320QV-01

OVERHAUL

NOTICE:

Before starting the work, make sure that the ignition switch is OFF and depress the brake pedal more than 40 times.

HINT:

When a pressure in power supply system is released, reaction force become light.

NOTICE:

- **As high pressure is applied to the brake actuator tube No.1, never deform it.**
- **Until the work is over, do not turn the ignition switch ON.**

1. DRAIN BRAKE FLUID

NOTICE:

Wash off the brake fluid immediately if it comes into contact with a painted surface.

2. REMOVE FRONT DOOR SCUFF PLATE LH (See page 71–13)

3. REMOVE FRONT FLOOR FOOTREST (LHD STEERING POSITION TYPE) (See page 71–13)

4. REMOVE COWL SIDE TRIM BOARD LH (See page 71–13)

5. REMOVE INSTRUMENT PANEL UNDER COVER SUB–ASSY NO.1 (DIESEL ENGINE TYPE) (See page 71–13)

6. REMOVE INSTRUMENT CLUSTER FINISH PANEL ORNAMENT (See page 71–13)

7. REMOVE INSTRUMENT PANEL FINISH PLATE (See page 71–13)

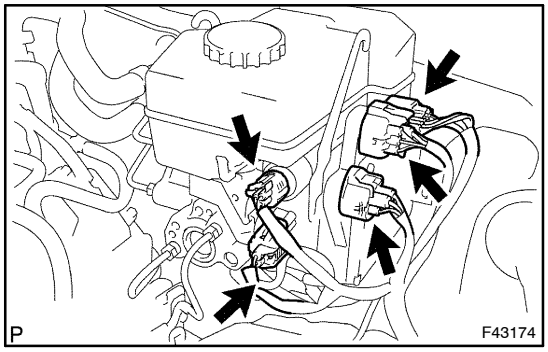
8. REMOVE INSTRUMENT PANEL FINISH LOWER PANEL RH (See page 71–13)

9. SEPARATE INSTRUMENT PANEL JUNCTION BLOCK ASSY (See page 32–94 or 32–96)

10. REMOVE SKID CONTROL ECU ASSY (See page 32–94 or 32–96)

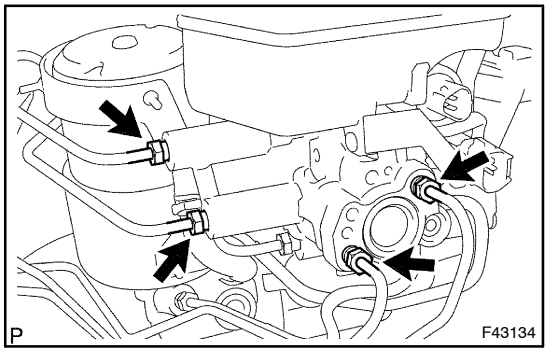
11. REMOVE PUSH ROD PIN

(a) Remove the clip and push rod pin from the clevis.



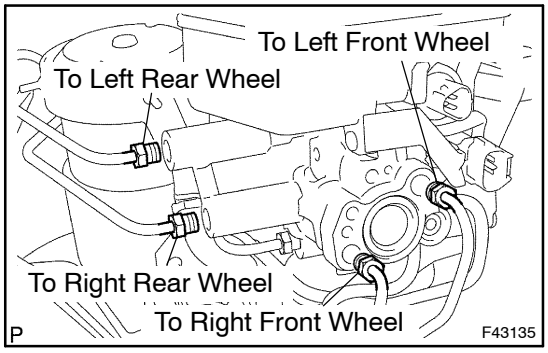
12. REMOVE BRAKE MASTER CYLINDER

(a) Disconnect the 5 connectors from brake master cylinder.

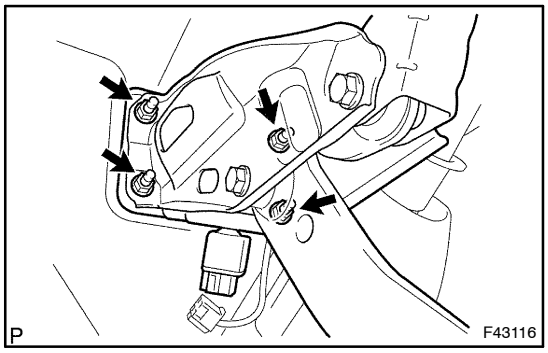


(b) Using SST, disconnect the 4 brake lines from brake master cylinder.

SST 09023–00100



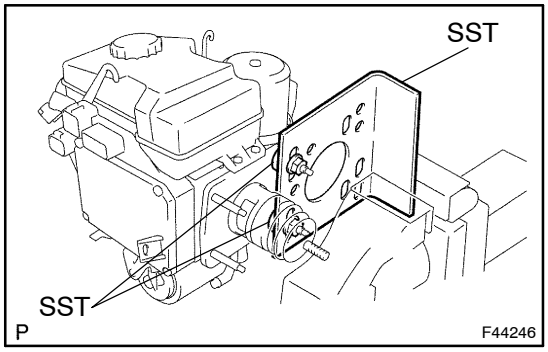
(c) Use tags or make a name to identify the place to reconnect.



