

Last Modified: 12-04-2024	6.11:8.1.0	Doc ID: RM100000002AMRU
Model Year Start: 2023	Model: Prius Prime	Prod Date Range: [03/2023 -]
Title: M20A-FXS (ENGINE MECHANICAL): ENGINE UNIT (for PHEV Model): INSTALLATION; 2023 - 2024 MY Prius Prime [03/2023 -]		

INSTALLATION

CAUTION / NOTICE / HINT

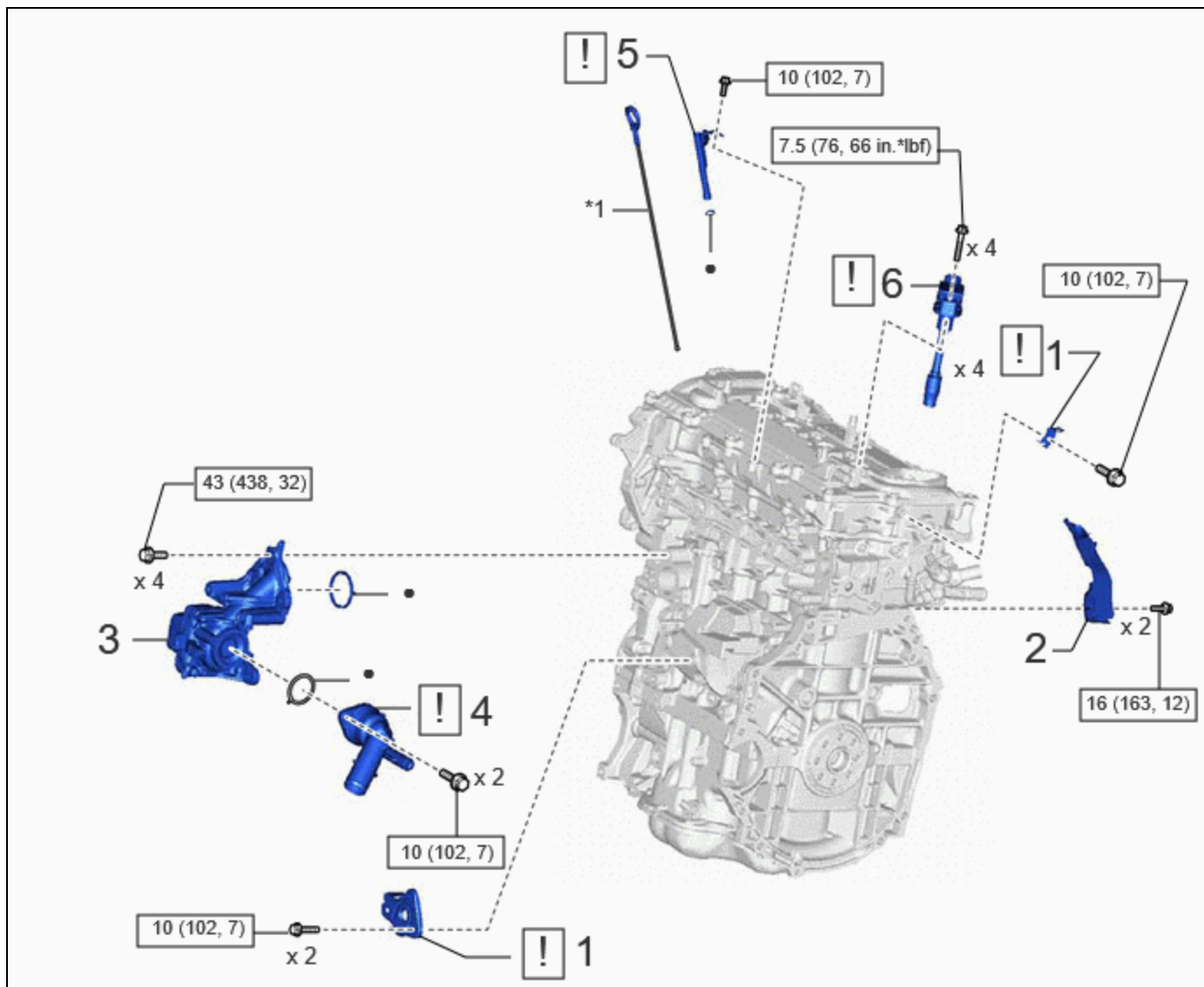
NOTICE:




This procedure includes the installation of small-head bolts. Refer to Small-Head Bolts of Basic Repair Hint to identify the small-head bolts.


