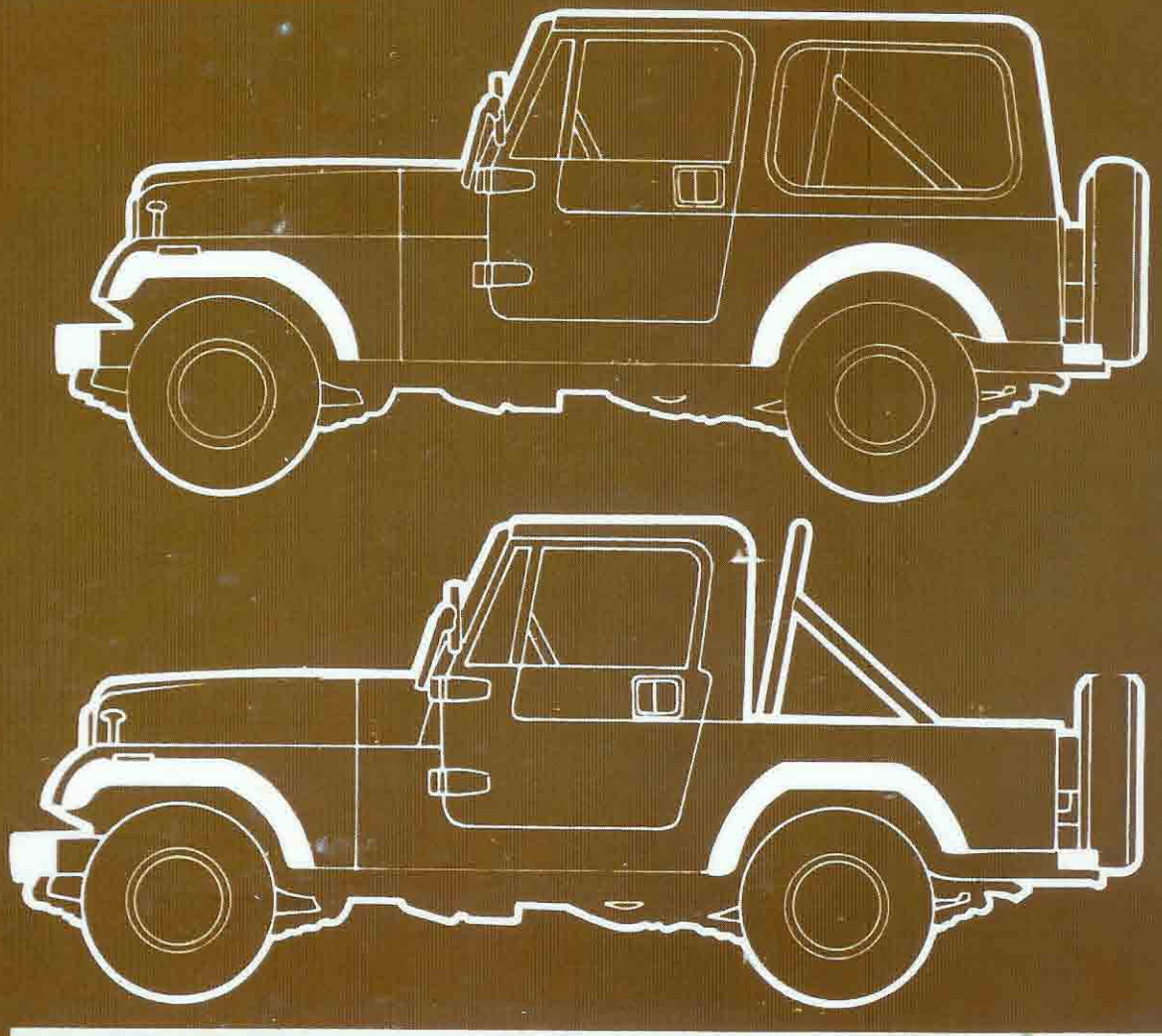
1984 - 1986
M.R.252

8981 320 374 U.S.A./Canada Edition

Includes I.S. Notes
1E - 9E



Jeep®

CJ-7/Scrambler

Jeep®

CJ-7/Scrambler

SEE

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Three boxes have been provided near the black tabs (squares) marking the chapter; these enable you to enter IS Note numbers which refer to a particular modification on the page concerned.

SEE I.S. NOTES

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3E

Special Tools:

Special tools needed for the various operations mentioned in this manual may be found at the beginning of each chapter in which they are used, and also under the appropriate section within the chapter.

Electrical:

Wiring diagrams feature an easy-to-understand format which makes them valuable reference sources when performing electrical service. Each diagram provides information about:

- the location of electrical components on the vehicle
- how each component is wired
- the function of each electrical component
- how to diagnose an electrical malfunction

Wiring diagrams are printed separately and should be filed in the pocket at the back of the plastic cover.

