

Introduction to Automotive Service

Tools and Equipment

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Introduction to Automotive Service

Hand Tools

- Owning a set of tools is normally a condition of employment
- Starter sets cost \$2000 to \$3000
- Many technicians have in excess of \$10,000 invested in tools
- Quality tools increase productivity and safety



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Wrenches

- Open end
- Box end
 - 6 point and 12 point
- Combination
- Flare nut or tubing
- Allen
- Adjustable



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Socket Sets


- Sockets
 - drive sizes
 - standard and deep
 - 6 point and 12 point
 - universal joint style
- Ratchets
- Extensions
- Universal joints



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Torque Wrenches


- Measures twisting force
- Dial type
- Click type
- Beam type
- Electronic type
- Torque angle gauge



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Pliers


- Slip joint
- Adjustable joint
- Needle nose
- Diagonal cutters
- Wire strippers
- Duck bill
- Vise-Grip
- Snap ring



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Screwdrivers

- Drive Types
 - flat blade
 - Phillips
 - POSIDRIV
 - Torx
- Shank length
- Screw starter
- Impact screwdriver



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Punches and Chisels

- Chisels
- Chisel Holder
- Center punch
- Pin punch
- Tapered punch
- Brass or Bronze drift
- Punch and chisel sets



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Hammers

- Ball Peen
 - head weight
- Brass or bronze face
- Dead blow
- Plastic face
- Rubber mallet
- Sledge



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Miscellaneous Tools

- Safety glasses
- Test light
- Oil filter wrench or pliers
- Files
- Hacksaw
- Mirrors
- Pickup tools



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Brake Service Tools


- Caliper socket set
- Brake shoe hold down spring tool
- Return spring tool
- Bleeder wrenches
- Caliper piston compression tool



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Air Tools


- Impact wrenches
 - 1/2" drive
 - 3/8" drive
- Air Ratchets
 - 3/8" drive
 - 1/4" drive
- Drills
- Die grinders
- Air hammers



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Test Equipment


- Volt, amp and ohm meters
 - digital verses analog
- Battery, charging and starting system test equipment
- Scan tools
- Infrared analyzers
- AC leak detection equipment



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Pressure Gauges

- Compression
- Fuel pressure
- Engine oil pressure
- Transmission fluid pressure
- Power steering pressure
- Tire pressure
- Manifold vacuum and pressure
- AC system pressure



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Soldering Guns and Irons

- Commonly rated in watts
 - high heat
 - low heat
- Flux
 - rosin core solder
 - acid core solder
- Heat the material being soldered to melt the solder

