Troubleshooting Engine Performance

Problem	Cause	Solution
Power not up to normal (cont.)	• Incorrect spark plug gap	• Adjust gap
	• Faulty fuel pump	• Replace fuel pump
	• Faulty fuel pump	• Replace fuel pump
	• Incorrect valve timing	• Check valve timing and repair as necessary
	• Faulty ignition coil	• Test coil and replace as necessary
	• Faulty ignition wires	• Test wires and replace as necessary
	• Improperly seated valves	• Test cylinder compression and repair as necessary
	• Blown cylinder head gasket	• Replace gasket
	• Leaking piston rings	• Test compression and repair as necessary
	• Improper feedback system operation	• Refer to Chapter 4
Intake backfire	• Improper ignition timing	• Adjust timing
	• Defective EGR component	• Repair as necessary
	• Defective TAC vacuum motor or valve	• Repair as necessary
Exhaust backfire	• Air leak into manifold vacuum	• Check manifold vacuum and repair as necessary
	• Faulty air injection diverter valve	• Test diverter valve and replace as necessary
	• Exhaust leak	• Locate and eliminate leak
Ping or spark knock	• Incorrect ignition timing	• Adjust timing
	• Distributor advance malfunction	• Inspect advance mechanism and repair as necessary (Distributor systems only)
	• Excessive combustion chamber deposits	• Remove with combustion chamber cleaner
	• Air leak into manifold vacuum	• Check manifold vacuum and repair as necessary
	• Excessively high compression	• Test compression and repair as necessary
	• Fuel octane rating excessively low	• Try alternate fuel source
	• Sharp edges in combustion chamber	• Grind smooth
	• EGR valve not functioning properly	• Test EGR system and replace as necessary
Surging (at cruising to top speeds)	• Low fuel pump pressure or volume	• Replace fuel pump
	• Improper PCV valve air flow	• Test PCV valve and replace as necessary
	• Air leak into manifold vacuum	• Check manifold vacuum and repair as necessary
	• Incorrect spark advance	• Test and replace as necessary
	• Restricted fuel filter	• Replace fuel filter
	• Restricted air cleaner	• Clean or replace air cleaner filter element
	• EGR valve not functioning properly	• Test EGR system and replace as necessary
	• Improper feedback system operation	• Refer to Chapter 4