Click here [INFO](#)

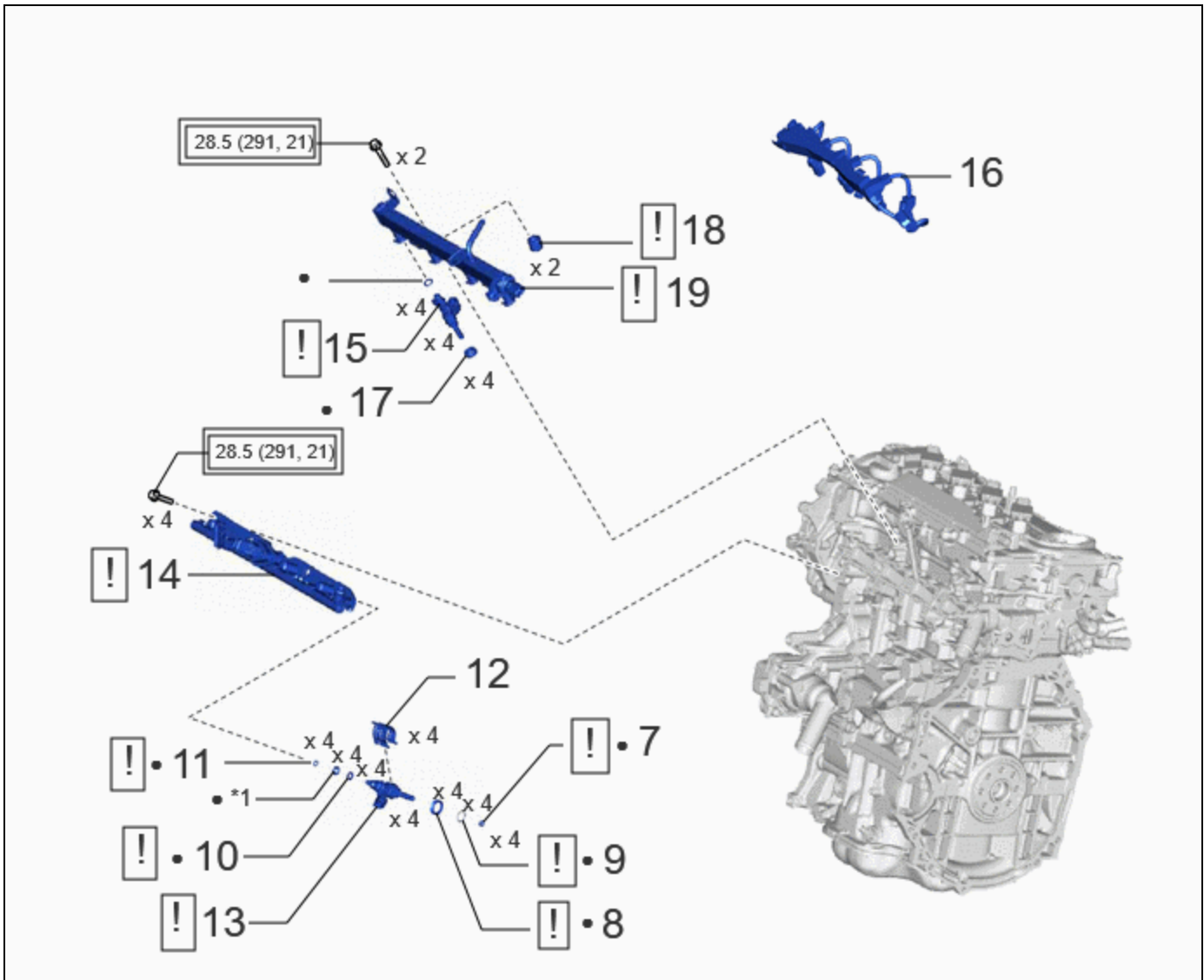
CAUTION / NOTICE / HINT

COMPONENTS (INSTALLATION)







	PROCEDURE	PART NAME CODE			
1	WIRE HARNESS CLAMP BRACKET	-	INFO	-	-
2	NO. 3 EXHAUST MANIFOLD HEAT INSULATOR	17169A	-	-	-
3	ENGINE WATER PUMP ASSEMBLY (WATER INLET HOUSING)	16032	-	-	-
4	WATER INLET WITH THERMOSTAT SUB-ASSEMBLY	16031	INFO	-	-
5	ENGINE OIL LEVEL DIPSTICK GUIDE	11452D	INFO	-	-
6	IGNITION COIL ASSEMBLY	19500	INFO	-	-

