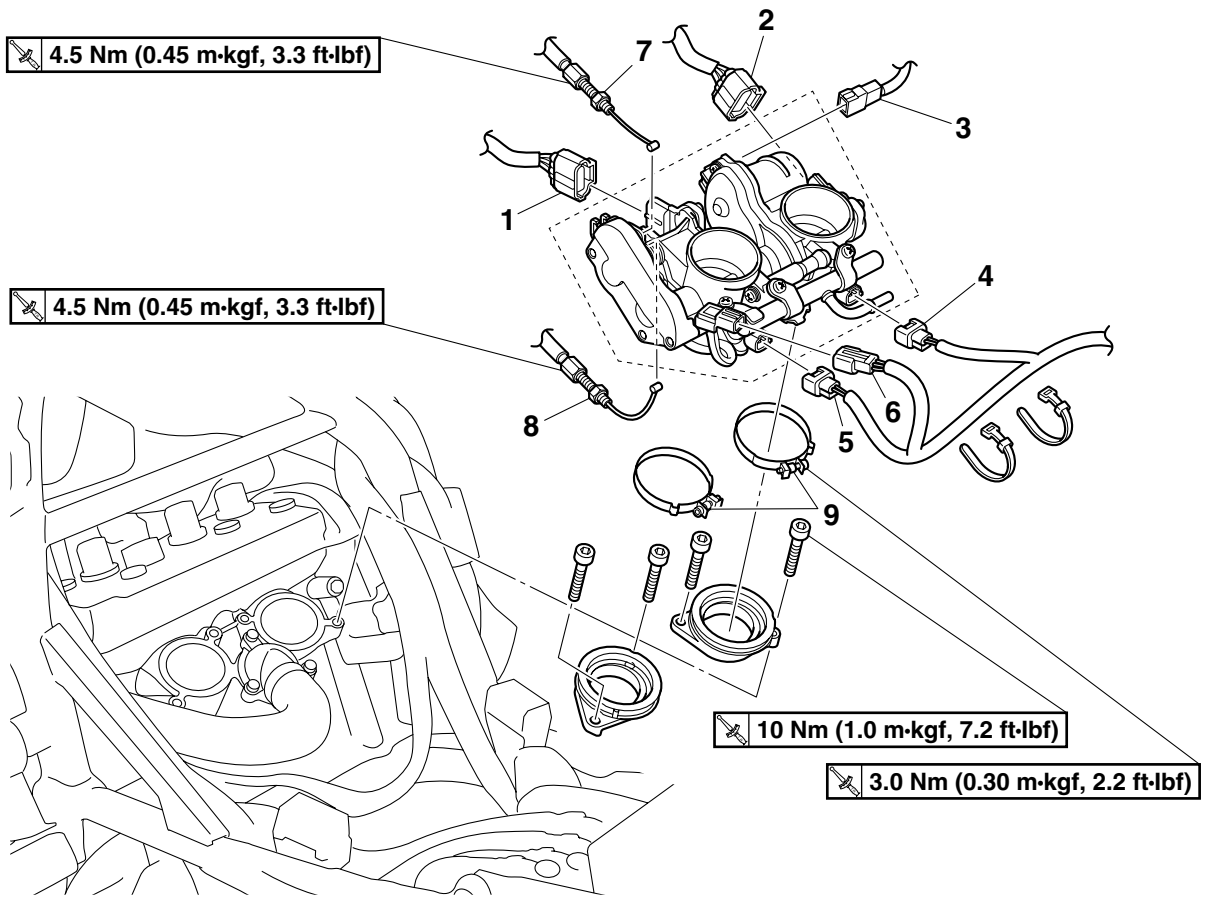
