Steering Column —Tilt/Telescope Motor

Refer to Wiring Diagrams Cell 58 , Lighting Control Module for schematic and connector information.

Refer to Wiring Diagrams Cell 77 , Tilt/Telescoping Steering Column for schematic and connector information.

Special Tool(s)

 ST1137-A	73 Digital Multimeter 105-R0051 or Equivalent
 ST1217-A	New Generation Star (NGS) Tester 007-00500 or Equivalent

Inspection and Verification

1. Verify the customer's concern by operating the steering column switch to duplicate the condition.
2. Inspect to determine if one of the following apply:

Visual Inspection Chart

Mechanical	Electrical
• Damaged steering column	• Damaged fuse power distribution box Fuse 12 (15A). Fuse junction panel Fuse 5 (10A) • Damaged multi-function switch • Circuitry open/shorted

3. If inspection reveals obvious concern(s) that can be readily identified, repair as required.
4. If the concern remains after the inspection, connect New Generation Star (NGS) Tester to the data link connector (DLC) located beneath the instrument panel to perform DATA LINK DIAGNOSTIC TEST; refer to Section 418-00 . If the New Generation Star (NGS) Tester responds with NO RESPONSE/NOT EQUIPPED for steering column/ignition/lighting control module, go to Pinpoint Test B. If the DATA LINK DIAGNOSTIC TEST is passed for the steering column/ignition/lighting control module, retrieve continuous diagnostic trouble codes (DTCs) and execute Self Test Diagnostics for the steering column/ignition/lighting control module; refer to Section 418-00 .
5. If the self test is passed and no diagnostic trouble codes (DTCs) are retrieved, go to Symptom Chart to continue diagnostics.

6. If diagnostic trouble codes (DTCs) are retrieved, go to the Steering Column/Ignition/Lighting Control Module Diagnostic Trouble Code (DTC) Index to continue diagnostics.

7. If the Steering Column/Ignition/Lighting Control Module cannot be accessed by the New Generation Star (NGS) Tester, go to Pinpoint Test B.

Steering Column/Ignition/Lighting Control (SCIL) Module Diagnostic Trouble Code (DTC) Index

DTC	Description	DTC caused by	Action to Take
B1353	Ignition Key-In Circuit Open	SCIL Module	REFER to Section 501-12.
B1360	Ignition RUN/ACC Circuit Open	SCIL Module	REFER to Section 501-12.
B1364	Ignition START Circuit Open	SCIL Module	REFER to Section 501-12.
B2328	Steering Column Telescope Feedback Potentiometer Circuit Failure	SCIL Module	REFER to DTC B2328.
B2332	Steering Column Tilt Feedback Potentiometer Circuit Failure	SCIL Module	REFER to DTC B2332.
B2351	Steering Column Switch Signal Circuit Failure	SCIL Module	REFER to DTC B2351.

Steering Column/Ignition/Lighting Control (SCIL) Module Parameter Identification (PID) Index

PID	Description	PID Value
CCNT5CI	Number of Continuous DTCs on SCIL	One count per bit
IGN_KEY	Ignition Key In/Out	IN OUT
IGN_SCI	Ignition Switch	START RUN OFF ACCSSY
NUMKEYS	Number of Ignition Key Codes Supported	BCD (Valid Range 0-16)
PRK_BRK	Parking Brake Switch Input	ON OFF
TILT	Steering Column Tilt Switch	SHORT UP DOWN OFF
TELESCP	Steering Column Telescope Switch	SHORT IN OUT OFF
TILTPOS	Tilt Position Sensor	SENSED notSEN
TELEPOS	Telescope Position Sensor	SENSED notSEN

Steering Column/Ignition/Lighting (SCIL) Control Module Active Command Index

Active Command	Display	Function
Steering Column Control	TILT UP	ONE SECOND TIME OUT
	TILT DOWN	ONE SECOND TIME OUT

	TELSCP IN	ONE SECOND TIME OUT
	TELSCPOUT	ONE SECOND TIME OUT
Keycode Erase Time Set	MINUTES	8-63 MINUTES

Symptom Chart

Refer to the Electrical and Vacuum Troubleshooting Manual for connector numbers cited in the pinpoint tests.

