Haynes 240Z, 260Z, 280Z

Haynes Repair Manual: Datsun 240Z (1970-1973), 260Z (1974-1975), 280Z (1976-1978)

Automotive Repair and Maintenance Instructions

1. Introduction

This manual provides comprehensive repair and maintenance information for Datsun 240Z (1970-1973), 260Z (1974-1975), and 280Z (1976-1978) models. It covers routine maintenance, tune-up procedures, engine repair, cooling and heating, air conditioning, fuel and exhaust, emissions control, ignition, brakes, suspension and steering, electrical systems, and wiring diagrams. The content is designed to assist both experienced mechanics and vehicle owners in performing various tasks to ensure the proper operation and longevity of their vehicles.

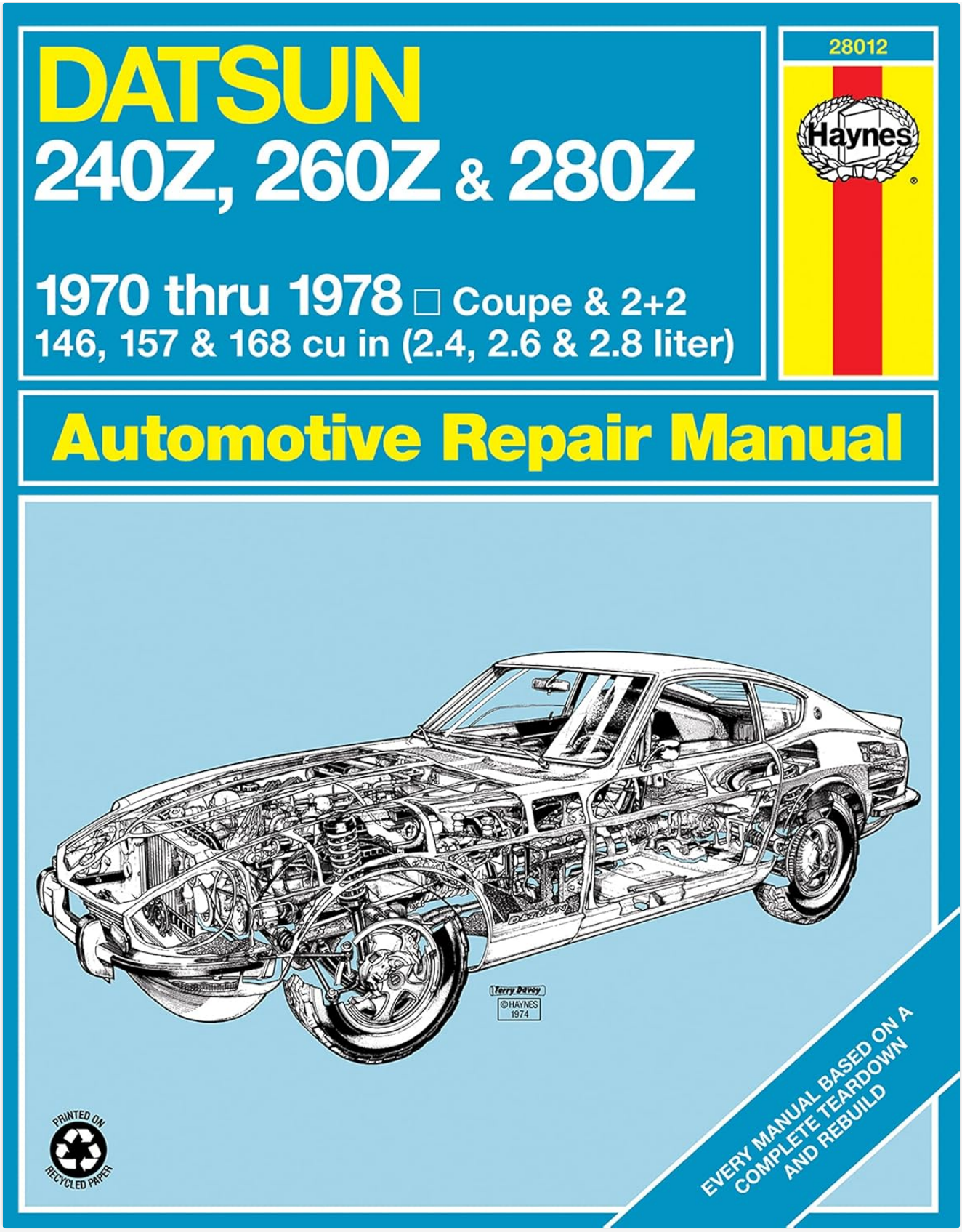


Figure 1.1: Cover of the Haynes Repair Manual for Datsun Z-series vehicles.

