

DUTY AREAS AND TASKS	NATIONAL SKILL STANDARD
I. ENGINE REPAIR	
A. General Engine Diagnosis; Removal and Reinstallation	
1. Identify and interpret engine concern; determine necessary action	I-A-1
2. Research applicable service information; locate and interpret identification numbers, certification, and calibration decals	I-A-2 to 3
3. Conduct performance tests; determine necessary action	I-A-4 to 10
4. Remove and replace engine in front-wheel drive vehicle (OBD I or newer)	I-A-11
5. Remove and replace engine in rear-wheel drive vehicle (OBD I or newer)	I-A-12
B. Cylinder Head and Valve Train Diagnosis and Repair	
1. Remove, inspect, and test the cylinder head(s)	I-B-1
2. Install, torque, and adjust the cylinder head(s)	I-B-2
3. Recondition the cam in block cylinder head(s)	I-B-1 to 11
4. Recondition OHV cylinder head(s)	I-B-1 to 16
C. Engine Block Assembly Diagnosis and Repair	
1. Disassemble the engine block	I-C-1
2. Inspect and clean the engine block components; determine necessary action	I-C-2 to 5
3. Inspect, check, and record the short block measurements; determine necessary action	I-C-6 to 14
4. Assemble the engine according to manufacturer's specifications	I-C-15
D. Lubrication and Cooling Systems Diagnosis and Repair	
1. Inspect, test, and repair the oil system and components	I-D-1 to 2, I-D-11 to 12
2. Perform cooling system tests; determine necessary action	I-D-3
3. Inspect, replace, and adjust the drive belts and hoses	I-D-4 to 5
4. Inspect, test, and replace cooling system components	I-D-6, I-D-8 to 10
5. Test coolant; drain, flush, and refill cooling system with recommended coolant; bleed air as required	I-D-7
6. Perform oil and lube service	I-D-13

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II. AUTOMATIC TRANSMISSION AND TRANSAXLE	
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1. Identify and interpret transmission/transaxle concern; assure proper engine operation; determine necessary action	II-A-1
2. Research applicable service information; locate and interpret identification numbers, certification, and calibration decals	II-A-2 to 3
3. Diagnose and performance test transmission/transaxle; determine necessary action	II-A-4 to 10
B. Transmission and Transaxle Maintenance and Adjustment	
1. Inspect, adjust, or replace the throttle valve linkages or cables; manual shift linkages or cables; transmission range sensor; check gear select indicator	II-B-1
2. Service transmission; perform visual inspection; replace fluids and filters	II-B-2
C. In-Vehicle Transmission and Transaxle Repair	
1. Inspect, adjust, and replace sensors, cables, and actuators	II-C-1 to 2, II-C-6
2. Inspect and replace external bushings, seals, and gaskets	II-C-3 to 4
3. Inspect, leak test, flush, and replace cooler, lines, and fittings	II-C-5
4. Diagnose electronic transmission control systems using a scan tool; determine necessary action	II-C-7
5. Inspect, replace, and align powertrain mounts	II-C-8
D. Off-Vehicle Transmission and Transaxle Repair	
1. Remove and reinstall transmission/transaxle and torque converter	II-D-1-1 to 1-2, II-D-2-1
2. Disassemble, clean, and inspect transmission/transaxle assembly	II-D-1-3 to 1-6
3. Inspect and service the oil pump and converter	II-D-2-2
4. Inspect and service the gear train, shafts, bushings, and case	II-D-3-1 to 3-9
5. Inspect and service the friction and reaction units	II-D-4-1 to 4-5
6. Reassemble the automatic transmission/transaxle assembly; check endplay and adjustments	II-D-2-2 to 2-3, II-D-1-7

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D. Drive Shaft and Half Shaft, Universal and Constant-Velocity (CV) Joint Diagnosis and Repair	
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5. Diagnose and repair power steering pump	IV-B-13 to 15
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necessary action	
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2. Research applicable service information, locate and interpret identification numbers, certification, and calibration decals	VII-A-2 to 3
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C. Heating, Ventilation, and Engine Cooling Systems Diagnosis and Repair	
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2. Repair or replace the heating system components	VII-C-3 to 10
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E. Refrigerant Recovery, Recycling, and Handling	
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2. Research applicable service information, locate and interpret identification numbers, certification, and calibration decals	VIII-A-2 to 3
3. Perform engine performance test/inspection; determine necessary action	VIII-A-4, VIII-A-7 to 15
B. Computerized Engine Controls Diagnosis and Repair	
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6. Diagnose driveability and emissions problems resulting from malfunctions of interrelated systems; determine necessary action	VIII-B-9
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2. Diagnose ignition system related problems on vehicles with distributor ignition (DI) systems; determine necessary action	VIII-C-2

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