

SECTION 2

TROUBLE SHOOTING

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2-1. ENGINE

Condition	Possible cause	Correction
<p>Poor starting (Hard starting)</p>	<p>Starter will not run</p> <ol style="list-style-type: none"> 1. Main fuse blown off 2. Contact not closing in main switch, or this switch open-circuited 3. Run-down battery 4. Defective magnetic switch of starter 5. Loose battery terminal connection 6. Defective brushes in starter 7. Loose battery cord connection 8. Open in field or armature circuit of starter <p>No sparking</p> <ol style="list-style-type: none"> 1. Defective spark plug 2. High tension cord short-circuited (grounded) 3. Cracked rotor or cap in distributor 4. Defective signal generator or ignitor 5. Maladjusted signal rotor air gap. 6. Contact not closing positively in main switch, or this switch open-circuited 7. Loose or blown fuse 8. Improper ignition timing 9. Defective ignition coil. <p>Faulty intake and exhaust systems</p> <ol style="list-style-type: none"> 1. Carburetor out of adjustment 2. Fuel pump not discharging adequately 3. Clogged fuel filter 4. Defective choke mechanism 5. Loose intake manifold 6. Dirty and clogged carburetor 7. Float level out of adjustment 8. Clogged fuel hose or pipe 9. Not enough fuel in the tank 10. Malfunctioning fuel cut solenoid valve <p>Abnormal engine internal condition</p> <ol style="list-style-type: none"> 1. Ruptured cylinder head gasket 2. Improper valve clearance 3. Weakened or broken valve spring 4. Loose manifold, permitting air to be drawn in 5. Worn pistons, rings or cylinders 	<p>Replace Repair or replace</p> <p>Recharge Replace Clean and retighten Replace Retighten Repair or replace</p> <p>Adjust gap, or replace Repair or replace Replace Replace Adjust Replace</p> <p>Set right or replace Adjust Replace</p> <p>Adjust Replace Clean, or replace Repair or replace Retighten Disassemble and clean Adjust Clean or replace Refill Check solenoid valve for proper operation and replace if necessary</p> <p>Replace Adjust Replace Retighten and, as necessary, replace gasket Replace worn rings and pistons and rebore as necessary</p>

Condition	Possible cause	Correction
<p>Poor starting (Hard starting)</p>	<p>6. Broken valve timing belt 7. Poor valve seating 8. Wrong kind of engine oil 9. Burnt valves 10. Sticky valve stem</p> <p>Emission control 1. Malfunctioning PCV valve 2. Loose connection or disconnection of vacuum hoses 3. ECM is poorly grounded</p>	<p>Replace Repair or replace Replace Replace Correct or replace valve and guide</p> <p>Replace. Connect securely.</p> <p>Ground ECM securely</p>
<p>Not enough power</p>	<p>Inadequate compression 1. Improper valve clearance 2. Valves not seating tight 3. Valve stems tending to seize 4. Broken or weakened valve spring 5. Piston rings seized in grooves, or broken 6. Worn pistons, rings or cylinders</p> <p>7. Leaky cylinder head gasket</p> <p>Improperly timed ignition 1. Improper ignition timing 2. Defective spark plug 3. Worn distributor terminals 4. Leaks, loose connection or disconnection of high tension cord 5. Malfunctioning ignition timing advancers</p> <p>Fuel system out of order 1. Clogged carburetor jets 2. Defective fuel pump 3. Clogged fuel filter 4. Malfunctioning choke system 5. Float level out of adjustment 6. Clogged fuel pipe 7. Clogged fuel tank outlet 8. Loose joint in fuel system</p> <p>Abnormal condition in air intake system 1. Air cleaner dirty and clogged 2. Poor returning motion of choke valve</p> <p>Overheating tendency of engine 1. (Refer to the section entitled "overheating.")</p>	<p>Adjust Repair Replace Replace Replace Replace worn parts and rebore as necessary Replace</p> <p>Adjust Adjust gap or replace Dress or replace Connect or replace as necessary Replace</p> <p>Disassemble and clean Repair or replace Replace Adjust or replace Adjust Clean or replace Clean Retighten</p> <p>Clean or replace Repair, adjust or replace</p>