2. Routine Maintenance and Tune-Up Procedures

Regular maintenance is crucial for the reliability and performance of your Datsun Z-series vehicle. This section outlines essential checks and procedures.

2.1 Drivebelt Check and Replacement (Every 30,000 miles or 24 months)

The serpentine drivebelt(s) are located at the front of the engine and are vital for the operation of engine components. Depending on the year and engine, various configurations exist, from single to multiple belts. Due to their function, belts are subject to wear and should be inspected periodically. The serpentine drivebelt drives components such as the alternator, power steering pump, water pump, air conditioning compressor, and supercharger on later V6 models. While inspection should be frequent, replacement may not be necessary for over 100,000 miles.

Check

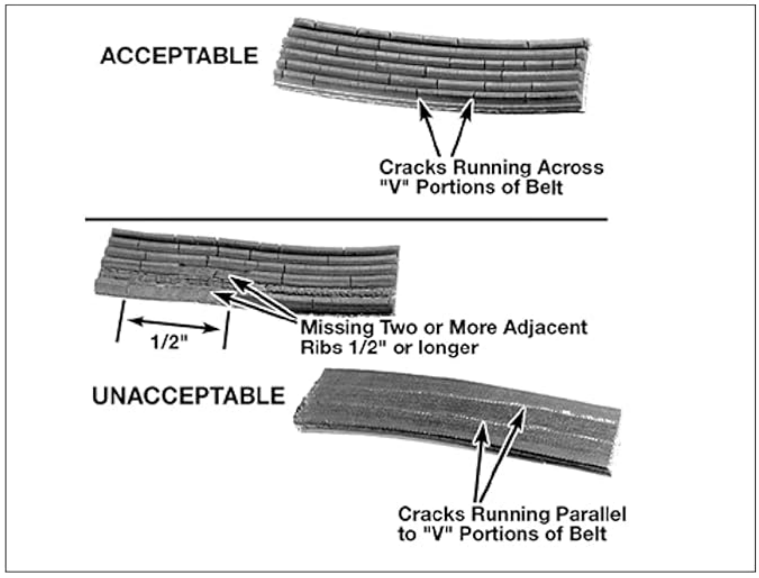
Refer to illustrations 2.1 and 2.2 for visual guidance.

1. The tension of the belt is automatically adjusted by the belt tensioner and requires no manual adjustments. Drivebelt wear can be assessed by inspecting the wear indicator marks on the front of the belt tensioner body. If the indicator mark is outside the operating range, the belt should be replaced. On V6 models, removing the engine cover and air cleaner inlet/outlet duct may be necessary to access the drivebelt(s).
2. To thoroughly check the drivebelt(s) for cracks and separations, use a mirror. It may be necessary to turn the engine (using a wrench or socket and bar on the crankshaft pulley bolt, rotating clockwise only) to inspect the entire length of the belt. Ensure both sides of the belt are viewed. Also check for fraying and glazing, which indicates a shiny appearance. Inspect the pulleys for nicks, cracks, distortion, and corrosion.
3. Note that minor cracks in the edges of a ribbed belt are common and do not necessarily require replacement unless they are long or very deep.

Replacement (V6 Engines)

Refer to illustration 2.3 for visual guidance.

