

## 2004 Isuzu Ascender LS

2004 GENERAL INFORMATION Maintenance And Lubrication - Ascender

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## SPECIFICATIONS

### CAPACITIES - APPROXIMATE FLUID

#### Capacities - Approximate Fluid

Application	Specification	
	Metric	English
Axles		
Front Axle	0.8 Liters	1.7 Pints
Rear Axle	1.7 Liters	3.6 Pints
Engine Cooling System		
• 4.2L LL8 DOHC	13.1 Liters	13.9 Quarts
Engine Crankcase		
• 4.2L LL6 DOHC	6.6 Liters	7.0 Quarts
Fuel Tank	83.3 Liters	22.0 Gallons
Transmission		
• After Filter/Pan Removal	4.7 Liters	5.0 Quarts
• After Complete Overhaul	10.6 Liters	11 Quarts
Transfer Case		
New Venture Gear 226 (NP8)	1.8 Liters	2.0 Quarts

### FLUID AND LUBRICANT RECOMMENDATIONS

#### Recommended Fluids and Lubricants

Usage	Fluid/Lubricant
Engine Oil	Engine oil with the American Petroleum Institute Certified for Gasoline Engines starburst symbol of the proper viscosity. To determine the preferred viscosity for your vehicle's engine, see Engine Oil in the Index.
Engine Coolant	50/50 mixture of clean, drinkable water and use only GM Goodwrench® DEX-COOL® or Havoline® DEX-COOL® Coolant. See Engine Coolant in the Index.
Hydraulic Brake System	Delco Supreme 11® Brake Fluid (GM P/N 12377967, Canadian P/N 992667 or equivalent DOT-3 brake fluid).
Windshield Washer Solvent	GM Optikleen® Washer Solvent (GM P/N 1051515, Canadian P/N 993033) or equivalent.
Parking Brake Cable Guides	Chassis Lubricant (GM P/N 12377985 or equivalent) or lubricant meeting requirements of NLGI #2, Category LB or GC-LB.
	GM Power Steering Fluid (GM P/N 1052884 - 1 pint, 1050017 - 1 quart,

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Power Steering System	Canadian P/N 993294 - 1 pint, Canadian P/N 992646 - 1 quart or equivalent).
Automatic Transmission	DEXRON III® Automatic Transmission Fluid.
Key Lock Cylinders	Multi-Purpose Lubricant, Superlube® (GM P/N 12346241, Canadian P/N 10953474 or equivalent).
Chassis Lubrication	Chassis Lubricant (GM P/N 12377985 or equivalent) or lubricant meeting requirements of NLGI #2, Category LB or GC-LB.
Front and Rear Axle	SAE 75W-90 Synthetic Axle Lubricant (GM P/N 12378261, Canadian P/N 10953455) or equivalent meeting GM Specification 9986115.
Transfer Case	AUTO-TRAK II Fluid (GM Part No. 12378508, Canadian P/N 10953626).
Rear Driveline Center Spline and universal Joints	Chassis Lubricant (GM P/N 12377985 or equivalent) or lubricant meeting requirements of NLGI #2, Category LB or GC-LB.
Constant Velocity Universal Joint	Chassis Lubricant (GM P/N 12377985 or equivalent) or lubricant meeting requirements of NLGI #2, Category LB or GC-LB.
Hood Latch Assembly, Secondary Latch, Pivots, Spring Anchor	Lubriplate® Lubricant Aerosol (GM P/N 1052349, Canadian P/N 992723 or equivalent) or lubricant meeting requirements of NLGI #2, Category LB or GC-LB.
Hood and Door Hinges	Multi-Purpose Lubricant, Superlube® (GM P/N 12346241, Canadian P/N 10953474 or equivalent).
Outer Tailgate Handle Pivot Points and Hinges	Multi-Purpose Lubricant, Superlube® (GM P/N 12346241, Canadian P/N 10953474 or equivalent).
Weatherstrip Conditioning	Dielectric Silicone Grease (GM P/N 12345579, Canadian P/N 1974984 or equivalent).
Weatherstrip Squeaks	Synthetic Grease With Teflon, Superlube® (GM P/N 12371287, Canadian P/N 10953437 or equivalent).

## TIRE INFLATION PRESSURE SPECIFICATIONS

When you inflate the tires to the recommended inflation pressures, the factory-installed wheels and tires are designed to handle loads to the tire's rated load capacity. Incorrect tire pressures, or under-inflated tires, can cause the following conditions:

- Vehicle handling problems
- Poor fuel economy
- Shortened tire life
- Tire overloading

Check the tire pressure when the following apply:

- The tires are cool.
- The vehicle has not been driven for more than 3 hours.
- The vehicle has been driven less than 1.6 km (1 mi).

Check the tires monthly or before any extended trip. Adjust the tire pressure to the specifications on the tire

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placard. Refer to **Label - Vehicle Certification (w/o RPO Z49)** or **Label - Vehicle Certification (w/ RPO Z49)** in General Information. Install the valve caps or extensions on the valves. These keep out dust and water.

The kilopascal (kPa) is the metric term for tire inflation pressure. The tire pressure may be printed in both kilopascal (kPa) and psi. One psi equals 6.9 kPa.

