

LUBRICATION & MAINTENANCE

TABLE OF CONTENTS

	page		page
LUBRICATION & MAINTENANCE		TOWING	
SPECIFICATIONS - FLUID CAPACITIES	1	STANDARD PROCEDURE - TOWING	6
FLUID TYPES		JUMP STARTING	
DESCRIPTION		STANDARD PROCEDURE	
ENGINE OIL AND LUBRICANTS	2	JUMP STARTING	8
DESCRIPTION - HOAT COOLANT	4	HOISTING	
DESCRIPTION - AUTOMATIC		STANDARD PROCEDURE - HOISTING	10
TRANSMISSION FLUID	5	MAINTENANCE SCHEDULES	
DESCRIPTION - DIFFERENTIAL		DESCRIPTION - FLEXIBLE SERVICE SYSTEM	
LUBRICANT	6	(FSS)	11
INTERNATIONAL SYMBOLS		LUBRICATION POINTS	
DESCRIPTION	6	DESCRIPTION	14
FLUID FILL/CHECK LOCATIONS		EMERGENCY TOW HOOKS	
DESCRIPTION	6	DESCRIPTION	14

LUBRICATION & MAINTENANCE

SPECIFICATIONS - FLUID CAPACITIES

FLUID	CAPACITY
Automatic Transmission Fluid	8.0 L (8.5 qts.)
Brake System	0.5 L (0.5 qts.)
Cooling System	11.2 L (11.8 qts.)
Engine Oil W/ Filter	5.5 L (6.1 qts.)
Fuel	60.0 L (15.8 gal.)
Manual Transmission Fluid	1.5 L (1.6 qts.)
Power Steering	1.0 L (1.1 qts.)
Rear Axle	1.3 L (1.4 qts.)

PARTS AND LUBRICANT RECOMMENDATIONS

When service is required, DaimlerChrysler Motor Corporation recommends that only Mopar® brand parts, lubricants and chemicals be used. Mopar provides the best engineered products for servicing DaimlerChrysler Corporation vehicles.

AUTOMATIC TRANSMISSION FLUID

Use Shell® 3403 automatic transmission fluid or equivalent.

ENGINE COOLANT

The green and the orange engine coolant MUST NOT BE MIXED.

FUEL

Crossfire engines require the use of unleaded fuel to reduce exhaust emissions. Use premium unleaded gasoline having a minimum octane rating of 91 (R+M)/2. Higher octane premium unleaded gasoline can be used if desired.

FLUID CHECK/FILL POINTS AND LUBRICATION LOCATIONS

The fluid check/fill points and lubrication locations are located in each applicable Sections.

FLUID TYPES

DESCRIPTION

ENGINE OIL AND LUBRICANTS

WARNING: NEW OR USED ENGINE OIL CAN BE IRRITATING TO THE SKIN. AVOID PROLONGED OR REPEATED SKIN CONTACT WITH ENGINE OIL. CONTAMINANTS IN USED ENGINE OIL, CAUSED BY INTERNAL COMBUSTION, CAN BE HAZARDOUS TO YOUR HEALTH. THOROUGHLY WASH EXPOSED SKIN WITH SOAP AND WATER. DO NOT WASH SKIN WITH GASOLINE, DIESEL FUEL, THINNER, OR SOLVENTS, HEALTH PROBLEMS CAN RESULT. DO NOT POLLUTE, DISPOSE OF USED ENGINE OIL PROPERLY. CONTACT YOUR DEALER OR GOVERNMENT AGENCY FOR LOCATION OF COLLECTION CENTER IN YOUR AREA.

When service is required, DaimlerChrysler Corporation recommends that only Mopar® brand parts, lubricants and chemicals be used. Mopar® provides the best engineered products for servicing DaimlerChrysler Corporation vehicles.

Only lubricants bearing designations defined by the following organization should be used.

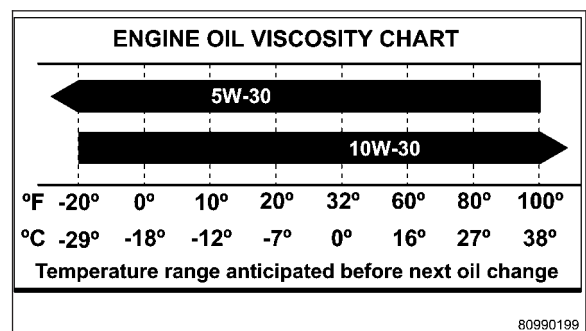
- Society of Automotive Engineers (SAE)
- American Petroleum Institute (API)
- National Lubricating Grease Institute (NLGI)

API SERVICE GRADE CERTIFIED

Use an engine oil that is API Certified. MOPAR® provides engine oils, that meet or exceed this requirement.

SAE VISCOSITY

An SAE viscosity grade is used to specify the viscosity of engine oil. Use only engine oils with multiple viscosities such as 5W-30 or 10W-30. These are specified with a dual SAE viscosity grade which indicates the cold-to-hot temperature viscosity range. Select an engine oil that is best suited to your particular temperature range and variation.