1. Before removing the drivebelts, observe and note how the belt is routed on all pulleys.
2. For models with a single drivebelt, insert a 1/2-inch drive ratchet or breaker bar into the tensioner hole and rotate the handle clockwise to release the drivebelt tension. Once tension is released, remove the belt from the pulleys. Access may be easier from under the vehicle.
3. Install the new drivebelt onto the crankshaft, alternator, power steering pump, and air conditioning compressor. Ensure the drivebelt is correctly seated in all pulley grooves, then release the tensioner.
4. For models with multiple drivebelts, begin with the outer (water pump/alternator) drivebelt. Insert a 1/2-inch drive ratchet or breaker bar into the square hole and rotate the handle clockwise to release the drivebelt tension. Remove the belt.
5. With the outer drivebelt removed, insert a 1/2-inch drive ratchet or breaker bar into the inner (power steering/air conditioning compressor) belt tensioner square hole and rotate the handle clockwise to release the drivebelt tension. Remove the belt.
6. Starting with the inside belt, install the new drivebelt onto the crankshaft, power steering pump, and air conditioning compressor. Ensure the drivebelt is correctly seated in all pulley grooves, then release the tensioner. Repeat the procedure for the outer drivebelt.



24.4 Small cracks in the underside of a V-ribbed belt are acceptable - lengthwise cracks, or missing pieces that cause the belt to make noise, are cause for replacement

24.5 To remove the drivebelt, insert a 1/2-inch drive ratchet or breaker bar into the square hole and rotate the tensioner arm to relieve belt tension - V6 model shown, other models similar

brake fluid may drip or splash when pouring it, place plenty of rags around the master cylinder to protect any surrounding painted surfaces.

2 Before beginning work, purchase the specified brake fluid (see *Recommended lubricants and fluids* in this Chapter's Specifications).

3 Remove the cap from the master cylinder reservoir.

4 Using a hand suction pump or similar device, withdraw the fluid from the master cylinder reservoir.

5 Add new fluid to the master cylinder until it rises to the base of the filler neck.

6 Bleed the brake system as described in Chapter 9 at all four brakes until new and uncontaminated fluid is expelled from the bleeder screw. Be sure to maintain the fluid level in the master cylinder as you perform the bleeding process. If you allow the master cylinder to run dry, air will enter the system.

7 Refill the master cylinder with fluid and check the operation of the brakes. The pedal should feel solid when depressed, with no sponginess. **Warning:** *Do not operate the vehicle if you are in doubt about the effectiveness of the brake system.*

24 Drivebelt check and replacement (every 30,000 miles or 24 months)

1 The serpentine drivebelt(s) are located at the front of the engine and play an important role in the overall operation of the engine and its components. Depending on the year and engine used several configurations are available ranging from a single belt to multiple belts. Due to its function and material make up, the belts are prone to wear and should be periodically inspected. The serpentine belt or belts drive the alternator, power steering pump, water pump, air conditioning compressor and super charger on later model V8 engines. Although the belts should be inspected at the recommended intervals, replacement may not be necessary for more than 100,000 miles.

Check

Refer to illustrations 24.4

2 The tension of the belt is automatically adjusted by the belt tensioner and does not require any adjustments. Drivebelt wear can be checked visually by inspecting the wear indicator marks located on the front of the tensioner body. Locate the belt tensioner(s) at the front of the engine. If the indicator mark is outside the operating range, the belt should be replaced. Since the drivebelt(s) are located at the front of the engine compartment, it will be necessary to remove the engine cover and air cleaner inlet or outlet duct on V8 models.

3 With the engine stopped, inspect the full length of the drivebelt(s) for cracks and separation of the belt plies. It will be necessary to turn the engine (using a wrench or socket and bar on the crankshaft pulley bolt, working clockwise only) in order to move the belt from the pulleys so that the belt can be inspected thoroughly. Twist the belt between the pulleys so that both sides can be viewed. Also check for fraying, and glazing which gives the belt a shiny appearance. Check the pulleys for nicks, cracks, distortion and corrosion.

4 Note that it is not unusual for a ribbed belt to exhibit small cracks in the edges of the belt ribs, and unless these are extensive or very deep, belt replacement is not essential **(see illustration)**.

