DAIHATSU

TYPE CB ENGINE

[CB-23, CB-61 & CB-80]

DAIHATSU MOTOR CO., LTD.
NO.9173-GE

WORKSHOP MANUAL

DAIHATSU

TYPE CB ENGINE

[CB-23, CB-61 & CB-80]

FOREWORD

This workshop manual contains essential information regarding the construction, operation, adjustment procedure and servicing method of the Type CB-23, CB-61 and CB-80 engines which are mounted on the DAIHATSU CHARADE.

The contents and specifications in this manual may be partly revised without advance notice and without incurring any obligation to us.

Published in June, 1987

DAIHATSU MOTOR CO., LTD.

WM-00000

SECTION INDEX

DAIHATSU

TYPE CB ENGINE

[CB-23, CB-61 & CB-80]

SECTION 1
GENERAL INFORMATION

WM-01001

HOW TO USE THIS WORKSHOP MANUAL

[Articles To Be Prepared]

As regards general tools (those tools which are normally provided in a service shop), jacks and other standard equipment, they are omitted in this workshop manual.

As for those Special Service Tools (SSTs) which are necessary for the service operations, they are posted collectively in the tables under SECTION 11 APPENDIX. Hence, please prepare them prior to the service operation.

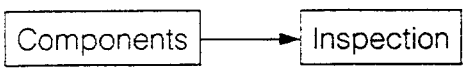
In respect to instruments, lubricants and so forth, be sure to use those designated by Daihatsu.

WM-01002

[Composition]

1. The component diagram is provided in the beginning of each section. Refer to this component diagram whenever you want to assure the shape or the part name of each part during the installation operation or the removal operation.
2. In principle, each section is arranged in the following order. However, it should be noted that the composition for the in-vehicle operation differs from this order.

However, instances where the removal or the installation is comparatively easy or no SST or the like is required, the arrangement is made as follows:



3. With regard to the tightening torque specifications, they are indicated in the Engine Components and Tightening Torque under SECTION 3-10. In addition, they are shown in the tables under SECTION 11 SERVICE SPECIFICATIONS.
   However, as for those items where no specific tightening torque is mentioned, perform the operation referring to the Tightening Torque for Main Components under SECTION 00.

WM-01003

[Numerals]

As regards those numerals which are posted under "Inspection" and under sections other than SECTION 11 SERVICE SPECIFICATIONS, those numerals from the specified values to the allowable limits a. posted.As for those numerals which are posted under SECTION 11 SERVICE SPECIFICATIONS, those numerals concerning the specified values and allowable limits are indicated separately.

WM-01004

[NOTE]

1. "NOTES" posted in the main text clearly show those items which need particular attention or prohibited items which must be avoided during the service operation.
2. Prior to the operation, make certain to take any necessary precautionary measures so as to prevent personal injury during the removal/installation of parts.

WM-01005

STRUCTIONS ON SERVICE OPERATIONS

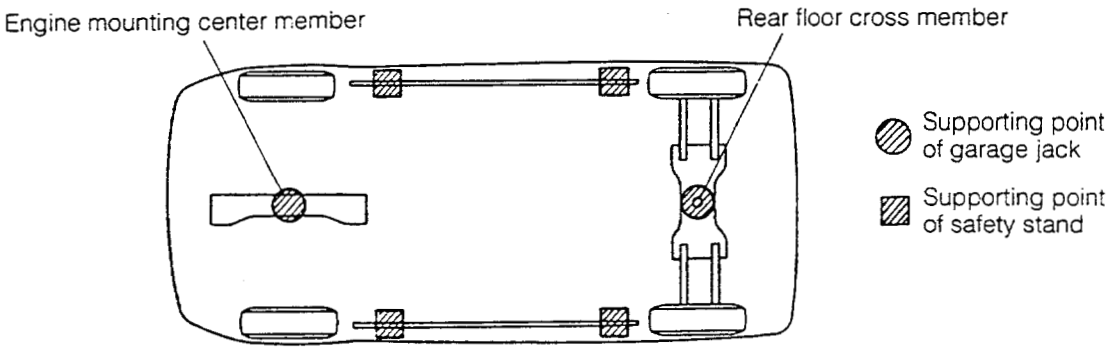
1. Make sure that only the specified bolts and nuts are used. Also, where specified, be sure to employ a torque wrench to tighten bolts or nuts to specifications.
2. When tightening or slackening bolts, be sure to progressively tighten or slacken them over several stages, slightly at a time. This caution must be observed to prevent the tightened parts from being distorted or damaged.
3. Use only genuine parts for every replacement operation.
4. For increased working efficiency and improved accuracy, utilize SSTs (Special Service Tools) effectively.
5. When both front and rear sections of the vehicle or only the rear section thereof is jacked up, make certain to place chocks at the wheels correctly in order to assure safe operations.
6. When the vehicle is jacked up, make sure to support the vehicle with safety stands positioned at the specified jacking points.
7. Before any repair work is made on the electrical system or the engine is removed or installed, first be sure to disconnect the negative (−) terminal of the battery.
8. Disassembly
   (1) When complicated part are disassembled, put stamped marks or mate marks on suitable non-functional sections of the parts in order that the said parts may be easily assembled in the correct original positions.
   (2) Replacements of the cylinder block or crankshaft, etc. should be carried out after the engine assembly has been removed from the vehicle.
9. Checks to be performed during disassembly
   Each time a part is removed, check conditions under which the part has been assembled. Also, check to see if the part exhibits any evidence of distortion, breakage, wear or scores, etc.
10. Arrangement of disassembled parts
    Put disassembled parts in a good order. Moreover, divide disassembled parts into two groups: those parts to be replaced and those parts which can be reused.
11. Washing disassembled parts
    As for those parts which can be reused, thoroughly clean or wash them. (except grease sealed bearing)
12. Inspection
    Those parts which are to be reused must be carefully inspected or measured, as required.
13. Those operations specified under "Inspection" are performed, in principle, in combination with the checks and repairs. It is, therefore, necessary to replace any part which does not conform to the specifications. However, in cases where otherwise specified in the main text, be sure to follow the given instructions.
14. Assembly of parts
    Those satisfactory parts only should be assembled in accordance with the prescribed standards (e.g. specified adjustment values, tightening torque and so forth).
    Furthermore, seal packing or grease should be applied, as required.
    Furthermore, in respect to packings, gaskets, oil seals and similar items, be certain to install new parts.
15. Adjustments and checking of service operations
    Service operations must be carried out correctly by means of gauges or testers, if the use of these instruments is required.
16. Never smoke during the service operation. Also, be sure not to allow any fire to be brought near the working bay.
17. Under no circumstances should your hand touch with the front side and back sides, the installation surfaces of each bearing insert. Also, be very careful not to scratch the surfaces. Do not wipe off the bearing surfaces with a cloth. Be certain to blow off them, using compressed air.
    Protect your eyes with safety glasses during this cleaning.

18. The warming-up state of the engine means a state in which the temperature of the cooling water reaches at least 75 - 85°C (167 - 185 F) and the temperature of the engine oil reaches at least 65°C (149 F).
    These temperatures can be judged by observing a point where the cooling fan motor ceases its rotation.
    NOTE:
    When the idle speed is checked on Type CB-80 engine, special warming-up procedure is required. Hence, be sure to refer to the section under "Checking Idle Speed."

WM-01006

ACKING POINTS AND SUPPORTING POINTS OF SAFETY STANDS

- **Jacking point**
  Front side ..... Engine mounting center member (Place the jack below the member, exercising care of the exhaust pipe.)
  Rear side ..... Center of rear floor cross member



- **Supporting points of safety stands**
  Four supporting points are located at the right and left sides. (The supporting points have been strengthened by spot-welding reinforcements. Never support the vehicle at points other than the specified points.)

