

Component Procedures: Starting System

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Component Procedures: Starting System

Parts and Labor (itype_189)

Parts

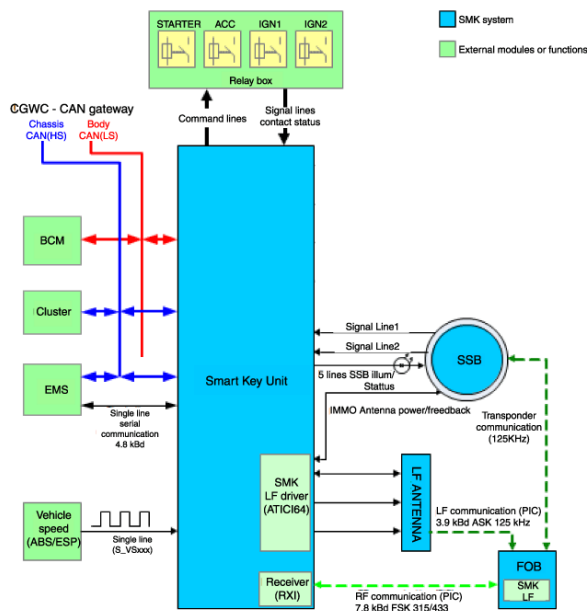
Qualifier	Part #	Name	Price	Note
Starter	361202E500	Solenoid	143.89	
Starter > Starter	361002E200	Korea Built	416.16	
Starter > Starter	361002E551	Us Built	418.27	
Ignition Lock > Ignition Loc?	81905F2260	With Smart Key	276.35	
Ignition Lock > Ignition Loc?	81905F2210	Without Smart Key	398.13	
Ignition Lock > Ignition Swi?	81910F2130	With Inter Lock System	196.74	
Ignition Lock > Ignition Swi?	81910F2110	Without Inter Lock Sys?	193.21	
Ignition Lock > Ignition Swi?	81910F2110	Without Inter. Lock	193.21	
Ignition Lock > Power Switch	95430F2510KEX	With Sport	105.27	
Ignition Lock > Power Switch	93502F2500SSH	Without Sport	129.90	

Labor

Operation	Qualifier Path	Skill	Std Hrs	Wty Hrs
Remove & Replace	Ignition Lock > Ignition Lock Cylinder, R&R	B	1.4	0.0
Remove & Replace	Ignition Lock > Ignition Switch, R&R	B	0.8	0.0
Remove & Replace	Ignition Lock > Power Switch, R&R	B	0.8	0.0
Remove & Replace	Starter > Solenoid, R&R	B	1.1	0.0
Remove & Replace	Starter > Starter, R&R	B	0.9	0.0
Inspect	Starter > Circuit, Inspect	B	0.5	0.0
Remove & Install	Starter > Starter, R&I	B	0.9	0.0
Test	Starter > Starter Draw, Test	B	0.3	0.0

Button Engine Start System - Schematic Diagrams (Article 44686)

- Circuit Diagram



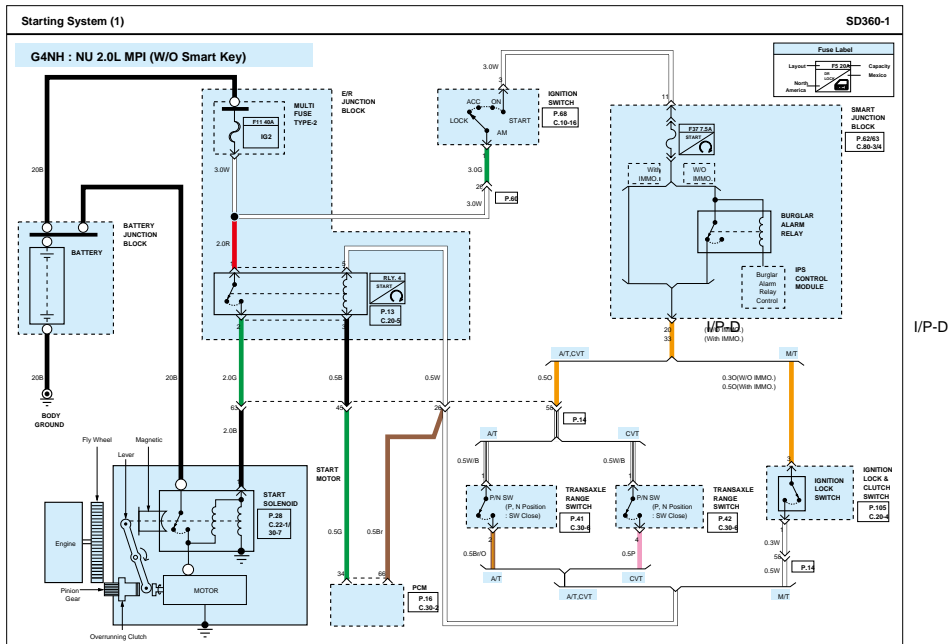
Starting System - Description and Operation (Article 44044)