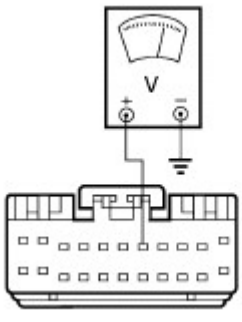
Symptom Chart

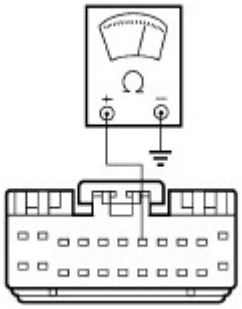
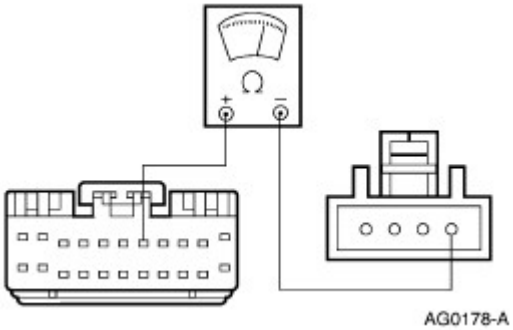
Condition	Possible Sources	Action
• No Communication with the Steering Column/Ignition/Lighting Control Module	• Steering column/ignition/lighting control module. • Circuitry.	• GO to Pinpoint Test B .
• The Steering Column Tilt Adjustment Is Inoperative	• Steering column/ignition/lighting control module. • Multi-function switch. • Circuitry.	• GO to Pinpoint Test C .
• The Steering Column Telescope Adjustment is Inoperative	• Steering column/ignition/lighting control module. • Multi-function switch. • Circuitry.	• GO to Pinpoint Test D .
• The Steering Column Tilt and Telescope Adjustment is Inoperative	• Steering column/ignition/lighting control module. • Multi-function switch. • Circuitry.	• GO to Pinpoint Test E .

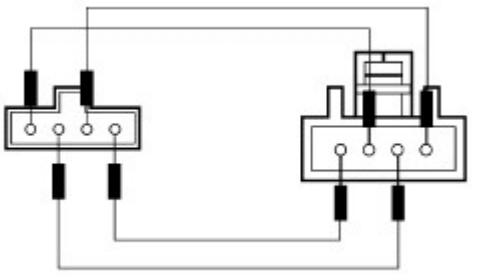
Pinpoint Tests

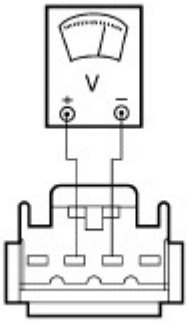
PINPOINT TEST B2328: DTC B2328: STEERING COLUMN REACH FEEDBACK POTENTIOMETER CIRCUIT FAILURE

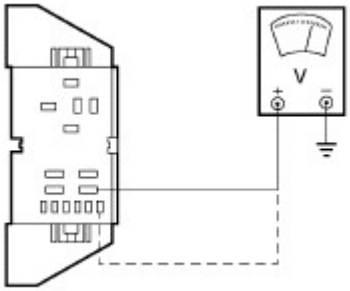
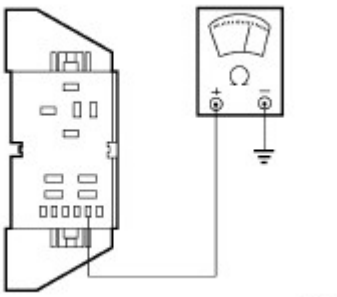
CONDITIONS	DETAILS/RESULTS/ACTIONS
B23281 CHECK FOR DTC B2332	
2 	1 Activate the steering column adjustment switch to full travel in all four directions.

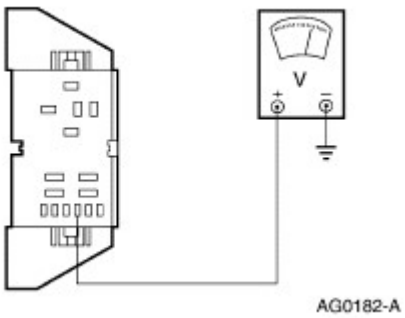
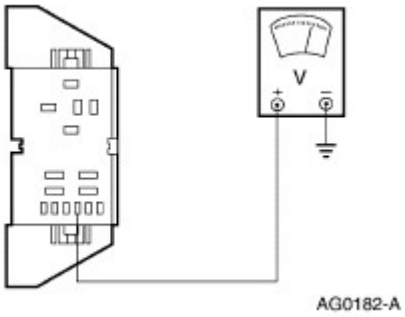
Steering Column/Ignition/Lighting Control Module Self-Test	3 Retrieve the continuous DTCs, and the self test DTCs. • **Are both DTCs B2332 and B2328 present in the self test or continuous DTCs?** → **Yes** GO to Pinpoint Test A . → **No** GO to B23282 .
B23282 CHECK CONTINUOUS DTCs	
1  Steering Column/Ignition/Lighting Control Module Continuous DTCs	• **Is DTC B2328 present?** → **Yes** GO to B23283 . → **No** GO to B23287 .
B23283 CHECK CIRCUIT 214 (PK/LB) FOR A SHORT TO B+	
1  Steering Column/Ignition/Lighting Control Module Connector C286 2  AG0176-A	2 Connect a voltmeter to the steering column/ignition/lighting control module connector Pin C286-7, Circuit 214 (PK/LB). • **Is voltage present?**

