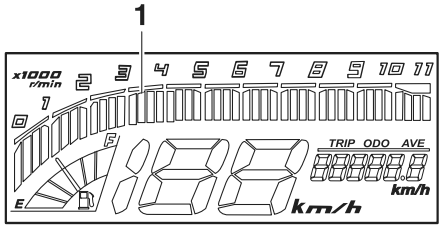
The multi-function display is equipped with the following:

- Speedometer
- Tachometer
- Fuel meter
- Odometer
- Two Tripmeters
- Fuel Reserve Tripmeter
- Instantaneous Fuel Consumption
- Average Fuel Consumption
- Clock
- Self-diagnosis Device

Speedometer

The speedometer shows the vehicle's traveling speed in kilometers per hour (km/h).

Tachometer



ZAUE3748

1. Tachometer

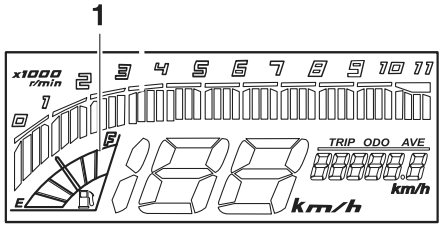
The tachometer shows the engine speed in revolutions per minute (r/min) x 1000. The tachometer is used to monitor the engine speed and keep it within the ideal power range.

ECAE0060

NOTICE

When the engine speed is 9251 r/min and above, all tachometer segments will flash. Do not operate the engine in this zone.

Fuel meter



ZAUE3749

1. Fuel meter

The fuel meter indicates the amount of fuel in the fuel tank. The display segments of the fuel meter disappear from "F" (full) towards "E" (empty) as the fuel level decreases. When approximately 2.1 L (0.55 US gal, 0.46 Imp.gal) of fuel remains, the last segment of the fuel meter and the fuel level warning indicator "⛽" will start flashing. When this occurs, refuel as soon as possible.

TIP

If the last segment continues to flash after fueling, or if all segments are flashing, have a Yamaha dealer check the electrical system.

Odometer and tripmeters

A brief push (less than one second) on the "SELECT" button alternately switches the display between the odometer "ODO" and tripmeters "TRIP 1" and "TRIP 2", instantaneous fuel consumption "Km/L", average fuel consumption "AVE_ _._ Km/L" and clock "CLOCK" in the following order:

ODO → TRIP 1 → TRIP 2 → Km/L → AVE_ _._ Km/L → CLOCK → ODO

Odometer

The odometer shows the total distance traveled by the vehicle.

Tripmeters

The tripmeter shows the total distance traveled since it was last reset.

To reset a tripmeter, select it by pushing the "SELECT" button for one second.

TIP

- The odometer will lock at 999999 and cannot be reset.
- The tripmeters will automatically reset and continue counting after 999.9 is reached.

Fuel reserve tripmeter

The fuel reserve tripmeter shows the total distance traveled since the fuel level warning light comes on.

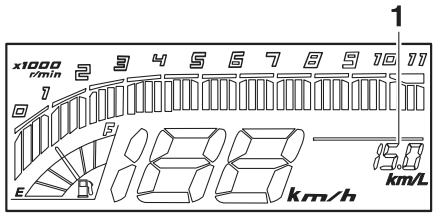
If the last segment of the fuel meter starts flashing, the display automatically changes to the fuel reserve tripmeter mode "TRIP F" and starts counting the distance traveled from that point. In this case, push the "SELECT" button to switch the display between the various tripmeter, odometer, instantaneous fuel consumption and average fuel consumption in the following order:

TRIP F → TRIP 1 → TRIP 2 → Km/L → AVE_ _._ Km/L → CLOCK → ODO → TRIP F

TIP

You can manually reset the fuel reserve tripmeter, or after refueling and traveling 5 km (3 mi), it will reset automatically and disappear from the display.

Instantaneous fuel consumption



ZAUE3750

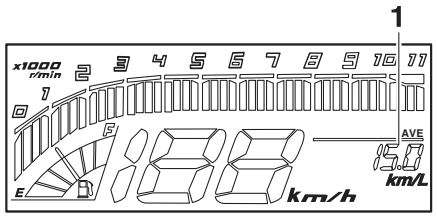
1. Instantaneous fuel consumption display

- "Km/L": The distance that can be traveled on 1.0 L of fuel under the current riding conditions is shown.

TIP

If traveling at speeds under 10 km/h (6 mi/h), "_ _._" is displayed.

Average fuel consumption



ZAUE3751

1. Average fuel consumption display

This shows the average fuel consumption since it was last reset.

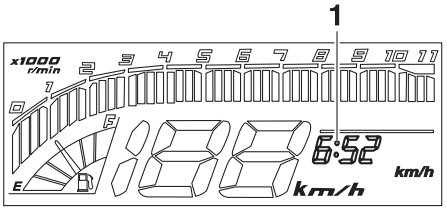
- "AVE_ _._ Km/L": The average distance that can be traveled on 1.0 L of fuel is shown.

To reset the average fuel consumption, push the "SELECT" button for one second.

TIP

After resetting the average fuel consumption, "_ _._" is shown until the vehicle has traveled 0.1 km (0.06 mi).

Clock



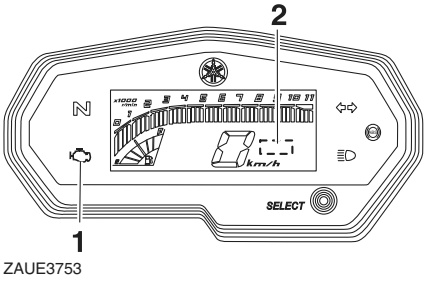
ZAUE3752

1. Clock

To set the clock

1. Turn the key to "ON".
2. Push the "SELECT" switch to change the display to the clock mode.
3. Push the "SELECT" button for two seconds, and the hour digits will start flashing.
4. Use the "SELECT" button to set the hours.
5. Push the "SELECT" button for two seconds, and the minute digits will start flashing.
6. Use the "SELECT" button to set the minutes.
7. Push the "SELECT" button for two seconds to confirm settings and start the clock.

Self-diagnosis mode



ZAUE3753

1. Engine trouble warning light "
2. Error code display

This model is equipped with a self-diagnosis function for various electrical circuits.
If a problem is detected in any of those circuits, the engine trouble warning light will come on and the display will indicate an error code.
If the display indicates any error codes, note the code number and have a Yamaha dealer check the vehicle.

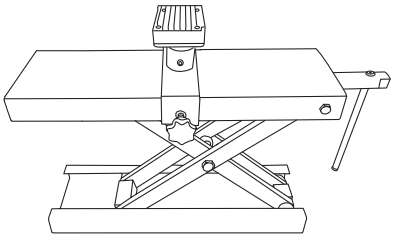
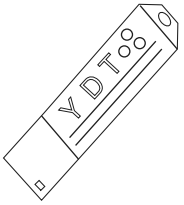
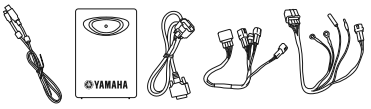
ECA11591

NOTICE

If the display indicates an error code, the vehicle should be checked as soon as possible in order to avoid engine damage.

SPECIAL TOOLS

The following special tools are necessary for complete and accurate tune-up and assembly. Use only the appropriate special tools as this will help prevent damage caused by the use of inappropriate tools or improvised techniques.

Tool name / Tool no.	Illustration
Scissor jack YSST-892A This tool is used to support the vehicle. **TIP** While removing the front wheel, put the scissor jack under the engine of the vehicle so that there is no danger of it falling over.	
Yamaha diagnostic tool INS-018 (90890-03267) This tool is used to diagnose electrical fault in advance fuel injection system.	
Yamaha diagnostic tool INS-019 (90890-03262) This tool is used to diagnose electrical fault in advance fuel injection system.	

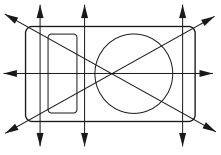
CHAPTER 2
SPECIFICATIONS

GENERAL SPECIFICATIONS

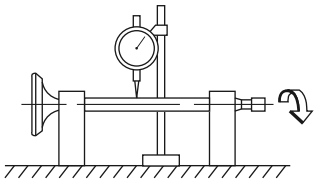
Model	
Model	B972 (For FZ25-ABS) BC42 (For FAZER25-ABS)
Dimensions	
Overall length	2015 mm (79.3 in)
Overall width	775 mm (30.5 in)
Overall height	1075 mm (For FZ25-ABS) 1115 mm (For FAZER25-ABS)
Wheelbase	1360 mm (53.5 in)
Ground clearance	160 mm (6.30 in)
Minimum turning radius	2.5 m (8.20 ft)
Weight	
Curb weight	152 kg (335 lb) (For FZ25-ABS) 157 kg (346 lb) (For FAZER25-ABS)
Loading	
Maximum load	165 kg (364 lb)
Riding capacity	2 persons

MAINTENANCE SPECIFICATION (ENGINE)

Engine	
Combustion cycle	4-stroke
Cooling system	Air cooled
Valve train	SOHC
Displacement	249 cm^3
Number of cylinders	Single cylinder
Bore × stroke	74.0 × 58.0 mm (2.91 × 2.28 in)
Compression ratio	9.8 : 1
Compression pressure	1044-1344 kPa/300 r/min (10.4-13.4 kgf/cm^2/300 r/min, 148.5-191.2 psi/300 r/min)
Starting system	Electric starter
Fuel	
Recommended fuel	Regular unleaded gasoline only
Fuel tank capacity	14 L (3.7 US gal, 3.1 Imp.gal)
Fuel reserve amount	2.1 L (0.55 US gal, 0.46 Imp.gal)
Engine oil	
Recommended brand	YAMALUBE
SAE viscosity grades	10W-40
Recommended engine oil	API service SL type, JASO standard MA
Lubrication system	Wet sump
Engine oil quantity	
Oil change	1.35 L (1.43 US qt, 1.19 Imp.qt)
With oil filter removal	1.45 L (1.53 US qt, 1.28 Imp.qt)
Quantity (disassembled)	1.55 L (1.64 US qt, 1.36 Imp.qt)
Oil filter	
Oil filter type	Paper
Oil pump	
Inner-rotor-to-outer-rotor-tip clearance	0.000-0.150 mm (0.0059 in)
Limit	0.230 mm (0.0091 in)
Outer-rotor-to-oil-pump-housing clearance	0.100-0.151 mm (0.0039-0.0059 in)
Limit	0.221 mm (0.0087 in)
Oil-pump-housing-to-inner-and-outer-rotor clearance	0.045-0.095 mm (0.0016-0.0035 in)
Limit	0.165 mm (0.0063 in)
Relief valve operating pressure	850.0 kPa (8.50 kgf/cm^2, 123.3 psi)
Spark plug(s)	
Manufacturer/model	NGK/DR8EA
Spark plug gap	0.6-0.7 mm (0.024-0.028 in)
Cylinder head	
Warpage limit	0.05 mm (0.0020 in)



Camshaft	
Camshaft lobe dimensions	
Lobe height (Intake)	36.890-36.990 mm (1.4524-1.4563 in)
Limit	36.790 mm (1.4484 in)
Lobe height (Exhaust)	36.890-36.990 mm (1.4524-1.4563 in)
Limit	36.790 mm (1.4484 in)
Camshaft runout limit	0.030 mm (0.0012 in)
Rocker arm/rocker arm shaft	
Rocker arm inside diameter	12.000-12.018 mm (0.4724-0.4731 in)
Limit	12.033 mm (0.4737 in)
Rocker arm shaft outside diameter	11.981-11.991 mm (0.4717-0.4721 in)
Limit	11.950 mm (0.4705 in)
Valve, valve seat, valve guide	
Valve clearance (cold)	
Intake	0.05-0.10 mm (0.0020-0.0039 in)
Exhaust	0.08-0.13 mm (0.0032-0.0051 in)
Valve dimensions	
Valve seat contact width (intake)	0.90-1.20 mm (0.0354-0.0472 in)
Limit	1.7 mm (0.07 in)
Valve seat contact width (exhaust)	0.90-1.20 mm (0.0354-0.0472 in)
Limit	1.7 mm (0.07 in)
Valve stem diameter (intake)	5.975-5.990 mm (0.2352-0.2358 in)
Limit	5.945 mm (0.2341 in)
Valve stem diameter (exhaust)	5.960-5.975 mm (0.2346-0.2352 in)
Limit	5.930 mm (0.2335 in)
Valve guide inside diameter (intake)	6.000-6.012 mm (0.2362-0.2367 in)
Valve guide inside diameter (exhaust)	6.000-6.012 mm (0.2362-0.2367 in)
Valve-stem-to-valve-guide clearance (intake)	0.010-0.037 mm (0.0004-0.0015 in)
Limit	0.080 mm (0.0032 in)
Valve-stem-to-valve-guide clearance (exhaust)	0.025-0.052 mm (0.0010-0.0020 in)
Limit	0.100 mm (0.0039 in)
Valve stem runout	0.010 mm (0.0004 in)



Valve spring	
Inner spring	
Free length (intake)	36.17 mm (1.42 in)
Limit	34.36 mm (1.35 in)
Free length (exhaust)	36.17 mm (1.42 in)
Limit	34.36 mm (1.35 in)
Spring tilt (intake)	1.7 mm (0.07 in)
Spring tilt (exhaust)	1.7 mm (0.07 in)
Outer spring	
Free length (intake)	36.63 mm (1.44 in)
Limit	34.80 mm (1.37 in)
Free length (exhaust)	36.63 mm (1.44 in)
Limit	34.80 mm (1.37 in)
Spring tilt (intake)	1.7 mm (0.07 in)
Spring tilt (exhaust)	1.7 mm (0.07 in)

Cylinder	
Bore	74.000-74.016 mm (2.9134-2.9140 in)
Wear limit	74.066 mm (2.9160 in)
Piston	
Diameter D	73.983-73.998 mm (2.9127-2.9133 in)
Measuring point (from piston skirt bottom)	5.0 mm (0.20 in)
Piston-to-cylinder clearance	0.010-0.025 mm (0.0004-0.0010 in)
Piston pin bore inside diameter	17.002-17.013 mm (0.6694-0.6698 in)
Limit	17.033 mm (0.6706 in)
Piston pin outside diameter	16.991-17.000 mm (0.6689-0.6693 in)
Limit	16.980 mm (0.6685 in)
Piston-pin-to-piston-pin-bore clearance	0.002-0.022 mm (0.0001-0.0009 in)
Piston ring	
Top ring	
Ring type	Barrel
End gap (installed)	0.19-0.31 mm (0.0075-0.0122 in)
End gap limit	0.56 mm (0.0220 in)
Ring side clearance	0.030-0.065 mm (0.0012-0.0026 in)
Side clearance limit	0.115 mm (0.0045 in)
2nd ring	
Ring type	Taper
End gap (installed)	0.30-0.45 mm (0.0118-0.0177 in)
End gap limit	0.80 mm (0.0314 in)
Ring side clearance	0.020-0.055 mm (0.0008-0.0022 in)
Side clearance limit	0.115 mm (0.0045 in)
Crankshaft	
Crank assembly width	69.25-69.30 mm (2.726-2.728 in)
Runout limit	0.030 mm (0.0012 in)
Clutch	
Clutch type	Wet, multiple-disc
Clutch lever free play	10.0-15.0 mm (0.39-0.59 in)
Friction plate thickness	2.90-3.10 mm (0.114-0.122 in)
Wear limit	2.60 mm (0.102 in)
Plate quantity	1 pc
Friction plate thickness	2.90-3.10 mm (0.114-0.122 in)
Wear limit	2.60 mm (0.102 in)
Plate quantity	4 pcs
Friction plate thickness	2.90-3.10 mm (0.114-0.122 in)
Wear limit	2.60 mm (0.1024 in)
Plate quantity	1 pc
Clutch plate thickness	1.50-1.70 mm (0.0591-0.0669 in)
Plate quantity	5 pcs
Warpage limit	0.20 mm (0.008 in)
Clutch spring free length	41.60 mm (1.64 in)
Limit	39.60 mm (1.56 in)
Spring quantity	4 pcs
Push rod bending limit	0.30 mm (0.012 in)

Drivetrain	
Primary reduction ratio	3.083 (74/24)
Transmission type	Constant mesh 5-speed
Gear ratio	
1st	2.571 (36/14)
2nd	1.684 (32/19)
3rd	1.273 (28/22)
4th	1.040 (26/25)
5th	0.852 (23/27)
Main axle runout limit	0.08 mm (0.0032 in)
Drive axle runout limit	0.08 mm (0.0032 in)
Main axle assembly width	102.20-102.40 mm (4.02-4.03 in)
Secondary reduction ratio	3.067 (46/15)
Final drive	Chain
Air filter	
Air filter element	Oil-coated paper element
Fuel pump	
Pump type	Electrical
Maximum consumption amperage	1.7 A
Fuel injector	
Resistance	12.2 Ω
Throttle body	
ID mark	B971 00
Idling condition	
Engine idling speed	1300–1500 r/min
O_2 feedback control	Inactive
Exhaust gas sampling point	Sampling port on the exhaust pipe
Engine temperature	115-125 °C (239-257 °F)
CO%	0.0-2.0 %
Fuel line pressure (at idle)	220-300 kPa (2.2-3.0 kgf/cm^2, 31.9-43.5 psi)
Throttle grip free play	3.0-5.0 mm (0.12-0.20 in)

MAINTENANCE SPECIFICATION (CHASSIS)

Chassis	
Frame type	Diamond
Caster angle	24.5 °
Trail	98 mm (3.9 in)
Front wheel	
Wheel type	Cast wheel
Rim size	17M/C × MT2.50
Rim material	Aluminum
Radial wheel runout limit	1.0 mm (0.04 in)
Lateral wheel runout limit	0.5 mm (0.02 in)
Wheel axle bending limit	0.25 mm (0.01 in)
Rear wheel	
Wheel type	Cast wheel
Rim size	17M/C × MT4.00
Rim material	Aluminum
Radial wheel runout limit	1.0 mm (0.04 in)
Lateral wheel runout limit	0.5 mm (0.02 in)
Wheel axle bending limit	0.25 mm (0.01 in)
Front tire	
Type	Tubeless
Size	100/80-17M/C 52P
Manufacturer/model	MRF/NYLOGRIP ZAPPER-FX1
Rear tire	
Type	Tubeless
Size	140/70-17M/C 66S
Manufacturer/model	MRF/NYLOGRIP ZAPPER-S2
Tire air pressure (measured on cold tires)	
Front	175 kPa (1.75 kgf/cm^2, 25 psi, 1.75 bar)
Rear	200 kPa (2.00 kgf/cm^2, 29 psi, 2.00 bar)
Front brake	
Type	Hydraulic single disc brake
Disc outside diameter × thickness	282.0 × 4.0 mm (11.10 × 0.16 in)
Brake disc thickness limit	3.5 mm (0.14 in)
Brake disc runout limit (as measured on wheel)	0.15 mm (0.0059 in)
Brake pad lining thickness	4.3 mm (0.17 in)
Limit	0.6 mm (0.02 in)
Master cylinder inside diameter	12.70 mm (0.50 in)
Caliper cylinder inside diameter (Right)	28.00 mm, 28.00 mm (1.10 in, 1.10 in)
Specified brake fluid	DOT 4

Rear brake	
Type	Hydraulic single disc brake
Disc outside diameter × thickness	220.0 × 4.5 mm (8.66 × 0.18 in)
Brake disc thickness limit	4.0 mm (0.1575 in)
Brake disc runout limit (as measured on wheel)	0.15 mm (0.0059 in)
Brake pad lining thickness	5.5 mm (0.22 in)
Limit	1.5 mm (0.06 in)
Master cylinder inside diameter	12.7 mm (0.50 in)
Caliper cylinder inside diameter	30.23 mm (1.19 in)
Specified brake fluid	DOT 4
Front suspension	
Type	Telescopic fork
Spring	Coil spring
Shock absorber	Hydraulic damper
Fork spring free length	235.0 mm (9.25 in)
Limit	230.3 mm (9.07 in)
Quantity (left)	469.0 cm^3 (15.86 US oz, 16.54 Imp.oz)
Quantity (right)	469.0 cm^3 (15.86 US oz, 16.54 Imp.oz)
Level (left)	75 mm (3.0 in)
Level (right)	75 mm (3.0 in)
Recommended oil	Yamaha Suspension Oil G10
Rear suspension	
Type	Swingarm
Spring	Coil spring
Shock absorber	Hydraulic damper
Spring preload	
Adjusting system	Mechanical adjustable type
Unit for adjustment	Cam position
Adjustment value (Soft)	1
Adjustment value (STD)	3
Adjustment value (Hard)	7
Drive chain	
Chain type	Sealed type
Number of links	136
Drive chain slack (Maintenance stand)	40.0-45.0 mm (1.57-1.77 in)
Limit	50.0 mm (1.97 in)
15-link length limit	191.5 mm (7.54 in)

MAINTENANCE SPECIFICATION (ELECTRICAL)

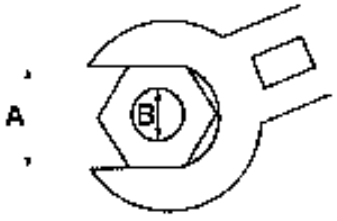
Voltage	
System voltage	12 V
Ignition system	
Ignition system	TCI
Advancer type	Digital
Ignition timing (B.T.D.C.)	8.0°-12.0°/1400 r/min
Engine control unit	
Model	TBDF2W
Ignition coil	
Primary coil resistance	2.16–2.64 Ω
Secondary coil resistance	8.64–12.96 kΩ
Spark plug cap	
Resistance	3.75-6.25 kΩ
Lean angle sensor output voltage	
Operating angle	50°
Output voltage up to operating angle	0.4-1.4 V
Output voltage over operating angle	3.7-4.4 V
Charging system	
Charging system	AC magneto
Standard output	14.0 V, 11.5 A at 5000 r/min
Stator coil resistance	0.456-0.684 Ω
Rectifier/regulator	
Regulator type	Single-phase
Regulated voltage (DC)	14–14.8 V
Rectifier capacity (DC)	16.0 A
Battery	
Model	ETZ-7
Voltage, capacity	12 V, 6.0 Ah (10 HR)
Bulb, wattage	
Headlight	LED
Brake/tail light	LED
Front turn signal light	10.0 W
Rear turn signal light	10.0 W
Auxiliary light	5.0 W (For FZ25-ABS) LED (For FAZER25-ABS)
License plate light	5.0 W
Meter lighting	LED
Indicator light	
Neutral indicator light	LED
High beam indicator light	LED
Turn signal indicator light	LED
Engine trouble warning light	LED
ABS warning light	LED

Starter motor	
Power output	0.40 kW
Armature coil resistance	0.0126-0.0154 Ω
Brush overall length	10.0 mm (0.39 in)
Limit	3.50 mm (0.14 in)
Brush spring force	5.52-8.28 N (563-844 gf, 19.87-29.80 oz)
Commutator diameter	22.0 mm (0.87 in)
Limit	21.0 mm (0.83 in)
Mica undercut (depth)	1.50 mm (0.06 in)
Fuel sender unit	
Sender unit resistance (full)	10.0-14.0 Ω
Sender unit resistance (empty)	267.0-273.0 Ω
Fuel injection sensor	
Crankshaft position sensor resistance	192-288 Ω
Intake air temperature sensor resistance	5700-6300 Ω at 0 °C (5700-6300 Ω at 32 °F)
Engine temperature sensor resistance	28500-31500 Ω at 0 °C (28500-31500 Ω at 32 °F)
Engine temperature sensor resistance	903-1142 Ω at 100 °C (1017 Ω at 212 °F)
Fuse(s)	
Main fuse	15.0 A
ABS control unit fuse	2.0 A
ABS motor fuse	30.0 A
ABS solenoid fuse	15.0 A

EAS20320
TIGHTENING TORQUES

EAS20330
GENERAL TIGHTENING TORQUE SPECIFICATIONS

This chart specifies tightening torques for standard fasteners with a standard ISO thread pitch. Tightening torque specifications for special components or assemblies are provided for each chapter of this manual. To avoid warpage, tighten multi-fastener assemblies in a crisscross pattern and progressive stages until the specified tightening torque is reached. Unless otherwise specified, tightening torque specifications require clean, dry threads. Components should be at room temperature.



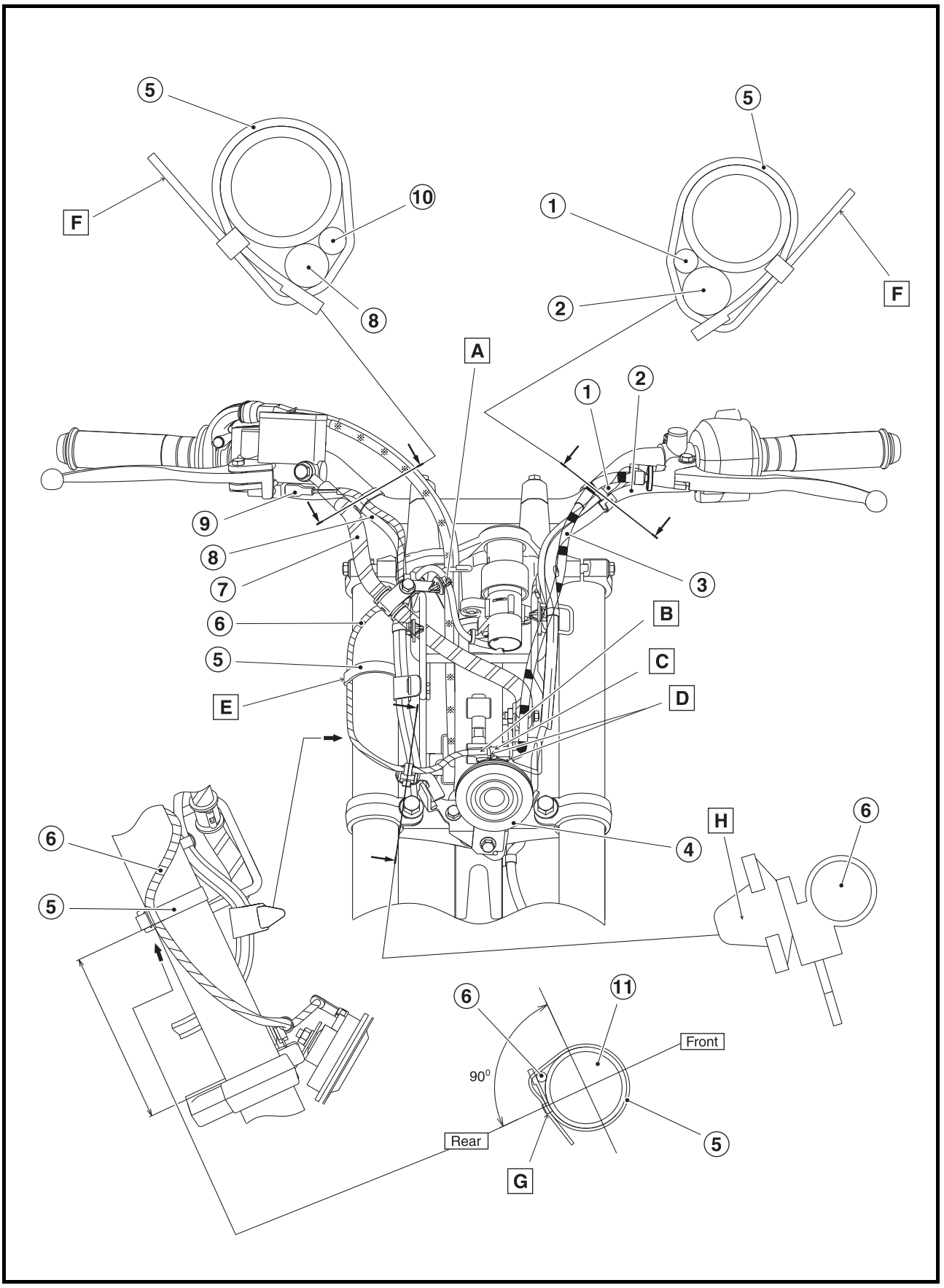
A. Distance between flats
B. Outside thread diameter

A (nut)	B (bolt)	General tightening torques		
		N·m	kgf·m	lb·ft
10 mm	6 mm	6	0.6	4.4
12 mm	8 mm	15	1.5	11
14 mm	10 mm	30	3.0	22
17 mm	12 mm	55	5.5	41
19 mm	14 mm	85	8.5	63
22 mm	16 mm	130	13.0	96

CHASSIS TIGHTENING TORQUES

Item	Thread size	Q'ty	Tightening torque	Remarks
Hydraulic unit assembly bolt	M6	3	7 N·m (0.7 kgf·m, 5.2 lb·ft)	
Front wheel sensor rotor screw	M5	3	8 N·m (0.8 kgf·m, 5.9 lb·ft)	LT
Front wheel sensor bolt	M6	1	7 N·m (0.7 kgf·m, 5.2 lb·ft)	
Rear wheel sensor rotor screw	M5	3	8 N·m (0.8 kgf·m, 5.9 lb·ft)	LT
Rear wheel sensor bolt	M6	1	7 N·m (0.7 kgf·m, 5.2 lb·ft)	
Front brake hose union bolt (Hydraulic unit to master cylinder)	M10	2	29 N.m (2.9 kgf·m, 21 lb·ft)	
Front brake hose union bolt (Hydraulic unit to brake caliper)	M10	2	29 N·m (2.9 kgf·m, 21 lb·ft)	
Rear brake hose union bolt (Hydraulic unit to master cylinder)	M10	2	29 N·m (2.9 kgf·m, 21 lb·ft)	
Rear brake hose union bolt (Hydraulic unit to brake caliper)	M10	2	29 N·m (2.9 kgf·m, 21 lb·ft)	
Hydraulic unit bracket bolt	M6	3	7 N·m (0.7 kgf·m, 5.2 lb·ft)	
Rear brake hose holder bracket and rear arm bolt (RH side)	M6	2	8 N·m (0.8 kgf·m, 5.9 lb·ft)	
Rear brake hose holder bolt (Hydraulic unit to caliper)	M6	1	8 N·m (0.8 kgf·m, 5.9 lb·ft)	
Rear brake hose bracket and rear arm comp. bolt (RH rear arm comp. pivot shaft side)	M6	1	8 N·m (0.8 kgf·m, 5.9 lb·ft)	
Rear brake hose bracket and rear brake hose bolt (RH rear arm comp. pivot shaft side)	M6	1	7 N·m (0.7 kgf·m, 5.2 lb·ft)	
Fr. hose holder and fr. brake hoses bolt (LH head pipe gusset. side)	M6	2	7 N·m (0.7 kgf·m, 5.2 lb·ft)	
Fr. brake hose holder and frame bolt (LH head pipe gusset. side)	M6	2	7 N·m (0.7 kgf·m, 5.2 lb·ft)	
Fr. brake hose (master cylinder and caliper) and holder bolt (upper side of rear engine stay)	M6	2	7 N·m (0.7 kgf·m, 5.2 lb·ft)	
Fr. brake hose joint and frame bolt (upper side of rear engine stay)	M6	2	7 N·m (0.7 kgf·m, 5.2 lb·ft)	
Fr. brake hose joint and hose holder bolt (upper side of rear engine stay)	M6	2	7 N·m (0.7 kgf·m, 5.2 lb·ft)	
Fr. brake hose connecting bolt (master cylinder to HCU and HCU to caliper)	M10	2	37 N·m (3.7 kgf·m, 27 lb·ft)	BF
Battery box mounting bolt	M5	3	8 N·m (0.8 kgf·m, 5.9 lb·ft)	

CABLE ROUTING (For FAZER25-ABS)



CABLE ROUTING (For FAZER25-ABS)

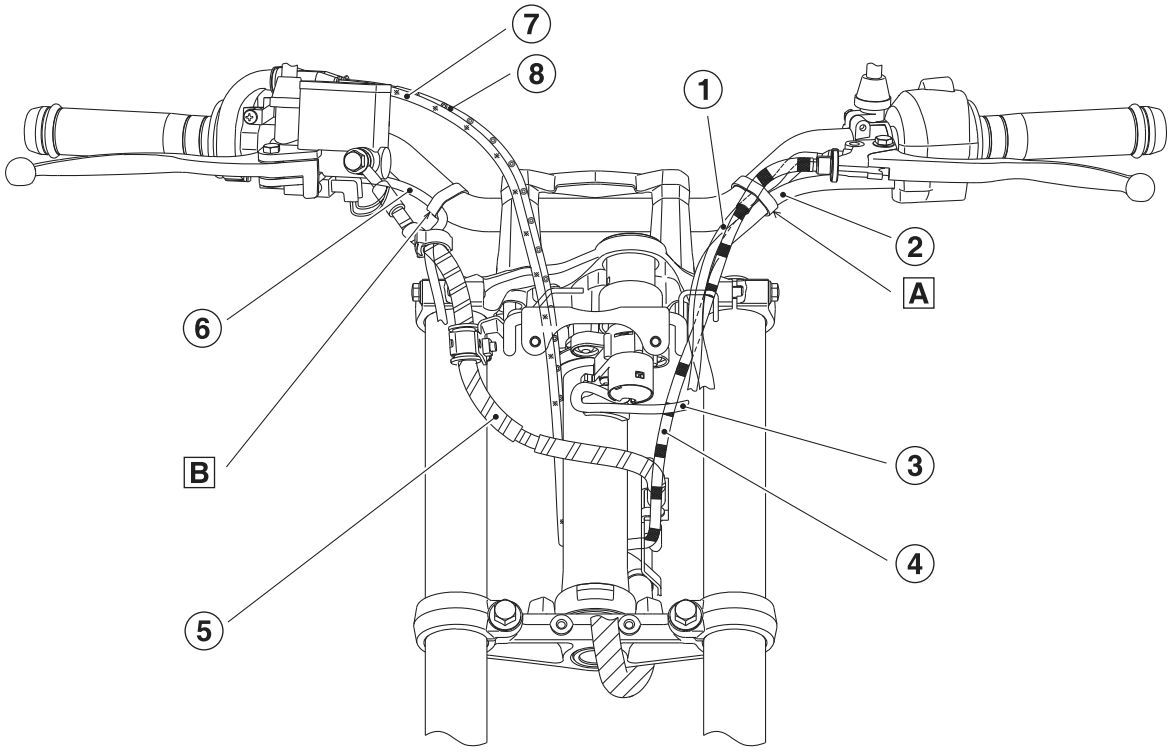
① Clutch switch lead
② Left handlebar switch lead
③ Clutch cable
④ Horn
⑤ Plastic band
⑥ Horn lead
⑦ Front brake hose
⑧ Right handlebar switch lead
⑨ Front brake light switch coupler
⑩ Front brake light switch lead
⑪ Front fork assembly

[A] Main switch clamp shall be inserted in the hole of brake hose holder.
[B] Brown (Right side of vehicle).
[C] Pink (Left side of vehicle).
[D] L-type terminal shall be directed to right side of vehicle.
[E] Horn lead shall be adjusted without slack lower side from this plastic band.
[F] Set tip of the clamp towards backward.
[G] Set the path of plastic band end into the tube properly.
[H] Clamp of harness assembly shall be inserted in the hole of frame.

CABLE ROUTING (For FZ25-ABS)

① Clutch switch lead
② Left handlebar switch lead
③ Main switch lead
④ Clutch cable
⑤ Front brake hose
⑥ Right handlebar switch lead
⑦ Throttle cable (decelerator)
⑧ Throttle cable (accelerator)

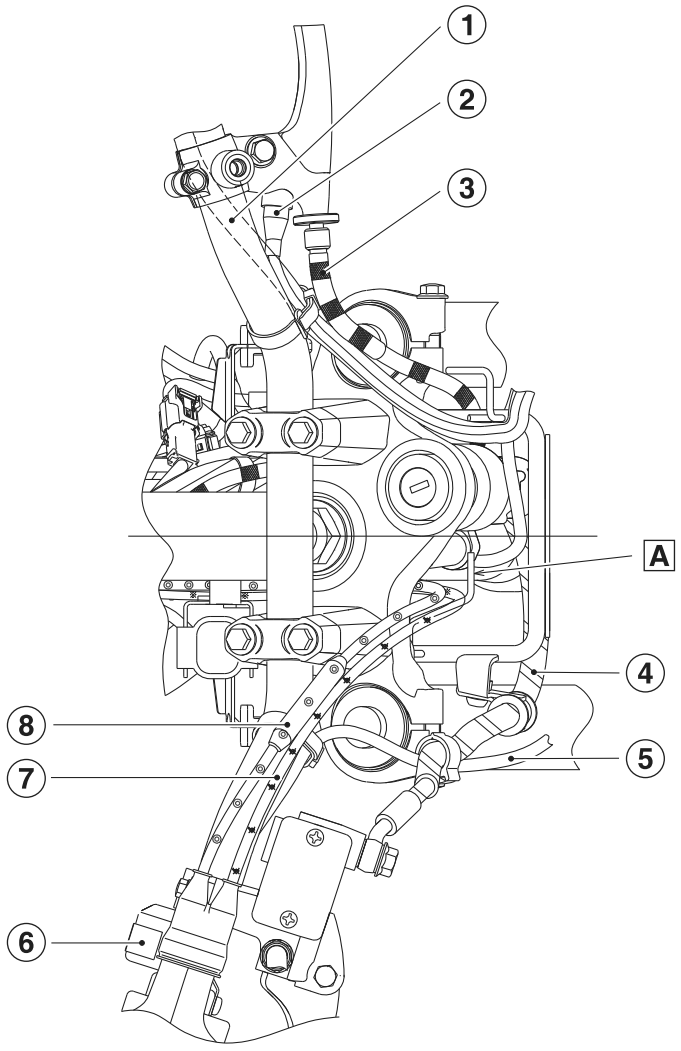
[A] Clamp the clutch switch lead and left handlebar switch lead to straight portion of handlebar.
[B] Clamp the right handlebar switch lead to straight portion handlebar.



CABLE ROUTING (For FAZER25-ABS)

① Left handlebar switch lead
② Clutch switch lead
③ Clutch cable
④ Front brake hose
⑤ Right handlebar switch lead
⑥ Right handlebar switch
⑦ Throttle cable (decelerator)
⑧ Throttle cable (accelerator)

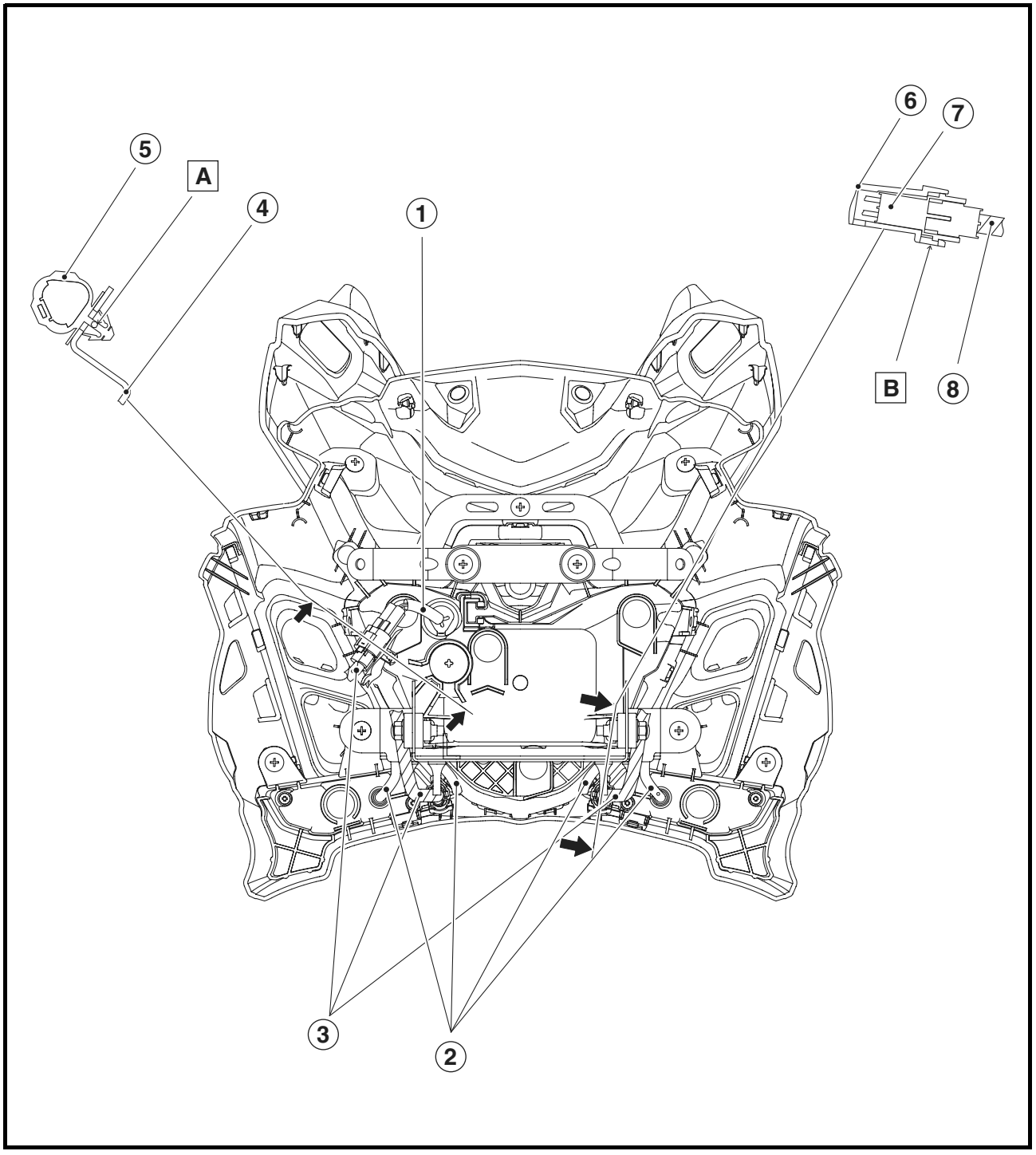
[A] Throttle cable (accelerator) and throttle cable (Return side) pass to guide of stay.



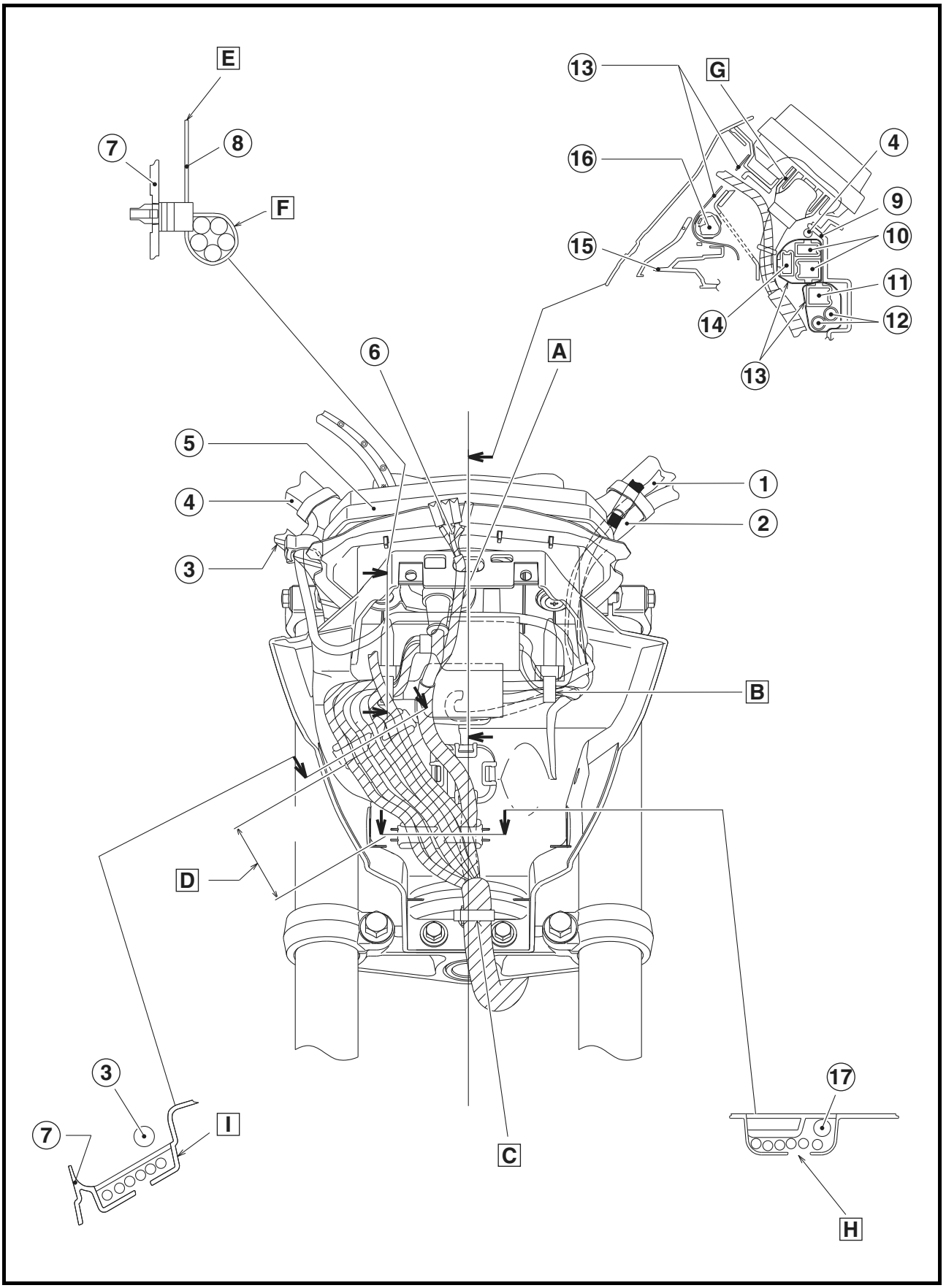
CABLE ROUTING (For FAZER25-ABS)

① Headlight lead
② Auxiliary light leads
③ Wire harness assembly (Headlight and auxiliary lights)
④ Support stay
⑤ Headlight coupler
⑥ Auxiliary light
⑦ Auxiliary light coupler
⑧ Harness assembly (Auxiliary light lead)

[A] Coupler shall be inserted in the hole of support stay.
[B] Auxiliary light connector shall be fitted to hole of auxiliary light.



CABLE ROUTING (For FZ25-ABS)



CABLE ROUTING (For FZ25-ABS)

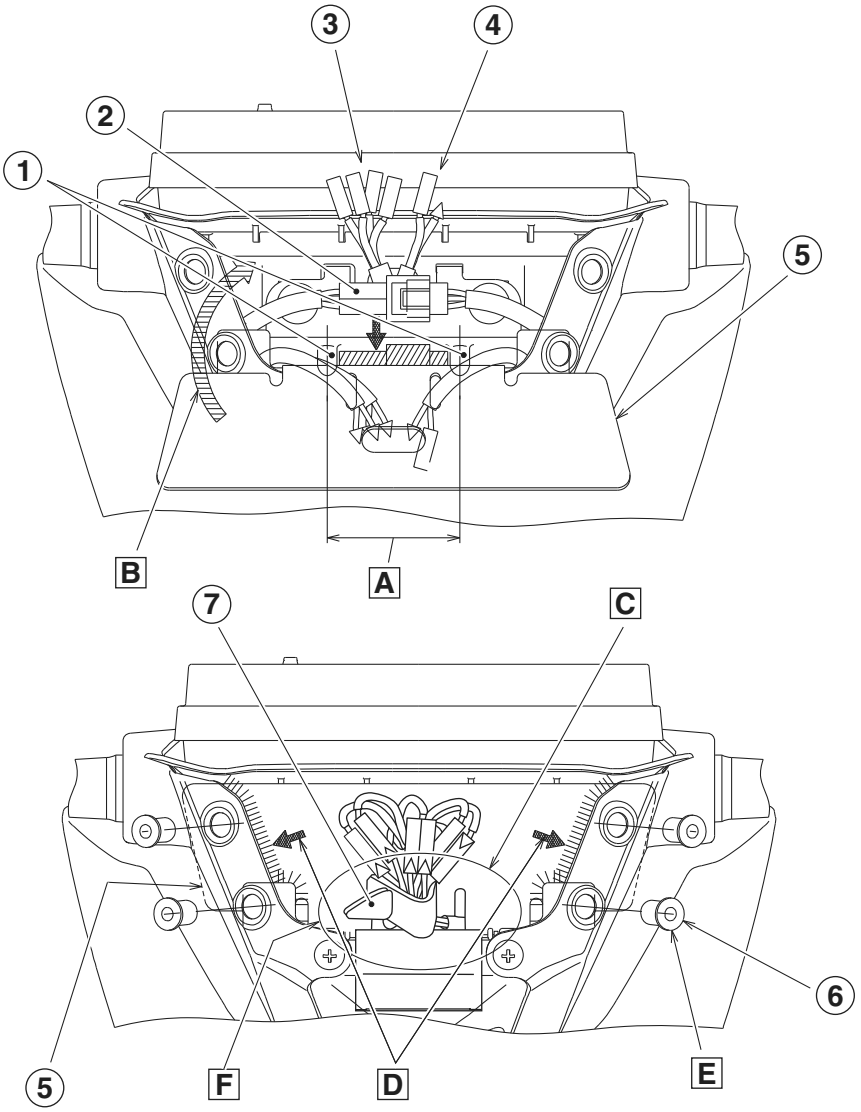
① Clutch switch lead
② Left handlebar switch lead
③ Front brake hose
④ Right handlebar switch lead
⑤ Meter assembly
⑥ Turn signal light lead (LH & RH)
⑦ Stay
⑧ Clamp
⑨ Headlight stay
⑩ Left handlebar switch lead coupler
⑪ Right handlebar switch lead coupler
⑫ Main switch lead coupler
⑬ Coupler cover
⑭ Clutch switch lead coupler
⑮ Headlight
⑯ Headlight lead coupler
⑰ Meter assembly lead

A Front turn signal light leads shall be passed through headlight stay.
B Do not clamp the bare leads.
C Insert the harness assembly into the hole of stay.
D The leads should not cross this area.
E Set the tip of the clamp upper side and should not be cut.
F Left handlebar switch lead, right handlebar switch lead, clutch switch lead and main switch lead can be in random order.
G After connecting meter coupler rubber cover shall be inserted into the meter assembly.
H Except meter assembly lead, left handlebar switch lead, right handlebar switch lead, clutch switch lead, headlight switch lead and main switch lead can be in random order.
I Left handlebar switch lead, right handlebar switch lead, clutch switch lead, headlight switch lead and main switch lead can be in random order.

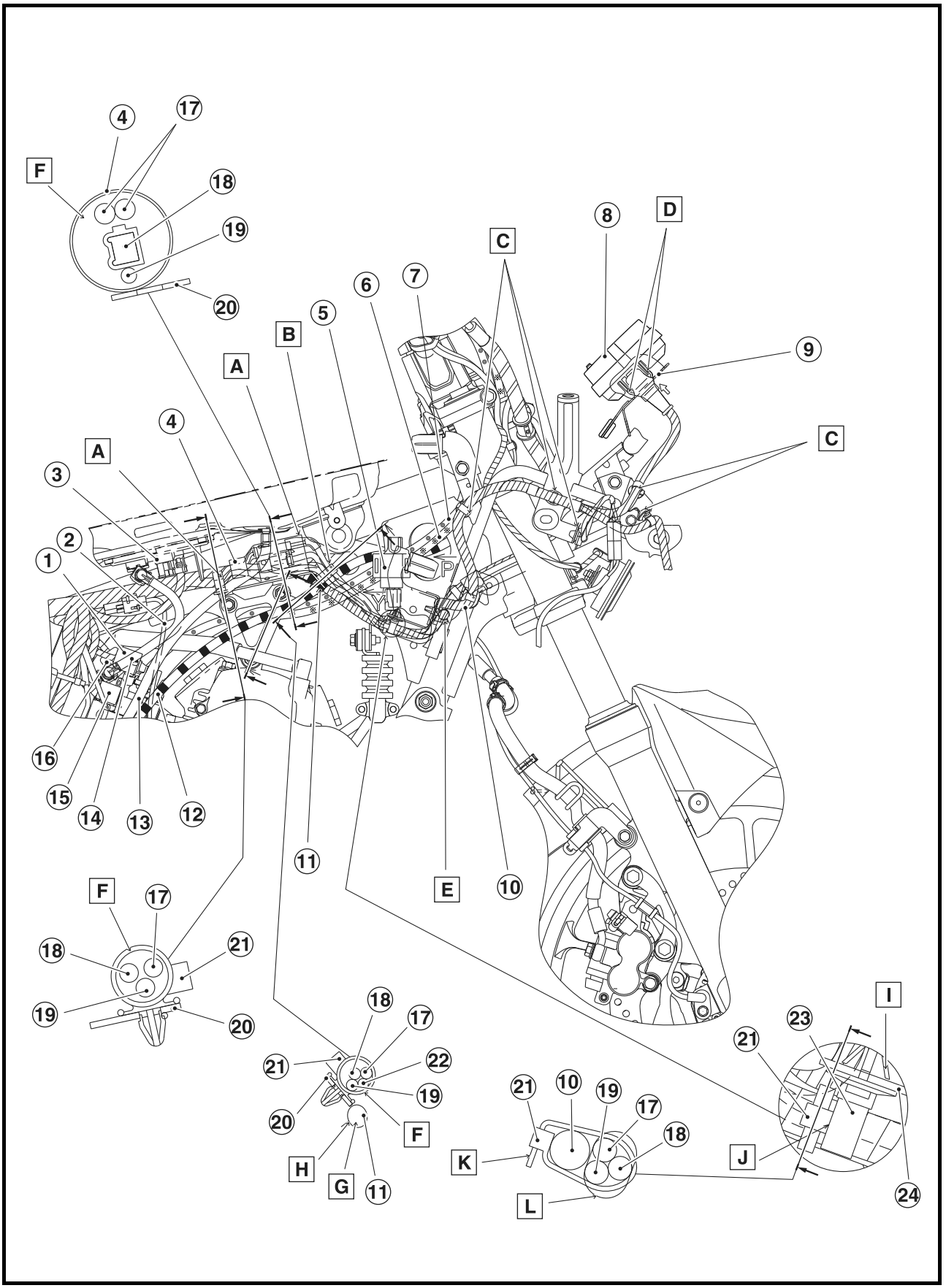
CABLE ROUTING (For FZ25-ABS)

① Bracket rib
② Headlight coupler
③ Front turn signal light lead
④ Auxiliary light lead
⑤ Coupler cover
⑥ Nut
⑦ Band

Ⓐ After headlight coupler is connected, put headlight coupler between the ribs of bracket.
Ⓑ After installing headlight coupler, cover shall be raised up.
Ⓒ Clamped the bare leads downward from terminals.
Ⓓ Both ends of coupler cover shall be inserted.
Ⓔ Nut shall be installed at the end of assembly.
Ⓕ Leads shall not be put inside of upper cover.



CABLE ROUTING (For FAZER25-ABS)

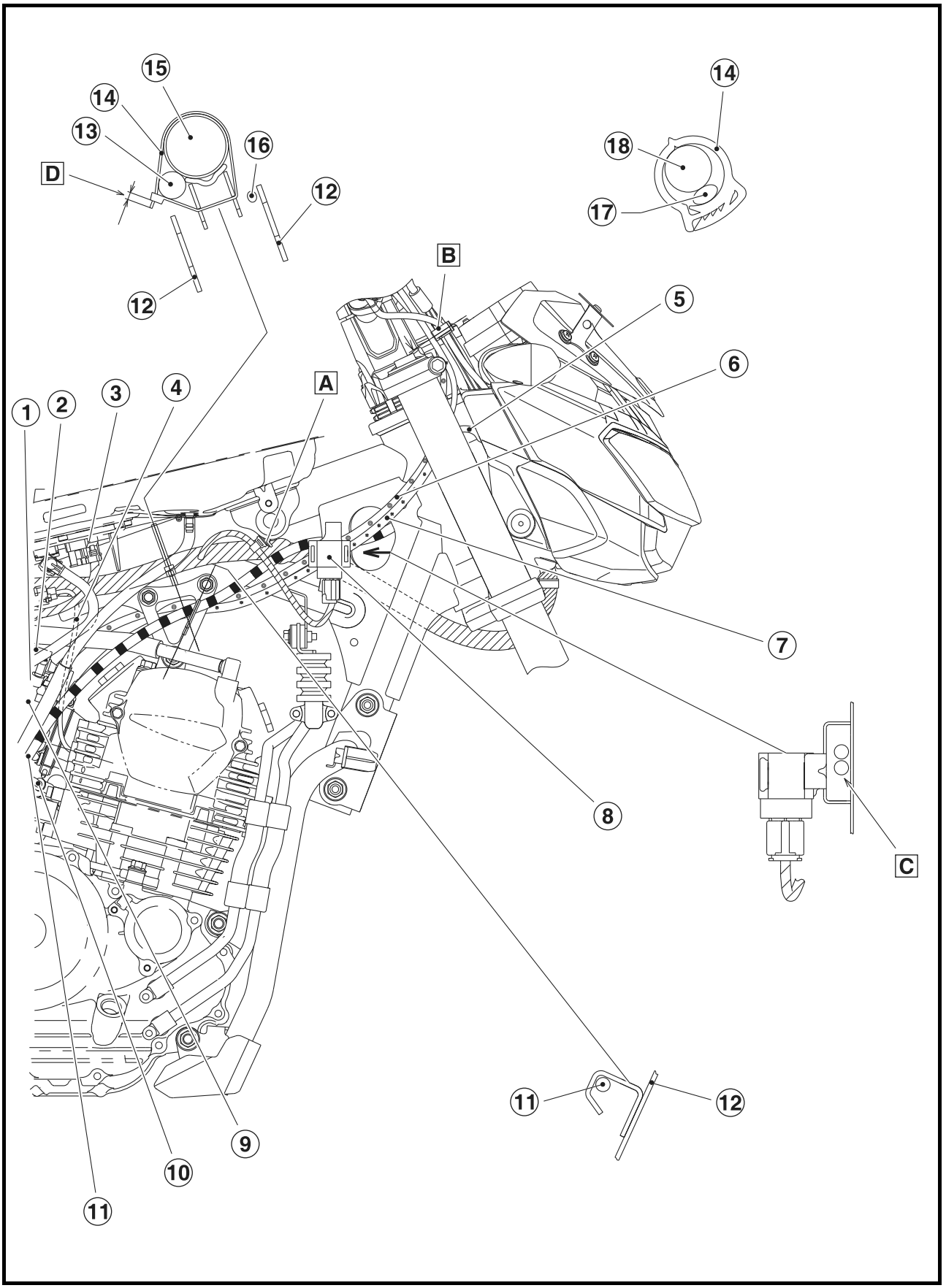


CABLE ROUTING (For FAZER25-ABS)

① Injector
② Engine temperature sensor lead
③ Fuel pump assembly
④ Couplers cover
⑤ Lean angle sensor
⑥ Throttle cable (decelerator)
⑦ Throttle cable (accelerator)
⑧ Meter assembly
⑨ Meter assembly stay
⑩ Harness assembly
⑪ Yellow tape
⑫ Clutch cable
⑬ Breather hose (Fuel tank)
⑭ Fuel hose (Fuel tank to injector)
⑮ MAQS (Modularized air quality sensor)
⑯ FID
⑰ Main switch lead
⑱ Right handlebar switch lead
⑲ Front brake light switch lead & horn lead
⑳ Engine stay
㉑ Clamp
㉒ Lean angle sensor lead
㉓ Plastic band
㉔ Frame bracket

Ⓐ Clamp shall be inserted in the hole of engine stay.
Ⓑ After connecting all connectors and couplers shall be properly covered with rubber cover and can be in random order.
Ⓒ Clamp of harness assembly shall be inserted in the hole of stay support.
Ⓓ After connecting meter cover shall be inserted into the meter assembly.
Ⓔ Clamp shall be inserted in the hole of engine stay.
Ⓕ The layout of leads shall be in random order.
Ⓖ Pass the harness assembly through clamp from inside the vehicle.
Ⓗ Harness assembly with yellow tape shall not be clamped.
Ⓘ Clamp shall be inserted in the hole of frame bracket.
Ⓙ Fit the clamp to the end of harness assembly.
Ⓚ Set the tip of the clamp outside and lower side, cut the tip of the clamp maximum length of the tip should be 5 mm.
Ⓛ These three leads shall be clamped to the inside. Layout of leads shall be in random order.