### Inflation Pressure Conversion Chart (Kilopascals to PSI)

kPa	psi	kPa	psi
140	20	215	31
145	21	220	32
155	22	230	33
160	23	235	34
165	24	240	35
170	25	250	36
180	26	275	40
185	27	310	45
190	28	345	50
200	29	380	55
205	30	415	60

Conversion: 6.9 kPa=1 psi

Tires with a higher than recommended pressure can cause the following conditions:

- A hard ride
- Tire bruising
- Rapid tread wear at the center of the tire

Tires with a lower than recommended pressure can cause the following conditions:

- A tire squeal on turns
- Hard steering
- Rapid wear and uneven wear on the edge of the tread
- Tire rim bruises and tire rim rupture
- Tire cord breakage
- High tire temperatures
- Reduced vehicle handling
- High fuel consumption
- Soft riding

Unequal pressure on the same axle can cause the following conditions:

- Uneven braking

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- Steering lead
- Reduced vehicle handling

### MAINTENANCE ITEMS

#### Maintenance Items

Application	Part Number
Automatic Transmission Filter Kit	GM P/N 24200796
Air Cleaner	
4.2L L6 MFI (LL8)	AC Delco® Part No. A2014C
Engine Oil Filter	
4.2L L6 MFI (LL8)	AC Delco® Part No. PF59
Spark Plugs	
4.2L L6 MFI (LL8)	AC Delco® Part No.41-965
Fuel Filter	
4.2L L6 MFI (LL8)	AC Delco® Part No. GF831
Windshield Wiper Blades	20.0 inches (50.8 cm)
Backglass Wiper Blade	14.0 inches (35.6 cm)

## MAINTENANCE

### USING THE MAINTENANCE SCHEDULE

We at General Motors want to help you keep your vehicle in good working condition. But we do not know exactly how you will drive it. You may drive very short distances only a few times a week. Or you may drive long distances all the time in very hot, dusty weather. You may use your vehicle in making deliveries. Or you may drive it to work, to do errands or in many other ways.

Because of all the different ways people use their vehicles, maintenance needs vary. You may need more frequent checks and replacements. So please read the following and note how you drive. If you have any questions on how to keep your vehicle in good condition, see your GM Goodwrench dealer.

This schedule is for vehicles that:

- Carry passengers and cargo within recommended limits. You will find these limits on your vehicle's Certification/Tire label. Refer to **Label - Vehicle Certification (w/o RPO Z49)** or **Label - Vehicle Certification (w/ RPO Z49)** .
- Are driven off-road in the recommended manner.
- Use the recommended fuel.

The services in **Scheduled Maintenance** should be performed when indicated. Refer to **Additional Required Services** and **Maintenance Footnotes** for further information.

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**CAUTION: Performing maintenance work on a vehicle can be dangerous. In trying to do some jobs, you can be seriously injured. Do your own maintenance work only if you have the required know-how and the proper tools and equipment for the job. If you have any doubt, see your GM Goodwrench® dealer to have a qualified technician do the work.**

When you go to your GM Goodwrench dealer for your service needs, you'll know that GM-trained and supported service technicians will perform the work using genuine GM parts.

**Owner Checks and Services** tells you what should be checked, when to check it and what you can easily do to help keep your vehicle in good condition.

The proper replacement parts, fluids and lubricants to use are listed in **Fluid and Lubricant Recommendations** and **Maintenance Items**. When your vehicle is serviced, make sure these are used. All parts should be replaced and all necessary repairs done before you or anyone else drives the vehicle. We recommend the use of genuine GM parts.

### SCHEDULED MAINTENANCE

#### Scheduled Maintenance

When the CHANGE ENGINE OIL light comes on, it means that service is required for your vehicle. Have your vehicle serviced as soon as possible within the next 600 miles (1,000 km). It is possible that, if you are driving under the best conditions, the engine oil life system may not indicate that vehicle service is necessary for over a year. However, your engine oil and filter must be changed at least once a year and at this time the system must be reset. Your GM Goodwrench dealer has GM-trained service technicians who will perform this work using genuine GM parts and reset the system.

If the engine oil life system is ever reset accidentally, you must service your vehicle within 3,000 miles (5,000 km) since your last service. Remember to reset the oil life system whenever the oil is changed. Refer to **GM Oil Life System - Resetting**

for information on the engine Oil Life System and resetting the system.

When the CHANGE ENGINE OIL light appears, certain services, checks and inspections are required. Required services are described in the following for "Maintenance I" and "Maintenance II." Generally, it is recommended that your first service be Maintenance I, your second service be Maintenance II and that you alternate Maintenance I and Maintenance II thereafter. However, in some cases, Maintenance II may be required more often.

**Maintenance I** - Use Maintenance I if the CHANGE ENGINE OIL light comes on within ten months since vehicle was purchased or Maintenance II was performed.

**Maintenance II** - Use Maintenance II if the previous service performed was Maintenance I. Always use Maintenance II whenever the light comes on ten months or more since the last service or if the light has not come on at all for one year.



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Control Service.						
Change automatic transmission fluid and filter (severe service). See footnote (h).	-	X	-	X	-	X
Change automatic transmission fluid and filter (normal service).	-	-	-	X	-	-
Automatic transfer case only: Change transfer case fluid. See footnote (g).	-	X	-	X	-	X
Replace spark plugs. An Emission Control Service.	-	-	-	X	-	-
V8 engine only: Inspect spark plug wires. An Emission Control Service.	-	-	-	X	-	-
V8 engine only: Inspect positive Crankcase ventilation (PCV) valve. An Emission Control Service.	-	-	-	X	-	-
Engine cooling system service (or every 5 years, whichever occurs first). An Emission Control Service. See footnote (i).	-	-	-	-	-	X
Inspect engine accessory drive belt. An Emission Control Service.	-	-	-	-	-	X

### MAINTENANCE FOOTNOTES

#### Footnotes

The U.S. Environmental Protection Agency or the California Air Resources Board has determined that the failure to perform this maintenance item will not nullify the emission warranty or limit recall liability prior to the completion of the vehicle's useful life. We, however, urge that all recommended maintenance services be performed at the indicated intervals and the maintenance be recorded.

(a) Visually inspect brake lines and hoses for proper hook-up, binding, leaks, cracks, chafing, etc. Inspect disc brake pads for wear and rotors for surface condition. Inspect other brake parts, including calipers, parking brake, etc.