(d) Remove the 4 nuts and pull out the brake master cylinder.

13. REMOVE BRAKE BOOSTER GASKET

(a) Remove the brake booster gasket from the brake master cylinder.



14. FIX BRAKE MASTER CYLINDER

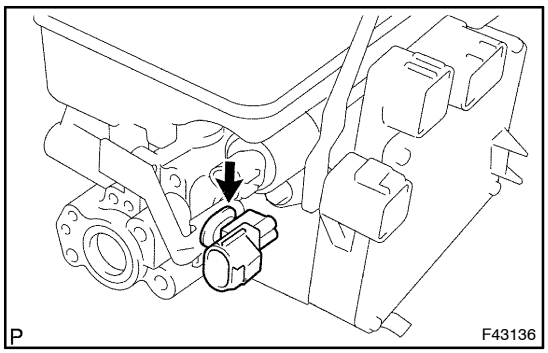
(a) Using SST, set the brake master cylinder in a vise.
SST 09630–00014 (09631–00142), 09950–60010 (09951–00180, 09951–00190)

15. REMOVE MASTER CYLINDER PUSH ROD CLEVIS

(a) Loosen the lock nut on the brake master cylinder side then remove the rod operating adapter and lock nut.

(b) Loosen the lock nut on rod operating adapter then remove the push rod clevis and lock nut.

16. REMOVE MASTER CYLINDER BOOT



17. REMOVE BRAKE MASTER CYLINDER RESERVOIR SUB–ASSY

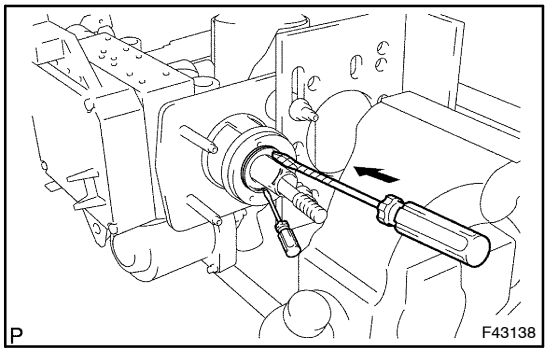
(a) Using a clip remover, remove the brake level warning connector from the brake actuator bracket No.1.

(b) Remove the 3 screws and pull out the master cylinder reservoir sub–assy.

18. REMOVE BRAKE MASTER CYLINDER RESERVOIR FILLER CAP ASSY

19. REMOVE MASTER CYLINDER RESERVOIR GROMMET

(a) Remove the 3 reservoir grommets from the master cylinder reservoir sub–assy.



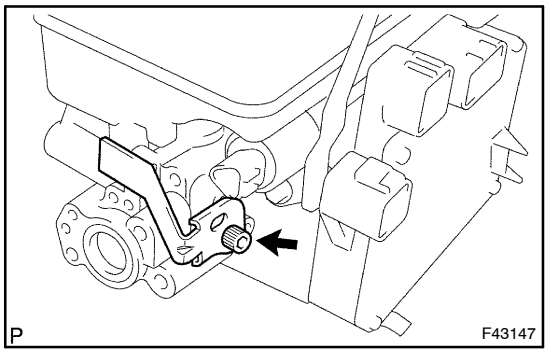
20. REMOVE BRAKE MASTER CYLINDER KIT

(a) Pressing the brake master cylinder plug in with a screwdriver, use a pin or equivalent to push the snap ring from the hole in the master cylinder body and then remove it with another screwdriver.

(b) Remove the brake booster piston, brake booster plug and master cylinder piston by pulling straight out, not at angle.

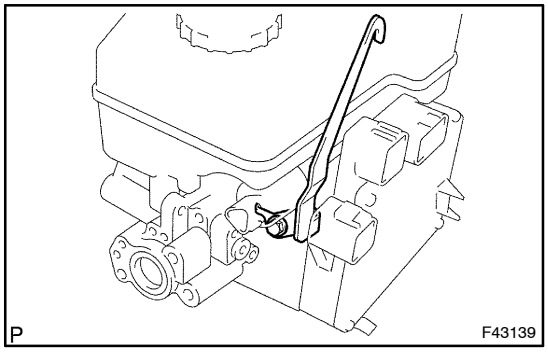
NOTICE:

If pulled out at an angle, there is a possibility that the cylinder bore could be damaged.



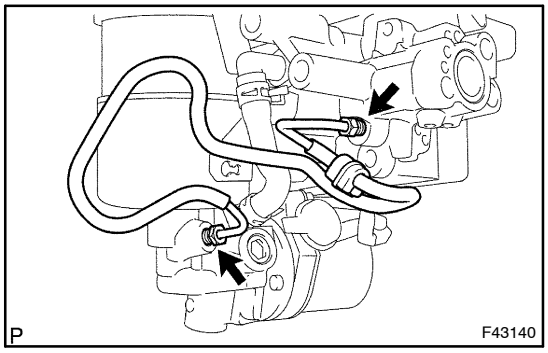
21. REMOVE BRAKE ACTUATOR BRACKET NO.1

(a) Using a hexagon wrench (5 mm), remove the bolt and brake actuator bracket No.1 from brake master cylinder.



