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|--|---------------------------|--------------------------------------|
| Last Modified: 12-04-2024 | 6.11:8.1.0 | Doc ID: RM10000002BG8W |
| Model Year Start: 2023 | Model: Prius Prime | Prod Date Range: [03/2023 -] |
| Title: M20A-FXS (ENGINE MECHANICAL): CYLINDER HEAD GASKET: REMOVAL; 2023 - 2024 MY Prius Prius Prime [03/2023 -] | | |

REMOVAL

CAUTION / NOTICE / HINT

The necessary procedures (adjustment, calibration, initialization or registration) that must be performed after parts are removed and installed, or replaced during cylinder head gasket removal/installation are shown below.

Necessary Procedures After Parts Removed/Installed/Replaced

| REPLACED PART OR PERFORMED PROCEDURE | NECESSARY PROCEDURE | EFFECT/INOPERATIVE FUNCTION WHEN NECESSARY PROCEDURE NOT PERFORMED | LINK |
|---|--|--|----------------------|
| Replacement of ECM | Perform Vehicle Identification Number (VIN) registration | DTC is output | INFO |
| | ECU configuration | - | INFO |
| | Update ECU security key | Vehicle Control History (RoB) are stored | INFO |
| <ul style="list-style-type: none"> Replacement of throttle body with motor assembly Cleaning the deposits from the throttle body with motor assembly Replacement of cam timing control motor with EDU assembly* Replacement of camshaft timing gear assembly* Replacement of camshaft (for | Inspection after repair | <ul style="list-style-type: none"> Poor idle, etc. Engine start function, etc. | INFO |

*: Even when not replacing the part, it is necessary to perform the specified necessary procedures after installation.

*1: Also necessary after performing a tire rotation.

*2: It is not necessary to perform this procedure if the tire pressure warning valve and transmitters are installed to the same location.

*3: The vehicle height changes because of tire replacement.

*4: If matchmarks were not placed when removing parts related to steering operation, perform end position initial setting.

| REPLACED PART OR PERFORMED PROCEDURE | NECESSARY PROCEDURE | EFFECT/INOPERATIVE FUNCTION WHEN NECESSARY PROCEDURE NOT PERFORMED | LINK |
|---|---------------------|---|---|
| intake or exhaust camshaft) <ul style="list-style-type: none"> • Replacement of camshaft timing exhaust gear assembly • Replacement of fuel (engine room side) pump assembly (for high pressure side) • Replacement of ignition coil assembly • Replacement of engine assembly • Gas leak from exhaust system is repaired • Replacement of cylinder head sub-assembly • Replacement of port fuel injector assembly • Replacement of direct fuel injector assembly • Replacement of EGR valve assembly • Replacement of air fuel ratio sensor (sensor 1) | | | |
| Replacement of inverter with converter assembly | ECU configuration | - | INFO |
| | Resolver learning | <ul style="list-style-type: none"> • DTCs are stored | for M20A-FXS HEV Model: INFO |
| <p>*: Even when not replacing the part, it is necessary to perform the specified necessary procedures after installation.</p> <p>*1: Also necessary after performing a tire rotation.</p> <p>*2: It is not necessary to perform this procedure if the tire pressure warning valve and transmitters are installed to the same location.</p> <p>*3: The vehicle height changes because of tire replacement.</p> <p>*4: If matchmarks were not placed when removing parts related to steering operation, perform end position initial setting.</p> | | | |

| REPLACED PART OR PERFORMED PROCEDURE | NECESSARY PROCEDURE | EFFECT/INOPERATIVE FUNCTION WHEN NECESSARY PROCEDURE NOT PERFORMED | LINK |
|--|--|--|---|
| | | <ul style="list-style-type: none"> Slight vibration at a vehicle speed of 5 km/h (3 mph) or less Shock or vibration during acceleration | for M20A-FXS PHEV Model: INFO |
| for PHEV Model: Replacement of service plug grip | High voltage fuse accumulated load history reset | DTCs are stored | INFO |
| Replacement of hybrid vehicle transaxle assembly | <ul style="list-style-type: none"> Resolver learning Initialize resolver | <ul style="list-style-type: none"> DTCs are stored Slight vibration at a vehicle speed of 5 km/h (3 mph) or less Shock or vibration during acceleration | for M20A-FXS HEV Model: INFO for M20A-FXS PHEV Model: INFO |
| Suspension parts | Rear television camera assembly optical axis (Back camera position setting) | Parking Assist Monitor System | INFO |
| | Parking assist ECU initialization | Panoramic View Monitor System | INFO |
| | | Advanced Park | INFO |
| Tires | <ul style="list-style-type: none"> Initialization*1*2 Tire Position Identification*1*2 | Tire Pressure Warning System | Refer to Procedures Necessary When Replacing Parts (for Tire Pressure Warning System) table below INFO |

*: Even when not replacing the part, it is necessary to perform the specified necessary procedures after installation.

*1: Also necessary after performing a tire rotation.

*2: It is not necessary to perform this procedure if the tire pressure warning valve and transmitters are installed to the same location.

*3: The vehicle height changes because of tire replacement.

*4: If matchmarks were not placed when removing parts related to steering operation, perform end position initial setting.

| REPLACED PART OR PERFORMED PROCEDURE | NECESSARY PROCEDURE | EFFECT/INOPERATIVE FUNCTION WHEN NECESSARY PROCEDURE NOT PERFORMED | LINK |
|--|---|--|----------------------|
| | Rear television camera assembly optical axis (Back camera position setting) | Parking Assist Monitor System | INFO |
| | Parking assist ECU initialization*3 | Panoramic View Monitor System | INFO |
| | | Advanced Park | INFO |
| No. 2 steering intermediate shaft assembly*4 | End position initial setting | - | INFO |
| Replacement of front bumper assembly* | Front television camera view adjustment | Panoramic View Monitor System | INFO |
| | | Advanced Park | INFO |
| Front wheel alignment adjustment | Perform "Calibration" | <ul style="list-style-type: none"> • DTCs are stored • ABS warning light illuminates • Brake system warning light (yellow indicator) illuminates • Slip indicator light illuminates • Electronically controlled brake system disabled or malfunctions | INFO |

*: Even when not replacing the part, it is necessary to perform the specified necessary procedures after installation.

*1: Also necessary after performing a tire rotation.

*2: It is not necessary to perform this procedure if the tire pressure warning valve and transmitters are installed to the same location.

*3: The vehicle height changes because of tire replacement.

*4: If matchmarks were not placed when removing parts related to steering operation, perform end position initial setting.

NOTICE:

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

Click here [INFO](#)

HINT:

When the cable is disconnected / reconnected to the auxiliary battery terminal, systems temporarily stop operating. However, each system has a function that completes learning the first time the system is used.

