# **Sterling Bullet Workshop Manual 2008**

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# **BULLET WORKSHOP MANUAL**

**Models: CONV45** 

CONV55

STI-488-08 (11/07P)

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## **Foreword**

The purpose of this manual is to assist the service technician when the vehicle is serviced. Major drivetrain component service information is not included in this manual, but is located in each manufacturer's service manual.

Instructions and procedures are those recommended by Sterling Truck Corporation or the component manufacturer.

Maintenance schedules and additional service information are included in the *Bullet® Driver's* and *Maintenance Manual*.

IMPORTANT: Descriptions and specifications in this manual were in effect at the time of printing. Sterling Truck Corporation reserves the right to discontinue models, and to change specifications or design at any time without notice and without incurring obligation. Descriptions and specifications contained in this publication provide no warranty, expressed or implied, and are subject to revision and editions without notice.

For additional information, please contact Freightliner LLC, Service Systems and Documentation, P.O. Box 3849, Portland, OR 97208-3849, U.S.A. or refer to <a href="http://www.Freightliner.com">http://www.Freightliner.com</a> and <a href="http://www.SterlingTrucks.com">http://www.Freightliner.com</a> and <a href="http://www.SterlingTrucks.com">http://www.Freightliner.com</a>

## **Environmental Concerns and Recommendations**

Whenever you see instructions in this manual to discard materials, you should attempt to reclaim and recycle them. To preserve our environment, follow appropriate environmental rules and regulations when disposing of materials.

# **NOTICE: Parts Replacement Considerations**

Do not replace suspension, axle, or steering parts (such as springs, wheels, hubs, and steering gears) with used parts. Used parts may have been subjected to collisions or improper use and have undetected structural damage.

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# **INTRODUCTION**

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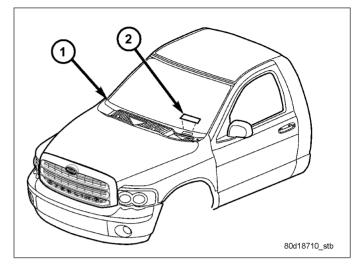
## **VEHICLE IDENTIFICATION NUMBER**

## **DESCRIPTION – VIN CODING/LOCATIONS**

The Vehicle Identification Number (VIN) plate (2) is located on the lower windshield fence near the left a-pillar. 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 VIN 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 VIN. 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.

POSITION	INTERPRETATION	CODE = DESCRIPTION					
1	Country of Origin	3 = Manufactured By Chrysler De Mexico					
2	Make	F = Sterling					
3	Vehicle Type	6 = Incomplete Less Side Airbag					
4	Gross Vehicle Weight Rating	W = Incomplete Vehicles With Hydraulic Brakes					
5	Vehicle Line	J = Cab Chassis (4x2) K = Cab Chassis (4x4)					
6	Series	6 = 4500 With Dual Rear Wheels 7 = 5500 With Dual Rear Wheels					
7	Body Style	6 = Conventional Cab/Cab Chassis 8 = Quad Cab Full Rear Doors					
8	Engine	A = 6.7L I6 CYL Cummins Turbo Diesel					
9	Check Digit	0 through 9 or X					
10	Model Year	8 = 2008					
11	Plant Location	G = Saltillo					
12 – 17	\	ehicle Build Sequence					

# **VEHICLE EMISSION CONTROL INFORMATION (VECI)**

## **DESCRIPTION**

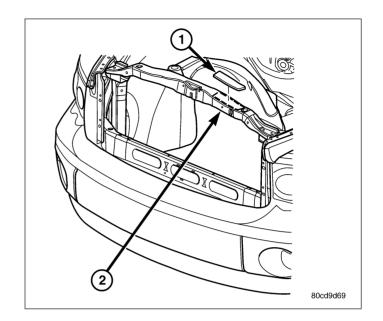
All models have a Vehicle Emission Control Information (VECI) Label (1). Sterling Trucks permanently attaches the label in the engine compartment. The label cannot be removed without defacing label information and destroying label.

The label contains the vehicle's emission specifications and vacuum hose routings. All hoses must be connected and routed according to the label.