ENERGY CONSERVING OIL

An Energy Conserving type oil is recommended for gasoline engines. The designation of ENERGY CONSERVING is located on the label of an engine oil container.

CONTAINER IDENTIFICATION

Standard engine oil identification notations have been adopted to aid in the proper selection of engine oil. The identifying notations are located on the front label of engine oil plastic bottles and the top of engine oil cans.

This symbol means that the oil has been certified by the American Petroleum Institute (API). DaimlerChrysler only recommend API Certified engine oils. Use Mopar® engine oil or equivalent.

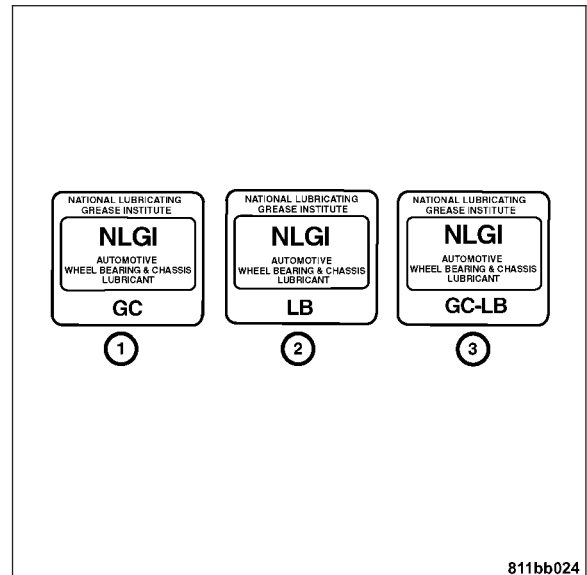


GEAR LUBRICANTS

SAE ratings also apply to multigrade gear lubricants. In addition, API classification defines the lubricants usage. Such as API GL-5 and SAE 75W-90.

LUBRICANTS AND GREASES

Lubricating grease is rated for quality and usage by the NLGI. All approved products have the NLGI symbol on the label. At the bottom of the NLGI symbol is the usage and quality identification letters. Wheel bearing lubricant is identified by the letter "G". Chassis lubricant is identified by the letter "L". The letter following the usage letter indicates the quality of the lubricant. The following symbols indicate the highest quality.



SPECIALIZED LUBRICANTS AND OILS

Some maintenance or repair procedures may require the use of specialized lubricants or oils. Consult the appropriate sections in this manual for the correct application of these lubricants.

DESCRIPTION - HOAT COOLANT

WARNING: ANTIFREEZE IS AN ETHYLENE-GLYCOL BASE COOLANT AND IS HARMFUL IF SWALLOWED OR INHALED. IF SWALLOWED, DRINK TWO GLASSES OF WATER AND INDUCE VOMITING. IF INHALED, MOVE TO FRESH AIR AREA. SEEK MEDICAL ATTENTION IMMEDIATELY. DO NOT STORE IN OPEN OR UNMARKED CONTAINERS. WASH SKIN AND CLOTHING THOROUGHLY AFTER COMING IN CONTACT WITH ETHYLENE-GLYCOL. KEEP OUT OF REACH OF CHILDREN. DISPOSE OF GLYCOL BASE COOLANT PROPERLY, CONTACT YOUR DEALER OR GOVERNMENT AGENCY FOR LOCATION OF COLLECTION CENTER IN YOUR AREA. DO NOT OPEN A COOLING SYSTEM WHEN THE ENGINE IS AT OPERATING TEMPERATURE OR HOT UNDER PRESSURE, PERSONAL INJURY CAN RESULT. AVOID RADIATOR COOLING FAN WHEN ENGINE COMPARTMENT RELATED SERVICE IS PERFORMED, PERSONAL INJURY CAN RESULT.

CAUTION: Use of Propylene-Glycol based coolants is not recommended, as they provide less freeze protection and less corrosion protection.

The cooling system is designed around the coolant. The coolant must accept heat from engine metal, in the cylinder head area near the exhaust valves and engine block. Then coolant carries the heat to the radiator where the tube/fin radiator can transfer the heat to the air.

The use of aluminum cylinder blocks, cylinder heads, and water pumps requires special corrosion protection. Mopar® Antifreeze/Coolant, 5 Year/100,000 Mile Formula (MS-9769), or the equivalent ethylene-glycol base coolant with organic corrosion inhibitors (called HOAT, for Hybrid Organic Additive Technology) is recommended. This coolant offers the best engine cooling without corrosion when mixed with 50% ethylene-glycol and 50% distilled water to obtain a freeze point of -37°C (-35°F). If it loses color or becomes contaminated, drain, flush, and replace with fresh properly mixed coolant solution.

CAUTION: Mopar® Antifreeze/Coolant, 5 Year/100,000 Mile Formula (MS-9769) may not be mixed with any other type of antifreeze. Mixing of coolants other than specified (non-HOAT or other HOAT), may result in engine damage that may not be covered under the new vehicle warranty, and decreased corrosion protection.