(b) Visually inspect front and rear suspension and steering system for damaged, loose or missing parts or signs of wear. Inspect power steering lines and hoses for proper hook-up, binding, leaks, cracks, chafing, etc.

(c) Visually inspect hoses and have them replaced if they are cracked, swollen or deteriorated. Inspect all pipes, fittings and clamps; replace with genuine GM parts as needed. To help ensure proper operation, a pressure test of the cooling system and pressure cap and cleaning the outside of the radiator and air conditioning condenser is recommended at least once a year.

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(d) Visually inspect wiper blades for wear or cracking. Replace blade inserts that appear worn or damaged or that streak or miss areas of the windshield.

(e) Make sure the safety belt reminder light and all your belts, buckles, latch plates, retractors and anchorages are working properly. Look for any other loose or damaged safety belt system parts. If you see anything that might keep a safety belt system from doing its job, have it repaired. Have any torn or frayed safety belts replaced. Also look for any opened or broken air bag coverings, and have them repaired or replaced. (The air bag system does not need regular maintenance.)

(f) Lubricate all key lock cylinders, hood latch assembly, secondary latch, pivots, spring anchor, release pawl, rear compartment hinges, outer liftgate handle pivot points, rear door detent link, roller mechanism, liftgate handle pivot points, latch bolt, fuel door hinge, cargo door hinge, locks and folding seat hardware. More frequent lubrication may be required when exposed to a corrosive environment. Applying silicone grease on weather-strips with a clean cloth will make them last longer, seal better and not stick or squeak.

(g) Add fluid as needed. A fluid loss could indicate a problem; repair as needed. Check vent hose at transfer case for kinks and proper installation.

(h) Change automatic transmission fluid and filter if the vehicle is mainly driven under one or more of these conditions:

- In heavy city traffic where the outside temperature regularly reaches 90°F (32°C) or higher.
- In hilly or mountainous terrain.
- When doing frequent trailer towing
- Uses such as found in taxi, police or delivery service.

(i) Drain, flush and refill cooling system. Refer to **Draining and Filling Cooling System (Body VIN Code 6)** for flushing procedure. Refer to **Fluid and Lubricant Recommendations** for what to use. Inspect hoses. Clean radiator, condenser, pressure cap and filler neck. Pressure test the cooling system and pressure cap.

(j) A fluid loss in any vehicle system could indicate a problem. Have the system inspected and repaired and the fluid level checked. Add fluid if needed.

### **EXPLANATION OF SCHEDULED SERVICES**

For time and/or mileage intervals of scheduled maintenance items, refer to **Scheduled Maintenance** and **Additional Required Services** in General Information.

The following text and illustrations describe the details of the required scheduled maintenance services.

For information on the proper fluids and lubricants to use, refer to **Fluid and Lubricant Recommendations**.

#### **Engine Oil and Filter Change**

For the engine oil and filter changing procedure for the 4.2 L engine, refer to **Engine Oil and Oil Filter Replacement** in Engine Mechanical.