The label also contains an engine vacuum schematic. There are unique labels for vehicles built for sale in the state of California and the country of Canada. Canadian labels are written in both the English and French languages.

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



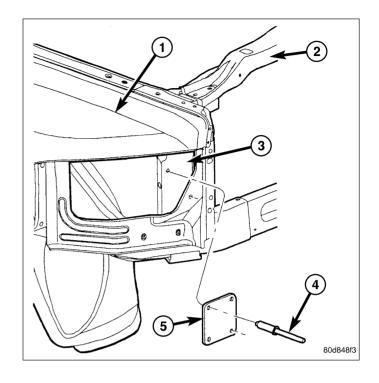
## **BODY CODE PLATE**

## **DESCRIPTION**

The Body Code Plate is located on the right front hydroform fender rail just behind the headlight assembly. 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 (15)

## **DIGITS 13, 14, AND 15**

Transmission Codes (3)

- DEG = 6-speed Manual (G56)
- DG3 = 6-speed Automatic (AS68RC)

## DIGITS 16 and 17

Family (4)

DA = Sterling Bullet

#### **DIGIT 18**

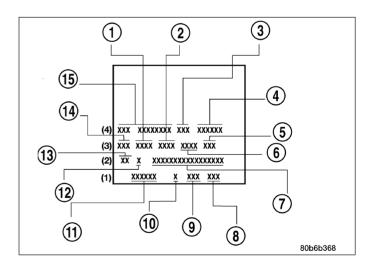
Vehicle Line (4)

2 - Wheel Drive

•

4 - Wheel Drive

.



## DIGIT 19

Price Class (4)

- L = Low
- H = Highline
- P = Premium

## **DIGITS 20 AND 21**

Body Type (4)

•

## **BODY CODE PLATE - LINE 3**

## DIGITS 1,2, AND 3

Paint Procedure (14)

- APA = Monotone
- AP9 = Special
- APD = Two-tone (Lower break)

## DIGIT 4

Open Space

## **DIGITS 5 THROUGH 8**

Primary Paint (1)

(Refer to 23 - BODY/PAINT - SPECIFICATIONS) for color codes.

## DIGIT 9

Open Space

#### **DIGITS 10 THROUGH 13**

Secondary Paint (2)

#### DIGIT 14

Open Space

## **DIGITS 15 THROUGH 18**

Interior Trim Code (6)

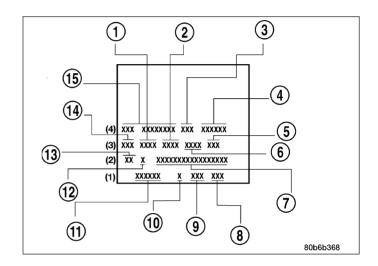
## **DIGIT 19**

Open Space

## **DIGITS 20, 21, AND 22**

Engine Code (5)

• ETJ = 6.7L I6 CYL Cummins Turbo Diesel



## **BODY CODE PLATE - LINE 2**

#### DIGIT 1

Open Space

#### **DIGITS 2 AND 3**

Species Code. (Used for Manufacturing) (13)

#### DIGIT 4

Open Space

## DIGIT 5

Market Code (12)

- C = Canada
- U = United States

#### DIGIT 6

Open Space

#### **DIGITS 7 THROUGH 23**

Vehicle Identification Number (VIN) (7)

(Refer to VEHICLE DATA/VEHICLE INFORMATION/VEHICLE IDENTIFICATION NUMBER - DESCRIPTION) for proper breakdown of VIN code.