COOLANT PERFORMANCE

The required ethylene-glycol (antifreeze) and water mixture depends upon climate and vehicle operating conditions. The coolant performance of various mixtures follows:

Pure Water-Water can absorb more heat than a mixture of water and ethylene-glycol. This is for purpose of heat transfer only. Water also freezes at a higher temperature and allows corrosion.

100 percent Ethylene-Glycol-The corrosion inhibiting additives in ethylene-glycol need the presence of water to dissolve. Without water, additives form deposits in system. These act as insulation causing temperature to rise to as high as 149°C (300°F). This temperature is hot enough to melt plastic and soften solder. The increased temperature can result in engine detonation. In addition, 100 percent ethylene-glycol freezes at -22°C (-8°F).

50/50 Ethylene-Glycol and Water-Is the recommended mixture, it provides protection against freezing to -37°C (-35°F). The antifreeze concentration **must always** be a minimum of 44 percent, year-round in all climates. If percentage is lower, engine parts may be eroded by cavitation. Maximum protection against freezing is provided with a 68 percent antifreeze concentration, which prevents freezing down to -67.7°C (-90°F). A higher percentage will freeze at a warmer temperature. Also, a higher percentage of antifreeze can cause the engine to overheat because specific heat of antifreeze is lower than that of water.

CAUTION: Richer antifreeze mixtures cannot be measured with normal field equipment and can cause problems associated with 100 percent ethylene-glycol.

COOLANT SELECTION AND ADDITIVES

The use of aluminum cylinder blocks, cylinder heads and water pumps requires special corrosion protection. Only Mopar® Antifreeze/Coolant, 5 Year/100,000 Mile Formula (glycol base coolant with corrosion inhibitors called HOAT, for Hybrid Organic Additive Technology) is recommended. This coolant offers the best engine cooling without corrosion when mixed with 50% distilled water to obtain a freeze point of -37°C (-35°F). If it loses color or becomes contaminated, drain, flush, and replace with fresh properly mixed coolant solution.

CAUTION: Do not use coolant additives that are claimed to improve engine cooling.

DESCRIPTION - AUTOMATIC TRANSMISSION FLUID

Note: Refer to the maintenance schedules for the recommended maintenance (fluid/filter change) intervals for this transmission.

Note: For fluid level checking procedures, Refer to Page 21-294 .

TRANSMISSION FLUID

Shell® 3403 Automatic Transmission Fluid (ATF) when new is red in color. The ATF is dyed red so it can be identified from other fluids used in the vehicle such as engine oil or antifreeze. The red color is not permanent and is not an indicator of fluid condition. As the vehicle is driven, the ATF will begin to look darker in color and may eventually become brown. **This is normal.** 3403 also has a unique odor that may change with age. Consequently, **odor and color cannot be used to indicate the fluid condition or the need for a fluid change.**

FLUID ADDITIVES

DaimlerChrysler strongly recommends against the addition of any fluids to the transmission, other than those automatic transmission fluids listed above. Exceptions to this policy are the use of special dyes to aid in detecting fluid leaks.

Various “special” additives and supplements exist that claim to improve shift feel and/or quality. These additives and others also claim to improve converter clutch operation and inhibit overheating, oxidation, varnish, and sludge. These claims have not been supported to the satisfaction of DaimlerChrysler and these additives **must not be used.** The use of transmission “sealers” should also be avoided, since they may adversely affect the integrity of transmission seals.

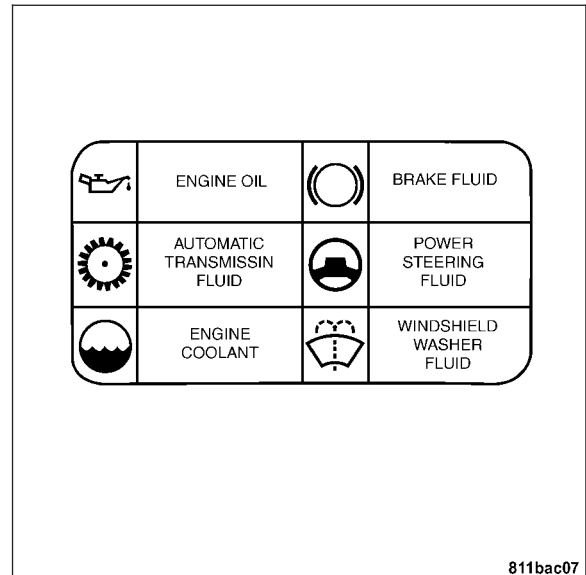
DESCRIPTION - DIFFERENTIAL LUBRICANT

Note: Refer to the Owner's Manual for the recommended differential lubricant change intervals for this axle.

INTERNATIONAL SYMBOLS

DESCRIPTION

DaimlerChrysler Corporation uses international symbols to identify engine compartment lubricant and fluid inspection and fill locations.



FLUID FILL/CHECK LOCATIONS

DESCRIPTION

The fluid fill/check point locations are located in each applicable service manual section.