**IMPORTANT:** When adding to, or changing the engine oil, use **ONLY** oils of the proper quality.

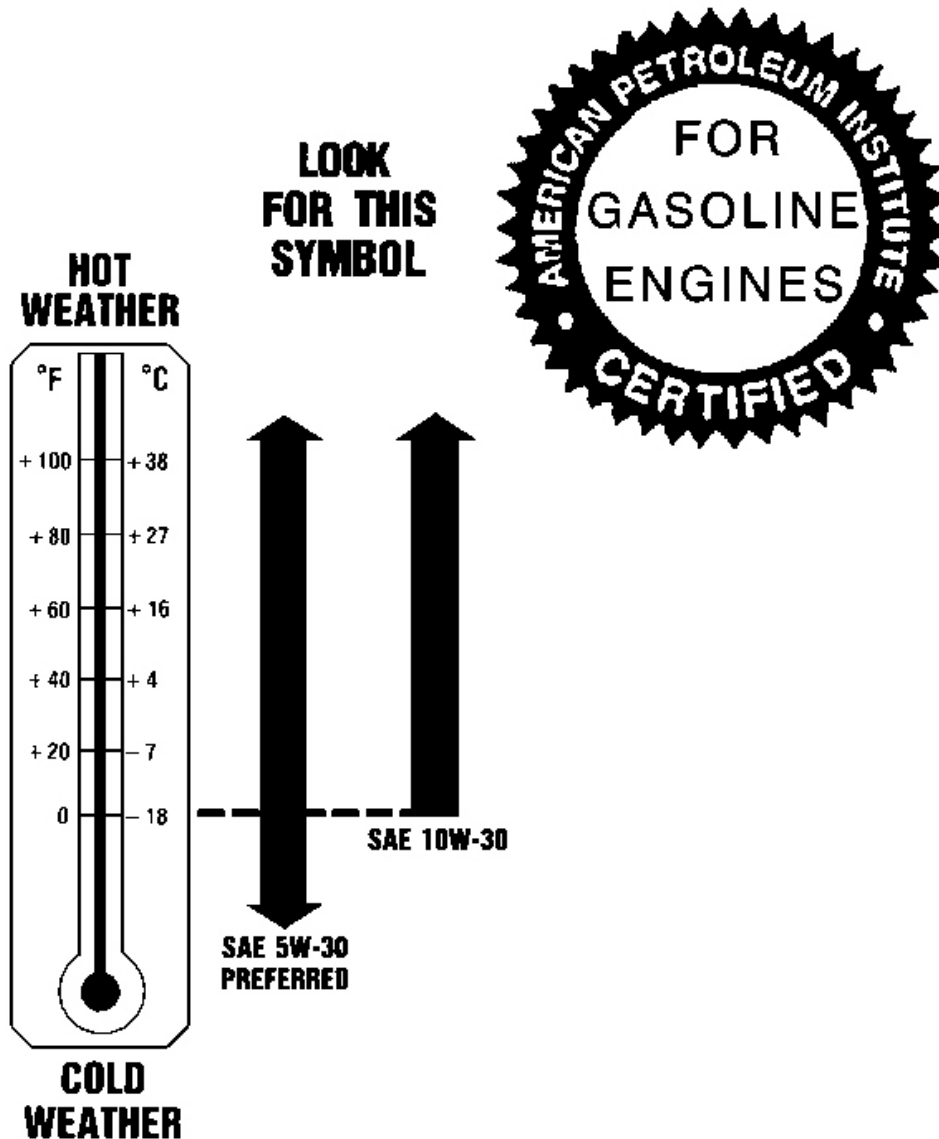


**Fig. 1: Engine Oil Quality (United States and Canada)**  
Courtesy of GENERAL MOTORS CORP.

Oils of the proper quality for the vehicle can be identified by looking for the STARBURST symbol. The STARBURST symbol indicates that the oil has been certified by the American Petroleum Institute (API), and is preferred for use in gasoline engines.

**RECOMMENDED SAE VISCOSITY GRADE ENGINE OILS**

**FOR BEST FUEL ECONOMY AND COLD STARTING, SELECT THE LOWEST SAE VISCOSITY GRADE OIL FOR THE EXPECTED TEMPERATURE RANGE.**



**Fig. 2: Identifying Recommended Engine Oil Viscosity (United States & Canada)**

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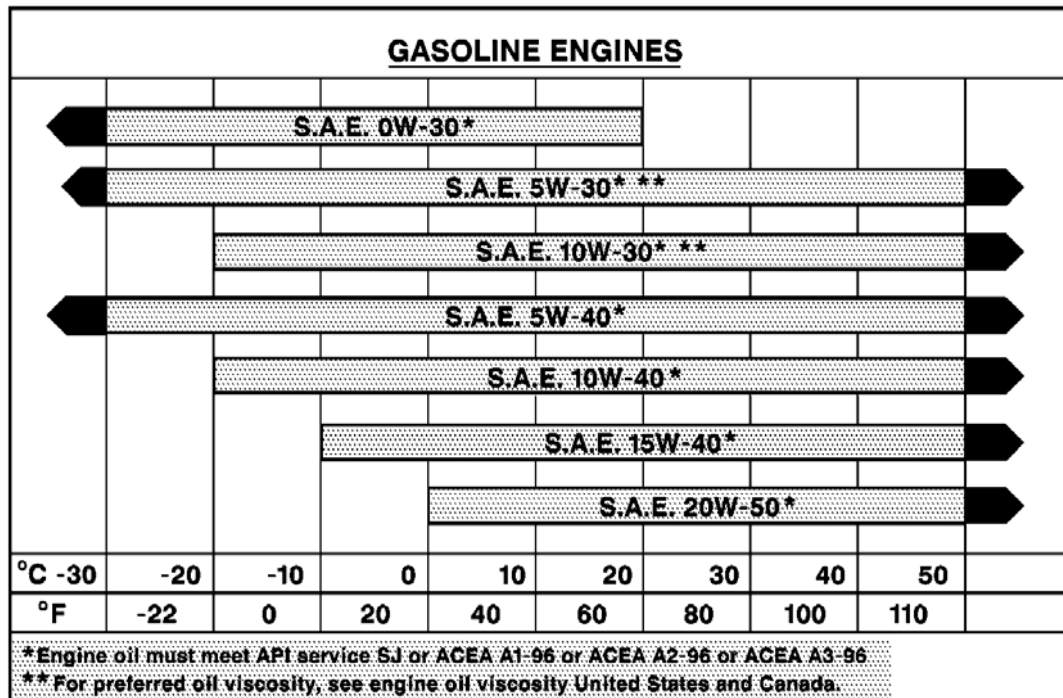
**Courtesy of GENERAL MOTORS CORP.**

The recommended oil viscosity for all vehicles is SAE 5W-30.

Engine oil viscosity (thickness) has an effect on the fuel economy and the cold-weather operation (starting and oil flow). Lower viscosity engine oils can provide better fuel economy and cold-weather performance. However, higher temperature weather condition require higher viscosity engine oils for satisfactory lubrication. When the temperature is consistently above - 18°C (0°F), SAE 10W-30 can be used. SAE 20W-50 or oils of other viscosity rating or quality designations are NOT recommended for use in any GMC vehicle at any time.

**NOTE:** Using oils of any viscosity other than those recommended could result in engine damage. When choosing an oil, consider the range of temperatures the vehicle will be operated in before the next oil change. Then, select the recommended oil viscosity.

**Engine Oil Quality and Viscosity, Other Than The United States and Canada**



**Fig. 3: Engine Oil Quality And Viscosity Other Than United States And Canada**  
 Courtesy of GENERAL MOTORS CORP.

**IMPORTANT:** When adding to, or changing the engine oil, use **ONLY** oils of the proper quality.

In countries other than the United States and Canada, it may be difficult to find engine oils that display the API

