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## TROUBLESHOOTING

### NOTICE

- Be careful not to short-circuit the wiring by the body or other wirings.
- In case of discharging problem, measure dark current at all times. (Charging System - "Dark Current Inspection").
- When checking the alternator main fuse, perform continuity test and voltage test between terminals as well as visual check to confirm normal operation.
- When checking the ground, repair or replace after inspecting for defective ground cable, defective installation or defective contact due to foreign object.
- It is not recommended to use non-authentic parts as installing non-authentic parts may cause malfunction of charging system.
- Be careful as misassembly may cause short-circuit of wiring, which may result in battery discharge.
- As it will reset and appear as normal if the battery negative (-) terminal is disconnected while measuring dark current, measure by using a hook meter without disconnecting the negative (-) terminal.
- Note that there may be various phenomenons / possible causes / repair measures apart from above.
- For more effective repairs, refer to DTC guide and ETM.

Symptom	Suspected Area	Remedy
Charging warning lamp does not turn on during IG ON.	Broken alternator main fuse	Inspect / Repair / Replace fuse.
	Broken instrument cluster fuse	Inspect / Repair / Replace fuse.
	Broken instrument cluster internal bulb	Inspect / Repair / Replace instrument cluster.
	Defective connection of wiring connector	Inspect / Repair / Replace wiring connection.
	Defective voltage regulator or alternator	Inspect / Repair / Replace voltage regulator or alternator.
	Defective connection of battery terminal	Inspect tightening of (+) and (-) battery terminals to specified torque.
	Communication error	Inspect wiring between regulator and ECM.
		Inspect transmission signal of ECM.
		Inspect / Repair / Replace alternator if the wiring and ECM are normal.
Charging warning lamp does not turn off during engine running.	Worn drive belt or lack of tension	Inspect / Repair / Replace drive belt.
	Defective connection, corroded or worn battery cable	Inspect connection of battery cable and Inspect / Repair / Replace cable.
	Broken alternator main fuse	Inspect / Replace alternator main fuse or battery cable.
	Defective voltage regulator or alternator	Inspect / Replace voltage regulator or alternator.
	Defective wiring	Inspect / Replace wiring.
	Defective instrument cluster	Inspect / Replace instrument cluster
	Slip in alternator pulley	Inspect / Replace alternator pulley.
		Adjust tension / Replace drive belt.

	Defective connection of battery terminal	Inspect tightening of (+) and (-) battery terminal to specified torque.	English
Charging warning lamp turns on.	Slip, worn or lack of tension in drive belt	Adjust tension / Replace drive belt.	
	Error in Alternator Management System (AMS) voltage	Inspect / Replace auto tensioner (only for auto tensioner type).	
	Error in battery sensor	Inspect / Repair / Replace battery sensor.	
	Short between battery sensor wiring and body	Inspect / Repair / Replace battery sensor.	
	Defective alternator L terminal output power	Inspect / Repair / Replace alternator or regulator.	
	Degradation due to defective contact of battery (+) terminal	Check tightening to specified torque / Inspect / Repair / Replace battery wiring.	
	Short in alternator connecting extension connector internal pin	Inspect / Repair / Replace wiring.	
Battery warning lamp turns on.	Short circuit between body and mission ground	Inspect / Repair / Replace ground.	
	Communication error	Inspect / Repair / Replace wiring between regulator and ECM.	
		Inspect transmission signal of ECM.	
		Inspect / Repair / Replace alternator if wiring and ECM are normal.	
	Short in the middle of connection to alternator L terminal (L terminal applied vehicle model)	Inspect / Repair / Replace wiring.	
	Drive belt rotation stops due to slip in crankshaft damper pulley or defective pulley.	Inspect or replace crankshaft damper pulley / Inspect, repair or replace drive belt tensioner bearing.	
	Slip, worn or lack of tension in drive belt	Adjust tension / Inspect / Repair / Replace drive belt.	
	Defective voltage regulator	Inspect / Repair / Replace voltage regulator.	
	Defective alternator	Inspect / Repair / Replace alternator.	
	Broken alternator main fuse	Inspect / Repair / Replace alternator main fuse or battery wiring cable.	
	Defective ground	Inspect / Repair / Replace ground.	
	Discharged battery	Adjust tension / Inspect / Repair / Replace drive belt.	
		Inspect / Repair / Replace wiring connection.	
		Inspect / Repair / Replace alternator main fuse.	
		Inspect / Repair / Replace alternator.	
		Inspect / Repair / Replace voltage regulator.	
		Inspect / Repair / Replace battery unit.	
		Inspect for dark current / Repair / Replace.	
		Learn / Inspect / Repair / Replace battery sensor.	
		Inspect for short / Repair / Replace battery cable.	
		Inspect / Repair / Replace ECM.	

		Inspect / Repair / Replace body elec parts.	English
		Inspect / Repair / Replace installation status of alternator connector.	
		Inspect / Repair / Replace tightening of (+) and (-) battery terminals to specified torque.	
Swollen battery		Defective battery	Inspect / Replace battery.
		Defective voltage regulator or alternator	Inspect / Repair / Replace voltage regulator or alternator.
		Defective charging related parts or wiring	Inspect / Repair / Replace charging related parts and wiring.
After inspection, repair or replace related parts in case of malfunction.			

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