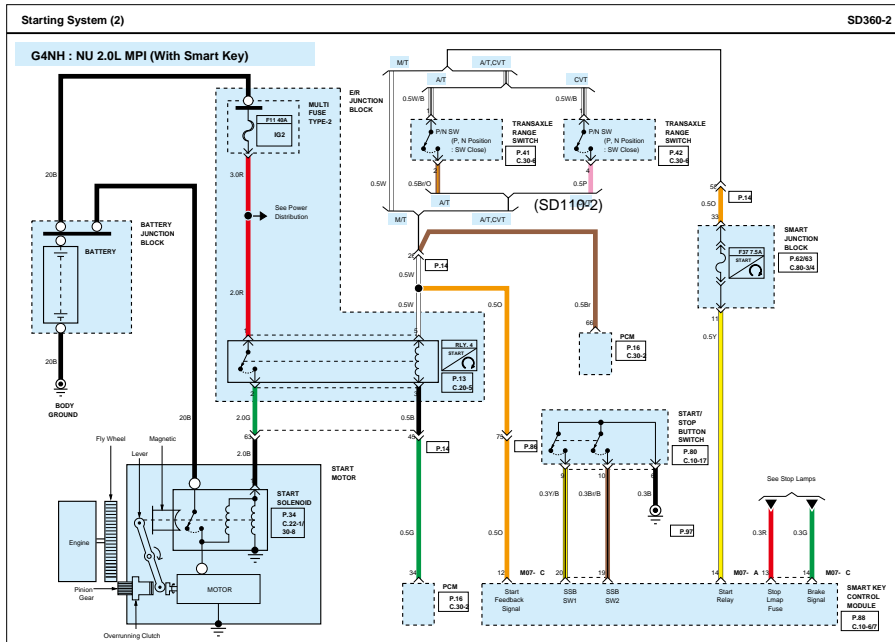
- Description

Starting System - Service Tips (Article 42632)

Starting System		Service Tips (1)	
Circuit Description (Without Smart Key)	(Without Smart Key)	Circuit Description (With Smart Key)	(With Smart Key)
<p>The battery voltage is always supplied by a battery B+ terminal to the start solenoid, start relay of E/R junction block and ignition switch.</p> <p>Turn the ignition switch to START with the shift lever into the P or N position (P/N switch is ON) and the brake pedal depressed for the A/T vehicle, and with the clutch pedal depressed for the M/T vehicle. And ECM(PCM) receive start power signal and then start relay coil (-) terminal is grounded by ECM(PCM) based on this signal.</p> <p>As the start relay coil (-) is grounded, the start relay switch is operated, and the current applied to the start motor ST terminal by the start relay switch terminal magnetizes the solenoid so that when the magnetic switch and lever are pulled, the pinion gear and the fly wheel are geared and the magnetic switch contact is closed so that the B+ high current rotates the motor to drive the engine. When the ignition switch is released after the engine starts operating, the pinion gear clutch is over-run to prevent damage from excessive revolutions of armature.</p>		<p>With smart key, you can start the engine without inserting the key. The smart key will not work if the battery in the smart key is weak or other objects blocking the signal. The battery voltage is always supplied by a battery B+ terminal to the start solenoid, start relay of E/R junction block.</p> <p>Push the start/stop button switch to START with the shift lever into the P or N position (P/N switch is ON) and the brake pedal depressed for the A/T vehicle, and with the clutch pedal depressed for the M/T vehicle. Smart Key Control Module receives start/stop button switch signal and sends the signal through the 7.5A fuse in Smart junction block to the ECM(PCM). Based on this signal, start relay coil (-) is grounded by ECM(PCM). As the start relay coil (-) is grounded by ECM(PCM), the start relay is operated, and the current applied to the start motor ST terminal by the start relay switch terminal magnetizes the solenoid so that when the magnetic switch and lever are pulled, the pinion gear and the fly wheel are geared and the magnetic switch contact is closed so that the B+ high current rotates the motor to drive the engine. When the start/stop button switch is released after the engine starts operating, the pinion gear clutch is overrun to prevent damage from excessive revolutions of armature. run to prevent damage from excessive revolutions of armature.</p>	
<p>■ Burglar Alarm Relay (Without Smart Key)</p> <p>If someone try to start engine of the vehicle equipped with the Burglar Alarm Relay by force, Burglar Alarm Relay is activated by IPS control module which cut off the power to prevent start engine for security.</p>		<p>■ If brake pedal for the A/T vehicle or clutch pedal for the M/T vehicle is not depressed while push the start/stop button, OFF → ACC → ON → OFF state is continued and cannot start engine.</p>	

