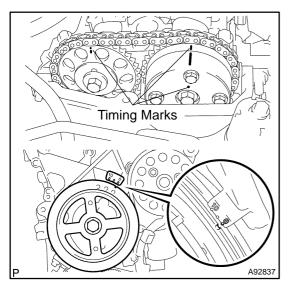
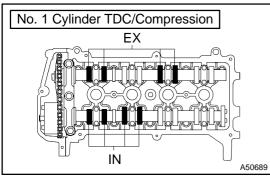
VALVE CLEARANCE (1NZ-FXE)

ADJUSTMENT

- 1. REMOVE REAR FLOOR BOARD NO.2 (See page 21-1 16)
- 2. REMOVE DECK FLOOR BOX REAR (See page 21-1 16)
- 3. REMOVE REAR FLOOR BOARD NO.3 (See page 21-1 16)
- 4. DISCONNECT BATTERY NEGATIVE TERMINAL (See page 21-1 16)
- 5. REMOVE ENGINE UNDER COVER RH
- 6. REMOVE WINDSHIELD WIPER LINK ASSY (See page 66-14)
- 7. REMOVE COWL TOP PANEL SUB-ASSY OUTER FRONT (See page 11-15)
- 8. REMOVE RADIATOR SUPPORT OPENING COVER (See page 16-1 1)
- 9. REMOVE AIR CLEANER ASSY (See page 17-7)
- 10. SUSPEND BRAKE MASTER CYLINDER RESERVOIR SUB-ASSY (See page 17-7)
- 11. REMOVE RESERVOIR BRACKET (See page 17-7)
- 12. REMOVE CYLINDER HEAD COVER SUB-ASSY (See page 17-7)





13. INSPECT VALVE CLEARANCE

- (a) Set the No. 1 cylinder to the TDC/compression.
 - (1) Turn the crankshaft damper clockwise, then align its timing mark notch with the timing mark "0".
 - (2) Check that the timing marks of the camshaft timing gear are located as illustrated.

HINT:

If not, turn the crankshaft to align the marks.

- (b) Inspect the valve clearance indicated in the illustration.(1) Using a feeler gauge, measure the clearance be
 - tween the valve lifter and camshaft.

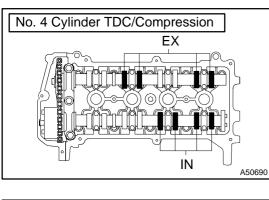
Valve clearance (Cold):

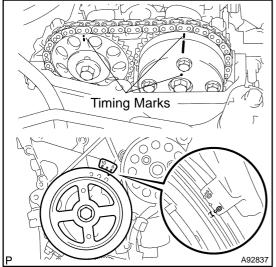
Intake 0.17 to 0.23 mm (0.007 to 0.009 in.) Exhaust 0.27 to 0.33 mm (0.011 to 0.013 in.)

If the clearance is not as specified, record the out-of-specification measurement, then adjust the valve clearance.

(c) Turn the crankshaft clockwise by 1 complete revolution (360°) and set the No. 4 cylinder to the TDC/compression.

141OM-01





- (d) Inspect the valve clearance indicated in the illustration.
 - (1) Using a feeler gauge, measure the clearance between the valve lifter and camshaft.

14-7

Valve clearance (Cold): Intake 0.17 to 0.23 mm (0.007 to 0.009 in.) Exhaust 0.27 to 0.33 mm (0.011 to 0.013 in.)

If the clearance is not as specified, record the out-of-specification measurement, then adjust the valve clearance.

14. ADJUST VALVE CLEARANCE

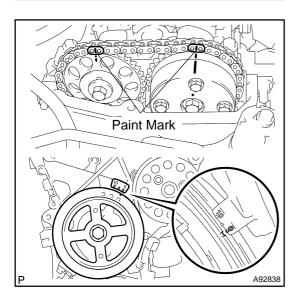
(a) Set the No. 1 cylinder to the TDC/compression.

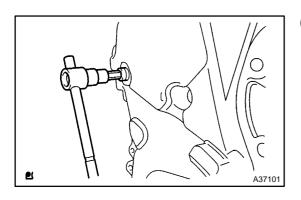
- (1) Turn the crankshaft damper clockwise, then align its timing mark notch with the timing mark "0".
 - (2) Check that the timing marks of the camshaft timing gear are located as illustrated.

HINT:

If not, turn the crankshaft to align the marks.

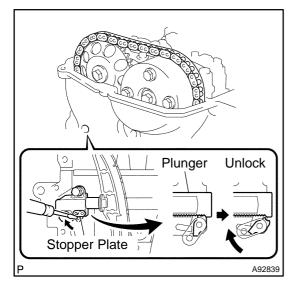
(3) Put the paint marks on the timing chain plates which align with timing marks of the camshaft timing gear.





(b) Using 8 mm socket hexagon wrench, remove the service hole screw plug.

2004 PRIUS REPAIR MANUAL (RM1075U)



(c) Insert a screwdriver into the service hole of the chain tensioner to hold the stopper plate of the chain tensioner upward.

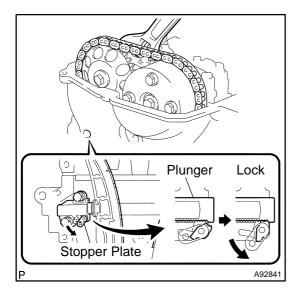
HINT:

Lifting up the stopper plate of the chain tensioner unlocks the plunger.

- P A92840
- (d) Keeping the stopper plate of the chain tensioner lifted, slightly rotate the hexagonal lobe of the camshaft No. 2 to the right with an adjustable wrench so the plunger of the chain tensioner is pushed.

HINT:

When the camshaft No. 2 is slightly rotated to the right, the plunger is pushed.

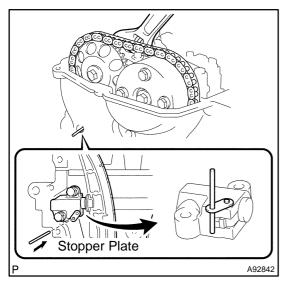


(e) Keeping the adjustable wrench installed, remove the screwdriver with the plunger pushed.

NOTICE: Do not move the adjustable wrench.

HINT:

Removing the screwdriver lifts down the stopper plate and locks the plunger.



(f) Insert a 3.0 mm (0.118 in.) diameter bar into the hole of the stopper plate with the stopper plate of the chain tensioner lifted down and locked.

HINT:

If a 3.0 mm (0.118 in.) diameter bar cannot be inserted into the hole of the stopper plate, rotate the camshaft No. 2 slightly to the left and right. Then a 3.0 mm (0.118 in.) diameter bar can be inserted easily.

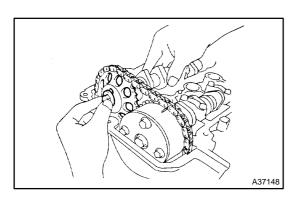
(g) Secure the 3.0 mm (0.118 in.) diameter bar with tape.

- SST A50157
- (h) Hold the hexagonal lobe of the camshaft No. 2 with the adjustable wrench.
- (i) Using SST, loosen the bolt. SST 09023-38400

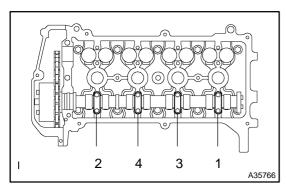
- (j) Remove the camshaft bearing caps No. 1 and No. 2 in the sequence shown in the illustration.

NOTICE:

Uniformly loosen the bolts keeping the camshaft No. 2 level.



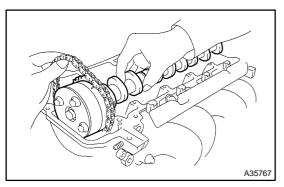
(k) Remove the bolt when the camshaft No. 2 is lifted slightly, then remove the camshaft No. 2 and camshaft timing gear.



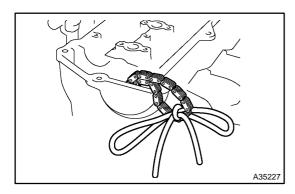
(I) Remove the camshaft bearing caps No. 2 in the sequence shown in the illustration.

NOTICE:

Uniformly loosen the bolts keeping the camshaft level.



(m) Hold the timing chain by hand, then remove the camshaft.



(n) Tie the timing chain with a string or wire. **NOTICE:**

Prevent foreign objects from getting into the engine compartment with a shop rag.

- (o) Using a micrometer, measure the thickness of the removed valve lifter.
- (p) Calculate the thickness of the valve lifter so that the valve clearance comes within the specified value.

А	Thickness of new lifter
В	Thickness of used lifter
С	Measured valve clearance

Specified value (Cold):

Intake A = B + (C - 0.20 mm (0.008 in.))Exhaust A = B + (C - 0.30 mm (0.012 in.)) (q) Select a new lifter with a thickness which is as close to the calculated values as possible .

EXAMPLE (Intake):
Measured valve clearance = 0.40 mm (0.0158 in.)
0.40 mm (0.0158 in.) - 0.20 mm (0.0079 in.) = 0.20 mm (0.0079 in.)
(Measured - Specification = Excess clearance)
Used lifter measurement = 5.25 mm (0.2067 in.)
0.20 mm (0.0079 in.) + 5.25 mm (0.2067 in.) = 5.45 mm (0.2146 in.)
(Excess clearance + Used lifter = Ideal new lifter)
Closest new lifter = 5.45 mm (0.2146 in.)
Select No. 46 lifter (5.46 mm (0.2150 in.))