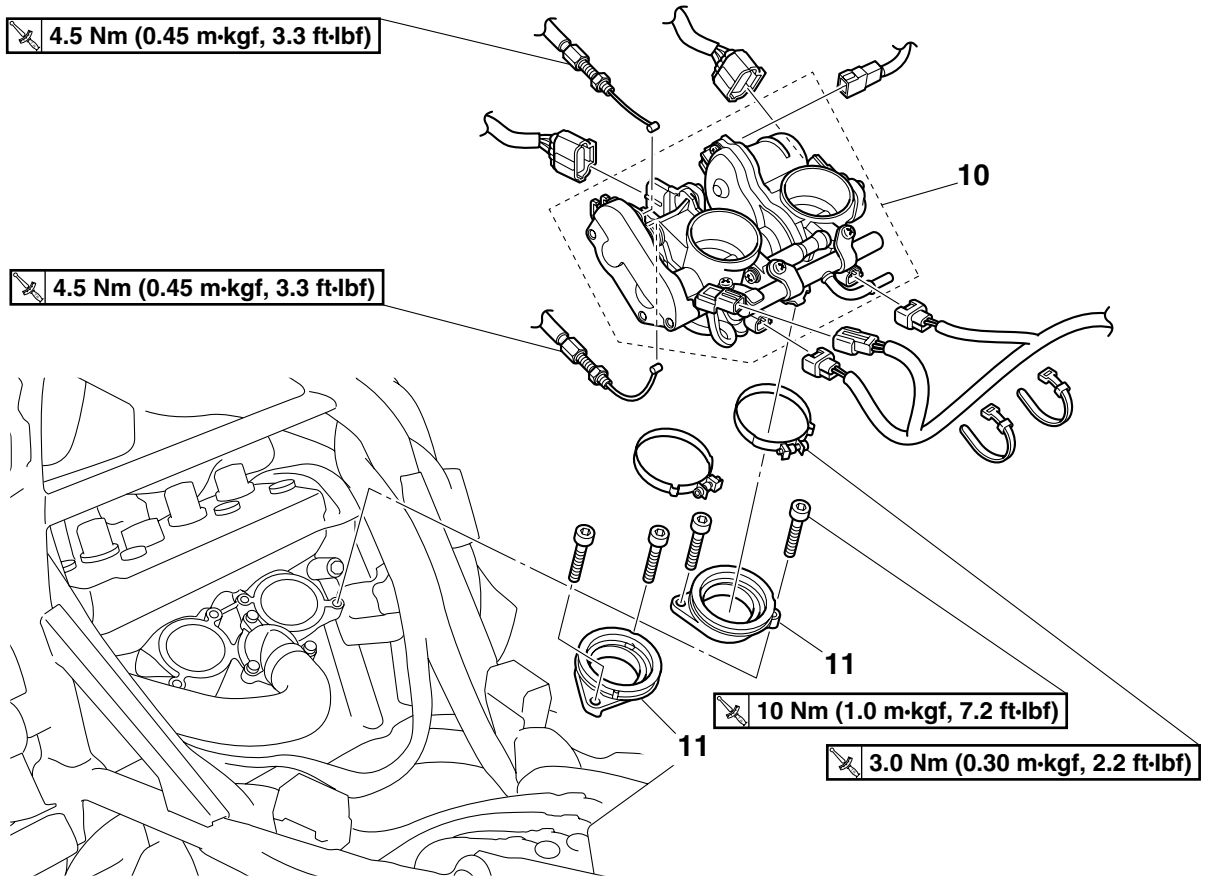
EAS26970
THROTTLE BODIES