Condition	Possible cause	Correction
<p>Not enough power</p>	<p>Emission control</p> <ol style="list-style-type: none"> 1. Malfunctioning EGR valve 2. Malfunctioning bowl vent solenoid valve. 3. Malfunctioning high altitude switch. 4. Malfunctioning throttle position switch (wide open switch) <p>Others</p> <ol style="list-style-type: none"> 1. Dragging brakes 2. Slipping clutch 	<p>Check and replace as necessary. Check and replace as necessary. Check and replace as necessary Check nad replace as necessary</p> <p>Repair or replace Adjust or replace</p>
<p>Engine hesitates (Momentary lack of response as the accelerator is depressed. Can occur at all car speeds. Usually most severe when first trying to make the car move, as from a stop sign.)</p>	<p>Abnormal condition in electrical systems</p> <ol style="list-style-type: none"> 1. Defective spark plug or plug gap out of adjustment 2. Cracked rotor or cap in distributor, resulting in leakage 3. Deteriorated ignition coil, or crack resulting in leakage 4. Leaky high-tension cords 5. Ignition timing out of adjustment <p>Abnormal condition in fuel system</p> <ol style="list-style-type: none"> 1. Improper adjustment of float level 2. Clogged carburetor jets 3. Malfunctioning accelerator pump 4. Inadequately discharging fuel pump <p>Abnormal condition in engine</p> <ol style="list-style-type: none"> 1. Loss of compression pressure due to leaky cylinder head gasket 2. Compression pressure too low because of worn pistons, rings, cylinders or burnt valves <p>Emission control</p> <ol style="list-style-type: none"> 1. Malfunctioning bowl vent solenoid valve 2. Malfunctioning throttle position switch (wide open switch) 3. Malfunctionnig high altitude switch 4. Malfunctioning EGR valve 5. Malfunctioning thermostatically controlled air cleaner 	<p>Replace or adjust gap</p> <p>Replace</p> <p>Replace</p> <p>Replace Adjust as prescribed</p> <p>Adjust Clean Check and replace as necessary Replace</p> <p>Replace</p> <p>Replace and rebores as necessary</p> <p>Check and replace as necessary Check and replace as necessary</p>

Condition	Possible cause	Correction
<p>Surges (Engine power variation under steady throttle or cruise. Feels like the car speeds up and down with no change in the accelerator pedal.)</p>	<p>Fuel system out of order</p> <ol style="list-style-type: none"> 1. Clogged fuel filter 2. Kinky, leaky or damaged fuel hoses and lines 3. Malfunctioning fuel pump 4. Leaky manifold and carburetor gaskets 5. Improper float level <p>Ignition system out of order</p> <ol style="list-style-type: none"> 1. Improper ignition timing 2. Malfunctioning ignition timing advancers (mechanical and vacuum) 3. Leaky or loosely connected high tension cord 4. Defective spark plug (excess carbon deposits, improper gap, burned electrodes, etc..) 5. Cracked rotor or cap in distributor <p>Emission control</p> <ol style="list-style-type: none"> 1. Malfunctioning bowl vent solenoid valve 2. Malfunctioning throttle position switch (wide open switch) 3. Malfunctioning high altitude switch 4. Malfunctioning EGR valve 5. Malfunctioning thermostatically controlled air cleaner 	<p>Replace Check and replace as necessary Check and replace as necessary Replace Adjust</p> <p>Adjust Check or replace</p> <p>Check and repair or replace Check and clean, adjust or replace Replace</p> <p>Check and replace as necessary Check and replace as necessary Check and replace as necessary Check and replace as necessary Check and replace as necessary.</p>
<p>Dieseling (Engine continues to run after ignition switch is turned off. it runs unevenly and may make knocking noise.)</p>	<p>Malfunctioning fuel cut solenoid valve in carburetor</p>	<p>Check solenoid valve for proper operation and replace as necessary</p>
<p>Erratic idling (Improper engine idling)</p>	<p>Abnormal condition in ignition system</p> <ol style="list-style-type: none"> 1. Defective spark plug 2. Leaky or disconnected high tension cord 3. Worn distributor terminals 4. Improper ignition timing 5. Cracked cap in distributor, leakage inside 	<p>Adjust or replace Connect or replace Replace Adjust Replace</p>

