AUTOMOTIVE FUEL AND EMISSIONS CONTROL SYSTEMS, 4th EDITION

James D. Halderman

STUDENT TASK CHECK OFF SHEETS

Task Sheet	Task Sheet	Date	Instructor
Name	Page	Completed	OK
Chapter 1 - Service Information, Tools, and Safety	J		
Fire Extinguisher (None Specified)	1		
Vahiala Haisting (Nana Specified)	2		
Vehicle Hoisting (None Specified) Safety Check (None specified)	3		
Work Order (A8-A-1)	4		
Vehicle Service Information (A8-A-3)	5		
Vehicle Service History (A8-A-3) Vehicle Service History (A8-A-3)	6		
Technical Service Bulletins (A8-A-3)	7		
VIN Code (A8-A-4)	8		
Vehicle Safety Certification Label (A8-A-4)	9		
Hybrid High-Voltage Disconnect (A6-A-21)	10		
Chapter 2 – Environmental and Hazardous	10		
Materials			
Material Safety Data Sheet (MSDS)	11		
(None specified)			
Chapter 3 – Gasoline Engine Operation, Parts,			
And Specifications			
Gasoline Engine Identification (A8-A-4)	12		
General Engine Specifications (A8-A-4)	13		
Chapter 4 – Diesel Engine Operation and Diagnosis			
Diesel Engine Identification (A8-A-4)	14		
Diesel Engine Emission Control System (A8-A-4)	15		
Chapter 5 – Gasoline			
Gasoline Retailer Information (None specified)	16		
Vehicle Fuel Specification (A8-A-3)	17		
Fuel-Related Scan Data (A8-B-7)	18		
Alcohol Content in Gasoline (A8-D-2)	19		
Fuel Composition Tester (A8-D-2)	20		
Gasoline Reid Vapor Pressure (A8-D-2)	21		
Chapter 6 – Alternative Fuels	22		
Alternative Fuel (None specified)	22		
Chapter 7 – Biodiesel and Diesel Fuels	22		
Diesel Fuel (None specified)	23		
Biodiesel (None specified)	24		

Chapter 8 – (Intake and Exhaust Systems			
Port Fuel-Injection Intake Manifold (None	25		
specified)			
Exhaust Manifold (None specified)	26		
TBI/Carburetor Intake Manifold (None specified)	27		
Task Sheet	Task Sheet	Date	Instructor
Name	Page	Completed	OK
Intake Manifold Gasket Replacement (None	28		
Specified)			
Exhaust System Inspection (A8-D-8)	29		
Chapter 9 – Turbocharging and Supercharging			
Turbocharger Identification (A8-A-3)	30		
Supercharger Identification (A8-A-3)	31		
Turbocharger/Supercharger Diagnosis (A8-D-10)	32		
Chapter 10 – Engine Condition Diagnosis			
Engine Problem Analysis (A1-A-2)	33		
Fluid Leakage Detection (A8-A-5)	34		
Head Gasket Diagnosis (A8-A-5)	35		
Engine Noise Diagnosis (A8-A-6)	36		
Abnormal Exhaust Color, Odor, or Sound	37		
(A8-A-7)			
Vacuum Testing (A8-A-8)	38		
Cylinder Power Balance Tests (A8-A-9)	39		
Compression Testing (A8-A-10)	40		
Cylinder Leakage Test (A8-A-11)	41		
Oil Pressure Measurement (A8-A-12)	42		
Verify Engine Operating Temperature (A8-A-14)	43		
Chapter 11 – OBD II			
Drive Trace Pre-Conditioning (A8-A-2)	44		
OBD II Connector Identification (A8-A-4)	45		
Retrieving OBD II Diagnostic Trouble Codes	46		
(A8-B-2)			
Set Opposite Code (A8-B-2)	47		
Freeze Frame and MIL Activity (A8-B-2)	48		
No-Code Diagnosis of Driveability Concerns	49		
(A8-B-3)			
Misfire Monitor Activity (A8-B-7)	50		
Chapter 12 – CAN and Network Communications			
Module Identification and Status (A8-B-4)	51		
Chapter 13 – Temperature Sensors			
Temperature Sensor Visual Inspection (A8-B-5)	52		
ECT Sensor DMM Testing (A8-B-5)	53		
Temperature Sensors (A8-B-5)	54		
Engine Coolant Temperature (ECT) Graph	55		
(A8-B-5)			