Removing the throttle bodies



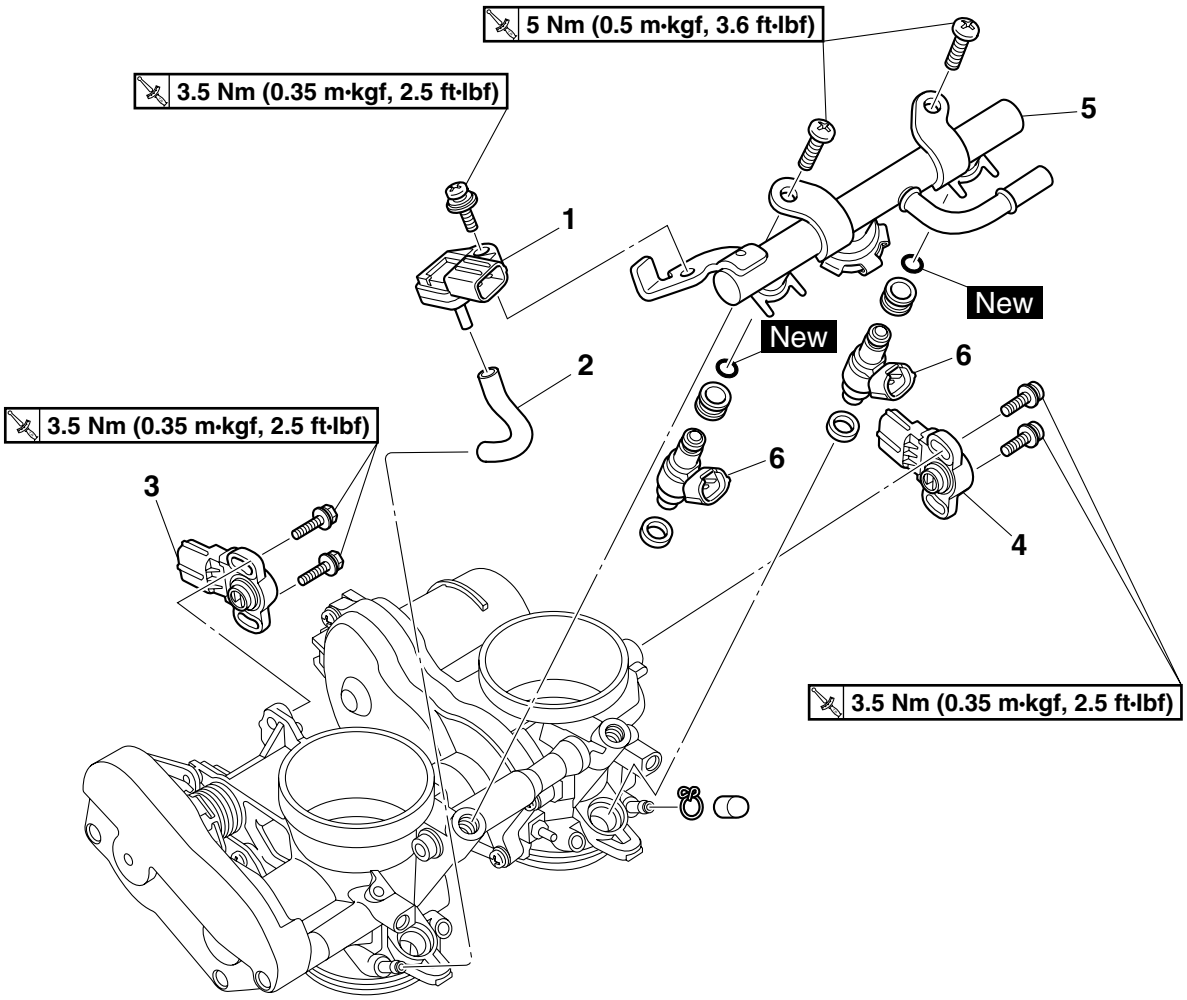
Order	Job/Parts to remove	Q'ty	Remarks
	Fuel tank		Refer to "FUEL TANK" on page 7-1.
	Air filter case		Refer to "GENERAL CHASSIS" on page 4-1.
1	Accelerator position sensor coupler	1	Disconnect.
2	Throttle position sensor coupler	1	Disconnect.
3	Throttle servo motor coupler	1	Disconnect.
4	Injector #2 coupler	1	Disconnect.
5	Injector #1 coupler	1	Disconnect.
6	Intake air pressure sensor coupler	1	Disconnect.
7	Throttle cable (decelerator cable)	1	Disconnect.
8	Throttle cable (accelerator cable)	1	Disconnect.
9	Throttle body joint clamp screw	2	Loosen.

Removing the throttle bodies



Order	Job/Parts to remove	Q'ty	Remarks
10	Throttle bodies	1	
11	Throttle body joint	2	
			For installation, reverse the removal procedure.

Removing the injectors



Order	Job/Parts to remove	Q'ty	Remarks
1	Intake air pressure sensor	1	
2	Negative pressure hose	1	
3	Accelerator position sensor	1	
4	Throttle position sensor	1	
5	Fuel rail	1	
6	Injector	2	
			For installation, reverse the removal procedure.

