

AUTO TECHNOLOGY

Program Objectives

Objectives:

By the end of the course, the student will be able to:

1. Demonstrate job search skills.
2. Demonstrate professional attitude and work ethics for maintaining and advancement in the auto industry.
3. Demonstrate safe use of tools and equipment.
4. Demonstrate writing and interpreting repair orders, reading and interpreting repair manuals.
5. Maintain auto to include:
 - Preventive maintenance and safety check
 - Engine
 - Ignition and emission control
 - Fuel
 - Electric
 - Brake and suspension
 - Drive train
 - Air conditioning

AUTOMOTIVE TECHNOLOGY OCCUPATIONS
Course Outline

| | | |
|------------|------------------------------------|-----------------|
| 1.0 | GENERAL AUTO SERVICE | 40 hours |
| 1.1 | Lube Vehicle | |
| 1.2 | Check Fluid Levels | |
| 1.3 | Check Hoses | |
| 1.4 | Service Fan Belts | |
| 1.5 | Change Oil and Filter | |
| 1.6 | Repair Tire & Tubes | |
| 1.7 | Rotate Tires | |
| 1.8 | Balance Tires | |
| 1.9 | Pack Wheel Bearings | |
| 1.10 | Replace Wiper Blades | |
| | | |
| 2.0 | EXHAUST SYSTEM | 30 hours |
| 2.1 | Weld Exhaust System | |
| 2.2 | R & R Header Pipe | |
| 2.3 | R & R Muffler | |
| 2.4 | R & R Tail Pipe | |
| 2.6 | Test & Install Catalytic Converter | |
| 2.7 | Service Catalytic Converter | |
| | | |
| 3.0 | BRAKE SYSTEM | 60 hours |
| 3.1 | Adjust & Inspect Brakes | |
| 3.2 | Turn Brake Drums & Rotors | |
| 3.3 | Install Brake Shoes | |
| 3.4 | Install Brake Pads | |
| 3.5 | Install Wheel Cylinder | |
| 3.6 | Bleed Brakes | |
| 3.7 | Install Wheel Studs | |
| 3.8 | A.B.S. Brakes | |
| 3.9 | R & R Master Cylinder | |
| | | |
| 4.0 | COOLING SYSTEM | 30 hours |
| 4.1 | Test Coolant | |
| 4.2 | R & R Water Pump | |
| 4.3 | R & R Radiator | |
| 4.4 | R & R Soft Plugs | |
| 4.5 | R & R Heater Core | |
| 4.6 | R & R Thermostat | |
| 4.7 | Pressure Test Coolant System | |
| | | |
| 5.0 | TUNE-UP | 70 hours |
| 5.1 | Service Air Cleaner | |
| 5.2 | Service Gas Filter | |
| 5.3 | Service Spark Plugs | |
| 5.4 | Service Battery | |
| 5.5 | Adjust Valves | |
| 5.6 | Check Ignition Wires | |
| 5.7 | Check & Adjust Timing | |
| 5.8 | Check Fuel System & HC CO | |
| 5.9 | Scope Check Engine | |
| 5.10 | Service Distributor | |
| 5.11 | Check Electronic Ignition | |
| 5.12 | Timing Belt | |
| 5.13 | Performance Check | |

