

Recommended lubricants and fluids

Automatic transmission fluid*	
AW-4 transmission	Mercon ATF
727 and 999 transmissions	Dexron II ATF
Manual transmission lubricant	SAE 75W-90 GL-5 gear lubricant
* The fluid type should be indicated on the dipstick	
Differential lubricant	
Front differential	
Normal use	SAE 75W or SAE 80W-90 GL5 gear lubricant
Trailer towing	SAE 80W GL-5 gear lubricant
Limited slip differential	Add 2 oz. of Friction Modifier Additive
Rear differential	
Normal use	SAE 75W or SAE 80W-90 GL5 gear lubricant
Trailer towing with Class III hitch (5000 lb.)	SAE 75W-140 synthetic gear lubricant
Vehicles originally equipped with a trailer towing package	API GL5 80W-140 gear lubricant
With limited slip differential (all models)	Add 2 oz. of Friction Modifier Additive
Track Lock differential models 35,194 RBI and 8-1/4	Add 5 oz. of Friction Modifier Additive
Transfer case lubricant	Dexron II, or III, or Mercon automatic transmission fluid
Chassis grease	NLGI No. 2 chassis grease
Engine coolant	Mixture of water and ethylene glycol-base antifreeze
Brake fluid	DOT-3 brake fluid
Clutch fluid	DOT-3 brake fluid
Power steering fluid	Jeep power steering fluid or equivalent
Manual steering box lubricant	SAE 75W-90 GL-5 gear lubricant
Wheel bearing grease (2WD)	NLGI No. 2 moly-base wheel bearing grease

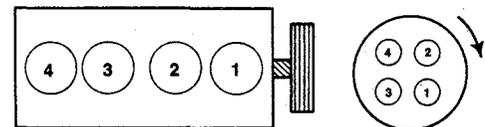
Capacities

Engine oil (with filter change, approximate)	
Four-cylinder engine	4 qts
V6 engine	4 qts
Inline six-cylinder engine	6 qts
Cooling system (approximate)	
Four-cylinder engine	10 qts
V6 engine and inline six-cylinder engines	12.5 qts
Fuel tank	
Standard	13.5 gal
Optional	20 gal
Automatic transmission (approximate)	4 qts (when draining pan and replacing filter only)
Manual transmission (approximate)	
4-speed	7.5 pints
5-speed	
Through 2000	7.2 pints
2001	9 pints
Transfer case (approximate)	
Selec-trac	3.0 pints
Command-trac	2.2 pints
Front differential (4x4 models only)	
1984 through 1994 all models	2.5 pints
1995 through 1996 model 30	3.13 pints
1997 and later model 181 FBI	3.13 pints
Rear differential	
Model 194 RBI (1997 and later only)	3.5 pints*
Model 35	3.5 pints*
Model 8-1/4	4.8 pints*

* See above "rear differential" lubricant types and additives for various driving/towing applications before refilling.

Ignition system

Firing order	
Four-cylinder engine	1-3-4-2
V6 engine	1-2-3-4-5-6
Inline six-cylinder engine	1-5-3-6-2-4
Spark plug type and gap	
Four-cylinder engine	
1985 and earlier	
Type	Champion RFN14LY
Gap	0.035 in



FOUR-CYLINDER ENGINE
Cylinder location and distributor rotation

Spark plug type and gap (continued)

Four-cylinder engine

1986 and later

Type.....

Champion RC12LYC

Gap.....

0.035 in

V6 engine

Type.....

Champion RV12YC

Gap.....

0.045 in

Inline six-cylinder engine

1990 and earlier

Type.....

Champion RC9YC

Gap.....

0.035 in

1991 and later

Type.....

Champion RC12LYC

Gap.....

0.035 in

Ignition timing

Four-cylinder engine (1984 through 1986 models only)

Below 4000 feet.....

12-degrees BTDC

Above 4000 feet.....

19-degrees BTDC

V6 engine

Automatic transmission.....

12-degrees BTDC

Manual transmission

California models.....