TOWING

STANDARD PROCEDURE - TOWING

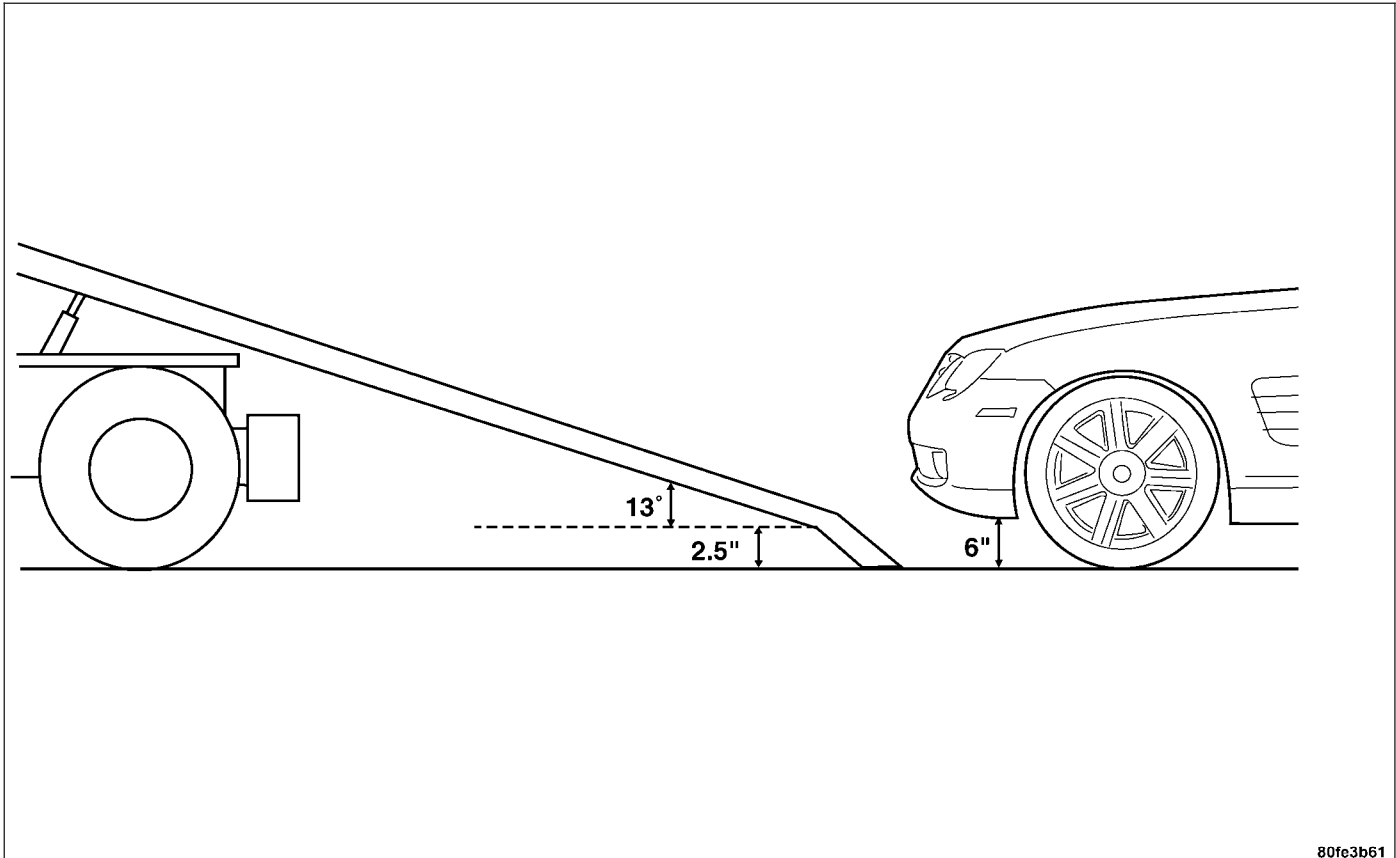
WARNINGS AND PRECAUTIONS

WARNING: DO NOT ALLOW TOWING ATTACHMENT DEVICES TO CONTACT THE FUEL TANK OR LINES, FUEL LEAK CAN RESULT. DO NOT VENTURE UNDER A LIFTED VEHICLE IF NOT SUPPORTED PROPERLY ON SAFETY STANDS. DO NOT ALLOW PASSENGERS TO RIDE IN A TOWED VEHICLE. USE A SAFETY CHAIN THAT IS INDEPENDENT FROM THE TOWING ATTACHMENT DEVICE.

CAUTION: Do not damage brake lines, exhaust system, shock absorbers, sway bars, or any other under vehicle components when attaching towing device to vehicle. Remove or secure loose or protruding objects from a damaged vehicle before towing. Refer to state and local rules and regulations before towing a vehicle. Do not allow weight of towed vehicle to bear on lower fascia, grill or front structure.