CABLE ROUTING (For FZ25-ABS)

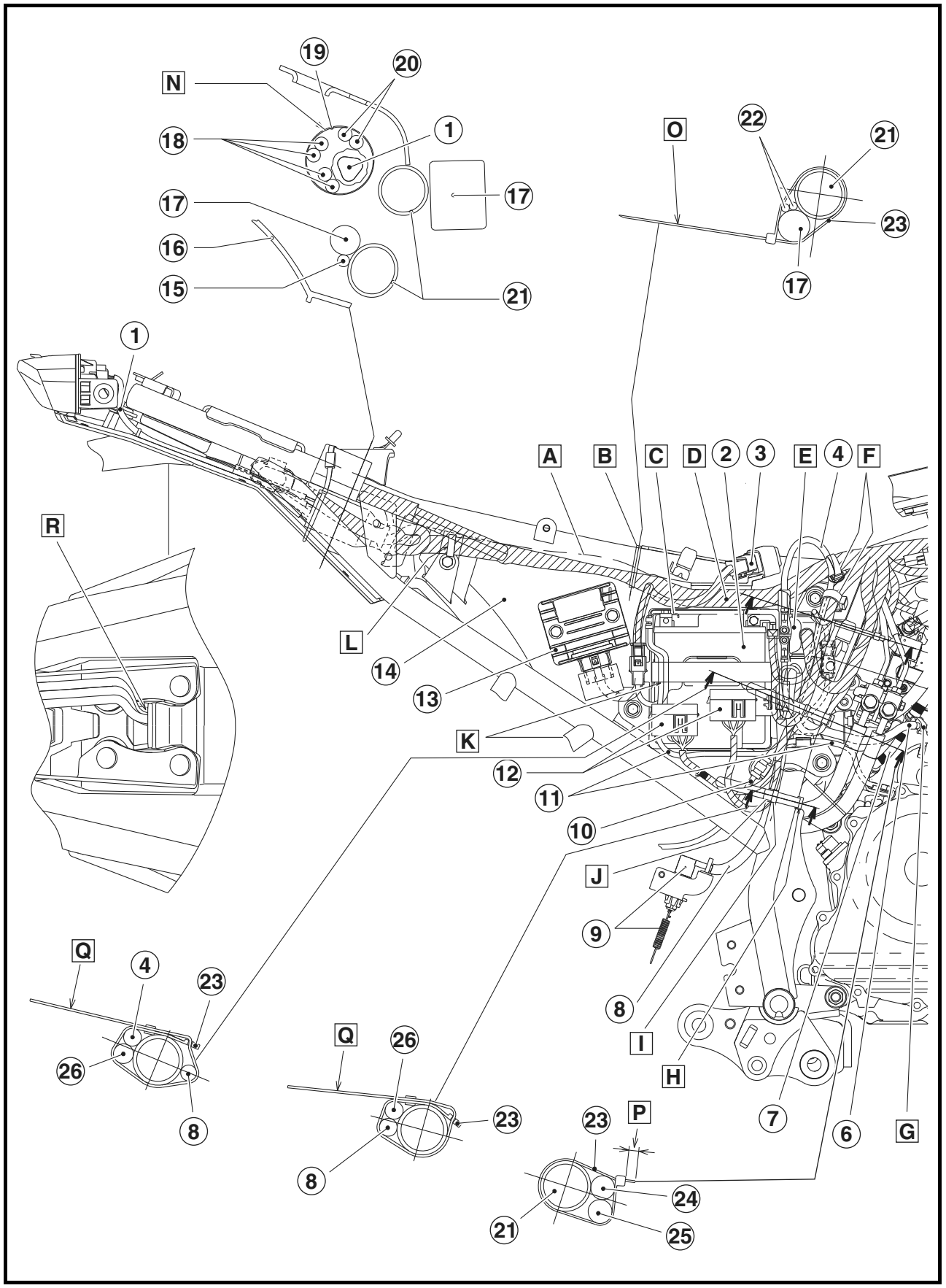


CABLE ROUTING (For FZ25-ABS)

① FID (Fast idling device)
② Injector
③ Fuel pump assembly
④ Engine temperature sensor lead
⑤ Main switch lead
⑥ Throttle cable (accelerator)
⑦ Throttle cable (decelerator)
⑧ Lean angle sensor
⑨ MAQS (Modularized air quality sensor)
⑩ Starter motor lead
⑪ Clutch cable
⑫ Engine stay
⑬ Harness assembly
⑭ Clamp
⑮ Frame assembly
⑯ Ignition coil lead
⑰ Right handlebar switch lead
⑱ Front brake hose

Ⓐ Harness clamp shall be inserted in the hole of frame component.
Ⓑ Pass the main switch lead frontward than throttle cable (Both of accelerator and decelerator).
Ⓒ Pass throttle cable inside stay of frame component.
Ⓓ Set the tip of the clamp to the lower side, cut the tip of the band, maximum length of band tip 5 mm.

CABLE ROUTING

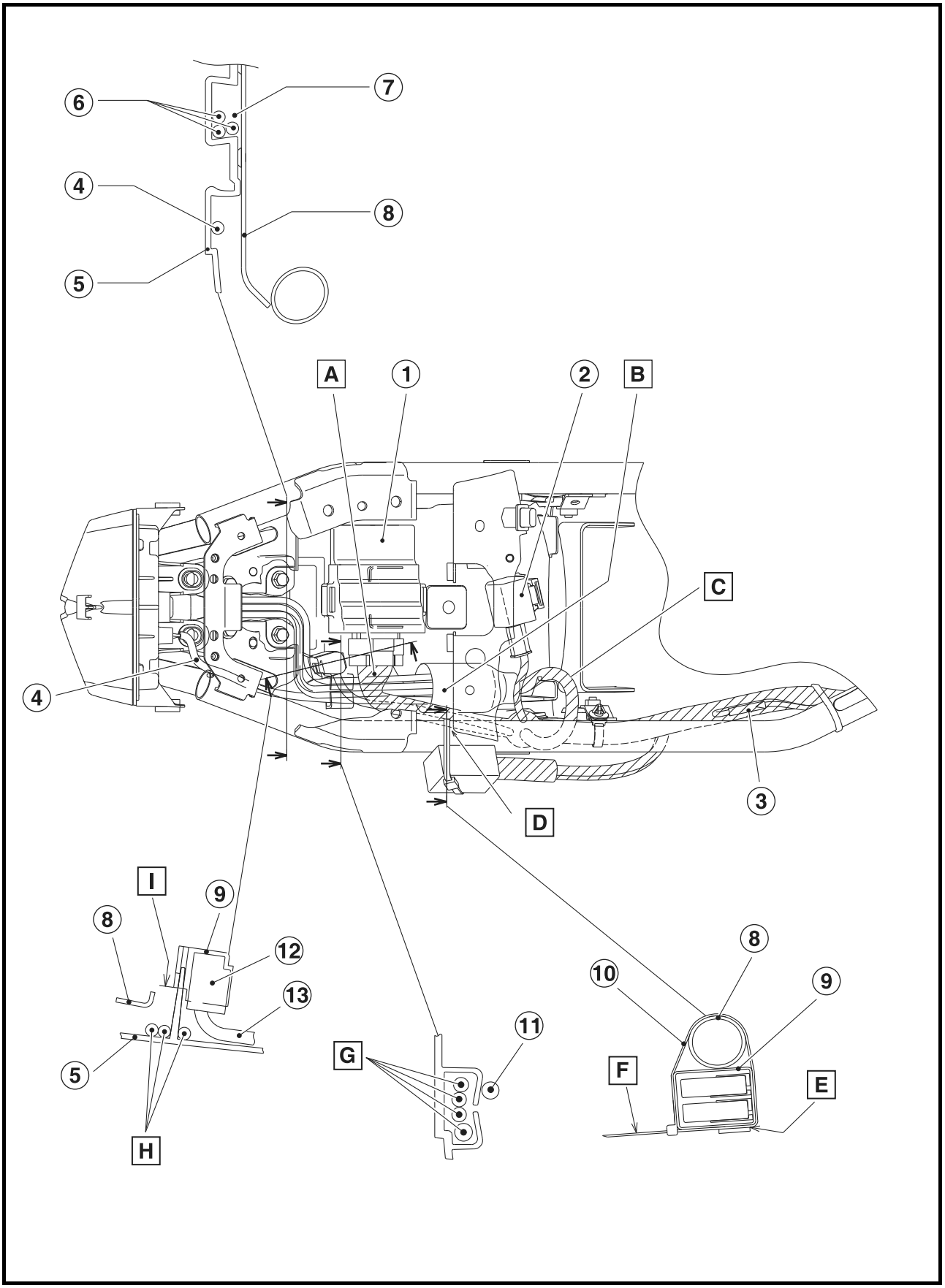


CABLE ROUTING

① Taillight lead
② Battery
③ Relay
④ Positive battery lead
⑤ MAQS (Modularized air quantity sensor)
⑥ Starter motor lead
⑦ Clutch cable
⑧ Rear brake light switch lead
⑨ Rear brake light switch
⑩ Rear wheel sensor
⑪ Negative battery lead
⑫ Fuse box
⑬ Rectifier regulator
⑭ Air filter assembly
⑮ ABS test coupler lead
⑯ Fender
⑰ Harness assembly
⑱ Rear turn signal leads (LH & RH)
⑲ coupler cover
⑳ License plate light lead
㉑ Frame assembly
㉒ Service tool
㉓ Plastic band
㉔ Starter relay lead
㉕ ABS unit lead
㉖ Fuse box lead

[A] Harness assembly shall be passed inside of seat rail, also it should not touch the rectifier regulator.
[B] Fix clamp to the end of bracket tank fitting of frame.
[C] The terminal negative battery lead shall be set to the upside.
[D] Harness shall be passed along with the guide of battery box.
[E] Starter relay shall be properly covered with harness assembly cover.
[F] Clamp shall be inserted in the hole of frame.
[G] Set large diameter open mouth of clamp to inside and assemble bend tube to clutch cable. Set small diameter of open mouth of the clamp to downward and assemble non protector part of starting motor lead.
[H] Fit the band to the end of rear arm frame bracket.
[I] Rear brake light switch lead shall be clamped at the white tape.
[J] Rear brake light switch lead shall be adjusted without slack lower side of this band.
[K] Harness assembly, negative battery lead and batter shall be fixed by battery band.
[L] Clamp shall be inserted in the hole rear fender (right) bracket.
[M] Taillight lead shall be passed inside of fender pin.
[N] Layout in coupler cover can be in random order.
[O] Set the tip of the clamp to the inner side, tip of the band should not be cut.
[P] Set the tip of the clamp to the front side, cut the tip of the band, maximum length of band tip 5 mm.
[Q] Set the tip of the band to the backward.
[R] License plate light lead & both rear turn signal light leads (LH & RH) shall be passed through hole of fender, leads shall not be pinched by other parts.

CABLE ROUTING

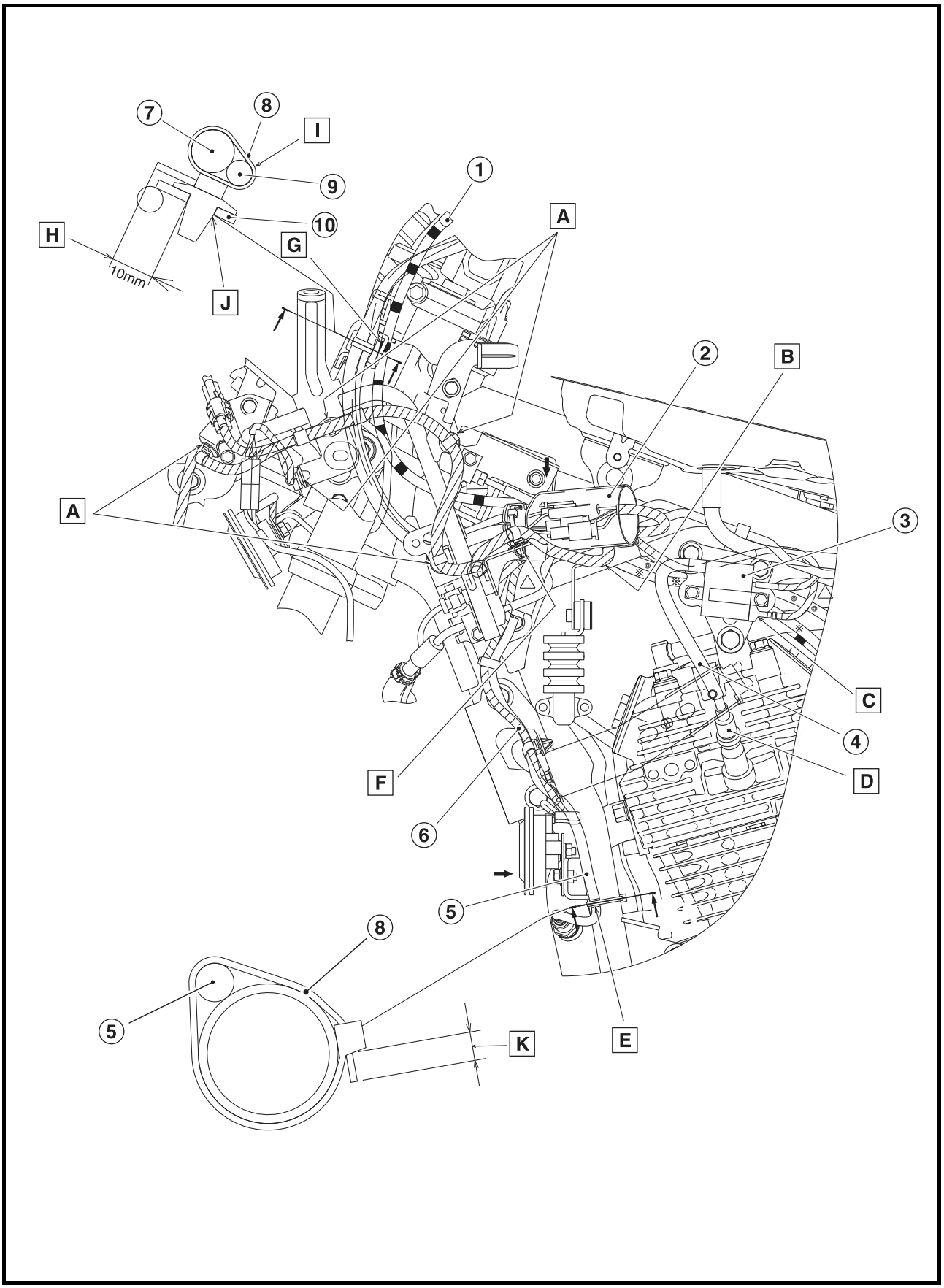


CABLE ROUTING

① Engine control unit
② Turn signal relay
③ Yamaha diagnostic tool coupler
④ Taillight lead
⑤ Rear fender
⑥ Rear turn signal lead (LH/RH), license plate light lead
⑦ Channel
⑧ Frame assembly
⑨ Coupler cover
⑩ Clamp
⑪ ABS coupler lead
⑫ ABS test coupler
⑬ Harness assembly

A ECU lead must be placed on the top.
B After connecting all connectors and couplers shall be properly covered with rubber cover and can be in random order.
C After connected pass front side of rib in fender.
D Fit clamp to the end of bracket set of frame component.
E Pass the clamp through the hole on the coupler cover.
F Set the tip of clamp to the lower side. Tip of clamp shall not be cut.
G Rear turn signal lead (LH/RH), license plate light lead, brake light lead in guide of fender shall be in random order.
H Rear turn signal light leads (LH & RH) and license plate light lead shall be in random order.
I Press the coupler until it get fixed properly.

CABLE ROUTING (For FAZER25-ABS)

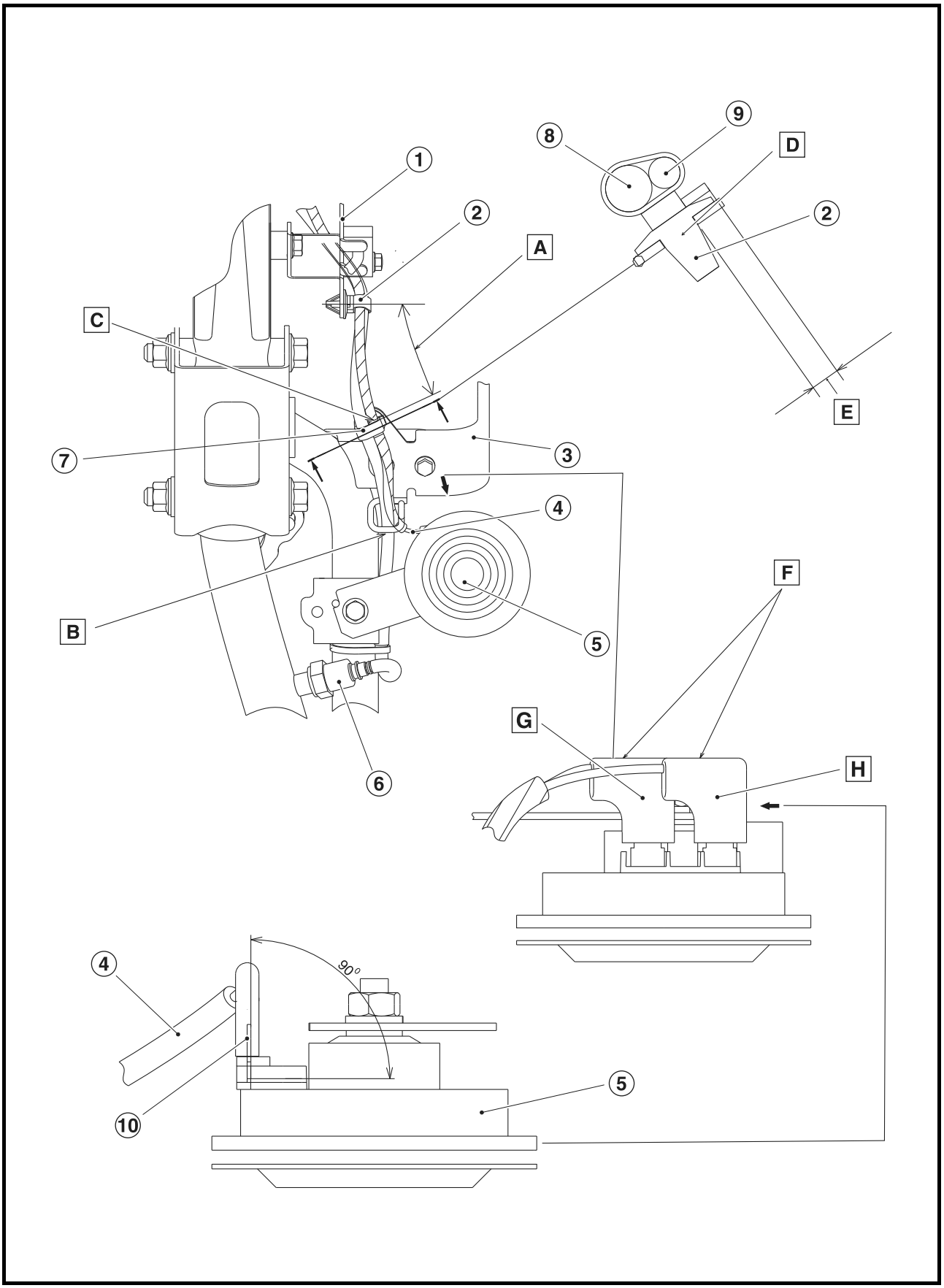


CABLE ROUTING (For FAZER25-ABS)

① Clutch cable
② Couplers cover
③ Ignition coil
④ Spark plug lead
⑤ O_2 sensor lead
⑥ Horn lead
⑦ Left handlebar switch lead
⑧ Clamp
⑨ Clutch switch lead
⑩ Stay

A Clamp of harness assembly shall be inserted in the hole of support stay.
B Harness assembly shall pass under the couplers cover.
C Lead cover shall be insert properly.
D Spark plug lead shall be screwed and tighten with spark plug cap. (Pull off strength of spark plug lead shall be minimum 30N).
E Clamp the O_2 sensor lead (white mark) at the end of horn bracket (frame) using plastic band, and lead shall be adjusted from upperside of the band without slack.
F Clamp shall be inserted in the hole of frame assembly.
G Clutch cable shall be passed from behind the stay guide.
H Set the tip of the clamp to the front side, cut the tip of the band, maximum length of band tip10 mm.
I The layout of leads shall be in random order.
J Clamp shall be inserted in the hole of stay.

CABLE ROUTING (For FAZER25-ABS)



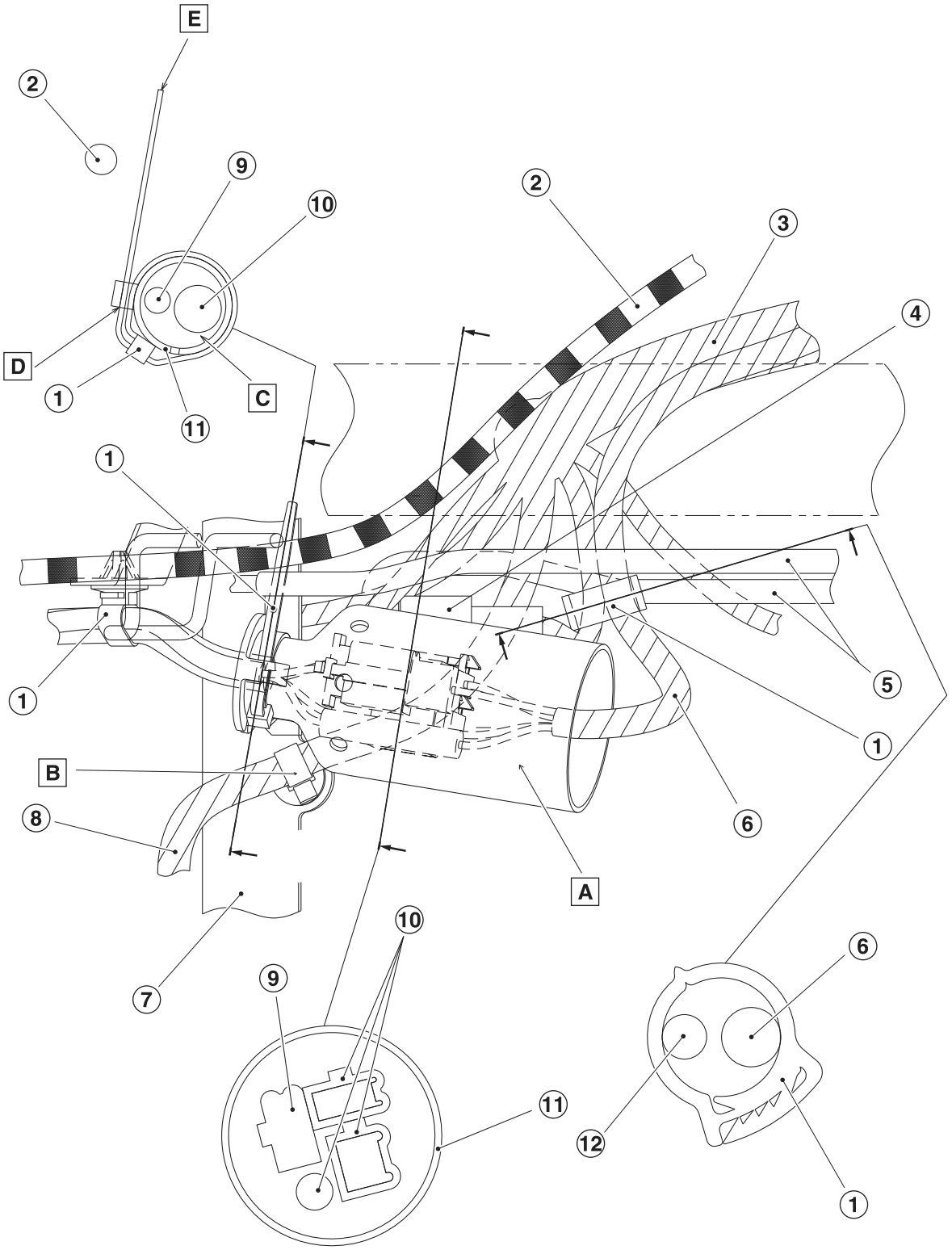
CABLE ROUTING (For FAZER25-ABS)

① Front brake hose holder
② Clamp
③ Stay (left)
④ Horn lead
⑤ Horn
⑥ O_2 sensor
⑦ Plastic band
⑧ O_2 sensor lead
⑨ Horn lead
⑩ Horn terminal

[A] Horn lead shall be adjusted without slack between both clamps as shown.
[B] These leads shall be passed behind guide of left stay.
[C] Clamp the horn lead at white tape.
[D] Clamp shall be inserted in the hole of left side stay.
[E] Set the tip of the clamp outside, cut the tip of clamp maximum length should be 5 mm.
[F] L-type terminal should be directed to inside of vehicle.
[G] Brown (Inside of vehicle)
[H] Pink (Left side of vehicle)

CABLE ROUTING (For FAZER25-ABS)

Front left-side of vehicle (Couplers cover)

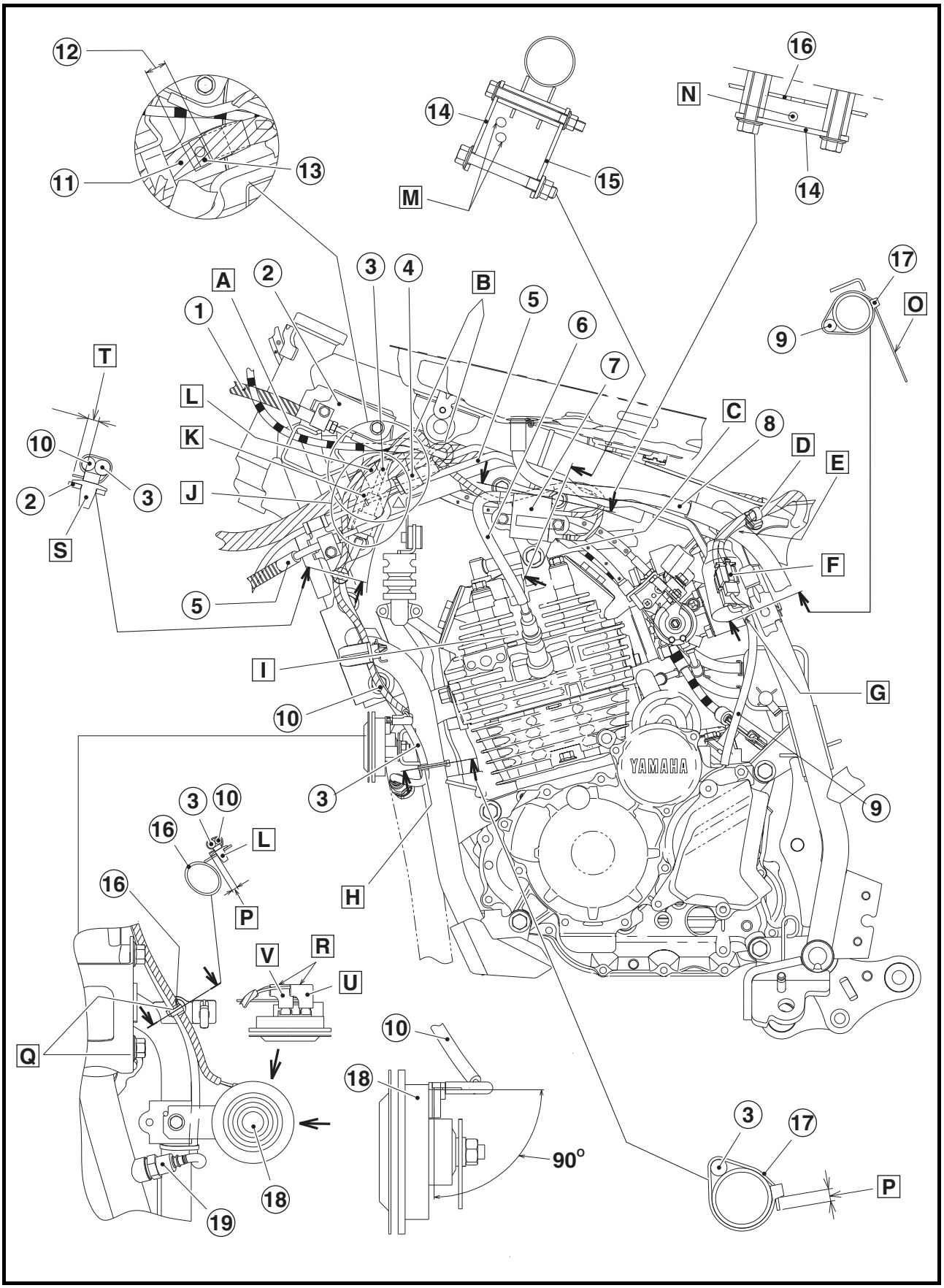


CABLE ROUTING (For FAZER25-ABS)

① Clamp
② Clutch cable
③ Harness assembly
④ Front wheel sensor coupler
⑤ Brake hose
⑥ Harness assembly (to left handlebar switch)
⑦ Frame assembly
⑧ Harness assembly (to headlight)
⑨ Clutch switch lead
⑩ Left handlebar switch lead
⑪ Couplers cover
⑫ Harness assembly (to front wheel sensor)

[A] After connecting all connectors and couplers shall be properly covered with rubber cover, no naked lead should be outside cover and can lay-out of leads can be in random order.
[B] Clamp of harness assembly shall be inserted in the hole of frame assembly.
[C] Layout of leads shall be in random order.
[D] Pass the clamp through hole in cover.
[E] Set the tip of the clamp to the inside of the vehicle, tip of the clamp shall not be cut.

CABLE ROUTING (For FZ25-ABS)



CABLE ROUTING (For FZ25-ABS)

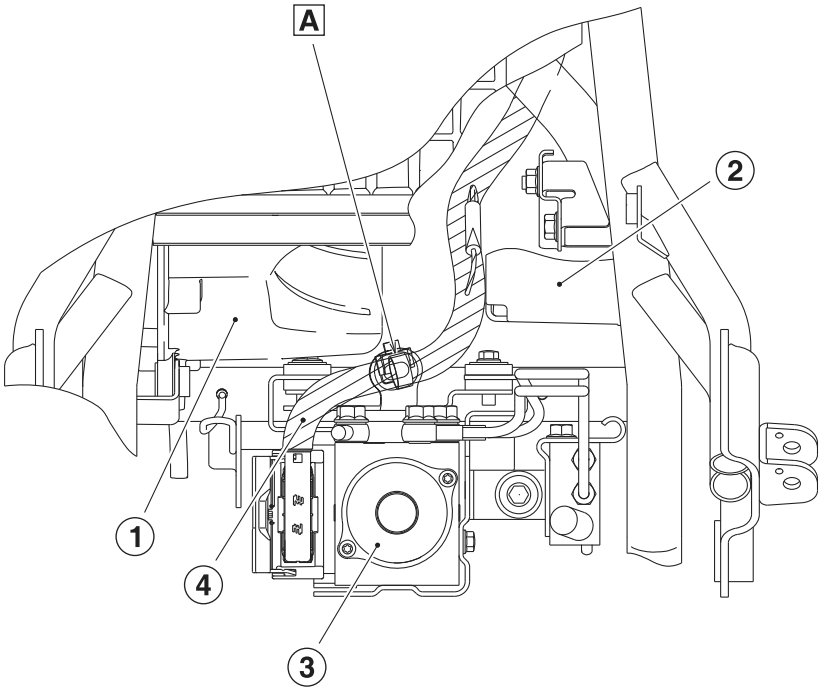
① Front brake hose (ABS Hydraulic unit to front brake master cylinder)
② Front brake hose holder
③ O_2 sensor lead
④ Front wheel sensor lead
⑤ Brake hose (ABS Hydraulic unit to front brake caliper)
⑥ Spark plug lead
⑦ Ignition coil
⑧ Breather hose (Fuel tank)
⑨ AC magneto lead
⑩ Horn lead
⑪ Harness assembly
⑫ Clamp cover
⑬ Clamp
⑭ Engine stay (Left)
⑮ Engine stay (Right)
⑯ Frame
⑰ Plastic band
⑱ Horn
⑲ O_2 sensor

[A] Pass the clutch cable from cable guide of brake hose holder.
[B] O_2 sensor lead and front wheel sensor lead shall be passed over the brake hose.
[C] Lead cover shall be inserted properly.
[D] Clamp shall be inserted in the hole of frame assembly.
[E] Breather hose (fuel tank) shall be passed under the harness assembly.
[F] After connecting all connectors and couplers shall be properly covered with rubber cover and can be in random order.
[G] Clamp the AC magneto lead to upper side of frame assembly with plastic band and ensure band should not be on bare lead.
[H] Clamp the O_2 sensor lead (while mark) at the end of horn bracket (frame) using plastic band, and lead shall be adjusted from upper side of the band without slack.
[I] Spark plug lead shall be screwed and tighten with spark plug cap. (Pull off strength of spark plug lead shall be minimum 30 N).
[J] Brake hose, O_2 sensor lead, front wheel sensor lead and horn lead shall be properly arranged with frame from outside of the vehicle in mention order.
[K] Coupler cover of O_2 sensor lead shall not be turned up.
[L] Clamp shall be inserted in the hole of frame assembly.
[M] Pass both the throttle cables (accelerator & decelerator) between left & right engine stay.
[N] Pass the ignition coil lead between left engine stay and frame.
[O] Set the tip of the clamp to the innerside, tip of the band should not be cut.
[P] Set the tip of the clamp to the innerside cut the tip of the band, maximum length of band tip 5 mm.
[Q] Horn lead shall be adjusted without slack from upper side of clamp.
[R] L-type terminal shall be directed to inside of vehicle.
[S] Clamp shall be inserted in the hole of brake hose holder.
[T] Set the tip of the clamp to the front side cut the tip of the band, maximum length of band tip 5 mm.
[U] Pink (Outside of the vehicle)
[V] Brown (Inside of the vehicle)

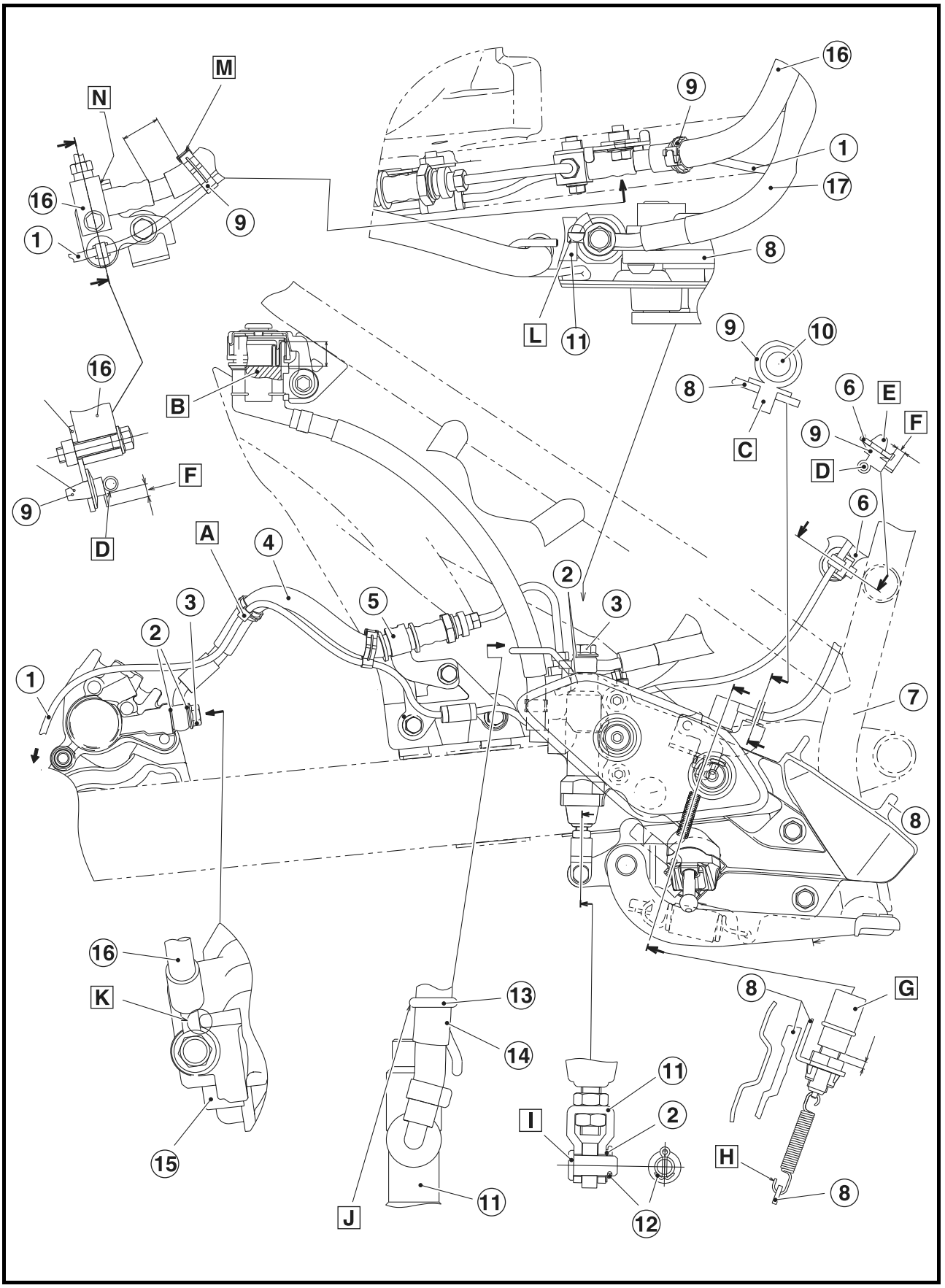
CABLE ROUTING

① Air filter assembly
② Battery box
③ ABS hydraulic unit
④ ABS hydraulic unit lead

[A] Clamp shall be inserted in the hole of frame assembly.



CABLE ROUTING

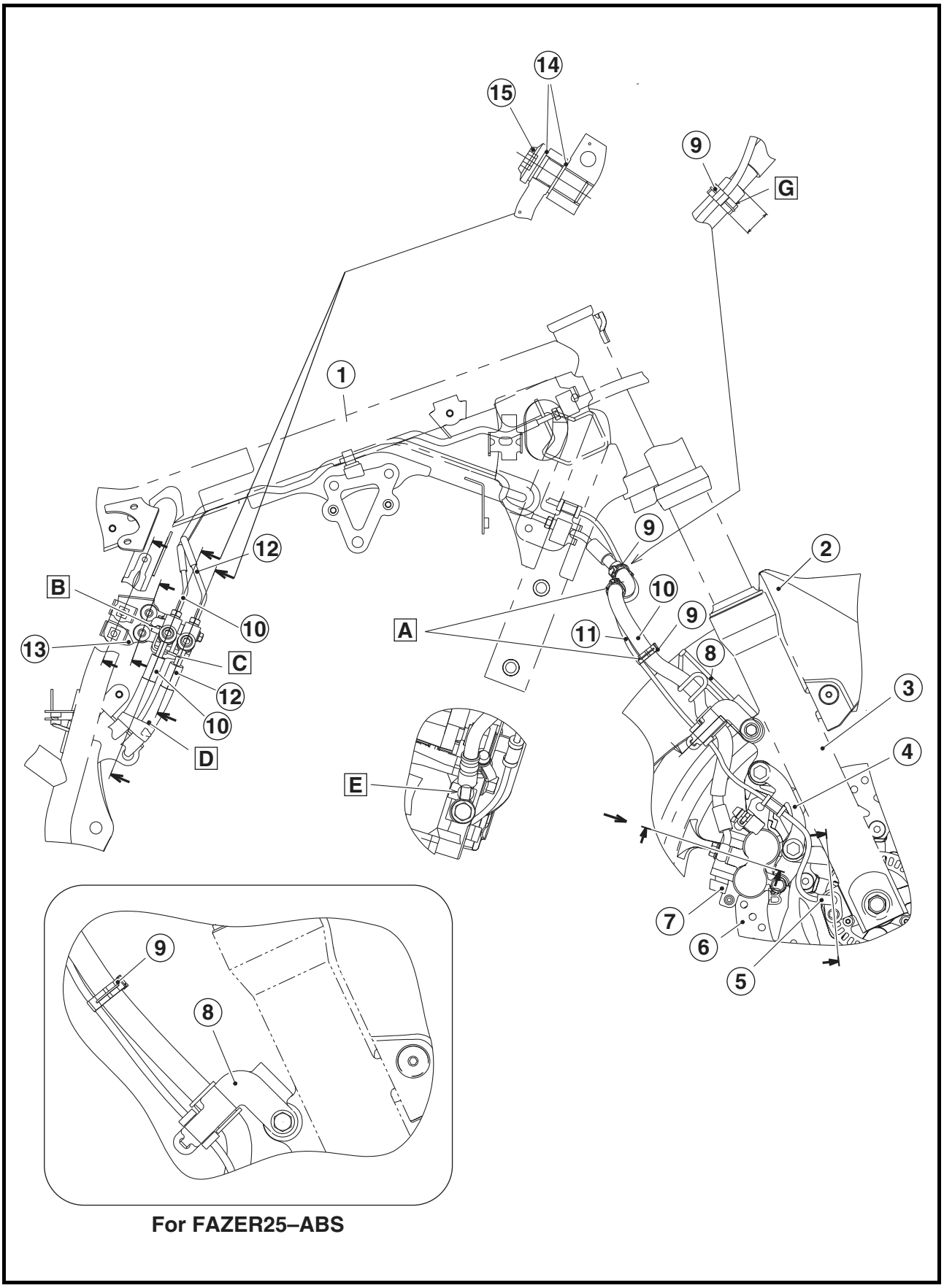


CABLE ROUTING

① Rear wheel speed sensor lead
② Plain washer
③ Brake hose union bolt
④ Rear brake hose
⑤ Rear brake hose holder
⑥ Battery box
⑦ Frame assembly
⑧ Footrest assembly
⑨ Clamp
⑩ Rear brake light switch lead
⑪ Rear brake master cylinder
⑫ Split pin
⑬ Rear brake reserve hose guide
⑭ Rear brake reserve hose
⑮ Rear brake caliper
⑯ Rear brake hose (ABS hydraulic unit to rear brake caliper)
⑰ Rear brake hose (ABS hydraulic unit to rear brake master cylinder)
⑱ Bracket

Ⓐ Fix the clamp on the paint mark of brake hose protector and white tape of wheel speed sensor.
Ⓑ Air shall be completely removed.
Ⓒ Clamp shall be inserted in the brake light switch stay.
Ⓓ Wheel sensor shall be clamped at white tape.
Ⓔ Clamp shall be inserted in the hole of battery box.
Ⓕ Set the tip of the clamp as shown, cut the tip of the band, maximum length of band tip 5 mm.
Ⓖ Adjust the brake light switch until brake light turn “on” before brake starts to be working.
Ⓗ Install the spring hook into the brake pedal spring stay as shown.
Ⓘ Pin shall be inserted from outside of the vehicle.
Ⓙ Reserve hose shall be assembled through the clamp of plate.
Ⓚ Rear brake hose shall be assembled to brake caliper by touching right side.
Ⓛ Brake hose shall be assembled by touching rear master cylinder.
Ⓜ Fit the clamp on white tape mark at wheel speed sensor.
Ⓝ Rear brake hose (ABS hydraulic unit to rear brake caliper) shall be assembled.
Ⓞ Clamp shall be inserted in the hole of bracket.

CABLE ROUTING



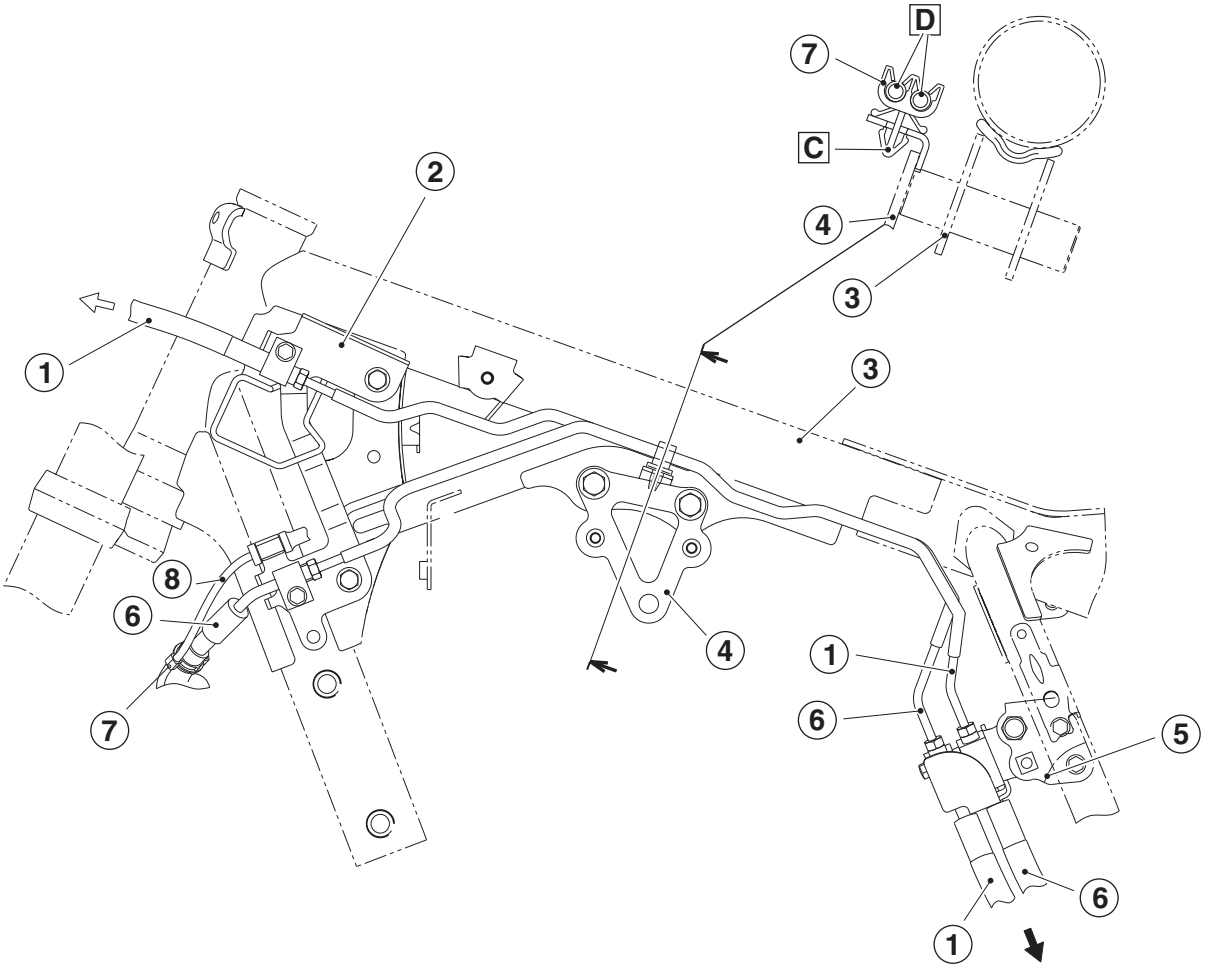
For FAZER25–ABS

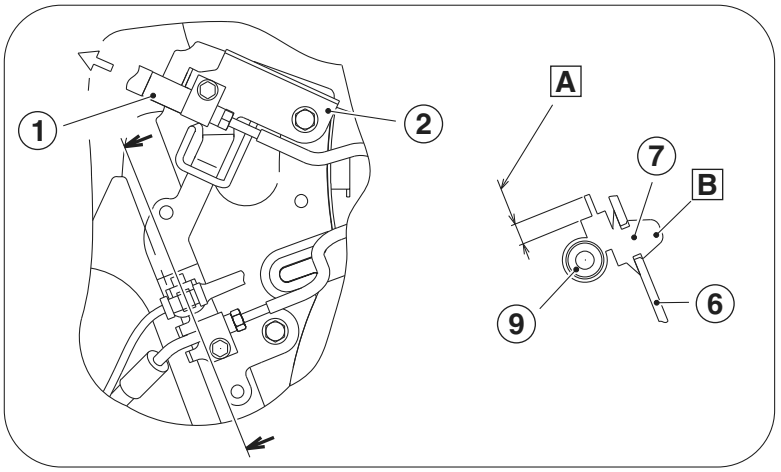
CABLE ROUTING

① Frame assembly
② Front fender
③ Front fork
④ Lead holder
⑤ Front wheel speed sensor
⑥ Front brake disc
⑦ Front brake caliper
⑧ Front brake hose holder
⑨ Clamp
⑩ Front brake hose (ABS hydraulic unit to front brake caliper)
⑪ Front wheel speed sensor lead
⑫ Front brake hose (ABS hydraulic unit to front brake master cylinder)
⑬ Brake hose bracket
⑭ Plain washer
⑮ Union bolt

[A] Clamp shall be attached on paint mark of front brake hose.
[B] Pin of front brake hose (ABS hydraulic unit to brake caliper) shall touch the brake hose bracket.
[C] End fitting of front brake hose (ABS hydraulic unit to master cylinder) shall touch brake hose bracket.
[D] Band upper edge shall fit to lower edge of paint mark of front brake hose (ABS hydraulic unit to master cylinder) both direction of band is allowed.
[E] Front brake hose shall be set properly to front brake caliper stopper.
[F] Brake fluid shall be applied to union bolt thread.
[G] Protector edge shall be appealed.

CABLE ROUTING





For FAZER25–ABS

CABLE ROUTING

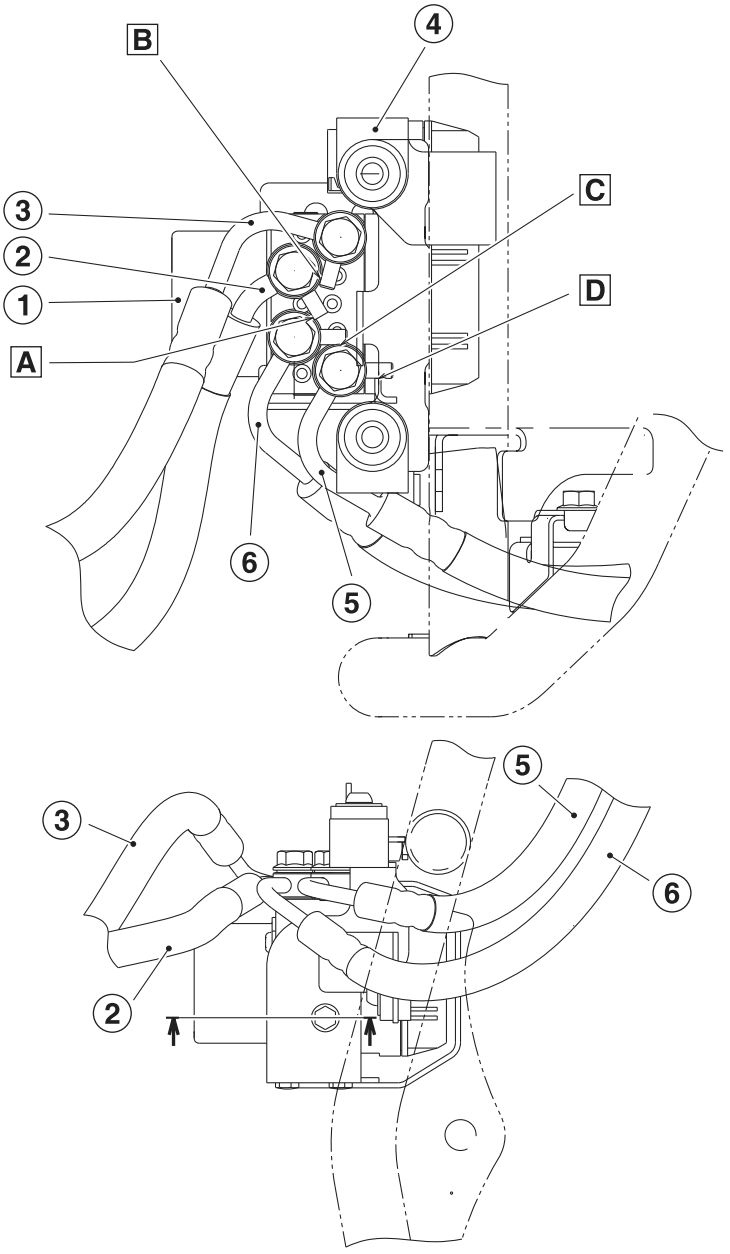
① Front brake hose (ABS hydraulic unit to front brake master cylinder)
② Front brake hose bracket
③ Frame assembly
④ Engine stay
⑤ Brake hose bracket
⑥ Front brake hose (ABS hydraulic unit to front brake caliper)
⑦ Clamp
⑧ Front wheel speed sensor lead

A Set the tip of the clamp to the up side, cut the tip of the band, maximum length of band tip 5 mm.
B Clamp shall be inserted in the hole of front brake hose bracket.
C Clamp shall be inserted in the hole of engine stay.
D Both front brake hoses should properly set to clamp.

CABLE ROUTING

① ABS hydraulic unit
② Rear brake hose (to rear brake master cylinder)
③ Rear brake hose (to rear brake caliper)
④ ABS hydraulic unit bracket
⑤ Front brake hose (to front brake caliper)
⑥ Front brake hose (to front brake master cylinder)

[A] Pin of rear brake hose (to rear brake master cylinder) shall touch to end fitting of rear brake hose (to rear brake caliper).
[B] Pin of rear brake hose (to rear brake caliper) shall touch to end fitting of rear brake hose (to rear brake master cylinder).
[C] Pin of front brake hose (to front brake master cylinder) shall touch to end fitting of front brake hose (to front brake caliper).
[D] Pin of front brake hose (to front brake caliper shall touch to end fitting of front brake hose (to front brake master cylinder).



CHAPTER 3
PERIODIC CHECKS AND ADJUSTMENT

PERIODIC MAINTENANCE (For FZ25-ABS)

TIP

- From 25000 km (15000 mi), repeat the maintenance intervals starting from 5000 km (3000 mi).
- Items marked with an asterisk (*) should be performed by a Yamaha dealer as they require special tools, data and technical skills.
- Maintenance intervals marked with a double asterisk (**) would be paid service.

PERIODIC MAINTENANCE CHART FOR THE EMISSION CONTROL SYSTEM

NO.		ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING					
				1000 km (600 mi)	5000 km (3000 mi)	10000 km (6000 mi)	15000 km** (9000 mi)	20000 km** (12000 mi)	25000 km** (15000 mi)
1	*	Fuel line	• Check fuel hoses for cracks or damage.	√	√	√	√	√	√
2	*	Fuel filter	• Check condition. • Replace if necessary.			√		√	
3		Spark plug	• Check condition. • Clean and regap.	√	√	√	√	√	√
			• Replace.	Every 15000 km (9000 mi)					
4	*	Valves	• Check valve clearance. Adjust if necessary.	√	√	√	√	√	√
5	*	Fuel injection	• Adjust engine idling speed.	√	√	√	√	√	√
6	*	Exhaust system	• Check for leakage. • Tighten if necessary. • Replace gasket(s) if necessary.	Every 10000 km (6000 mi)					
7	*	Evaporative emission control system	• Check control system for damage. • Replace if necessary.		√	√		√	

GENERAL MAINTENANCE AND LUBRICATION CHART

NO.		ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING					
				1000 km (600 mi)	5000 km (3000 mi)	10000 km (6000 mi)	15000 km** (9000 mi)	20000 km** (12000 mi)	25000 km** (15000 mi)
1	*	Diagnostic system check	• Perform dynamic inspection using Yamaha diagnostic tool. • Check the error codes.	√	√	√	√	√	√
2		Air filter element	• Replace.	Every 15000 km (9000 mi)					
3		Air filter case check hose	• Clean.	√	√	√	√	√	√
4	*	Battery	• Check voltage. • Charge if necessary.	√	√	√	√	√	√
5		Clutch	• Check operation. • Adjust.	√	√	√	√	√	√
6	*	Front brake	• Check operation, fluid level and vehicle for fluid leakage.	√	√	√	√	√	√
			• Replace brake pads.	Whenever worn to the limit					
7	*	Rear brake	• Check operation, fluid level and vehicle for fluid leakage.	√	√	√	√	√	√
			• Replace brake pads.	Whenever worn to the limit					
8	*	Brake hose	• Check for cracks or damage. • Check for correct routing and clamping.	√	√	√	√	√	√
			• Replace.	Every 4 years					
9	*	Brake fluid	• Change.	Every 2 years					

NO.		ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING					
				1000 km (600 mi)	5000 km (3000 mi)	10000 km (6000 mi)	15000 km** (9000 mi)	20000 km** (12000 mi)	25000 km** (15000 mi)
10	*	**Wheels**	• Check runout and for damage.	√	√	√	√	√	√
11	*	**Tires**	• Check tread depth and for damage. • Replace if necessary. • Check air pressure. • Correct if necessary.	√	√	√	√	√	√
12	*	**Wheel bearings**	• Check bearing for looseness or damage. Replace if necessary.	√	√	√	√	√	√
			• Lubricate with lithium-soap-based grease.	Every 10000 km (6000 mi)					
13	*	**Swingarm**	• Check operation and for excessive play.	√	√	√	√	√	√
			• Lubricate with lithium-soap-based grease.	Every 10000 km (6200 mi)					
14		**Drive chain**	• Check chain slack, alignment and condition. • Adjust and lubricate chain with a special O-ring chain lubricant thoroughly.	Every 500 km (300 mi) and after washing the motorcycle, riding in the rain or riding in wet areas					
15	*	**Steering bearings**	• Check bearing play and steering for roughness.	√	√	√	√	√	√
			• Lubricate with lithium-soap-based grease.	Every 10000 km (6200 mi)					
16	*	**Chassis fasteners**	• Make sure that all nuts, bolts and screws are properly tightened.	√	√	√	√	√	√
17		**Brake lever pivot shaft**	• Lubricate with silicone grease.	√	√	√	√	√	√
18		**Brake pedal pivot shaft**	• Lubricate with lithium-soap-based grease.	√	√	√	√	√	√
19		**Clutch lever pivot shaft**	• Lubricate with lithium-soap-based grease.	√	√	√	√	√	√
20		**Shift pedal pivot shaft**	• Lubricate with lithium-soap-based grease.	√	√	√	√	√	√
21		**Sidestand, centerstand**	• Check operation. • Lubricate with lithium-soap-based grease.	√	√	√	√	√	√
22	*	**Front fork**	• Check operation and for oil leakage. Repair if necessary.	√	√	√	√	√	√
			• Replace oil.	Every 10000 km (6000 mi)					
23	*	**Shock absorber assembly**	• Check operation and shock absorber for oil leakage.	√	√	√	√	√	√
24		**Engine oil**	• Change. • Check vehicle for oil leakage.	√	√	√	√	√	√
25		**Engine oil filter element**	• Replace.	√	√	√	√	√	√
26		**Engine oil strainer**	• Clean.	√	Every 15000 km (9000 mi)				
27	*	**Front and rear brake switches**	• Check operation.	√	√	√	√	√	√
28		**Moving parts and cable ends**	• Lubricate.	√	√	√	√	√	√
29	*	**Throttle grip**	• Check operation. • Check throttle grip free play, and adjust if necessary. • Lubricate cable end and grip housing.	√	√	√	√	√	√

NO.		ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING					
				1000 km (600 mi)	5000 km (3000 mi)	10000 km (6000 mi)	15000 km** (9000 mi)	20000 km** (12000 mi)	25000 km** (15000 mi)
30	*	**Lights, signals and switches**	• Check operation. • Adjust headlight beam.	√	√	√	√	√	√

TIP

- Air filter
  - This model's air intake system is equipped with a disposable oil-coated paper element. The air filter element cannot be cleaned with compressed air, it must be replaced.
  - The air filter element needs to be replaced more frequently when riding in unusually wet or dusty areas.
- Hydraulic brake service
  - After disassembling the brake master cylinder and caliper, always change the fluid. Regularly check the brake fluid level and fill the reservoir as required.
  - Every two years replace the internal components of the brake master cylinder and caliper, and change the brake fluid.
  - Replace the brake hose every four years and if cracked or damaged.

PERIODIC MAINTENANCE (For FAZER25-ABS)

TIP

- From 25000 km (15000 mi), repeat the maintenance intervals starting from 5000 km (3000 mi).
- Items marked with an asterisk (*) should be performed by a Yamaha dealer as they require special tools, data and technical skills.
- Maintenance intervals marked with a double asterisk (**) would be paid service.

