

**CAUTION:** Do not use Cherokee and Wagoneer models equipped with optional "Smooth-Ride Suspension" for severe off-road or heavy duty operation. Though these models offer the same ground clearance as vehicles with standard suspension, and can perform in an off-road environment, do not drive as aggressively off-road as you would in a 4-wheel-drive vehicle equipped with standard or heavy-duty suspension.

## Maintaining Tire Traction

**WARNING:** On wet or slushy roads, a water wedge can build up between the tire and the road. This hydroplaning action could cause loss of traction, control and braking ability.

**WARNING:** Do not drive too fast for road conditions. Slow down when roads are wet or slushy, and use the advantages of 4-wheel drive.

If your vehicle becomes stuck in snow, mud or sand, a mild "rocking" action may help free the vehicle. With an automatic transmission, move the shift lever from D (Drive) to R (Reverse) in a repeat pattern. Apply **light pressure** on the accelerator pedal while the transmission is in the D or R position. Remove your foot from the accelerator while shifting. With a manual transmission shift from 1st to Reverse. Do not race the engine. For best traction, avoid spinning the wheels.

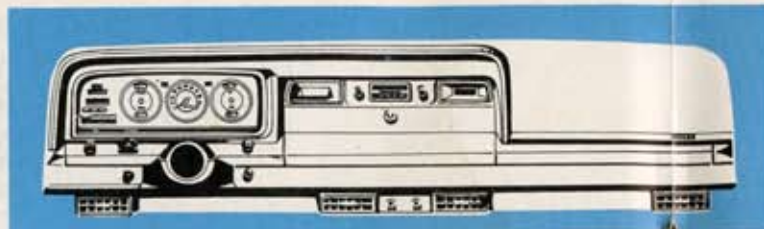
**CAUTION:** Do not spin wheels faster than 20 MPH (35 km/h) while "rocking" vehicle. Transmission or drive line damage may result.

**CAUTION:** Do not shift automatic transmission to and from D (Drive) and R (Reverse) while operating the engine at high speed. Transmission damage may result.

**CAUTION:** Do not race the engine, avoid spinning tires and limit rocking to prevent clutch and drive train damage.



Customize your Jeep vehicle to suit your personality and driving needs with dealer-installed accessories and special equipment approved by Jeep Corporation. Ask your dealer for a copy of the complete Accessories and Special Equipment catalog for Jeep vehicles. We wrote the book on 4-wheel drive!



### American Air®

Custom air conditioning provides maximum cooling efficiency, featuring air volume and temperature controls. Approved for installation in Jeep vehicles.

### SNATCH-UM STRAP

Provides up to 20,000 pounds of strength to help free badly stuck vehicles.



### EIGHT-INCH SLOTTED WHEELS

Eight-spoke design for maximum load capacity. Designed in white epoxy with red pinstripe.



### TRAIL-TAMER SHOCKS

For better on and off-road control, designed to provide the ultimate in shocks for your Jeep vehicle.

### SKY-VIEWER TOP FOR CJ

Overhead visibility with 18" by 20" sealed roof window, tinted to reduce sun glare. Deluxe soft tops are also available (without overhead window).



### TIRE CARRIERS

Swing out tire carriers for CJ models and inside tire carriers for Cherokee and Wagoneer models provide style and easy access to spare tires.



### TONNEAU COVER FOR TRUCKS

Tough vinyl-coated fabric protects cargo and gives your truck a streamlined appearance.



### SNOW PLOWS

A wide range of snow plows and accessories are available for all Jeep vehicles including high-strength steel moldboards, electric/hydraulic power pack, electro-touch power angling and pistol grip detaching pins for blade removal.

### ROOF RACKS

A complete line of roof racks, luggage carriers and hitches are available for your travel needs.



### JEOP WINCHES

Warn and Ramsey winches are available in a wide range of electrical and mechanical styles.





### RADIOS

AM/FM multiplex stereo radio with pushbutton tuning, stereo balance control and two flush-mounted speakers (not available for CJ models). AM, AM/CB and CB/Stereo combinations are also available.



### PROTECTION

Door edge guards, floor mats, locking gas caps, bumper guards, splash guards and fender protectors are available to protect your investment.



### BUMPERS

Epoxy finish or chrome rear step bumpers provide the protection and beauty your Jeep vehicle desires.



### ROLL BAR

Two-inch O.D., 11-gauge tubular steel roll bar attaches at 16 points, fitting under all soft tops and cabs for CJ models. Optional padding is also available.

### FLOOR CARPETING

Long wearing floor carpets add comfort and help to deaden road noise. Floor carpeting available for CJ models; wheel house and cargo area carpeting available for Cherokee and Wagoneer models.



## Driving Across Slopes

**WARNING:** Do not travel diagonally across a hill or slope. The danger lies in tipping the vehicle. If natural obstacles force you to travel diagonally up or down a hill, choose a mild angle and keep vehicle side tilt as little as possible. Keep vehicle moving and make turns cautiously.

## Model 20 4-Wheel Transfer Case

### When Not To Use 4-Wheel Drive

**CAUTION:** Do not use 4-wheel drive when traveling on dry, hard-surfaced roads, unless 4-Low is needed for additional pulling power. Operating in 4-wheel drive on dry roads may cause stresses on components that make shifting out of 4-wheel drive difficult. Prolonged use on dry roads can also damage components. To relieve the stresses, drive the vehicle in reverse for several feet or drive off the hard surface momentarily, to allow tire slippage.

### When To Use 4-Wheel Drive

On vehicles equipped with the Model 20 Transfer Case, shift to 4-wheel drive when off-road, for additional traction in pulling forward or descending a hill, for low-speed pulling power in industrial or agricultural use, or to improve handling and control when on slippery or difficult terrain. Use it on the road in ice, snow, mud or sand, to get heavy loads rolling, or whenever normal 2-wheel drive traction will not do the job.

### In Snow, Mud and Sand

Shift the transfer case into 4H and the manual transmission into a lower gear to maintain headway.

When pulling a load or for additional control at slower speeds, shift to 4L. Don't shift into any lower gear than is necessary to maintain headway. Try to maintain a constant engine speed. Over-revving the engine can spin the wheels and traction will be lost.

Equipment illustrated and described in this advertisement is optional at extra cost. Certain items may not be available for all models. American Motors' policy is one of continuous improvement, therefore all information is subject to change without notice and without incurring obligation.

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**PARTS DIVISION**  
**■ American Motors**

## Hill Climbing

**Before climbing a steep hill** change gear positions (lock selective drive hubs if equipped). Shift the transfer case into 4L and the transmission into 2nd gear. Use first gear for very steep hills.

**If you stall while climbing a steep hill, quickly shift to reverse gear, and release the clutch pedal.** Engine compression will help control the vehicle on the hill. Shifting into reverse allows you to start the engine without depressing the clutch. (The vehicle will move backward as the starter is engaged.) When the engine starts, back the vehicle down the hill, controlling your backward speed with the accelerator.

**WARNING:** *Do not attempt to back down a hill with the clutch pedal released or the transmission in neutral and only the brakes holding the vehicle. Always back straight down a hill, never diagonally across the hill.*

**WARNING:** *If the engine stalls or you lose headway or for any reason cannot make it to the top of a steep hill or grade, NEVER attempt to turn around. To do so may result in a tipping of the vehicle. Back straight down the hill.*

**As you approach the crest of a hill, "walk" the vehicle up the last few feet if the wheels start to slip.** Maintain headway by turning the front wheels sharply left and right. This will provide fresh "bite" into the surface and will usually provide traction to complete the climb.

## Traction Downhill

Shift the transfer case into 4-wheel drive low range and the transmission into 1st gear. Let the vehicle go slowly down the hill with all four wheels turning against engine compression. This will permit you to control vehicle speed and direction.

**WARNING:** *Do not climb or descend hills unless selective drive hubs are set in the LOCK position, if equipped. If not, you will lose the benefit of 4-wheel drive.*

## Quadra-Trac® and Low Range Reduction Unit

### In Snow, Mud and Sand

Continue to drive without shifting. The Quadra-Trac® automatically provides 4-wheel drive traction. In heavy snow, when pulling a load, or for additional control at slower speeds, shift the transmission to the "2" or "1" position. If equipped with the low range reduction unit, shift to "low," if necessary. Don't shift into any lower gear than is necessary to maintain headway. Over-revving the engine can spin the wheels and traction will be lost.

### Hill Climbing

**Before climbing a steep hill** change gear positions. Shift the transmission into "2" position. If equipped with reduction unit, shift to low range. Use first gear for very steep hills or when hauling loads.

**If you stall or begin to lose headway** while climbing a steep hill, quickly apply the brakes with your left foot. Shift to Neutral, restart the engine and shift to Reverse. At idle speed, engine and transmission drag will aid the brakes in controlling the vehicle on the hill and help you back down with greater safety.

**WARNING:** *Do not attempt to back down a hill in Neutral with only the brakes holding the vehicle. Always back straight down a hill, never diagonally across the hill.*

**WARNING:** *If the engine stalls or you lose headway or for any reason cannot make it to the top of a steep hill or grade, NEVER attempt to turn around. To do so may result in a tipping and rolling of the vehicle. Back straight down the hill.*

**As you approach the crest of a hill, "walk" the vehicle up the last few feet if the wheels start to slip.** Maintain headway by turning the front wheels sharply left and right. This will provide fresh "bite" into the surface and will usually provide traction to complete the climb.

## Traction Downhill

Shift the transmission into "2" or "1" position, and let the vehicle go slowly down the hill with all four wheels turning against engine compression. If equipped with a reduction unit, shift to low range. This will permit you to control the vehicle speed and direction.

## Heavy-Duty Operation

Heavy-duty operation refers primarily to off-road, farming, snow plowing, police, government and commercial load-carrying applications, and the towing of trailers weighing over 2,000 pounds (900 kg) loaded. This usage requires more frequent maintenance of vehicle components, as described in the **Maintenance Schedule**. Severe driving conditions, such as cold weather, short-trip driving, or dusty roads, also require more frequent services, also outlined in the **Maintenance Schedule**.

**WARNING:** Do not overload the vehicle when towing trailers or hauling cargo. Overloading and severe operation can cause brake, engine, axle, steering, suspension, frame, tire, or other failure.

**WARNING:** Do not "ride" the brakes by resting your foot on the pedal. Overheating resulting in unpredictable braking action or damage may result.

**WARNING:** After extended operation in mud, sand, or water, or similar dirty conditions, brake drums, brake linings, and front axle U-joints and yokes should be cleaned thoroughly to avoid possible unpredictable braking action and excessive wear.

**WARNING:** Following off-road or heavy-duty usage perform an underbody inspection. Check frame members, steering, suspension and exhaust system for damage. Check threaded fasteners for looseness, particularly on the running gear, steering and suspension. Retighten, if required, to torque values specified in the *Technical Service Manual*. Also check for accumulations of vegetation or brush that could constitute a fire hazard, or conceal leakage or damage to fuel lines, brake hoses, axle pinion seals, and propeller shafts.

**WARNING:** If your vehicle is equipped with a transmission or fuel tank skid plate, periodically clean or flush foreign material accumulated between the skid plate and the transmission or fuel tank. Clean daily after operation in grain fields, since a build-up of such materials could result in spontaneous combustion, fire damage, and possible injury to occupants.

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## Trailer Towing and Campers

To maintain the Jeep Corporation 1979 New-Vehicle Warranty coverage, including its conditions and limitations, follow the requirements and recommendations in this manual and other factory literature concerning vehicles used in trailer towing or camper applications. This includes the mounting of slide-in campers on Jeep Trucks.

Perform maintenance services as prescribed in the **Maintenance Schedule**, located in the glove box. When your vehicle is used for trailer towing or, in the case of a Jeep Truck, for mounting a camper, never exceed the gross vehicle weight rating (GVWR) or gross axle weight rating (GAWR) by the addition of:

- The tongue weight of a trailer.
- The weight transferred to your truck by the mounting of a fifth-wheel trailer.
- The weight of a slide-in or any other type of truck camper.
- The weight of any other type of vehicle or equipment put in or on your Jeep vehicle.

Remember that everything put in or on the trailer or the mounted camper adds to the load on your Jeep vehicle. Refer to the Jeep Vehicle Weight Capacities chart in *Specifications*.



**WARNING:** Do not interconnect Jeep vehicle and trailer hydraulic brake systems. Jeep Corporation will not be responsible for brake performance if these two brake systems are in any way connected. A separate brake system for all trailers weighing over 1,000 pounds (450 kg) gross is recommended. Observe federal, state and local trailer laws.

If you own a Jeep Truck the *Consumer Information* booklet in your glove box provides slide-in camper loading information on your particular model. For more information about trailer towing or camper recommendations and requirements, consult your Jeep Dealer. (For short-distance emergency towing, refer to *Emergency Information*.)

## Towing Your Jeep Vehicle

Your Jeep vehicle can be towed, but be sure you comply with the following instructions to avoid damage to drive train components. Also check federal, state, and local requirements regarding vehicle lighting and trailer hitches or tow bars.

### With Manual Transmission

1. Turn ignition switch to Off position to unlock steering wheel.
2. Shift transmission and transfer case into Neutral positions.
3. Turn selective drive hubs, if equipped, to LOCK position, for axle and transmission lubrication.

### With Automatic Transmission Without Low Range Reduction Unit

1. Turn ignition switch to Off position to unlock steering wheel.
2. Shift transmission into Neutral position.
3. Mark propeller shafts and yokes for proper alignment at assembly. Disconnect front and rear propeller shafts at axle, and secure shafts to underside of vehicle or remove shafts completely.

### With Automatic Transmission With Low Range Reduction Unit

1. Turn ignition switch to Off position to unlock steering wheel.
2. Shift automatic transmission into Park.
3. Shift Low Range Reduction Unit into Neutral position.

**CAUTION:** Do not tow with the Emergency Drive control knob in the Emergency Drive position or the Low Range Reduction Unit in low range. If the control knob (in the glove box) was in the Emergency Drive position when the engine was shut down, restart the engine and turn the knob to the Normal position.

## Service Information

This section includes technical information and maintenance procedures. It **does not** contain the **Maintenance Schedule, Tune-Up Specifications or Recommended Fluids and Lubricants**. Those items along with a record for services performed are included or explained in the **Maintenance Schedule** located in the glove box.

If you perform your own maintenance, use the **Maintenance Schedule** folder as a guide for when and what services to perform. More information is available including operational explanations, illustrations, repair procedures and specifications in the 1979 Jeep Technical Service Manual. Use the order form at the rear of this manual.

If you rely on your Jeep dealer for maintenance, be assured he is equipped with the latest technical information, approved tools and original equipment parts and accessories. **We recommend you record all services and retain receipts for repairs or parts you purchase.**

## Maintenance

### Owner's Responsibility

#### It is the Owner's Responsibility to:

1. Read the **Maintenance Schedule** located in the glove box.
2. Determine the miles (or kilometers) or number of months between services, and driving conditions (normal or heavy-duty operation), and have the vehicle serviced according to the **Maintenance Schedule** intervals.
3. Pay for necessary parts and labor.
4. Use only fluids and lubricants which meet Jeep specifications.
5. Have unscheduled maintenance performed when changes in handling or performance occur.

**CAUTION:** Failure to perform maintenance services at the proper intervals as outlined in the **Maintenance Schedule** constitutes negligence and may void provisions of your New-Vehicle Warranty.

### Scheduled Maintenance

Certain services are required regularly as time or mileage accumulate to maintain peak efficiency. Perform these services more frequently during heavy-duty operation. Based on Jeep Corporation testing and experience as a builder of 4-wheel drive vehicles, the services are vitally important for the upkeep of your vehicle. Follow the **Maintenance Schedule** (located in the glove box) for details on when you'll need service.

### Unscheduled Maintenance

These maintenance services are required depending on driving conditions, weather, or the loads carried. The need for these services changes, so you must consider your driving situation often and have your vehicle serviced as described in the **Maintenance Schedule** for changing conditions.

Unscheduled maintenance services include such items as fuel system cleaning, engine carbon deposit removal, re-

tightening loose parts and connections, replacement of manual transmission clutch components, brake linings, shock absorbers, light bulbs, wiper blades, belts, hoses, soft trim, bright metal trim, painted parts, other appearance items plus other rubber and rubber-like parts. Need for these unscheduled maintenance services is usually indicated by a change in performance, handling, or the appearance of your vehicle or a particular component. You should also perform unscheduled maintenance following heavy-duty operation, if needed. The *Special Driving Techniques* section describes the underbody inspection required after heavy-duty service.

### When Your Vehicle Needs Service

If your vehicle needs warranty-eligible repairs during the warranty period, present the **Limited Warranty and Service Policy** folder, located in the glove box, to the service manager at your dealer. **Be sure to have adjustments performed within three months of the date of purchase or first use**. Prepare an accurate description of the symptoms or problem and discuss the problem with the service department so they know where to start and you will know what to expect.

### If You Have A Service Problem

If for some reason you are not satisfied with the work performed at a Jeep dealer, try first to work out a solution with your dealer. He has the equipment, parts and information available to serve you, and he is in touch with Jeep Corporation at all times. If you still have a service problem, contact the Zone Office in your area. The zones are listed alphabetically at the rear of this manual.

If your problem remains unsolved, then contact us with an explanation of the problem. If you write, please include telephone numbers where you can be contacted.