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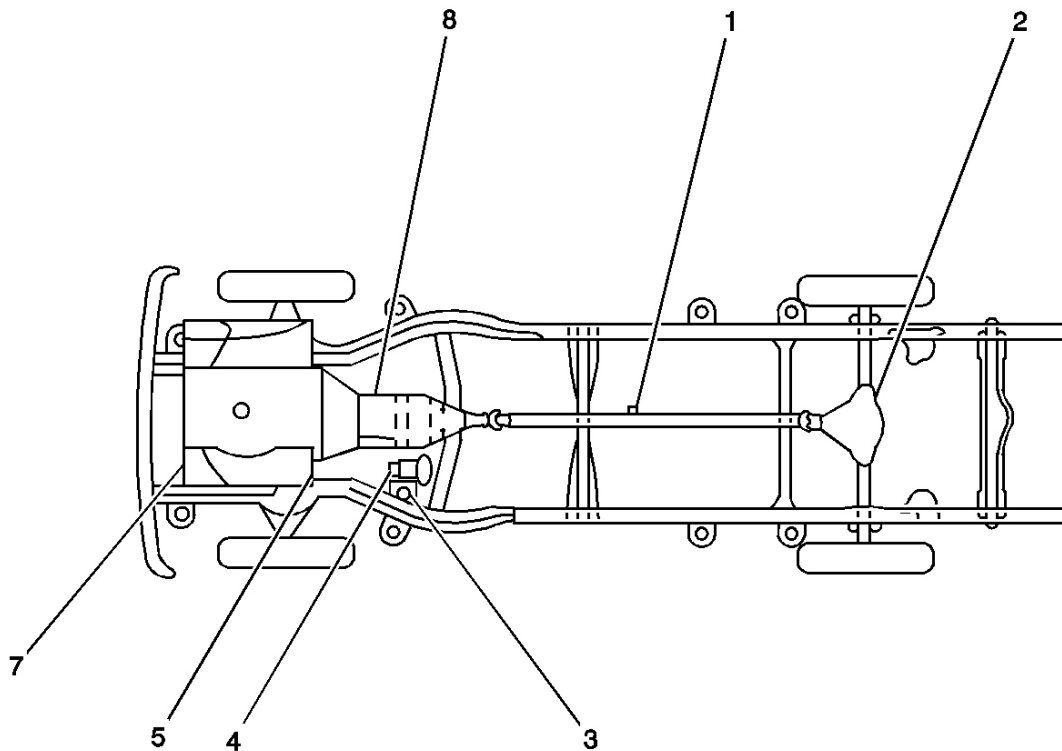
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STARBURST symbol certifying the oil is for use in gasoline engines. If you are unable to find engine oils displaying the API STARBURST symbol, use engine oils that meet API Service SJ and/or ACEA A1-96, ACEA A2-96, or ACEA A3-96 requirements as shown in the chart above.

**NOTE:** Using oils of any viscosity other than those recommended could result in engine damage. When choosing an oil, consider the range of temperatures the vehicle will be operated in before the next oil change. Then, select the recommended oil viscosity.

### Chassis Lubrication

Lubricate transaxle shift linkage. Lubricate the parking brake guides, underbody contact points and linkage.



**Fig. 4: Lubrication Points (Rear Wheel Drive)**  
Courtesy of GENERAL MOTORS CORP.

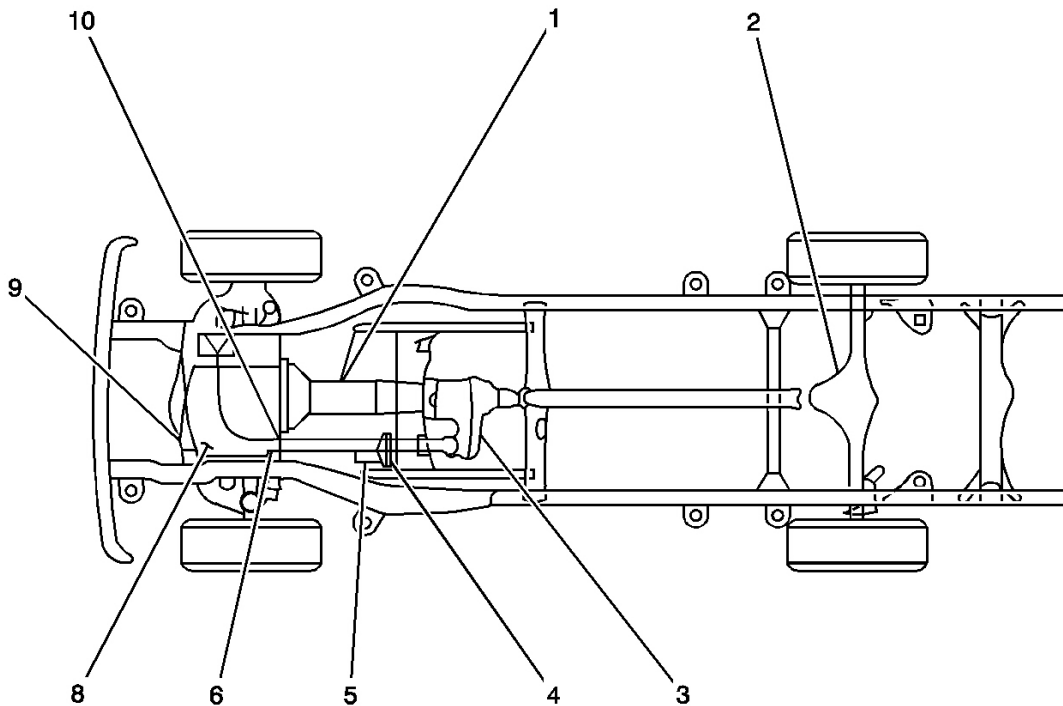
### Callouts For Fig. 4

Callout	Component Name
1	Prop Shaft Slip Joint
2	Rear Axle Differential
3	Clutch Actuator

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4	Master Cylinder
5	Oil Filter
7	Engine
8	Transmission



