## ON-BOARD DIAGNOSTIC SYSTEM FOREWORD [FW6A-EL, FW6AX-EL]

id050227027300

• If there is any vehicle malfunction complaint lodged by a customer, perform malfunction diagnosis according to the troubleshooting procedure.

**Troubleshooting Procedure** MALFUNCTIONING **VEHICLE ARRIVES** ACCURATELY VERIFY CUSTOMER COMPLAINT VERIFY REPAIR ORDER AND SYMPTOM. IN REPAIR ORDER FORM. PERFORM DTC INSPECTION. INSPECT FOR ANY DTCs USING M-MDS. PERFORM INSPECTION FOR DTCs OUTPUT BEFORE AND AFTER PERFORM THE ON-BOARD DIAGNOSTIC TEST MODE PERFORMING ON-BOARD DIAGNOSTIC TEST MODE. BROWSE TECHNICAL INFORMATION AND VERIFY SERVICE INFORMATION. SEARCH SERVICE INFORMATION. DOES ANY SERVICE VERIFY MALFUNCTION USING MALFUNCTION YES INFORMATION MATCH VERIFICATION PROCEDURE IN SERVICE INFORMATION. SYMPTOM AND CAUSE? AND REPAIR ACCORDING TO SERVICE INFORMATION. NO DOES NO MALFUNCTION SEE ACTION FOR NON-REPEATABLE MALFUNCTION. RECUR? YES VERIFY MALFUNCTION SYMPTOM. VERIFY MALFUNCTION SYMPTOM ON ACTUAL VEHICLE. SEE "CAN MALFUNCTION DIAGNOSIS FLOW"\*1 AND PERFORM PERFORM CAN MALFUNCTION DIAGNOSIS. DIAGNOSIS FOR CAN RELATED MALFUNCTION. YES SEE ON-BOARD DIAGNOSIS SYSTEM AND PERFORM ARE ANY DTCs DTC TROUBLESHOOTING. **OUTPUT?** NO USE M-MDS DATA MONITOR FUNCTION TO PID/DATA MONITOR PERFORM INSPECTION WHILE MONITORING SYMPTOM INSPECTION INPUT/OUTPUT SIGNALS. **TROUBLESHOOTING** USE M-MDS FUNCTIONS ON THE USE M-MDS SIMULATION FUNCTION TO INSPECT RIGHT TO PERFORM DIAGNOSIS ACTIVE COMMAND FOR INCOMPLETE ELECTRICAL CIRCUIT OR EFFICIENTLY. MODES INSPECTION VALVE STICKING WHILE OPERATING EACH OUTPUT PART WITH THE IGNITION SWITCHED ON. VERIFY MALFUNCTION IS REPAIRED. SERVICE **COMPLETED** 

Repair order form

 $<sup>^{\</sup>star 1}$  : CONTROLLER AREA NETWORK (CAN) MALFUNCTION DIAGNOSIS FLOW [SKYACTIV-G 2.0, SKYACTIV-G 2.5 (L.H.D.)]/CONTROLLER AREA NETWORK (CAN) MALFUNCTION DIAGNOSIS FLOW [SKYACTIV-G 2.0, SKYACTIV-G 2.5 (R.H.D.)]

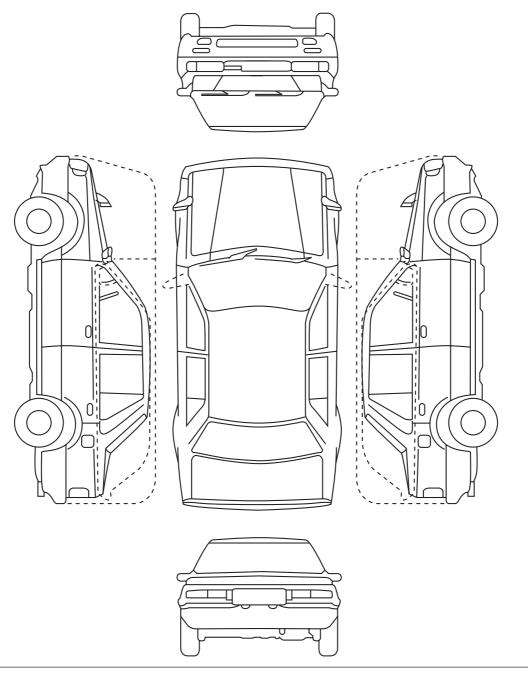
	Repair order	Check with customer	Diagnosis	Repair	Explanation to customer
Date/time					
In-charge					

	iii onargo	1				
Customer statement (When? What? What time(s)? Where it occurs. Where it occurs.	Varning light illumination? Can anyone repl	licate problem?)				
Vehicle body number:	Registration date:		Date of malfunction oc	currence:	Odometer reading	km {mph}
Engine ( SOHC/DOHC/RE/DE ) ( Cab /EGI/ Turbo/ Miller cycle/ LPG/l		Transmission (MT/HAT/EC-AT	T/CVT)			