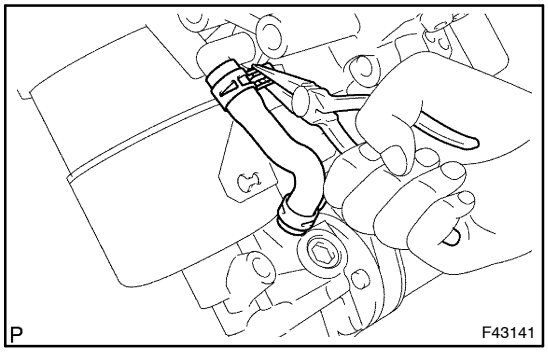
22. REMOVE BRAKE ACTUATOR BRACKET NO.4

(a) Remove the bolt and brake actuator bracket No.4 from brake master cylinder.



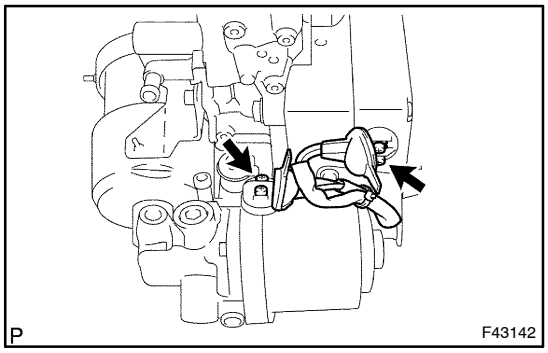
23. REMOVE BRAKE ACTUATOR TUBE NO.1

(a) Using SST, remove the brake actuator tube No.1 from brake master cylinder and brake booster pump assy.
SST 09023–00100



24. REMOVE BRAKE ACTUATOR HOSE

(a) Using needle nose pliers, slide the 2 clips and remove the brake actuator hose and 2 clips.



25. REMOVE BRAKE CONTROL WIRE

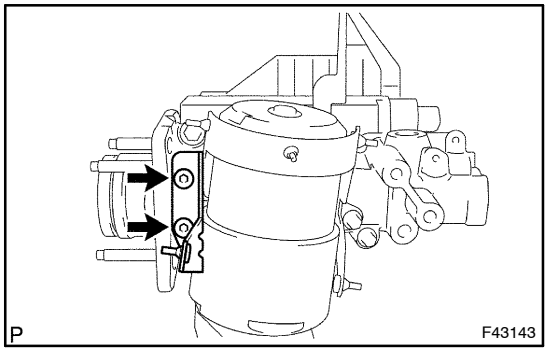
(a) Remove the 4 screws.

(b) Disconnect the clamp and remove the brake control wire.

26. REMOVE OIL PRESSURE SENSOR

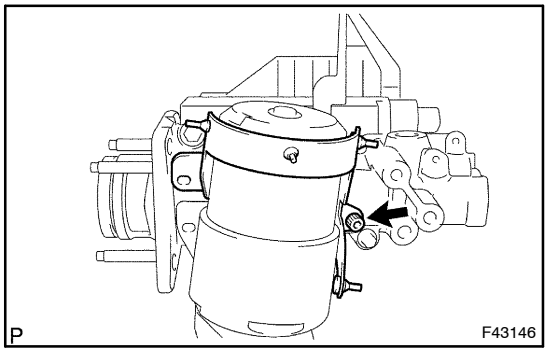
(a) Remove the oil pressure sensor from brake master cylinder.

(b) Remove the spacer and O–ring from the oil pressure sensor.



27. REMOVE BRAKE BOOSTER PUMP BRACKET NO.3

(a) Using a hexagon wrench (5 mm), remove the 2 bolts and brake booster pump bracket No.3.

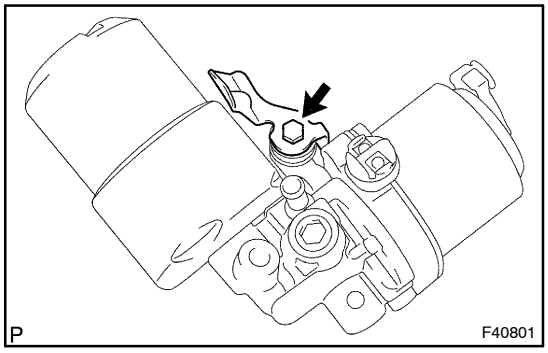


28. REMOVE BRAKE BOOSTER PUMP BRACKET NO.2

(a) Hold the w/ accumulator pump assy, then using a hexagon wrench (5 mm), and remove the bolt and brake booster pump bracket No.2 from brake master cylinder.

