Automotive Technician Equipment List

## Recommended Equipment List

### [ASE Education Foundation - Tools and Equipment - Weblink](https://www.aseeducationfoundation.org/uploads/2017Tools_Equipment-final.pdf)

(Contained in individual sets or the tool crib in sufficient quantities to permit efficient instruction)

* Air Blow Gun (meeting OSHA requirements)
* Allen (Wrench or Socket) Set - Standard (.050" - 3/8")
* Allen (Wrench or Socket) Set - Metric (2mm - 8mm, 10mm, 12mm)
* Battery Post Cleaner
* Battery Terminal Pliers
* Battery Terminal Puller
* Chisels:
  + Cape 5/16"
  + Cold 3/8", 3/4"
  + Chisel Holder
* Claw Type Pickup Tool
* Combination Wrenches:
  + Standard (1/4" – 1 1/4") (optional)
  + Metric (7mm - 24mm)
  + Crowfoot Wrench Set - Metric
  + Crowfoot Wrench Set – Standard (optional)
* Ear Protection
* Feeler Gauge (Blade Type):
  + .002" - .040"
  + .006mm - .070mm
* Files:
  + Coarse 6" and 12"
  + Fine 6" and 12"
  + Half Round 12"
  + Round 6" and 12"
* Flare Nut (tubing) Wrenches:
  + 3/8" - 3/4"
  + 10mm - 17mm
* Flashlight
* Fuse Puller
* Fused Jumper Wire Set (with various adapters)
* Hack Saw
* Hammers:
  + 16 oz. Ball Peen
  + Brass
  + Dead Blow Plastic Mallet
  + Plastic Tip
  + Rubber Mallet
* Inspection Mirror
* Magnetic Pickup Tool2
* Pliers:
  + Combination 6"
  + Hose Clamp
  + Locking Jaw
  + Needle Nose 6"
  + Side Cutting
* Slip Joint (Water Pump)
* Pry Bars:
  + Rolling Head
  + Straight
* Punches:
  + Center
  + Brass Drift
  + Pin 1/8", 3/16", 1/4", 5/16 "
  + Taper 3/8", 1/2", 5/8"
* Safety Glasses (meeting OSHA requirements)
* Scraper:
  + Plastic
  + Gasket 1"
* Screwdriver - Blade Type:
  + Stubby
  + 6", 9", 12"
  + Offset
* Screwdriver - Phillips:
  + Stubby #1, #2
  + 6" #1, #2
  + 12" #3
  + Offset #2
* Screwdriver - Impact Driver Set
* Socket Set - 1/4" Drive:
  + 1/4" - 1/2" Standard Depth (optional)
  + 1/4" - 1/2" Deep (optional)
  + 6mm - 12mm Standard Depth
  + 6mm - 12mm Deep
  + Flex/Universal Type
  + 3", 6" Extensions
  + Ratchet
* Socket Set - 3/8" Drive:
  + 5/16" - 3/4" Standard Depth (6 point)(optional)
  + 3/8" - 3/4" Deep (6 point)(optional)
  + 10mm - 19mm Standard Depth
  + 10mm - 19mm Deep
  + 3", 5", 10" Extensions
  + Flexhead Ratchet
  + Ratchet
* Spark Plug Sockets 5/8", 13/16", 9/16"3
* Spark Plug Sockets 14mm
* Speed Handle
* Universal Joint
* Flexible Socket Set 3/8" - 3/4" (optional)
* Flexible Socket Set 10mm - 19mm
* Socket Set - 1/2" Drive:
  + 7/16" - 1 1/8" Standard Depth (optional)
  + 7/16" - 1 1/8" Deep (optional)
  + 10mm - 24mm Standard Depth
  + 10mm - 24mm Deep
  + 3", 6", 12" Extensions
  + Flex Handle (Breaker Bar)
  + Ratchet
* Spark Plug Feeler Gauge (Gap Tool)
* Tape Measure – Standard and Metric
* Test Light (12V and self-powered)
* Tire Pressure Gauge
* Tire Tread Depth Gauge
* Torque Wrench:
  + 3/8" Drive (10 - 250 lb. in.)
  + 3/8" Drive (5 - 75 lb. ft.)
  + 1/2" Drive (50 - 250 lb. ft.)
  + Torx Set (screwdrivers and/or sockets):
  + T-8 to T-60
* Wire Brush

