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# INTRODUCTION

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# BODY CODE PLATE

#### DESCRIPTION

The Body Code Plate (Fig. 1) is located on the floor pan under the passenger seat or attached to the front face of the radiator closure panel. There are seven lines of information on the body code plate. Lines 5, 6, and 7 are not used to define service information. Information reads from left to right, starting with line 4 in the center of the plate to line 1 at the bottom of the plate.

The last code imprinted on a vehicle code plate will be followed by the imprinted word END. When two vehicle code plates are required, the last available spaces on the first plate will be imprinted with the letters CTD (for continued).

When a second vehicle code plate is necessary, the first four spaces on each row will not be used because of the plate overlap.

#### BODY CODE PLATE—LINE 4

#### **DIGITS 1 THROUGH 12**

Vehicle Order Number

#### DIGITS 13, 14, AND 15

#### Transmission Codes

- DGP = 4-speed Automatic (47RE)
- DGT = 4-speed Automatic (46RE)
- DGK = 4-speed Automatic (42RE)
- DDP = 5-speed Manual (NVG-4500)
- DDX = 5-speed Manual (NVG-4500 Heavy Duty)
- DDC = 5-speed Manual (NVG-3500)
- DEE = 6-speed Manual (NVG-5600)

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#### Fig. 1 Body Code Plate

- 1 PRIMARY PAINT
- 2 SECONDARY PAINT
- 3 TRANSMISSION CODE
- 4 VEHICLE MODEL NUMBER
- 5 ENGINE CODE
- 6 INTERIOR TRIM CODE
- 7 VEHICLE IDENTIFICATION NUMBER
- 8 TAILGATE CODE
- 9 CARGO BOX CODE
- 10 TAILGATE TRIM CODE
- 11 BODY-IN-WHITE SEQUENCE
- 12 MARKET CODE
- 13 SPECIES CODE
- 14 PAINT PROCEDURE
- 15 VEHICLE ORDER NUMBER

DIGITS 16, 17, AND 18

- Car Line Shell
- BR1 =  $1500 \ 4 \ X \ 2$
- BE1 = 1500 4 X 2
- BR6 =  $1500 \ 4 \ X \ 4$

# • BE6 = 1500 4 X 4

- BR2 = 2500 4 X 2
- BE2 = 2500 4 X 2
- BR7 = 2500 4 X 4
- BE7 = 2500 4 X 4
- BR3 = 3500 4 X 2
- BE3 = 3500 4 X 2
- BR8 = 3500 4 X 4
- BE8 = 3500 4 X 4

## DIGIT 19

Price Class

• L = Ram Truck (All)

## DIGITS 20 AND 21

#### **Body Type**

- 31 = Ram Truck Club Cab (138.7 in. Wheel Base)
- 32 = Ram Truck Club Cab (154.7 in. Wheel Base)
- 33 = Ram Truck Quad Cab (138.7 in. Wheel Base)
- 34 = Ram Truck Quad Cab (154.7 in. Wheel Base)
- 61 = Ram Truck (118.7 in. Wheel Base)
- 62 = Ram Truck (134.7 in. Wheel Base)

• 63 = Ram Truck Cab Chassis (138.7 in. Wheel Base)

• 64 = Ram Truck Cab Chassis (162.7 in. Wheel Base)

## BODY CODE PLATE—LINE 3

## DIGITS 1,2, AND 3

**Paint Procedure** 

- APA = Monotone
- AP9 = Special
- APB = Two-tone (Waterfall)
- APC = Two-tone (Centerband)
- APD = Two-tone (Lower break)

#### **DIGIT 4**

**Open Space** 

# **DIGITS 5 THROUGH 8**

**Primary Paint** Refer to Group 23, Body for color codes.

# DIGIT 9

**Open Space** 

**DIGITS 10 THROUGH 13** Secondary Paint

# DIGIT 14

**Open Space** 

**DIGITS 15 THROUGH 18** Interior Trim Code

#### DIGIT 19

**Open Space** 

#### DIGITS 20, 21, AND 22

#### **Engine Code**

- EHC = 3.9 L 6 cyl. MPI Gasoline
- ELF = 5.2 L 8 cyl. MPI Gasoline
- ELN = 5.2 L 8 cyl. (CNG)
- EML = 5.9 L 8 cyl. MPI Gasoline
- EMM = 5.9 L 8 cyl. MPI Gasoline (Heavy Duty)
- ETC = 5.9 L 6 cyl. Turbo Diesel
- EWA = 8.0 L 10 cyl. MPI Gasoline

## BODY CODE PLATE—LINE 2

**DIGIT 1 Open Space** 

DIGITS 2 AND 3 Species Code. (Used for Manufacturing)

#### **DIGIT 4**

**Open Space** 

#### DIGIT 5

Market Code

- B = International
- C = Canada
- M = Mexico
- U = United States

## DIGIT 6

**Open Space** 

## **DIGITS 7 THROUGH 23**

Vehicle Identification Number (VIN) Refer to Vehicle Identification Number (VIN) paragraph for proper breakdown of VIN code.

## BODY CODE PLATE—LINE 1

DIGITS 1 THROUGH 6 Body-in-white assembly sequence.

