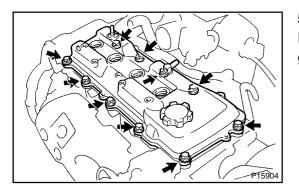
# VALVE CLEARANCE INSPECTION

EM02K-06

HINT:

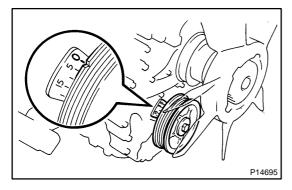
Inspect and adjust the valve clearance when the engine is cold.

- 1. REMOVE INTAKE AIR CONNECTOR (See page EM-34)
- 2. REMOVE PCV HOSES
- 3. REMOVE IGNITION COILS (WITH IGNITER)
- 4. DISCONNECT ENGINE WIRE
- (a) w/ A/C:
  - Disconnect the A/C compressor connector.
- (b) Disconnect the oil pressure sensor connector.
- (c) Disconnect the ECT sender gauge connector.
- (d) Disconnect the 4 engine wire clamps and engine wire.



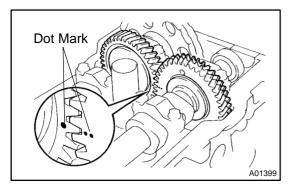
#### 5. REMOVE CYLINDER HEAD COVER

Remove the 10 bolts, 10 seal washers, cylinder head cover and gasket.



# 6. SET NO.1 CYLINDER TO TDC/COMPRESSION

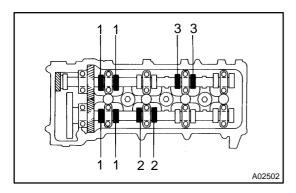
(a) Turn the crankshaft pulley clockwise and align its groove with the "0" mark on the timing chain cover.



(b) Check that the timing marks (1 and 2 dots) of the camshaft drive and driven gears are in straight line on the cylinder head surface as shown in the illustration. If not, turn the crankshaft 1 revolution (360°) and align the marks as above.

2003 TOYOTA TACOMA (RM1002U)

Author: Date: 1072

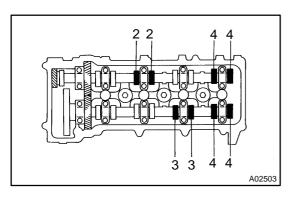


### 7. INSPECT VALVE CLEARANCE

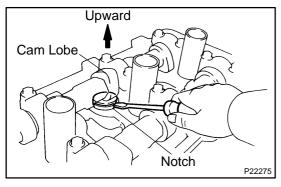
- (a) Check only the valves indicated.
  - (1) Using a feeler gauge, measure the clearance between the valve lifter and camshaft.
  - (2) Record the out–of–specification valve clearance measurements. They will be used later to determine the required replacement adjusting shim.

## Valve clearance (Cold):

Intake	0.15 – 0.25 mm (0.006 – 0.010 in.)
Exhaust	0.25 – 0.35 mm (0.010 – 0.014 in.)

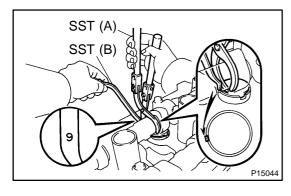


- (b) Turn the crankshaft pulley 1 revolution (360°) and align its groove with timing mark "0" of the timing chain cover.
- (c) Check only the valves indicated as shown. Measure the valve clearance (See procedure in step (a)).



# 8. ADJUST VALVE CLEARANCE

- (a) Remove the adjusting shim.
  - (1) Turn the crankshaft to position the cam lobe of the camshaft on the adjusting valve upward.
  - (2) Position the notch of the valve lifter toward the spark plug side.



(3) Using SST (A), press down the valve lifter and place SST (B) between the camshaft and valve lifter flange. Remove SST (A).

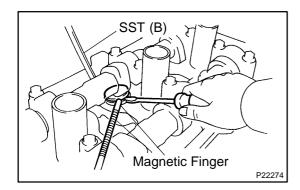
SST 09248-55040 (09248-05410, 09248-05420)

HINT:

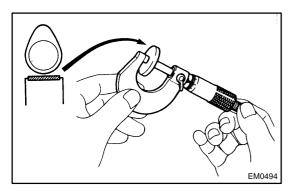
Apply SST (B) at slight angle on the side marked with "9", at the position shown in the illustration.