## **BODY CODE PLATE - LINE 1**

# DIGITS 1 THROUGH 6 Body-in-white assembly sequence (11)

#### DIGIT 7

Open Space

### **DIGIT 8 Tailgate trim code (10)**

#### DIGIT 9

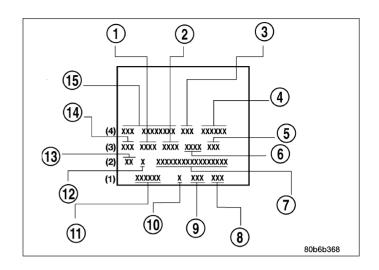
Open Space

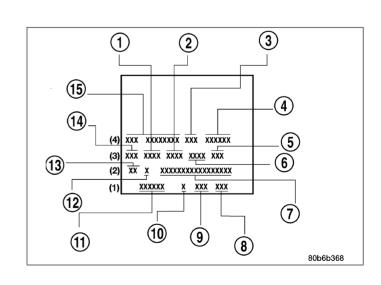
## DIGITS 10 THROUGH 12 Cargo box code (9)

#### **DIGIT 13**

Open Space

DIGITS 14 THROUGH 16 Tailgate code (8)





# INTERNATIONAL VEHICLE CONTROL & DISPLAY SYMBOLS

## **DESCRIPTION - INTERNATIONAL SYMBOLS**

1	<b>≢</b> 0	- <b>\</b> -	<b>♦</b>	5	6
7	8	9	10	11	12
13	14	<b>₹</b>	- + 16	17	18
(!) 19	(P)	21	22	23	24

7

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

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.

## **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.

## **Bolt Markings and Torques - Metric**

Bolt Markings	8.8	/8.9	10	).9	12.9			
Bolt Dia.	N⋅m	Ft. Lbs.	N⋅m	Ft. Lbs.	N⋅m	Ft. Lbs.		
6	12	105*	14	120*	16	12		
8	25	250*	32	23	38	28		
10	54	40	60	45	74	55		
12	95	70	108	80	135	100		
14	155	115	175	130	216	160		
16	243	180	324	210	324	240		
		-	* Inch Lbs.					

## **Bolt Markings and Torques - U. S. Customary**

Bolt Markings	Gra	ide 5	Gra	nde 8
Bolt Dia.	N⋅m	Ft. Lbs	N⋅m	Ft. Lbs
1/4 - 20	10	95*	14	125*
1/4 - 28	10	95*	17	150*
5/16 - 18	22	200*	30	270*
5/16 - 24	26	240*	33	300*
3/8 - 16	40	30	55	40
3/8 - 24	47	35	60	45
7/16 - 14	68	50	88	65
7/16 - 20	74	55	95	70
1/2 - 13	101	75	135	100
1/2 -20	115	85	150	110
9/16 - 12	135	105	182	135
9/16 - 18	155	115	202	150
5/8 - 11	202	150	263	195
5/8 - 18	215	284	210	
3/4 - 10	230	297	220	
3/4 - 16	236	175	304	225
7/8 - 14	405	300	540	400
		* Inch Lbs.		•

Hexagon head bolt  A - 4T 5 - 5T 5 5 - 5T 5 1		Mark	Class		Mark	Class
Hexagon flange bolt  w/washer hexagon bolt  Hexagon flange bolt  W/washer hexagon bolt  W/washer hexagon bolt  W/washer hexagon bolt  W/washer hexagon bolt  Hexagon flange bolt  w/washer hexagon bolt  Hexagon head bolt  Two protruding lines  6T  Welded bolt  Hexagon head bolt  Four protruding lines  7T  Hexagon head bolt  Recognon head bolt	Hexagon head bolt	Bolt 6— head No. 7— 8— 9— 10—	5T 6T 7T 8T 9T 10T	Stud bolt	No mark	<b>4</b> T
flange bolt w/washer hexagon bolt  Hexagon flange bolt w/washer hexagon flange bolt w/washer hexagon bolt  Two protruding lines  6T  Welded bolt  Hexagon head bolt  Four protruding lines  7T  Hexagon head bolt  Four protruding lines  8T		No mark	<b>4</b> T			
Hexagon flange bolt w/washer hexagon bolt  Hexagon head bolt  Two protruding lines  6T  Welded bolt  Hexagon head bolt  Three protruding lines  7T  Hexagon head bolt  Four protruding 8T	flange bolt w/washer	No mark	<b>4</b> T		Grooved	<b>6</b> T
flange bolt  w/washer hexagon bolt  Hexagon head bolt  Two protruding lines  6T  Welded bolt  Welded bolt  Three protruding lines  7T  Hexagon head bolt  Four protruding 8T	Hexagon head bolt	protruding	5Т			
head bolt  Three protruding lines  7T  Hexagon head bolt  Four protruding 8T	flange bolt w/washer	$\left(\left[\begin{bmatrix} 0 \\ 0 \end{bmatrix}\right]\right)$ protruding	6Т	Welded bolt		
head bolt Four protruding 8T	Hexagon head bolt	protruding	71			<b>4</b> T
,	Hexagon head bolt	protruding	81			

