FUEL SYSTEM

MULTIPOINT FUEL INJECTION

CONTENTS

1. SPECIFICATIONS

SERVICE SPECIFICATIONS

	Standard
Injector coil resistance [at 20°C (68°F)]	
Standard type	2 – 3 Ω
Hiohmic type	13 – 16 Ω

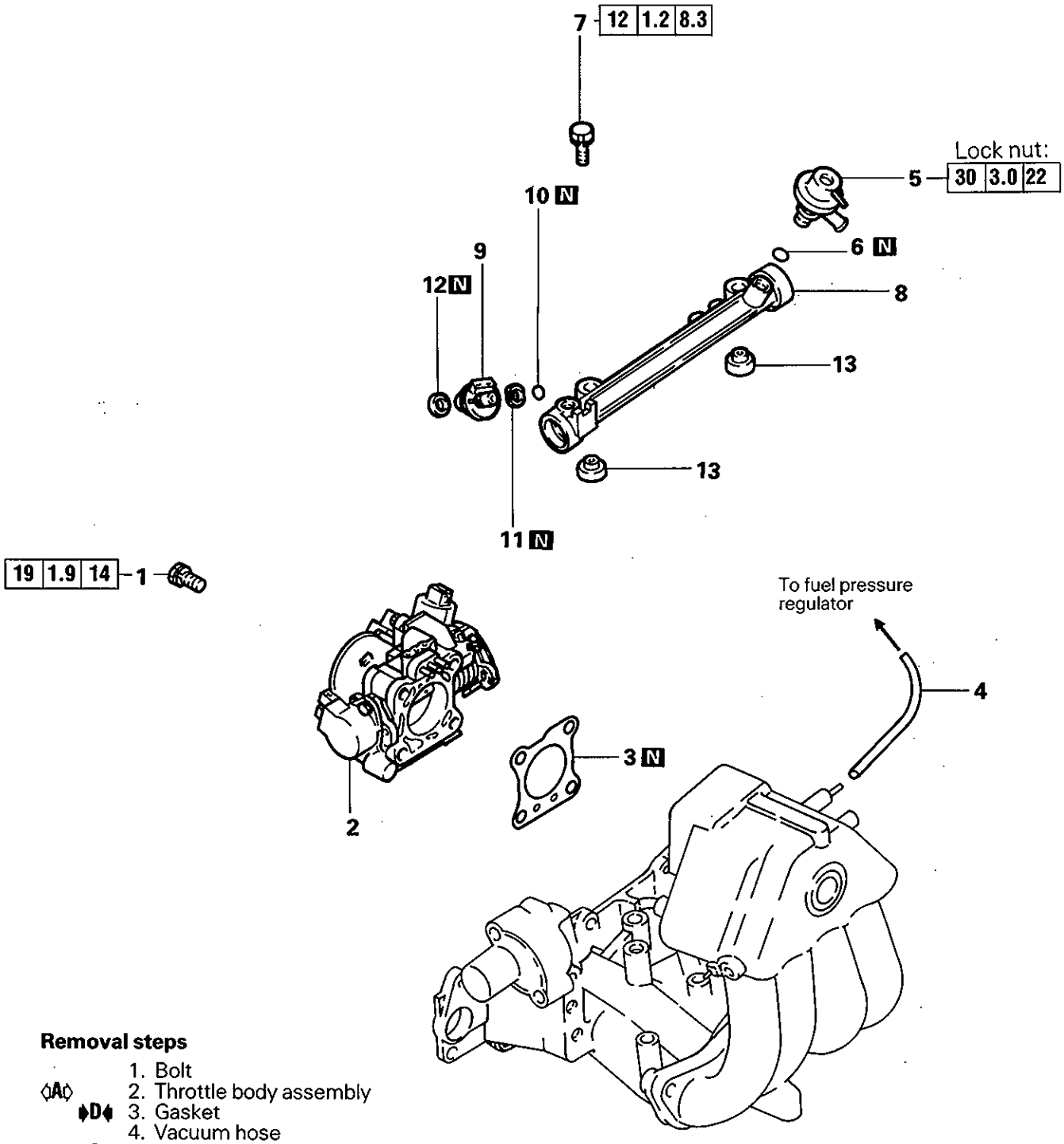
TORQUE SPECIFICATIONS

	Torque		
	Nm	kgm	ft.lbs.
Delivery pipe attaching bolt	12	1.2	8.3
Fuel pressure regulator lock nut (Screw-on type)	30	3.0	22
Fuel pressure regulator attaching bolt (Flange type)	9	0.9	6.6
Throttle body assembly attaching bolt			
Bolt with head mark "4"	12	1.2	8.3
Bolt with head mark "7"	19	1.9	14
Fuel return pipe	10	1.0	7.2
Throttle body assembly attaching nut	19	1.9	14
Throttle position sensor attaching screw	2.0	0.2	1.5
Idle speed control servo attaching screw	3.5	0.35	2.5

NOTES

2. INJECTORS AND THROTTLE BODY

REMOVAL AND INSTALLATION – 4G64 for L300



Removal steps

1. Bolt
◇A◇ 2. Throttle body assembly
◆D◆ 3. Gasket
4. Vacuum hose
◆C◆ 5. Fuel pressure regulator
6. O-ring
7. Bolt
◇B◇ 8. Delivery pipe
◇B◇ ◆A◆ 9. Injector
10. O-ring
11. Grommet
12. Insulator
13. Insulator

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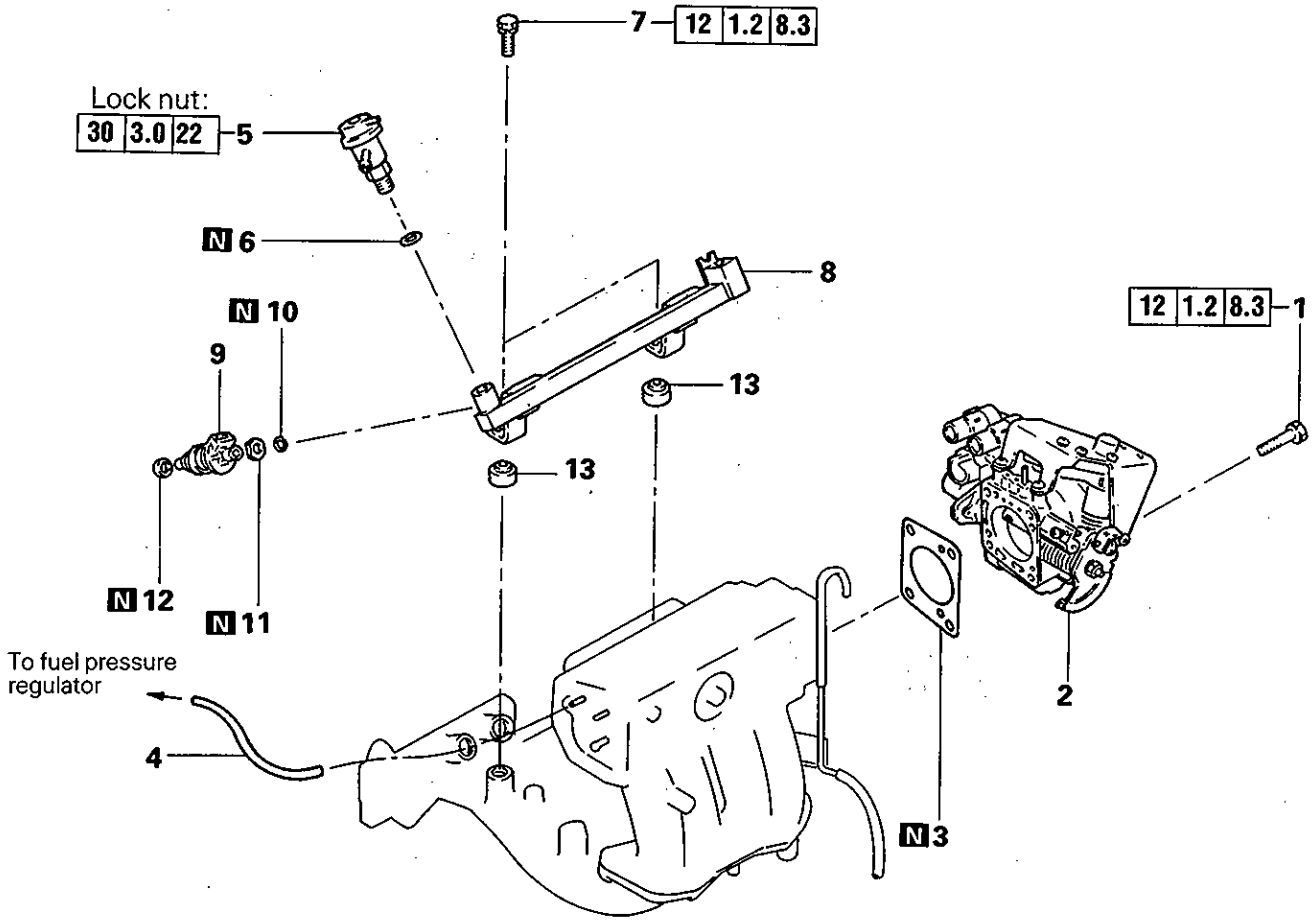
REMOVAL AND INSTALLATION – 4G64 for Galant VX Hardtop, Sapporo