**In U.S.:**  
**Jeep Corporation**  
**Owner Relations**  
**14250 Plymouth Road**  
**Detroit, Michigan 48232**  
**Telephone: (313) 493-2341**

**In Canada:**  
**American Motors (Canada)**  
**Limited**  
**350 Kennedy Road South**  
**Brampton, Ontario L6V2M3**  
**Attn: Customer Service**

## Fuel Requirement

### All Models

All engines require the use of unleaded fuel to reduce exhaust emissions and to protect the catalytic converters. Use a fuel with an antiknock index (AKI) of at least 87. A lower octane AKI is acceptable at elevations above 1,500 feet (760 meters).

In the event of spark knock (ping), select an alternate fuel. Fuels from different marketers of equivalent octane rating or antiknock index can vary in knocking characteristics in a given vehicle. An occasional trace knock at low engine speeds is not harmful. Continued knock at high speeds can damage the engine. Persistent knock at any speed is damaging and constitutes actual misuse under your new-vehicle warranty. Report this condition to your dealer immediately.

**NOTE:** For Canadian Fuel Requirement see Maintenance Schedule.

### Antiknock Index

Two laboratory engine tests rate gasoline for antiknock performance: Research Octane Number and Motor Octane Number. Both relate to gasoline performance in your vehicle. The Antiknock Index (AKI) is the average of the Research plus Motor Octane Numbers. This represents a better technical description of gasoline antiknock properties than the simple ratings "premium" and "regular." Federal regulations require posting of an Antiknock Index on gasoline dispensing pumps.

### Fuel Supply

Keep the fuel tank near full at all times to reduce water condensation, especially in cold weather.

## Checking and Changing Fluids

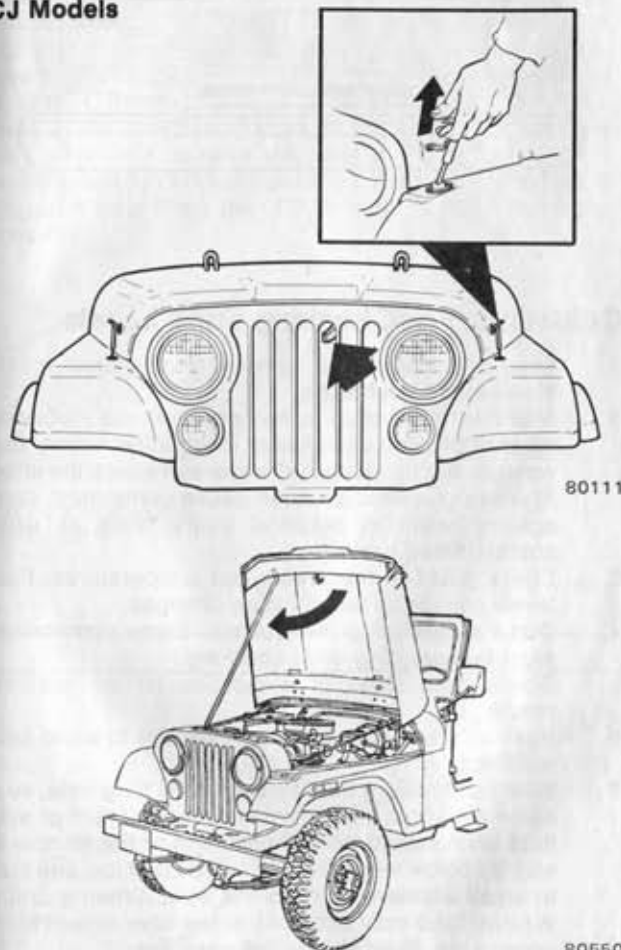
The following procedures describe how to check and change various fluids in your vehicle. In most cases, the text does not indicate when to change fluids or what fluids

to use. The **Maintenance Schedule**, located in the glove box, provides this information. It also illustrates several underhood checkpoints which require periodic service.

### Hood Release

**WARNING:** Do not drive vehicle unless the hood is properly latched.

### CJ Models



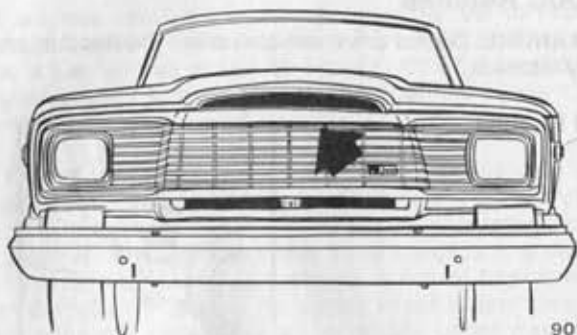
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## Cherokee, Wagoneer, Truck

The latch is located in the front, center of the hood.



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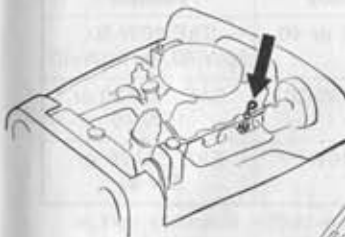
## Guidelines For Checking Fluid Levels

1. Use only fluids and lubricants specified in the **Maintenance Schedule**.
2. Maintain maximum cleanliness. Fluids lubricate parts or provide chemical or mechanical action. Dirt, water or lint from rags will severely reduce the effectiveness of a fluid and can cause component damage or result in personal injury, such as using contaminated brake fluid.
3. Check fluids at the prescribed temperatures. Fluid levels change as temperature changes.
4. Observe operating instructions. Some components must be operating while checking.
5. Check both sides of a dipstick for an accurate reading.
6. Position the vehicle on a level surface to avoid false readings.
7. When checking a fluid through a fill plug hole, such as on a manual transmission, Quadra-Trac® or axle, fluid level should be at the bottom of the fill hole or slightly below when the unit is **COLD**. If low **add fluid in small amounts** to raise the level. When a unit is **WARM**, fluid may ooze out of the filler hole. This is acceptable. **Fluid should not gush out.**

8. Never overfill. Too much water weakens a battery or antifreeze protection. Too much oil causes excess heat and foaming which can cause leaks out vent tubes, blown seals or damage from loss of fluid or lubricant breakdown.

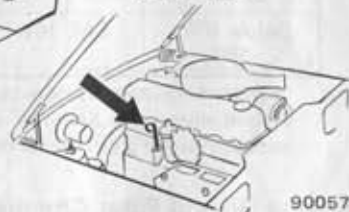
## Engine Oil

Check oil level at each fuel fill. Allow the oil to settle a few minutes after stopping the engine, remove the dipstick and wipe it clean. Insert the dipstick in the tube and remove it again. Check the oil level shown on both sides of the stick. Oil level should be between the **ADD** and **FULL** marks. If the level has dropped to the **ADD** mark, add one quart (one liter) to raise the level to **FULL**. Some oil is inevitably used in normal operation. A consumption rate of one quart (one liter) per 1,000 miles (1 600 km) is not excessive.



DIPSTICK LOCATION  
6-CYLINDER

DIPSTICK LOCATION  
8-CYLINDER



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## Selecting Engine Oil

For maximum engine protection under all driving conditions, use only engine oil meeting API Engine Oil Service Classification "SE." The term "SE" must appear on the oil container (singly or in conjunction with other designations). SE engine oils protect against oil oxidation, high temperature engine deposits, rust and corrosion. Multi-viscosity or single-viscosity types of oil are equally acceptable if refined and sold by reputable oil companies. Multi-viscosity oil protects over a wider range of operating temperatures and driving conditions, so it can be used year-round. Select oil viscosity according to the lowest air temperature expected before the next oil change.

### Engine Oil Viscosity

| Lowest Temperature Anticipated | Recommended Single Viscosity | Recommended Multi-Viscosity   |
|--------------------------------|------------------------------|-------------------------------|
| Above +40°F<br>+5°C            | SAE 30 or 40                 | SAE 10W-30, 20W-40, or 10W-40 |
| Above 0°F<br>-18C              | SAE 20W-20                   | SAE 10W-30 or 10W-40          |
| Below 0°F<br>-18C              | SAE 10W*                     | SAE 5W-20 or 5W-30            |

\*Sustained high speeds (above 55 mph, 88 km/h) should be avoided when using SAE 10W engine oil since oil consumption may be greater under this condition.

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## Engine Oil and Filter Changes

Change the engine oil and oil filter every 5,000 miles (8 000 km) or 5 months, whichever comes first, when the vehicle is being operated under normal conditions. More frequent changes are required under the special driving conditions listed in the **Maintenance Schedule**. Drain the oil soon after the engine reaches operating temperature to assure complete removal of used oil and contaminants.

A typical oil filter removing tool will help remove the filter. Apply a thin film of oil to the new filter gasket before installation to reduce the chance of tearing. Install the filter until the gasket contacts the engine mounting surface. Tighten securely by hand, an additional 3/4 turn.

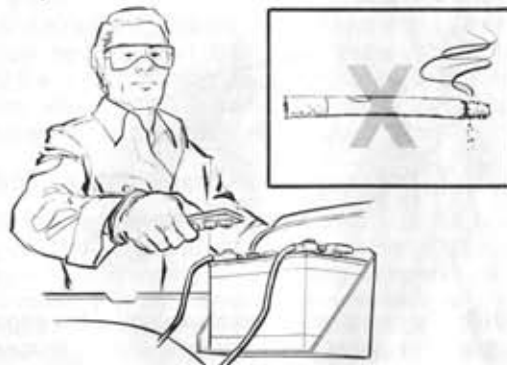
**CAUTION:** On CJ models with 6-cylinder engines, always use a short-type oil filter (AMC/Jeep Part No. 8993146).

After installing the oil pan drain plug and oil filter, add new oil to the crankcase. (Four quarts, 3.8 litres for eight-cylinder engines, 5 quarts, 4.8 litres for six-cylinders, plus one more quart or litre if the filter was replaced.)

Operate the engine first at idle speed, then at fast idle and check the drain plug and filter for leaks.

## Battery

**WARNING:** Do not service the battery without wearing safety glasses, rubber gloves and protective clothing. Battery fluid contains sulfuric acid and must be kept away from eyes, skin, clothing and the vehicle painted surfaces. If acid contacts any of these, flush immediately with large amounts of water. Get medical attention if acid contacts skin or eyes.

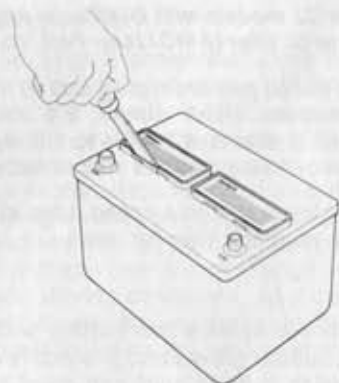


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**WARNING:** Batteries can explode and cause serious bodily injury. Don't smoke while checking or servicing the battery. Keep open flames or sparks away from battery filler caps since explosive gas is always present.

**WARNING:** Do not allow tools or metal objects to contact the battery posts and the vehicle at the same time. Disconnect the battery negative cable when checking or servicing the battery.

Lift the battery cell caps with a nonmetallic tool and look into each filler well. Maintain the fluid level above the



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### Checking Battery Fluid Level

## Engine Coolant



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**WARNING:** Do not check coolant level on a hot engine. If an emergency requires a coolant level check, proceed as follows:

1. Stop the engine and raise the hood.
2. Let the engine cool at least 15 minutes or until the radiator cap is cool enough to touch without burning your hand.
3. Place a heavy rag or towel over the radiator cap, and turn it counterclockwise to the first stop, to release the coolant pressure.
4. Only after all pressure has escaped, push down on the cap and continue to turn it counterclockwise to the second stop, then remove the cap.

4. Only after all pressure has escaped, push down on the cap and continue to turn it counterclockwise to the second stop, then remove the cap.
5. At normal operating temperature, coolant level should be 1/2 to 1-inch (13 to 25 mm) below the bottom of the radiator filler neck. With coolant recovery, the coolant should be filled to the bottom of the filler neck and also between the ADD and FULL marks on the coolant recovery bottle.
6. Without coolant recovery, add coolant to the radiator, if necessary, only when the engine has cooled. With coolant recovery, add coolant to the coolant recovery bottle.
7. Install the radiator cap.
8. Obtain corrective service immediately to determine the cause of overheating.

### Systems Without Coolant Recovery

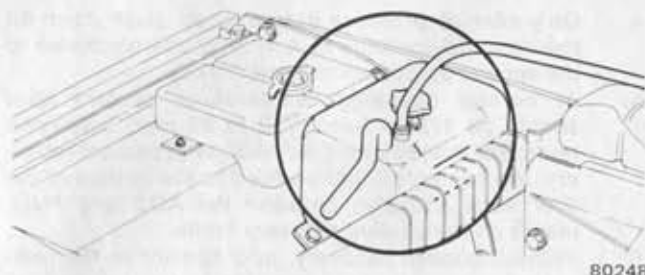
Check the radiator coolant level when the engine is COLD. Maintain coolant level 1-1/2 to 2 inches (38 to 51 mm) below the rear of the filler-neck surface (1/2 to 1 inch, 13 to 25 mm when hot). We recommend a 50/50 mixture of permanent-type antifreeze and water.

### Systems With Coolant Recovery

Check the coolant level at the recovery bottle, not at the radiator. The proper level is between the ADD and FULL marks with the engine at operating temperature. Add a 50/50 mixture of permanent-type antifreeze and water to the bottle if necessary to raise the level. Do not remove the radiator cap unless necessary. Do not fill the reservoir above the FULL mark. A special radiator cap ensures sealing and allows the normal expansion of coolant to flow to the reservoir when hot and return as the engine cools. Use only the proper cap if replacement is necessary.

**WARNING:** If the engine begins to overheat, and the reservoir coolant level is above the ADD mark, remove the radiator cap following the coolant "WARNING" procedure above. Coolant level should be right up to the base of the filler neck. If not, a leak may exist. Check hose to recovery bottle for air leakage which would prevent coolant from returning to the radiator during recovery. See your Jeep dealer for diagnosis.





**Coolant Recovery Bottle**

### Coolant

Year-round coolant is installed at the factory to last through two years of normal operation, if the coolant is maintained at the original concentration. In normal operation, flush and refill the cooling system at the **Maintenance Schedule** interval.

When adding or replacing coolant use a 50/50 mixture of high-quality, ethylene glycol antifreeze and water. Use this mixture year-round for protection against corrosion, boiling and engine damage. (Consult your Jeep dealer for recommendations if greater protection is required.)

**WARNING:** Do not remove the radiator cap on a hot engine. Refer to Engine Coolant Warning above for correct procedure.

**CAUTION:** Do not use any salt base antifreeze. Cooling system damage may result.

### Thermostat

The operating temperature of the engine cooling system is controlled by a preset thermostat. If the thermostat malfunctions, heater performance will be poor or the engine will overheat. Consult your Jeep dealer for diagnosis.

### Draining Cooling System

Loosen the drain cock on the radiator bottom tank. Drain coolant from the engine block by removing the drain plugs.

- Six-Cylinder—two located on left side of block which may contain one of two emission control vacuum switches.
- Eight-Cylinder—centrally located on each side of block.

**WARNING:** Do not remove block drains with system under pressure as serious burns from coolant may occur.

### Refilling Cooling System

Install all drain plugs and tighten the radiator drain cock. Add the proper mixture of coolant to meet local requirements for freeze protection (at least 50% antifreeze). Fill the radiator to the proper coolant level. On vehicles with coolant recovery, fill the radiator to the top.

After filling the system, run the engine to operating temperature with the cap off. On Cherokee, Wagoneer and Truck, depress the HEAT button of the heater control so coolant also enters the heater core. When the engine is warm, add coolant to the proper radiator level and install the radiator cap.

With coolant recovery, fill the radiator to the top, install the cap, and add additional coolant to the recovery bottle. It may be necessary to add coolant to the recovery bottle after several heating and cooling periods of engine operation.

### Manual Transmission and Model 20 Transfer Case

The fill holes are located on the right side of the 3-speed transmission, on the left side of the 4-speed transmission, and on the rear of the transfer case. Remove the fill plugs. Lubricant should be level with each fill hole.

## Fluid Change

Change manual transmission (3-speed or 4-speed) and Model 20 Transfer Case lubricating fluid at the same time. See Fluid Capacities chart for quantity.

### To change fluid:

1. Remove fill plugs first and then drain plugs.
2. Allow unit to drain completely.
3. Install drain plugs.
4. Fill unit to bottom level of fill holes.
5. Install fill plugs.

## Automatic Transmission Fluid

Check while the transmission is at normal operating temperature. This occurs after at least 15 miles (25 km) of expressway driving or equivalent city driving. At normal operating temperature, the gauge end of the dipstick will be too hot to hold comfortably.

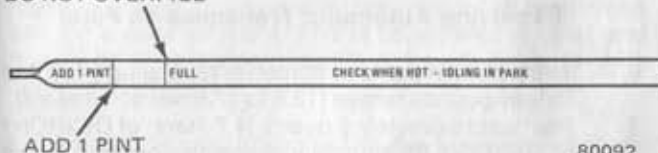
**NOTE:** If necessary to check the transmission below operating temperature, the fluid level should be approximately 1/4 inch (6 mm) below the ADD mark with the fluid at approximately 75°F (24°C) (room temperature). If the fluid level is correctly established at room temperature, it should be at the full mark on the dipstick when the transmission reaches normal operating temperature (170°F or 77°C). It is best to check the level at normal operating temperature.