# **FASTENER USAGE**

## **DESCRIPTION**

## **FASTENER USAGE**

WARNING: Use of an incorrect fastener may result in component damage or personal injury.

Fasteners and torque specifications 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.

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# THREADED HOLE REPAIR

# **DESCRIPTION**

# THREADED HOLE REPAIR

Most stripped threaded holes can be repaired using a Helicoil®. Follow the vehicle or Helicoil® recommendations for application and repair procedures.

# **METRIC SYSTEM**

## **DESCRIPTION**

			ir	1-lbs	to N∙	m							N∙n	n to	in-lbs				
in- Ib	N∙m	in-lb	N∙m	in-lb	N∙m	in-lb	N∙m	in-lb	N∙m	N•m	in-lb	N∙m	in-lb	N∙m	in-lb	N∙m	in-lb	N∙m	in-lb
2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 33 34 336 338 40	.2260 .4519 .6779 .9039 1.1298 1.3558 1.5818 1.8077 2.2597 2.2597 2.4856 2.7116 2.9376 3.1655 3.6155 3.8414 4.0674 4.2934 4.5193	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 6.5530 6.7790 7.0049 7.2309 7.4569 7.6828 7.9088 8.1348 8.3607 8.5867 8.8127 9.0386	110 112 114 116 118	9.2646 9.4906 9.7165 9.9425 10.1685 10.3944 10.6204 11.0723 11.2983 11.35243 11.7502 12.2022 12.4281 12.6541 12.8801 13.1060 13.3320	124 126 128 130 132 134 136 138 140 142 144 146 148 150 152 154 156 158	13.7839 14.0099 14.2359 14.4618 14.6878 14.9138 15.1397 15.5517 15.5917 16.0436 16.0436 16.2696 16.4955 16.7215 16.7215 17.1734 17.3994 17.6253 18.0773	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 20.1110 20.3369 20.7689 21.0148 21.2408 21.4668 21.4668 21.45627 21.9187 22.1470 22.3470 22.5966	.2 .4 .6 .8 1 1.2 1.4 1.6 1.8 2 2.2 2.4 2.6 2.8 3 3.2 3.4 3.6 3.8 4	1.7702 3.5404 5.3107 7.0809 8.8511 10.6213 12.3916 14.1618 15.9320 17.7022 19.4725 21.2427 23.0129 24.7831 26.5534 28.3236 30.0938 31.86342 35.4045	4.2 4.4 4.6 4.8 5 5.2 5.6 5.8 6 6.2 6.6 6.8 7 7.2 7.8 8	37.1747 38.9449 40.7152 42.4854 44.2556 46.0258 47.7961 49.5663 51.3365 53.1067 56.6472 58.4174 60.1876 61.9579 63.7281 65.4983 67.0358 70.8090	10.4 10.6 10.8 11 11.2 11.4 11.6 11.8	74.3494 76.1197 77.8899 79.6601 81.4303 83.2006 84.9708 86.7410 88.5112	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	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 132.7669 134.5371 136.3073 138.0775 138.0775 138.0775	16.4 16.6 16.8 17 17.2 17.4 17.6 17.8 18 18.5 19 19.5 20 20.5 21 22 23 24	145.158 146.928 148.698 150.469 152.239 154.009 155.779 157.550 163.745 168.171 172.597 177.022
	-		ft-	lbs t	lo N•m	1							٨	l∙m	to ft-lk	os			
t-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-lb	N∙m	ft-lb	N∙m	ft-lb
2 3 4 5 6 7 8 1 10 11 11 12 13 14 11 15 2 2 16 2 2 17 2 2 18 2 2 19 2 2 19 2 2 2 3 4 4 2 4 2 4 2 3 2 4 4 4 4 2 4 2	1.3558 2.7116 4.0675 5.4233 6.7791 8.1349 9.4907 0.8465 2.2024 3.5582 4.9140 6.2698 7.6256 8.9815 20.3373 21.6931 23.0489 24.4047 25.7605 27.1164	21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	28. 4722 29. 8280 31. 1838 32. 5396 33. 8954 35. 2513 36. 6071 37. 9629 39. 3187 40. 6745 42. 0304 43. 3862 44. 7420 40. 9778 40. 9778 51. 5211 52. 8769 54. 