### Recommended Equipment List

#### Program: CIP#:

Automotive Technologies

47.0300.4

NOTE: The following items and descriptions are the recommended equipment guidelines for each **CTE** Automotive Technologies program. Please note that this list of recommended items does not necessarily need to be supported financially by Federal Perkins or State Priority funding sources. In many cases, local school district funds are used to purchase items on a regular basis (i.e. furniture, consumables, etc.) Further, please understand that this is not an exhaustive list. Local program and business needs may necessitate the purchase of additional equipment and software resources, as may the rapidly-changing nature of the industry-specific technologies used in the program.

Recommended Equipment and Software	
Item	Notes
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")	
Metric (7mm - 24mm)	
Crowfoot Wrench Set - Metric	
Crowfoot Wrench Set – Standard	
Ear Protection	
Feeler Gauge (Blade Type)	
→ .002"	
→ .040"	
→ .006mm	
→ .070mm	
Files:	
$\rightarrow$ Coarse 6" and 12"	
$\rightarrow$ Fine 6" and 12"	
$\rightarrow$ Half Round 12"	
$\rightarrow$ Round 6" and 12"	
Flare Nut (tubing) Wrenches:	
$\rightarrow 3/8$ "	
$\rightarrow 3/4$ "	
$\rightarrow 10$ mm	
$\rightarrow 17$ mm	
Flashlight	
Fuse Puller	
Fused Jumper Wire Set (with various adapters)	
Hack Saw	
Hammers:	
$\rightarrow$ 16 oz. Ball Peen	
$\rightarrow$ Brass	
$\rightarrow$ Dead Blow Plastic Mallet	
$\rightarrow$ Plastic Tip	
→ Rubber Mallet Inspection Mirror Magnetic Pickup Tool Pliers:	
$\rightarrow$ Combination 6"	
$\rightarrow$ Hose Clamp $\rightarrow$ Locking Jaw	
$\rightarrow$ Needle Nose 6"	
$\rightarrow$ Side Cutting	
→ Slip Joint (Water Pump) Pry Bars:	

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47.0300

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Recommended Equipment and Software	
Item	Notes
$\rightarrow$ Rolling Head	
$\rightarrow$ Straight Punches:	
→ Center	
$\rightarrow$ Brass Drift	
$\rightarrow$ Pin 1/8", 3/16", 1/4", 5/16 "	
$\rightarrow$ Taper 3/8", 1/2", 5/8" Safety Glasses (meeting OSHA requirements) Scraper:	
$\rightarrow$ Carbon 1"	
$\rightarrow$ Gasket 1"	
Screwdriver - Blade Type:	
$\rightarrow$ Stubby	
$\rightarrow$ 6", 9", 12"	
$\rightarrow$ Offset	
Screwdriver - Phillips:	
$\rightarrow$ Stubby #1, #2	
$\rightarrow$ 6" #1, #2	
$\rightarrow$ 12" #3	
$\rightarrow$ Offset #2	
$\rightarrow$ Screwdriver - Impact Driver Set	
Screw Starter:	
$\rightarrow$ Phillips	
$\rightarrow$ Standard	
Socket Set - 1/4" Drive:	
$\rightarrow 1/4$ " - 1/2" Standard Depth	
$\rightarrow 1/4$ " - 1/2" Deep	
$\rightarrow$ 6mm - 12mm Standard Depth	
$\rightarrow$ 6mm - 12mm Deep	
Flex/Universal Type	
3", 6" Extensions Ratchet	
Socket Set - 3/8" Drive:	
$\rightarrow$ 5/16" - 3/4" Standard Depth (6 point)	
$\rightarrow 3/8" - 3/4"$ Deep (6 point)	
$\rightarrow$ 10mm - 19mm Standard Depth	
$\rightarrow 10$ mm - 19mm Deep	
$\rightarrow$ 3", 5", 10" Extensions Flexhead Ratchet	
Spark Plug Sockets 5/8", 13/16"	
Speed Handle	
Universal Joint	
Flexible Socket Set 3/8" - 3/4" Flexible Socket Set 10mm - 19mm Socket Set - 1/2" Drive:	
$\rightarrow$ 7/16" - 1 1/8" Standard Depth	
$\rightarrow$ 7/16" - 1 1/8" Deep	
$\rightarrow$ 10mm - 24mm Standard Depth	
$\rightarrow 10$ mm - 24mm Deep	
$\rightarrow$ 3", 6", 12" Extensions	
Flex Handle (Breaker Bar)	