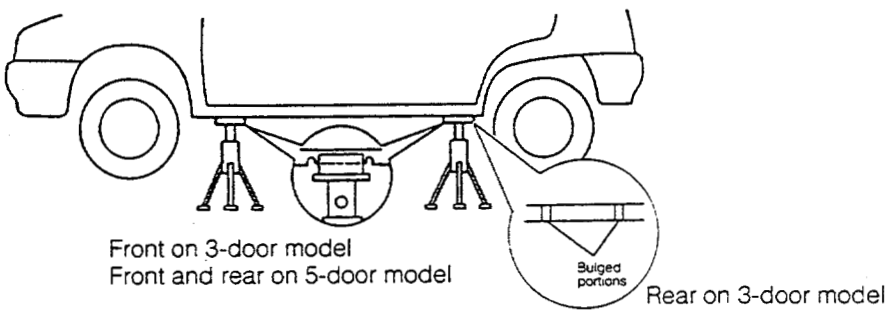


Fig. 1-1 WR-01007

SUPPORTING POINTS OF TWO-POST LIFT

-n the supporting pads of a two-post lift with the supporting points of safety stands, as indicated in the igure above.

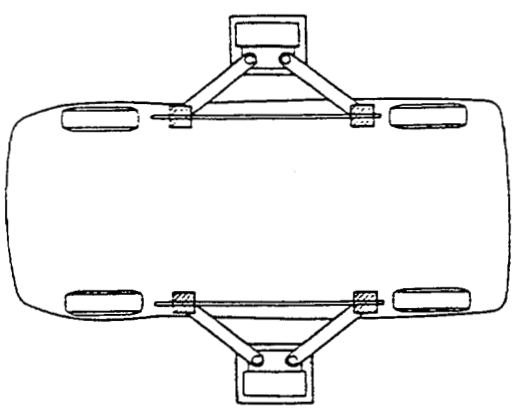


Fig. 1-2 WR-01008

LOCATION OF ENGINE TYPE AND ENGINE NUMBER

ENGINE TYPE EMBOSSED POSITION

The engine type is embossed on the power train side of the cylinder block.

ENGINE NUMBER STAMPED POSITION

1. **CB-23 and CB-61**
   The engine serial number is stamped on the cylinder head at the front end section.

   For the Australian specifications, the engine number is stamped also at the side of the embossed engine type.

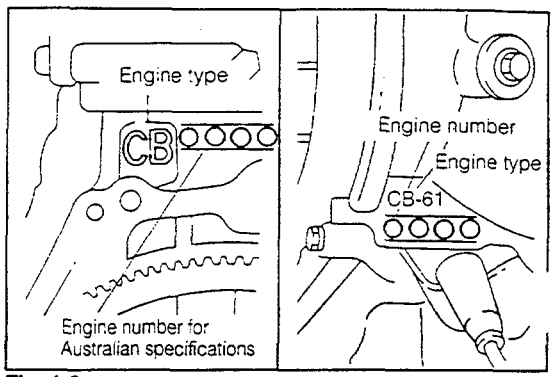


Fig. 1-3 WR-01009

2. **CB-80**
   The engine serial number is stamped on the cylinder head at the rear end section

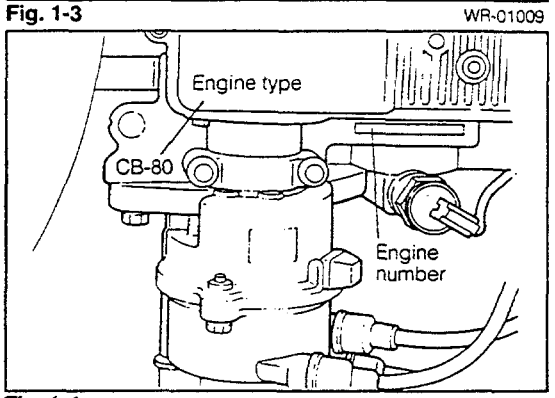


Fig. 1-4 WR-01010

.BBREVIATION CODES

The abbreviation codes that appear in this workshop manual stand for the following, respectively.

Abbreviation code	Original word	Meaning
RH	Right Hand	Refers to right side.
LH	Left Hand	Refers to left side.
FR	FRont	Refers to front side.
RR	ReaR	Refers to rear side.
STD	StanDard	When referring to automotive parts, "standard" represents those parts which have been installed originally by the manufacturer and which have standard dimensions.
O/S	Over Size	In instances where fitting becomes too loose due to wear resulting from use for a long period of time or due to frequent removal/installation operations, if fitting part (e.g. piston) is replaced with a part having larger dimensions, the other mating part may be put into use again. "Over sized" parts denote those parts having larger dimensions compared with standard parts.
U/S	Under Size	In the same manner as with the "oversized" parts, if fitting part (e.g. bush and bearing) is replaced with a part having smaller bore dimensions, the other mating part may be put into use again. "Under sized" part denote those parts having smaller dimensions compared with standard parts.
ATDC	After Top Dead Center	Refers to position of piston in cylinder where piston is near but has passed over the top of the stroke.
BTDC	Before Top Dead Center	Refers to position of piston in cylinder where piston is near but has not reached the top of the stroke.
IN	INtake	Refers to intake system.
EX	EXhaust	Refers to Exhaust system.
PR	Pry Rating	Represents strength of tires. The larger the pry rating number, the stronger the tire strength.
SAE	Society of Automotive Engineers	For example, automotive oils are designated as SAE so and so number. These designation numbers have been set forth by the Society of Automotive Engineers in the United States of America (SAE). The larger the SAE number, the higher the oil viscosity. Conversely, the smaller the SAE number, the lower the oil viscosity.
API	American Petroleum Institute	The standards set forth by the American Petroleum Institute (abbreviated as API Classification) have been employed to evaluate and classify properties of various oils. Engine oils for gasoline engines are classified as SD, SE and so on, whereas engine oils for diesel engines are classified as CC, CD and so on.
SST	Special Service Tool	Refers to a tool designed for a specific purpose.
T	Torque	Refers to tightening torque.
S/A	Sub-AssembIY	Refers to a component comprising more than two single parts which are welded, staked, or studded to each other to form a single component.
Ay/Assy	Assembly	Refers to an assembled component comprising more than two single parts or sub-assembly parts.
W/	With	Denotes that the following part is attached.
L/	Less	Denotes that the following part is not attached.
M/T	Manual Transmission	Refers to manual type transmission.
A/T	Automatic Transmission	Refers to automatic transmission.
T/C	Turbo Charger	
W/G	Waste Gate	Refers to exhaust by-pass.
A/C	Air Cleaner	

WM-01011

List of Abbreviated Component Names of Exhaust Emission Control System

The table below shows abbreviated component names of the exhaust emission control system. The components of the exhaust emission control system are described in this manual in their abbreviated forms.

	Abbreviation	Component name
1	BVSV	Bimetal Vacuum Switching Valve
2	C/O	Choke Opener
3	DP	Dashpot
4	VTV	Vacuum Transmitting Valve
5	VS	Vacuum Switch
6	AD	Advance
7	T.P	Throttle Positioner
8	TVSV	Thermostatic Vacuum Switching Valve
9	EGR	Exhaust Gas Recirculation