## DIGIT 7

**Open Space** 

DIGIT 8 Tailgate trim code.

## DIGIT 9

Open Space

## DIGITS 10 THROUGH 12 Cargo box code

• XBS = Sweptline

# DIGIT 13

**Open Space** 

## **BODY CODE PLATE (Continued)**

DIGITS 14 THROUGH 16 Tailgate code

- MWD = Plain Tailgate
- MPB = Tailgate Applique (Black)

# **FASTENER IDENTIFICATION**

#### DESCRIPTION

The SAE bolt strength grades range from grade 2 to grade 8. The higher the grade number, the greater the bolt strength. Identification is determined by the

line marks on the top of each bolt head. The actual bolt strength grade corresponds to the number of line marks plus 2. The most commonly used metric bolt strength classes are 9.8 and 10.9. The metric strength class identification number is imprinted on the head of the bolt. The higher the class number, the greater the bolt strength. Some metric nuts are imprinted with a single-digit strength class on the nut face. Refer to the Fastener Identification and Fastener Strength Charts.

# FASTENER IDENTIFICATION (Continued)

# Bolt Markings and Torque - Metric



Size		То	rque			Tor	que			Tor	rque		
Diam.	Cas	t Iron	Alumi	num	Cas	t Iron	Alum	าเทบท	Cas	t Iron _	Alum	ninum	
mm	N∙m	ft-lb	N•m	ft-lb	N∙m	ft-lb	N•m	ft-lb	N∙m	ft-lb	N•m	ft-lb	
6	9	5	7	4	14	9	11	7	14	9	11	7	
7	14	9	11	7	18	14	14	11	23	18	18	14	
8	25	18	18	14	32	23	25	18	36	27	28	21	
10	40	30	30	25	60	45	45	35	70	50	55	40	
12	70	55	55	40	105	75	80	60	125	95	100	75	
14	115	85	90	65	160	120	125	95	195	145	150	110	
16	180	130	140	100	240	175	190	135	290	210	220	165	
18	230	170	180	135	320	240	250	185	400	290	310	230	

# Bolt Markings and Torque Values - U.S. Customary

#### SAE Grade Number

 $\bigcirc \bigcirc \bigcirc \bigcirc$ 

**Bolt Head Markings** These are all SAE Grade 5 (3) line



8

Bolt Torque - Grade 5 Bolt				Bolt Torque - Grade 8 Bolt					
Body Size	Cas	st Iron	Alun	ninum	Cast	Iron	Alum	inum	
	N∙m	ft-lb	N∙m	ft-lb	N∙m	ft-lb	N∙m	ft-lb	
1/4 - 20	9	7	8	6	15	11	12	9	
- 28	12	9	9	7	18	13	14	10	
5/16 - 18	20	15	16	12	30	22	24	18	
- 24	23	17	19	14	33	24	25	19	
3/8 - 16	40	30	25	20	55	40	40	30	
- 24	40	30	35	25	60	45	45	35	
7/16 - 14	60	45	45	35	90	65	65	50	
- 20	65	50	55	40	95	70	75	55	
1/2 - 13	95	70	75	55	130	95	100	75	
- 20	100	75	80	60	150	110	120	90	
9/16 - 12	135	100	110	80	190	140	150	110	
- 18	150	110	115	85	210	155	170	125	
5/8 - 11	180	135	150	110	255	190	205	150	
- 18	210	155	160	120	290	215	230	170	
3/4 - 10	325	240	255	190	460	340	365	270	
- 16	365	270	285	210	515	380	410	300	
7/8 - 9	490	360	380	280	745	550	600	440	
- 14	530	390	420	310	825	610	660	490	
1 - 8	720	530	570	420	1100	820	890	660	
- 14	800	590	650	480	1200	890	960	710	

-

# FASTENER IDENTIFICATION (Continued)

#### HOW TO DETERMINE BOLT STRENGTH

	Mark	Class		Mark	Class
Hexagon head bolt	4	4T 5T 6T 7T 8T 9T 10T 11T	Stud bolt	No mark	<b>4</b> T
	No mark	4T			
Hexagon flange bolt w/washer hexagon bolt	No mark	<b>4</b> T		Grooved	6Т
Hexagon head bolt	Two protruding lines	<i>5</i> T			
Hexagon flange bolt w/washer hexagon bolt	Two protruding lines	6Т	Welded bolt		
Hexagon head bolt	Three protruding lines	71			<b>4</b> T
Hexagon head bolt	Four protruding lines	81			

Fastener Strength

# FASTENER USAGE

## **DESCRIPTION - FASTENER USAGE**

#### WARNING: USE OF AN INCORRECT FASTENER MAY RESULT IN COMPONENT DAMAGE OR PER-SONAL INJURY.

Figure art, specifications and torque references in this Service Manual are identified in metric and SAE format.

During any maintenance or repair procedures, it is important to salvage all fasteners (nuts, bolts, etc.) for reassembly. If the fastener is not salvageable, a fastener of equivalent specification must be used.