**Fig. 5: Lubrication Points (4 Wheel Drive)**  
 Courtesy of GENERAL MOTORS CORP.

### Callouts For Fig. 5

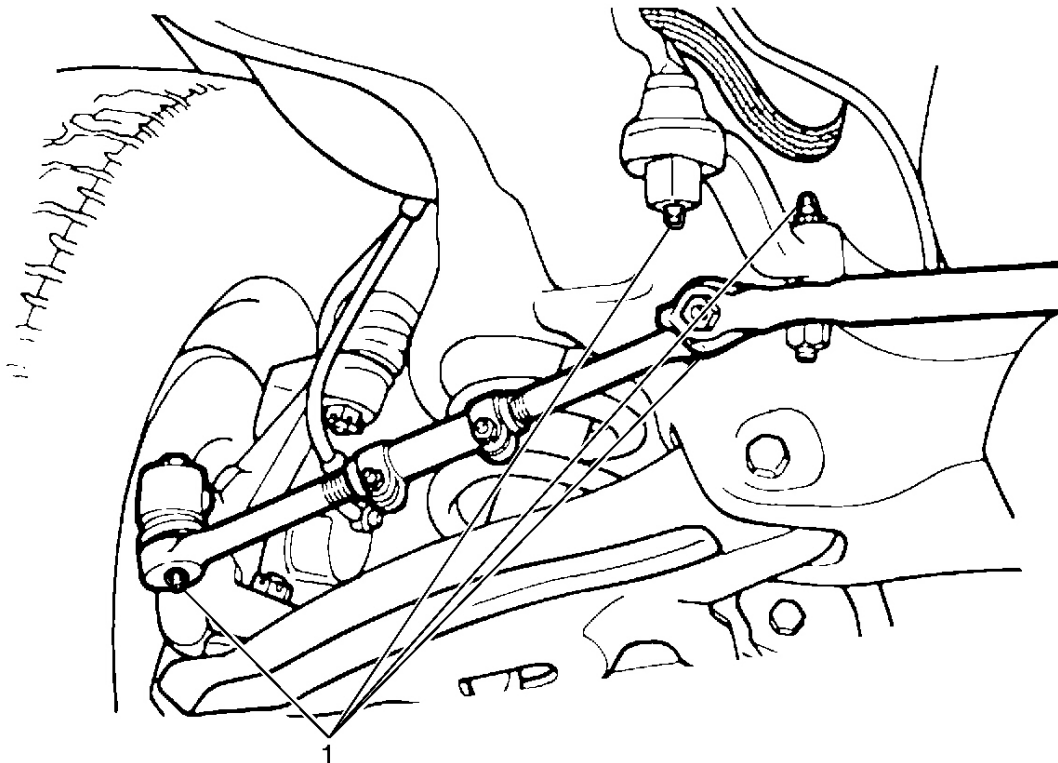
Callout	Component Name
1	Transmission
2	Rear Axle Differential
3	Transfer Case
4	Clutch Actuator
5	Master Cylinder
6	Engine
8	Front Axle Differential
9	Oil Filter
10	Front Propeller Shaft

**Lubricating Joints that have Grease Fittings**

Refer to the illustration for the location of the grease fittings.

**IMPORTANT:** Wipe off all dirt from the grease fitting before lubricating the joint. Ball joints should not be lubricated unless their temperature is -12°C (10°F) or higher. During cold weather, the ball joint should be allowed to warm up as necessary before being lubricated. Use a low-pressure grease gun on all joints to prevent seal damage.

Apply grease slowly while watching the grease seal. Apply grease until grease is seen bleeding from the seal. If the seal expands but no grease is seen, do not apply any more grease and allow time for the grease to bleed from the seal.