1. Operate engine at idle speed and normal operating temperature.
2. Place vehicle on level surface, apply parking brake and move gearshift lever through all ranges. Shift to Park.
3. Push down on dipstick cap and turn counter-clockwise to remove. Wipe stick clean and insert fully. Remove dipstick again and note fluid level on both sides. Fluid level should be between the ADD and FULL marks at normal operating temperature. If fluid is low, add as required into the dipstick tube. Use DEXRON® or DEXRON II® automatic transmission fluid only. **Do not overfill.** Check for leaks.



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DO NOT OVERFILL



80092

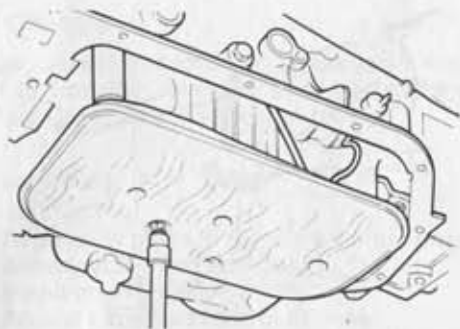
### Automatic Transmission Dipstick

**CAUTION:** Do not overfill transmission, as this will cause foaming and loss of fluid through the vent pipe.

## Fluid Change

Change fluid every 30,000 miles (48 000 km) for normal driving and every 10,000 miles (16 000 km) for heavy-duty operation.

1. Drain fluid immediately after vehicle operation, before it cools. Remove the transmission bottom pan screws, pan and gasket.
2. Remove oil filter and discard.
3. Remove and discard O-ring seal from the pick-up pipe.
4. Install new O-ring seal on the pick-up pipe and install the filter and pipe assembly.
5. Thoroughly clean the bottom pan and position a new gasket on the pan. Use petroleum jelly or equivalent to position the gasket.



### Removing Automatic Transmission Filter

6. Install bottom pan and tighten screws snugly to 10 to 13 foot-pounds torque (13.6 to 17.6 Newton meters).
7. Pour approximately 5 quarts (4.7 liters) of DEXRON® or DEXRON II® automatic transmission fluid in the filler pipe.

**CAUTION:** Be sure that container spout, funnel or other items in contact with the fluid are clean. Dirt can damage the transmission or prevent proper shifting.

8. Start engine and allow it to idle for a few minutes.
9. Apply brake pedal and parking brake. Shift transmission into all positions, then place the selector lever in P (Park).
10. With transmission warm, check fluid level. Add fluid to raise level to the FULL mark.

### Quadra-Trac®

**Without Reduction Unit:** Remove fill plug and check level. Fluid should be at bottom of filler hole.

**With Reduction Unit:** Remove reduction unit fill hole plug and check level. Add fluid if necessary. Install plug and remove Quadra-Trac® transfer case fill hole plug. Check level and add if necessary.

**CAUTION:** Do not use any fluid that does not meet Jeep specifications.

### Quadra-Trac® Transfer Case Lubrication

#### "Stick-Slip" Condition

A condition called "Stick-Slip" can occur after extensive straight-ahead driving on dry pavement, resulting from the lubricant being spun off the transfer case brake cones. If it occurs, a constant, pulsating, low-frequency, grunt-like or rasping noise will be evident at slow or "crawl" speeds, such as when slowly turning a corner, or when parking.

**NOTE:** "Stick-Slip" can occur after extended high-speed highway driving or driving after the vehicle has been sitting idle for a week or more. This is considered normal, and should be of no concern, as the noise will disappear with continued driving.

If Stick-Slip occurs, drain the Quadra-Trac® unit and refill with fresh Quadra-Trac® lubricant, available at your Jeep dealer.

After draining and refilling, it may be necessary to drive the vehicle in circles (in an open area) both clockwise and counterclockwise for about 15 minutes to force the fresh lubricant into the differential unit and to make the cones operate.

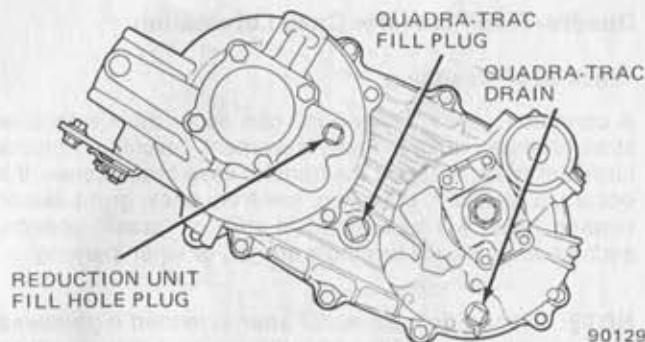
**CAUTION:** Do not hold the front wheels in a full turn. Keep the wheel about half a turn off the stop position to prevent power steering component overheating.

#### Fluid Change

Change fluid as specified in the **Maintenance Schedule** for normal and heavy-duty operation. Use special Quadra-Trac® lubricant, available at your Jeep dealer. Refer to the Fluid Capacities chart for quantity.

**CAUTION:** Do not overtighten fill plugs, drain plugs, and reduction housing bolts. Tighten plugs and 3/8-16 bolts to 15 to 25 foot-pounds (20.3 to 33.9 Newton meters) and 5/16-18 bolts to 10 to 20 foot-pounds (13.6 to 27.1 Newton meters) torque. Overtightening can strip threads or break the aluminum case.





**Quadra-Trac® Transfer Case**

#### Without Reduction Unit

Remove fill plug and drain plug, and allow the transfer case to drain completely. Install drain plug. Fill to bottom of fill hole with Quadra-Trac® lubricant as specified above. Install fill plug.

#### With Reduction Unit

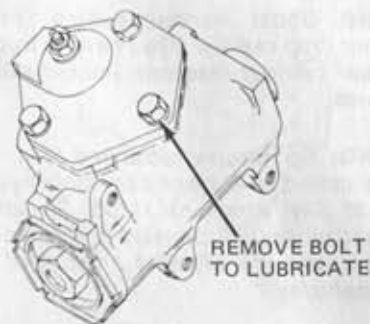
Remove the transfer case and reduction unit fill plugs. Remove the transfer case drain plug. After it has drained **completely**, install the drain plug.

The reduction unit has no drain plug. Loosen the five bolts on the housing so that the unit can be pulled back far enough to permit the unit to drain. After it has drained completely, position the housing and tighten the bolts.

First, fill the reduction unit to fill hole level with Quadra-Trac® lubricant as specified above. Install the fill plug. Next, fill the transfer case to fill-hole level with the specified lubricant. Install fill plug.

### Manual Steering Gear

Remove the side cover bolt opposite the adjuster screw. The lubricant should be at the level of the bolt hole. If abnormally low, check for leaks. Use AM All-Purpose Lubricant or Lithium-base Multi-Purpose Chassis Lubricant to replenish.



**Manual Steering Gear**

### Power Steering Pump

Wipe the cap and neck clean, remove the filler cap and observe the fluid level on the dipstick. Fluid level should be between the ADD and FULL marks. If abnormally low, check the power steering system for leaks. Fill to the proper level with AMC/Jeep Power Steering Fluid.



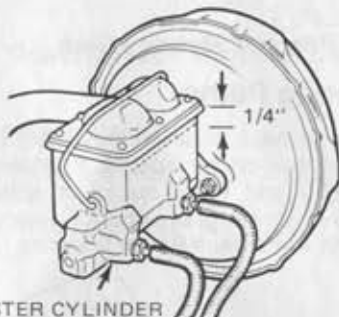
**Power Steering Pump Filler Cap**

### Brake Master Cylinder

Clean the top of the cover and surrounding housing area. Unsnap the bail and remove the cover. The fluid should be 1/4 inch (6 mm) below the rim of each well in the reservoir. If not, add brake fluid as required and install cover. Use only Jeep Heavy-Duty Brake Fluid or equivalent, meeting SAE Standard J1703, and Federal Standard No. 116, DOT 3 Fluid.

**WARNING:** Under normal service, brake fluid level should not drop rapidly. If you have to frequently replenish the master cylinder reservoir, immediately obtain corrective service.

**WARNING:** Do not use reclaimed fluid, mineral oil, fluid that was stored in old or open containers, or brake fluid inferior to SAE Standard J1703. Be sure to handle the brake fluid in clean dispensers and containers that will not introduce even the slightest amount of other liquids or foreign particles.

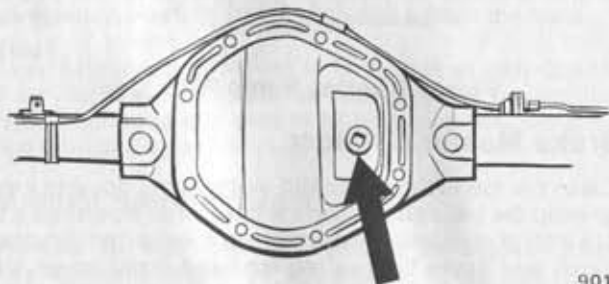


Master Cylinder Cover

60645

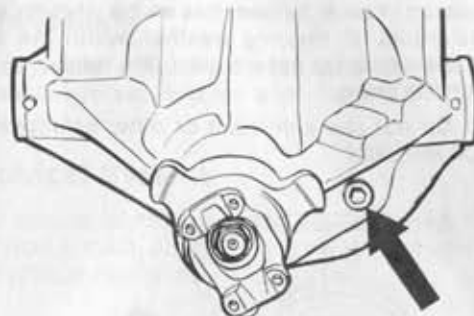
## Front and Rear Axle Differentials

The lubricant level of all differentials should be at the bottom level of the fill hole or slightly below.



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Axle Plug Locations—  
All Differentials Except CJ Rear Axle



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CJ Rear Axle Plug Location

## Fluid Change

Use the fluid listed in the Recommended Fluids and Lubricants chart. The **Maintenance Schedule** lists the change interval. Quantity required is listed in the Fluid Capacities chart by axle model. The axle model number is cast on the axle housing.

### To change fluid:

1. Remove the filler plug.
2. Remove the axle differential housing cover.
3. Allow lubricant to drain completely.
4. On all differentials (except Trac-Lok®) flush the differential with a flushing oil or light engine oil to clean out the housing. Do not use water, steam, kerosene or gasoline for flushing. Trac-Lok® differentials may be cleaned only by disassembling the unit and wiping with clean, lint-free rags. Do not flush the unit.
5. Check condition of the differential housing cover gasket. Replace if necessary.
6. Install gasket and differential housing cover.
7. Tighten the cover bolts to 15 to 25 foot-pounds (20 to 34 N•m) torque.
8. Add new lubricant to the fill-hole level and install fill plug.

## Windshield Washer Fluid

The windshield washer reservoir, located under the hood, must be refilled periodically with water and a washer sol-

vent. All-Season Washer Solvent has an ice inhibitor and a washing detergent. In freezing weather, warm the windshield with the defroster before using the washer to prevent icing on the glass.

**CAUTION:** Do not use antifreeze or other solutions that can damage the paint.



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### Windshield Washer Fluid Reservoir—Typical

## Emission Control Certification and Under-hood Label

A nonremovable plastic label certifies compliance with all federal and state regulations for environmental control. The label identifies the **engine family** determined by certification and outlines some basic tune-up specifications. It is located in front of the radiator of all models. To maintain maximum performance and vehicle life, and to operate within environmental regulations, the vehicle must be serviced according to the specifications on the label, and the instructions in the **Maintenance Schedule**, located in the glove box.

## Tune-Up Specifications

Engine Tune-Up Specifications for your vehicle are printed on the nonremovable label described above. They are not listed in this manual. The label provides the latest information available for your vehicle with the equipment you selected. The 1979 Technical Service Manual and the 1979 Jeep Service Specifications Handbook list tune-up procedures and service specifications for all 1979 Jeep vehicles. These publications are available by using the order blank at the rear of this manual.

## Drive Belts

Check tension and condition of belts at the **Maintenance Schedule** interval. Replace belts that are worn, cracked or frayed.

## Electrical System

Your vehicle is equipped with a 12-volt, negative-ground electrical system, charged by an alternator and controlled by a voltage regulator.

## Servicing the Battery

Check battery condition before every winter season and service as necessary. Refer to *Checking and Changing Fluids*.

**WARNING:** Do not service the battery without wearing safety glasses, rubber gloves and protective clothing. Battery fluid contains sulfuric acid and must be kept away from skin, eyes, clothing and the vehicle painted surfaces. If acid contacts any of these, flush immediately with large amounts of water. Get medical attention.

**WARNING:** Batteries can explode and cause serious bodily injury. Don't smoke while checking or servicing the battery. Keep open flames or sparks away from battery filler caps since explosive gas is always present.

1. Remove battery negative cable and then the positive cable.
2. Clean the cables and terminal posts with a wire brush terminal cleaner.
3. Clean the battery and battery box with a solution of baking soda and water, then rinse thoroughly.
4. Remove the battery holddown and tip the battery slightly to drain dirty water through the slots provided.
5. Fasten the battery holddown, but do not overtighten.
6. Attach the positive cable and then the negative cable.
7. Apply a small amount of grease or protective coating to the cable ends to minimize corrosion.



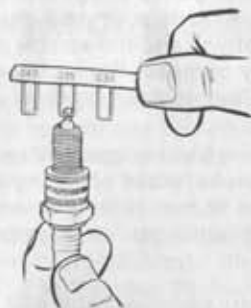
## Ignition System

All models have electronic ignition which uses an electronic control unit, trigger wheel and sensor circuit, requiring minimum servicing. The **Maintenance Schedule** folder lists the items requiring periodic service.

## Spark Plugs

Replace spark plugs during the scheduled engine tune-up. (Refer to **Maintenance Schedule**.) Measure plug gap with a round wire gauge and adjust by carefully bending the side electrode to provide the specified gap.

**NOTE:** U.S. vehicles with factory-installed CB radios are equipped with resistor-type spark plugs for improved radio performance. All vehicles sold in Canada are equipped with resistor-type spark plugs. When replacing spark plugs, be sure to install original-type equipment or equivalent.



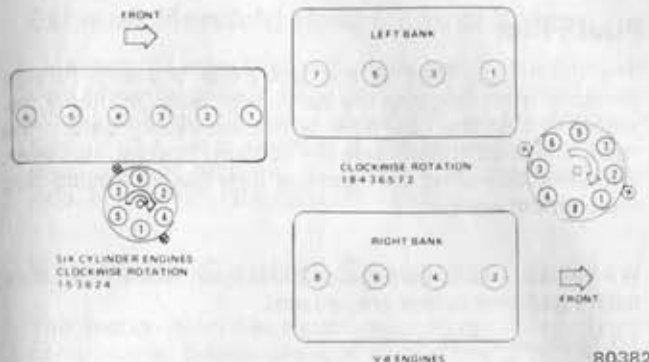
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## Checking Spark Plug Gap

## Ignition Timing

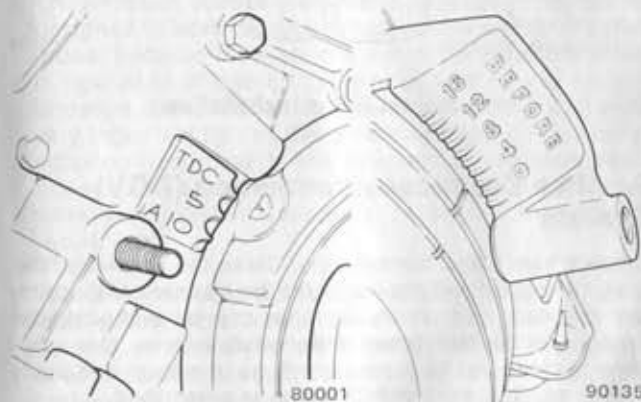
Use a timing light with an inductive pickup, and follow the tool manufacturer's instructions for operation. Connect the pickup to number 1 cylinder. Specifications and critical timing instructions appear on the engine underhood label.

**WARNING:** Do not use timing lights that require disconnecting plug wires to make connections. Sparks may cause personal injury or damage to electronic components.



80382

## Firing Order and Cylinder Arrangement



## Ignition Timing Marks Six-Cylinder

## Ignition Timing Marks Eight-Cylinder

## Air Cleaner

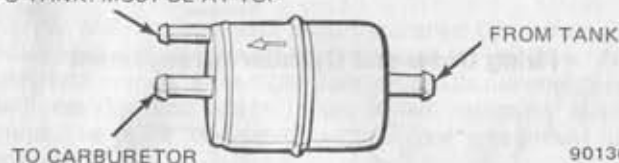
A replaceable paper element filters incoming air for combustion. Replace the paper cartridge at the **Maintenance Schedule** interval listed. Replace more frequently if operating under dusty conditions.

## Fuel Filter

The in-line fuel filter at the carburetor prevents foreign particles from clogging the carburetor jets. Ordinarily, replacement of the fuel filter is not necessary before the recommended 15,000-mile (24 000 km) interval. However, abnormal operating conditions or dirty gasoline could clog the element sooner.