Items for which learning is completed by driving the vehicle

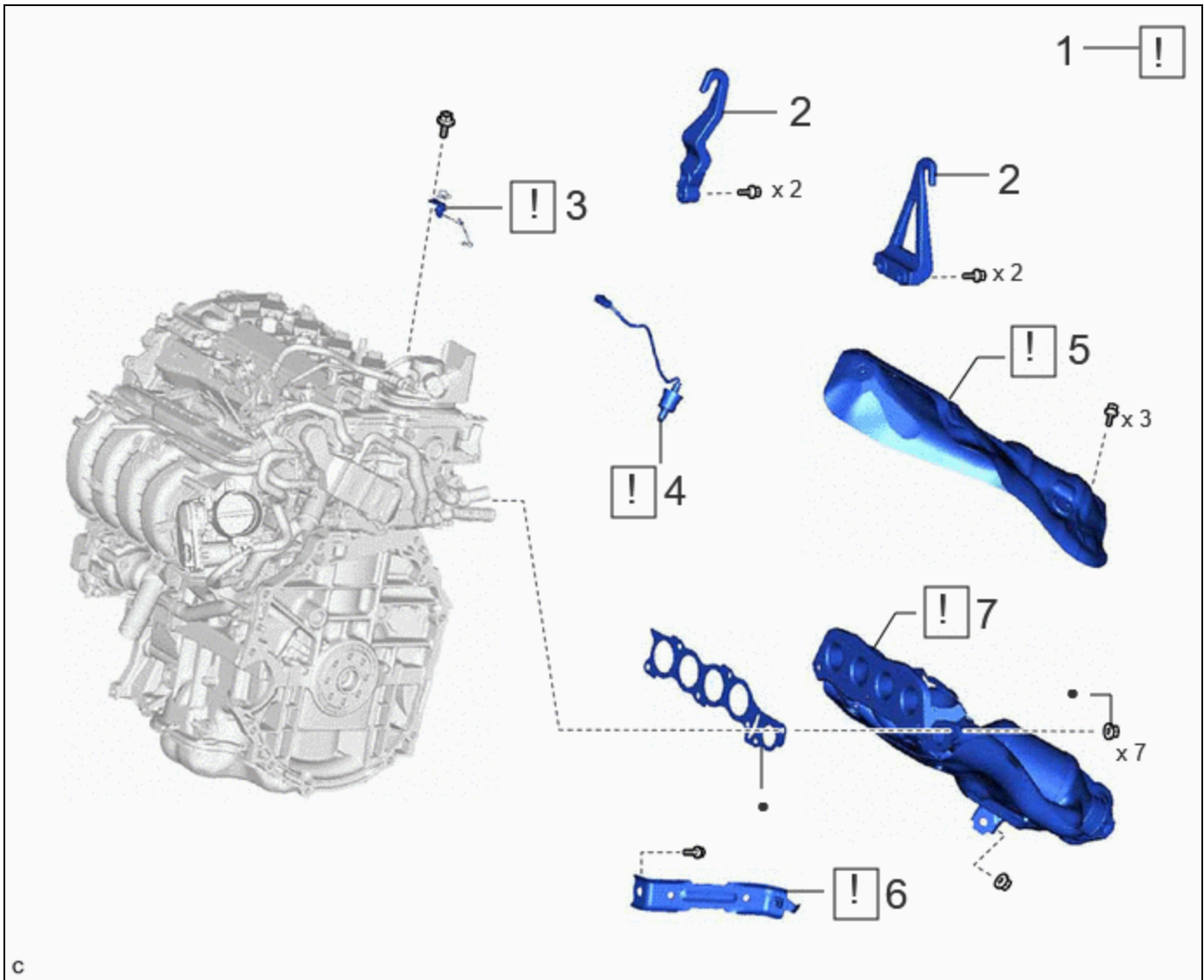
| EFFECT/INOPERATIVE FUNCTION WHEN NECESSARY PROCEDURE NOT PERFORMED | NECESSARY PROCEDURES | LINK |
|--|---|----------------------|
| Front Camera System | Drive the vehicle straight ahead at 35 km/h (22 mph) or more for 5 seconds or more. | INFO |

Items for which learning is completed by operating the vehicle normally

| EFFECT/INOPERATIVE FUNCTION WHEN NECESSARY PROCEDURE NOT PERFORMED | NECESSARY PROCEDURES | LINK |
|--|---|----------------------|
| Power Door Lock Control System*1 <ul style="list-style-type: none"> • Back door opener | Perform door unlock operation with door control switch or electrical key transmitter sub-assembly switch. | INFO |
| Power Back Door System*2 | Reset back door close position | INFO |
| Air Conditioning System | <p>for HEV Model:</p> <p>After the ignition switch is turned to ON, the servo motor standard position is recognized.</p> <p>for PHEV Model:</p> <p>After the ignition switch is turned to ON, the servo motor and cooler expansion valve standard position is recognized.</p> | - |
| *1: w/o Power Back Door System *2: w/ Power Back Door System | | |

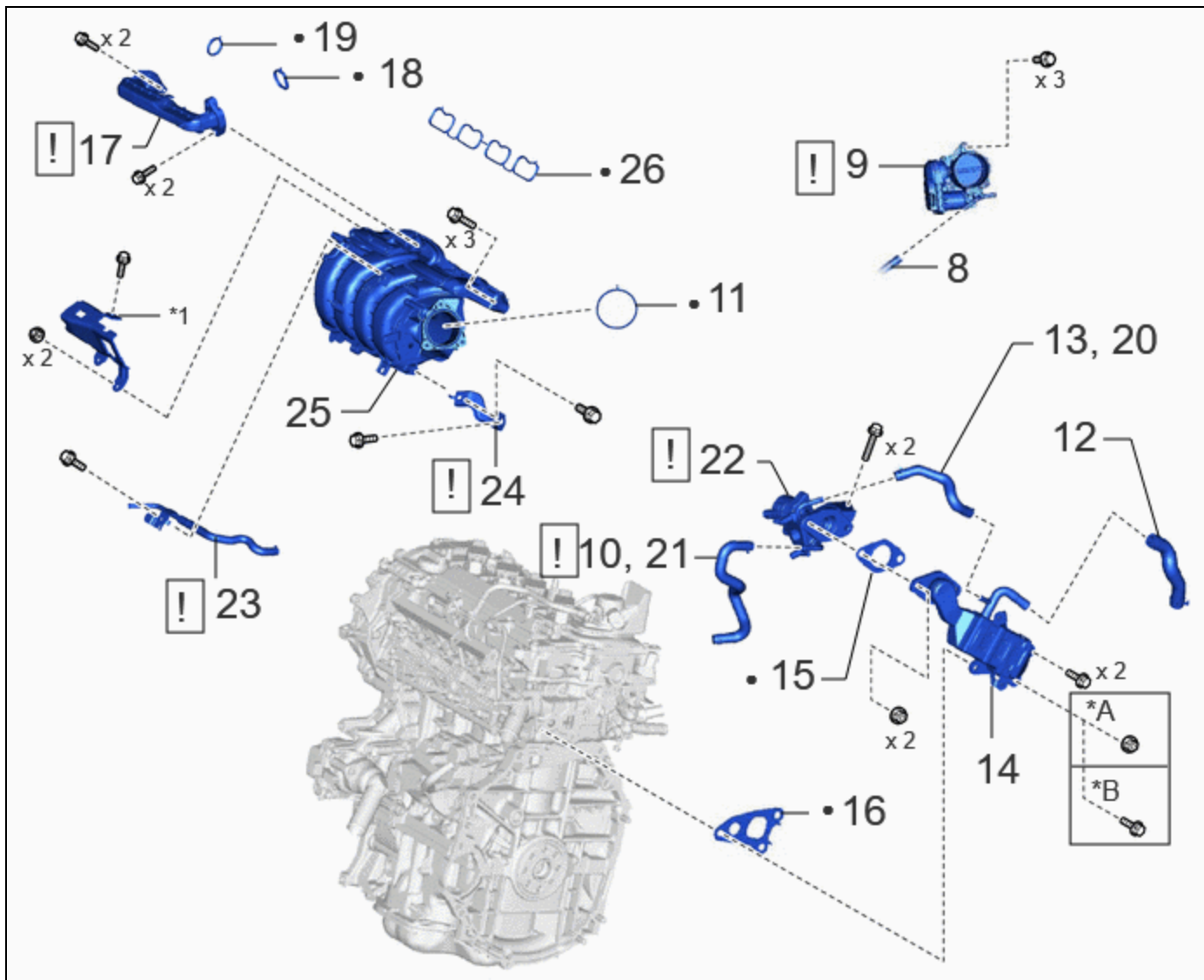
CAUTION / NOTICE / HINT

COMPONENTS (REMOVAL)






| | PROCEDURE | PART NAME CODE | ! | 📄 | ⚙️ |
|---|---|----------------|------|---|----|
| 1 | INSTALL ENGINE ASSEMBLY TO ENGINE STAND | - | INFO | - | - |
| 2 | ENGINE HANGERS | - | - | - | - |
| 3 | WIRE HARNESS CLAMP BRACKET | - | INFO | - | - |
| 4 | AIR FUEL RATIO SENSOR | 89467B | INFO | - | - |
| 5 | NO. 1 EXHAUST MANIFOLD HEAT INSULATOR | 17167 | INFO | - | - |
| 6 | MANIFOLD STAY | 17118 | INFO | - | - |
| 7 | EXHAUST MANIFOLD | 17141 | INFO | - | - |