Condition	Possible cause	Correction
Erratic idling (Improper engine idling)	<p>Abnormal condition in fuel system</p> <ol style="list-style-type: none"> 1. Clogged carburetor jets 2. Incorrect idle adjustment 3. Clogged air cleaner element 4. Leaky manifold, carburetor or cylinder head gaskets 5. Improper float level 6. Malfunctioning choke system 7. Malfunctioning fuel cut solenoid valve <p>Others</p> <ol style="list-style-type: none"> 1. Loose connection or disconnection. of vacuum hoses 2. Malfunctioning PCV valve 3. Low compression 4. Loose carburetor and intake manifold bolts and nuts 5. Leaky carburetor and intake manifold gaskets 	<p>Clean Adjust Clean or replace Replace</p> <p>Adjust Adjust or replace Replace</p> <p>Connect</p> <p>Check and replace as necessary Previously outlined Tighten bolts and nuts</p> <p>Replace</p>
Abnormal detonation	<p>Abnormal condition in ignition system</p> <ol style="list-style-type: none"> 1. Spark plugs tending to overheat 2. Improper ignition timing 3. Loose connection in high-tension or low-tension circuit. <p>Abnormal condition in fuel system</p> <ol style="list-style-type: none"> 1. Clogged fuel filter and fuel lines 2. Clogged carburetor jets 3. Improper adjustment of float level 4. Malfunctioning fuel pump 5. Air inhaling from intake manifold and carburetor gaskets <p>Abnormal condition in engine</p> <ol style="list-style-type: none"> 1. Excessive carbon deposit on piston crowns or cylinder head 2. Blown cylinder head gasket, resulting in low compression pressure 3. Improper valve clearance 4. Valves tending to seize 5. Weakened valve springs <p>Others</p> <p>Malfunctioning EGR valve</p>	<p>Change plug heat value Adjust Retighten</p> <p>Replace or clean Clean Adjust Replace Replace</p> <p>Clean</p> <p>Replace</p> <p>Adjust Replace Replace</p> <p>Replace</p>

Condition	Possible cause	Correction
<p>Overheating</p>	<p>Abnormal condition in ignition system</p> <ol style="list-style-type: none"> 1. Improper ignition timing 2. Wrong heat value of spark plugs <p>Abnormal condition in fuel systems</p> <ol style="list-style-type: none"> 1. Float level set too low 2. Clogged jets in carburetor 3. Loose inlet manifold <p>Abnormal condition in cooling system</p> <ol style="list-style-type: none"> 1. Not enough coolant 2. Loose or broken fan belt 3. Erratically working thermostat 4. Poor water pump performance 5. Leaky radiator cores <p>Abnormal condition in lubrication system</p> <ol style="list-style-type: none"> 1. Clogged oil filter 2. Clogged oil strainer 3. Deteriorated oil pump performance 4. Oil leakage from oil pan or pump 5. Improper engine oil grade 6. Not enough oil in oil pan <p>Others</p> <ol style="list-style-type: none"> 1. Dragging brakes 2. Slipping clutch 3. Blown cylinder head gasket 	<p>Adjust Change heat value</p> <p>Adjust Clean Retighten</p> <p>Refill Adjust or replace Replace Replace Repair or replace</p> <p>Replace Clean Replace Repair Replace with proper grade oil Replenish</p> <p>Repair or replace Adjust or replace Replace</p>
<p>Engine noise Note: Before checking the mechanical noise, make sure that:</p> <ul style="list-style-type: none"> • Ignition timing is properly adjusted. • Specified spark plug is used. • Specified fuel is used. 	<p>Crankshaft noise</p> <ol style="list-style-type: none"> 1. Worn-down bearings, resulting in excessively large running clearances 2. Worn connecting-rod bearings 3. Distorted connecting rods 4. Worn crankshaft journals 5. Worn crankpins. <p>Noise due to pistons, rings, pins or cylinders</p> <ol style="list-style-type: none"> 1. Abnormally worn cylinder bores 2. Worn pistons, rings or pins 3. Pistons tending to seize 4. Broken piston rings <p>Others</p> <ol style="list-style-type: none"> 1. Excessively large camshaft thrust play 2. Excessively large crankshaft thrust clearance 3. Valve clearance too large 4. Not enough engine oil 	<p>Replace</p> <p>Replace Repair or replace Repair by grinding, or replace crankshaft Repair by grinding, or replace crankshaft</p> <p>Rebore to next oversize or replace Replace Replace Replace</p> <p>Replace Adjust as prescribed Adjust as prescribed Replenish</p>