Temperature Sensor Scan Tool Diagnosis (A8-B-5)	56		
Chapter 14 – Throttle Position (TP) Sensors			
Throttle Position Sensor Visual Inspection	57		
(A8-B-5)			
Throttle Position Sensor DMM Testing (A8-B-5)	58		
Task Sheet	Task Sheet	Date	Instructor
Name	Page	Completed	OK
Throttle Position Sensor Scope Test (A8-B-5)	59		
TP Sensor Voltmeter Test (A8-B-5)	60		
TP Graph Test (A8-B-5)	61		
Throttle Position Sensor Scan Tool Diagnosis	62		
(A8-B-5)			
Chapter 15 – MAP/BARO Sensor			
MAP Sensor Visual Inspection (A8-B-)	63		
MAP Sensor DMM Testing (A8-B-5)	64		
MAP Sensor Waveform Test (A8-B-5)	65		
MAP Sensor Diagnosis (A8-B-5)	66		
MAP Sensor Output Chart (A8-B-5)	67		
Chapter 16 – Mass Air Flow Sensors			
MAF Sensor Visual Inspection (A8-B-5)	68		
Air Vane Sensor DMM Testing (A8-B-5)	69		
Air Vane Sensor Waveform Testing (A8-B-5)	70		
MAF Sensor Diagnosis (A8-B-5)	71		
MAF Sensor Scope (A8-B-5)	72		
Chapter 17 – Oxygen Sensors			
Oxygen Sensor Visual Inspection (A8-B-5)	73		
Oxygen Sensor DMM Testing (A8-B-5)	74		
Wide-Band Oxygen Sensor (A8-B-5)	75		
Oxygen Sensor Waveform Testing (A8-B-5)	76		
Oxygen Sensor Voltmeter Diagnosis (A8-B-5)	77		
Oxygen Sensor Scan Tool Diagnosis (A8-B-5)	78		
Oxygen Sensor Scope Diagnosis (A8-B-5)	79		
Downstream Oxygen Sensor Diagnosis (A8-B-5)	80		
Chapter 18 – Wide Band Oxygen Sensors			
Lambda Activity (A8-B-5)	81		
Wide Band Oxygen Sensor Identification (None	82		
Specified)			
Chapter 19 – Fuel Pumps, Lines, and Filters			
Fuel Pump Testing (A8-D-3)	83		
Fuel Pump Current Draw Test (A8-D-3)	84		
Fuel Pump Volume (A8-D-3)	85		
Fuel Pump Current Ramping (A8-D-3)	86		
Clamp-On Meter Fuel Pump Current Draw Test (A8-D-3)	87		
Fuel Filter Replacement (A8-D-4	88		

Chapter 20 – Fuel Injection Components and Operation			
Modes of Fuel Injection Operation (A8-A-3)	89		
Idle Air Control DMM Testing (A8-B-5)	90		
Idle Air Control (A8-B-7)	91		
Task Sheet	Task Sheet	Date	Instructor
Name	Page	Completed	OK
Inspect Air Induction System for Leaks (A8-D-5)	92		
Air Intake Inspection (A8-D-5)	93		
Chapter 21 – Gasoline Direct Injection			
Gasoline Direct Injection Identification (A8-A-3)	94		
Chapter 22 – Electronic Throttle Control Systems			
Electronic Throttle Control System Identification (A8-A-3)	95		
Chapter 23 – Fuel Injection System Diagnosis and			
Service			
Idle Air Control DMM Testing (A8-B-5)	96		
Position Sensor Visual Inspection (A8-B-6)	97		
Position Sensor Diagnosis (A8-B-6)	98		
Position Sensor Waveform Testing (A8-B-6)	99		
Crankshaft/Camshaft Sensor Scan Tool Diagnosis	100		
(A8-B-6)	100		
Scan Tool Diagnosis (A8-B-7)	101		
Fuel Trim Diagnosis (A8-B-7)	102		
IAC Scan Tool Diagnosis (A8-B-8)	103		
Port Fuel-Injection System Diagnosis (A8-D-1)	104		
Fuel Injection Stethoscope Test (A8-D-1)	105		
Injector Balance Testing (A8-D-1)	106		
Fuel Injection System Diagnosis (A8-D-1)	107		
Inspect Air Induction System for Leaks (A8-D-5)	108		
Injector Pressure Drop Testing (A8-D-6)	109		
Fuel Injector Balance Test (A8-D-6)	110		
Injector Available Voltage (A8-DE-6)	111		
Injector Voltage Waveform Test (A8-D-6)	112		
Injector Current Ramping (A8-D-6)	113		
Single Line Fuel Injector Cleaning (A8-D-6)	114		
Dual Line Fuel Injector Cleaning (A8-D-6)	115		
Minimum Air Adjustment (A8-D-7)	116		
Chapter 24 – Vehicle Emission Standards and	110		
Testing			
Vehicle Emission Rating (A8-A-3)	117		
Exhaust Gas Analysis (A8-A-13)	118		
Diagnosis of Emission-Related Concerns (A8-B-3)	119		
Chapter 25 – Evaporative Emission Control			
Systems			