2003 TOYOTA TACOMA (RM1002U)

Author: Date: 1073



(4) Remove the adjusting shim with a small screwdriver and magnetic finger.



- (b) Determine the replacement adjusting shim size by these Formula or Charts:
  - (1) Using a micrometer, measure the thickness of the removed shim.
  - (2) Calculate the thickness of a new shim so that the valve clearance comes within the specified value.

T ...... Thickness of removed shim

A ...... Measured valve clearance

N ...... Thickness of new shim

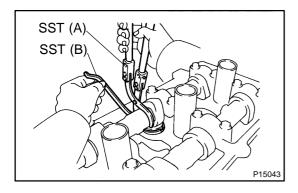
Intake: N = T + (A - 0.20 mm (0.008 in.)

Exhaust: N = T + (A - 0.30 mm (0.012 in.)

(3) Select a new shim with a thickness as close as possible to the calculated value.

#### HINT:

Shims are available in 17 sized in increments of 0.05~mm (0.0020~in.), from 2.50~mm (0.0984~in.) to 3.30~mm (0.1299~in.).



- (c) Install a new adjusting shim.
  - (1) Place a new adjusting shim on the valve lifter.
  - (2) Using SST (A), press down the valve lifter and remove SST (B).

SST 09248-55040 (09248-05410, 09248-05420)

- (d) Recheck the valve clearance.
- 9. REINSTALL CYLINDER HEAD COVER
- 10. RECONNECT ENGINE WIRE
- 11. REINSTALL HIGH-TENSION CORDS TO SPARK-PLUGS
- 12. REINSTALL PCV HOSES
- 13. REINSTALL INTAKE AIR CONNECTOR (See page EM-57)

2003 TOYOTA TACOMA (RM1002U)

Author: Date: 1074

ENGINE MECHANICAL (2RZ-FE, 3RZ-FE)

VALVE CLEARANCE

0.651 - 0.670 (0.0256 - 0.0264)

0.671 - 0.690 (0.0264 - 0.0272)

0.691 - 0.710 (0.0272 - 0.0280)

0.711 - 0.730 (0.0280 - 0.0287)

0.731 - 0.750 (0.0288 - 0.0295)

0.751 - 0.770 (0.0296 - 0.0303)0.771 - 0.790 (0.0304 - 0.0311)

0.791 - 0.810 (0.0311 - 0.0319)

0.811 - 0.830 (0.0319 - 0.0327)

0.831 - 0.850 (0.0327 - 0.0335)

0.851 - 0.870 (0.0335 - 0.0343)

0.871 - 0.890 (0.0343 - 0.0350)

0.891 - 0.910 (0.0351 - 0.0358)

0.911 - 0.930 (0.0359 - 0.0366)

0.931 - 0.950 (0.0367 - 0.0374)

0.951 - 0.970 (0.0374 - 0.0382)

0.971 - 0.990 (0.0382 - 0.0390) 0.991 - 1.010 (0.0390 - 0.0398)

1.011 - 1.030 (0.0398 - 0.0406)

1.031 - 1.050 (0.0406 - 0.0413)