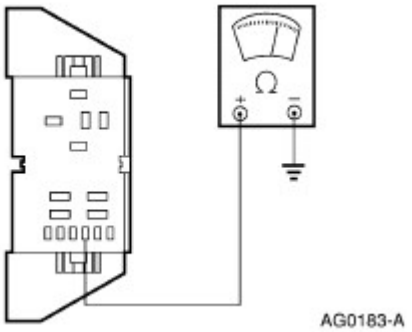
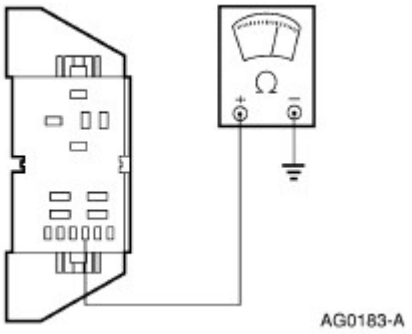
	→ **Yes** SERVICE Circuit 214 (PK/LB) for a short to B+. RETEST the system. → **No** GO to B23284 .
B23284 CHECK CIRCUIT 214 (PK/LB) FOR A SHORT TO THE GROUND	
1  AG0177-A	1 Connect an ohmmeter between the steering column/ignition/lighting control module connector Pin C286-7, Circuit 214 (PK/LB) and the ground. • **Is the resistance 10 K ohms or less?** → **Yes** SERVICE Circuit 214 (PK/LB) for a short to the ground. RETEST the system. → **No** GO to B23285 .
B23285 CHECK CIRCUIT 214 (PK/LB) FOR AN OPEN	
1  Steering Column/Tilt/Telescope Potentiometer Connector C216 2  AG0178-A	2 Connect an ohmmeter between the steering column/ignition/lighting control module connector Pin C286-7 and the steering column/tilt/telescope potentiometer Connector C216, Circuit 214 (PK/LB). • **Is the resistance 5 ohms or less?** → **Yes** GO to B23286 .

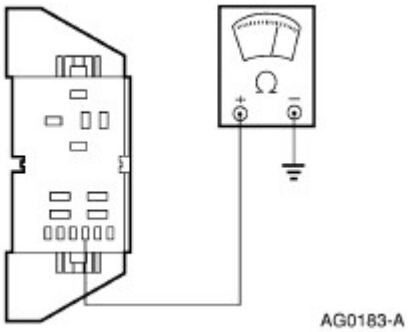
	→ **No** SERVICE Circuit 214 (PK/LB) for an open. RETEST the system.
B23286 CHECK THE POTENTIOMETERS	
1  AG0154-A	1 Connect a jumper wire between the steering column tilt/telescope potentiometer Connector C216, Circuit 668 (PK/O) and the steering column tilt/telescope potentiometer terminal 1. 2 Connect a jumper wire between the steering column tilt/telescope potentiometer Connector C216, Circuit 669 (DG/W) and the steering column tilt/telescope potentiometer terminal 3. 3 Connect a jumper wire between the steering column tilt/telescope potentiometer Connector C216, Circuit 213 (DB/Y) and the steering column tilt/telescope potentiometer terminal 4. 4 Connect a jumper wire between the steering column tilt/telescope potentiometer Connector C216, Circuit 214 (PK/LB) and the steering column tilt/telescope potentiometer terminal 2.
5  Steering Column/Ignition/Lighting Control Module Self-Test	• **Is DTC B2332 retrieved?** → **Yes** REPLACE the steering column tilt/telescope potentiometers. RETEST the system. → **No** REPLACE the steering column/ignition/lighting control module. RETEST the system.
B23287 CHECK FOR STEERING COLUMN MOVEMENT	
NOTE: This active command will only power motors for one second.	