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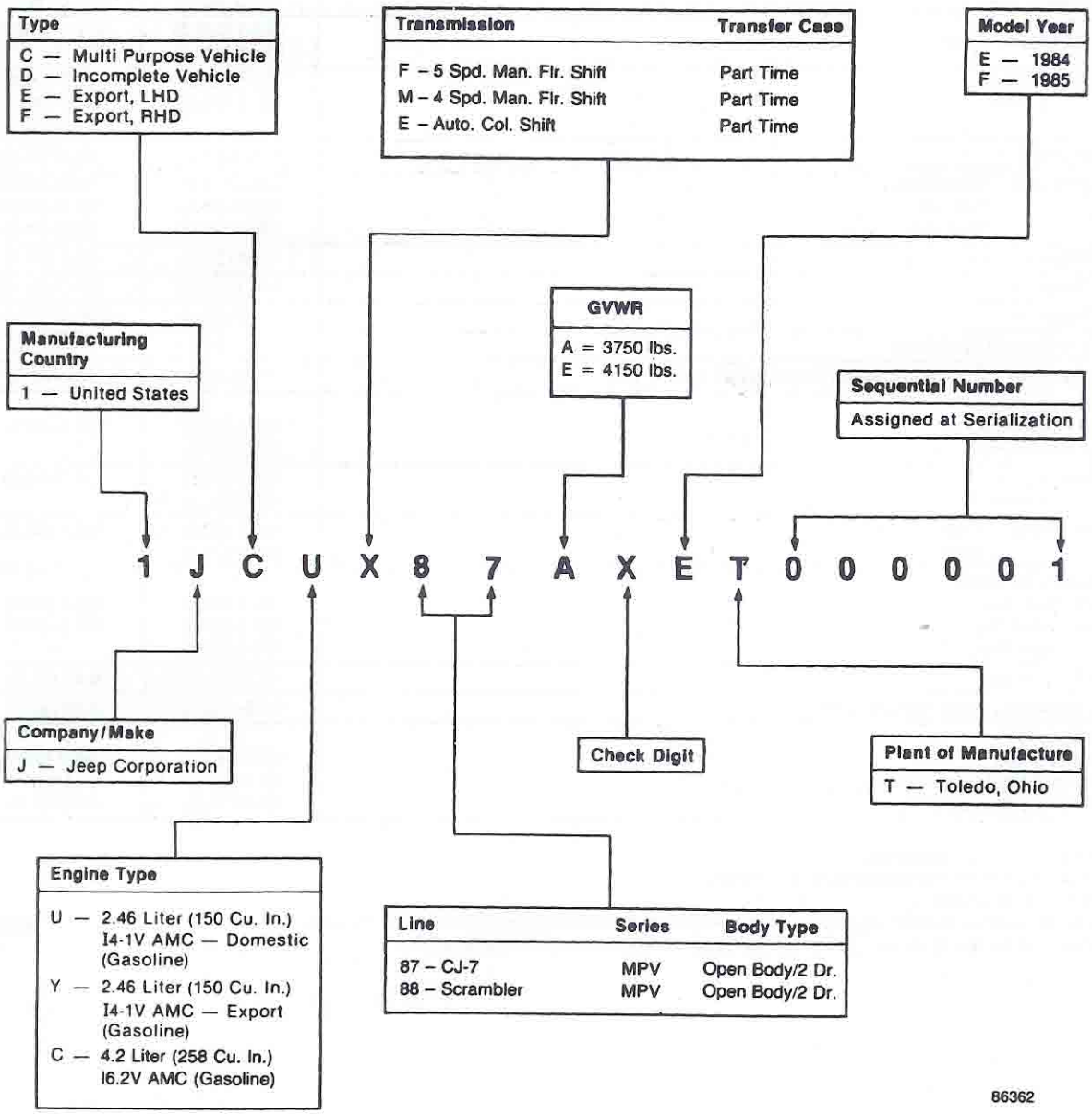
SAFETY NOTE

Warnings and Cautions pertain to critical operations that involve either personal safety or situations in which vehicle damage could result. Use extreme caution for personal safety and adhere to the specified procedures when performing such operations.

VEHICLE IDENTIFICATION NUMBER (VIN)

The vehicle identification number (VIN) is located on the left side of the instrument panel at the base of the windshield. The VIN chart explains the code characters.



GENERAL DIMENSIONS

SEE I.S. NOTES

General Dimensions
Centimeters (Inches)

	CJ-7	Scrambler
Wheelbase	237.2 (93.4)	262.6 (103.4)
Overall Length – Body	389.1 (153.2) 389.1 (153.2)	422.1[1] (166.2) 450.1[2] (177.2)
Overhang – Front – Rear	59.7 (23.5) 92.2 (36.3)	59.7 (23.5) 99.8[1] (39.3) 127.8[2] (50.3)
Overall Width	165.9 (65.3)	165.9 (65.3)
Overall Height – Open Body – Soft Top – Hard Top	180.1 (70.9) 182.6 (71.9) 180.3 (71.0)	179.8 (70.8) 181.6 (71.5) 181.9 (71.6)
Step Height – Front	68.8 (27.1)	69.6 (27.4)
Front Tread	141.7 (55.8)	141.7 (55.8)
Rear Tread	140.0 (55.1)	140.0 (55.1)
Minimum Ground Clearance	19.1 (7.5)	19.1 (7.5)
Minimum Turning Diameter-meters (feet) curb to curb	10.9 (35.8)	11.8 (38.8)
Effective Leg Room Front (Accelerator) Rear (Minimum)	 99.3 (39.1) 88.9 (35.0)	 99.3 (39.1) —
Hip Room – Front – Rear	136.7 (53.8) 91.4 (36.0)	136.7 (53.8) —
Shoulder Room – Front – Rear	136.7 (53.8) 143.0 (56.3)	136.7 (53.8) —
Effective Head Room Front – Soft Top Front – Hard Top Rear – Hard Top	 103.1 (40.6) 101.3 (39.9) 100.6 (39.6)	 103.1 (40.6) 101.3 (39.9) —
Cargo Floor Height	67.8 (26.7)	0.45 (16.0)
Cargo Capacity – cubic meters (feet)	0.45[3] (16.0)	0.86 (30.4)
Cargo Space Length at Floor Width at Wheelhouse/Floor Width of Tailgate Opening	 118.9 (46.8) 91.4 (36.0) 87.6 (34.5)	 156.2 (61.5) 91.4 (36.0) 87.6 (34.5)

1. With roll bar mounted spare tire.
2. With rear mounted swing-away spare tire carrier.
3. With rear seat removed.

NOTE: Length, width and overhang dimensions reflect rear mounted spare tire standard on CJ-7. Height dimensions reflect roll bar as standard, which affects open body heights.

86363

MODEL IDENTIFICATION

SEE I.S. NOTES

Series	Model Number	Wheelbase (Inches)	Gross Vehicle Weight Rating (GVWR)	
			With Standard Suspension	With H.D. Suspension or Hardtop
CJ-7	87	93.4	3750	4150
Scrambler	88	103.4	4150	4150

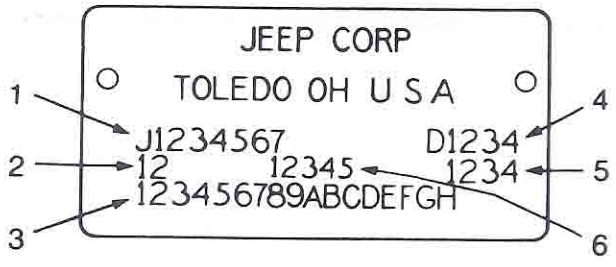
86364

VEHICLE IDENTIFICATION PLATE

A metal identification plate is riveted to the driver side of the dash panel in the engine compartment.