WM-01012

AIN SPECIFICATIONS

Item					Engine type	CB-23	CB-61	CB-80
Engine	Type					Petrol, 4-cycle	Petrol, 4-cycle	Petrol, 4-cycle
	Mounting location					Front	Front	Front
	Cylinder No. and arrangement					3-cylinder-in-line, mounted transversely	3-cylinder-in-line, mounted transversely	3-cylinder-in-line, mounted transversely
	Combustion chamber type					Multi-sphere type	Multi-sphere type	Pent roof type
	Valve mechanism					Belt-driven overhead camshaft	Belt-driven overhead camshaft	Belt-driven (DOHC)
	Bore × stroke				mm (inch)	76 × 73 (2.99 × 2.87)	76 × 73 (2.99 × 2.87)	76 × 73 (2.99 × 2.87)
	Compression ratio					9.5	8.0	7.8
	Compression pressure				kg/cm²-rpm (psi-rpm)	12.5 - 350 (177.8 - 350)	12.0 - 350 (170.7 - 350)	10.5 - 300 (149.3 - 300)
	Maximum output	SAE net	kw/rpm	General specifications		38/5,600	50/5,500	74/6,500
		EEC	kw/rpm	Australian specifications		38/5,600	50/5,500	—
		EEC DIN	kw/rpm	ECE & EEC specifications		38/5,600	50/5,500	74/6,500
	Maximum torque	SAE net	Nm/rpm	General specifications		75.5/3,200	106/3,200	130/3,500
		EEC	Nm/rpm	Australian specifications		75.5/3,200	106/3,200	—
		EEC DIN	Nm/rpm	ECE & EEC specifications		75.5/3,200	106/3,500	130/3,500
	Engine dimensions [Length × width × height]				mm (inch)	566 × 530 × 636 (22.28 × 20.87 × 25.04)	563 × 520 × 632 (22.17 × 20.47 × 24.88)	576 × 573 × 624 (22.68 × 22.56 × 24.57)
	Service engine weight				kg (lb)	92 (202.9)	96 (212)	105 (233.7)
	Number of piston rings	Compression ring				2	2	2
		Oil ring				1	1	1
	Valve timing	Intake	Open			19°BTDC	11°BTDC	23°BTDC
			Close			51°ABDC	49°ABDC	51°ABDC
		Exhaust	Open			51°BBDC	49°BBDC	49°BBDC
			Close			19°ATDC	11°ATDC	17°ATDC
	Valve clearance mm (inch)		Intake			[Hot] 0.20 (0.0079)	[Hot] 0.25 (0.0098)	[Hot] 0.27 (0.0101)
			Exhaust			[Hot] 0.20 (0.0079)	[Hot] 0.25 (0.0098)	[Hot] 0.32 (0.0126)
	Idling speed rpm		Manual transmission			800 ± 50 (*1000 ± 50)	800 ± 50 (*1000 ± 50)	950 ± 50
			Automatic transmission			850 ± 50 (*1000 ± 50)	—	—
	Blow-by gas recirculating system					Closed type	Closed type	Closed type
Lubricating System	Lubricating method					Fully-forced feed method	Fully-forced feed method	Fully-forced feed method
	Oil Pump type					Trochoid type	Trochoid type	Trochoid type
	Oil filter type					Full-flow filter type,filter paper type	Full-flow filter type, filter paper type	Full-flow filter type, filter paper type
	Lubrication oil capacity	Whole				3.2	3.2	3.3
		When only oil is changed				2.7	2.7	2.7
		When oil and oil filter are changed				3.0	3.0	3.1
	Oil cooler type					Water-cooled type (only for tropical spec.)	Water-cooled type	Water-cooled type
Super charger type						—	Turbocharger	Turbocharger

·edish and Norwegian specifications.

WM-01013

Item					Engine type	CB-23	CB-61	CB-80
Cooling System	Cooling method					Water cooled, electromotor type	Water cooled, electromotor type	Water cooled, electromotor type
	Radiator type					Corrugation type forced circulation	Corrugation type forced circulation	Corrugation type forced circulation
	Coolant capacity liter			Manual transmission		3.5 [Including 0.6 for reserve tank]	3.9 [Including 0.6 for reserve tank]	4.0 [Including 0.6 for reserve tank]
				Automatic transmission		3.9 [Including 0.6 for reserve tank]	—	—
	Water pump type					Centrifugal type, "V" belt-driven type	Centrifugal type, "V" belt-driven type	Centrifugal type, "V" belt-driven type
	Thermostat type					Wax pellet type	Wax pellet type	Wax pellet type
Air cleaner	Type					Filter paper type	Filter paper type	Filter paper type
	Number					1	1	1
Fuel System	Fuel tank	Capacity Liter				37	40	40
		Location				Mounted underneath rear seat floor	Mounted underneath rear seat floor	Mounted underneath rear seat floor
	Fuel pipe material					Rubber and steel tube	Steel tube	Steel tube
	Fuel pump type					Diaphragm type	Electromotor type	Electromotor type
	Fuel filter type					Filter paper type	Filter paper type	Filter paper type
	Carburetor	Manufacturer				Aisan kogyo	Aisan kogyo	—
		Type				Two-barrel type	Two-barrel type	—
		Throttle valve dismeter mm (inch)				28 (1.10), 32 (1.26)	28 (1.10), 32 (1.26)	—
		Venturi diameter mm (inch)				18 (0.71), 25 (0.98)	18 (0.71), 28 (1.10)	—
		Choke valve type				Manual type, butterfly-shaped valve	Manual type, butterfly-shaped valve	—
	Fuel injection device					—	—	Electronic type
	Injection pump	Type				—	—	—
		Injection timing				—	—	—
		Plunger diameter mm (inch)				—	—	—
		Cam lift mm (inch)				—	—	—
		Type of self-aligner				—	—	—
		Type of injection timing regulating device				—	—	—
	Injection nozzle or Injector	Type of nozzle retainer				—	—	With cushion rubber type
		Nozzle type				—	—	Electronic controlled throttle type
		Injection pressure kg/cm² (Psi)				—	—	2.55 (18.4)
Engine electrical system	Ignition system	Voltage V				12 [Negative ground]	12 [Negative ground]	12V [Negative ground]
		Type				Battery ignition type	Battery ignition type	Battery ignition type
		Ignition timing				BTDC 5°±2°/Idling	BTDC 10°±2°Idling	BTDC 10°±2°/Idling
		Firing order				1–2–3	1–2–3	1–2–3
		Distributor	Distributor type			Conventional type	Conventional type	Full-transistorized type
			Breaker type			Contact-point type	Contact-point type	—
			Performance of timing advancing mechanism	Centrifugal type		0°/750 rpm, 10.5°/2,800 rpm	0°/750 rpm, 13.5°/3,000 rpm	Electronic timing advance
				Vacuum type		0°/-100 mmHg, 11°/–320 mmHg	0°/-60 mmHg, 10°/-450 mmHg	Electronic timing advance

*Plunger stroke: 0.87 ± 0.03 mm (0.035 ± 0.0012 inch)

WM-01014

Item			Engine type	CB-23					CB-61				CB-80
Engine electrical system	Ignition system	Spark plug	Manufacturer	DENSO	NGK		BOSCH	CHAMPION	DENSO	NGK	BOSCH	CHAMPION	DENSO
			Type: For ECE & EEC	W16EXR-U	BPR5EA-L	BPR5EY	WR8DC	RN-11YC	W16EXR-U W20EXR-U	BPR5EY BPR6EY	WR8DC WR7DC	RN-9YC RN-11YC	W20ETR-L
			Type: Except for ECE & EEC	W16EX-U	BP5EA-L	BP5EY	W8DC (X,Y)	N-11YC	W16EX-U W20EX-U	BP5EY BP6EY	W8DC (X,Y) W7DC (X,Y)	N-9YC N-11YC	W20ET-L
			Thread	M14 × 1.25					M14 × 1.25				M14 × 1.25
			Spark plug gap mm (inch)	0.7 - 0.8 (0.028 - 0.031)		0.8 - 0.9 (0.031 - 0.035)	0.7 - 0.8 (0.028 - 0.031)		0.7 - 0.8 (0.028 - 0.031)	0.8 - 0.9 (0.032 - 0.035)	0.7 - 0.8 (0.028 - 0.031)		0.9 - 1.0 (0.035 - 0.039)
	Glow plug	Type		—					—				—
		Voltage, current	V-A	—					—				—
	Battery	Type	General specifications	34B17L *1 55B24L					34B17L *1 55B24L				34B17L *1 55B24L
			ECE & EEC specifications	55B24L					55B24L				55B24L
			Australian specifications	34B17L					34B17L				—
		Capacity AH	General specifications	27 (5HR), *1 36 (5HR)					27 (5HR), *1 36 (5HR)				27 (5HR), *1 36 (5HR)
			ECE & EEC specifications	36 (5HR)					36 (5HR)				36 (5HR)
			Australian specifications	27 (5HR)					27 (5HR)				—
	Alternator	Type		3-Phase alternating current commutating type					3-Phase alternating current commutating type				3-Phase alternating current commutating type
		Output	V-A	12-45, *5 12-50					12-45				12-50
		Regulator type		Contact-pointless type					Contact-pointless type				Contact-pointless type
	Starter	Type		Magnet engaging type					Magnet engaging type				Magnet engaging type
		Output	V-kw	*2 12-0.7, *3 12-0.8, *4 12-1.0					12-0.8, *4 12-1.0				12-0.8, *3 12-1.0
	Radio noise suppressing device			Resistive cord					Resistive cord				Resistive cord

