

TOYOTA

SERVICE BULLETIN

TOYOTA MOTOR SALES, U.S.A., INC.

VOLUME

10

PRODUCT GENERAL REFERENCE INFORMATION

NUMBER 005
DATE 12-23-88
MODEL 1989 MR-2 (AW)

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1989 MR-2 SPECIFICATIONS

Vehicle Model and Codes:

BODY TYPE	TRANSMISSION	VDS OF VIN	MODEL NO.
2-Door Coupe w/T-Bar S/C	4-Speed Automatic	AW16J	3077
2-Door Coupe w/T-Bar S/C	5-Speed Manual	AW16J	3078
2-Door Coupe	4-Speed Automatic	AW15C	3087
2-Door Coupe	5-Speed Manual	AW15C	3088
2-Door Coupe w/T-Bar	4-Speed Automatic	AW15J	3097
2-Door Coupe w/T-Bar	5-Speed Manual	AW15J	3098

Dimensions:

	<u>in. mm.</u>	
Overall Length	155.5	3950
Overall Width	65.6	1665
Overall Height	48.6	1235
Wheel Base	91.3	2320
Front Tread	56.7	1440
Rear Tread	56.7	1440
Ground Clearance	5.1	130

Weight (Pounds):

<u>Model No.</u>	<u>Curb Weight</u>
3077	2530 lb
3078	2494 lb
3087	2425 lb
3088	2350 lb
3097	2465 lb
3098	2390 lb

1989 MR-2 SPECIFICATIONS (CONT'D)

Engine:

Model	4A-GELC
Type	4 cylinder in-line, 16-valve DOHC
Displacement	96.8 cu. in. (1587 cc)
Bore and Stroke	3.2 x 3.0 in. (81.0 x 77.0 mm)
Compression Ratio	9.4:1
Compression Press.	STD 179 psi @ 250 rpm, LIMIT 142 psi
HP (SAE Net)	115 hp @ 6600 rpm
Torque (SAE Net)	100 ft-lb @ 4800 rpm

Ignition System:

Spark Plug Type	
Nippondenso	PQ16R (Platinum-tipped spark plugs)
Spark Plug Gap	0.043 in. (1.1 mm)
Firing Order	1-3-4-2

Ignition Timing:

10° BTDC @ Idle, Check connector at T-E₁ shorted (NOTE: T/M in "N" range)

Valve Clearance:

Intake (Cold)	0.006 – 0.010 in. (0.15 – 0.25 mm)
Exhaust (Cold)	0.008 – 0.012 in. (0.20 – 0.30 mm)

Engine:

Model	4A-GZE
Type	4-cylinder in-line, 16-valve DOHC Super Charged
Displacement	96.8 cu. in. (1587 cc)
Bore and Stroke	3.2 x 3.0 in. (81.0 x 77.0 mm)
Compression Ratio	8.0:1
Compression Press.	STD 156 psi @ 250 rpm, LIMIT 121 psi
HP (SAE Net)	145 hp @ 6400 rpm
Torque (SAE Net)	140 ft-lb @ 4000 rpm

Ignition System:

Spark Plug Type	
Nippondenso	PQ20R (Platinum-tipped spark plugs)
Spark Plug Gap	0.043 in. (1.1 mm)
Firing Order	1-3-4-2

Ignition Timing:

10° BTDC @ Idle, Check connector at T-E₁ shorted (NOTE: T/M in "N" range)

Valve Clearance:

Intake (Cold)	0.006 – 0.010 in. (0.15 – 0.25 mm)
Exhaust (Cold)	0.008 – 0.012 in. (0.20 – 0.30 mm)

1989 MR-2 SPECIFICATIONS (CONT'D)

Cooling System:

Type	Water cooled
Radiator	Cross flow fin and tube
Radiator Cap Opening Pressure	11 – 15 psi (0.75 – 1.05 kg/cm ²)
Water Pump	Centrifugal v-belt drive
Thermostat, Open. Temp.	180° F (82° C)
Cooling System Cap. w/Heater	12.9 qt. (12.2 liter) (Manual)
w/A/C	13.1 qt. (12.4 liter) (Manual) 13.6 qt. (12.9 liter) (Automatic)

Fuel System:

Type of Fuel Distribution	Electronic Fuel Injection
Fuel Pump Type	Electric
Fuel Pump Pressure	4A-GE: 38 – 44 psi (2.7 – 3.0 kg/cm ²) 4A-GZE: 33 – 40 psi (2.3 – 2.8 kg/cm ²)
Fuel Filter Type	Paper filter element (Flow through)
Fuel Tank Capacity	10.8 gal (41 liter)
Fuel Grade	USE ONLY UNLEADED FUEL
4A-GZE:	(R+M) /2 Octane 91 or higher
4A-GE:	(R+M) /2 Octane 87 or higher