29. REMOVE BRAKE BOOSTER W/ACCUMULATOR PUMP ASSY

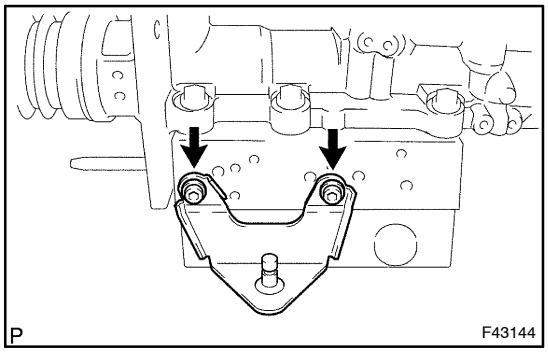
(a) Remove the brake booster w/ accumulator pump assy from brake master cylinder.



30. REMOVE BRAKE BOOSTER PUMP BRACKET NO.1

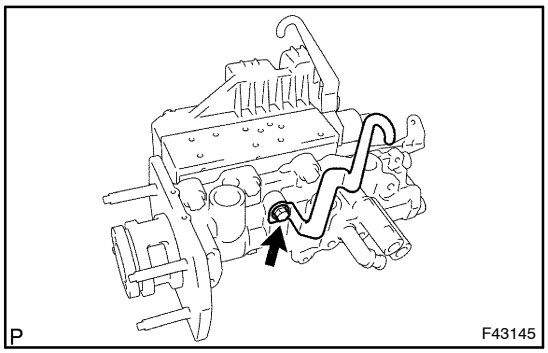
(a) Remove the bolt and brake booster bracket No.1 from brake booster w/ accumulator pump assy.

(b) Remove the 2 washers, 3 bushes, 2 collars and shaft from brake booster w/ accumulator pump assy.



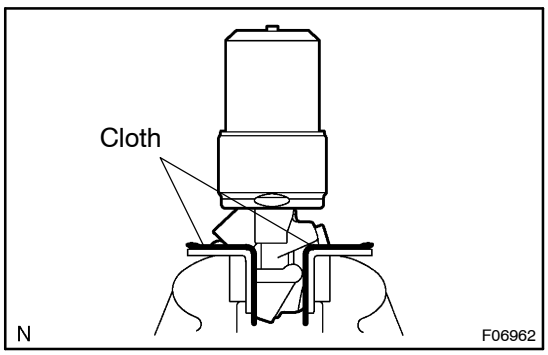
31. REMOVE BRAKE BOOSTER PUMP BRACKET NO.2

(a) Using a hexagon wrench (5 mm), remove the 2 bolts and brake booster pump bracket No.2 from brake master cylinder.



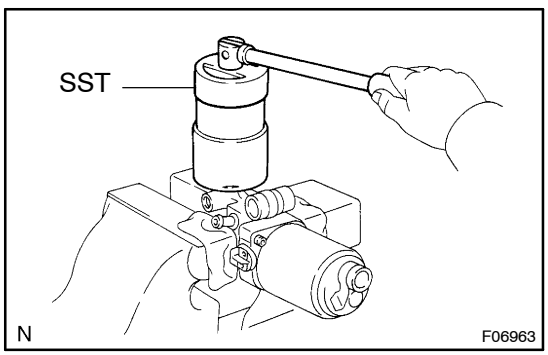
32. REMOVE BRAKE ACTUATOR BRACKET NO.3

(a) Remove the bolt and brake actuator bracket No.3 from brake master cylinder.



33. FIX BRAKE BOOSTER W/ACCUMULATOR PUMP ASSY

(a) Place the brake booster pump with a cloth as shown in the illustration on the left.



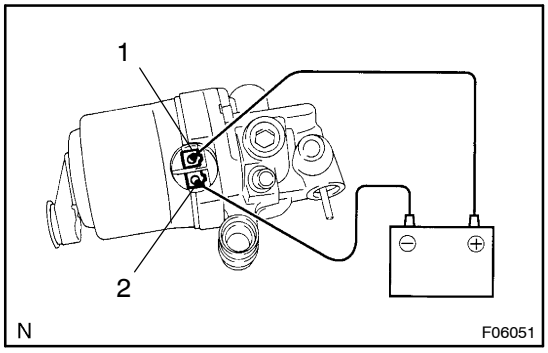
34. REMOVE BRAKE BOOSTER ACCUMULATOR ASSY

(a) Using SST, remove the brake booster accumulator assy.
SST 09318–12010

(b) Remove the brake booster accumulator pipe, compression spring and O–ring.

NOTICE:

Ensure no foreign matter enters the pump.



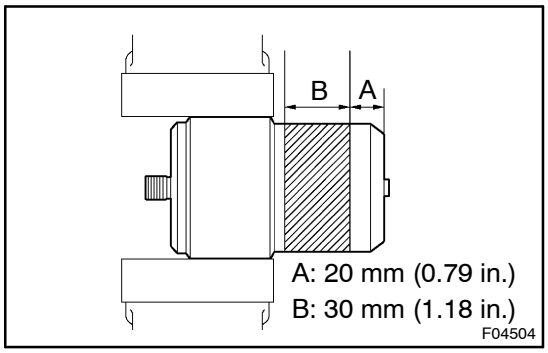
35. INSPECT BRAKE BOOSTER PUMP ASSY

(a) Connect the positive (+) lead from the battery to terminal 1 of pump motor, and negative (–) lead to terminal 2.