PERIODIC MAINTENANCE CHART FOR THE EMISSION CONTROL SYSTEM

NO.		ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING					
				1000 km (600 mi)	5000 km (3000 mi)	10000 km (6000 mi)	15000 km** (9000 mi)	20000 km** (12000 mi)	25000 km** (15000 mi)
1	*	Fuel line	• Check fuel hoses for cracks or damage.	√	√	√	√	√	√
2	*	Fuel filter	• Check condition. • Replace if necessary.			√		√	
3		Spark plug	• Check condition. • Clean and regap.	√	√	√	√	√	√
			• Replace.	Every 15000 km (9000 mi)					
4	*	Valves	• Check valve clearance. Adjust if necessary.	√	√	√	√	√	√
5	*	Fuel injection	• Adjust engine idling speed.	√	√	√	√	√	√
6	*	Exhaust system	• Check for leakage. • Tighten if necessary. • Replace gasket(s) if necessary.	Every 10000 km (6000 mi)					
7	*	Evaporative emission control system	• Check control system for damage. • Replace if necessary.		√	√		√	

GENERAL MAINTENANCE AND LUBRICATION CHART

NO.		ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING					
				1000 km (600 mi)	5000 km (3000 mi)	10000 km (6000 mi)	15000 km** (9000 mi)	20000 km** (12000 mi)	25000 km** (15000 mi)
1	*	Diagnostic system check	• Perform dynamic inspection using Yamaha diagnostic tool. • Check the error codes.	√	√	√	√	√	√
2		Air filter element	• Replace.	Every 15000 km (9000 mi)					
3		Air filter case check hose	• Clean.	√	√	√	√	√	√
4	*	Battery	• Check voltage. • Charge if necessary.	√	√	√	√	√	√
5		Clutch	• Check operation. • Adjust.	√	√	√	√	√	√
6	*	Front brake	• Check operation, fluid level and vehicle for fluid leakage.	√	√	√	√	√	√
			• Replace brake pads.	Whenever worn to the limit					
7	*	Rear brake	• Check operation, fluid level and vehicle for fluid leakage.	√	√	√	√	√	√
			• Replace brake pads.	Whenever worn to the limit					
8	*	Brake hose	• Check for cracks or damage. • Check for correct routing and clamping.	√	√	√	√	√	√
			• Replace.	Every 4 years					
9	*	Brake fluid	• Change.	Every 2 years					

NO.		ITEM	CHECK OR MAINTENANCE JOB	ODOMETER READING					
				1000 km (600 mi)	5000 km (3000 mi)	10000 km (6000 mi)	15000 km** (9000 mi)	20000 km** (12000 mi)	25000 km** (15000 mi)
10	*	**Wheels**	• Check runout and for damage.	√	√	√	√	√	√
11	*	**Tires**	• Check tread depth and for damage. • Replace if necessary. • Check air pressure. • Correct if necessary.	√	√	√	√	√	√
12	*	**Wheel bearings**	• Check bearing for looseness or damage. Replace if necessary.	√	√	√	√	√	√
			• Lubricate with lithium-soap-based grease.	Every 10000 km (6000 mi)					
13	*	**Swingarm**	• Check operation and for excessive play.	√	√	√	√	√	√
			• Lubricate with lithium-soap-based grease.	Every 10000 km (6200 mi)					
14		**Drive chain**	• Check chain slack, alignment and condition. • Adjust and lubricate chain with a special O-ring chain lubricant thoroughly.	Every 500 km (300 mi) and after washing the motorcycle, riding in the rain or riding in wet areas					
15	*	**Steering bearings**	• Check bearing play and steering for roughness.	√	√	√	√	√	√
			• Lubricate with lithium-soap-based grease.	Every 10000 km (6200 mi)					
16	*	**Chassis fasteners**	• Make sure that all nuts, bolts and screws are properly tightened.	√	√	√	√	√	√
17		**Brake lever pivot shaft**	• Lubricate with silicone grease.	√	√	√	√	√	√
18		**Brake pedal pivot shaft**	• Lubricate with lithium-soap-based grease.	√	√	√	√	√	√
19		**Clutch lever pivot shaft**	• Lubricate with lithium-soap-based grease.	√	√	√	√	√	√
20		**Shift pedal pivot shaft**	• Lubricate with lithium-soap-based grease.	√	√	√	√	√	√
21		**Sidestand, centerstand**	• Check operation. • Lubricate with lithium-soap-based grease.	√	√	√	√	√	√
22	*	**Front fork**	• Check operation and for oil leakage. Repair if necessary.	√	√	√	√	√	√
			• Replace oil.	Every 10000 km (6000 mi)					
23	*	**Shock absorber assembly**	• Check operation and shock absorber for oil leakage.	√	√	√	√	√	√
24		**Engine oil**	• Change. • Check vehicle for oil leakage.	√	√	√	√	√	√
25		**Engine oil filter element**	• Replace.	√	√	√	√	√	√
26		**Engine oil strainer**	• Clean.	√	Every 15000 km (9000 mi)				
27	*	**Front and rear brake switches**	• Check operation.	√	√	√	√	√	√
28		**Moving parts and cable ends**	• Lubricate.	√	√	√	√	√	√
29	*	**Throttle grip**	• Check operation. • Check throttle grip free play, and adjust if necessary. • Lubricate cable end and grip housing.	√	√	√	√	√	√
30	*	**Lights, signals and switches**	• Check operation. • Adjust headlight beam.	√	√	√	√	√	√

TIP

- Air filter
  - This model's air intake system is equipped with a disposable oil-coated paper element. The air filter element cannot be cleaned with compressed air, it must be replaced.
  - The air filter element needs to be replaced more frequently when riding in unusually wet or dusty areas.
- Hydraulic brake service
  - After disassembling the brake master cylinder and caliper, always change the fluid. Regularly check the brake fluid level and fill the reservoir as required.
  - Every two years replace the internal components of the brake master cylinder and caliper, and change the brake fluid.
  - Replace the brake hose every four years and if cracked or damaged.

ENGINE

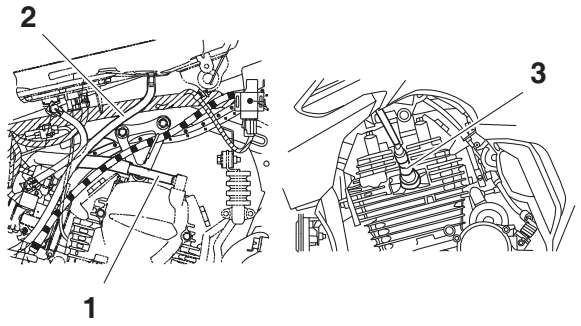
ADJUSTING THE VALVE CLEARANCE

The following procedure applies to all of the valves.

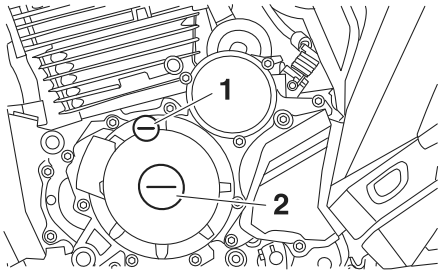
TIP

- Valve clearance adjustment should be made on a cold engine, at room temperature.
- When the valve clearance is to be measured or adjusted, the piston must be at top dead center (TDC) on the compression stroke.

1. Remove:
   - Fuel tank seat knee grip
     Refer to "FUEL TANK (For FAZER25-ABS)" on page 6-1.
2. Disconnect:
   - Cylinder head breather hose "1"
   - Canister hose from fuel tank "2".
   - Spark plug cap "3"



3. Remove:
   - Cylinder head valve covers along with "O" rings
     Refer to "CYLINDER HEAD" on page 5-6 of base service manual B97-F8197-E0.
4. Remove:
   - Timing mark accessing screw "1"
   - Crankshaft end accessing screw "2"



	Center plug spanner **YSST-625**

5. Measure:
   - Valve clearance
     Out of specification → Adjust.

	Valve clearance (cold) **Intake** **0.05-0.10 mm** **Exhaust** **0.08-0.13 mm**

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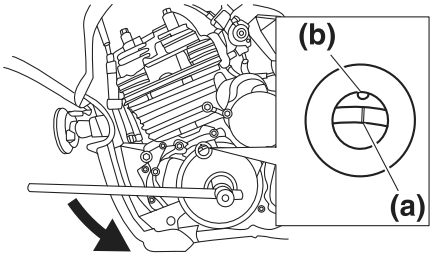
a. Turn the crankshaft counterclockwise.

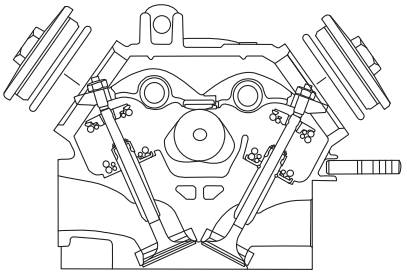
b. Align the "I" mark "a" on the AC Magneto rotor with the stationary pointer "b" on the AC Magneto cover.



c. Check that the cam lobes are positioned as shown in the illustration.

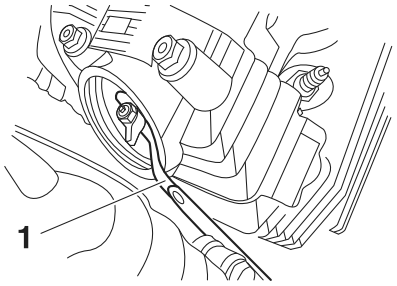
TIP

At this position, both the valves must have some valve clearance.



d. Measure the valve clearance with a feeler gauge "1".
   Out of specification → Adjust.

	Feeler gauge **YSST-1215**



TIP

Adjust inlet valve clearance from right side of the vehicle and exhaust valve clearance from left side of the vehicle.

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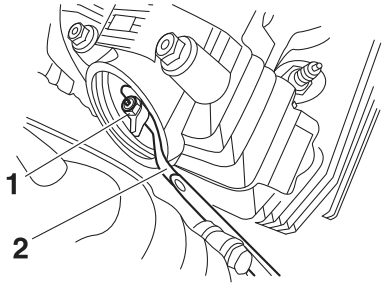
6. Adjust:
   - Valve clearance

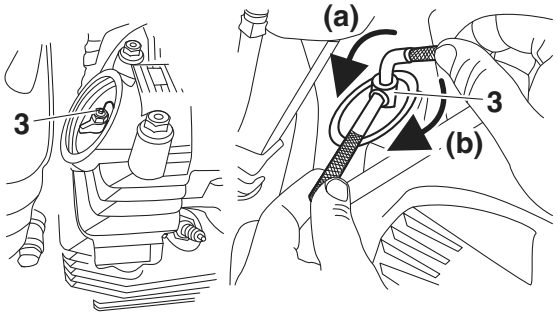
▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼

a. Loosen the locknut "1".

b. Insert a feeler gauge "2" between the end of the adjusting screw and the valve tip.



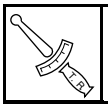
c. Turn the adjusting screw "3" in direction "a" or "b" until the specified valve clearance is obtained.



Direction "a"
Valve clearance is increased.
Direction "b"
Valve clearance is decreased.

Tappet screw holder
YSST-706 (90890-04154)
Tappet adjusting socket
YSST-806A

d. Hold the adjusting screw to prevent it from moving and tighten the locknut to specification.



Locknut
14 N·m (1.4 kgf·m, 10 lb·ft)

e. Measure the valve clearance again.

f. If the valve clearance is still out of specification, repeat all of the valve clearance adjustment steps until the specified clearance is obtained.

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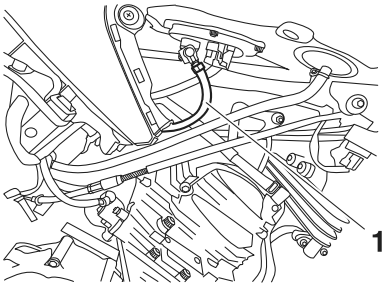
7. Install:
   - Crankshaft end accessing screw (along with the O-ring New)
   - Timing mark accessing screw (along with the O-ring New)
8. Install:
   - Cylinder head valve cover along with O-ring
   - Fuel tank breather hose
   - Canister hose
   - Spark plug cap
9. Install:
   - Fuel tank seat knee grip
     Refer to "FUEL TANK (For FAZER25-ABS)" on page 6-1.

CHECKING THE FUEL LINE

1. Remove:
   - Fuel tank seat knee grip
     Refer to "FUEL TANK (For FAZER25-ABS)" on page 6-1.

2. Check:
   • Fuel hose “1”
   Cracks/damage → Replace.
   Loose connection → Connect properly.



3. Install:
   • Fuel tank seat knee grip
   Refer to “FUEL TANK (For FAZER25-ABS)” on page 6-1.

CHECKING AND ADJUSTING THE STEERING HEAD

1. Stand the vehicle on a level surface.

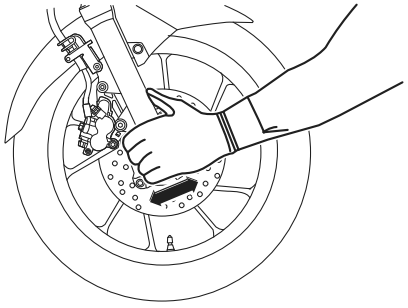
⚠ WARNING

Securely support the vehicle so that there is no danger of it falling over.

TIP

Place the vehicle on a centerstand so that the front wheel is elevated.

2. Check:
   • Steering head
   Grasp the bottom of the front fork legs and gently rock the front fork.
   Binding/looseness → Adjust the steering head.



3. Remove:
   • Upper bracket
   Refer to “STEERING HEAD (For FAZER25-ABS)” on page 4-39.

TIP

While removing the front wheel, put the scissor jack under the engine of the vehicle.

4. Adjust:
   • Steering head

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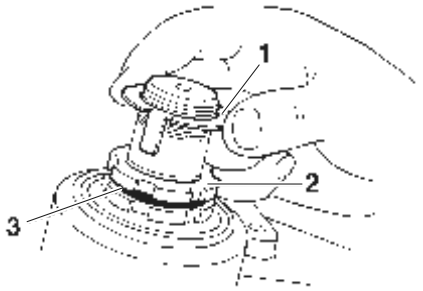
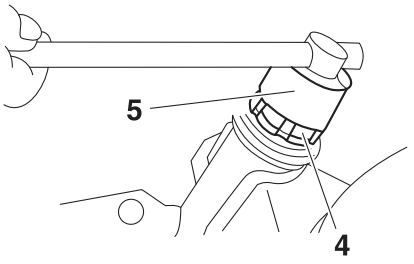
a. Remove the lock washer “1”, the upper ring nut “2”, and the rubber washer “3”.

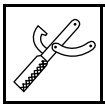
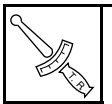


b. Tighten the lower ring nut “4” with a steering nut socket “5”.

TIP

Set the torque wrench at a right angle to the steering nut socket.



	**Steering nut socket** **YSST-721**
	**Lower ring nut (initial tightening torque)** **33 N·m (3.3 kgf·m, 24 lb·ft)**

c. Loosen the lower ring nut “4” 1/4 turn out, and then tighten it to specification with a steering nut socket.

⚠ WARNING

Do not overtighten the lower ring nut.

	Lower ring nut (final tightening torque) **22 N·m (2.2 kgf·m, 16 lb·ft)**

d. Check the steering head for looseness or binding by turning the front fork all the way in both directions. If any binding is felt, remove the lower bracket and check the upper and lower bearings.
Refer to “STEERING HEAD (For FAZER25-ABS)” on page 4-39.

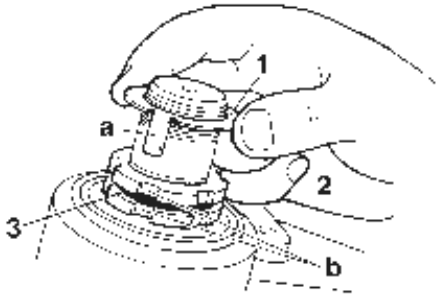
e. Install the rubber washer “3”.

f. Install the upper ring nut “2”.

g. Finger tighten the upper ring nut “2”, and then align the slots of both ring nuts. If necessary, hold the lower ring nut and tighten the upper ring nut until their slots are aligned.

TIP

Make sure the lock washer tabs “a” sit correctly in the ring nut slots “b”.



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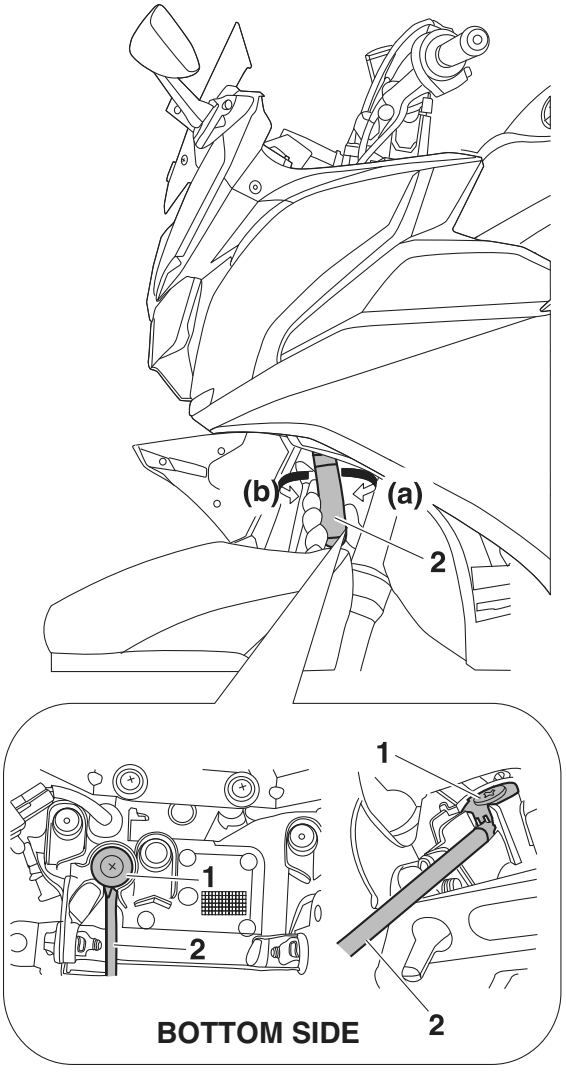
5. Install:
   - Upper bracket
     Refer to “STEERING HEAD (For FAZER25-ABS)” on page 4-39.

ELECTRICAL SYSTEM

ADJUSTING THE HEADLIGHT BEAM (For FAZER25-ABS)

The following procedure applies to the adjustment of the headlight beam.
Adjust the headlight beam by rotating the headlight beam adjusting screw “1” with the help of Phillip screwdriver “2” in direction “a” or “b” from bottom side of headlight.

Direction “a”
Headlight beam is lowered.
Direction “b”
Headlight beam is raised.



EAS20024
CHASSIS

EAS30893
BLEEDING THE HYDRAULIC BRAKE SYSTEM (ABS)

EWA13100
⚠ WARNING

Always bleed the brake system when the brake related parts are removed.

ECA18050
NOTICE

- **Bleed the brake system in the following order.**
- **1st step: Front brake calipers**
- **2nd step: Rear brake caliper**

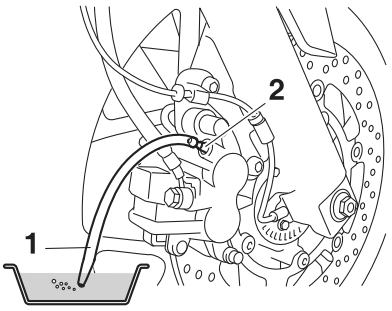
EWA15740
⚠ WARNING

Bleed the ABS whenever:
- **the system is disassembled.**
- **a brake hose is loosened, disconnected or replaced.**
- **the brake fluid level is very low.**
- **brake operation is faulty.**

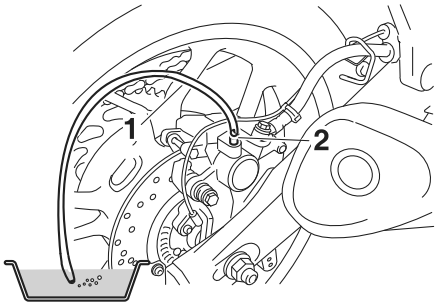
TIP
- Be careful not to spill any brake fluid or allow the brake master cylinder reservoir or brake fluid reservoir to overflow.
- When bleeding the hydraulic brake system, make sure there is always enough brake fluid before applying the brake. Ignoring this precaution could allow air to enter the hydraulic brake system, considerably lengthening the bleeding procedure.
- If bleeding is difficult, it may be necessary to let the brake fluid settle for a few hours. Repeat the bleeding procedure when the tiny bubbles in the hose have disappeared.

1. Bleed:
   - ABS
     a. Fill the brake fluid reservoir to the proper level with the specified brake fluid.
     b. Install the diaphragm (brake master cylinder reservoir or brake fluid reservoir).
     c. Connect a clear plastic hose “1” tightly to the bleed screw “2”.

A



B



A. Front
B. Rear

     d. Place the other end of the hose into a container.
     e. Slowly apply the brake several times.
     f. Fully pull the brake lever or fully press down the brake pedal and hold it in position.
     g. Loosen the bleed screw.

TIP
Loosening the bleed screw will release the pressure and cause the brake lever to contact the throttle grip or the brake pedal to fully extend.

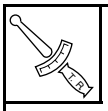
     h. Tighten the bleed screw, and then release the brake lever or brake pedal.
     i. Repeat steps (e) to (h) until all of the air bubbles have disappeared from the brake fluid in the plastic hose.
     j. Check the operation of the hydraulic unit. Refer to “HYDRAULIC UNIT OPERATION TESTS” on page 4-32.

ECA18060

NOTICE

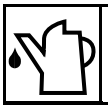
Make sure that the main switch is turned to "OFF" before checking the operation of the hydraulic unit.

k. After operating the ABS, repeat steps (e) to (i), and then fill the brake master cylinder reservoir or brake fluid reservoir to the proper level with the specified brake fluid.
l. Tighten the bleed screw to specification.



Front brake caliper bleed screw
14 N·m (1.4 kgf·m, 10 lb·ft)
Rear brake caliper bleed screw
6 N·m (0.6 kgf·m, 4.4 lb·ft)

m. Fill the brake master cylinder or brake fluid reservoir to the proper level with the specified brake fluid.



Specified brake fluid
DOT 4

EWA13110

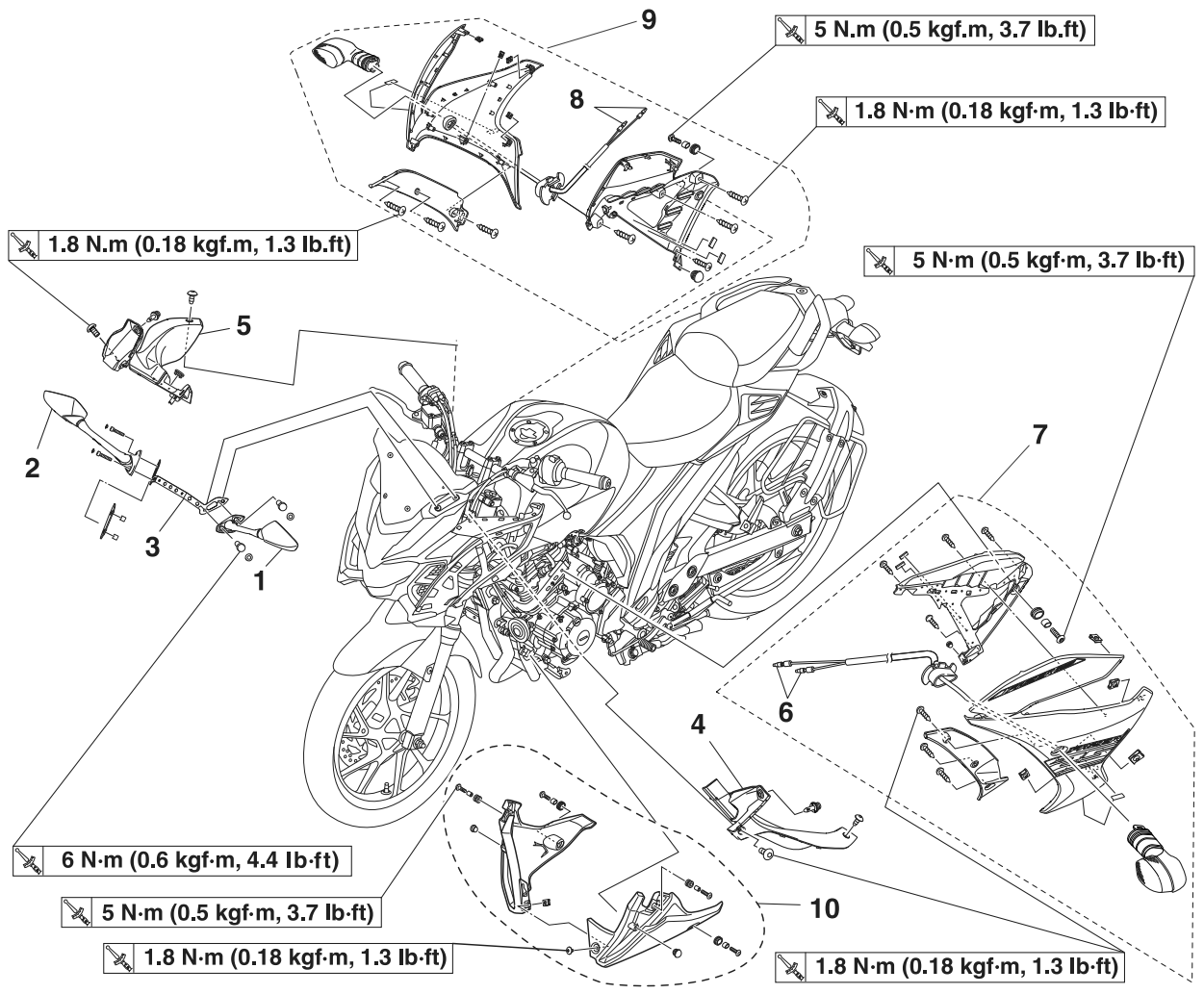
⚠ WARNING

After bleeding the hydraulic brake system, check the brake operation.

CHAPTER 4
GENERAL CHASSIS

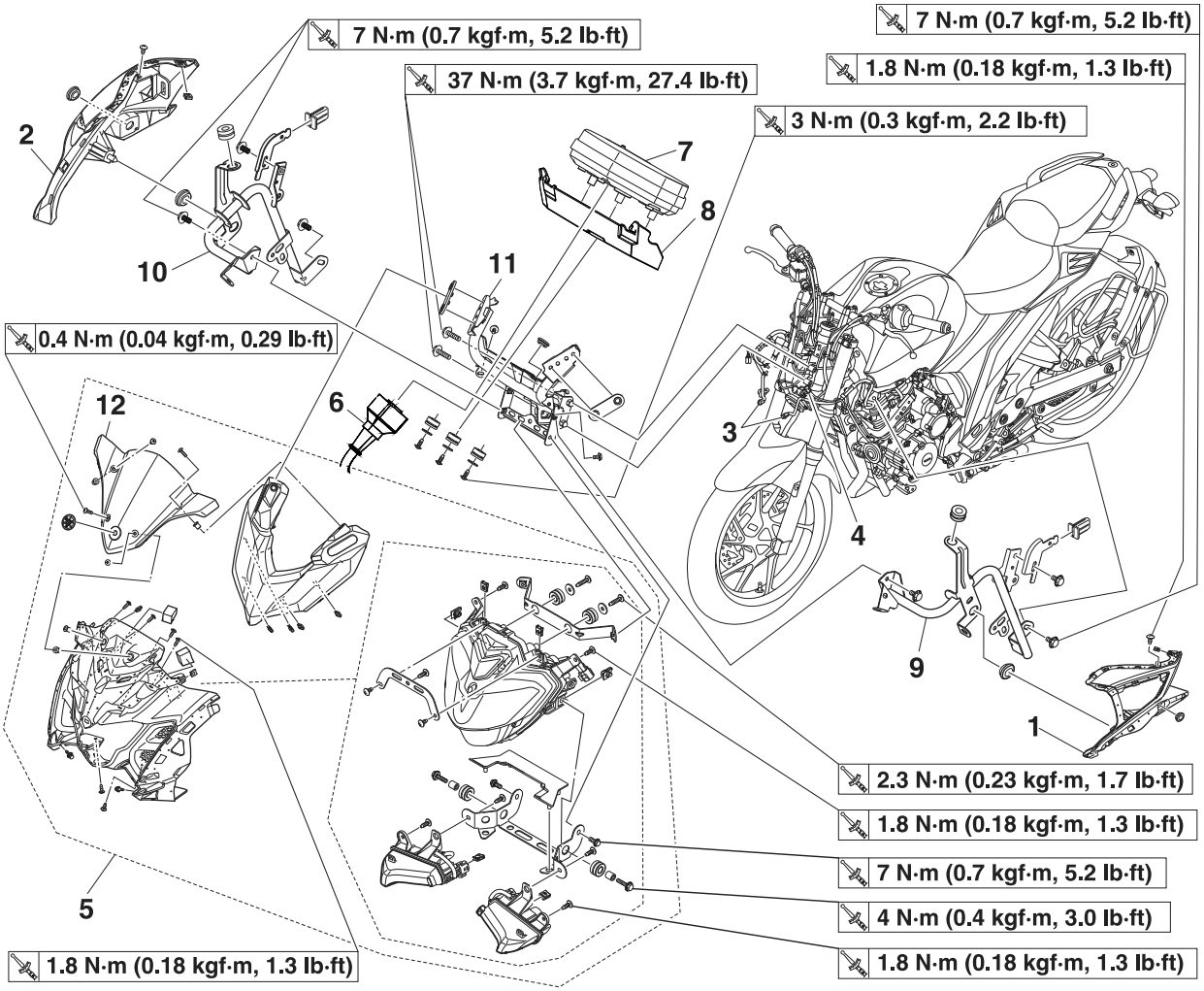
GENERAL CHASSIS

Removing the under cover (For FAZER25-ABS)



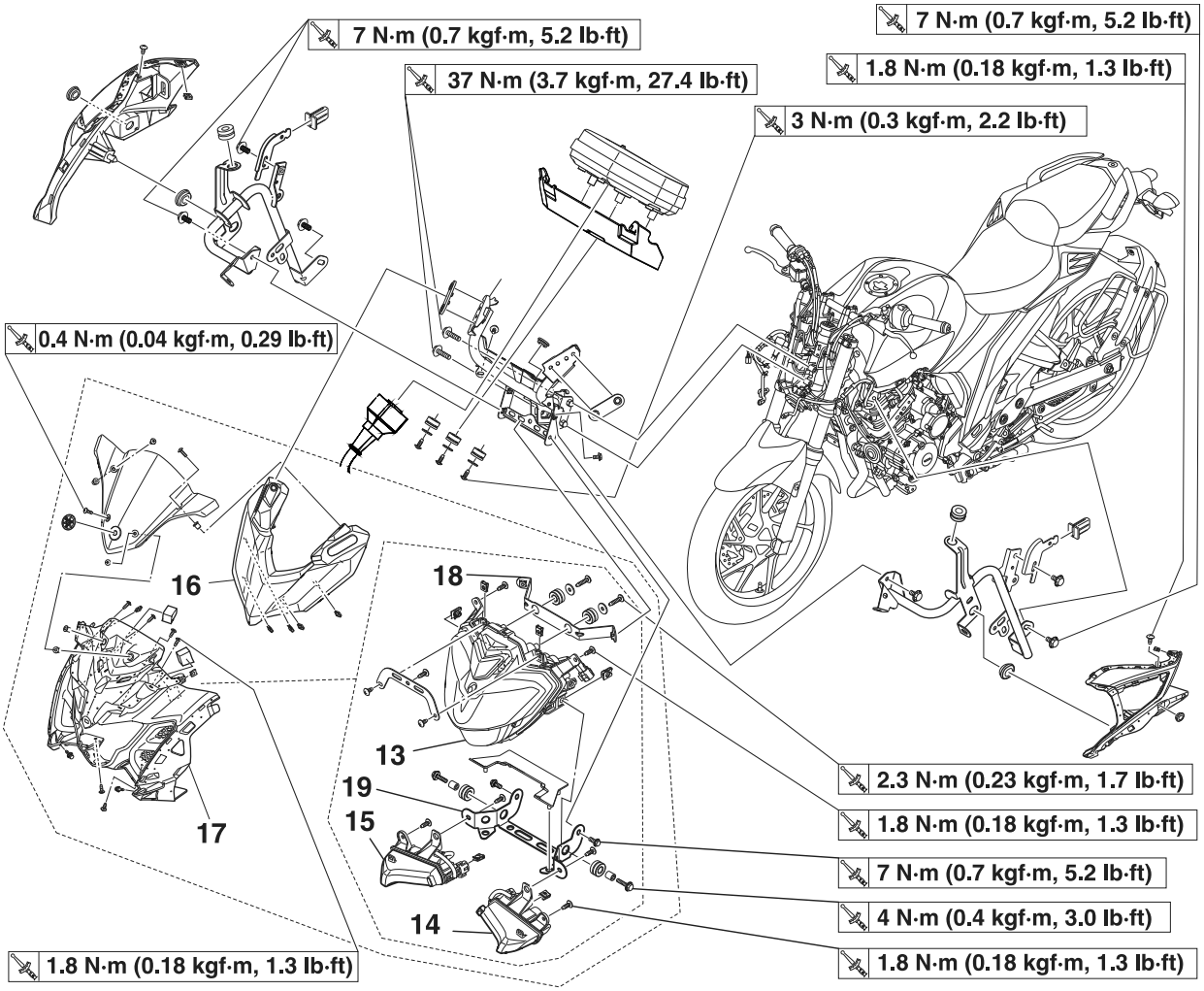
Order	Job/Parts to remove	Q'ty	Remarks
1	Rear view mirror (left side)	1	For removing and installing process refer page 4-4.
2	Rear view mirror (right side)	1	
3	License plate bracket	1	
4	Panel console (left side)	1	For removing and installing process refer page 4-4 & 4-5.
5	Panel console (right side)	1	
6	Turn signal light connector (left side)	1	Disconnect.
7	Panel assembly (left side)	1	For removing and installing process refer page 4-5.
8	Turn signal light connector (right side)	1	Disconnect
9	Panel assembly (right side)	1	For removing and installing process refer page 4-5, same as left side.
10	Under cover assembly	1	For removing and installing process refer page 4-7 & 4-8.
			For installation, reverse the removal procedure.

Removing the headlight cowling assembly / meter assembly / auxiliary light assembly (For FAZER25-ABS)



Order	Job/Parts to remove	Q'ty	Remarks
	Rear view mirror (left/right), License plate bracket, Panel console (left/right), Panel assembly (left/right)		Refer to "GENERAL CHASSIS" on page 4-1.
1	Left cover	1	
2	Right cover	1	
3	Auxiliary light coupler	2	Disconnect.
4	Headlight coupler	1	Disconnect.
5	Headlight cowling assembly	1	
6	Meter coupler	1	Disconnect.
7	Meter assembly	1	
8	Meter pad	1	
9	Support stay (left side)	1	
10	Support stay (right side)	1	
11	Stay	1	
12	Windshield	1	

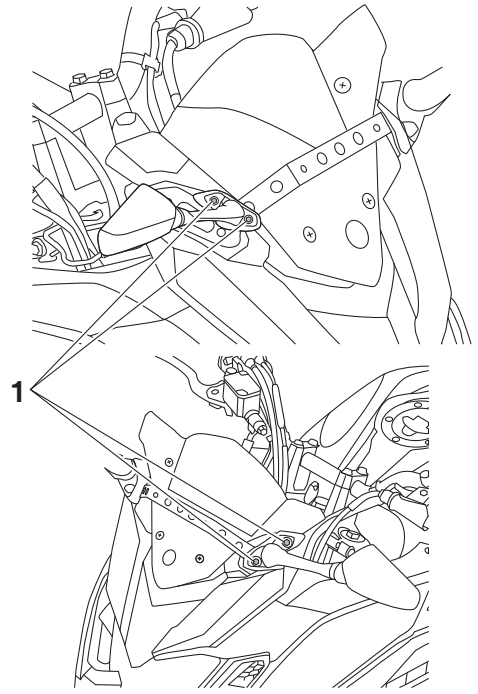
Removing the headlight cowling assembly / meter assembly / auxiliary light assembly (For FAZER25-ABS)



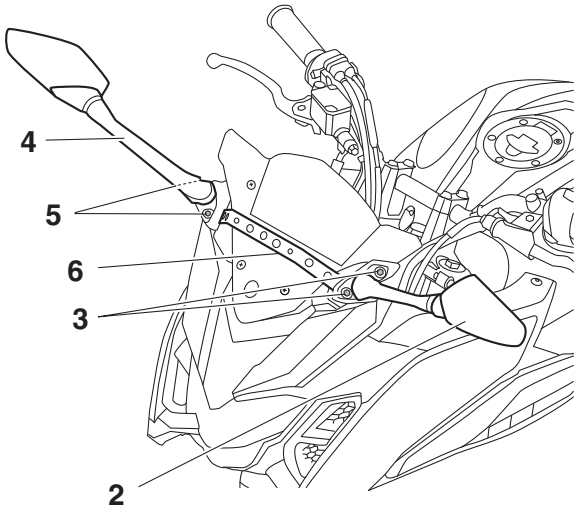
Order	Job/Parts to remove	Q'ty	Remarks
13	Headlight	1	
14	Auxiliary light (left side)	1	
15	Auxiliary light (right side)	1	
16	Body front upper	1	
17	Body front lower	1	
18	Headlight bracket stay upper	1	
19	Headlight bracket stay lower	1	
			For installation, reverse the removal procedure.

REMOVING THE REAR VIEW MIRROR ASSEMBLY

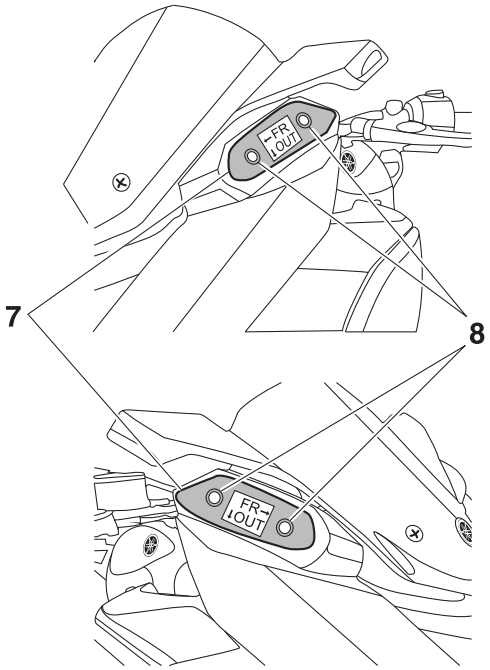
1. Remove the rear view mirror bolt caps “1” from the rear view mirror bolts.



2. Remove the left side rear view mirror “2” by removing the bolts “3”.
3. Remove the right side rear view mirror “4” by removing the bolts “5” along with license plate bracket “6”.



4. Remove the rubber plates “7” and collars “8”.

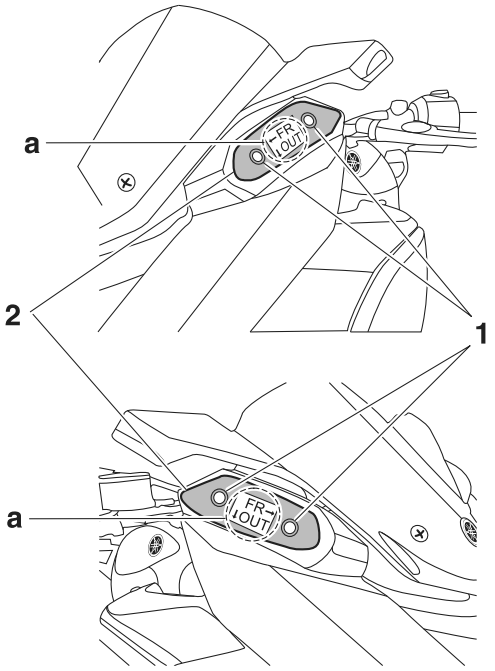


TIP

Before opening the right side rear view mirror bolts, hold the license plate bracket to avoid the scratches at body front upper.

INSTALLING THE REAR VIEW MIRROR ASSEMBLY

1. Install the collars “1” and rubber plates “2”.



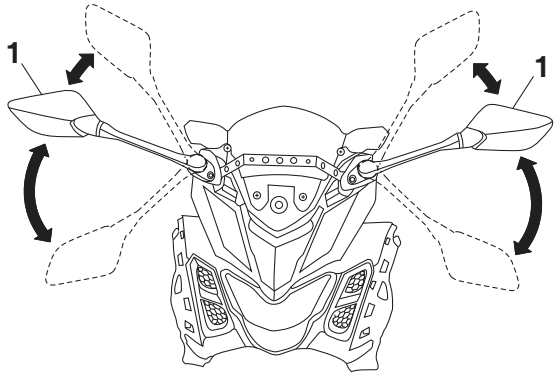
TIP

When installing the rear view mirror assembly. Make sure rubber plate indication mark "a" should be same as shown.

2. Install the rear view mirror assembly along with license plate bracket and tighten the bolts as per specified torque.

	Rear view mirror assembly bolt 6 N·m (0.6 kgf·m, 4.4 lb·ft)

3. Install the rear view mirror bolt caps.
4. Adjust the rear view mirror "1" according to need as shown.



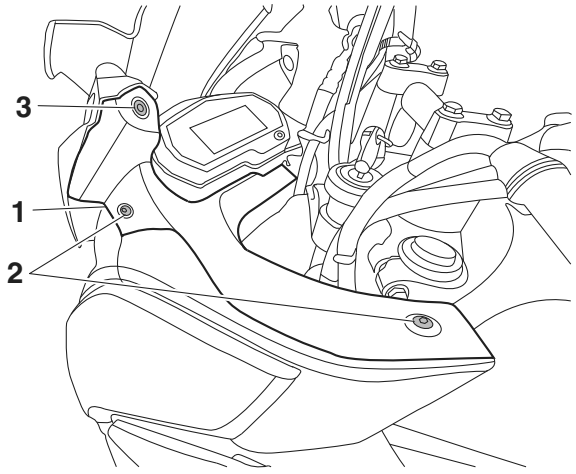
REMOVING THE PANEL CONSOLE

1. Remove the rear view mirror assembly. Refer to "REMOVING THE REAR VIEW MIRROR ASSEMBLY" on page 4-4.

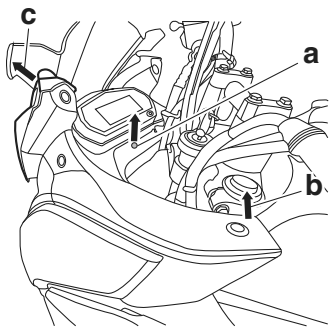
TIP

First remove left side panel console and then right side panel console.

2. Remove the left side panel console "1" by removing the screws "2" and quick fastener "3".



3. To remove the left side panel console, pull the panel console upward to release the projection "a" from the hole as shown.
4. Pull the panel console from rear in direction "b" to release tabs from slots.
5. Lift the body front upper cover in direction "c" and then pull the panel console backward.



6. Similarly remove the right side panel console.

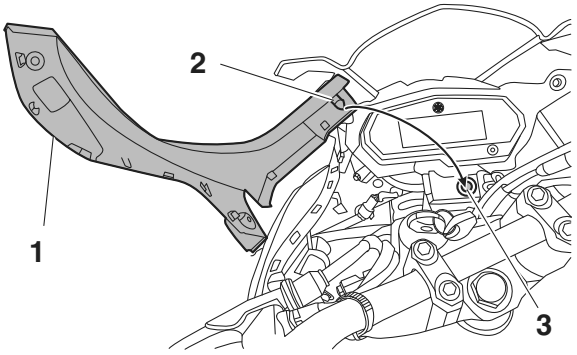
INSTALLING THE PANEL CONSOLE

1. First install the right side panel console. Refer to "REMOVING THE UNDER COVER" on page 4-8.
2. Install the left side panel console "1".

TIP

Before installing the left side panel console, ensure grommet is fitted properly at right side panel console.

3. Align the projection "2" in to the hole "3" at right side panel console.
4. Insert the tabs into the slots, and then push the panel console in to its original position.
5. Install the quick fastener and screws.

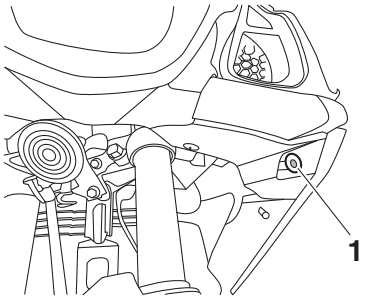


	Panel console screw 1.8 N·m (0.18 kgf·m, 1.3 lb·ft)

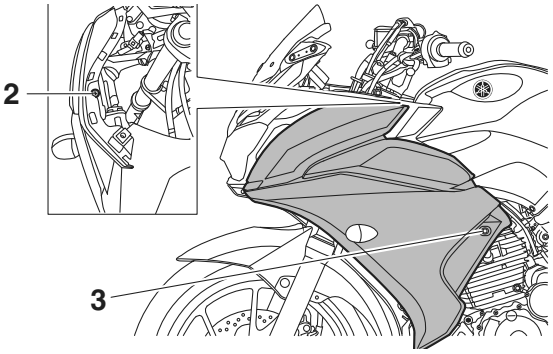
6. Install the rear view mirror assembly. Refer to "INSTALLING THE REAR VIEW MIRROR ASSEMBLY" on page 4-4.

REMOVING THE PANEL ASSEMBLY

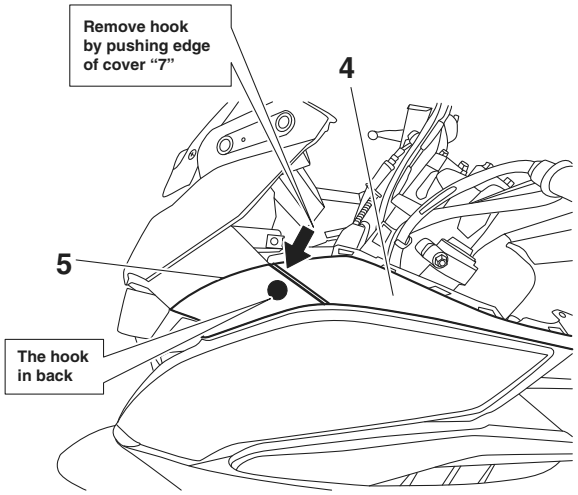
1. Remove the panel console.
   Refer to “REMOVING THE PANEL CONSOLE” on page 4-5.
2. Remove the quick fastener “1” under the auxiliary light.



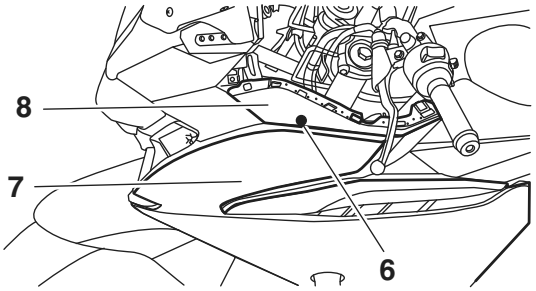
3. Remove the screw “2” and bolt “3”.



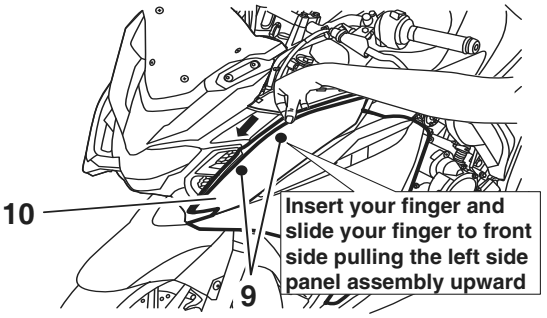
4. Remove the hook by pushing edge of left cover “4” from body front upper “5”.



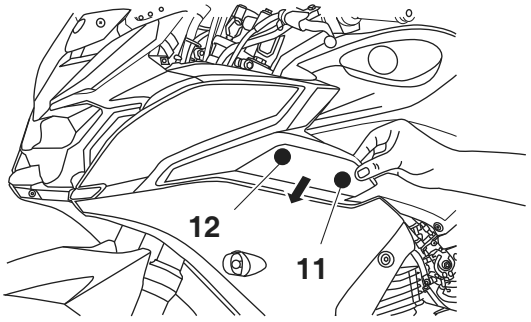
5. Remove the hook “6” by pushing the position of the left panel assembly “7” under the third hole downward left cover “8”.



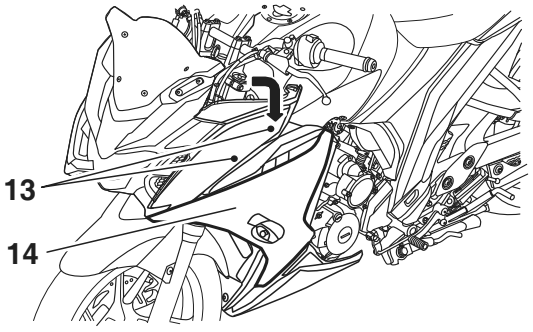
6. Insert your fingers into the space, removing the hook “9” by lifting the left side panel assembly “10”.



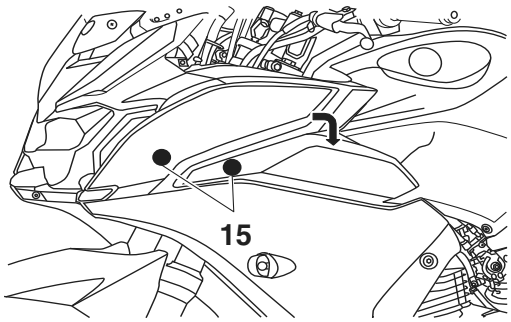
7. Remove the projection “11” from the grommet of seat knee grip and projection “12” from the grommet of left cover by pulling it outward direction.



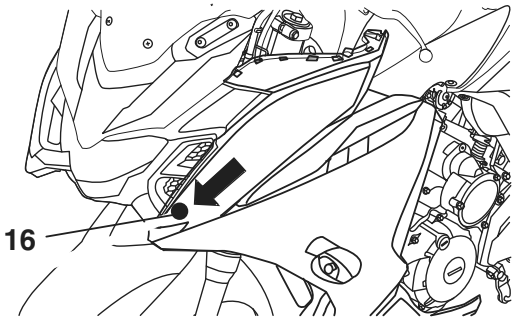
8. Remove the hook “13” by pushing the end of the left panel assembly “14” downward and sliding the left cover downward.



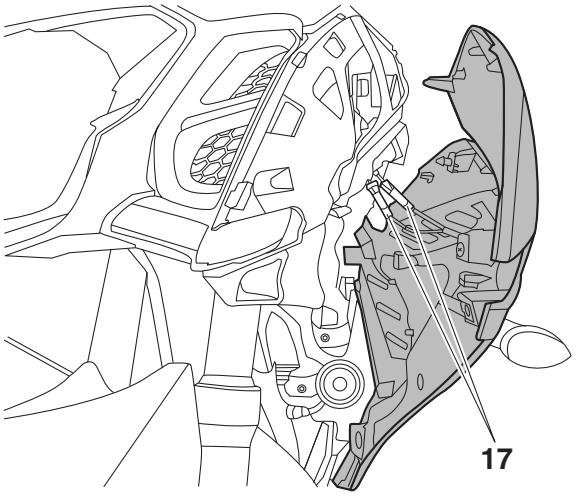
9. Remove the projection “15” by inserting your fingers into the space.



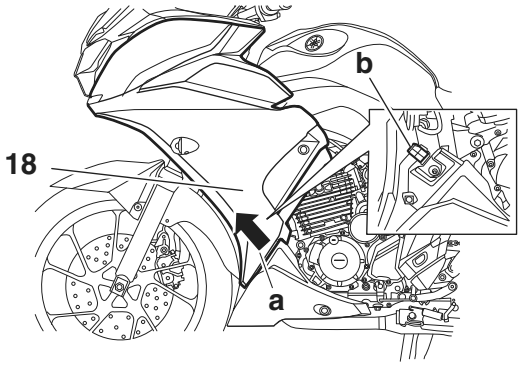
10. Remove the hook “16” by pushing the left panel assembly as shown in downward direction.



11. Disconnect the connector’s “17” of the turn signal light.



12. Pulling the left side panel assembly “18” as shown in upward direction “a” from bottom side to remove the hole from projection “b”.

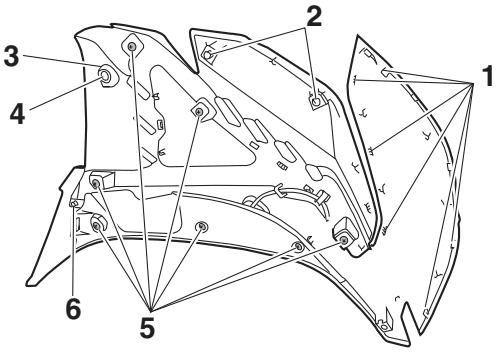


13. Similarly remove the right side panel assembly.

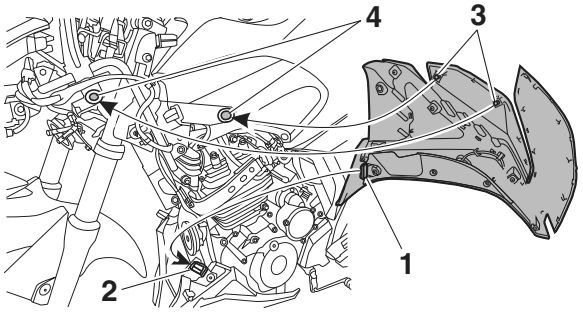
INSTALLING THE PANEL ASSEMBLY

TIP

- Before installing panel assembly ensure all the tabs “1”, Projections “2” grommet “3” and collar “4” are properly installed and free from damages and cracks.
- Ensure all screws “5” are tighten as per specification.
- Ensure damper “6” available at shown location.
- Ensure grommet available at under cover.



1. Connect the turn signal light connector’s and ensure for proper connection.
2. Align the hole “1” into the projection “2” and then secure the panel at body front upper and slide backward.
3. Align the projections “3” into the holes “4” and ensure all tabs installed in slots properly.



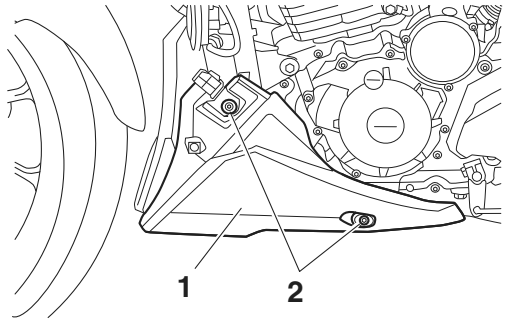
4. Install the quick fastener and tighten the screw and bolt to the specified torque.

	Panel assembly bolt **5 N·m (0.5 kgf·m, 3.7 lb·ft)** **Panel assembly screw** **1.8 N·m (0.18 kgf·m, 1.3 lb·ft)**

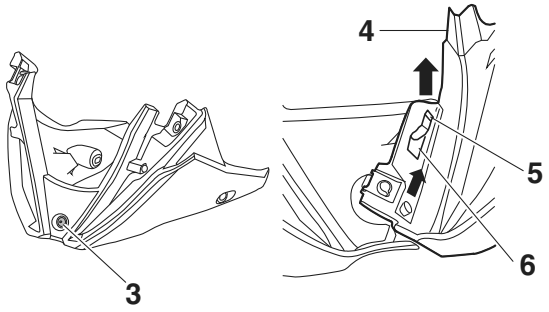
5. Install the panel console.
   Refer to "INSTALLING THE PANEL CONSOLE" on page 4-5.

REMOVING THE UNDER COVER

1. Remove the panel assembly.
   Refer to "REMOVING THE PANEL ASSEMBLY" on page 4-6.
2. Remove the under cover assembly "1" by removing the screws "2".

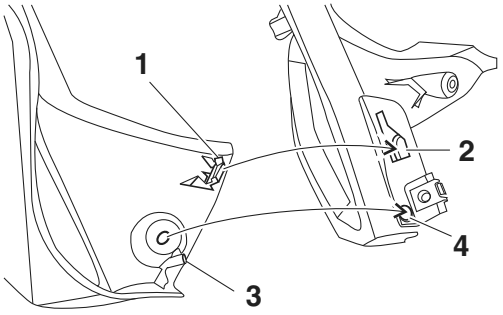


3. To separate the under cover remove the screws "3".
4. Remove the pin from hole and gently slide the under cover "4" to release the tab "5" from slot "6" as shown.



INSTALLING THE UNDER COVER

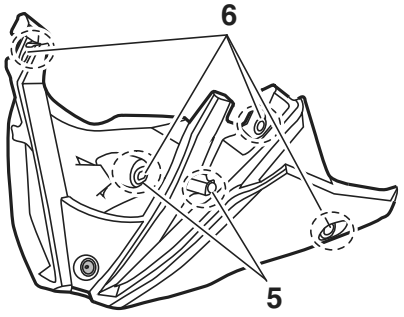
1. Align the tab "1" into the slot "2" and slide the under cover as shown.
2. Align the pin "3" into the hole "4" and then install the screw of under cover.



	Under cover screw **1.8 N·m (0.18 kgf·m, 1.3 lb·ft)**

3. Install the under cover by installing the screws.

TIP
Before installing the under cover, ensure availability of grommets "5" and collars "6".



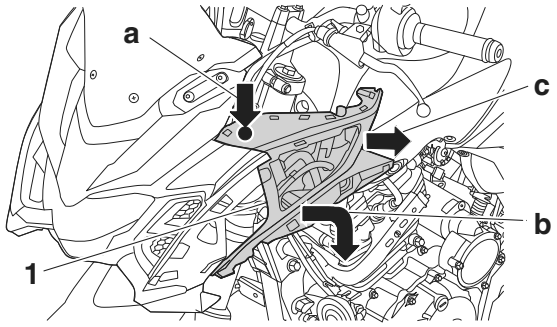
4. Tighten the screws of under cover to specified torque.

	Under cover screw **5 N·m (0.5 kgf·m, 3.7 lb·ft)**

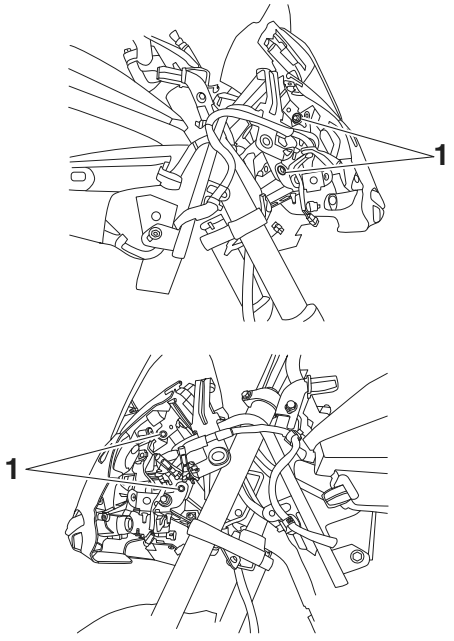
5. Install the panel assembly.
   Refer to "INSTALLING THE PANEL ASSEMBLY" on page 4-7.

REMOVING THE HEADLIGHT COWLING ASSEMBLY

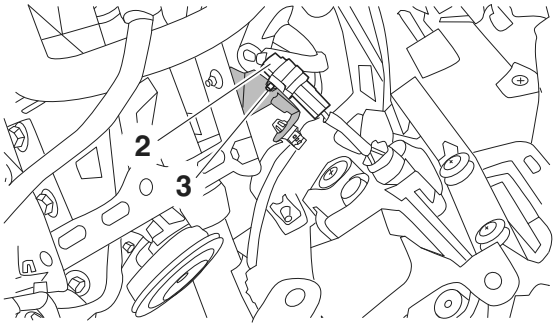
1. Remove the panel assembly.
   Refer to "REMOVING THE PANEL ASSEMBLY" on page 4-6.
2. Remove the left cover.
   - Unlock the hook by pushing the edge of left cover as shown "a".
   - Pull outward to remove the projection from hole "b" and then slide backward to release the hole from lug as shown "c".



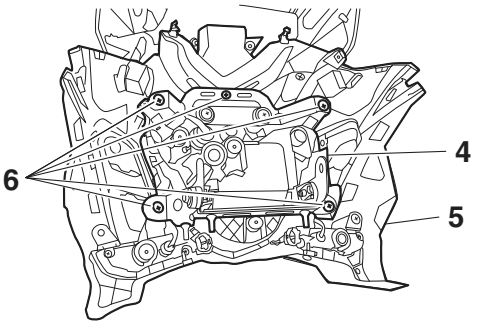
3. Similarly remove the right cover.
4. Disconnect the headlight coupler and auxiliary light couplers.
5. Remove the headlight cowling assembly by removing the bolts "1".