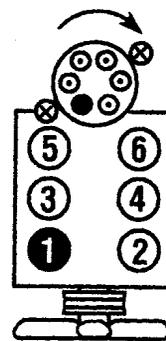
10-degrees BTDC

All others.....

8-degrees BTDC

Inline six-cylinder engine.....

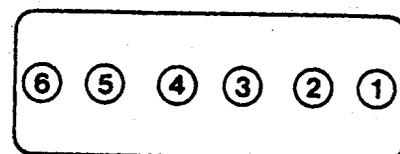
Timing not adjustable



V6 ENGINE

The blackened terminal shown on the distributor cap indicates the Number One spark plug wire position

ENGINE FRONT



INLINE SIX-CYLINDER ENGINE

Cylinder location and distributor rotation

General

Engine idle speed (carbureted-models only)

Four-cylinder engine

Automatic transmission (in Drive).....

700 rpm

Manual transmission.....

750 rpm

V6 engine

Automatic transmission (in Drive).....

700 ± 50 rpm

Manual transmission.....

700 ± 50 rpm

Drivebelt tension (with special gauge)

Conventional V-belts

New.....

120 to 150 lbs

Used.....

90 to 115 lbs

Serpentine belt

New.....

180 to 200 lbs

Used.....

140 to 160 lbs

Brakes

Brake pad wear limit.....

1/8 in

Brake shoe wear limit.....

1/16 in

Torque specifications

Differential (axle) fill plug.....

Ft-lbs

Engine oil drain plug.....

10 to 20

Wheel lug nuts.....

20

Manual transmission check/fill plug.....

75

Manual transmission drain plug.....

15 to 25

Transfer case drain/fill plug.....

15 to 25

Automatic transmission oil pan bolts.....

20

Carburetor mounting nuts.....

10

Throttle body mounting nuts.....

13 to 19

Carburetor-mounted fuel filter nut.....

16

Spark plugs

18

Four-cylinder engine.....

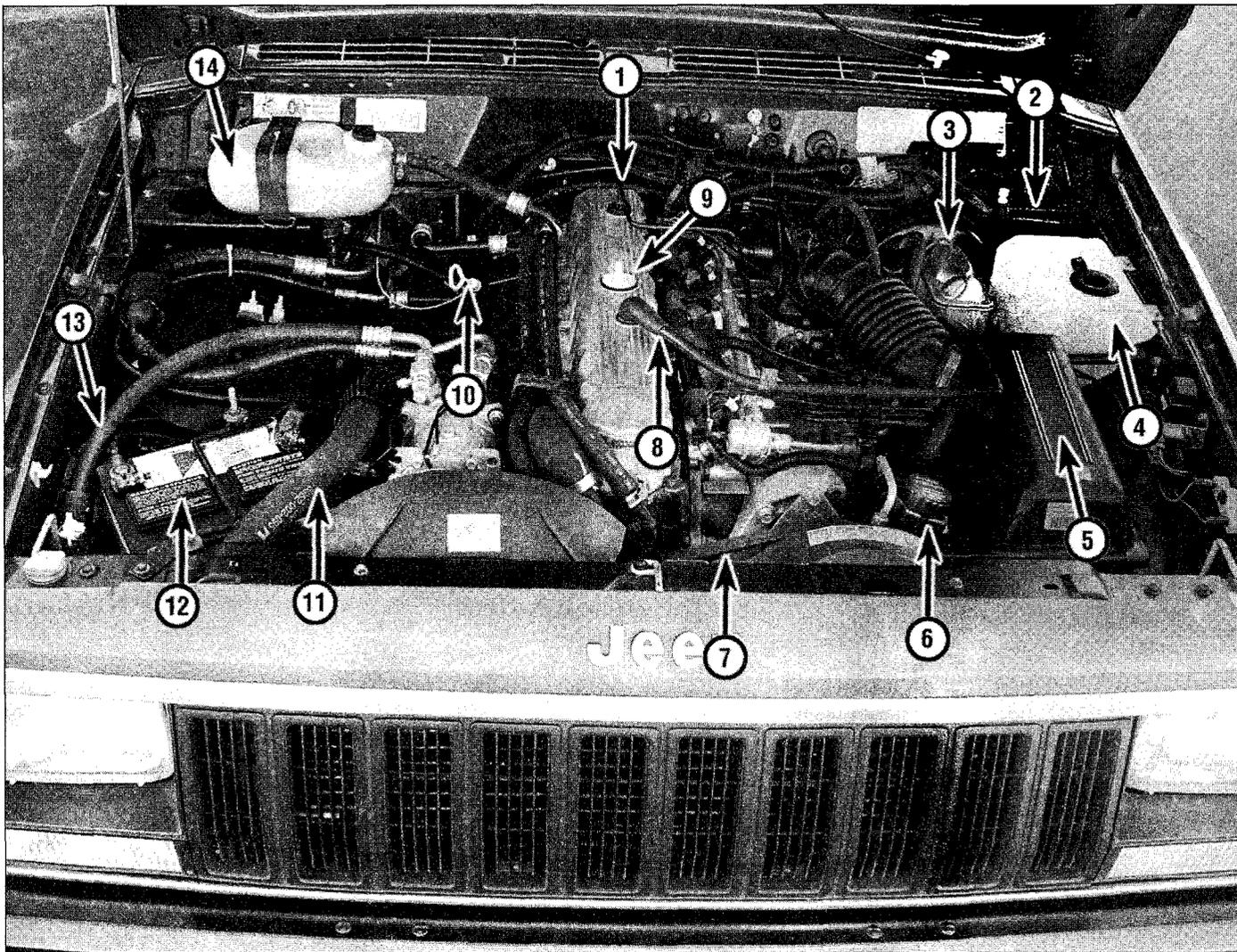
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V6 engine.....