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Recommended Equipment and Software	
Item	Notes
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:	
$\rightarrow 3/8$ " Drive (10 - 250 lb. in.) $\rightarrow 3/8$ " Drive (5 - 75 lb. ft.)	
$\rightarrow 1/2$ " Drive (50 - 250 lb. ft.) Torx®	
Set (screwdrivers and/or sockets):	
$\rightarrow$ T-8 to T-60 Wire	
Brush	
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	
Battery Conductance Tester (recommended)	
Bearing Packer (hand operated)	
Belt Tension Gauge	
Bench or Pedestal Grinder	
Compression Tester	
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 with various lead sets	
Digital Storage Oscilloscope (DSO) 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 (1 <sup>1</sup> / <sub>2</sub> Ton Minimum)	
Graphing Multimeter (GMM) Hand	

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ItemNotesHeld Vacuum Pump	Recommended Equipment and Software	
Hosd Prop       Hod Prop         Hydraulic Press with adapters       Impact Socket Sets - $3^{36}$ Drive (Standard and Metric)         Impact Sockets       Impact Sockets $\rightarrow 1/2^{20}$ Drive (71/6° - 11.8°)       Impact Sockets $\rightarrow 1/2^{20}$ Drive Olgom m, 32 mm, 36mm) Impact Wrench       Impact Sockets $\rightarrow 1/2^{20}$ Drive Jenep (30 mm, 32 mm, 36mm) Impact Wrench       Impact Sockets $\rightarrow 1/2^{20}$ Drive Jenep (Cables       Impact Sockets         Master Puller Set       Impact Sockets         Micrometer (Depth)       Impact Sockets (Depth)         Micrometer (Depth)       Impact Socket (Socket International Socket International Internatinternatinternational International International Int	Item	Notes
Hod Prop       Hydraulic Press with adapters         Impact Socket Sets - 3.%" Drive (Standard and Metric)       Impact Socket Sets - 3.%" Drive (Standard and Metric)         Impact Socket Sets - 3.%" Drive (Standard and Metric)       Impact Socket Sets - 3.%" Drive (Jame, 24mm)         → 1/2" Drive Deep (30 mm, 32 mm, 36mm) Impact Wrench	Held Vacuum Pump	
Hydraulic Press with adapters       Impact Socket Sets - 3/8" Drive (Standard and Metric)         Impact Socket Sets - 3/8" Drive (Standard and Metric)       Impact Socket Sets - 3/8" Drive (71/6" - 1 1/8")         → 1/2" Drive (12mm - 24mm)		
Hydraulic Press with adapters       Impact Socket Sets - 3/8" Drive (Standard and Metric)         Impact Socket Sets - 3/8" Drive (Standard and Metric)       Impact Socket Sets - 3/8" Drive (71/6" - 1 1/8")         → 1/2" Drive (12mm - 24mm)	Hood Prop	
Impact Socket Sets - 38" Drive (Standard and Metric)           Impact Sockets $-1/2^{\circ}$ Drive ( $1/16^{\circ} - 11/8^{\circ}$ ) $-1/2^{\circ}$ Drive ( $12mn - 24mm$ ) $-1/2^{\circ}$ Drive (Deep (30 mm, 32 mm, 36mm) Impact Wrench $-1/2^{\circ}$ Drive Deep (30 mm, 32 mm, 36mm) Impact Wrench $-3/8^{\circ}$ Drive Deep (30 mm, 32 mm, 36mm) Impact Wrench $-3/8^{\circ}$ Drive Jumper Cables           Master Paller Set           Micrometers 0-1", 1-2", 2-3", 3-4", 4-5" (Outside Type)           Oil Can - Pump Type           Oil ColoDI W/CAN capability) or Personal Computer (PC) with equivalent Interface capability           Scare Tool (OBDI W/CAN capability) or Personal Computer (PC) with equivalent Interface capability           Screw Extractor Set           Sear Tool (OBDI W/CAN capability) or Personal Computer (PC) with equivalent Interface capability           Screw Extractor Set           Sand Ring Pliers Set - external           Snap Ring Pliers Set - external           Soldering Com           Soldering Com           Soldering Com           Soldering Com           Soldering Com           Soldering Com           Soldering Insert Ki           Tree Instruction <td></td> <td></td>		