HINT:

- The lifters are available in 35 sizes in increments of 0.020 mm (0.0008 in.), from 5.060 mm (0.1992 in.) to 5.740 mm (0.2260 in.)
- Refer to the New Lifter Thickness table on the next 2 pages.

		Valve Lifter Selection Chart (Intake)																																						
	mm (in.) Measured clearance	9 9	<u>e</u> e	5.120 (0.2016)	160	5.180 (0.2039)	5.200 (0.2047) 5.210 (0.2051)	5.220 (0.2055)	5.230 (0.2059)	5.240 (0.2063) 5.250 (0.2067)	5.260 (0.2071)	5.270 (0.2075) 5.280 (0.2079)	5.290 (0.2083)	5.300 (0.2087)	စ်စ	5.330 (0.2098)	5.340 (0.2102)	5.350 (0.2106) 5.360 (0.2110)	5.370 (0.2114)	5.380 (0.2118) 5.390 (0.2122)	5.400 (0.2126)	5.410 (0.2130) 5.420 (0.2134)	5.430 (0.2138)	5.440 (0.2142) 5.450 (0.2146)	5.460 (0.2150)	5.470 (0.2154) 5.480 (0.2157)	5.490 (0.2161)	5.500 (0.2165)	5.510 (0.2169) 5.520 (0.2173)	5.530 (0.2177) 5.540 (0.2181)	5.550 (0.2185) 5.560 (0.2189)	5.570 (0.2193) 5.580 (0.2197)	5.590 (0.2201)	5.600 (0.2205) 5.620 (0.2213)	5.640 (0.2220) 5.660 (0.2228)	0.0	5 0 9	(00220) 04		
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0.01-0100000-0000001 0	0.051 - 0.070 (0.0020 - 0.0028)					06	06 08	8 08	10 .	10 12	12 14	4 14	16	16 1	18 18	3 20	20	22 22	2 24	24 26	26	28 28	30	30 32	32 3	34 3-	4 36	36	38 38	40 40	42 42	44 44	46	46 48	50 52	54 56	5 58 6	5		
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0 0	0.091 - 0.110 (0.0036 - 0.0043)				06 06	08	10 12	2 12	14 1	14 16	16 18	8 18	20 2	20 2	2 22	2 24	24	26 26	5 28	28 30	30	32 32	34	34 36	36 3	8 38	8 40	40 ·	42 42	44 44	46 46	48 48	50	50 52	54 56	58 60	0 62 6	4		
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0.81 - 0.830 (0.0241 - 0.024) 40 30 32 33 30 30 30 30 30 30 30 30 5.40 (0.21) 0.83 - 0.850 (0.0244 - 0.0254) 45 45 65 66 66 66 70 72 72 74 <td>0.571 - 0.590 (0.0225 - 0.0232)</td> <td>44 4</td> <td>14 46 16 48</td> <td>6 48 6 50</td> <td>50 52 52 54</td> <td>54 56</td> <td>56 58 58 60</td> <td>8 58 0 60</td> <td>60 (62 (</td> <td>60 62 62 64</td> <td>2 62 6 64 6</td> <td>64 64</td> <td>66 68</td> <td>66 6 68 7</td> <td>58 68 70 70</td> <td>3 70 0 72</td> <td>70 72</td> <td>72 72 74 74</td> <td>2 74 1 74</td> <td>74 74</td> <td></td> <td>74 74</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>.</td> <td>ftor</td> <td> </td> <td></td> <td></td> <td></td> <td>ftor</td> <td></td> <td>N</td> <td>ew Li</td> <td></td> <td>iness</td> <td>mm (in.)</td>	0.571 - 0.590 (0.0225 - 0.0232)	44 4	14 46 16 48	6 48 6 50	50 52 52 54	54 56	56 58 58 60	8 58 0 60	60 (62 (60 62 62 64	2 62 6 64 6	64 64	66 68	66 6 68 7	58 68 70 70	3 70 0 72	70 72	72 72 74 74	2 74 1 74	74 74		74 74						.	ftor					ftor		N	ew Li		iness	mm (in.)
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0.631 0.630 0.0224 12 3 3 0 12 12 12 0.000 12 0.000 12 0.000 12 0.000 12 0.000 12 0.000 12 0.000 <t< td=""><td>0.571 - 0.590 (0.0225 - 0.0232) 0.591 - 0.610 (0.0233 - 0.0240) 0.611 - 0.630 (0.0241 - 0.0248)</td><td>44 44 46 44 48 5</td><td>14 46 16 48 18 50 50 52</td><td>6 48 50 52 2 54</td><td>50 52 52 54 54 56 56 58</td><td>54 56 58 60</td><td>56 58 58 60 60 62 62 64</td><td>8 58 0 60 2 62 4 64</td><td>60 6 62 6 64 6 66 6</td><td>60 62 62 64 64 66 66 68</td><td>2 62 6 64 60 66 60 68 7</td><td>64 66 66 88 68 70 70</td><td>66 68 6 70 72</td><td>66 6 68 7 70 7 72 7</td><td>58 68 70 70 72 72 74 74</td><td>3 70 72 72 2 74 4 74</td><td>70 72 74</td><td>72 72 74 74</td><td>2 74 1 74</td><td>74 74</td><td></td><td>74 74</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>т</td><td>hickn</td><td>ess</td><td></td><td></td><td>Т</td><td></td><td></td><td>Lifter</td><td></td><td></td></t<>	0.571 - 0.590 (0.0225 - 0.0232) 0.591 - 0.610 (0.0233 - 0.0240) 0.611 - 0.630 (0.0241 - 0.0248)	44 44 46 44 48 5	14 46 16 48 18 50 50 52	6 48 50 52 2 54	50 52 52 54 54 56 56 58	54 56 58 60	56 58 58 60 60 62 62 64	8 58 0 60 2 62 4 64	60 6 62 6 64 6 66 6	60 62 62 64 64 66 66 68	2 62 6 64 60 66 60 68 7	64 66 66 88 68 70 70	66 68 6 70 72	66 6 68 7 70 7 72 7	58 68 70 70 72 72 74 74	3 70 72 72 2 74 4 74	70 72 74	72 72 74 74	2 74 1 74	74 74		74 74								т	hickn	ess			Т			Lifter		
0.681 - 0.710 (0.0272 - 0.0280) 6 6 6 6	0.571 - 0.590 (0.0225 - 0.0232) 0.591 - 0.610 (0.0233 - 0.0240) 0.611 - 0.630 (0.0241 - 0.0248) 0.631 - 0.650 (0.0248 - 0.0256)	44 44 46 44 48 50 50 55	14 46 16 48 18 50 50 52 52 54	6 48 50 52 2 54 4 56	50 52 52 54 54 56 56 58 58 60	54 56 58 60 62	56 58 58 60 60 62 62 64 64 66	8 58 0 60 2 62 4 64 6 66	60 6 62 6 64 6 66 6 68 6	60 62 62 64 64 66 66 68 68 70	62 64 64 66 66 68 68 7 70 7	64 64 66 66 88 68 70 70 72 72	66 68 6 68 70 72 72 74	66 6 68 7 70 7 72 7 74 7	58 68 70 70 72 72 74 74	3 70 72 72 2 74 4 74	70 72 74	72 72 74 74	2 74 1 74	74 74		74 74						N	0.				N	0.		hickn	ness	Lifter No.	Th	ickness
0.711 0.030 0.0202 0.6 0.7	0.571 - 0.590 (0.0225 - 0.0232) 0.591 - 0.610 (0.0233 - 0.0240) 0.611 - 0.630 (0.0241 - 0.0248) 0.631 - 0.650 (0.0248 - 0.0256) 0.651 - 0.670 (0.0256 - 0.0264)	44 44 46 44 48 50 50 55 52 5	14 46 16 48 18 50 50 52 52 54 54 56	3 48 4 50 5 52 2 54 4 56 5 58	50 52 52 54 54 56 56 58 58 60 60 62	54 56 58 60 62 64	56 58 58 60 60 62 62 64 64 66 66 68	8 58 0 60 2 62 4 64 6 66 8 68	60 6 62 6 64 6 66 6 68 6 70	60 62 62 64 64 66 66 68 68 70 70 72	62 63 64 64 66 64 68 71 70 7 72 72	64 64 66 66 88 68 70 70 72 72 74 74	66 68 6 70 72 7 72 74 74	66 6 68 7 70 7 72 7 74 7	58 68 70 70 72 72 74 74	3 70 72 72 2 74 4 74	70 72 74	72 72 74 74	2 74 1 74	74 74		74 74						N	0.				N	0.		hickn	ness	Lifter No.	Th	ickness
