

**Engine Maintenance (Cont'd)**

**INSPECTION AND ADJUSTMENT**

**Coolant capacity (Refill capacity)**

Unit: ℓ (Imp qt)

**Drive belt deflection**

Unit: mm (in)

	Used belt deflection		Deflection of new belt
	Limit	Deflection after adjustment	
<b>Alternator</b>			
With air conditioner compressor	11.5 - 12.5 (0.453 - 0.492)	7 - 8 (0.28 - 0.31)	6.5 - 7.5 (0.256 - 0.295)
Without air conditioner compressor	12 - 13 (0.47 - 0.51)	8 - 9 (0.31 - 0.35)	7 - 8 (0.28 - 0.31)
<b>Power steering oil pump</b>	6 - 7 (0.24 - 0.28)	4 - 5 (0.16 - 0.20)	3.5 - 4.5 (0.138 - 0.177)
<b>Applied pushing force</b>	98 N (10 kg, 22 lb)		

With reservoir tank	6.6 (5-7/8)
Reservoir tank	0.7 (5/8)

**Spark plug**

	SR20DE (Conventional type)	
<b>Type</b>		
Standard	BKR6EY	PFR7B-9
Hot	BKR5EY	PFR6B-9
Cold	BKR7EY	PFR8B-9
<b>Plug gap</b>	mm (in)	
	0.8 - 0.9 (0.031 - 0.035)	0.8 - 0.9 (0.031 - 0.035)

**Oil capacity (Refill capacity)**

Unit: ℓ (Imp qt)

	SR20DE	SR20DET
With oil filter change	3.4 (3)	3.7 (3-1/4)
Without oil filter change	3.2 (2-7/8)	3.5 (3-1/8)

**Ignition wire**

<b>Resistance</b>	kΩ/m (kΩ/ft)	13.6 - 18.4 (4.15 - 5.61)
-------------------	--------------	---------------------------

# SERVICE DATA AND SPECIFICATIONS (S.D.S.)

## Chassis and Body Maintenance

### INSPECTION AND ADJUSTMENT

#### Clutch

Unit: mm (in)

Applied model	2WD		4WD	
	R.H.D.	L.H.D.	GA16DS engine models	SR20DET engine models
Pedal height*	159 - 169 (6.26 - 6.65)	150 - 160 (5.91 - 6.30)	162 - 172 (6.38 - 6.77)	159 - 169 (6.26 - 6.65)
Pedal free play "A <sub>1</sub> " (Backlash at clevis)	—			1 - 3 (0.04 - 0.12)
Pedal free travel "A <sub>2</sub> "	10.8 - 15.1 (0.425 - 0.594)			—
Withdrawal lever play "B"	2.5 - 3.5 (0.098 - 0.138)			—

\*: Measured from surface of melt sheet to surface of pedal pad.

### Front axle and front suspension (Unladen)\*1

#### Model B13

Except for Europe & Middle East

Applied model	Standard			Option	
	Sedan		Coupe		
	Except CD17	CD17			
Camber degree	-1°00' to 0°15'			-0°50' to 0°40'	
Caster degree	-1°05' to -2°35'			-1°05' to -2°35'	
Kingpin inclination degree	13°15' - 14°45'			12°50' - 14°20'	
Total toe-in mm (in) degree	1 - 3 (0.04 - 0.12) 6' - 18'				
Front wheel turning angle Full turn*2 degree	13-inch wheel				
	Inside	39° - 43°	36° - 40°	39° - 43°	39° - 43°
	Outside	34°	32°	34°	34°
	14-inch wheel				
Inside	33° - 37°				
Outside	30°				

### For Europe & Middle East

Applied model	Europe	Middle East	
Camber degree	-1°00' to 0°30'	-0°50' to 0°40'	
Caster degree	1°05' to 2°35'	0°55' to 2°25'	
Kingpin inclination degree	13°15' to 14°45'	12°50' to 14°20'	
Total toe-in mm (in) degree	1 - 3 (0.04 - 0.12) 6' - 18'		
Front wheel turning angle Full turn*2 degree	13-inch wheel		
	Inside	33° - 37°	39° - 43°
	Outside	30°	34°

\*1: Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.

\*2: On power steering models, wheel turning force (at circumference of steering wheel) is 98 to 147 N (10 to 15 kg, 22 to 33 lb) with engine at idle.

# SERVICE DATA AND SPECIFICATIONS (S.D.S.)

## Chassis and Body Maintenance (Cont'd)

### Model N14

Applied model	2WD			4WD	
	13-inch wheel		14-inch wheel	13-inch wheel	14-inch wheel
	Except CD engine	CD engine			
Camber degree	-1°00' to 0°30'			-0°40' to 0°50'	
Caster degree	0°40' to 2°10'			0°30' to 2°00'	
Kingpin inclination degree	13°15' to 14°45'			12°15' to 13°45'	
Total toe-in mm (in)	1 - 3 (0.04 - 0.12)				
degree	6' - 18'				
Front wheel turning angle					
Full turn* degree					
Inside	39° - 43°	36° - 40°	33° - 37°	37° - 41°	34° - 38°
Outside	34°	32°	30°	31°	29°

\* On power steering models, wheel turning force (at circumference of steering wheel) is 98 to 147 N (10 to 15 kg, 22 to 33 lb) with engine at idle.