EAS23P1077
CHECKING THE INJECTORS (BEFORE REMOVING)

1. Check:
   • Injectors
   Use the diagnostic code number “d:36–d:37”.
   Refer to “DIAGNOSTIC MODE” on page 8-34.

EAS23P1078
REMOVING THE INJECTORS

EWA23P1029
⚠ WARNING

- **Check the injectors in a well-ventilated area free of combustible materials. Make sure that there is no smoking or use of electric tools in the vicinity of the injectors.**
- **Be careful when disconnecting the fuel hose. Any remaining pressure in the fuel hose may cause the fuel to spray out. Place a container or rag under the hose to catch any fuel that spills. Always clean up any spilt fuel immediately.**
- **Turn the main switch to “OFF” and disconnect the negative battery lead from the battery terminal before removing the injectors.**

1. Remove:
   • Fuel rail “1”

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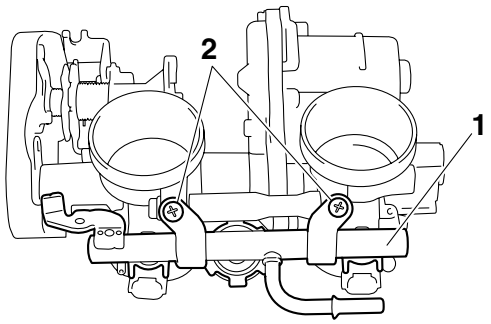
a. Remove the fuel rail screws “2” as shown.



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EAS23P1079
CHECKING THE INJECTORS

1. Check:
   • Injectors
   Obstruction → Replace and check the fuel pump/fuel supply system.
   Deposit → Replace.
   Damage → Replace.
2. Check:
   • Injector resistance
   Refer to “CHECKING THE FUEL INJECTORS” on page 8-155.

EAS23P1080
CHECKING AND CLEANING THE THROTTLE BODIES

TIP

Clean the throttle bodies only if they cannot be synchronized using the bypass air screws. Before cleaning the throttle bodies, check the following items:
- Valve clearance
- Spark plugs
- Air filter element
- Throttle body joints
- Fuel hose
- Exhaust system
- Cylinder head breather hose

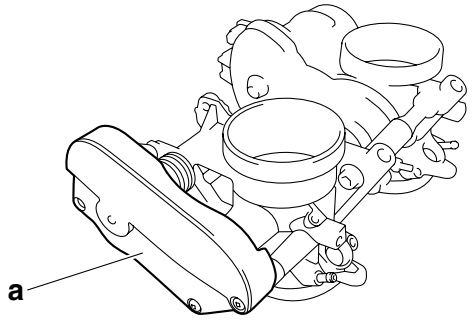
EWA23P1030
⚠ WARNING

If the throttle bodies are subjected to strong shocks or dropped during cleaning, replace them as a set.

1. Check:
   • Throttle bodies
   Cracks/damage → Replace the throttle bodies.

TIP

If the protector “a” is scratched or damaged, replace the throttle bodies.

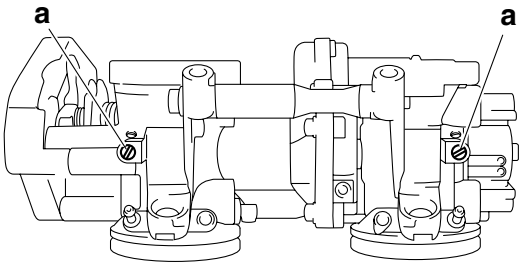


2. Clean:
   • Throttle bodies

ECA23P1066
NOTICE

- **Observe the following precautions; otherwise, the throttle bodies may not operate properly.**
- **Do not open the throttle valves quickly.**
- **Do not subject the throttle bodies to excessive force.**
- **Wash the throttle bodies in a petroleum-based solvent.**
- **Do not use any caustic carburetor cleaning solution.**

• Do not apply cleaning solvent directly to any plastic parts, sensors, or seals.
• Do not directly push the throttle valves to open them.
• Be careful not to remove the white paint mark that identifies the standard throttle body. Do not turn the bypass air screws "a"; otherwise, the throttle body synchronization will be affected.



