

Automotive and Related Technology Required Materials and Tools

Required Uniform



Head

Top

Bottom

Footwear

Safety glasses/goggles

Advanced Transportation and Manufacturing shop shirt | **quantity: 3-5**

black pants

closed toe, closed heel, slip resistant, and oil resistant shoes/boots

Required Textbooks

ISBN: 978-0133994612 | Automotive Technology, Principles, Diagnosis & Service, 5th edition (2015)

ISBN: 978-1934855508 | A1 Engine Repair: Motor Age Training Self Study Guide (2011)

ISBN: 978-1934855645 | ASE A7 Heating & A/C Study guide by Motor Age Training (2016)

Recommended

Laptop or tablet

General Tools List

PART 1 | Tools used in multiple courses

TOOL	TOOL DETAIL	course numbers					
		113	114	121	122	123	135
☐ Cylinder leak down tester / cylinder compression tester				X		X	
☐ Dial indicator with flexible mount		X	X				
☐ Digital Volt - Ohm - Meter (DVOM)					X	X	X
☐ Flashlight	Telescoping gauge			X			X
☐ Hand vacuum pump kit with gauge	MityVac #4000		X			X	
☐ Heavy-duty remote starter switch	MAC# SS25 or equivalent				X	X	
☐ Micrometer	Sizes: 0" to 1"	X	X	X			
☐ Thread pitch gauge (metric)	Range: 2.0mm – .40mm	X		X			
☐ Thread pitch gauge (standard)	Range 4 to 42	X		X			
☐ Snap ring pliers set (Truarc)		X	X				
☐ Vernier caliper (dial/digital optional)	Size: 0 – 6"	X		X			

PART 2 | Tools used in all courses

TOOL	TOOL DETAIL
☐ Adjustable pliers	Size: 9" (<i>Channel-Lock™</i>)
☐ Adjustable wrench	Size: 10"
☐ Ball peen hammer	Size: 24 ounce
☐ Bar, rolling head	Size: 18"
☐ Caliper (dial/digital optional)	Size: 6"
☐ Center punch	Size: 1/2" X 4 1/2"
☐ Cold chisel	Size: 5/8" cut
☐ Combination wrench set	Sizes: 1/4" to 1"
☐ Combination wrench set	Sizes: 6 mm to 19 mm
☐ Common pliers	Size: 6"
☐ Diagonal cutting pliers	Size: 7"
☐ Feeler gauge set	Sizes: .0015" to .035" (MAC # FG002 or equivalent)
☐ Feeler gauge set	Sizes: .038mm to .889mm (MAC # FG002 or equivalent)
☐ File handles (2 each)	
☐ Gasket scraper	
☐ Hacksaw	
☐ Hacksaw blades	Sizes: 18 tooth & 32 tooth
☐ Metric socket set	1/4" drive Sizes: 5 mm to 14 mm (6 point)
☐ Metric socket set	3/8" drive Sizes: 6 mm to 19 mm (6 point)
☐ Metric socket set	1/2" drive Sizes: 10 mm to 27 mm (6 point)
☐ Mill file	Size: 11 1/2"

TOOL	TOOL DETAIL
☐ Needle nose pliers	Size: 6"
☐ Nylon parts cleaning brush	
☐ Pin punch set	
☐ Screw driver	Size: 4" flat blade
☐ Screw driver	Size: 6" flat blade
☐ Screw driver	Size: 8" flat blade
☐ Screw driver	Size: 12" flat blade
☐ Screw driver	Size: 4" Phillips #1
☐ Screw driver	Size: 4" Phillips #2
☐ Socket adapter	Sizes: 3/8" drive to 1/2" drive
☐ Socket adapter	Sizes: 1/2" drive to 3/8" drive
☐ Socket adapter	Sizes: 1/4" drive to 3/8" drive
☐ Soft face hammer	Size: 24 ounce
☐ Spark plug gap gauge, wire type	
☐ Spark plug sockets	3/8" drive Sizes: 5/8" & 13/16"
☐ Steel rule	Size: 6" with cross bar (combination inches & metric)
☐ Toolbox or rollaway cart w/secure lock	
☐ Trigger type oil can	
☐ Vise Grip™ pliers set	