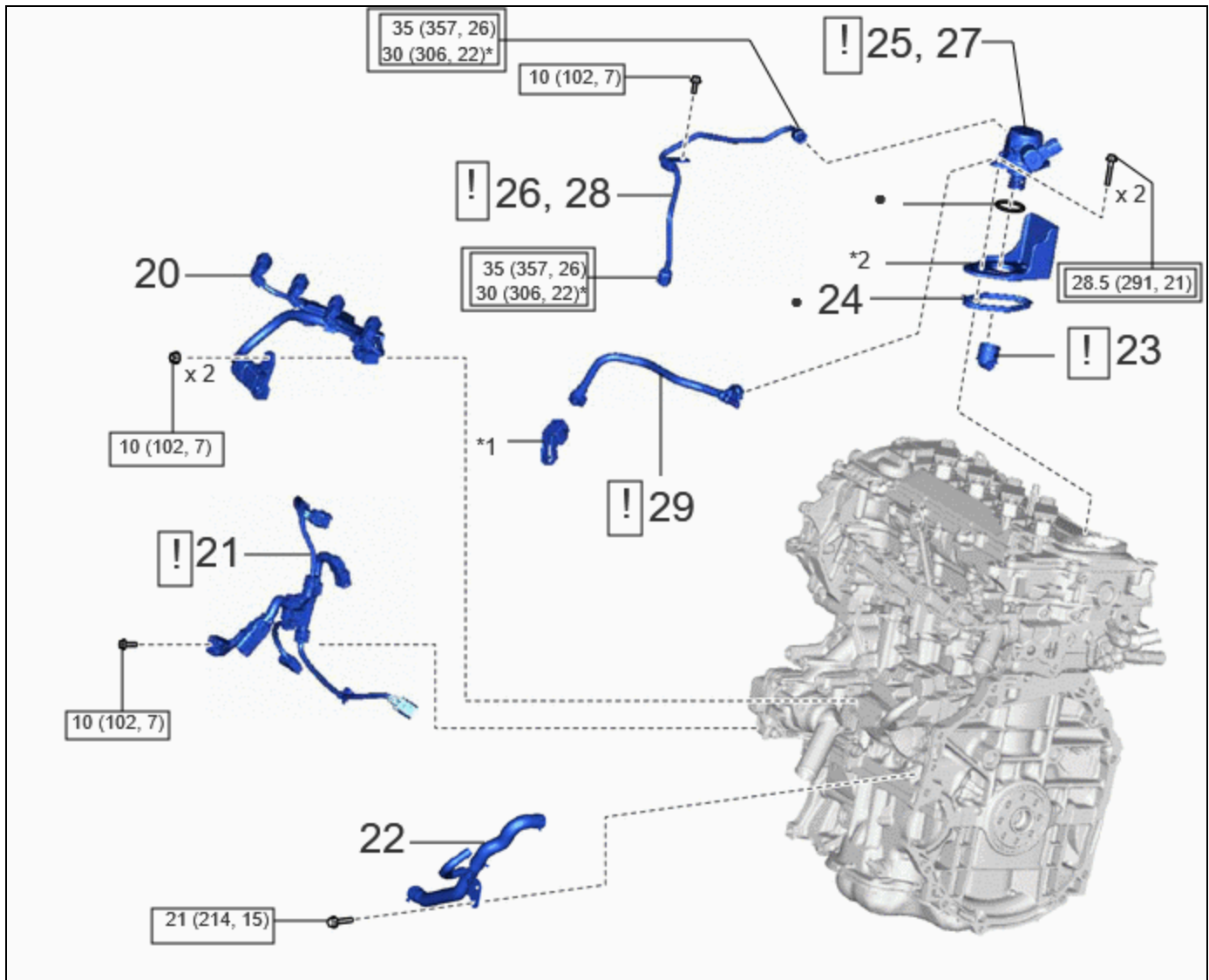
*1	ENGINE OIL LEVEL DIPSTICK	-	-
	N*m (kgf*cm, ft.*lbf): Specified torque	-	<ul style="list-style-type: none"> Non-reusable part








PROCEDURE		PART NAME CODE			
7	FUEL INJECTOR SEAL	23255A	INFO	-	-
8	INJECTOR VIBRATION INSULATOR	23291A	INFO	-	-
9	C-RING	-	INFO	-	-
10	NO. 1 FUEL INJECTOR BACK-UP RING	23256	INFO	-	-
11	NO. 3 FUEL INJECTOR BACK-UP RING	23258	INFO	-	-
12	NOZZLE HOLDER CLAMP	23695A	-	-	-
13	DIRECT FUEL INJECTOR ASSEMBLY	23250E	INFO	-	-
14	FUEL DELIVERY PIPE	23814B	INFO	-	-
15	PORT FUEL INJECTOR ASSEMBLY	23250F	INFO	-	-
16	NO. 5 ENGINE WIRE	82125N	-	-	-
17	INJECTOR VIBRATION INSULATOR	23291	-	-	-