(b) Check that the brake booster pump assy operation.

36. DISPOSE OF BRAKE BOOSTER ACCUMULATOR ASSY

(a) Place the brake booster accumulator assy in a vise, cover it with a cloth.

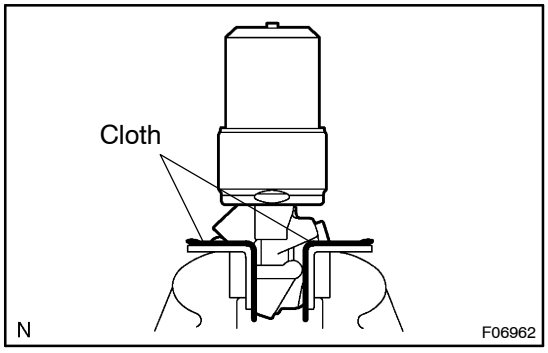


(b) Using a saw, cut the brake booster accumulator body slowly.

CAUTION:

Do not cut at a place except a stretch.

(c) When the outer body of the accumulator is cut, gas discharge.



37. FIX BRAKE BOOSTER PUMP ASSY

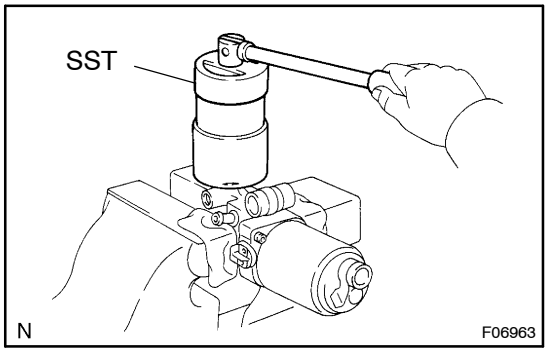
(a) Place the brake booster pump with a cloth as shown in the illustration on the left.

38. INSTALL BRAKE BOOSTER ACCUMULATOR ASSY

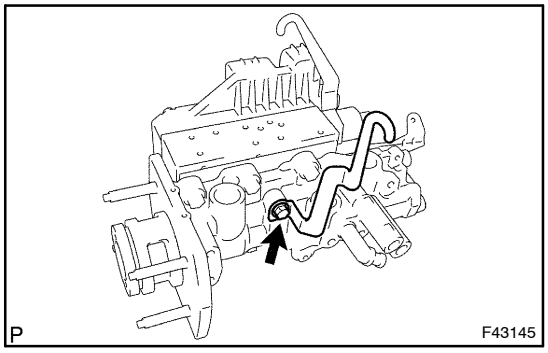
(a) Install the brake booster accumulator pipe, compression spring and new O–ring.

NOTICE:

Ensure that no foreign matter enters the pump.

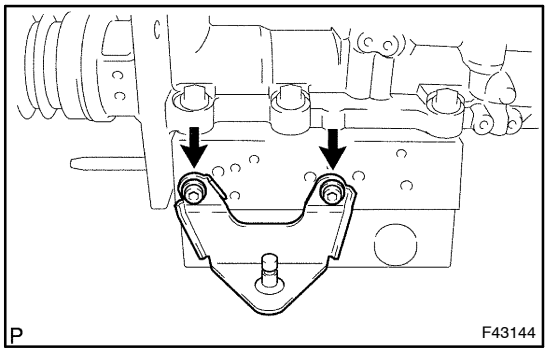


(b) Using SST, install the brake booster accumulator assy.
SST 09318–12010
Torque: 54 N·m (551 kgf·cm, 40 ft·lbf)



39. INSTALL BRAKE ACTUATOR BRACKET NO.3

(a) Install the brake actuator bracket No.3 with the bolt.
Torque: 7.8 N·m (80 kgf·cm, 69 in.·lbf)

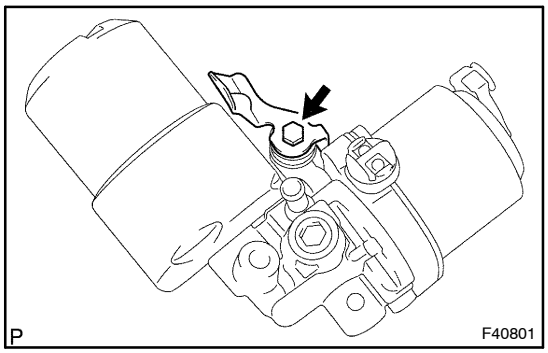


40. INSTALL BRAKE BOOSTER PUMP BRACKET NO.2

(a) Using a hexagon wrench (5 mm), install the brake booster pump bracket No.2 with the 2 bolts.
Torque: 7.8 N·m (80 kgf·cm, 69 in.·lbf)

41. INSTALL BRAKE BOOSTER PUMP BRACKET NO.1

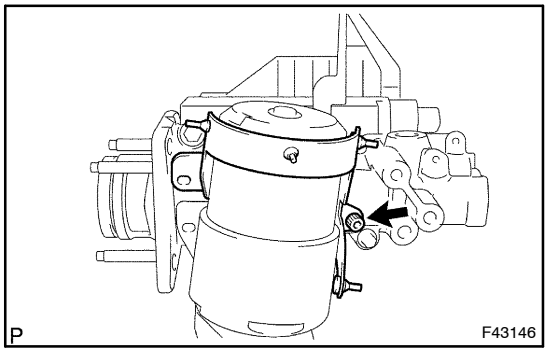
(a) Install the shaft, 2 collars, 3 bushes and 2 washers.



