

NO.8 HILL LAUNCH ASSIST (HLA) OPERATES EVEN ON A DOWNHILL/HILL LAUNCH ASSIST (HLA) DOES NOT OPERATE ON A SLOPE [DYNAMIC STABILITY CONTROL (DSC)]

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8	<p>Hill launch assist (HLA) operates even on a downhill Hill launch assist (HLA) does not operate on a slope</p>
POSSIBLE CAUSE	<p>Note</p> <ul style="list-style-type: none"> HLA operates on an up slope of about 3% or more when the shift lever is in a position other than the reverse (R) position. (MTX) HLA operates on an up slope of about 6% or more when selector lever position is in a forward gear. (ATX) HLA operates on a down slope of about 3% or more when shift lever is in a reverse (R) position. (MTX) HLA operates on a down slope of about 6% or more when selector lever is in a R position. (ATX) HLA operates for a maximum of 2 s after releasing brake pedal. <ul style="list-style-type: none"> DSC HU/CM detects a malfunction (Input/output device malfunction). PCM and/or instrument cluster detect a malfunction. SAS control module installation malfunction (If there is a malfunction resulting from SAS control module removal, HLA may not operate at desired inclination angle.) Tire malfunction (Differing air pressure on four wheels, use of tires with differing conditions of wear) DSC HU/CM initial setting and low-G sensor initialization have not been performed after replacing DSC HU/CM and SAS control module. (If initial setting and initialization are not performed, HLA may not operate at desired inclination angle.) Center point of low-G sensor has deviated. Input signal malfunction from ABS wheel-speed sensor Input signal malfunction from PCM (Engine torque signal, engine speed signal, accelerator pedal position signal, reverse gear signal, and clutch pedal signal) Input signal malfunction from instrument cluster (Parking brake signal) Input signal malfunction from TCM (Selector lever position signal) Communication error between DSC HU/CM and PCM Communication error between DSC HU/CM and instrument cluster Brake (foot brake/parking brake) drag

Diagnostic procedure

STEP	INSPECTION		ACTION
1	<p>VERIFY DTC FOR RELATED MODULES</p> <ul style="list-style-type: none"> Retrieve the DSC HU/CM, PCM, TCM (ATX) and instrument cluster DTC using the M-MDS. (See ON-BOARD DIAGNOSIS [DYNAMIC STABILITY CONTROL (DSC)].) (See ON-BOARD DIAGNOSTIC TEST [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See ON-BOARD DIAGNOSTIC TEST [SKYACTIV-D 2.2].) (See ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [FW6A-EL, FW6AX-EL].) (See ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [GW6A-EL, GW6AX-EL].) (See DTC INSPECTION [INSTRUMENT CLUSTER].) Are any DTCs present? 	Yes	Go to the applicable DTC inspection. (See ON-BOARD DIAGNOSIS [DYNAMIC STABILITY CONTROL (DSC)].)
		No	Go to the next step.
2	<p>VERIFY IF FALSE DETECTION OF INCLINATION ANGLE CAUSED BY MALFUNCTIONING SAS CONTROL MODULE INSTALLATION</p> <ul style="list-style-type: none"> Inspect the SAS control module installation condition for the following: <ul style="list-style-type: none"> Is the module installed with any twisting? Is the module installed correctly? 	Yes	Go to the next step.
		No	Repair the SAS control module installation condition. (See SAS CONTROL MODULE REMOVAL/INSTALLATION.)

STEP	INSPECTION	ACTION	
3	VERIFY IF MALFUNCTION CAUSED BY INITIALIZATION PROCEDURE FOR LOW-G SENSOR NOT PERFORMED <ul style="list-style-type: none"> • Verify if malfunction caused by initialization procedure for low-G sensor not performed. • Has the initialization for the low-G sensor been performed after replacing the DSC HU/CM and the SAS control module? 	Yes	Go to the next step.
		No	Perform the initialization procedure. (See DSC RELATED PARTS SENSOR INITIALIZATION PROCEDURE.)
4	VERIFY IF MALFUNCTION CAUSED BY TIRE MALFUNCTION PERFORMED <ul style="list-style-type: none"> • Inspect the tire pressure and condition. • Are tire pressure and condition normal? 	Yes	Go to the next step.
		No	If the pressure is incorrect, adjust the tire pressure to the specification. If the tires are worn, replace the tires.
5	INSPECT RELATED MODULES FOR MALFUNCTION CAUSED BY FALSE SIGNAL <ul style="list-style-type: none"> • Access the following DSC HU/CM, PCM and instrument cluster PIDs using the M-MDS: (See ON-BOARD DIAGNOSIS [DYNAMIC STABILITY CONTROL (DSC)].) (See PCM INSPECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See PCM INSPECTION [SKYACTIV-D 2.2].) (See ON-BOARD DIAGNOSTIC SYSTEM PID/ DATA MONITOR INSPECTION [FW6A-EL, FW6AX-EL].) (See ON-BOARD DIAGNOSTIC SYSTEM PID/ DATA MONITOR INSPECTION [GW6A-EL, GW6AX-EL].) (See PID/DATA MONITOR INSPECTION [INSTRUMENT CLUSTER].) DSC HU/CM <ul style="list-style-type: none"> — BRAKE_SW (Brake signal) — LON_ACCL_C (Low-G sensor (longitudinal G) calculated value signal) — LON_ACCL_R (Low-G sensor (longitudinal G) raw value signal) — BRK_F_P_C (Brake fluid pressure calculated value signal) — BRK_F_P_R (Brake fluid pressure raw value signal) — WSPD_LF (ABS wheel-speed sensor (LF) signal) — WSPD_RF (ABS wheel-speed sensor (RF) signal) — WSPD_LR (ABS wheel-speed sensor (LR) signal) — WSPD_RR (ABS wheel-speed sensor (RR) signal) PCM <ul style="list-style-type: none"> — RPM (Engine speed signal) — APP (APP sensor signal) — CPP (Clutch pedal signal: MTX) — M_GEAR (Manual gear position signal: MTX) — GEAR (Gear commanded signal: ATX) TCM (ATX) <ul style="list-style-type: none"> — TR (Transaxle range sensor signal) INSTRUMENT CLUSTER <ul style="list-style-type: none"> — P_BRAKE_SW (Parking brake signal) <ul style="list-style-type: none"> • Are all PID values normal? 	Yes	Inspect the following: <ul style="list-style-type: none"> • Brake (foot brake/parking brake) drag • Engine output malfunction Repair or replace any malfunctioning parts according to the inspection result.
		No	Inspect the related parts and wiring harness. Repair or replace any malfunctioning parts according to the inspection result.