Replacement

V6 engines

Refer to illustration 24.5

Note: *Before removing the drivebelts, take a good look and note how the belt is routed on all the pulleys.*

5 On models equipped with a single drivebelt, insert a 1/2-inch drive ratchet or breaker bar into the tensioner hole and rotate the handle clockwise to release the drivebelt tension **(see illustration)**. Once tension has been released, remove the belt from the pulleys. **Note:** *It may be easier to work from under the vehicle to remove the belt.*

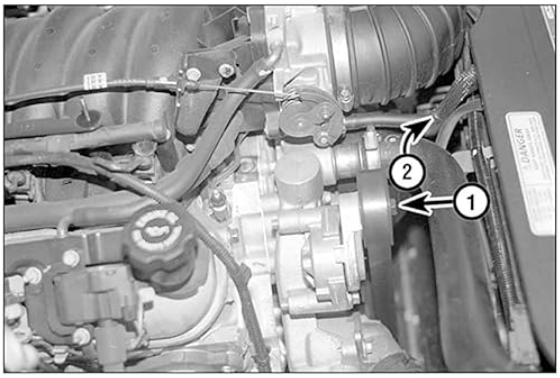
6 Install the new drivebelt onto the crankshaft, alternator, power steering pump, and air conditioning compressor pulleys, as applicable, then turn the tensioner back and locate the drivebelt on the pulley. Make sure that the drivebelt is correctly seated in all of the pulley grooves, then release the tensioner.

7 On models equipped with multiple drive belts, start with the outer (water pump/alternator) drivebelt. Insert a 1/2-inch drive ratchet or breaker bar into the tensioner square hole and rotate the handle clockwise to release the drivebelt tension. Once tension has been released, remove the belt from the pulleys.

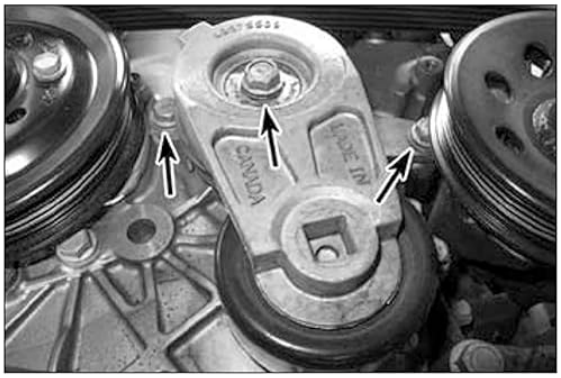
8 With the outer drivebelt removed, insert a 1/2-inch drive ratchet or breaker bar into the inner (power steering/air conditioning compressor) belt tensioner square hole and rotate the handle clockwise to release the drivebelt tension. Once tension has been released, remove the belt from the pulleys.

9 Starting with the inside belt, install the

Figure 2.1: Drivebelt inspection and replacement procedures, including acceptable and unacceptable wear patterns.



24.11 To remove the drivebelt, rotate the tensioner bolt (1), clockwise (2) to relieve belt tension (2007)



24.25 Typical V6 tensioner mounting fastener locations

new drivebelt onto the crankshaft, power steering pump, and air conditioning compressor pulley, then turn the tensioner back and locate the drivebelt on the pulley. Make sure that the drivebelt is correctly seated in all of the pulley grooves, then release the tensioner. Repeat the same procedure for the outer drivebelt.

V8 engines

10 Remove the air filter housing outlet duct (see Chapter 4).

2007 and earlier models

Refer to illustration 24.11

11 Place a socket on to the accessory drivebelt tensioner pulley center bolt and rotate the tensioner clockwise to release the drivebelt tension **(see illustration)**. Once tension has been released, remove the belt from the pulleys.

12 With the outer accessory drivebelt removed, place a socket on the air conditioning compressor drivebelt tensioner pulley center bolt and rotate the tensioner clockwise to release the drivebelt tension. Once tension has been released, remove the belt from the pulleys.

13 Starting with the inside belt, install the new drivebelt onto the crankshaft and air conditioning compressor pulley, then turn the tensioner back and locate the drivebelt on the pulley. Make sure that the drivebelt is correctly seated in all of the pulley grooves, then release the tensioner. Repeat the same procedure for the outer accessory drivebelt and reinstall the air filter duct.