### GENERAL LAB/SHOP EQUIPMENT

The tools and equipment on this list are used in general lab/shop work but are not generally considered to be individually owned hand tools. A well-equipped, accredited program should have all of these general tools and equipment readily available and in sufficient quantity to provide quality instruction.

* Air Chisel Set (various bits)
* Air Compressor and Hoses
* Air Pressure Regulator
* Air Ratchet (3/8” drive)
* Automotive Stethoscope (electronic recommended)
* Axle Stands (Jack Stands)
* Axle Support Stands (Screw Jacks)
* Battery Charger
* Battery/Starter/Charging System Tester
* Bearing Packer (hand operated)
* Belt Tension Gauge
* Bench or Pedestal Grinder
* Coolant/Combustion Gas Detector (recommended)
* Coolant Tester
* Cooling System Pressure Tester and Adapters
* Creeper
* Cylinder Leakage Tester
* Dial Indicator with Flex Arm and Clamp Base
* Digital Multimeter (DMM) with various lead sets (sufficient quantities to meet instruction goals)
* Drain Pans
* Drill - 3/8" variable speed, reversible
* Drill - 1/2" variable speed, reversible
* Electric Heat Gun
* Engine Coolant Recovery Equipment or Recycler or Coolant Disposal Contract Service
* Extension Cords
* Face Shields
* Fender Covers
* Floor Jack (1½ Ton Minimum)
* Hand-held Vacuum Pump
* Hoist(s)
* Hood Prop
* Hydraulic Press with adapters
* Impact Socket Sets - 3/8" Drive (Standard - optional)
* Impact Socket Set - 3/8" Drive(8mm-19mm)
* Impact Sockets - 1/2" Drive (7/16" - 1 1/8")(optional)
* Impact Sockets - 1/2" Drive (12mm – 24mm)
* Impact Sockets – 1/2” Drive Deep (30 mm, 32 mm, 36mm)5
* Impact Wrench - 1/2" Drive
* Impact Wrench - 3/8" Drive
* Jumper Cables
* Master Puller Set
* Micrometer (Depth)
* Micrometers - (Outside Type) 0-1", 1-2", 2-3", 3-4", 4-5"
* Oil Can - Pump Type
* Oil Filter Wrench and Sockets
* Oxy-Acetylene Torch Set
* Parts Cleaning Tank and Gloves (non-solvent based cleanser suggested)
* Remote Starter Switch
* Scan Tool OBDII w/CAN capability or Personal Computer (PC) with equivalent
* interface (appropriate capability to support tasks taught)
* Screw Extractor Set
* Seat Covers
* Serpentine Belt Tensioner Tools
* Snap Ring Pliers Set - external
* Snap Ring Pliers Set - internal
* Soldering Gun
* Soldering Iron (Pencil Tip)
* Spark Plug Boot Puller
* Tap and Die Set - Standard (optional)
* Tap and Die Set – Metric
* Temperature Sensing Device
* Thread Repair Insert Kit
* Tire Inflator Chuck
* Trouble/Work Lights (Non-incandescent)
* Tube Quick Disconnect Tool Set
* Tubing Bender
* Tubing Cutter/Flaring Set (Double-lap and ISO)
* Twist Drill Set Ultra Violet Leak Detection Device (Black Light)
* Used Oil Receptacle with extension neck and funnel
* Valve Core Removing Tool
* Calipers
* 0 - 6"
* 0 - 125mm
* Wheel Chocks
* Workbenches with vises6

### SPECIALTY TOOLS AND EQUIPMENT WITHIN EACH ACCREDITATION CATEGORY

This section covers the tools and equipment a lab/shop should have for training in any given specialty area. This equipment is specialized, and it must be available in the lab/shop or to the program. No specific type or brand names are identified because they will vary in each local situation.