6. Remove headlight lead coupler "2" by pressing the lock "3" from stay support.



7. Remove the headlight "4" from the body front upper "5" by removing the screws "6".

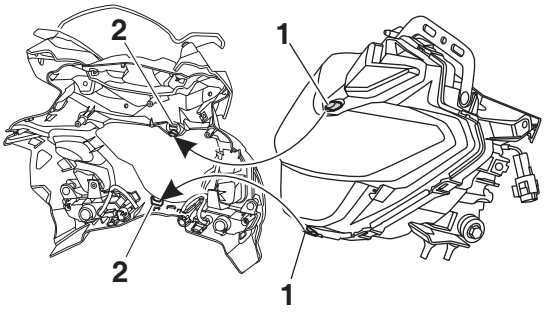


INSTALLING THE HEADLIGHT COWLING ASSEMBLY

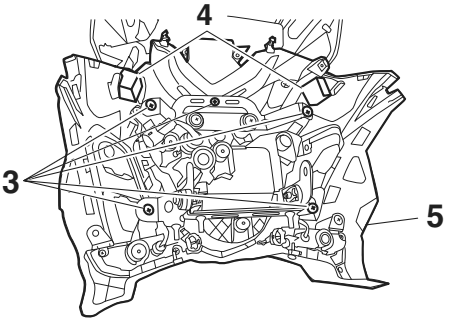
TIP

Before installing headlight cowling assembly, check lugs for damage.

1. For installing the headlight, align the lug "1" into the hole "2" as shown.



2. Install the screws "3" and tighten as specified torque.



TIP

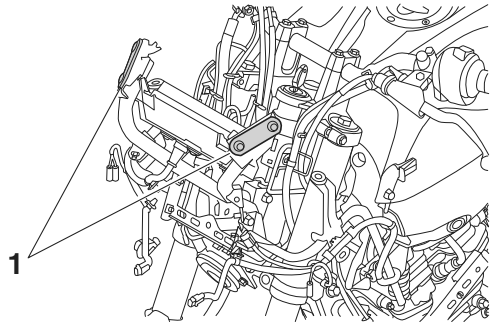
Before installing the headlight assembly ensure the damper "4" is fixed properly at body front upper "5".

	Headlight screw **1.8 N·m (0.18 kgf·m, 1.3 lb·ft)**

3. Install headlight assembly by installing bolts at stay.

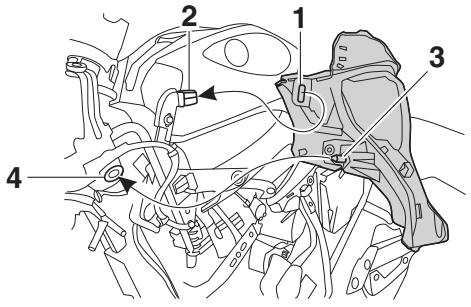
TIP

Before installing headlight assembly at stay 1 ensure rubber plate "1" is properly fixed at its location.



	Headlight cowling assembly and stay bolt **7 N·m (0.7 kgf·m, 5.2 lb·ft)**

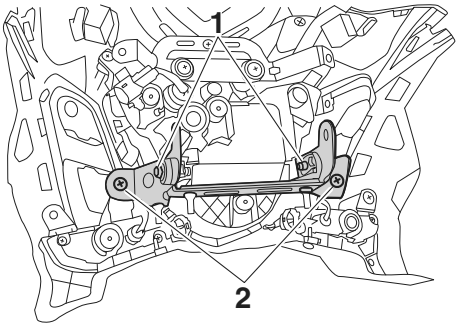
4. Install the left cover.
   - Align the hole "1" into the projection "2" and then slide forward as shown.
   - Insert the lug "3" into hole "4" as shown.
   - Lock the hook by pressing the edge of left cover.



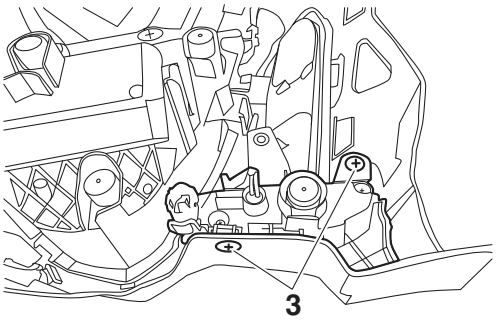
5. Similarly install the right cover.
6. Install the panel assembly.
   Refer to "INSTALLING THE PANEL ASSEMBLY" on page 4-7.

REMOVING THE AUXILIARY LIGHT ASSEMBLY

1. Remove the headlight assembly.
   Refer to "REMOVING THE HEADLIGHT COWLING ASSEMBLY" on page 4-9.
2. Remove the headlight bracket stay lower by removing bolts "1" and screws "2".

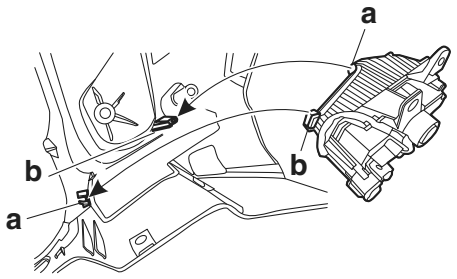


3. Remove the auxiliary light assembly by removing the screws "3".



INSTALLING THE AUXILIARY LIGHT ASSEMBLY

1. Install the auxiliary light assembly.
   - Align the hole "a" into the lug "b" as shown.



2. Install the auxiliary light assembly by installing the screws and tighten as per specified torque.

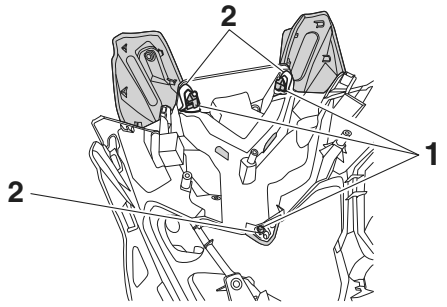
3. Install the headlight bracket stay lower by installing bolts and screws and tighten as per specified torque.

	Headlight bracket stay lower and auxiliary light assembly screw **1.8 N·m (0.18 kgf·m, 1.3 lb·ft)** **Headlight bracket stay and headlight assembly bolt** **4 N·m (0.40 kgf·m, 3.0 lb·ft)**

4. Install the headlight assembly.
   Refer to "INSTALLING THE HEADLIGHT COWLING ASSEMBLY" on page 4-9.

REMOVING THE BODY FRONT UPPER

1. Remove the headlight assembly.
   Refer to "REMOVING THE HEADLIGHT COWLING ASSEMBLY" on page 4-9.
2. Remove the lugs "1" from slots "2" as shown.

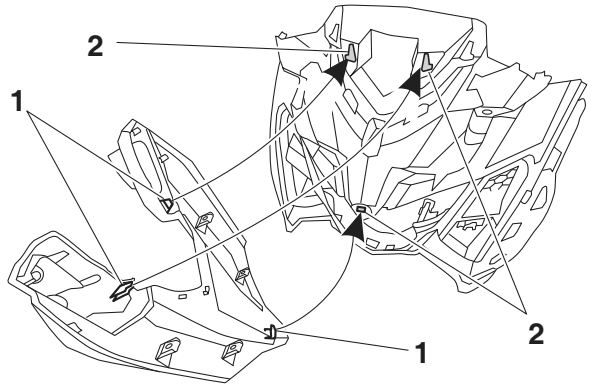


INSTALLING THE BODY FRONT UPPER

TIP

Before assembling body front upper and lower, check lugs and slots for crack and damage.

1. Align the lugs "1" into the slots "2" as shown.

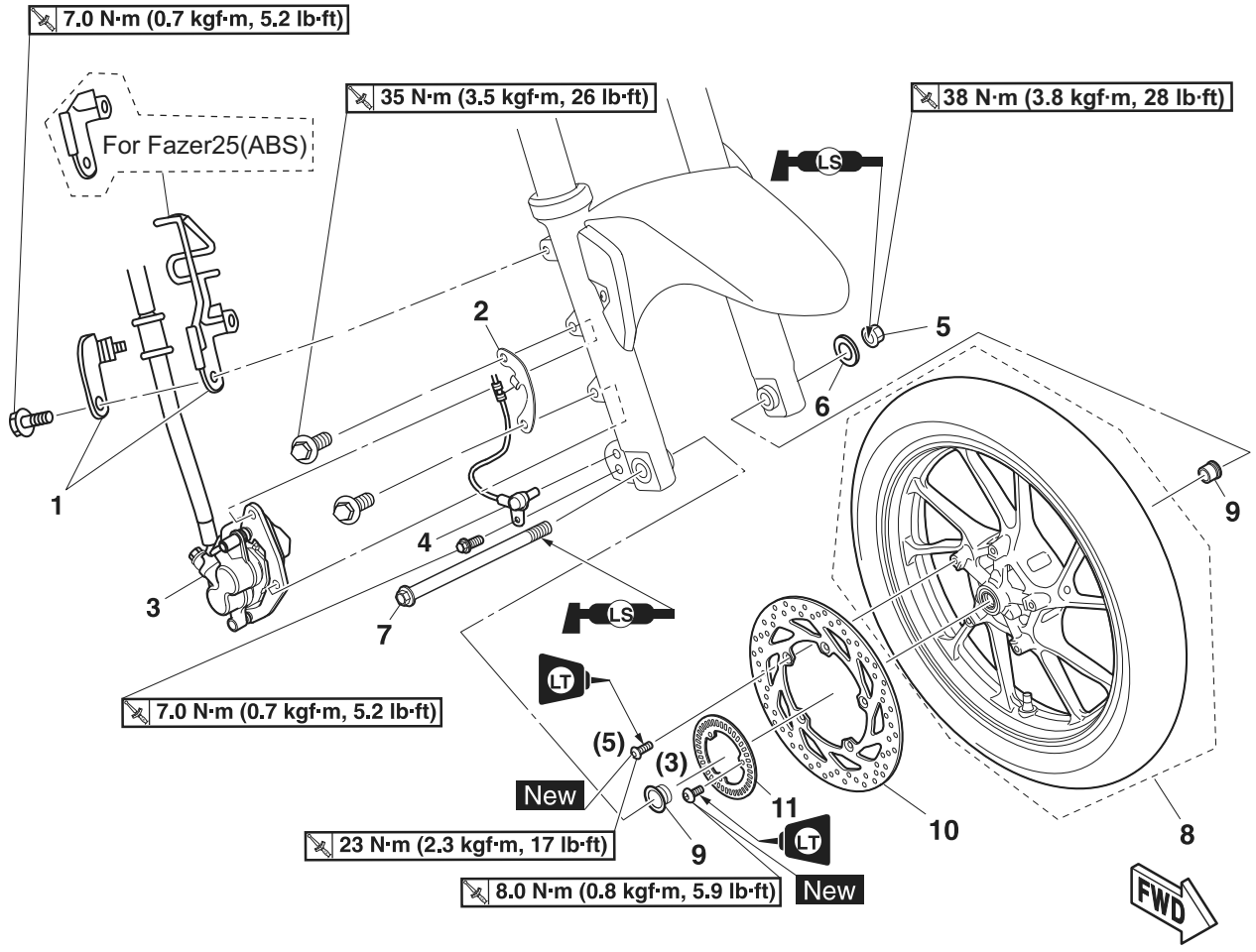


2. Install the headlight.
   Refer to "INSTALLING THE HEADLIGHT COWLING ASSEMBLY" on page 4-9.

EAS20028

FRONT WHEEL

Removing the front wheel and brake disc



Order	Job/Parts to remove	Q'ty	Remarks
1	Front brake hose holder	1	
2	Sensor lead holder	1	
3	Front brake caliper	1	
4	Front wheel sensor	1	
5	Front wheel axle nut	1	
6	Washer	1	
7	Front wheel axle	1	
8	Front wheel	1	
9	Collar	2	
10	Front brake disc	1	
11	Front wheel sensor rotor	1	Use "Torx bit T-25" for wheel sensor rotor bolt.
			For installation, reverse the removal procedure.

REMOVING THE FRONT WHEEL (For FAZER25-ABS)

1. Stand the vehicle on a level surface.

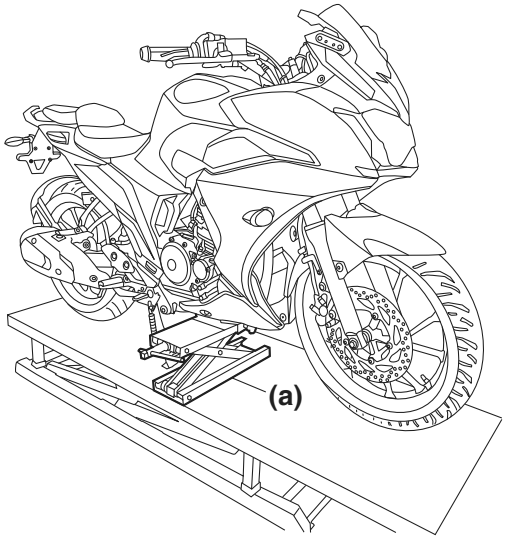
⚠ WARNING

Securely support the vehicle so that there is no danger of it falling over.

2. Elevate:
   - Front wheel

TIP

- Place the vehicle on a center stand so that the front wheel is elevated.
- While removing the front wheel, put the scissor jack "a" under the engine of the vehicle.



	**Scissor Jack YSST-892 A**

3. Remove:
   - Front brake hose holder
   - Front wheel sensor
   - Front brake caliper

ECA20981

NOTICE

• Keep any type of magnets (including magnetic pick-up tools, magnetic screwdrivers, etc.) away from the front wheel sensor or front wheel sensor rotor; otherwise, the sensor or rotor may be damaged, resulting in improper performance of the ABS system.

• Do not drop the front wheel sensor rotor or subject it to shocks.

• If any solvent gets on the front wheel sensor rotor, wipe it off immediately.

ECA21700

NOTICE

Do not apply the brake lever when removing the brake calipers.

4. Remove:
   - Front wheel axle nut
   - Washer
   - Front wheel axle
   - Front wheel
   - Collars

EAS31151

MAINTENANCE OF THE WHEEL SENSOR AND SENSOR ROTOR

ECA21070

NOTICE

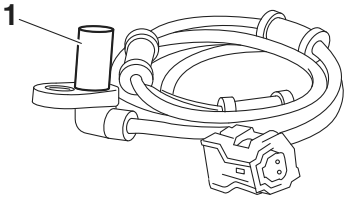
• Handle the ABS components with care since they have been accurately adjusted. Keep them away from dirt and do not subject them to shocks.

• The wheel sensor cannot be disassembled. Do not attempt to disassemble it. If faulty, replace with a new one.

• Keep any type of magnets (including magnetic pick-up tools, magnetic screwdrivers, etc.) away from the wheel sensor or wheel sensor rotor.

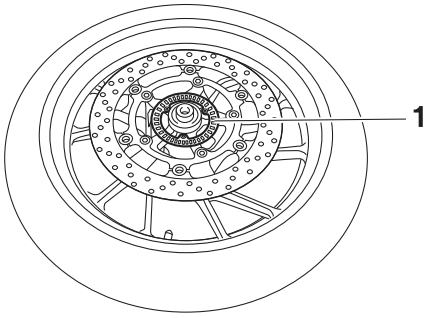
• Do not drop or shock the wheel sensor or the wheel sensor rotor.

1. Check:
   - Wheel sensor "1"
     Cracks/bends/distortion → Replace.
     Iron powder/dust → Clean.



2. Check:
   • Wheel sensor rotor “1”
   Cracks/damage/scratches → Replace the wheel sensor rotor.
   Iron powder/dust/solvent → Clean.

TIP
- The wheel sensor rotor is installed on the inner side of the wheel hub.
- When cleaning the wheel sensor rotor, be careful not to damage the surface of the sensor rotor.

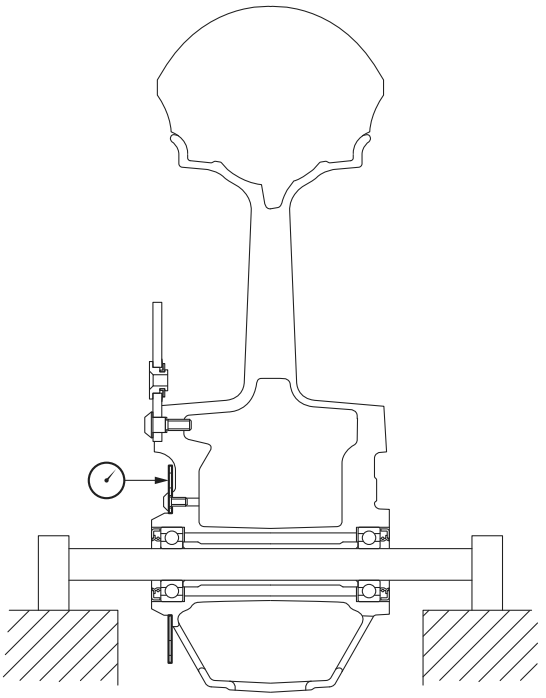


3. Measure:
   • Wheel sensor rotor runout limit
   Out of specification → Clean the installation surface of the wheel sensor rotor and correct the wheel sensor rotor runout limit, or replace the wheel sensor rotor.

Wheel sensor rotor runout limit limit
0.25 mm (0.0098 in)

   a. Hold the dial gauge at a right angle against the wheel sensor rotor surface.
   b. Measure the wheel sensor rotor runout limit.

TIP
Do not touch the surface of the wheel sensor rotor with a sharp object.



   c. If the deflection is above specification, remove the sensor rotor from the wheel, rotate it by one or two bolt holes, and then install it.

Front wheel sensor rotor bolt
8 N·m (0.8 kgf·m, 5.9 lb·ft)

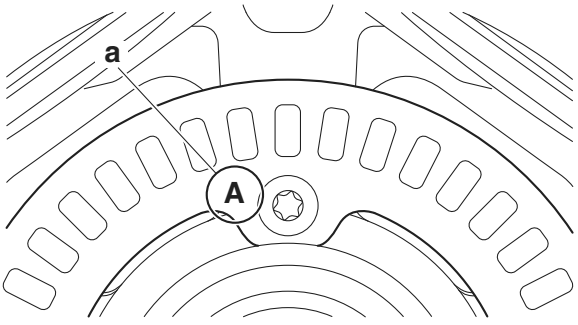
ECA18100

NOTICE

Replace the wheel sensor rotor bolts with new ones.

   d. If the deflection is still above specification, replace the wheel sensor rotor.

TIP
- Install the wheel sensor rotor with the stamped mark “a” facing outward.
- Use “Torx bit T-25” for opening/tightening wheel sensor rotor bolt.



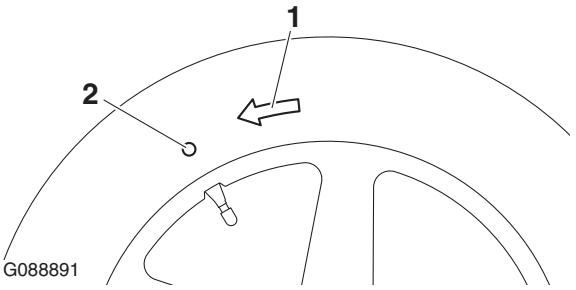
EAS30932
INSTALLING THE FRONT WHEEL

1. Lubricate:
   • Oil seal lips

	Recommended lubricant **Lithium-soap-based grease**

2. Install:
   • Collars
   • Front wheel
   • Front wheel axle
   • Front wheel axle nut

TIP
- Install the tire and wheel with the mark "1" pointing in the direction of wheel rotation.
- Align the DOT mark "2" with the tire air valve installation point.
- Apply lithium-soap-based grease to the contact surface and threads of the front wheel axle nut.



3. Tighten:
   • Front wheel axle nut

	Front wheel axle nut **38 N·m (3.8 kgf·m, 28 lb·ft)**

ECA14140
NOTICE
Before tightening the wheel axle nut, push down hard on the handlebar(s) several times and check if the front fork rebounds smoothly.

4. Install:
   • Front wheel sensor

	Front wheel sensor bolt **7 N·m (0.7 kgf·m, 5.2 lb·ft)**

ECA21020
NOTICE
Make sure there are no foreign materials in the front wheel sensor rotor and front wheel sensor. Foreign materials cause damage to the front wheel sensor rotor and front wheel sensor.

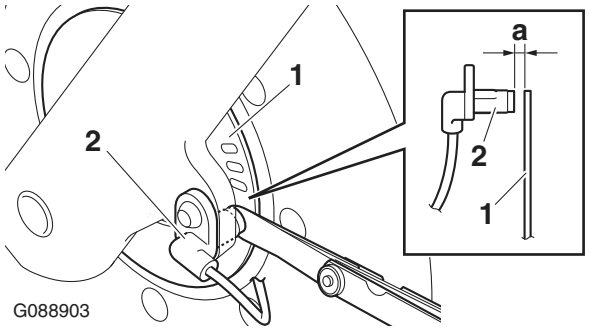
TIP
- When installing the front wheel sensor, check the wheel sensor lead for twists.
- To route the front wheel sensor lead, refer to "CABLE ROUTING (For FAZER25-ABS)" on page 2-12.

5. Measure:
   • Distance "a"
   (between the front wheel sensor rotor "1" and front wheel sensor "2")
   Out of specification → Check the wheel bearing for looseness, and the front wheel sensor and sensor rotor installation conditions (warpage caused by overtorque, wrong installation direction, rotor decentering, LOCTITE® on the mounting surface of the rotor, deformation caused by an impact during service and caught foreign materials). If there is any defective part, repair or replace the defective part.

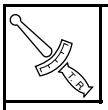
	Distance "a" (between the front wheel sensor rotor and front wheel sensor) **1.29 mm (0.050 in)**

TIP
Measure the distance between the front wheel sensor rotor and front wheel sensor in several places in one rotation of the front wheel. Do not turn the front wheel while the feeler gauge is installed. This may damage the front wheel sensor rotor and the front wheel sensor.

	Feeler gauge

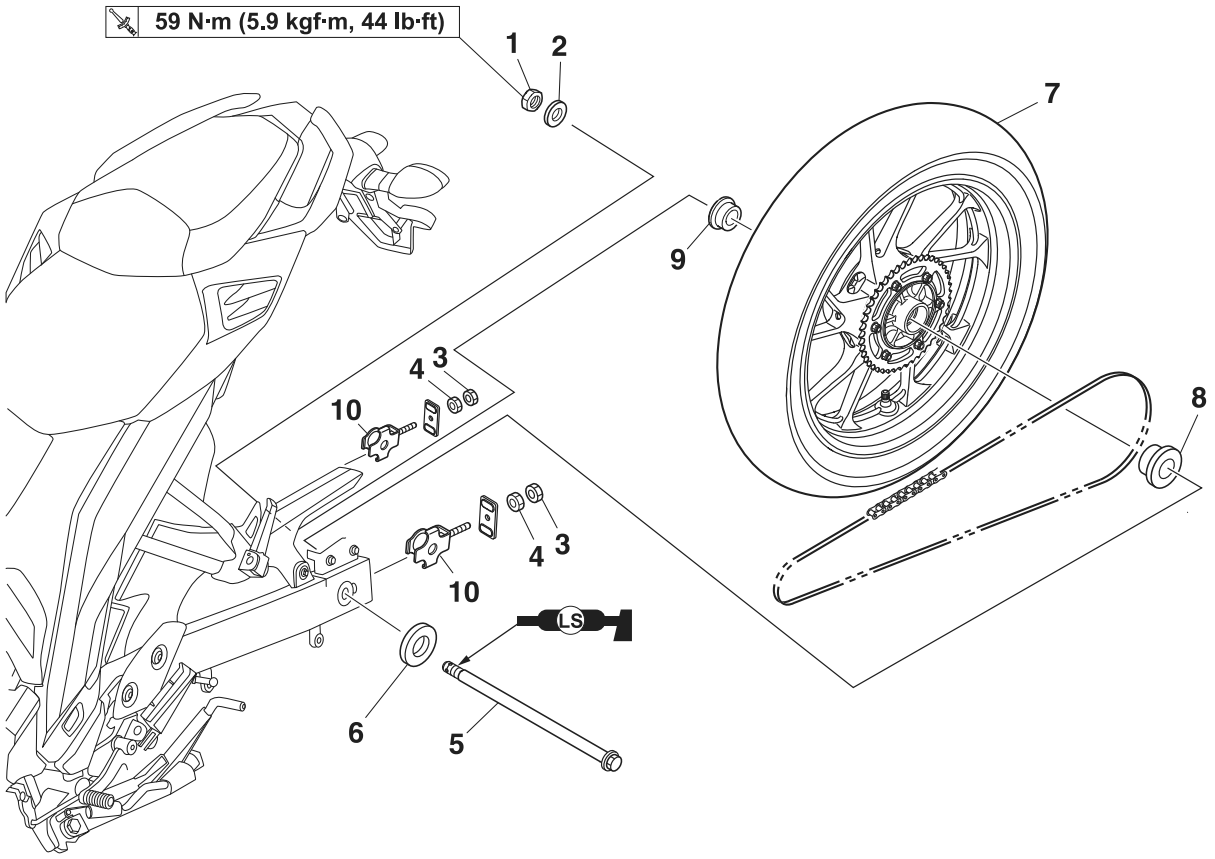


6. Install:
   - Front brake caliper
   - Front brake hose holder

	**Front brake caliper bolt** **35 N·m (3.5 kgf·m, 26 lb·ft)** **Front brake hose holder bolt** **7 N·m (0.7 kgf·m, 5.2 lb·ft)**

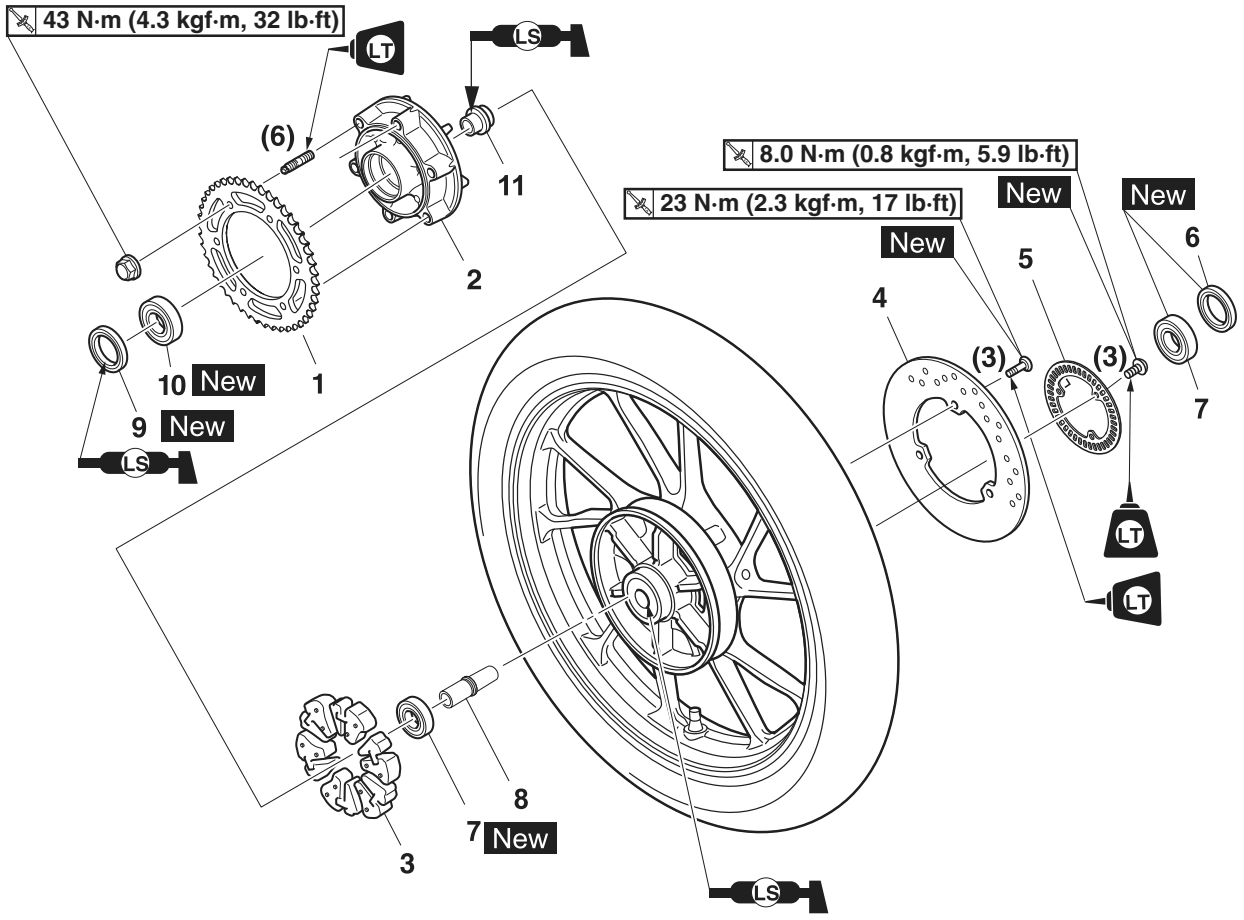
EAS20029
REAR WHEEL

Removing the rear wheel



Order	Job/Parts to remove	Q'ty	Remarks
	Mud protector		Refer to "GENERAL CHASSIS" in base service manual B97-F8197-E0 on page 4-1.
	Rear wheel speed sensor		
1	Axle nut	1	
2	Washer	1	
3	Drive chain adjusting locknut	2	Loosen.
4	Drive chain adjusting nut	2	Loosen.
5	Rear wheel axle	1	
6	Washer	1	
7	Rear wheel	1	
8	Collar sprocket axle	1	
9	Collar wheel	1	
10	Drive chain puller	2	
			For installation, reverse the removal procedure.

Removing the rear brake disc and rear wheel sprocket



Order	Job/Parts to remove	Q'ty	Remarks
1	Rear wheel sprocket	1	
2	Rear wheel drive hub	1	
3	Rear wheel drive hub damper	6	
4	Rear brake disc	1	
5	Rear wheel sensor rotor	1	
6	Oil seal	1	
7	Bearing	1	
8	Spacer	1	
9	Oil seal	1	
10	Bearing	1	
11	Collar	1	
			For installation, reverse the removal procedure.

EAS30156
REMOVING THE REAR WHEEL

ECA21030
NOTICE

• Keep any type of magnets (including magnetic pick-up tools, magnetic screwdrivers, etc.) away from the rear wheel sensor or rear wheel sensor rotor; otherwise, the sensor or rotor may be damaged, resulting in improper performance of the ABS system.
• Do not drop the rear wheel sensor rotor or subject it to shocks.
• If any solvent gets on the rear wheel sensor rotor, wipe it off immediately.

1. Stand the vehicle on a level surface.

EWA13120
⚠ WARNING

Securely support the vehicle so that there is no danger of it falling over.

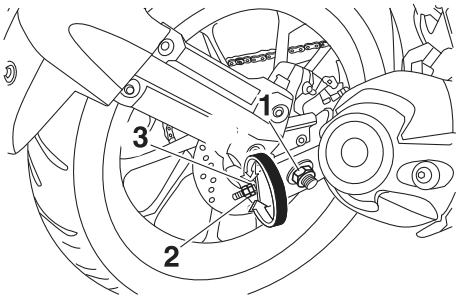
TIP
Place the vehicle on a centerstand so that the rear wheel is elevated.

2. Remove:
   • Rear wheel sensor

ECA21470
NOTICE

Do not depress the brake pedal when removing the brake caliper.

3. Loosen:
   • Wheel axle nut "1"
   • Drive chain puller locknuts "2"
   • Drive chain adjusting nuts "3"



4. Remove:
   • Rear wheel axle nut
   • Washer
   • Rear wheel axle along with washer
   • Drive chain puller
   • Collars
   • Rear wheel along with rear brake caliper

TIP
Push the rear wheel forward and remove the drive chain from the rear wheel sprocket.

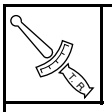
MAINTENANCE OF THE REAR WHEEL SENSOR AND SENSOR ROTOR

NOTICE

• Handle the ABS components with care since they have been accurately adjusted. Keep them away from dirt and do not subject them to shocks.
• The wheel sensor cannot be disassembled. Do not attempt to disassemble it. If faulty, replace with a new one.
• Keep any type of magnets (including magnetic pick-up tools, magnetic screwdrivers, etc.) away from the wheel sensor or wheel sensor rotor.
• Do not drop or shock the wheel sensor or the wheel sensor rotor.
Refer to "MAINTENANCE OF THE WHEEL SENSOR AND SENSOR ROTOR" on page 4-13.

EAS30165
INSTALLING THE REAR WHEEL

1. Install:
   • Rear wheel sensor rotor
   • Rear brake disc

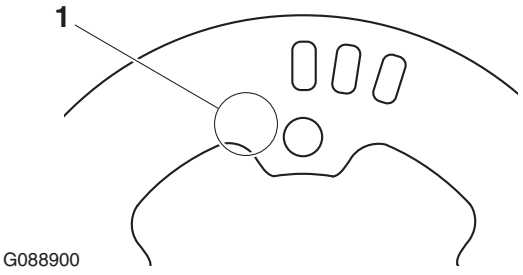


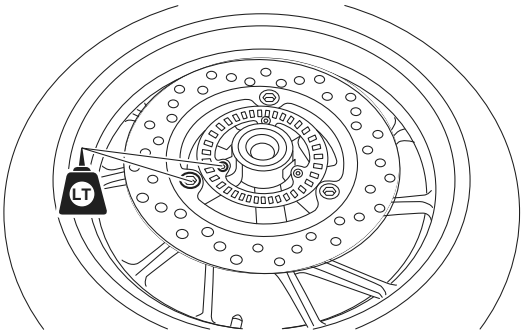
Rear wheel sensor rotor bolt
8 N·m (0.8 kgf·m, 5.9 lb·ft)
LOCTITE®
Rear brake disc bolt
23 N·m (2.3 kgf·m, 17 lb·ft)
LOCTITE®

ECA21011
NOTICE

• Do not drop the wheel sensor rotor or subject it to shocks.
• If any solvent gets on the wheel sensor rotor, wipe it off immediately.
• Replace the brake disc bolts and wheel sensor rotor bolts with new ones.

TIP
• Install the wheel sensor rotor with the stamped mark "1" facing outward.
• Tighten the brake disc bolts in stages and in a crisscross pattern.





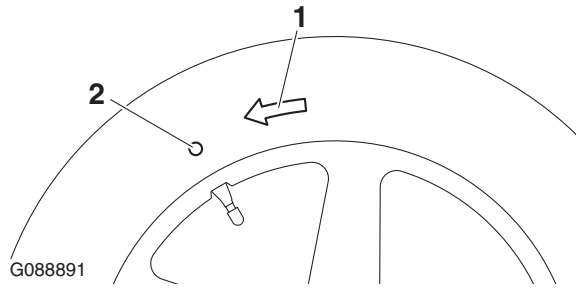
1. Install:
   - Rear wheel sprocket
     Refer to "CHECKING AND REPLACING THE REAR WHEEL SPROCKET" in base service manual B97-F8197-E0 on page 4-14.
2. Check:
   - Rear brake disc
     Refer to "CHECKING THE FRONT BRAKE DISC" in base service manual B97-F8197-E0 on page 4-23.
3. Lubricate:
   - Oil seal lips

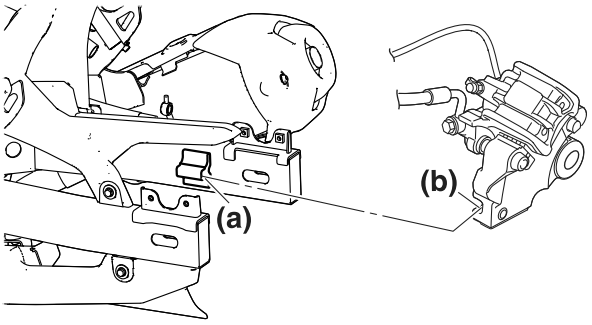
	Recommended lubricant **Lithium-soap-based grease**

4. Install:
   - Collar (right)
   - Collar (left)
   - Brake caliper
   - Rear wheel
   - Rear wheel axle
   - Washers
   - Rear wheel axle nut

TIP

For tires with a direction of rotation mark "1":
- Install the tire with the mark pointing in the direction of wheel rotation.
- Align the mark "2" with the valve installation point.
- Align the projection "a" in the swingarm with the slot "b" of the brake caliper bracket.
- Apply lithium-soap-based grease to the contact surface and threads of the rear wheel axle nut.





5. Lubricate:
   - Rear brake caliper bolt

	Recommended lubricant **Silicone grease**

6. Install:
   - Rear brake caliper
7. Adjust:
   - Drive chain slack
     Refer to "ADJUSTING THE DRIVE CHAIN SLACK" in base service manual B97-F8197-E0 on page 3-17.

	Drive chain slack **40.0–45.0 mm (1.57–1.77 in)**

8. Tighten:
   - Rear wheel axle nut
   - Rear brake caliper bolt

	Rear wheel axle nut **59 N·m (5.9 kgf·m, 44 lb·ft)**

EWA13500

WARNING

Make sure the brake hose is routed properly.

9. Install:
   • Rear wheel sensor

	Rear wheel sensor bolt **7 N·m (0.7 kgf·m, 5.2 lb·ft)**

ECA21080

NOTICE

Make sure there are no foreign materials in the rear wheel sensor rotor and rear wheel sensor. Foreign materials cause damage to the rear wheel sensor rotor and rear wheel sensor.

TIP

To route the rear wheel sensor lead, refer to "CABLE ROUTING (For FAZER25-ABS)" on page 2-12.

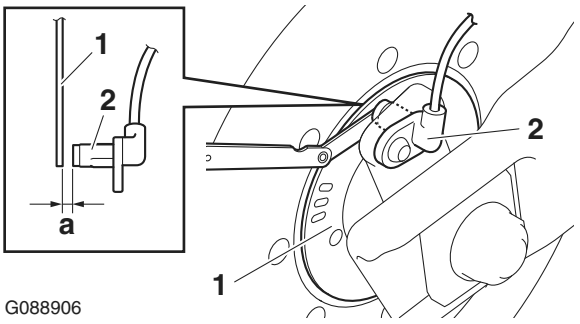
10. Measure:
   • Distance "a"
   (between the rear wheel sensor rotor "1" and rear wheel sensor "2")
   Out of specification → Check the wheel bearing for looseness, and the rear wheel sensor and sensor rotor installation conditions (warpage caused by overtorque, wrong installation direction, rotor decentering, LOCTITE® on the mounting surface of the rotor, deformation caused by an impact during service and caught foreign materials). If there is any defective part, repair or replace the defective part.

	Distance "a" (between the rear wheel sensor rotor and rear wheel sensor) **1.29 mm (0.050 in)**

TIP

Measure the distance between the rear wheel sensor rotor and rear wheel sensor in several places in one rotation of the rear wheel. Do not turn the rear wheel while the feeler gauge is installed. This may damage the rear wheel sensor rotor and the rear wheel sensor.

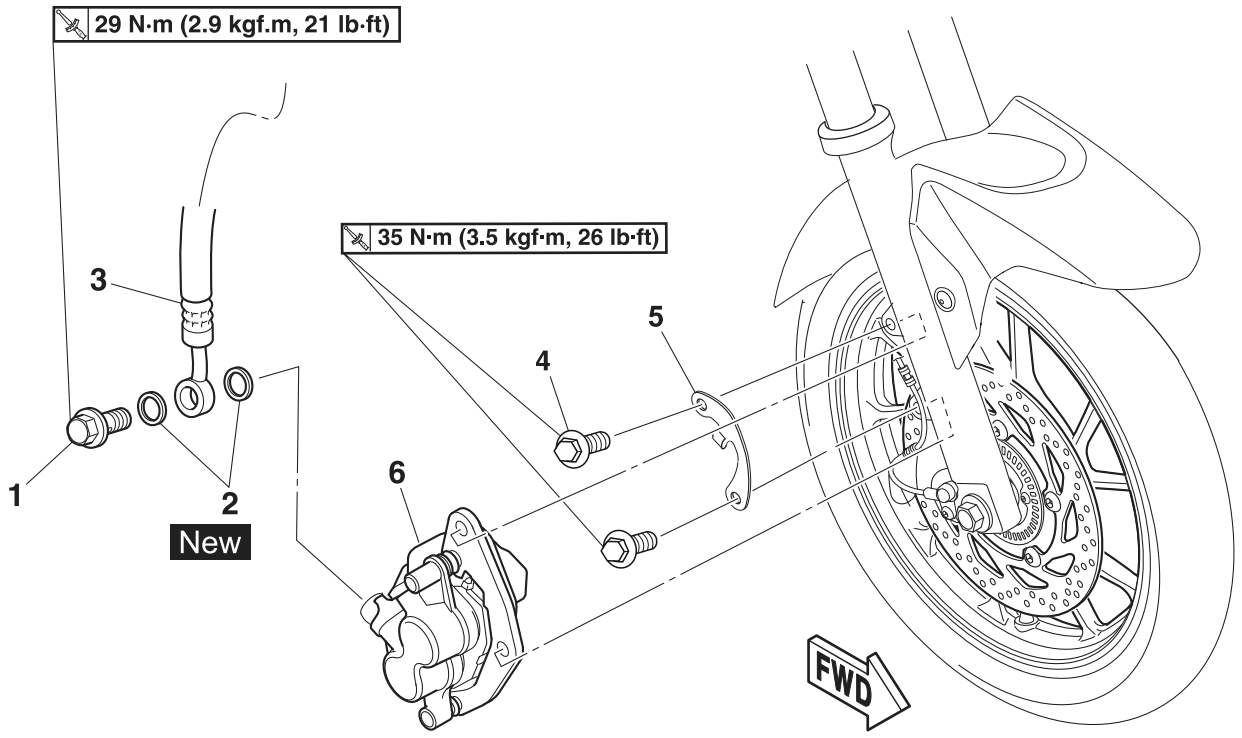
	Feeler gauge



G088906

EAS20030
FRONT BRAKE

Removing the front brake caliper



Order	Job/Parts to remove	Q'ty	Remarks
	Brake fluid		Drain. Refer to "BLEEDING THE HYDRAULIC BRAKE SYSTEM (ABS)" on page 3-12.
1	Front brake hose union bolt (brake caliper side)	1	
2	Brake hose gasket	2	
3	Front brake hose (brake hose joint to brake caliper)	1	
4	Front brake caliper bolt	2	
5	Sensor lead holder	1	
6	Front brake caliper	1	

EAS30724
REMOVING THE FRONT BRAKE CALIPER

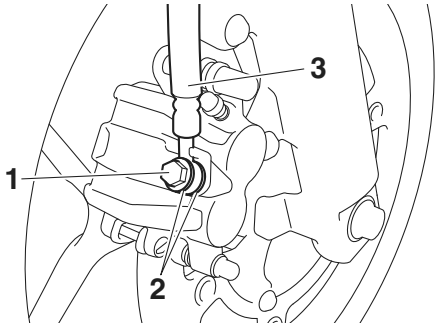
TIP
Before removing the brake caliper, drain the brake fluid from the entire brake system.

ECA20981
NOTICE

- **Keep any type of magnets (including magnetic pick-up tools, magnetic screwdrivers, etc.) away from the rear wheel sensor or rear wheel sensor rotor; otherwise, the sensor or rotor may be damaged, resulting in improper performance of the ABS system.**
- **Do not drop the rear wheel sensor rotor or subject it to shocks.**
- **If any solvent gets on the rear wheel sensor rotor, wipe it off immediately.**

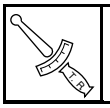
1. Remove:
   - Brake hose union bolt “1”
   - Brake hose gaskets “2”
   - Front brake hose (brake hose joint to brake caliper) “3”
   - Wheel sensor holder
   - Brake caliper

TIP
Put the end of the brake hose into a container and pump out the brake fluid carefully.

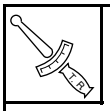


EAS30934
INSTALLING THE FRONT BRAKE CALIPER

1. Install:
   - Front brake caliper “1” (temporarily) along with wheel sensor holder
   - Brake hose gaskets “2” New
   - Front brake hose (brake hose joint to brake caliper) “3”
   - Brake hose union bolt “4”



Front brake caliper bolt
35 N·m (3.5 kgf·m, 26 lb·ft)



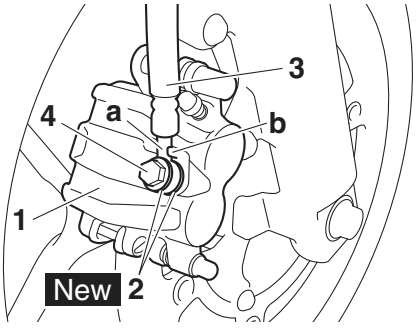
Front brake hose union bolt (brake caliper side)
29 N·m (2.9 kgf·m, 21 lb·ft)

EWA13531
⚠ WARNING

Proper brake hose routing is essential to insure safe vehicle operation.

ECA18220
NOTICE

When installing the brake hose “3” onto the brake caliper “1”, make sure the brake hose “a” passes between the projection “b” on the brake caliper.



Refer to “REPLACING THE FRONT BRAKE PADS” in base service manual B97-F8197-E0 on page 4-24.

2. Fill:
   - Brake master cylinder reservoir (with the specified amount of the specified brake fluid)

Specified brake fluid
DOT 4

EWA13090
⚠ WARNING

- **Use only the designated brake fluid. Other brake fluids may cause the rubber seals to deteriorate, causing leakage and poor brake performance.**
- **Refill with the same type of brake fluid that is already in the system. Mixing brake fluids may result in a harmful chemical reaction, leading to poor brake performance.**

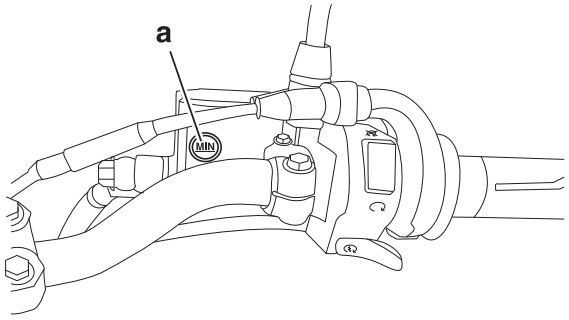
• When refilling, be careful that water does not enter the brake fluid reservoir. Water will significantly lower the boiling point of the brake fluid and could cause vapor lock.

ECA13540

NOTICE

Brake fluid may damage painted surfaces and plastic parts. Therefore, always clean up any spilt brake fluid immediately.

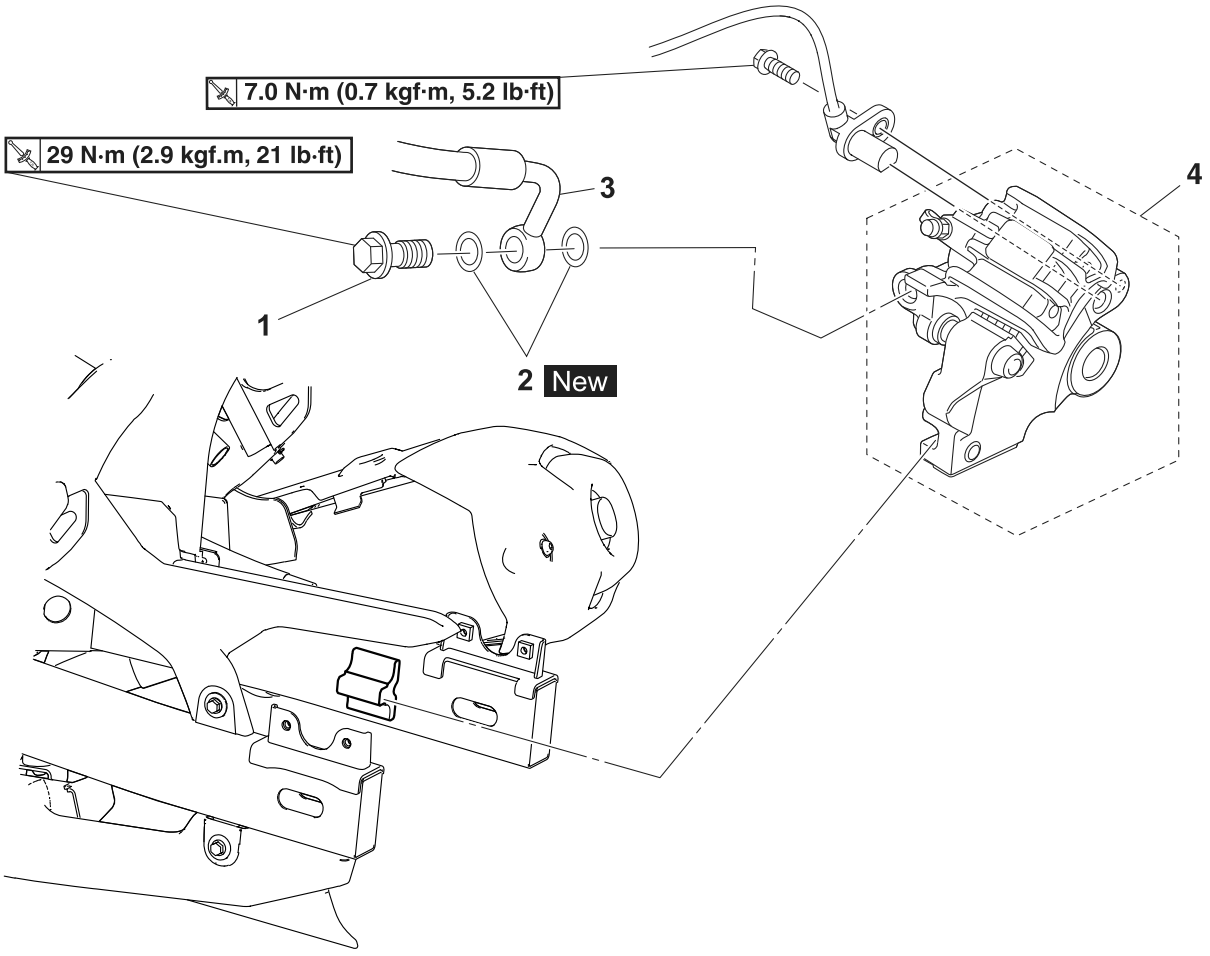
3. Bleed:
   • Brake system
   Refer to "BLEEDING THE HYDRAULIC BRAKE SYSTEM (ABS)" on page 3-12.
4. Check:
   • Brake fluid level
   Below the minimum level mark "a" → Add the specified brake fluid to the proper level.



5. Check:
   • Brake lever operation
   Soft or spongy feeling → Bleed the brake system.
   Refer to "BLEEDING THE HYDRAULIC BRAKE SYSTEM (ABS)" on page 3-12.

EAS20031
REAR BRAKE

Removing the rear brake caliper



Order	Job/Parts to remove	Q'ty	Remarks
	Rear wheel sensor		Refer to "REAR WHEEL" on page 4-17.
	Brake fluid		Drain. Refer to "BLEEDING THE HYDRAULIC BRAKE SYSTEM (ABS)" on page 3-12.
	Rear wheel		Refer to "REAR WHEEL" on page 4-17.
1	Rear brake hose union bolt	1	
2	Brake hose gasket	2	
3	Rear brake hose	1	
4	Rear brake caliper	1	
			For installation, reverse the removal procedure.

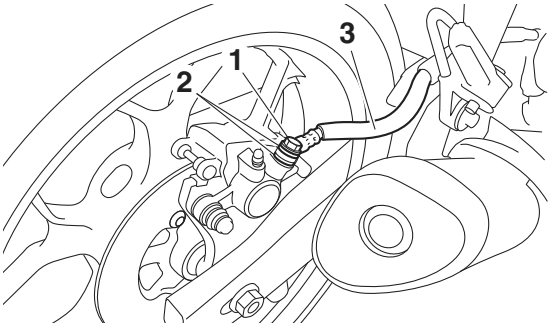
EAS30186
REMOVING THE REAR BRAKE CALIPER

TIP
Before disassembling the brake caliper, drain the brake fluid from the entire brake system.

ECA20981
NOTICE
- **Keep any type of magnets (including magnetic pick-up tools, magnetic screwdrivers, etc.) away from the rear wheel sensor or rear wheel sensor rotor; otherwise, the sensor or rotor may be damaged, resulting in improper performance of the ABS system.**
- **Do not drop the rear wheel sensor rotor or subject it to shocks.**
- **If any solvent gets on the rear wheel sensor rotor, wipe it off immediately.**

1. Remove:
   - Rear wheel sensor
   - Rear brake hose union bolt "1"
   - Brake hose gaskets "2"
   - Rear brake hose (hydraulic unit to brake caliper) "3"
   - Rear wheel along with caliper

TIP
Put the end of the brake hose into a container and pump out the brake fluid carefully.



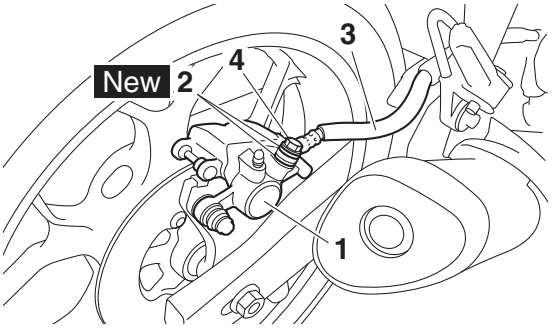
EAS30190
INSTALLING THE REAR BRAKE CALIPER

1. Lubricate:
   - Rear brake caliper bolt

	Recommended lubricant **Silicone grease**

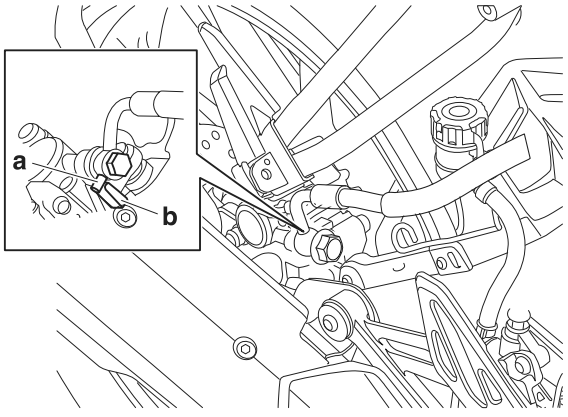
2. Install:
   - Brake pad shims (onto the brake pads)
   - Brake pads
   - Rear brake caliper "1" along with rear wheel
   - Rear wheel sensor
     Refer to "REPLACING THE REAR BRAKE PADS" in base service manual B97-F8197-E0 on page 4-35.
   - Brake hose gaskets "2" New
   - Rear brake hose (hydraulic unit to brake caliper) "3"
   - Rear brake hose union bolt "4"

	Rear brake hose union bolt (brake caliper side) **29 N·m (2.9 kgf·m, 21 lb·ft)**



EWA13531
WARNING
Proper brake hose routing is essential to insure safe vehicle operation.

ECA19080
NOTICE
When installing the brake hose onto the brake caliper, be sure to position the brake pipe "a" touches the projection "b" in the brake caliper.



3. Fill:
   • Brake fluid reservoir
   (with the specified amount of the specified brake fluid)

Specified brake fluid
DOT 4

EWA13090

⚠ WARNING

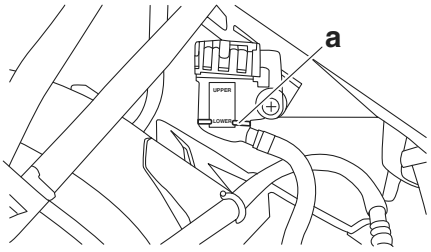
- **Use only the designated brake fluid. Other brake fluids may cause the rubber seals to deteriorate, causing leakage and poor brake performance.**
- **Refill with the same type of brake fluid that is already in the system. Mixing brake fluids may result in a harmful chemical reaction, leading to poor brake performance.**
- **When refilling, be careful that water does not enter the brake fluid reservoir. Water will significantly lower the boiling point of the brake fluid and could cause vapor lock.**

ECA13540

NOTICE

Brake fluid may damage painted surfaces and plastic parts. Therefore, always clean up any spilt brake fluid immediately.

4. Bleed:
   • Brake system
   Refer to "BLEEDING THE HYDRAULIC BRAKE SYSTEM (ABS)" on page 3-12.
5. Check:
   • Brake fluid level
   Below the minimum level mark "a" → Add the specified brake fluid to the proper level.

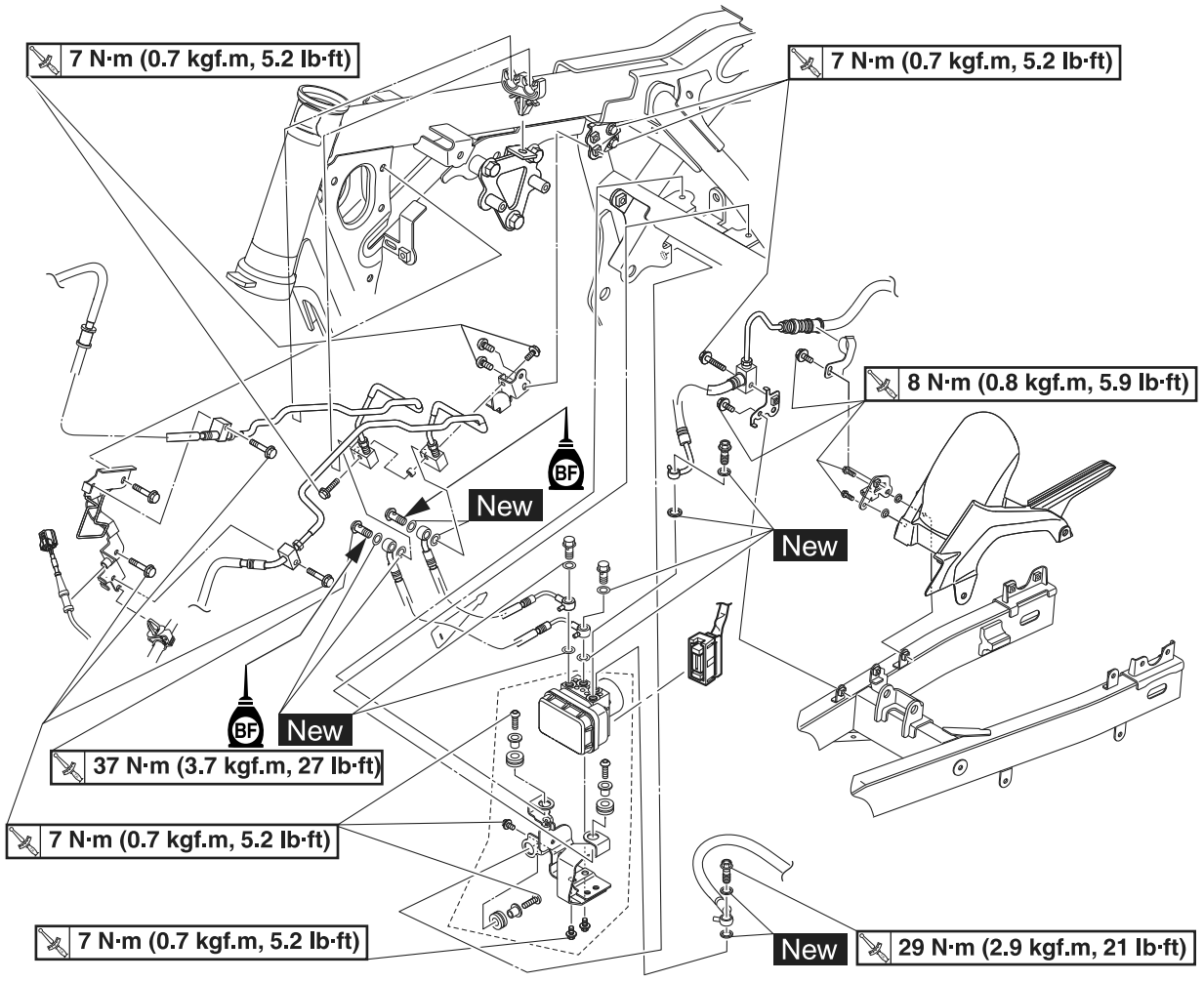


6. Check:
   • Brake pedal operation
   Soft or spongy feeling → Bleed the brake system.
   Refer to "BLEEDING THE HYDRAULIC BRAKE SYSTEM (ABS)" on page 3-12.