2009 and later model supercharger and accessory drivebelts

14 Start with the outer (supercharger) drivebelt. Insert a 1/2-inch drive ratchet or breaker bar into the tensioner square hole and rotate the handle clockwise to release the drivebelt tension. Once tension has been released, remove the belt from the pulleys.

15 With the outer supercharger drivebelt removed, insert a 1/2-inch drive ratchet or breaker bar into the accessory tensioner square hole and rotate the handle clockwise to release the drivebelt tension. Once tension has been released, remove the belt from the pulleys.

16 Starting with the accessory belt, install the new drivebelt onto the crankshaft and various pulleys, then turn the tensioner back and locate the drivebelt on the pulley. Make sure that the drivebelt is correctly seated in all of the pulley grooves, then release the tensioner. Repeat the same procedure for the outer supercharger drivebelt and reinstall the air filter duct.

2009 and later model air conditioning compressor drivebelt

Note: *The air conditioning compressor belt doesn't use a tensioner and must be cut to be removed. Make sure you have a new belt before cutting the old belt off.*

17 Remove the supercharger and accessory belts (see Steps 14 and 15).

18 Remove the splash shield **(see illustration 22.4)**.

19 Disconnect the electrical connector to the charge air cooler pump, then remove the pump mounting nuts and the pump (see Chapter 3).

20 Using a pair of diagonal cutters, cut the air conditioning belt to remove it.

21 Place the new belt to the rear of the crankshaft pulley, making sure the belt is fully seated in the pulley grooves.

22 Install the special belt installation tool on to the air conditioning compressor and place the belt over the tool.

23 Rotate the crankshaft pulley and allow the tool to turn and seat the belt on the compressor pulley.

24 The remainder of installation is the reverse of removal.

Drivebelt tensioner

Refer to illustration 24.25

25 On V6 models, remove the bolts securing the tensioner to the engine, then detach the tensioner from the engine **(see illustration)**.

26 On V8 models, remove two bolts securing accessory tensioner to the engine, then detach the tensioner.

27 On V8 models with superchargers, remove the supercharger tensioner center bolt, then detach the tensioner.

28 Installation is the reverse of removal. Tighten the tensioners bolt(s) to the torque listed in this Chapter's Specifications.

25 Automatic transmission fluid and filter change (every 60,000 miles or 48 months)

Refer to illustrations 25.5, 25.8 and 25.9

1 Before beginning work, purchase the specified transmission fluid (see *Recommended lubricants and fluids* in this Chapter's Specifications) and a new filter.

2 Other tools necessary for this job include a floor jack, jackstands to support the vehicle in a raised position, a drain pan capable of holding at least 5 quarts, newspapers and clean rags.

3 Raise the vehicle and support it securely on jackstands. **Note:** *The vehicle must be level.*

4 Place the drain pan underneath the transmission pan. Remove the front and side pan mounting bolts, but only loosen the rear pan bolts approximately four turns. **Note:** *Some early models are equipped with a drain plug in the bottom of the transmission pan. If equipped with a drain plug, drain the fluid from the drain plug before loosening any pan bolts.*

5 Carefully pry the transmission pan loose with a screwdriver, allowing the fluid to drain **(see illustration)**.

6 Remove the remaining bolts, pan and gasket. Carefully clean the gasket surface of

Figure 2.2: Drivebelt tensioner details and initial steps for automatic transmission fluid and filter change.

2.2 Brake Fluid Check and Replacement

Proper brake fluid levels and quality are essential for safe vehicle operation.

1. When pouring brake fluid, place plenty of rags around the master cylinder to protect painted surfaces from drips or splashes.
2. Before starting, acquire the specified brake fluid (refer to Recommended Lubricants and Fluids in the Chapter's

Specifications).