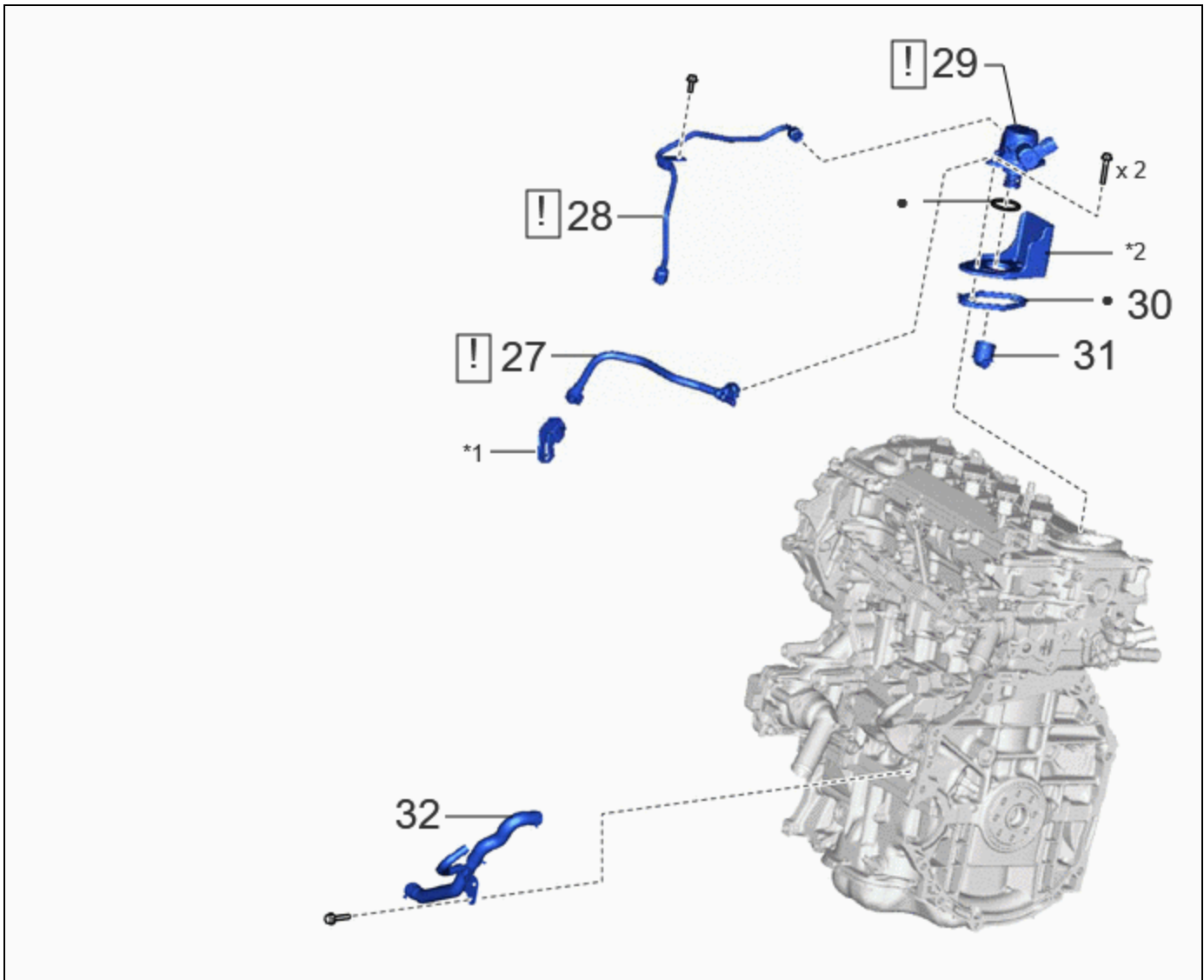
| | | | |
|---|-------------------|---|---|
| • | Non-reusable part | - | - |
|---|-------------------|---|---|



| PROCEDURE | | PART NAME CODE | ! | | |
|-----------|-------------------------------------|----------------|------|---|---|
| 8 | NO. 5 WATER BY-PASS HOSE | 16282 | - | - | - |
| 9 | THROTTLE BODY WITH MOTOR ASSEMBLY | 22030 | INFO | - | - |
| 10 | DISCONNECT NO. 8 WATER BY-PASS HOSE | 16296 | INFO | - | - |
| 11 | THROTTLE BODY GASKET | 22271 | - | - | - |
| 12 | NO. 3 WATER BY-PASS HOSE | 16267 | - | - | - |
| 13 | DISCONNECT NO. 4 WATER BY-PASS HOSE | 16281 | - | - | - |
| 14 | EGR COOLER ASSEMBLY | 25680 | - | - | - |
| 15 | EGR VALVE GASKET | 25627 | - | - | - |
| 16 | NO. 1 EGR COOLER GASKET | 25685 | - | - | - |
| 17 | NO. 1 EGR PIPE SUB-ASSEMBLY | 25601 | INFO | - | - |
| 18 | EGR VALVE ADAPTER GASKET | 25629 | - | - | - |