## **DESCRIPTION - THREADED HOLE REPAIR**

Most stripped threaded holes can be repaired using a Helicoil<sup>®</sup>. Follow the manufactures recommendations for application and repair procedures.

# INTERNATIONAL VEHICLE CONTROL & DISPLAY SYMBOLS

#### **DESCRIPTION - INTERNATIONAL SYMBOLS**

The graphic symbols illustrated in the following International Control and Display Symbols Chart are used to identify various instrument controls. The symbols correspond to the controls and displays that are located on the instrument panel.

# METRIC SYSTEM

## **DESCRIPTION - METRIC SYSTEM**

The metric system is based on quantities of one, ten, one hundred, one thousand and one million .

The following chart will assist in converting metric units to equivalent English and SAE units, or vise versa.

	≢O ₂	-Ò- 3	<\$-\$	5	6
7	8	9	10	\$ <b>**</b>	12
13	14	15	<b>- +</b> 16	17	18
((!))	((P))	$\rightarrow$	<b>~~</b>	6	2

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	International Symbols					
1	High Beam	13	Rear Window Washer			
2	Fog Lamps	14	Fuel			
3	Headlamp, Parking Lamps, Panel Lamps	15	Engine Coolant Temperature			
4	Turn Warning	16	Battery Charging Condition			
5	Hazard Warning	17	Engine Oil			
6	Windshield Washer	18	Seat Belt			
7	Windshield Wiper	19	Brake Failure			
8	Windshield Wiper and Washer	20	Parking Brake			
9	Windscreen Demisting and Defrosting	21	Front Hood			
10	Ventilating Fan	22	Rear hood (Decklid)			
11	Rear Window Defogger	23	Horn			
12	Rear Window Wiper	24	Lighter			

#### International Symbols

#### BR/BE -

## **METRIC SYSTEM (Continued)**

#### **CONVERSION FORMULAS AND EQUIVALENT VALUES**

MULTIPLY	BY	TO GET	MULTIPLY	BY	TO GET
in-lbs	x 0.11298	= Newton Meters (N·m)	N∙m	x 8.851	= in-lbs
ft-lbs	x 1.3558	= Newton Meters (N·m)	N∙m	x 0.7376	= ft-lbs
Inches Hg (60° F)	x 3.377	= Kilopascals (kPa)	kPa	x 0.2961	= Inches Hg
psi	x 6.895	= Kilopascals (kPa)	kPa	x 0.145	= psi
Inches	x 25.4	= Millimeters (mm)	mm	x 0.03937	= Inches
Feet	x 0.3048	= Meters (M)	М	x 3.281	= Feet
Yards	x 0.9144	= Meters	М	x 1.0936	= Yards
mph	x 1.6093	= Kilometers/Hr. (Km/h)	Km/h	x 0.6214	= mph
Feet/Sec	x 0.3048	= Meters/Sec (M/S)	M/S	x 3.281	= Feet/Sec
mph	x 0.4470	= Meters/Sec (M/S)	M/S	x 2.237	= mph
Kilometers/ Hr. (Km/h)	x 0.27778	= Meters/Sec (M/S)	M/S	x 3.600	Kilometers/Hr. (Km/h)

#### COMMON METRIC EQUIVALENTS

1 inch = 25 Millimeters	1 Cubic Inch = 16 Cubic Centimeters
1 Foot = 0.3 Meter	1 Cubic Foot = 0.03 Cubic Meter
1 Yard = 0.9 Meter	1 Cubic Yard = 0.8 Cubic Meter
1 Mile = 1.6 Kilometers	

Refer to the Metric Conversion Chart to convert torque values listed in metric Newton- meters ( $N \cdot m$ ).

Also, use the chart to convert between millimeters (mm) and inches (in.)