For all tasks which are taught in the program, the training should be as thorough as possible with the tools and equipment necessary for those tasks. In other words, if a program does not teach a particular task, the tool from the tool list associated with that task is not required.

### SUSPENSION & STEERING

* Brake Pedal Depressor
* Hand Grease Gun
* Shock Absorber Tools
* Spring Compressor Tool
* Tire Mounting Machine (rim clamp type)
* Tire Pressure Monitoring System Tool (TPMS) as appropriate
* Tire Patching Tools and Supplies
* Wheel Balancer - Electronic Type
* Wheel Weight Pliers

### BRAKES

* Bearing Seal and Race Driver Set
* Brake Bleeder, (Pressure or Vacuum)
* Brake Disc Micrometer
* Brake Drum Micrometer and Calibration Equipment
* Brake Fluid Test Strips or Kit
* Brake Lathe (bench with disc and drum service attachments)
* Brake Lathe (on car)
* Brake Shoe Adjusting Gauge
* Brake Spring Remover/Installer
* Brake Spring Pliers
* Brake Spoon
* Piston Retraction Set
* Wheel Stud Service Kit7

### ENGINE PERFORMANCE

* Compression Tester
* Cylinder Power Balance Tester (scan tool/manual method)
* Infrared Thermometer (or appropriate substitute)
* Vacuum/Pressure Gauge

### ELECTRICAL/ELECTRONIC SYSTEMS

* Connector Pick Tool Set
* Door Panel Trim Tool(s)
* Headlight Aimer or Screen
* Heat Gun (or equivalent for heat shrinking operations)
* Wire and Terminal Repair Kit

### MANUAL DRIVE TRAIN AND AXLES

* Axle Nut Socket Set (or equivalent)
* Spindle Rethreader Die Set
* Universal Joint Tools

### ENGINE REPAIR

* Antifreeze/Coolant Tester

### SUSPENSION & STEERING

* Ball Joint Press and other Special Tools
* Brake Pedal Depressor
* Bushing Driver Set
* Coil Spring Compressor Tool
* Chassis Ear (recommended)
* Frame Angle Gauge or Portable Digital Protractor (appropriate for tasks being taught)
* Hand Grease Gun
* Inner Tie Rod End Tool
* Pitman Arm Puller
* Power Steering Pump Pulley Special Tool Set (appropriate for tasks being taught)
* Shock Absorber Tools
* Steering Angle Gauge or Portable Digital Protractor (appropriate for tasks being taught)
* Steering Column Special Tool Set (appropriate for teaching tasks being utilized)
* Strut Spring Compressor Tool
* Tie Rod Puller
* Tire Mounting Machine
* Tire Patching Tools and Supplies
* Tire Pressure Monitoring System (TPMS) Tool (appropriate for tasks being taught)
* Wheel Alignment Equipment-4 wheel (including alignment tools)
* Wheel Balancer - Electronic Type
* Wheel Weight Pliers

### BRAKES

* Bearing Seal and Race Driver Set
* Brake Bleeder, (Pressure or Vacuum)
* Brake Disc Micrometer
* Brake Drum Micrometer and Calibration Equipment
* Brake Fluid Test Strips or Kit
* Brake Lathe (bench with disc and drum service attachments)
* Brake Lathe (on car)
* Brake Shoe Adjusting Gauge
* Brake Spring Remover/Installer
* Brake Spring Pliers
* Brake Spoon
* Master Cylinder Bleeder Kit
* Caliper Piston Retraction Set
* Wheel Stud Service Kit9