### Rear axle and rear suspension (Unladen)\*

#### Model B13

Applied model	Coupe	Sedan
Camber degree	-1°55' to -0°25'	
Toe-in mm (in)	-1 to 3 (-0.04 to 0.12)	
Total toe-in degree	-6' to 18'	

#### Model N14

Applied model	2WD	4WD
Camber degree	-1°40' to -0°10'	-0°55' to 0°35'
Toe-in mm (in)	-1 to 3 (-0.04 to 0.12)	
Total toe-in degree	-6' to 18'	

\* Fuel, radiator coolant and engine oil full.  
Spare tire, jack, hand tools and mats in designated positions.

### Brake

Disc brake	mm (in)
<b>Pad</b>	
Standard thickness	10.0 (0.394)
Minimum thickness	2.0 (0.079)
<b>Rotor</b>	
Standard thickness	
CL18C	12.0 (0.472)
CL18VD	18.0 (0.709)
AD22VF	26.0 (1.024)
AD7HA	7.0 (0.276)
CL9HA	9.0 (0.354)
Minimum thickness	
CL18C	10.0 (0.394)
CL18VD	16.0 (0.630)
AD22VF	24.0 (0.945)
AD7HA	6.0 (0.236)
CL9HA	8.0 (0.315)
<b>Drum brake</b>	
<b>Lining</b>	
Standard thickness	
LT18C	4.0 (0.157)
LT23B	4.5 (0.177)
Wear limit	1.5 (0.059)
<b>Drum</b>	
Standard diameter	
LT18C	180.0 (7.09)
LT23B	228.6 (9)
Maximum diameter	
LT18C	181.0 (7.13)
LT23B	230.0 (9.06)

### Wheel balance

Maximum allowable unbalance	Dynamic (At rim flange) g (oz)	10 (0.35) (one side)
	Static g (oz)	20 (0.71)

# SERVICE DATA AND SPECIFICATIONS (S.D.S.)

## Chassis and Body Maintenance (Cont'd)

### Wheel bearing

	Front	Rear
Wheel bearing axle end play mm (in)	0.05 (0.0020) or less	
Wheel bearing lock nut Tightening torque N·m (kg-m, ft-lb)	196 - 275 (20 - 28, 145 - 203)	2WD: 186 - 255 (19 - 26, 137 - 188) 4WD: 196 - 275 (20 - 28, 145 - 203)

### TIGHTENING TORQUE

Unit	N·m	kg-m	ft-lb
<b>Clutch</b>			
Pedal stopper lock nut	16 - 22	1.6 - 2.2	12 - 16
Clutch switch lock nut	12 - 15	1.2 - 1.5	9 - 11
<b>Manual transaxle</b>			
Drain and filler plugs	25 - 34	2.5 - 3.5	18 - 25
<b>Automatic transaxle</b>			
Drain plug	29 - 39	3.0 - 4.0	22 - 29
<b>Front axle and front suspension</b>			
Tie-rod lock nut	37 - 46	3.8 - 4.7	27 - 34
<b>Rear axle and rear suspension</b>			
Toe adjusting pin	98 - 118	10 - 12	72 - 87
<b>Brake system</b>			
Air bleed valve	7 - 9	0.7 - 0.9	5.1 - 6.5
Brake lamp switch lock nut	12 - 15	1.2 - 1.5	9 - 11
Brake booster input rod lock nut	16 - 22	1.6 - 2.2	12 - 16
<b>Wheel and tire</b>			
Wheel nut	98 - 118	10 - 12	72 - 87

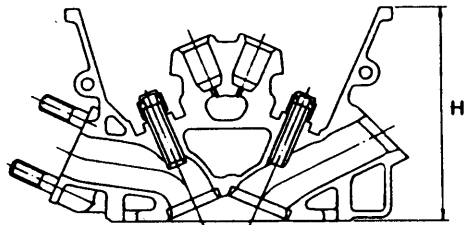
Inspection and Adjustment  
VALVE

CYLINDER HEAD

Unit: mm (in)

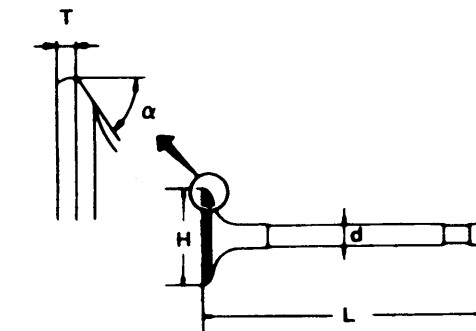
Unit: mm (in)

	Standard	Limit
Head surface distortion	Less than 0.03 (0.0012)	0.1 (0.004)



Nominal cylinder head height:  
H = 136.9 - 137.1 (5.390 - 5.398)

SEM956C



SEM188

Valve head diameter "D"

Intake	34.0 - 34.2 (1.339 - 1.346)
Exhaust	30.0 - 30.2 (1.181 - 1.189)

Valve length "L"

Intake	
SR20DE	101.19 - 101.61 (3.9839 - 4.0004)
SR20DET	101.845 - 102.355 (4.0096 - 4.0297)
Exhaust	
SR20DE	102.11 - 102.53 (4.0201 - 4.0366)
SR20DET	102.765 - 103.275 (4.0459 - 4.0659)

Valve stem diameter "d"

Intake	5.965 - 5.980 (0.2348 - 0.2354)
Exhaust	6.945 - 6.960 (0.2734 - 0.2740)