Lubrication System:

Type	Mechanical
Oil Pump	Gear type
Oil Filter Capacity	0.3 qt.
Recommended Motor Oil	API grade SF or better
Oil Capacity w/filter	3.6 qt. (3.4 liter) w/oil cooler 3.5 qt. (3.3 liter) w/o oil cooler

Electrical System:

Battery (volts/amp hours)	12V/66A-hr
Alternator (volts/amps)	12V/70A
Starter Motor (volts/kW)	12V/1.4 kW

Steering:

Type	Rack and Pinion
Gear Ratio	18.0 to 1 (Manual)
Turning Circle	31.5 ft (9.6 m)

1989 MR-2 SPECIFICATIONS (CONT'D)

Alignment, Front Wheel (Unloaded):

	<u>Service Check</u>	<u>Service Reset</u>
Front Caster	$5^{\circ} 05' \pm 45'$	$5^{\circ} 05' \pm 30'$
Front Camber	$0^{\circ} 15' \pm 45'$	$0^{\circ} 15' \pm 30'$
Front Toe-In	0.04 ± 0.08 in. (1 ± 2 mm)	0.04 ± 0.04 in. (1 ± 1 mm)

Alignment, Rear Wheel (Unloaded):

Rear Camber	$0^{\circ} -55 \pm 45'$	$0^{\circ} -55 \pm 30'$
Rear Toe-In	0.20 ± 0.08 in. (5 ± 2 mm)	0.20 ± 0.04 in. (5 ± 1 mm)

Suspension:

<u>Front</u>	MacPherson strut, coil spring, w/stabilizer bar
<u>Rear</u>	MacPherson strut, coil spring, w/stabilizer bar

Tires:

Size, Type	185/60 R14 82H, Radial
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Brakes:

Type	Power-assisted 4-wheel disc
Front	Floating caliper, vented rotor
Rear	Floating caliper, solid rotor
Parking Brake	Mechanically-operated on rear wheels
Front Disc Diameter, Overall	10.2 in. (258 mm)
Rear Disc Diameter	10.4 in. (263 mm)

Clutch:

	<u>4A-GELC</u>	<u>4AGZE</u>
Type	Single dry plate	Single dry plate
Operation	Hydraulic release	Hydraulic release
Disc Diameter	8.35 in. (212 mm)	8.8 in. (224 mm)
Pressure Plate Type	Diaphragm	Diaphragm
Clutch Pedal Free Play	0.2 – 0.59 in. (5.0 – 15.0 mm)	0.2 – 0.59 in. (5.0 – 15.0 mm)
Release Fork End Play	Non-adjustable	Non-adjustable

1989 MR-2 SPECIFICATIONS (CONT'D)

Transaxle:

4A-GELC

Manual (C52)

Gear Ratio

5-Speed, synchromesh

First: -3.166

Second: -1.904

Third: -1.310

Fourth: -0.969

Fifth: -0.815

Reverse: -3.250

Lubricant Capacity

2.7 qt. (2.6 liter)

Type

Multi-purpose, API GL-4 SAE 75W-90

Automatic (A240E)

Gear Ratio

First: -3.643

Second: -2.008

Third: -1.296

Fourth: -0.892

Reverse: -2.977

Fluid Capacity

7.6 qt. (7.2 liter)

Fluid Type

DEXRON® II ATF

Differential Type

Helical gear

Differential Ratio

4.312:1 M/T 2.962 A/T

Ring Gear Size

7.51 in. (191 mm)

4A-GZE

Manual (E51)

Gear Ratio

5-Speed synchromesh

First: -3.230

Second: -1.913

Third: -1.258

Fourth: -0.918

Fifth: -0.731

Reverse: -3.583

Lubricant Capacity

4.4 qt. (4.2 liter)

Type

Multi-purpose, API GL-5 SAE 75W-90

Automatic (A241E)

Gear Ratio

First: -3.643

Second: -2.008

Third: -1.296

Fourth: -0.892

Reverse: -2.977

Fluid Capacity

8.4 qt. (7.9 liter)

Fluid Type

DEXRON® II ATF

Differential Type

Helical gear

Differential Ratio

4.285:1 M/T 3.034 A/T

Ring Gear Size

7.51 in. (191 mm)