The following information is shown on the plate:

- order number (1)
- paint gun number (2)
- vehicle identification number (VIN) (3)
- vehicle deviation or special sales request and order (SSR & O) (4)
- trim option number (5)
- paint option number (6)



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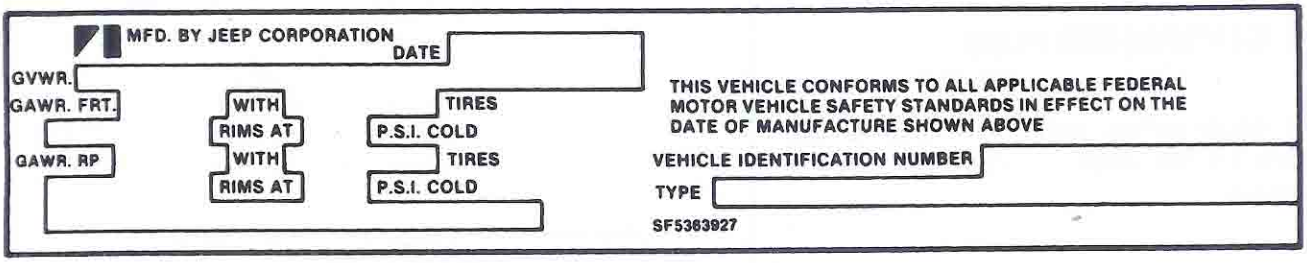
SEE I.S. NOTES

SAFETY CERTIFICATION LABEL

A safety certification label is attached to all vehicles to certify that they conform to Federal Motor Vehicle Safety Certification Standards.

The label is located on the driver side door pillar, and lists:

- the month and year of manufacture
- gross vehicle weight rating (GVWR)
- gross axle weight rating (GAWR)



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SPECIAL SALES REQUEST AND ORDER (SSR & O) NUMBER

Certain Jeep vehicles are built for special orders with other than standard parts or equipment. To assist the dealer in ordering correct replacement parts, an SSR & O number is assigned and a permanent record of the deviation is maintained by the factory.

The SSR & O number is embossed on the Vehicle Identification Plate.

The parts ordering procedure for SSR & O parts is detailed in the Jeep Parts Microfiche.

SEE I.S. NOTES

POWERTRAIN – DRIVELINE COMBINATIONS

Model	Engine	Transmission	Axle Ratio (Std./Opt.)	Transfer Case
CJ-7 and Scrambler Models	I4-1V 2.46L (150 C.I.D.)	4-Spd. Man. (T4)	3.54/4.10	300
		5-Spd. Man. (T5)	3.54/4.10	300
	I6-2V 4.2L (258 C.I.D.)	4-Spd. Man. (T4)	2.73/3.31	300
		4-Spd. Man. (T176)	2.73/3.31	300
		5-Spd. Man. (T5)	2.73/3.31	300
		3-Spd. Auto. (999)	2.73/3.31	300

86370

FLUIDS – LUBRICANTS – CAPACITIES

SEE I.S. NOTES

Engine	I4-1V 2.46 liter (150 cu. in.) I6-2V 4.2 liter (258 cu. in.)	API "SF" Classification 10W-30, 10W-40, 20W-40 Above ± 32°F (0°C) 10W-30, 10W-40 Above 0°F (-18°C) 5W-30* Below 0°F (-18°C) *Must not be used above 60°F (15.5°C)
Transmission	999 Auto T4-T5 T-176	Use AMC/Jeep/Renault automatic transmission fluid or equivalent Dexron II® fluid. Use only AMC/Jeep/Renault transmission lubricant, part number 89 83 000 000. Use AMC/Jeep/Renault gear lubricant, or equivalent 75W-90 (API GL-5) lubricant.
Transfer Case	300	Use only AMC/Jeep/Renault lubricant, part number 89 83 000 000.
Axle	Front/Rear	Use AMC/Jeep/Renault gear lubricant or equivalent SAE 75W-90, API GL-5 quality gear lubricant. **NOTE: Use SAE 80W-140, API GL-5 quality gear lubricant for trailer towing and in Trac-Lok rear axles.**
Brake Fluid	All	Use AMC/Jeep/Renault brake fluid or equivalent identified as FMVSS 116 DOT-3 and SAE J-17034. **CAUTION: Use recommended brake fluid only.**
Engine Coolant	All	Use AMC/Jeep/Renault all season antifreeze (or equivalent ethylene glycol-based antifreeze) containing Alugard 340-2™ and clean water in a 50/50 mixture.
Fuel	All	Unleaded with AKI octane rating of at least 87.
Clutch Hydraulic Reservoir		Use AMC/Jeep/Renault brake fluid or equivalent identified as FMVSS 116 DOT-3 and SAE J-1703. **CAUTION: Use recommended brake fluids only.**
Power Steering Pump		Use AMC/Jeep/Renault power steering fluid or equivalent.
Steering Linkage, Ball Joints, Propeller Shafts, Cardan Joints, Wheel Bearings		Use AMC/Jeep/Renault all purpose lubricant or equivalent lithium base chassis lubricant.
Parking Brake Pedal Mechanism		Use AMC/Jeep/Renault white spray grease or equivalent.
Manual Steering Gear		Use AMC/Jeep/Renault all purpose lubricant or an equivalent lithium base chassis lubricant.