AUTOMOTIVE TECHNOLOGY OCCUPATIONS Course Outline

| | | |
|------------|-----------------------------------|-----------------|
| 6.0 | ELECTRICAL SYSTEM | 70 hours |
| 6.1 | Read Wiring Diagram | |
| 6.2 | Test Circuitry | |
| 6.3 | Install Switches | |
| 6.4 | Lamp Service & Adjust | |
| 6.5 | Service Sensors | |
| 6.6 | Check Charging System | |
| 6.7 | Check Starting System | |
| 6.8 | Use of Computer Scanners | |
| 6.9 | Interpret Diagnostic Codes | |
| 6.10 | Service O ₂ Sensor | |
| 6.11 | Service Emission Warning Lights | |
| | | |
| 7.0 | TRANSMISSION SYSTEM | 60 hours |
| 7.1 | Transmission Fluid Service | |
| 7.2 | Replace Modulator Valve | |
| 7.3 | Change Front & Rear Seals | |
| 7.4 | R & R Transmission | |
| 7.5 | Service Speedometer | |
| 7.6 | Clutch Service | |
| 7.7 | Service U-Joints | |
| | | |
| 8.0 | ALIGNMENT & SUSPENSION | 50 hours |
| 8.1 | R & R Shock Absorber | |
| 8.2 | R & R Tie Rod End | |
| 8.3 | Service C.V. Joint | |
| 8.4 | Lube & Adjust Steering Box | |
| 8.5 | Adjust Torsion Bars | |
| 8.6 | Inspect Ball Joints for Wear | |
| 8.7 | R & R Ball Joint | |
| 8.8 | Inspect Wheels & Tires | |
| 8.9 | Test & Adjust Caster | |
| 8.10 | Test & Adjust Camber | |
| 8.11 | Test & Adjust Toe-in | |
| 8.12 | Test SAI | |
| 8.13 | Check Rear Wheel Track | |
| 8.14 | Center Steering Wheel | |
| 8.15 | Mc Pherson Strut Service | |
| | | |
| 9.0 | SHOP PROCEDURES | 20 hours |
| 9.1 | Clean Up | |
| 9.2 | Shop Safety | |
| 9.3 | Automotive Tools | |
| 9.4 | Measuring Devices | |
| 9.5 | Auto Lift Operations | |
| 9.6 | Fasteners & Extractions | |
| 9.7 | Parts Identification | |
| 9.8 | Service Manuals | |
| 9.9 | Legal Procedures & Resp. | |
| 9.10 | Pollution Prevention | |

**AUTOMOTIVE TECHNOLOGY OCCUPATIONS
Course Outline**

| | | |
|-------------|--|----------------|
| 10.0 | EMPLOYABILITY | 5 hours |
| 10.1 | Opportunities | |
| 10.2 | Resume | |
| 10.3 | Job Application | |
| 10.4 | Job Interview | |
| 10.5 | Employee/Employer Relations | |
| 10.6 | Employee/Customer Relations | |
| 10.7 | Work Habits & Attitude | |
| 10.8 | Punctuality & Attendance | |
| 10.9 | Personal Grooming | |
| 10.10 | How to Keep a Job | |
| | | |
| 11.0 | ENTREPRENEURSHIP & SMALL BUSINESS | 5 hours |
| 11.1 | The Nature of Entrepreneurship | |
| 11.2 | Developing a Business Plan | |
| 11.3 | Financing a Business | |
| 11.4 | Inventory & Record Keeping/Taxes | |
| 11.5 | Technical Assistance | |
| 11.6 | Location & Choosing a Site | |
| 11.7 | Knowing the Law/Govt. Regulations | |
| 11.8 | Marketing & Promoting | |
| 11.9 | Problems Specific to Business | |
| 11.10 | Exploring Automation | |
| 11.11 | Management | |
| | | |
| 12.0 | SPECIAL PROJECTS | |
| | | |
| | Total Hours | 440 |

AUTOMOTIVE TECHNOLOGY OCCUPATIONS

Student Profile Sheet

| | 1 | 2 | 3 |
|---------------------------------|---|---|---|
| 1.0 GENERAL AUTO SERVICE | | | |
| 1.1 Lube Vehicle | | | |
| 1.2 Check Fluid Levels | | | |
| 1.3 Check Hoses | | | |
| 1.4 Service Fan Belts | | | |
| 1.5 Change Oil and Filter | | | |
| 1.6 Repair Tire & Tubes | | | |
| 1.7 Rotate Tires | | | |
| 1.8 Balance Tires | | | |
| 1.9 Pack Wheel Bearings | | | |
| 1.10 Replace Wiper Blades | | | |