# **Adjusting Shim Selection Chart (Intake)**

					, .		,																																			
Installed shim t	hickness mm (in.)	.500 (0.0984)	(0.1000)	0.1004)	0.1016)	0.1024)	2.640 (0.1039)	0.1043)	0.1055)	(0.1067)	0.1071)	.740 (0.1079)	0.1083)	0.1091)	0.1094)	790 (0.1098)	0.1106)	2.830 (0.1114)	0.1118)	(0.1122)	0.1130)	2.890 (0.1138)	0.1142)	0.1150)	0.1157)	0.1161)	0.1169)	0.1173)	0.1181)	3.010 (0.1185)	0.1193)	(0.1197)	0.1205)	0.1209)	3.090 (0.1217)	0.1220)	0.1236)	0.1244)	0.1252)	0.1268)	0.1280)	3.260 (0.1283) 3.280 (0.1291)
Measured clearance mm (in.)		2.520 (	2.540 (	2.550 (	2.580 (	2.620 (	2.640 (	2.650 (	2.680 (	2.710 (	2.720	2.740 (0.1079	2.750 (	2.770 (	2.780 (0.	2.790 (	2.810 (	2.820 (	2.840 (	2.850 (	2.870 (	2.890 (	2.900 (	2.920 (	2.940 (	2.950 (0.116	2.970 (	2.980 (	3.000 (	3.020 (	3.030 (	3.040 (	3.060 (	3.080	3.090 (	3.100 (	3.150 (0.1236	3.160 (	3.180 (	3.220 (	3.250 (	3.280 (
0.000 - 0.030 (0.0000 - 0	0.0012)							1 1	1 1	1 2		2 2				3 3		4 4		4 5		5 !				6 7				8 8		8 8					10 10	11 1	1 11	12 12	2 12	13 13 13
0:031 - 0.050 (0.0012 - 0	0.0020)					1	1	1 1	1 2	2 2	2 2	2 3	3 3	3 3	3 4	4 4	4	4 4	5 !	5 5	5 5	6 6	6 6	6 6	7	7 7	7	7 8	8	8 8	8	9 9	9	9 9	10 1	0 10	11 11	11 1	1 12	12 13	3 13	13 13 14
0.051 - 0.070 (0.0020 - 0	0.0028)					1 1	1	1 1	2 2	2 2	3 3	3 3	3 3	3 4	4 4	4 4	4	5 5	5 5	5 5	6 6	6	6 6	7 7	7	7 7	8	8 8	8	8 9	9	9 9	9 1	10 10	10 1	0 11	11 11	1111	2 12	13 13	3 13	13 14 14
0.071 - 0.090 (0.0028 - 0	0.0035)				1	1 1	1	2 2	2 3	3 3	3 3	3 3	4 4	1 4	4 4	4 5	5	5 5	5 6	6 6	6 6	6	7 7	7 7	7	8 8	8	8 8	9	9 9	9	9 10	10 1	10 10	10 1	1 11	11 12	12 1	2 13	13 13	3 14 1	4 14 15
0.091 - 0.110 (0.0036 - 0	0.0043)			1	1	1 1	2	2 2	3 3	3 3	3 4	4	4 4	1 4	5 5	5 5	5	5 6	6 6	6 6	6 7	7 7	7 7	7 8	8	8 8	8	9 9	9	9 9	10 1	10 10	10 1	10 11	11 1	1 11	12 12	12 1	3 13	13 14	4 14	14 15 15
0.111 - 0.130 (0.0044 - 0	0.0051)		1	1 1	1	1 2	2	2 3	3 3	3 4	4 4	4	4 5	5 5	5 5	5 5	6	6 6	6 6	6 7	7 7	7	7 8	8 8	8	8 9	9	9 9	9	10 10	10 1	10 10	11 1	11 11	11 1	1 12	12 12	13 1	3 13	14 14	4 14	15 15 15
0.131 - 0.149 (0.0052 - 0	0.0059)	1	1	1 1	1 :	2 2	3	3 3	3 4	1 4	4 4	1 5	5 5	5 5	5 6	6 6	6	6 6	7 7	7 7	7 7	8 8	8 8	8 8	9	9 9	9	9 10	10	10 10	10 1	11 11	11 1	11 11	12 1	2 12	13 13	13 1	3 14	14 15	5 15 1	15 15 16
0.150 - 0.250 (0.0059 - 0.00000)	0.0098)																								TT		П															$\Pi$
0.251 - 0.270 (0.0099 - 0	).0106)	2 3	3	3 3	4	4 5	5	5 5	6 6	6 6	7 7	7 7	7 7	7 8	8 8	8 8	8	9 9	9 9	9 9	10 10	0 10 1	0 10	11 1	1 11	11 1	1 12	12 12	12	12 13	13 1	13 13	13 1	14 14	14 1	4 15	15 15	15 1	6 16	17 17	7 17 1	7 17
0.271 - 0.290 (0.0107 - 0	0.0114)	3 3	3 4	4 4	4	5 5	5	6 6	6 7	7 7	7 7	7 7	8 8	8 8	8 8	8 9	9 !	9 9	9 1	10 10	10 10	0 10 1	1 11	11 1	1 11	12 1:	2 12	12 12	13	13 13	13 1	13 14	14 1	14 14	14 1	5 15	15 16	16 1	6 17	17 17	7 17 1	7
0.291 - 0.310 (0.0115 - 0	0.0122)	3 3	4	4 4	5	5 5	6	6 6	7 7	7 7	7 8	8 8	8 8	8 8	9 9	9 9	9 9	9 10	10 1	0 10	10 1	1 11 1	1 11	11 12	2 12	12 12	2 12	13 13	13	13 13	14 1	14 14	14 1	14 15	15 1	5 15	16 16	16 1	7 17	17 17	7	_
0.311 - 0.330 (0.0122 - 0	).0130)	3 4	4	4 5	5	5 6	6	6 7	7 7	7 8	8 8	8 8	8 8	3 9	9 9	9 9	10 1	0 10	10 1	10 11	11 1	1 11 1	1 12	12 12	2 12	12 13	3 13	13 13	13	14 14	14 1	14 14	15 1	15 15	15 1	6 16	16 16	17 1	7 17	17		