(b) Install the brake booster pump bracket with the bolt.
Torque: 7.8 N·m (80 kgf·cm, 69 in.·lbf)

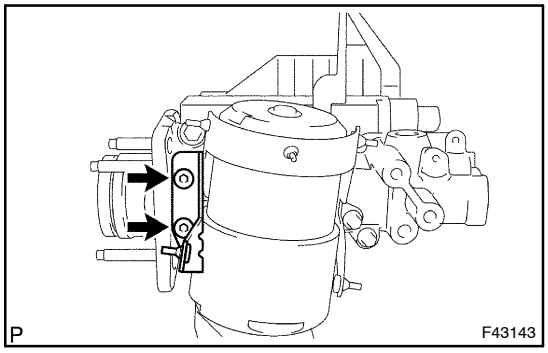
42. INSTALL BRAKE BOOSTER W/ACCUMULATOR PUMP ASSY

(a) Install the brake booster w/ accumulator pump assy to the brake master cylinder.



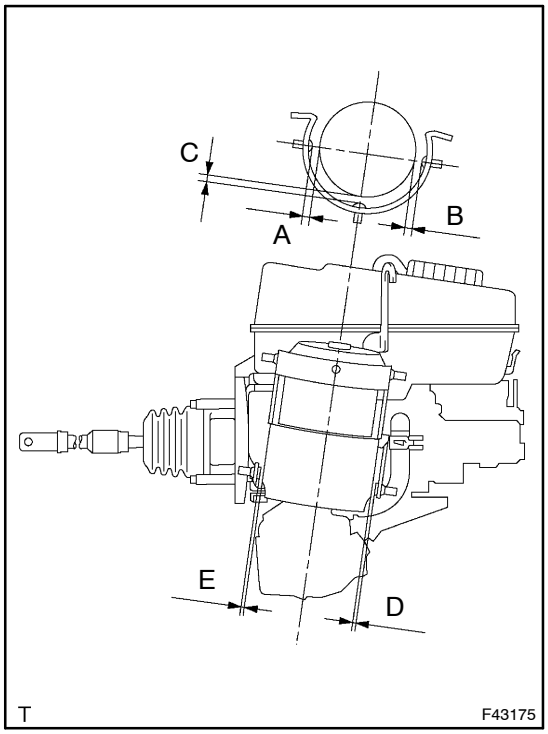
43. INSTALL BRAKE BOOSTER PUMP BRACKET NO.2

(a) Using a hexagon wrench (5 mm), install the brake booster pump bracket No.2 on the brake booster pump bracket No.1 and brake master cylinder with the bolt.
Torque: 11.8 N·m (120 kgf·cm, 9 ft·lbf)



44. INSTALL BRAKE BOOSTER PUMP BRACKET NO.3

(a) Using a hexagon wrench (5 mm), install the brake booster pump bracket No.3 on the brake booster pump bracket No.1, No.2 and brake master cylinder with 2 bolts.
Torque: 11.8 N·m (120 kgf·cm, 9 ft·lbf)



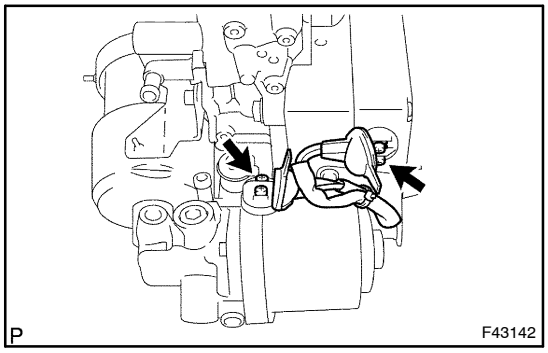
45. INSPECT BRAKE BOOSTER PUMP BRACKET CLEARANCE

(a) When installing the brake booster bracket, adjust the clearance. Each of the values are shown in the illustration on the left and the table below. Using a thickness gauge, adjust such clearance.
Standard Clearance:
A + B: 0.20 – 1.20 mm (0.0079 – 0.0472 in.)
C: 0.10 – 0.40 mm (0.0039 – 0.0157 in.)
D: 0.25 – 0.95 mm (0.0098 – 0.0374 in.)
E: 0.25 – 0.65 mm (0.0098 – 0.0256 in.)

HINT:
The clearance for A and that for B must be at least 0.1 mm (0.004 in.).