Removal steps

1. Bolt
◇A◇ 2. Throttle body assembly
◆D◆ 3. Gasket
4. Vacuum hose
◆C◆ 5. Fuel pressure regulator
6. O-ring
7. Bolt
◇B◇ 8. Delivery pipe
◇B◇ ◆A◆ 9. Injector
10. O-ring
11. Grommet
12. Insulator
13. Insulator

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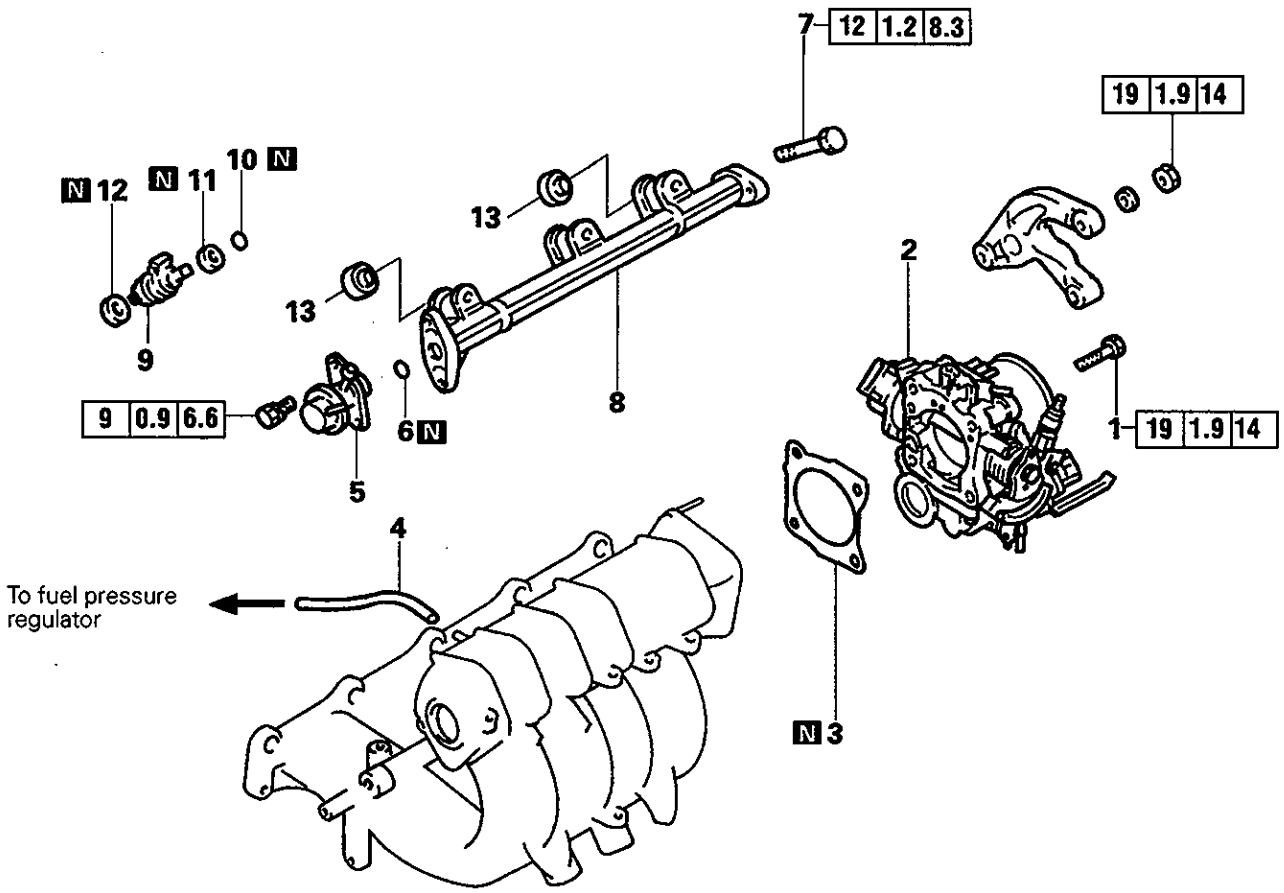
REMOVAL AND INSTALLATION – 4G61 (DOHC), 4G67 (DOHC) AND 4G63 (DOHC)



Removal steps

1. Bolt
◇A◇ 2. Throttle body assembly
◆D◆ 3. Gasket
4. Vacuum hose
◆C◆ 5. Fuel pressure regulator
6. O-ring
7. Bolt
◇B◇ 8. Delivery pipe
◇B◇ ◆A◆ 9. Injector
10. O-ring
11. Grommet
12. Insulator
13. Insulator

