TROUBLESHOOTING ENGINE OVERHEATING

Problem	Possible cause	Remedy	Page
Engine overheats	Cooling system faulty	Troubleshoot cooling system	CO–5
	Incorrect ignition timing	Reset timing	IG–25, 29, 37

HARD STARTING

Problem	Possible cause	Remedy	Page
Engine will not crank or cranks slowly	Starting system faulty	Troubleshoot starting system	ST-2
Engine will not start/ hard to start (cranks OK)	 No fuel supply to injector: No fuel in tank Fuel pump not working Fuel filter clogged Fuel line clogged or leaking MFI and SFI system problems 	Troubleshoot MFI and SFI system	FI-13
	 Ignition problems: Ignition coil Igniter Distributor Spark plug faulty 	Repair as necessary Perform spark test	I G – 6, 10, 15
	 High-tension cords disconnected or broken Vacuum leaks: PCV line EGR line Intake manifold T-VIS valve (3S-GTE) Throttle body IAC valve (3S-GTE and 5S-FE) Brake booster line 	Inspect plugs ! nspect cords Repair as necessary	IG-7, 11, 16 IG-7, 11, 16
	Air suction between air flow meter and throttle body (3S–GTE) Low compression	Repair as necessary	
		Check compression	EM–31

ROUGH IDLING

Problem	Possible cause	Remedy	Page
Rough idle, stalls or misses	Spark plug faulty High–tension cord faulty Ignition problems: • Ignition coil	Inspect plugs Inspect cords	IG–7, 11, 16 IG–7, 11, 16
	 I g n iter Distributor Incorrect ignition timing Vacuum leaks: PCV line EGR line 9 Intake manifold 	Inspect coil Inspect igniter Inspect distributor Reset timing Repair as necessary	IG-8, 13, 17 IG-9, 14, 19 IG-9, 13, 18 IG-25, 29, 37

ROUGH IDLING (Cont'd)

ENGINE HESITATES/POOR ACCELERATION

Problem	Possible cause	Remedy	Page
Engine hesitates/ poor acceleration	Spark plug faulty High-tension cord faulty Vacuum leaks: • PCV line • EGR line • Intake manifold	Inspect plugs Inspect cords Repair as necessary	IG-7, 11, 16 IG-7, 11, 16
	 T–VIS valve (3S–GTE) Throttle body IAC valve (3S–GTE and 5S–FE) Brake booster line Air suction between volume air flow meter and throttle body (3S–GTE) 	Repair as necessary	
	Incorrect ignition timing Incorrect valve clearance Fuel system clogged Air cleaner clogged MFI and SFI system problems Emission control system problems: (cold engine) • EGR system always on	Reset timing Adjust valve clearance Check fuel system Check air cleaner Repair as necessary	IG-25, 29, 37 EM-13,17,22 MA-5
	Engine overheats Low compression	Check EGR system Check cooling system Check compression	EC9, 22, 38 CO5 EM31

ENGINE DIESELING

Problem	Possible cause	Remedy	Page
Engine diesels (runs after ignition switch is turned off)	MFI and SFI system problems Incorrect ignition timing EG R system faulty	Repair as necessary Reset timing Check EGR system	IG-25, 29, 37 EC-9, 22, 38

AFTER FIRE, BACKFIRE

Problem	Possible cause	Remedy	Page
Muffler explosion (after fire) on deceleration only	Deceleration fuel cut system always off	Check MFI and SFI (fuel cut) system	
Muffler explosion (after fire) all the time	Air cleaner clogged MR and SFI system problems Incorrect ignition timing	Check air cleaner Repair as necessary Reset timing	MA-5 IG-25, 29, 37
Engine backfires	 MFI and SFI system problems Vacuum leaks: PCV line EGR line Intake manifold T-VIS valve (3S-GTE) Throttle body IAC valve (3S-GTE and 5S-FE) Brake booster line Air suction between volume air flow meter and throttle body (3S-GTE) Insufficient fuel flow Incorrect ignition timing Incorrect valve clearance Carbon deposits in combustion chambers 	Repair as necessary Check hoses and repair as necessary Repair as necessary Troubleshoot fuel system Reset timing Adjust valve clearance Inspect cylinder head	FI-13 IG-25, 29, 37 EM-13,17,22 EM-92,127, 161

EXCESSIVE OIL CONSUMPTION

Problem	Possible cause	Remedy	Page
Excessive oil consumption	Oil leak PCV line clogged Piston ring worn or damaged	Repair as necessary Check PCV system Check rings	E M – 204, 244 289
	Valve stem and guide bushing worn	Check valves and guide bushing	EM–94,129, 163
	Valve stem oil seal worn	Check seals	

EXCESSIVE FUEL CONSUMPTION

Problem	Possible cause	Remedy	Page
Poor gasoline mileage	 Fuel leak Air cleaner clogged Incorrect ignition timing MFI and SFI system problems: Injector faulty Deceleration fuel cut system faulty Idle speed too high 	Repair as necessary Check air cleaner Reset timing Repair as necessary	MA–5 IG–25, 29, 37
	Spark plug faulty EG R system always on Low compression Tires improperly inflated Clutch slips Brakes drag	Check IAC system (3S–GTE and 5S–FE) Adjust idle speed (4A–FE) Inspect plugs Check EGR system Check compression Inflate tires to proper pressure Troubleshoot clutch Troubleshoot brakes	FI–208, 211 MA–8 IG–7, 11, 16 EC–9, 22, 38 EM–31

UNPLEASANT ODOR

Problem	Possible cause	Remedy	Page
Unpleasant odor	Incorrect idle speed Incorrect ignition timing Vacuum leaks: • PCV line • EGR line • Intake manifold • T–VIS valve (3S–GTE) • Throttle body • IAC valve (3S–GTE and 5S–FE) • Brake booster line MFI and SFI system problems	Check IAC system (3S–GTE and 5S–FE) Adjust idle Speed (4A–FE) Reset timing Repair as necessary Repair as necessary	FI –208, 211 MA–8 IG–25, 29, 37