**WARNING:** Do not smoke or have open flame in an area where gasoline fumes are present.

TO TANK: MUST BE AT TOP

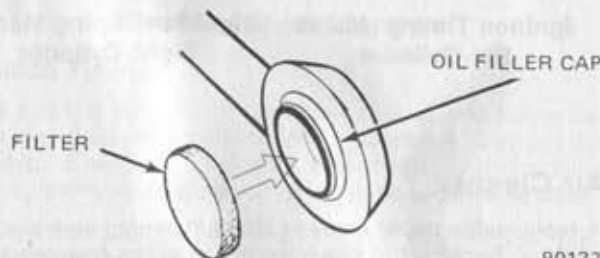


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**Correct Fuel Filter Installation**

## Positive Crankcase Ventilation (PCV) System

Inspect hoses and connections. Clean the urethane filter inside the plastic container in the air cleaner on six-cylinder engines, and on the oil filler cap on eight-cylinder engines, at the **Maintenance Schedule** interval. Use kerosene to clean the filter, squeeze it dry in a towel and apply engine oil. **Replace the PCV valve as prescribed.**



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**Eight-Cylinder Oil Filler Cap Filter**

## Exhaust Manifold Heat Control Valve

Lubricate the valve shaft with AMC/Jeep Heat Valve Lubricant when the valve is cold. Do not use any type of grease. On six-cylinder engines, the valve is on the engine left side, in the lower portion of the exhaust manifold. On eight-cylinder engines, the valve is on the engine right side, at the end of the exhaust manifold.

## Emission Control Systems

This section describes basic operation of emission control components. Details are available in the 1979 Technical Service Manual. Use the order blank at the rear of this manual.

The emission control system is a package of components designed to work together to control the effects of exhaust gases. Because the system is a total package, any change in operation of one component can affect the output of undesirable emissions or power plant life. It is therefore very important that all items be inspected, connected and adjusted according to the intervals in the **Maintenance Schedule** and Jeep Corporation specifications. Otherwise increased exhaust emissions or engine damage may result.

The emission control system has components to control fuel evaporation, crankcase emissions, engine combustion and quality of exhausted gases. The combined effect limits the amount of unburned hydrocarbons (HC), carbon monoxide (CO), and nitric oxides (NO<sub>2</sub> or NO<sub>x</sub>), within state and federal regulations.

## Emission Control System Warranty

### U.S. Warranty

Jeep Corporation warrants to the owner that this vehicle (or the engine installed in such vehicle as specified under the applicable regulations) is (1) designed, built, and equipped to conform, at the time of sale, with applicable regulations of the Federal Environmental Protection

Agency regulations issued under Section 202 of the National Emission Standards Act, and (2) free from defects in materials and workmanship, which would cause such vehicle or engine to fail to conform with applicable regulations for a period of five (5) years from the date of first use or 50,000 miles, whichever occurs first. Jeep Corporation's obligation under this warranty is to repair or replace, at an authorized Jeep dealer's place of business, any part which proves to be defective, and would cause the vehicle to fail to conform with such regulations. This warranty applies only to vehicles first sold and used in the United States.

### Canadian Warranty

Jeep Division, American Motors (Canada) Ltd. warrants to the owner that this vehicle and the engine installed in such vehicle is (1) designed, built and equipped to conform, at the time of manufacture with applicable Canadian Federal Emission Standards, and (2) free from defects in materials and workmanship, at the time of manufacture, which would cause such vehicle or engine to fail to conform with such regulations for a period of twelve (12) months from the date of first use or 20 000 kilometers, whichever occurs first. Jeep of Canada's obligation under this warranty is to repair or replace, at an authorized Jeep dealer's place of business in Canada or the 50 United States, any part which proves to be so defective or is required to bring the vehicle or engine into conformity with such regulations.

### Performance Symptoms

After the first 1,200 miles (1 930 km) of driving, if your vehicle misfires, stumbles, knocks, or suffers a great loss in performance (when fully warmed up), it may be caused by the emission control system. See your Jeep dealer for diagnosis and repair, if required.

### Control of Fuel Evaporative Emissions

The **Fuel Evaporative Control System (FEC)** is used on all models. Fuel tank and carburetor vents are sealed and routed to a black charcoal canister. It adsorbs fuel vapors and vents them into the engine to be burned.

A **fuel return line** routes fuel from the fuel filter to the fuel tank preventing excess vaporization in the carburetor feed line. This eliminates vapor lock and improves hot restarts.

### Control of Crankcase Emissions

The **Positive Crankcase Ventilation System (PCV)** eliminates the emission of crankcase fumes into the atmosphere. Engine vacuum recirculates crankcase vapors through a one-way valve into the engine for burning. A PCV filter in the air cleaner (six-cylinder), or the oil filler cap (eight-cylinder), requires periodic service as specified in the **Maintenance Schedule**.

### Control of Combustion Quality

A thermal-sensor in the **Thermostatically Controlled Air Cleaner System (TAC)** selects the temperature of air entering the air cleaner to improve air-fuel vaporization. This system improves carburetor performance at a range of temperatures, including cold weather driveability. It also reduces hydrocarbon and carbon monoxide emissions and improves fuel economy.

### Carburetors

Each engine has a **specially-calibrated carburetor** to deliver a precise air-fuel mixture to each cylinder. Some carburetors have a **throttle-stop solenoid** which controls curb idle speed when running. The solenoid retracts when the ignition switch is turned off, to close the throttle and prevent engine run-on or dieseling.

The **choke circuit** provides a richer fuel mixture and faster idle speed when cold. Exhaust heat, and on some models electric heating coils, relax the choke spring and allow the valve to open. With the engine off and the throttle partially open, the choke valve and linkage should move easily from completely closed to full open. Binding prevents proper carburetor performance.



**NOTE:** *California cars with six-cylinder engines are equipped with a special electric blower motor to aid compliance with the California Air Quality Standards. A heat-sensing switch activates the blower motor. The blower may continue to run for up to 12 minutes after the engine is turned off.*

### Engine Combustion Chamber and Internal Design

The air-fuel mixture enters a **combustion chamber** shaped to control the combustion process and reduce undesirable emissions. The timing of combustion is controlled by an **electronic ignition** system.

To reduce combustion temperatures and resultant oxides of nitrogen, the **Exhaust Gas Recirculation System (EGR)** is standard on all models. The combination EGR valve and exhaust back-pressure sensor is bolted directly to the intake manifold. They allow approximately 10-12% of the exhaust gases to enter the intake manifold and the cylinders and lower combustion temperatures.

The **exhaust manifold heat-control valve** speeds up the warming action of the engine and assists fuel vaporization, thus aiding performance when the engine is cold.

### Control of Exhaust Emissions

The **Air Guard Emission System (AGE)** uses a belt-driven air pump to promote further burning of hydrocarbons and carbon monoxide in the exhaust manifold. It injects filtered air into the exhaust to oxidize the unburned gases.

### Catalytic Converter

**Catalytic Converters** are used on all models. A catalytic converter is a muffler-like canister located in the exhaust system between the engine and muffler. Two types are used, but both function the same way. The pellet type is filled with small alumina beads coated with a platinum palladium mixture. The monolithic type is filled with a honeycomb material also coated with a platinum palladium mixture.

The coating acts as a catalyst and converts carbon monoxide and unburned hydrocarbons into harmless carbon dioxide and water vapor. The converter is designed to last the life of the vehicle under normal usage and service when burning unleaded fuel. The combination of catalytic converter and unleaded fuel provides low emission levels and reduced maintenance. Leaded fuel, prohibited by Federal law, prevents the catalytic action and results in substantially higher emissions. It can also plug the converter, which can cause engine damage. If the catalyst has been contaminated by the use of leaded fuels, it may be necessary to replace the coated beads (pellet type), or the entire catalytic converter (monolithic type).

### Catalytic Converter Cautions

**WARNING:** *Be careful where you drive or park. As with any exhaust system, catalytic converter temperatures can get quite hot and under certain conditions might ignite combustible materials such as dry grass, leaves or brush.*

**CAUTION:** *Keep your engine properly tuned and the exhaust system in good shape. An out-of-tune engine or certain carburetion or ignition malfunctions could cause the converter to overheat, possibly damaging it or your vehicle. The following warning signs will let you know if your converter is getting too hot. First, you will notice a pungent odor, "like something is burning." Second, and more critical, you may notice some light smoke. Either warning means your engine may be out of tune or malfunctioning and requires immediate service correction. Don't continue to drive if the engine regularly misfires, stalls or quits. Get the problem diagnosed and fixed promptly.*

**CAUTION:** *If your engine will not start after a short period of time, do not continue to crank the engine since unburned fuel could enter the converter. Once the engine has started, the fuel could ignite and cause the converter to overheat and rupture.*

**CAUTION:** If your vehicle has a manual transmission, don't push or tow it to get it started. Unburned fuel mixture could enter the converter, and once the engine has started, ignite and cause the converter to overheat and rupture.

**CAUTION:** If you have your vehicle undercoated, make sure no undercoating material is sprayed on the exhaust system. It could cause smoke and odor.

If you intend to ship the vehicle overseas to areas where unleaded fuel is not available, and then return it to the U.S.A., write to the following address for information concerning compliance with Environmental Protection Agency import requirements and protection of the catalytic converter:

**American Motors Corporation  
International Operations  
27777 Franklin Road  
Southfield, Michigan 48034**

## Chassis Service Federal Safety Certification

This nonremovable plastic label certifies compliance with all Federal Motor Vehicle Safety Standards. On CJ models the label is located on the instrument panel. On Cherokee, Wagoneer and Truck models, it is located on the driver's side door lock pillar.

|  |                |      |
|--|----------------|------|
| MFD. BY: <b>Jeep Corporation</b>   |                | DATE |
| GVWR:  | MIN. TIRE SIZE |      |
| GAWR. FRT.   | MIN. TIRE SIZE |      |
| GAWR. RR.  | MIN. TIRE SIZE |      |
| MAX. COLD TIRE PRESS. FRT.   |                | RR.  |
| RIM SIZE   |                |      |
| THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE. |                |      |
| VEHICLE NUMBER   |                |      |
| TYPE   |                |      |

**Safety Certification Label**

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## Tires and Wheels

### Tire Changing

To assist you in time of emergency, the tire change procedure is in *Emergency Information* at the rear of this manual. You can find the section by locating the grey-bordered pages.

### Tire Pressures and Capacity

Correct tire pressures depend on tire size, tire ply, gross vehicle weight rating (GVWR), vehicle load and the type of driving.

For satisfactory 4-wheel drive operation, the vehicle **MUST** be equipped with the same size tires of equal circumference on all four wheels. The tires must also be inflated at all times to the pressures recommended by Jeep Corporation.

Check and adjust tire inflation monthly, especially when extreme changes in average seasonal temperatures occur. Check pressures when tires are cold—driven less than 2 miles at speeds of less than 40 MPH (64 km/h) or after the vehicle has been at rest for at least 6 hours.

**WARNING:** Do not reduce inflation pressure if the tires are hot—driven over 10 miles (16 km) in excess of 60 MPH (96 km/h). Hot tire pressure may increase as much as 6 psi over cold pressures. If tire pressure must be adjusted while hot, temporarily set pressure at 6 psi greater than those specified (10 psi for sustained high speeds), until you can check and adjust cold inflation pressure. Do not exceed the maximum inflation pressure shown on the tire.

Refer to the Tire Inflation Pressures (PSI) table for your vehicle's inflation pressures. Pressures specified are precisely measured for the tire sizes recommended for each Jeep vehicle model at the GVW rating.

## Tire Pressure Chart

| Model                     | GVW Rating |      | Tire Size          | Load Range        | Normal Load <sup>(1)</sup>                              |      |                         |      | Maximum Load <sup>(2)</sup>                             |      |                         |      | Wheel Size                    |
|---------------------------|------------|------|--------------------|-------------------|---|------|-------------------------|------|---|------|-------------------------|------|-------------------------------|
|                           | lbs        | kg   |                    |                   | Sustained Driving Over 65 mph (105 km/h) <sup>(4)</sup> |      | Under 65 mph (105 km/h) |      | Sustained Driving Over 65 mph (105 km/h) <sup>(4)</sup> |      | Under 65 mph (105 km/h) |      |                               |
|                           |            |      |                    |                   | Front   | Rear | Front                   | Rear | Front   | Rear | Front                   | Rear |                               |
| CJ-5<br>&<br>CJ-7         | 3750       | 1700 | 9-15               | B                 | 30  | 30   | 20                      | 20   | 35  | 35   | 25                      | 25   | 15 x 8<br>15 x 5.50<br>15 x 8 |
|                           | &<br>4150  | 1882 | H78-15<br>(H78-15) | B & D<br>B        | 24  | 24   | 20                      | 20   | 28  | 28   | 24                      | 24   |                               |
| Cherokee<br>&<br>Wagoneer | 6025       | 2733 | G78-15             | D                 | 30  | 30   | 26                      | 26   | 40*   | 40*  | 38                      | 38   | 15 x 6                        |
|                           |            |      | H78-15             | B                 | 26  | 26   | 22                      | 22   | 32*   | 32*  | 32                      | 32   | 15 x 6                        |
|                           |            |      | H78-15             | B                 | 26  | 26   | 22                      | 22   | 32*   | 32*  | 32                      | 32   | 15 x 6                        |
|                           |            |      | HR78-15            | B                 | 26  | 26   | 22                      | 22   | 32*   | 32*  | 32                      | 32   | 15 x 6                        |
|                           |            |      | HR78-15            | C                 | 26  | 26   | 22                      | 22   | 36  | 36   | 32                      | 32   | 15 x 6                        |
|                           |            |      | HR78-15            | C                 | 26  | 26   | 22                      | 22   | 36  | 36   | 32                      | 32   | 15 x 6                        |
|                           |            |      | L78-15             | B                 | 24  | 24   | 20                      | 20   | 32  | 32   | 28                      | 28   | 15 x 8                        |
|                           |            |      | P225/75R-15        | SL <sup>(3)</sup> | 26  | 26   | 22                      | 22   | 35*   | 35*  | 32                      | 32   | 15 x 6                        |
|                           |            |      | 10-15              | B                 | 30  | 30   | 20                      | 20   | 40*   | 40*  | 30                      | 30   | 15 x 8                        |
| J-10 Truck                | 6025       | 2733 | G78-15             | D                 | 32  | 32   | 28                      | 28   | 40*   | 40*  | 38                      | 38   | 15 x 6                        |
|                           |            |      | H78-15             | B                 | 28  | 28   | 24                      | 24   | 32*   | 32*  | 32                      | 32   | 15 x 6                        |
|                           |            |      | H78-15             | D                 | 28  | 28   | 24                      | 24   | 36  | 36   | 32                      | 32   | 15 x 6                        |
|                           |            |      | HR78-15            | B                 | 26  | 26   | 22                      | 22   | 32*   | 32*  | 32                      | 32   | 15 x 6                        |
|                           |            |      | HR78-15            | C                 | 26  | 26   | 22                      | 22   | 36  | 36   | 32                      | 32   | 15 x 6                        |
|                           |            |      | HR78-15            | C                 | 26  | 26   | 22                      | 22   | 36  | 36   | 32                      | 32   | 15 x 6                        |
|                           |            |      | P225/75R-15        | SL <sup>(3)</sup> | 26  | 26   | 22                      | 22   | 35*   | 35*  | 32                      | 32   | 15 x 6                        |
|                           |            |      | 10-15              | B                 | 30  | 30   | 20                      | 20   | 40*   | 40*  | 30                      | 30   | 15 x 8                        |

90144A

## Tire Pressure Chart (Contd.)

| Model                                      | GVW Rating           |                      | Tire Size  | Load Range       | Normal Load <sup>1</sup>                              |      |                         |      | Maximum Load <sup>2</sup>                             |      |                         |        | Wheel Size  |
|--|----------------------|----------------------|--|------------------|---|------|-------------------------|------|---|------|-------------------------|--------|---|
|  | lbs                  | kg                   |  |                  | Sustained Driving Over 65 mph (105 km/h) <sup>4</sup> |      | Under 65 mph (105 km/h) |      | Sustained Driving Over 65 mph (105 km/h) <sup>4</sup> |      | Under 65 mph (105 km/h) |        |   |
|  |                      |                      |  |                  | Front   | Rear | Front                   | Rear | Front   | Rear | Front                   | Rear   |   |
| J-20 Truck                                 | 6800<br>7600<br>8400 | 3084<br>3447<br>3810 | 8.75-16.5<br>9.50-16.5<br>9.50-16.5<br>9.50-16.5 | C<br>D<br>D<br>D | 40  | 40   | 30                      | 30   | 50*   | 55*  | 40                      | 45     | 16.5 x 6<br>16.5 x 6.75<br>16.5 x 6.75<br>16.5 x 6.75 |
|  |                      |                      |  |                  | 45  | 45   | 35                      | 35   | 55*   | 70*  | 45                      | 60     |   |
|  |                      |                      |  |                  | 45  | 45   | 35                      | 35   | 55*   | 70*  | 45                      | 60     |   |
|  |                      |                      |  |                  | 45  | 45   | 35                      | 35   | 55*   | 70*  | 45                      | 60     |   |
| Cherokee & Wagoneer with Snow Plow Package | 6025                 | 2732                 | H78-15   | D                | 26  | 26   | 22                      | 22   | 40*   | 40*  | 38                      | 15 x 6 | Aluminum Wheel is 15 x 7                              |
|  |                      |                      |  |                  | 28  | 28   | 24                      | 24   | 40*   | 40*  | 38                      | 15 x 6 |   |
| J-10 Truck with Snow Plow Package          | 6025                 | 2732                 | H78-15   | D                | 28  | 28   | 24                      | 24   | 40*   | 40*  | 38                      | 38     | 15 x 6  |

NOTE: Inflate tires while cold, before running. Do not reduce pressure if tires are warm.