0.731 - 0.780 (0.0288 - 0.0285) 60 61 68 70 72 74 <td>$\begin{array}{c} 0.571-0.590 \left(0.0225-0.0232 \right) \\ 0.591-0.610 \left(0.0233-0.0240 \right) \\ 0.611-0.630 \left(0.0241-0.0248 \right) \\ 0.631-0.650 \left(0.0248-0.0256 \right) \\ 0.651-0.670 \left(0.0256-0.0264 \right) \\ 0.671-0.690 \left(0.0264-0.0272 \right) \end{array}$</td> <td> 44 44 48 50 52 54 5 </td> <td>14 46 16 48 18 50 50 52 52 54 56 58</td> <td>3 48 4 50 52 52 52 54 4 56 5 58 8 60</td> <td>50 52 52 54 54 56 56 58 58 60 60 62 62 64</td> <td>54 56 58 60 62 64 66</td> <td>56 58 58 60 60 62 62 64 64 66 66 68 68 70</td> <td>8 58 0 60 2 62 4 64 6 66 8 68 0 70</td> <td>60 6 62 6 64 6 66 6 68 6 70 7 72 7</td> <td>60 62 62 64 64 66 66 68 68 70 70 72 72 74</td> <td>62 63 64 64 66 64 68 7 70 7 72 72 74 74</td> <td>64 64 66 66 88 68 70 70 72 72 74 74</td> <td>66 68 6 70 72 7 72 74 74</td> <td>66 6 68 7 70 7 72 7 74 7</td> <td>58 68 70 70 72 72 74 74</td> <td>3 70 72 72 2 74 4 74</td> <td>70 72 74</td> <td>72 72 74 74</td> <td>2 74 1 74</td> <td>74 74</td> <td></td> <td>74 74</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>N</td> <td>o. D6</td> <td>5.06</td> <td>60 (0.⁻</td> <td>1992)</td> <td>N</td> <td>o. 30</td> <td>5.3</td> <td>'hickn 00 (0.</td> <td>iess 2087</td> <td>Lifter No.</td> <td>Th 5.540</td> <td>ickness 0 (0.2181)</td>	$\begin{array}{c} 0.571-0.590 \left(0.0225-0.0232 \right) \\ 0.591-0.610 \left(0.0233-0.0240 \right) \\ 0.611-0.630 \left(0.0241-0.0248 \right) \\ 0.631-0.650 \left(0.0248-0.0256 \right) \\ 0.651-0.670 \left(0.0256-0.0264 \right) \\ 0.671-0.690 \left(0.0264-0.0272 \right) \end{array}$	 44 44 48 50 52 54 5 	14 46 16 48 18 50 50 52 52 54 56 58	3 48 4 50 52 52 52 54 4 56 5 58 8 60	50 52 52 54 54 56 56 58 58 60 60 62 62 64	54 56 58 60 62 64 66	56 58 58 60 60 62 62 64 64 66 66 68 68 70	8 58 0 60 2 62 4 64 6 66 8 68 0 70	60 6 62 6 64 6 66 6 68 6 70 7 72 7	60 62 62 64 64 66 66 68 68 70 70 72 72 74	62 63 64 64 66 64 68 7 70 7 72 72 74 74	64 64 66 66 88 68 70 70 72 72 74 74	66 68 6 70 72 7 72 74 74	66 6 68 7 70 7 72 7 74 7	58 68 70 70 72 72 74 74	3 70 72 72 2 74 4 74	70 72 74	72 72 74 74	2 74 1 74	74 74		74 74						N	o. D6	5.06	60 (0. ⁻	1992)	N	o. 30	5.3	'hickn 00 (0.	iess 2087	Lifter No.	Th 5.540	ickness 0 (0.2181)
0.771 - 0.790 (0.0304 - 0.0311) 64 66 70 74 74 74 74 0.771 - 0.790 (0.0304 - 0.0311) 66 87 70 72 74 74 0.791 - 0.810 (0.0311 - 0.0319) 66 87 70 72 74 74 0.811 - 0.830 (0.0319 - 0.0327) 68 70 72 74 74 74 0.831 - 0.850 (0.0327 - 0.0335) 70 72 74 74 74 74 0.831 - 0.850 (0.0327 - 0.0335) 70 72 74 74 74 74 0.831 - 0.850 (0.0327 - 0.0335) 70 72 74 74 74 74 0.851 - 0.870 (0.0335 - 0.0433) 72 74 74 74 74 74 0.861 - 0.890 (0.0343 - 0.0350) 74 74 74 74 74 74 0.881 - 0.910 (0.0351 - 0.0358) 74 74 74 74 74 74 0.881 - 0.910 (0.0351 - 0.0358) 74 74 74 74 74 74 74 0.881 - 0.910 (0.0351 - 0.0358) 74	$\begin{array}{c} 0.571-0.590 \left(0.0225-0.0232 \right) \\ 0.591-0.610 \left(0.0233-0.0240 \right) \\ 0.611-0.630 \left(0.0241-0.0248 \right) \\ 0.631-0.650 \left(0.0248-0.0256 \right) \\ 0.651-0.670 \left(0.0256-0.0264 \right) \\ 0.671-0.690 \left(0.0264-0.0272 \right) \\ 0.691-0.710 \left(0.0272-0.0280 \right) \end{array}$	44 44 46 44 48 50 50 51 52 5 54 5 56 5	14 46 16 48 18 50 50 52 54 56 56 58 58 60 50 62	48 50 52 54 56 58 60 62 64	50 52 52 54 54 56 58 60 60 62 64 66 68 68	54 56 58 60 62 64 66 68 70	56 58 58 60 62 64 64 66 68 70 70 72	8 58 0 60 2 62 4 64 6 66 8 68 0 70 2 72 4 74	60 6 62 6 64 6 66 6 68 6 70 7 72 7 74 7	60 62 62 64 64 66 66 68 68 70 70 72 72 74	62 63 64 64 66 64 68 7 70 7 72 72 74 74	64 64 66 66 88 68 70 70 72 72 74 74	66 68 6 70 72 7 72 74 74	66 6 68 7 70 7 72 7 74 7	58 68 70 70 72 72 74 74	3 70 72 72 2 74 4 74	70 72 74	72 72 74 74	2 74 1 74	74 74		74 74							o. 06 08	5.06 5.08	60 (0. ⁻ 30 (0.2	1992) 2000)	N	o. 30 32	5.30 5.32	'hickn 00 (0. 20 (0.	ness 2087 2094	Lifter No.) 54) 56	Th 5.540 5.560	ickness 0 (0.2181) 0 (0.2189)
0.791 - 0.810 (0.0311 - 0.0319) 66 70 <td>$\begin{array}{c} 0.571-0.590 \left(0.0225-0.0232 \right) \\ 0.591-0.610 \left(0.0233-0.0240 \right) \\ 0.611-0.630 \left(0.0241-0.0248 \right) \\ 0.631-0.650 \left(0.0248-0.0256 \right) \\ 0.651-0.670 \left(0.0256-0.0264 \right) \\ 0.671-0.690 \left(0.0264-0.0272 \right) \\ 0.691-0.710 \left(0.0272-0.0280 \right) \\ 0.711-0.730 \left(0.0280-0.0287 \right) \\ 0.731-0.750 \left(0.0288-0.0295 \right) \end{array}$</td> <td> 44 46 47 48 50 52 52 54 55 56 58 60 60 </td> <td>14 46 16 48 18 50 50 52 54 56 56 58 50 62 54 56 58 60 52 54</td> <td>48 50 52 54 56 58 60 62 64 466</td> <td>50 52 52 54 54 56 58 60 60 62 64 66 66 68 68 70</td> <td>54 56 58 60 62 64 66 68 70 72</td> <td>56 58 58 60 60 62 62 64 66 68 70 72 74 74</td> <td>8 58 0 60 2 62 4 64 6 66 8 68 0 70 2 72 4 74</td> <td>60 6 62 6 64 6 66 6 68 6 70 7 72 7 74 7</td> <td>60 62 62 64 64 66 66 68 68 70 70 72 72 74</td> <td>62 63 64 64 66 64 68 7 70 7 72 72 74 74</td> <td>64 64 66 66 88 68 70 70 72 72 74 74</td> <td>66 68 6 70 72 7 72 74 74</td> <td>66 6 68 7 70 7 72 7 74 7</td> <td>58 68 70 70 72 72 74 74</td> <td>3 70 72 72 2 74 4 74</td> <td>70 72 74</td> <td>72 72 74 74</td> <td>2 74 1 74</td> <td>74 74</td> <td></td> <td>74 74</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>o. 06 08</td> <td>5.06 5.08</td> <td>60 (0.