0.331 - 0.350 (0.0130 - 0	0.0138)	4 4	5	5 5	5 (	6 6	7	7 7	7 8	8 8	8 8	9	9 9	9	9 1	0 10	10 1	0 10	11 1	1 11	11 1	1 12 1	2 12	12 12	2 13	13 13	3 13	13 14	14	14 14	14 1	15 15	15 1	15 15	16 1	6 16	16 17	17 1	7 17			
0.351 - 0.370 (0.0138 - 0	).0146)	4 5	5	5 5	6	6 7	7	7 7	8 8	8 8	9 9	9	9 9	10	10 1	0 10	10 1	1 11	11 1	1 11	12 12	2 12 1	2 12	13 13	3 13	13 13	3 14	14 14	14	14 15	15 1	15 15	15 1	6 16	16 1	6 17	17 17	17 1	7			
0.371 - 0.390 (0.0146 - 0.0000)	0.0154)	5 5	5 (	6 6	6	7 7	7	8 8	8 9	9	9 9	9	10 1	0 10	10 1	0 11	11 1	1 11	11 1	2 12	12 12	2 12 1	3 13	13 13	3 13	14 14	1 14	14 14	15	15 15	15 1	15 16	16 1	16 16	16 1	7 17	17 17	17				
0.391 - 0.410 (0.0154 - 0	0.0161)	5 5	6	6 6	7	7 7	8	8 8	9 9	9	9 1	0 10	10 1	0 10	11 1	1 11	11 1	1 12	12 1	2 12	12 13	3 13 1	3 13	13 14	1 14	14 14	1 14	15 15	15	15 15	16 1	6 16	16 1	6 17	17 1	7 17	17					
0.411 - 0.430 (0.0162 - 0	0.0169)	5 6	6	ŝ 7	7	7 8	8	8 9	9 9	10	10 1	0 10	10 1	1 11	11 1	1 11	12 1	2 12	12 1	2 13	13 13	3 13 1	3 14	14 14	1 14	14 15	5 15	15 15	15	16 16	16 1	16 16	17 1	7 17	17 1	7 17						
0.431 - 0.450 (0.0170 - 0	).0177)	6 6	7	7 7	7 8	8 8	9	9 9	9 1	0 10	10 1	0 11	11 1	1 11	11 1	2 12	12 1	2 12	13 1	3 13	13 13	3 14 1	4 14	14 14	1 15	15 15	5 15	15 16	16	16 16	16 1	7 17	17 1	7 17	17 1	7						
0.451 - 0.470 (0.0178 - 0	.0185)	6 7	7	7 7	8 8	8 9	9	9 9	10 1	0 10	11 1	1 11	11 1	1 12	12 1	2 12	12 1	3 13	13 1	3 13	14 14	1 14 1	4 14	15 15	5 15	15 15	5 16	16 16	16	16 17	17 1	7 17	17 1	7 17								
0.471 - 0.490 (0.0185 - 0	0.0193)	7 7	7 8	8 8	8 9	9 9	9	10 10	10 1	1 11	11 1	1 11	12 1	2 12	12 1	2 13	13 1	3 13	13 1	4 14	14 14	1 14 1	5 15	15 15	5 15	16 16	16	16 16	17	17 17	17 1	7 17	17		_							
0.491 - 0.510 (0.0193 - 0	0.0201)	7 7	8 8	3 8	9 9	9 9	10	10 10	11 1	1 11	11 1:	2 12	12 1:	2 12	13 1	3 13	13 1	3 14	14 1	4 14	14 15	5 15 1	5 15	15 16	3 16	16 16	16	17 17	17	17 17	17 1	17										
0.511 - 0.530 (0.0201 - 0	0.0209)	8 8	8 8	3 9	9 9	9 10	10	0 11	11 1	1 12	12 1:	2 12	12 1:	3 13	13 1	3 13	14 1	4 14	14 1	4 15	15 15	5 15 1	5 16	16 16	3 16	16 17	7 17	17 17	17	17 17												
0.531 - 0.550 (0.0209 - 0	0.0217)	8 8	9 9	9 9	9 1	0 10	11	11 11	11 1:	2 12	12 1:	2 13	13 1:	3 13	13 1	4 14	14 1	4 14	15 1	5 15	15 15	5 16 1	6 16	16 16	3 17	17 17	7 17	17 17	17													
0.551 - 0.570 (0.0217 - 0	0.0224)	8 9	9 9	9	10 1	0 11	1 11 1	1 11	12 1:	2 12	13 1:	3 13	13 1	3 14	14 1	4 14	14 1	5 15	15 1	5 15	16 16	3 16 1	6 16	17 17	7 17	17 17	7 17	17														
0.571 - 0.590 (0.0225 - 0	.0232)	9 9	9 1	0 10	10 1	1 11	1111	2 12	12 1	3 13	13 1:	3 13	14 1	4 14	14 1	4 15	15 1	5 15	15 1	6 16	16 16	6 16 1	7 17	17 17	7 17	17 17	7	_														
0.591 - 0.610 (0.0233 - 0	.0240)	9 9	10 1	0 10	11 1	1 11	1 12 1	2 12	13 1:	3 13	13 1	4 14	14 1	4 14	15 1	5 15	15 1	5 16	16 1	6 16	16 17	7 17 1	7 17	17 17	7 17	Ì	_															
0.611 - 0.630 (0.0241 - 0	.0248) 1	10 10	10 1	0 11	11 1	1 12	12 12 1	2 13	13 1:	3 14	14 1	4 14	14 1	5 15	15 1	5 15	16 1	6 16	16 1	6 17	17 17	7 17 1	7 17	17																		
0.631 - 0.650 (0.0248 - 0	.0256) 1	10 10	11 1	1 11	11 1	2 12	13 1	3 13	13 14	4 14	14 14	4 15	15 1	5 15	15 1	6 16	16 1	6 16	17 1	7 17	17 17	7 17 1	7										٠٠٠	ا م	.:	ا جالا	مادم					- (: \