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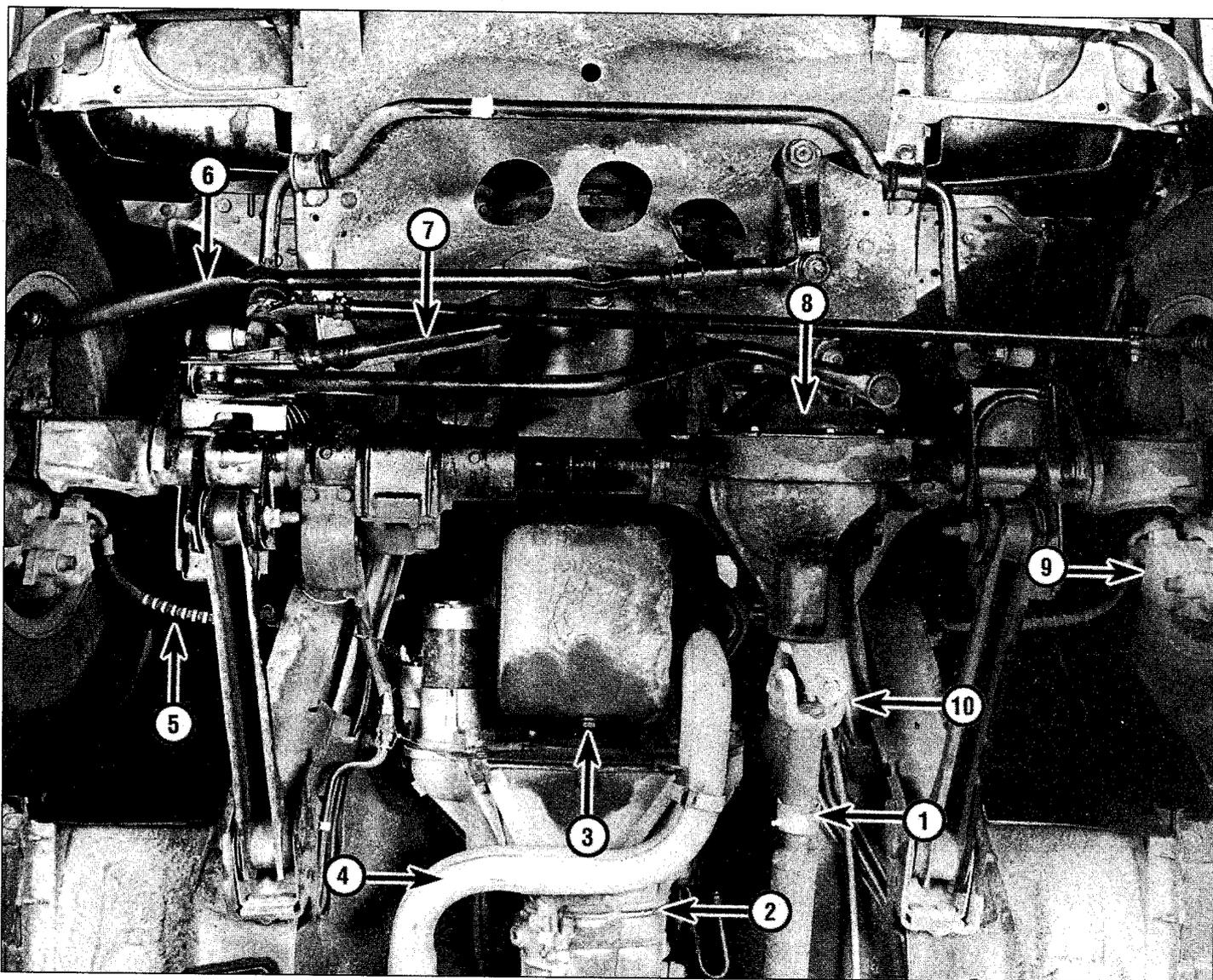
Inline six-cylinder engine.....

