

## SMALL GASOLINE ENGINES CDE Required Tools Checklist

TEAM: \_\_\_\_\_

The following is a list of tools that **MUST** be in the toolbox in order to properly repair the engine. Additional tools selected by the teams are permitted in the tool box.

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|---|---|
| _____ Two "C" clamps (minimum 4" capacity)        | _____ ½" drive ratchet or breaker bar         |
| _____ Securable tool box                          | _____ 6" (minimum) 3/8" ratchet extension     |
| _____ Slip-joint pliers                           | _____ Long-nose pliers                        |
| _____ B&S 19368 spark tester*                     | _____ Torque wrench (ft. lb.) capable of      |
| _____ 5/8" Spark plug socket                      | torquing the flywheel nut                     |
| _____ Torque wrench (220 in. lb. capacity)        | _____ Screwdriver, – #2 Phillips              |
| _____ B&S #19389 inductive digital                | _____ Screwdriver, – Slotted, minimum 3/16"   |
| tachometer or similar                             | tip width                                     |
| _____ Leaf type feeler gage                       | _____ B&S 19545 leak down tester w/bolt to    |
| _____ B&S #381573EN Service & Repair              | lock crankshaft*                              |
| Instructions ^                                    | _____ Round wire gauge/bender for spark       |
| _____ B&S 19480 tang bending tool*                | plugs   |
| _____ Soft-faced hammer (no rubber mallets)       | _____ Equipment to repair rewind starter      |
| _____ B&S #19433 Strap Wrench Flywheel            | _____ Tools to unplug fuel lines and fuel     |
| holder (or equivalent)                            | passages                                      |
| _____ B&S #19203 Flywheel puller                  | _____ B&S 19057 bushing driver                |
| _____ 2- or 3-jawed gear puller, 8" capacity      | _____ Metric socket set(s) including, but not |
| _____ Plastic drinking straw                      | limited to 8mm-14mm sockets and appropriate   |
| _____ Flashlight – ( <b>NO</b> Phone Flashlights) | ratchet/breaker bar                           |
| _____ ½" drive, 21 mm deep well socket for        | _____ 7/16 inch and 12mm wrench               |
| flywheel nut or 3/8" drive, 21 mm deep well       | _____ B&S 19620 fuel line removal             |
| socket with ½" drive adapter.                     |   |

Deduct 5 points for each missing item

Total Deductions \_\_\_\_\_

Additional tools are permitted. No deductions for additional tools will be made.

^The B&S #381573EN Repair Manual is the only reference material permitted with the toolbox. A 10-point deduction will be assessed for each page or part thereof for any other reference materials or notes.

\*These are current tool numbers. Some part numbers have changed as versions of the tool has changed. As long as tool is a B&S product and will work properly for this model engine it will be permitted.

Spare parts are not allowed. There will be a 25 pt. deduction for each spare part.

## SMALL GAS ENGINES CDE Suggested Tools

The following is a list of suggested tools that should be considered when repairing your engines. These tools are not required and will not be scored for deductions.

\_\_\_\_\_ Calculator

\_\_\_\_\_ Oil Rags

\_\_\_\_\_ Writing Utensil