Starting System - Schematic Diagrams (Article 42629)





All New Technical Service Bulletins (itype_432)

Tsbs

- ANTI-THEFT IGNITION CYLINDER PROTECTOR & DECAL INSTALLATION (CUSTOMER SATISFACTION CAMPAIGN P33) (25-01-089H, 2025/12/16)

All Technical Service Bulletins (itype_100)

Tsbs

- IAU/IBU/BLE LEARNING AFTER PARTS REPLACEMENT (22-BE-004H, 2022/07/08)
- ANTI-THEFT IGNITION CYLINDER PROTECTOR & DECAL INSTALLATION (CUSTOMER SATISFACTION CAMPAIGN P33) (25-01-089H, 2025/12/16)
- IDLE STOP & GO SYSTEM OPERATION, DIAGNOSTIC AND BATTERY SENSOR RECALIBRATION PROCEDURE (20-FL-004H, 2020/05/29)
- KEY FOB CODE SAVING/PROGRAMMING INFORMATION (19-BE-006H, 2019/03/25)
- OEM GENUINE HYUNDAI REMOTE START MODULE SOFTWARE UPDATE (23-BE-010H, 2023/08/17)

Software Update Bulletins (itype_434)

Tsbs

- IDLE STOP & GO SYSTEM OPERATION, DIAGNOSTIC AND BATTERY SENSOR RECALIBRATION PROCEDURE (20-FL-004H, 2020/05/29)

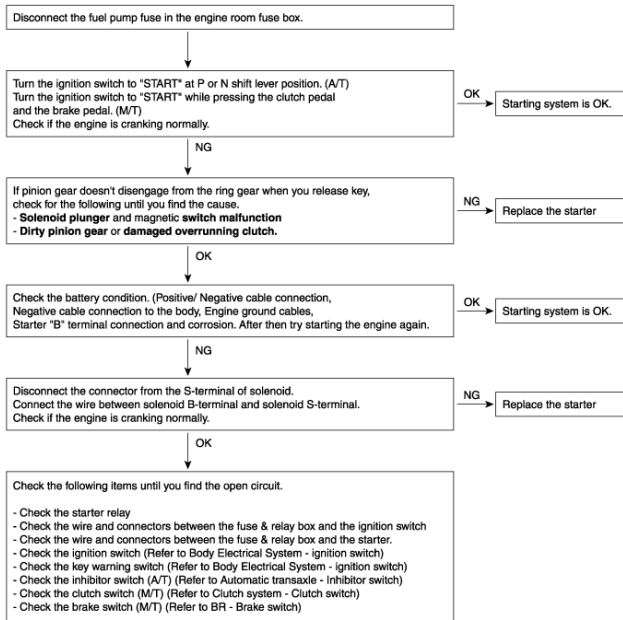
Starting System - Troubleshooting (Article 44045)

- Troubleshooting

The battery must be in good condition and fully charged for this troubleshooting.



- The battery must be in good condition and fully charged for this troubleshooting.



OEM Policies and Procedures (itype_120)

Tsbs

- IAU/IBU/BLE LEARNING AFTER PARTS REPLACEMENT (22-BE-004H, 2022/07/08)
- KEY FOB CODE SAVING/PROGRAMMING INFORMATION (19-BE-006H, 2019/03/25)

Service Campaigns (itype_108)

Tsbs

- ANTI-THEFT IGNITION CYLINDER PROTECTOR & DECAL INSTALLATION (CUSTOMER SATISFACTION CAMPAIGN P33) (25-01-089H, 2025/12/16)