Condition	Possible cause	Correction
<p>High fuel consumption</p>	<p>Abnormal condition ignition system</p> <ol style="list-style-type: none"> 1. Improper ignition timing 2. Leak or loose connection of high tension cord 3. Defective spark plug (improper gap, heavy deposits, and burned electrodes, etc..) 4. Cracked distributor cap or rotor 5. Malfunctioning mechanical and vacuum advancers in distributor <p>Abnormal condition in fuel system</p> <ol style="list-style-type: none"> 1. Improper float level 2. Fuel leakage from tank, pipe or carburetor 3. Malfunctioning carburetor choke system 4. Dirty or clogged carburetor jets 5. Clogged air cleaner element 6. Malfunctioning thermostatically controlled air cleaner <p>Abnormal condition in engine</p> <ol style="list-style-type: none"> 1. Low compression 2. Poor valve seating 3. Improper valve clearance <p>Emission control</p> <ol style="list-style-type: none"> 1. Air leaks at exhaust manifold 2. Oxygen sensor out of order 3. Water temperature switch out of order 4. Malfunctioning throttle position switch 5. Malfunctioning MCS (mixture control solenoid) valve in carburetor 6. Malfunctioning EGR valve <p>Others</p> <ol style="list-style-type: none"> 1. Dragging brakes 2. Slipping clutch 3. Improper tire pressure 	<p>Adjust Repair or replace Clean, adjust or replace</p> <p>Replace Check and repair or replace</p> <p>Adjust Repair or replace Repair or replace Clean Clean or replace Check and repair or replace</p> <p>Previously outlined Repair or replace Adjust</p> <p>Tighten manifold bolts and nuts. Replace gasket. Replace. Replace. Replace Replace</p> <p>Replace</p> <p>Repair or replace Adjust or replace Adjust</p>
<p>Excessive engine oil consumption</p>	<p>Oil leakage</p> <ol style="list-style-type: none"> 1. Loose oil drain plug 2. Loose oil pan securing bolts 3. Deteriorated or broken oil pan sealant 4. Leaky oil seals 5. Blown cylinder head gasket 6. Improper tightening of oil filter 7. Loose oil pressure switch 	<p>Tighten Tighten Replace sealant Replace Replace Tighten Tighten</p>

Condition	Possible cause	Correction
Excessive engine oil consumption	“Oil pumping” (Oil finding its way into combustion chambers.) 1. Sticky piston ring 2. Worn piston ring groove and ring 3. Worn pistons or cylinders Oil leakage along valve stems 1. Defective valve stem oil seals 2. Badly worn valve stem	Remove carbon and replace rings Replace piston and ring Replace pistons and rebore as necessary Replace Replace

2-2. CARBURETOR

Condition	Possible cause	Correction
Fuel overflow from carburetor	1. Float valve worn or dirty with foreign matter 2. Float level set too high 3. Float ruptured and containing some fuel 4. Broken or otherwise defective gasket 5. Loose float chamber securing screws	Clean or replace Adjust as prescribed Replace Replace Retighten

2-3. EXHAUST AND MUFFLER

Condition	Possible cause	Correction
Poor muffling performance	1. Loose exhaust pipe connection 2. Broken muffler gasket 3. Broken manifold, pipe or muffler 4. Exhaust manifold loose in place 5. Interference between body and muffler	Retighten Replace Repair or replace Retighten Repair, eliminating any contact

2-4. CLUTCH

Condition	Possible cause	Correction
Slipping clutch	1. Loss of clearance at the tip of release fork 2. Clutch facings dirty with oil 3. Clutch facings excessively worn 4. Weakened diaphragm spring 5. Distorted pressure plate or flywheel surface 6. Improper clutch pedal free travel	Adjust as prescribed Replace Replace Replace Replace Adjust and, as necessary, replace clutch facings

Condition	Possible cause	Correction
Dragging clutch	<ol style="list-style-type: none"> 1. Improper clutch pedal free travel 2. Weakened diaphragm spring, or worn spring tip 3. Damaged or worn splines of transmission input shaft 4. Front input shaft bearing worn or broken 5. Excessively wobbly clutch disc 6. Clutch facings broken or dirty with oil 	Adjust free travel Replace Replace Replace Replace Replace
Clutch vibration	<ol style="list-style-type: none"> 1. Glazed (glass-like) clutch facings 2. Clutch facings dirty with oil 3. Wobbly clutch disc, or poor facing contact 4. Weakened torsion springs (in clutchdisc) 5. Clutch disc rivets loose 6. Distorted pressure plate or flywheel surface 7. Weakened engine mounting or loosened mounting bolt or nut 	Repair or replace Replace Replace Replace Replace the disc Replace Retighten or replace
Noisy clutch	<ol style="list-style-type: none"> 1. Worn or broken release bearing 2. Front input shaft bearing worn down 3. Excessive rattle of clutch disc hub 4. Cracked clutch disc 5. Pressure plate and diaphragm spring rattling 	Replace Replace Replace the disc Replace Replace
Grabbing clutch	<ol style="list-style-type: none"> 1. Clutch facings soaked with oil 2. Excessively worn clutch facings 3. Rivet heads showing out of the facing 4. Weakened torsion springs 	Replace Replace Replace Replace