Valve seat angle "alpha"

Intake	45°15' - 45°45'
Exhaust	

Valve margin "T"

Intake	
SR20DE	1.1 (0.043)
SR20DET	1.3 (0.051)
Exhaust	
SR20DE	1.3 (0.051)
SR20DET	1.5 (0.059)

Valve margin "T" limit **More than 0.5 (0.020)**

Valve stem end surface grinding limit **Less than 0.2 (0.008)**

**Inspection and Adjustment (Cont'd)**

**Valve spring**

	SR20DE	SR20DET	
		Inner	Outer
Free height mm (in)	49.36 (1.9433)	40.49 (1.5941)	47.74 (1.8795)
Pressure N (kg, lb) at height mm (in)			
Standard	569.00 - 641.57 (58.02- 65.42, 127.93 - 144.25) at 30.0 (1.181)	154.95 - 174.76 (15.8 - 17.82, 34.84 - 39.29) at 20.6 (0.811)	451.51 - 504.18 (46.04 - 51.41, 101.52 - 113.36) at 27.9 (1.098)
Limit	549.2 (56.0, 123.5) at 30.0 (1.181)	147.1 (15.0, 33.1) at 20.6 (0.811)	428.6 (43.7, 96.4) at 27.9 (1.098)
Out-of-square mm (in)	Less than 2.2 (0.087)	Less than 1.8 (0.071)	Less than 2.1 (0.083)

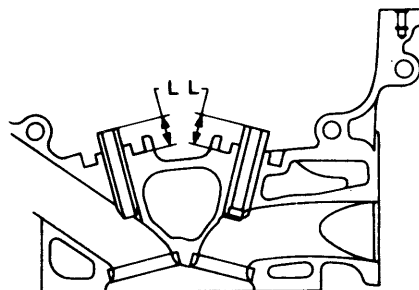
**Hydraulic lash adjuster (H.L.A.)**

Unit: mm (in)

H.L.A. outer diameter	16.980 - 16.993 (0.6685 - 0.6690)
H.L.A. guide inner diameter	17.000 - 17.020 (0.6693 - 0.6701)
Clearance between H.L.A. and H.L.A. guide	0.007 - 0.040 (0.0003 - 0.0016)

**Valve guide**

Unit: mm (in)