Impact Sockets		
$ \rightarrow 12^{\circ} \text{ Drive } (12\text{mm} - 24\text{mm}) $ $ \rightarrow 1/2^{\circ} \text{ Drive } (20\text{ Gep } (30\text{ mm}, 32\text{ mm}, 36\text{mm}) \text{ Impact Wrench} $ $ \rightarrow 1/2^{\circ} \text{ Drive } \text{ Imper Cables} $ Master Puller Set Micrometer (Depth) Micrometers - 0-1", 1-2", 2-3", 3-4", 4-5" (Outside Type) Oil Can - Pump Type Can Pump Type Oil C	Impact Sockets	
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$ \rightarrow 12^{\circ} \text{ Drive} \qquad \qquad$		
$ \rightarrow 12^{\circ} \text{ Drive} \qquad \qquad$	$\rightarrow 1/2$ " Drive Deep (30 mm, 32 mm, 36mm) Impact Wrench	
Master Puller Set       Micrometer (Depth)         Micrometers - 0.1", 1-2", 2-3", 3-4", 4-5" (Outside Type)       Oil Gan - Pump Type         Oil Can - Pump Type       Oil Can - Pump Type         Oil Filter Wrench       Oxy-Acctylene Torch Set         Parts Cleaning Tank and Gloves (non-solvent based cleanser suggested) Remote Starter Switch       Sear Tool (OBDII w/CAN capability) or Personal Computer (PC) with equivalent Interface capability         Screw Extractor Set       Septentine Belt Tensioner Tools       Sear Covers         Sear Covers       Sear Covers       Sear Covers         Soldering Gun       Soldering Gun       Soldering Gun         Soldering Iron (Pencil Tip) Spark Plug Boot Puller       Tap and Die Set       Tap and Die Set $\rightarrow$ Standard $\rightarrow$ Metric       Temperature Sensing Device       Thread Repair Insert Kit         Tire Inflator Chuck       Trouble/Work Lights (Fluorescent Preferred)       Tubu Quick Disconnect Tool Set         Tubing Cutter/Flaring Set (Double-lap and ISO) Twist Drill Set $\rightarrow$ 1/64" - 1/2"       Uffta Violet Leak Detection Device (Black Light)       Uffta Violet Leak Detection Device Clack at funnel         Valve Core Removing Tool Vernier Calipers       Valve Core Removing Tool Vernier Calipers       Valve Core Removing Tool Vernier Calipers		
Micrometer (Depth)         Micrometers -0-1", 1-2", 2-3", 3-4", 4-5" (Outside Type)         Oil Can - Pump Type         Oil Gan - Pump Type         Oll Filter Wrench         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 capability         Screw Extractor Set         Set Covers         Sear Tool (OBDII w/CAN capability) or Personal Computer (PC) with equivalent Interface capability         Screw Extractor Set         Set Covers         Set Pentine Belt Tensioner Tools         Snap Ring Pliers Set - external         Soldering Iron (Pencil Tip) Spark Plug Boot Puller         Tap and Die Set $\rightarrow$ Metric         Temperature Sensing Device         Thread Repair Insert Kit         Tire Inflator Chuck         Trouble/Work Lights (Fluorescent Preferred)         Tubing Cutter/Flaring Set (Double-lap and ISO) Twist Drill Set $\rightarrow$ 1/64" - 1/2"         Uttra Violet Leak Detection Device (Black Light)         Used Oil Receptacle with extension neck and funnel         Valve Core Removing Tool Vernier Calipers	$\rightarrow 3/8$ " Drive Jumper Cables	