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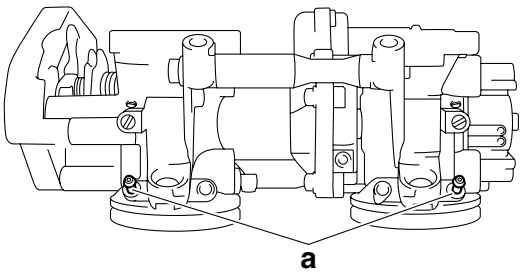
a. Place the throttle bodies on a flat surface with the air filter case side facing up.
b. Install the caps (895-14169-00) onto the hose fittings "a".



c. Push the lever in the direction shown in the illustration to hold the throttle valves in the open position.

EWA23P1031

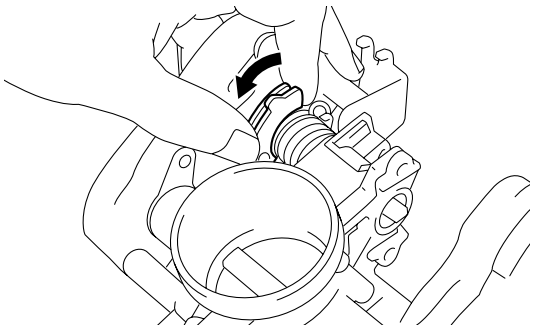
⚠ WARNING

When cleaning the throttle bodies, be careful not to injure yourself on the throttle valves or other components of the throttle bodies.

ECA23P1067

NOTICE

Do not open the throttle valves by supplying electrical power to the throttle bodies.



d. Apply a petroleum-based solvent to the throttle valves and the inside of the throttle bodies to remove any carbon deposits.

TIP

• Do not allow any petroleum-based solvent to enter the opening for the injectors.
• Do not apply any petroleum-based solvent to the portions of the throttle valve shafts between the throttle bodies.

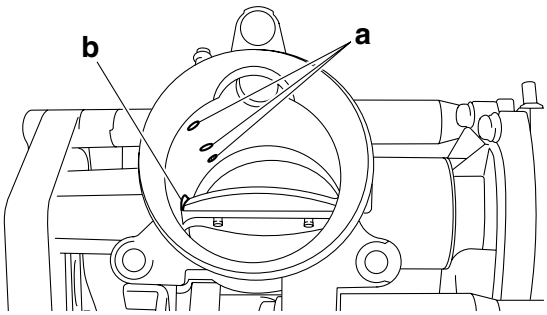
e. Remove the carbon deposits from the inside of each throttle body in a downward direction, from the air filter case side of the throttle body to the engine side.

ECA23P1068

NOTICE

• Do not use a tool, such as a wire brush, to remove the carbon deposits; otherwise, the inside of the throttle bodies may be damaged.
• Do not allow carbon deposits or other foreign materials to enter any of the passages in each throttle body or in the space between the throttle valve shaft and the throttle body.

f. After removing the carbon deposits, clean the inside of the throttle bodies with a petroleum-based solvent, and then dry the throttle bodies using compressed air.
g. Make sure that there are no carbon deposits or other foreign materials in any of the passages "a" in each throttle body or in the space "b" between the throttle valve shaft and the throttle body.



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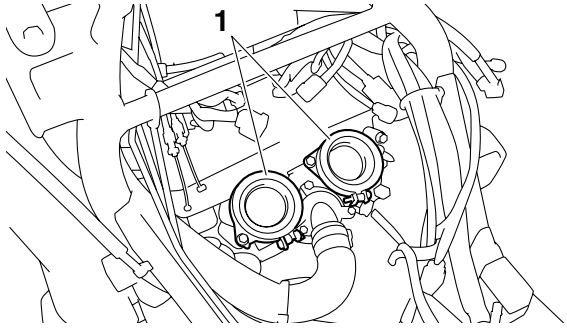
3. Adjust:
   • Throttle bodies synchronizing
   Out of specification → Replace the throttle bodies.
   Refer to "SYNCHRONIZING THE THROTTLE BODIES" on page 3-8.