| | 1 | 2 | 3 |
|--|---|---|---|
| 2.0 EXHAUST SYSTEM | | | |
| 2.1 Weld Exhaust System | | | |
| 2.2 R & R Header Pipe | | | |
| 2.3 R & R Muffler | | | |
| 2.4 R & R Tail Pipe | | | |
| 2.5 R & R Exhaust Manifold Gasket | | | |
| 2.6 Test & Install Catalytic Converter | | | |
| 2.7 Service Catalytic Converter | | | |

| | 1 | 2 | 3 |
|-------------------------------|---|---|---|
| 3.0 BRAKE SYSTEM | | | |
| 3.1 Adjust & Inspect Brakes | | | |
| 3.2 Turn Brake Drums & Rotors | | | |
| 3.3 Install Brake Shoes | | | |
| 3.4 Install Brake Pads | | | |
| 3.5 Install Wheel Cylinder | | | |
| 3.6 Bleed Brakes | | | |
| 3.7 Install Wheel Studs | | | |
| 3.8 A.B.S. Brakes | | | |
| 3.9 R & R Master Cylinder | | | |

| | 1 | 2 | 3 |
|----------------------------------|---|---|---|
| 4.0 COOLING SYSTEM | | | |
| 4.1 Test Coolant | | | |
| 4.2 R & R Water Pump | | | |
| 4.3 R & R Radiator | | | |
| 4.4 R & R Soft Plugs | | | |
| 4.5 R & R Heater Core | | | |
| 4.6 R & R Thermostat | | | |
| 4.7 Pressure Test Coolant System | | | |
| 4.8 Chemical Block Test | | | |

| | 1 | 2 | 3 |
|--------------------------------|---|---|---|
| 5.0 TUNE-UP | | | |
| 5.1 Service Air Cleaner | | | |
| 5.2 Service Gas Filter | | | |
| 5.3 Service Spark Plugs | | | |
| 5.4 Service Battery | | | |
| 5.5 Adjust Valves | | | |
| 5.6 Check Ignition Wires | | | |
| 5.7 Check & Adjust Timing | | | |
| 5.8 Check Fuel System & HC CO | | | |
| 5.9 Scope Check Engine | | | |
| 5.10 Service Distributor | | | |
| 5.11 Check Electronic Ignition | | | |
| 5.12 Timing Belt | | | |
| 5.13 Performance Check | | | |

| | 1 | 2 | 3 |
|--------------------------------------|---|---|---|
| 6.0 ELECTRICAL SYSTEM | | | |
| 6.1 Read Wiring Diagram | | | |
| 6.2 Test Circuitry | | | |
| 6.3 Install Switches | | | |
| 6.4 Lamp Service & Adjust | | | |
| 6.5 Service Sensors | | | |
| 6.6 Check Charging System | | | |
| 6.7 Check Starting System | | | |
| 6.8 Use of Computer Scanners | | | |
| 6.9 Interpret Diagnostic Codes | | | |
| 6.10 Service O ₂ Sensor | | | |
| 6.11 Service Emission Warning Lights | | | |
| 6.12 Air Bags | | | |

| | 1 | 2 | 3 |
|--------------------------------|---|---|---|
| 7.0 TRANSMISSION SYSTEM | | | |
| 7.1 Transmission Fluid Service | | | |
| 7.2 Replace Modulator Valve | | | |
| 7.3 Change Front & Rear Seals | | | |
| 7.4 R & R Transmission | | | |
| 7.5 Service Speedometer | | | |
| 7.6 Clutch Service | | | |
| 7.7 Service U-Joints | | | |

| | 1 | 2 | 3 |
|---------------------------------------|---|---|---|
| 8.0 ALIGNMENT & SUSPENSION | | | |
| 8.1 R & R Shock Absorber | | | |
| 8.2 R & R Tie Rod End | | | |
| 8.3 Service C.V. Joint | | | |
| 8.4 Lube & Adjust Steering Box | | | |
| 8.5 Adjust Torsion Bars | | | |
| 8.6 Inspect Ball Joints for Wear | | | |
| 8.7 R & R Ball Joint | | | |
| 8.8 Inspect Wheels & Tires | | | |
| 8.9 Test & Adjust Caster | | | |
| 8.10 Test & Adjust Camber | | | |
| 8.11 Test & Adjust Toe-in | | | |
| 8.12 Test SAI | | | |
| 8.13 Check Rear Wheel Track | | | |
| 8.14 Center Steering Wheel | | | |
| 8.15 Mc Pherson Strut Service | | | |
| 8.16 Squeaks and Rattles | | | |