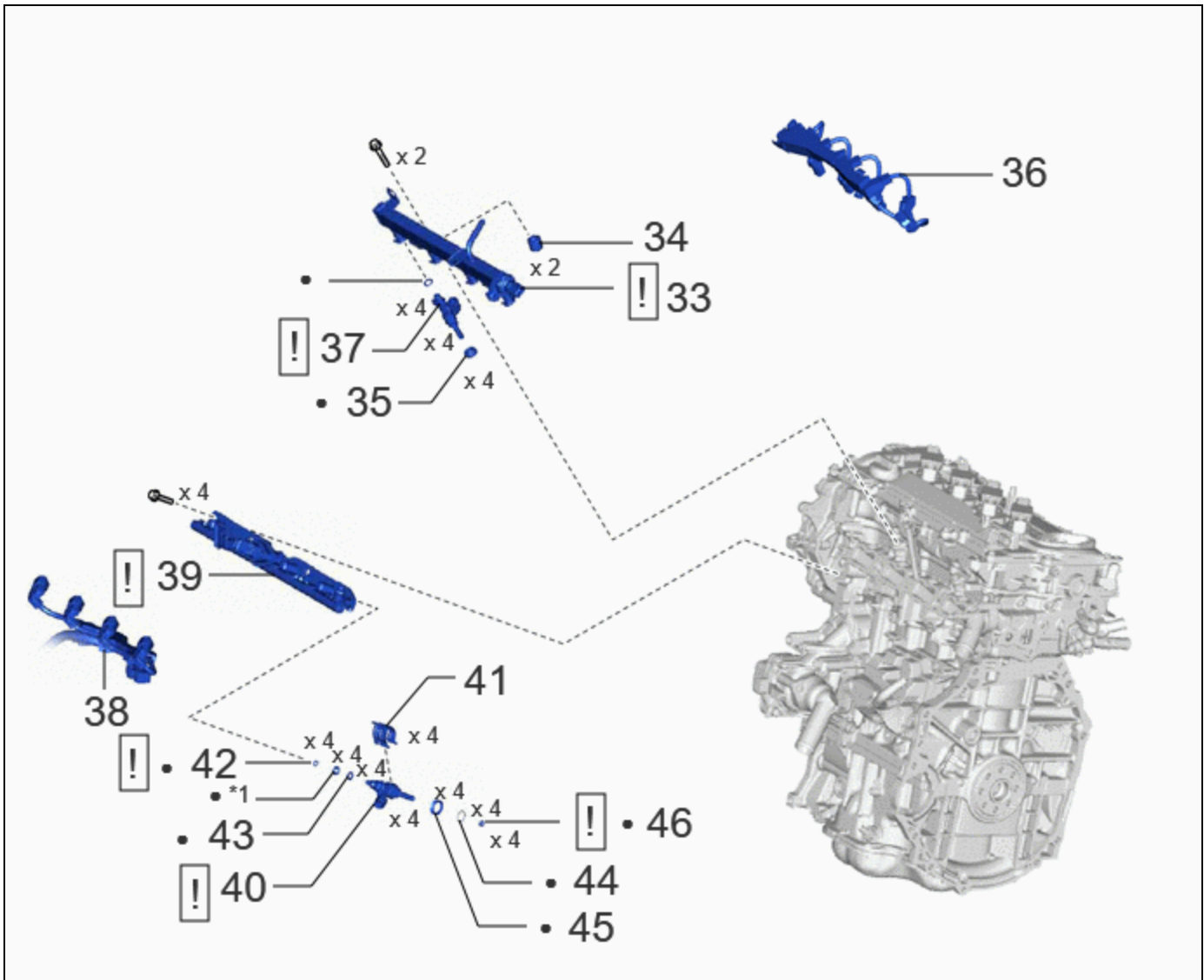
| | PROCEDURE | PART NAME CODE |  |  |  |
|----|--------------------------------------|----------------|---|---|--|
| 19 | EGR INLET GASKET | 25628 | - | - | - |
| 20 | REMOVE NO. 4 WATER BY-PASS HOSE | 16281 | - | - | - |
| 21 | REMOVE NO. 8 WATER BY-PASS HOSE | 16296 | - | - | - |
| 22 | EGR VALVE ASSEMBLY | 25620 | INFO | - | - |
| 23 | NO. 3 WATER BY-PASS PIPE | 16279 | INFO | - | - |
| 24 | INTAKE MANIFOLD STAY | 17138B | INFO | - | - |
| 25 | INTAKE MANIFOLD | 17111 | - | - | - |
| 26 | NO. 1 INTAKE MANIFOLD TO HEAD GASKET | 17177 | - | - | - |

| *A | for Type A | *B | for Type B |
|----|---------------------------|----|------------|
| *1 | NO. 2 FUEL DELIVERY GUARD | - | - |
| • | Non-reusable part | - | - |






| PROCEDURE | | PART NAME CODE | ! | | |
|-----------|---|----------------|------|---|---|
| 27 | FUEL TUBE SUB-ASSEMBLY | 23910A | INFO | - | - |
| 28 | NO. 1 FUEL PIPE SUB-ASSEMBLY | 23801P | INFO | - | - |
| 29 | FUEL (ENGINE ROOM SIDE) PUMP ASSEMBLY (for High Pressure) | 23100X | INFO | - | - |
| 30 | FUEL PUMP SPACER GASKET | 23224D | - | - | - |
| 31 | FUEL PUMP LIFTER ASSEMBLY | 23470 | - | - | - |
| 32 | WATER BY-PASS HOSE ASSEMBLY | - | - | - | - |

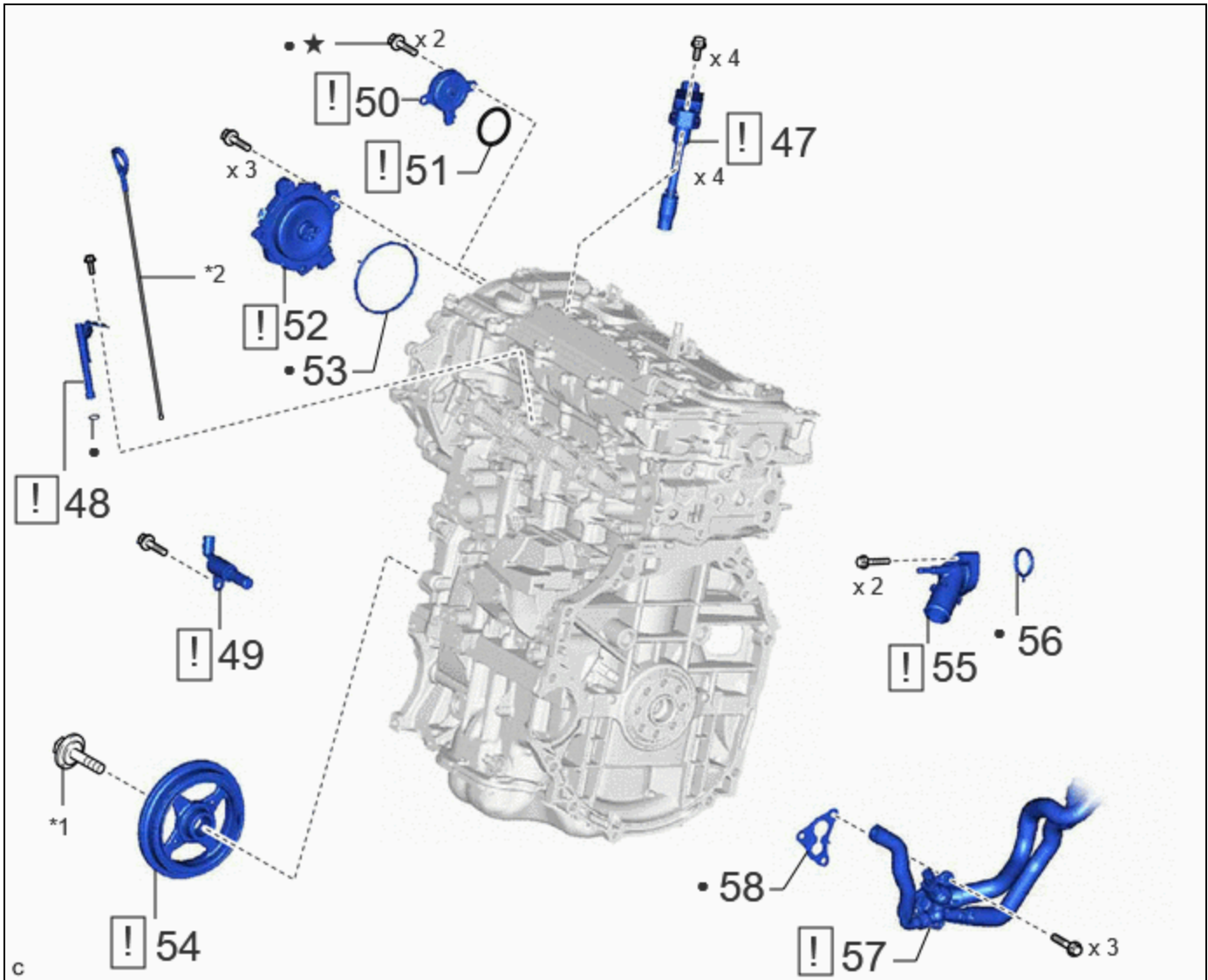
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|----|-------------------|----|------------------|
| *1 | FUEL PIPE CLAMP | *2 | FUEL PUMP FLANGE |
| • | Non-reusable part | - | - |









| PROCEDURE | | PART NAME CODE | | | |
|-----------|----------------------------------|----------------|----------------------|---|---|
| 33 | FUEL DELIVERY PIPE SUB-ASSEMBLY | 23807 | INFO | - | - |
| 34 | FUEL DELIVERY SPACER | 23891 | - | - | - |
| 35 | INJECTOR VIBRATION INSULATOR | 23291 | - | - | - |
| 36 | NO. 5 ENGINE WIRE | 82125N | - | - | - |
| 37 | PORT FUEL INJECTOR ASSEMBLY | 23250F | INFO | - | - |
| 38 | WIRE HARNESS | - | - | - | - |
| 39 | FUEL DELIVERY PIPE | 23814B | INFO | - | - |
| 40 | DIRECT FUEL INJECTOR ASSEMBLY | 23250E | INFO | - | - |
| 41 | NOZZLE HOLDER CLAMP | 23695A | - | - | - |
| 42 | NO. 3 FUEL INJECTOR BACK-UP RING | 23258 | INFO | - | - |
| 43 | NO. 1 FUEL INJECTOR BACK-UP RING | 23256 | - | - | - |

| PROCEDURE | | PART NAME CODE |  |  |  |
|-----------|------------------------------|----------------|---|---|---|
| 44 | C-RING | - | - | - | - |
| 45 | INJECTOR VIBRATION INSULATOR | 23291A | - | - | - |
| 46 | FUEL INJECTOR SEAL | 23255A | INFO | - | - |