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Engine compartment component checking points (inline six-cylinder engine shown)

- | | | | | | |
|---|---|---|--------------------------------|----|-------------------------|
| 1 | Crankcase Ventilation (CCV) system hose and fitting | 5 | Air cleaner housing | 10 | Engine oil dipstick |
| 2 | Clutch fluid reservoir | 6 | Power steering fluid reservoir | 11 | Radiator hose |
| 3 | Brake fluid reservoir | 7 | Drivebelt | 12 | Battery |
| 4 | Windshield washer reservoir | 8 | CCV fresh air hose | 13 | Air conditioner hose |
| | | 9 | Engine oil filler cap | 14 | Coolant pressure bottle |



Typical engine compartment under side components (4WD vehicle shown)

- | | | | | | |
|---|--|---|------------------|----|----------------------------------|
| 1 | Front driveshaft slip joint grease fitting | 4 | Exhaust pipe | 8 | Front driveaxle |
| 2 | Transmission | 5 | Brake hose | 9 | Front disc brake caliper |
| 3 | Engine oil drain plug | 6 | Steering linkage | 10 | Front driveshaft universal joint |
| | | 7 | Steering damper | | |

Conversion factors

Length (distance)

Inches (in)	X 25.4 = Millimeters (mm)	X 0.0394 = Inches (in)
Feet (ft)	X 0.305 = Meters (m)	X 3.281 = Feet (ft)
Miles	X 1.609 = Kilometers (km)	X 0.621 = Miles

Volume (capacity)

Cubic inches (cu in; in ³)	X 16.387 = Cubic centimeters (cc; cm ³)	X 0.061 = Cubic inches (cu in; in ³)
Imperial pints (Imp pt)	X 0.568 = Liters (l)	X 1.76 = Imperial pints (Imp pt)
Imperial quarts (Imp qt)	X 1.137 = Liters (l)	X 0.88 = Imperial quarts (Imp qt)
Imperial quarts (Imp qt)	X 1.201 = US quarts (US qt)	X 0.833 = Imperial quarts (Imp qt)
US quarts (US qt)	X 0.946 = Liters (l)	X 1.057 = US quarts (US qt)
Imperial gallons (Imp gal)	X 4.546 = Liters (l)	X 0.22 = Imperial gallons (Imp gal)
Imperial gallons (Imp gal)	X 1.201 = US gallons (US gal)	X 0.833 = Imperial gallons (Imp gal)
US gallons (US gal)	X 3.785 = Liters (l)	X 0.264 = US gallons (US gal)