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11 11 11 11 12 12 13 13 13 14 14 14 15 15 15 15 15 16 16 16 16 16 17 17 17 17 17 17 17

11 11 12 12 12 13 13 13 14 14 14 15 15 15 15 16 16 16 16 16 17 17 17 17 17 17 17

12 12 12 12 13 13 13 14 14 14 15 15 15 16 16 16 16 16 17 17 17 17 17 17 17

13 13 13 13 14 14 15 15 15 15 16 16 16 16 17 17 17 17 17 17 17

12 13 13 13 13 14 14 15 15 15 15 16 16 16 16 17 17 17 17 17 17

13 13 13 13 14 14 15 15 15 16 16 16 17 17 17 17 17 17 17 13 13 14 14 14 15 15 15 16 16 16 17 17 17 17 17 17

14 14 14 14 15 15 15 16 16 16 17 17 17 17 17

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Intake valve clearance (Cold): 0.15 - 0.25 mm (0.006 - 0.010 in.) **EXAMPLE:** 

The 2.800 mm (0.1102 in.) shim is installed, and the measured clearance is 0.440 mm (0.0173 in.). Replace the 2.800 mm (0.1102 in.) shim with a new No.12 shim.

New shim thickness

mm (in )

	new Sillii t	HICKHE	55 mm (m.)
Shim No.	Thickness	Shim No.	Thickness
1	2.500 (0.0984)	10	2.950 (0.1161)
2	2.550 (0.1004)	11	3.000 (0.1181)
3	2.600 (0.1024)	12	3.050 (0.1201)
4	2.650 (0.1043)	13	3.100 (0.1220)
5	2.700 (0.1063)	14	3.150 (0.1240)
6	2.750 (0.1083)	15	3.200 (0.1260)
7	2.800 (0.1102)	16	3.250 (0.1280)
8	2.850 (0.1122)	17	3.300 (0.1299)
9	2.900 (0.1142)		

HINT:

New shims have the thickness in millimeters imprinted on the face.