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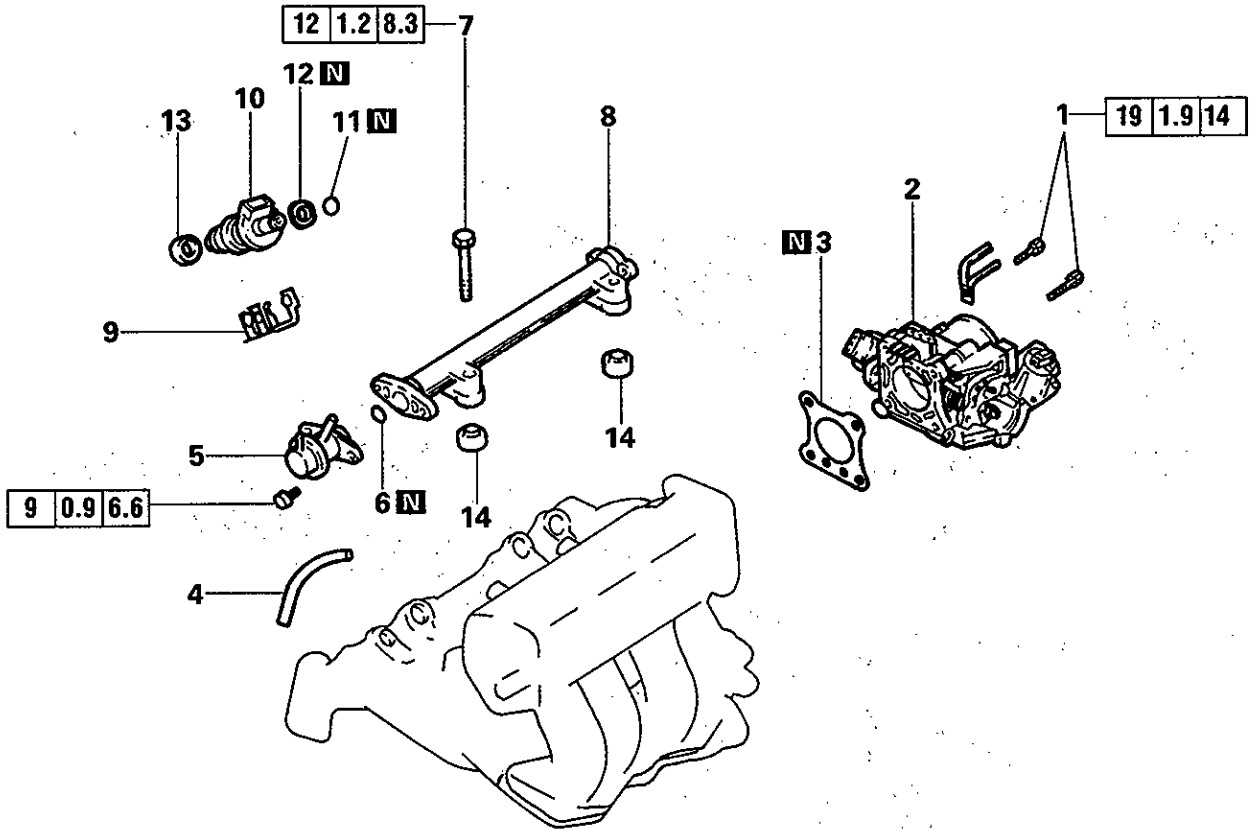
REMOVAL AND INSTALLATION – 4G13, 4G15, 4G37, 4G91, 4G92, 4G93, 4G63 for Galant, Space Wagon and 4G64 for Space Wagon



Removal steps

1. Bolt
2. Throttle body assembly
◆D◆ 3. Gasket
4. Vacuum hose
◆C◆ 5. Fuel pressure regulator
6. O-ring
7. Bolt
◇A◇ 8. Delivery pipe
◆B◆ 9. Injector support (4G13 and 4G64 for 1994 and subsequent models, 4G93 for 1993 and preceding models)
◇A◇◆A◆ 10. Injector
11. O-ring
12. Grommet
13. Insulator
14. Insulator

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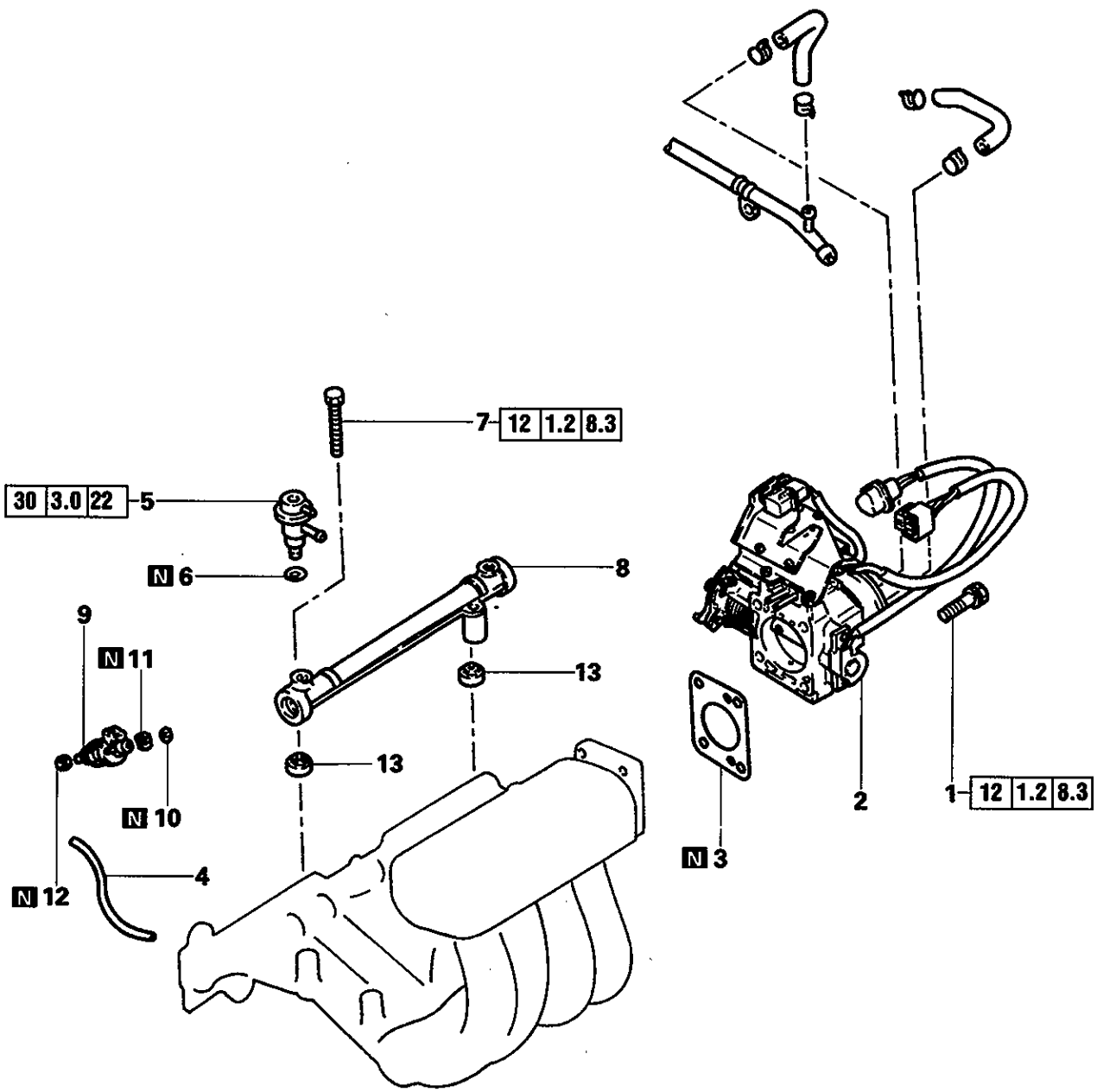
REMOVAL AND INSTALLATION – 4G63 for Space Wagon



Removal steps

1. Bolt
◇A◇ 2. Throttle body assembly
◆D◆ 3. Gasket
4. Vacuum hose
◆C◆ 5. Fuel pressure regulator
6. O-ring
7. Bolt
◇B◇ 8. Delivery pipe
◇B◇ ◆A◆ 9. Injector
10. O-ring
11. Grommet
12. Insulator
13. Insulator

