

## 2GR-FE STARTING

### SERVICE DATA

Starter assembly	Standard current		90 A or less at 11.5 V
Starter relay	Standard resistance	3 - 5	10 kΩ or higher
		3 - 5	Below 1 Ω (when battery voltage is applied to terminals 1 and 2)
Ignition switch	Standard resistance	-	10 kΩ or higher at LOCK
		2 (AM1) - 3 (ACC)	Below 1 Ω at ACC
		2 (AM1) - 3 (ACC)	Below 1 Ω at ON
		3 (ACC) - 4 (IG1)	Below 1 Ω at ON
		6 (IG2) - 7 (AM2)	Below 1 Ω at ON
		1 (ST1) - 2 (AM1)	Below 1 Ω at START
		1 (ST1) - 4 (IG1)	Below 1 Ω at START
		6 (IG2) - 7 (AM2)	Below 1 Ω at START
Starter magnetic switch assembly	Standard resistance	50 - C	1 Ω or lower
		50 - Body	2 Ω or lower
Starter armature assembly	Standard resistance	Segment	1 Ω or lower
		Segment - Coil core	10 kΩ or higher
Starter armature assembly	Commutator depth	Standard	3.1 mm (0.122 in.)
		Maximum	3.8 mm (0.150 in.)
Starter commutator end frame	Brush length	Standard length	9.0 mm (0.354 in.)
		Minimum length	4.0 mm (0.158 in.)
	Standard resistance	Positive (+) - Negative (-)	10 kΩ or higher
Snap ring	Maximum length		5.0 mm (0.197 in.)

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**TORQUE SPECIFICATIONS**

<b>Part Tightened</b>	<b>N*m</b>	<b>kgf*cm</b>	<b>ft.*lbf</b>
Lead wire x Terminal C	10	102	7
Starter assembly x Cylinder block sub-assembly	37	377	27
Starter wire x Starter assembly	9.8	100	88 in.*lbf
Starter commutator end frame x Starter drive housing assembly	6.0	61	53 in.*lbf
Starter magnetic switch assembly x Starter drive housing assembly	7.5	76	66 in.*lbf

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