Micrometers - 0-1", 1-2", 2-3", 3-4", 4-5" (Outside Type)Oil Can - Pump TypeOil Filter WrenchOxy-Acetylene Torch SetParts Cleaning Tank and Gloves (non-solvent based cleanser suggested) Remote Starter SwitchScan Tool (OBDII w/CAN capability) or Personal Computer (PC) with equivalent Interface capabilitySerew Extractor SetSeat CoversSerpentine Belt Tensioner ToolsSnap Ring Pliers Set - externalSoldering ConSoldering ConSoldering ConSoldering ConTap and Die Set $\rightarrow$ MetricThread Repair Insert KitTire Inflator ChuckTrouble/Work Lights (Fluorescent Prefered)Tubing Cutter/Flaring Set (Double-lap and ISO) Twist Drill Set $\rightarrow 1/64" - 1/2"$ Ultra Violet Leak Detection Device (Black Light)Used Oil Receptacle with extension neck and funnelValve Core Removing Tool Vernier Calipers	Master Puller Set	
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Oil Filter WrenchImage: Control of the second	Micrometers - 0-1", 1-2", 2-3", 3-4", 4-5" (Outside Type)	
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 capability       Serew Extractor Set         Serew Extractor Set       Set Covers         Sang Ring Pliers Set - external       Soldering Gun         Soldering Gun       Soldering Ion (Pencil Tip) Spark Plug Boot Puller         Tap and Die Set	Oil Can - Pump Type	
Parts Cleaning Tank and Gloves (non-solvent based cleanser suggested) Remote Starter SwitchScan Tool (OBDII w/CAN capability) or Personal Computer (PC) with equivalent Interface capabilityScrew Extractor SetSeat CoversSarpentine Belt Tensioner ToolsSnap Ring Pliers Set - externalSnap Ring Pliers Set - internalSoldering from (Pencil Tip) Spark Plug Boot PullerTap and Die Set $\rightarrow$ Standard $\rightarrow$ MetricTemperature Sensing DeviceThread Repair Insert KitTree Inflator ChuckTrouble/Work Lights (Fluorescent Preferred)Tubie Quick Disconnect Tool SetTubing Cutter/Flaring Set (Double-lap and ISO) Twist Drill Set $\rightarrow 1/64^n - 1/2^n$ Ultra Violet Leak Detection Device (Black Light)Used Oil Receptacle with extension neck and funnelValve Core Removing Tool Vernier Calipers	Oil Filter Wrench	
Scan Tool (OBDII w/CAN capability) or Personal Computer (PC) with equivalent Interface capability         Screw Extractor Set         Seat Covers         Serpentine Belt Tensioner Tools         Snap Ring Pliers Set - external         Snap Ring Pliers Set - internal         Soldering Gun         Soldering from (Pencil Tip) Spark Plug Boot Puller         Tap and Die Set $\rightarrow$ Standard $\rightarrow$ Metric         Temperature Sensing Device         Thread Repair Insert Kit         Tire Inflator Chuck         Tube Quick Disconnect Tool Set         Tube Quick Disconnect Tool Set         Tubing Bender         Tubing Bender         Ultra Violet Leak Detection Device (Black Light)         Ultra Violet Cent Removing Tool Vernier Calipers	Oxy-Acetylene Torch Set	
Screw Extractor SetSet CoversSerpentine Belt Tensioner ToolsSnap Ring Pliers Set - externalSnap Ring Pliers Set - internalSoldering GunSoldering Iron (Pencil Tip) Spark Plug Boot PullerTap and Die Set $\rightarrow$ MetricTemperature Sensing DeviceThread Repair Insert KitTire Inflator ChuckTouble/Work Lights (Fluorescent Preferred)Tube Quick Disconnect Tool SetTubing BenderTubing Cutter/Flaring Set (Double-lap and ISO) Twist Drill Set $\rightarrow 1/64^{\circ} - 1/2^{\circ}$ Ultra Violet Leak Detection Device (Black Light)Used Oil Receptacle with extension neck and funnelValve Core Removing Tool Vernier Calipers	Parts Cleaning Tank and Gloves (non-solvent based cleanser suggested) Remote Starter Switch	