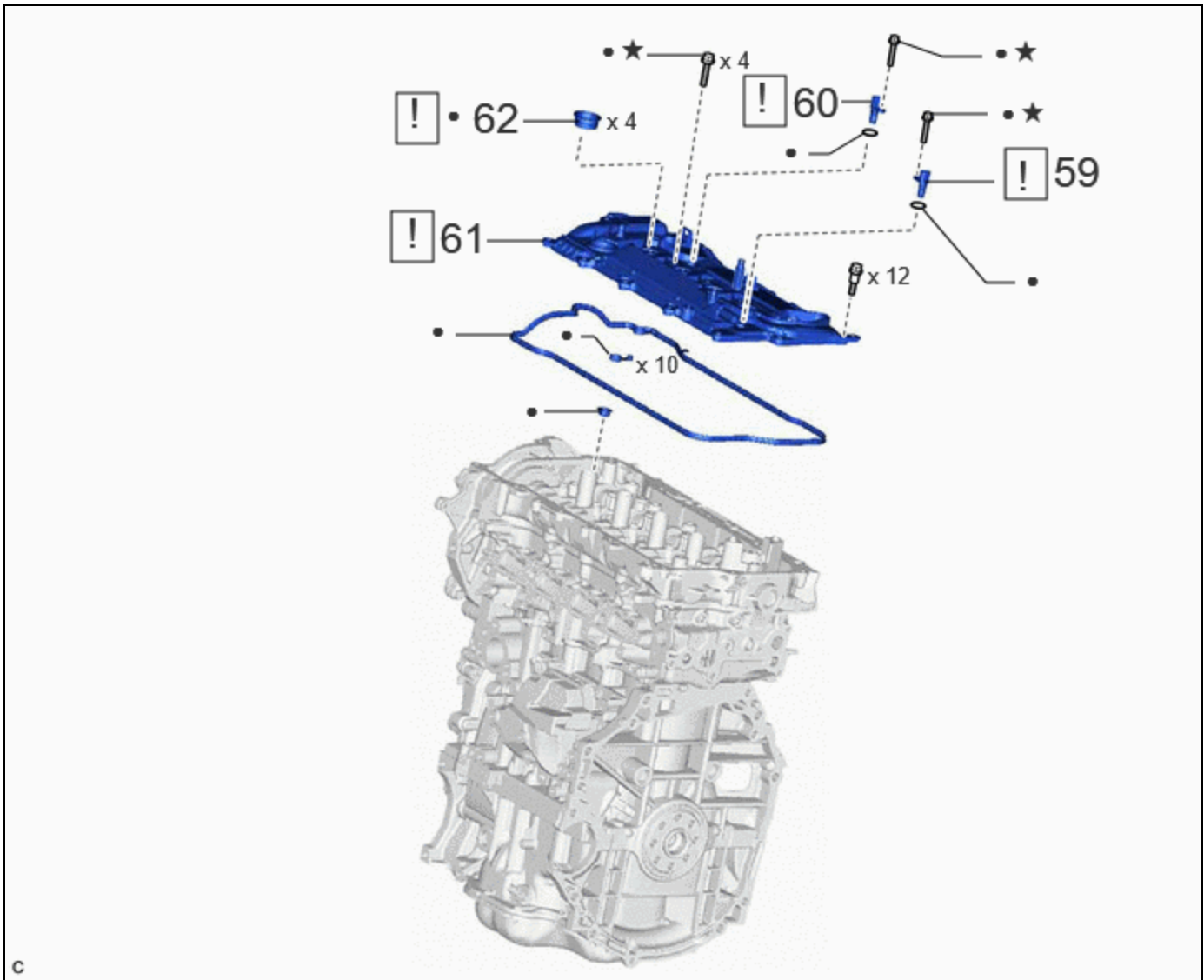
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|----|-------------------|---|---|
| *1 | O-RING | - | - |
| • | Non-reusable part | - | - |






| PROCEDURE | | PART NAME CODE |  |  |  |
|-----------|---------------------------------|----------------|---|---|---|
| 47 | IGNITION COIL ASSEMBLY | 19500 | INFO | - | - |
| 48 | ENGINE OIL LEVEL DIPSTICK GUIDE | 11452D | INFO | - | - |


| | PROCEDURE | PART NAME CODE |  |  |  |
|----|--|----------------|---|---|---|
| 49 | OIL PRESSURE CONTROL VALVE ASSEMBLY | 15250 | INFO | - | - |
| 50 | CAM TIMING OIL CONTROL SOLENOID ASSEMBLY | 15370 | INFO | - | - |
| 51 | CAM TIMING OIL CONTROL SOLENOID O-RING | 15370A | INFO | - | - |
| 52 | CAM TIMING CONTROL MOTOR WITH EDU ASSEMBLY | 13090D | INFO | - | - |
| 53 | CAM TIMING CONTROL MOTOR O-RING | 13090E | - | - | - |
| 54 | CRANKSHAFT PULLEY ASSEMBLY | 13470 | INFO | - | - |
| 55 | WATER OUTLET SUB-ASSEMBLY | 16304 | INFO | - | - |
| 56 | WATER OUTLET GASKET | 16341 | - | - | - |
| 57 | WATER BY-PASS OUTLET | 16351 | INFO | - | - |
| 58 | WATER OUTLET PIPE GASKET | 16345 | - | - | - |