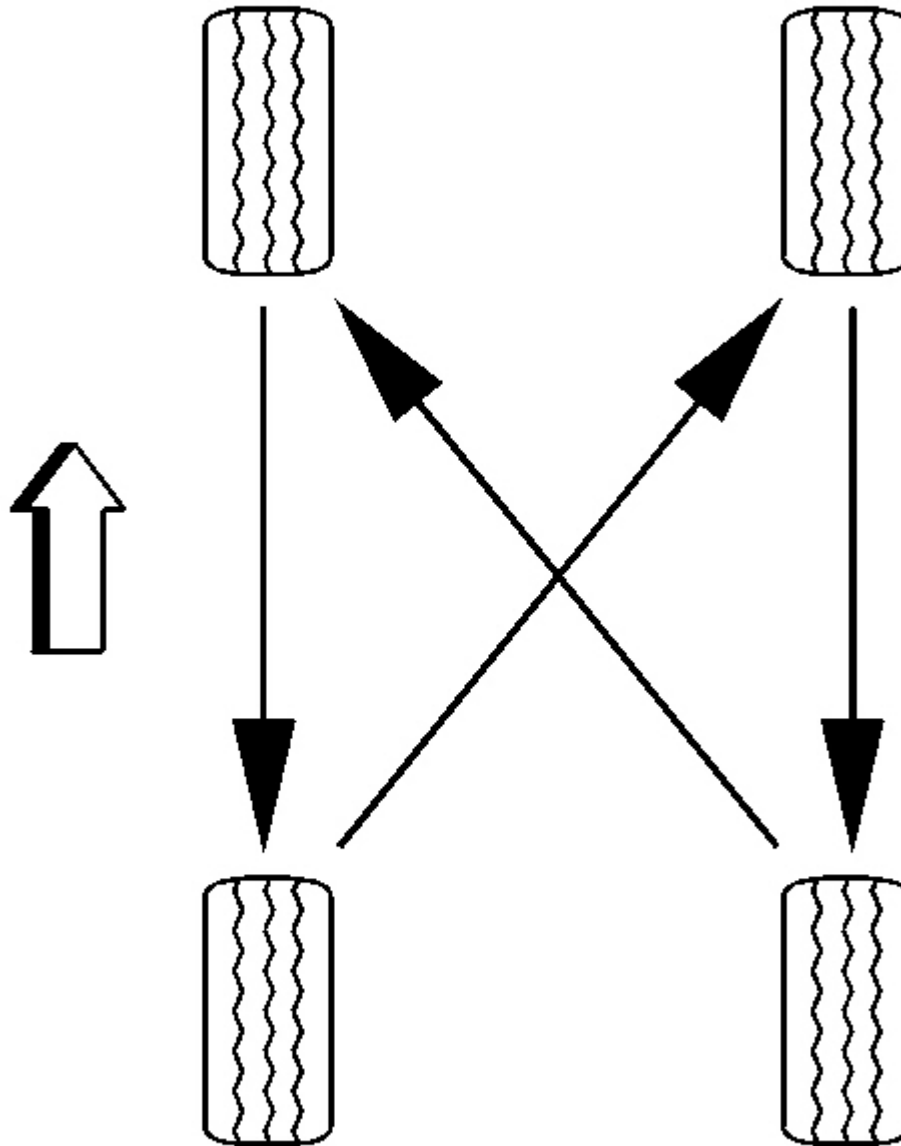


**Fig. 6: Lubrication Fittings (Passenger Side)**  
 Courtesy of GENERAL MOTORS CORP.

**Callouts For Fig. 6**

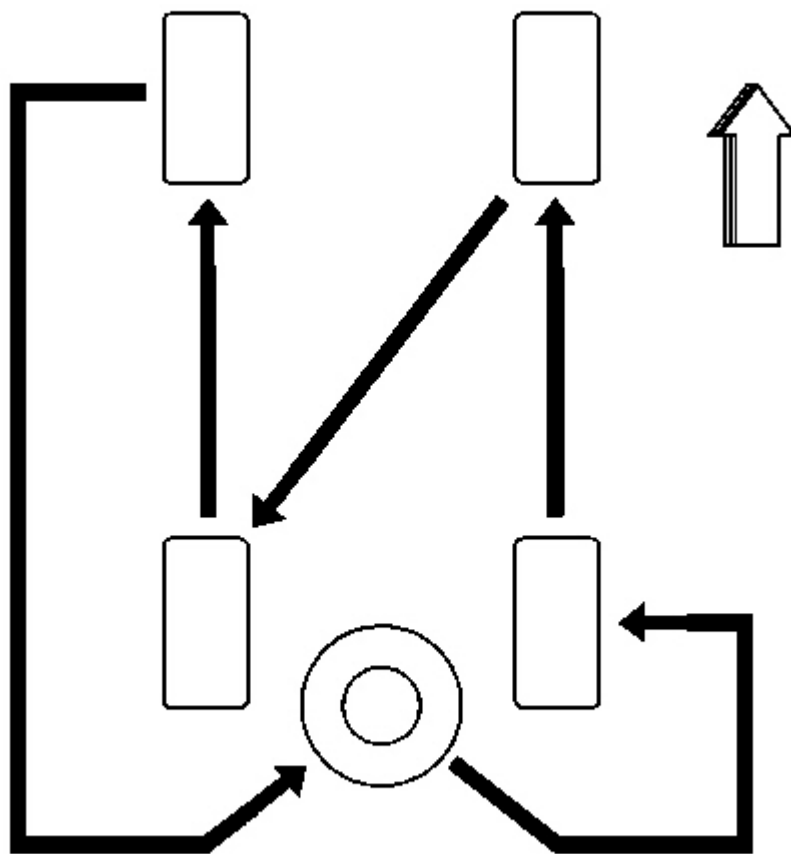
Callout	Component Name
1	Lubrication Fittings

Check the tires for abnormal wear or damage. Rotate the tires in order to equalize the wear and obtain maximum tire life. Use the recommended rotation sequence shown in the appropriate illustration:



**Fig. 7: Identifying Tire Rotation Pattern**  
Courtesy of GENERAL MOTORS CORP.

- Four tire rotation sequence



**Fig. 8: Rotating Tires (5 Tires)**  
Courtesy of GENERAL MOTORS CORP.

- Five tire rotation sequence

#### Accessory Drive Belt Inspection

Inspect the accessory drive belts for the following:

- Cracks
- Fraying
- Wear
- Proper tension



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Replace as needed. (Belts can have many small cracks in individual ribs without affecting the performance. For the 4.2 L engine, refer to **Drive Belt Replacement**

#### **Drive Axle Service**

Change the axle fluid according to the maintenance schedule intervals. For the maintenance schedule refer to **Scheduled Maintenance** and **Additional Required Services**. For axle capacities refer to **Capacities - Approximate Fluid** in Maintenance and Lubrication. For the procedure to check the fluid level of the front drive axle refer to **Lubricant Level Inspection - Front Drive Axle** . For the procedure to check the fluid level of the rear drive axle refer to **Lubricant Level Inspection - Rear Drive Axle**

#### **Transmission Service**

##### **Automatic Transmission**

Change both the fluid and the filter according to the maintenance schedule intervals. For maintenance schedule information, refer to **Scheduled Maintenance** and **Additional Required Services**.

#### **Spark Plug Replacement**

Replace the spark plugs according to the maintenance schedule intervals with the correct type. For maintenance schedule information, refer to **Scheduled Maintenance** and **Additional Required Services**.

For information on the correct type of spark plug, Refer to **Maintenance Items**.

For the 4.2 L engine replacement procedures, refer to **Spark Plug Replacement** .

#### **Spark Plug Wire Inspection**

Clean the spark plug wires and inspect for burns, cracks or other damage. Check the wire boot fit at the coils and at the spark plugs. Replace wires as needed.

Refer to **Ignition Coil(s) Replacement** .

#### **Fuel Filter Replacement**

Replace the fuel filter according to the maintenance schedule intervals with the correct type. For maintenance schedule information, refer to **Scheduled Maintenance** and **Additional Required Services**. For information on the correct fuel filter refer to **Maintenance Items**.