Specialty Tools | First and Second Semesters

AUTOTRK 100 | Conditioning Systems Theory, Inspection Repair

TOOL	TOOL DETAIL
☐ Air Conditioning R134a gauge set	
☐ Dial thermometer	

AUTORTK 113 | Drive Train Components Principles & Practices

TOOL	TOOL DETAIL
☐ Adapter	Size: 3/8" Male to 1/4" Female square drive
☐ Adapter	Size: 1/2" Male to 3/8" Female square drive
☐ Rubber-tipped air nozzle	Amflo #201 & Coupler #CP21
☐ Snap ring pliers (flat type)	MAC tool #TP15P !ONLY!
☐ Check General List PART 1 for additional tools used	See column 113

AUTORTK 114 | Steering, Suspension, Brakes, Principles & Practices

TOOL	TOOL DETAIL
☐ Air hose	
☐ Brake fluid tester	
☐ Disk brake micrometer	.300" to 1.300"
☐ Drop light	110 volt
☐ Fender Cover	quantity: 2
☐ Spoon set - Brake adjusting	
☐ Tire inflator	
☐ Tire pressure gauge (dial type/digital optional)	
☐ Tire Tread Depth gauge	
☐ Tire Valve Stem Removal Tool	
☐ Torque wrench	1/2" drive
☐ Wheel lug socket set	
☐ Check General List PART 1 for additional tools	See column 114

AUTORTK 121 | Basic Engine Theory, Inspection & Repair

TOOL	TOOL DETAIL
☐ Compression tester	
☐ Piston ring compressor set	
☐ Piston ring expander	
☐ Ruler	6" (combination standard & metric)
☐ Telescopic magnet	
☐ Vacuum gauge	
☐ Check General List PART 1 for additional tools	See column 121

AUTORTK 122 | Electrical/Electronic Systems Theory, Inspection & Repair

TOOL	TOOL DETAIL
☐ 12 volt test light	
☐ 16 gauge Jumper wires with alligator clips	quantity: 8 Min. length: 3 Feet
☐ Wire crimpers/wire stripper	MAC tool #TCT 2000 or equivalent
☐ Check General List PART 1 for additional tools	See column 122

AUTORTK 123 | Fuel & Emissions Systems Theory, Inspection & Repair

TOOL	TOOL DETAIL
☐ Check General List PART 1 for additional tools	See column 123

Specialty Tools | Third and Fourth Semesters

AUTORTK 135 | Computer Control and Fuel Injection Heating and Air

TOOL	TOOL DETAIL
☐ Back Probe Pins	quantity: 4
☐ PCM scanner	
☐ Check General List PART 1 for additional tools	See column 135

LIVE SHOP COURSES

- AUTORTK 130 | Automotive Theory and Repair I
- AUTORTK 131 | Automotive Theory and Repair II
- AUTORTK 140 | Automotive Theory and Repair IV
- AUTORTK 141 | Automotive Theory and Repair V
- AUTORTK 142 | Automotive Theory and Repair VI

TOOL	TOOL DETAIL
☐ 18" Breaker bar	1/2" drive
☐ Air hose	Size: 25'
☐ Allen wrench set	Standard
☐ Allen wrench set	Metric
☐ Ball peen hammer	Sizes: 8oz, 10oz, & 16oz
☐ Cape chisel	
☐ Drift punch set	
☐ Extensions	3/8" drive Sizes: 4", 6", 10", & 18"
☐ Extensions	1/2" drive Sizes: 6" – 12"
☐ Extension cord	12' 110 volt
☐ Impact wrench (air operated)	Size: 1/2" drive
☐ Line wrench set	Metric
☐ Line wrench set	Standard
☐ Nut drivers (standard)	Sizes: 3/16", 1/4", 9/32", 5/16", 11/32", & 3/8"
☐ Socket set	1/4" drive w/ratchet & extensions (3" & 6") Sizes: 3/32" to 1/2"
☐ Socket set	3/8" drive w/ratchet & extensions (3" & 6") Sizes: 1/4" to 3/4"
☐ Socket set	1/2" drive w/ratchet & extensions (3" & 6") Sizes: 3/8" to 1 1/8"
☐ Torx screwdrivers	Sizes: #10 to #50
☐ Torque wrench	Inch Pound (in. lb.)
☐ Torque wrench	Foot Pound (ft. lb.)
☐ Vice Grip Pliers™ set	