⁻ 30 (0.2</td> <td>1992) 2000)</td> <td>N</td> <td>o. 30 32</td> <td>5.30 5.32</td> <td>'hickn 00 (0. 20 (0.</td> <td>ness 2087 2094</td> <td>Lifter No.) 54) 56</td> <td>Th 5.540 5.560</td> <td>ickness 0 (0.2181) 0 (0.2189)</td>	$\begin{array}{c} 0.571-0.590 \left(0.0225-0.0232 \right) \\ 0.591-0.610 \left(0.0233-0.0240 \right) \\ 0.611-0.630 \left(0.0241-0.0248 \right) \\ 0.631-0.650 \left(0.0248-0.0256 \right) \\ 0.651-0.670 \left(0.0256-0.0264 \right) \\ 0.671-0.690 \left(0.0264-0.0272 \right) \\ 0.691-0.710 \left(0.0272-0.0280 \right) \\ 0.711-0.730 \left(0.0280-0.0287 \right) \\ 0.731-0.750 \left(0.0288-0.0295 \right) \end{array}$	 44 46 47 48 50 52 52 54 55 56 58 60 60 	14 46 16 48 18 50 50 52 54 56 56 58 50 62 54 56 58 60 52 54	48 50 52 54 56 58 60 62 64 466	50 52 52 54 54 56 58 60 60 62 64 66 66 68 68 70	54 56 58 60 62 64 66 68 70 72	56 58 58 60 60 62 62 64 66 68 70 72 74 74	8 58 0 60 2 62 4 64 6 66 8 68 0 70 2 72 4 74	60 6 62 6 64 6 66 6 68 6 70 7 72 7 74 7	60 62 62 64 64 66 66 68 68 70 70 72 72 74	62 63 64 64 66 64 68 7 70 7 72 72 74 74	64 64 66 66 88 68 70 70 72 72 74 74	66 68 6 70 72 7 72 74 74	66 6 68 7 70 7 72 7 74 7	58 68 70 70 72 72 74 74	3 70 72 72 2 74 4 74	70 72 74	72 72 74 74	2 74 1 74	74 74		74 74							o. 06 08	5.06 5.08	60 (0. ⁻ 30 (0.2	1992) 2000)	N	o. 30 32	5.30 5.32	'hickn 00 (0. 20 (0.	ness 2087 2094	Lifter No.) 54) 56	Th 5.540 5.560	ickness 0 (0.2181) 0 (0.2189)
0.811 - 0.830 (0.0319 - 0.0327) 68 70 72 74 74 0.831 - 0.830 (0.0327 - 0.0335) 70 72 74 74 0.831 - 0.850 (0.0327 - 0.0335) 70 72 74 74 0.861 - 0.870 (0.0335 - 0.0343) 72 74 74 0.871 - 0.890 (0.0343 - 0.0350) 74 74 0.871 - 0.890 (0.0343 - 0.0356) 74 74 0.871 - 0.890 (0.0343 - 0.0356) 74 74 0.891 - 0.910 (0.0351 - 0.0358) 74 74	$\begin{array}{c} 0.571-0.590 \left(0.0225-0.0232 \right) \\ 0.591-0.610 \left(0.0233-0.0240 \right) \\ 0.611-0.630 \left(0.0241-0.0248 \right) \\ 0.631-0.650 \left(0.0248-0.0256 \right) \\ 0.651-0.670 \left(0.0256-0.0264 \right) \\ 0.671-0.690 \left(0.0254-0.0272 \right) \\ 0.691-0.710 \left(0.0272-0.0280 \right) \\ 0.711-0.730 \left(0.0280-0.0277 \right) \\ 0.731-0.750 \left(0.0288-0.0295 \right) \\ 0.751-0.770 \left(0.0296-0.0303 \right) \end{array}$	44 44 46 43 50 53 50 53 54 5 58 6 60 6 62 6	14 46 16 48 18 50 50 52 54 56 58 60 50 62 52 54 56 58 50 62 52 64 54 66	3 48 4 50 52 52 2 54 4 56 5 58 3 60 0 62 2 64 4 66 5 68	50 52 52 54 54 56 58 60 60 62 64 66 66 68 68 70 70 72	54 56 60 62 64 66 68 70 72 72 74	56 58 58 60 60 62 64 66 68 70 72 74 74 74	8 58 0 60 2 62 4 64 6 66 8 68 0 70 2 72 4 74	60 6 62 6 64 6 66 6 68 6 70 7 72 7 74 7	60 62 62 64 64 66 66 68 68 70 70 72 72 74	62 63 64 64 66 64 68 7 70 7 72 72 74 74	64 64 66 66 88 68 70 70 72 72 74 74	66 68 6 70 72 7 72 74 74	66 6 68 7 70 7 72 7 74 7	58 68 70 70 72 72 74 74	3 70 72 72 2 74 4 74	70 72 74	72 72 74 74	2 74 1 74	74 74		74 74							0. 06 08 10	5.06 5.08 5.10	60 (0.2 30 (0.2 00 (0.2	1992) 2000) 2008)		o. 30 32 34	5.30 5.32 5.34	hickn 20 (0. 20 (0. 40 (0.	ness 2087 2094 2102	Lifter No. 54 56 58	Th 5.540 5.560 5.580	ickness 0 (0.2181) 0 (0.2189) 0 (0.2197)
0.851 - 0.870 (0.0335 - 0.0343) 72 74 74 0.871 - 0.890 (0.0343 - 0.0350) 74 74 0.891 - 0.910 (0.0351 - 0.0368) 74 74	$\begin{array}{c} 0.571-0.590 \left(0.0225-0.0232 \right) \\ 0.591-0.610 \left(0.0233-0.0240 \right) \\ 0.611-0.630 \left(0.0241-0.0248 \right) \\ 0.631-0.650 \left(0.0248-0.0256 \right) \\ 0.651-0.670 \left(0.0256-0.0254 \right) \\ 0.671-0.690 \left(0.0264-0.0272 \right) \\ 0.691-0.710 \left(0.0272-0.0280 \right) \\ 0.711-0.730 \left(0.0280-0.0287 \right) \\ 0.731-0.750 \left(0.0288-0.0285 \right) \\ 0.751-0.770 \left(0.0286-0.0287 \right) \\ 0.751-0.070 \left(0.0260-0.0303 \right) \\ 0.771-0.790 \left(0.0304-0.0311 \right) \\ 0.791-0.810 \left(0.0311-0.0319 \right) \end{array}$	44 44 46 44 48 50 50 52 52 5 54 5 58 6 60 6 62 6 64 6	44 46 46 48 48 50 50 52 54 56 55 56 56 58 600 62 64 66 65 68 70 64	3 48 48 50 52 52 2 54 55 58 3 60 2 64 66 68 3 70 72 72	50 52 52 54 52 54 54 56 58 60 60 62 64 66 68 70 70 72 74 74	54 56 58 60 62 64 66 68 70 72 72 74	56 58 58 60 60 62 64 66 68 70 72 74 74 74	8 58 0 60 2 62 4 64 6 66 8 68 0 70 2 72 4 74	60 6 62 6 64 6 66 6 68 6 70 7 72 7 74 7	60 62 62 64 64 66 66 68 68 70 70 72 72 74	62 63 64 64 66 64 68 7 70 7 72 72 74 74	64 64 66 66 88 68 70 70 72 72 74 74	66 68 6 70 72 7 72 74 74	66 6 68 7 70 7 72 7 74 7	58 68 70 70 72 72 74 74	3 70 72 72 2 74 4 74	70 72 74	72 72 74 74	2 74 1 74	74 74		74 74							0. 06 08 10 12	5.06 5.08 5.10 5.12	60 (0.2 30 (0.2 20 (0.2 20 (0.2	1992) 2000) 2008) 2016)		o. 30 32 34 36	5.30 5.32 5.34 5.30	'hickn 20 (0. 20 (0. 40 (0. 50 (0.	ness 2087 2094 2102 2110	Lifter No.) 54) 56) 58) 60	Th 5.540 5.560 5.580 5.600	ickness 0 (0.2181) 0 (0.2189) 0 (0.2197) 0 (0.2205)