EAS20033

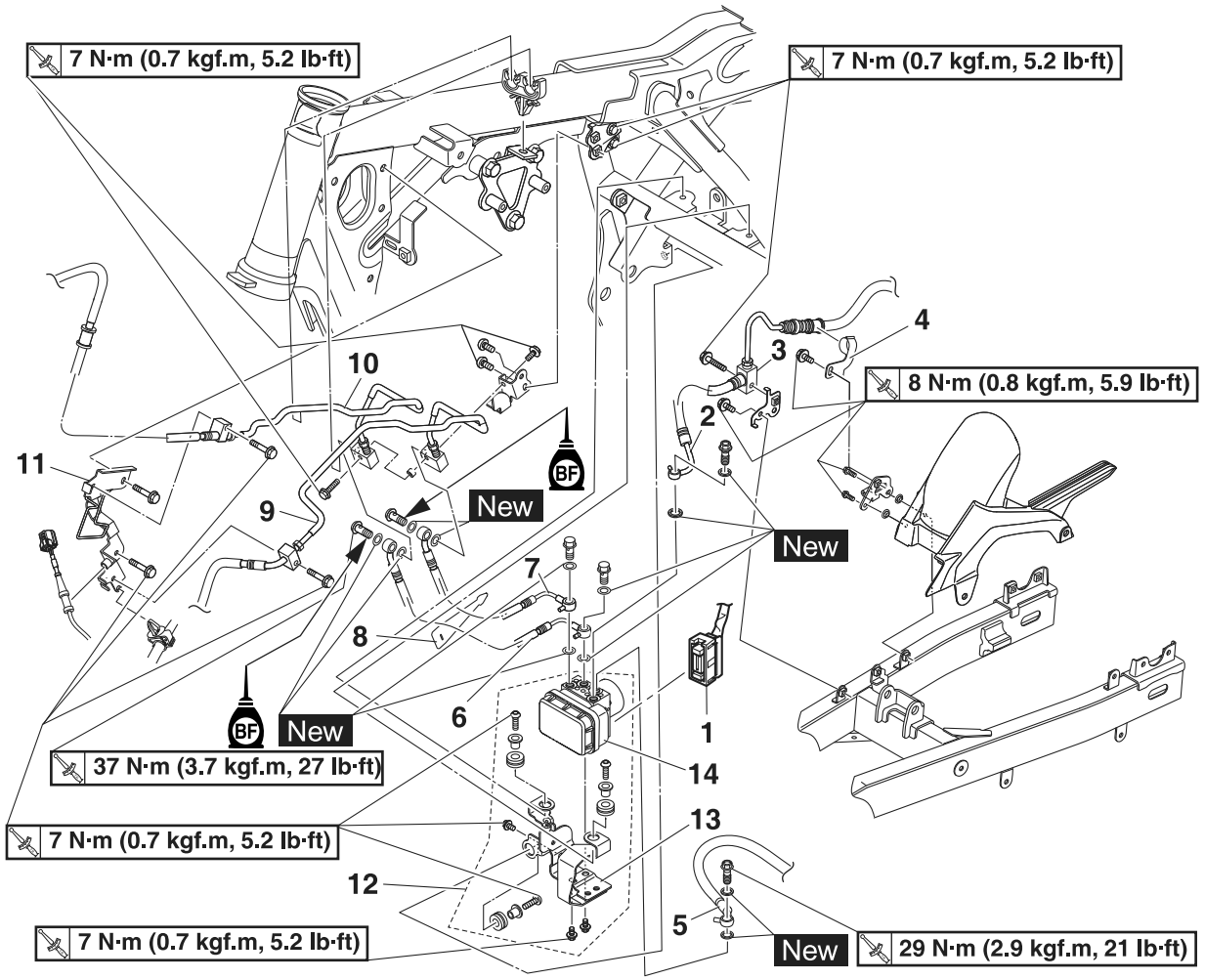
ABS (ANTI-LOCK BRAKE SYSTEM)

Removing the hydraulic unit assembly



Order	Job/Parts to remove	Q'ty	Remarks
	Brake fluid		Drain. Refer to"BLEEDING THE HYDRAULIC BRAKE SYSTEM (ABS)" on page 3-12.
	Rider and passenger seat		Refer to "GENERAL CHASSIS (1)" in base service manual B97-F8197-E0 on page 4-1.
	Side cover assembly LH & RH		Refer to "GENERAL CHASSIS (2)" in base service manual B97-F8197-E0 on page 4-1.
	Rear left side cover		Refer to "GENERAL CHASSIS" in base service manual B97-F8197-E0 on page 4-1.
	Side panel assembly LH & RH (Fuel tank)		Refer to "GENERAL CHASSIS" in base service manual B97-F8197-E0 on page 4-1.
	Air filter assembly		Refer to "GENERAL CHASSIS" in base service manual B97-F8197-E0 on page 4-3.
	Battery and Battery box		Refer to "CHECKING AND CHARGING THE BATTERY" in base service manual B97-F8197-E0 on page 7-62.
	Fuel tank cover assembly		Refer to "FUEL TANK" in base service manual B97-F8197-E0 on page 6-1.

Removing the hydraulic unit assembly



Order	Job/Parts to remove	Q'ty	Remarks
1	ABS ECU coupler	1	
2	Rear brake hose (hydraulic unit to rear brake caliper)	1	
3	Rear brake hose joint	1	
4	Rear brake hose bracket	1	
5	Rear brake hose (hydraulic unit to rear brake master cylinder)	1	
6	Front brake hose (hydraulic unit to front brake master cylinder)	1	
7	Front brake hose (hydraulic unit to front brake caliper)	1	
8	Rubber band	1	
9	Front brake hose (to brake caliper)	1	
10	Front brake hose (to brake master cylinder)	1	
11	Brake hose holder	1	
12	Hydraulic unit assembly	1	
13	Hydraulic unit bracket	1	
14	Hydraulic unit	1	

EAS30197
REMOVING THE HYDRAULIC UNIT ASSEMBLY

ECA21091
NOTICE

Unless necessary, avoid removing and installing the brake hoses of the hydraulic unit assembly.

EWA13930
⚠ WARNING

Refill with the same type of brake fluid that is already in the system. Mixing fluids may result in a harmful chemical reaction, leading to poor braking performance.

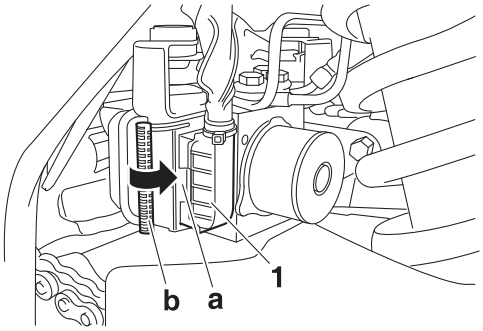
ECA18241
NOTICE

- **Handle the ABS components with care since they have been accurately adjusted. Keep them away from dirt and do not subject them to shocks.**
- **Do not turn the main switch to "ON" when removing the hydraulic unit assembly.**
- **Do not clean with compressed air.**
- **Do not reuse the brake fluid.**
- **Brake fluid may damage painted surfaces and plastic parts. Therefore, always clean up any spilt brake fluid immediately.**
- **Do not allow any brake fluid to contact the couplers. Brake fluid may damage the couplers and cause bad contacts.**
- **If the union bolts for the hydraulic unit assembly have been removed, be sure to tighten them to the specified torque and bleed the brake system.**

1. Disconnect:
   - ABS ECU coupler "1"

TIP

Push the lock "a" and pull the lever "b" of the ABS ECU coupler in the direction of the arrow shown, and then dis-connect the coupler.



2. Remove:
   - Brake hoses

TIP

Do not operate the brake lever and brake pedal while removing the brake hoses.

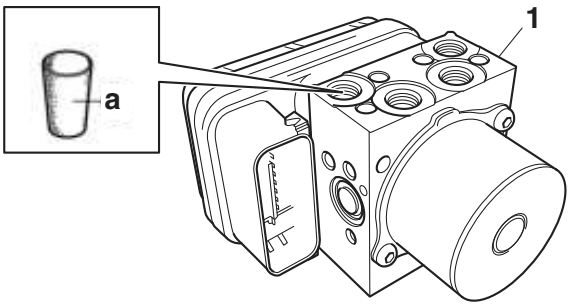
ECA14530
NOTICE

When removing the brake hoses, cover the area around the hydraulic unit to catch any spilt brake fluid. Do not allow the brake fluid to contact other parts.

3. Remove:
   - Hydraulic unit assembly "1"

TIP

- To avoid brake fluid leakage and to prevent foreign materials from entering the hydraulic unit assembly, insert a rubber plug "a" or a bolt (M10 × 1.25) into each brake hose union bolt hole.
- When using a bolt, do not tighten the bolt until the bolt head touches the hydraulic unit. Otherwise, the brake hose union bolt seating surface could be deformed.

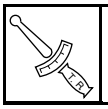


EAS30198
CHECKING THE HYDRAULIC UNIT ASSEMBLY

1. Check:
   - Hydraulic unit assembly
     Cracks/damage → Replace the hydraulic unit assembly and the brake hoses that are connected to the assembly as a set.

EAS30200
INSTALLING THE HYDRAULIC UNIT ASSEMBLY

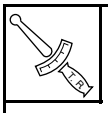
1. Install:
   • Hydraulic unit assembly

	**Hydraulic unit assembly bolt 7 N·m (0.7 kgf·m, 5.2 lb·ft)**

TIP
Do not allow any foreign materials to enter the hydraulic unit assembly or the brake hoses when installing the hydraulic unit assembly.

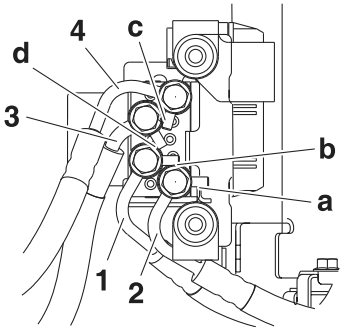
ECA21110
NOTICE
Do not remove the rubber plugs or bolts (M10 × 1.25) installed in the brake hose union bolt holes before installing the hydraulic unit assembly.

2. Remove:
   • Rubber plugs or bolts (M10 × 1.25)
3. Install:
   • Rear brake hose (brake master cylinder to hydraulic unit) “1”
   • Front brake hose (brake hose joint to hydraulic unit) “2”
   • Front brake hose (hydraulic unit to brake hose joint) “3”
   • Rear brake hose (hydraulic unit to brake caliper) “4”

	**Front brake hose union bolt 29 N·m (2.9 kgf·m, 21 lb·ft)** **Rear brake hose union bolt 29 N·m (2.9 kgf·m, 21 lb·ft)**

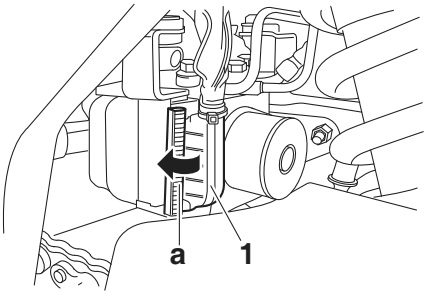
ECA21121
NOTICE
If the brake hose union bolt does not turn easily, replace the hydraulic unit assembly, brake hoses, and related parts as a set.

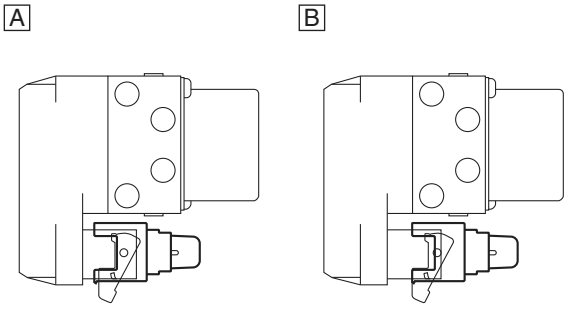
a. Temporarily install the brake hoses as shown in the illustration.
b. Position the front brake hose (hydraulic unit to front brake caliper) “2” so that pin shall touch to end fitting of bracket “a” and then temporarily tighten the union bolt for the brake hose “2”.
c. Position the front brake hose (hydraulic unit to front brake master cylinder) “1” so that pin shall contact “b” of front brake hose (hydraulic unit to front brake caliper) “2” and then temporarily tighten the union bolt for the brake hose “1”.
d. Position the rear brake hose (hydraulic unit to rear brake master cylinder) “3” so that pin shall contact “d” of front brake hose (hydraulic unit to front brake master cylinder) “1” and then temporarily tighten the union bolt for the brake hose “3”.
e. Position the rear brake hose (hydraulic unit to rear brake caliper) “4” so that pin shall contact “c” of rear brake hose (hydraulic unit to rear brake master cylinder) “3” and then temporarily tighten the union bolt for the brake hose “4”.
f. Tighten the brake hose union bolts to specification.



4. Connect:
   • ABS ECU coupler “1”

TIP
- Connect the ABS ECU coupler, and then push the lock lever “a” of the coupler in the direction of the arrow shown.
- Make sure that the ABS ECU coupler is connected in the correct position as shown in illustration “A”.





A. The ABS ECU coupler is connected correctly.
B. The ABS ECU coupler is not connected.

5. Fill:
   • Brake master cylinder reservoir
   • Brake fluid reservoir
   (with the specified amount of the specified brake fluid)

Specified brake fluid
DOT 4

EWA13090

WARNING

- **Use only the designated brake fluid. Other brake fluids may cause the rubber seals to deteriorate, causing leakage and poor brake performance.**
- **Refill with the same type of brake fluid that is already in the system. Mixing brake fluids may result in a harmful chemical reaction, leading to poor brake performance.**
- **When refilling, be careful that water does not enter the brake fluid reservoir. Water will significantly lower the boiling point of the brake fluid and could cause vapor lock.**

ECA13540

NOTICE

Brake fluid may damage painted surfaces and plastic parts. Therefore, always clean up any spilt brake fluid immediately.

6. Bleed:
   • Brake system
   Refer to "BLEEDING THE HYDRAULIC BRAKE SYSTEM (ABS)" on page 3-12.
7. Check the operation of the hydraulic unit according to the brake lever and the brake pedal response. (Refer to "HYDRAULIC UNIT OPERATION TESTS" on page 4-32.)

ECA14770

NOTICE

Always check the operation of the hydraulic unit according to the brake lever and the brake pedal response.

8. Delete the fault codes. (Refer to "[B-3] DELETING THE FAULT CODES" on page 7-75.)
9. Perform a trial run. (Refer to "CHECKING THE ABS WARNING LIGHT" on page 4-36.)

EAS30930

HYDRAULIC UNIT OPERATION TESTS

The reaction-force pulsating action generated in the brake lever and brake pedal when the ABS is activated can be tested when the vehicle is stopped.
The hydraulic unit operation can be tested using the following two methods.

- Brake line routing confirmation: this test checks the function of the ABS after the system was disassembled, adjusted, or serviced.
- ABS reaction-force confirmation: this test generates the same reaction-force pulsating action that is generated in the brake lever and brake pedal when the ABS is activated.

Brake line routing confirmation

EWA13120

WARNING

Securely support the vehicle so that there is no danger of it falling over.

TIP

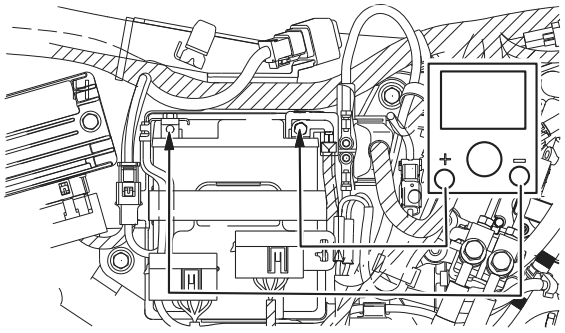
- For the brake line routing confirmation, use the diagnosis mode of the Yamaha diagnostic tool.
- Before performing the brake line routing confirmation, make sure that no malfunctions have been detected in the ABS ECU and that the wheels are not rotating.

1. Place the vehicle on a centerstand.
2. Turn the main switch to "OFF".
3. Remove:
   • Rider seat and passenger seat
   Refer to "GENERAL CHASSIS (1)" in base service manual B97-F8197-E0 on page 4-1.

4. Check:
   • Battery voltage
   Lower than 12.8 V → Charge or replace the battery.

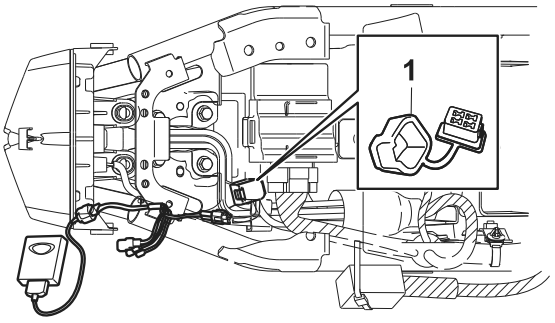
Battery voltage
Higher than 12.8 V

TIP
If the battery voltage is lower than 12.8 V, charge the battery, and then perform brake line routing confirmation.



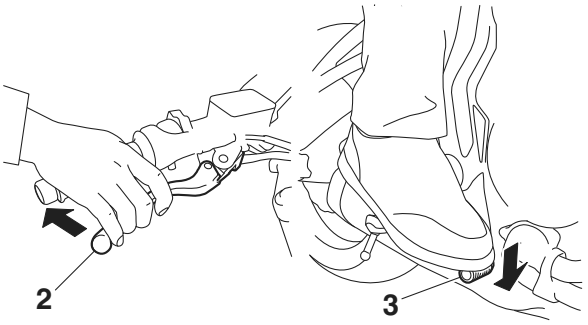
5. Removing the protective cap “1”, and then connect the Yamaha diagnostic tool to the ABS test coupler (4 Pin).

Yamaha diagnostic tool USB
INS-018
90890-03267
INS-019
90890-03262

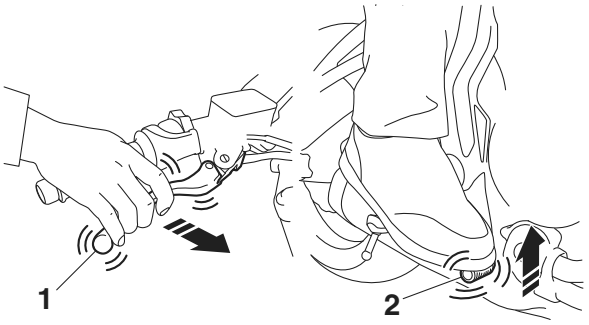


6. Start the Yamaha diagnostic tool and display the diagnosis mode screen.
7. Select code No. 2, “Brake line routing confirmation”.
8. Click “Actuator check” “1”, and then operate the brake lever “2” and brake pedal “3” simultaneously.

TIP
- The hydraulic unit operates 1 second after the brake lever and brake pedal are operated simultaneously and continues for approximately 5 seconds.
- The operation of the hydraulic unit can be confirmed using the indicator.
  On: The hydraulic unit is operating.
  Flashing: The conditions for operating the hydraulic unit have not been met.
  Off: The brake lever and brake pedal are not being operated.



9. Check:
   • Hydraulic unit operation
   Click “Actuator check”, a single pulse will be generated in the brake lever “1”, brake pedal “2”, and again in the brake lever “1”, in this order.



TIP

"ON" and "OFF" on the tool screen indicate when the brakes are being applied and released respectively.

ECA18280

NOTICE

- **Check that the pulse is felt in the brake lever, brake pedal, and again in the brake lever, in this order.**
- **If the pulse is felt in the brake pedal before it is felt in the brake lever, check that the brake hoses and brake pipes are connected correctly to the hydraulic unit assembly.**
- **If the pulse is hardly felt in either the brake lever or brake pedal, check that the brake hoses and brake pipes are connected correctly to the hydraulic unit assembly.**

10. If the operation of the hydraulic unit is normal, delete all of the fault codes.

ABS reaction-force confirmation

EWA13120

⚠ WARNING

Securely support the vehicle so that there is no danger of it falling over.

TIP

- For the ABS reaction-force confirmation, use the diagnosis mode of the Yamaha diagnostic tool. For more information, refer to the operation manual of the Yamaha diagnostic tool.
- Before performing the ABS reaction-force confirmation, make sure that no malfunctions have been detected in the ABS ECU and that the wheels are not rotating.

1. Place the vehicle on a centerstand.
2. Turn the main switch to "OFF".
3. Remove:
   - Passenger seat
   - Rider seat

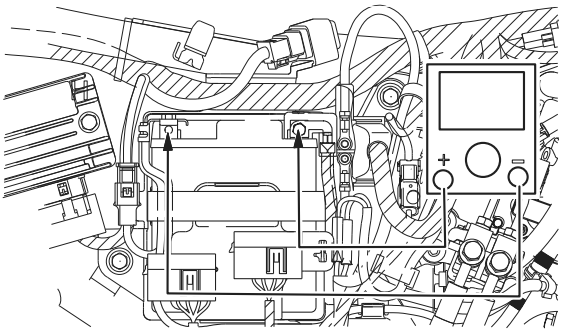
   Refer to "GENERAL CHASSIS (1)" in base service manual B97-F8197-E0 on page 4-1.
4. Check:
   - Battery voltage

   Lower than 12.8 V → Charge or replace the battery.

Battery voltage
Higher than 12.8 V

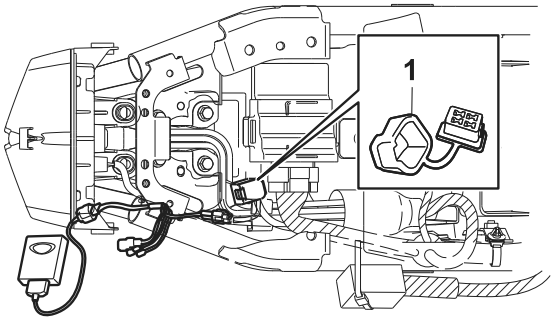
TIP

If the battery voltage is lower than 12.8 V, charge the battery, and then perform ABS reaction-force confirmation.



5. Removing the protective cap "1", and then connect the Yamaha diagnostic tool to the ABS test coupler (4 Pin).

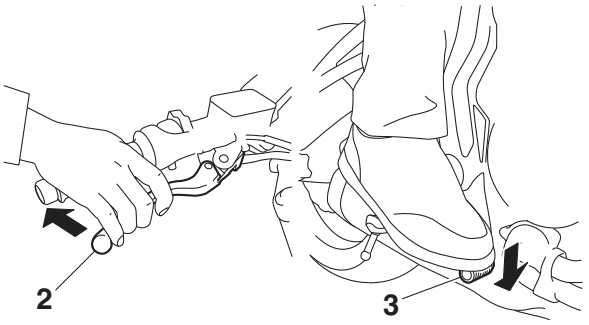
Yamaha diagnostic tool USB
INS-018
90890-03267
INS-019
90890-03262



6. Start the Yamaha diagnostic tool and display the diagnosis mode screen.
7. Select code No. 1, “ABS reaction-force confirmation”.
8. Click “Actuator check” “1”, and then operate the brake lever “2” and brake pedal “3” simultaneously.

TIP

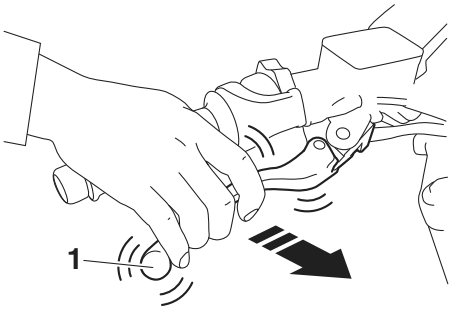
- The hydraulic unit operates 1 second after the brake lever and brake pedal are operated simultaneously and continues for approximately 5 seconds.
- The operation of the hydraulic unit can be confirmed using the indicator.
  On: The hydraulic unit is operating.
  Flashing: The conditions for operating the hydraulic unit have not been met.
  Off: The brake lever and brake pedal are not being operated.



9. A reaction-force pulsating action is generated in the brake lever “1” and continues for a few seconds.

TIP

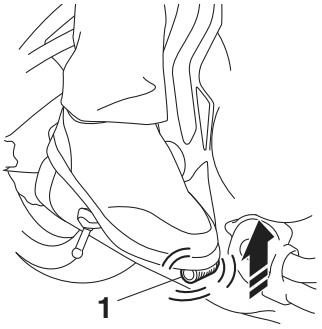
- The reaction-force pulsating action consists of quick pulses.
- Be sure to continue operating the brake lever and brake pedal even after the pulsating action has stopped.
- “ON” and “OFF” on the tool screen indicate when the brakes are being applied and released respectively.



10. After the pulsating action has stopped in the brake lever, it is generated in the brake pedal “1” and continues for a few seconds.

TIP

- The reaction-force pulsating action consists of quick pulses.
- Be sure to continue operating the brake lever and brake pedal even after the pulsating action has stopped.
- “ON” and “OFF” on the tool screen indicate when the brakes are being applied and released respectively.



11. After the pulsating action has stopped in the brake pedal, it is generated in the brake lever and continues for a few seconds.

TIP

- The reaction-force pulsating action consists of quick pulses.
- “ON” and “OFF” on the tool screen indicate when the brakes are being applied and released respectively.

ECA18280

NOTICE

• Check that the pulse is felt in the brake lever, brake pedal, and again in the brake lever, in this order.
• If the pulse is felt in the brake pedal before it is felt in the brake lever, check that the brake hoses and brake pipes are connected correctly to the hydraulic unit assembly.
• If the pulse is hardly felt in either the brake lever or brake pedal, check that the brake hoses and brake pipes are connected correctly to the hydraulic unit assembly.

12. Turn the main switch to "OFF".
13. Remove the Yamaha diagnostic tool from the Yamaha diagnostic tool coupler, and then install the protective cap.
14. Turn the main switch to "ON".
15. Set the start/engine stop switch to "∩".
16. Check for brake fluid leakage around the hydraulic unit.
    Brake fluid leakage → Replace the hydraulic unit, brake hoses, and related parts as a set.
17. If the operation of the hydraulic unit is normal, delete all of the fault codes.

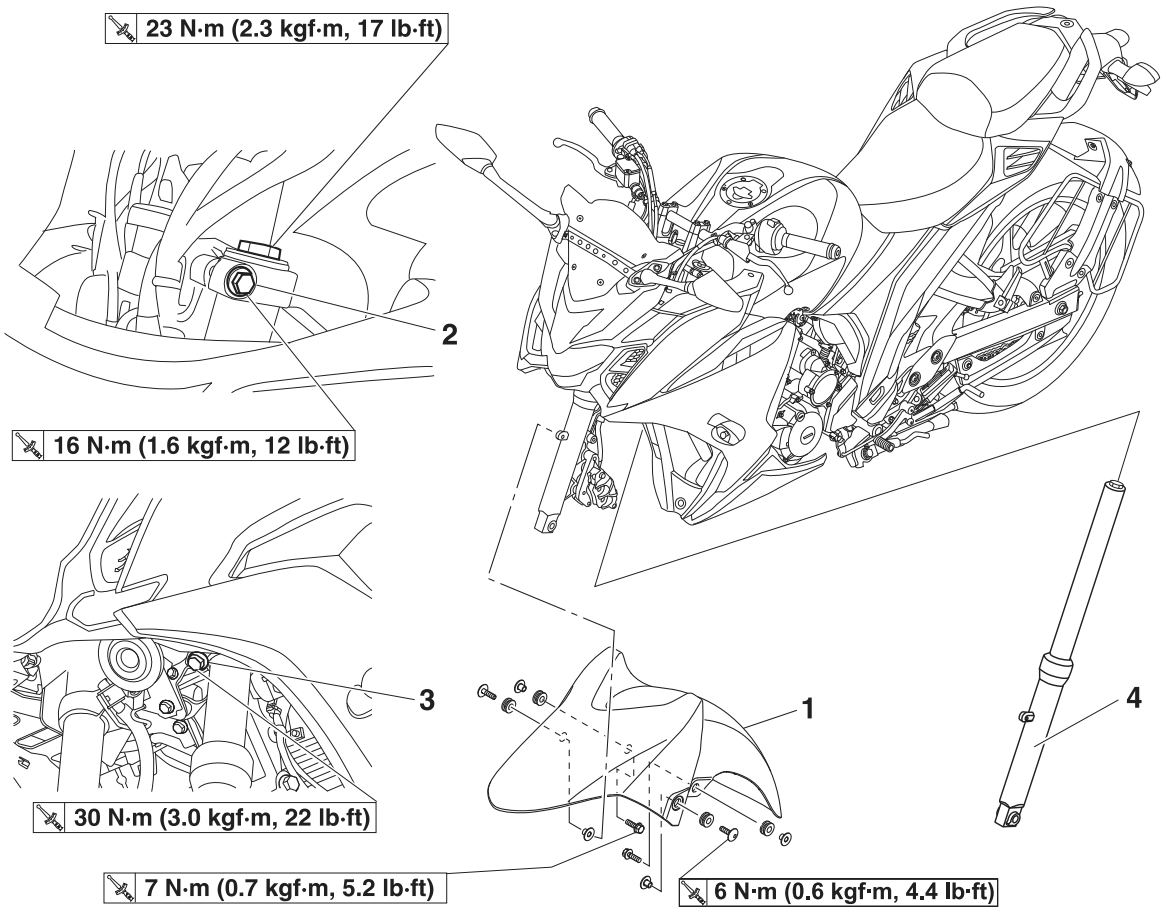
EAS30202

CHECKING THE ABS WARNING LIGHT

After all checks and servicing are completed, ensure that the ABS warning light goes off by walking the vehicle at a speed of faster than 10 km/h (6.3 mi/h) or performing a trial run.

FRONT FORK (For FAZER25-ABS)

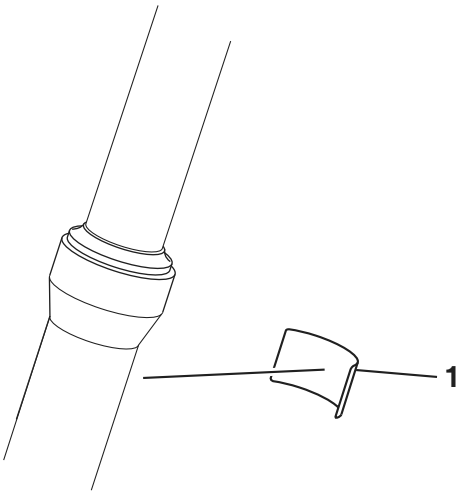
Removing the front fork legs



Order	Job/Parts to remove	Q'ty	Remarks
			The following procedure applies to both of the front fork legs.
	Front wheel		Refer to "FRONT WHEEL" on page 4-12.
1	Front fender	1	
2	Upper bracket pinch bolt	1	Loosen.
3	Lower bracket pinch bolt	1	Loosen.
4	Front fork leg	1	
			For installation, reverse the removal procedure.

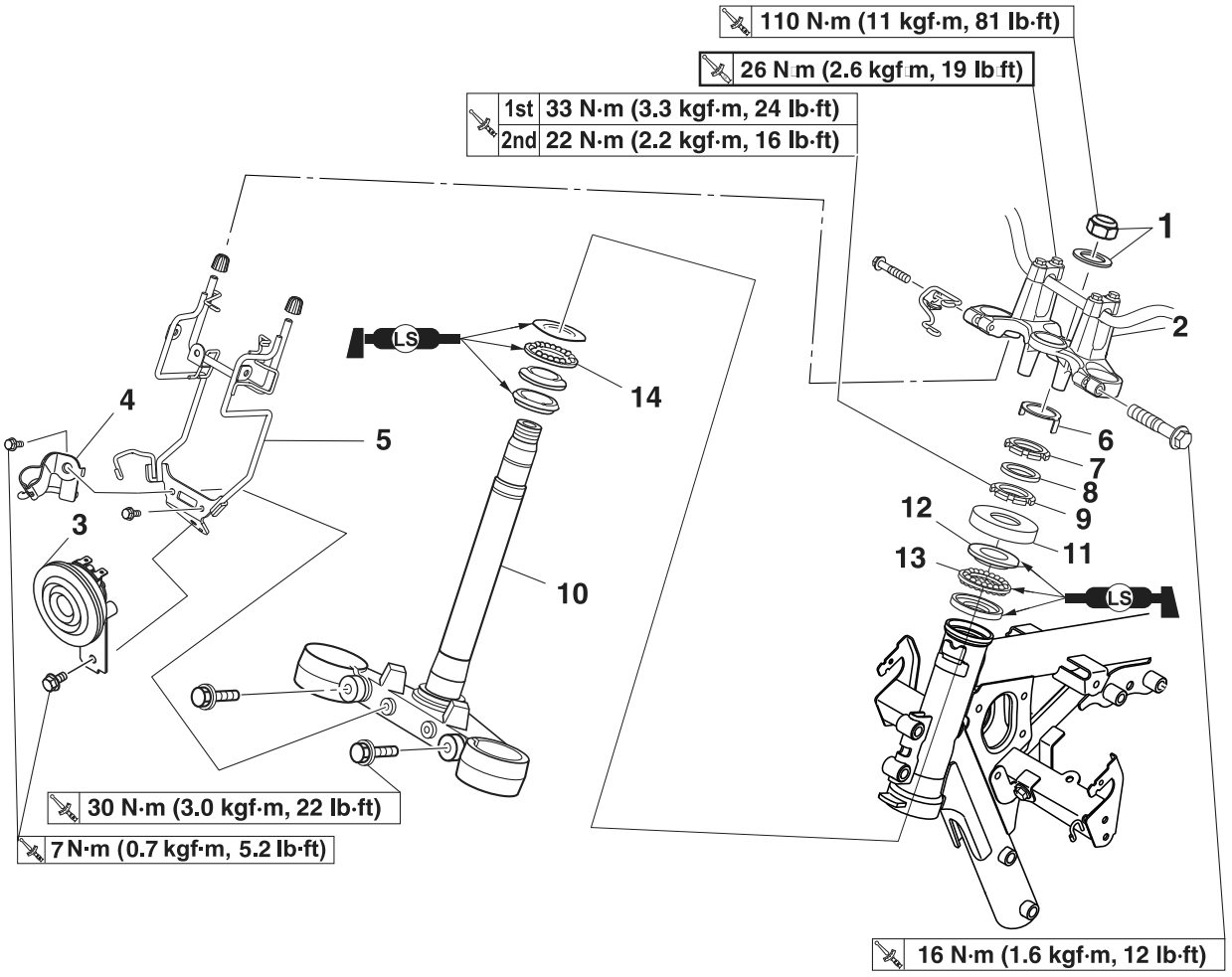
CHECKING THE FRONT FORK OUTER TUBE

1. Check:
   - Outer tube protector seal “1”
     Damage/scratches → Replace.



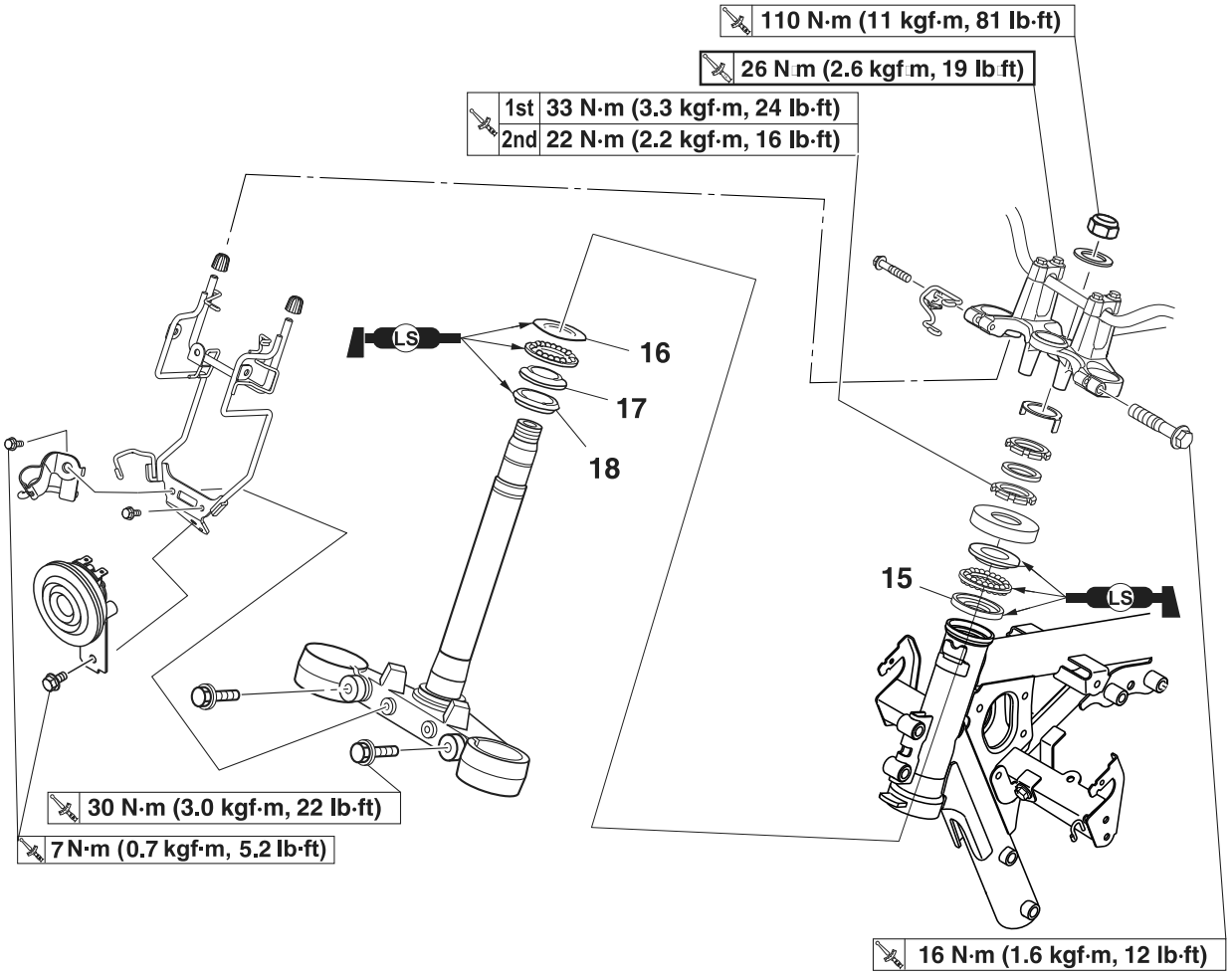
STEERING HEAD (For FAZER25-ABS)

Removing the upper and lower bracket



Order	Job/Parts to remove	Q'ty	Remarks
	Front fork legs		Refer to "FRONT FORK (For FAZER25-ABS)" on page 4-37.
1	Steering stem nut/washer	1/1	
2	Upper bracket	1	
3	Horn	1	
4	Front brake holder	1	
5	Upper bracket stay	1	
6	Lock washer	1	
7	Upper ring nut	1	
8	Rubber washer	1	
9	Lower ring nut	1	
10	Lower bracket	1	
11	Bearing cover	1	
12	Upper bearing inner race	1	
13	Upper bearing	1	
14	Lower bearing	1	

Removing the upper and lower bracket

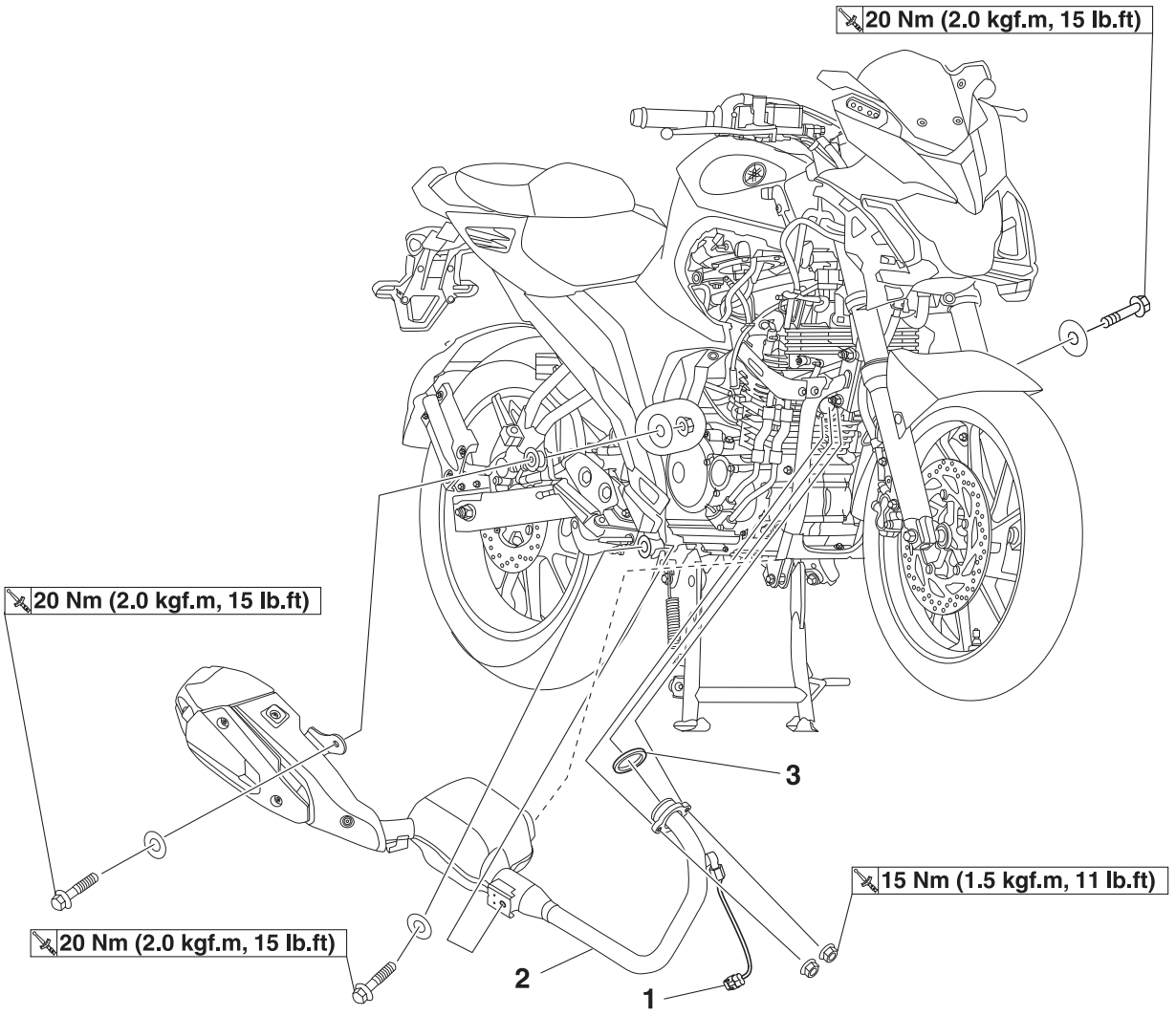


Order	Job/Parts to remove	Q'ty	Remarks
15	Upper bearing outer race	1	
16	Lower bearing outer race	1	
17	Lower bearing inner race	1	
18	Dust seal	1	
			For installation, reverse the removal procedure.

CHAPTER 5
ENGINE

ENGINE REMOVAL

Removing the muffler (For FAZER25-ABS)

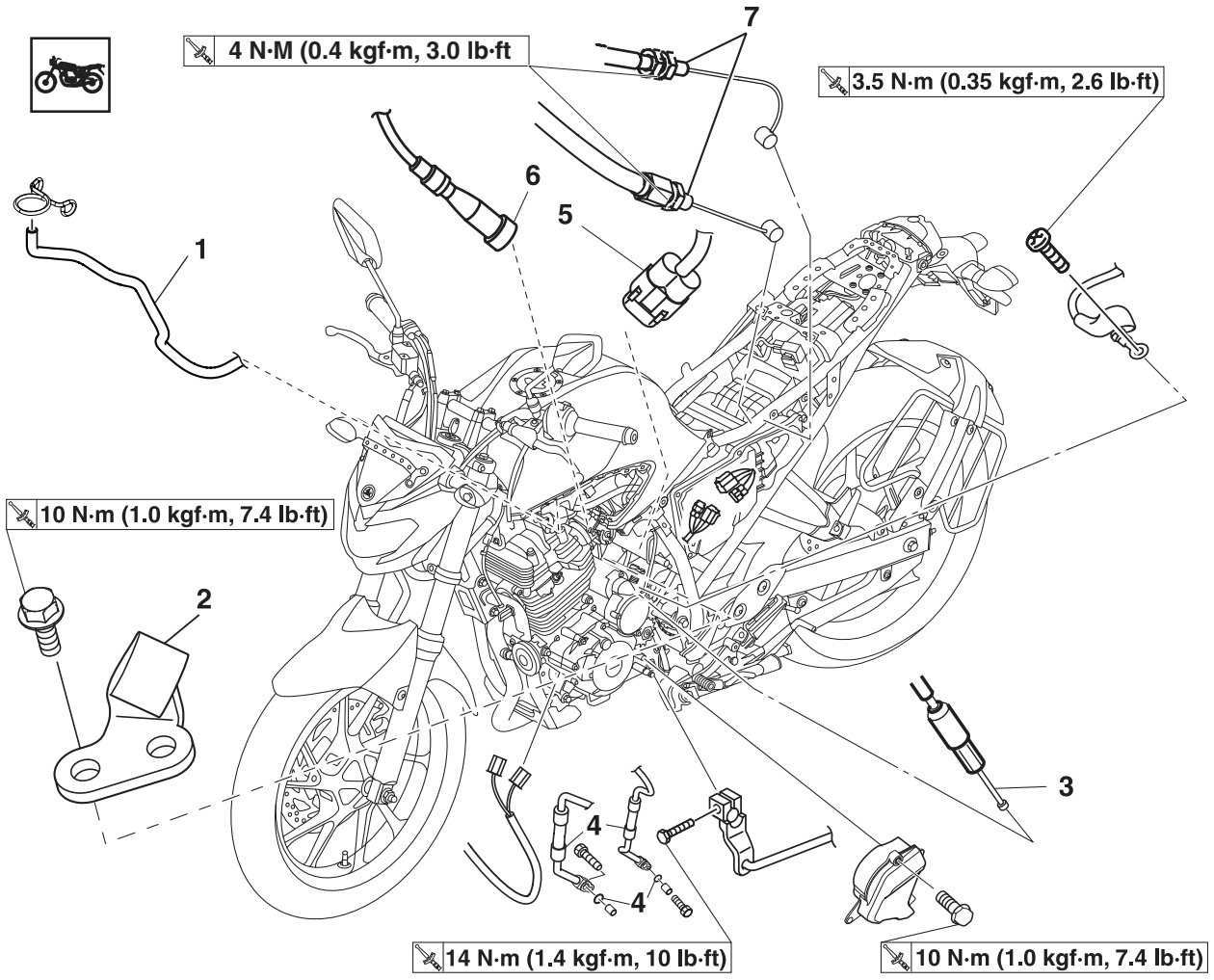


Order	Job/Parts to remove	Q'ty	Remarks
1	O_2 sensor coupler	1	**TIP** Remove the under cover. Refer to "GENERAL CHASSIS" on page 4-1. Disconnect.
2	Muffler	1	
3	Exhaust pipe gasket	1	
			For installation, reverse the removal procedure

TIP

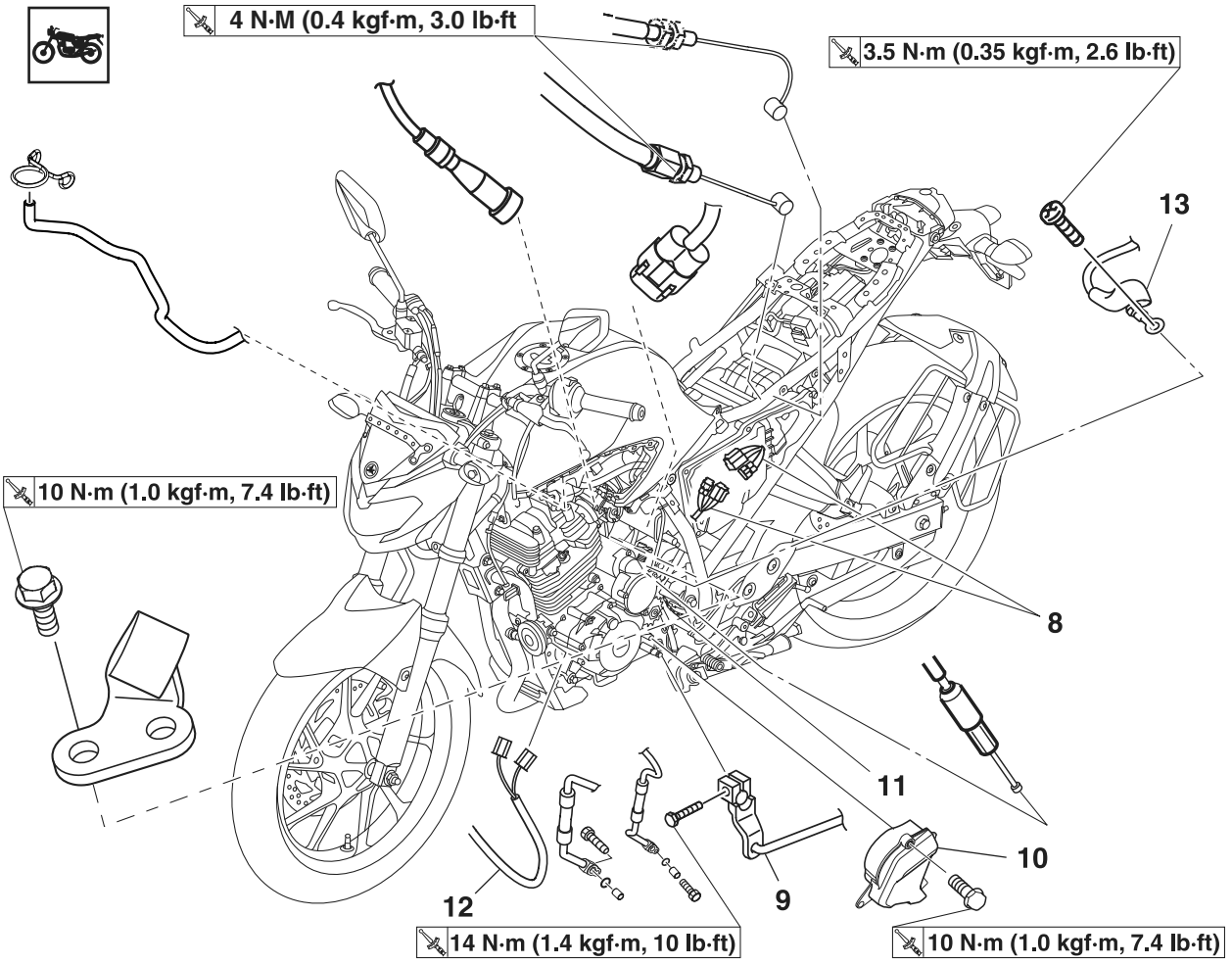
While installing muffler, first tighten all bolts temporary then tighten cylinder head side bolts as per specified torque valve. Now, tighten remaining bolts as per specified torque value.

Disconnecting the leads and couplers



Order	Job/Parts to remove	Q'ty	Remarks
			NOTICE **First, disconnect the negative battery lead, and then the positive battery lead.**
	Rider seat and passenger seat, Side covers LH & HR, Fuel tank panels LH & RH		Refer to "GENERAL CHASSIS" in base manual B97-F8197-E0 on page 4-1.
	Negative battery lead/Positive battery lead		Refer to "CHECKING AND CHARGING THE BATTERY" in base manual B97-F8197-E0 on page 7-62.
	Engine oil		Drain. Refer to "CHANGING THE ENGINE OIL" in base manual B97-F8197-E0 on page 3-9.
	Throttle body/clamp	1	Loosen.
1	Cylinder head breather hose	1	Disconnect.
2	Engine ground cable/clutch cable holder	1	
3	Clutch cable	1	Disconnect.
4	Oil cooler pipe/collar with O-ring	2/2	Disconnect.
5	Engine oil temperature sensor coupler	1	Disconnect.
6	Spark plug cap	1	Disconnect.
7	Throttle cables	2	

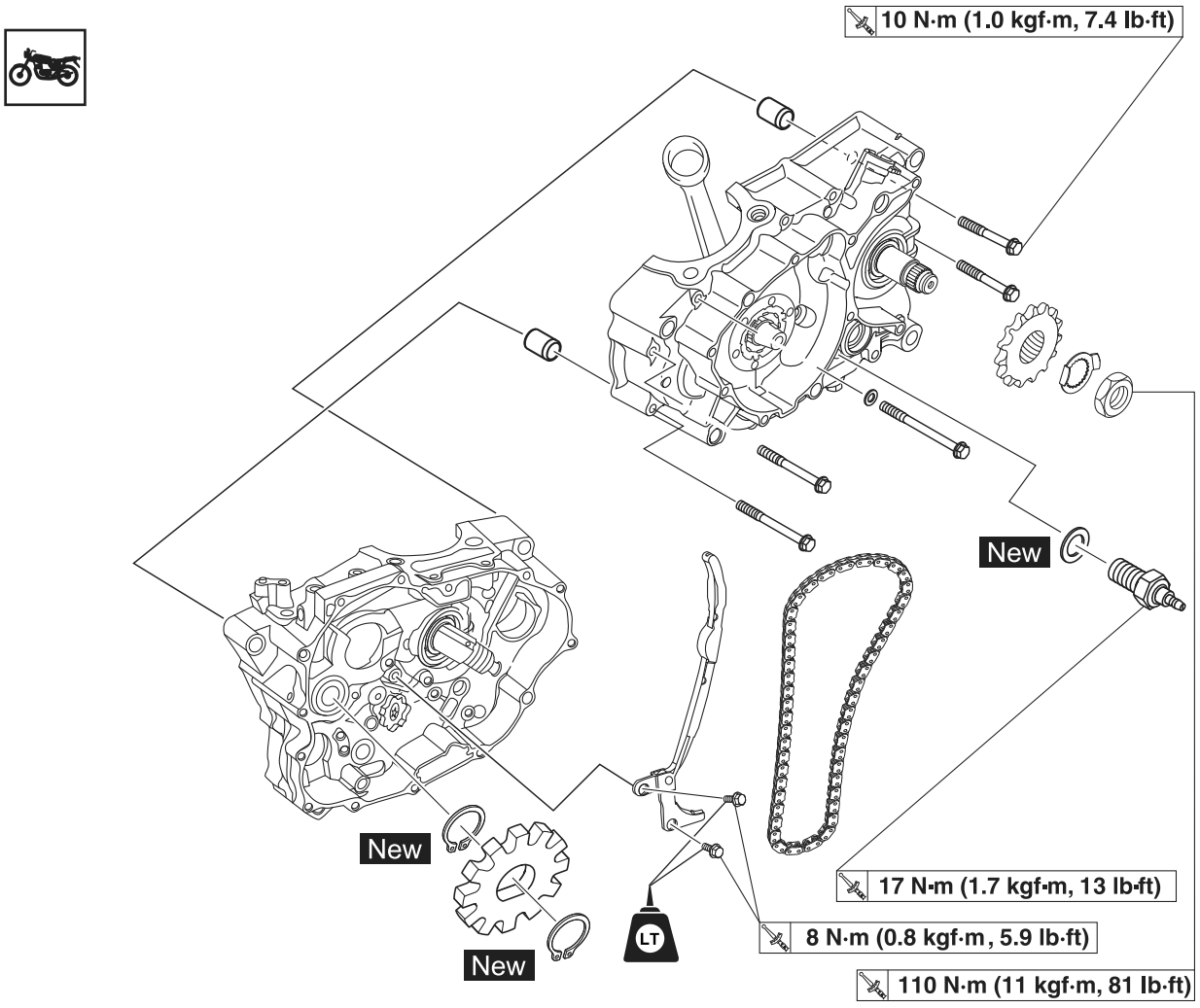
Disconnecting the leads and couplers



Order	Job/Parts to remove	Q'ty	Remarks
8	Stator coil coupler/crankshaft sensor coupler	1/1	Disconnect.
9	Shift arm	1	
10	Drive chain sprocket cover	1	
11	Drive chain	1	
12	Horn leads	2	Disconnect.
13	Starting motor lead	1	Disconnect.
			For installation, reverse the removal procedure

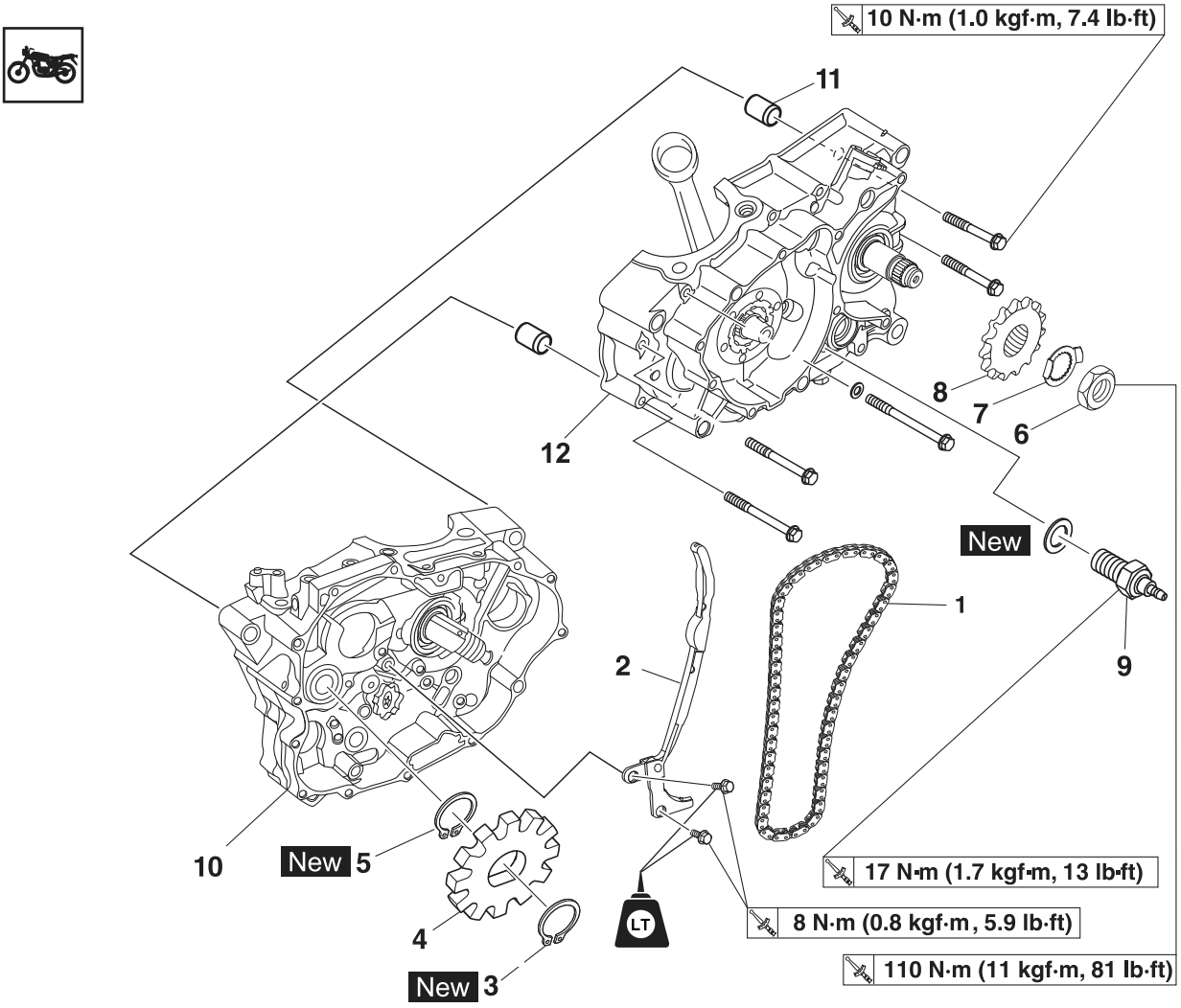
CRANKCASE

Separating the crankcase



Order	Job/Parts to remove	Q'ty	Remarks
	Engine		
	Cylinder head		Refer to "CYLINDER HEAD" in base manual B97-F8197-E0 on page 5-6.
	Cylinder/Piston		Refer to "CYLINDER AND PISTON" in base manual B97-F8197-E0 on page 5-23.
	Clutch housing		Refer to "CLUTCH" in base manual B97-F8197-E0 on page 5-38.
	Oil pump assembly		Refer to "OIL PUMP" in base manual B97-F8197-E0 on page 5-46.
	Shift shaft		Refer to "SHIFT SHAFT" in base manual B97-F8197-E0 on page 5-50.
	Starter motor		Refer to "ELECTRIC STARTER" in base manual B97-F8197-E0 on page 5-34.
	Balancer gears		Refer to "BALANCER GEAR" in base manual B97-F8197-E0 on page 5-52.
	Magneto rotor		Refer to "MAGNETO AND STARTER CLUTCH" in base manual B97-F8197-E0 on page 5-29.