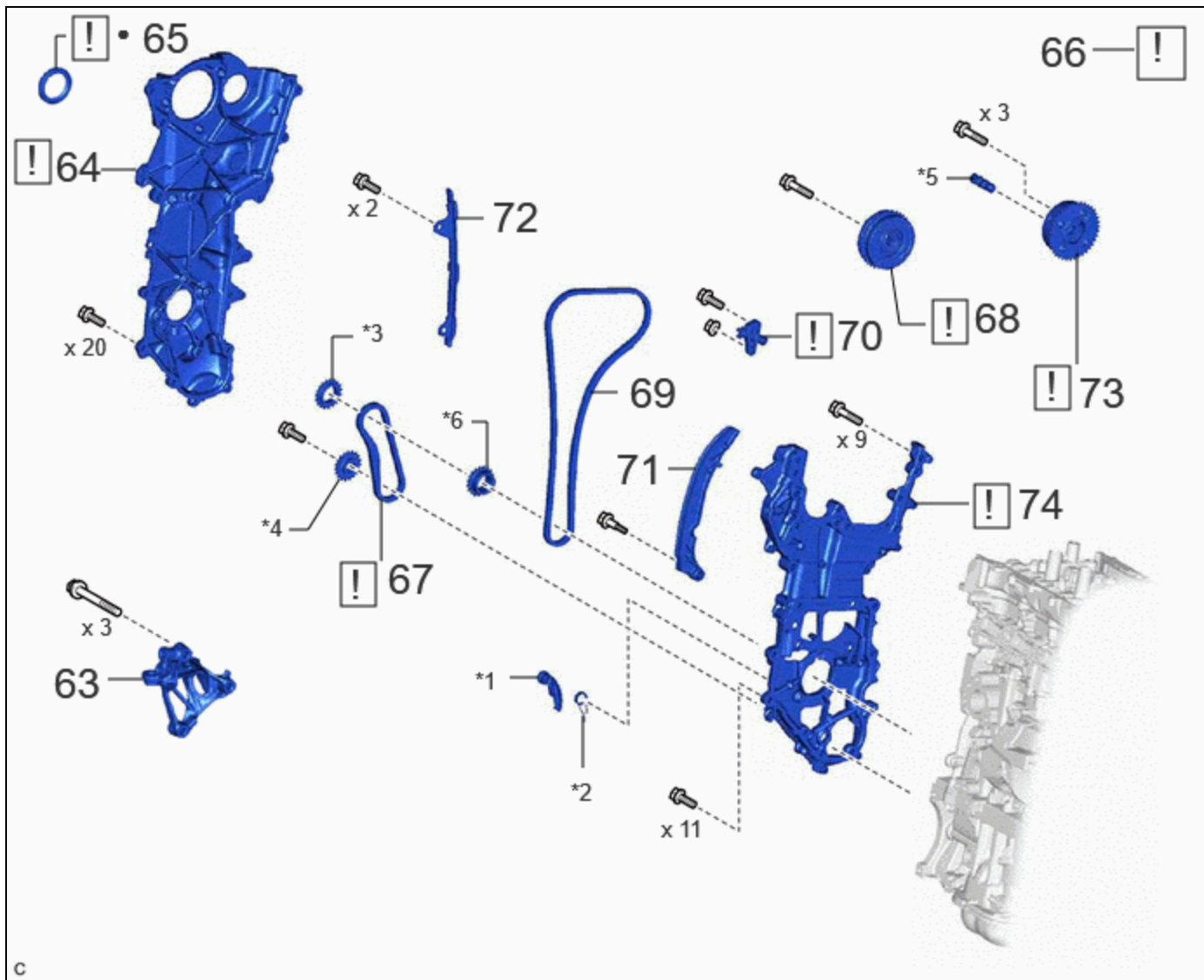
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|----|------------------------|----|---------------------------|
| *1 | CRANKSHAFT PULLEY BOLT | *2 | ENGINE OIL LEVEL DIPSTICK |
| • | Non-reusable part | ★ | Precoated part |









c

| PROCEDURE | | PART NAME CODE |  |  |  |
|-----------|---|----------------|---|---|---|
| 59 | CAMSHAFT POSITION SENSOR (for Intake Side) | 11102A | INFO | - | - |
| 60 | CAMSHAFT POSITION SENSOR (for Exhaust Side) | 11102A | INFO | - | - |
| 61 | CYLINDER HEAD COVER SUB-ASSEMBLY | 11201 | INFO | - | - |
| 62 | SPARK PLUG TUBE GASKET | 11193 | INFO | - | - |

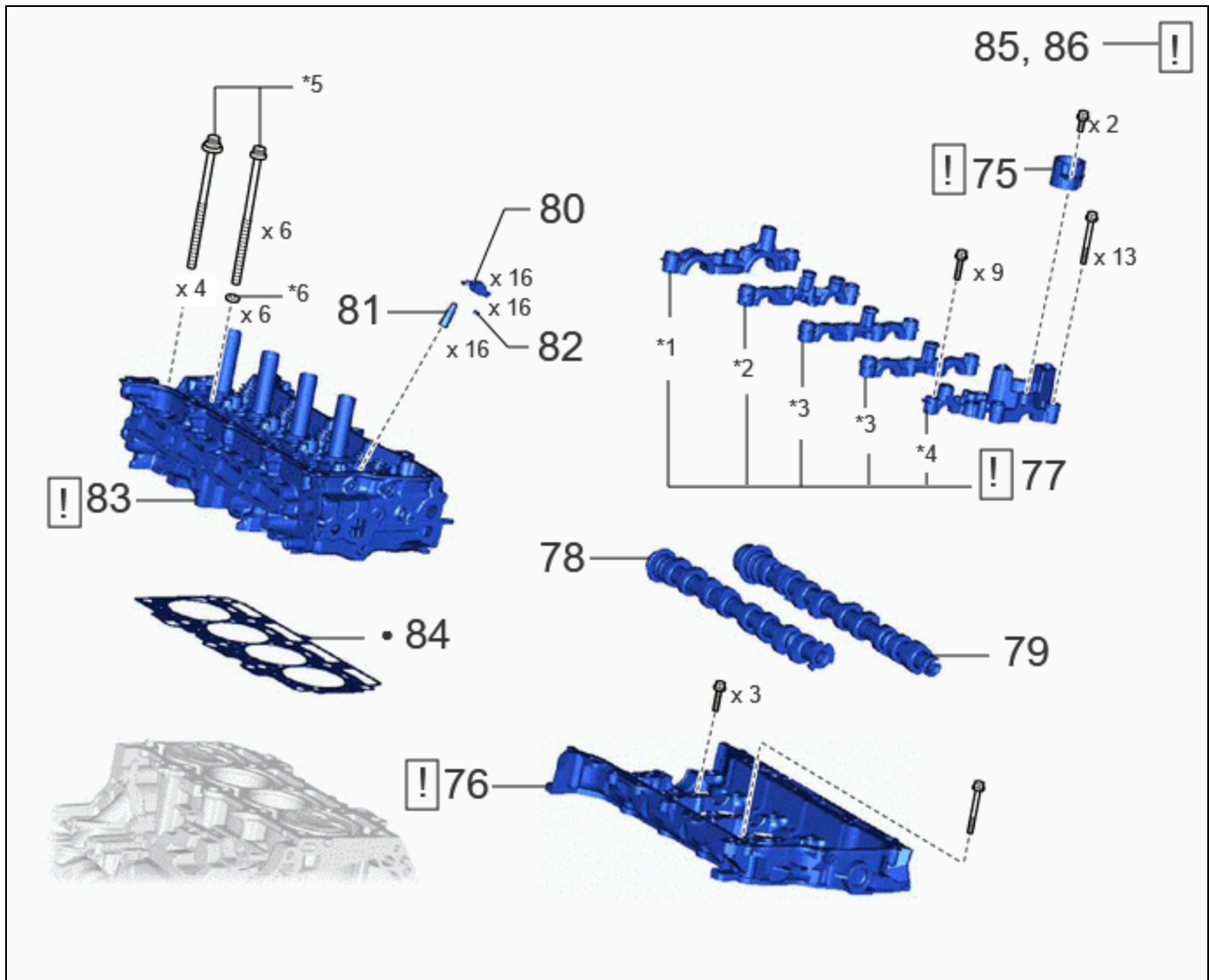
| | | | |
|---|-------------------|---|----------------|
|  | Non-reusable part |  | Precoated part |
|---|-------------------|---|----------------|









| | PROCEDURE | PART NAME CODE |  |  |  |
|----|---|----------------|---|---|---|
| 63 | ENGINE MOUNTING BRACKET RH | 12315A | - | - | - |
| 64 | NO. 2 TIMING CHAIN COVER ASSEMBLY | 11320B | INFO | - | - |
| 65 | TIMING CHAIN COVER OIL SEAL | 11301C | INFO | - | - |
| 66 | SET NO. 1 CYLINDER TO TDC (COMPRESSION) | - | INFO | - | - |
| 67 | OIL PUMP DRIVE CHAIN SUB-ASSEMBLY | 13507A | INFO | - | - |
| 68 | CAMSHAFT TIMING GEAR ASSEMBLY | 13050 | INFO | - | - |
| 69 | CHAIN SUB-ASSEMBLY | 13506 | - | - | - |
| 70 | NO. 1 CHAIN TENSIONER ASSEMBLY | 13540 | INFO | - | - |
| 71 | CHAIN TENSIONER SLIPPER | 13559 | - | - | - |
| 72 | NO. 1 CHAIN VIBRATION DAMPER | 13561 | - | - | - |
| 73 | CAMSHAFT TIMING EXHAUST GEAR ASSEMBLY | 13070A | INFO | - | - |