*1 Option
*2 General & Australian specifications mounted with manual transmission
*3 ECE & EEC specifications mounted with manual transmission
*4 Vehicles mounted with automatic transmission
*5 Norwegian specifications with automatic transmission mounted model

WM-01015

DAIHATSU

TYPE CB ENGINE

[CB-23, CB-61 & CB-80]

SECTION 2
THE ENGINE PROPER

WM-02001

ENGINE SECTIONAL VIEWS

CB-23

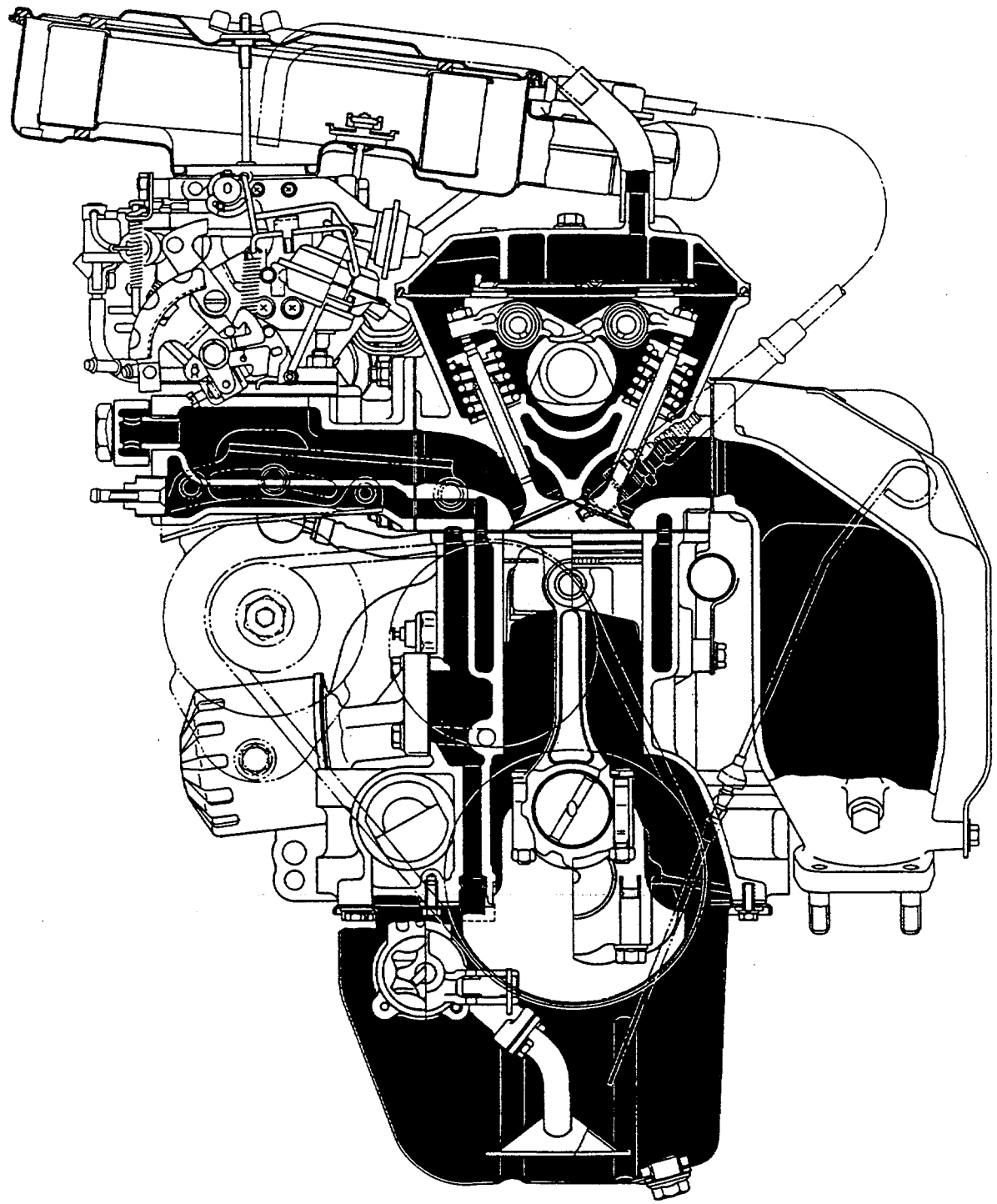


Fig. 2-1

WM-02002

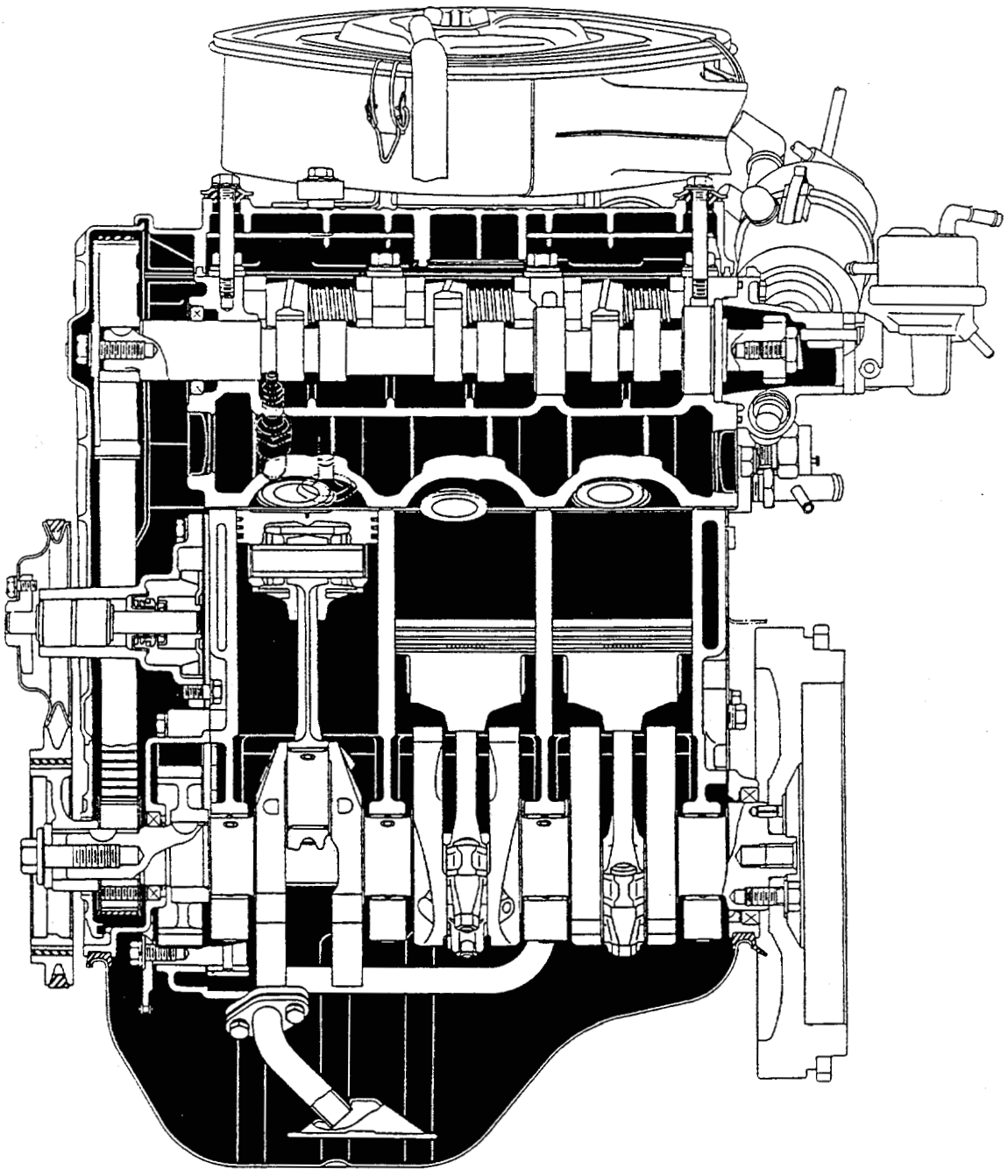


Fig. 2-2

WM-02003

CB-61

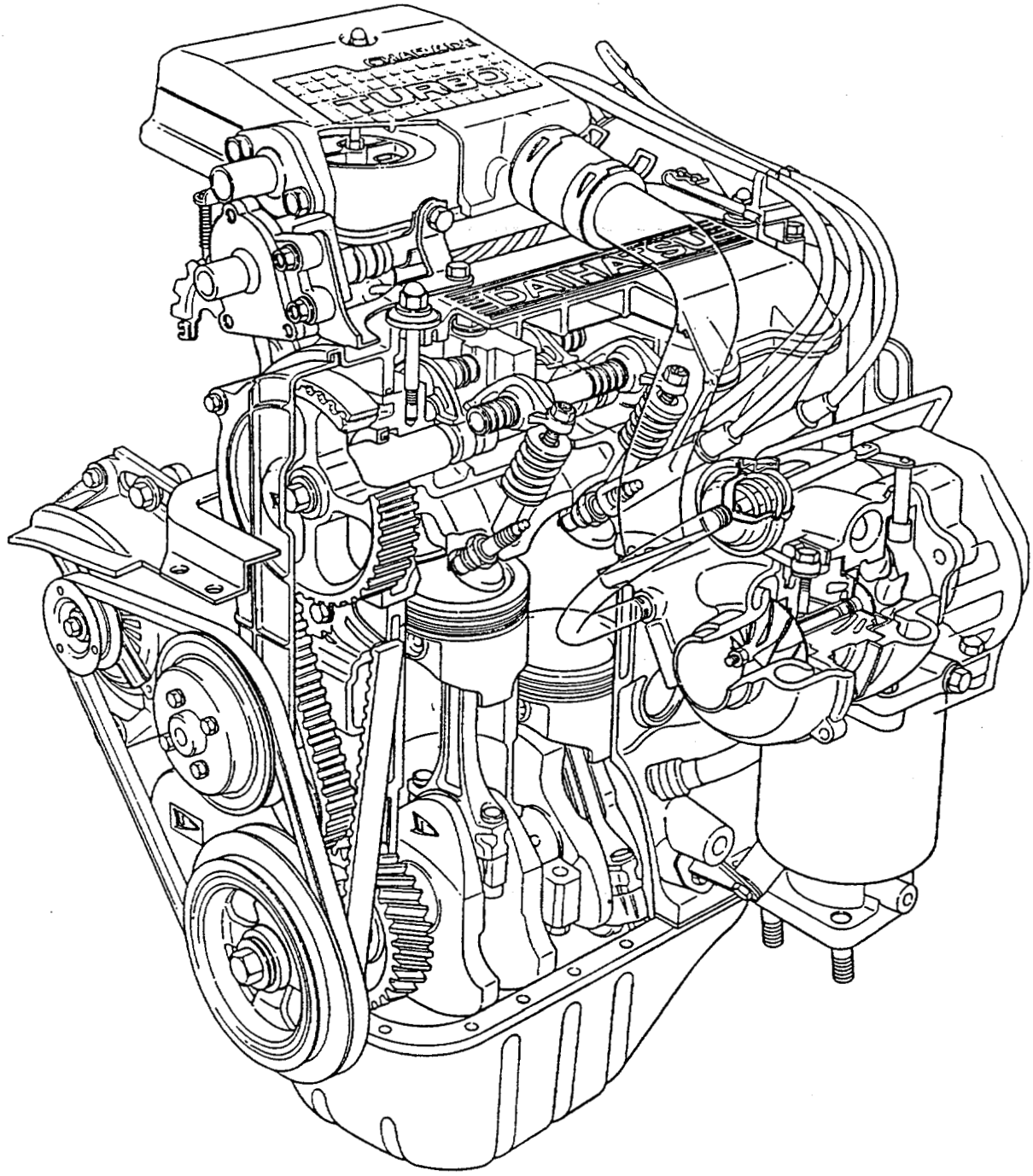


Fig. 2-3

WM-02004

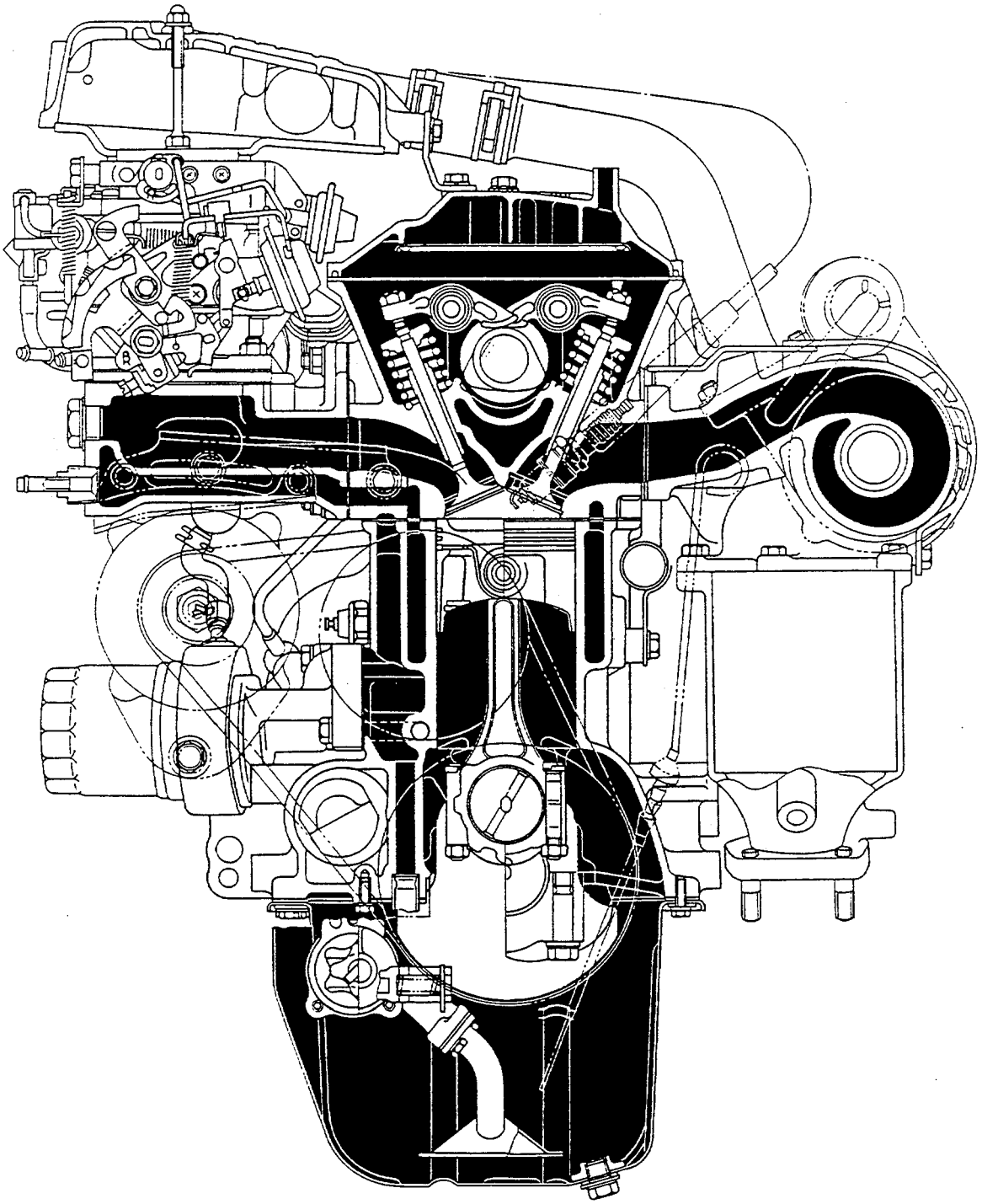


Fig. 2-4

WM-02005

CB-80

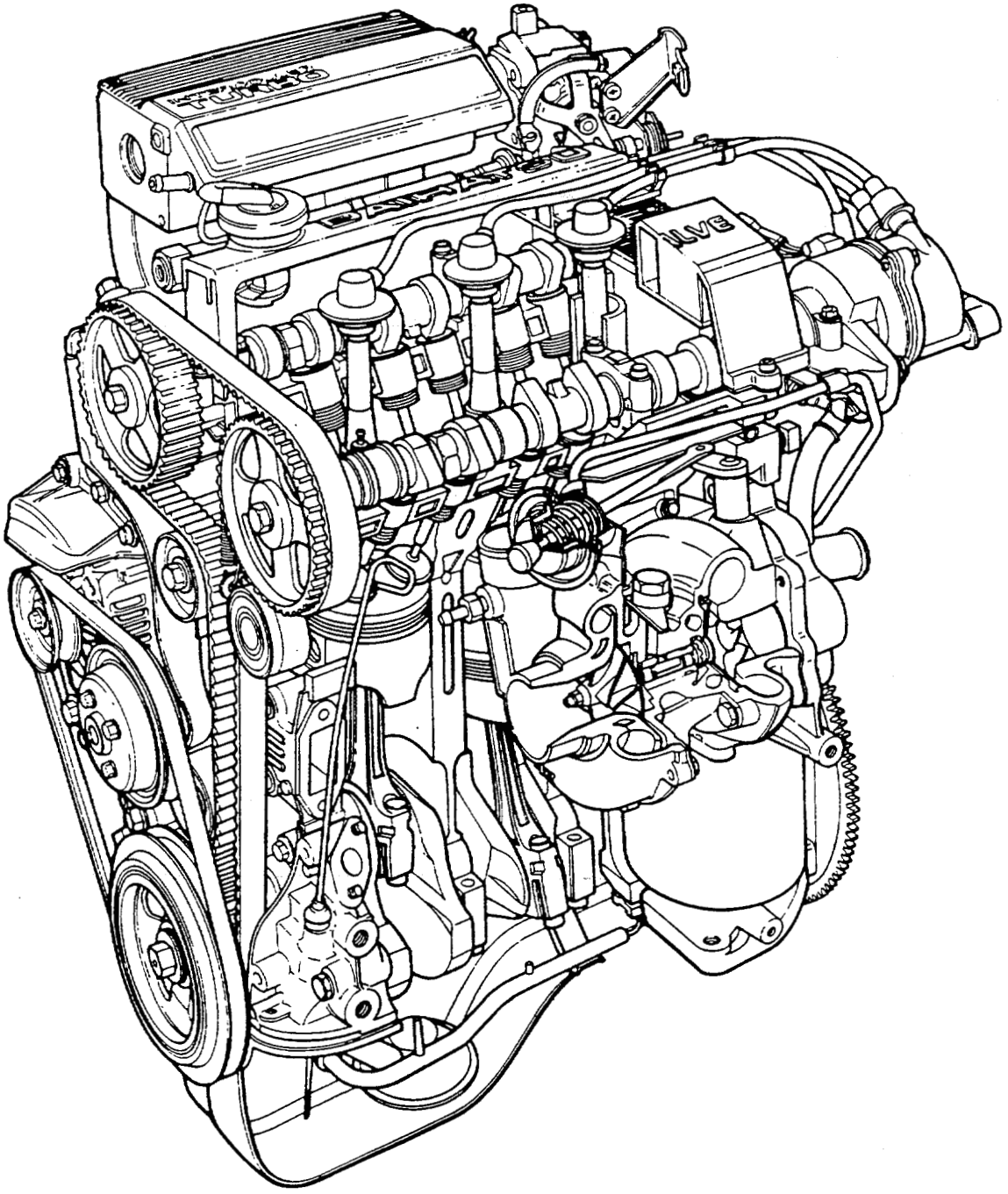


Fig. 2-5

WM-02006

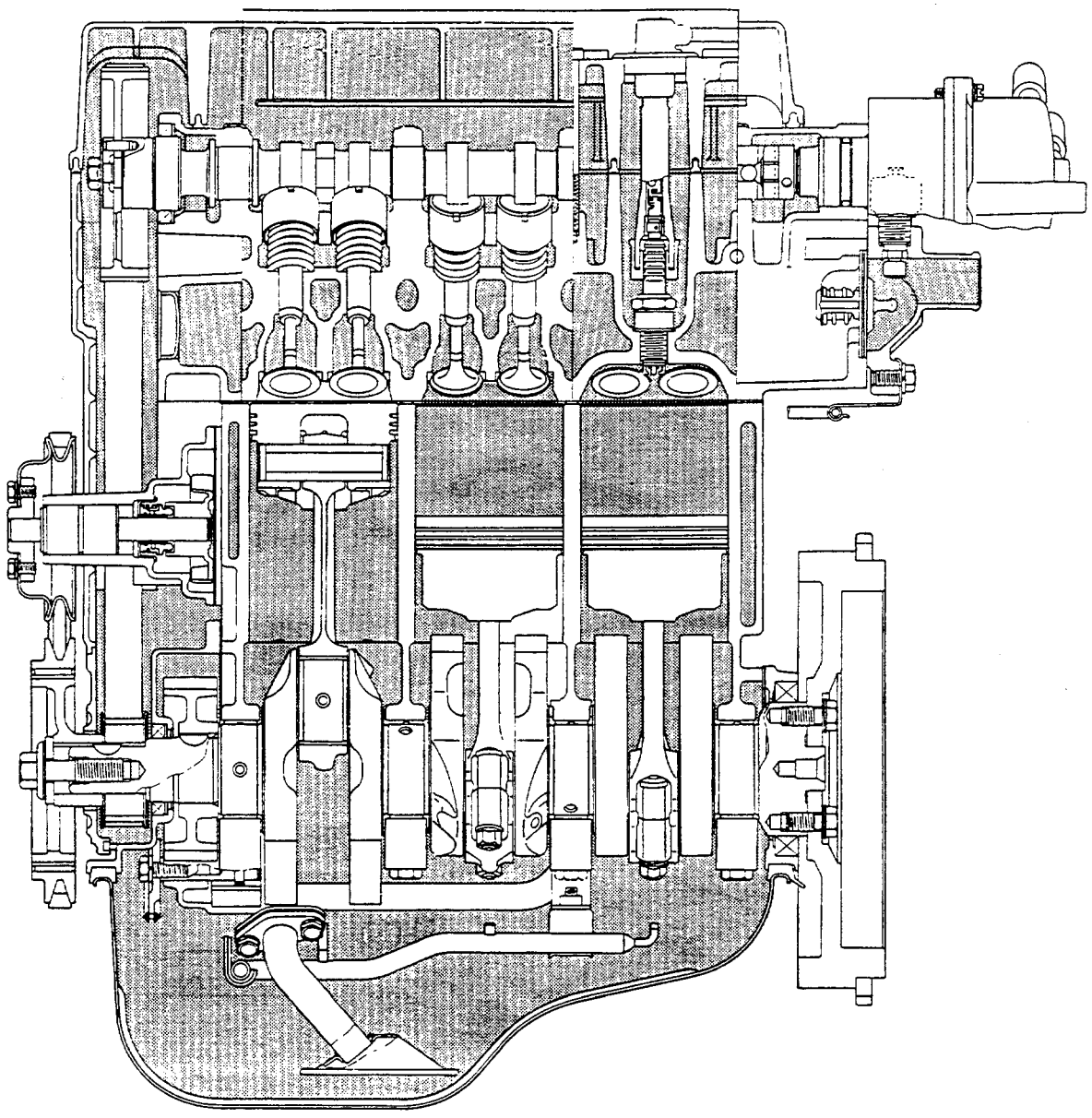


Fig. 2-6

WM-02007

ENGINE COMPONENTS AND TIGHTENING TORQUE

CB-23 and CB-61

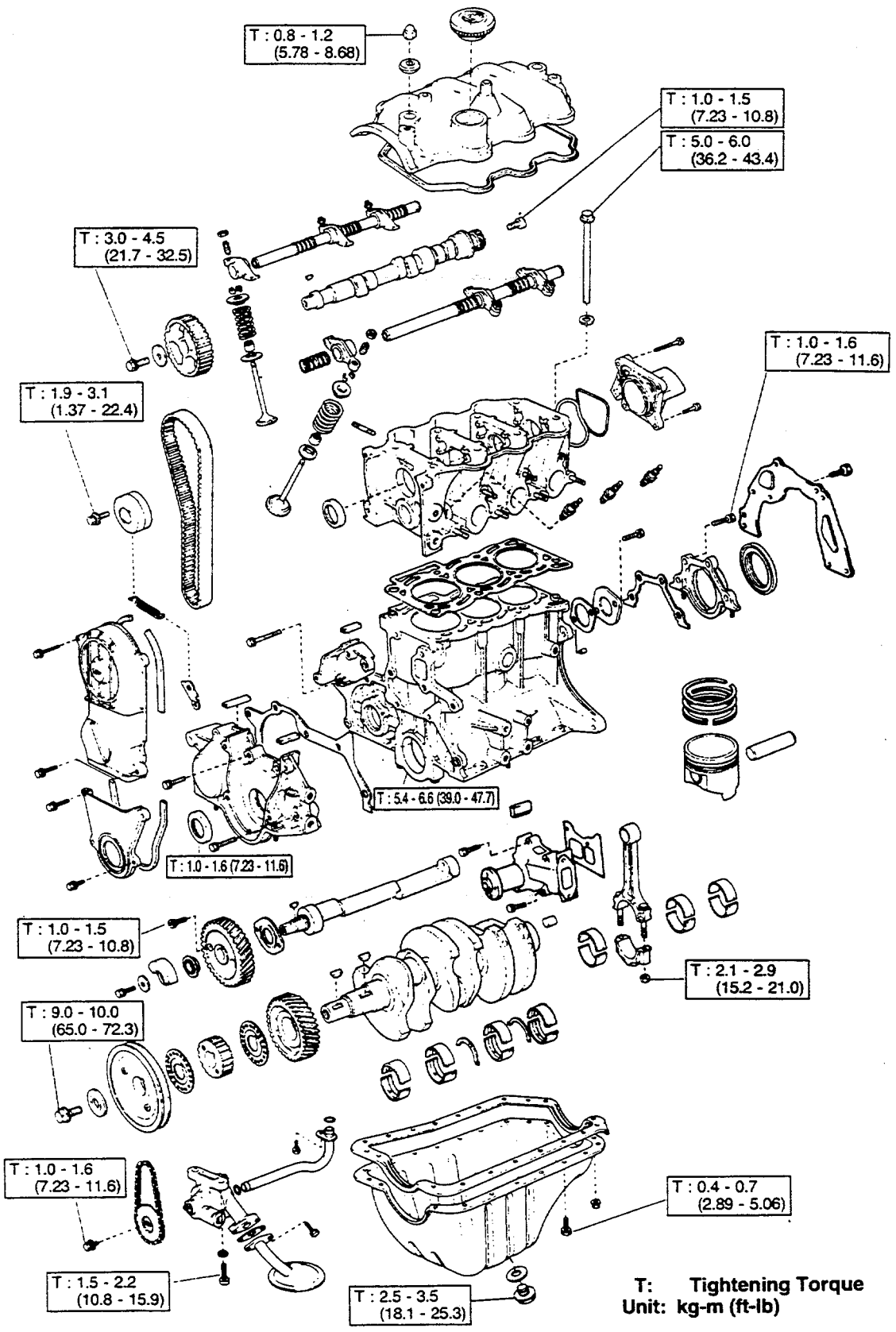


Fig. 2-7

WM-02008

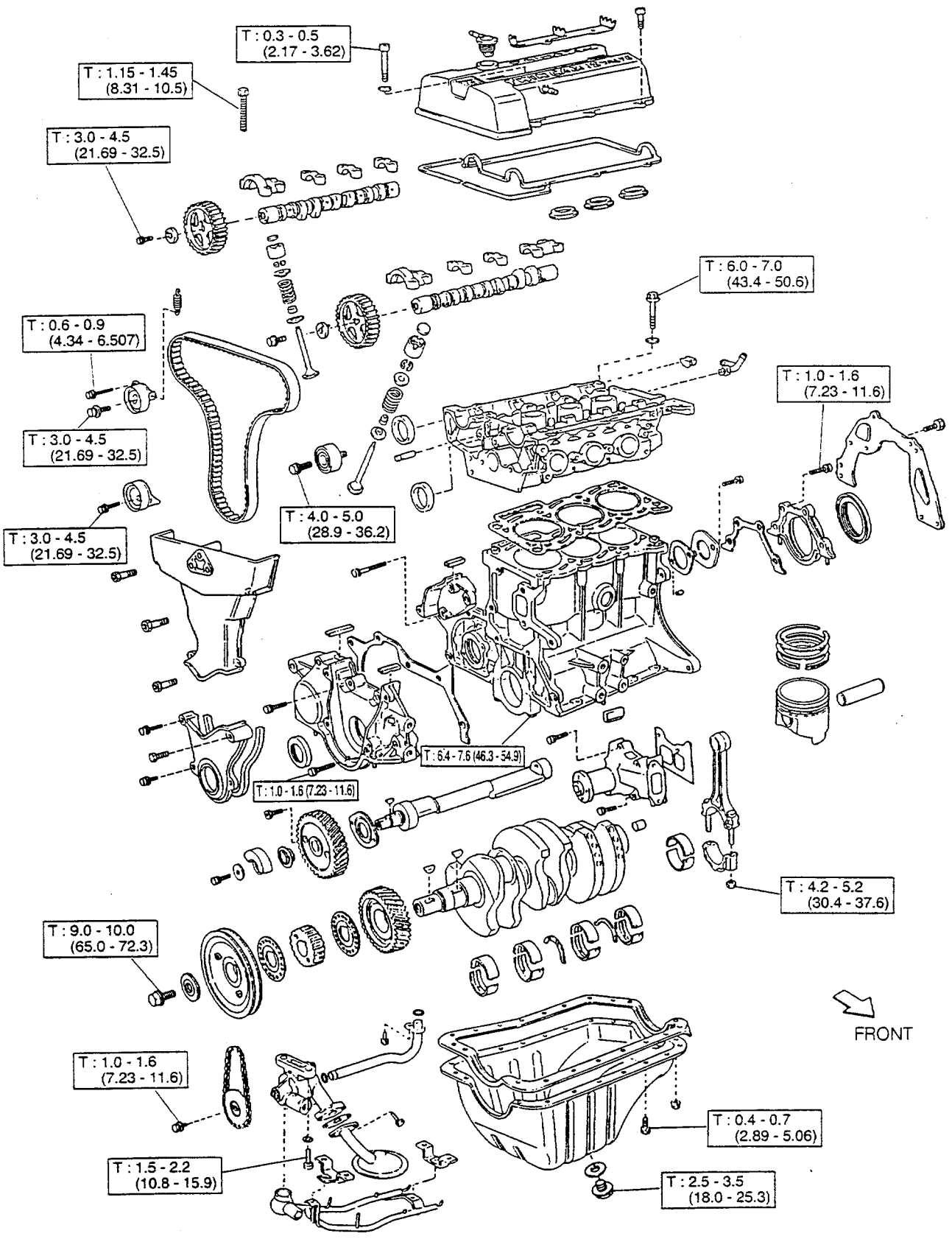


Fig. 2-8

WM-02009

MAIN SERVICE SPECIFICATIONS

Item		Specified value												Remarks
Engine type		CB-23					CB-61				CB-80			