# **METRIC SYSTEM (Continued)**

in-lbs to N•m

N•m to in-lbs

in- lb	N∙m	in-lb	N∙m	in-Ib	N∙m	in-lb	N∙m	in-lb	N∙m	N∙m	in-lb	N∙m	in-lb	N•m	in-Ib	N∙m	in-Ib	N∙m	in-lb
2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38	.2260 .4519 .6779 .9039 1.1298 1.3558 1.5818 1.8077 2.2597 2.4856 2.7116 2.9376 2.9376 3.1635 3.3895 3.6155 3.8414 4.0674 4.2934	42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78	4.7453 4.9713 5.1972 5.4232 5.6492 5.8751 6.1011 6.3530 6.7790 7.0049 7.2309 7.4569 7.6828 7.9088 8.1348 8.3607 8.5867 8.58127	82 84 86 88 90 92 94 96 98 100 102 104 106 108 110 112 114 116 118	9.2646 9.4906 9.7165 9.9425 10.1685 10.3944 10.6204 11.0723 11.2983 11.5243 11.7502 11.97622 12.4281 12.26541 12.26541 13.1060 13.3320	1122 122 124 126 128 130 132 134 136 138 140 142 144 146 148 150 152 156 158	13.7839 14.0099 14.2359 14.4618 14.6978 14.9138 15.1397 15.5917 15.8176 16.0436 16.2495 16.7215 16.9475 16.7215 16.9475 17.1734 17.6253 17.6253 17.6253	162 164 166 168 170 172 174 176 178 180 182 184 186 188 190 192 194 196	18.3032 18.5292 18.7552 18.9811 19.2071 19.4331 19.6590 20.3850 20.5629 20.5629 20.5629 20.5629 21.0148 21.2408 21.2408 21.2408 21.2408 21.2408 21.2408 21.2408 21.2408 21.2408	.2 .4 .6 .8 1 1.2 1.4 1.6 1.8 2.2 2.4 2.6 2.8 3.2 3.4 3.6 3.8	1.7702 3.5404 5.3107 7.0609 8.8511 10.6213 12.3916 14.1618 15.9320 17.7022 21.2427 23.0129 24.7831 26.5534 28.3236 30.0938 31.8640 33.6342 25.6045	4.2 4.4 4.6 5.2 5.4 5.6 5.8 6.2 6.4 6.6 6.8 7 7.2 7.4 7.6 7.8	37.1747 38.9449 40.7152 42.4854 44.2556 46.0258 47.7961 49.5663 51.3365 53.1067 54.8770 56.6472 56.6472 56.4174 60.1876 61.9579 63.7281 65.4983 67.2685 69.0388	8.2 8.4 8.6 8.8 9.2 9.4 9.6 9.8 10 10.2 10.4 10.6 10.8 11 11.2 11.4 11.6 11.8	72.5792 74.3494 76.1197 77.8899 79.6601 81.4303 83.2006 84.9708 86.7410 88.5112 90.2815 92.0517 93.8219 95.5921 97.3624 99.1326 100.9028 100.6730 104.4433	12.2 12.4 12.6 12.8 13 13.2 13.4 13.6 13.8 14 14.2 14.4 14.6 14.8 15 15.2 15.4 15.6 15.8 14	107.9837 109.7539 111.5242 113.2944 115.0646 116.8348 118.6051 120.3753 122.1455 123.9157 125.6860 127.4562 129.2264 130.9966 132.7669 134.5371 136.3073 138.0775 139.8478	16.2 16.4 16.6 16.8 17 17.2 17.4 17.6 17.8 18.5 19.5 20 20.5 21 22 23 24 25	143,3882 145,1584 146,9287 150,4691 152,2393 154,0096 155,7798 157,5500 159,3202 163,7458 168,1714 172,5970 177,0225 181,4480 185,8736 194,7247 203,5759 212,4270 221,2781

#### ft-lbs to N•m

N•m to ft-lbs

ft-lb	N∙m	ft-lb	N∙m	ft-lb	N∙m	ft-lb	N∙m	ft-lb	N∙m	N∙m	ft-lb	N∙m	ft-lb	N∙m	ft-Ib	N∙m	ft-Ib	N∙m	ft-lb
1	1.3558	21	28,4722	41	55,5885	61	82,7049	81	109.8212	1	.7376	21	15.9888	41	30.2400	61	44.9913	81	59.7425
2	2.7116	22	29.8280	42	56.9444	62	84.0607	82	111.1770	2	1.4751	22	16.2264	42	30.9776	62	45.7289	82	60.4801
3	4.0675	23	31.1838	43	58.3002	63	85.4165	83	112.5328	3	2.2127	23	16.9639	43	31.7152	63	46.4664	83	61.2177
4	5.4233	24	32.5396	44	59.6560	64	86.7723	84	113.8888	4	2.9502	24	17.7015	44	32.4527	64	47.2040	84	61.9552
5	6.7791	25	33.8954	45	61.0118	65	88.1281	85	115.2446	5	3.6878	25	18.4391	45	33.1903	65	47.9415	85	62.6928
6	8.1349	26	35.2513	46	62.3676	66	89.4840	86	116.6004	6	4.4254	26	19.1766	46	33.9279	66	48.6791	86	63.4303
7	9.4907	27	36.6071	47	63.7234	67	90.8398	87	117.9562	7	5.1629	27	19.9142	47	34.6654	67	49.4167	87	64.1679
8	10.8465	28	37.9629	48	65.0793	68	92.1956	88	119.3120	8	5.9005	28	20.6517	48	35.4030	68	50.1542	88	64.9545
9	12.2024	29	39.3187	49	66.4351	69	93.5514	89	120.6678	9	6.6381	29	21.3893	49	36.1405	69	50.8918	89	65.6430
10	13.5582	30	40.6745	50	67.7909	70	94.9073	90	122.0236	10	7.3756	30	22.1269	50	36.8781	70	51.6293	90	66.3806
11	14.9140	31	42.0304	51	69.1467	71	96.2631	91	123.3794	11	8.1132	31	22.8644	51	37.6157	71	52.3669	91	67.1181
12	16.2698	32	43.3862	52	70.5025	72	97.6189	92	124.7352	12	8.8507	32	23.6020	52	38.3532	72	53.1045	92	67.8557
13	17.6256	33	44.7420	53	71.8583	73	98.9747	93	126.0910	.13	9.5883	33	24.3395	53	39.0908	73	53.8420	93	68.5933
14	18.9815	34	46.0978	54	73.2142	74	100.3316	94	127.4468	14	10.3259	34	25.0771	54	39.8284	74	54.5720	94	69.3308
15	20.3373	35	47.4536	55	74.5700	75	101.6862	95	128.8026	15	11.0634	35	25.8147	55	40.5659	75	55.3172	95	70.0684
16	21.6931	36	48.8094	56	75.9258	76	103.0422	96	130.1586	16	11.8010	36	26.5522	56	41.3035	76	56.0547	96	70.8060
17	23.0489	37	50.1653	57	77.2816	77	104.3980	97	131.5144	17	12.5386	37	27.2898	57	42.0410	77	56.7923	97	71.5435
18	24.4047	38	51.5211	58	78.6374	78	105.7538	98	132.8702	18	13.2761	38	28.0274	58	42.7786	78	57.5298	98	72.2811
19	25.7605	39	52.8769	59	79.9933	79	107.1196	99	134.2260	19	14.0137	39	28.7649	59	43.5162	79	58.2674	99	73.0187
20	27.1164	40	54.2327	60	81.3491	80	108.4654	100	135.5820	20	14.7512	40	29.5025	60	44.2537	80	59.0050	100	73.7562