| PROCEDURE | | PART NAME CODE |  |  |  |
|-----------|-----------------------------|----------------|---|---|--|
| 74 | TIMING CHAIN COVER ASSEMBLY | 11310 | INFO | - | - |

| | | | |
|----|--------------------------------|----|-------------------------------|
| *1 | CHAIN TENSIONER PLATE | *2 | CHAIN DAMPER SPRING |
| *3 | OIL PUMP DRIVE SPROCKET | *4 | OIL PUMP DRIVE SHAFT SPROCKET |
| *5 | CAMSHAFT TIMING VALVE ASSEMBLY | *6 | CRANKSHAFT TIMING SPROCKET |
| • | Non-reusable part | - | - |



| PROCEDURE | | PART NAME CODE |  |  |  |
|-----------|-------------------------------|----------------|---|---|---|
| 75 | FUEL PUMP LIFTER GUIDE | 23477 | INFO | - | - |
| 76 | CAMSHAFT HOUSING SUB-ASSEMBLY | 11103 | INFO | - | - |

| PROCEDURE | | PART NAME CODE |  |  |  |
|-----------|-------------------------------------|----------------|---|---|---|
| 77 | CAMSHAFT BEARING CAP | - | INFO | - | - |
| 78 | INTAKE CAMSHAFT SUB-ASSEMBLY | 13501A | - | - | - |
| 79 | EXHAUST CAMSHAFT SUB-ASSEMBLY | 13502B | - | - | - |
| 80 | NO. 1 VALVE ROCKER ARM SUB-ASSEMBLY | 13801 | - | - | - |
| 81 | VALVE LASH ADJUSTER ASSEMBLY | 13750 | - | - | - |
| 82 | VALVE STEM CAP | 13716 | - | - | - |
| 83 | CYLINDER HEAD SUB-ASSEMBLY | 11101 | INFO | - | - |
| 84 | CYLINDER HEAD GASKET | 11115 | - | - | - |
| 85 | INSPECT CYLINDER HEAD SET BOLT | 11101A | INFO | - | - |
| 86 | INSPECT CYLINDER HEAD SUB-ASSEMBLY | 11101 | INFO | - | - |

| | | | |
|----|----------------------------|----|----------------------------|
| *1 | NO. 1 CAMSHAFT BEARING CAP | *2 | NO. 2 CAMSHAFT BEARING CAP |
| *3 | NO. 3 CAMSHAFT BEARING CAP | *4 | NO. 4 CAMSHAFT BEARING CAP |
| *5 | CYLINDER HEAD SET BOLT | *6 | PLATE WASHER |
| • | Non-reusable part | - | - |

PROCEDURE

1. INSTALL ENGINE ASSEMBLY TO ENGINE STAND

- for HEV Model:

Click here [INFO](#)

- for PHEV Model:

Click here [INFO](#)

2. REMOVE ENGINE HANGERS

3. REMOVE WIRE HARNESS CLAMP BRACKET

| | |
|---|---------------------------------|
|  | Click here INFO |
|---|---------------------------------|

4. REMOVE AIR FUEL RATIO SENSOR

| | |
|---|---------------------------------|
|  | Click here INFO |
|---|---------------------------------|

5. REMOVE NO. 1 EXHAUST MANIFOLD HEAT INSULATOR



Click here [INFO](#)

6. REMOVE MANIFOLD STAY



Click here [INFO](#)

7. REMOVE EXHAUST MANIFOLD



Click here [INFO](#)

8. DISCONNECT NO. 5 WATER BY-PASS HOSE

Click here [INFO](#)

9. SEPARATE THROTTLE BODY WITH MOTOR ASSEMBLY



Click here [INFO](#)

10. DISCONNECT NO. 8 WATER BY-PASS HOSE



Click here [INFO](#)

11. REMOVE THROTTLE BODY GASKET

Click here [INFO](#)

12. DISCONNECT NO. 3 WATER BY-PASS HOSE

Click here [INFO](#)

13. DISCONNECT NO. 4 WATER BY-PASS HOSE

Click here [INFO](#)

14. REMOVE EGR COOLER ASSEMBLY

Click here [INFO](#)

15. REMOVE EGR VALVE GASKET

Click here [INFO](#)

16. REMOVE NO. 1 EGR COOLER GASKET

Click here [INFO](#)

17. REMOVE NO. 1 EGR PIPE SUB-ASSEMBLY

| | |
|---|---------------------------------|
|  | Click here INFO |
|---|---------------------------------|

18. REMOVE EGR VALVE ADAPTER GASKET

Click here [INFO](#)

19. REMOVE EGR INLET GASKET

Click here [INFO](#)


20. REMOVE NO. 4 WATER BY-PASS HOSE

Click here [INFO](#)


21. REMOVE NO. 8 WATER BY-PASS HOSE

Click here [INFO](#)

22. REMOVE EGR VALVE ASSEMBLY

| | |
|---|---------------------------------|
|  | Click here INFO |
|---|---------------------------------|

23. REMOVE NO. 3 WATER BY-PASS PIPE

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|---|--|
|  | <ul style="list-style-type: none">• for HEV Model: Click here INFO• for PHEV Model: Click here INFO |
|---|--|

24. REMOVE INTAKE MANIFOLD STAY

| | |
|---|---------------------------------|
|  | Click here INFO |
|---|---------------------------------|

25. REMOVE INTAKE MANIFOLD

Click here [INFO](#)

26. REMOVE NO. 1 INTAKE MANIFOLD TO HEAD GASKET

Click here [INFO](#)

27. DISCONNECT FUEL TUBE SUB-ASSEMBLY



- for HEV Model:
Click here [INFO](#)
- for PHEV Model:
Click here [INFO](#)

28. REMOVE NO. 1 FUEL PIPE SUB-ASSEMBLY



Click here [INFO](#)

29. REMOVE FUEL (ENGINE ROOM SIDE) PUMP ASSEMBLY (for High Pressure)



Click here [INFO](#)

30. REMOVE FUEL PUMP SPACER GASKET

Click here [INFO](#)

31. REMOVE FUEL PUMP LIFTER ASSEMBLY

Click here [INFO](#)

32. REMOVE WATER BY-PASS HOSE ASSEMBLY

- for HEV Model:

Click here [INFO](#)

- for PHEV Model:

Click here [INFO](#)

33. REMOVE FUEL DELIVERY PIPE SUB-ASSEMBLY



Click here [INFO](#)

34. REMOVE FUEL DELIVERY SPACER

Click here [INFO](#)

35. REMOVE INJECTOR VIBRATION INSULATOR

Click here [INFO](#)

36. REMOVE NO. 5 ENGINE WIRE

Click here [INFO](#)

37. REMOVE PORT FUEL INJECTOR ASSEMBLY

| | |
|---|---------------------------------|
|  | Click here INFO |
|---|---------------------------------|


38. DISCONNECT WIRE HARNESS

Click here [INFO](#)

39. REMOVE FUEL DELIVERY PIPE

| | |
|---|---------------------------------|
|  | Click here INFO |
|---|---------------------------------|

40. REMOVE DIRECT FUEL INJECTOR ASSEMBLY

| | |
|---|---------------------------------|
|  | Click here INFO |
|---|---------------------------------|