| | 1 | 2 | 3 |
|-----------------------------------|---|---|---|
| 9.0 SHOP PROCEDURES | | | |
| 9.1 Clean Up | | | |
| 9.2 Shop Safety | | | |
| 9.3 Automotive Tools | | | |
| 9.4 Measuring Devices | | | |
| 9.5 Auto Lift Operations | | | |
| 9.6 Fasteners & Extractions | | | |
| 9.7 Parts Identification | | | |
| 9.8 Service Manuals | | | |
| 9.9 Legal Procedures & Resp. | | | |
| 9.10 Pollution Prevention | | | |
| 9.11 Business Forms & Work Orders | | | |
| 9.12 Computer Operations | | | |

| | 1 | 2 | 3 |
|------------------------------------|---|---|---|
| 10.0 EMPLOYABILITY | | | |
| 10.1 Opportunities | | | |
| 10.2 Resume | | | |
| 10.3 Job Application | | | |
| 10.4 Job Interview | | | |
| 10.5 Employee/Employer Relations | | | |
| 10.6 Employee/Customer Relations | | | |
| 10.7 Work Habits & Attitude | | | |
| 10.8 Punctuality & Attendance | | | |
| 10.9 Personal Grooming | | | |
| 10.10 How to Keep a Job | | | |
| 10.11 Business Forms & Work Orders | | | |

| | 1 | 2 | 3 |
|---|---|---|---|
| 11.0 ENTREPRENEURSHIP & SMALL BUSINESS | | | |
| 11.1 The Nature of Entrepreneurship | | | |
| 11.2 Developing a Business Plan | | | |
| 11.3 Financing a Business | | | |
| 11.4 Inventory & Record Keeping/Taxes | | | |
| 11.5 Technical Assistance | | | |
| 11.6 Location & Choosing a Site | | | |
| 11.7 Knowing the Law/Govt. Regulations | | | |
| 11.8 Marketing & Promoting | | | |
| 11.9 Problems Specific to Business | | | |
| 11.10 Exploring Automation | | | |
| 11.11 Management | | | |

| | 1 | 2 | 3 |
|------------------------------|---|---|---|
| 12.0 SPECIAL PROJECTS | | | |
| 12.1 | | | |
| 12.2 | | | |
| 12.3 | | | |
| 12.4 | | | |
| 12.5 | | | |

Student Skill Rating:

- 1 = Introduction/Beginning Competence Level
- 2 = Satisfactory/Meets Competence Level
- 3 = Advanced/Higher Competence Level

Student Name _____

Instructor's Signature _____

Completion Date _____

(over)



AUTOMOTIVE TECHNOLOGY Student Profile Sheet

ROP Entry Date _____

Class Number _____

Last Name _____ First Name _____ Telephone # _____ Birthdate _____ Sex _____

Street Address _____ City _____ State _____ Zip Code _____ Social Security # _____

Students 18 Years and Older:

I hereby give permission for the ROP staff to release information about skills and dates of enrollment.

Referring School or Agency _____

Student Signature _____

Date _____

Do Not Write Below This Line - For Office Use Only.

Student Record: _____

| Section | Term Code | Term Date | Certificate Issued | Grade |
|---------|-----------|-----------|--------------------|-------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Teacher Comments: _____

Field Sites: Comm. Class _____ Coop. Voc. Ed. _____

Supervisor _____ Telephone # _____

Employer _____ Job Title _____ Manager/Supervisor _____

Employer's Telephone # _____ Employment Date _____ Adv. Schooling _____

(over)