

# **Required Tools for BYUI Automotive Lab Courses**

Students are required to buy their own tools. Listed below are the 'Basic Tools' that are needed by everyone who enrolls in an automotive lab. Other tools are required for each course you take (see below).

## **BASIC TOOLS – for all automotive labs**

- Metric 6-point socket set, 1/4", & 3/8" drive (shallow & deep sockets, extensions & ratchets) (5mm-21mm)
- Metric hex (Allen) socket Set (3mm-10mm)
- Torx socket set: male T8 - T55
- Socket adaptor set (Matco #SRA5TB or equiv)
- Metric Combination Wrench Set 7mm - 19mm
- 9" needle-nose locking pliers (Vice Grip or equiv)
- Flat Blade Screwdrivers 3/16", 1/4", & 3/8"
- Phillips Screwdrivers #1, #2, & #3
- Needle-nose pliers (6" or longer)
- Groove-joint pliers (10" or longer)
- Diagonal cutter pliers (6" or longer)
- Flash light (pocket-size)
- Safety glasses (purchase through office)
- Magnet with telescoping handle
- 20" 3-drawer tool box (Maximum size=21"x12"x9")  
(Examples: Excel TB133-Red or GearWrench 83151)

## **AUTO 131L: Electrical Systems**

- Basic tools, plus:*
- Digital multimeter (VC99 or PDI DM930)
- 12-volt test light (with a light bulb, not an LED)
- Wire stripper/crimper pliers
- T-pins for back-probing (can purchase through office)
- Trim panel removal tool

## **AUTO 132L: Engine Performance**

- Basic tools, AUTO 131L tools, plus:*
- Spark tester w/ adjustable gap (Thexton #THE404 or equiv)
- 5/8" Spark Plug Socket (included in some socket sets)
- Feeler gauge set – down to .0015"
- OBD II scan tool & data logger (OBD Link SX)

## **AUTO 155L: Chassis Systems**

- Basic tools, plus:*
- Flare (tubing) wrenches: 10mm, 13mm
- Magnetic tool/parts tray
- Punch & chisel set (4 piece or more)
- Coveralls or shop coat (clean, dark color, no holes)

## **AUTO 365: Automatic Transmissions**

- Basic tools, AUTO 155L, 131L tools, plus:*
- Snap ring pliers: (Matco #TP17 or equiv)
- Snap Ring pliers: (Matco #TP16A or equiv)
- Pick Set: 4 piece: (Matco #HP50 or HP5G or equiv)

*Other labs not listed here require the same tools as their prerequisite courses.*

**Optional Tools (All tools stored on campus must fit inside your 20" toolbox. Additional tools must be stored off-campus.)**

- 1/2" drive air impact wrench
- 3/8" drive impact wrench
- Air ratchet 3/8" drive
- Air ratchet 1/4" drive
- Air fitting - Milton 727 or equiv (for all air tools)
- 1/2" drive impact socket set, (metric)
- 3/8" drive impact socket set (metric)
- Compression gauge set
- Cylinder leakage tester
- Low amp probe: (PDI CA60 or equiv)
- High amp probe (PDI CA600 or equiv)
- Soldering gun: Weller 8200 or equiv.
- Heat gun
- Memory saver—with OBD II connector
- Torque wrench (inch-pounds)
- Multi-meter leads with interchangeable ends: Fluke TLK282 or equiv.
- Fender cover
- Seat cover
- Hack saw
- Scan tool
- Lab scope (Pico scope or equivalent)

**Please purchase quality tools; they will cost you less money in the long-run. During the first week of each semester tool vendors will be at BYUI to offer tools at discounted prices to students.**