



Engineering Program

Specialization	Automotive Maintenance
Course Number	20211212
Course Title	Modern diesel engines fuel systems workshop
Credit Hours	2
Theoretical Hours	0
Practical Hours	6



Brief Course Description:

Maintenance and repair of diesel fuel system, servicing in-line fuel pump, distributor pump and injectors, adjusting and tuning diesel fuel pumps by using test pinch, repair and maintenance of electronic diesel control system and common rail system.

Course Objectives:

Upon the completion of this course, the student will be able to:

1. Maintenance and repair diesel fuel system.
2. Servicing in-line fuel pump and distributor type fuel pump.
3. Adjusting and tuning diesel fuel injection pumps by using test pinch.
4. Repair and maintenance of electronic diesel control system and common rail system.

Detailed Course Outline:

Unit Number	Unit Title	Unit Content	Time Needed(hr)
1.	Servicing diesel fuel system	<ul style="list-style-type: none"> ▪ Fuel filter replacement ▪ Fuel lines maintenance ▪ Bleeding fuel injection system ▪ Start assist system maintenance 	18
2.	Fuel nozzles	<ul style="list-style-type: none"> ▪ Fuel nozzles disassembly , cleaning ,testing and reassembly 	12
3.	Distributor type fuel injection pump	<ul style="list-style-type: none"> ▪ Dismantle fuel injection pump ▪ Fuel injection pump Disassembly , servicing and reassembly ▪ Install fuel injection pump on the engine and timing adjusting ▪ Test fuel injection pump on test bench 	24
4.	Electronic diesel control system	<ul style="list-style-type: none"> ▪ (EDC)system sensors servicing and testing ▪ (EDC) control unit testing ▪ (EDC) system actuators testing ▪ (EDC) diagnosis by scan tool 	20
5.	Common rail direct injection system	<ul style="list-style-type: none"> ▪ (CRDI) system sensors servicing and testing ▪ (CRDI) system control unit testing ▪ (CRDI) actuators testing ▪ (CRDI) diagnosis by scan tool 	20



Evaluation Strategies:

Exams		Percentage	Date
Exams	First Exam	20%	
	Second Exam	20%	
	Final Exam	50%	
	Assignment	10%	

Teaching Methodology:

- ❖ Workshop

References & Text Book

1. Instructional workshop sheets.