To avoid damage to the front fascia and grille use of a flat bed towing device is recommended. **DO NOT** attempt to tow the vehicle from the front or the rear. Towing from the front is not possible without sustaining damage to the nose/front fascia due to the extended distance between the wheels and the pointed nose/front fascia. Towing from the rear is not possible without sustaining damage to the rear fascia and the exhaust system.

TOWING RECOMMENDATIONS



Flat bed towing should be the only method used for the Chrysler Crossfire. The flat bed must have an approach angle less than 13.3° or something must be used (such as wood slats) to raise the overall height of the vehicle during loading.

GROUND CLEARANCE

CAUTION: If vehicle is towed with wheels removed, install lug nuts to retain brake rotors.

A towed vehicle should be raised until the lifted wheels are a minimum 100 mm (4 in.) from the ground. Be sure there is at least 100 mm (4 in.) clearance between the tail pipe and the ground. If necessary, remove the wheels from the lifted end of the vehicle and lower the vehicle closer to the ground, to increase the ground clearance at the rear of the vehicle. Install lug nuts on wheel attaching studs to retain brake rotors.

JUMP STARTING

STANDARD PROCEDURE

JUMP STARTING

WARNING: DO NOT JUMP START A FROZEN BATTERY, PERSONAL INJURY CAN RESULT.

WARNING: WHEN USING A HIGH OUTPUT BOOSTING DEVICE, DO NOT ALLOW BATTERY VOLTAGE TO EXCEED 16 VOLTS. REFER TO INSTRUCTIONS PROVIDED WITH DEVICE BEING USED.

WARNING: DO NOT JUMP START WHEN MAINTENANCE FREE BATTERY INDICATOR DOT IS YELLOW OR BRIGHT COLOR.

WARNING: DO NOT JUMP START A VEHICLE WHEN THE BATTERY FLUID IS BELOW THE TOP OF LEAD PLATES.

WARNING: DO NOT ALLOW JUMPER CABLE CLAMPS TO TOUCH EACH OTHER WHEN CONNECTED TO A BOOSTER SOURCE.

WARNING: DO NOT USE OPEN FLAME NEAR BATTERY. REMOVE METALLIC JEWELRY WORN ON HANDS OR WRISTS TO AVOID INJURY BY ACCIDENTAL ARCING OF BATTERY CURRENT.

CAUTION: When using another vehicle as a booster, do not allow vehicles to touch. Electrical systems can be damaged on either vehicle.

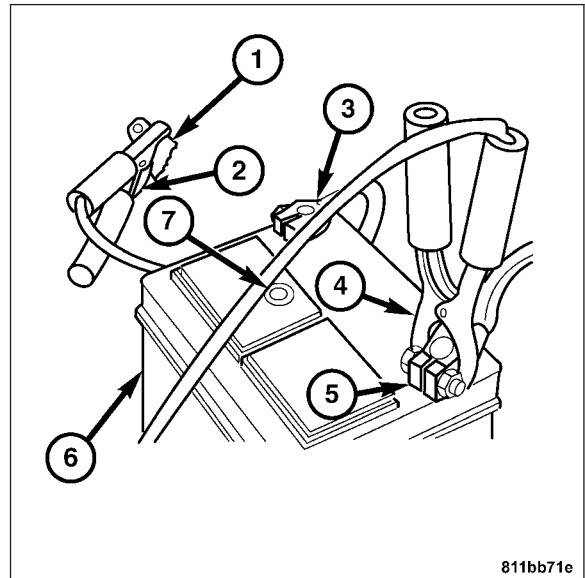
TO JUMP START A DISABLED VEHICLE:

WARNING: SHIELD EYES AND FACE FROM BATTERIES AT ALL TIMES

CAUTION: If the cause of starting problem on disabled vehicle is severe, damage to booster vehicle charging system can result.

1. Raise hood on disabled vehicle and visually inspect engine compartment for:
 - Battery cable clamp condition, clean if necessary.
 - Frozen battery.
 - Yellow or bright color test indicator, if equipped.
 - Low battery fluid level.
 - Generator drive belt condition and tension.
 - Fuel fumes or leakage, correct if necessary.

2. When using another vehicle as a booster source, park the booster vehicle within cable reach. Turn off all accessories, set the parking brake, place the automatic transmission in PARK or the manual transmission in NEUTRAL and turn the ignition OFF.
3. On disabled vehicle, place gear selector in park or neutral and set park brake. Turn off all accessories.
4. Connect positive jumper cable to positive (+) terminal of the disabled battery.
5. Connect other end of positive jumper cable to positive terminal (+) booster battery.
6. Connect negative jumper cable to negative (-) terminal of the booster battery.
7. Make final connection of the negative (-) jumper cable to the ENGINE GROUND of disabled vehicle, away from battery.



CAUTION: Do not crank starter motor on disabled vehicle for more than 15 seconds, starter will overheat and could fail.