in. to mm

mm to in.

in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
.01	.254	.21	5.334	.41	10.414	.61	15.494	.81	20.574	.01	.00039	.21	.00827	.41	.01614	.61	.02402	.81	.03189
02	508	22	5 588	.42	10.668	.62	15.748	.82	20.828	.02	.00079	.22	.00866	.42	.01654	.62	.02441	.82	.03228
.03	.762	23	5 842	.43	10.922	.63	16.002	.83	21.082	.03	.00118	.23	.00906	.43	.01693	.63	.02480	.83	.03268
.04	1.016	24	6.096	.44	11,176	.64	16.256	.84	21.336	.04	.00157	.24	.00945	.44	.01732	.64	.02520	.84	.03307
.05	1.270	.25	6.350	.45	11.430	.65	16.510	.85	21.590	.05	.00197	.25	.00984	.45	.01772	.65	.02559	.85	.03346
.06	1.524	.26	6.604	.46	11.684	.66	16.764	.86	21.844	.06	.00236	.26	.01024	.46	.01811	.66	.02598	.86	.03386
.07	1.778	.27	6.858	.47	11.938	.67	17.018	.87	22.098	.07	.00276	.27	.01063	.47	.01850	.67	.02638	.87	.03425
.08	2.032	.28	7,112	.48	12,192	.68	17.272	.88	22.352	.08	.00315	.28	.01102	.48	.01890	.68	.02677	.88	.03465
.09	2.286	.29	7.366	.49	12.446	.69	17.526	.89	22.606	.09	.00354	.29	.01142	.49	.01929	.69	.02717	.89	.03504
.10	2.540	.30	7.620	.50	12.700	.70	17.780	.90	22.860	.10	.00394	.30	.01181	.50	.01969	.70	.02756	.90	.03543
.11	2.794	.31	7.874	.51	12.954	.71	18.034	.91	23.114	.11	.00433	.31	.01220	.51	.02008	.71	.02795	.91	.03583
.12	3.048	.32	8.128	.52	13.208	.72	18.288	.92	23.368	.12	.00472	.32	.01260	.52	.02047	.72	.02835	.92	.03622
.13	3.302	.33	8.382	.53	13.462	.73	18.542	.93	23.622	.13	.00512	.33	.01299	.53	.02087	.73	.02874	.93	.03661
.14	3.556	.34	8.636	.54	13.716	.74	18.796	.94	23.876	.14	.00551	.34	.01339	.54	.02126	.74	.02913	.94	.03701
.15	3.810	.35	8.890	.55	13.970	.75	19.050	.95	24.130	.15	.00591	.35	.01378	.55	.02165	.75	.02953	.95	.03740
.16	4.064	.36	9.144	.56	14.224	.76	19.304	.96	24.384	.16	.00630	.36	.01417	.56	.02205	.76	.02992	.96	.03780
.17	3.318	.37	9.398	.57	14.478	.77	19.558	.97	24.638	.17	.00669	.37	.01457	.57	.02244	.77	.03032	.97	.03819
.18	4.572	.38	9.652	.58	14.732	.78	19.812	.98	24.892	.18	.00709	.38	.01496	.58	.02283	.78	· .03071	.98	.03858
.19	4.826	.39	9.906	.59	14.986	.79	20.066	.99	25.146	.19	.00748	.39	.01535	.59	.02323	.79	.03110	.99	.03898
.20	5.080	.40	10.160	.60	15.240	.80	20.320	1.00	25.400	.20	.00787	.40	.01575	.60	.02362	.80	.03150	1.00	.03937
		1		l I		1		1				1							

J901N-10

# **TORQUE REFERENCES**

cations Chart for torque references not listed in the individual torque charts.