Idling speed rpm		*M/T 800 ± 50 A/T 850 ± 50					*800 ± 50				950 ± 50			
CO concentration %	General specifications	0.5 - 1.5					0.5 - 1.5				0.5 - 1.5			
	ECE & EEC Specifications													
	Australian, Swedish and Swiss specifications													
Compression pressure kg/cm²-rpm (psi-rpm)	Specified value	12.5/350 (177.8/350)					12.0/350 (170.7/350)				10.5/300 (149.3/300)			
	Allowable limit	10.5/350 (149.4/350)					10.5/350 (149.4/350)				8.5/300 (121/300)			
	Difference between cylinders	Within 1.5 (21.3)					Within 1.5 (21.3)				Within 1.5 (21.3)			
Valve clearance [Hot] mm (inch)	Intake	0.20 (0.0079)					0.25 (0.0098)				0.27 (0.0101)			
	Exhaust	0.20 (0.0079)					0.25 (0.0098)				0.32 (0.0126)			
Lubrication oil capacity ℓ	Total capacity	3.2					3.2				3.3			
	Oil pan capacity (F level)	2.7					2.7				2.7			
	Oil pan capacity (L level)	1.7					1.7				1.7			
Float level mm (inch)		22 (0.87)					22 (0.87)				—			Measured from top surface of body
Radiator cap valve opening pressure kg/cm² (psi)	Specified value	0.75 - 1.05 (10.7 - 14.9)					0.75 - 1.05 (10.7 - 14.9)				0.75 - 1.05 (10.7 - 14.9)			