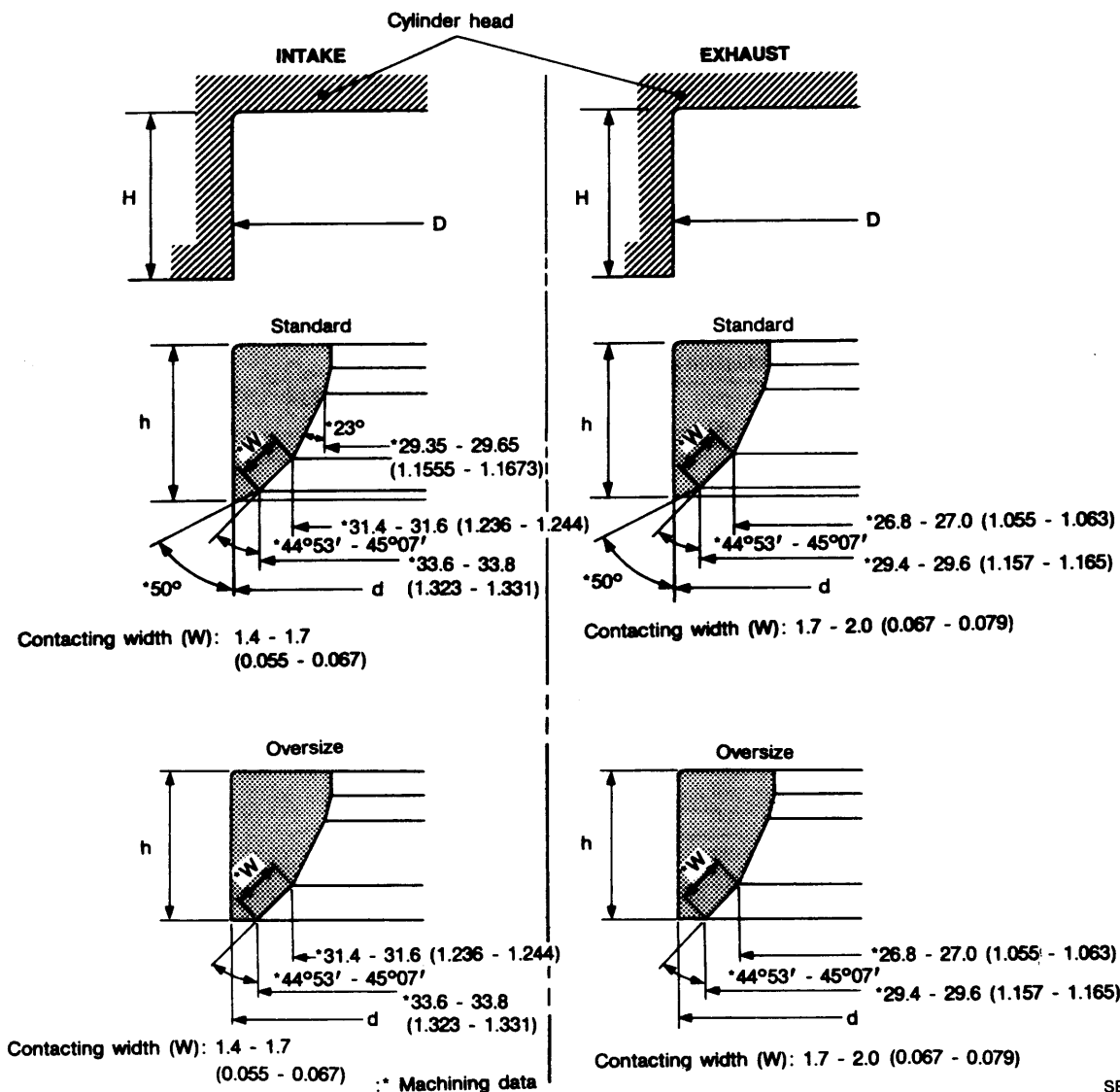
SEM083D

		Standard	Service
Valve guide	Outer diameter	Intake	10.023 - 10.034 (0.3946 - 0.3950)
		Exhaust	11.023 - 11.034 (0.4340 - 0.4344)
Valve guide	Inner diameter (Finished size)	Intake	6.000 - 6.018 (0.2362 - 0.2369)
		Exhaust	7.000 - 7.018 (0.2756 - 0.2763)
Cylinder head valve guide hole diameter	Intake	9.975 - 9.996 (0.3927 - 0.3935)	10.175 - 10.196 (0.4006 - 0.4014)
	Exhaust	10.975 - 10.996 (0.4321 - 0.4329)	11.175 - 11.196 (0.4400 - 0.4408)
Interference fit of valve guide		0.027 - 0.059 (0.0011 - 0.0023)	
Stem to guide clearance		Standard	Limit
		Intake	0.020 - 0.053 (0.0008 - 0.0021)
	Exhaust	0.040 - 0.073 (0.0016 - 0.0029)	0.1 (0.004)
Valve deflection limit		0.2 (0.008)	
Projection length "L"		14.0 - 14.2 (0.551 - 0.559)	

Inspection and Adjustment (Cont'd)

Valve seat

Unit: mm (in)



SEM651D

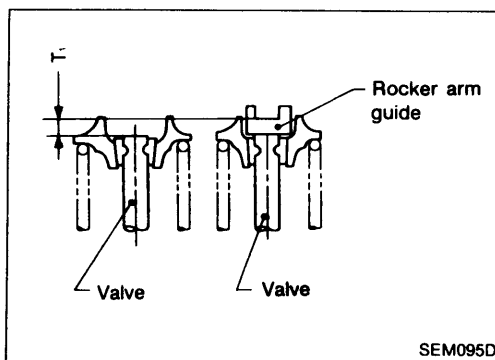
		Standard	Service
Cylinder head seat recess diameter (D)	In.	35.000 - 35.016 (1.3780 - 1.3786)	35.500 - 35.516 (1.3976 - 1.3983)
	Ex.	31.000 - 31.016 (1.2205 - 1.2211)	31.500 - 31.516 (1.2402 - 1.2408)
Valve seat interference fit	In.	0.064 - 0.096 (0.0025 - 0.0038)	
	Ex.	0.064 - 0.096 (0.0025 - 0.0038)	
Valve seat outer diameter (d)	In.	35.080 - 35.096 (1.3811 - 1.3817)	35.580 - 35.596 (1.4008 - 1.4014)
	Ex.	31.080 - 31.096 (1.2236 - 1.2242)	31.580 - 31.596 (1.2433 - 1.2439)
Depth (H)	In.	6.25 (0.2461)	
	Ex.	6.25 (0.2461)	
Height (h)		6.2 - 6.3 (0.244 - 0.248)	5.4 - 5.5 (0.213 - 0.217)

**Inspection and Adjustment (Cont'd)**

**Valve clearance adjustment (For SR20DE)**

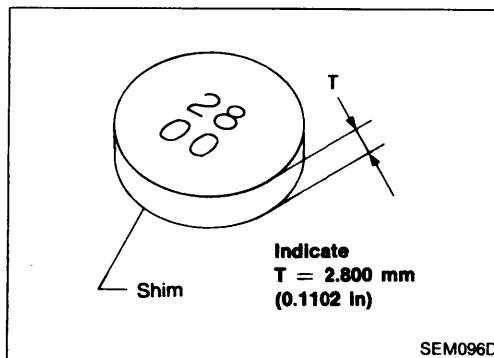
Unit: mm (in)

Valve clearance	
Intake	0 (0)
Exhaust	0 (0)
Valve clearance	
Adjustment valve limit (T) - (T <sub>i</sub> ) =	$-0.025 (-0.0010) \leq$ $[(T) - (T_i)] \leq 0.025 (0.0010)$



**Available shims (For SR20DE)**

Thickness mm (in)	Identification mark
2.800 (0.1102)	28 00
2.825 (0.1112)	28 25
2.850 (0.1122)	28 50
2.875 (0.1132)	28 75
2.900 (0.1142)	29 00
2.925 (0.1152)	29 25
2.950 (0.1161)	29 50
2.975 (0.1171)	29 75
3.000 (0.1181)	30 00
3.025 (0.1191)	30 25
3.050 (0.1201)	30 50
3.075 (0.1211)	30 75
3.100 (0.1220)	31 00
3.125 (0.1230)	31 25
3.150 (0.1240)	31 50
3.175 (0.1250)	31 75
3.200 (0.1260)	32 00