# DESCRIPTION

Individual Torque Charts appear at the end of many Groups. Refer to the Standard Torque Specifi-

#### SPECIFIED TORQUE FOR STANDARD BOLTS

					Specifi	ied torque		
Class Diameter mm		Pitch		Hexagon head l	bolt	Н	exagon flange	bolt
	mm	mm	N∙m	kgf-cm	ft-lbf	N•m	kgf-cm	ft-lbf
	6	1	5	55	48 inlbf	6	60	52 inlbf
	8	1.25	12.5	130	9	14	145	10
4T	10	1.25	26	260	19	29	290	21
	12	1.25	47	480	35	53	540	39
	14	1.5	74	760	55	84	850	61
	16	1.5	115	1,150	83	—		
	6	1	6.5	65	56 inlbf	7.5	75	65 inlbf
	8	1.25	15.5	160	12	17.5	175	13
5T	10	1.25	32	330	24	36	360	26
	12	1.25	59	600	43	65	670	48
	14	1.5	91	930	67	100	1,050	76
	16	1.5	140	1,400	101			
	6	1	8	80	69 inlbf	9	90	78 inlbf
	8	1.25	19	195	14	21	210	15
6T	10	1.25	39	400	29	44	440	32
	12	1.25	71	730	53	80	810	59
	14	1.5	110	1.100	80	125	1,250	90
	16	1.5	170	1,750	127	_		
	6	1	10.5	110	8	12	120	9
	8	1.25	25	260	19	28	290	21
77	10	1.25	52	530	38	58	590	43
	12	1.25	95	970	70	105	1,050	76
:	14	1.5	145	1.500	108	165	1,700	123
	16	1.5	230	2,300	166	-	— .	_
	8	1.25	29	300	22	33	330	24
8T	10	1.25	61	620	45	68	690	50
	12	1.25	110	1,100	80	120	1,250	90
	8	1.25	34	340	25	37	380	27
9T	10	1 25	70	710	51	78	790	57
	12	1.25	125	1,300	94	140	1,450	105
	8	1,25	38	390	28	42	430	31
10T	10	1.25	78	800	58	88	890	64
	12	1.25	140	1,450	105	155	1,600	116
	8	1.25	42	430	31	47	480	35
11T	10	1,25	87	890	64	97	990	72
	12	1.25	155	1,600	116	175	1,800	130

**Torque Specifications** 

# VECI LABEL

## DESCRIPTION

Vehicles equipped with 3.9L V-6 or 5.2L/5.9L V-8 LDC-gas powered engines have a VECI label.

The label combines both emission control information and vacuum hose routing. This label is located in the engine compartment in front of the radiator (Fig. 2).

The VECI label contains the following:

- Engine family and displacement
- Evaporative family
- Emission control system schematic
- Certification application
- Engine timing specifications (if adjustable)
- Idle speeds (if adjustable)
- Spark plug and gap



Fig. 2 VECI Label Location

1 - VEHICLE EMISSION CONTROL INFORMATION (VECI) LABEL

2 - VECI LABEL (5.9L HDC FOR CANADA ONLY)

3 - VECI LABEL (5.9L HDC ONLY) (INCLUDES CANADA)

The 5.9L HDC-gas powered engine will have two labels. One of the labels is located in front of the radiator in the engine compartment (Fig. 2) and will contain vacuum hose routing only. The other is attached to the drivers side of the engine air cleaner housing (Fig. 2).

The VECI label for the 5.9L HDC-gas powered engine will contain the following:

- Engine family and displacement
- Evaporative family
- Certification application
- Engine timing specifications (if adjustable)
- Idle speeds (if adjustable)
- Spark plug and gap

The label for the 8.0L V-10 HDC-gas powered engine is also located in the engine compartment. It

is attached to a riveted metal plate located to the right side of the generator (Fig. 3).



#### Fig. 3 VECI Label Location—8.0L V-10 Engine

- 1 VECI LABEL
- 2 GENERATOR

## OPERATION

There are unique VECI labels for vehicles built for sale in the country of Canada and for both Light Duty Cycle (LDC) and Heavy Duty Cycle (HDC) engines. Canadian labels are written in both the English and French languages. For all Canadian vehicles, the label is split into two different labels.

The VECI labels are permanently attached and cannot be removed without defacing information and destroying label.

# VEHICLE IDENTIFICATION NUMBER

#### DESCRIPTION

#### VIN CODING/LOCATIONS

The Vehicle Identification Number (VIN) plate is located on the lower windshield fence near the left A-pillar (Fig. 4). The VIN contains 17 characters that provide data concerning the vehicle. Refer to the VIN decoding chart to determine the identification of a vehicle.

The Vehicle Identification Number is also imprinted on the:

- Body Code Plate.
- Equipment Identification Plate.
- Vehicle Safety Certification Label.
- Frame rail.

To protect the consumer from theft and possible fraud the manufacturer is required to include a Check Digit at the ninth position of the Vehicle Iden-

# **VEHICLE IDENTIFICATION NUMBER (Continued)**

tification Number. The check digit is used by the manufacturer and government agencies to verify the authenticity of the vehicle and official documentation. The formula to use the check digit is not released to the general public.