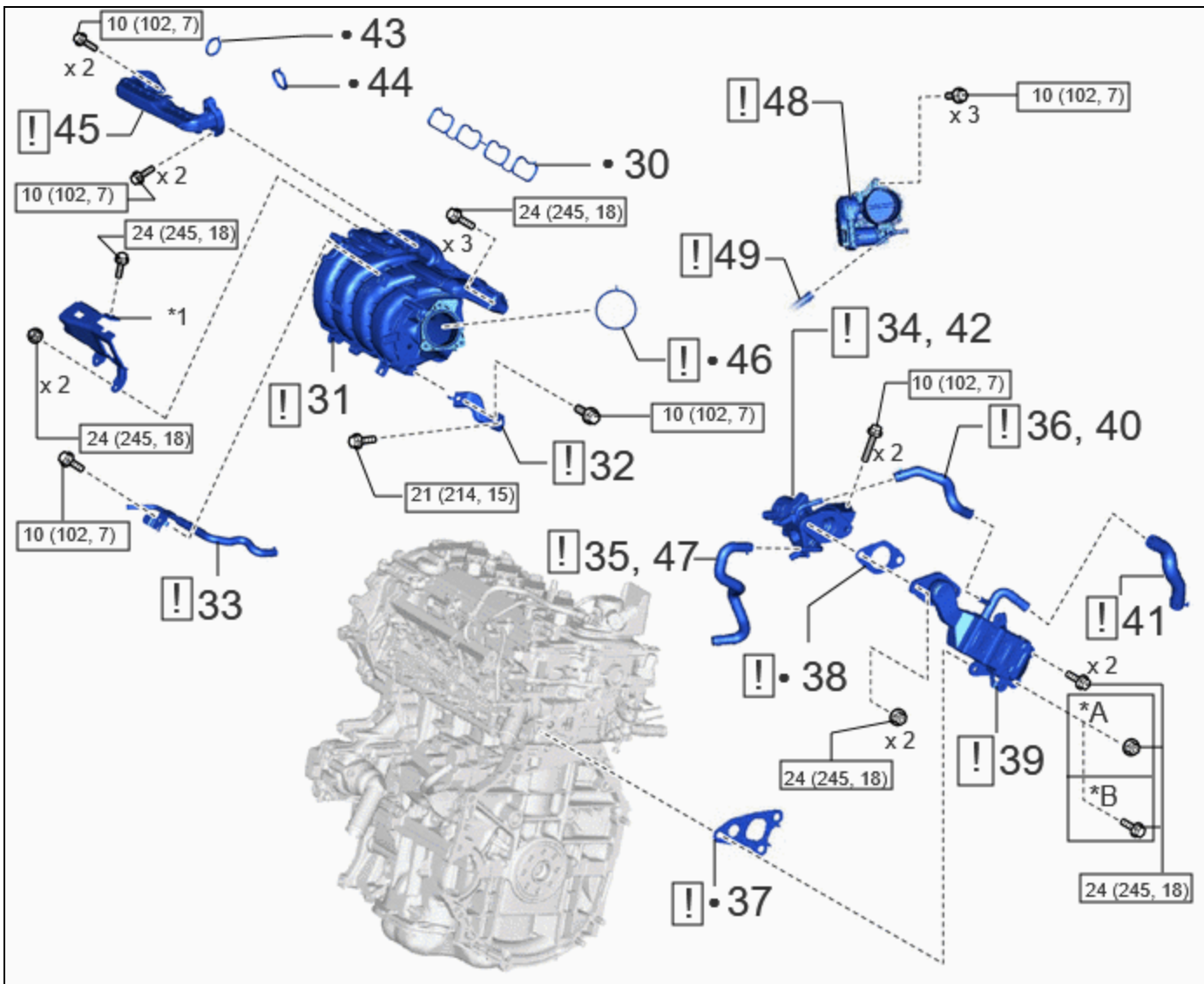
PROCEDURE		PART NAME CODE			
18	FUEL DELIVERY SPACER	23891	INFO	-	-
19	FUEL DELIVERY PIPE SUB-ASSEMBLY	23807	INFO	-	-

*1	O-RING	-	-
	Tightening torque for "Major areas involving basic vehicle performance such as moving/turning/stopping": N*m (kgf*cm, ft.*lbf)	<ul style="list-style-type: none"> Non-reusable part 	







PROCEDURE		PART NAME CODE			
20	NO. 6 ENGINE WIRE	82126A	-	-	-
21	SENSOR WIRE	82219A	INFO	-	-
22	WATER BY-PASS HOSE ASSEMBLY	-	-	-	-
23	FUEL PUMP LIFTER ASSEMBLY	23470	INFO	-	-
24	FUEL PUMP SPACER GASKET	23224D	-	-	-
25	TEMPORARILY INSTALL FUEL (ENGINE ROOM SIDE) PUMP ASSEMBLY (for High Pressure)	23100X	INFO	-	-
26	TEMPORARILY INSTALL NO. 1 FUEL PIPE SUB-ASSEMBLY	23801P	INFO	-	-
27	INSTALL FUEL (ENGINE ROOM SIDE) PUMP ASSEMBLY (for High Pressure)	23100X	INFO	-	-
28	INSTALL NO. 1 FUEL PIPE SUB-ASSEMBLY	23801P	INFO	-	-
29	FUEL TUBE SUB-ASSEMBLY	23910A	INFO	-	-