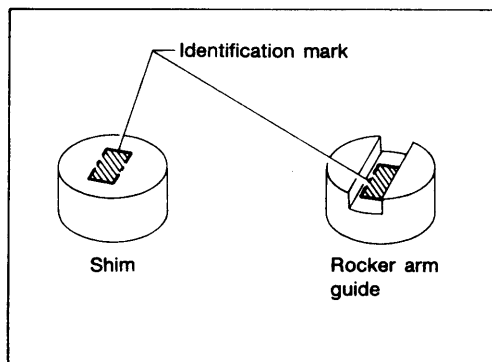


## Inspection and Adjustment (Cont'd)

### Valve clearance adjustment (For SR20DET)

Unit: mm (in)

	Hot	Cold*
Valve clearance		
Intake & Exhaust	0.30 - 0.35 (0.012 - 0.014)	0.21 - 0.26 (0.008 - 0.010)
Camshaft clearance		
Intake & Exhaust	0.20 - 0.23 (0.008 - 0.009)	0.14 - 0.17 (0.006 - 0.007)



\*: At a temperature of approximately 20°C (68°F)

**Whenever valve clearances are adjusted to cold specifications, check that the clearances satisfy hot specifications and adjust again if necessary.**

### Available shims and rocker arm guides (For SR20DET)

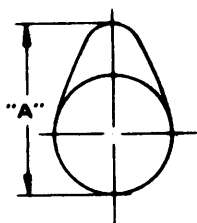
Thickness mm (in)	Identification mark	Thickness mm (in)	Identification mark	Thickness mm (in)	Identification mark
1.50 (0.0591)	1	2.175 (0.0856)	28	2.85 (0.1122)	55
1.525 (0.0600)	2	2.20 (0.0866)	29	2.875 (0.1132)	56
1.55 (0.0610)	3	2.225 (0.0876)	30	2.90 (0.1142)	57
1.575 (0.0620)	4	2.25 (0.0886)	31	2.925 (0.1152)	58
1.60 (0.0630)	5	2.275 (0.0896)	32	2.95 (0.1161)	59
1.625 (0.0640)	6	2.30 (0.0906)	33	2.975 (0.1171)	60
1.65 (0.0650)	7	2.325 (0.0915)	34	3.00 (0.1181)	61
1.675 (0.0659)	8	2.35 (0.0925)	35	3.025 (0.1191)	62
1.70 (0.0669)	9	2.375 (0.0935)	36	3.05 (0.1201)	63
1.725 (0.0679)	10	2.40 (0.0945)	37	3.075 (0.1211)	64
1.75 (0.0689)	11	2.425 (0.0955)	38	3.10 (0.1220)	65
1.775 (0.0699)	12	2.45 (0.0965)	39	3.125 (0.1230)	66
1.80 (0.0709)	13	2.475 (0.0974)	40	3.150 (0.1240)	67
1.825 (0.0719)	14	2.50 (0.0984)	41	3.175 (0.1250)	68
1.85 (0.0728)	15	2.525 (0.0994)	42	3.20 (0.1260)	69
1.875 (0.0738)	16	2.55 (0.1004)	43	3.225 (0.1270)	70
1.90 (0.0748)	17	2.575 (0.1014)	44	3.25 (0.1280)	71
1.925 (0.0758)	18	2.60 (0.1024)	45	3.275 (0.1289)	72
1.95 (0.0768)	19	2.625 (0.1033)	46	3.30 (0.1299)	73
1.975 (0.0778)	20	2.65 (0.1043)	47	3.325 (0.1309)	74
2.00 (0.0787)	21	2.675 (0.1053)	48	3.35 (0.1319)	75
2.025 (0.0797)	22	2.70 (0.1063)	49	3.375 (0.1329)	76
2.05 (0.0807)	23	2.725 (0.1073)	50	3.40 (0.1339)	77
2.075 (0.0817)	24	2.75 (0.1083)	51	3.425 (0.1348)	78
2.10 (0.0827)	25	2.775 (0.1093)	52	3.45 (0.1358)	79
2.125 (0.0837)	26	2.80 (0.1102)	53	3.475 (0.1368)	80
2.15 (0.0846)	27	2.825 (0.1112)	54	3.50 (0.1378)	81

**Inspection and Adjustment (Cont'd)**

**CAMSHAFT AND CAMSHAFT BEARING**

Unit: mm (in)

	Standard	Limit
Camshaft journal to bearing clearance	0.045 - 0.086 (0.0018 - 0.0034)	0.12 (0.0047)
Inner diameter of camshaft bearing	28.000 - 28.021 (1.1024 - 1.1032)	—
Outer diameter of camshaft journal	27.935 - 27.955 (1.0998 - 1.1006)	—
Camshaft runout [T.I.R.*]	Less than 0.02 (0.0008)	0.1 (0.004)
Camshaft sprocket runout [T.I.R.*]	Less than 0.25 (0.0098)	—
Camshaft end play	0.055 - 0.139 (0.0022 - 0.0055)	0.20 (0.0079)



EM671

**Cam height "A"**

**Intake**

SR20DE	38.408 - 38.598 (1.5121 - 1.5196)
SR20DET	38.648 - 38.838 (1.5216 - 1.5291)