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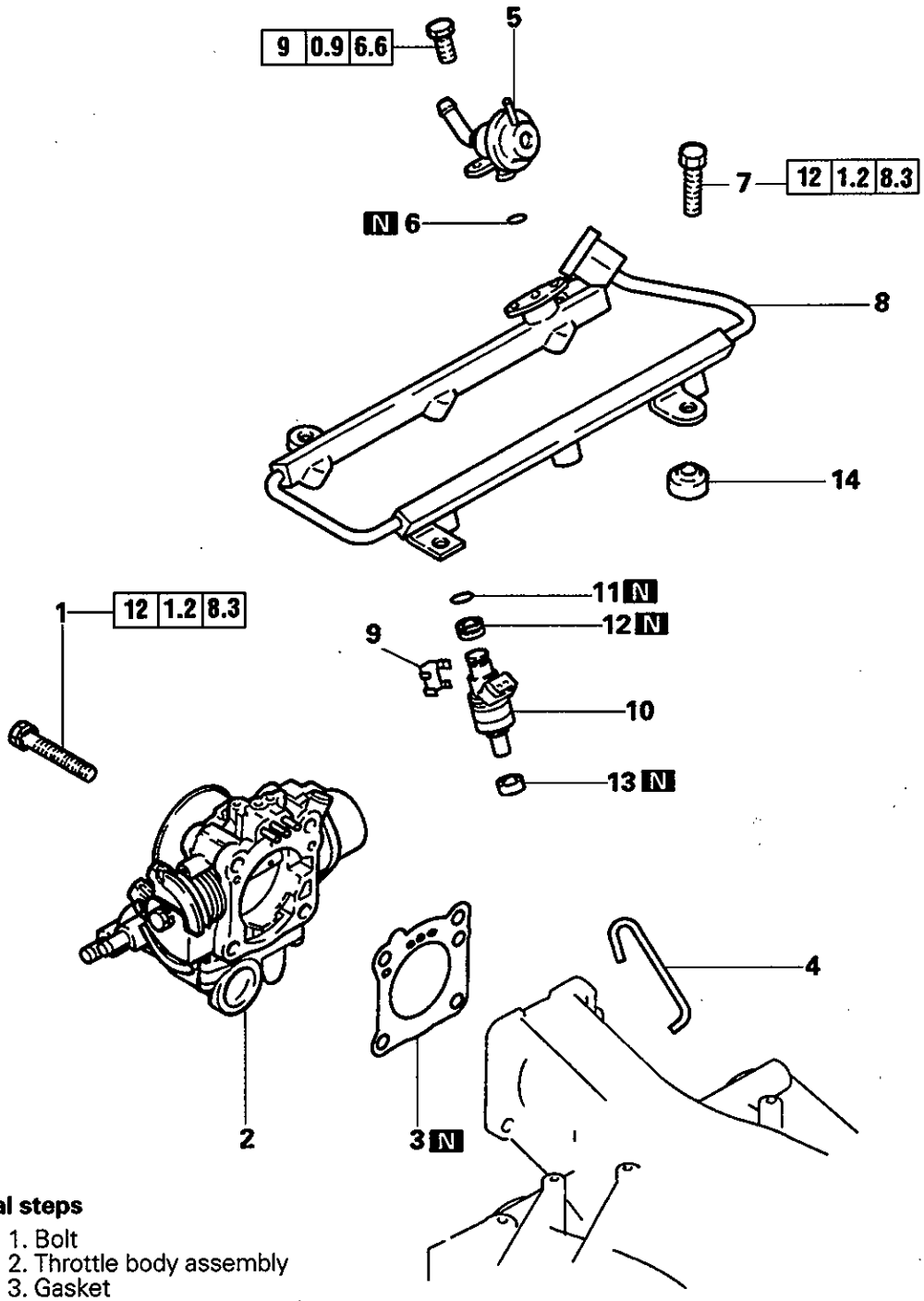
REMOVAL AND INSTALLATION – 6G72 for Pajero, 6G72 for L200



Removal steps

1. Bolt
〈A〉 2. Throttle body assembly
◆D◆ 3. Gasket
4. Vacuum hose
◆C◆ 5. Fuel pressure regulator
6. O-ring
7. Bolt
〈B〉 8. Delivery pipe
◆B◆ 9. Injector support (1995 and later Pajero/Montero)
〈B〉 ◆A◆ 10. Injector
11. O-ring
12. Grommet
13. Insulator
14. Insulator

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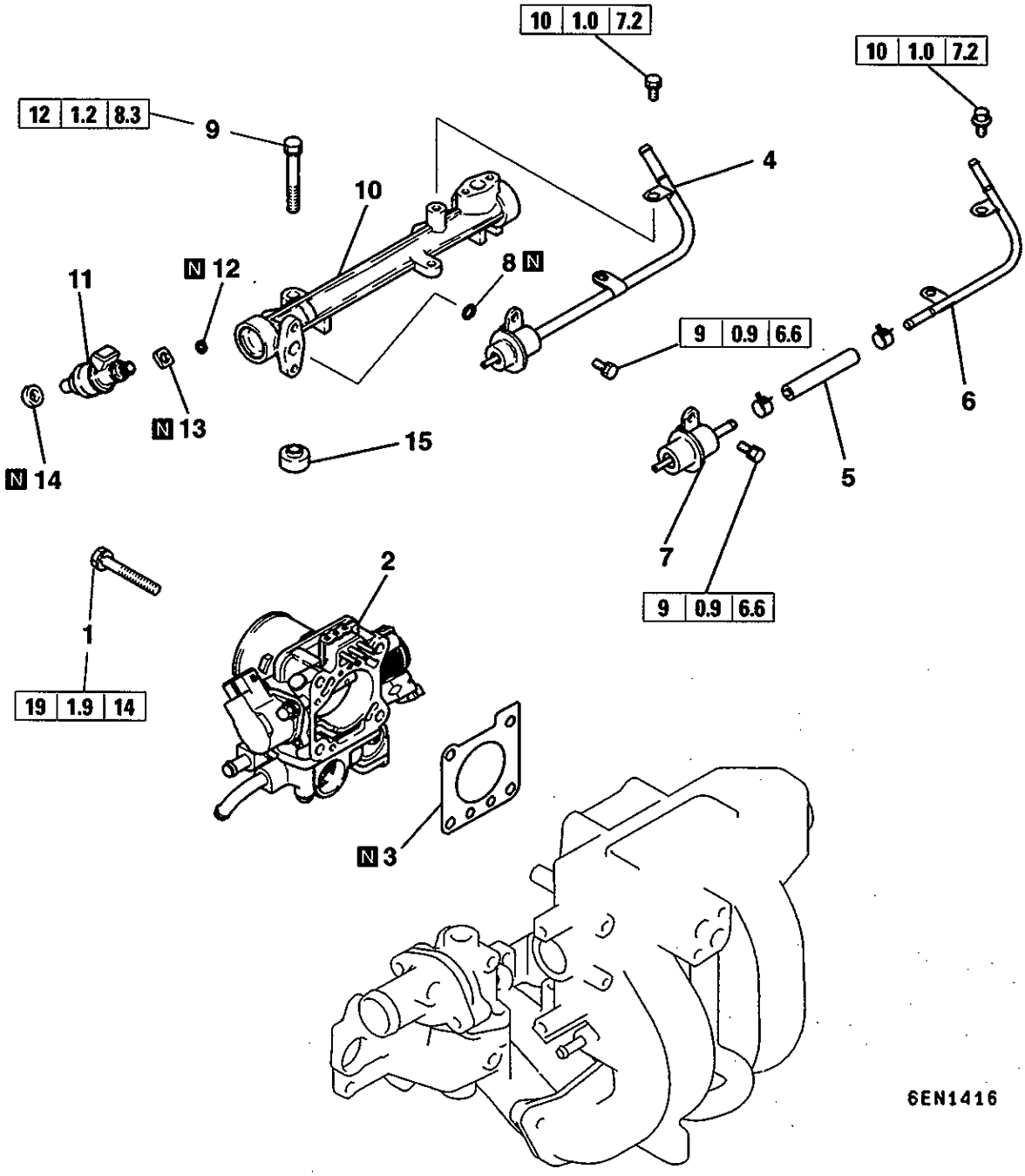
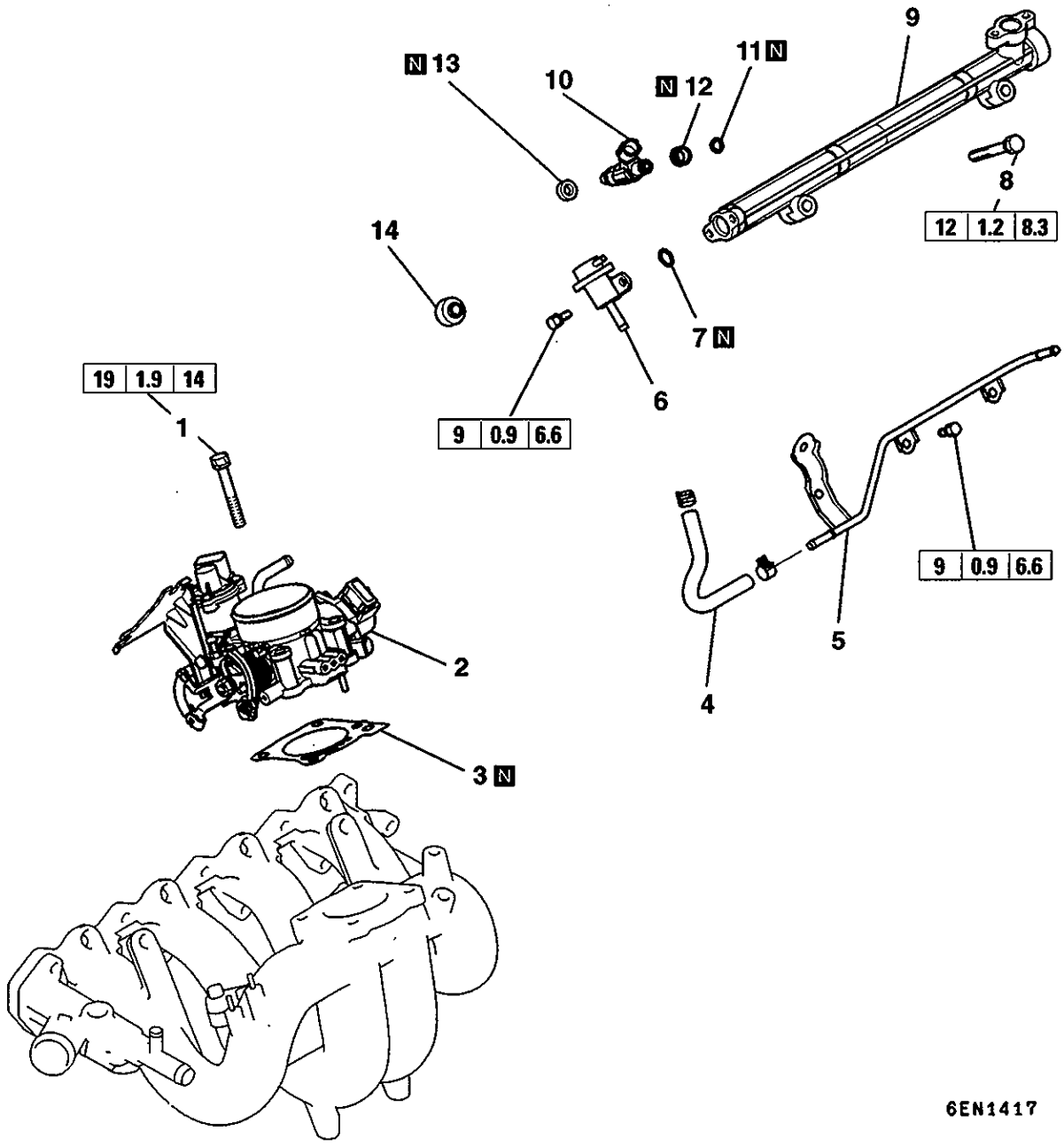
REMOVAL AND INSTALLATION – 4G64 (SOHC 8-VALVE) for Pajero/Montero and 4G64 (SOHC 8-VALVE) for L200