<sup>1 -</sup> INSTRUMENT PANEL

2 - VEHICLE IDENTIFICATION NUMBER PLATE VIN

POSITION	INTERPRETATION	CODE = DESCRIPTION
1	Country of Origin	1 = United States
	, ,	3 = Mexico
2	Make	B = Dodge
3	Vehicle Type	6 = Incomplete
		7 = Truck
4	Gross Vehicle Weight Rating	H = 6001-7000
		J = 7001-8000
		K = 8001-9000
		L = 9001-10,000
		M = 10,001-14,000
5	Vehicle Line	C = Ram Cab Chassis/Ram Pick Up (4x2)
		F = Ram Cab Chassis/Ram Pick Up (4x4)
6	Series	1 = 1500
		2 = 2500
		3 = 3500
7	Body Style	2 = Club Cab
		3 = Quad Cab
		6 = Conventional Cab/Cab Chassis
8	Engine	6 = 5.9L 6 cyl. 24 Valve Diesel
		7=5.9 6cyl. 24 Valve Turbo Diesel H/O
		W = 8.0L 10 cyl. MPI
		X = 3.9L 6 cyl. MPI
		Y = 5.2L 8 cyl. MPI
		Z = 5.9L 8 cyl. MPI-LDC
		5 = 5.9L 8cyl. MPI-HDC
9	Check Digit	0 through 9 or X
10	Model Year	1=2001
11	Plant Location	J = St. Louis North
		S = Dodge City
		M = Lago Alberto Assembly
12 thru 17	Vehicle Build Sequence	

## BR/BE -

# VEHICLE SAFETY CERTIFICATION LABEL

#### DESCRIPTION

A vehicle safety certification label (Fig. 5) is attached to every Chrysler Corporation vehicle. The label certifies that the vehicle conforms to all applicable Federal Motor Vehicle Safety Standards. The label also lists:

• Month and year of vehicle manufacture.

• Gross Vehicle Weight Rating (GVWR). The gross front and rear axle weight ratings (GAWR's) are based on a minimum rim size and maximum cold tire inflation pressure.

- Vehicle Identification Number (VIN).
- Type of vehicle.
- Type of rear wheels.
- Bar code.
- Month, Day and Hour (MDH) of final assembly.
- Paint and Trim codes.
- Country of origin.

The label is located on the driver-side door shut-face.

# EQUIPMENT IDENTIFICATION PLATE

#### DESCRIPTION

The Equipment Identification Plate (Fig. 6) is located at the left, front of the inner hood panel. The plate lists information concerning the vehicle as follows:

• The model.



80ab36dS

#### Fig. 5 Vehicle Safety Certification Label

- The wheelbase.
- The VIN (Vehicle Identification Number).
- The T.O.N. (order number).
- The optional and special equipment installed on the vehicle.

Refer to the information listed on the plate when ordering replacement parts.



Fig. 6 Equipment Identification Plate

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# LUBRICATION & MAINTENANCE

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# LUBRICATION & MAINTENANCE

# DESCRIPTION - FUEL REQUIREMENTS - GAS ENGINES

Your engine is designed to meet all emissions regulations and provide excellent fuel economy and performance when using high quality unleaded gasoline having an octane rating of 87. The use of premium gasoline is not recommended. The use of premium gasoline will provide no benefit over high quality regular gasoline, and in some circumstances may result in poorer performance.

Light spark knock at low engine speeds is not harmful to your engine. However, continued heavy spark knock at high speeds can cause damage and immediate service is required. Engine damage resulting from operation with a heavy spark knock may not be covered by the new vehicle warranty.

Poor quality gasoline can cause problems such as hard starting, stalling and hesitations. If you experience these symptoms, try another brand of gasoline before considering service for the vehicle.

Over 40 auto manufacturers world-wide have issued and endorsed consistent gasoline specifications (the Worldwide Fuel Charter, WWFC) to define fuel properties necessary to deliver enhanced emissions, performance and durability for your vehicle. We recommend the use of gasolines that meet the WWFC specifications if they are available.

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#### **REFORMULATED GASOLINE**

Many areas of the country require the use of cleaner burning gasoline referred to as "reformulated" gasoline. Reformulated gasoline contain oxygenates, and are specifically blended to reduce vehicle emissions and improve air quality.

We strongly supports the use of reformulated gasoline. Properly blended reformulated gasoline will provide excellent performance and durability for the engine and fuel system components.

#### GASOLINE/OXYGENATE BLENDS

Some fuel suppliers blend unleaded gasoline with oxygenates such as 10% ethanol, MTBE, and ETBE. Oxygenates are required in some areas of the country during the winter months to reduce carbon monoxide emissions. Fuels blended with these oxygenates may be used in your vehicle.

CAUTION: DO NOT use gasoline containing METH-ANOL. Gasoline containing methanol may damage critical fuel system components.

#### MMT IN GASOLINE

MMT is a manganese-containing metallic additive that is blended into some gasoline to increase octane. Gasoline blended with MMT provide no performance advantage beyond gasoline of the same octane number without MMT. Gasoline blended with MMT reduce spark plug life and reduce emission system performance in some vehicles. We recommend that gasolines free of MMT be used in your vehicle. The MMT content of gasoline may not be indicated on the gasoline pump; therefore, you should ask your gasoline retailer whether or not his/her gasoline contains MMT.

## LUBRICATION & MAINTENANCE (Continued)

It is even more important to look for gasoline without MMT in Canada because MMT can be used at levels higher than allowed in the United States. MMT is prohibited in Federal and California reformulated gasoline.