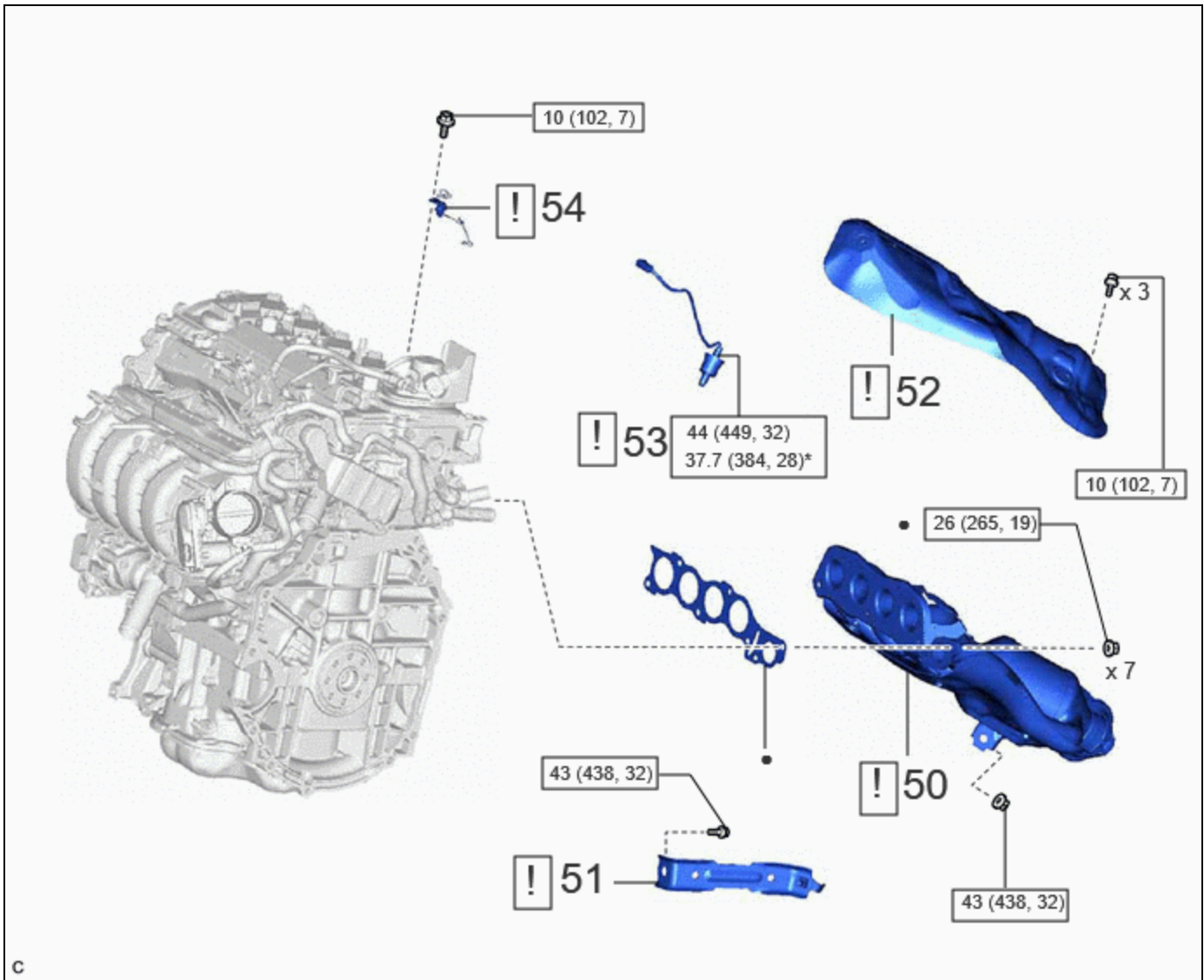
*1	FUEL PIPE CLAMP	*2	FUEL PUMP FLANGE
	Tightening torque for "Major areas involving basic vehicle performance such as moving/turning/stopping": N*m (kgf*cm, ft.*lbf)		N*m (kgf*cm, ft.*lbf): Specified torque
*	For use with a union nut wrench	•	Non-reusable part



PROCEDURE	PART NAME CODE	!		
30 NO. 1 INTAKE MANIFOLD TO HEAD GASKET	17177	-	-	-
31 INTAKE MANIFOLD	17111	INFO	-	-
32 INTAKE MANIFOLD STAY	17138B	INFO	-	-
33 NO. 3 WATER BY-PASS PIPE	16279	INFO	-	-
34 SET EGR VALVE ASSEMBLY	25620	INFO	-	-
35 INSTALL NO. 8 WATER BY-PASS HOSE	16296	INFO	-	-
36 INSTALL NO. 4 WATER BY-PASS HOSE	16281	INFO	-	-
37 NO. 1 EGR COOLER GASKET	25685	INFO	-	-
38 EGR VALVE GASKET	25627	INFO	-	-
39 EGR COOLER ASSEMBLY	25680	INFO	-	-
40 CONNECT NO. 4 WATER BY-PASS HOSE	16281	INFO	-	-