# Adjusting Shim Selection Chart (Exhaust)

Measured clearance  2.560 (0.1024)  2.260 (0.1024)  2.260 (0.1024)  3.260 (0.1026)  3.360 (0.1																																								
Installed shim thickness	849	8 8	8 8	16)	31)	39)	47)	63)	67)	75)	83)	87	94)	(86)	06)	10)	18)	22)	30)	34)	42)	1146)	54)	57)	(99	73)	(77	85)	93)	97)	90	13)	171	28)	40)	52)	(09)	76)	83)	91)
mm (ir	(0.0984)	(0.1000	1212		2 2	1212	일	의의	1.10		9   9	1913	5   5		<u> </u>	[=]	= [=	17 5		E   E		= =		티트		= =	= = =		(0.1185	(0.119	(0.120	(0.121	12 5	(0.122	(0.1230	(0.12	12 2	12	12 2	12 2
Measured clearance	7 3	0 0	0 0		0 0	9 9			0) 0		3 2	0		0	0	0		0 0		0 0		0 0	0 0	0 0	0		0 3		0 0	9 9	0 0		0 0	0	9 9		0 0	9	0 0	0 0
mm (in.)	2.50	2.52	2.55	2.58	2.600 (0.1024	2.640 (0.103	2.660 (0.1047	2.70	2.71	2.73	2.75	2.760 (0.1087)	2.78	2.79	2.81	2.82	2.84	2.850 (0.11	2.870 (0.11:	2.88	2.90	2.91	2.930 (0.115	2.950 (0.1167	2.96	2.980 (0.1173)	2.96	3.0	3.020	3.040	3.060	3.080	3.06	3.120	3.150	3.160	3.20	3.24	3.26	3.280 (0.1291)
0.000 - 0.030 (0.0000 - 0.0012)											1	1	1 1	1 1		2 2		2 2	2 3	3 3	3	3 4	4	4 4			5 5		6 6	6 6			7 7			8 9	9 10	10 1	0 10	11 11
0.031 - 0.050 (0.0012 - 0.0020)		$\top$					П		1	1 '	1 1	1	1 1	2 2	2 2	2 2	2 3	3 3	3 3	3 4	4	4 4	4	5 5	5	5 5	6 6	6	6 6	7 7	7 7	7 7	8 8	8	9 9	_	10 10	-		$\overline{}$
0.051 - 0.070 (0.0020 - 0.0028)		Т					$\prod$	1	1 1	1 '	1 1	1 :	2 2	2 2	2 2	3 3	3 3		3 4	4 4			5		5	6 6	6 6	6	7 7	7 7	7 8	8 8	8 8	9 :			10 11			
0.071 - 0.090 (0.0028 - 0.0035)								1 1	1 1	1	1 2	2	2 2	2 3	3 3	3 3	3 3	4 4	1 4	4 4			5	5 6	6	6 6	6	7 7	7 7	7 8	8 8	8 8	8 9	9 :		$\overline{}$	11 11	-	_	
0.091 - 0.110 (0.0036 - 0.0043)							1	1 1	1 1	2 2	2 2	2	2 3	3 3	3 3	3 4	1 4	4 4	-	-		5 5	$\rightarrow$	6 6	-	6 7	7 7	$\rightarrow$	7 8	8 8	8 8	$\overline{}$	9 9		_	$\overline{}$	11 11	-	_	_
0.111 - 0.130 (0.0044 - 0.0051)						1 1	1	1 1	2 2	2 2	2 2	3 :	3 3	3 3	3 4	4 4	1 4	4 5	5 5	5 5	5	6 6	6	6 6	7	7 7	7 7	7 8	8 8	8 8	9 9	_	_	$\rightarrow$	$\rightarrow$	_	11 12	-	$\rightarrow$	_
0.131 - 0.150 (0.0052 - 0.0059)					1	1 1	1	1 2	2 2	2 3	3 3	3 :	3 3	4 4	1 4	4 4	4 5	5 E	5 5	5 6	$\overline{}$	6 6	+ - +	7 7		7 7	-	$\rightarrow$	8 8	9 9	9 9	9	10 10	10 1	1 11	11 11	12 12	-	_	
0.151 - 0.170 (0.0059 - 0.0067)				$\perp$	1 1	1 1	1	2 2	2 3	3 3	3 3	3 4	4 4	4 4	1 4	5 5	5 5	5 5	$\overline{}$	-	-	-	7	_	7 :	8 8	8 8	3 8	9 9	9 9	-	_		_	1 11 1	_	12 13			14 14
0.171 - 0.190 (0.0067 - 0.0075)				1	1 1	1 2	2	2 3	3 3	3 3	3 4	4 4	4 4	4 5	5 5	5 8	5 5	6 6					+ • •	7 8	-	8 8		$\rightarrow$	9 9	9 10			1 - 1 -	1 11 1	-	12 12			_	14 15
0.191 - 0.210 (0.0075 - 0.0083)			1	1	1 1	2 2	2	3 3	3 3	4 4	1 4		4 5		$\rightarrow$	5 6	_	6 6					8 8							10 10							13 13			
0.211 - 0.230 (0.0083 - 0.0091)		1	1 1	1	1 2	2 2	3		4 4				5 5		5 6			6 7	7 7	7 7	7	8 8	8														13 14			
0.231 - 0.249 (0.0091 - 0.0098)		1 1	1 1	1	2 2	3 3	3	3 4	4 4	4 !	5 5	5	5 5	6 6	6	6 6	3 7	7 7	7 7	7 8	8	8 8	8 :	9 9	9 :	9 9	10 1	0 10	10 10	11 11	11 1	1 11	12 1:	2 12 1	3 13	13 13	14 14	15 1	5 15	15 16