Mass (weight)

Ounces (oz)	X 28.35 = Grams (g)	X 0.035 = Ounces (oz)
Pounds (lb)	X 0.454 = Kilograms (kg)	X 2.205 = Pounds (lb)

Force

Ounces-force (ozf; oz)	X 0.278 = Newtons (N)	X 3.6 = Ounces-force (ozf; oz)
Pounds-force (lbf; lb)	X 4.448 = Newtons (N)	X 0.225 = Pounds-force (lbf; lb)
Newtons (N)	X 0.1 = Kilograms-force (kgf; kg)	X 9.81 = Newtons (N)

Pressure

Pounds-force per square inch (psi; lbf/in ² ; lb/in ²)	X 0.070 = Kilograms-force per square centimeter (kgf/cm ² ; kg/cm ²)	X 14.223 = Pounds-force per square inch (psi; lbf/in ² ; lb/in ²)
Pounds-force per square inch (psi; lbf/in ² ; lb/in ²)	X 0.068 = Atmospheres (atm)	X 14.696 = Pounds-force per square inch (psi; lbf/in ² ; lb/in ²)
Pounds-force per square inch (psi; lbf/in ² ; lb/in ²)	X 0.069 = Bars	X 14.5 = Pounds-force per square inch (psi; lbf/in ² ; lb/in ²)
Pounds-force per square inch (psi; lbf/in ² ; lb/in ²)	X 6.895 = Kilopascals (kPa)	X 0.145 = Pounds-force per square inch (psi; lbf/in ² ; lb/in ²)
Kilopascals (kPa)	X 0.01 = Kilograms-force per square centimeter (kgf/cm ² ; kg/cm ²)	X 98.1 = Kilopascals (kPa)

Torque (moment of force)

Pounds-force inches (lbf in; lb in)	X 1.152 = Kilograms-force centimeter (kgf cm; kg cm)	X 0.868 = Pounds-force inches (lbf in; lb in)
Pounds-force inches (lbf in; lb in)	X 0.113 = Newton meters (Nm)	X 8.85 = Pounds-force inches (lbf in; lb in)
Pounds-force inches (lbf in; lb in)	X 0.083 = Pounds-force feet (lbf ft; lb ft)	X 12 = Pounds-force inches (lbf in; lb in)
Pounds-force feet (lbf ft; lb ft)	X 0.138 = Kilograms-force meters (kgf m; kg m)	X 7.233 = Pounds-force feet (lbf ft; lb ft)
Pounds-force feet (lbf ft; lb ft)	X 1.356 = Newton meters (Nm)	X 0.738 = Pounds-force feet (lbf ft; lb ft)
Newton meters (Nm)	X 0.102 = Kilograms-force meters (kgf m; kg m)	X 9.804 = Newton meters (Nm)

Vacuum

Inches mercury (in. Hg)	X 3.377 = Kilopascals (kPa)	X 0.2961 = Inches mercury
Inches mercury (in. Hg)	X 25.4 = Millimeters mercury (mm Hg)	X 0.0394 = Inches mercury

Power

Horsepower (hp)	X 745.7 = Watts (W)	X 0.0013 = Horsepower (hp)
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Velocity (speed)

Miles per hour (miles/hr; mph)	X 1.609 = Kilometers per hour (km/hr; kph)	X 0.621 = Miles per hour (miles/hr; mph)
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Fuel consumption*

Miles per gallon, Imperial (mpg)	X 0.354 = Kilometers per liter (km/l)	X 2.825 = Miles per gallon, Imperial (mpg)
Miles per gallon, US (mpg)	X 0.425 = Kilometers per liter (km/l)	X 2.352 = Miles per gallon, US (mpg)

Temperature

Degrees Fahrenheit = (°C x 1.8) + 32	Degrees Celsius (Degrees Centigrade; °C) = (°F - 32) x 0.56
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*It is common practice to convert from miles per gallon (mpg) to liters/100 kilometers (l/100km), where mpg (Imperial) x l/100 km = 282 and mpg (US) x l/100 km = 235