PROCEDURE		PART NAME CODE			
41	NO. 3 WATER BY-PASS HOSE	16267	INFO	-	-
42	INSTALL EGR VALVE ASSEMBLY	25620	INFO	-	-
43	EGR INLET GASKET	25628	-	-	-
44	EGR VALVE ADAPTER GASKET	25629	-	-	-
45	NO. 1 EGR PIPE SUB-ASSEMBLY	25601	INFO	-	-
46	THROTTLE BODY GASKET	22271	INFO	-	-
47	CONNECT NO. 8 WATER BY-PASS HOSE	16296	INFO	-	-
48	THROTTLE BODY WITH MOTOR ASSEMBLY	22030	INFO	-	-
49	NO. 5 WATER BY-PASS HOSE	16282	INFO	-	-

*A	for Type A	*B	for Type B
*1	NO. 2 FUEL DELIVERY GUARD	-	-
	N*m (kgf*cm, ft.*lbf): Specified torque	•	Non-reusable part

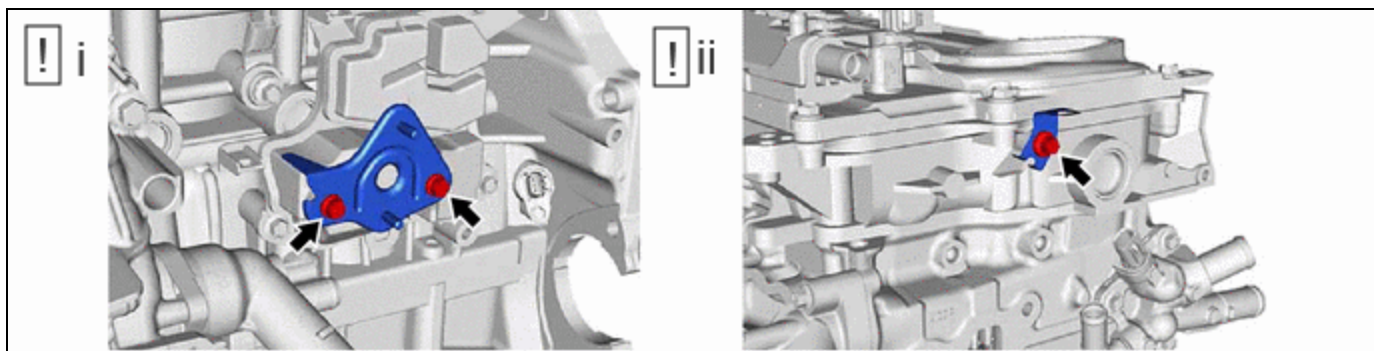


PROCEDURE		PART NAME CODE	!		
50	EXHAUST MANIFOLD	17141	INFO	-	-
51	MANIFOLD STAY	17118	INFO	-	-
52	NO. 1 EXHAUST MANIFOLD HEAT INSULATOR	17167	INFO	-	-
53	AIR FUEL RATIO SENSOR	89467B	INFO	-	-
54	WIRE HARNESS CLAMP BRACKET	-	INFO	-	-

	N*m (kgf*cm, ft.*lbf): Specified torque	*	For use with SST or a 14 mm union nut wrench
•	Non-reusable part	-	-

PROCEDURE

1. INSTALL WIRE HARNESS CLAMP BRACKET



- (1) Using an 8 mm socket wrench, install the wire harness clamp bracket to the No. 1 ventilation case with the 2 bolts.

Torque:

10 N·m {102 kgf·cm, 7 ft·lbf}

- (2) Using an 8 mm socket wrench, install the wire harness clamp bracket to the camshaft housing sub-assembly with the bolt.

Torque:

10 N·m {102 kgf·cm, 7 ft·lbf}

2. INSTALL NO. 3 EXHAUST MANIFOLD HEAT INSULATOR

Torque:

16 N·m {163 kgf·cm, 12 ft·lbf}

3. INSTALL ENGINE WATER PUMP ASSEMBLY (WATER INLET HOUSING)

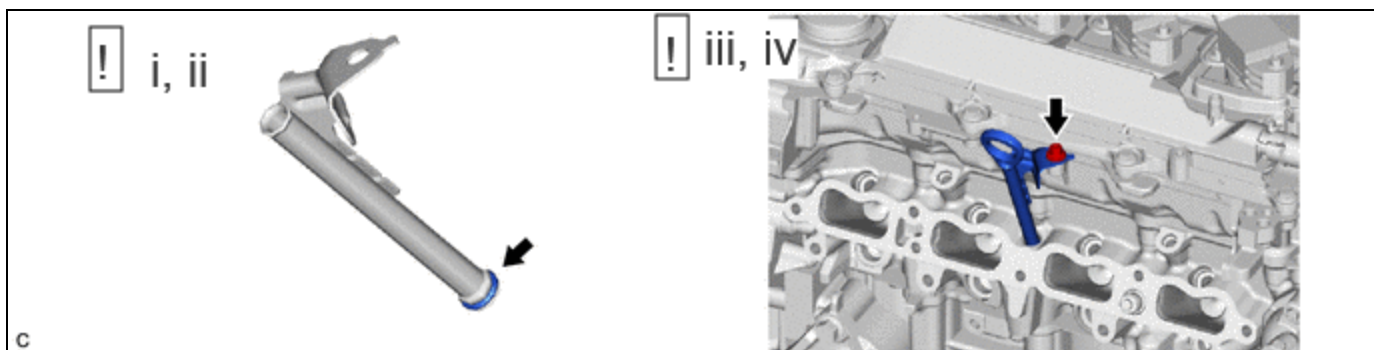
Torque:

43 N·m {438 kgf·cm, 32 ft·lbf}

4. INSTALL WATER INLET WITH THERMOSTAT SUB-ASSEMBLY



5. INSTALL ENGINE OIL LEVEL DIPSTICK GUIDE



- (1) Apply a light coat of engine oil to a new O-ring.
- (2) Install the O-ring to the engine oil level dipstick guide.
- (3) Using an 8 mm socket wrench, install the engine oil level dipstick guide to the camshaft housing sub-assembly with the bolt.

Torque:


10 N·m {102 kgf·cm, 7 ft·lbf}

(4) Install the engine oil level dipstick.


6. INSTALL IGNITION COIL ASSEMBLY

	Click here INFO
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7. INSTALL FUEL INJECTOR SEAL

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8. INSTALL INJECTOR VIBRATION INSULATOR

	Click here INFO
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9. INSTALL C-RING

	Click here INFO
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10. INSTALL NO. 1 FUEL INJECTOR BACK-UP RING


	Click here INFO
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11. INSTALL NO. 3 FUEL INJECTOR BACK-UP RING

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12. INSTALL NOZZLE HOLDER CLAMP

13. INSTALL DIRECT FUEL INJECTOR ASSEMBLY

	Click here INFO
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14. INSTALL FUEL DELIVERY PIPE



Click here [INFO](#)

15. INSTALL PORT FUEL INJECTOR ASSEMBLY



Click here [INFO](#)

16. INSTALL NO. 5 ENGINE WIRE

17. INSTALL INJECTOR VIBRATION INSULATOR

18. INSTALL FUEL DELIVERY SPACER



Click here [INFO](#)

19. INSTALL FUEL DELIVERY PIPE SUB-ASSEMBLY



Click here [INFO](#)

20. INSTALL NO. 6 ENGINE WIRE

Torque:

10 N·m {102 kgf·cm, 7 ft·lbf}

21. INSTALL SENSOR WIRE

 i, ii, iii



- (1) Using an 8 mm socket wrench, install the sensor wire to the water inlet with thermostat sub-assembly with the bolt.

Torque:

10 N·m {102 kgf·cm, 7 ft·lbf}

- (2) Engage the 3 clamps.

(3) Connect the 3 connectors.

22. INSTALL WATER BY-PASS HOSE ASSEMBLY

Torque:

21 N·m {214 kgf·cm, 15 ft·lbf}

23. INSTALL FUEL PUMP LIFTER ASSEMBLY


	Click here INFO
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24. INSTALL FUEL PUMP SPACER GASKET


25. TEMPORARILY INSTALL FUEL (ENGINE ROOM SIDE) PUMP ASSEMBLY (for High Pressure)

	Click here INFO
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26. TEMPORARILY INSTALL NO. 1 FUEL PIPE SUB-ASSEMBLY

	Click here INFO
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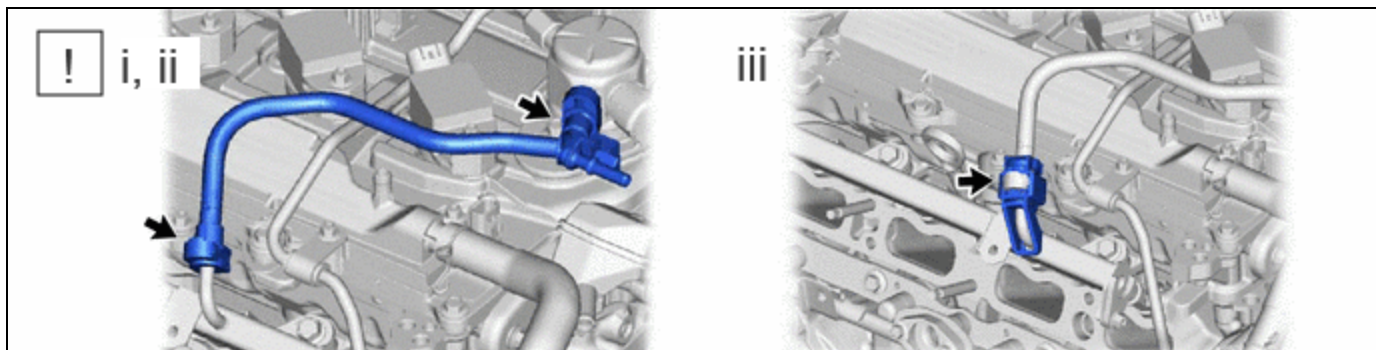
27. INSTALL FUEL (ENGINE ROOM SIDE) PUMP ASSEMBLY (for High Pressure)

	Click here INFO
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28. INSTALL NO. 1 FUEL PIPE SUB-ASSEMBLY

	Click here INFO
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29. CONNECT FUEL TUBE SUB-ASSEMBLY



(1) Connect the fuel tube sub-assembly to the fuel delivery pipe sub-assembly.