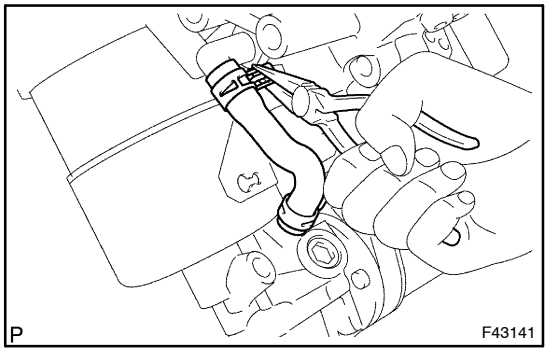
46. INSTALL OIL PRESSURE SENSOR

(a) Install the spacer and new O–ring to the oil pressure sensor.
(b) Install the oil pressure sensor to the brake master cylinder.
Torque: 74.7 N·m (761 kgf·cm, 55 ft·lbf)



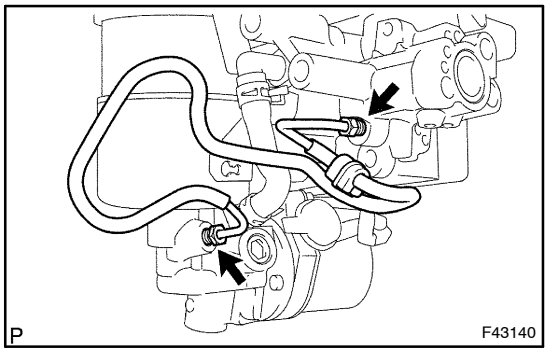
47. INSTALL BRAKE CONTROL WIRE

(a) Install a new brake control wire with 4 screws.
Torque:
Master cylinder side: 1.7 N·m (17 kgf·cm, 15 in.·lbf)
Booster pump side: 2.9 N·m (30 kgf·cm, 26 in.·lbf)
(b) Fix the brake control wire to the brake booster pump bracket No.2 with the new clamp.



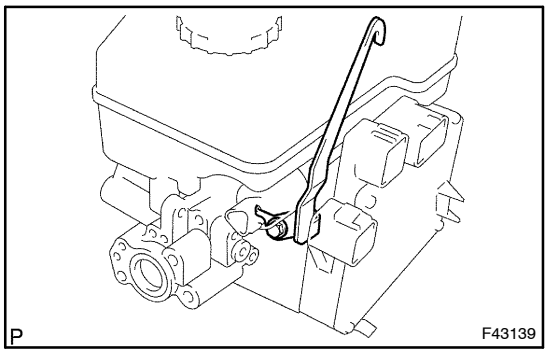
48. INSTALL BRAKE ACTUATOR HOSE

(a) Using needle nose pliers, install the brake actuator hose and 2 clips.



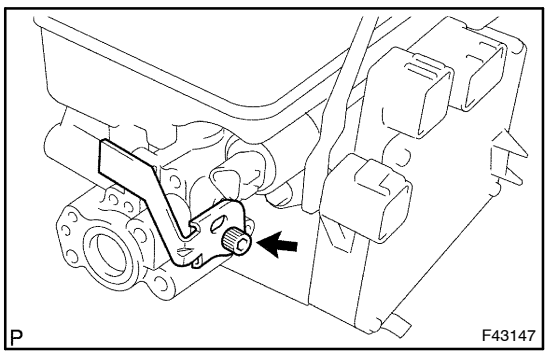
49. INSTALL BRAKE ACTUATOR TUBE NO.1

(a) Using SST, install the brake actuator tube No.1 to the brake master cylinder and brake booster pump assy.
SST 09023–00100
Torque: 15.2 N·m (155 kgf·cm, 11 ft·lbf)



50. INSTALL BRAKE ACTUATOR BRACKET NO.4

(a) Install the brake actuator bracket No.4 to the brake master cylinder with the bolt.
Torque: 7.8 N·m (80 kgf·cm, 69 in.·lbf)



51. INSTALL BRAKE ACTUATOR BRACKET NO.1

(a) Using a hexagon wrench (5 mm), install the brake actuator bracket No.1 the brake master cylinder with a bolt.
Torque: 7.8 N·m (80 kgf·cm, 69 in.·lbf)

52. INSTALL BRAKE MASTER CYLINDER KIT

(a) Apply the lithium soap base glycol grease to the master cylinder piston, brake booster piston and brake booster plug.
(b) Install the master cylinder piston, brake booster piston and brake booster plug.
(c) Pressing brake booster plug, install a new snap ring.

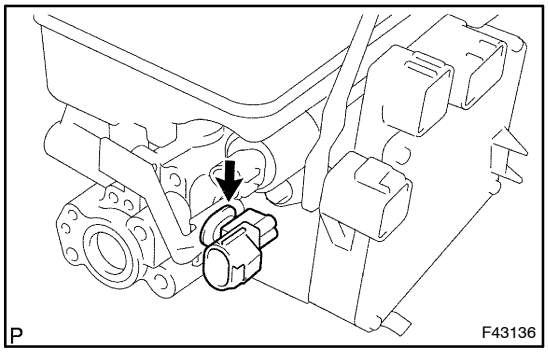
53. INSTALL MASTER CYLINDER RESERVOIR GROMMET

(a) Apply the lithium soap base glycol grease to new 3 reservoir grommets.
(b) Install the 3 reservoir grommets to the master cylinder reservoir sub–assy.