#### SULFUR IN GASOLINE

If you live in the northeast United States, your vehicle may have been designed to meet California low emission standards with Cleaner-Burning California reformulated gasoline with low sulfur. If such fuels are not available in states adopting California emission standards, your vehicles will operate satisfactorily on fuels meeting federal specifications, but emission control system performance may be adversely affected. Gasoline sold outside of California is permitted to have higher sulfur levels which may affect the performance of the vehicle's catalytic converter. This may cause the Malfunction Indicator Lamp (MIL), Check Engine or Service Engine Soon light to illuminate. We recommend that you try a different brand of unleaded gasoline having lower sulfur to determine if the problem is fuel related prior to returning your vehicle to an authorized dealer for service.

CAUTION: If the Malfunction Indicator Lamp (MIL), Check Engine or Service Engine Soon light is flashing, immediate service is required; see on-board diagnostics system section.

#### MATERIALS ADDED TO FUEL

All gasoline sold in the United States and Canada are required to contain effective detergent additives. Use of additional detergents or other additives is not needed under normal conditions.

#### FUEL SYSTEM CAUTIONS

# CAUTION: Follow these guidelines to maintain your vehicle's performance:

• The use of leaded gas is prohibited by Federal law. Using leaded gasoline can impair engine performance, damage the emission control system, and could result in loss of warranty coverage.

• An out-of-tune engine, or certain fuel or ignition malfunctions, can cause the catalytic converter to overheat. If you notice a pungent burning odor or some light smoke, your engine may be out of tune or malfunctioning and may require immediate service. Contact your dealer for service assistance.

• When pulling a heavy load or driving a fully loaded vehicle when the humidity is low and the temperature is high, use a premium unleaded fuel to help prevent spark knock. If spark knock persists, lighten the load, or engine piston damage may result.

• The use of fuel additives which are now being sold as octane enhancers is not recommended. Most of these products contain high concentrations of methanol. Fuel system damage or vehicle performance problems resulting from the use of such fuels or additives is not the responsibility of Daimler-Chrysler Corporation and may not be covered under the new vehicle warranty.

NOTE: Intentional tampering with emissions control systems can result in civil penalties being assessed against you.

# DESCRIPTION - FUEL REQUIREMENTS - DIESEL ENGINE

#### DESCRIPTION

WARNING: Do not use alcohol or gasoline as a fuel blending agent. They can be unstable under certain conditions and hazardous or explosive when mixed with diesel fuel.

Use good quality diesel fuel from a reputable supplier in your Dodge truck. For most year-round service, number 2 diesel fuel meeting ASTM specification D-975 will provide good performance. If the vehicle is exposed to extreme cold (below 0°F/-18°C), or is required to operate at colder-than-normal conditions for prolonged periods, use climatized No. 2 diesel fuel or dilute the No. 2 diesel fuel with 50% No. 1 diesel fuel. This will provide better protection from fuel gelling or wax-plugging of the fuel filters.

Diesel fuel is seldom completely free of water. To prevent fuel system trouble, including fuel line freezing in winter, drain the accumulated water from the fuel/water separator using the fuel/water separator drain provided. If you buy good-quality fuel and follow the cold-weather advice above, fuel conditioners should not be required in your vehicle. If available in your area, a high cetane "premium" diesel fuel may offer improved cold starting and warm-up performance.

# INTERNATIONAL SYMBOLS

# DESCRIPTION

DaimlerChrysler Corporation uses international symbols to identify engine compartment lubricant and fluid inspection and fill locations (Fig. 1).



Fig. 1 International Symbols

# PARTS & LUBRICANT RECOMMENDATION

# STANDARD PROCEDURE - CLASSIFICATION OF LUBRICANTS

Only lubricants that are endorsed by the following organization should be used to service a Daimler-Chrysler Corporation vehicle.

- Society of Automotive Engineers (SAE)
- American Petroleum Institute (API) (Fig. 4)

• National Lubricating Grease Institute (NLGI) (Fig. 2)

Lubricating grease is rated for quality and usage by the NLGI. All approved products have the NLGI symbol (Fig. 2) on the label. At the bottom NLGI symbol is the usage and quality identification letters. Wheel bearing lubricant is identified by the letter "G". Chassis lubricant is identified by the latter "L". The letter following the usage letter indicates the quality of the lubricant. The following symbols indicate the highest quality.

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



Fig. 2 NLGI Symbol

1 - WHEEL BEARINGS

2 - CHASSIS LUBRICATION

3 - CHASSIS AND WHEEL BEARINGS

# **FLUID TYPES**

## **DESCRIPTION - ENGINE OIL**

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 GOVERN-MENT AGENCY FOR LOCATION OF COLLECTION CENTER IN YOUR AREA.

## API SERVICE GRADE CERTIFIED

Use an engine oil that is API Service Grade Certified. MOPAR $^{\circledast}$  provides engine oils that conform to this service grade.

#### 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 oils 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 (Fig. 3). Thank you very much for your reading. Please click here and go back to the website. Then, you can download the complete manual instantly. No waiting.