Removal steps

1. Bolt
〈A〉 2. Throttle body assembly
▶C◀ 3. Gasket
4. Fuel pressure regulator (Pajero/Montero – up to Oct. 1993, and L200)
5. Fuel hose (Pajero/Montero – from Nov. 1993)
▶B◀ 6. Fuel return pipe (Pajero/Montero – from Nov. 1993)
7. Fuel pressure regulator (Pajero/Montero – from Nov. 1993)
8. O-ring
9. Bolt
〈B〉 10. Delivery pipe
〈B〉 ▶A◀ 11. Injector
12. O-ring
13. Grommet
14. Insulator
15. Insulator

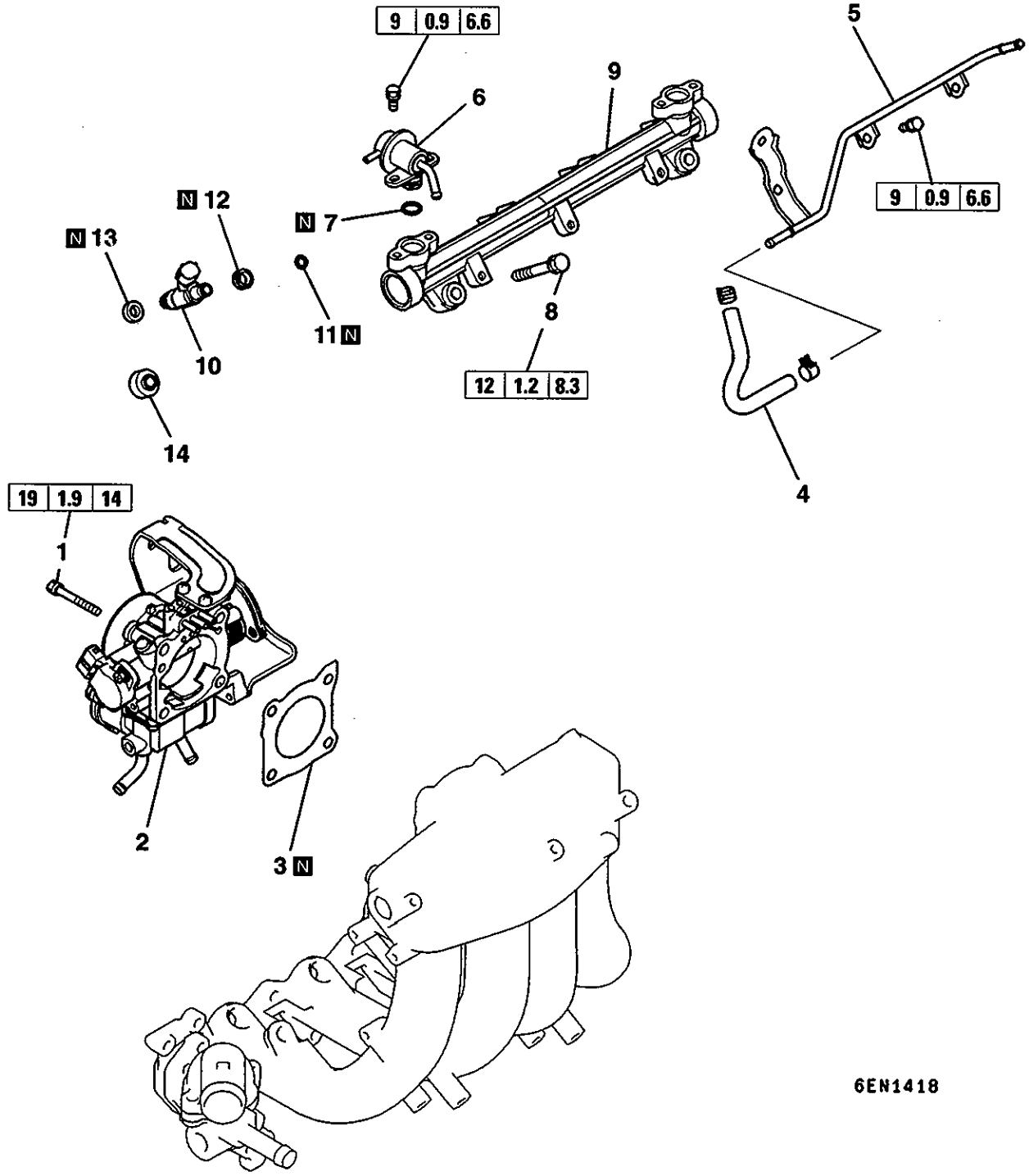
REMOVAL AND INSTALLATION – 4G6 (SOHC 16-VALVE) for L400 and 4G6 (SOHC 16-VALVE) for L300