	Allowable limit	0.6 (8.5)					0.6 (8.5)				0.6 (8.5)			
Radiator leak check pressure kg/cm² (psi)		1.2 (17)					1.2 (17)				1.2 (17)			
V-belt deflection mm/kg (inch/lb)		5-7/10 (0.20-0.28/22.1)					5-7/10 (0.20-0.28/22.1)				7.5-8.5/8 (0.30-0.33/17.6)			
Cooling water capacity ℓ	Total capacity (A/T)	3.5 (3.9)					3.9				4.0			Including 0.6 for reserve tank
	Reserve tank capacity	0.6					0.6				0.6			
Anti-freezing solution filling capacity ℓ	−10°C (23%)	0.66 (M/T), 0.76 (A/T) [0.14]					0.75 [0.14]				0.77 [0.14]			[ ] Filling amount for reserve tank
	−20°C (35%)	1.00 (M/T), 1.14 (A/T) [0.21]					1.14 [0.21]				1.14 [0.21]			
	−35°C (50%)	1.44 (M/T), 1.64 (A/T) [0.30]					1.64 [0.30]				1.68 [0.30]			
Distributor	Dwell angle	58° - 66°					58° - 66°				—			
	Heel gap mm (inch)	0.4 - 0.5 (0.016 - 0.020)					0.4 - 0.5 (0.016 - 0.020)				—			
Spark plug	Manufacturer	DENSO	NGK		BOSCH	CHAMPION	DENSO	NGK	BOSCH	CHAMPION	DENSO			
	For ECE & EEC	W16EXR-U	BPR5EA-L	BPR5EY	WR8DC	RN-11YC	W16EXR-U W20EXR-U	BPR5EY BPR6EY	WR8DC WR7DC	RN-9YC RN-11YC	W20ETR-L	W22ETR-L		