86366

FLUIDS – LUBRICANTS – CAPACITIES (Cont'd)

Capacities (Approximate Refill)	U.S. Measure	Imperial Measure	Metric Measure
Engine Oil: 2.46 liter I4 (with or without filter change)	4.0 quarts	3.33 quarts	3.78 liters
4.2 liter I6 (with or without filter change)	6.0 quarts	5.0 quarts	5.7 liters
Cooling System: (includes coolant overflow bottle) 2.46 liter I4	9.0 quarts	7.5 quarts	8.5 liters
4.2 liter I6	10.5 quarts	8.7 quarts	9.9 liters
Transmission: T176	3.5 pints	2.9 pints	1.7 liters
T4	3.5 pints	2.9 pints	1.7 liters
T5	4.0 pints	3.3 pints	1.9 liters
999 Auto	8.5 pints	7.1 pints	4.0 liters
Transfer Case: Model 300	4.0 pints	3.3 pints	1.9 liters
Axles: Front	2.5 pints	2.1 pints	1.2 liters
Rear	4.8 pints	4.0 pints	2.3 liters
Fuel Tank (approx. cap.) Standard Tank	14.8 gallons	12.3 gallons	56.0 liters
Optional Tank	20.0 gallons	16.8 gallons	75.5 liters

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SEE I.S. NOTES

ADHESIVES – SEALERS – CLEANERS

SEE I.S. NOTES

Adhesives/Sealers/Cleaners	Purpose
Loctite 242 (Medium strength)	Prevents loosening of bolts, nuts, screws. Does not require re-application every time fasteners are loosened and tightened.
Loctite 271 (High strength)	Locks bolts, nuts, screws. Must be reapplied if fastener is loosened.
Loctite 290 or Wick n' Lock (Medium strength, penetrating)	Prevents loosening of fasteners, adjustment screws, etc. Can be applied after fastener is seated.
Loctite Superbonder	For quick bonding of non-porous materials (glass, metal, rubber, vinyl and plastics).
Permatex Gasket Remover	For removal of gaskets and cleaning gasket surfaces.
AMC/Jeep Gasket-In-A-Tube or Perfect Seal RTV Sealant	For use wherever RTV-Type sealant is specified.

84107

TOWING PROCEDURES

Safety Precautions

- secure loose or protruding parts of a damaged vehicle
- the end of the vehicle being towed should be lifted a minimum of 100 km (4 in) off the ground; check the opposite end for adequate ground clearance
- always use a safety chain system that is independent of the lifting and towing attachment
- do not allow any of the towing equipment to bear on the fuel tank
- do not go under the vehicle while it is lifted by the towing equipment
- do not allow passengers to ride in a towed vehicle
- always observe all state and local laws regarding such items as warning signals, night illumination, speed, etc.
- do not attempt a towing operation that could jeopardize the operator, any bystanders or other motorists

CAUTION: To prevent driveline damage, shift the transmission and transfer case into the positions outlined in the general towing instructions.

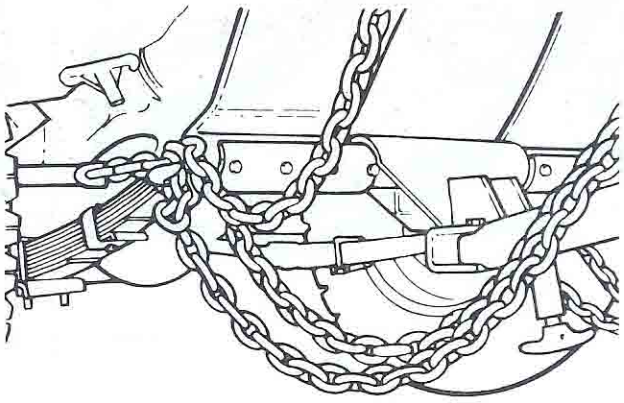
Front Towing – Front End Raised

Attach J-hooks over the axle outboard of the springs.

Tow hooks or chains must not be attached to the bumper or to the constant velocity (CV) joints.

Place a tow bar under the spring shackles.

Attach safety chains around the spring shackles.



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SEE I.S. NOTES

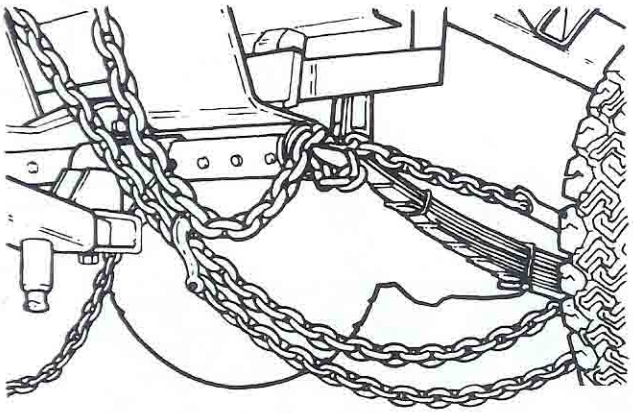
SEE I.S. NOTES

Rear Towing – Rear End Raised

Attach J-hooks around the axle outboard of the springs.

Place a tow bar under the bumper plate.

Attach safety chains to the spring shackles.



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EMERGENCY TOWING

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

Towing Vehicles with Manual Transmission and the Model 300 Transfer Case

Ignition Key Available

Shift the transmission and transfer case into the Neutral position and tow the vehicle with either all four wheels on the road or with the front or rear wheels raised.

Turn the front drive hubs to the 4 x 4 or Lock position.

Turn the ignition key to the OFF position to unlock the steering column.

Ignition Key Not Available and Vehicle is Unlocked

Shift the transmission and transfer case into the Neutral position and tow the vehicle with the front wheels raised.

Ignition Key Not Available and Vehicle is Locked

Place a dolly under the rear wheels and tow the vehicle with the front end raised or disconnect the rear propeller shaft at the rear axle yoke (be sure to mark the shaft and yoke for proper alignment at reassembly), secure the shaft to the underside of the vehicle, and tow with the front end raised.

NOTE: When towing the vehicle over 300 km (200 mi), stop every 300 km (200 mi), leave the transfer case in the Neutral position, and shift the transmission into gear. Then start and run the engine for about one minute to circulate oil in the transfer case.

Towing Vehicles with Automatic Transmission and the Model 300 Transfer Case

Ignition Key Available

Turn the ignition key to the OFF position to unlock the steering column and gearshift selector linkage.

Move the gearshift lever to the Park position and the transfer case shift lever to the Neutral position.