\*Speed limited to 74 mph (119 km/h).

(1) Normal Load: Frequently selected accessories plus driver and two passengers. For CJ models, driver and one passenger.

(2) Maximum Load: Gross Vehicle Weight Rating (GVWR).

(3) SL is approximate metric tire equivalent of load range B.

(4) Sustained driving over 74 mph (119 km/h) for Cherokee and Wagoneer except where indicated by asterisk (\*).

90144B

## Tire Pressure Sticker

The tire pressures required for your vehicle appear on a sticker located in the glove box.

| TIRE INFLATION (PSI) PRESSURES "COLD"                              |            |                                    |           |
|--|------------|------------------------------------|-----------|
| TIRE SIZE  | LOAD RANGE | NORMAL LOAD                        | MAX. LOAD |
| NORMAL SPEED   |            | Frt.                               | Frt.      |
|  |            | Rr.                                | Rr.       |
| SUSTAINED HI SPEED<br>(over 65 mph)                                |            | Frt.                               | Frt.      |
|  |            | Rr.                                | Rr.       |
| NORMAL LOAD  |            |                                    |           |
| Frequently selected accessories plus driver and two (2) passengers |            |                                    |           |
| MAXIMUM LOAD   |            | GROSS VEHICLE WEIGHT RATING (GVWR) |           |

80219

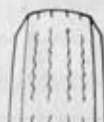
## Tire Pressure Sticker

### Tire Condition

Inspect tires often, every 2,000 miles (3 200 km), for visible signs of wear, which may indicate underinflation or need for front-end alignment, tire rotation or wheel balancing.



Tread Still Good

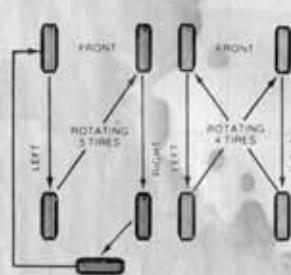
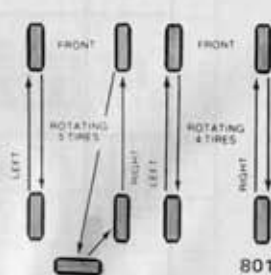


Tread Worn Out

60080

### Tire Rotation

Rotating tires every 5,000 to 10,000 miles (8 000 to 16 000 km) is usually recommended by tire manufacturers to assure longer overall tire life by equalizing wear. Rebalance the tires if they were balanced on the vehicle.

Bias/Bias-Belted  
Tire Rotation

Radial Tire Rotation

80112

## Wide-Tread and Radial-Ply Tires

These types of tires must be installed on the vehicle in complete sets and be used only when there is adequate clearance. (Wagoneer and Cherokee vehicles with radial tires require front sway bar.)

**WARNING:** Do not mix radial or wide-tread tires with conventional bias-ply tires or the fiberglass belted "78" series tires. This could result in dangerous steering problems. Use of special tires may result in severe stresses and reduce the gross load ratings. Use Jeep Corporation-approved tires.

## Mud and Snow Tires

All Jeep vehicles, especially those with Quadra-Trac® drive, must be equipped with the same size tires of equal circumference on all four wheels. Therefore, should mud and snow tires be required, they must be installed on all four wheels.

**WARNING:** Sustained speeds over 75 MPH (121 km/h) for one hour or more are not recommended for mud and snow tires.

## Aftermarket Wheels and Tires

**WARNING:** Certain combinations of aftermarket replacement wheels and tires can increase the tread measurement and change steering and suspension geometry. This can result in a dangerous deterioration of vehicle steering and handling characteristics and possibly induce overloading and unnecessary wear and tear of steering and suspension components. Therefore, use only those wheel and tire combinations approved by Jeep Corporation as standard or optional equipment.

**WARNING:** All Jeep vehicles must be equipped with the same size tires of equal circumference on all four wheels.



## Front Suspension and Steering

**CAUTION:** Do not use Cherokee and Wagoneer models equipped with optional "Smooth-Ride Suspension" for severe off-road or heavy-duty operation. Though these models offer the same ground clearance as vehicles with standard suspension, and can perform in an off-road environment, do not drive as aggressively off-road as you would in 4-wheel-drive vehicles equipped with standard or heavy-duty suspension.

### Wheel Bearing Adjustment

All front wheel bearings are adjustable. Rear wheel bearings on the J-20 Truck are adjustable. Rear wheel bearings on all other models do not require adjustment.

### Front End Alignment

Whenever uneven tire wear is evident, or when the front end shimmies, wanders or pulls, front end alignment should be checked.

#### Alignment Specifications

| Model                           | Caster ( $\pm 1^\circ$ ) | Camber ( $\pm 1/2^\circ$ ) | Toe-In                                 |
|---------------------------------|--------------------------|----------------------------|--|
| CJ-5/CJ-7                       | +3°                      | +1-1/2°                    | 3/64 to 3/32 inch<br>(1.19 to 2.38 mm) |
| Cherokee—<br>Wagoneer—<br>Truck | +4°                      | +1-1/2°                    | 3/64 to 3/32 inch<br>(1.19 to 2.38 mm) |

80353

### Front Wheel Turning Angles

#### CJ Models

Turning angle is set at 29° maximum for all tires.

#### Cherokee—Wagoneer—Truck

Turning angle is set at 36° +1° -0°.

## Chassis Lubrication

Lubricate your vehicle according to the intervals listed in the **Maintenance Schedule** located in the glove box. Use only lubricants listed in the Recommended Fluids and Lubricants chart. Lubricate or change fluids more frequently during heavy-duty or severe operation.

## Clutch Adjustment

Clutch pedal "free play" may require adjustment before the scheduled service interval. Readjust the clutch when all free play has disappeared to prevent premature wear of the throwout bearing and resultant clutch failure. Adjustments are: CJ models 1 to 1 1/4 inches (25.4 to 31.75 mm); Cherokee, Wagoneer and Truck models 3/8 to 5/8-inch (9.52 to 15.87 mm).

## Model 20 Transfer Case Shift Lever and Linkage Lubrication

Lubricate all models every 25,000 miles (48 000 km), using AMC All-Purpose or Multi-Purpose Chassis Lubricant (Lithium Base).

## Propeller Shaft Lubrication

Lubricate the propeller shafts, single and double cardan U-joints as specified in the **Maintenance Schedule** with All-Purpose or Multi-Purpose Chassis Lubricant (Lithium Base).

**CAUTION:** If you have had your vehicle undercoated, inspect for undercoating material on the propeller shafts. Such material could cause the shafts to become unbalanced and result in drive train vibrations. Remove any undercoating with solvent.

## Sleeve Yokes (Splines)

Apply grease gun pressure to sleeve yoke grease fitting until lubricant appears at the pressure relief hole in the expansion plug at the sleeve yoke end of the spline. Cover pressure relief hole with your finger and continue to grease until it appears at the sleeve yoke seal. This will ensure complete lubrication of spline.

## Double Cardan Joint

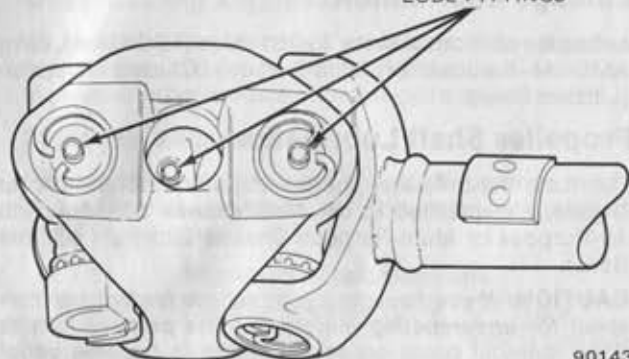
**CAUTION:** To prevent damage to drive line, it is very important to lubricate the double cardan joint at the intervals specified in the **Maintenance Schedule**.

On CJ models, lubricate the double cardan joint every 5,000 miles (8 000 km) for normal service, and every 3,000 miles (4 800 km) or 3 months (whichever occurs first) un-

der heavy-duty service. On Cherokee, Wagoneer and Truck models, lubricate the double cardan joint every 15,000 miles (24 000 km) for normal service, and every 5,000 miles (8 000 km) or 5 months (whichever occurs first) for heavy-duty use.

1. Raise vehicle on frame-contact type hoist (front wheels must be free to rotate).
2. Clean dirt from around double cardan joint.
3. Lubricate joint using needle-type lubrication adapter (Alemite model number 6783).

LUBE FITTINGS



90143

Double Cardan Joint

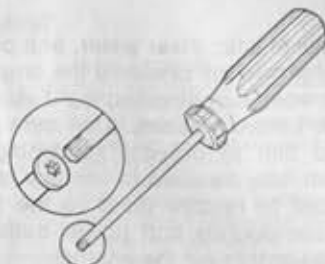
## Body and Accessory Care and Cleaning

### General Information

Body care requirements vary according to geographic locations and usage. Follow the Body Lubrication instructions in the **Maintenance Schedule**. Perform service more frequently as needed.

### Torx®-Head Fasteners

Various sizes of internal and external hex-lobular (Torx) head fasteners are used as attaching hardware on numerous components and assemblies in your 1979 Jeep vehicle. These fasteners may be removed using special Torx-head tools available at most tool and auto-accessories retailers.



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### Torx-Head Fasteners

## Body Lubrication

All body pivot points, including such items as seat tracks, doors, liftgate, tailgate, windshield and hood hinges plus locks, should be lubricated periodically to assure quiet, easy operation and prevent seizing. Apply Jeep Silicone Lubricant Spray to door, window, liftgate and tailgate rubber weather seals to minimize deterioration and reduce damage from scuffing.

## Exterior Care

Chemicals that make roads passable in snow and ice, and that are sprayed on trees and road surfaces during other seasons, are highly corrosive to the metal in your vehicle. Outside parking, which exposes your vehicle to airborne contaminants, extreme hot or cold weather and other extreme conditions will have an adverse affect on paint, metal trim and rubber parts. Repairs as a result of these conditions are the owner's responsibility as are the damages caused by misuse, negligence or accident.

Jeep Corporation uses treatments in the construction and finish of vehicles including rust-prevention coating of the body, plus the application of high-quality enamels to provide a surface highly resistant to corrosion. Undercoating, when applied, adds further protection, but precautions are still needed.

Steam-cleaning is suggested to remove dirt packed in wheelhousings, bumpers, mufflers, tailpipes and brackets. Avoid spraying steam directly at electrical connectors. If undercoated, repair breaks in the sealer promptly.

## Paint

Weekly washing with cold, clear water, and polishing with a soft cloth or chamois will preserve the original luster of the finish. Never wash it in direct sunlight. Allow the metal surfaces to cool before washing. Use care in removing stains and road film to prevent scratching the finish. AMC/Jeep Polish may be used to remove road film and normal stains and to restore gloss to the finish. Avoid using abrasive compounds and power buffing that may diminish the gloss or thin out the enamel.

Paint scratches should be retouched as soon as discovered. Your Jeep dealer can supply touch-up paint in spray cans or brush applicators to match the color of your vehicle. This paint, when properly applied, will cover minor nicks and scratches and prevent additional paint chipping and future rust.

Woodgrain panels and exterior tape stripes are made of vinyl, and are applied over the finish with a special applique process. Use special care in cleaning such areas. They require no polishing.

## Bright Metal Trim and Wheel Covers

Wash chrome and bright metal trim frequently to protect the appearance, and use AMC/Jeep Chrome Cleaner to help remove discoloration and blemishes. AMC/Jeep Auto Polish will protect against severe exposure.

**CAUTION:** Do not use abrasive or strong cleaning materials such as steel wool or scouring powder.

## Interior Care

### Upholstery

Frequent cleaning with a whisk broom or vacuum and wiping with a damp cloth followed by towel-drying will help keep your upholstery and interior trim attractive. Remove imbedded dust, grease, oil, lipstick, and other stains from fabrics with AMC/Jeep Fabric Cleaner. AMC/Jeep Vinyl Roof Cleaner and Protector is specifically recommended for vinyl trim.

## Stain Removal

| STAIN  | TREATMENT  |
|--|--|
| Coffee, Milk, Fruit Stains, Liquor, Wine, Soft Drinks, Ice Cream | Wipe with cloth soaked in cold water. If necessary, clean lightly with fabric cleaning fluid. Soap and water is not recommended as it may set the stain.   |
| Candy  | For chocolate, use cloth soaked in lukewarm water. Dry. If necessary, clean lightly with fabric cleaning fluid.  |
| Catsup   | Wipe with cloth soaked in cool water. If further cleaning is necessary, use detergent foam cleaner process.  |
| Chewing Gum  | Harden gum with ice cube and scrape off with dull knife. Moisten with fabric cleaning fluid and scrape again.  |
| Grease, Oil, Butter, Margarine, Crayon                           | Scrape off excess with dull knife. Use fabric cleaning fluid process.  |
| Paste or Wax Type Shoe Polish                                    | Use light application of fabric cleaning fluid.  |
| Tar  | Remove excess with dull knife, moisten with fabric cleaning fluid, scrape again. Rub lightly with additional cleaner.  |
| Ball-Point Ink   | Try rubbing alcohol. If stain remains after repeated operations, no other measure should be tried.   |
| Lipstick   | Difficult to remove. Cleaning fluid works on some brands. If stain remains after repeated applications, do not try other measures.   |
| Mustard  | Damp sponge with warm water, then rub detergent on dampened stain and work into fabric. Rinse with clean damp cloth. Repeat several times. Some discoloration may remain.  |
| Blood  | Wipe with clean cloth moistened with cold water. Use no soap.  |
| Urine  | Sponge stain with lukewarm soap suds from mild neutral soap on clean cloth, rinse with cloth soaked in cold water, saturate cloth with one part household ammonia and five parts water, apply for one minute, rinse with clean, wet cloth. |
| Vomitus  | Sponge with clean cloth dipped in clean, cold water. Wash lightly with lukewarm water and mild neutral soap. If odor persists, treat area with a water-baking soda solution (1 teaspoon baking soda to one cup tepid water).               |

## Floor Coverings

Carpeting will resist wear for a much longer time if it is vacuumed frequently to prevent dust and dirt from being ground into the fibers. Wash rubber or vinyl mats with soap and water.

## Headlining

Clean vinyl-coated headliners using light pressure with a clean cloth or sponge and mild soap.

**WARNING:** Do not use volatile cleaning solvents, such as gasoline, naphtha, turpentine, paint thinner or carbon tetrachloride, or laundry soaps, bleaches, tints or caustic cleaners in the interior of your vehicle. They may damage or fade trim material.

## Ashtray

Ashtrays are removable for cleaning. To remove rear seat ashtrays on Cherokee "S" and Wagoneer models with bucket seats, pull upward. To install, push the tray into position.

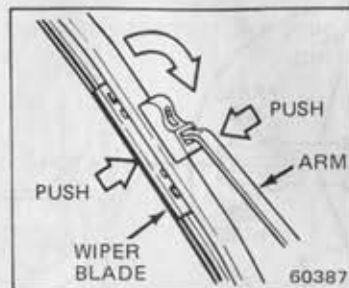
## Windshield Wiper Care

Dry windshield glass accumulates road film which will result in hazing and/or smearing when the wipers are first started. This film is not readily removed with water. It is important that both the glass and the wiper blade rubber elements are washed regularly with mild detergent.

## Windshield Wiper Blade Replacement

### CJ Models

Raise the wiper arm away from the windshield and push the wiper blade firmly against the tip of the arm. Hold arm stationary and rotate the blade around the tip of the arm as illustrated. The rubber element is not replaceable. Install new wiper blade assembly.



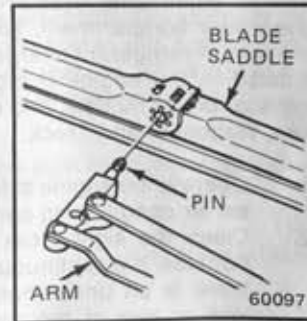
## Wiper Blade Replacement—CJ Models

### Cherokee-Wagoneer-Truck

To remove blade, insert tool point into spring clip opening of blade saddle, depress spring clip, and pull blade from arm. To install, push blade saddle on pin so that spring clip engages pin. Be sure saddle is securely attached to arm.



### Wiper Blade Removal

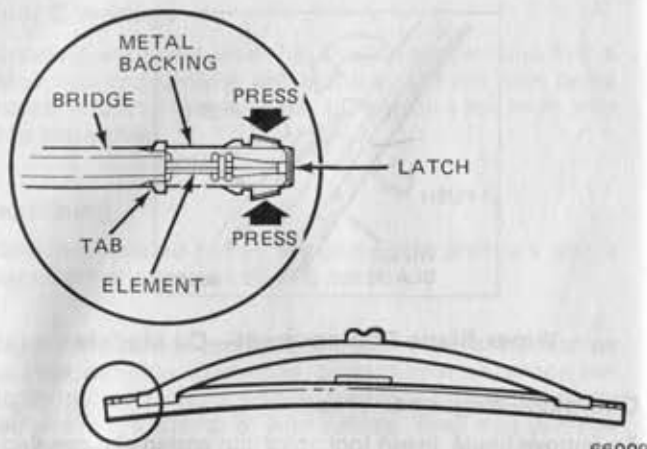


### Wiper Blade Installation

### Wiper Element Replacement

Remove the rubber blade element by compressing the latch and sliding it from the bridge. When installing the new rubber element, the metal backing must engage all eight tabs on the bridge.