EAS21010
CHECKING THE THROTTLE BODY JOINTS

1. Remove:
   • Air filter case
   Refer to "GENERAL CHASSIS" on page 4-1.
   • Throttle bodies
   Refer to "THROTTLE BODIES" on page 7-5.
2. Check:
   • Throttle body joints "1"
   Cracks/damage → Replace.



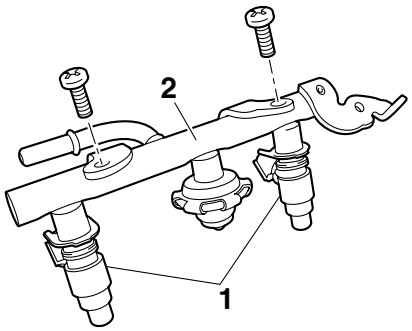
3. Install:
   • Throttle bodies
   Refer to "THROTTLE BODIES" on page 7-5.
   • Air filter case
   Refer to "GENERAL CHASSIS" on page 4-1.

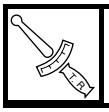
EAS23P1081
INSTALLING THE INJECTORS

ECA23P1069
NOTICE

- **Always use new O-rings.**
- **When checking the injectors, do not allow any foreign material to enter or adhere to the injectors, fuel rail, or O-rings.**
- **Be careful not to twist or pinch the O-rings when installing the injectors.**
- **If an injector is subject to strong shocks or excessive force, replace it.**
- **If installing the original fuel rail and screws, remove the white paint marks using a cleaning solvent. Otherwise, paint chips on the screw seats could prevent the screws from being tightened to the specified torque.**

1. Install a new seals onto the end of each injector.
2. Install the injectors "1" to the fuel rail "2".



	**Fuel rail screw** **5 Nm (0.5 m·kgf, 3.6 ft·lbf)**

3. Install the injector assemblies to the throttle bodies.
4. Check the injector pressure after the injectors are installed to the throttle bodies.
   Refer to "CHECKING THE INJECTOR PRESSURE" on page 7-10.

EAS23P1082
CHECKING THE INJECTOR PRESSURE

TIP

- After installing the injectors, perform the following steps to check the injector pressure.
- Do not allow any foreign materials to enter the fuel lines.

1. Check:
   • Injector pressure

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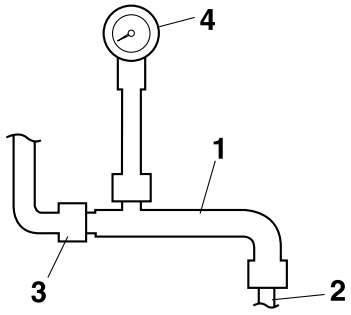
a. Connect the injector pressure adapter "1" to the fuel rail "2", and then connect an air compressor "3" to the adapter.
b. Connect the pressure gauge "4" to the injector pressure adapter "1".

Pressure gauge
90890-03153
YU-03153
Fuel injector pressure adapter
90890-03210
YU-03210



c. Close the valve on the injector pressure adapter.
d. Apply air pressure with the air compressor.
e. Open the valve on the injector pressure adapter until the specified pressure is reached.

Specific air pressure
490 kPa (4.9 kgf/cm^2, 69.7 psi)

ECA23P1070
NOTICE
Never exceed the specified air pressure or damage could occur.

f. Close the valve on the injector pressure adapter.
g. Check that the specified air pressure is held for about one minute.
Pressure drops → Check the pressure gauge and adapter.
Check the seals and O-rings and then reinstall.
Replace the fuel injectors.

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EAS23P1083
CHECKING THE FUEL PRESSURE

1. Check:
• Fuel pressure

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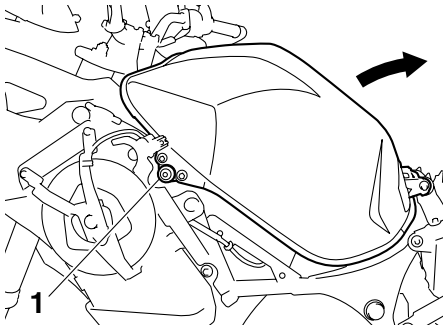
a. Remove the fuel tank bolts “1” and holdup the fuel tank.