Removal steps

1. Bolt
〈A〉 2. Throttle body assembly
◗C◖ 3. Gasket
4. Fuel hose
5. Fuel return pipe
◗B◖ 6. Fuel pressure regulator
7. O-ring
8. Bolt
〈B〉 9. Delivery pipe
〈B〉 ◗A◖ 10. Injector
11. O-ring
12. Grommet
13. Insulator
14. Insulator

REMOVAL AND INSTALLATION – 4G64 (SOHC 16-VALVE) for Pajero/Montero

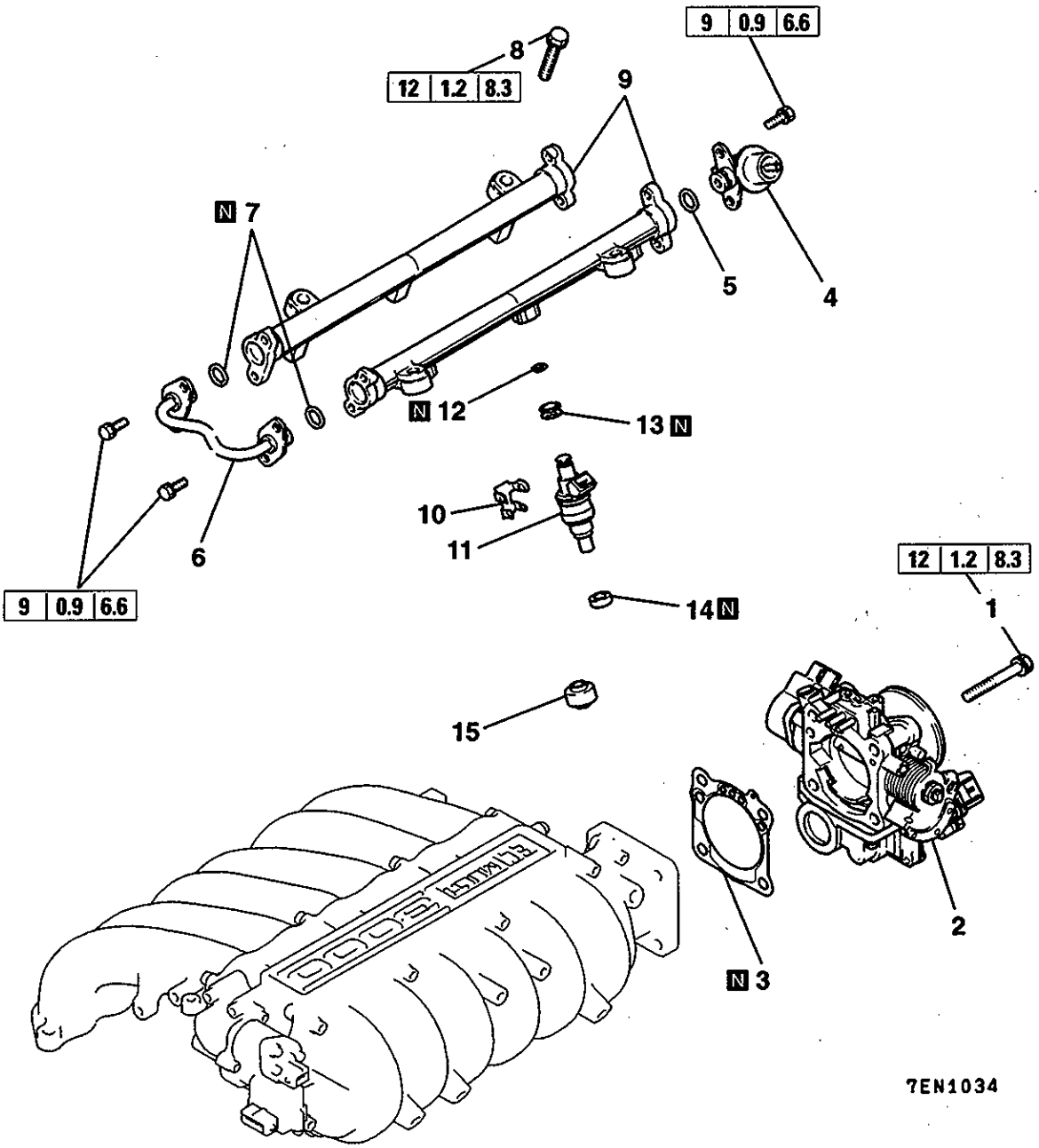


Removal steps

1. Bolt
〈A〉 2. Throttle body assembly
◆C◆ 3. Gasket
4. Fuel hose
5. Fuel return pipe
◆B◆ 6. Fuel pressure regulator
7. O-ring
8. Bolt
〈B〉 9. Delivery pipe
〈B〉◆A◆ 10. Injector
11. O-ring
12. Grommet
13. Insulator
14. Insulator

Added

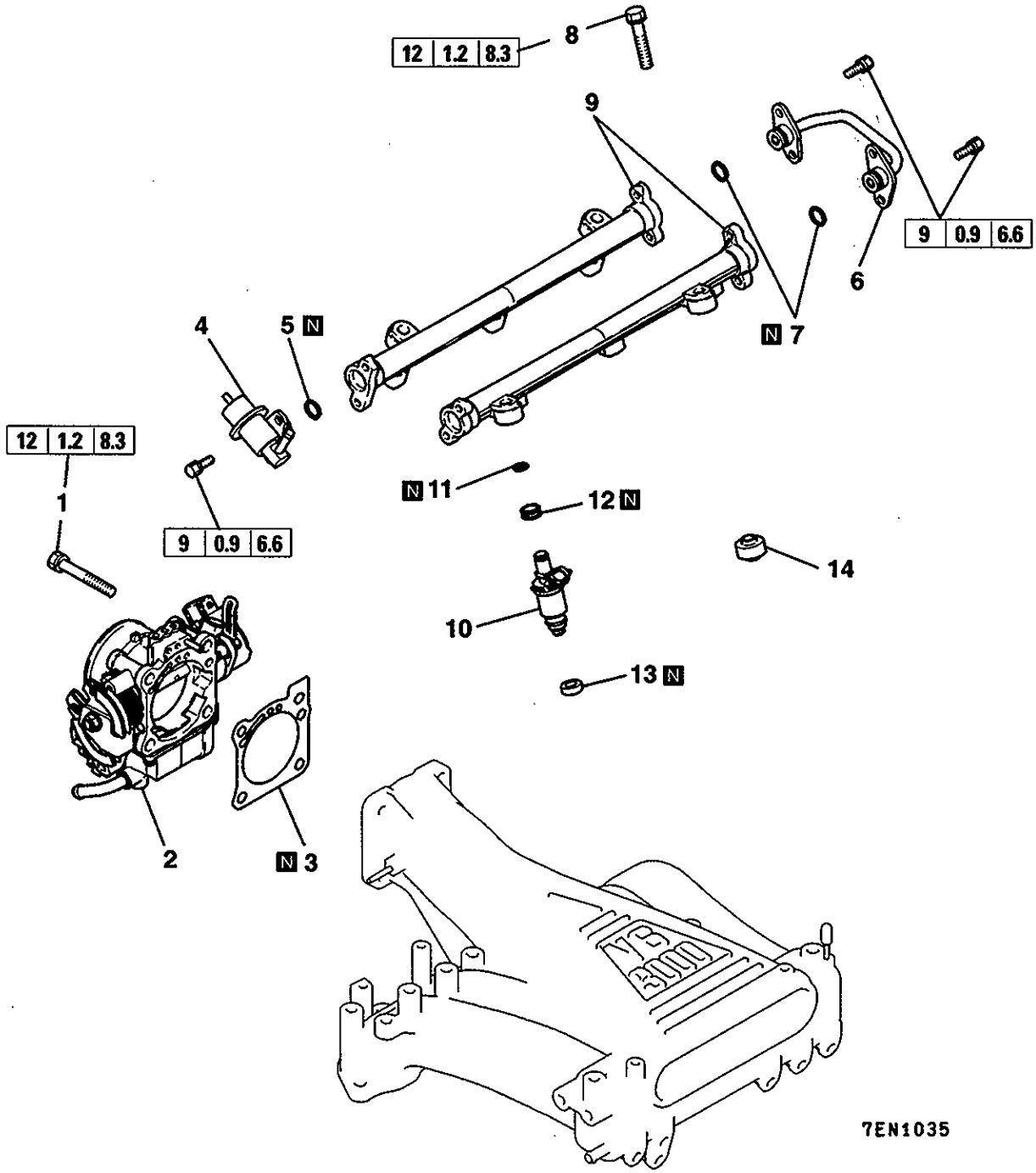
REMOVAL AND INSTALLATION – 6A12, 6G72 for Diamante, Sigma, Magna and 3000GT, 6G73 for Galant