0.250 - 0.350 (0.0098 - 0.0138)							Ш					$\sqcup$			$\perp$	Ш		Ш			$\perp$		1				L.	$\perp$		$\perp$	$\perp$	$\perp$	Ш	Ш	$\perp \perp$		$\perp \perp$	Ш	$\perp$	$\sqcup \sqcup$
0.351 - 0.370 (0.0138 - 0.0146)	2	3 3	3 3	4	4 5	5 5	5	6 6	6 7	7 7	7 7	7 1	8 8		8 8				_	_	$\overline{}$	-	$\overline{}$	$\overline{}$	_		-	$\overline{}$	$\overline{}$	_							16 17			
0.371 - 0.390 (0.0146 - 0.0154)	3	3 3	4 4	4	5 5	5 6	6	6 7	7 7	7 7	7 8	8	8 8	+	9	_	_	_												13 14	_						17 17		7 17	1
0.391 - 0.410 (0.0154 - 0.0161)	3	3 4	4 4	5	5 5	6 6	6	7 7	7 7	8 8		-	8 9	-	9	_	_				<del> </del>		+ +-		-	_	-	$\rightarrow$	$\rightarrow$	14 14	-						17 17			
0.411 - 0.430 (0.0162 - 0.0169)	3	4 4	4 5	5 5	5 6	6 6	7	$\rightarrow$		8 8	$\overline{}$	-	$\rightarrow$																	14 14							17 17	J		
0.431 - 0.450 (0.0170 - 0.0177)	4	4 5	5 5	5	6 6	7 7	7	7 8	8 8	8 9	9		9 9																	15 15		_	_	_	7 17	$\overline{}$				
0.451 0.470 (0.0178 0.0185)	4	5 5	5 5	6	6 7	7 7	7	8 8	8 9	9 9	9 9	9 1	0 10	10 1	0 10	111	1 11	-	_		-	_	_	_	-	_	_		-	15 15	-						J			
0.471 - 0.490 (0.0185 - 0.0193)	$\rightarrow$	5 5	6 6	6	7 7	7 8	8		9 9			10 1																		15 16	-			-	7 17	17				
0.491 - 0.510 (0.0193 - 0.0201)	$\rightarrow$	_	6 6	_	7 7	8 8	+ -	$\rightarrow$	-	_	$\overline{}$	-	_																	16 16					7					
0.511 - 0.530 (0.0201 - 0.0209)	$\rightarrow$	6 6	6 7	7	7 8	8 8		9 9																						16 16										
0.531 - 0.550 (0.0209 - 0.0217)	6	6 7	7 7		8 8	9 9	9	9 10	10 1	0 10 1	1 11	11 1																		17 17				7]						
0.551 - 0.570 (0.0217 - 0.0224)	_	7 7	_	$\rightarrow$	-			10 10																						17 17		7 17	J							
0.571 - 0.590 (0.0225 - 0.0232)	-	7 7	-																											17 17	17									
0.591 - 0.610 (0.0233 - 0.0240)		7 8	_	$\rightarrow$				11 11																						17										
0.611 - 0.630 (0.0241 - 0.0248)					9 10																		3 16 1						17											
0.631 - 0.650 (0.0248 - 0.0256)	8	8 9	9 9	9	10 10	11 11	1 11	11 12	12 1:	2 12 1	3 13	13 1	3 13	14 1	4 14	14 1	4 15	15 1	5 15	15 16	6 16	16 16	3 16 1	7 17	17 1	7 17	17 1	7												
0.651 - 0.670 (0.0256 - 0.0264)	8	9 9	9 9	10	10 11	11 11	1 11	12 12	12 1	3 13 1	3 13	13 1	4 14	1 14 1	4 14	15 1	5 15	15 1	5 16	16 16	6 16	16 17	7 17 1	7 17	17 1	7 17	j													
0.671 - 0.690 (0.0264 - 0.0272)	9	9 9	10 1	0 10	11 11	11 12	2 12	12 13	13 1:	3 13 1	3 14	14 1	4 14	141	5 15	15 1	5 15	16 1	6 16	16 16	6 17	17 17	7 17 1	7 17	17															
0.691 - 0.710 (0.0272 - 0.0280)					11 11																			7									- ــ ا ــ ا	4L.						<i>.</i> .
0.711 - 0.730 (0.0280 - 0.0287)		10 10			11 12																	17 1	긴							ľ	vev	v S	nım	tni	ckne	ess		m	nm	(in.)
0.731 - 0.750 (0.0288 - 0.0295)					12 12																7 17						C	aine			-				- !					
0.751 - 0.770 (0.0296 - 0.0303)					12 13															17								nim		Thi	ckn	es	s		him		Thi	ckr	es	s
0.771 - 0.790 (0.0304 - 0.0311)					13 13														7								N	Э.			O.KI	.00	•	N	0.			٠.٠.		-
0.791 - 0.810 (0.0311 - 0.0319)	111	11 12	12 1:	2 13	13 13	14 14	1 14	15 15	15 1	5 16 1	6 16	16 1	6 17	7 17 1	7 17	17 1	7 17	J										1	2	500	10	Λα	011	1	Λ	2	950	10	11	61)