Ignition Key Not Available

Place a dolly under the rear wheels and tow the vehicle with the front end raised or disconnect the rear propeller shaft at the rear axle yoke (index mark yoke for correct assembly), secure the shaft to the underside of the vehicle, and tow it with the front wheels raised.

NOTE: When towing the vehicle over 300 km (200 mi), stop every 300 km (200 mi), leave the transfer case in the Neutral position, start the engine, place the automatic transmission in the Drive position and run the engine for about one minute to circulate the oil in the transfer case.

RECREATIONAL TOWING

Jeep vehicles can be towed behind a recreational vehicle such as a motor home, but the following instructions must be observed to avoid damaging driveline components.

Be sure to check and comply with federal, state and local laws or ordinances regarding this type of towing.

Vehicles with Manual Transmission and the Model 300 Transfer Case

Turn the ignition switch to the OFF position to unlock the steering wheel.

Shift the transmission into gear and the transfer case into the Neutral position.

Turn the selective drive hubs to the 4 x 4 or Lock position for axle lubrication.

Vehicles with Automatic Transmission and the Model 300 Transfer Case

Turn the ignition switch to the OFF position to unlock the steering wheel.

Shift the automatic transmission into the Park position.

Shift the transfer case into the Neutral position.

Turn the selective drive hubs to the 4 x 4 or Lock position for axle lubrication.

SEE I.S. NOTES

TRAILER TOWING AND CAMPERS

SEE I.S. NOTES

The Jeep Corporation New Vehicle Warranty includes conditions and limitations for vehicles used in towing trailers or campers. The requirements and recommendations in this manual and other factory literature must be followed in order to maintain this coverage.

In addition to the vehicle maintenance and servicing requirements referred to, the GVW and GAW ratings are of special significance. When a Jeep vehicle is to be used for trailer or camper towing, it is extremely important that the GVW or GAW ratings not be exceeded by the addition of:

- the tongue weight of a trailer
- the weight of any other type of vehicle put in or on the towing vehicle

Remember that additional items placed in or on the trailer or mounted camper will add to the load.

CAUTION: Jeep Corporation will not be responsible for brake performance if the Jeep vehicle and trailer hydraulic brake systems are interconnected in any way. A separate brake system is recommended and actually required in some states for all trailers weighing 454 kg (1,000 lbs) or more.

FLOOR JACK – SAFETY STANDS

The vehicle can be raised with a floor jack and supported with jack stands at the front and rear ends of the frame rails.

Do not attempt to raise the vehicle with a floor jack positioned under the axle tubes or body side sills. Use the frame rail lift points only.

HOIST

The vehicle can be raised on a twin-post, swivelling arm or ramp-type drive hoist.

SEE I.S. NOTES

SEE I.S. NOTES

ENGINE

Change the oil after the first 8 000 km (5,000 mi) and at 12 000 km (7,500 mi) intervals afterward, or as indicated in the Jeep Engine Maintenance Schedule.

Refer to the Fluids – Lubricants – Capacities Chart in this chapter for the recommended lubricant grade and viscosity.

Check the engine oil level at every fuel fill. Add recommended oils only if the oil level is low. Do not overfill.

MANUAL TRANSMISSION

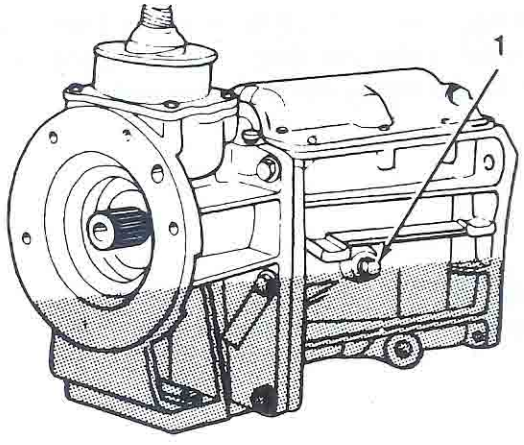
Change the lubricant at the intervals recommended in the Jeep Chassis Maintenance Schedule.

Use recommended lubricants only. Refer to the Fluids – Lubricants – Capacities Chart in this chapter for the recommended lubricant grade and viscosity.

Refilling

Fill the transmission to the bottom edge of the fill plug hole when filling or adding lubricant.

The fill plug (1) is on the passenger side of the manual transmission for all models.



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AUTOMATIC TRANSMISSION

Change the fluid and filter at the intervals recommended in the Jeep Chassis Maintenance Schedule.

Use AMC/Jeep/Renault automatic transmission fluid or an equivalent identified as Dexron II® only.

Check the fluid level with the engine running and the transmission in the Park position.

The transmission fluid should be at the normal operating temperature to ensure an accurate level indication.

Refilling

Do not overfill when refilling or adding fluid.

TRANSFER CASE 300

Change the transfer case lubricant at the intervals recommended in the Jeep Chassis Maintenance Schedule.

Use only AMC/Jeep/Renault transmission lubricant part number 8983 000 000.

Refilling

Fill the transfer case to the edge of the fill plug hole.

Do not overfill.

AXLES

Change the front/rear axle lubricant at 48 000 km (30,000 mi) intervals.

Use AMC/Jeep/Renault gear lubricant or an equivalent SAE 75W-90 (A.P.I. GL-5) lubricant.