Separating the crankcase

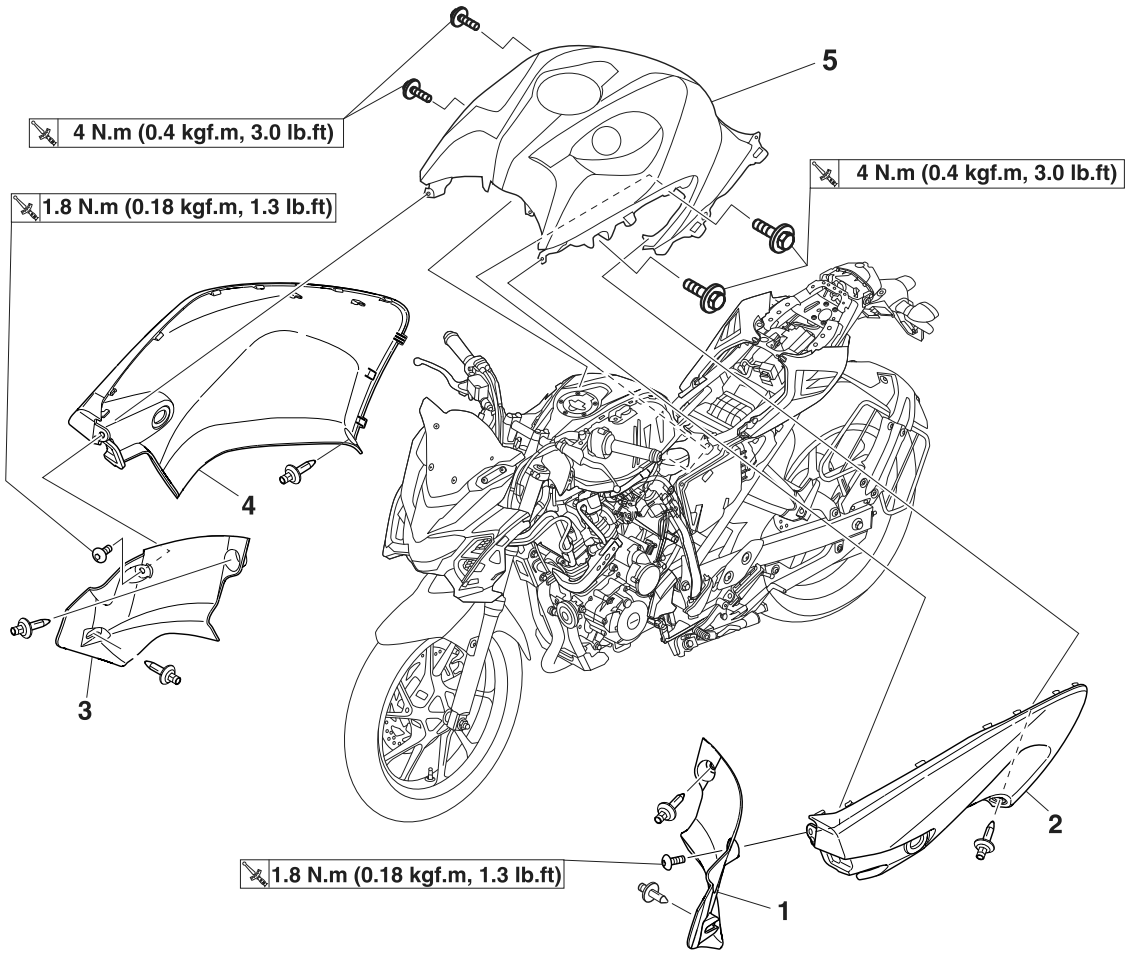


Order	Job/Parts to remove	Q'ty	Remarks
1	Timing chain	1	
2	Timing chain guide (intake side)	1	
3	Circlip	1	
4	Rotor	1	
5	Circlip	1	
6	Drive sprocket nut	1	
7	Lock washer	1	
8	Drive sprocket	1	
9	Neutral switch	1	
10	Right crankcase	1	
11	Dowel pin	2	
12	Left crankcase	1	
			For installation, reverse the removal procedure

CHAPTER 6
FUEL SYSTEM

FUEL TANK (For FAZER25-ABS)

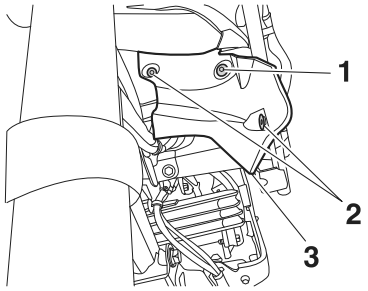
Removing the fuel tank cover



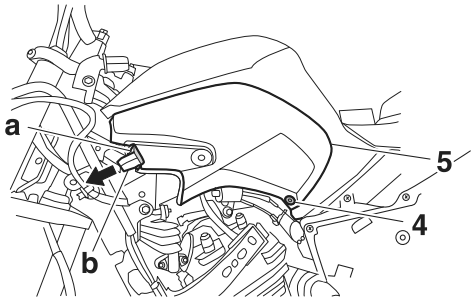
Order	Job/Parts to remove	Q'ty	Remarks
	Rear view mirror (left/right), License plate bracket, Panel console (left/right), Panel assembly (left/right)	1	Refer to "GENERAL CHASSIS" on page 4-1.
	Rider seat and passenger seat/left side and right side cover	1	Refer to "GENERAL CHASSIS" on page 4-1 of base service manual B97-F8197-E0.
1	Panel inner (left side)	1	
2	Seat knee grip (left side)	1	
3	Panel inner (right side)		
4	Seat knee grip (right side)	1	
5	Fuel tank cover assembly	1	
			For installation, reverse the removal procedure.

EAS26630
REMOVING THE FUEL TANK COVER

1. Remove:
   - Rider seat and passenger seat / left side and right side cover.
     Refer to “GENERAL CHASSIS” on page 4-1 of base service manual B97-F8197-E0.
   - Left and right panel console / left and right panel assembly / left and right cover.
     Refer to “GENERAL CHASSIS” on page 4-1 and 4-2.
2. Remove:
   - Screw “1”.
   - Quick fasteners “2”
   - Panel inner “3”

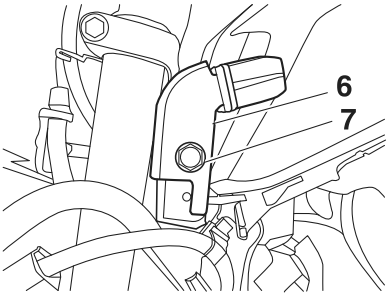


3. Remove:
   - Quick fastener “4”
   - Seat knee grip “5”

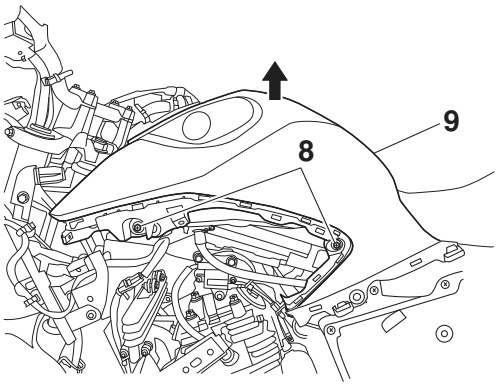


TIP
Hold the seat knee grip from lower backside and gently pull it out side and then slide forward to remove hole “a” from projection “b” as shown.

4. Remove:
   - Stay guide “6” by removing the bolts “7” from both side



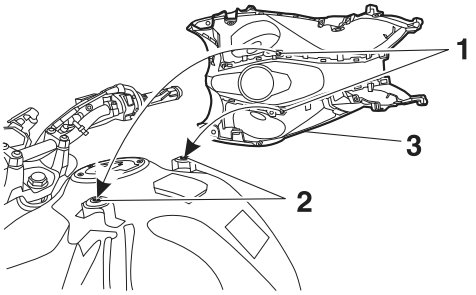
5. Remove:
   - Fuel tank cover bolts “8” from both side
   - Fuel tank cover assembly “9”

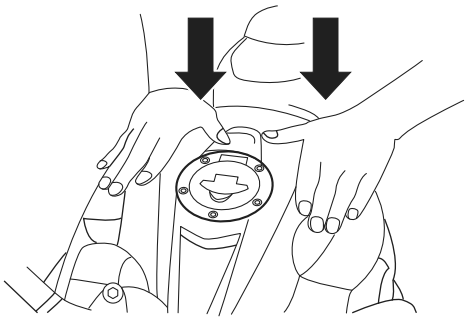


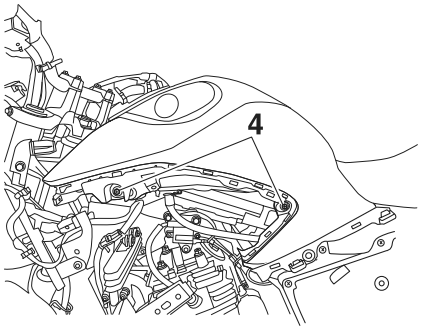
TIP
To remove the fuel tank cover assembly, gently pull the fuel tank cover assembly upward as shown to release the projection from the hole.

ECA3C11005
INSTALL THE FUEL TANK COVER

1. Install:
   - Align the lugs “1” of fuel tank cover assembly “3” into the hole “2” and press fuel tank cover with both hands as shown.
   - Install the fuel tank cover bolt “4” of both side.



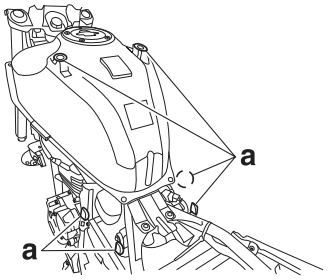


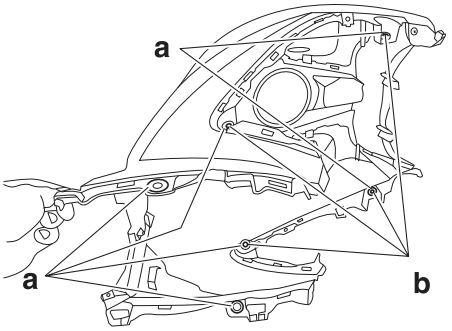


	Fuel tank cover bolt **4 N·m (0.4 kgf·m, 3.0 lb·ft)**

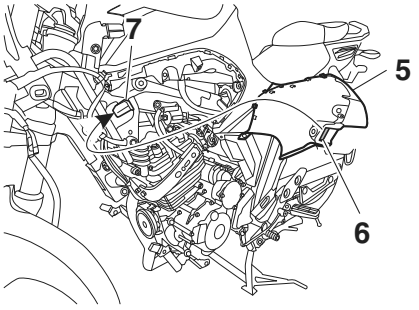
TIP

Before installing the fuel tank cover, ensure the availability of all grommets “a” and collars “b” are fitted properly.

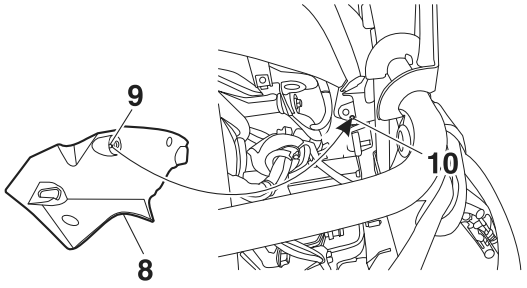




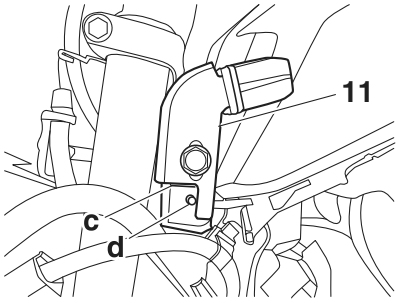
2. Install:
   - Seat knee grip cover “5”
   - Align the hole “6” into the projection “7” and then slide backward then gently push the upper and rear of the seat knee grip to install all tabs into the slots.
   - Quick fastener.



3. Install:
   - Panel inner “8”
   - Align the pin “9” into the hole “10”.
   - install the screw and quick fasteners.

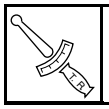


4. Install:
   - Stay guide by installing the bolts of both side.



TIP

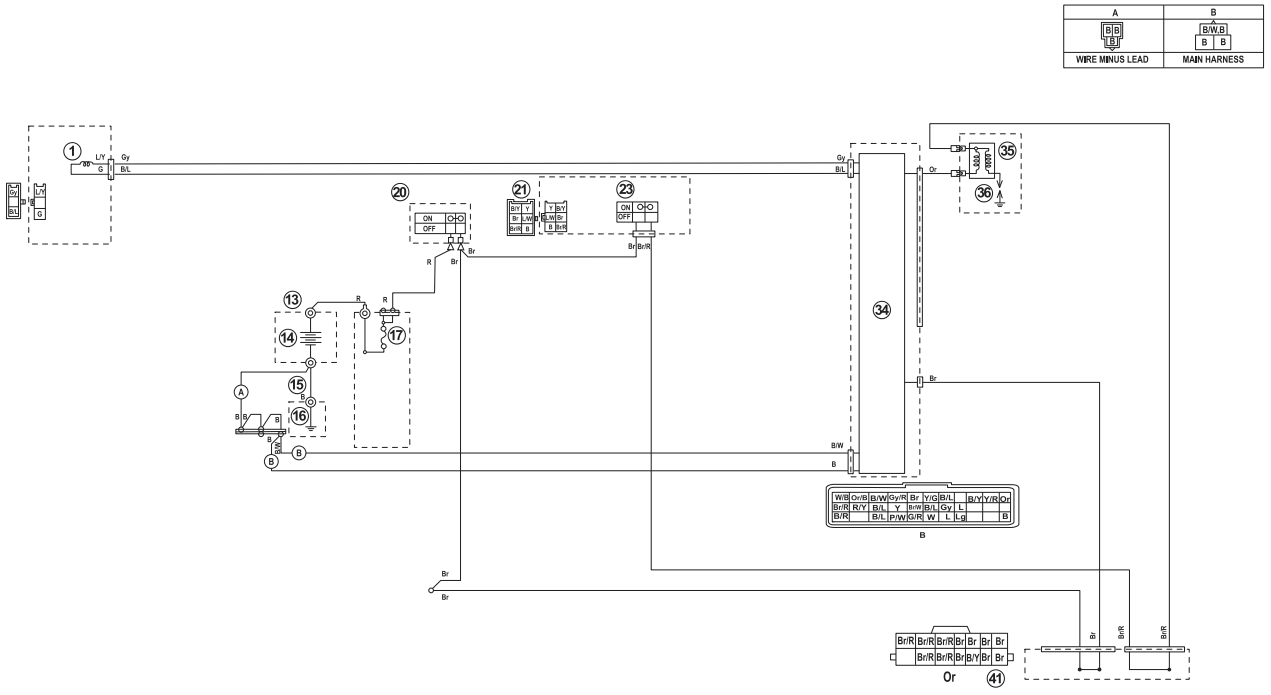
Before installing the stay guide “11”, align the mark “c” and pin “d”.

	**Stay guide bolt** **7 N·m (0.7 kgf·m, 5.2 lb·ft)**

CHAPTER 7
ELECTRICAL SYSTEM

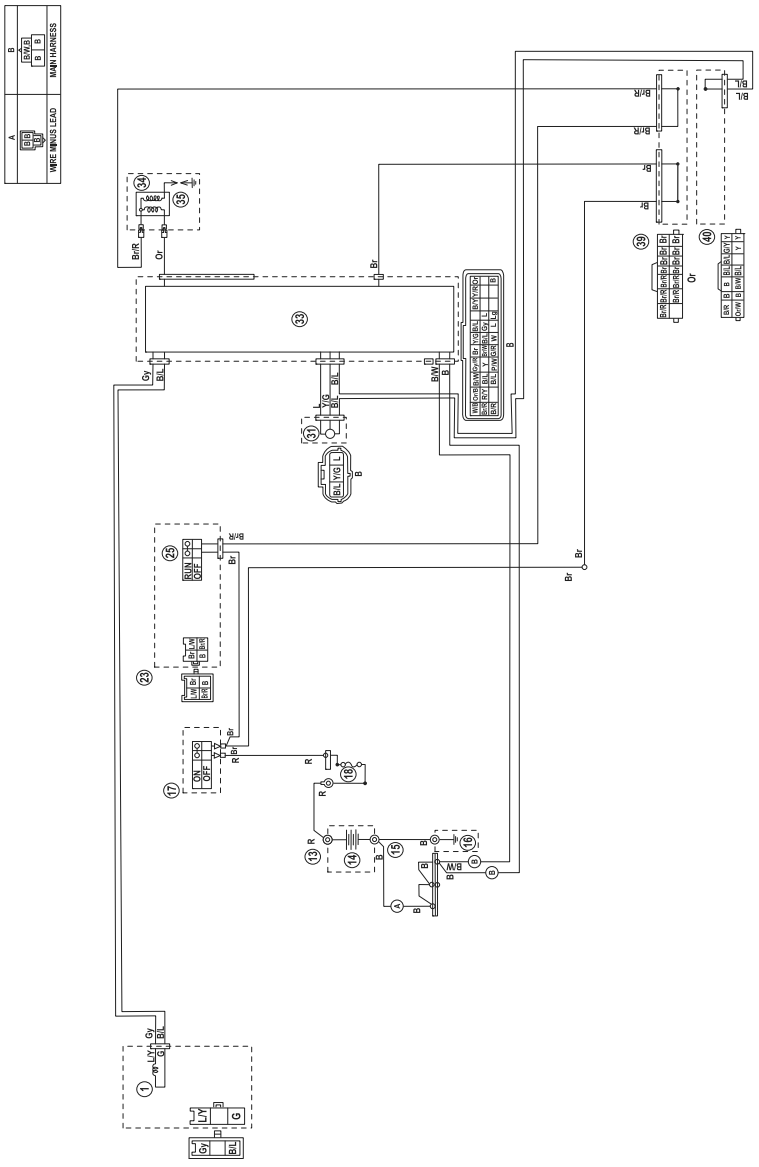
IGNITION SYSTEM

CIRCUIT DIAGRAM (For FZ25-ABS)



1. Crankshaft position sensor
13. Battery positive lead
14. Battery
15. Battery negative lead
16. Engine ground
17. Fuse
20. Main switch
21. Right handlebar switch
23. Engine stop switch
34. ECU (Engine control unit)
35. Ignition coil
36. Spark plug
41. J/C 2 (Joint connector)

CIRCUIT DIAGRAM (For FAZER25-ABS)



1. Crankshaft position sensor
13. Battery positive lead
14. Battery
15. Battery negative lead
16. Engine ground
17. Main switch
18. Fuse
23. Right handlebar switch
25. Engine stop switch
31. Lean angle sensor
33. ECU (Engine Control Unit)
34. Ignition coil
35. Spark plug
39. J/C 2 (Joint connector)
40. J/C 3 (Joint connector)

TROUBLESHOOTING

The ignition system fails to operate (no spark or intermittent spark).

TIP

• Before troubleshooting, remove the following part(s):
1. Passenger and rider seat
2. Left side cover and right side cover
3. Fuel tank panels

1. Check the fuse. Refer to "CHECKING THE FUSES" on page 7-81.	NG →	Replace the fuse.
OK ↓		
2. Check the battery. Refer to "CHECKING AND CHARGING THE BATTERY" in base service manual B97-F8197-E0 on page 7-62.	NG →	• Clean the battery terminals. • Recharge or replace the battery.
OK ↓		
3. Check the spark plug. Refer to "CHECKING THE SPARK PLUG" in base service manual B97-F8197-E0 on page 3-8.	NG →	Re-gap or replace the spark plug.
OK ↓		
4. Check the spark gap. Refer to "CHECKING THE IGNITION SPARK GAP" in base service manual B97-F8197-E0 on page 7-67.	OK →	Ignition system is OK.
NG ↓		
5. Check the ignition coil. Refer to"CHECKING THE IGNITION COIL" in base service manual B97-F8197-E0 on page 7-66.	NG →	Replace the ignition coil.
OK ↓		
6. Check the crankshaft position sensor. Refer to "CHECKING THE CRANKSHAFT POSITION SENSOR" in base service manual B97-F8197-E0 on page 7-67.	NG →	Replace the crankshaft position sensor/stator assembly.
OK ↓		
7. Check the main switch. Refer to "CHECKING THE SWITCHES" on page 7-80.	NG →	Replace the main switch.
OK ↓		

8. Check the lean angle sensor. Refer to “CHECKING THE LEAN ANGLE SENSOR” in base service manual B97-F8197-E0 on page 7-68.

NG → Replace the lean angle sensor.

OK ↓

9. Check the engine stop switch. Refer to“CHECKING THE SWITCHES” on page 7-80.

NG → The engine stop switch is faulty. Replace the right handlebar switch.

OK ↓

10. Check the entire ignition system wiring.

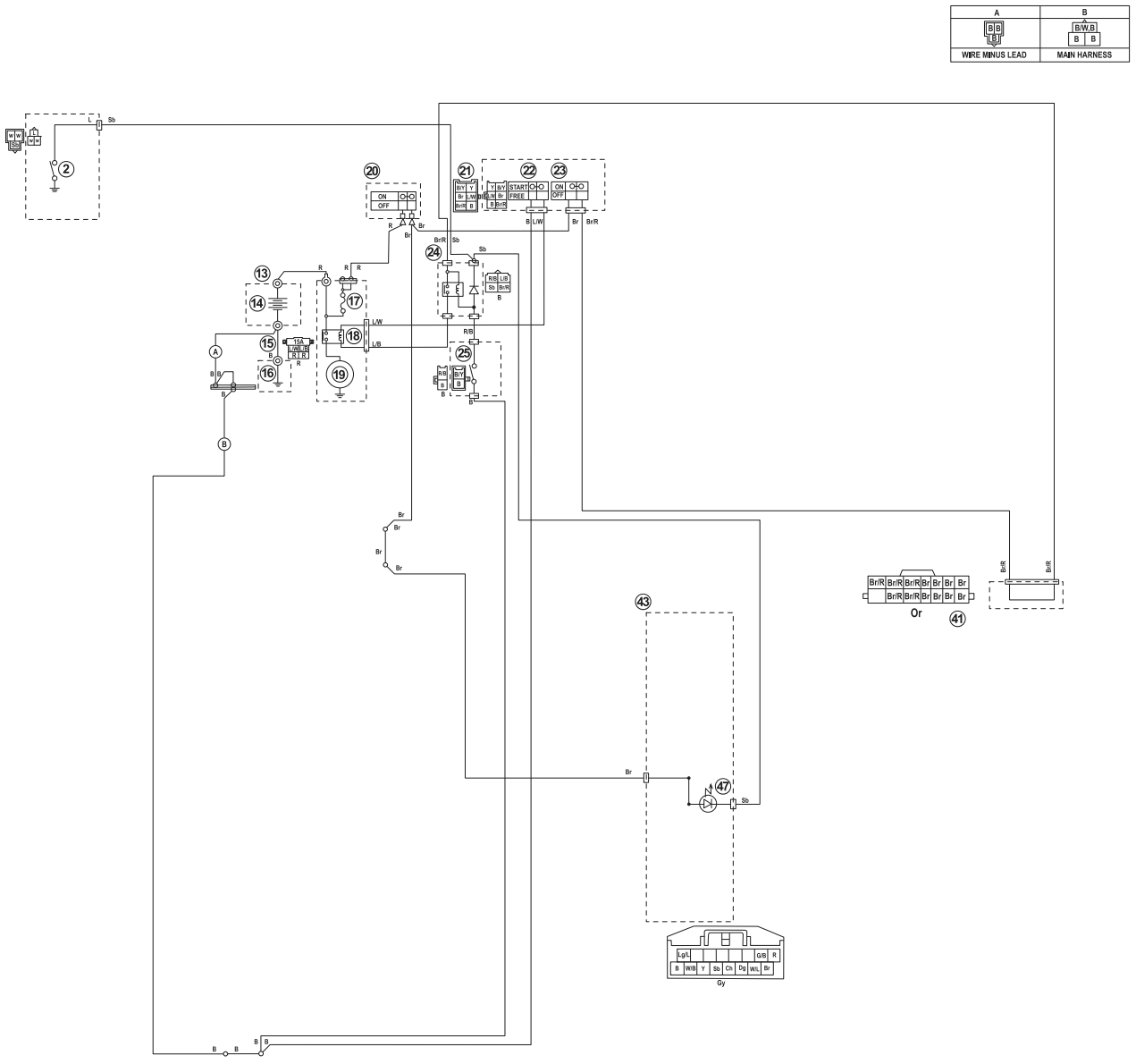
NG → Properly connect or repair the ignition system wiring.

OK ↓

Replace the ECU.

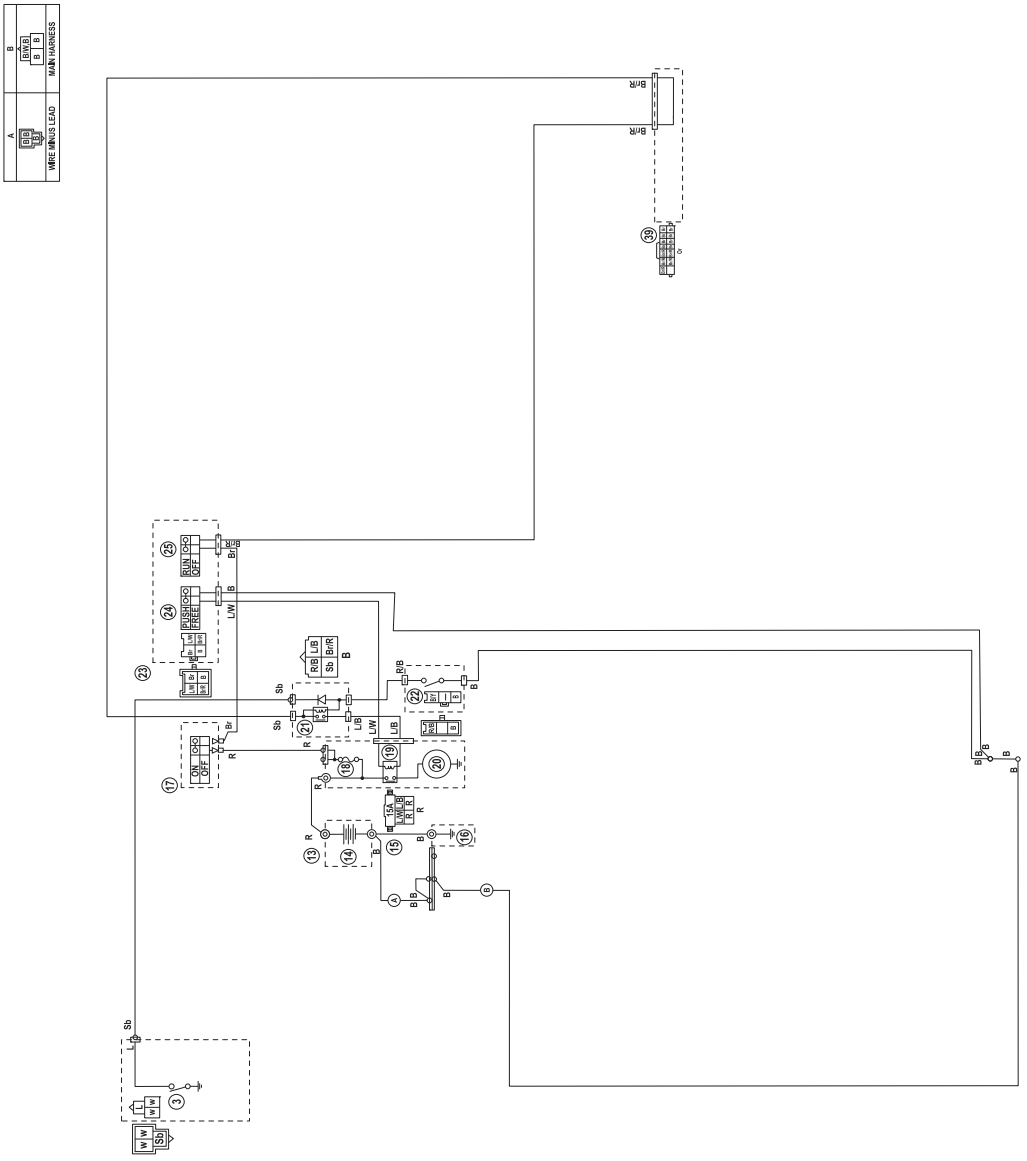
ELECTRIC STARTING SYSTEM

CIRCUIT DIAGRAM (For FZ25-ABS)



2. Neutral switch
13. Battery positive lead
14. Battery
15. Battery negative lead
16. Engine ground
17. Fuse
18. Starter relay
19. Starter motor
20. Main switch
21. Right handlebar switch
22. Start switch
23. Engine stop switch
24. Starting circuit cut off relay
25. Clutch switch
41. J/C 2 (Joint connector)
43. Meter assembly
47. Neutral switch

CIRCUIT DIAGRAM (For FAZER25-ABS)



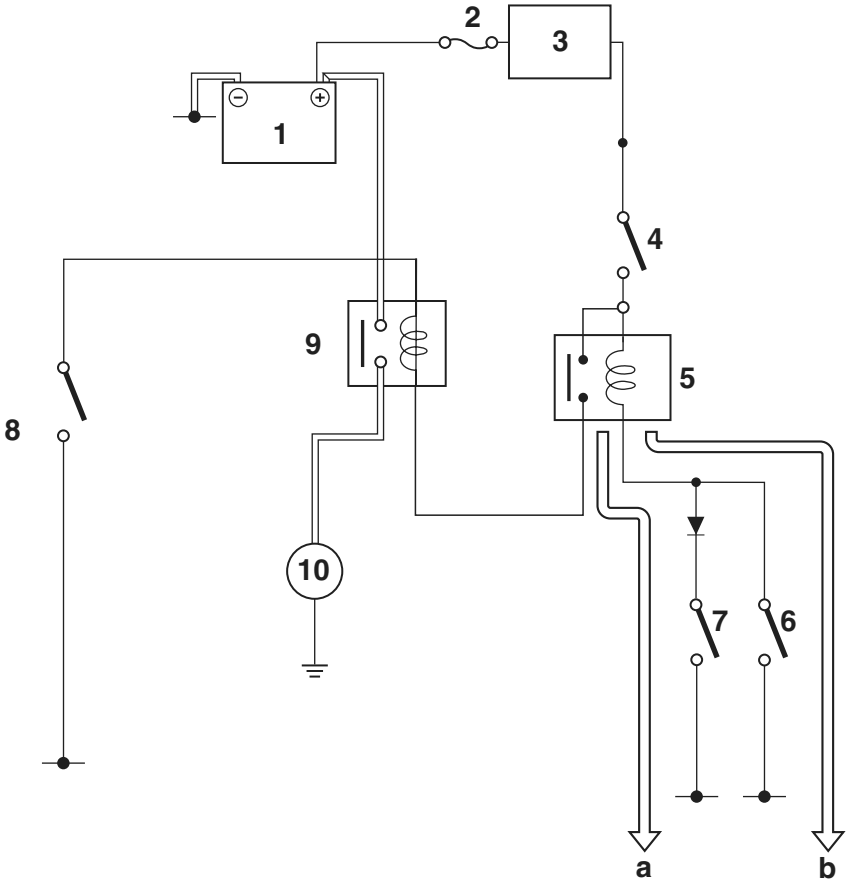
3. Neutral switch
13. Battery positive lead
14. Battery
15. Battery negative lead
16. Engine ground
17. Main switch
18. Fuse
19. Starter relay
20. Starter motor
21. Starting circuit cut off relay
22. Clutch switch
23. Right handlebar switch
24. Start switch
25. Engine stop switch
39. J/C 2 (Joint connector)

STARTING CIRCUIT CUT-OFF SYSTEM OPERATION

If the engine stop switch is set to "○" and the main switch is set to "ON" (both switches are closed), the starter motor can only operate if at least one of the following conditions is met:

- The transmission is in neutral (the neutral switch is closed).
- The clutch lever is pulled to the handlebar (the clutch switch is closed).

The starting circuit cut-off relay prevents the starter motor from operating when neither of these conditions has 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 has been met, the starting circuit cut-off relay is closed and the engine can be started by pressing the start switch "⊛".



a. WHEN THE TRANSMISSION IS IN NEUTRAL
b. WHEN CLUTCH LEVER IS PULLED TO THE HANDLEBAR
1. Battery
2. Fuse
3. Main switch
4. Engine stop switch
5. Starting circuit cut-off relay
6. Clutch switch
7. Neutral switch
8. Start switch
9. Starter relay
10. Starter motor

TROUBLESHOOTING

The starter motor fails to turn.

TIP

• Before troubleshooting, remove the following part(s):

1. Passenger and rider seat
2. Left side cover and right side cover

1. Check the fuse. Refer to "CHECKING THE FUSES" on page 7-81.	NG →	Replace the fuse.
OK ↓		
2. Check the battery. Refer to "CHECKING AND CHARGING THE BATTERY" in base service manual B97-F8197-E0 on page 7-62.	NG →	• Clean the battery terminals. • Recharge or replace the battery.
OK ↓		
3. Check the starter motor operation. Refer to "CHECKING THE STARTER MOTOR OPERATION" in base service manual B97-F8197-E0 on page 7-68.	OK →	Starter motor is OK. Perform the electric starting system troubleshooting, starting with step 5.
NG ↓		
4. Check the starter motor. Refer to "CHECKING THE STARTER MOTOR" in base service manual B97-F8197-E0 on page 5-36.	NG →	Repair or replace the starter motor.
OK ↓		
5. Check the starting circuit cut-off relay. Refer to "CHECKING THE RELAYS" in base service manual B97-F8197-E0 on page 5-65.	NG →	Replace the starting circuit cut-off relay.
OK ↓		
6. Check the starter relay. Refer to "CHECKING THE RELAYS" in base service manual B97-F8197-E0 on page 5-36.	NG →	Replace the starter relay.
OK ↓		
7. Check the main switch. Refer to "CHECKING THE SWITCHES" on page 7-80.	NG →	Replace the main switch.
OK ↓		

8. Check the engine stop switch.
   Refer to “CHECKING THE SWITCHES” on page 7-80.
   NG → The engine stop switch is faulty. Replace the right handlebar switch.
   OK ↓

9. Check the neutral switch.
   Refer to “CHECKING THE SWITCHES” on page 7-80.
   NG → Replace the neutral switch.
   OK ↓

10. Check the clutch switch.
    Refer to “CHECKING THE SWITCHES” on page 7-80.
    NG → Replace the clutch switch.
    OK ↓

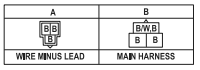
11. Check the start switch.
    Refer to “CHECKING THE SWITCHES” on page 7-80.
    NG → The start switch is faulty. Replace the right handlebar switch.
    OK ↓

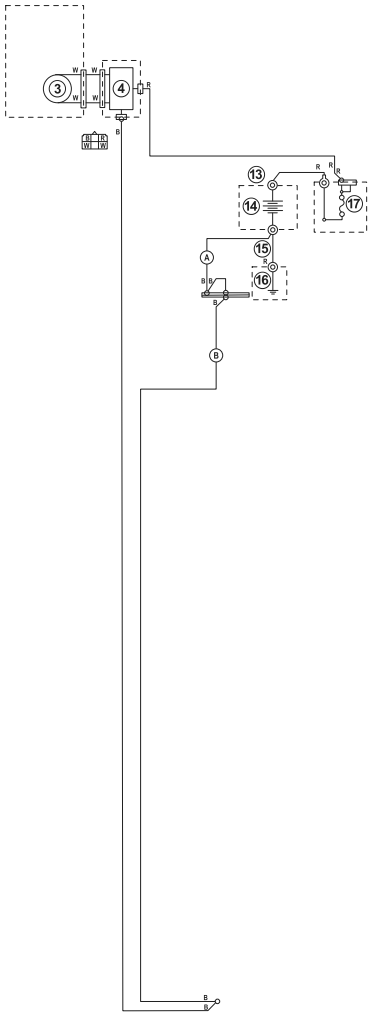
12. Check the entire starting system wiring.
    Refer to “CIRCUIT DIAGRAM”.
    NG → Properly connect or repair the starting system wiring.
    OK ↓

The starting system circuit is OK.

CHARGING SYSTEM

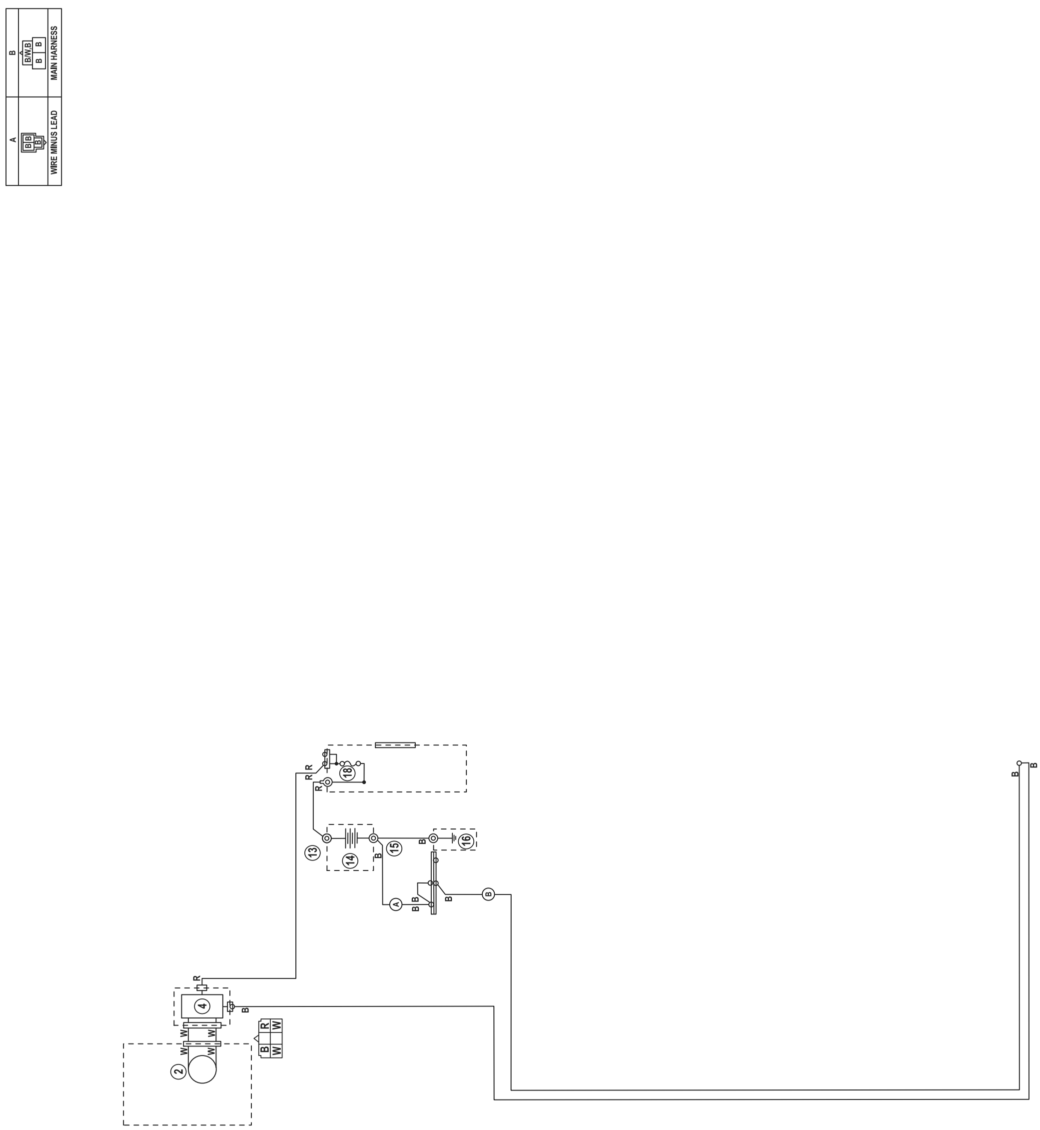
CIRCUIT DIAGRAM (For FZ25-ABS)





3. Stator coil
4. Rectifier/Regulator
13. Battery positive lead
14. Battery
15. Battery negative lead
16. Engine ground
17. Fuse

CIRCUIT DIAGRAM (For FAZER25-ABS)



2. Stator coil
4. Rectifier/Regulator
13. Battery positive lead
14. Battery
15. Battery negative lead
16. Engine ground
18. Fuse

TROUBLESHOOTING

The battery is not being charged.

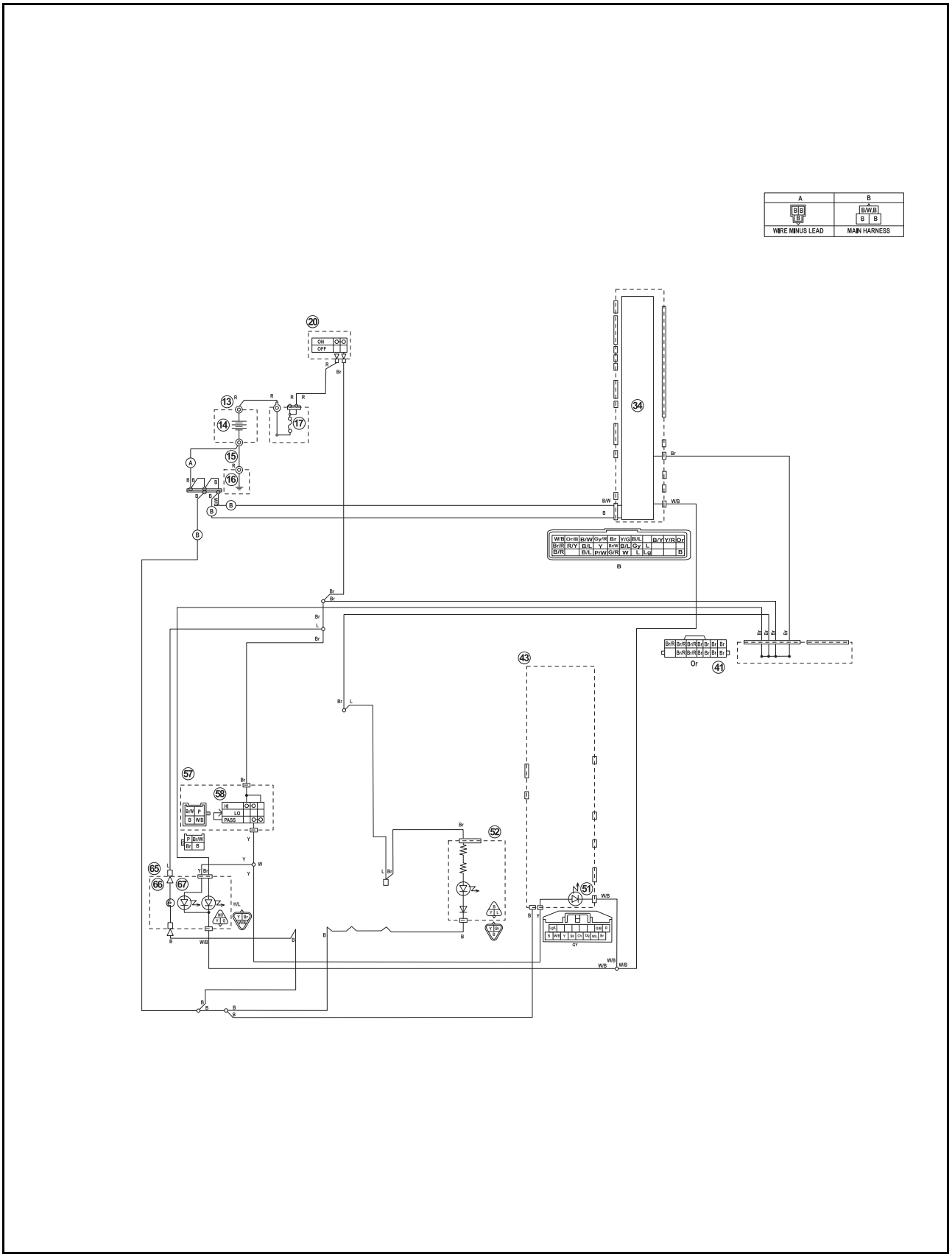
TIP

• Before troubleshooting, remove the following part(s):
1. Passenger and rider seat
2. Right side cover

1. Check the fuse. Refer to "CHECKING THE FUSES" on page 7-81.	NG →	Replace the fuse.
OK ↓		
2. Check the battery. Refer to "CHECKING AND CHARGING THE BATTERY" in base service manual B97-F8197-E0 on page 7-62.	NG →	• Clean the battery terminals. • Recharge or replace the battery.
OK ↓		
3. Check the stator coil. Refer to "CHECKING THE STATOR COIL" in base service manual B97-F8197-E0 on page 7-68.	NG →	Replace the crankshaft position sensor/stator assembly.
OK ↓		
4. Check the rectifier/regulator. Refer to "CHECKING THE RECTIFIER/REGULATOR" in base service manual B97-F8197-E0 on page 7-69.	NG →	Replace the rectifier/regulator.
OK ↓		
5. Check the entire charging system wiring. Refer to "CIRCUIT DIAGRAM" in base service manual B97-F8197-E0 on page 7-11.	NG →	Properly connect or repair the charging system wiring.
OK ↓		
The charging system circuit is OK.		

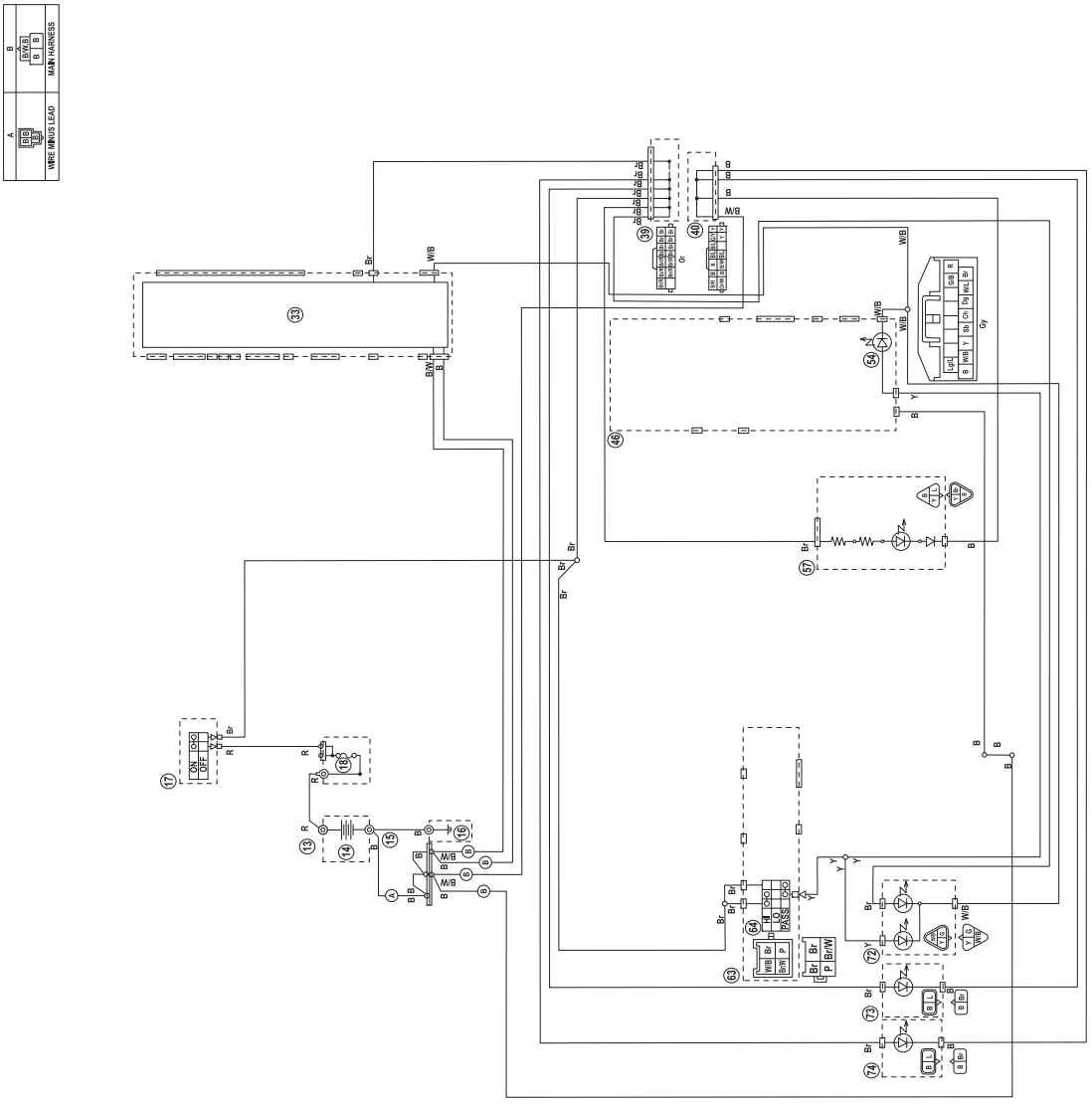
LIGHTING SYSTEM

CIRCUIT DIAGRAM (For FZ25-ABS)



13. Battery positive lead
14. Battery
15. Battery negative lead
16. Engine ground
17. Fuse
20. Main switch
34. ECU (Engine control unit)
41. J/C 2 (Joint connector)
43. Meter assembly
51. High beam indicator
52. Brake/taillight
57. Left handlebar switch
58. Dimmer and pass switch
65. Headlight assembly
66. Auxiliary light

CIRCUIT DIAGRAM (For FAZER25-ABS)



13. Battery positive lead
14. Battery
15. Battery negative lead
16. Engine ground
17. Main switch
18. Fuse
33. ECU (Engine Control Unit)
39. J/C 2 (Joint connector)
40. J/C 3 (Joint connector)
46. Meter assembly
54. High beam indicator light
57. Brake/taillight
63. Left handlebar switch
64. Dimmer and pass switch
72. Headlight assembly
73. Auxiliary light (right)
74. Auxiliary light (left)

TROUBLESHOOTING

Any of the following fail to light: headlight, high beam indicator light, taillight, auxiliary light or meter light.

TIP

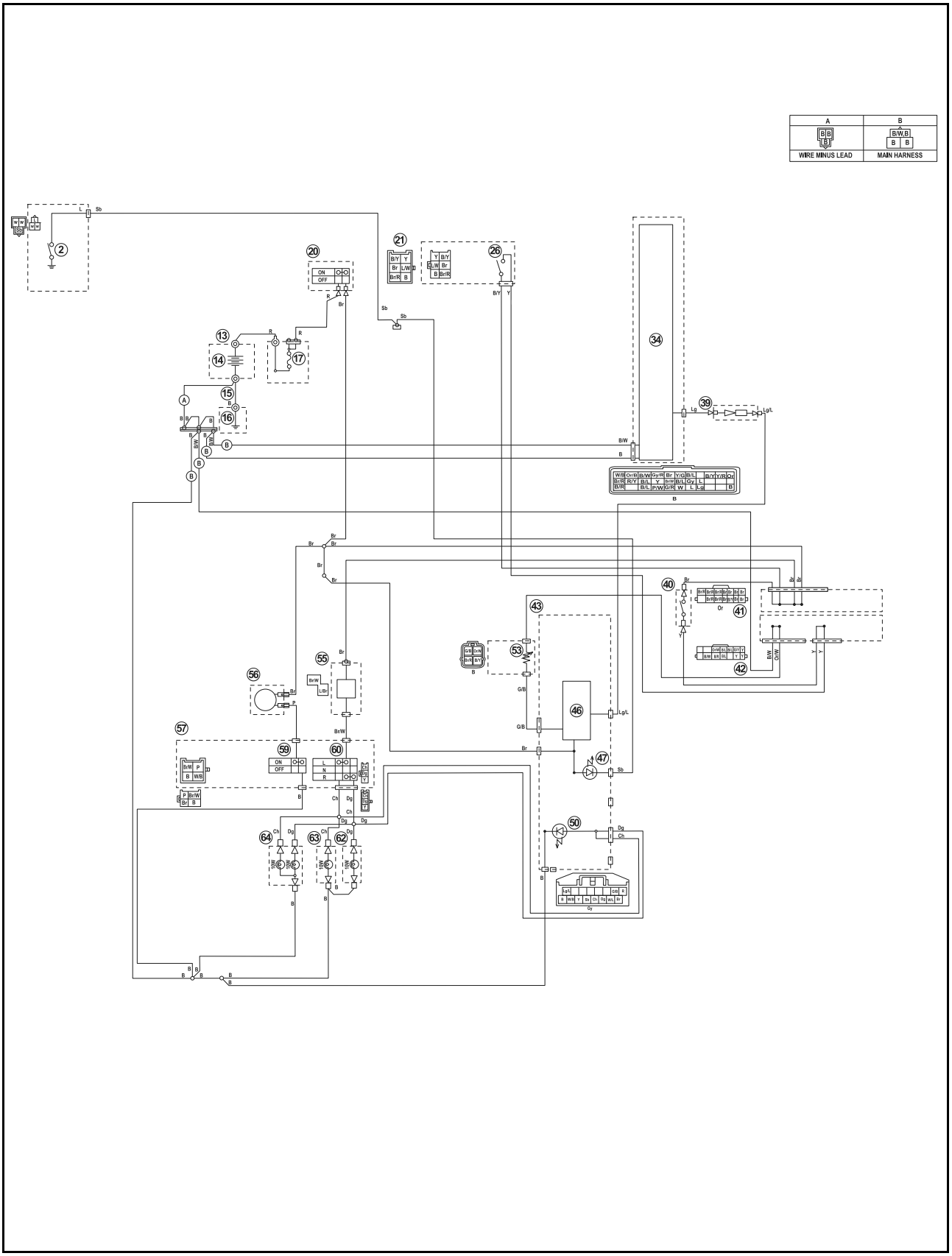
• Before troubleshooting, remove the following part(s):

1. Passenger and rider seat
2. Left side cover and right side cover
3. Headlight

1. Check the each bulbs and bulb sockets condition. Refer to “CHECKING THE BULBS AND BULB SOCKETS” in base service manual B97-F8197-E0 on page 7-60.	NG →	Replace the bulb(s) and bulb socket(s).
OK ↓		
2. Check the fuse. Refer to “CHECKING THE FUSES” on page 7-81.	NG →	Replace the fuse.
OK ↓		
3. Check the battery. Refer to “CHECKING AND CHARGING THE BATTERY” in base service manual B97-F8197-E0 on page 7-62.	NG →	• Clean the battery terminals. • Recharge or replace the battery.
OK ↓		
4. Check the main switch. Refer to “CHECKING THE SWITCHES” on page 7-80.	NG →	Replace the main switch.
OK ↓		
5. Check the dimmer and pass. Refer to “CHECKING THE SWITCHES” on page 7-80.	NG →	The dimmer switch is faulty. Replace the left handlebar switch.
OK ↓		
6. Check the entire lighting system wiring.	NG →	Properly connect or repair the lighting system wiring.
OK ↓		
This circuit is OK.		

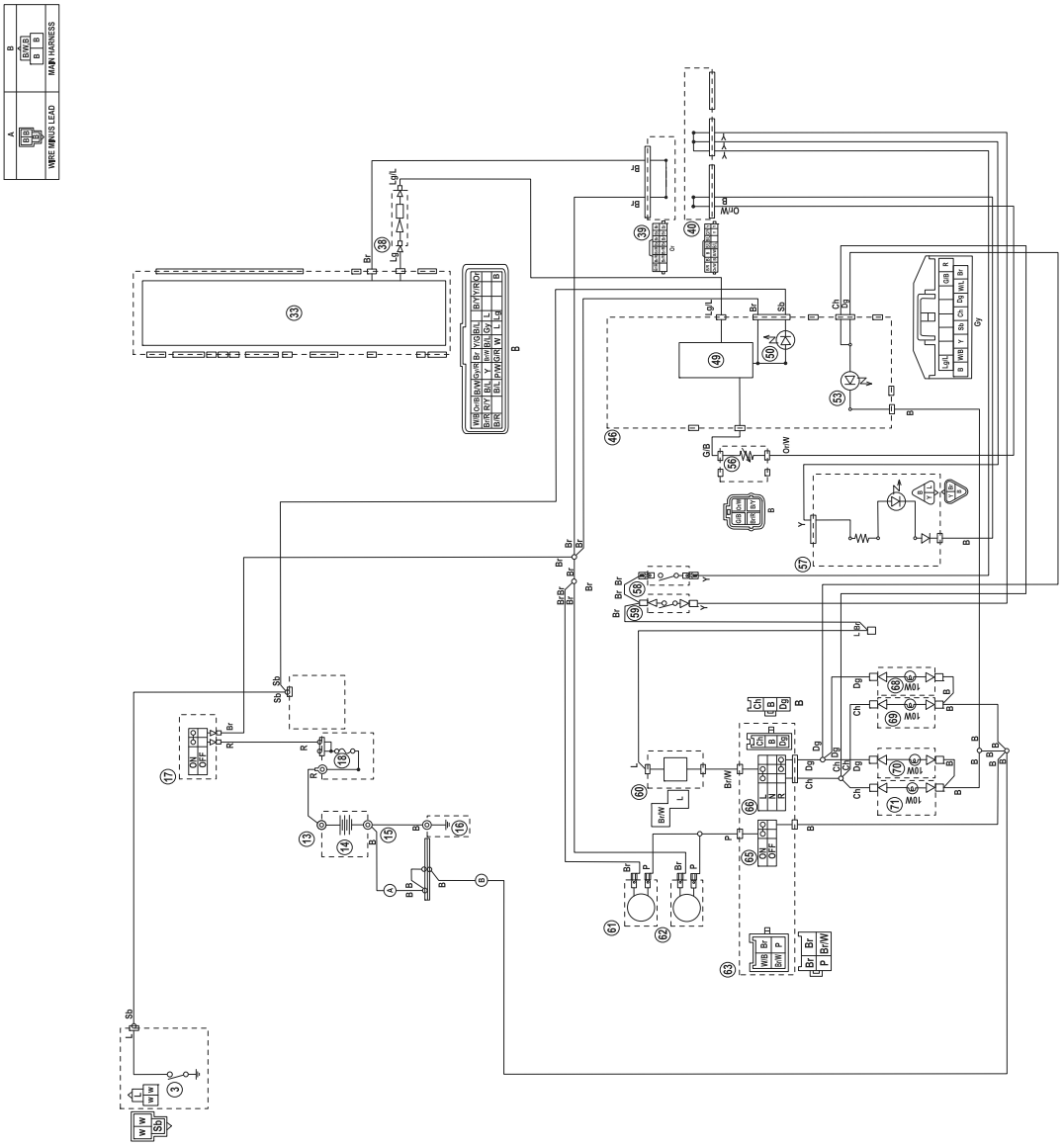
SIGNALING SYSTEM

CIRCUIT DIAGRAM (For FZ25-ABS)



2. Neutral switch
13. Battery positive lead
14. Battery
15. Battery negative lead
16. Engine ground
17. Fuse
20. Main switch
21. Right handlebar switch
26. Front brake light switch
34. EGU (Engine control unit)
39. Yamaha diagnostic tool coupler
40. Rear brake light switch
41. J/C 2 (Joint connector)
42. J/C 3 (Joint connector)
43. Meter assembly
46. Multi-function display
47. Neutral indicator light
50. Turn signal light indicator
53. Fuel sender
55. Turn signal relay
56. Horn
57. Left handlebar switch
59. Horn switch
60. Turn signal switch
62. Rear turn signal light (right)
63. Rear turn signal light (left)
64. Front turn signal light (right/left)

CIRCUIT DIAGRAM (For FAZER25-ABS)



3. Neutral switch
13. Battery positive lead
14. Battery
15. Battery negative lead
16. Engine ground
17. Main switch
18. Fuse
33. ECU (Engine Control Unit)
38. Yamaha diagnostic tool coupler
39. J/C 2 (Joint connector)
40. J/C 3 (Joint connector)
46. Meter assembly
49. Multi-function display
50. Neutral Indicator light
53. Turn signal indicator light
57. Brake light
58. Front brake light switch
59. Rear brake light switch
60. Turn signal relay
61. Horn 1
62. Horn 2
63. Left handlebar switch
65. Horn switch
66. Turn signal switch
68. Rear turn signal light (right)
69. Rear turn signal light (left)
70. Front turn signal light (right)
71. Front turn signal light (left)

TROUBLESHOOTING

- Any of the following fail to light: turn signal lights, brake light or indicator lights.
- The horn fails to sound.
- The fuel gauge fails to operate.

TIP

- Before troubleshooting, remove the following part(s):

1. Passenger and rider seat
2. Left side cover and right side cover
3. Headlight
4. LCD Meter

1. Check the fuse. Refer to "CHECKING THE FUSES" on page 7-81	NG →	Replace the fuse.
OK ↓		
2. Check the battery. Refer to "CHECKING AND CHARGING THE BATTERY" in base service manual B97-F8197-E0 on page 7-62.	NG →	• Clean the battery terminals. • Recharge or replace the battery.
OK ↓		
3. Check the main switch. Refer to "CHECKING THE SWITCHES" on page 7-80.	NG →	Replace the main switch.
OK ↓		
4. Check the entire signaling system wiring. Refer to "CIRCUIT DIAGRAM" in base service manual B97-F8197-E0 on page 7-17.	NG →	Properly connect or repair the signaling system wiring.
OK ↓		
Check the condition of each of the signaling system circuits. Refer to "Checking the signaling system".		