2-5. TRANSMISSION

Condition	Possible cause	Correction
Gears slipping out of mesh	<ol style="list-style-type: none"> 1. Worn shift fork shaft 2. Worn locating steel balls 3. Weakened springs for locating steel balls 4. Worn shift fork 5. Excessive rattle in thrust direction of gears 6. Worn ring or hub in synchronizers 7. Worn bearings of input shaft, main shaft or countershaft 	Replace Replace Replace Replace Replace Replace Replace
Gears refusing to dis-engage	<ol style="list-style-type: none"> 1. Weakened or broken synchronizer springs 2. Worn inner groove of synchronizer ring 3. Synchronizer ring seized on. the cone 4. Distorted shift fork shaft or shift fork 	Replace Replace Replace the ring Replace.

Condition	Possible cause	Correction
Excessive gear noise	<ol style="list-style-type: none"> 1. Not enough oil in transmission 2. Defective synchronizer 3. Gears rattling in thrust direction 4. Broken or worn bearings 5. Damaged or worn gears 	Replenish Replace Replace Replace Replace
Hard shifting	<ol style="list-style-type: none"> 1. Clutch pedal play too large, resulting in a "dragging clutch" 2. Worn clutch disc facings 3. Clutch disc facings dirty with oil. 4. Distorted or unevenly worn shift fork shaft 5. Broken locating balls 6. Worn synchronizer sleeve or ring 7. Worn synchronizer hub 	Adjust as prescribed Replace. Replace. Replace Replace Replace Replace

2-6. DIFFERENTIALS

C o n d i t i o n	Possible cause	Correction
Gear noise	<ol style="list-style-type: none"> 1. Maladjusted backlash between drive pinion and ring gear 2. Damaged gear teeth or improper mesh of drive pinion and ring gear 3. Improper tooth contact in the mesh between drive pinion and ring gear 4. Insufficient or wrong kind of gear oil 5. Ring gear wobbling when turning, or ring gear securing bolts loose 6. Broken or otherwise damaged teeth of side gears or differential pinion gears 	Adjust as prescribed Replace or adjust Adjust as prescribed Replenish or replace Replace, or retighten Replace
Bearing noise	<ol style="list-style-type: none"> 1. (Constant noise) Insufficient or wrong kind of gear oil 2. (Constant noise) Damaged or worn bearings or borne parts 3. (Noise during coasting) Damaged bearings of rear drive pinion 4. (Noise during turning) Broken bearings on axle shafts 	Replenish or change Replace. Replace Replace

2-7. PROPELLER SHAFTS

Condition	Possible cause	Correction
Vibration and noise	<ol style="list-style-type: none"> 1. Broken or worn bearings of universal joint spider 2. Distorted propeller shaft 3. Unbalanced propeller shaft 4. Loose propeller shaft 	<p>Replace</p> <p>Replace</p> <p>Replace</p> <p>Retighten</p>
Noise occurring at standing start or during coasting	<ol style="list-style-type: none"> 1. Worn or damaged universal joint 2. Worn propeller shaft splines, due to lack of lubrication 3. Loose propeller shaft 4. Loose flanged yoke of universal joint 	<p>Replace</p> <p>Replace</p> <p>Retighten</p> <p>Retighten</p>

2-8. BRAKES

Condition	Possible cause	Correction
Not enough braking force	<ol style="list-style-type: none"> 1. Brake oil leakage from brake lines 2. Brake disc or pads stained with oil 3. Overheated brakes 4. Poor contact of shoes on brake drum 5. Brake shoes linings stained with oil or wet with water 6. Badly worn brake shoe linings 7. Defective wheel cylinders 8. Malfunctioning caliper assembly 	<p>Locate leak point and repair</p> <p>Clean or replace</p> <p>Determine cause and repair</p> <p>Repair for proper contact</p> <p>Replace</p> <p>Replace</p> <p>Repair or replace</p> <p>Repair or replace</p>
Brake Pull (Brakes not working in unison)	<ol style="list-style-type: none"> 1. Shoe linings wet with water or stained with oil in some brakes 2. Drum-to-shoe clearance out of adjustment in some brakes (Malfunctioning auto adjusting mechanism) 3. Drum out of round in some brakes 4. Wheel tires inflated unequally 5. Malfunctioning wheel cylinders 6. Disturbed front end alignment 7. Unmatched tires on same axle 8. Restricted brake tubes or hoses 9. Malfunctioning caliper assembly 10. Loose suspension parts 11. Loose calipers 	<p>Replace</p> <p>Check for inoperative auto adjusting mechanism</p> <p>Replace</p> <p>Inflate equally</p> <p>Repair or replace</p> <p>Adjust as prescribed</p> <p>Use tires with approximately the same amount of tread on the same axle</p> <p>Check for soft hoses and damaged lines. Replace with new hoses and new double-walled steel brake tubing.</p> <p>Check for stuck or sluggish pistons and proper lubrication of caliper slide bus</p> <p>Caliper should slide.</p> <p>Check all suspension mountings</p> <p>Check and torque bolts to specifications</p>