0.891 - 0.910 (0.0351 - 0.0358) 74	$\begin{array}{c} 0.571-0.590 \left(0.0225-0.0232 \right) \\ 0.591-0.610 \left(0.0233-0.0240 \right) \\ 0.611-0.630 \left(0.0241-0.0248 \right) \\ 0.631-0.650 \left(0.0248-0.0256 \right) \\ 0.651-0.670 \left(0.0266-0.0264 \right) \\ 0.671-0.690 \left(0.0264-0.0272 \right) \\ 0.691-0.710 \left(0.0272-0.0280 \right) \\ 0.711-0.730 \left(0.0280-0.0287 \right) \\ 0.731-0.750 \left(0.0286-0.0287 \right) \\ 0.751-0.770 \left(0.0286-0.0287 \right) \\ 0.751-0.770 \left(0.0286-0.0333 \right) \\ 0.771-0.790 \left(0.0304-0.0311 \right) \\ 0.791-0.810 \left(0.0311-0.0319 \right) \\ 0.811-0.830 \left(0.0319-0.0327 \right) \end{array}$	44 44 46 47 48 50 50 5 54 5 58 6 60 6 62 6 64 6 66 6 68 7	44 46 46 48 48 500 52 54 56 58 56 58 60 62 64 66 68 70 70 72	3 48 4 50 52 52 52 54 4 56 5 58 60 62 2 64 66 68 3 70 72 74	50 52 52 54 52 54 54 56 58 60 60 62 64 66 68 70 70 72 74 74	54 56 58 60 62 64 66 68 70 72 72 74	56 58 58 60 60 62 64 66 68 70 72 74 74 74	8 58 0 60 2 62 4 64 6 66 8 68 0 70 2 72 4 74	60 6 62 6 64 6 66 6 68 6 70 7 72 7 74 7	60 62 62 64 64 66 66 68 68 70 70 72 72 74	62 63 64 64 66 64 68 7 70 7 72 72 74 74	64 64 66 66 88 68 70 70 72 72 74 74	66 68 6 70 72 7 72 74 74	66 6 68 7 70 7 72 7 74 7	58 68 70 70 72 72 74 74	3 70 72 72 2 74 4 74	70 72 74	72 72 74 74	2 74 1 74	74 74		74 74							o. 06 08 10 12 14	5.06 5.08 5.10 5.12 5.14	60 (0.7 30 (0.2 20 (0.2 20 (0.2 40 (0.2	1992) 2000) 2008) 2016) 2024)		o. 30 32 34 36 38	5.30 5.32 5.34 5.30 5.30	hickn 20 (0. 20 (0. 40 (0. 50 (0. 30 (0.	2087 2094 2102 2110 2118	Lifter No.) 54) 56) 58) 58) 60) 62	Th 5.540 5.560 5.600 5.620	iickness 0 (0.2181) 0 (0.2189) 0 (0.2197) 0 (0.2205) 0 (0.2213)
	$\begin{array}{c} 0.571-0.590 \left(0.0225-0.0232 \right) \\ 0.591-0.610 \left(0.0233-0.0240 \right) \\ 0.611-0.630 \left(0.0241-0.0248 \right) \\ 0.631-0.650 \left(0.0248-0.0256 \right) \\ 0.651-0.670 \left(0.0256-0.0264 \right) \\ 0.671-0.680 \left(0.0264-0.0272 \right) \\ 0.691-0.710 \left(0.0272-0.0280 \right) \\ 0.711-0.730 \left(0.0280-0.0287 \right) \\ 0.731-0.750 \left(0.0286-0.0287 \right) \\ 0.751-0.770 \left(0.0286-0.0287 \right) \\ 0.751-0.770 \left(0.0286-0.0287 \right) \\ 0.751-0.730 \left(0.0286-0.0287 \right) \\ 0.751-0.730 \left(0.0286-0.0287 \right) \\ 0.751-0.730 \left(0.0286-0.0337 \right) \\ 0.771-0.730 \left(0.0341-0.0319 \right) \\ 0.811-0.830 \left(0.0319-0.0327 \right) \\ 0.831-0.850 \left(0.0327-0.0335 \right) \\ \end{array}$	44 44 46 4. 48 50 50 5. 52 5 54 5 58 6 60 6 64 6 64 6 64 6 64 6 68 7 70 7 72 7	44 46 46 48 46 48 50 52 52 54 56 58 60 62 64 66 68 70 72 74	3 48 4 50 52 54 52 54 56 58 60 62 2 64 66 68 3 70 72 74 4 74	50 52 52 54 52 54 54 56 58 60 60 62 64 66 68 70 70 72 74 74	54 56 58 60 62 64 66 68 70 72 72 74	56 58 58 60 60 62 64 66 68 70 72 74 74 74	8 58 0 60 2 62 4 64 6 66 8 68 0 70 2 72 4 74	60 6 62 6 64 6 66 6 68 6 70 7 72 7 74 7	60 62 62 64 64 66 66 68 68 70 70 72 72 74	62 63 64 64 66 64 68 7 70 7 72 72 74 74	64 64 66 66 88 68 70 70 72 72 74 74	66 68 6 70 72 7 72 74 74	66 6 68 7 70 7 72 7 74 7	58 68 70 70 72 72 74 74	3 70 72 72 2 74 4 74	70 72 74	72 72 74 74	2 74 1 74	74 74		74 74							o. 06 08 10 12 14	5.06 5.08 5.10 5.12 5.14	60 (0.7 30 (0.2 20 (0.2 20 (0.2 40 (0.2	1992) 2000) 2008) 2016) 2024)		o. 30 32 34 36 38	5.30 5.32 5.34 5.30 5.30	hickn 20 (0. 20 (0. 40 (0. 50 (0. 30 (0.	2087 2094 2102 2110 2118	Lifter No.) 54) 56) 58) 58) 60) 62	Th 5.540 5.560 5.600 5.620	iickness 0 (0.2181) 0 (0.2189) 0 (0.2197) 0 (0.2205) 0 (0.2213)
	$\begin{array}{c} 0.571-0.590 \left(0.0225-0.0232 \right) \\ 0.591-0.610 \left(0.0233-0.0240 \right) \\ 0.611-0.630 \left(0.0241-0.0248 \right) \\ 0.631-0.650 \left(0.0248-0.0256 \right) \\ 0.651-0.670 \left(0.0256-0.0264 \right) \\ 0.671-0.690 \left(0.0256-0.0264 \right) \\ 0.671-0.690 \left(0.0256-0.0284 \right) \\ 0.710 \left(0.0272-0.0280 \right) \\ 0.711-0.730 \left(0.0280-0.0287 \right) \\ 0.731-0.750 \left(0.0288-0.0295 \right) \\ 0.751-0.770 \left(0.0296-0.0303 \right) \\ 0.771-0.790 \left(0.0304-0.0311 \right) \\ 0.791-0.810 \left(0.0311-0.0319 \right) \\ 0.811-0.830 \left(0.0317-0.0325 \right) \\ 0.851-0.870 \left(0.0335-0.0343 \right) \\ 0.871-0.890 \left(0.0345-0.0343 \right) \\ 0.871-0.890 \left(0.0345-0.0356 \right) \\ \end{array}$	44 44 46 4 48 50 50 5 52 5 54 5 56 5 60 6 62 6 64 6 68 7 70 7 72 7 74 7	44 46 46 48 46 48 50 52 52 54 56 58 60 62 64 66 68 70 72 74	3 48 4 50 52 54 52 54 56 58 60 62 2 64 66 68 3 70 72 74 4 74	50 52 52 54 52 54 54 56 58 60 60 62 64 66 68 70 70 72 74 74	54 56 58 60 62 64 66 68 70 72 72 74	56 58 58 60 60 62 64 66 68 70 72 74 74 74	8 58 0 60 2 62 4 64 6 66 8 68 0 70 2 72 4 74	60 6 62 6 64 6 66 6 68 6 70 7 72 7 74 7	60 62 62 64 64 66 66 68 68 70 70 72 72 74	62 63 64 64 66 64 68 7 70 7 72 72 74 74	64 64 66 66 88 68 70 70 72 72 74 74	66 68 6 70 72 7 72 74 74	66 6 68 7 70 7 72 7 74 7	58 68 70 70 72 72 74 74	3 70 72 72 2 74 4 74	70 72 74	72 72 74 74	2 74 1 74	74 74		74 74							o. 06 08 10 12 14 16	5.08 5.08 5.10 5.12 5.14 5.14	50 (0.2 30 (0.2 20 (0.2 40 (0.2 50 (0.2	1992) 2000) 2008) 2016) 2024) 2024)		o. 30 32 34 36 38 40	5.30 5.32 5.34 5.30 5.30 5.30	hickn 20 (0. 20 (0. 40 (0. 30 (0. 30 (0.	2087 2094 2102 2110 2118 2126	Lifter No.) 54) 56) 58) 60) 62) 64	Th 5.540 5.560 5.580 5.600 5.620 5.640	iickness 0 (0.2181) 0 (0.2189) 0 (0.2197) 0 (0.2205) 0 (0.2213) 0 (0.2220)