SEE I.S. NOTES

SEE I.S. NOTES

Inch-pounds to newton meters

lb. in	N·m	lb in	N·m	lb in	N·m	lb. in	N·m	lb in	N·m
2	.2260	42	4.7453	82	9.2646	122	13.7839	162	18.3032
4	.4519	44	4.9713	84	9.4906	124	14.0099	164	18.5292
6	.6779	46	5.1972	86	9.7165	126	14.2359	166	18.7552
8	.9039	48	5.4232	88	9.9425	128	14.4618	168	18.9811
10	1.1298	50	5.6492	90	10.1685	130	14.6878	170	19.2071
12	1.3558	52	5.8751	92	10.3944	132	14.9138	172	19.4331
14	1.5818	54	6.1011	94	10.6204	134	15.1397	174	19.6590
16	1.8077	56	6.3270	96	10.8464	136	15.3657	176	19.8850
18	2.0337	58	6.5530	98	11.0723	138	15.5917	178	20.1110
20	2.2597	60	6.7790	100	11.2983	140	15.8176	180	20.3369
22	2.4856	62	7.0049	102	11.5243	142	16.0436	182	20.5629
24	2.7116	64	7.2309	104	11.7502	144	16.2696	184	20.7889
26	2.9376	66	7.4569	106	11.9762	146	16.4955	186	21.0148
28	3.1635	68	7.6828	108	12.2022	148	16.7215	188	21.2408
30	3.3895	70	7.9088	110	12.4281	150	16.9475	190	21.4668
32	3.6155	72	8.1348	112	12.6541	152	17.1734	192	21.6927
34	3.8414	74	8.3607	114	12.8801	154	17.3994	194	21.9187
36	4.0674	76	8.5867	116	13.1060	156	17.6253	196	22.1447
38	4.2934	78	8.8127	118	13.3320	158	17.8513	198	22.3706
40	4.5193	80	9.0386	120	13.5580	160	18.0773	200	22.5966

newton meters to inch-pounds

N·m	lb in	N·m	lb in	N·m	lb in	N·m	lb in	N·m	lb in
2	1.7702	4.2	37.1747	8.2	72.5792	12.2	107.9837	16.2	143.3882
4	3.5404	4.4	38.9449	8.4	74.3494	12.4	109.7539	16.4	145.1584
6	5.3107	4.6	40.7152	8.6	76.1197	12.6	111.5242	16.6	146.9287
8	7.0809	4.8	42.4854	8.8	77.8899	12.8	113.2944	16.8	148.6989
1	8.8511	5	44.2556	9	79.6601	13	115.0646	17	150.4691
1.2	10.6213	5.2	46.0258	9.2	81.4303	13.2	116.8348	17.2	152.2393
1.4	12.3916	5.4	47.7961	9.4	83.2006	13.4	118.6051	17.4	154.0096
1.6	14.1618	5.6	49.5663	9.6	84.9708	13.6	120.3753	17.6	155.7798
1.8	15.9320	5.8	51.3365	9.8	86.7410	13.8	122.1455	17.8	157.5500
2	17.7022	6	53.1067	10	88.5112	14	123.9157	18	159.3202
2.2	19.4725	6.2	54.8770	10.2	90.2815	14.2	125.6860	18.5	163.7458
2.4	21.2427	6.4	56.6472	10.4	92.0517	14.4	127.4562	19	168.1714
2.6	23.0129	6.6	58.4174	10.6	93.8219	14.6	129.2264	19.5	172.5970
2.8	24.7831	6.8	60.1876	10.8	95.5921	14.8	130.9966	20	177.0225
3	26.5534	7	61.9579	11	97.3624	15	132.7669	20.5	181.4480
3.2	28.3236	7.2	63.7281	11.2	99.1326	15.2	134.5371	21	185.8736
3.4	30.0938	7.4	65.4983	11.4	100.9028	15.4	136.3073	22	194.7247
3.6	31.8640	7.6	67.2685	11.6	102.6730	15.6	138.0775	23	203.5759
3.8	33.6342	7.8	69.0388	11.8	104.4433	15.8	139.8478	24	212.4270
4	35.4045	8	70.8090	12	106.2135	16	141.6180	25	221.2781

foot-pounds to newton meters

lb ft	N·m	lb ft	N·m	lb ft	N·m	lb ft	N·m	lb ft	N·m
1	1.3558	21	28.4722	41	55.5885	61	82.7049	81	109.8212
2	2.7116	22	29.8280	42	56.9444	62	84.0607	82	111.1770
3	4.0675	23	31.1838	43	58.3002	63	85.4165	83	112.5328
4	5.4233	24	32.5396	44	59.6560	64	86.7723	84	113.8888
5	6.7791	25	33.8954	45	61.0118	65	88.1281	85	115.2446
6	8.1349	26	35.2513	46	62.3676	66	89.4840	86	116.6004
7	9.4907	27	36.6071	47	63.7234	67	90.8398	87	117.9562
8	10.8465	28	37.9629	48	65.0793	68	92.1956	88	119.3120
9	12.2024	29	39.3187	49	66.4351	69	93.5514	89	120.6678
10	13.5582	30	40.6745	50	67.7909	70	94.9073	90	122.0236
11	14.9140	31	42.0304	51	69.1467	71	96.2631	91	123.3794
12	16.2698	32	43.3862	52	70.5025	72	97.6189	92	124.7352
13	17.6256	33	44.7420	53	71.8583	73	98.9747	93	126.0910
14	18.9815	34	46.0978	54	73.2142	74	100.3316	94	127.4468
15	20.3373	35	47.4536	55	74.5700	75	101.6862	95	128.8026
16	21.6931	36	48.8094	56	75.9258	76	103.0422	96	130.1586
17	23.0489	37	50.1653	57	77.2816	77	104.3980	97	131.5144
18	24.4047	38	51.5211	58	78.6374	78	105.7538	98	132.8702
19	25.7605	39	52.8769	59	79.9933	79	107.1196	99	134.2260
20	27.1164	40	54.2327	60	81.3491	80	108.4654	100	135.5820