Condition	Possible cause	Correction
Excessive pedal travel (Pedal stroke too large)	<ol style="list-style-type: none"> 1. Partial brake system failure 2. Insufficient fluid in master cylinder reservoirs 3. Air in system (Pedal soft/spongy) 4. Rear brake system not adjusted (malfunctioning auto adjusting mechanism) 5. Bent brake shoes 6. Worn rear brake shoes 	<p>Check diagonal brake systems and repair as necessary</p> <p>Fill reservoirs with approved brake fluid. Check for leaks and air in brake systems. Check warning light. Bleed system if necessary.</p> <p>Bleed system</p> <p>Adjust rear brakes (Repair auto adjusting mechanism)</p> <p>Replace brake shoes</p> <p>Replace brake shoes</p>
Dragging brakes (A very light drag is present in all disc brakes immediately after pedal is released)	<ol style="list-style-type: none"> 1. Master cylinder pistons not returning correctly 2. Clogged return port in master cylinder 3. Restricted brake tubes or hoses 4. Incorrect parking brake adjustment 5. Weakened or broken return springs in the brake 6. Sluggish parking-brake cables or linkage 7. Wheel cylinder or caliper piston sticking 	<p>Repair master cylinder</p> <p>Clean</p> <p>Check for soft hoses or damaged tubes and replace with new hoses and/or new double-walled steel brake tubing</p> <p>Check and adjust to correct specifications</p> <p>Replace</p> <p>Repair or replace</p> <p>Repair as necessary</p>
Pedal pulsation (Pedal pulsates when depressed for braking)	<ol style="list-style-type: none"> 1. Damaged or loose wheel bearings 2. Excessive disc lateral runout 3. Parallelism not within specifications 4. Rear drums out of round 	<p>Replace wheel bearings</p> <p>Check per instructions. If not within specifications, replace or machine the disc.</p> <p>Check per instructions. If not within specifications, replace or machine the disc.</p> <p>Check runout.</p>
Braking noise	<ol style="list-style-type: none"> 1. Glazed shoe linings, or foreign matters stuck to linings 2. Worn or distorted shoe linings 3. Loose front wheel bearings 4. Distorted backing plates or loose mounting bolts 	<p>Repair or replace shoe lining</p> <p>Replace shoe lining (or pad)</p> <p>Replace wheel bearings</p> <p>Replace or retighten securing bolts</p>