**Exhaust**

SR20DE	37.920 - 38.110 (1.4929 - 1.5004)
SR20DET	38.648 - 38.838 (1.5216 - 1.5291)

<b>Wear limit of cam height</b>	<b>0.2 (0.008)</b>
---------------------------------	--------------------

**Valve lift**

**Intake**

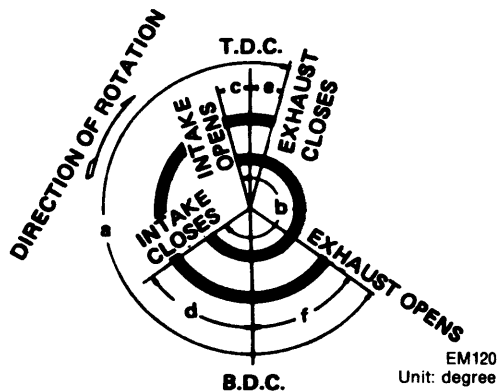
SR20DE & SR20DET	10.0 (0.394)
------------------	--------------

**Exhaust**

SR20DE	9.2 (0.362)
SR20DET	10.0 (0.394)

\*Total indicator reading

**Valve timing**



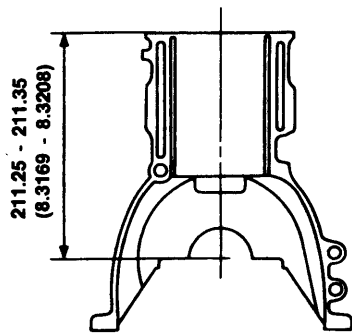
	a	b	c	d	e	f
SR20DE	240°	248°	9°	59°	9°	51°
SR20DET	248°	248°	14°	54°	8°	60°

EM120  
Unit: degree

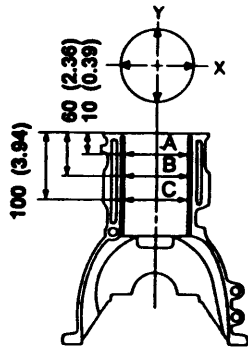
**Inspection and Adjustment (Cont'd)**

**CYLINDER BLOCK**

Unit: mm (in)



SEM008D



SEM686D

**Surface flatness**

Standard	Less than 0.03 (0.0012)
Limit	0.10 (0.0039)

**Cylinder bore**

**Inner diameter**

**Standard**

Grade No. 1	86.000 - 86.010 (3.3858 - 3.3862)
Grade No. 2	86.010 - 86.020 (3.3862 - 3.3866)
Grade No. 3	86.020 - 86.030 (3.3866 - 3.3870)

**Wear limit** 0.20 (0.0079)

**Out-of-round (X - Y)** Less than 0.015 (0.0006)

**Taper (A - B - C)** Less than 0.010 (0.0004)

**Difference in inner diameter between cylinders**

**Limit** Less than 0.05 (0.0020)

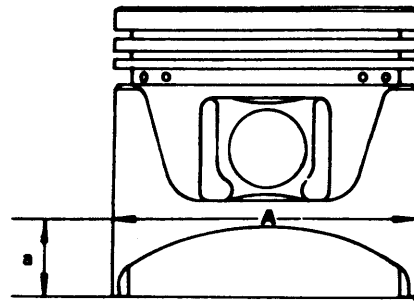
**Main journal inner diameter**

Grade No. 0	58.944 - 58.950 (2.3206 - 2.3209)
Grade No. 1	58.950 - 58.956 (2.3209 - 2.3211)
Grade No. 2	58.956 - 58.962 (2.3211 - 2.3213)
Grade No. 3	58.962 - 58.968 (2.3213 - 2.3216)

**PISTON, PISTON RING AND PISTON PIN**

**Available piston**

Unit: mm (in)



SEM750C

**Piston skirt diameter "A"**

**Standard**

Grade No. 1	85.980 - 85.990 (3.3850 - 3.3854)
Grade No. 2	85.990 - 86.000 (3.3854 - 3.3858)
Grade No. 3	86.000 - 86.010 (3.3858 - 3.3862)
0.20 (0.0079) over-size (Service)	86.180 - 86.210 (3.3929 - 3.3941)

**"a" dimension** 14.0 (0.551)

**Piston clearance to cylinder block** 0.010 - 0.030 (0.0004 - 0.0012)

**Piston pin hole diameter** 21.987 - 21.999 (0.8656 - 0.8661)

**Inspection and Adjustment (Cont'd)**

**Piston ring**

Unit: mm (in)

Side clearance	
Top	
Standard	0.045 - 0.080 (0.0018 - 0.0031)
Limit	0.2 (0.008)
2nd	
Standard	0.030 - 0.065 (0.0012 - 0.0026)
Limit	0.2 (0.008)
Ring gap	
Top	
Standard	0.20 - 0.30 (0.0079 - 0.0118)
Limit	1.0 (0.039)
2nd	
Standard	0.35 - 0.50 (0.0138 - 0.0197)
Limit	1.0 (0.039)
Oil	
Standard	0.20 - 0.60 (0.0079 - 0.0236)
Limit	1.0 (0.039)

**CONNECTING ROD**

Unit: mm (in)