100	135.5818	300	406.7454	500	677.9090	700	949.0726	900	1220.2362
110	149.1400	310	420.3036	510	691.4672	710	962.6308	910	1233.7943
120	162.6982	320	433.8618	520	705.0254	720	976.1900	920	1247.3525
130	176.2563	330	447.4199	530	718.5835	730	989.7471	930	1260.9107
140	189.8145	340	460.9781	540	732.1417	740	1003.3053	940	1274.4689
150	203.3727	350	474.5363	550	745.6999	750	1016.8635	950	1288.0271
160	216.9309	360	488.0945	560	759.2581	760	1030.4216	960	1301.5852
170	230.4891	370	501.6527	570	772.8163	770	1043.9798	970	1315.1434
180	244.0472	380	515.2108	580	786.3744	780	1057.5380	980	1328.7016
190	257.6054	390	528.7690	590	799.9326	790	1071.0962	990	1342.2598
200	271.1636	400	542.3272	600	813.4908	800	1084.6544	1000	1355.8180
210	284.7218	410	555.8854	610	827.0490	810	1098.2125	1050	1423.6089
220	298.2800	420	569.4436	620	840.6072	820	1111.7707	1100	1491.3998
230	311.8381	430	583.0017	630	854.1653	830	1125.3289	1150	1559.1907
240	325.3963	440	596.5599	640	867.7235	840	1138.8871	1200	1626.9816
250	338.9545	450	610.1181	650	881.2817	850	1152.4453	1250	1694.7725
260	352.5127	460	623.6763	660	894.8399	860	1166.0034	1300	1762.5634
270	366.0709	470	637.2345	670	908.3981	870	1179.5616	1350	1830.3543
280	379.6290	480	650.7926	680	921.9562	880	1193.1198	1400	1898.1452
290	393.1872	490	664.3508	690	935.5144	890	1206.6780	1500	2033.7270

newton meters to foot-pounds

N·m	lb ft	N·m	lb ft	N·m	lb ft	N·m	lb ft	N·m	lb ft
1	.7376	21	15.9888	41	30.2400	61	44.9913	81	59.7425
2	1.4751	22	16.2264	42	30.9776	62	45.7289	82	60.4801
3	2.2127	23	16.9639	43	31.7152	63	46.4664	83	61.2177
4	2.9502	24	17.7015	44	32.4527	64	47.2040	84	61.9552
5	3.6878	25	18.4391	45	33.1903	65	47.9415	85	62.6928
6	4.4254	26	19.1766	46	33.9279	66	48.6791	86	63.4303
7	5.1629	27	19.9142	47	34.6654	67	49.4167	87	64.1679
8	5.9005	28	20.6517	48	35.4030	68	50.1542	88	64.9545
9	6.6381	29	21.3893	49	36.1405	69	50.8918	89	65.6430
10	7.3756	30	22.1269	50	36.8781	70	51.6293	90	66.3806
11	8.1132	31	22.8644	51	37.6157	71	52.3669	91	67.1181
12	8.8507	32	23.6020	52	38.3532	72	53.1045	92	67.8557
13	9.5883	33	24.3395	53	39.0908	73	53.8420	93	68.5933
14	10.3259	34	25.0771	54	39.8284	74	54.5796	94	69.3308
15	11.0634	35	25.8147	55	40.5659	75	55.3172	95	70.0684
16	11.8010	36	26.5522	56	41.3035	76	56.0547	96	70.8060
17	12.5386	37	27.2898	57	42.0410	77	56.7923	97	71.5435
18	13.2761	38	28.0274	58	42.7786	78	57.5298	98	72.2811
19	14.0137	39	28.7649	59	43.5162	79	58.2674	99	73.0187
20	14.7512	40	29.5025	60	44.2537	80	59.0050	100	73.7562

100	73.7562	300	221.2686	500	368.7810	700	516.2935	900	663.8059
110	81.1318	310	228.6443	510	376.1567	710	523.6691	910	671.1815
120	88.5075	320	236.0199	520	383.5323	720	531.0447	920	678.5571
130	95.8831	330	243.3955	530	390.9079	730	538.4203	930	685.9328
140	103.2587	340	250.7711	540	398.2835	740	545.7959	940	693.3084
150	110.6343	350	258.1467	550	405.6592	750	553.1716	950	700.6840
160	118.0099	360	256.5223	560	413.0348	760	560.5472	960	708.0596
170	125.3856	370	272.8980	570	420.4104	770	567.9228	970	715.4352
180	132.7612	380	280.2736	580	427.7860	780	575.2984	980	722.8108
190	140.1368	390	287.6492	590	435.1616	790	582.6741	990	730.1865
200	147.5124	400	295.0248	600	442.5372	800	590.0497	1000	737.5621
210	159.8880	410	302.4005	610	449.9129	810	597.4253	1050	774.4402
220	162.2637	420	309.7761	620	457.2885	820	604.8009	1100	811.3183
230	169.6393	430	317.1517	630	464.6641	830	612.1765	1150	848.1964
240	177.0149	440	324.5273	640	472.0397	840	619.5522	1200	885.0745
250	184.3905	450	331.9029	650	479.4154	850	626.9278	1250	921.9526
260	191.7661	460	339.2786	660	486.7910	860	634.3034	1300	958.8307
270	199.1418	470	346.6542	670	494.1667	870	641.6790	1350	995.7088
280	206.5174	480	354.0298	680	501.5422	880	649.0546	1400	1032.5869
290	213.8930	490	361.4054	690	508.9178	890	656.4302	1500	1106.3431

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SEE I.S. NOTES

inch to mm

in	mm	in	mm	in	mm	in	mm	in	mm
.01	.254	.21	5.334	.41	10.414	.61	15.494	.81	20.574
.02	.508	.22	5.588	.42	10.668	.62	15.748	.82	20.828
.03	.762	.23	5.842	.43	10.922	.63	16.002	.83	21.082
.04	1.016	.24	6.096	.44	11.176	.64	16.256	.84	21.336
.05	1.270	.25	6.350	.45	11.430	.65	16.510	.85	21.590
.06	1.524	.26	6.604	.46	11.684	.66	16.764	.86	21.844
.07	1.778	.27	6.858	.47	11.938	.67	17.018	.87	22.098
.08	2.032	.28	7.112	.48	12.192	.68	17.272	.88	22.352
.09	2.286	.29	7.366	.49	12.446	.69	17.526	.89	22.606
.10	2.540	.30	7.620	.50	12.700	.70	17.780	.90	22.860
.11	2.794	.31	7.874	.51	12.954	.71	18.034	.91	23.114
.12	3.048	.32	8.128	.52	13.208	.72	18.288	.92	23.368
.13	3.302	.33	8.382	.53	13.462	.73	18.542	.93	23.622
.14	3.556	.34	8.636	.54	13.716	.74	18.796	.94	23.876
.15	3.810	.35	8.890	.55	13.970	.75	19.050	.95	24.130
.16	4.064	.36	9.144	.56	14.224	.76	19.304	.96	24.384
.17	3.318	.37	9.398	.57	14.478	.77	19.558	.97	24.638
.18	4.572	.38	9.652	.58	14.732	.78	19.812	.98	24.892
.19	4.826	.39	9.906	.59	14.986	.79	20.066	.99	25.146
.20	5.080	.40	10.160	.60	15.240	.80	20.320	1.00	25.400