22 5.220 (0.2055) 46 5.460 (0.2150) 70 5.700 (0.22	$\begin{array}{c} 0.571-0.590 \left(0.0225-0.0232 \right) \\ 0.591-0.610 \left(0.0233-0.0240 \right) \\ 0.611-0.630 \left(0.0241-0.0248 \right) \\ 0.631-0.650 \left(0.0248-0.0256 \right) \\ 0.651-0.670 \left(0.0256-0.0264 \right) \\ 0.671-0.690 \left(0.0256-0.0264 \right) \\ 0.671-0.690 \left(0.0256-0.0284 \right) \\ 0.710 \left(0.0272-0.0280 \right) \\ 0.711-0.730 \left(0.0280-0.0287 \right) \\ 0.731-0.750 \left(0.0288-0.0295 \right) \\ 0.751-0.770 \left(0.0296-0.0303 \right) \\ 0.771-0.790 \left(0.0304-0.0311 \right) \\ 0.791-0.810 \left(0.0311-0.0319 \right) \\ 0.811-0.830 \left(0.0317-0.0325 \right) \\ 0.851-0.870 \left(0.0335-0.0343 \right) \\ 0.871-0.890 \left(0.0345-0.0343 \right) \\ 0.871-0.890 \left(0.0345-0.0356 \right) \\ \end{array}$	44 44 46 4 48 50 50 5 52 5 54 5 56 5 60 6 62 6 64 6 68 7 70 7 72 7 74 7	44 46 46 48 46 48 50 52 52 54 56 58 60 62 64 66 68 70 72 74	3 48 4 50 52 54 52 54 56 58 60 62 2 64 66 68 3 70 72 74 4 74	50 52 52 54 52 54 54 56 58 60 60 62 64 66 68 70 70 72 74 74	54 56 58 60 62 64 66 68 70 72 72 74	56 58 58 60 60 62 64 66 68 70 72 74 74 74	8 58 0 60 2 62 4 64 6 66 8 68 0 70 2 72 4 74	60 6 62 6 64 6 66 6 68 6 70 7 72 7 74 7	60 62 62 64 64 66 66 68 68 70 70 72 72 74	62 63 64 64 66 64 68 7 70 7 72 72 74 74	64 64 66 66 88 68 70 70 72 72 74 74	66 68 6 70 72 7 72 74 74	66 6 68 7 70 7 72 7 74 7	58 68 70 70 72 72 74 74	3 70 72 72 2 74 4 74	70 72 74	72 72 74 74	2 74 1 74	74 74		74 74							0. 06 08 10 12 14 16 18	5.06 5.06 5.10 5.12 5.12 5.16 5.16	50 (0.1 30 (0.2 20 (0.2 40 (0.2 50 (0.2 30 (0.2	1992) 2000) 2008) 2016) 2024) 2031) 2039)		o. 30 32 34 36 38 40 42	5.3(5.3) 5.3(5.3) 5.3(5.3) 5.4(5.4)	hickn 20 (0. 20 (0. 40 (0. 50 (0. 30 (0. 20 (0.	ness 2087 2094 2102 2110 2118 2126 2134	Lifter No.) 54) 56) 58) 60) 62) 64) 66	Th 5.540 5.560 5.580 5.600 5.620 5.620 5.640	iickness 0 (0.2181) 0 (0.2189) 0 (0.2197) 0 (0.2205) 0 (0.2220) 0 (0.2220) 0 (0.2228)
Intake valve clearance (Cold): 22 5.220 (0.2033) 40 5.460 (0.2150) 70 5.700 (0.222 0.17 to 0.23 mm (0.007 to 0.009 in.) 24 5.240 (0.2063) 48 5.480 (0.2157) 72 5.720 (0.222	$\begin{array}{c} 0.571-0.590 \left(0.0225-0.0232 \right) \\ 0.591-0.610 \left(0.0233-0.0240 \right) \\ 0.611-0.630 \left(0.0241-0.0248 \right) \\ 0.631-0.650 \left(0.0248-0.0256 \right) \\ 0.651-0.670 \left(0.0256-0.0264 \right) \\ 0.671-0.690 \left(0.0256-0.0264 \right) \\ 0.671-0.690 \left(0.0256-0.0284 \right) \\ 0.710 \left(0.0272-0.0280 \right) \\ 0.711-0.730 \left(0.0280-0.0287 \right) \\ 0.731-0.750 \left(0.0288-0.0295 \right) \\ 0.751-0.770 \left(0.0296-0.0303 \right) \\ 0.771-0.790 \left(0.0304-0.0311 \right) \\ 0.791-0.810 \left(0.0311-0.0319 \right) \\ 0.811-0.830 \left(0.0317-0.0325 \right) \\ 0.851-0.870 \left(0.0335-0.0343 \right) \\ 0.871-0.890 \left(0.0345-0.0343 \right) \\ 0.871-0.890 \left(0.0345-0.0356 \right) \\ \end{array}$	44 44 46 4 48 50 50 5 52 5 54 5 56 5 60 6 62 6 64 6 68 7 70 7 72 7 74 7	44 46 46 48 46 48 50 52 52 54 56 58 60 62 64 66 68 70 72 74	3 48 4 50 52 54 52 54 56 58 60 62 2 64 66 68 3 70 72 74 4 74	50 52 52 54 52 54 54 56 58 60 60 62 64 66 68 70 70 72 74 74	54 56 58 60 62 64 66 68 70 72 74 74 74	56 55 58 60 62 64 64 66 68 70 72 74 74 74	8 58 0 60 2 62 4 64 6 66 8 68 0 70 2 72 4 74	60 6 62 6 64 6 66 6 70 7 72 7 74 7 74 7	60 62 62 64 64 66 66 68 70 72 72 74 74 74 74 74	2 62 6 6 6 64 6 6 6 6 7 1 68 7	4 64 6 66 8 68 70 70 72 72 74 74 74 74	66 1 68 6 72 7 72 7 74 74	66 6 68 7 70 7 72 7 74 7 74 7 74	88 688 70 70 72 72 72 74 74 74 74	3 70 72 2 74 4 74 4	70 72 74 74	72 72 74 74	2 74 1 74	74 74		74 74							0. 06 08 10 12 14 16 18 20	5.00 5.02 5.12 5.12 5.14 5.16 5.18 5.20	50 (0.2 30 (0.2 20 (0.2 40 (0.2 50 (0.2 30 (0.2 30 (0.2	1992) 2000) 2008) 2016) 2024) 2031) 2039) 2039)		o. 30 32 34 36 38 40 42 44	5.3(5.3) 5.3(5.3) 5.4(5.4) 5.4(hickn 20 (0. 40 (0. 60 (0. 80 (0. 20 (0. 20 (0.	ness 2087 2094 2102 2110 2118 2126 2134 2142	Lifter No.) 54) 56) 58) 60) 62) 64) 66) 68	Th 5.540 5.560 5.600 5.620 5.640 5.660 5.660 5.660	iickness 0 (0.2181) 0 (0.2189) 0 (0.2197) 0 (0.2205) 0 (0.2213) 0 (0.2220) 0 (0.2228) 0 (0.2228) 0 (0.2236)
EXAMPLE: The 5.250 mm (0.2067 in.) lifter is installed, and	$\begin{array}{c} 0.571-0.590 \left(0.0225-0.0232 \right) \\ 0.591-0.610 \left(0.0233-0.0240 \right) \\ 0.611-0.630 \left(0.0241-0.0248 \right) \\ 0.631-0.650 \left(0.0248-0.0256 \right) \\ 0.651-0.670 \left(0.0256-0.0264 \right) \\ 0.671-0.690 \left(0.0256-0.0264 \right) \\ 0.671-0.690 \left(0.0256-0.0284 \right) \\ 0.710 \left(0.0272-0.0280 \right) \\ 0.711-0.730 \left(0.0280-0.0287 \right) \\ 0.731-0.750 \left(0.0288-0.0295 \right) \\ 0.751-0.770 \left(0.0296-0.0303 \right) \\ 0.771-0.790 \left(0.0304-0.0311 \right) \\ 0.791-0.810 \left(0.0311-0.0319 \right) \\ 0.811-0.830 \left(0.0317-0.0325 \right) \\ 0.851-0.870 \left(0.0335-0.0343 \right) \\ 0.871-0.890 \left(0.0345-0.0343 \right) \\ 0.871-0.890 \left(0.0345-0.0356 \right) \\ \end{array}$	44 44 46 4 48 50 50 5 52 5 54 5 56 5 60 6 62 6 64 6 68 7 70 7 72 7 74 7	44 46 46 48 46 48 50 52 52 54 56 58 60 62 64 66 68 70 72 74	3 48 4 50 52 54 52 54 56 58 60 62 2 64 66 68 3 70 72 74 4 74	50 52 52 54 52 54 54 56 58 60 60 62 64 66 68 70 70 72 74 74	54 56 58 60 62 64 66 68 70 72 74 74 74	56 55 60 58 60 60 62 62 64 64 66 68 70 72 74 74 74 74	8 58 0 60 2 62 4 64 6 66 8 68 0 70 2 72 4 74 4 74	60 (62 (64 (66 (70) 74] 74]	60 62 62 64 64 66 66 68 70 72 72 74 74 74 74 74	• •	4 64 6 66 8 68 70 70 72 72 74 74 74 74	66 0 70 72 74 74 74 74	66 6 68 7 70 7 72 7 74 7 74 7 74	58 688 70 7C 72 72 72 74 74 74 74 74 72	3 70 72 2 74 4 74 4 74	70 72 74 74	72 7: 74 7 74 7 74 7	2 74 4 74 4	74 74		74 74							00. 006 008 10 12 14 16 18 20 222	5.00 5.08 5.10 5.12 5.14 5.16 5.18 5.20 5.22	50 (0.2) 30 (0.2) 20 (0.2) 40 (0.2) 50 (0.2) 30 (0.2) 20 (0.2) 20 (0.2)	1992) 2000) 2008) 2016) 2024) 2031) 2039) 2047) 2055)		o. 30 32 34 36 38 40 42 44 46	5.30 5.32 5.34 5.34 5.44 5.44 5.44	hickn 20 (0. 20 (0. 40 (0. 50 (0. 50 (0. 20 (0. 40 (0.	ess 2087 2094 2102 2110 2118 2126 2134 2142 2142 2150	Lifter No. 54 56 56 60 60 62 64 64 66 68 0 70	Th 5.540 5.560 5.600 5.620 5.640 5.640 5.660 5.680 5.680 5.700	iickness 0 (0.2181) 0 (0.2189) 0 (0.2197) 0 (0.2205) 0 (0.2205) 0 (0.2220) 0 (0.2220) 0 (0.2228) 0 (0.2236) 0 (0.2244)