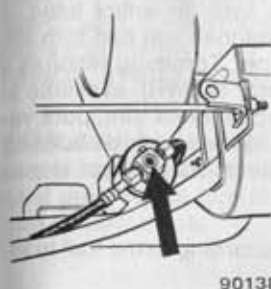
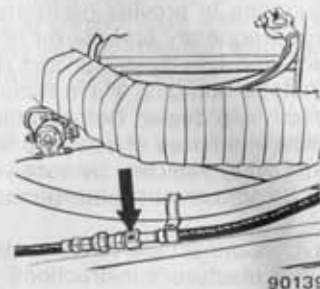
Wiper Element Replacement

## Air Conditioning Check

The air conditioner uses Freon 12 refrigerant to cool the passenger compartment. You can occasionally check the amount of refrigerant charge by observing the sight glass located in the engine compartment right side, near the radiator on CJ models, and on the wheelhouse on Cherokee, Wagoneer and Truck.

1. Operate the engine at fast idle (about 1,500 rpm) and set air conditioning controls for maximum cooling.
  2. Clean the sight glass and observe refrigerant for bubbles. If a continuous stream of bubbles appears, there is an undercharge of refrigerant or a minor leak in one of the system components. See your Jeep dealer for service.
  3. If no bubbles appear, the system is either fully charged or empty of refrigerant.
- Have a helper cycle the system by turning the FAN blower knob (TEMP knob on CJ's) from OFF to HI.
  - Observe the sight glass. If a short spurt of bubbles appears when the knob is turned from the OFF position to HI, then disappears, the system is charged.

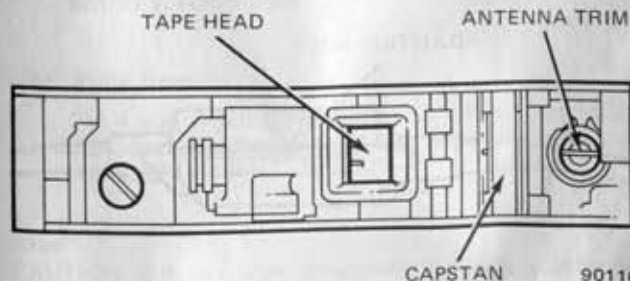
- If no bubbles are observed during the on-and-off cycle, the system is empty. See your Jeep dealer for service.

Sight Glass Location—  
CJ ModelsSight Glass Location—  
Cherokee, Wagoneer, Truck

## Stereo Tape Head Cleaning

During normal operation, iron oxide particles deposit on the tape head, causing poor playback. Occasionally you should clean the tape head and capstan with a cotton swab moistened with tape-head cleaner or rubbing alcohol. Wipe the capstan and head dry with clean swabs.

**CAUTION:** Do not scratch the tape head. Poor tape playing may result.



Stereo Tape Head Cleaning

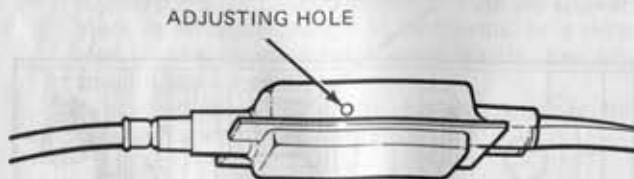
## CB Antenna Trim Adjustment

No maintenance is required on the CB radio. The antenna is matched to the radio for a middle channel during manufacturing to provide performance over the entire band. If you frequently operate on one channel, you can trim the antenna specifically for that channel. Trimming requires a Voltage Standing Wave Ratio meter (VSWR), available at your Jeep dealer. Before adjusting antenna trim, park vehicle in an area at least 100 feet (30 meters) from building and other vehicles. Be sure vehicle doors are kept closed while adjustment is being made.

1. Connect the VSWR meter according to the tool manufacturer's instructions.
2. Turn CB radio power On and select desired channel.
3. Insert 5/64-inch non-conductive hex allen wrench through hole in foam protector on the side of the antenna splitter. Turn the nut to achieve the lowest reading on the VSWR meter. Remove the wrench while reading the meter to avoid false readings.

**NOTE:** When tuned for one particular channel, other channels may not transmit as well. For maximum overall reception, leave the trim adjustment as set by the factory, or adjust the splitter trim while operating on a middle range channel.

**CAUTION:** VSWR should read 1:1 as best and no worse than 3:1. Higher readings may cause radio damage or poor performance.



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**Splitter Adjustment**

## Electric Clock

To set the hands of the clock, pull the adjustment knob out and turn to the correct time in one motion. If the clock runs fast or slow, it will automatically correct itself after one or two adjustments if you always set it to the correct time. Allow 6-10 hours to pass between adjustments.

**CAUTION:** Do not over adjust the clock. It is only necessary to set the clock to its correct time. You do not have to wind the clock or turn the hands through several hours to make a correction.

## Snow Plow Maintenance Points

Cleanliness should be stressed at the time of installation, service and repair. Maximum performance and efficiency require that the vehicle's Electronic System be properly maintained.

**NOTE:** Grease plow pivot pins before and after winter season to ensure plow tripping.

## Periodic Checks

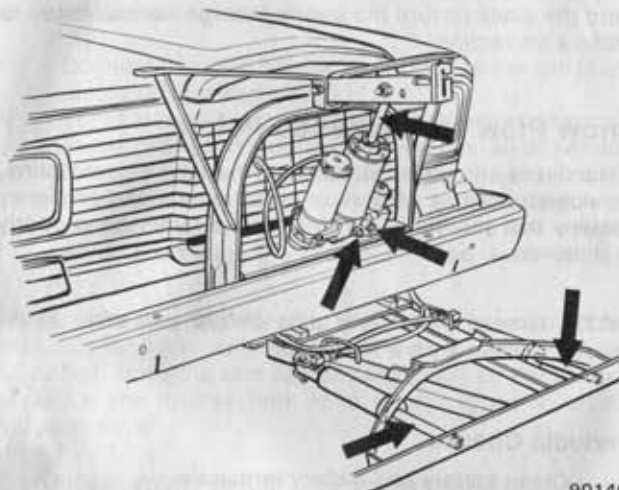
1. Clean battery and battery terminals.
2. Be sure electrical connections are tight.
3. Check alternator and regulator for operation within factory specifications.

## After Plow Season

1. Drain and replace the electronic power pack fluid. Use Meyer Hydraulic Fluid M-L 2015134 or equivalent (SE2015134).

**CAUTION:** Do not use unapproved fluids. Electronic power pack fluid contains an antifreeze additive which is effective for one season of use. Usage of other oils or fluid will void the plow warranty.

2. Clean the two screen filters located in base of unit. Use clear solvent and blow out with air.
3. Fully extend the lift arm, coat the rod with grease and leave in this position. The fully extended position fills the cylinder with fluid which prevents internal rust and corrosion.
4. Coat the exposed portions of the power angling cylinder rods with grease to prevent rust and corrosion.
5. Paint the plow blade surface with Meyer Sno Flo Paint (number 2007165) or equivalent.



Plow Maintenance Points

## Storing Your Vehicle

If you won't be using your vehicle for approximately 30 days, there are suggested steps to take to protect its operation. For extended storage, the routine is more extensive.

**WARNING:** Do not proceed with this procedure unless you are familiar with all of the service information presented in this manual. Refer to the information describing service of each of the components listed in this procedure. Pay particular attention to each of the Warnings and Cautions connected with service of the components, such as the battery or cooling system.

## 30-Day Storage

1. Wash the exterior finish.
2. Check antifreeze protection.
3. Recharge battery if specific gravity is below 1.250 to protect against freezing or deterioration. Disconnect cables at battery.
4. Inflate tires to 40 psi.
5. Store the vehicle inside. If it must be left where severe weather exposure is certain, cover it. Be sure the cover will not loosen in heavy wind, thus rubbing the finish.
6. Run engine at fast idle for 15 minutes to assure oiling of parts.
7. Place the automatic transmission in Park, manual transmission in Reverse and the transfer case in Neutral. Release the parking brake.
8. Check storage area and glove box for items that might be damaged by extreme temperatures.
9. Close windows (if equipped).
10. Open-body vehicles require special protection from the elements, especially the controls, instruments and seats. Storage within a closed area is recommended.

## Extended Storage

If your vehicle will not be operated for more than 30 days, the following should be done in addition to the short-term storage procedure:

1. Wax or polish the exterior finish.
2. Run engine until it is thoroughly warmed, and then drain oil. Install a new oil filter and fresh oil.
3. Remove air cleaner and pour up to one pint of SAE 10W (or lighter) engine oil into the carburetor air intake with the engine running. Pour slowly, then faster until the last quick pour stalls the engine. Install air cleaner.
4. Drain radiator, block and heater.
5. Remove the battery and store it in a dry, cool (above freezing) area. **Do not store the battery where there is a likelihood of open fire, sparks, or accessibility to children.** Batteries produce hydrogen gas which is highly combustible and sulfuric acid which is highly corrosive.

- Drain the fuel tank, making sure all fuel is removed from carburetor and lines. This reduces fire hazard and prevents gumming of fuel.
- Remove the wiper blades.
- Place blocks under the front and rear to raise tires off the ground.

## Readying for Use

- Check oil, fluid, and coolant levels in engine and transmission, transfer case, Quadra-Trac® transfer case and reduction unit, differentials, front axle steering knuckle housing, brake master cylinder, power steering pump and radiator.
- Check under vehicle and hood for leaks.
- Clean and attach battery cables. Be sure battery is fully charged.
- Lubricate steering linkage ball joints.
- Remove spark plugs and crank engine to remove excess oil from cylinders.
- Clean and gap spark plugs and install them.
- Clean the carburetor air cleaner.
- Fill the fuel tank.
- Inflate tires to correct pressure.

# Specifications

## Weight Capacities

As with any vehicle, it is very important that you do not overload your Jeep vehicle in excess of its Gross Vehicle Weight Rating (GVWR) or Gross Axle Weight rating (GAWR). These ratings are shown on the Federal Safety Certification label located on the instrument panel on CJ's and in the driver's side door pillar on Cherokee, Wagoneer and Truck models. GVWR and GAWR indicate the weight capacities for which a vehicle is designed. These gross ratings include the weight of the vehicle plus the weight of people, cargo and everything that is put in or on the vehicle. Since GAWR is the total allowable load on an individual axle, be sure that neither the front nor the rear rating is exceeded and that the total of the axle loads does not exceed the GVWR.

## Jeep Vehicle Weight Capacities (Pounds)

| Model      | Gross Vehicle Weight Rating |      | Gross Axle Front |      | Weight Rating Rear |      |
|------------|-----------------------------|------|------------------|------|--------------------|------|
|            | pounds                      | kg   | pounds           | kg   | pounds             | kg   |
| CJ-5       | 3750 (1)                    | 1700 | 2200             | 997  | 2700               | 1224 |
| CJ-7       | 3750 (1)                    | 1700 | 2200             | 997  | 2700               | 1224 |
| Cherokee   | 6200                        | 2812 | 3200 (2)         | 1458 | 3200               | 1458 |
| Wagoneer   | 6200                        | 2812 | 3200 (2)         | 1458 | 3200               | 1458 |
| J-10 Truck | 6200                        | 2812 | 3200 (2)         | 1451 | 3200               | 1451 |
| J-20 Truck | 6800                        | 3084 | 3500 (3)         | 1587 | 4090               | 1855 |
|            | 7600                        | 3447 | 3500 (3)         | 1587 | 4700               | 2131 |
|            | 8400                        | 3810 | 3500 (3)         | 1587 | 5500               | 2484 |

(1) GVWR for hardtop with heavy-duty suspension: 4150 lbs (1882 kg).

(2) Front GAWR for snow plow application: 3520 lbs (1596 kg).

(3) Front GAWR for snow plow application: 3750 lbs (1701 kg).

80356

## SI Metric Information Guide

| Base Units          |          |        | Prefixes |        |       |
|---------------------|----------|--------|----------|--------|-------|
| quantity            | unit     | symbol | prefix   | symbol | value |
| length              | meter    | m      | kilo     | k      | 1,000 |
| mass                | kilogram | kg     | centi    | c      | 0.01  |
| time                | second   | s      | milli    | m      | 0.001 |
| temperature         | kelvin   | K      |          |        |       |
| luminous intensity  | candela  | cd     |          |        |       |
| amount of substance | mole     | mol    |          |        |       |
| electric current    | ampere   | A      |          |        |       |

\*The International System of Units (Système International) officially abbreviated "SI" in all languages—the modern metric system.

## U.S.A./METRIC COMPARISON

| Quantity      | USA                     | Metric—Symbol                      |        |
|---------------|-------------------------|------------------------------------|--------|
| Length        | Inch-Foot-Mile          | Meter                              | m      |
| Weight (mass) | Ounce-Pound             | Kilogram                           | kg     |
| Volume—Liquid | Ounce-Pint-Quart-Gallon | Liter                              | l      |
| Road Speed    | Miles Per Hour          | Kilometer per Hour                 | km/h   |
| Torque        | Foot-Pounds             | Newton meter                       | N·m    |
| Power         | Horsepower              | Kilowatt                           | kW     |
| Pressure      | Pounds Per Square Inch  | Kilopascal                         | kPa    |
| Temperature   | Degrees Fahrenheit      | Degrees Kelvin and Degrees Celsius | K<br>C |

## CONVERSION TABLES

| Length                           | Weight                                |
|----------------------------------|---------------------------------------|
| 1 Inch—25.4 Millimeters          | 1 Pound—453.6 Grams                   |
| 1 Foot—0.3048 Meter              | 1 Kilogram—2.205 Pounds               |
| 1 Mile—1.609 Kilometers          |                                       |
|                                  | <b>Pressure</b>                       |
| 1 Millimeter—0.04 Inch           | 1 Pound/Square Inch— 6.895 Kilopascal |
| 1 Meter—39.37 Inches, 3.281 Feet | 1 kPa—0.145 PSI                       |
| 1 Kilometer—0.6214 Mile          |                                       |
|                                  | <b>Torque</b>                         |
| <b>Liquid</b>                    | 1 Inch-Pound—0.11298 Newton meter     |
| 1 US Pint—0.4732 Liter           | 1 Foot-Pound— 1.3558 Newton meters    |
| 1 US Quart—0.9463 Liter          |                                       |
| 1 US Gallon—3.7854 Liters        | 1 N·m—8.8511 Inch Pounds              |
| 1 US Gallon—0.83 Imperial Gallon | 1 N·m—0.7376 Foot Pounds              |
| 1 Liter—2.11342 US Pints         |                                       |
| 1 Liter—1.05671 US Quarts        | <b>Horsepower</b>                     |
| 1 Liter—0.2642 US Gallon         | 1 Brake Horsepower— 0.7457 Kilowatts  |
| 1 Imp. Gallon—1.205 US Gallons   | 1 kW—1.3410 Bhp                       |

**Temperature**  
Celsius=(Fahrenheit-32)X 0.5556  
Fahrenheit=(Celsius X 1.8)+32

80357



### Technical Specifications

| Engine                        | 258 Six<br>2-B. Carb.   | 304 V-8<br>2-B. Carb. | 360 V-8<br>2-B. Carb. |
|-------------------------------|-------------------------|-----------------------|-----------------------|
| Bore & Stroke (inches)        | 3.75x3.90               | 3.75x3.44             | 4.08x3.44             |
| Displacement (cubic inches)   | 258                     | 304                   | 360                   |
| Compression Ratio             | 8.3:1                   | 8.4:1                 | 8.25:1                |
| Horsepower, Taxable (License) | 33.75                   | 45.00                 | 53.27                 |
| Radiator Cap Pressure (PSI)   | 15                      | 15                    | 15                    |
| Thermostat Rating - °F (°C)   | 195 (90.6)              | 195 (90.6)            | 195 (90.6)            |
| Electrical System             | 12-Volt Negative Ground |                       |                       |

### Battery Specifications

| Color Code | Reserve Capacity<br>(Minutes) | Cold Cranking<br>@ 0° F (Amps) | Application   |
|------------|-------------------------------|--------------------------------|---|
| Black      | 75                            | 380                            | Std. all CJ and Cherokee—<br>Truck 6-Cyl.                                       |
| Green      | 95                            | 385                            | Std. Cherokee—Wagoner—<br>Truck V-8   |
| Red        | 110                           | 410                            | Opt. all Models<br>(Required w/Cold Climate,<br>Camper, Trl. Towing, Snow Plow) |