fraction to decimal inch to mm

Frac	Inches Dec	mm	Frac	Inches Dec	mm
1/64	015625	.3969	33/64	.515625	13.0969
1/32	031250	.7938	17/32	.531250	13.4938
3/64	046875	1.1906	35/64	.546875	13.8906
1/16	062500	1.5875	9/16	.562500	14.2875
5/64	078125	1.9844	37/64	.578125	14.6844
3/32	.093750	2.3812	19/32	.593750	15.0812
7/64	.109375	2.7781	39/64	.609375	15.4781
1/8	.125000	3.1750	5/8	.625000	15.8750
9/64	.140625	3.5719	41/64	.640625	16.2719
5/32	.156250	3.9688	21/32	.656250	16.6688
11/64	.171875	4.3656	43/64	.671875	17.0656
3/16	.187500	4.7625	11/16	.687500	17.4625
13/64	.203125	5.1594	45/64	.703125	17.8594
7/32	.218750	5.5562	23/32	.718750	18.2562
15/64	.234375	5.9531	47/64	.734375	18.6531
1/4	.250000	6.3500	3/4	.750000	19.0500
17/64	.265625	6.7469	49/64	.765625	19.4469
9/32	.281250	7.1438	25/32	.781250	19.8437
19/64	.296875	7.5406	51/64	.796875	20.2406
5/16	.312500	7.9375	13/16	.812500	20.6375
21/64	.328125	8.3344	53/64	.828125	21.0344
11/32	.343750	8.7312	27/32	.843750	21.4312
23/64	.359375	9.1281	55/64	.859375	21.8281
3/8	.375000	9.5250	7/8	.875000	22.2250
25/64	.390625	9.9219	57/64	.890625	22.6219
13/32	.406250	10.3188	29/32	.906250	23.0188
27/64	.421875	10.7156	59/64	.921875	23.4156
7/16	.437500	11.1125	15/16	.937500	23.8125
29.64	.453125	11.5094	61/64	.953125	24.2094
15/32	.468750	11.9062	31/32	.968750	24.6062
31/64	.484375	12.3031	63/64	.984375	25.0031
1/2	.500000	12.7000	1	1.000000	25.4000

mm to inch

mm	in	mm	in	mm	in.	mm	in	mm	in
01	.00039	.21	.00827	.41	.01614	.61	.02402	.81	.03189
02	.00079	.22	.00866	.42	.01654	.62	.02441	.82	.03228
03	.00118	.23	.00906	.43	.01693	.63	.02480	.83	.03268
.04	.00157	.24	.00945	.44	.01732	.64	.02520	.84	.03307
.05	.00197	.25	.00984	.45	.01772	.65	.02559	.85	.03346
.06	.00236	.26	.01024	.46	.01811	.66	.02598	.86	.03386
.07	.00276	.27	.01063	.47	.01850	.67	.02638	.87	.03425
.08	.00315	.28	.01102	.48	.01890	.68	.02677	.88	.03465
.09	.00354	.29	.01142	.49	.01929	.69	.02717	.89	.03504
.10	.00394	.30	.01181	.50	.01969	.70	.02756	.90	.03543
.11	.00433	.31	.01220	.51	.02008	.71	.02795	.91	.03583
.12	.00472	.32	.01260	.52	.02047	.72	.02835	.92	.03622
.13	.00512	.33	.01299	.53	.02087	.73	.02874	.93	.03661
.14	.00551	.34	.01339	.54	.02126	.74	.02913	.94	.03701
.15	.00591	.35	.01378	.55	.02165	.75	.02953	.95	.03740
.16	.00630	.36	.01417	.56	.02205	.76	.02992	.96	.03780
.17	.00669	.37	.01457	.57	.02244	.77	.03032	.97	.03819
.18	.00709	.38	.01496	.58	.02283	.78	.03071	.98	.03858
.19	.00748	.39	.01535	.59	.02323	.79	.03110	.99	.03898
.20	.00787	.40	.01575	.60	.02362	.80	.03150	1.00	.03937

1	.03937	21	.82677	41	1.61417	61	2.40157	81	3.18897
2	.07874	22	.86614	42	1.65354	62	2.44094	82	3.22834
3	.11811	23	.90551	43	1.69291	63	2.48031	83	3.26771
4	.15748	24	.94488	44	1.73228	64	2.51968	84	3.30708
5	.19685	25	.98425	45	1.77165	65	2.55905	85	3.34645
6	.23622	26	1.02362	46	1.81102	66	2.59842	86	3.38582
7	.27559	27	1.06299	47	1.85039	67	2.63779	87	3.42519
8	.31496	28	1.10236	48	1.88976	68	2.67716	88	3.46456
9	.35433	29	1.14173	49	1.92913	69	2.71653	89	3.50393
10	.39370	30	1.18110	50	1.96850	70	2.75590	90	3.54330
11	.43307	31	1.22047	51	2.00787	71	2.79527	91	3.58267
12	.47244	32	1.25984	52	2.04724	72	2.83464	92	3.62204
13	.51181	33	1.29921	53	2.08661	73	2.87401	93	3.66141
14	.55118	34	1.33858	54	2.12598	74	2.91338	94	3.70078
15	.59055	35	1.37795	55	2.16535	75	2.95275	95	3.74015
16	.62992	36	1.41732	56	2.20472	76	2.99212	96	3.77952
17	.66929	37	1.45669	57	2.24409	77	3.03149	97	3.81889
18	.70866	38	1.49606	58	2.28346	78	3.07086	98	3.85826
19	.74803	39	1.53543	59	2.32283	79	3.11023	99	3.89763
20	.78740	40	1.57480	60	2.36220	80	3.14960	100	3.93700

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