Check the signaling system

The horn fails to sound.

1. Check the horn switch. Refer to "CHECKING THE SWITCHES" on page 7-80.	NG →	The horn switch is faulty. Replace the left handlebar switch.
OK ↓		
2. Check the horn. Refer to "CHECKING THE HORN" in base service manual B97-F8197-E0 on page 7-69.	NG →	Replace the horn.
OK ↓		

3. Check the entire signaling system wiring.	NG →	Properly connect or repair the signaling system wiring.

OK ↓

This circuit is OK.

The brake/tail light fails to come on.

1. Check the brake/tail light bulb and socket. Refer to “CHECKING THE BULBS AND BULB SOCKETS” in base service manual B97-F8197-E0 on page 7-60.	NG →	Replace the brake/tail light assembly, socket or both.

OK ↓

2. Check the front brake light switch. Refer to “CHECKING THE FUSES” on page 7-81.	NG →	Replace the front brake light switch.

OK ↓

3. Check the rear brake light switch. Refer to “CHECKING THE SWITCHES” on page 7-80.	NG →	Replace the rear brake light switch.

OK ↓

4. Check the entire signaling system wiring. Refer to “CIRCUIT DIAGRAM” in base service manual B97-F8197-E0 on page 7-17.	NG →	Properly connect or repair the signaling system wiring.

OK ↓

This circuit is OK.

The turn signal light, turn signal indicator light or both fail to blink.

1. Check the turn signal light bulb and socket. Refer to “CHECKING THE BULBS AND BULB SOCKETS” in base service manual B97-F8197-E0 on page 7-60.	NG →	Replace the turn signal light bulb, socket or both.

OK ↓

2. Check the turn signal switch. Refer to “CHECKING THE SWITCHES” on page 7-80.	NG →	The turn signal switch is faulty. Replace the left handlebar switch.

OK ↓

3. Check the turn signal relay. Refer to "CHECKING THE TURN SIGNAL RELAY" in base service manual B97-F8197-E0 on page 7-65.	NG →	Replace the turn signal relay.
OK ↓		
4. Check the entire signaling system wiring.	NG →	Properly connect or repair the signaling system wiring.
OK ↓		
Replace the meter assembly.		

The neutral indicator light fails to come on.

1. Check the neutral switch. Refer to "CHECKING THE SWITCHES" on page 7-80.	NG →	Replace the neutral switch.
OK ↓		
2. Check the entire signaling system wiring.	NG →	Properly connect or repair the signaling system wiring.
OK ↓		
Replace the meter assembly.		

The fuel gauge fails to operate.

1. Check the fuel sender. Refer to "CHECKING THE FUEL SENDER" in base service manual B97-F8197-E0 on page 7-65.	NG →	Replace the fuel pump.
OK ↓		
2. Check the entire signaling system wiring.	NG →	Properly connect or repair the signaling system wiring.
OK ↓		
Replace the meter assembly.		

The speedometer fails to operate.

1. Check the speed sensor.
   Refer to “CHECKING THE FUEL SENDER” in base service manual B97-F8197-E0 on page 7-70.

NG → Replace the speed sensor.

OK ↓

2. Check the entire signaling system wiring.

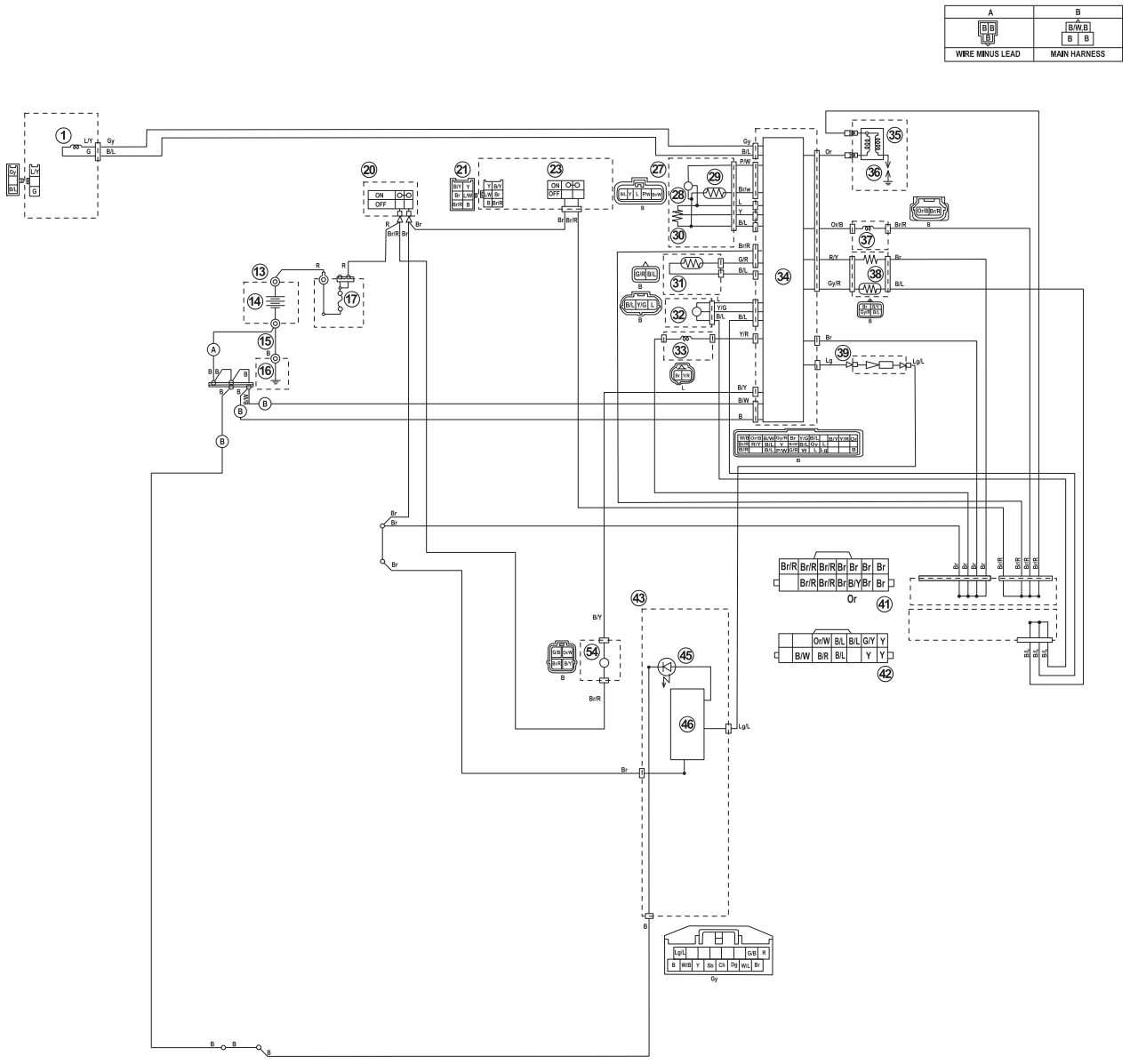
NG → Properly connect or repair the signaling system wiring.

OK ↓

Replace the meter assembly.

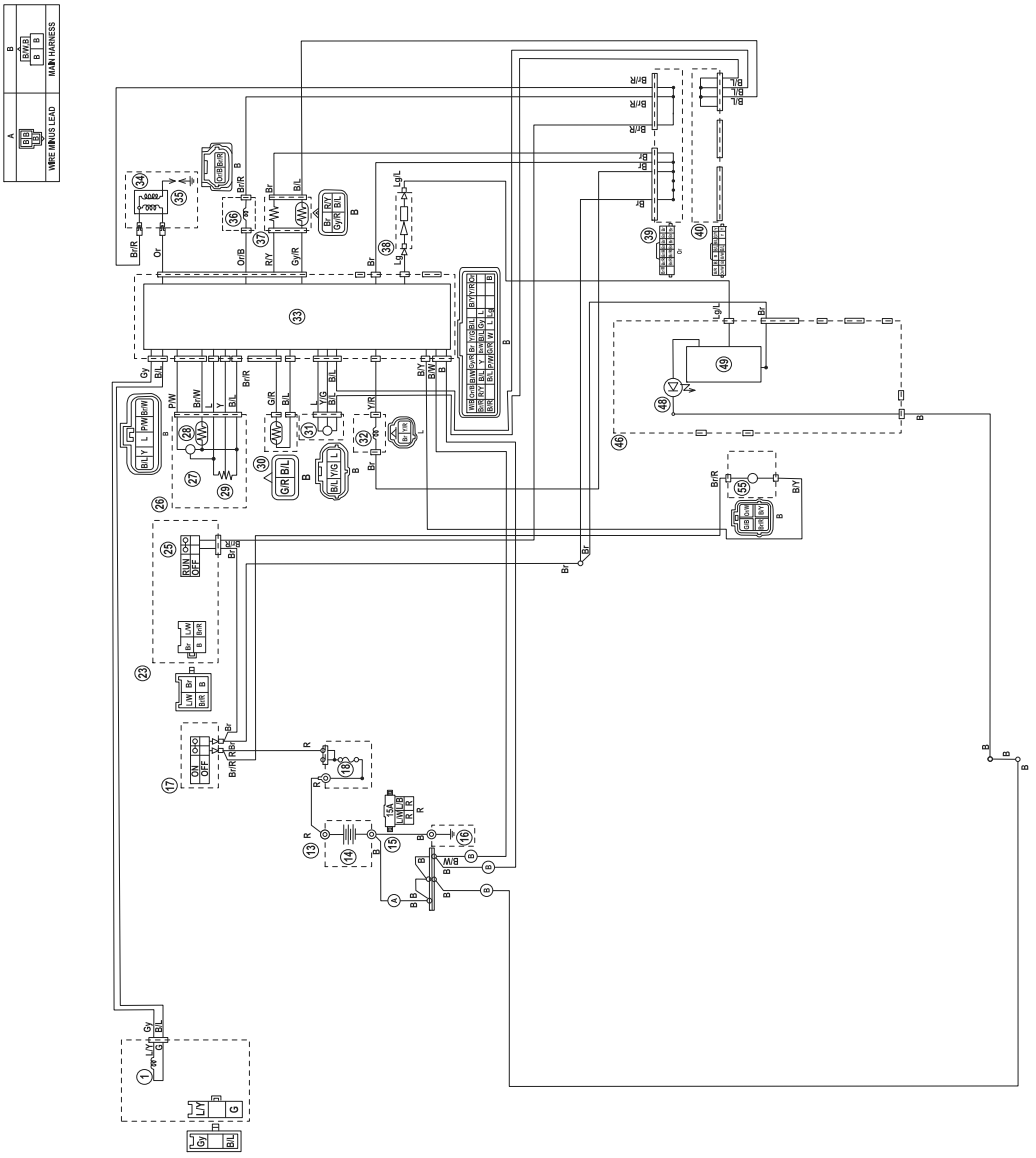
FUEL INJECTION SYSTEM

CIRCUIT DIAGRAM (For FZ25-ABS)



1. Crankshaft position sensor
13. Battery positive lead
14. Battery
15. Battery negative lead
16. Engine ground
17. Fuse
20. Main switch
21. Right handlebar switch
23. Engine stop switch
27. Throttle body sensor assembly
28. Intake air pressure sensor
29. Intake air temperature sensor
30. Throttle position sensor
31. Engine temperature sensor
32. Lean angle sensor
33. FID (Fast idle device)
34. ECU (Engine control unit)
35. Ignition coil
36. Spark plug
37. Fuel injection
38. O_2 sensor
39. Yamaha diagnostic tool coupler
41. J/C 2 (Joint connector)
42. J/C 3 (Joint connector)
43. Meter assembly
45. Engine trouble warning light
46. Multi-function display
54. Fuel pump

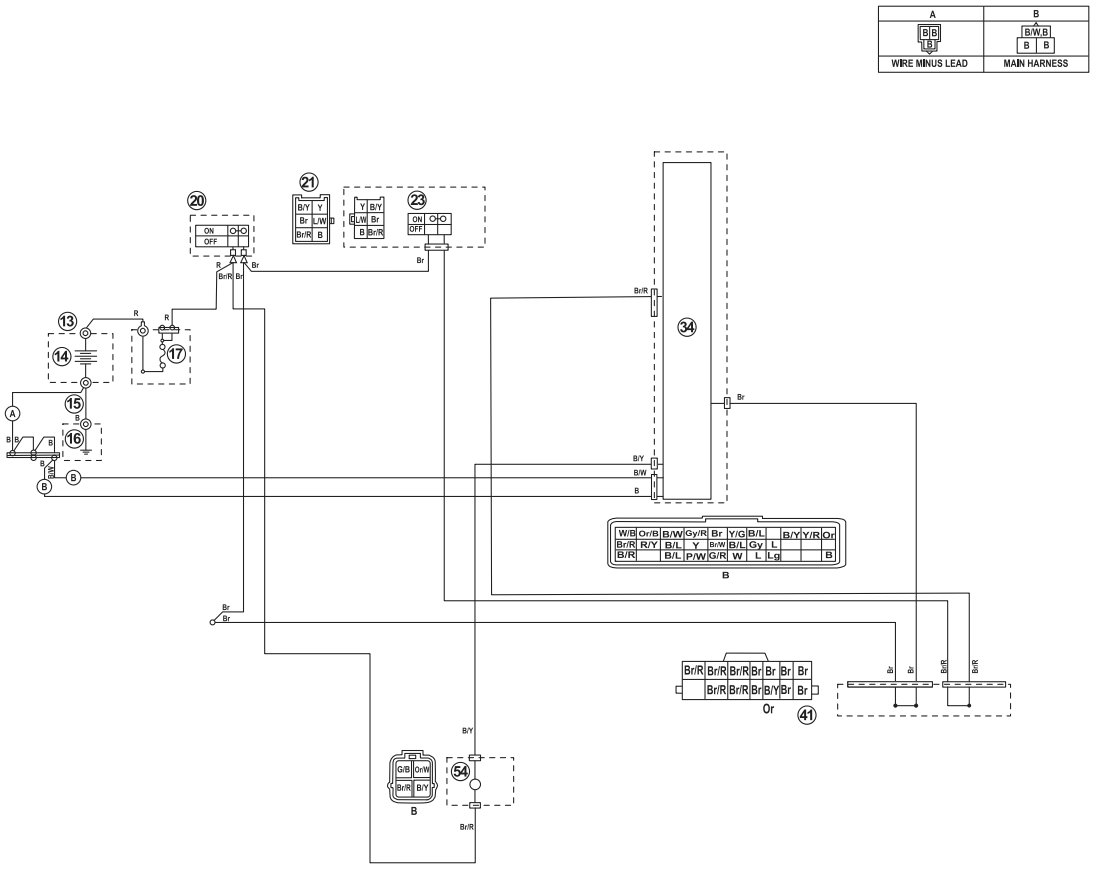
CIRCUIT DIAGRAM (For FAZER25-ABS)



1. Crankshaft position sensor
13. Battery positive lead
14. Battery
15. Battery negative lead
16. Engine ground
17. Main switch
18. Fuse
23. Right handlebar switch
25. Engine stop switch
26. Throttle body sensor assembly
27. Intake air pressure sensor
28. Intake air temperature sensor
29. Throttle position sensor
30. Engine temperature sensor
31. Lean angle sensor
32. FID (Fast Idle Device)
33. ECU (Engine Control Unit)
34. Ignition coil
35. Spark plug
36. Fuel injector
37. O_2 sensor
38. Yamaha diagnostic tool coupler
39. J/C 2 (Joint connector)
40. J/C 3 (Joint connector)
46. Meter assembly
48. Engine trouble warning light
49. Multi-function display
55. Fuel pump

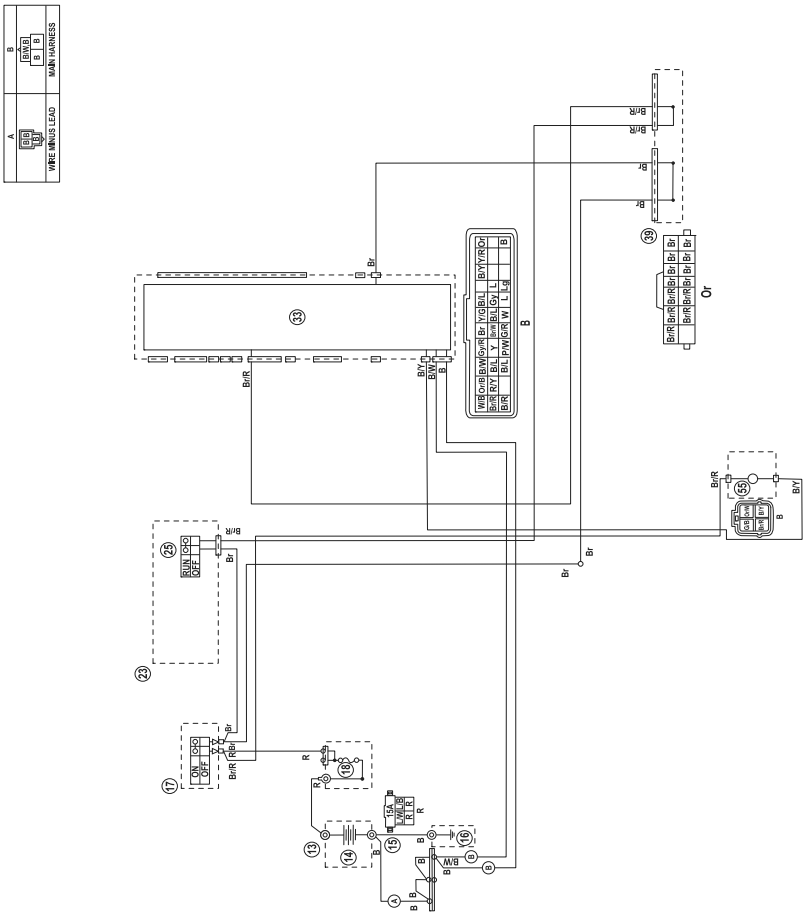
FUEL PUMP SYSTEM

CIRCUIT DIAGRAM (For FZ25-ABS)



13. Battery positive lead
14. Battery
15. Battery negative lead
16. Engine ground
17. Fuse
20. Main switch
21. Right handlebar switch
23. Engine stop switch
34. ECU (Engine control unit)
54. Fuel pump

CIRCUIT DIAGRAM (For FAZER25-ABS)



13. Battery positive lead
14. Battery
15. Battery negative lead
16. Engine ground
17. Main switch
18. Fuse
23. Right handlebar switch
25. Engine stop switch
33. ECU (Engine Control Unit)
39. J/C 2 (Joint connector)
55. Fuel pump

TROUBLESHOOTING

The fuel pump fails to operate.

TIP

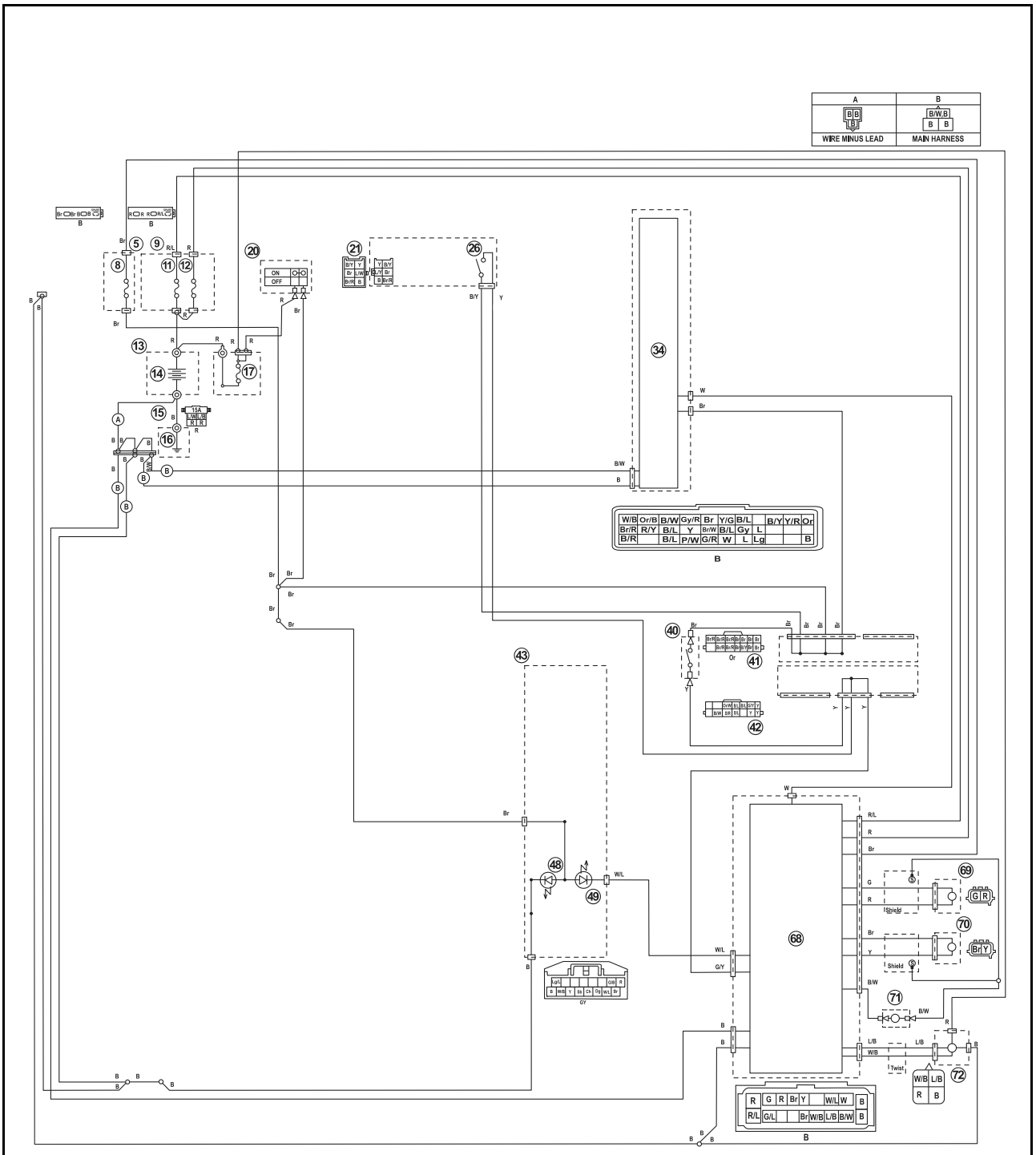
• Before troubleshooting, remove the following part(s):

1. Passenger and rider seat
2. Left side cover and right side cover
3. Headlight assembly

1. Check the fuse. Refer to "CHECKING THE FUSES" on page 7-81.	NG →	Replace the fuse.
OK ↓		
2. Check the battery. Refer to "CHECKING AND CHARGING THE BATTERY" in base service manual B97-F8197-E0 on page 7-62.	NG →	• Clean the battery terminals. • Recharge or replace the battery.
OK ↓		
3. Check the main switch. Refer to "CHECKING THE SWITCHES" on page 7-80.	NG →	Replace the main switch.
OK ↓		
4. Check the engine stop switch. Refer to "CHECKING THE SWITCHES" on page 7-80.	NG →	The engine stop switch is faulty. Replace the right handlebar switch.
OK ↓		
5. Check the fuel pump. Refer to "CHECKING THE FUEL PUMP BODY" in base service manual B97-F8197-E0 on page 6-3.	NG →	Replace the fuel pump assembly.
OK ↓		
6. Check the entire fuel pump system wiring.	NG →	Properly connect or repair the fuel pump system wiring.
OK ↓		
Replace the ECU.		

EAS20085
ABS (ANTI-LOCK BRAKE SYSTEM)

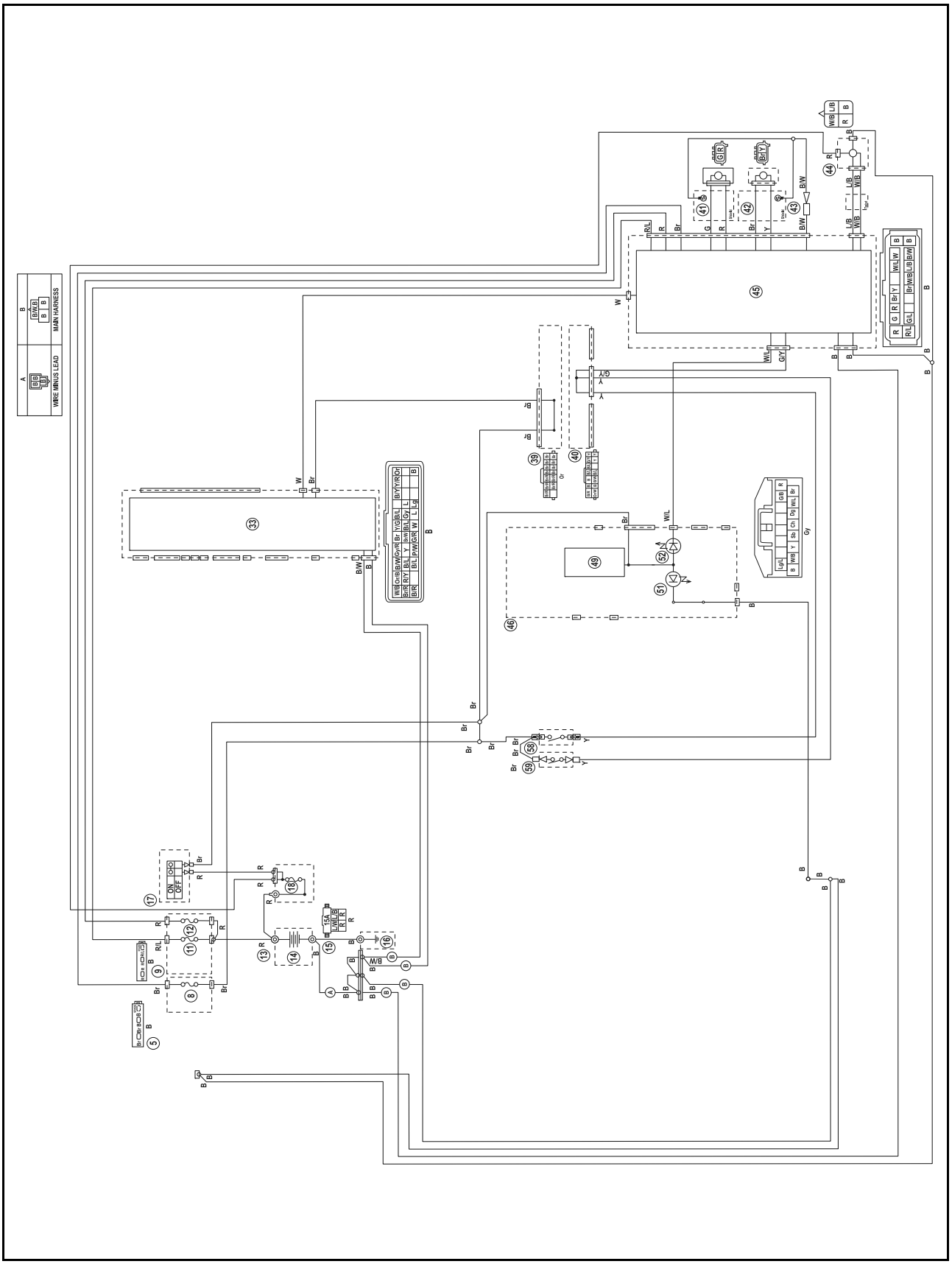
EAS30843
CIRCUIT DIAGRAM (For FZ25-ABS)



5. Fuse box 1
8. ABS control unit fuse
9. Fuse box 2
11. ABS motor fuse
12. ABS solenoid fuse
13. Battery positive lead
14. Battery
15. Battery negative lead
16. Engine ground
17. Fuse
20. Main switch
21. Right handlebar switch
26. Front brake light switch
34. ECU (Engine Control Unit)
40. Rear brake light switch
41. J/C 2 (Joint connector)
42. J/C 3 (Joint connector)
43. Meter assembly
48. Meter light
49. ABS warning light
68. ABS ECU
69. Front speed sensor
70. Rear speed sensor
71. Joint
72. ABS test coupler

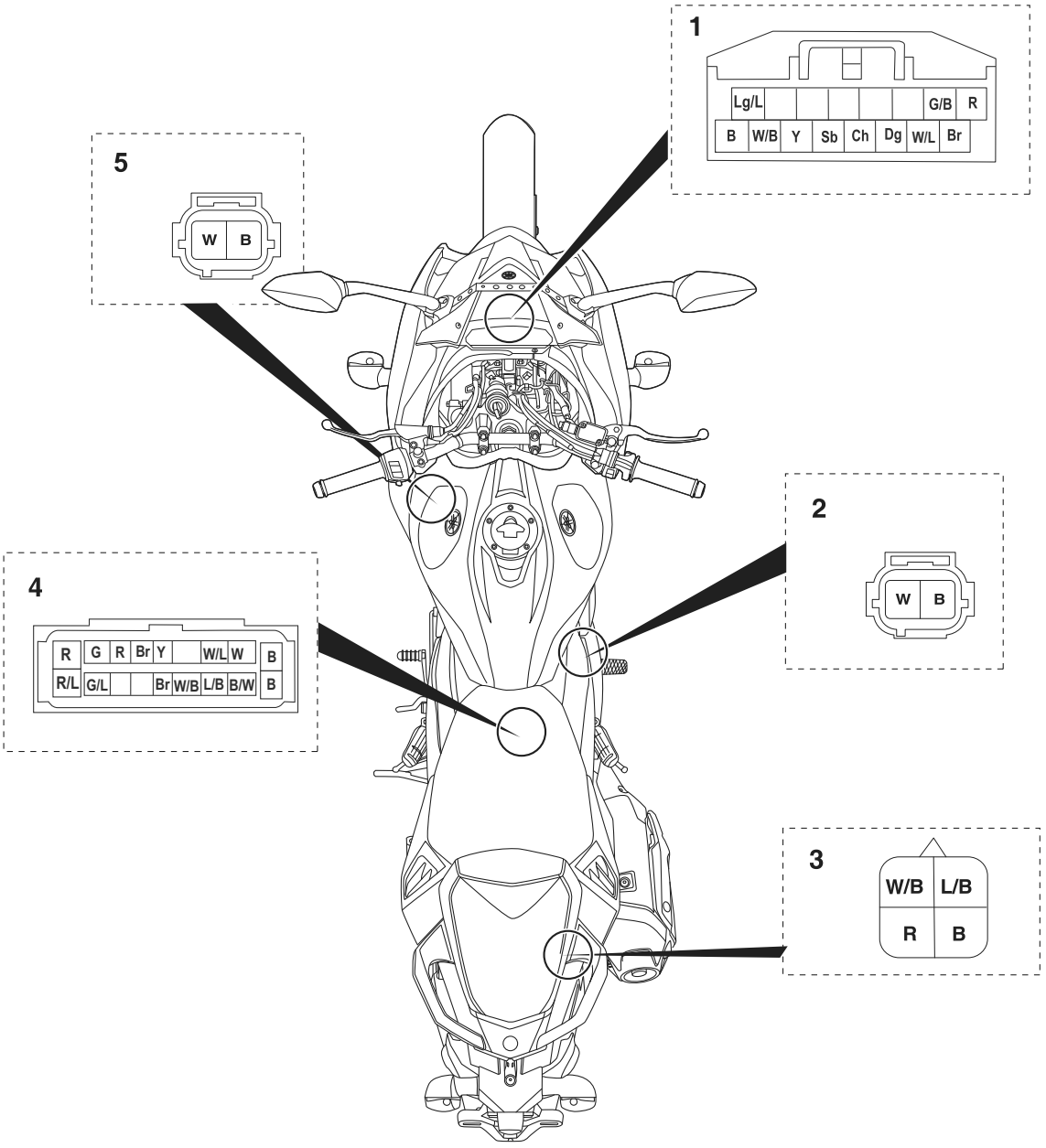
EAS20085
ABS (ANTI-LOCK BRAKE SYSTEM)

EAS30843
CIRCUIT DIAGRAM (For FAZER25-ABS)



5. Fuse box 1
8. ABS control unit fuse
9. Fuse box 2
11. ABS motor fuse
12. ABS solenoid fuse
13. Battery positive lead
14. Battery
15. Battery negative lead
16. Engine ground
17. Main switch
18. Fuse
33. ECU (Engine Control Unit)
39. J/C 2 (Joint connector)
40. J/C 3 (Joint connector)
41. Front speed sensor
42. Rear speed sensor
43. Joint
44. ABS test coupler
45. ABS ECU (electric control unit)
46. Meter assembly
49. Multi-function display
51. Meter light
52. ABS warning light
58. Front brake light swicth
59. Rear brake light swicth

EAS30844
ABS COUPLER LOCATION CHART

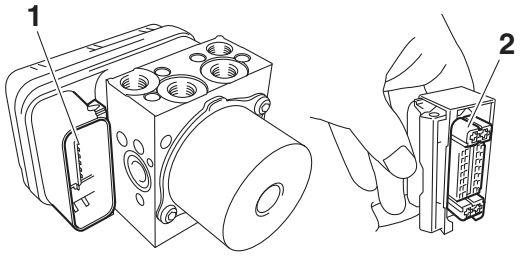


1. Meter assembly coupler
2. Rear wheel sensor coupler
3. ABS test coupler
4. ABS ECU coupler
5. Front wheel sensor coupler

EAS30845
MAINTENANCE OF THE ABS ECU

Checking the ABS ECU
1. Check:
   - Terminals “1” of the ABS ECU
     Cracks/damages → Replace the hydraulic unit assembly, brake hoses, and brake pipes that are connected to the assembly as a set.
   - Terminals “2” of the ABS ECU coupler
     Connection defective, contaminated, come-off → Correct or clean.

TIP
If the ABS ECU coupler is clogged with mud or dirt, clean with compressed air.



EAS30528
ABS TROUBLESHOOTING OUTLINE
This section describes the troubleshooting for the ABS in detail. Read this service manual carefully and make sure you fully understand the information provided before repairing any malfunctions or performing service.
The ABS ECU (electronic control unit) has a self-diagnosis function. When failures occur in the system, the ABS warning light on the meter assembly indicates a malfunction.
The following troubleshooting describes the problem identification and service method using the Yamaha diagnostic tool. For information about using the Yamaha diagnostic tool, refer to “[B-2] DIAGNOSIS USING THE FAULT CODES” on page 7-51. For troubleshooting items other than the following items, follow the normal service method.

EWA16710
⚠ WARNING
When maintenance or checks have been performed on components related to the ABS, be sure to perform a final check before delivering the vehicle to the customer.

TIP
To final check, refer to “[C-1] FINAL CHECK” on page 7-75.

ABS operation when the ABS warning light comes on
1. The ABS warning light remains on → ABS operates as a normal brake system.
   - A malfunction was detected using the ABS self-diagnosis function.
   - The ABS self-diagnosis has not been completed.
     The ABS self-diagnosis starts when the main switch is turned to “ON” and finishes when the vehicle has traveled at a speed of approximately 10 km/h (6.3 mi/h).
2. The ABS warning light comes on after the engine starts, and then goes off when the vehicle starts moving (traveling at a speed of approximately 10 km/h (6.3 mi/h)). → ABS operation is normal.
3. The ABS warning light flashes → ABS operation is normal.
   - Refer to “BASIC INSTRUCTIONS FOR TROUBLESHOOTING” on page 7-48.

Self-diagnosis and servicing

The ABS ECU has a self-diagnosis function. By utilizing this function, quick problem identification and service are possible. Previous malfunctions can be checked since the ABS ECU also stores the malfunction history.

The fault codes recorded in the ABS ECU can be checked using the Yamaha diagnostic tool. When the service is finished, check the normal operation of the vehicle, and then delete the fault code(s). For information about deleting the fault codes, refer to "[B-3] DELETING THE FAULT CODES" on page 7-75. By deleting the fault codes stored in the ABS ECU memory, it is possible to pursue the cause correctly if another malfunction occurs.

TIP

The ABS performs a self-diagnosis test for a few seconds each time the vehicle first starts off after the main switch was turned to "ON". During this test, a "clicking" noise can be heard from inside of the right air scoop, and if the brake lever or brake pedal are even slightly applied, a vibration can be felt at the lever and pedal, but these do not indicate a malfunction.

Self-diagnosis using the ABS ECU

The ABS ECU performs a static check of the entire system when the main switch is turned to "ON". It also checks for malfunctions while the vehicle is ridden. Since all malfunctions are recorded after they are detected, it is possible to check the recorded malfunction data by utilizing the Yamaha diagnostic tool when the ABS ECU has entered the self-diagnosis mode.

Special precautions for handling and servicing a vehicle equipped with ABS

ECA18490

WARNING

Care should be taken not to damage components by subjecting them to shocks or pulling on them with too much force since the ABS components are precisely adjusted.

- The ABS ECU and hydraulic unit are united assemblies and cannot be disassembled.
- The malfunction history is stored in the memory of the ABS ECU. Delete the fault codes when the service is finished. (This is because the past fault codes will be displayed again if another malfunction occurs.)

EAS30529

BASIC INSTRUCTIONS FOR TROUBLESHOOTING

EWA17420

WARNING

- **Perform the troubleshooting [A]→[B]→[C] in order. Be sure to follow the order since a wrong diagnosis could result if the steps are followed in a different order or omitted.**
- **Use sufficiently charged regular batteries only.**

[A] Malfunction check using the ABS warning light

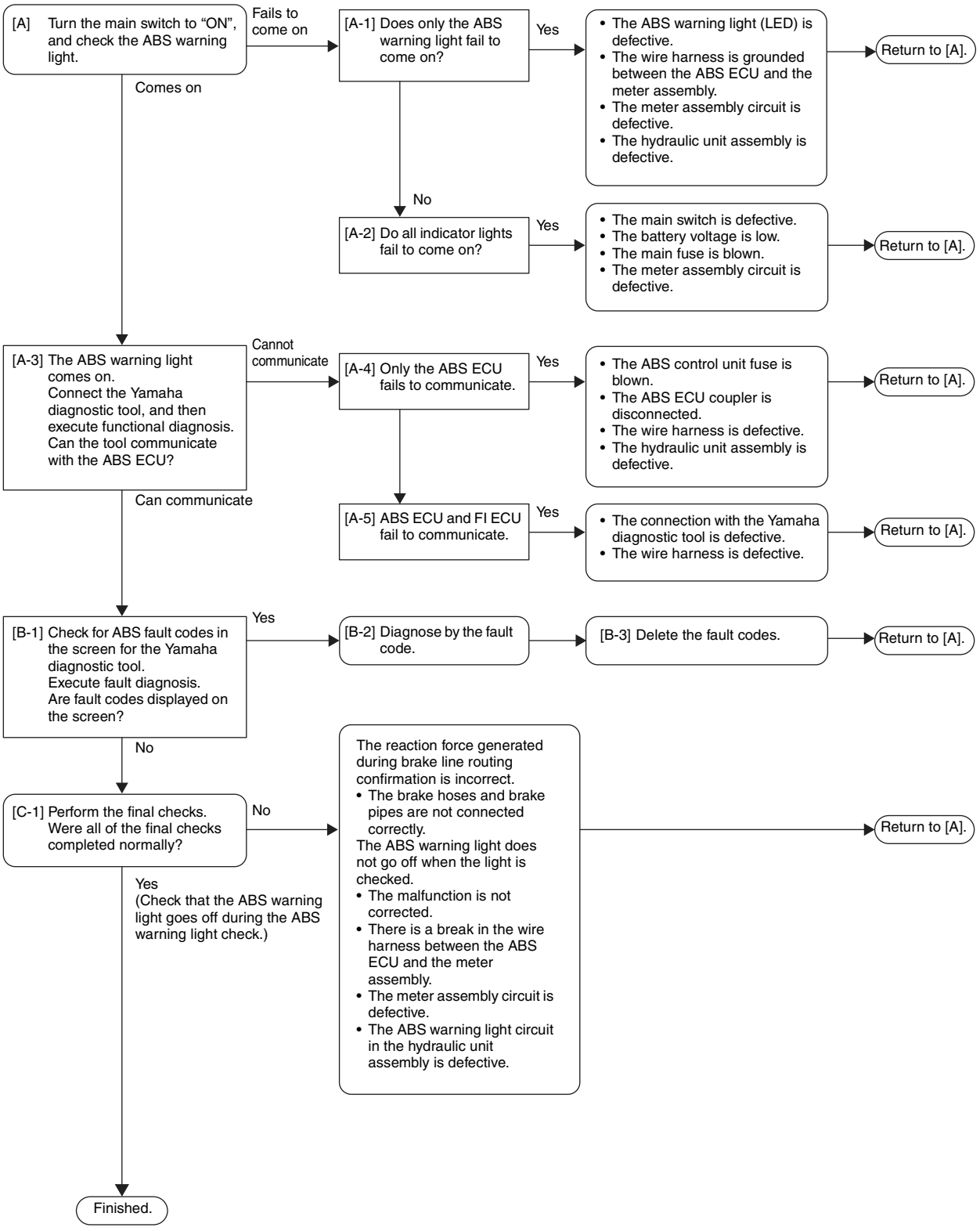
[B] Use the Yamaha diagnostic tool and determine the location of the malfunction and the cause from the recorded fault code.

Determine the cause of the malfunction from the condition and place where the malfunction occurred.

[C] Servicing the ABS

Execute the final check after disassembly and assembly.

EAS30530
BASIC PROCESS FOR TROUBLESHOOTING



EWA16710

⚠ WARNING

When maintenance or checks have been performed on components related to the ABS, be sure to perform a final check before delivering the vehicle to the customer.

TIP

To final check, refer to "[C-1] FINAL CHECK" on page 7-75.

EAS30531

[A] CHECKING THE ABS WARNING LIGHT

Turn the main switch to "ON". (Do not start the engine.)

1. The ABS warning light does not come on.
   - Only the ABS warning light fails to come on. [A-1]
   - The ABS warning light and all other indicator lights fail to come on. [A-2]
2. The ABS warning light comes on. [A-3]

EAS30532

[A-1] ONLY THE ABS WARNING LIGHT FAILS TO COME ON

1. Check for a short circuit to the ground between the white/blue terminal of the ABS ECU coupler and white/blue terminal of the meter assembly.
   - If there is short circuit to the ground, the wire harness is defective. Replace the wire harness.
2. Disconnect the ABS ECU coupler and check that the ABS warning light comes on when the main switch is turned to "ON".
   - If the ABS warning light does not come on, the meter assembly circuit (including the ABS warning light [LED]) is defective. Replace the meter assembly.
   - If the ABS warning light comes on, the ABS ECU is defective. Replace the hydraulic unit assembly.

EAS30964

[A-2] ALL INDICATOR LIGHTS FAIL TO COME ON

1. Main switch
   - Check the main switch for continuity.
     Refer to "CHECKING THE SWITCHES" on page 7-80.
   - If there is no continuity, replace the main switch.
2. Battery
   - Check the condition of the battery.
     Refer to "CHECKING AND CHARGING THE BATTERY" in base service manual B97-F8197-E0 on page 7-62.
   - If the battery is defective, clean the battery terminals and recharge it, or replace the battery.
3. Main fuse
   - Check the fuse for continuity.
     Refer to "CHECKING THE FUSES" on page 7-81.
   - If the main fuse is blown, replace the fuse.
4. Circuit
   - Check the meter assembly circuit.
     Refer to "Signaling system" CIRCUIT DIAGRAM (For FAZER25-ABS) on page 7-27.
   - If the meter assembly circuit is open, replace the wire harness.

EAS31162

[A-3] THE ABS WARNING LIGHT COMES ON

Connect the Yamaha diagnostic tool to the ABS test coupler and execute functional diagnosis. (For information about how to execute functional diagnosis, refer to the operation manual that is included with the tool.)

Check that communication with the ABS ECU is possible.

- Only the ABS ECU fails to communicate. [A-4]

• ABS ECU and FI ECU fail to communicate. [A-5]
• Communication is possible with the ABS ECU. [B-1] (The ABS is displayed on the select unit screen.)

EAS31163
[A-4] ONLY THE ABS ECU FAILS TO COMMUNICATE (The select unit screen does not appear.)
1. ABS control unit fuse
   • Check the ABS control unit fuse for continuity.
   Refer to "CHECKING THE FUSES" on page 7-81.
   • If the ABS control unit fuse is blown, replace the fuse.
2. ABS ECU coupler
   • Check that the ABS ECU coupler is connected properly.
   For information about connecting the ABS ECU coupler properly, refer to "INSTALLING THE HYDRAULIC UNIT ASSEMBLY" on page 4-31.
3. Wire harness
   • Open circuit between the main switch and the ABS ECU, or between the ABS ECU and the ground.
   Check for continuity between brown terminal of the main switch coupler and brown terminal of the ABS ECU coupler.
   Check for continuity between black terminal of the ABS ECU coupler and the ground, and between the black terminal of the ABS ECU coupler and ground.
   If there is no continuity, the wire harness is defective. Replace the wire harness.
   • Open circuit in the wire harness between the ABS ECU coupler and the ABS test coupler.
   Check for continuity between blue/red terminal of the ABS ECU coupler and blue/red terminal of the ABS test coupler.
   Check for continuity between white/black terminal of the ABS ECU coupler and white/black terminal of the ABS test coupler.
4. ABS ECU malfunction
   Replace the hydraulic unit assembly.

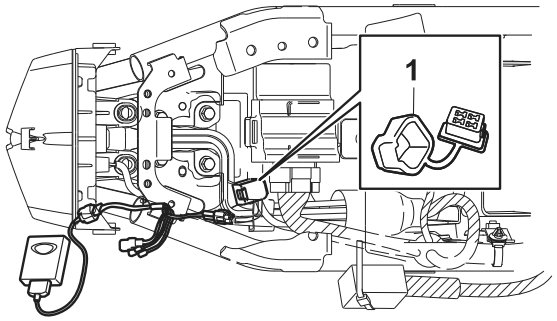
EAS31164
[A-5] ABS ECU AND FI ECU FAIL TO COMMUNICATE (Cannot connect due to a tool error.)
1. Yamaha diagnostic tool
   Check that the Yamaha diagnostic tool is properly connected.
2. Wire harness
   • Open circuit in the wire harness between the ABS ECU coupler and the ABS test coupler.
   Check for continuity between white/black terminal of the ABS ECU coupler and white/black terminal of the ABS test coupler.
   Check for continuity between blue/black terminal of the ABS ECU coupler and blue/black terminal of the ABS test coupler.

EAS31165
[B-1] MALFUNCTION ARE CURRENTLY DETECTED
When the Yamaha diagnostic tool is connected to the ABS test coupler, the fault codes will be displayed on the computer screen.
• A fault code is displayed. [B-2]
• A fault code is not displayed. [C-1]

EAS31166
[B-2] DIAGNOSIS USING THE FAULT CODES
This model uses the Yamaha diagnostic tool to identify malfunctions.
For information about using the Yamaha diagnostic tool, refer to the operation manual that is included with the tool.

Yamaha diagnostic tool USB
INS-018
90890-03267
INS-019
90890-03262

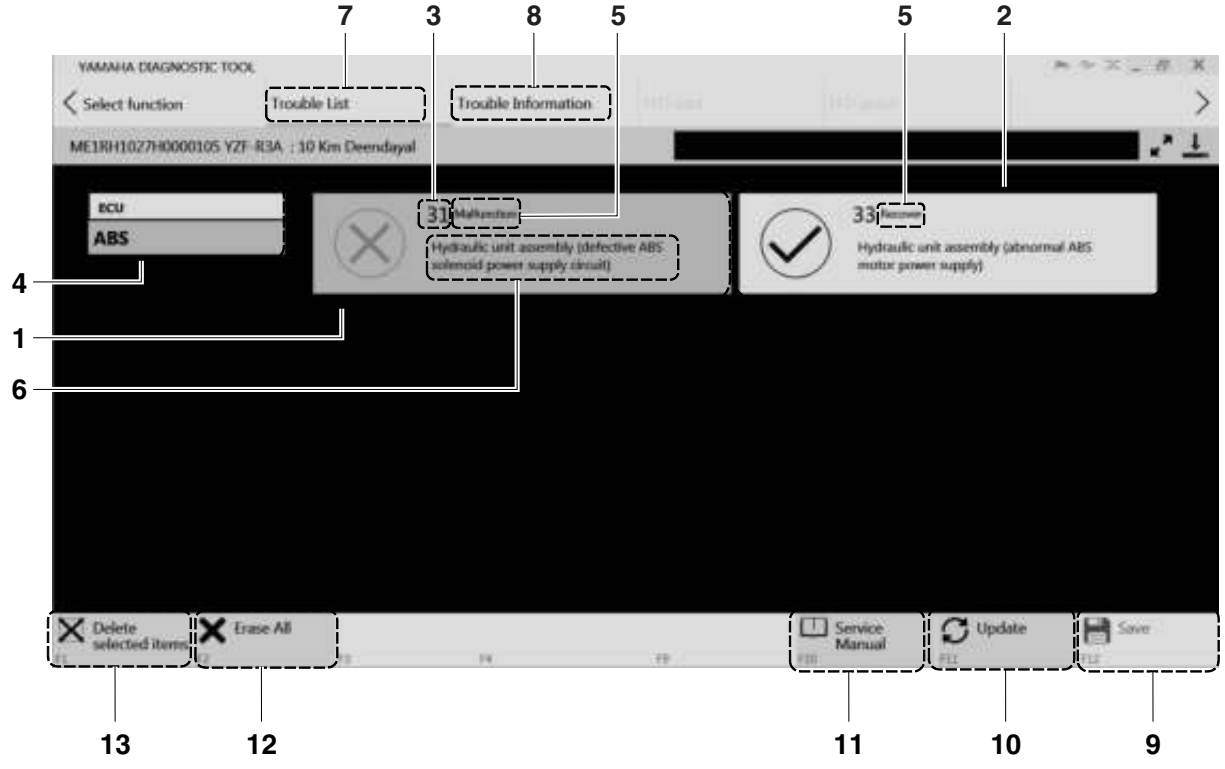
Connecting the Yamaha diagnostic tool
Removing the passenger seat. Refer to “GENERAL CHASSIS (1)” in base service manual B97-F8197-E0 on page 4-1.
Removing the protective cap “1”, and then connect the Yamaha diagnostic tool to the coupler.



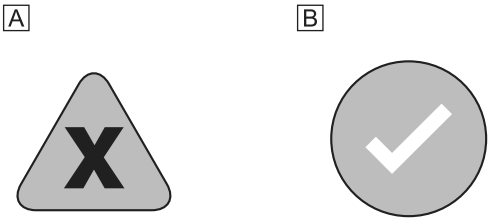
Details about the displayed fault codes are shown in the following chart. Refer to this chart and check the vehicle.
Once all the work is complete, delete the fault codes. [B-3]

TIP
Check the inspection points after terminating the connection with the Yamaha diagnostic tool and turning the main switch off.

Operation of the Yamaha diagnostic tool (Fault diagnosis mode)
Malfunction results are displayed in the top part of the window area.



1. Detected
   The malfunction currently occurred are displayed.
2. Recovered
   The malfunction detected in the past (already recovered) are displayed.
3. Diagnosis code the diagnosis codes related to the detected malfunction are displayed.



A. Detected malfunction
B. Recovered malfunction

4. ECU
   The types of the control units are displayed. (e.g., FI, ABS)
5. Status of malfunction
   The current conditions are displayed. (Malfunction/Recover)
6. Item
   If a fault code is detected, the symptoms are displayed along with the item name.
7. Trouble list
   The item list of the “detected malfunction” or “recover malfunction” are displayed.
8. Trouble Information
   This appears to click on “detected malfunction (1)” for the details of the diagnosis are displayed.
   Click [Service Manual/F10] to open the service manual and check the details of the fault.
9. Save
   To save the result of diagnosis of malfunction, click [Save/F12].
   Note:- Must save the result for future reference.
10. Update
    To run the diagnosis of malfunction again, click [Update/F11].
11. Service Manual
    To view the service manual, click [Service Manual/F10].
    Note:- Service Manual of related model can be downloaded when system is connected with YMC server.
12. Erase all (Only recovered item can be Erased)
    To delete all of the fault codes, click [Erase All/F2].
13. Delete selected items (Only recovered item can be Deleted)
    To delete the selected fault codes, click [Delete selected items/F1].

Fault code table

TIP

Record all of the fault codes displayed and inspect the check points.

Fault code No.	Item	Symptom	Check point
11* 25*	Front wheel sensor (intermittent pulses or no pulses)	Front wheel sensor signal is not received properly. (Pulses are not received or are received intermittently while the vehicle is traveling.)	• Foreign material adhered around the front wheel sensor • Incorrect installation of the front wheel • Defective sensor rotor or incorrect installation of the rotor • Defective front wheel sensor or incorrect installation of the sensor
12	Rear wheel sensor (intermittent pulses or no pulses)	Rear wheel sensor signal is not received properly. (Pulses are not received or are received intermittently while the vehicle is traveling.)	• Foreign material adhered around the rear wheel sensor • Incorrect installation of the rear wheel • Defective sensor rotor or incorrect installation of the rotor • Defective rear wheel sensor or incorrect installation of the sensor
13* 26*	Front wheel sensor (abnormal pulse period)	Front wheel sensor signal is not received properly. (The pulse period is abnormal while the vehicle is traveling.)	• Foreign material adhered around the front wheel sensor • Incorrect installation of the front wheel • Defective sensor rotor or incorrect installation of the rotor • Defective front wheel sensor or incorrect installation of the sensor
14* 27*	Rear wheel sensor (abnormal pulse period)	Rear wheel sensor signal is not received properly. (The pulse period is abnormal while the vehicle is traveling.)	• Foreign material adhered around the rear wheel sensor • Incorrect installation of the rear wheel • Defective sensor rotor or incorrect installation of the rotor • Defective rear wheel sensor or incorrect installation of the sensor

Fault code No.	Item	Symptom	Check point
15	Front wheel sensor (open or short circuit)	Open or short circuit is detected in the front wheel sensor.	• Defective coupler between the front wheel sensor and the hydraulic unit assembly • Open or short circuit in the wire harness between the front wheel sensor and the hydraulic unit assembly • Defective front wheel sensor or hydraulic unit assembly
16	Rear wheel sensor (open or short circuit)	Open or short circuit is detected in the rear wheel sensor.	• Defective coupler between the rear wheel sensor and the hydraulic unit assembly • Open or short circuit in the wire harness between the rear wheel sensor and the hydraulic unit assembly • Defective rear wheel sensor or hydraulic unit assembly
17* 45*	Front wheel sensor (missing pulses)	Front wheel sensor signal is not received properly. (Missing pulses are detected in the signal while the vehicle is traveling.)	• Foreign material adhered around the front wheel sensor • Incorrect installation of the front wheel • Defective sensor rotor or incorrect installation of the rotor • Defective front wheel sensor or incorrect installation of the sensor
18* 46*	Rear wheel sensor (missing pulses)	Rear wheel sensor signal is not received properly. (Missing pulses are detected in the signal while the vehicle is traveling.)	• Foreign material adhered around the rear wheel sensor • Incorrect installation of the rear wheel • Defective sensor rotor or incorrect installation of the rotor • Defective rear wheel sensor or incorrect installation of the sensor
21	Hydraulic unit assembly (defective solenoid drive circuit)	Solenoid drive circuit in the hydraulic unit assembly is open or short-circuited.	• Defective hydraulic unit assembly

Fault code No.	Item	Symptom	Check point
24	Brake light switch or tail/brake light	Brake light signal is not received properly while the vehicle is traveling. (Brake light circuit, or front or rear brake light switch circuit)	• Defective signaling system (tail/brake light or brake light switch) • Defective coupler between the signaling system (tail/brake light or brake light switch) and the hydraulic unit assembly • Open or short circuit in the wire harness between the signaling system (tail/brake light or brake light switch) and the hydraulic unit assembly • Defective hydraulic unit assembly
31	Hydraulic unit assembly (abnormal ABS solenoid power supply)	Power is not supplied to the solenoid circuit in the hydraulic unit assembly.	• Blown ABS solenoid fuse • Defective coupler between the battery and the hydraulic unit assembly • Open or short circuit in the wire harness between the battery and the hydraulic unit assembly • Defective hydraulic unit assembly
32	Hydraulic unit assembly (short circuit in ABS solenoid power supply circuit)	Short circuit is detected in the solenoid power supply circuit in the hydraulic unit assembly.	• Defective hydraulic unit assembly
33	Hydraulic unit assembly (abnormal ABS motor power supply)	Power is not supplied to the motor circuit in the hydraulic unit assembly.	• Blown ABS motor fuse • Defective coupler between the battery and the hydraulic unit assembly • Open or short circuit in the wire harness between the battery and the hydraulic unit assembly • Defective hydraulic unit assembly
34	Hydraulic unit assembly (short circuit in ABS motor power supply circuit)	Short circuit is detected in the motor power supply circuit in the hydraulic unit assembly.	• Defective hydraulic unit assembly
41	Front wheel ABS (intermittent wheel speed pulses or incorrect depressurization)	• Pulses from the front wheel sensor are received intermittently while the vehicle is traveling. • Front wheel will not recover from the locking tendency even though the signal is transmitted from the ABS ECU to reduce the hydraulic pressure.	• Incorrect installation of the front wheel sensor • Incorrect rotation of the front wheel • Front brake dragging • Defective hydraulic unit assembly

Fault code No.	Item	Symptom	Check point
42 47	Rear wheel ABS (intermittent wheel speed pulses or incorrect depressurization)	• Pulses from the rear wheel sensor are received intermittently while the vehicle is traveling. (for fault code No. 42) • Rear wheel will not recover from the locking tendency even though the signal is transmitted from the ABS ECU to reduce the hydraulic pressure.	• Incorrect installation of the rear wheel sensor (for fault code No. 42) • Incorrect rotation of the rear wheel • Rear brake dragging • Defective hydraulic unit assembly
43	Front wheel sensor (missing pulses)	Front wheel sensor signal is not received properly. (Missing pulses are detected in the signal while the vehicle is traveling.)	• Foreign material adhered around the front wheel sensor • Incorrect installation of the front wheel • Defective sensor rotor or incorrect installation of the rotor • Defective front wheel sensor or incorrect installation of the sensor
44	Rear wheel sensor (missing pulses)	Rear wheel sensor signal is not received properly. (Missing pulses are detected in the signal while the vehicle is traveling.)	• Foreign material adhered around the rear wheel sensor • Incorrect installation of the rear wheel • Defective sensor rotor or incorrect installation of the rotor • Defective rear wheel sensor or incorrect installation of the sensor
51 52	• Vehicle system power supply (voltage of ABS ECU power supply is high) (for fault code No. 51) • Vehicle system power supply (voltage of wheel sensor power supply is high) (for fault code No. 52)	• Power voltage supplied to the ABS ECU in the hydraulic unit assembly is too high. (for fault code No. 51) • Power voltage supplied to the wheel sensor is too high. (for fault code No. 52)	• Defective battery • Disconnected battery terminal • Defective charging system
53	Vehicle system power supply (voltage of ABS ECU power supply is low)	Power voltage supplied to the ABS ECU in the hydraulic unit assembly is too low.	• Defective battery • Defective coupler between the battery and the hydraulic unit assembly • Open or short circuit in the wire harness between the battery and the hydraulic unit assembly • Defective charging system

Fault code No.	Item	Symptom	Check point
54	Hydraulic unit assembly (defective ABS solenoid and ABS motor power supply circuits)	Abnormality is detected in the solenoid or motor power supply circuit in the hydraulic unit assembly.	• Defective battery • Defective coupler between the battery and the hydraulic unit assembly • Open or short circuit in the wire harness between the battery and the hydraulic unit assembly • Defective charging system • Defective hydraulic unit assembly
55	Hydraulic unit assembly (defective ABS ECU)	Abnormal data is detected in the hydraulic unit assembly.	• Defective hydraulic unit assembly
56	Hydraulic unit assembly (abnormal internal power supply)	Abnormality is detected in the power supply circuit in the hydraulic unit assembly.	• Defective hydraulic unit assembly
63	Front wheel sensor power supply (voltage of power supply is low)	Power voltage supplied from the ABS ECU to the front wheel sensor is too low.	• Short circuit in the wire harness between the front wheel sensor and the hydraulic unit assembly • Defective front wheel sensor • Defective hydraulic unit assembly
64	Rear wheel sensor power supply (voltage of power supply is low)	Power voltage supplied from the ABS ECU to the rear wheel sensor is too low.	• Short circuit in the wire harness between the rear wheel sensor and the hydraulic unit assembly • Defective rear wheel sensor • Defective hydraulic unit assembly

* The fault code number varies according to the vehicle conditions.

Fault code No. 11, 25

TIP

With the front wheel stopped, the rear wheel was rotated for longer than about 20 seconds (fault code No. 11) or for longer than about 2 seconds (fault code No. 25).