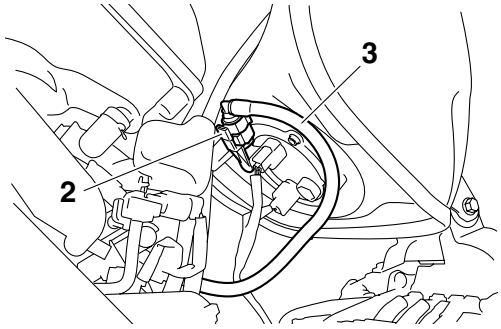
ECA23P1003
NOTICE
When lifting up the fuel tank, be careful not to pull the fuel tank overflow hose and fuel tank breather hose.



b. Remove the fuel hose holder “2” and then disconnect the fuel hose “3” from the fuel tank.

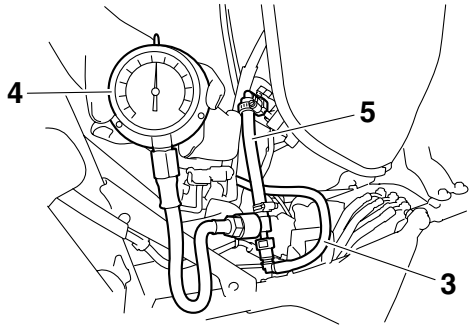
EWA23P1032
⚠ WARNING
Cover fuel hose connections with a cloth when disconnecting them. Residual pressure in the fuel lines could cause fuel to spurt out when removing the hose.

ECA23P1071
NOTICE
Be sure to disconnect the fuel hose by hand. Do not forcefully disconnect the hose with tools.



c. Connect the pressure gauge “4” and adapter “5” to the fuel hose “3”.

Pressure gauge
90890-03153
YU-03153
Fuel pressure adapter
90890-03176
YM-03176



d. Start the engine.
e. Measure the fuel pressure.

Output pressure
324.0 kPa (3.24 kgf/cm², 47.0 psi)

Faulty → Replace the fuel pump.

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EAS23P1084
ADJUSTING THE THROTTLE POSITION SENSOR

EWA23P1033
⚠ WARNING

- **Handle the throttle position sensor with special care.**
- **Never subject the throttle position sensor to strong shocks. If the throttle position sensor is dropped, replace it.**

1. Check:
   - Throttle position sensor
     Refer to "CHECKING THE THROTTLE POSITION SENSOR" on page 8-153.
2. Adjust:
   - Throttle position sensor angle

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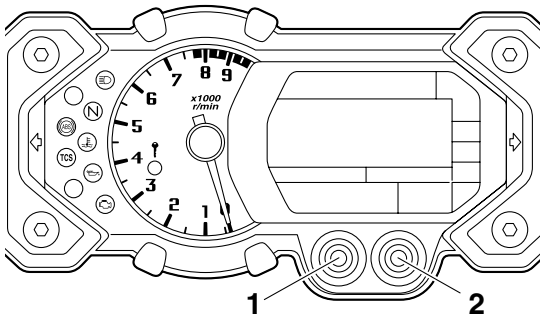
a. Temporary tighten the throttle position sensor.
b. Check that the throttle valves are fully closed.
c. Connect the throttle position sensor to the wire harness.
d. Turn the main switch to "OFF".
e. Simultaneously press and hold the left set button "1" and right set button "2", turn the main switch to "ON", and continue to press the buttons for 8 seconds more.

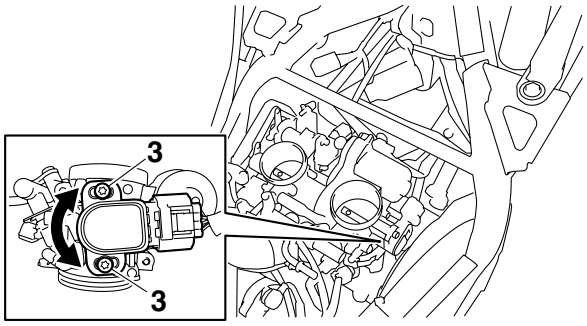


TIP

"dIAG" appears on the odometer LCD.

f. Diagnostic code number "d:01" is selected.
g. Adjust the position of the throttle position sensor angle so that 9–20 can appear in the meter.
h. After adjusting the throttle position sensor angle, tighten the throttle position sensor screws "3".