2327	53 54 55 56 57 58 59 60	55.5885 56.9444 58.3002 59.3650 61.0118 62.3676 63.7234 65.0793 66.4351 67.7909 69.1467 70.5025 71.8583 77.2816 73.2142 74.5700 75.9258 77.2816 78.6374 79.9933 81.3491	61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 80	82.7049 84.0607 85.4165 86.7723 88.1281 89.4840 92.1956 93.5514 94.9073 96.2631 97.6189 98.9747 100.3316 101.6862 103.0422 104.3980 105.7538 107.1196 108.4654	84 85 86 87 88 89 91 92 93 94 95 96 97 98 99	109.8212 111.1770 112.5328 113.8888 115.2446 116.6004 117.9562 119.3120 120.06678 122.0236 123.3794 124.7352 126.0910 127.4468 128.8026 130.1586 131.5144 132.8702 134.2260 135.5820	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	.7376 1.4751 2.2127 2.9502 3.6878 4.4254 5.1629 5.9005 6.6381 7.3756 8.8132 8.8507 9.5883 10.3259 11.0634 11.8010 12.5386 11.3.2761 14.0137 14.7512	21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	15.9888 16.2264 16.9639 17.7015 18.4391 19.1766 19.9142 20.6517 21.3893 22.1269 22.8644 23.6020 24.3395 25.0771 25.8147 26.5522 27.2898 28.024 28.024 29.5025	41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 55 56 60	30.2400 30.9776 31.7152 32.4527 33.1903 33.9279 34.6654 35.4030 36.1405 36.8781 37.6157 38.3532 39.0908 40.5659 41.3035 42.0410 42.7786 43.5162 44.2537	61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 80	44.9913 45.7289 46.4664 47.2040 47.9415 48.6791 49.4167 50.1542 50.8918 51.6293 53.1045 53.8420 54.5720 55.3172 56.0547 56.7923 57.5298 58.2674 59.0050	81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99	59.742 60.480 61.217 61.955 62.692 63.430 64.167 64.954 65.643 66.380 67.855 68.593 69.330 70.068 70.806 71.532 73.018 73.756
					to mm										to in.				
05 06 07 08 09 10 11 12	.254 .508 .762 1.016 1.270 1.524 1.778 2.032 2.286 2.540 2.540 3.302 3.556 3.810 4.064 3.318 4.572 4.826 5.080	in21 .22 .23 .24 .25 .26 .27 .28 .29 .30 .31 .32 .33 .34 .35 .36 .37 .38 .39 .40	5.334 5.588 5.842 6.096 6.350 6.604 6.858 7.112 7.366 7.620 7.874 8.128 8.382 8.636 8.890 9.144 9.398 9.655 9.906 10.160	in41 .42 .43 .44 .45 .46 .47 .48 .49 .50 .51 .52 .53 .54 .55 .56 .57 .58 .59	10.414 10.668 10.922 11.176 11.430 11.684 11.938 12.192 12.446 12.705 13.208 13.462 13.716 13.970 14.224 14.478 14.732 14.986 15.240	in61 .62 .63 .64 .65 .66 .67 .68 .69 .70 .71 .72 .73 .74 .75 .76 .77 .78 .79 .80	15. 494 15. 748 16. 002 16. 256 16. 510 16. 764 17. 018 17. 272 17. 526 17. 780 18. 288 18. 542 18. 796 19. 050 19. 304 19. 558 19. 812 20. 066 20. 320	.81 .82 .83 .84 .85 .86 .87 .88 .89 .90 .91 .92 .93 .94 .95 .96 .97 .98 .99	20.574 20.828 21.082 21.336 21.590 21.844 22.038 22.352 22.606 23.114 23.368 23.622 23.874 24.130 24.384 24.638 24.638 24.638	.01 .02 .03 .04 .05 .06 .07 .08 .09 .10 .11 .12 .13 .14 .15 .16 .17 .18	in.  .00039 .00079 .00118 .00157 .00157 .00197 .00236 .00276 .00315 .00354 .00394 .00433 .00472 .00512 .005512 .005512 .00591 .00630 .00699 .00709 .00709	.21 .22 .23 .24 .25 .26 .27 .28 .29 .30 .31 .32 .33 .34 .35 .36 .37 .38 .39 .40	.00827 .00866 .00906 .009045 .00984 .01024 .01023 .01102 .01142 .01290 .01290 .01378 .01417 .01457 .01496 .01535 .01575	.41 .42 .43 .44 .45 .46 .47 .50 .51 .52 .53 .54 .55 .56 .57	.01614 .01654 .01693 .01732 .01772 .01811 .01850 .01929 .01969 .02047 .02087 .02165 .02205 .02244 .02283 .02362	.61 .62 .63 .64 .65 .66 .67 .68 .69 .70 .71 .72 .73 .74 .75 .76 .77 .78 .79 .80	.02402 .02441 .02480 .02559 .02559 .02577 .02717 .02716 .02795 .02874 .02973 .02972 .03032 .03011 .03150	.81 .82 .83 .84 .85 .86 .87 .88 .89 .90 .91 .93 .94 .95 .96 .97 .98 .99 1.00	in.  .03189 .03228 .03268 .03307 .03346 .03386 .03465 .03504 .03504 .03583 .03622 .03661 .03740 .03780 .03819 .038898