Environmental conditions				Driving conditions											
Weather	Ambient temp.		Occurrence frequency	Fuel	Warm-up condition	Driving operation	Driving posture	Load	Accelerator opening angle	Shift	position	Eng RPM	Vehicle speed	Pattern of use	
Sunny	-10°C {14°F} or less	Depart/arrive	Flat	Once/day	Regular	Cold	When starting	Vehicle stopped	Headlights on	0/8		1	Idle	5 km/h {3 mph}	Work%
Cloudy	-10— 0°C {14—32°F} 0—10°C {32—50°F}	Traffic jam (city)		2-3 times/day	High Oct.	Half-warmed	After starting Re-starting ( min. after		Exterior lights on	1/8		2 3 4	Less than 1,000 Less than 1,500	10 km/h {6.2 mph} 20 km/h {12 mph}	Minor use% Trips% Other%
Rain	10—15°C {50—59°F}	Standard city street	Upgrade	4-5 times/day	Diesel	Fully warmed	stopped) Idling	Straight-on driving	A/C on AUTO *C{*F}	2/8	MT	5	Less than 2,000	10 mm (20 mpm)	Between ENG. start→Stop:
	15—20°C {59—58°F} 20—25°C {68—77°F}	Suburbs	Down	Many times/day Once/week	LPG	N/A	Racing Accel. from stop	Reversing	Blower: 1 step Blower: 2 steps	3/8		N R	Less than 2,500 Less than 3,000	50 km/h {31 mph} 60 km/h {37 mph}	Approx km Approx Hrs.
Snow	25—30°C {77—86°F}	Uneven road		2-3 times/week	Other	Other	Normal driving Deceleration		Blower: 3 steps	4/8		P	Less than 4,000	70 km/h {43 mph} 80 km/h {50 mph}	No. of occupants: Load condition kg
High wind	30—35°C {86—95°F}	Dry road surface	grade	4-5 times/week	Fuel gauge	Water temp.	Braking Soft braking Clutch disengage	Right turn	Blower: 4 steps	5/8		R N	Less than 4,500	90 Km/n (56 mpn)	Other
Wind gusts	35—4{0°C {95—104°F} 40—45°C {104—113°F}	Wet road surface		Once/month	F—	gauge H —	Sudden accel. Light accel.		Power steering lock to lock  Rear defrost on	6/8	АТ	D S	Less than 5,000 Less than 5,500	110 km/h {68.4 mph} 120 km/h {74.6 mph}	
N/A	45°C {113°F} or more	Snow bound road	N/A	2-3 times/month			Shifting ( km/h {mph} →	Left turn	Wipers on	7/8		L Hold	Less than 6,000	130 km/h {80.8 mph} 140 km/h {87 mph}	
	N/A	Icy road	Other	4-5 times/month Other	E	c 🗖	km/h {mph})	Other	Audio on	8/8		M ( km/h	Less than 6,500	150 km/h {93.2 mph}	
Other	Other	Other	Oiner	Calei		-	Other	Other	Other	0/0		(mph))	7,000 or more	160 km/h {99.4 mph}	

DTC, measured data (fuel pressure, intake manifold vacuum, throttle sensor electromotive force, air flow electromotive force, other), maintenance, repair, accident history, installation of commercial devices

Dealer nam	ne:		Vehicle body n	umber:		Odometer reading:			
Vehicle-in o	late:		Estimated repa	air completion d	ate:	Person in-charge:			
	Subject (Content):  Audio memory								
	1	2	3	4	5	6	Fuel level		
FM1							E F		
FM2									
AM									



## **Action for Non-repeatable Malfunction**

- If the malfunction does not recur, verify the malfunction cause by performing the following actions:
   Verify that no DTCs are stored. (See ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [FW6A-EL, FW6AX-EL].)
  - Based on the repair order form, attempt to drive the vehicle or perform tests to replicate the malfunction, record the data at that time, and detect the malfunction cause.
- If the malfunction does not recur after the above servicing, explain to the customer that the vehicle is normal.