Removal steps

1. Bolt
〈A〉 2. Throttle body assembly
◆D◆ 3. Gasket
◆C◆ 4. Fuel pressure regulator
5. O-ring
6. Fuel pipe
7. O-ring
8. Bolt
〈B〉 9. Delivery pipe
◆B◆ 10. Injector support (Up to 1995 model)
〈B〉 ◆A◆ 11. Injector
12. O-ring
13. Grommet
14. Insulator
15. Insulator

REMOVAL AND INSTALLATION – 6G72 (SOHC – 24-VALVE) for Pajero/Montero and L400

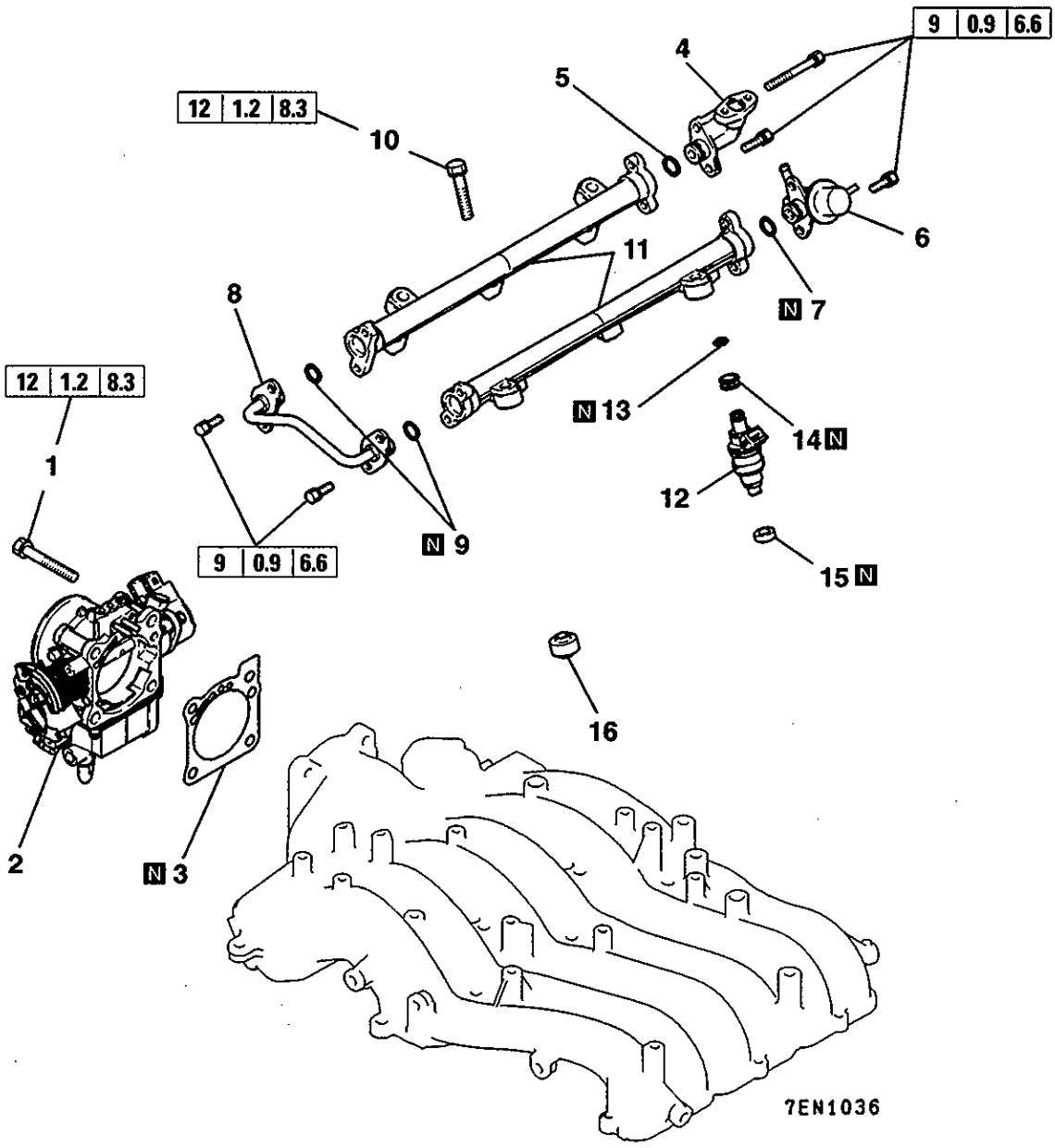


Removal steps

1. Bolt
◇A◇ 2. Throttle body assembly
◆C◆ 3. Gasket
◆B◆ 4. Fuel pressure regulator
5. O-ring
6. Fuel pipe
7. O-ring
8. Bolt
◇B◇ 9. Delivery pipe
◇B◇ ◆A◆ 10. Injector
11. O-ring
12. Grommet
13. Insulator
14. Insulator

Added

REMOVAL AND INSTALLATION – 6G74



Removal steps

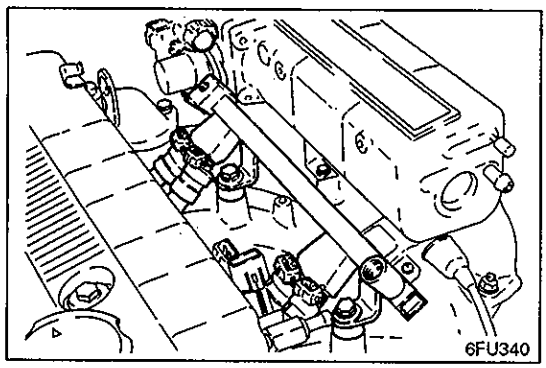
1. Bolt
〈A〉 2. Throttle body assembly
◆C◆ 3. Gasket
◆B◆ 4. Fuel inlet fitting
5. O-ring
◆B◆ 6. Fuel pressure regulator
7. O-ring
8. Fuel pipe
9. O-ring
10. Bolt
〈B〉 11. Delivery pipe
〈B〉 ◆A◆ 12. Injector
13. O-ring
14. Grommet
15. Insulator
16. Insulator