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.

## **CONVERSION FORMULAS AND EQUIVALENT VALUES**

MULTIPLY	BY	TO GET	MULTIPLY	BY	TO GET
in-lbs	x 0.11298			= 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)	M	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·m). Also, use the chart to convert between millimeters (mm) and inches (in.).

# **TORQUE REFERENCES**

## **DESCRIPTION**

## SPECIFIED TORQUE FOR STANDARD BOLTS

Class			Specified torque						
	Diameter	Pitch		Hexagon head bolt			Hexagon 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	
<b>4</b> T	10	1.25	26	260	19	29	290	21	
	12	1.25	47	480	35	53	540	39	
	14	1.5	74	<i>7</i> 60	55	84	8 <i>5</i> 0	61	
	16	1.5	115	1,150	83	_	_		
	6	1	6.5	65	56 inlbf	7.5	<i>7</i> 5	65 inlbf	
	8	1.25	15.5	160	12	17.5	1 <i>7</i> 5	13	
<i>5</i> T	10	1.25	32	330	24	36	360	26	
	12	1.25	59	600	43	65	6 <b>7</b> 0	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	1 <i>7</i> 0	1,750	127	_	_	_	
	6	1	10.5	110	8	12	120	9	
	8	1.25	25	260	19	28	290	21	
<i>7</i> T	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		_	_	
8T	8	1.25	29	300	22	33	330	24	
	10	1.25	61	620	45	68	690	50	
	12	1.25	110	1,100	80	120	1,250	90	
9T	8	1.25	34	340	25	37	380	27	
	10	1.25	70	710	51	78	790	<i>57</i>	
	12	1.25	125	1,300	94	140	1,450	105	
10T	8	1.25	38	390	28	42	430	31	
	10	1.25	78	800	58	88	890	64	
	12	1.25	140	1,450	105	155	1,600	116	
117	8	1.25	42	430	31	47	480	35	
	10	1.25	87	890	64	97	990	<i>7</i> 2	
	12	1.25	1 <i>5</i> 5	1,600	116	175	1,800	130	

Individual Torque Charts appear within many or the Groups. Refer to the Standard Torque Specifications Chart for torque references not listed in the individual torque charts.