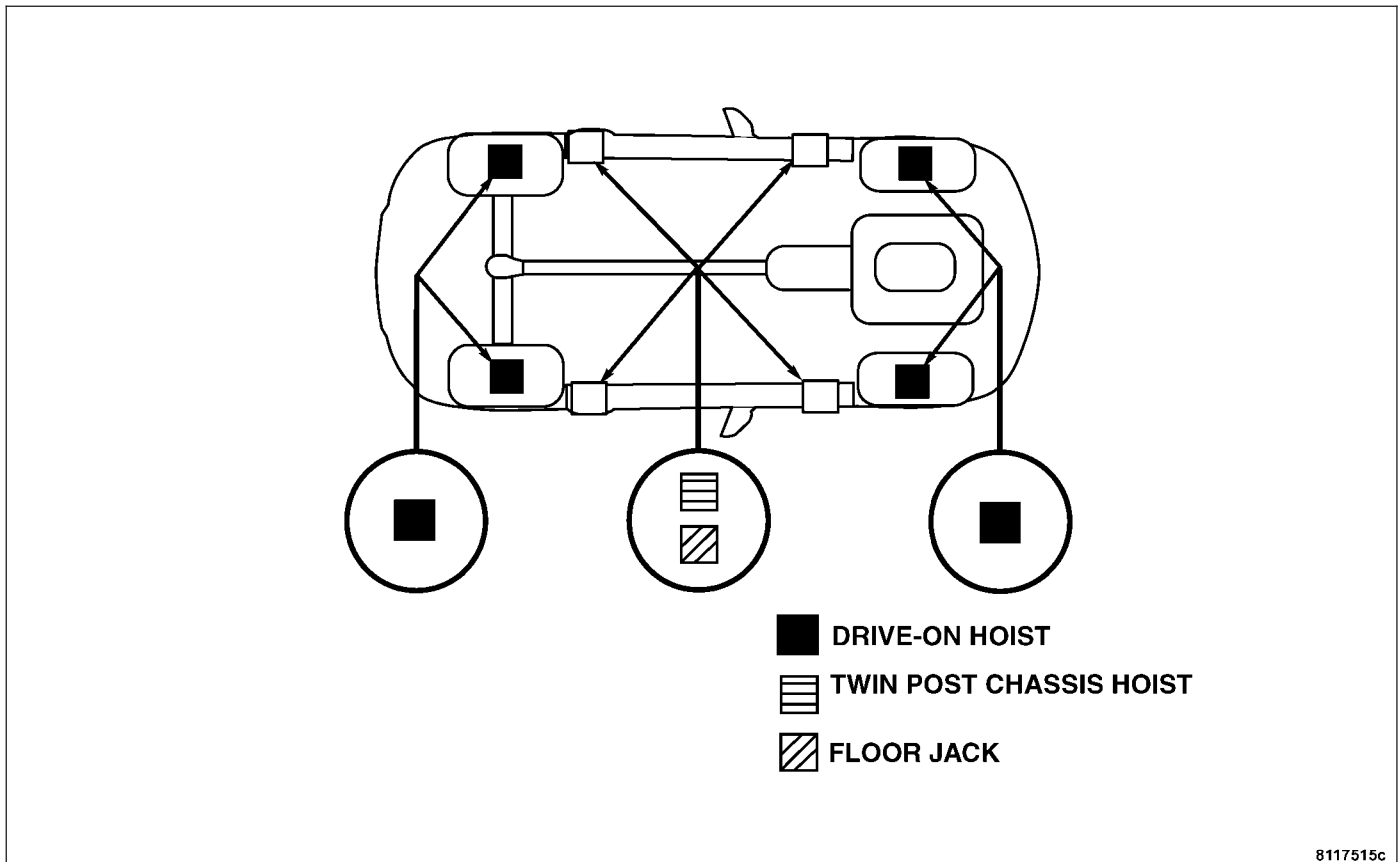
8. Start the engine in the vehicle which has the booster battery, let the engine idle a few minutes, then start the engine in the vehicle with the discharged battery.
9. Allow battery in disabled vehicle to charge to at least 12.4 volts (75% charge) before attempting to start engine. If engine does not start within 15 seconds, stop cranking engine and allow starter to cool (15 minutes), before cranking again.

DISCONNECT CABLE CLAMPS AS FOLLOWS:

1. Disconnect the negative (-) jumper cable clamp from engine ground on disabled vehicle.
2. Disconnect the negative (-) jumper cable clamp from booster vehicle.
3. Disconnect positive (+) jumper cable from battery positive (+) terminal on disabled vehicle.
4. Disconnect positive (+) jumper cable from battery positive (+) terminal on booster vehicle.

HOISTING

STANDARD PROCEDURE - HOISTING



WARNING: THE HOISTING AND JACK LIFTING POINTS PROVIDED ARE FOR A COMPLETE VEHICLE. WHEN THE ENGINE, TRANSMISSION OR REAR SUSPENSION IS REMOVED FROM A VEHICLE, THE CENTER OF GRAVITY IS ALTERED MAKING SOME HOISTING CONDITIONS UNSTABLE. PROPERLY SUPPORT OR SECURE VEHICLE TO HOISTING DEVICE WHEN THESE CONDITIONS EXIST.