2-9. SUSPENSION, STEERING SYSTEM AND TIRES

Condition	Possible cause	Correction
Hard steering	<ol style="list-style-type: none"> 1. Wheel tires not adequately inflated 2. Bind in tie rod end ball stud 3. Linkage connections tending to seize 4. Steering gearbox out of adjustment 5. Unevenly worn steering shaft bush 6. Disturbed front wheel alignment 	<p>Adjust the pressure Replace Repair or replace Adjust as prescribed Replace Adjust as prescribed</p>
Wobbly steering wheel (Shimmy, shake or vibration)	<ol style="list-style-type: none"> 1. Wheel tires inflated unequally 2. Wobbly wheels 3. Large difference in tire diameter between right and left wheels 4. Loose hub nuts 5. Damaged or worn wheel bearings 6. Worn or loose tie rod ends 7. Steering gearbox out of adjustment 8. Steering gearbox mounted loose 9. Worn steering knuckle oil seal 10. Tire or wheel out of balance 11. Blister or bump on tire 12. Disturbed front wheel alignment 	<p>Adjust tire pressure Repair or replace Replace</p> <p>Retighten Replace Replace or retighten Adjust as prescribed Retighten Replace Balance wheel or replace tire and/or wheel Replace tire Check front wheel alignment</p>
Steering wheel pulling to one side (car pulls)	<ol style="list-style-type: none"> 1. Unevenly worn wheel tires 2. Brake dragging in one road wheel 3. Wheel tires unequally inflated 4. Worn or distorted link rods 5. Disturbed front wheel alignment 6. Loose, bent or broken front or rear suspension parts 	<p>Replace Repair Adjust tire pressure Replace Adjust as prescribed Tighten or replace suspension parts</p>
Shocks coming to steering wheel (or wheel tramp)	<ol style="list-style-type: none"> 1. Tire inflating pressure too high 2. Poor shock absorber performance 3. Differences in tire diameter among four road wheels 4. Worn steering linkage connections 5. Worn or broken front wheel bearings 6. Loose front wheel 7. Steering wheel loose in place 8. Blister or bump on tire 	<p>Reduce to the specification Replace Adjust</p> <p>Replace Replace Retighten Retighten the nut Replace tire</p>
Rapid wear or uneven wear of wheel tires (Abnormal or excessive tire wear)	<ol style="list-style-type: none"> 1. Wheel tires improperly inflated 2. Differences in diameter among four tires 3. Worn or loose road wheel bearings 4. Wobbly wheel tires 	<p>Adjust tire pressure Adjust or replace Replace Repair or replace</p>

Condition	Possible cause	Correction
Rapid wear or uneven wear of wheel tires (Abnormal or excessive tire wear)	5. Wheel tires improperly "rotated" to result in unbalance 6. Disturbed front wheel alignment 7. Hard driving	Adjust Adjust as prescribed Replace tire
Steering noise	1. Loose bolts and nuts 2. Loose leaf spring seats 3. Broken or otherwise damaged wheel bearings 4. Worn or sticky tie rod ends 5. Linkage joints needling grease	Retighten Retighten Replace Replace Lubricate or replace
Too much play in steering	1. Worn wheel bearings . 2. Steering gear box attachments loose 3. Steering gear box adjustments 4. Worn steering shaft joints 5. Worn tie rod ends or drug rod ball joints	Replace wheel bearing Tighten or repair Check and adjust Replace joint Replace tie rod end or tie rod
Poor returnability	1. Bind in tie rod end ball studs 2. Bind in steering column 3. Lack of lubricant steering gear box 4. Disturbed front end alignment 5. Steering gear box adjustment 6. Tires not adequately inflated	Replace tie rod end Repair or replace Check, lubricate or replace Check and adjust front end alignment Check and adjust gear box torque Adjust pressure
Abnormal noise, front end	1. Worn, sticky or loose tie rod ends, drug rod ball joints or axle shaft joints 2. Damaged shock absorbers or mountings 3. Loose stabilizer bar 4. Loose wheel nuts 5. Loose suspension bolts or nuts 6. Broken or otherwise damaged wheel bearings 7. Broken suspension springs	Replace tie rod ends, drug rod or axle shaft joints Replace or repair Tighten bolts or replace bushes Tighten Tighten suspension bolts or nuts Replace Replace
Wander or poor steering stability	1. Mismatched or uneven tires 2. Loose tie rod ends or drug rod 3. Faulty shock absorber or mounting	Replace tire or inflate tires to proper pressure Replace tie rod end or drug rod Replace absorber or repair mounting

Condition	Possible cause	Correction
Wander or poor steering stability	4. Loose stabilizer bar 5. Broken or sagging springs 6. Steering gear box adjustment 7. Front wheel alignment	Tighten or replace stabilizer bar or bushes Replace spring Check or adjust steering gear box torque Check front wheel alignment
Low or uneven trim height	1. Broken or sagging springs 2. Overloaded 3. Incorrect springs	Replace Check loading Replace
Ride too soft	1. Faulty shock absorbers	Replace
Suspension bottoms	1. Overloaded 2. Faulty shock absorbers 3. Incorrect, broken or sagging springs	Checking loading. Replace Replace
Body leans or sways in corners	1. Loose stabilizer bar 2. Faulty shock absorbers or mounting 3. Broken or sagging springs 4. Overloaded	Tighten stabilizer bar bolts or replace bushes Replace shock absorbers or tighten mounting Replace Check loading