Fault code No.	**11 25**	
Item	**Front wheel sensor (intermittent pulses or no pulses)**	
Symptom	**Front wheel sensor signal is not received properly. (Pulses are not received or are received intermittently while the vehicle is traveling.)**	
Order	**Item/components and probable cause**	**Check or maintenance job**
1	Foreign material adhered around the front wheel sensor	Check the surface of the sensor rotor and wheel sensor for foreign material, such as metal particles. Clean the sensor rotor and wheel sensor if necessary.
2	Incorrect installation of the front wheel	Check the components for looseness, distortion, and bends. Refer to “CHECKING THE FRONT WHEEL” in base service manual B97-F8197-E0 on page 4-7.
3	Defective sensor rotor or incorrect installation of the rotor	Check the surface of the sensor rotor for damage. Replace the sensor rotor if there is visible damage. Refer to “MAINTENANCE OF THE WHEEL SENSOR AND SENSOR ROTOR” on page 4-13.
4	Defective front wheel sensor or incorrect installation of the sensor	Check the wheel sensor for damage and the installed condition of the sensor. Repair or replace the wheel sensor if necessary. Refer to “MAINTENANCE OF THE WHEEL SENSOR AND SENSOR ROTOR” on page 4-13.

Fault code No. 12

Fault code No.	**12**	
Item	**Rear wheel sensor (intermittent pulses or no pulses)**	
Symptom	**Rear wheel sensor signal is not received properly. (Pulses are not received or are received intermittently while the vehicle is traveling.)**	
Order	**Item/components and probable cause**	**Check or maintenance job**
1	Foreign material adhered around the rear wheel sensor	Check the surface of the sensor rotor and wheel sensor for foreign material, such as metal particles. Clean the sensor rotor and wheel sensor if necessary.
2	Incorrect installation of the rear wheel	Check the components for looseness, distortion, and bends. Refer to “CHECKING THE REAR WHEEL” in base service manual B97-F8197-E0 on page 4-14.
3	Defective sensor rotor or incorrect installation of the rotor	Check the surface of the sensor rotor for damage. Replace the sensor rotor if there is visible damage. Refer to “MAINTENANCE OF THE WHEEL SENSOR AND SENSOR ROTOR” on page 4-13.
4	Defective rear wheel sensor or incorrect installation of the sensor	Check the wheel sensor for damage and the installed condition of the sensor. Repair or replace the wheel sensor if necessary. Refer to “MAINTENANCE OF THE WHEEL SENSOR AND SENSOR ROTOR” on page 4-13.

Fault code No. 13, 26

TIP

- If the front brake ABS operates continuously for 20 seconds or more, fault code No. 26 will be recorded. If the front brake ABS operates continuously for 36 seconds or more, fault code No. 13 will be recorded.
- Vehicle possibly ridden on uneven roads.

Fault code No.	**13 26**	
Item	**Front wheel sensor (abnormal pulse period)**	
Symptom	**Front wheel sensor signal is not received properly. (The pulse period is abnormal while the vehicle is traveling.)**	
Order	**Item/components and probable cause**	**Check or maintenance job**
1	Foreign material adhered around the front wheel sensor	Check the surface of the sensor rotor and wheel sensor for foreign material, such as metal particles. Clean the sensor rotor and wheel sensor if necessary.
2	Incorrect installation of the front wheel	Check the components for looseness, distortion, and bends. Refer to “CHECKING THE FRONT WHEEL” in base service manual B97-F8197-E0 on page 4-7.
3	Defective sensor rotor or incorrect installation of the rotor	Check the surface of the sensor rotor for damage. Replace the sensor rotor if there is visible damage. Refer to “MAINTENANCE OF THE WHEEL SENSOR AND SENSOR ROTOR” on page 4-13.
4	Defective front wheel sensor or incorrect installation of the sensor	Check the wheel sensor for damage and the installed condition of the sensor. Repair or replace the wheel sensor if necessary. Refer to “MAINTENANCE OF THE WHEEL SENSOR AND SENSOR ROTOR” on page 4-13.

Fault code No. 14, 27

TIP

- If the rear brake ABS operates continuously for 20 seconds or more, fault code No. 27 will be recorded. If the rear brake ABS operates continuously for 36 seconds or more, fault code No. 14 will be recorded.
- Vehicle possibly ridden on uneven roads.

Fault code No.	**14 27**	
Item	**Rear wheel sensor (abnormal pulse period)**	
Symptom	**Rear wheel sensor signal is not received properly. (The pulse period is abnormal while the vehicle is traveling.)**	
Order	**Item/components and probable cause**	**Check or maintenance job**
1	Foreign material adhered around the rear wheel sensor	Check the surface of the sensor rotor and wheel sensor for foreign material, such as metal particles. Clean the sensor rotor and wheel sensor if necessary.

Fault code No.	**14** **27**
Item	**Rear wheel sensor (abnormal pulse period)**
Symptom	**Rear wheel sensor signal is not received properly. (The pulse period is abnormal while the vehicle is traveling.)**

Order	Item/components and probable cause	Check or maintenance job
2	Incorrect installation of the rear wheel	Check the components for looseness, distortion, and bends. Refer to “CHECKING THE REAR WHEEL” in base service manual B97-F8197-E0 on page 4-14.
3	Defective sensor rotor or incorrect installation of the rotor	Check the surface of the sensor rotor for damage. Replace the sensor rotor if there is visible damage. Refer to “MAINTENANCE OF THE WHEEL SENSOR AND SENSOR ROTOR” on page 4-13.
4	Defective rear wheel sensor or incorrect installation of the sensor	Check the wheel sensor for damage and the installed condition of the sensor. Repair or replace the wheel sensor if necessary. Refer to “MAINTENANCE OF THE WHEEL SENSOR AND SENSOR ROTOR” on page 4-13.

Fault code No. 15

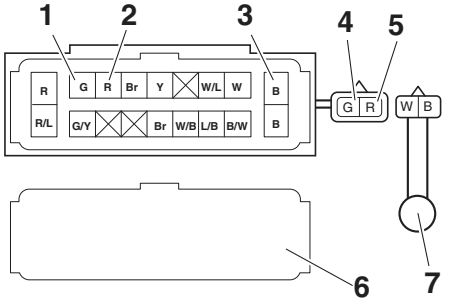
TIP

Turn the main switch to “OFF” before disconnecting or connecting a coupler.

Fault code No.	**15**
Item	**Front wheel sensor (open or short circuit)**
Symptom	**Open or short circuit is detected in the front wheel sensor.**

Order	Item/components and probable cause	Check or maintenance job
1	Defective coupler between the front wheel sensor and the hydraulic unit assembly	• Check the coupler for any pins that may be pulled out. • Check the locking condition of the coupler. • If there is a malfunction, repair it and connect the coupler securely. See TIP.

Fault code No.	**15**
Item	**Front wheel sensor (open or short circuit)**
Symptom	**Open or short circuit is detected in the front wheel sensor.**

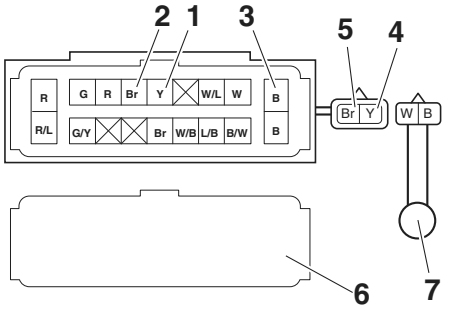
Order	Item/components and probable cause	Check or maintenance job
2	Open or short circuit in the wire harness between the front wheel sensor and the hydraulic unit assembly	• Check for continuity between the green terminal “1” and the green terminal “4” and between the red terminal “2” and the red terminal “5”. • If there is no continuity, the wire harness is defective. Replace the wire harness. • Check that there is no short circuit between the green terminal “1” and the red terminal “2” and between the green terminal “4” and the red terminal “5”. • If there is short circuit, the wire harness is defective. Replace the wire harness. • Check that there is no short circuit between the black/white terminal “3” and the green terminal “4” and between the black/white terminal “3” and the red terminal “5”. • If there is short circuit, the wire harness is defective. Replace the wire harness.  6. ABS ECU 7. Front wheel sensor
3	Defective front wheel sensor or hydraulic unit assembly	If the above items were performed and no malfunctions were found, the wheel sensor or hydraulic unit assembly is defective. Replace the wheel sensor or hydraulic unit assembly. Refer to “FRONT WHEEL” on page 4-12 and “ABS (ANTI-LOCK BRAKE SYSTEM)” on page 7-42.

Fault code No. 16

TIP

Turn the main switch to “OFF” before disconnecting or connecting a coupler.

Fault code No.	**16**
Item	**Rear wheel sensor (open or short circuit)**
Symptom	**Open or short circuit is detected in the rear wheel sensor.**

Order	**Item/components and probable cause**	**Check or maintenance job**
1	Defective coupler between the rear wheel sensor and the hydraulic unit assembly	• Check the coupler for any pins that may be pulled out. • Check the locking condition of the coupler. • If there is a malfunction, repair it and connect the coupler securely. See TIP.
2	Open or short circuit in the wire harness between the rear wheel sensor and the hydraulic unit assembly	• Check for continuity between the yellow terminal “1” and the yellow terminal “4” and between the brown terminal “2” and the brown terminal “5”. • If there is no continuity, the wire harness is defective. Replace the wire harness. • Check that there is no short circuit between the yellow terminal “1” and the brown terminal “2” and between the yellow terminal “4” and the brown terminal “5”. • If there is short circuit, the wire harness is defective. Replace the wire harness. • Check that there is no short circuit between the black terminal “3” and the yellow terminal “4” and between the black terminal “3” and the brown terminal “5”. • If there is short circuit, the wire harness is defective. Replace the wire harness.  6. ABS ECU 7. Rear wheel sensor
3	Defective rear wheel sensor or hydraulic unit assembly	If the above items were performed and no malfunctions were found, the wheel sensor or hydraulic unit assembly is defective. Replace the wheel sensor or hydraulic unit assembly. Refer to “REAR WHEEL” on page 4-17 and “ABS (ANTI-LOCK BRAKE SYSTEM)” on page 7-42.

Fault code No. 17, 45

TIP

If pulse gaps are detected when the vehicle is traveling at a speed of 30 km/h (19 mi/h) or more, fault code No. 17 will be recorded. If the vehicle is traveling at a speed of 29 km/h (18 mi/h) or less, fault code No. 45 will be recorded first and fault code No. 17 will be recorded if the condition continues.

Fault code No.	**17** **45**	
Item	**Front wheel sensor (missing pulses)**	
Symptom	**Front wheel sensor signal is not received properly. (Missing pulses are detected in the signal while the vehicle is traveling.)**	
Order	**Item/components and probable cause**	**Check or maintenance job**
1	Foreign material adhered around the front wheel sensor	Check the surface of the sensor rotor and wheel sensor for foreign material, such as metal particles. Clean the sensor rotor and wheel sensor if necessary.
2	Incorrect installation of the front wheel	Check the components for looseness, distortion, and bends. Refer to “CHECKING THE FRONT WHEEL” in base service manual B97-F8197-E0 on page 4-7.
3	Defective sensor rotor or incorrect installation of the rotor	Check the surface of the sensor rotor for damage. Replace the sensor rotor if there is visible damage. Refer to “MAINTENANCE OF THE WHEEL SENSOR AND SENSOR ROTOR” on page 4-13.
4	Defective front wheel sensor or incorrect installation of the sensor	Check the wheel sensor for damage and the installed condition of the sensor. Repair or replace the wheel sensor if necessary. Refer to “MAINTENANCE OF THE WHEEL SENSOR AND SENSOR ROTOR” on page 4-13.

Fault code No. 18, 46

TIP

If pulse gaps are detected when the vehicle is traveling at a speed of 30 km/h (19 mi/h) or more, fault code No. 18 will be recorded. If the vehicle is traveling at a speed of 29 km/h (18 mi/h) or less, fault code No. 46 will be recorded first and fault code No. 18 will be recorded if the condition continues.

Fault code No.	**18** **46**	
Item	**Rear wheel sensor (missing pulses)**	
Symptom	**Rear wheel sensor signal is not received properly. (Missing pulses are detected in the signal while the vehicle is traveling.)**	
Order	**Item/components and probable cause**	**Check or maintenance job**
1	Foreign material adhered around the rear wheel sensor	Check the surface of the sensor rotor and wheel sensor for foreign material, such as metal particles. Clean the sensor rotor and wheel sensor if necessary.
2	Incorrect installation of the rear wheel	Check the components for looseness, distortion, and bends. Refer to “CHECKING THE REAR WHEEL” in base service manual B97-F8197-E0 on page 4-14.

Fault code No.	18 46	
Item	Rear wheel sensor (missing pulses)	
Symptom	Rear wheel sensor signal is not received properly. (Missing pulses are detected in the signal while the vehicle is traveling.)	
Order	**Item/components and probable cause**	**Check or maintenance job**
3	Defective sensor rotor or incorrect installation of the rotor	Check the surface of the sensor rotor for damage. Replace the sensor rotor if there is visible damage. Refer to “MAINTENANCE OF THE WHEEL SENSOR AND SENSOR ROTOR” on page 4-13.
4	Defective rear wheel sensor or incorrect installation of the sensor	Check the wheel sensor for damage and the installed condition of the sensor. Repair or replace the wheel sensor if necessary. Refer to “MAINTENANCE OF THE WHEEL SENSOR AND SENSOR ROTOR” on page 4-13.

Fault code No. 21

Fault code No.	21	
Item	Hydraulic unit assembly (defective solenoid drive circuit)	
Symptom	Solenoid drive circuit in the hydraulic unit assembly is open or short-circuited.	
Order	**Item/components and probable cause**	**Check or maintenance job**
1	Defective hydraulic unit assembly	Replace the hydraulic unit assembly. Refer to “ABS (ANTI-LOCK BRAKE SYSTEM)” on page 7-42.

Fault code No. 24

Fault code No.	24	
Item	Brake light switch or tail/brake light	
Symptom	Brake light signal is not received properly while the vehicle is traveling (Brake light circuit, or front or rear brake light switch circuit).	
Order	**Item/components and probable cause**	**Check or maintenance job**
1	Defective signaling system (tail/brake light or brake light switch)	Check the brake light switches. Refer to “CHECKING THE SWITCHES” on page 7-80.
2	Defective coupler between the signaling system (tail/brake light or brake light switch) and the hydraulic unit assembly	• Check the coupler for any pins that may be pulled out. • Check the locking condition of the coupler. • If there is a malfunction, repair it and connect the coupler securely.
3	Open or short circuit in the wire harness between the signaling system (tail/brake light or brake light switch) and the hydraulic unit assembly	• Between ABS ECU coupler and front brake light switch coupler. (green/yellow–yellow) • Between ABS ECU coupler and rear brake light switch coupler. (green/yellow–yellow)

Fault code No.		24
Item		Brake light switch or tail/brake light
Symptom		Brake light signal is not received properly while the vehicle is traveling (Brake light circuit, or front or rear brake light switch circuit).
Order	Item/components and probable cause	Check or maintenance job
4	Defective hydraulic unit assembly	If the above items were performed and no malfunctions were found, replace the hydraulic unit assembly. Refer to “ABS (ANTI-LOCK BRAKE SYSTEM)” on page 7-42.

Fault code No. 31

TIP

Turn the main switch to “OFF” before disconnecting or connecting a coupler.

Fault code No.		31
Item		Hydraulic unit assembly (abnormal ABS solenoid power supply)
Symptom		Power is not supplied to the solenoid circuit in the hydraulic unit assembly.
Order	Item/components and probable cause	Check or maintenance job
1	Blown ABS solenoid fuse	Check the ABS solenoid fuse. If the ABS solenoid fuse is blown, replace the fuse and check the wire harness. Refer to “CHECKING THE SWITCHES” on page 7-80.
2	Defective coupler between the battery and the hydraulic unit assembly	• Check the locking condition of the coupler. • If there is a malfunction, repair it and connect the coupler securely. See TIP.
3	Open or short circuit in the wire harness between the battery and the hydraulic unit assembly	• Replace if there is an open or short circuit. • Between ABS ECU coupler and ABS solenoid fuse. (red–red)
4	Defective hydraulic unit assembly	If the above items were performed and no malfunctions were found, replace the hydraulic unit assembly. Refer to “ABS (ANTI-LOCK BRAKE SYSTEM)” on page 7-42.

Fault code No. 32

Fault code No.		32
Item		Hydraulic unit assembly (short circuit in ABS solenoid power supply circuit)
Symptom		Short circuit is detected in the solenoid power supply circuit in the hydraulic unit assembly.
Order	Item/components and probable cause	Check or maintenance job
1	Defective hydraulic unit assembly	Replace the hydraulic unit assembly. Refer to “ABS (ANTI-LOCK BRAKE SYSTEM)” on page 7-42.

Fault code No. 33

TIP

Turn the main switch to “OFF” before disconnecting or connecting a coupler.

Fault code No.	**33**	
Item	**Hydraulic unit assembly (abnormal ABS motor power supply)**	
Symptom	**Power is not supplied to the motor circuit in the hydraulic unit assembly.**	
Order	**Item/components and probable cause**	**Check or maintenance job**
1	Blown ABS motor fuse	Check the ABS motor fuse. If the ABS motor fuse is blown, replace the fuse and check the wire harness. Refer to “CHECKING THE FUSES” on page 7-81.
2	Defective coupler between the battery and the hydraulic unit assembly	• Check the coupler for any pins that may be pulled out. • Check the locking condition of the coupler. • If there is a malfunction, repair it and connect the coupler securely. See TIP.
3	Open or short circuit in the wire harness between the battery and the hydraulic unit assembly	• Replace if there is an open or short circuit. • Between ABS ECU coupler and ABS motor fuse. (red/blue–red/blue) • Between ABS ECU coupler and ground. (black–black)
4	Defective hydraulic unit assembly	If the above items were performed and no malfunctions were found, replace the hydraulic unit assembly. Refer to “ABS (ANTI-LOCK BRAKE SYSTEM)” on page 7-42.

Fault code No. 34

Fault code No.	**34**	
Item	**Hydraulic unit assembly (short circuit in ABS motor power supply circuit)**	
Symptom	**Short circuit is detected in the motor power supply circuit in the hydraulic unit assembly.**	
Order	**Item/components and probable cause**	**Check or maintenance job**
1	Defective hydraulic unit assembly	Replace the hydraulic unit assembly. Refer to “ABS (ANTI-LOCK BRAKE SYSTEM)” on page 7-42.

Fault code No. 41

Fault code No.	**41**
Item	**Front wheel ABS (intermittent wheel speed pulses or incorrect depressurization)**
Symptom	**• Pulses from the front wheel sensor are received intermittently while the vehicle is traveling.** **• Front wheel will not recover from the locking tendency even though the signal is transmitted from the ABS ECU to reduce the hydraulic pressure.**

Order	Item/components and probable cause	Check or maintenance job
1	Incorrect installation of the front wheel sensor	Check the components for looseness, distortion, and bends. Refer to “CHECKING THE FRONT WHEEL” in base service manual B97-F8197-E0 on page 4-7.
2	Incorrect rotation of the front wheel	Check that there is no brake disc drag on the front wheel and make sure that it rotates smoothly. Refer to “CHECKING THE FRONT WHEEL” in base service manual B97-F8197-E0 on page 4-7. and “CHECKING THE FRONT BRAKE DISC” in base service manual B97-F8197-E0 on page 4-23.
3	Front brake dragging	Check that the brake fluid pressure is correctly transmitted to the brake caliper when the brake lever is operated and that the pressure decreases when the lever is released. Refer to “CHECKING THE FRONT BRAKE DISC” in base service manual B97-F8197-E0 on page 4-23.
4	Defective hydraulic unit assembly	If the above items were performed and no malfunctions were found, replace the hydraulic unit assembly. Refer to “ABS (ANTI-LOCK BRAKE SYSTEM)” on page 7-42.

Fault code No. 42, 47

Fault code No.	**42** **47**
Item	**Rear wheel ABS (intermittent wheel speed pulses or incorrect depressurization)**
Symptom	**• Pulses from the rear wheel sensor are received intermittently while the vehicle is traveling. (for fault code No. 42)** **• Rear wheel will not recover from the locking tendency even though the signal is transmitted from the ABS ECU to reduce the hydraulic pressure.**

Order	Item/components and probable cause	Check or maintenance job
1	Incorrect installation of the rear wheel sensor (for fault code No. 42)	Check the components for looseness, distortion, and bends. Refer to “CHECKING THE REAR WHEEL” in base service manual B97-F8197-E0 on page 4-14.
2	Incorrect rotation of the rear wheel	Check that there is no brake disc drag on the wheel and make sure that it rotates smoothly. Refer to “CHECKING THE REAR WHEEL” in base service manual B97-F8197-E0 on page 4-14.

Fault code No.	**42** **47**
Item	**Rear wheel ABS (intermittent wheel speed pulses or incorrect depressurization)**
Symptom	**• Pulses from the rear wheel sensor are received intermittently while the vehicle is traveling. (for fault code No. 42)** **• Rear wheel will not recover from the locking tendency even though the signal is transmitted from the ABS ECU to reduce the hydraulic pressure.**

Order	Item/components and probable cause	Check or maintenance job
3	Rear brake dragging	Check that the brake fluid pressure is correctly transmitted to the brake caliper when the brake pedal is operated and that the pressure decreases when the pedal is released. Refer to “CHECKING THE REAR BRAKE DISC” in base service manual B97-F8197-E0 on page 4-35.
4	Defective hydraulic unit assembly	If the above items were performed and no malfunctions were found, replace the hydraulic unit assembly. Refer to “ABS (ANTI-LOCK BRAKE SYSTEM)” on page 7-42.

Fault code No. 43

Fault code No.	**43**
Item	**Front wheel sensor (missing pulses)**
Symptom	**Front wheel sensor signal is not received properly. (Missing pulses are detected in the signal while the vehicle is traveling.)**

Order	Item/components and probable cause	Check or maintenance job
1	Foreign material adhered around the front wheel sensor	Check the surface of the sensor rotor and wheel sensor for foreign material, such as metal particles. Clean the sensor rotor and wheel sensor if necessary.
2	Incorrect installation of the front wheel	Check the components for looseness, distortion, and bends. Refer to “CHECKING THE FRONT WHEEL” in base service manual B97-F8197-E0 on page 4-7.
3	Defective sensor rotor or incorrect installation of the rotor	Check the surface of the sensor rotor for damage. Replace the sensor rotor if there is visible damage. Refer to “MAINTENANCE OF THE WHEEL SENSOR AND SENSOR ROTOR” on page 4-13.
4	Defective front wheel sensor or incorrect installation of the sensor	Check the wheel sensor for damage and the installed condition of the sensor. Repair or replace the wheel sensor if necessary. Refer to “MAINTENANCE OF THE WHEEL SENSOR AND SENSOR ROTOR” on page 4-13.

Fault code No. 44

Fault code No.	**44**	
Item	**Rear wheel sensor (missing pulses)**	
Symptom	**Rear wheel sensor signal is not received properly. (Missing pulses are detected in the signal while the vehicle is traveling.)**	
Order	**Item/components and probable cause**	**Check or maintenance job**
1	Foreign material adhered around the rear wheel sensor	Check the surface of the sensor rotor and wheel sensor for foreign material, such as metal particles. Clean the sensor rotor and wheel sensor if necessary.
2	Incorrect installation of the rear wheel	Check the components for looseness, distortion, and bends. Refer to “CHECKING THE REAR WHEEL” in base service manual B97-F8197-E0 on page 4-14.
3	Defective sensor rotor or incorrect installation of the rotor	Check the surface of the sensor rotor for damage. Replace the sensor rotor if there is visible damage. Refer to “MAINTENANCE OF THE WHEEL SENSOR AND SENSOR ROTOR” on page 4-13.
4	Defective rear wheel sensor or incorrect installation of the sensor	Check the wheel sensor for damage and the installed condition of the sensor. Repair or replace the wheel sensor if necessary. Refer to “MAINTENANCE OF THE WHEEL SENSOR AND SENSOR ROTOR” on page 4-13.

Fault code No. 51, 52

Fault code No.	**51** **52**	
Item	**• Vehicle system power supply (voltage of ABS ECU power supply is high) (for fault code No. 51)** **• Vehicle system power supply (voltage of wheel sensor power supply is high) (for fault code No. 52)**	
Symptom	**• Power voltage supplied to the ABS ECU in the hydraulic unit assembly is too high. (for fault code No. 51)** **• Power voltage supplied to the wheel sensor is too high. (for fault code No. 52)**	
Order	**Item/components and probable cause**	**Check or maintenance job**
1	Defective battery	Recharge or replace the battery. Refer to “CHECKING AND CHARGING THE BATTERY” in base service manual B97-F8197-E0 on page 7-62.
2	Disconnected battery terminal	Check the connection. Replace or reconnect the terminal if necessary.
3	Defective charging system	Check the charging system. Refer to “CHARGING SYSTEM” on page 7-15.

Fault code No. 53

TIP

Turn the main switch to “OFF” before disconnecting or connecting a coupler.

Fault code No.	**53**	
Item	**Vehicle system power supply (voltage of ABS ECU power supply is low)**	
Symptom	**Power voltage supplied to the ABS ECU in the hydraulic unit assembly is too low.**	
Order	**Item/components and probable cause**	**Check or maintenance job**
1	Defective battery	Recharge or replace the battery. Refer to “CHECKING AND CHARGING THE BATTERY” in base service manual B97-F8197-E0 on page 7-62.
2	Defective coupler between the battery and the hydraulic unit assembly	• Check the coupler for any pins that may be pulled out. • Check the locking condition of the coupler. • If there is a malfunction, repair it and connect the coupler securely. See TIP.
3	Open or short circuit in the wire harness between the battery and the hydraulic unit assembly	• Replace if there is an open or short circuit. • Between ABS ECU coupler and ABS control unit fuse. (brown–brown)
4	Defective charging system	Check the charging system. Refer to “CHARGING SYSTEM” on page 7-15.

Fault code No. 54

Turn the main switch to “OFF” before disconnecting or connecting a coupler.

Fault code No.	**54**	
Item	**Hydraulic unit assembly (defective ABS solenoid and ABS motor power supply circuits)**	
Symptom	**Abnormality is detected in the solenoid or motor power supply circuit in the hydraulic unit assembly.**	
Order	**Item/components and probable cause**	**Check or maintenance job**
1	Defective battery	Recharge or replace the battery. Refer to “CHECKING AND CHARGING THE BATTERY” in base service manual B97-F8197-E0 on page 7-62.
2	Defective coupler between the battery and the hydraulic unit assembly	• Check the coupler for any pins that may be pulled out. • Check the locking condition of the coupler. • If there is a malfunction, repair it and connect the coupler securely. See TIP.
3	Open or short circuit in the wire harness between the battery and the hydraulic unit assembly	• Replace if there is an open or short circuit. • Between ABS ECU coupler and ABS motor fuse. (red/blue–red/blue) • Between ABS ECU coupler and ABS solenoid fuse. (red–red)

Fault code No.	54	
Item	Hydraulic unit assembly (defective ABS solenoid and ABS motor power supply circuits)	
Symptom	Abnormality is detected in the solenoid or motor power supply circuit in the hydraulic unit assembly.	
Order	**Item/components and probable cause**	**Check or maintenance job**
4	Defective charging system	Check the charging system. Refer to “CHARGING SYSTEM” on page 7-15.
5	Defective hydraulic unit assembly	If the above items were performed and no malfunctions were found, replace the hydraulic unit assembly. Refer to “ABS (ANTI-LOCK BRAKE SYSTEM)” on page 7-42.

Fault code No. 55

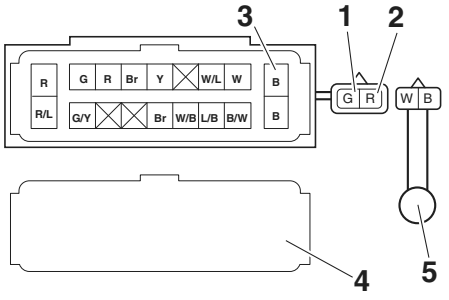
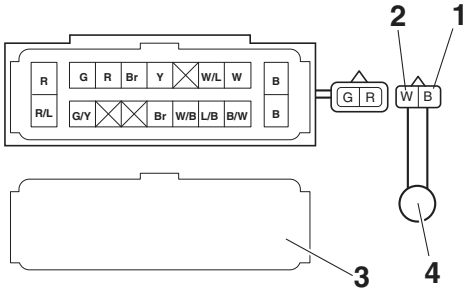
Fault code No.	55	
Item	Hydraulic unit assembly (defective ABS ECU)	
Symptom	Abnormal data is detected in the hydraulic unit assembly.	
Order	**Item/components and probable cause**	**Check or maintenance job**
1	Defective hydraulic unit assembly	Replace the hydraulic unit assembly. Refer to “ABS (ANTI-LOCK BRAKE SYSTEM)” on page 7-42.

Fault code No. 56

Fault code No.	56	
Item	Hydraulic unit assembly (abnormal internal power supply)	
Symptom	Abnormality is detected in the power supply circuit in the hydraulic unit assembly.	
Order	**Item/components and probable cause**	**Check or maintenance job**
1	Defective hydraulic unit assembly	Replace the hydraulic unit assembly. Refer to “ABS (ANTI-LOCK BRAKE SYSTEM)” on page 7-42.

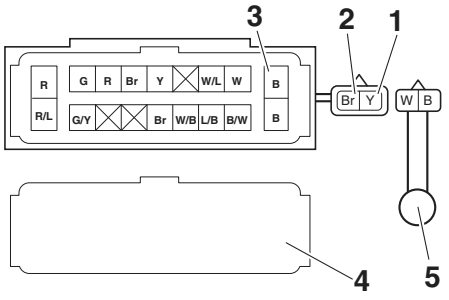
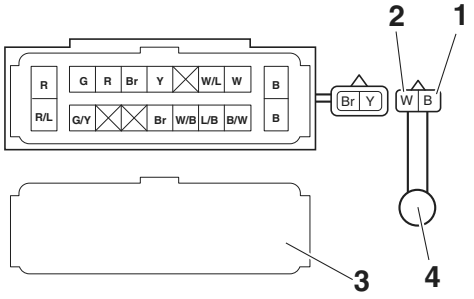
Fault code No. 63

Fault code No.	**63**
Item	**Front wheel sensor power supply (voltage of power supply is low)**
Symptom	**Power voltage supplied from the ABS ECU to the front wheel sensor is too low.**

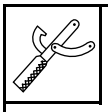
Order	Item/components and probable cause	Check or maintenance job
1	Short circuit in the wire harness between the front wheel sensor and the hydraulic unit assembly	• Check that there is no short circuit between the green terminal “1” and the red terminal “2”. • Check that there is no short circuit between the black terminal “3” and the green terminal “1”. • If there is a short circuit, the wire harness is defective. Replace the wire harness.  4. ABS ECU 5. Front wheel sensor
2	Defective front wheel sensor	• Check that there is no short circuit between the black terminal “1” and the white terminal “2”. • If there is a short circuit, the wheel sensor is defective. Repair or replace the wheel sensor.  3. ABS ECU 4. Front wheel sensor
3	Defective hydraulic unit assembly	Replace the hydraulic unit assembly. Refer to “ABS (ANTI-LOCK BRAKE SYSTEM)” on page 7-42.

Fault code No. 64

Fault code No.	**64**
Item	**Rear wheel sensor power supply (voltage of power supply is low)**
Symptom	**Power voltage supplied from the ABS ECU to the rear wheel sensor is too low.**

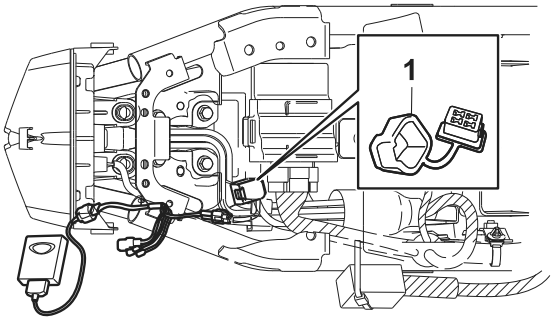
Order	Item/components and probable cause	Check or maintenance job
1	Short circuit in the wire harness between the rear wheel sensor and the hydraulic unit assembly	• Check that there is no short circuit between the yellow terminal “1” and the brown terminal “2”. • Check that there is no short circuit between the black terminal “3” and the yellow terminal “1”. • If there is a short circuit, the wire harness is defective. Replace the wire harness.  4. ABS ECU 5. Rear wheel sensor
2	Defective rear wheel sensor	• Check that there is no short circuit between the black terminal “1” and the white terminal “2”. • If there is a short circuit, the wheel sensor is defective. Repair or replace the wheel sensor.  3. ABS ECU 4. Rear wheel sensor
3	Defective hydraulic unit assembly	Replace the hydraulic unit assembly. Refer to “ABS (ANTI-LOCK BRAKE SYSTEM)” on page 7-42.

EAS31167
[B-3] DELETING THE FAULT CODES
To delete the fault codes, use the Yamaha diagnostic tool. For information about deleting the fault codes, refer to the operation manual of the Yamaha diagnostic tool.
Check that all the displayed fault codes are deleted.



Yamaha diagnostic tool USB
NS-018
90890-03267
INS-019
90890-03262

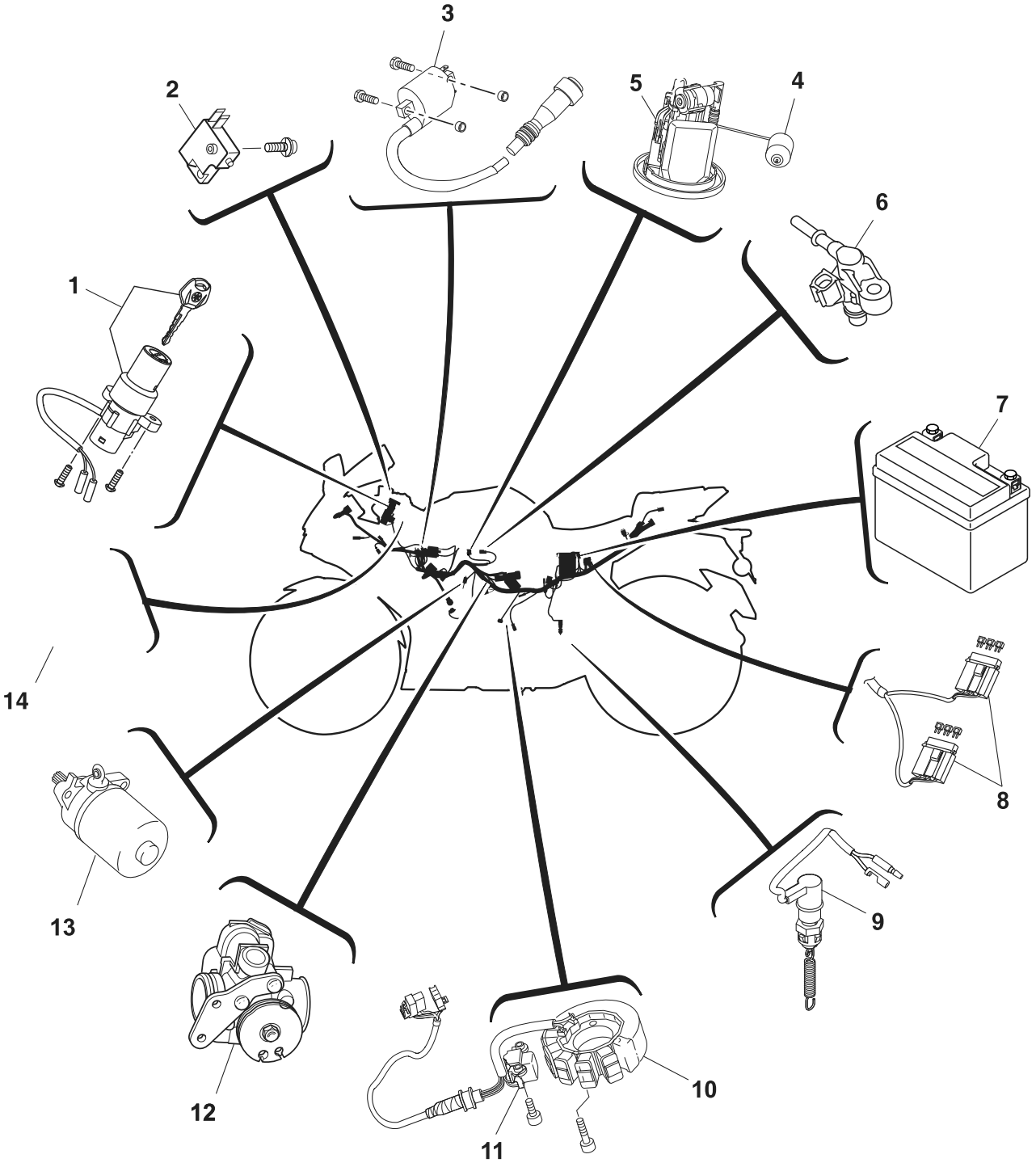
Connecting the Yamaha diagnostic tool
Remove the protective cap “1”, and then connect the Yamaha diagnostic tool to the coupler.



EAS31168
[C-1] FINAL CHECK
Check all the following items to complete the inspection.
If the process is not completed properly, start again from the beginning.

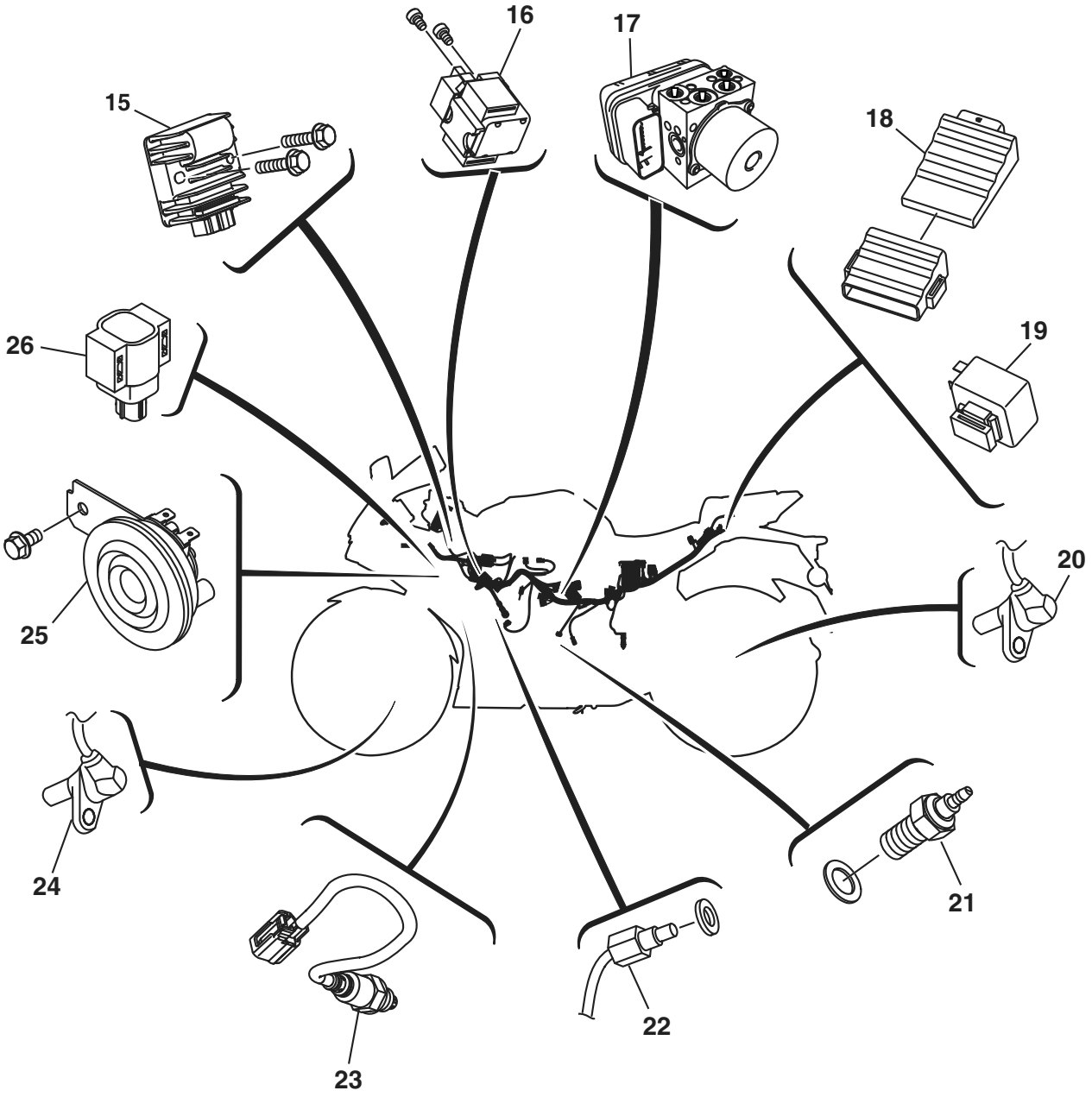
Checking procedures
1. Check the brake fluid level in the brake master cylinder reservoir and brake fluid reservoir.
2. Check the wheel sensors for proper installation.
   Refer to “INSTALLING THE FRONT WHEEL” on page 4-15 and “REMOVING THE REAR WHEEL” on page 4-19.
3. Perform brake line routing confirmation.
   Refer to “HYDRAULIC UNIT OPERATION TESTS” on page 4-32.
   If it does not have reaction-force properly, the brake hose is not properly routed or connected.
4. Delete the fault codes.
   Refer to “[B-3] DELETING THE FAULT CODES” on page 7-75.
5. Checking the ABS warning light.
   Check that the ABS warning light goes off.
   If ABS warning light does not come on or if it does not goes off, refer to “[A] CHECKING THE ABS WARNING LIGHT” on page 7-50.
   - The problem is not solved.
   - Open circuit between the ABS ECU and the meter assembly.
     Check for continuity between white/blue terminal of the ABS ECU coupler and white/blue terminal of the meter assembly coupler.
   - Malfunction in the meter assembly circuit.
   - Malfunction in the ABS warning light circuit in the hydraulic unit assembly.

EAS20089
ELECTRICAL COMPONENTS



1. Main switch
2. Front brake light switch
3. Ignition coil
4. Fuel sender
5. Fuel pump
6. Fuel injector
7. Battery

8. Fuse box
9. Rear brake light switch
10. AC magneto
11. Crankshaft position sensor
12. Throttle body sensor assembly
13. Starter motor
14. Clutch switch



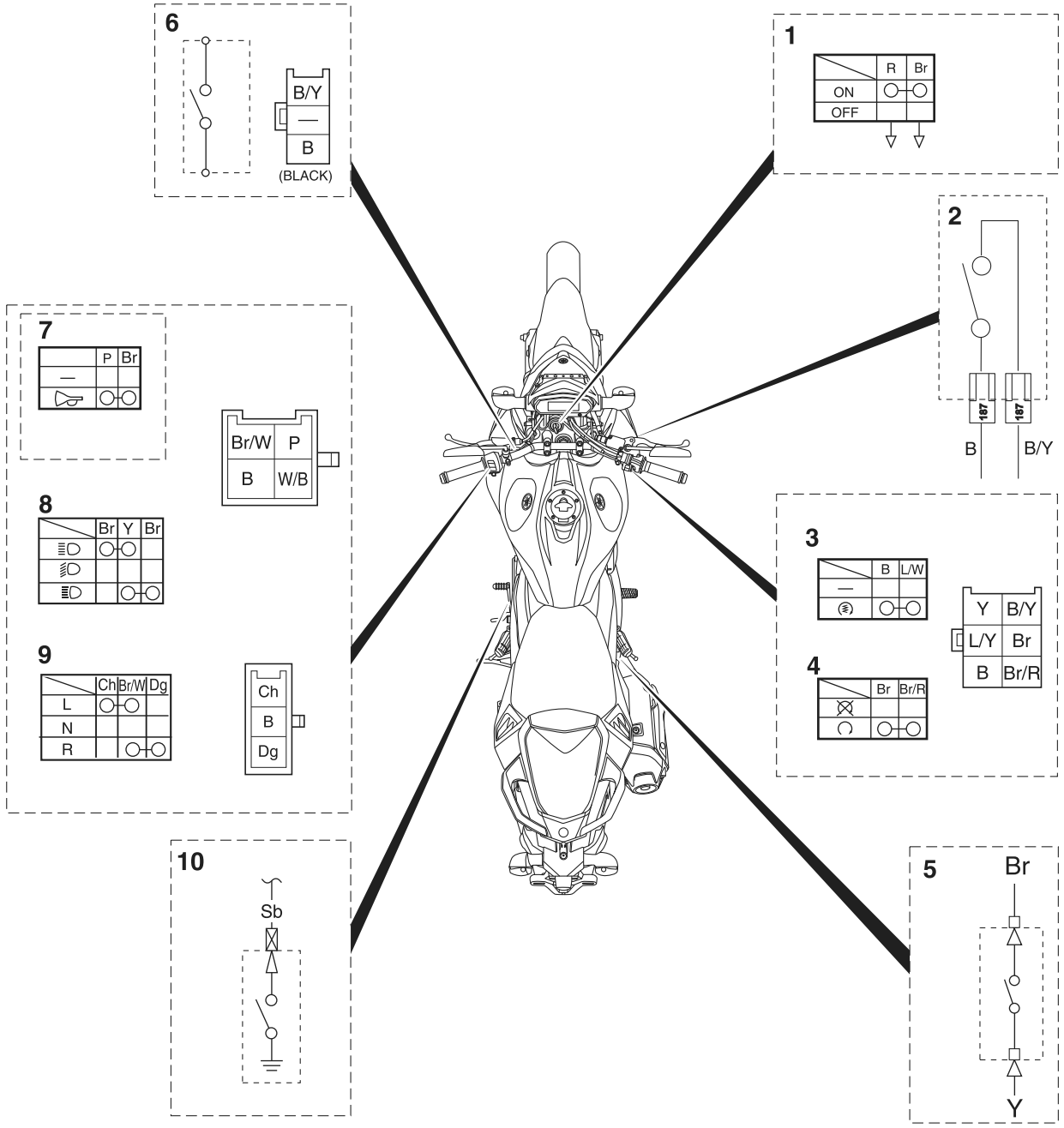
15. Rectifier/regulator
16. Starter relay
17. Hydraulic unit assembly
18. ECU (Engine Control Unit)
19. Turn signal relay
20. Rear wheel sensor

21. Neutral switch
22. Engine temperature sensor
23. O_2 sensor
24. Front wheel sensor
25. Horn
26. Lean angle sensor

EAS30549

CHECKING THE SWITCHES

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



1. Main switch
2. Front brake light switch
3. Starter switch
4. Engine stop switch
5. Rear brake light switch
6. Clutch switch
7. Horn switch
8. Dimmer/Pass switch
9. Turn signal light switch
10. Neutral switch

EAS30551
CHECKING THE FUSES

The following procedure applies to all of the fuses.

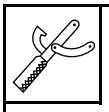
ECA20520
NOTICE

To avoid a short circuit, always turn the main switch to "OFF" when checking or replacing a fuse.

1. Remove:
   - Rider seat and passenger seat
     Refer to "GENERAL CHASSIS" in base service manual B97-F8197-E0 on page 4-1.
2. Check:
   - Fuse
     a. Connect the multimeter to the fuse and check the continuity.

TIP

Set the multimeter selector to "Ω × 1".



Multimeter
INS-003
(90890-03189)

   b. If the multimeter indicates "∞", replace the fuse.
3. Replace:
   - Blown fuse
     a. Set the main switch to "OFF".
     b. Install a new fuse of the correct amperage rating.
     c. Set on the switches to verify if the electrical circuit is operational.
     d. If the fuse immediately blows again, check the electrical circuit.

Fuses	Amperage rating	Q'ty
Main	15 A	1
ABS solenoid	15 A	1
ABS motor	30 A	1
ABS control unit	2 A	1
Spare	30 A	1
Spare	15 A	1
Spare	2 A	1

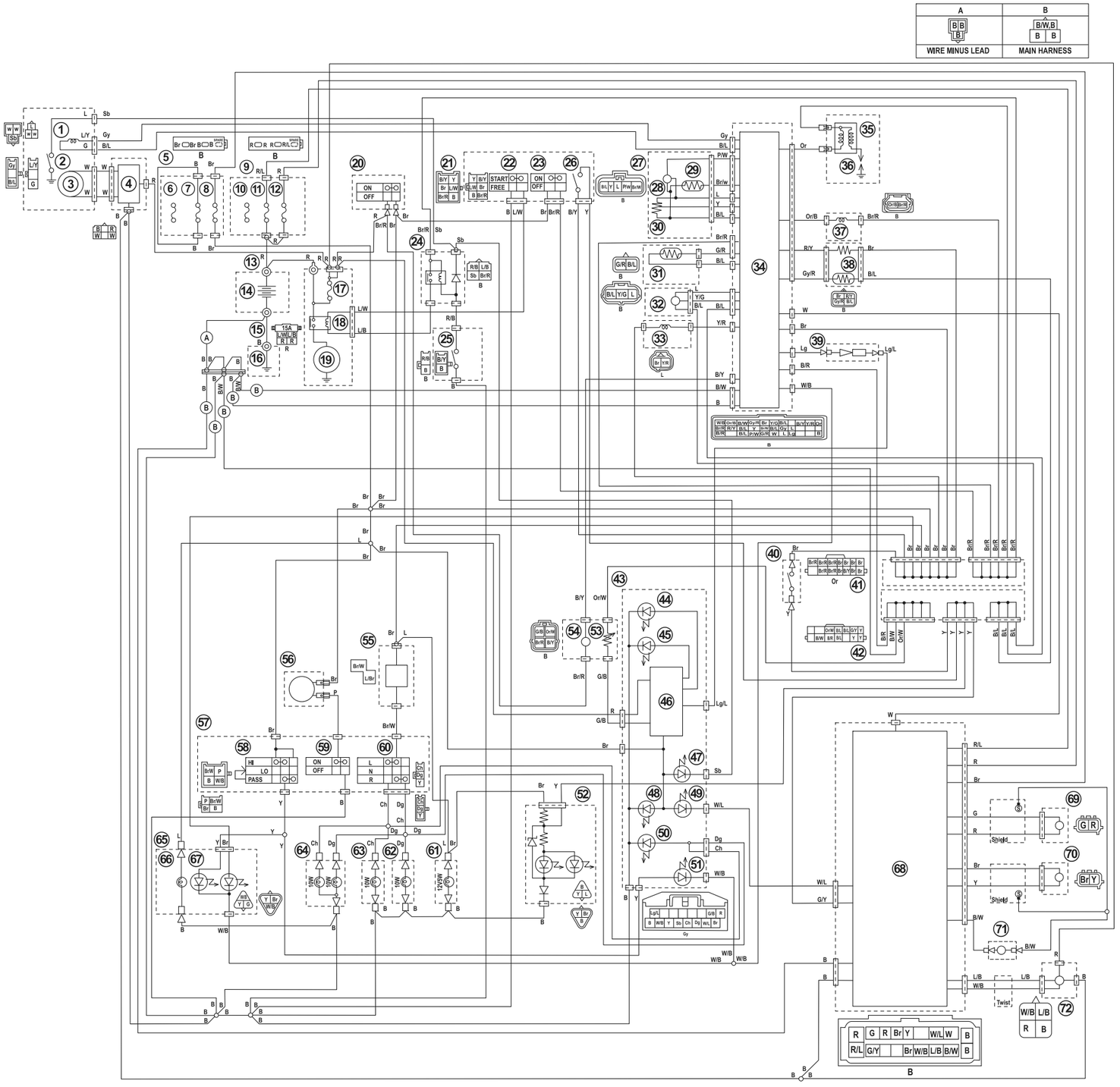
EWA13310

WARNING

Never use a fuse with an amperage rating other than that specified. Improvising or using a fuse with the wrong amperage rating may cause extensive damage to the electrical system, cause the lighting and ignition systems to malfunction and could possibly cause a fire.

4. Install:
   - Rider seat and passenger seat
     Refer to “GENERAL CHASSIS” in base service manual B97-F8197-E0 on page 4-1.

WIRING DIAGRAM (FZ25-ABS)



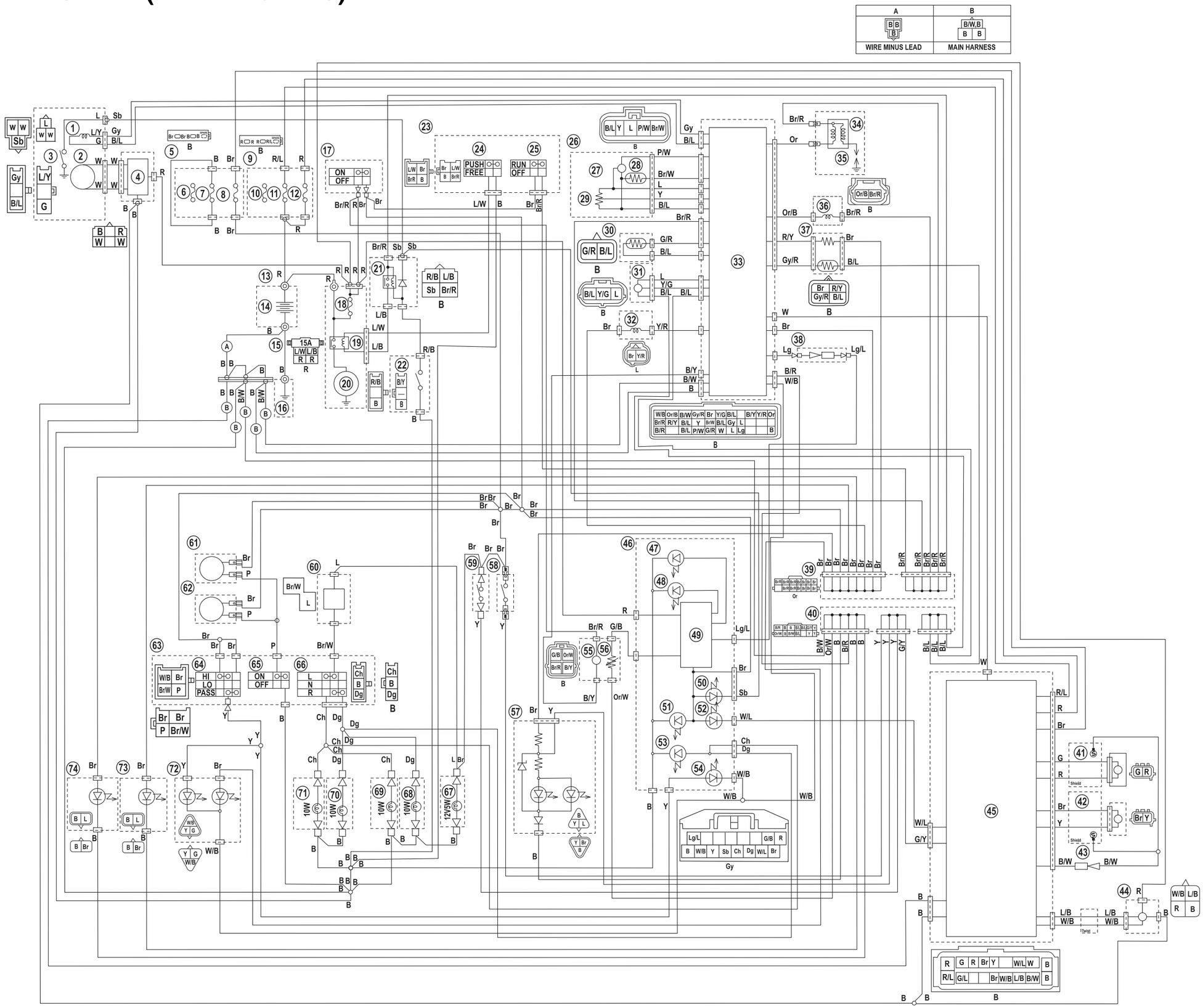
WIRING DIAGRAM (For FZ25-ABS)

1. Crankshaft position sensor
2. Neutral switch
3. Stator coil
4. Rectifier/Regulator
5. Fuse box 1
6. ABS solenoid spare fuse
7. ABS control unit spare fuse
8. ABS control unit fuse
9. Fuse box2
10. ABS motor spare fuse
11. ABS motor fuse
12. ABS solenoid fuse
13. Battery positive lead
14. Battery
15. Battery negative lead
16. Engine ground
17. Fuse
18. Starter relay
19. Starter motor
20. Main switch
21. Right handlebar switch
22. Start switch
23. Engine stop switch
24. Starting circuit cut off relay
25. Clutch switch
26. Front brake light switch
27. Throttle body sensor assembly
28. Intake air pressure sensor
29. Intake air temperature sensor
30. Throttle position sensor
31. Engine temperature sensor
32. Lean angle sensor
33. FID (Fast idle device)
34. ECU (Engine control unit)
35. Ignition coil
36. Spark plug
37. Fuel injection
38. O_2 sensor
39. Yamaha diagnostic tool coupler
40. Rear brake light switch
41. J/C 2 (Joint connector)
42. J/C 3 (Joint connector)
43. Meter assembly
44. FFV
45. Engine trouble warning light
46. Multifunction display
47. Neutral indicator light
48. Meter light
49. ABS warning light
50. Turn signal light indicator
51. High beam indicator
52. Brake/taillight
53. Fuel sender
54. Fuel pump
55. Turn signal relay
56. Horn
57. Left handlebar switch
58. Dimmer and pass switch
59. Horn switch
60. Turn signal switch
61. Licence plate light
62. Rear turn signal light (right)
63. Rear turn signal light (left)
64. Front turn signal light (right/left)
65. Head light assembly
66. Auxiliary light
67. Head light
68. ABS ECU clutch control unit
69. Front wheel sensor
70. Rear wheel sensor unit
71. Joint 1
72. ABS test coupler

COLOR CODE

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

WIRING DIAGRAM (FAZER25-ABS)



WIRING DIAGRAM (For FAZER25-ABS)

1. Crankshaft position sensor
2. Stator coil
3. Neutral switch
4. Rectifier/Regulator
5. Fuse box 1
6. ABS solenoid spare fuse
7. ABS control unit spare fuse
8. ABS control unit fuse
9. Fuse box 2
10. ABS motor spare fuse
11. ABS motor fuse
12. ABS solenoid fuse
13. Battery positive lead
14. Battery
15. Battery negative lead
16. Engine ground
17. Main switch
18. Fuse
19. Starter relay
20. Starter motor
21. Starting circuit cut off relay
22. Clutch switch
23. Right handlebar switch
24. Start switch
25. Engine stop switch
26. Throttle body sensor assembly
27. Intake air pressure sensor
28. Intake air temperature sensor
29. Throttle position sensor
30. Engine temperature sensor
31. Lean angle sensor
32. FID (Fast Idle Device)
33. ECU (Engine Control Unit)
34. Ignition coil
35. Spark plug
36. Fuel injector
37. O_2 sensor
38. Yamaha diagnostic tool coupler
39. J/C 2 (Joint connector)
40. J/C 3 (Joint connector)
41. Front speed sensor
42. Rear speed sensor
43. Joint
44. ABS test coupler
45. ABS ECU (electric control unit)
46. Meter assembly
47. FFV
48. Engine trouble warning light
49. Multi-function display
50. Neutral Indicator light
51. Meter light
52. ABS warning light
53. Turn signal indicator light
54. High beam indicator light
55. Fuel pump
56. Fuel sender
57. Brake/taillight
58. Front brake light switch
59. Rear brake light switch
60. Turn signal relay
61. Horn 1
62. Horn 2
63. Left handlebar switch
64. Dimmer and pass switch
65. Horn switch
66. Turn signal switch
67. License plate light
68. Rear turn signal light (right)
69. Rear turn signal light (left)
70. Front turn signal light (right)
71. Front turn signal light (left)
72. Headlight assembly
73. Auxiliary light (right)
74. Auxiliary light (left)

COLOR CODE

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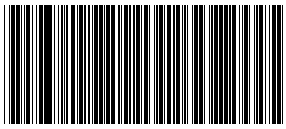
Or/W	Orange/White
P/W	Pink/White
R/B	Red/Black
R/L	Red/Blue
R/W	Red/White
Y/B	Yellow/Black
Y/G	Yellow/Green
Y/L	Yellow/Blue
Y/R	Yellow/Red
Y/W	Yellow/White
W/B	White/Black
W/L	White/Blue
W/R	White/Red
W/Y	White/Yellow

INDIA YAMAHA MOTOR PVT. LTD.
A-3, Industrial Area, Noida Dadri Road,
Surajpur – 201 306, Distt. – Gautam Budh Nagar, (U.P)

BC4-F8197-E1



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