CAUTION: Do not position hoisting device on suspension components, damage to vehicle can result.

The vehicle can be lifted with:

- A twin-post, chassis hoist.
- A ramp-type, drive-on hoist.

FLOOR JACK

When properly positioned, a floor jack can be used to lift the vehicle. Support the vehicle in the raised position with jack stands at the front and rear ends of the frame rails.

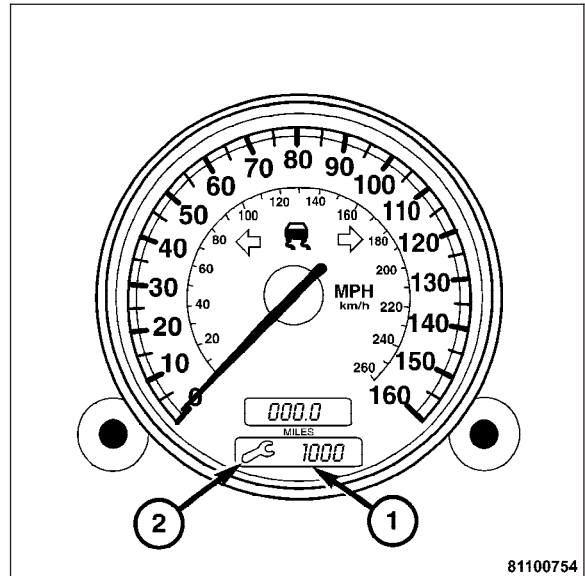
CAUTION: Do not lift vehicle with a floor jack positioned under:

- An axle shaft.
- A body side sill.
- A steering linkage component.
- A drive shaft.
- The engine or transmission oil pan.
- A front suspension arm.

MAINTENANCE SCHEDULES

DESCRIPTION - FLEXIBLE SERVICE SYSTEM (FSS)

The Flexible Service System (FSS) is a demand-activated engine oil service system. The FSS will illuminate a symbol (2) in the instrument cluster to indicate to the driver when a particular service is due. After a level has dropped below a warning threshold, the remaining distance or the remaining time and the tool symbol (2) are displayed in the panel of the odometer.



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The FSS is supplied the time intervals from the digital clock in the instrument cluster. The remaining information is supplied by the Powertrain Control Module (PCM) and the Controller Antilock Brake (CAB) via the Controller Area Network (CAN) data bus. The data required for FSS from the CAN includes the following:

- The four wheel speed sensors from the CAB.
- Coolant temperature from the PCM.
- Engine speed from the PCM.
- Load torque from the PCM.

TRIP ODOMETER, FSS INDICATOR

This display in the instrument cluster shows the distance traveled since last reset.

To reset:

- Press the button to the left of the display once (with the key in the ON/RUN position).
- Press the button twice (with the key removed or in the OFF/ACC position).

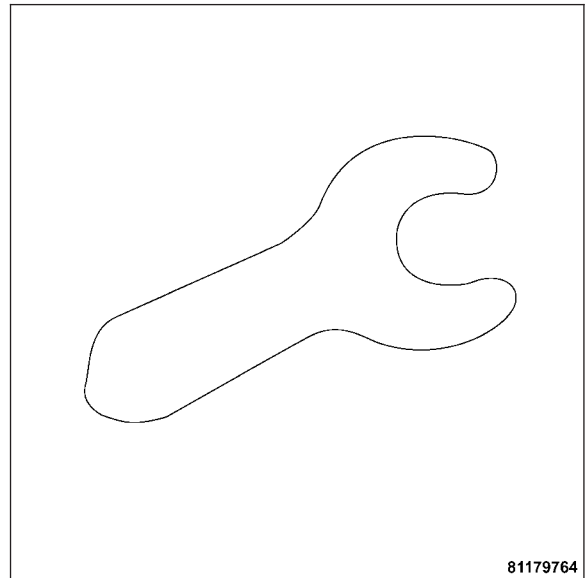
MAIN ODOMETER

This shows the total distance the vehicle has traveled.

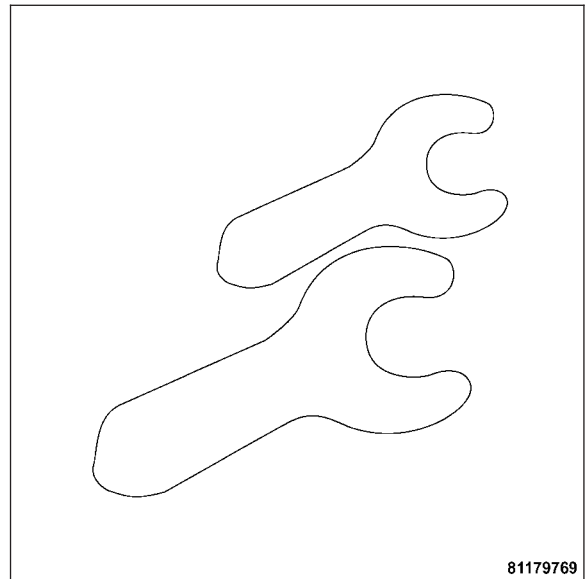
The FSS permits a flexible service schedule that is directly related to the operating conditions of the vehicle.