41. REMOVE NOZZLE HOLDER CLAMP

Click here [INFO](#)

42. REMOVE NO. 3 FUEL INJECTOR BACK-UP RING

| | |
|---|---------------------------------|
|  | Click here INFO |
|---|---------------------------------|

43. REMOVE NO. 1 FUEL INJECTOR BACK-UP RING

Click here [INFO](#)

44. REMOVE C-RING

Click here [INFO](#)

45. REMOVE INJECTOR VIBRATION INSULATOR

Click here [INFO](#)


46. REMOVE FUEL INJECTOR SEAL

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|  | Click here INFO |
|---|---------------------------------|


47. REMOVE IGNITION COIL ASSEMBLY

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|---|---------------------------------|
|  | Click here INFO |
|---|---------------------------------|


48. REMOVE ENGINE OIL LEVEL DIPSTICK GUIDE

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|---|--|
|  | <ul style="list-style-type: none">• for HEV Model: Click here INFO• for PHEV Model: Click here INFO |
|---|--|


49. REMOVE OIL PRESSURE CONTROL VALVE ASSEMBLY

| | |
|---|---------------------------------|
|  | Click here INFO |
|---|---------------------------------|

50. REMOVE CAM TIMING OIL CONTROL SOLENOID ASSEMBLY

| | |
|--|---------------------------------|
|  | Click here INFO |
|--|---------------------------------|

51. REMOVE CAM TIMING OIL CONTROL SOLENOID O-RING

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|---|---------------------------------|
|  | Click here INFO |
|---|---------------------------------|


52. REMOVE CAM TIMING CONTROL MOTOR WITH EDU ASSEMBLY

| | |
|---|---------------------------------|
|  | Click here INFO |
|---|---------------------------------|

53. REMOVE CAM TIMING CONTROL MOTOR O-RING

Click here [INFO](#)

54. REMOVE CRANKSHAFT PULLEY ASSEMBLY

| | |
|---|--|
|  | <ul style="list-style-type: none">• for HEV Model: Click here INFO• for PHEV Model: Click here INFO |
|---|--|

55. REMOVE WATER OUTLET SUB-ASSEMBLY



- for HEV Model:
Click here [INFO](#)
- for PHEV Model:
Click here [INFO](#)

56. REMOVE WATER OUTLET GASKET

- for HEV Model:

Click here [INFO](#)

- for PHEV Model:

Click here [INFO](#)

57. REMOVE WATER BY-PASS OUTLET



- for HEV Model:
Click here [INFO](#)
- for PHEV Model:
Click here [INFO](#)

58. REMOVE WATER OUTLET PIPE GASKET

- for HEV Model:

Click here [INFO](#)

- for PHEV Model:

Click here [INFO](#)

59. REMOVE CAMSHAFT POSITION SENSOR (for Intake Side)



Click here [INFO](#)

60. REMOVE CAMSHAFT POSITION SENSOR (for Exhaust Side)



Click here [INFO](#)

61. REMOVE CYLINDER HEAD COVER SUB-ASSEMBLY



- for HEV Model:
Click here [INFO](#)
- for PHEV Model:
Click here [INFO](#)

62. REMOVE SPARK PLUG TUBE GASKET



- for HEV Model:
Click here [INFO](#)
- for PHEV Model:
Click here [INFO](#)

63. REMOVE ENGINE MOUNTING BRACKET RH

- for HEV Model:

Click here [INFO](#)

- for PHEV Model:

Click here [INFO](#)

64. REMOVE NO. 2 TIMING CHAIN COVER ASSEMBLY



- for HEV Model:
Click here [INFO](#)
- for PHEV Model:
Click here [INFO](#)

65. REMOVE TIMING CHAIN COVER OIL SEAL



- for HEV Model:
Click here [INFO](#)
- for PHEV Model:
Click here [INFO](#)

66. SET NO. 1 CYLINDER TO TDC (COMPRESSION)



- for HEV Model:
Click here [INFO](#)
- for PHEV Model:
Click here [INFO](#)

67. REMOVE OIL PUMP DRIVE CHAIN SUB-ASSEMBLY



- for HEV Model:
Click here [INFO](#)
- for PHEV Model:
Click here [INFO](#)

68. REMOVE CAMSHAFT TIMING GEAR ASSEMBLY



- for HEV Model:
Click here [INFO](#)
- for PHEV Model:
Click here [INFO](#)

69. REMOVE CHAIN SUB-ASSEMBLY

- for HEV Model:

Click here [INFO](#)

- for PHEV Model:

Click here [INFO](#)

70. REMOVE NO. 1 CHAIN TENSIONER ASSEMBLY



- for HEV Model:
Click here [INFO](#)
- for PHEV Model:
Click here [INFO](#)

71. REMOVE CHAIN TENSIONER SLIPPER

- for HEV Model:

Click here [INFO](#)

- for PHEV Model:

Click here [INFO](#)

72. REMOVE NO. 1 CHAIN VIBRATION DAMPER

- for HEV Model:

Click here [INFO](#)

- for PHEV Model:

Click here [INFO](#)

73. REMOVE CAMSHAFT TIMING EXHAUST GEAR ASSEMBLY



- for HEV Model:
Click here [INFO](#)
- for PHEV Model:

Click here [INFO](#)

74. REMOVE TIMING CHAIN COVER ASSEMBLY



- for HEV Model:
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- for PHEV Model:
Click here [INFO](#)

75. REMOVE FUEL PUMP LIFTER GUIDE



- for HEV Model:
Click here [INFO](#)
- for PHEV Model:
Click here [INFO](#)

76. REMOVE CAMSHAFT HOUSING SUB-ASSEMBLY



- for HEV Model:
Click here [INFO](#)
- for PHEV Model:
Click here [INFO](#)

77. REMOVE CAMSHAFT BEARING CAP



- for HEV Model:
Click here [INFO](#)
- for PHEV Model:
Click here [INFO](#)

78. REMOVE INTAKE CAMSHAFT SUB-ASSEMBLY

- for HEV Model:

Click here [INFO](#)

- for PHEV Model:

Click here [INFO](#)

79. REMOVE EXHAUST CAMSHAFT SUB-ASSEMBLY

- for HEV Model:

Click here [INFO](#)

- for PHEV Model:

Click here [INFO](#)

80. REMOVE NO. 1 VALVE ROCKER ARM SUB-ASSEMBLY

- for HEV Model:

Click here [INFO](#)

- for PHEV Model:

Click here [INFO](#)

81. REMOVE VALVE LASH ADJUSTER ASSEMBLY

- for HEV Model:

Click here [INFO](#)

- for PHEV Model:

Click here [INFO](#)

82. REMOVE VALVE STEM CAP

- for HEV Model:

Click here [INFO](#)

- for PHEV Model:

Click here [INFO](#)

83. REMOVE CYLINDER HEAD SUB-ASSEMBLY



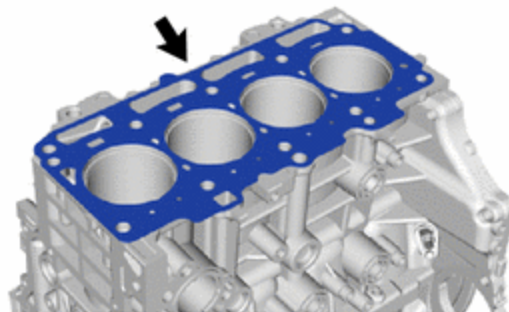
- for HEV Model:

Click here [INFO](#)

- for PHEV Model:

Click here [INFO](#)

84. REMOVE CYLINDER HEAD GASKET



85. INSPECT CYLINDER HEAD SET BOLT

- for HEV Model:

Click here [INFO](#)

- for PHEV Model:

Click here [INFO](#)

86. INSPECT CYLINDER HEAD SUB-ASSEMBLY

Click here [INFO](#)

