

ENGINE REPAIR

ACS 11

Instructor's Name

Lab Tech.

Fall 2009

Competency Ratings

3 SATISFACTORY PERFORMANCE

2 PASSING (WITH DEFICIENCIES)

1 UNSATISFACTORY

BLANK – MATERIAL NOT COVERED in Class / Performed during internship

Column 1 represents the student competencies being assessed by the corresponding tasks

Corresponding student Assessment	NAMES																														
<i>General Engine Diagnosis; Removal and Reinstallation (R&R)</i>																															
1. Identify and interpret engine concern; determine necessary action. P-1	B D																														
2. Research applicable vehicle and service information, such as internal engine operation, vehicle service history, service precautions, and technical service bulletins. P-1	B F																														
3. Locate and interpret vehicle and major component identification numbers (VIN, vehicle certification labels, and calibration decals). P-1	B F																														

<p>cylinder head(s) for cracks; check gasket surface areas for warpage and leakage; check passage condition. P-2</p>																													
<p>2. Install cylinder heads and gaskets; tighten according to manufacturer's specifications and procedures. P-1</p>	B D E F																												
<p>3. Inspect valve springs for squareness and free height comparison; determine necessary action. P-2</p>	B D E F																												
<p>4. Replace valve stem seals on an assembled engine; inspect valve spring retainers, locks, and valve grooves; determine necessary action. P-2</p>	B D E																												
<p>5. Inspect valve guides for wear; check valve stem-to-guide clearance; determine necessary action. P-3</p>	B F																												
<p>6. Inspect valves and valve seats; determine necessary action. P-3</p>	B F																												
<p>7. Check valve face-to-seat contact and valve seat concentricity (runout); determine necessary action. P-3</p>	A C D E																												
<p>8. Check valve spring assembled height and valve stem height; determine necessary action. P-3</p>	A C D E																												
<p>9. Inspect pushrods, rocker arms, rocker arm pivots and shafts for wear, bending, cracks, looseness, and blocked oil passages</p>	B D F																												

<p>3. Inspect internal and external threads; restore as needed (includes installing thread inserts). P-2</p>	<p>D C</p>																										
<p>4. Inspect and measure cylinder walls for damage, wear, and ridges; determine necessary action. P-2</p>	<p>D C</p>																										
<p>5. Deglaze and clean cylinder walls. P-2</p>	<p>D C</p>																										
<p>6. Inspect and measure camshaft bearings for wear, damage, out-of-round, and alignment; determine necessary action. P-3</p>	<p>D C E</p>																										
<p>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 journal wear; check crankshaft sensor reluctor ring (where applicable); determine necessary action. P-2</p>	<p>D C E</p>																										
<p>8. Inspect and measure main and connecting rod bearings for damage, clearance, and end play; determine necessary action (includes the proper selection of bearings). P-2</p>	<p>D C E</p>																										
<p>9. Identify piston and bearing wear patterns that indicate connecting rod alignment and main bearing bore problems; inspect rod alignment and bearing bore condition. P-3</p>	<p>D E F</p>																										
<p>10. Inspect and measure pistons; determine necessary action. P-2</p>	<p>D E F</p>																										
<p>11. Remove and replace piston pin. P-3</p>	<p>C</p>																										