**Exhaust valve clearance (Cold):** 0.25 - 0.35 mm (0.010 - 0.014 in.)**EXAMPLE:** 

12 13 13 13 13 14 14 15 15 15 15 16 16 16 17 17 17 17 17 17 17

14 14 15 15 15 15 16 16 17 17 17 17 17

14 15 15 15 15 16 16 17 17 17 17 17

15 15 15 16 16 16 17 17 17 17 17

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The 2.800 mm (0.1102 in.) shim is installed, and the measured clearance is 0.440 mm (0.0173 in.). Replace the 2.800 mm (0.1102 in.) shim with a new No.10 shim.

2.500 (0.0984) 10 2.950 (0.1161) 2.550 (0.1004) 11 3.000 (0.1181) 2.600 (0.1024) 12 3.050 (0.1201) 2.650 (0.1043) 13 3.100 (0.1220) 5 2.700 (0.1063) 14 3.150 (0.1240) 2.750 (0.1083) 15 3.200 (0.1260)

7 2.800 (0.1102) 16 3.250 (0.1280) 3.300 (0.1299) 2.850 (0.1122) 17 2.900 (0.1142)

HINT:

New shims have the thickness in millimeters imprinted on the face.

0.811 - 0.830 (0.0319 - 0.0327) 0.831 - 0.850 (0.0327 - 0.0335)

0.851 - 0.870 (0.0335 - 0.0343)

0.871 - 0.890 (0.0343 - 0.0350)0.891 - 0.910 (0.0351 - 0.0358)

0.911 - 0.930 (0.0359 - 0.0366)

0.931 - 0.950 (0.0367 - 0.0374)

0.951 - 0.970 (0.0374 - 0.0382)

0.971 - 0.990 (0.0382 - 0.0390)

0.991 - 1.010 (0.0390 - 0.0398)

1.011 - 1.030 (0.0398 - 0.0406)

1.031 - 1.050 (0.0406 - 0.0413)

1.051 - 1.070 (0.0414 - 0.0421)

1.071 - 1.090 (0.0422 - 0.0429)1.091 - 1.110 (0.0430 - 0.0437)

1.111 - 1.130 (0.0437 - 0.0445)

1.131 - 1.150 (0.0445 - 0.0413)