### HEATING, VENTILATION, AND AIR CONDITIONING (HVAC)

* A/C Compressor Clutch Service Tools
* A/C Service Port Adapter Set
* Dye Injection Kit
* Hygrometer
* A/C Leak Detector (to meet current industry standard)
* A/C Manifold Gauge Set or equivalent (to meet current industry standard)
* A/C Refrigerant Recovery/Recycling/Recharging Station (to meet current industry
* standard)
* Thermometer(s) (digital)
* A/C Sealant Detector Kit

### ENGINE PERFORMANCE

* Cylinder Power Balance Tester (Scan Tool/Manual Method)
* Evaporative Emissions Control System (EVAP) Leak Detector (Smoke or Nitrogen)
* Fuel Injection Pressure Gauge Sets with Adapters
* Infrared Thermometer (or appropriate substitute)
* Injector Pulse Tester
* Logic Probe (suggested)
* Oxygen Sensor Socket
* Pinch-off Pliers
* Sending Unit Socket(s)
* Spark Plug Thread Tap
* Spark Tester
* Vacuum/Pressure Gauge

### AUTOMATIC TRANSMISSION/TRANSAXLE

* Transmission Jack(s)
* Transmission/Transaxle Flushing Equipment (recommended)
* Transmission/Transaxle Holding Fixtures
* Transmission/Transaxle Removal and Installation Equipment
* Transmission/Transaxle Special Tool Sets (appropriate for units being utilized)

### ELECTRICAL/ELECTRONIC SYSTEMS

* Connector Pick Tool Set
* Molding and Trim Tool(s)
* Headlight Aimer or Screen
* Heat Gun (or equivalent for heat shrinking operations)
* Terminal Tension (Pin Drag) Test Kit/Terminal Probe Kit (or equivalent)
* Wire and Terminal Repair Kit10

### MANUAL DRIVE TRAIN AND AXLES

* Axle Nut Socket Set (or equivalent)
* Clutch Alignment Set
* Clutch Pilot Bearing/Bushing Puller/Installer
* Constant Velocity Joint (CV) Service Tools:
* Boot Installation Tool
* Boot Clamp Pliers or Crimping Ring
* Engine Support Fixture
* Rotating Torque Wrench (beam-type or equivalent)
* Universal Joint Tools
* Spindle Rethreader Die Set

### ENGINE REPAIR

* Antifreeze/Coolant Tester
* Oil Pressure Gauge
* Straight Edge
* Torque Angle Gauge11

### SUSPENSION & STEERING

* Ball Joint Press and other Special Tools
* Brake Pedal Depressor
* Bushing Driver Set
* Coil Spring Compressor Tool
* Chassis Ear (recommended)
* Frame Angle Gauge or Portable Digital Protractor (appropriate for tasks being taught)
* Hand Grease Gun
* Inner Tie Rod End Tool
* Pitman Arm Puller
* Power Steering Pump Pulley Special Tool Set (appropriate for units being taught)
* Power Steering Pressure Gauges (recommended)
* Shock Absorber Tools
* Strut Spring Compressor Tool
* Steering Angle Gauge or Portable Digital Protractor (appropriate for tasks being taught)
* Steering Column Special Tool Set (appropriate for teaching units being utilized)
* Tie Rod Puller
* Tire Mounting Machine
* Tire Patching Tools and Supplies
* Tire Pressure Monitoring System (TPMS) Tool (appropriate for tasks being taught)
* Wheel Alignment Equipment-4 wheel (including alignment tools)
* Wheel Balancer - Electronic Type
* Wheel Weight Pliers
* BRAKES
* Bearing Seal and Race Driver Set
* Brake Bleeder, (Pressure or Vacuum)
* Brake Disc Micrometer
* Brake Drum Micrometer and Calibration Equipment
* Brake Fluid Test Strips or Kit
* Brake Lathe (bench with disc and drum service attachments)
* Brake Lathe (on car)
* Brake Shoe Adjusting Gauge
* Brake Spring Remover/Installer
* Brake Spring Pliers
* Brake Spoon
* Master Cylinder Bleeder Kit
* Caliper Piston Retraction Set
* Wheel Stud Service Kit12