EVAP System Component Inspection (A8-E-10)	120		
Evaporative Emission Controls Diagnosis	121		
(A8-E-11)			
EVAP System Scan Tool Testing (A8-E-11)	122		
Canister Purge Flow Rate Test (A8-E-11)	123		
Task Sheet	Task Sheet	Date	Instructor
Name	Page	Completed	OK
Smoke Test of the EVAP System (A8-E-11)	124		
Evaporative Emission DTC Diagnosis (A8-E-12)	125		
Chapter 26 – Exhaust Gas Recirculation (EGR)			
Systems			
EGR System Diagnosis (A8-E-3)	126		
Service EGR System (A8-E-4)	127		
EGR Electrical Sensors (A8-E-5)	128		
Ford EVP Voltage Check (A8-E-5)	129		
Chapter 27 – Positive Crankcase Ventilation (PCV)			
and Secondary Air Injection (SAI)			
PCV System Inspection (A8-E-1)	130		
PCV System Diagnosis (A8-E-2)	131		
Secondary Air Injection Diagnosis (A8-E-6)	132		
AIR Pump Component Inspection (A8-E-7)	133		
AIR Pump Electrical Component Inspection	134		
(A8-E-8)			
Chapter 28 – Catalytic Converter			
Exhaust System Backpressure Test (A8-D-9)	135		
Catalytic Converter Test (A8-E-9)	136		
Catalytic Converter Rattle Test (A8-E-9)	137		
Catalytic Converter Performance Test (A8-E-9)	138		
Chapter 29 – Ignition System Operation and			
Diagnosis			
Ignition System Identification (A8-A-3)	139		
Electronic Ignition Diagnosis (A8-C-1)	140		
Ignition Scope Analysis (A8-C-2)	141		
Ignition Inspection and Testing (A8-C-2)	142		
Spark Plugs Inspection (A8-C-2)	143		
Ignition Coil Testing (A8-C-2)	144		
Primary Ignition Inspection and Testing (A8-C-3,	145		
A8-C-4			
Chapter 30 – Scan Tools and Engine Performance			
Diagnosis			
Engine Performance Diagnosis (A8-A-2)	146		
Retrieving OBD II Diagnostic Trouble Codes	147		
(A8-B-1)			
Set Opposite Code (A8-B-2)	148		
Freeze Frame and MIL Activity (A8-B-2)	149		

Misfire Monitor Activity (A8-B-3)	150		
Service Information Diagnosis (A8-B-6)	151		
Drive Trace Pre-Conditioning (A8-B-7)	152		
Scan Tool Active Test (A8-B-8)	153		
I/M Monitors Status (A8-B-9)	154		
Task Sheet	Task Sheet	Date	Instructor
Name	Page	Completed	OK
Driveability and Emission Problem Diagnosis	155		
(A8-B-9)			
Chapter 31 – Hybrid Electric Vehicle Safety			
Procedures			
Hybrid Vehicle HV Circuit Disconnect (A6-B-7)	156		
Hybrid ICE Service Precautions (A8-F-7)	157		
Chapter 32 – Fuel Cells and Advanced			
Technologies			
Electric/Fuel Cell Vehicle Identification (A8-B-8)	158		