Screw Extractor SetSet CoversSerpentine Belt Tensioner ToolsSnap Ring Pliers Set - externalSnap Ring Pliers Set - internalSoldering GunSoldering Iron (Pencil Tip) Spark Plug Boot PullerTap and Die Set $\rightarrow$ MetricTemperature Sensing DeviceThread Repair Insert KitTire Inflator ChuckTouble/Work Lights (Fluorescent Preferred)Tube Quick Disconnect Tool SetTubing BenderTubing Cutter/Flaring Set (Double-lap and ISO) Twist Drill Set $\rightarrow 1/64^{\circ} - 1/2^{\circ}$ Ultra Violet Leak Detection Device (Black Light)Used Oil Receptacle with extension neck and funnelValve Core Removing Tool Vernier Calipers	Scan Tool (OBDII w/CAN capability) or Personal Computer (PC) with equivalent Interface capability	
Serpentine Belt Tensioner ToolsSerpentine Belt Tensioner ToolsSnap Ring Pliers Set - externalSnap Ring Pliers Set - externalSoldering GunSoldering GunSoldering Iron (Pencil Tip) Spark Plug Boot Puller $\blacksquare$ Tap and Die Set $\blacksquare$ $\rightarrow$ Standard $\blacksquare$ $\rightarrow$ Metric $\blacksquare$ Temperature Sensing Device $\blacksquare$ Thread Repair Insert Kit $\blacksquare$ Tire Inflator Chuck $\blacksquare$ Tube Quick Disconnect Tool Set $\blacksquare$ Tubing Bender $\blacksquare$ Tubing Cutter/Flaring Set (Double-lap and ISO) Twist Drill Set $\blacksquare$ $\rightarrow 1/64" - 1/2"$ $\blacksquare$ Ultra Violet Leak Detection Device (Black Light) $\blacksquare$ Used Oil Receptacle with extension neck and funnel $\blacksquare$ Valve Core Removing Tool Vernier Calipers $\blacksquare$		
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Snap Ring Pliers Set - internalSoldering GunSoldering Iron (Pencil Tip) Spark Plug Boot PullerTap and Die Set $\rightarrow$ Standard $\rightarrow$ MetricTemperature Sensing DeviceThread Repair Insert KitTire Inflator ChuckTrouble/Work Lights (Fluorescent Preferred)Tubing BenderTubing Cutter/Flaring Set (Double-lap and ISO) Twist Drill Set $\rightarrow 1/64^n - 1/2^n$ Ultra Violet Leak Detection Device (Black Light)Used Oil Receptacle with extension neck and funnelValve Core Removing Tool Vernier Calipers	Serpentine Belt Tensioner Tools	
Soldering Gun       Soldering Iron (Pencil Tip) Spark Plug Boot Puller         Tap and Die Set $\rightarrow$ Standard $\rightarrow$ Standard       Image: Standard $\rightarrow$ Metric       Image: Standard         Temperature Sensing Device       Image: Standard         Time Inflator Chuck       Image: Standard         Trouble/Work Lights (Fluorescent Preferred)       Image: Standard         Tube Quick Disconnect Tool Set       Image: Standard         Tubing Bender       Image: Standard         Tubing Cutter/Flaring Set (Double-lap and ISO) Twist Drill Set       Image: Standard $\rightarrow$ I/64" - 1/2"       Image: Standard         Ultra Violet Leak Detection Device (Black Light)       Image: Standard         Used Oil Receptacle with extension neck and funnel       Image: Standard         Valve Core Removing Tool Vernier Calipers       Image: Standard	Snap Ring Pliers Set - external	