Click here [INFO](#)

(2) Connect the fuel tube sub-assembly to the fuel (engine room side) pump assembly.

Click here [INFO](#)

(3) Install the fuel pipe clamp to the fuel tube connector.

30. INSTALL NO. 1 INTAKE MANIFOLD TO HEAD GASKET

31. INSTALL INTAKE MANIFOLD



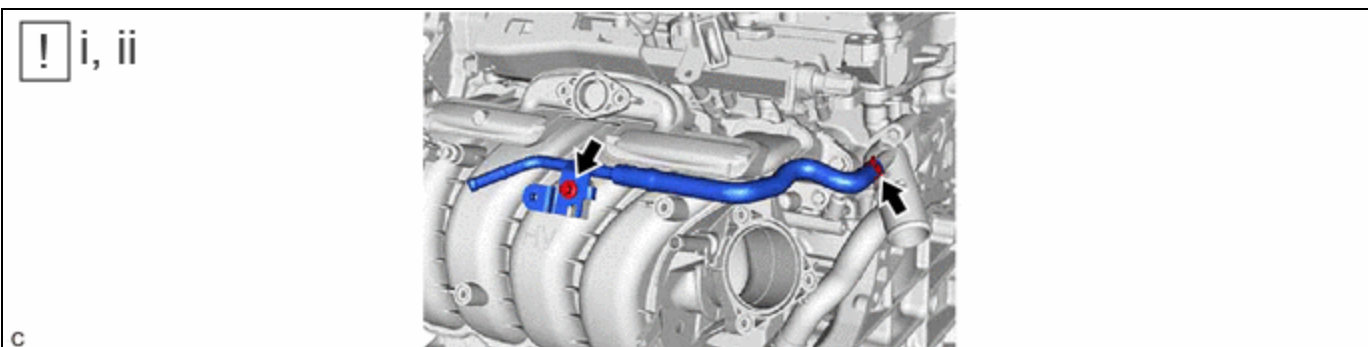
Click here [INFO](#)

32. INSTALL INTAKE MANIFOLD STAY



Click here [INFO](#)

33. INSTALL NO. 3 WATER BY-PASS PIPE



(1) Using an 8 mm socket wrench, install the No. 3 water by-pass pipe to the intake manifold with the bolt.

Torque:

10 N·m {102 kgf·cm, 7 ft·lbf}

(2) Connect the No. 3 water by-pass pipe to the water outlet sub-assembly and slide the clip to secure it.

34. SET EGR VALVE ASSEMBLY



Click here [INFO](#)

35. INSTALL NO. 8 WATER BY-PASS HOSE



Click here [INFO](#)

36. INSTALL NO. 4 WATER BY-PASS HOSEClick here [INFO](#)**37. INSTALL NO. 1 EGR COOLER GASKET**Click here [INFO](#)**38. INSTALL EGR VALVE GASKET**Click here [INFO](#)**39. INSTALL EGR COOLER ASSEMBLY**Click here [INFO](#)**40. CONNECT NO. 4 WATER BY-PASS HOSE**Click here [INFO](#)**41. CONNECT NO. 3 WATER BY-PASS HOSE**Click here [INFO](#)**42. INSTALL EGR VALVE ASSEMBLY**Click here [INFO](#)**43. INSTALL EGR INLET GASKET****44. INSTALL EGR VALVE ADAPTER GASKET****45. INSTALL NO. 1 EGR PIPE SUB-ASSEMBLY**



Click here [INFO](#)

46. INSTALL THROTTLE BODY GASKET



Click here [INFO](#)

47. CONNECT NO. 8 WATER BY-PASS HOSE



Click here [INFO](#)

48. INSTALL THROTTLE BODY WITH MOTOR ASSEMBLY



Click here [INFO](#)

49. CONNECT NO. 5 WATER BY-PASS HOSE



Click here [INFO](#)

50. INSTALL EXHAUST MANIFOLD



Click here [INFO](#)

51. INSTALL MANIFOLD STAY



Click here [INFO](#)

52. INSTALL NO. 1 EXHAUST MANIFOLD HEAT INSULATOR



Click here [INFO](#)

53. INSTALL AIR FUEL RATIO SENSOR



Click here [INFO](#)

54. INSTALL WIRE HARNESS CLAMP BRACKET



Click here [INFO](#)