	Except for ECE & EEC	W16EX-U	BPR5EA-L	BPR5EY	W8DC (X,Y)	N-11YC	W16EX-U W20EX-U	BPR5EY BPR5EY	W8DC (X,Y) W7DC (X,Y)	N-9YC N-11YC	W20ET-L	W22ET-L		
	Spark plug gap mm (inch)	0.7 - 0.8 (0.028 - 0.031)	0.8 - 0.9 (0.031-0.035)		0.7 - 0.8 (0.028 - 0.031)		0.7 - 0.8 (0.028 - 0.031)	0.8 - 0.9 (0.032 - 0.035)	0.7 - 0.8 (0.028 - 0.031)		0.9 - 1.0 (0.035 - 0.039)			
Ignition timing	Manual transmission	BTDC 5°±2° 800 ± 50 rpm					BTDC 10°±2° 800 ± 50 rpm				BTDC 10° 950 ± 50 rpm			
	Automatic transmission	BTDC 5° ± 2° 850 ± 50 rpm					—				—			

*1000 rpm ± 50 for cay-light specification vehicles (CB-23 and CB-61 only)

WM-020*

DAIHATSU

TYPE CB ENGINE

[CB-23, CB-61 & CB-80]

3

SECTION 3
ENGINE TUNE-UP

WM-03001

ENGINE TUNE-UP PROCEDURE

NOTE:
The operation enclosed by heavy lines is described in the main text.

Checking cooling water level and engine oil level

.... Specified value:
Cooling water capacity:
(including reserve tank capacity of 0.6 liter)

Item \ Engine type	CB-23	CB-61	CB-80
Manual transmission	3.5	3.9	4.0
Automatic transmission	3.9	—	—

Specified value:
Engine oil capacity:

Item \ Engine type	CB-23	CB-61	CB-80
When only oil is changed	2.7	2.7	2.7