54. INSTALL BRAKE MASTER CYLINDER RESERVOIR SUB–ASSY

(a) Install the brake master cylinder reservoir sub–assy with the 3 screws.
Torque: 1.7 N·m (17 kgf·cm, 15 in.·lbf)

(b) Install the brake fluid level warning switch connector to the brake actuator bracket No.1.



55. INSTALL BRAKE MASTER CYLINDER RESERVOIR FILLER CAP ASSY

56. INSTALL MASTER CYLINDER BOOT

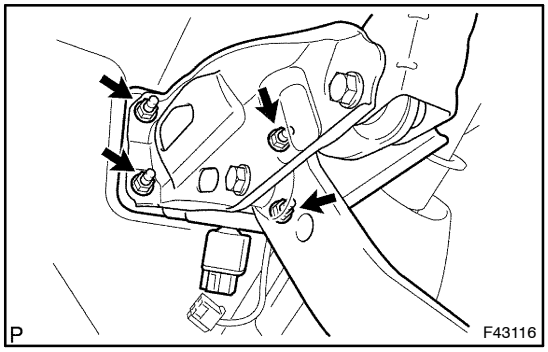
57. INSTALL MASTER CYLINDER PUSH ROD CLEVIS

(a) Install the lock nut and master cylinder push rod clevis on the rod operating adapter.

(b) Install the brake master cylinder side lock nut and rod operating adapter on the brake master cylinder.

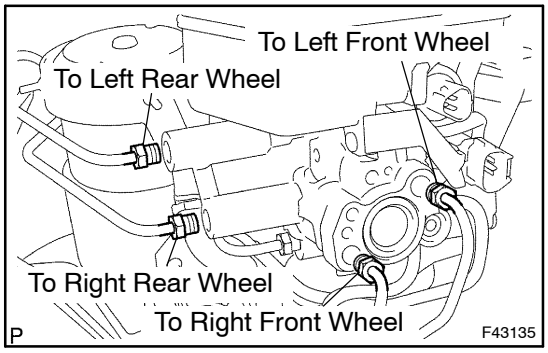
58. INSTALL BRAKE BOOSTER GASKET

(a) Install a new brake booster gasket on the master cylinder.

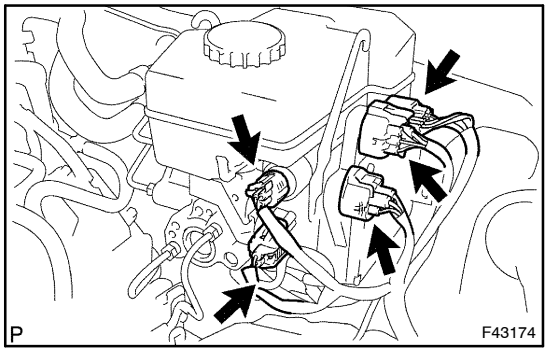


59. INSTALL BRAKE MASTER CYLINDER

(a) Install the brake master cylinder with 4 nuts.
Torque: 14.2 N·m (145 kgf·cm, 10 ft·lbf)



(b) Using SST, connect the 4 brake lines to the correct position of brake master cylinder as shown in the illustration.
SST 09023–00100



(c) Connect the 5 connectors to the brake master cylinder.

60. INSTALL PUSH ROD PIN

(a) Install the clip and push rod pin to the clevis.

61. INSTALL SKID CONTROL ECU ASSY (See page 32–94 or 32–96)

62. INSTALL INSTRUMENT PANEL JUNCTION BLOCK ASSY (See page 32–94 or 32–96)

63. INSTALL INSTRUMENT PANEL FINISH LOWER PANEL RH

64. INSTALL INSTRUMENT PANEL FINISH PLATE

65. INSTALL INSTRUMENT CLUSTER FINISH PANEL ORNAMENT

66. INSTALL INSTRUMENT PANEL UNDER COVER SUB–ASSY NO.1 (DIESEL ENGINE TYPE)

67. INSTALL COWL SIDE TRIM BOARD LH

68. INSTALL FRONT FLOOR FOOTREST (LHD STEERING POSITION TYPE)

69. INSTALL FRONT DOOR SCUFF PLATE LH

70. BLEED BRAKE LINE (See page 32–6)

71. INSPECT BRAKE PEDAL HEIGHT (See page 32–10)

72. CHECK PEDAL FREE PLAY (See page 32–10)

73. CHECK PEDAL RESERVE DISTANCE (See page 32–10)

74. CHECK FLUID LEVEL IN RESERVOIR

75. CHECK BRAKE FLUID LEAKAGE

76. CHECK BRAKE MASTER CYLINDER OPERATION (See page 32–24)