There are two symbols which will appear in the main odometer display field prior to the next suggested service.

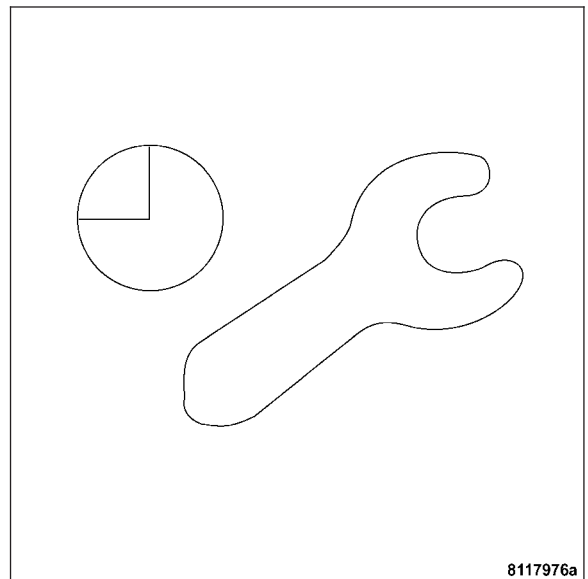
This symbol represents Service A.



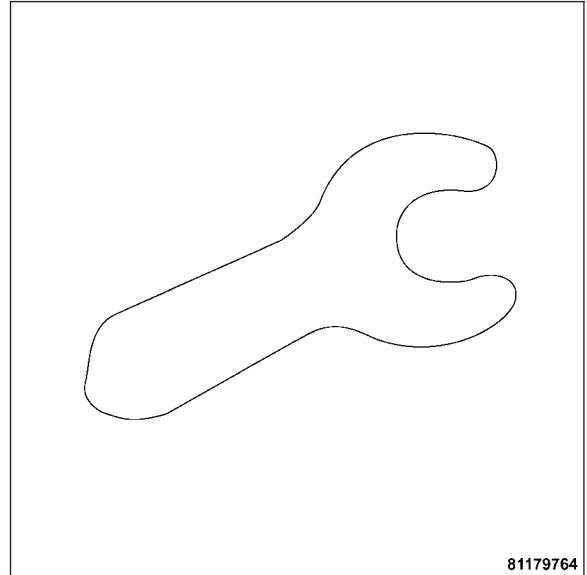
The second symbol represents Service B.



Depending on operating conditions throughout the year, the next service is calculated and displayed next to the this symbol in days remaining before the next service is required.



The next service may be calculated and displayed next to this symbol as distance remaining before the next service is required.



The counter can also be reset by any individual after the indicated service has been performed. To do so:

1. Turn the key to the ON/RUN position.
2. Within one second press the knob/button to the left of the display twice.
3. The present status for days remaining or distance traveled is displayed. Within ten seconds turn the key to OFF.
4. Press and hold the knob/button to the left of the display, while turning the key to ON/RUN again. The present status for days remaining or distance traveled is displayed once more. Continue to hold the knob/button to the left of the display.

After approximately ten seconds, a tone sounds and the display shows 6,000 miles (10,000 km) for approximately ten seconds.

5. Release the knob/button to the left of the display.

If the FSS counter was inadvertently reset, the counter must be reset.

The message is displayed for approximately ten seconds when turning the key to the ON/RUN position, or while driving when reaching the service warning threshold. It can be cancelled manually by pressing the knob/button to the left of the display.

Once the suggested term has passed, the message, plus either the symbol for Service A or the symbol for Service B preceded by a “-” (minus symbol) blinks for approximately thirty seconds and a tone sounds every time when turning the key to the ON/RUN position.

The FSS display can also be called up for approximately ten seconds with the display illuminated by pressing the knob/button to the left of the display twice within one second.

Note: When disconnecting the battery for one or more days at a time, such days will not be counted. Any such days not counted by the FSS can be added.

The interval between services is determined by the type of vehicle operation. Driving at extreme speeds, and cold starts combined with short distance driving in which the engine does not reach normal operating temperature, reduce the interval between services.

LUBRICATION POINTS

DESCRIPTION

Lubrication point locations are located in each applicable Section.

EMERGENCY TOW HOOKS

DESCRIPTION

WARNING: REMAIN AT A SAFE DISTANCE FROM A VEHICLE THAT IS BEING TOWED VIA ITS TOW HOOKS. THE TOW STRAPS/CHAINS COULD BREAK AND CAUSE SERIOUS INJURY.

The tow hooks should be used for **EMERGENCY** purposes only.

CAUTION: DO NOT USE EMERGENCY TOW HOOKS FOR TOW TRUCK HOOK-UP OR HIGHWAY TOWING.