### HEATING AND AIR CONDITIONING

* A/C Compressor Clutch Service Tools
* A/C Service Port Adapter Set
* Dye Injection Kit
* Hygrometer
* A/C Leak Detector (to meet current industry standards)
* A/C Manifold Gauge Set or equivalent (to meet current industry standards)
* A/C Refrigerant Identification Equipment
* Refrigerant Recovery/Recycling/Recharging Station (to meet current industry standards)
* Thermometer(s) (digital)
* Sealant Detector Kit

### ENGINE PERFORMANCE

* Cylinder Power Balance Tester
* Evaporative Emissions Control System (EVAP) Leak Detector (Smoke or Nitrogen)
* Four or Five Gas Exhaust Analyzer (Five Gas recommended)
* Fuel Injection Pressure Gauge Sets with Adapters
* \* Graphing Multimeter (GMM) and/or Digital Storage Oscilloscope (DSO)
* Infrared Thermometer (or appropriate substitute)
* Injector Pulse Tester
* Logic Probe (appropriate for tasks being taught)
* Oxygen Sensor Socket
* Pinch-off Pliers
* Sending Unit Socket(s)
* Spark Plug Thread Tap
* Spark Tester
* Vacuum/Pressure Gauge
* \* Also necessary to accomplish tasks in other MAST categories (Brakes and Electrical/Electronic Systems)

### AUTOMATIC TRANSMISSION/TRANSAXLE

* Differential Set-up Tools
* Hydraulic Pressure Gauge Set
* Transmission Jack(s)
* Transmission/Transaxle Flushing Equipment (recommended)
* Transmission/Transaxle Removal and Installation Equipment
* Transmission/Transaxle Holding Fixtures
* Transmission/Transaxle Special Tool Sets (appropriate for units being utilized)

### ELECTRICAL/ELECTRONIC SYSTEMS

* Connector Pick Tool Set
* Molding and Trim Removal Tool(s)
* Headlight Aimer or Screen
* Heat Gun (or equivalent for heat shrinking operations)
* Terminal Tension (Pin Drag) Test Kit/Terminal Probe Kit (or equivalent)
* Wire and Terminal Repair Kit

### MANUAL DRIVE TRAIN AND AXLES

* Axle Nut Socket Set (or equivalent)
* Clutch Alignment Set
* Clutch Pilot Bearing/Bushing Puller/Installer
* Constant Velocity Joint (CV) Service Tools:
* Boot Installation Tool
* Boot Clamp Pliers or Crimping Ring
* Engine Support Fixture
* Rotating Torque Wrench (beam-type or equivalent)
* Special Tools for Transmissions/Transaxles (appropriate for units being taught)
* Spindle Rethreader Die Set
* Universal Joint Tools

### ENGINE REPAIR

* Antifreeze/Coolant Tester
* Ball (Small Hole) Gauges
* Cam Bearing Driver Set (suggested)
* Camshaft Holding Tool (appropriate for units being taught)
* Cylinder Deglazer
* Dial Bore Indicator
* Engine Stands/Benches
* Inside Micrometer Set:
* 0 - 6"
* 0 - 125mm
* Micrometer (Depth)
* 0 - 6"
* 0 - 125mm
* Oil Pressure Gauge
* Outside Micrometer Set:
* 0 - 6"
* 0 - 125mm
* Portable Crane - 1/2 Ton
* Ring Compressor
* Ring Expander
* Ring Groove Cleaner
* Precision Straight Edge
* Telescopic Gauge Set
* Torque Angle Gauge14
* V-Blocks
* Valve Spring Compressor & Valve Spring Tester