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### Fluid Refill Capacities

| Capacities, Approximate Refill  | U.S. Measure   | Imperial Measure  | Metric Measure  |
|---|--|---|---|
| Engine Oil (includes 1 quart for filter change)<br>232 CID & 258 CID engines<br>304 CID   | 6.0 quarts<br>5.0 quarts   | 5.0 quarts<br>4.2 quarts  | 5.7 liters<br>4.7 liters  |
| Cooling System (includes 1 quart for heater)<br>232 CID & 258 CID engines<br>304 CID engine   | 10.5 quarts<br>13.0 quarts                                       | 8.7 quarts<br>10.8 quarts                                       | 9.9 liters<br>12.3 liters   |
| Transfer Case<br>Model 20<br>(a) Quadra-Trac<br>(a) Quadra-Trac with Reduction Unit   | 3.2 pints<br>2.0 quarts<br>2.5 quarts                            | 2.6 pints<br>3.3 pints<br>4.2 pints                             | 1.5 liters<br>1.9 liters<br>2.4 liters                              |
| Transmission<br>Manual 3-Speed—CJ Models<br>Manual 3-Speed—Cherokee, Wagoner, & Truck<br>Manual 4-Speed—All Models<br>Automatic—Change Only<br>Automatic—At Overhaul            | 2.8 pints<br>2.8 pints<br>6.5 pints<br>5.0 quarts<br>11.0 quarts | 2.3 pints<br>2.3 pints<br>5.5 pints<br>4.2 quarts<br>9.2 quarts | 1.3 liters<br>1.3 liters<br>3.1 liters<br>4.7 liters<br>10.4 liters |
| Axes<br>AMC Model Rear Axle—CJ Models<br>Model 30—Front Axle—CJ Models<br>(b) Model 44—Front or Rear Axle—All but CJ Models<br>(b) Model 60-3(F) Rear Axle—Trucks over 6500 GVW | 4.8 pints<br>2.5 pints<br>3.0 pints<br>6.0 pints                 | 4.0 pints<br>2.1 pints<br>2.5 pints<br>5.0 pints                | 2.3 liters<br>1.2 liters<br>1.4 liters<br>2.8 liters                |
| Gas Tank (Approximate Gallons)<br>CJ Models<br>Cherokee & Wagoner<br>Truck  | 14.8 gallons<br>21.5 gallons<br>18.2 gallons                     | 12.3 gallons<br>17.9 gallons<br>15.2 gallons                    | 55.9 liters<br>81.4 liters<br>68.8 liters                           |

(a) Drain and replace with Quadra Trac lubricant (b) Capacities of conventional and Trac Lok rear axles are identical

80360



## General Dimensions

|                                | CJ Models    |              | Cherokee Models   |                   |                   |              | Wagoner Models |              | Truck Models |              |              |
|--------------------------------|--------------|--------------|-------------------|-------------------|-------------------|--------------|----------------|--------------|--------------|--------------|--------------|
|                                | CJ-5         | CJ-7         | Model 16<br>2 Dr. | Model 17<br>2 Dr. | Model 18<br>4 Dr. | Model 15     | Model 25       | Model 45     | J-10 Series  | J-20 Series  | Model 46     |
| Wheelbase                      | 83.5(212.0)  | 93.5(237.5)  | 108.7(276.1)      | 108.7(276.1)      | 108.7(276.1)      | 108.7(276.1) | 118.7(301.5)   | 130.7(332.0) | 130.7(332.0) | 130.7(332.0) | 130.7(332.0) |
| Overall Length                 | 130.4(402.3) | 147.9(375.7) | 183.5(466.1)      | 183.5(466.1)      | 183.5(466.1)      | 183.5(466.1) | 192.5(489.0)   | 204.5(519.4) | 204.5(519.4) | 204.5(519.4) | 204.5(519.4) |
| Overhang                       |              |              |                   |                   |                   |              |                |              |              |              |              |
| Front                          | 23.5(59.7)   | 23.5(59.7)   | 29.9(75.9)        | 29.9(75.9)        | 29.9(75.9)        | 29.9(75.9)   | 29.9(75.9)     | 29.9(75.9)   | 29.9(75.9)   | 29.9(75.9)   | 29.9(75.9)   |
| Rear                           | 31.4(79.8)   | 30.9(78.5)   | 44.9(114.0)       | 44.9(114.0)       | 44.9(114.0)       | 44.9(114.0)  | 43.9(111.5)    | 43.9(111.5)  | 43.9(111.5)  | 43.9(111.5)  | 43.9(111.5)  |
| Overall Width                  | 68.6(174.2)  | 68.6(174.2)  | 75.6(192.0)       | 75.6(192.0)       | 75.6(192.0)       | 75.6(192.0)  | 78.9(200.4)    | 78.9(200.4)  | 78.9(200.4)  | 78.9(200.4)  | 78.9(200.4)  |
| Overall Height                 | 67.6(171.7)  | 67.6(171.7)  | 66.9(169.9)       | 67.6(171.7)       | 66.9(169.9)       | 66.9(169.9)  | 66.9(169.9)    | 66.9(169.9)  | 66.9(169.9)  | 66.9(169.9)  | 66.9(169.9)  |
| Open Body                      | 91.4(230.4)  | 91.4(230.4)  | —                 | —                 | —                 | —            | —              | —            | —            | —            | —            |
| Soft Top                       | 71.3(181.1)  | 70.5(178.1)  | —                 | —                 | —                 | —            | —              | —            | —            | —            | —            |
| Hard Top                       | —            | —            | —                 | —                 | —                 | —            | —              | —            | —            | —            | —            |
| Step Height                    | 27.0(68.6)   | 26.1(66.3)   | 19.9(50.5)        | 20.7(52.6)        | 19.9(50.5)        | 19.9(50.5)   | 20.7(52.6)     | 20.7(52.6)   | 20.7(52.6)   | 20.7(52.6)   | 20.7(52.6)   |
| Front Floor                    | —            | —            | —                 | —                 | —                 | —            | —              | —            | —            | —            | —            |
| Rear Floor                     | 51.5(130.8)  | 51.5(130.8)  | 59.2(150.4)       | 65.4(166.1)       | 59.2(150.4)       | 59.2(150.4)  | 63.3(160.8)    | 63.3(160.8)  | 63.3(160.8)  | 63.3(160.8)  | 63.3(160.8)  |
| Rear Tread                     | 50.0(127.0)  | 50.0(127.0)  | 57.8(146.8)       | 62.3(158.2)       | 57.8(146.8)       | 57.8(146.8)  | 63.8(162.1)    | 63.8(162.1)  | 63.8(162.1)  | 63.8(162.1)  | 63.8(162.1)  |
| Minimum Ground Clearance       | 6.9(17.5)    | 6.9(17.5)    | 7.7(19.6)         | 8.6(21.8)         | 7.7(19.6)         | 7.7(19.6)    | 7.7(19.6)      | 7.7(19.6)    | 7.7(19.6)    | 7.7(19.6)    | 7.7(19.6)    |
| Min. Turning Diameter-feet (m) | 34.1(10.4)   | 38.0(11.6)   | 37.7(11.5)        | 39.4(12.0)        | 37.7(11.5)        | 37.7(11.5)   | 40.6(12.4)     | 44.5(13.6)   | 44.5(13.6)   | 44.5(13.6)   | 44.5(13.6)   |
| Effective Leg Room             | —            | —            | —                 | —                 | —                 | —            | —              | —            | —            | —            | —            |
| Front (Accelerator)            | 37.9(96.2)   | 39.1(99.3)   | 41.9(106.4)       | 41.9(106.4)       | 41.9(106.4)       | 41.9(106.4)  | 41.3(104.9)    | 41.3(104.9)  | 41.3(104.9)  | 41.3(104.9)  | 41.3(104.9)  |
| Rear (Minimum)                 | 30.4(77.5)   | 35.0(88.9)   | 37.0(94.0)        | 37.0(94.0)        | 37.0(94.0)        | 37.0(94.0)   | —              | —            | —            | —            | —            |

80363B

## General Dimensions (Contd.)

|                               | CJ Models    |              | Cherokee Models   |                   |                   |               | Wagoner Models |              | Truck Models |              |              |
|-------------------------------|--------------|--------------|-------------------|-------------------|-------------------|---------------|----------------|--------------|--------------|--------------|--------------|
|                               | CJ-5         | CJ-7         | Model 16<br>2 Dr. | Model 17<br>2 Dr. | Model 18<br>4 Dr. | Model 15      | Model 25       | Model 45     | J-10 Series  | J-20 Series  | Model 46     |
| Hip Room                      |              |              |                   |                   |                   |               |                |              |              |              |              |
| Front                         | 55.4(140.7)  | 53.8(136.7)  | 60.5(153.7)       | 60.5(153.7)       | 60.5(153.7)       | 60.5(153.7)   | 60.5(153.7)    | 60.5(153.7)  | 60.5(153.7)  | 60.5(153.7)  | 60.5(153.7)  |
| Rear                          | 36.0(91.4)   | 36.0(91.4)   | 60.9(154.7)       | 60.9(154.7)       | 60.9(154.7)       | 60.9(154.7)   | 60.9(154.7)    | 60.9(154.7)  | 60.9(154.7)  | 60.9(154.7)  | 60.9(154.7)  |
| Shoulder Room                 |              |              |                   |                   |                   |               |                |              |              |              |              |
| Front                         | 55.4(140.7)  | 53.8(136.7)  | 58.3(148.1)       | 58.3(148.1)       | 58.3(148.1)       | 58.3(148.1)   | 58.3(148.1)    | 58.3(148.1)  | 58.3(148.1)  | 58.3(148.1)  | 58.3(148.1)  |
| Rear                          | 36.0(91.4)   | 36.0(91.4)   | 58.3(148.1)       | 58.3(148.1)       | 58.3(148.1)       | 58.3(148.1)   | 58.3(148.1)    | 58.3(148.1)  | 58.3(148.1)  | 58.3(148.1)  | 58.3(148.1)  |
| Effective Head Room           |              |              |                   |                   |                   |               |                |              |              |              |              |
| Front                         | 39.8(101.1)  | 40.6(103.1)  | 38.0(96.5)        | 38.0(96.5)        | 38.0(96.5)        | 38.0(96.5)    | 40.2(102.1)    | 40.2(102.1)  | 40.2(102.1)  | 40.2(102.1)  | 40.2(102.1)  |
| Soft Top                      | 40.8(103.6)  | 39.8(101.3)  | —                 | —                 | —                 | —             | —              | —            | —            | —            | —            |
| Hard Top                      | 40.9(103.9)  | 39.9(101.6)  | —                 | —                 | —                 | —             | —              | —            | —            | —            | —            |
| Rear Hard Top                 | —            | —            | 37.2(94.5)        | 37.2(94.5)        | 37.2(94.5)        | 37.2(94.5)    | —              | —            | —            | —            | —            |
| Cargo Floor Height            | 25.2(64.0)   | 25.1(63.8)   | 24.9(63.2)        | 25.0(64.0)        | 24.9(63.2)        | 24.9(63.2)    | 26.8(68.0)     | 26.8(68.0)   | 26.8(68.0)   | 26.8(68.0)   | 26.8(68.0)   |
| Cargo Capacity-cubic feet (l) | 10.2(288.8)* | 13.6(385.1)* | 95.1(2692.9)*     | 95.1(2692.9)*     | 95.1(2692.9)*     | 95.1(2692.9)* | 68.0(1925.5)   | 77.7(2200.2) | 77.7(2200.2) | 77.7(2200.2) | 77.7(2200.2) |
| Cargo Space                   |              |              |                   |                   |                   |               |                |              |              |              |              |
| Overall Length                | 40.2(102.1)  | 46.8(118.9)  | 81.6(207.3)       | 81.6(207.3)       | 81.6(207.3)       | 81.6(207.3)   | 86.5(219.7)    | 98.5(250.2)  | 98.5(250.2)  | 98.5(250.2)  | 98.5(250.2)  |
| Width at Wheelbase            | 36.0(91.4)   | 36.0(91.4)   | 44.3(112.5)       | 44.3(112.5)       | 44.3(112.5)       | 44.3(112.5)   | 50.0(127.0)    | 50.0(127.0)  | 50.0(127.0)  | 50.0(127.0)  | 50.0(127.0)  |
| Width at Floor                | 36.0(91.4)   | 36.0(91.4)   | 60.9(154.7)       | 60.9(154.7)       | 60.9(154.7)       | 60.9(154.7)   | 68.0(172.7)    | 68.0(172.7)  | 68.0(172.7)  | 68.0(172.7)  | 68.0(172.7)  |
| Width of Tailgate Opening     | 25.8(66.0)   | 34.5(87.6)   | 54.9(139.4)       | 54.9(139.4)       | 54.9(139.4)       | 54.9(139.4)   | 57.2(145.3)    | 57.2(145.3)  | 57.2(145.3)  | 57.2(145.3)  | 57.2(145.3)  |
| Height of Sides and Tailgate  | —            | —            | —                 | —                 | —                 | —             | 20.5(52.1)     | 20.5(52.1)   | 20.5(52.1)   | 20.5(52.1)   | 20.5(52.1)   |

\*With rear seat removed

80363A

## Emergency Information

This section contains procedures for emergency situations. The grey border is provided to help you locate the section quickly by flipping the pages. When faced with a difficult situation, **try to be calm and think about what steps you should take** to safely overcome the problem. During off-road operation or severe weather, it may be helpful to carry a flashlight, reflectors, blanket, spare fuses, engine oil or other items to meet your needs. Be sure to secure them so they are not loose in the vehicle.

### First Aid

The American Academy of Family Physicians suggests that every driver should be aware of a few first aid measures which might save the life of an accident victim. The following are some guidelines as recommended by the Academy.

- **Stay calm.**
- **Do not attempt to move the victim unless there is danger of fire.**

Send for experienced police or ambulance help. Keep the victim warm with clothing or blankets. Do not attempt to remove the victim from the car and do not transport the injured until expert help arrives.

- **Make sure the victim is breathing without difficulty.**  
Check the victim immediately to be sure the mouth is clear of foreign material and that the tongue is not blocking air from entering the lungs. Using a clean cloth or handkerchief to wipe out the mouth, grasp the tongue and pull it forward, maintaining this position until the victim can breathe easily on his own. If spontaneous breathing does not occur, artificial respiration, using mouth-to-mouth technique, should be used.
- **Control bleeding by pressing down firmly and directly on the bleeding wound.**  
Use a clean cloth or handkerchief and apply pressure directly on the bleeding area and maintain this pressure. The cloth may be held in place by ties or strips of cloth. The use of tourniquets should be left to those trained in their proper use.



1. Lift up neck and tilt head back



2. Pull chin upward



3. Pinch nostrils and blow into mouth



4. Check breathing  
60086

### Applying Artificial Respiration



### Controlling Bleeding

60087

- **Stay calm and be reassuring to the victim.**  
Once breathing is satisfactory and bleeding is controlled there is little more to do until a rescue vehicle arrives.

### Mechanical Difficulties

If mechanical difficulties force you to stop operation of your vehicle, follow these guidelines.

- Avoid stopping on the roadway if possible.
- If you pull off the roadway, avoid parking over dry grass, brush, or other combustible materials, since a hot exhaust system could ignite such materials.
- Use the Hazard Warning Flasher to warn other drivers anytime your vehicle becomes a traffic hazard, day or night.
- Raise the hood of your vehicle and/or tie a white handkerchief to the radio antenna as a signal for help.
- Only if you know of, or can see, a service or aid station near your location, proceed there for assistance. If you do not know of any service or aid station near you, stay with your vehicle until help arrives.



**WARNING:** If walking on or near a roadway, be extremely careful of motor traffic.

## Tire Changing

### Jack and Lug Wrench Location

**WARNING:** Do not store the jack, lug wrench, or spare tire loosely in the vehicle. Secure the objects to prevent them from becoming dangerous projectiles during a quick stop or collision.

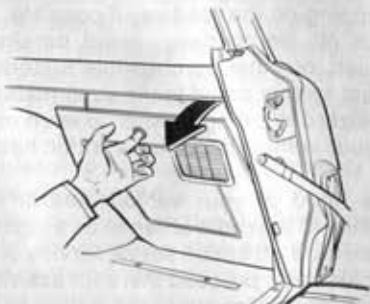
**CJ Models**—in a bag strapped to the vehicle floorboard at the left side of the driver's seat.



CJ Jack Location

90062

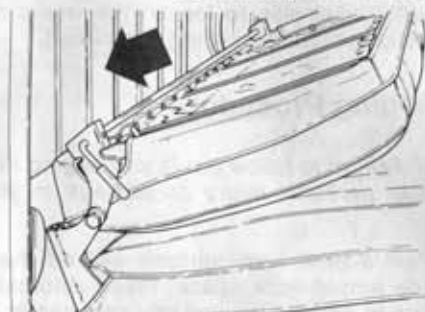
**Cherokee and Wagoneer**—behind the right rear interior trim panel.



Jack Storage Location—Cherokee and Wagoneer

80113

**Truck Models**—on the floor directly behind the seats.

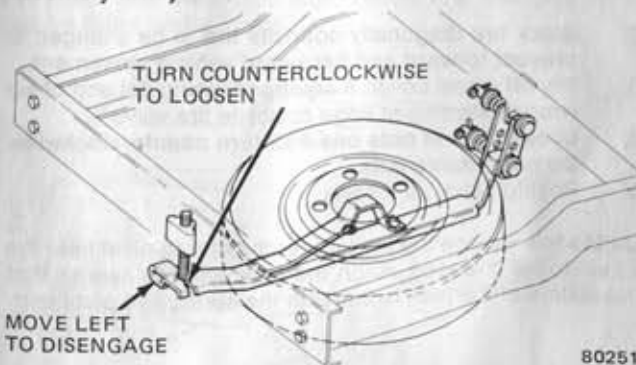


60383

### Jack Storage Location—Truck Models Spare Tire Storage

**CJ Models**—on right rear fender or in the rear. Turn lug wrench counterclockwise to remove nuts. Tighten firmly when storing tire.