Soldering Iron (Pencil Tip) Spark Plug Boot Puller         Tap and Die Set $\rightarrow$ Standard $\rightarrow$ Metric         Temperature Sensing Device         Thread Repair Insert Kit         Tire Inflator Chuck         Touble/Work Lights (Fluorescent Preferred)         Tube Quick Disconnect Tool Set         Tubing Bender         Tubing Cutter/Flaring Set (Double-lap and ISO) Twist Drill Set $\rightarrow 1/64" - 1/2"$ Ultra Violet Leak Detection Device (Black Light)         Used Oil Receptacle with extension neck and funnel         Valve Core Removing Tool Vernier Calipers	Snap Ring Pliers Set - internal	
Tap and Die Set $\rightarrow$ Standard $\rightarrow$ Metric $\rightarrow$ Metric         Temperature Sensing Device $\rightarrow$ Metric         Thread Repair Insert Kit $\rightarrow$ Metric         Tire Inflator Chuck $\rightarrow$ Metric         Touble/Work Lights (Fluorescent Preferred) $\rightarrow$ Metric         Tube Quick Disconnect Tool Set $\rightarrow$ Metric         Tubing Bender $\rightarrow$ 1/64" - 1/2"         Ultra Violet Leak Detection Device (Black Light) $\rightarrow$ Ultra Violet Leak Detection neck and funnel         Valve Core Removing Tool Vernier Calipers $\rightarrow$ Metric	Soldering Gun	
$\rightarrow$ Standard $\rightarrow$ MetricTemperature Sensing DeviceImage: Constraint of the sensition of the sensitic of the sensitic of the sensitic of the sensitic of the sen	Soldering Iron (Pencil Tip) Spark Plug Boot Puller	
$\rightarrow$ MetricImage: Constraint of the set o	Tap and Die Set	
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Thread Repair Insert Kit       Image: Constraint of the second sec	$\rightarrow$ Metric	
Tire Inflator ChuckImage: Character of the second sec	Temperature Sensing Device	
Trouble/Work Lights (Fluorescent Preferred)Image: Constraint of the second	Thread Repair Insert Kit	
Tube Quick Disconnect Tool Set       Image: Constant of the set of th	Tire Inflator Chuck	
Tubing Bender       Image: Cutter/Flaring Set (Double-lap and ISO) Twist Drill Set $\rightarrow 1/64" - 1/2"$ Image: Cutter/Flaring Set (Double-lap and ISO) Twist Drill Set $\rightarrow 1/64" - 1/2"$ Image: Cutter/Flaring Set (Double-lap and ISO) Twist Drill Set         Ultra Violet Leak Detection Device (Black Light)       Image: Cutter/Flaring Set (Double-lap and Flaring Set (Double-lap and ISO) Twist Drill Set         Ultra Violet Leak Detection Device (Black Light)       Image: Cutter/Flaring Set (Double-lap and Flaring Set (Double-lap and Flaring Set (Double-lap and Flaring Set (Double-lap and Set (Double	Trouble/Work Lights (Fluorescent Preferred)	
Tubing Cutter/Flaring Set (Double-lap and ISO) Twist Drill Set $\rightarrow$ 1/64" - 1/2"         Ultra Violet Leak Detection Device (Black Light)       Used Oil Receptacle with extension neck and funnel         Valve Core Removing Tool Vernier Calipers       Used Oil Receptacle with extension neck and funnel	Tube Quick Disconnect Tool Set	
→ 1/64" - 1/2"       Image: Constraint of the second	Tubing Bender	
Ultra Violet Leak Detection Device (Black Light)	Tubing Cutter/Flaring Set (Double-lap and ISO) Twist Drill Set	
Used Oil Receptacle with extension neck and funnel Valve Core Removing Tool Vernier Calipers	$\rightarrow 1/64$ " - 1/2"	
Valve Core Removing Tool Vernier Calipers		
	Valve Core Removing Tool Vernier Calipers	
$\rightarrow$ 0 - 125mm Wheel Chocks	$\rightarrow 0$ - 125mm Wheel Chocks	
Workbenches with vises	Workbenches with vises	
Ball Joint Press and other Special Tools	Ball Joint Press and other Special Tools	