When oil and oil filter are changed	3.0	3.0	3.1

Specified value:
Radiator cap opening pressure:
0.75 - 1.05 kg/cm^2 (1.7 - 2.3 psi)

Checking battery electrolyte level and specific gravity

.... Specified value:
Battery electrolyte specific gravity:
(at electrolyte temperature of 20°C)
1.27 to 1.29 (34B-17L)

[NOTE]
The vehicles mounted with a maintenance-free battery should be checked by a battery checker

Checking and cleaning air cleaner

Checking and adjusting spark plugs

.... Spark Plug Specifications

Engine type	CB-23					CB-61				CB-80	
Manufacturer	DENSO	NGK		BOSCH	CHAMPION	DENSO	NGK	BOSCH	CHAMPION	DENSO	
ECE & EEC	W16EXR-U	BPR5EA-L	BPR5EY	WR8DC	RN-11YC	W16EXR-U W20EXR-U	BPR5EY BPR6EY	WR8DC WR7DC	RN-9YC RN-11YC	W20ETR-L	W22ETR-L
Except for ECE & EEC	W16EX-U	BP5EA-L	BP5EY	W8DC (X,Y)	N-11YC	W16EX-U W20EX-U	BP5EY BP6EY	W8DC (X,Y) W7DC (X,Y)	N-9YC N-11YC	W20ET-L	W22ET-L
Spark plug gap mm (inch)	0.7 - 0.8 (0.028 - 0.031)		0.8 - 0.9 (0.031 - 0.035)	0.7 - 0.8 (0.028 - 0.031)		0.7 - 0.8 (0.028 - 0.031)	0.8 - 0.9 (0.032 - 0.035)	0.7 - 0.8 (0.028 - 0.031)		0.9 - 1.0 (0.035 - 0.03...	

WM-03002