**Cherokee, Wagoneer and Truck**—under the rear floorpan. Turn lug wrench counterclockwise to loosen holding bracket bolt. Support the tire while disengaging the holding arm from the bolt, then lower the holding arm and tire. When installing tire, position it on the holding arm with the valve stem facing down. Raise the holding arm and engage the bolt. Turn the lug wrench clockwise and tighten the assembly firmly.



80251

### Spare Tire Storage— Cherokee, Wagoneer and Truck

On models with cargo bed-mounted spare, turn the lug wrench counterclockwise to loosen the wheel nuts. Replace and retighten the nuts when completed.

## Tire Changing Procedure

**WARNING:** Failure to follow the Tire Changing Procedure may result in personal injury or damage to your Jeep vehicle.

1. Park on a firm, level surface well off the road to provide ample work space. Place automatic transmission in Park or manual transmission in Reverse, and **stop engine. Set parking brake fully and activate hazard warning flasher.**

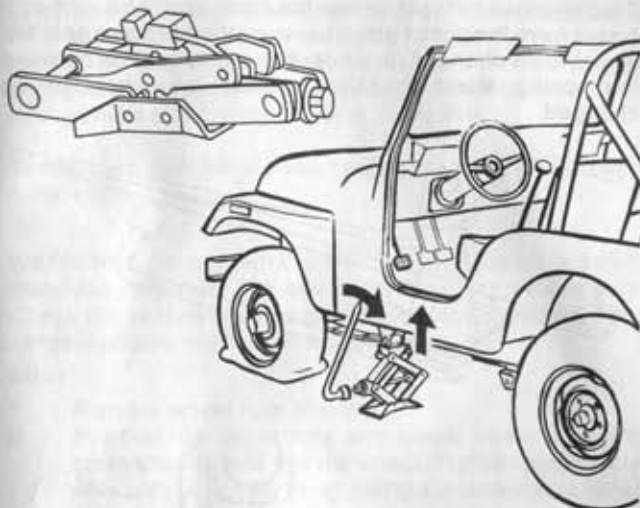
**NOTE:** If forced to operate on loose or soft ground, a strong, flat board will provide a better base for the jack when raising.

**WARNING:** Do not start engine with vehicle on a jack. Vehicles equipped with Quadra-Trac® or with Trac-Lok axles can roll the vehicle off the jack even with one wheel off the ground.

2. Block tire diagonally opposite tire to be changed to prevent forward and backward vehicle movement.
3. Pry off wheel cover, if equipped, using flat end of lug wrench starting at edge opposite tire valve.
4. **Loosen wheel nuts one-half turn counterclockwise. Do not remove nuts.**
5. Position jack as follows:

**CJ Models**—place the jack under the spring pivot near the wheel to be changed. Align the jack with the axle so that the saddle of the jack is beneath the spring eye pivot end.

**WARNING:** Do not use a block under the jack that prevents it from rising at least 3 inches before contacting vehicle. Attempting to raise the vehicle with the jack completely collapsed can cause the jack to fail.

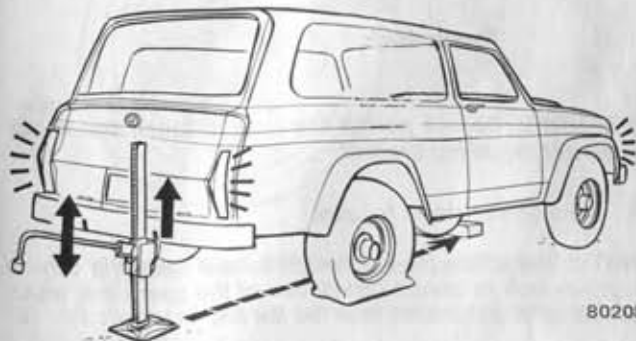


80364

**CJ Scissor Jack**

**Cherokee and Wagoneer**—place the jack under the bumper and engage the jack tongue with the slot in the bumper at the side nearest the wheel to be changed.

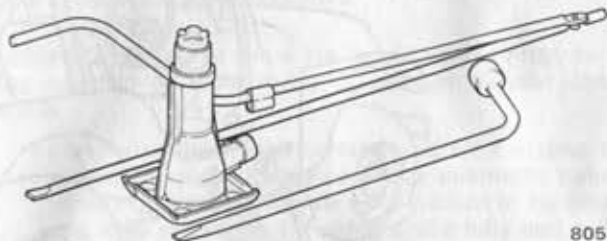
**NOTE:** Cherokee models with optional brush guard are equipped with truck-type jack. Follow tire changing procedure listed under Truck.



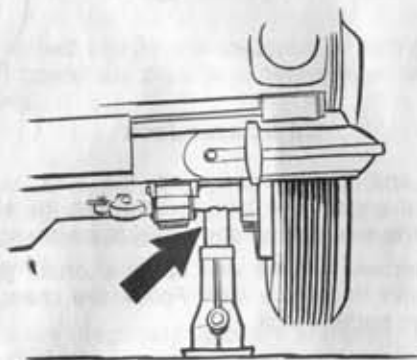
80208

**Cherokee and Wagoneer Bumper Jack**

**Truck**—place the jack under the front axle tube, just outboard from the shock absorber mounting bracket near the wheel to be changed, or under the rear axle tube between the spring attaching U-bolts, near the wheel to be changed.



80555



80558

**Truck Jack**

**WARNING:** Do not permit the jack to touch the shock absorber mounting bracket.

6. Raise vehicle as follows:

**NOTE:** If changing a flat tire, you must raise the vehicle high enough to permit installation of the spare tire, which will be taller as inflated than the flat tire.

**CJ Models**—turn jack handle clockwise until tire clears the ground.

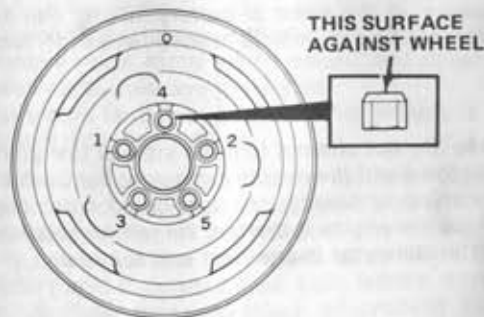
**Cherokee and Wagoneer**—position jack base plate in line with bumper. Move lever to UP position and move lug wrench up and down completely to raise jack so tongue engages the bumper slot. Continue moving lug wrench to raise vehicle sufficiently to install spare tire.

**Truck**—turn jack handle clockwise until tire clears ground sufficiently.

**WARNING:** Do not work under vehicle without a safety stand supporting it. The jack is for changing wheels only. Check the vehicle stability after the vehicle is raised. Passengers should not remain in vehicle.

7. Remove wheel nuts and tire.
8. Position tire on vehicle and install wheel nuts with cone-shaped end toward wheel. Tighten nuts clockwise until uniformly snug, using a crisscross pattern.

**NOTE:** The lug wrench can serve as a lever to assist lifting the tire. Position the flat end of lug wrench beneath the wheel hub and roll the tire up on the lug wrench. Hold the tire with one hand while raising the lug wrench. Guide the tire onto the wheel studs.



70536

**Typical Wheel Nut Installation Pattern**

9. Lower vehicle as follows, **only until tire touches ground:**

**CJ Models**—turn lug wrench counterclockwise.

**Cherokee and Wagoneer**—move jack lever to DOWN position and operate handle up and down fully.

**Truck**—turn jack handle counterclockwise.

10. Tighten wheel nuts securely in crisscross pattern: CJ—80 foot-pounds (108.5 N•m); Cherokee, Wagoneer, Truck (except 8,400 GVW)—75 foot-pounds (101.7 N•m); and Truck 8,400 GVW—130 foot-pounds (176.2 N•m).
11. Lower vehicle fully and remove jack assembly.
12. Install wheel cover securely, starting directly over valve stem, and remove wheel blocks.
13. Return jack, lug wrench and spare tire to storage locations.

**NOTE:** Cast aluminum wheels on Cherokee, Wagoneer and Truck models must be turned upside down if placed in the spare tire storage area under the rear floor pan.

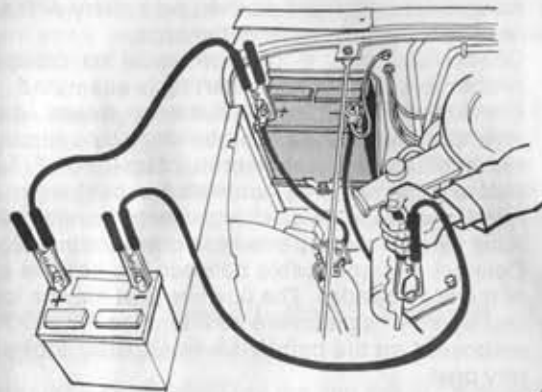
## Emergency Starting Procedures

**CAUTION:** Jeep vehicles should not be started by pushing or towing. In the event of battery failure, use jumper cables for starting a vehicle with a weak or rundown battery.

**CAUTION:** Do not attempt to push-start or tow-start your vehicle. In the event the engine turns over but doesn't start during pushing or towing, raw fuel could enter the converter. Once the engine is started, the raw fuel could cause the catalytic converter to overheat and rupture.

## Jump Starting

The booster battery must be of 12-volt dc capacity and negatively grounded like the one in your vehicle. You can check the other vehicle's owner's manual to be sure. Energy sources exceeding 16 volts dc must not be used or damage to the battery, starter or alternator could result.



42710

### Jumper Cable Arrangement

**WARNING:** Jump starting can be dangerous. To avoid personal injury or damage to electrical components in your vehicle, the following procedure should be followed carefully.

#### Procedure

1. Place automatic transmission in Neutral or Park and set parking brake.
2. Turn off lights, heater, and all other electrical loads.
3. Remove rings, metal watch bands, and other metal jewelry and wear eye protection.
4. Make sure fender or body of other vehicle is not in contact with your vehicle.

**WARNING:** Do not expose battery to open flames or sparks (including cigarettes, cigars and pipes). The battery generates hydrogen gas which is flammable, explosive, and present within the battery at all times. Do not allow battery acid to contact eyes, skin, fabrics, or painted surfaces. Serious personal injury or property damage could result. Flush any contacted area with water immediately and thoroughly. Be careful when using metal tools and equipment near the battery. Contact between the positive terminal (or metal in contact with it) and any other metal on the vehicle could cause an injurious or damaging short circuit. Always keep batteries and battery acid out of the reach of children.



5. Raise vent caps from discharged battery with a flat, nonmetal tool and remove the caps:
6. Check fluid level. If low, fluid must be brought to proper level before jump starting is attempted.
7. Check fluid condition. If slushy or frozen, do not attempt jump starting. The battery could rupture or explode. Battery must be brought up to 40° F (4.4°C) before it can be safely jump-started or charged.
8. Install vent caps on discharged battery vent wells. A relief valve in the cap prevents pressure buildup.
9. Connect a jumper cable between the positive posts of the two batteries. The positive post may be identified by a "+" sign on the post and the letters "POS" embossed on the battery cover adjacent to the battery post.
10. Connect one end of the other jumper cable to the negative terminal of the battery in the other vehicle. The negative terminal has "NEG" embossed adjacent to the terminal. Do not connect the other end of the jumper cable to the negative terminal of the discharged battery. Connect to a bolt or nut on the engine. Do not connect the jumper to the carburetor, air cleaner or fuel line. Keep the cables clear of belts and pulleys.
11. Start the engine in the vehicle providing the jump start. Let it run a few minutes, then start your engine.
12. Remove end of jumper cable from your engine first and then other end of the same cable. Remove the other cable.

## Emergency Towing

If your vehicle is disabled and is to be towed with the front or rear wheels off the ground, towing speed should be limited to 30 MPH (48 km/h) for a distance no greater than 15 miles (24 km).

## Manual Transmission

**Ignition Key Available:** Shift transmission and transfer case into Neutral. Vehicle can now be towed with all four wheels on the ground or with front or rear wheels raised. If vehicle is equipped with selective drive hubs, set them in the LOCK position. Turn ignition key to Off position to unlock steering.

**Ignition Key Not Available and Vehicle is Unlocked:** Shift transmission and transfer case into Neutral and tow vehicle with front wheels raised.

**Ignition Key Not Available and Vehicle is Locked:** Place dolly under rear wheels and tow vehicle with front end raised. Or, disconnect rear propeller shaft at rear axle yoke (be sure to mark the prop shaft and yoke for proper alignment at reassembly), secure shaft to underside of vehicle, and tow with front end raised.

## Automatic Transmission Without Low Range Reduction Unit

**Ignition Key Available:** Turn ignition key to Off position to unlock steering column and gearshift selector linkage. Move gearshift lever to N (Neutral). If vehicle is to be towed with all four wheels on the ground, disconnect **both** propeller shafts from axle yokes (be sure to mark the prop shafts and yokes for proper alignment at reassembly), secure shafts to underside of vehicle, and proceed with towing. If vehicle is to be towed with front end raised, disconnect rear propeller shaft only (index mark for proper assembly later) and secure shaft to underside of vehicle.

**Ignition Key Not Available:** Place dolly under rear wheels and tow vehicle with front end raised. Or, disconnect rear propeller shaft at rear axle yoke (index mark for correct assembly later), secure shaft to underside of vehicle, and tow with front wheels raised.

## Automatic Transmission With Low Range Reduction Unit

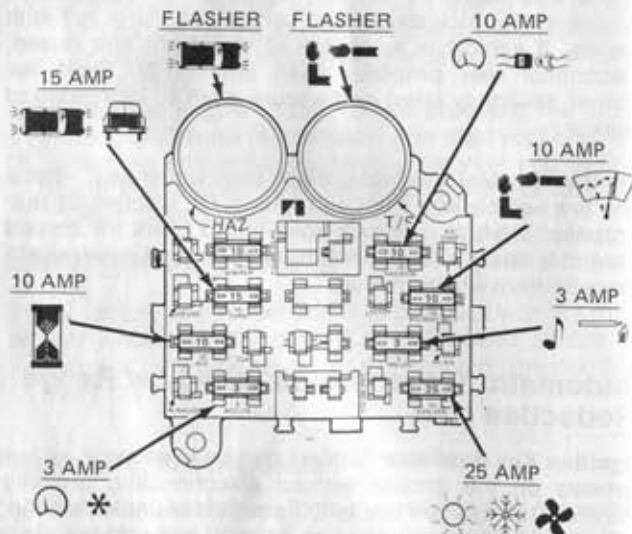
**Ignition Key Available:** Vehicle can be towed with all four wheels on the ground without disconnecting propeller shafts. Turn ignition key to Off position to unlock steering wheel. Move gearshift lever to P (Park) and shift low range reduction unit gearshift lever to N (Neutral) position. If Emergency Drive control (in glove box) was in EMERGENCY DRIVE when the engine was shut down, restart engine and turn the control knob to the NORMAL position.

If the engine will not restart, tow the vehicle using a dolly under rear wheels and with the front wheels raised. **Never tow the vehicle with the Emergency Drive control activated or reduction unit in low range.**

**Ignition Key Not Available:** Place dolly under rear wheels and tow vehicle with front wheels raised. Or, disconnect rear propeller shaft at rear axle (index mark for proper assembly), secure shaft to underside of vehicle, and tow with front wheels raised.

## Electrical Failure

If an electrical component stops working, make sure the ignition switch and control switch are in the correct positions. If the unit still does not operate, check the fuse that protects the circuit that powers the failed unit. If a fuse is blown, replace it using a fiber or plastic fuse puller. If the fuse blows again quickly or shortly after, see your Jeep dealer for diagnosis.



CJ

90141

**Cherokee, Wagoneer, Truck Fuse  
and Circuit Breakers**

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## Vehicle Identification

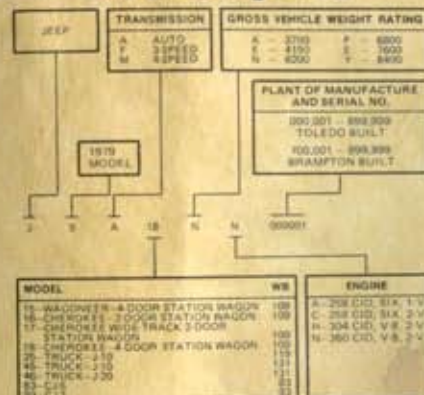
Affixed to the left side of the dash panel, under the hood, a metal Vehicle Identification Plate shows the Vehicle Identification Number, Model Number, Sales Order Number, and the following:

The **Trim Option Number** identifies the seat type, trim color and upholstery material to ensure exact matching of replacement trim.

The **Paint Option Number** identifies the paint used to ensure exact color-matching for retouching or repainting.

The **SSR & O Number** identifies certain Jeep vehicles built to special order with other than standard parts or equipment. This number is required when ordering certain replacement components.

## VIN Decoding Chart



80344

## Engine Code Number

The six-character code number identifies each engine size and build date. The six-cylinder engine code is on the right side on the center of the block. The eight-cylinder code is on a tag attached to the right valve cover.

**NOTE:** Engines built for sale in Georgia and Tennessee have an additional number enclosed by asterisks. On six-cylinder engines it is located on the right side below the build date code. On eight-cylinder engines it is located on a machined pad on the left side of the block, adjacent to the front core plug.

## Engine Code Number



Six-Cylinder

80002



Eight-Cylinder

80003