Throttle position sensor screw
3.5 Nm (0.35 m·kgf, 2.5 ft·lbf)



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EAS23P1085
ADJUSTING THE ACCELERATOR POSITION SENSOR

EWA23P1034
⚠ WARNING

- **Handle the accelerator position sensor with special care.**
- **Never subject the accelerator position sensor to strong shocks. If the accelerator position sensor is dropped, replace it.**

1. Check:
   - Accelerator position sensor
     Refer to "CHECKING THE ACCELERATOR POSITION SENSOR" on page 8-153.
2. Adjust:
   - Accelerator position sensor angle

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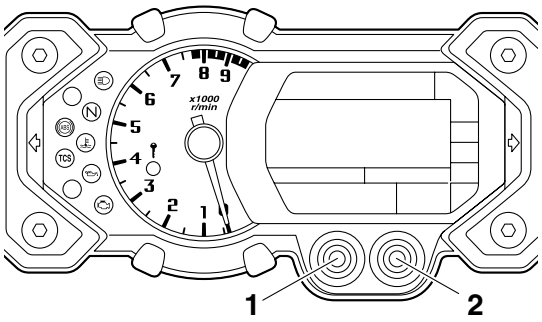
a. Temporary tighten the accelerator position sensor.
b. Check that the throttle valves are fully closed.
c. Connect the accelerator position sensor to the wire harness.
d. Connect the throttle cables to the throttle bodies.
e. Turn the main switch to "OFF".
f. Simultaneously press and hold the left set button "1" and right set button "2", turn the main switch to "ON", and continue to press the buttons for 8 seconds more.

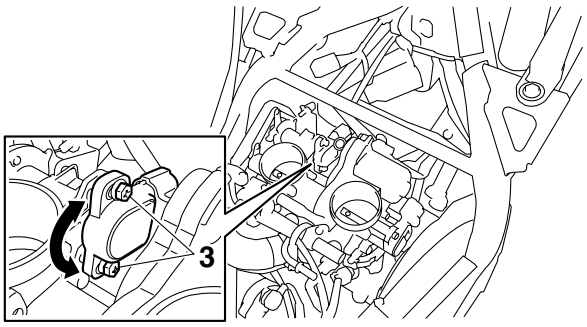


TIP

"dIAG" appears on the odometer LCD.

g. Diagnostic code number "d:14" is selected.
h. Turn the throttle grip to the fully closed position.
i. Adjust the position of the accelerator position sensor angle so that 12–22 can appear in the meter.
j. After adjusting the accelerator position sensor angle, tighten the accelerator position sensor screws "3".

Accelerator position sensor screw
3.5 Nm (0.35 m·kgf, 2.5 ft·lbf)



k. Turn the throttle grip to the fully open position.
l. Check the meter display value. If the meter display value is not 97–113, adjust the accelerator position sensor angle.
m. Select the diagnostic code number "d:15".
n. Turn the throttle grip to the fully closed position.
o. Check the meter display value. If the meter display value is not 9–25, adjust the accelerator position sensor angle.
p. Turn the throttle grip to the fully open position.
q. Check the meter display value. If the meter display value is not 97–113, adjust the accelerator position sensor angle.
r. Repeat steps (g) to (q) until the meter display values are within the specified ranges.
s. If the meter display values are not within the specified ranges after repeating steps (g) to (q) several times, replace the accelerator position sensor.

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EAS23P1086

INSTALLING THE THROTTLE BODY JOINTS

1. Install:
   • Throttle body joints "1"

Throttle body joint bolt
10 Nm (1.0 m·kgf, 7.2 ft·lbf)

TIP

Be sure to install the throttle body joint with the "L" mark onto the throttle body openings for cylinders #1 and the joint with the "R" mark onto the openings for cylinders #2.