SERVICE POINTS OF REMOVAL

◊A◊ REMOVAL OF THROTTLE BODY ASSEMBLY

(1) Do not remove the throttle valve.
(2) Clean all parts with shop towel. Do not use solvent to clean the following parts:
- Throttle position sensor
- Variable resistor
- Idle-speed control servo

If these parts are immersed in solvent, their insulation will deteriorate. Wipe them only with a cloth.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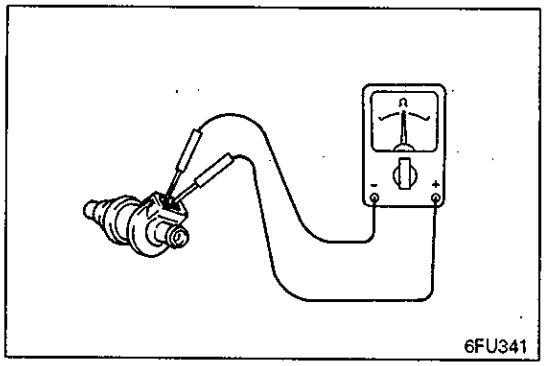
◊B◊ REMOVAL OF DELIVERY PIPE / INJECTORS

(1) When removing the delivery pipe assembly, the injectors are likely to come loose. Take care not to drop the injectors.

INSPECTION

The inspection of the throttle position sensor, idle speed control servo, motor position sensor and idle position switch is covered in Group 13 – Fuel of the applicable chassis Workshop Manual.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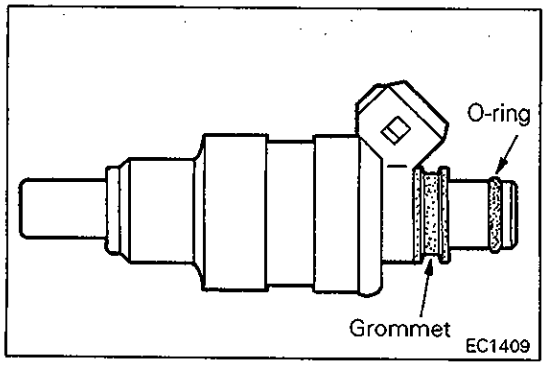
INJECTORS

(1) Measure resistance of the injector coils using a circuit tester.

Standard value:
Standard type ..... 2 – 3 Ω [at 20°C (68°F)]
Hiohmic type ..... 13 – 16 Ω [at 20°C (68°F)]

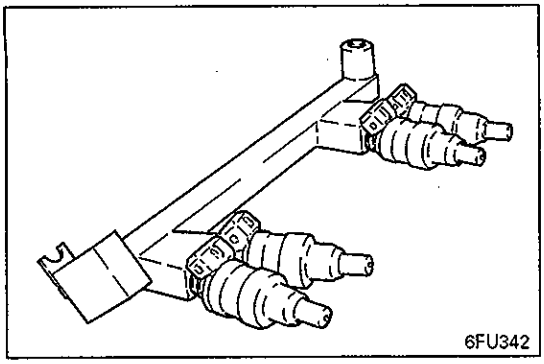
(2) If the resistance is out of specification, replace the injector.



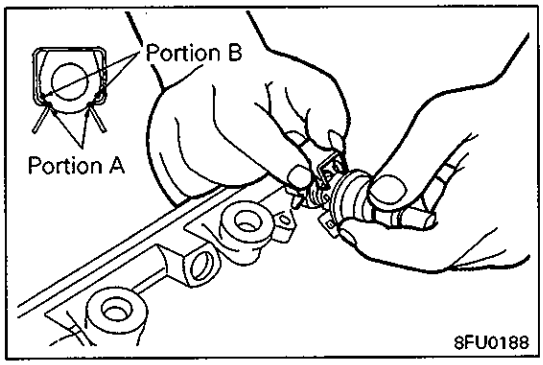
SERVICE POINTS OF INSTALLATION

◆A◆ INSTALLATION OF INJECTORS

(1) Fit a new grommet and O-ring on the injector.
(2) Coat the O-ring with oil.

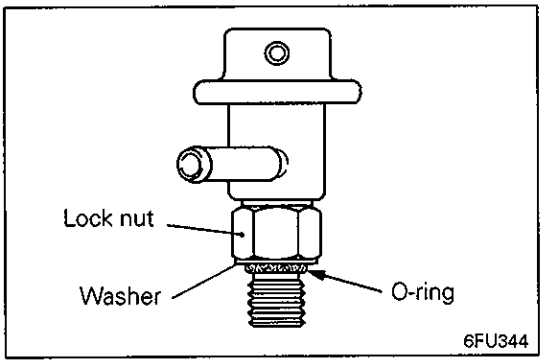


(3) Install the injector onto the delivery pipe while turning the injector in both directions. Make sure that the injector turns smoothly.
If the injector does not turn smoothly, the cause is the O-ring which can bind in the delivery pipe.



◆B◆ INSTALLATION OF INJECTOR SUPPORT

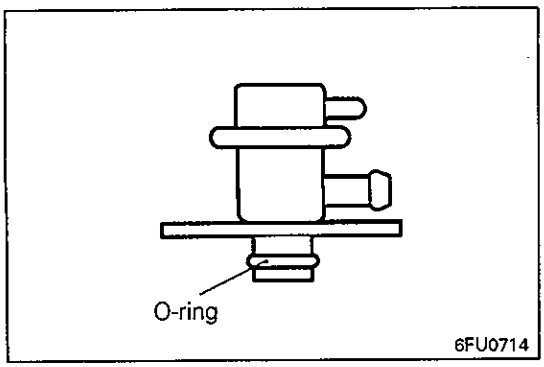
(1) Install the injector support onto the injector, aligning the projections of the injector support with the recesses in the injector.
(2) Confirm that the injector support is in close contact with the delivery pipe. Confirm also that the portion A of the support is positioned as shown with respect to the portion B of the delivery pipe.



◆C◆ INSTALLATION OF FUEL PRESSURE REGULATOR – Screw-on type

(1) Back off the lock nut until it stops against the regulator.
(2) Install a new O-ring onto the regulator.
(3) Coat the O-ring with oil.
(4) Install the pressure regulator onto the delivery pipe by turning the regulator with fingers.
(5) Turn back the regulator until its nipple is correctly positioned (within one turn).
(6) Secure the regulator in position by tightening the lock nut to the specified torque.

Tightening torque: 30 Nm (3 kgm, 22 ft.lbs.)



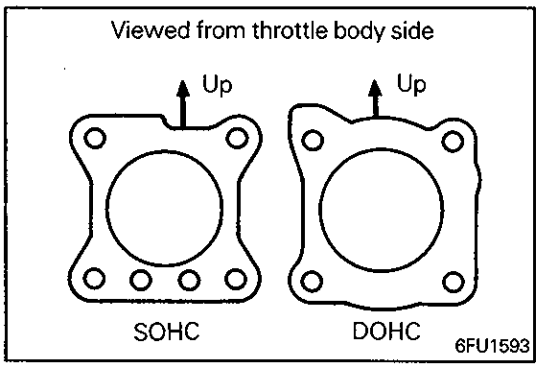
◆C◆ INSTALLATION OF FUEL PRESSURE REGULATOR – Flange type

(1) Install a new O-ring on the regulator.
(2) Coat the new O-ring with oil.

Added

(3) With its nipple correctly positioned, insert the pressure regulator squarely into the delivery pipe.
(4) Make sure that the fuel pressure regulator turns smoothly. Then, align the threaded holes and tighten the bolts to specification.
If the regulator does not turn smoothly, the cause is the O-ring which can bind in the delivery pipe.

Tightening torque: 9 Nm (0.9 kgm, 6.6 ft.lbs.)



◆D◆ INSTALLATION OF GASKET

The gasket should be installed in the specified direction. Install correctly as shown in the illustration.

NOTES