Center distance	136.30 (5.3661)
Bend, torsion [per 100 (3.94)]	
Limit	0.15 (0.0059)
Torsion [per 100 (3.94)]	
Limit	0.3 (0.0012)
Connecting rod small end inner diameter	24.980 - 25.000 (0.9835 - 0.9843)
Piston pin bushing inner diameter*	22.000 - 22.012 (0.8661 - 0.8666)
Connecting rod big end inner diameter	51.000 - 51.013 (2.0079 - 2.0084)
Side clearance	
Standard	0.20 - 0.35 (0.0079 - 0.0138)
Limit	0.5 (0.020)

\*After installing in connecting rod

**Piston pin**

Unit: mm (in)

Piston pin outer diameter	21.989 - 22.001 (0.8657 - 0.8662)
Interference fit of piston pin to piston	0 - 0.004 (0 - 0.0002)
Piston pin to connecting rod bushing clearance	
Standard	0.005 - 0.017 (0.0002 - 0.0007)
Limit	0.023 (0.0009)

\* Values measured at ambient temperature of 20°C (68°F)

**Inspection and Adjustment (Cont'd)**

**CRANKSHAFT**

Unit: mm (in)

<b>Main journal dia. "Dm"</b>	
Grade No. 0	54.974 - 54.980 (2.1643 - 2.1646)
Grade No. 1	54.968 - 54.974 (2.1641 - 2.1643)
Grade No. 2	54.962 - 54.968 (2.1639 - 2.1641)
Grade No. 3	54.956 - 54.962 (2.1636 - 2.1639)

<b>Pin journal dia. "Dp"</b>	
Grade No. 0	47.968 - 47.974 (1.8885 - 1.8887)
Grade No. 1	47.962 - 47.968 (1.8883 - 1.8885)
Grade No. 2	47.956 - 47.962 (1.8880 - 1.8883)

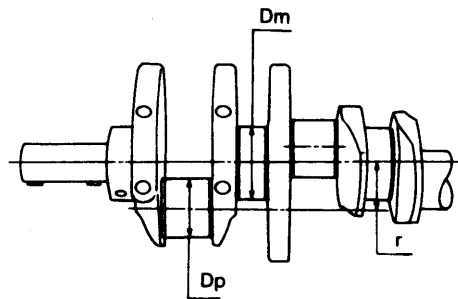
<b>Center distance "r"</b>	42.96 - 43.04 (1.6913 - 1.6945)
----------------------------	---------------------------------

<b>Out-of-round (X - Y)</b>	
Standard	
SR20DE (Main & pin journal)	Less than 0.005 (0.0002)
SR20DET (Main journal)	Less than 0.005 (0.0002)
SR20DET (Pin journal)	Less than 0.0025 (0.0001)

<b>Taper (A - B)</b>	
Standard	
SR20DE (Main & pin journal)	Less than 0.005 (0.0002)
SR20DET (Main journal)	Less than 0.005 (0.0002)
SR20DET (Pin journal)	Less than 0.0025 (0.0001)

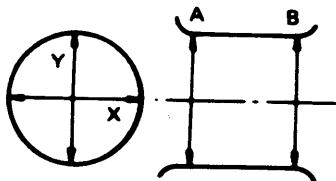
<b>Runout [T.I.R.]</b>	
Standard	
	Less than 0.025 (0.0010)
Limit	
	Less than 0.05 (0.0020)

<b>Free end play</b>	
Standard	
	0.10 - 0.26 (0.0039 - 0.0102)
Limit	
	0.30 (0.0118)



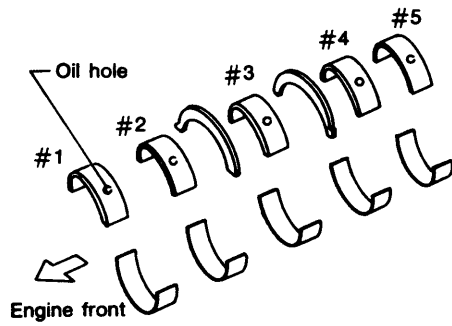
SEM954C

Out-of-round X - Y  
Taper A - B



EM715

**AVAILABLE MAIN BEARING**



SEM685D

**Main bearing (Standard)**

Unit: mm (in)

Grade number	Thickness "T"	Width "W"	Identification color (mark)
0	1.977 - 1.980 (0.0778 - 0.0780)	18.9 - 19.1 (0.744 - 0.752)	Black (A)
1	1.980 - 1.983 (0.0780 - 0.0781)		Brown (B)
2	1.983 - 1.986 (0.0781 - 0.0782)		Green (C)
3	1.986 - 1.989 (0.0782 - 0.0783)		Yellow (D)
4	1.989 - 1.992 (0.0783 - 0.0784)		Blue (E)
5	1.992 - 1.995 (0.0784 - 0.0785)		Pink (F)
6	1.995 - 1.998 (0.0785 - 0.0787)		No color (G)

**Main bearing (Undersize)**

Unit: mm (in)

Undersize	Thickness "T"	Main journal diameter "Dm"
0.25 (0.0098)	2.109 - 2.117 (0.0830 - 0.0833)	Grind so that bearing clearance is the specified value.