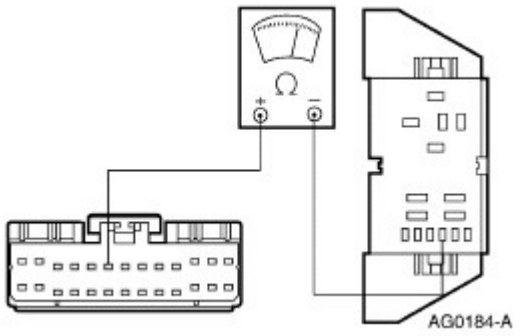
1  Steering Column/Ignition/Lighting Control Module Active Command STEERING COLUMN CONTROL 2  Trigger TELESCP IN On Then TELSCPOUT On	• **Does the steering column telescope in and out?** → **Yes** REPLACE the steering column tilt/telescope potentiometers. RETEST the system. → **No** GO to B23288 .
B23288 CHECK FOR VOLTAGE AT THE MOTOR	
1  Steering Column Motor Connector C297 2  AG0179-A 3  Steering Column/Ignition/Lighting Control Module Active Command STEERING COLUMN CONTROL 4 	2 Connect a voltmeter between the steering column motor connector Pin C297-3, Circuit 216 (T/R) and the Pin C297-2, Circuit 695 (BK/O).

Trigger TELESCP IN On Then TELSCPOUT On	• **Is voltage present for one second after each command is sent?** → **Yes** REPLACE the telescope motor. RETEST the system. → **No** GO to B23289 .
B23289 CHECK THE RELAY FOR VOLTAGE	
1  Steering Column Telescope Motor Relay C279 2  	2 Connect a voltmeter to the steering column telescope motor relay connector Pin C279-5, Circuit 908 (PK/LG), then to the Pin C279-2, Circuit 908 (PK/LG). • **Is voltage B+ on both circuits?** → **Yes** GO to B232810 . → **No** SERVICE open in Circuit 908 (PK/LG) for an open. RETEST the system.
B232810 CHECK THE GROUND FOR AN OPEN	
1  	1 Connect an ohmmeter between the steering column telescope motor relay connector Pin C297-4, Circuit 57 (BK) and the ground.

	• **Is the resistance 5 ohms or less?** → **Yes** GO to B232811 . → **No** SERVICE Circuit 57 (BK) for an open. RETEST the system.
B232811 CHECK CIRCUIT 1222 (P/W) FOR A SHORT TO THE B+	
1  	1 Connect a voltmeter to the steering column telescope motor relay connector Pin C279-1, Circuit 1222 (P/W). • **Is voltage present?** → **Yes** GO to B232812 . → **No** GO to B232813 .
B232812 CHECK THE STEERING COLUMN/IGNITION/LIGHTING CONTROL MODULE FOR A SHORT TO THE B+	
1  Steering Column/Ignition/Lighting Control Module Connector C288 2  	2 Connect a voltmeter to the steering column telescope motor relay connector Pin C279-1, Circuit 1222 (P/W). • **Is voltage present?**

	→ **Yes** SERVICE Circuit 1222 (P/W) for a short to the B+. RETEST the system. → **No** REPLACE the steering column/ignition/lighting control module. RETEST the system.
B232813 CHECK CIRCUIT 1222 (P/W) FOR SHORT TO GROUND	
1  	1 Connect an ohmmeter between the steering column telescope motor relay connector Pin C279-1, Circuit 1222 (P/W) and the ground. • **Is the resistance 10 K ohms or less?** → **Yes** GO to B232814 . → **No** GO to B232815 .
B232814 CHECK THE STEERING COLUMN/IGNITION/LIGHTING CONTROL MODULE FOR A SHORT TO THE GROUND	
1  Steering Column/Ignition/Lighting Control Module Connector C288 2  	2 Connect an ohmmeter between the steering column telescope motor relay connector Pin C279-1, Circuit 1222 (P/W) and the ground. • **Is the resistance 10 K ohms or less?**