#### **Air Cleaner Filter Replacement**

Replace the air cleaner filter according to the maintenance schedule intervals with the correct type. For maintenance schedule information, refer to **Scheduled Maintenance** and **Additional Required Services**. For information on the correct type of air cleaner filter, refer to **Maintenance Items**. For procedure refer to **Air Cleaner Element Replacement** .

#### **GM OIL LIFE SYSTEM - RESETTING**

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This vehicle has an engine oil life monitor. The GM Oil Life System™ will show when to change the engine oil and oil filter. This will usually occur between 5 000 km (3,000 mi) and 12 500 km (7,500 mi) since the last oil change. Under severe conditions, the indicator may come on before 5 000 km (3,000 mi).

Vehicle should not be driven more than 12 500 km (7,500 mi) or 12 months without an oil and oil filter change. The system will not detect dust in the oil. So if the vehicle is driven in a dusty area, be sure to change the oil and oil filter every 5 000 km (3,000 mi) or sooner if the CHANGE OIL SOON indicator comes on. Reset the system when the oil has been changed.

#### Resetting Procedure

1. Turn the ignition to ON without starting the engine.
2. Fully press and release the accelerator pedal three times within ten seconds.
  - If the CHANGE OIL SOON indicator flashes for five seconds, the system is reset. Turn the ignition key to OFF, then start the vehicle.
  - If the CHANGE OIL SOON indicator does not display for five seconds, you will need to reset the system again.

#### OWNER CHECKS AND SERVICES

These owner checks and services should be performed at the intervals specified to help ensure the safety, dependability and emission control performance of your vehicle. Your GM Goodwrench dealer can assist you with these checks and services

Be sure any necessary repairs are completed at once. Whenever any fluids or lubricants are added to your vehicle, make sure they are the proper ones, refer to **Fluid and Lubricant Recommendations**

#### At Each Fuel Fill

**IMPORTANT: It is important to perform these underhood procedures at each fuel fill.**

#### Engine Oil Level

Inspect the engine oil level and add the proper oil if necessary. In order to select the proper fluids and lubricants, refer to **Fluid and Lubricant Recommendations**.

**NOTE: It is important to check your oil regularly and keep it at the proper level. Failure to keep your engine oil at the proper level can cause damage to your engine not covered by your warranty.**

#### Engine Coolant Level

Check the engine coolant levels and add DEX-COOL® coolant mixture if necessary. Refer to **Fluid and Lubricant Recommendations**.

#### Windshield Washer Fluid Level

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Check the windshield washer fluid level in the windshield washer tank and add the proper fluid if necessary. Refer to **Fluid and Lubricant Recommendations**.

#### At Least Once a Month

##### Tire Inflation

Check tire inflation. Make sure the tires are inflated to the pressures specified on the Certification/Tire label located on the driver door lock pillar. Refer to **Label - Vehicle Certification (w/o RPO Z49)** or **Label - Vehicle Certification (w/ RPO Z49)**.

#### At Least Once a Year

##### Starter Switch Check

- Before you start, ensure that you have enough room around the vehicle in case the vehicle jumps suddenly.

**IMPORTANT: Do not use the accelerator pedal, and be ready to turn off the engine immediately if it starts.**

- Firmly apply both the park brake and the regular brake.
- On automatic transmission vehicles, try to start the engine in each gear. The starter should work only in PARK (P) or NEUTRAL (N). If the starter works in any other position, the vehicle needs service.

On manual transmission vehicles, put the shift lever in NEUTRAL (N), push the clutch down halfway and try to start the engine. The starter should work only when the clutch is pushed down all the way to the floor. If the starter works when the clutch is not pushed all the way down, the vehicle needs service.

##### Automatic Transmission Shift Lock Control Check

1. Before you start, be sure you have enough room around the vehicle. It should be parked on a level surface.

**IMPORTANT: Be ready to apply the regular brake immediately if the vehicle begins to move.**

2. Firmly apply the parking brake.
3. With the engine off, turn the key to the RUN position, but don't start the engine.
4. Without applying the regular brake, try to move the shift lever out of PARK (P) with normal effort.
5. If the shift lever moves out of PARK (P), the vehicle needs service.

##### Ignition Transmission Lock Check

1. With the vehicle parked, set the parking brake.
2. Try to turn the ignition key to LOCK in each shift lever position.

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3. With an automatic transmission, the key should turn to LOCK only when the shift lever is in PARK (P).
4. With a manual transmission, the key should turn to LOCK only when you press the key release button.
5. On all vehicles, the key should come out only in LOCK.

#### Park Brake and Automatic Transmission PARK (P) Mechanism Check

**CAUTION: When performing this check, the vehicle could begin to move. You or others could be injured and property could be damaged. Make sure there is room in front of the vehicle in case the vehicle begins to roll. Be ready to apply the regular brake at once, should the vehicle begin to move.**

Follow this procedure to test the park brake and automatic transmission PARK mechanism:

1. Park on a fairly steep hill, with the vehicle facing downhill.
2. Keep your foot on the hydraulic brake pedal.
3. Set the park brake.
4. Check the park brake:
  1. Start the engine.
  2. Place the transmission in NEUTRAL.
  3. Slowly remove foot pressure from the regular brake pedal. If the vehicle moves, refer to **Park Brake Adjustment** in Park Brake.
5. In order to check the PARK (P) mechanism of an automatic transmission, follow steps 4.1-4.3 above then do the following:
  1. Shift to PARK (P).
  2. Release all brakes.

#### Underbody Flushing Service

At least every spring, use plain water to flush any corrosive materials from the underbody. Take care to clean thoroughly any areas where mud and other debris can collect.