2-10. STARTING MOTOR

Condition	Possible cause	Correction
Starter runs but pinion will not mesh into ring gear.	1. Worn pinion of starter clutch. 2. Defective splines resulting in sticky pinion plunging motion. 3. Worn bush. 4. Wrong pinion plunging position. 5. Worn teeth of ring gear.	Replace. Repair or replace. Replace. Adjust Replace.
Starter will not run at all, or runs but runs too slow to crank with full force.	Battery trouble 1. Poor contact in battery terminal connection 2. Loose ground cable connection 3. Battery run down 4. Battery voltage too low due to battery deterioration Ignition switch trouble 1. Poor contacting action 2. Lead wire socket loose in place 3. Opne-circuit between ignition switch and magnet switch	Repair or retighten Retighten Recharge Replace Replace Retighten Repair

Condition	Possible cause	Correction
Starter will not run at all, or runs but runs too slow to crank with full force	Magnet switch trouble 1. Lead wire socket loose in place 2. Burnt contact plate, or poor contacting action 3. Open-circuit in pull-in coil 4. Open-circuit in holding coil Starter proper trouble 1. Brushes seating poorly or worn down 2. Burnt commutator 3. Open-circuit in armature winding 4. Worn-down starter	Retighten Replace, or repair Replace Replace Repair or replace Repair or replace Replace Replace
Starter does not stop running.	1. Fused contact points of magnet-switch contact plate 2. Short-circuit between turns of magnet-switch coil (layer short-circuit) 3. Failure of returning action in ignition switch	Repair or replace Replace Replace

2-11. ALTERNATOR

Condition	Possible cause	Correction
Battery quickly becomes over-discharged.	1. Loose or broken "V" belt 2. Battery cables loose, corroded or worn 3. Low level of battery electrolyte 4. Defective battery cell plates 5. Insufficient contact in battery terminal connection. 6. Excessive electrical load 7. IC regulator or alternator faulty 8. Defective idle up system	Adjust or replace Repair or replcae Replace Replace the battery Clean and retighten Check charging system Replace Repair or replace
Charge light does not light with ignition ON and engine off	1. Fuse blown 2. Light burned out 3. Loose wiring connection 4. IC regulator faulty	Check fuse Replace light Tighten loose connection! Replace
Alternator noise	1. Worn, loose or otherwise defective bearings	Replace

2-12. WIPER MOTOR

Condition	Possible cause	Correction
Wiper will not run	<ol style="list-style-type: none"> 1. Fuse set loose or blown off 2. Incomplete metal-to-metal contact in connector. 3. Worn or floating brushes 4. Dirty or burnt commutator 5. Short-circuited or fused field coil 6. Loose terminal connection on wiper switch 	Tighten or replace Repair Replace or repair Repair or replace Replace Repair
Wiper will not stop running	<ol style="list-style-type: none"> 1. Defective wiper switch 	Repair or replace
Wiper stops at wrong position	<ol style="list-style-type: none"> 1. Improper wiper arm setting 2. Cover plate incorrectly positioned in place 	Repair Repair
Poor wiping action	<ol style="list-style-type: none"> 1. Insufficient pressure of wiper arm 2. Deteriorated or hardened blade 3. Blade improperly set 4. Windshield dirty with oil 	Replace Replace Repair or replace Clean

2-13. FUEL METER

Condition	Possible cause	Correction
Faulty meter indication	<ol style="list-style-type: none"> 1. Incomplete metal-to-metal contact in terminal connections 2. Defective receiver gauge due to burnt point or deformed bimetal element 3. Erratic float movement 4. Defective grounding (for float and gauge) 	Retighten Replace Repair or replace Repair
No indication	<ol style="list-style-type: none"> 1. Open-circuit 2. Open-circuited heat wire 3. Burnt point 4. Deformed bimetal element 5. Open-circuited resistor 	Repair Replace Replace Replace Replace

2-14. SPEEDOMETER

Condition	Possible cause	Correction
Faulty indication	<ol style="list-style-type: none">1. Damaged speedometer drive or driven gear2. Defective drive cable3. Drive cable incompletely or improperly tied into the meter4. Defective speedometer	Replace Replace Set right Replace
Speedometer noise	<ol style="list-style-type: none">1. Inadequately lubricated or defective cable2. Not enough oil in transfer	Lubricate or replace Replenish

2-15. WATER TEMPERATURE METER

Condition	Possible cause	Correction
Faulty indication	<ol style="list-style-type: none">1. Incomplete metal-to-metal contact in terminal connections2. Receiver gauge defective (due to burnt point or deformed bimetal element)3. Defective temperature gauge	Repair and tighten Replace Replace
No indication	<ol style="list-style-type: none">1. Open-circuit2. Defective receiver gauge (open-circuited heat wire, deformed bimetal element or pointer)3. Defective temperature gauge	Repair Replace Replace