	→ **Yes** SERVICE Circuit 1222 (P/W) for short to ground. RETEST the system. → **No** REPLACE the steering column/ignition/lighting control module. RETEST the system.
B232815 CHECK THE STEERING COLUMN/IGNITION/LIGHTING CONTROL MODULE OPERATION	
1  2  Steering Column/Ignition/Lighting Control Module Active Command STEERING COLUMN CONTROL 3  Trigger TELESCP IN On	1 Connect an ohmmeter between the steering column telescope motor relay connector Pin C279-1, Circuit 1222 (P/W) and ground. • **Is the resistance 5 ohms or less for 1 second after the command is sent?** → **Yes** GO to B232817 . → **No** GO to B232816 .
B232816 CHECK CIRCUIT 1222 (P/W) FOR AN OPEN	
1  Steering Column/Ignition/Lighting Control Module Connector C288 2	2 Connect an ohmmeter between the



steering column telescope motor relay connector Pin C279-1, Circuit 1222 (P/W) and the steering column/ignition/lighting control module connector Pin C288-6.

- **Is the resistance 5 ohms or less?**

→ **Yes**
REPLACE the steering column/ignition/lighting control module. RETEST the system.

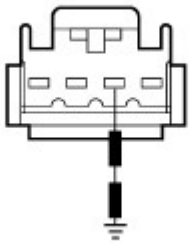
→ **No**
SERVICE Circuit 1222 (P/W) for an open. RETEST the system.

B232817 CHECK CIRCUIT 1223 (GY/R) FOR AN OPEN

1

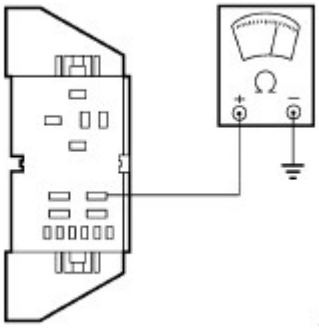
Steering Column Motor Connector C297

2

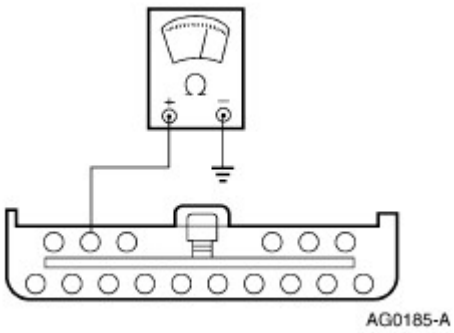
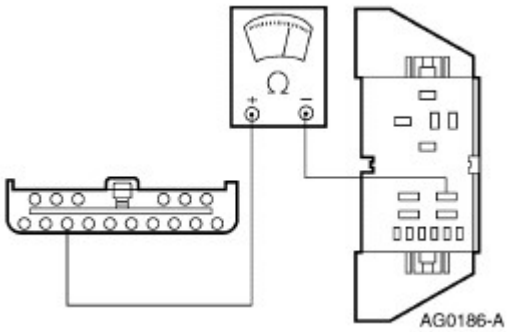


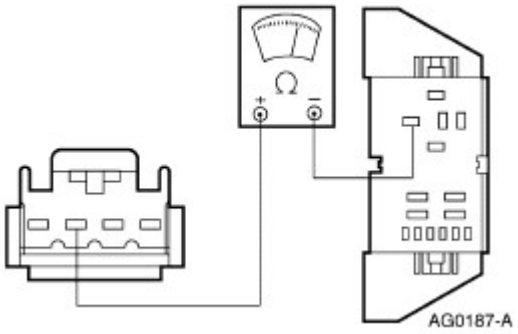
2 Connect a jumper wire between the steering column motor connector Pin C297-3, Circuit 216 (T/R) and the ground.

3



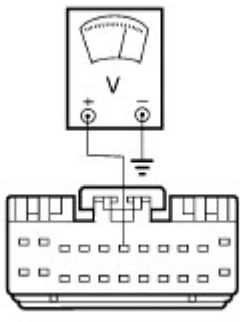
3 Connect an ohmmeter between the steering column telescope motor relay connector Pin C279-3, Circuit 1223 (GY/R) and the ground.