3. Remove the cap from the master cylinder reservoir.
4. Use a hand suction pump or similar device to withdraw fluid from the master cylinder reservoir.
5. Add new fluid to the master cylinder until it reaches the base of the filler neck.
6. Bleed the brake system as described in Chapter 9. Bleed all four brakes until new, uncontaminated fluid is expelled from the bleed screw. Maintain the fluid level in the master cylinder to prevent air from entering the system.
7. Refill the master cylinder with fluid and verify brake operation. The pedal should feel firm, without sponginess. **Warning: Do not operate the vehicle if there is any doubt about the effectiveness of the brake system.**

3. Engine Repair

This section covers various engine repair procedures, including component removal, inspection, and installation. Detailed instructions for specific engine types (e.g., L24, L26, L28) are provided within the manual.

- Engine disassembly and assembly
- Cylinder head service
- Piston and connecting rod service
- Crankshaft and main bearings
- Timing chain/belt replacement

4. Cooling and Heating Systems

Information on maintaining and repairing the cooling and heating systems to prevent overheating and ensure proper cabin climate control.

- Radiator and cooling fan service
- Thermostat replacement
- Water pump replacement
- Heater core service

5. Air Conditioning System

Guidance on the air conditioning system, including component checks and maintenance.

- Compressor service
- Condenser and evaporator inspection
- Refrigerant system checks (professional service recommended for refrigerant handling)

6. Fuel and Exhaust Systems

Details on the fuel delivery and exhaust gas management systems.

- Fuel pump and filter replacement
- Carburetor/fuel injection system service
- Exhaust manifold and system repair

7. Emissions Control System

Information on components designed to reduce vehicle emissions.

- PCV valve service
- EGR system checks
- Catalytic converter information

8. Ignition System

Maintenance and repair of the ignition system components.

- Spark plug inspection and replacement
- Distributor service
- Ignition coil checks

9. Brakes

Detailed procedures for brake system maintenance and repair.

- Brake pad and shoe replacement
- Brake rotor and drum service
- Master cylinder and caliper/wheel cylinder overhaul
- Brake bleeding procedures

10. Suspension and Steering

Instructions for maintaining and repairing the vehicle's suspension and steering components.

- Shock absorber/strut replacement
- Ball joint and control arm service
- Steering gear and linkage repair
- Wheel alignment considerations

11. Electrical Systems and Wiring Diagrams

Guidance on the vehicle's electrical components and detailed wiring diagrams for troubleshooting.

- Battery and charging system checks
- Starter motor service
- Lighting and accessory circuit repair
- Interpreting wiring diagrams

12. Automatic Transmission Fluid and Filter Change (Every 60,000 miles or 48 months)

Regular fluid and filter changes are essential for automatic transmission longevity.
Refer to illustrations 2.2 for visual guidance.

1. Before starting, acquire the specified transmission fluid (refer to Recommended Lubricants and Fluids in this Chapter's Specifications) and a new filter.
2. Gather necessary tools: a floor jack, jackstands to support the vehicle, a drain pan (at least 5 quarts capacity), newspapers, and clean rags.
3. Raise the vehicle and support it securely on jackstands. The vehicle must be level.
4. Position the drain pan underneath the transmission pan. Remove the front and side pan mounting bolts, but only loosen the rear pan bolts approximately three turns. Note: Some early models have a drain plug in the transmission pan. If equipped, drain fluid from the plug before loosening any pan bolts.
5. Carefully pry the transmission pan loose with a screwdriver, allowing fluid to drain.

13. Specifications

This manual includes detailed technical specifications for various components and systems, such as torque values, fluid capacities, and component dimensions. Always refer to the specific chapter for the most accurate and up-to-date specifications relevant to your vehicle's year and model.

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- **Dimensions:** 8.25 x 0.63 x 10.63 inches

14. Troubleshooting

A dedicated troubleshooting section is included to help identify specific problems. This section provides diagnostic charts and common symptoms to assist in pinpointing issues before undertaking repairs.

- Engine starting problems
- Brake system malfunctions
- Electrical system faults
- Cooling system issues

15. Support and Resources

Haynes manuals are known for their clear, step-by-step instructions, accompanied by hundreds of photographs and illustrations. Each manual includes tips for making jobs easier and eliminating the need for special tools, as well as notes, cautions, and warnings for the home mechanic. A color spark plug diagnosis guide and an easy-to-use index are also provided.
For additional support or inquiries regarding Haynes manuals, please refer to the publisher's official resources or contact their customer service.