**Inspection and Adjustment (Cont'd)**

**AVAILABLE CONNECTING ROD BEARING**

**MISCELLANEOUS COMPONENTS**

Unit: mm (in)

**Connecting rod bearing**

**Standard size**

Unit: mm (in)

Grade number	Thickness "T"		Width "W"	Identification color (mark)
	SR20DE	SR20DET		
0	1.500 - 1.503 (0.0591 - 0.0592)	1.495 - 1.498 (0.0589 - 0.0590)	16.9 - 17.1 (0.665 - 0.673)	No color (A)
1	1.503 - 1.506 (0.0592 - 0.0593)	1.498 - 1.501 (0.0590 - 0.0591)		Black (B)
2	1.506 - 1.509 (0.0593 - 0.0594)	1.501 - 1.504 (0.0591 - 0.0592)		Brown (C)

Camshaft sprocket runout limit [T.I.R.]	0.25 (0.0098)
Flywheel runout limit [T.I.R.]	0.1 (0.004)

**Undersize**

Unit: mm (in)

Undersize	Thickness "T"		Crank pin journal diameter "Dp"
	SR20DE	SR20DET	
0.08 (0.0031)	1.541 - 1.549 (0.0607 - 0.0610)	1.536 - 1.544 (0.0605 - 0.0608)	Grind so that bearing clearance is the specified value.
0.12 (0.0047)	1.561 - 1.569 (0.0615 - 0.0618)	1.556 - 1.564 (0.0613 - 0.0616)	
0.25 (0.0098)	1.626 - 1.634 (0.0640 - 0.0643)	1.621 - 1.629 (0.0638 - 0.0641)	

**Bearing clearance**

Unit: mm (in)

**Main bearing clearance**

Standard	0.004 - 0.022 (0.0002 - 0.0009)
Limit	0.05 (0.0020)

**Connecting rod bearing clearance**

Standard	
SR20DE	0.020 - 0.045 (0.0008 - 0.0018)
SR20DET	0.030 - 0.055 (0.0012 - 0.0022)
Limit	0.09 (0.0035)

**Engine Lubrication System**

**Oil pressure check**

Engine rpm	Approximate discharge pressure kPa (bar, kg/cm <sup>2</sup> , psi)
Idle speed	SR20DE: More than 98 (0.98, 1.0, 14)
	SR20DET: More than 98 (0.98, 1.0, 14)
3,200	SR20DE: 324 - 422 (3.24 - 4.22, 3.3 - 4.3, 47 - 61)
	SR20DET: 343 - 441 (3.43 - 4.41, 3.5 - 4.5, 50 - 64)

**Oil pump inspection**

Unit: mm (in)

Body to outer gear clearance	0.114 - 0.200 (0.0045 - 0.0079)
Inner gear to outer gear tip clearance	Below 0.18 (0.0071)
Body to inner gear clearance	0.05 - 0.09 (0.0020 - 0.0035)
Body to outer gear clearance	0.05 - 0.11 (0.0020 - 0.0043)
Inner gear to brazed portion of housing clearance	0.045 - 0.091 (0.0018 - 0.0036)

**Regulator valve inspection**

Unit: mm (in)

Regulator valve to oil pump cover clearance	0.040 - 0.097 (0.0016 - 0.0038)
---	---------------------------------

**Engine Cooling System**

**Thermostat**

Valve opening temperature	°C (°F)	76.5 (170)
Max. valve lift	mm/°C (in/°F)	8/90 (0.31/194)

**General Specifications**

<b>PRESSURE REGULATOR</b>	
Fuel pressure at idling kPa (bar, kg/cm <sup>2</sup> , psi)	
Vacuum hose is connected	Approximately 245 (2.45, 2.5, 36)
Vacuum hose is disconnected	Approximately 294 (2.94, 3.0, 43)

**Inspection and Adjustment**

Engine	SR20DE	SR20DET
Idle speed*1 rpm		
No-load*2 (in "N" position)	850 ± 50	925 <sup>+25</sup> <sub>-75</sub>
Air conditioner: ON (in "N" position)	850 ± 50	925 <sup>+25</sup> <sub>-75</sub>
Ignition timing	15° ± 2° B.T.D.C.	20° ± 2° B.T.D.C.
Throttle sensor idle position V	0.45 - 0.55	

\*1: Feedback controlled and needs no adjustments

\*2: Under the following conditions:

- Air conditioner switch: OFF
- Electric load: OFF (Lights, heater, fan & rear defogger)

**FUEL PUMP**

Resistance	Ω	Approximately 0.7
------------	---	-------------------

**A.A.C. VALVE**

Resistance	Ω	Approximately 10.0
------------	---	--------------------

**INJECTOR**

Engine	SR20DE	SR20DET
Resistance	Ω	10 - 14
		1 - 3

**IGNITION COIL**

Primary voltage V	12
Primary resistance [at 20°C (68°F)] Ω	Approximately 1.0
Secondary resistance [at 20°C (68°F)] kΩ	Approximately 10.0

**RESISTOR**

Resistance	kΩ	Approximately 2.2
------------	----	-------------------

**AIR FLOW METER**

Supply voltage V	Battery voltage (11 - 14)
Output voltage V	SR20DE: 1.3 - 1.8* SR20DET: 1.0 - 1.5*

\*: Engine is warmed up sufficiently and idling under no-load.

**THROTTLE SENSOR**

Accelerator pedal conditions	Resistance kΩ
Completely released	Approximately 2
Partially released	2 - 11
Completely depressed	Approximately 11

**ENGINE TEMPERATURE SENSOR**

Temperature °C (°F)	Resistance kΩ
20 (68)	2.1 - 2.9
50 (122)	0.68 - 1.00
80 (176)	0.30 - 0.33