the measured electrones is $0.400 \text{ mm} (0.01E0 \text{ in})$	$\begin{array}{c} 0.571-0.590 \left(0.0225-0.0232 \right) \\ 0.591-0.610 \left(0.0233-0.0240 \right) \\ 0.611-0.630 \left(0.0241-0.0248 \right) \\ 0.631-0.650 \left(0.0248-0.0256 \right) \\ 0.651-0.670 \left(0.0256-0.0264 \right) \\ 0.671-0.690 \left(0.0256-0.0264 \right) \\ 0.671-0.690 \left(0.0256-0.0284 \right) \\ 0.710 \left(0.0272-0.0280 \right) \\ 0.711-0.730 \left(0.0280-0.0287 \right) \\ 0.731-0.750 \left(0.0288-0.0295 \right) \\ 0.751-0.770 \left(0.0296-0.0303 \right) \\ 0.771-0.790 \left(0.0304-0.0311 \right) \\ 0.791-0.810 \left(0.0311-0.0319 \right) \\ 0.811-0.830 \left(0.0317-0.0325 \right) \\ 0.851-0.870 \left(0.0335-0.0343 \right) \\ 0.871-0.890 \left(0.0345-0.0343 \right) \\ 0.871-0.890 \left(0.0345-0.0356 \right) \\ \end{array}$	44 44 46 4 48 50 50 5 52 5 54 5 56 5 60 6 62 6 64 6 68 7 70 7 72 7 74 7	44 46 46 48 46 48 50 52 52 54 56 58 56 52 54 56 58 60 66 68 70 72 74 74	3 48 4 50 52 54 52 54 56 58 60 62 2 64 66 68 3 70 72 74 4 74	50 52 52 54 52 54 54 56 58 60 60 62 64 66 68 70 70 72 74 74	54 56 58 60 62 64 66 68 70 72 74 74 74	56 56 56 58 60 62 64 66 66 68 70 72 74 74 74 74 74 74 74 74 74 74 74 74 74	8 58 0 60 2 62 4 64 6 66 8 68 0 70 2 72 4 74 4 74 7 10 10 10 10 10 10 10 10 10 10	60 6 62 6 66 6 68 6 70 1 72 1 74 1 74 1 74 2 74 2 74 2 74 2 74 2 74 2	60 622 64 64 66 66 68 70 70 72 74 74 74 74 74 8 11ve .23 E:	Clemm Cl	4 64 6 66 8 68 0 70 72 72 74 74 74 74 74 74 74 74 74 74 74 74 74 74 7	anc .25(0)	66 6 68 7 70 7 72 7 74 7 74 7 74 7 74 7 74 7 74 7 74	88 688 70 7CC 72 72 74 74 74 74	3 70 0 72 2 74 4 74 4 74 0.0 0.0 1 (0	70 72 74 74 74	72 7:4 7) in.)	74 74	er i	sin	_	lled	, an	d			00. 006 008 110 112 114 116 118 220 222 224	5.00 5.08 5.10 5.12 5.14 5.16 5.18 5.20 5.22 5.24	60 (0.1) 30 (0.2) 20 (0.2) 40 (0.2) 40 (0.2) 30 (0.2) 30 (0.2) 20 (0.2) 40 (0.2) 40 (0.2) 40 (0.2)	1992) 2000) 2008) 2016) 2024) 2039) 2039) 2047) 2055) 2063)		o. 30 32 34 36 38 40 42 44 46 48	5.30 5.32 5.34 5.36 5.36 5.36 5.46 5.46 5.46 5.46	hickn 20 (0. 20 (0. 40 (0. 30 (0. 20 (0. 40 (0. 50 (0. 30 (0.	ness 2087 2094 2102 2110 2118 2126 2134 2142 2150 2157	Lifter No. 54 56 56 60 62 62 64 66 66 68 68 70 72	Th 5.540 5.560 5.600 5.620 5.640 5.660 5.660 5.660 5.680 5.680 5.720	iickness 0 (0.2181) 0 (0.2189) 0 (0.2197) 0 (0.2205) 0 (0.2220) 0 (0.2220) 0 (0.2228) 0 (0.2236) 0 (0.2234) 0 (0.2252)
Replace the 5.250 mm (0.2067 in.) lifter with a new No. 46 lifter. 28 5.280 (0.2079) 52 5.520 (0.2173)	$\begin{array}{c} 0.571-0.590 \left(0.0225-0.0232 \right) \\ 0.591-0.610 \left(0.0233-0.0240 \right) \\ 0.611-0.630 \left(0.0241-0.0248 \right) \\ 0.631-0.650 \left(0.0248-0.0256 \right) \\ 0.651-0.670 \left(0.0256-0.0264 \right) \\ 0.671-0.690 \left(0.0256-0.0287 \right) \\ 0.691-0.710 \left(0.0272-0.0280 \right) \\ 0.731-0.730 \left(0.0280-0.0287 \right) \\ 0.731-0.750 \left(0.0286-0.0287 \right) \\ 0.731-0.750 \left(0.0286-0.0303 \right) \\ 0.771-0.790 \left(0.0304-0.0311 \right) \\ 0.791-0.810 \left(0.0311-0.0391 \right) \\ 0.831-0.850 \left(0.0327-0.0335 \right) \\ 0.851-0.870 \left(0.0335-0.0343 \right) \\ 0.891-0.910 \left(0.0351-0.0358 \right) \\ \end{array}$	44 44 46 4 48 50 50 5 52 5 54 5 56 5 60 6 62 6 64 6 68 7 70 7 72 7 74 7	44 46 46 48 46 48 50 52 52 54 56 58 56 52 54 56 58 60 66 68 70 72 74 74	3 48 4 50 52 54 52 54 56 58 60 62 2 64 66 68 3 70 72 74 4 74	50 52 52 54 52 54 54 56 58 60 60 62 64 66 68 70 70 72 74 74	54 56 58 60 62 64 66 68 70 72 74 74 74 74	56 56 56 58 60 62 64 64 64 64 64 64 64 64 64 64 64 64 64	8 58 0 60 2 62 4 64 6 66 8 68 0 70 2 72 4 74 4 74 7 4 7 to MI me	60 (62 (64 (66 (70) 74) 74) 74) 74) 74) 74) 74) 74	60 62 64 64 66 68 70 70 72 72 74 74 74 74 74 23 E: ureo	ccle 64 6	4 64 6 66 8 68 0 70 2 72 74 74 74 74 74 74 74 74 74 74	anc .250 anc .250 anc	66 6 68 7 70 7 72 7 74 7 74 74 74 74 74 74 74 74 74 74 74 74 74	688 688 70 700 72 72 74 74 74 74 74 74 74 72 (Cc to (nm is C	3 70 0 72 2 74 4 74 4 4 0.0 0.0 1 (0 0.4	70 72 74 74 74 009 0.20	72 7:4 74 74 74 77 74 70 74 74 74 74 74 74 74 74 74 74 74 74 74) in.)	74 74 74	er i 58	s in:	sta						o. 06 08 10 12 14 16 18 20 22 24 26	5.00 5.01 5.12 5.14 5.16 5.12 5.12 5.22 5.22 5.22	60 (0.1 30 (0.2) 20 (0.2) 20 (0.2) 40 (0.2) 30 (0.2) 30 (0.2) 20 (0.2) 40 (0.2) 50 (0.2) 40 (0.2) 50 (0.2	1992) 2000) 2008) 2016) 2024) 2031) 2039) 2047) 2055) 2063) 2071)		o. 30 32 34 36 38 40 42 44 46 48 50	5.30 5.33 5.34 5.30 5.30 5.40 5.40 5.40 5.40 5.40 5.50	hickn 00 (0. 20 (0. 40 (0. 60 (0. 30 (0. 20 (0. 40 (0. 30 (0.	ess 2087 2094 2102 2110 2118 2126 2134 2142 2142 2150 2157 2165	Lifter No. 54 56 56 60 62 64 66 66 66 66 68 70 72 72 74	Th 5.540 5.560 5.600 5.620 5.640 5.660 5.660 5.660 5.680 5.680 5.720	iickness 0 (0.2181) 0 (0.2189) 0 (0.2197) 0 (0.2205) 0 (0.2220) 0 (0.2220) 0 (0.2228) 0 (0.2236) 0 (0.2234) 0 (0.2252)