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Automotive Technologies

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Recommended Equipment and Software	
Item	Notes
Brake Pedal Depressor	
Bushing Driver Set	
Coil Spring Compressor Tool	
Constant Velocity Joint (CV) Service Tools:	
Boot Installation Tool	
Boot Clamp Pliers or Crimping Ring	
Chassis Ear (recommended)	
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 Column Special Tool Set (appropriate for teaching units being utilized)	
Tie Rod Puller	
Tire Mounting Machine (rim clamp type)	
Tire Patching Tools and Supplies	
Wheel Alignment Equipment-4 wheel (including alignment tools)	
Wheel Balancer - Electronic Type	
Wheel Weight Pliers	
Tire Pressure Monitor System (TPMS) (servicing tools)	
Bearing Seal and Race Driver Set	
Brake Bleeder, Pressure or Vacuum	
Brake Disc Micrometer	
Brake Drum Micrometer and Calibration Equipment	
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	
A/C Compressor Clutch Service Tools	
A/C Service Port Adapter Set	
Dye Injector	
Hygrometer	
Leak Detector (SAE Standard)	
Manifold Gauge Set or equivalent (HFC-134a)	
Refrigerant Charging Station (HFC-134a) or equivalent	
Refrigerant Identification Equipment	
Refrigerant Recovery/Recycling Machine (HFC-134a)	
Thermometer	
Four or Five Gas Exhaust Analyzer (Five Gas Recommended)	

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Recommended Equipment and Software	
Item	Notes
Fuel Injection Pressure Gauge Sets with Adapters	
Injector Pulse Tester	
Leak Detector (Smoke or Nitrogen)	
Logic Probe (suggested)	
Oxygen Sensor Socket	
Pinch-off Pliers	
Sending Unit Socket(s)	
Spark Plug Thread Tap	
Spark Tester	
Timing Advance Light	
Vacuum/Pressure Gauge	
Differential Setup Tools (appropriate for units being taught)	
Hydraulic Pressure Gauge Set	
Front Wheel Drive Engine Support Fixture	
Transaxle Removal and Installation Equipment	
Transmission Jack(s)	
Transmission/Transaxle Flushing Equipment (recommended)	
Transmission/Transaxle Holding Fixtures	
Transmission/Transaxle Special Tool Sets (appropriate for units being utilized)	
Axle Nut Socket Set (or equivalent)	
Clutch Alignment Set	
Clutch Pilot Bearing/Bushing Puller/Installer	
Differential Setup Tools (appropriate for units being taught)	
Front Wheel Drive Engine Support Fixture	
Rotating Torque Wrench (beam-type or equivalent)	
Transaxle Removal and Installation Equipment	
Special Tools for Transmissions/Transaxles (appropriate for units being taught)	
Transmission/Transaxle Holding Fixtures	
Transmission Jack(s) Universal Joint Tools	
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	
Ball (Small Hole) Gauges	
Cam Bearing Driver Set (suggested)	
Camshaft Holding Tool (appropriate for units being taught)	
Cylinder Deglazer	
Dial Bore Indicator	
Antifreeze/Coolant Tester Engine Stands/Benches	
Inside Micrometer Set:	
→ 0 - 6"	
$\rightarrow$ 0 - 125mm Oil Pressure Gauge Outside Micrometer Set:	
$\rightarrow 0 - 6$ "	

### Recommended Equipment List

### Program:

CIP#:

NOTE: The following items and descriptions are the recommended equipment guidelines for each CTE program. Please note that this list of recommended items does not necessarily need to be supported financially by Federal Perkins or State Priority funding sources. In many cases, local school district funds are used to purchase items on a regular basis (i.e. furniture, consumables, etc.) Further, please understand that this is not an exhaustive list. Local program and business needs may necessitate the purchase of additional equipment and software resources, as may the rapidly-changing nature of the industry-specific technologies used in the program.

Please contact ADE-CTE Program Specialist if you have questions regarding the appropriateness of any item you are considering for addition to your CTE program

Recommended Equipment and Software	
Item	Notes
→ 0 - 125mm	
Portable Crane - 1/2 Ton	
Ring Compressor	
Ring Expander	
Ring Groove Cleaner	
Straight Edge	
Telescopic Gauge Set	
Torque Angle Gauge	
Transaxle Removal and Installation Equipment	
V-Blocks	
Valve Spring Compressor	
Valve Spring Tester	