

**2TR-FE STARTING****SERVICE DATA**

Starter assembly	Specified current		100 A or less at 11.5 V	
Starter relay assembly	Resistance (3-5)	Standard	10 k $\Omega$ or higher	
			Below 1 $\Omega$ (Apply battery voltage to terminal 1 and 2)	
Ignition or starter switch assembly	Resistance	LOCK	10 k $\Omega$ or higher	
		ACC	Below 1 $\Omega$	
		ON	Below 1 $\Omega$	
		START	Below 1 $\Omega$	
Magnetic switch resistance	Terminal 50 - C		1 $\Omega$ or lower	
	Terminal 50 - Switch body		2 $\Omega$ or lower	
Starter armature	Resistance	Segments	1 $\Omega$ or lower	
		Commutator-Armature coil	10 k $\Omega$ or higher	
	Diameter	Standard	35.0 mm (1.378 in.)	
		Minimum	34.0 mm (1.339 in.)	
	Undercut depth	Standard	0.7 mm (0.028 in.)	
		Minimum	0.2 mm (0.008 in.)	
Starter yoke assembly	Brush length	Standard	15.0 mm (0.591 in.)	
		Minimum	9.0 mm (0.354 in.)	
	Resistance	Lead wire - brush	Standard	1 $\Omega$ or lower
		Shunt coil	Standard	1.5 to 1.9 $\Omega$ at 20°C (68°F)
Starter brush holder	Resistance	Standard	10 k $\Omega$ or higher	
	Spring load	Standard	21.5 to 27.5 N (2.2 to kgf, 4.8 to 6.2 lbf)	
		Minimum	12.7 N (1.3 kgf, 2.9)	

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## TORQUE SPECIFICATIONS

Part Tightened	N*m	kgf*cm	ft.*lbf
Lead wire x Terminal C	5.9	60	52 in.*lbf
Starter assembly x Transmission housing assembly	37	377	27
Starter wire x Starter assembly	9.8	100	7
Lead wire x Terminal C	5.9	60	52
Starter commutator end frame assembly x Starter brush holder	3.8	39	34 in.*lbf
Starter commutator end frame assembly x Starter drive housing assembly	9.3	95	82 in.*lbf
Magnet switch x Starter drive housing assembly	9.3	95	82 in.*lbf

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