

**NATEF AUTOMOTIVE TASK LIST**  
**AUT 106 - INTERMEDIATE ENGINE REPAIR**

TERM \_\_\_\_\_  
INSTRUCTOR: \_\_\_\_\_

SID: \_\_\_\_\_  
NAME: \_\_\_\_\_

**For every task in Engine Repair, the following safety requirement must be strictly enforced:  
Comply with personal and environmental safety practices associated with clothing; eye protection; hand tools; power equipment; proper ventilation; and the handling, storage and disposal of chemicals/materials in accordance with local, state and federal safety and environmental regulations.**

<b><u>Task Code</u></b>	<b><u>Task</u></b>	<b><u>Priority</u></b>
<b><u>C. Engine Block Diagnosis and Repair</u></b>		
1.C.1	Remove, inspect, or replace crankshaft vibration damper (harmonic balancer).	P-2
1.C.2	Disassemble engine block; clean and prepare components for inspection and reassembly	P-1
1.C.3	Inspect engine block for visible cracks, passage condition, core and gallery plug condition, and surface warpage; determine necessary action.	P-2
1.C.4	Inspect and measure cylinder walls/sleeves for damage, wear and ridges; determine necessary action..	P-2
1.C.5	Deglaze and clean cylinder walls	P-2
1.C.6	Inspect and measure camshaft bearings for wear, damage, out-of-round, and alignment; determine necessary action.	P-3
1.C.7	Inspect crankshaft for end play, straightness, journal damage, keyway damage, thrust flange and sealing surface condition and visual surface cracks; check oil passage condition; measure end play and journal wear; check crankshaft position sensor reluctor ring (where applicable); determine necessary action.	P-1
1.C.8	Inspect and measure main and connecting rod bearings for damage and wear, determine necessary action.	P-2
1.C.9	Identify piston and bearing wear patterns that indicate connecting rod alignment and main bearing bore problems; determine necessary action	P-3
1.C.10	Inspect and measure piston skirts and ring lands; determine necessary action.	P-2
1.C.11	Determine piston-to-bore clearance.	P-2
1.C.12	Inspect, measure, and install piston rings.	P-2
1.C.13	Inspect auxiliary shaft (s) (balance, intermediate, idler, counterbalance or silencer); inspect shaft(s) and support bearings for damage and wear; determine necessary action; reinstall and time;	P-2
1.C.14	Assemble engine block assembly.	P-1

## **D. Lubrication and Cooling Systems Diagnosis and Repair**

1.D.1	Perform cooling system pressure tests and dye tests to identify leaks: check coolant condition and level; inspect and test radiator, pressure cap, coolant recovery tank, heater core and galley plugs; determine necessary action.	P-1
1.D.2	Identify causes of engine overheating.	P-1
1.D.3	Inspect, replace and adjust drive belts, tensioners and pulleys; check pulley and belt alignment.	P-1
1.D.4	Inspect and test coolant; drain and recover coolant; flush and refill cooling system with recommended coolant; bleed air as required.	P-1
1.D.5	Inspect, remove and replace water pump.	P-2
1.D.6	Remove and replace radiator.	P-2
1.D.7	Remove, inspect, and replace thermostat and gasket/seal.	P-1
1.D.8	Inspect and test fan(s) (electrical or mechanical), fan clutch, fan shroud and air dams.	P-1
1.D.9	Perform oil pressure tests; determine necessary action.	P-1
1.D.10	Perform oil and filter change.	P-1
1.D.11	Inspect auxiliary oil coolers; determine necessary action.	P-3
1.D.12	Inspect, test and replace oil temperature and pressure switches and sensors.	P-2
1.D.13	Inspect oil pump gears or rotors, housing, pressure relief devices and pump drive; perform necessary action.	P-2