2004 PRIUS REPAIR MANUAL (RM1075U)

2986

14-12

ENGINE MECHANICAL . VALVE CLEARANCE (1NZ-FXE)

2004 PRIUS REPAIR MANUAL
(RM1075U)

		, vu					ustj						
Installed lifter thickness mm (in.) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	5.200 (0.2051) 5.210 (0.2051) 5.220 (0.2055) 5.240 (0.2063) 5.240 (0.2063) 5.250 (0.2063)	5.260 (0.2071) 5.270 (0.2075) 5.290 (0.2083) 5.300 (0.2083) 5.310 (0.2087)	5.320 (0.2094) 5.330 (0.2098) 5.340 (0.2102) 5.350 (0.2106) 5.360 (0.2106)	5.370 (0.2114) 5.380 (0.2118) 5.390 (0.2122) 5.400 (0.2126)	5.410 (0.2130) 5.420 (0.2134) 5.430 (0.2138) 5.440 (0.2138)	5.450 (0.2146) 5.460 (0.2150)	5.480 (0.2157) 5.480 (0.2157) 5.490 (0.2161)	5.500 (0.2165) 5.510 (0.2169) 5.520 (0.2173) 5.530 (0.2177)	5.550 (0.2185) 5.550 (0.2185) 5.560 (0.2189) 5.570 (0.2193) 5.580 (0.2197) 5.580 (0.2197)	5.600 (0.2205) 5.620 (0.2213) 5.640 (0.2220)	5.660 (0.2228) 5.680 (0.2236) 5.700 (0.2244) 5.740 (0.2262) 5.740 (0.2260)		
0.000 - 0.030 (0.0000 - 0.0012)			06 06 08 08	10 10 12 12	14 14 16 16	18 18 2	20 22	22 24 24 26	26 28 28 30 30 32	32 34 36	38 40 42 44 46		
0.031 - 0.050 (0.0012 - 0.0020)		06 06	06 08 08 10 10	12 12 14 14	16 16 18 18	20 20 2	2 22 24	24 26 26 28	28 30 30 32 32 34	34 36 38	40 42 44 46 48		
0.051 - 0.070 (0.0020 - 0.0028)			08 10 10 12 12					26 28 28 30		36 38 40	42 44 46 48 50		
0.071 - 0.090 (0.0028 - 0.0035)			10 12 12 14 14							38 40 42	44 46 48 50 52		
0.091 - 0.110 (0.0036 - 0.0043)			12 14 14 16 16					30 32 32 34		40 42 44	46 48 50 52 54		
0.111 - 0.130 (0.0044 - 0.0051)		08 10 10 12 12 14					_	32 34 34 36		42 44 46	48 50 52 54 56		
0.131 - 0.150 (0.0052 - 0.0059)	06 08 08 10 10 12	10 12 12 14 14 16		22 22 24 24				34 36 36 38 36 38 38 40		44 46 48 46 48 50	50 52 54 56 58 52 54 56 58 60		
0.151 - 0.170 (0.0059 - 0.0067) 0.171 - 0.190 (0.0067 - 0.0075) 06 0	06 08 08 10 10 12 6 08 10 10 12 14 14					+ + +				48 50 52	52 54 56 58 60		
	3 10 12 12 14 14 16										56 58 60 62 64		
	0 12 14 14 16 16 18									52 54 56	58 60 62 64 66		
	2 14 16 16 18 18 20 2										60 62 64 66 68		
0.250 - 0.350 (0.0098 - 0.0138)													
0.351 - 0.370 (0.0138 - 0.0146) 12 14 16 18 20 22 2	4 26 28 28 30 30 32 3	32 34 34 36 36 38	38 40 40 42 42	44 44 46 46	48 48 50 50	52 52 5	4 54 56	56 58 58 60	60 62 62 64 64 66	66 68 70	72 74 74		
	5 28 30 30 32 32 34 3												
	3 30 32 32 34 34 36										74		
	32 34 34 36 36 38												
	2 34 36 36 38 38 40												
	4 36 38 38 40 40 42 4 5 38 40 40 42 42 44 4									74			
	3 40 42 42 44 44 46 4												
	0 42 44 44 46 46 48												
	2 44 46 46 48 48 50 5												
	4 46 48 48 50 50 52 5										New Lifte	er Thickr	ness mm (in.)
0.571 - 0.590 (0.0225 - 0.0232) 34 36 38 40 42 44 4	6 48 50 50 52 52 54	54 56 56 58 58 60	60 62 62 64 64	66 66 68 68	70 70 72 72	2 74 74 7	4 74	1.10		1		1:4	
	3 50 52 52 54 54 56							Lifter	Thickness	Lifter	Thickness	Lifter	Thickness
	52 54 54 56 56 58					1		No.		No.		No.	
	2 54 56 56 58 58 60 4 56 58 58 60 60 62				74 74			06	5.060 (0.1992)	30	5.300 (0.2087)	54	5.540 (0.2181)
	4 56 58 58 60 60 62 6 5 58 60 60 62 62 64 6								0.000 (0.1002)		5.500 (0.2007)	54	3.340 (0.2101)
· · · · · · · · · · · · · · · · · · ·	3 60 62 62 64 64 66 6							08	5.080 (0.2000)	32	5.320 (0.2094)	56	5.560 (0.2189)
	0 62 64 64 66 66 68								5 400 (0 0000)		, ,		, , ,
	2 64 66 66 68 68 70		74					10	5.100 (0.2008)	34	5.340 (0.2102)	58	5.580 (0.2197)
	4 66 68 68 70 70 72 ⁻ 5 68 70 70 72 72 74 ⁻							12	5.120 (0.2016)	36	5.360 (0.2110)	60	5.600 (0.2205)
	3 70 72 72 74 74 74 ⁻							12	(0.20.0)		0.000 (0.2110)		, ,
0.811 - 0.830 (0.0319 - 0.0327) 58 60 62 64 66 68 7								14	5.140 (0.2024)	38	5.380 (0.2118)	62	5.620 (0.2213)
0.831 - 0.850 (0.0327 - 0.0335) 60 62 64 66 68 70 7								10	F 400 (0 0004)	40	5 400 (0 0400)		5 0 40 (0 0000)
0.851 - 0.870 (0.0335 - 0.0343) 62 64 66 68 70 72 7								16	5.160 (0.2031)	40	5.400 (0.2126)	64	5.640 (0.2220)
0.871 - 0.890 (0.0343 - 0.0350) 64 66 68 70 72 74 7	1							18	5.180 (0.2039)	42	5.420 (0.2134)	66	5.660 (0.2228)
0.891 0.910 (0.0351 0.0358) 66 68 70 72 74 74 0.911 -0.930 (0.0359 -0.0366) 68 70 72 74 74											, ,		, ,
0.931 - 0.950 (0.0367 - 0.0374) 70 72 74 74								20	5.200 (0.2047)	44	5.440 (0.2142)	68	5.680 (0.2236)
0.951 - 0.970 (0.0374 - 0.0382) 72 74 74	Exhaust val	ve clearanc						22	5.220 (0.2055)	46	5.460 (0.2150)	70	5.700 (0.2244)
0.971 - 0.990 (0.0382 - 0.0390) 74 74 0.991 - 1.010 (0.0390 - 0.0398) 74			• •	,				0.1	E 0 40 (0 0000)	40		70	
	0.27 to 0.33							24	5.240 (0.2063)	48	5.480 (0.2157)	72	5.720 (0.2252)
~	EXAMPLE:		•	,		alled, a	and	26	5.260 (0.2071)	50	5.500 (0.2165)	74	5.740 (0.2260)
P	the measure	anercalo b	(n (1) / / / (1) m)	m(1)(1)	<u>ר מו גרי</u>					1			I
			15 0.440 11		3 III.).			29	5 280 (0 2079)	52	5 520 (0 2173)		

Replace the 5.340 mm (0.2102 in.) lifter with a new No. 48 lifter.

Valve Lifter Selection Chart (Exhaust)

Date :

Author :

2987

A92521

5.280 (0.2079)

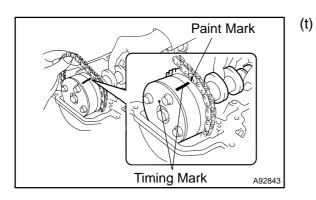
28

52

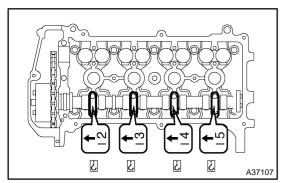
5.520 (0.2173)

14-13

- (r) Install the selected valve lifter.
- (s) Apply engine oil to the cam and cylinder head journal.



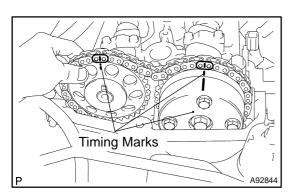
Hold the chain as illustrated, then install the camshaft and camshaft timing gear assembly so that the paint mark of the chain and the timing mark of the camshaft timing gear assembly are aligned.



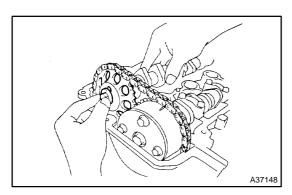
 (u) Check the front marks and numbers on the bearing cap No. 2, then tighten the bolts uniformly in several steps in the sequence shown in the illustration.
 Torque: 13 N·m (130 kgf·cm, 9.6 ft·lbf)

NOTICE:

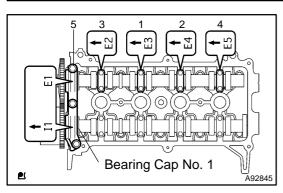
Tighten the bolts uniformly keeping the camshaft level.



- (v) Hold the chain as illustrated, then install the camshaft No.
 2 and camshaft timing gear so that the paint mark of the chain and the timing mark of the camshaft timing gear are aligned.
- (w) Align the knock pin of the camshaft No. 2 with the pin groove of the camshaft timing gear.



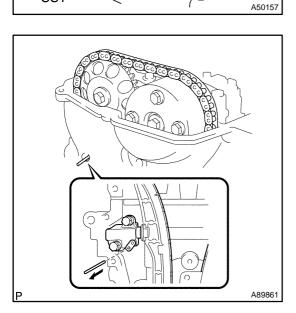
(x) Temporarily tighten the camshaft timing chain with the bolt.



 (y) Check the front marks and numbers on the bearing caps No. 1 and No. 2, then tighten the bolts uniformly in several steps in the sequence shown in the illustration.
 Torque:

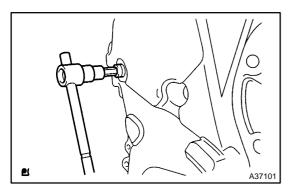
14-15

- 23 N m (235 kgf cm, 17 ft lbf) for bearing cap No. 1 13 N m (130 kgf cm, 9.6 ft lbf) for bearing cap No. 2
- (z) Hold the hexagonal lobe of the camshaft No. 2 with the adjustable wrench.
- (aa) Using SST, tighten the bolt.
 SST 10514, 09023-38400
 Torque: 64 N⋅m (650 kgf⋅cm, 47 ft⋅lbf)
- (ab) Remove the 3.0 mm (0.118 in.) diameter bar from the chain tensioner.



SST

- P A92837
- (ac) Turn the crankshaft damper clockwise, then align its timing mark notch with the timing mark "0".
 - (ad) Check that the timing marks are located as illustrated.



(ae) Apply adhesive to the 2 or 3 threads of the service hole screw plug bolt end.
 Adhesive:
 Part No. 08833-00070, THREE BOND 1324, or equivalent

NOTICE:

Remove any oil from the bolts and bolt holes.

(af) Using an 8 mm socket hexagon wrench, install the service hole screw plug.

Torque: 15 N·m (153 kgf·cm, 11 ft·lbf)

- 15. INSTALL CYLINDER HEAD COVER SUB-ASSY (See page 17-7)
- 16. INSTALL RESERVOIR BRACKET Torque: 8.5 N m (87 kgf cm, 75 in. lbf)
- 17. INSTALL BRAKE MASTER CYLINDER RESERVOIR SUB-ASSY Torque: 8.5 N·m (87 kgf·cm, 75 in. lbf)
- INSTALL AIR CLEANER ASSY Torque:
 7.0 N⋅m (71 kgf⋅cm, 62 in. lbf) for bolt
 3.0 N⋅m (31 kgf⋅cm, 27 in. lbf) for clamp
- 19. INSTALL COWL TOP PANEL SUB-ASSY OUTER FRONT (See page 11-15)
- 20. INSTALL WINDSHIELD WIPER LINK ASSY (See page 66-14)
- 21. CHECK FOR ENGINE OIL LEAKS
- 22. INSTALL RADIATOR SUPPORT OPENING COVER
- 23. INSTALL ENGINE UNDER COVER RH
- 24. CONNECT BATTERY NEGATIVE TERMINAL Torque: 6.0 N·m (61 kgf·cm, 53 in. lbf)
- 25. INSTALL REAR FLOOR BOARD NO.3
- 26. INSTALL DECK FLOOR BOX REAR
- 27. INSTALL REAR FLOOR BOARD NO.2
- 28. POWER WINDOW CONTROL SYSTEM INITIALIZE (See page 01-28)