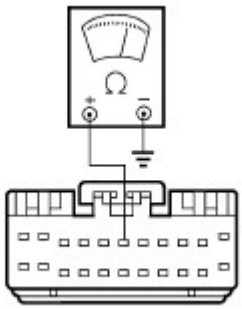
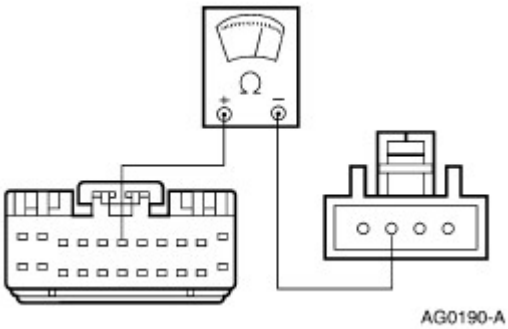
	• **Is the resistance 5 ohms or less?** → **Yes** GO to B232820 . → **No** GO to B232818 .
B232818 CHECK CIRCUIT 216 (T/R) FOR AN OPEN	
1  Steering Column/Ignition/Lighting Control Module Connector C289 2  AG0185-A	2 Connect an ohmmeter between the steering column/ignition/lighting control module connector Pin C289-15, Circuit 216 (T/R) and the ground. • **Is the resistance 5 ohms or less?** → **Yes** GO to B232819 . → **No** SERVICE Circuit 216 (T/R) for an open. RETEST the system.
B232819 CHECK THE STEERING COLUMN/IGNITION/LIGHTING CONTROL MODULE FOR AN OPEN	
1  AG0186-A	1 Connect an ohmmeter between the steering column/ignition/lighting control module connector Pin C289-8 and the steering column telescope motor relay connector Pin C279-3, Circuit 1223 (GY/R). • **Is the resistance 5 ohms or less?**

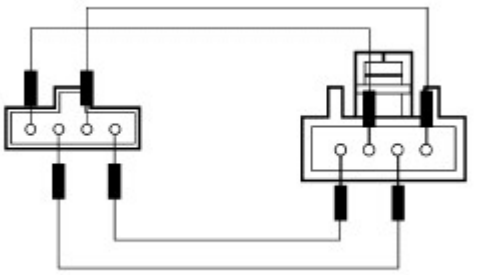
	→ **Yes** REPLACE the steering column/ignition/lighting control module. RETEST the system. → **No** SERVICE Circuit 1223 (GY/R) for an open. RETEST the system.
B232820 CHECK CIRCUIT 695 (BK/O) FOR AN OPEN	
1  Steering Column Tilt/Telescope Common Motor Relay C292 2  	2 Connect an ohmmeter between the steering column motor connector Pin C297-2 and the steering column tilt/telescope common motor relay connector Pin C292-30, Circuit 695 (BK/O). • **Is the resistance 5 ohms or less?** → **Yes** REPLACE the steering column telescope motor relay. RETEST the system. → **No** SERVICE Circuit 695 (BK/O) for an open. RETEST the system.

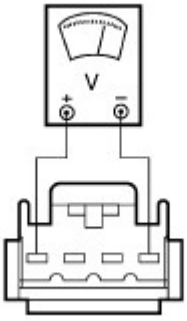
PINPOINT TEST B2332: DTC B2332: STEERING COLUMN TILT FEEDBACK POTENTIOMETER CIRCUIT FAILURE

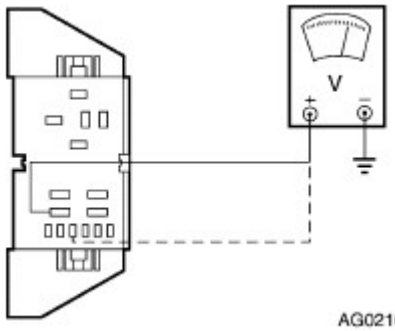
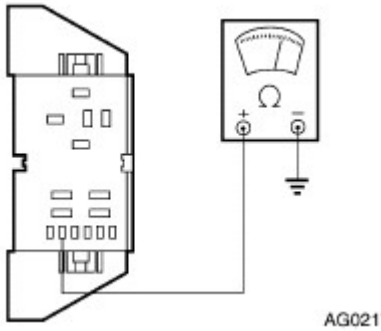
CONDITIONS	DETAILS/RESULTS/ACTIONS
B23321 CHECK FOR DTC B2328	
2 	1 Activate the steering column adjustment switch to full travel in all four directions.

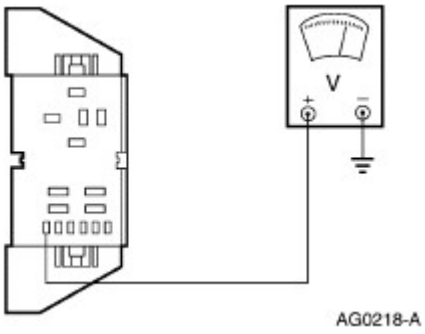
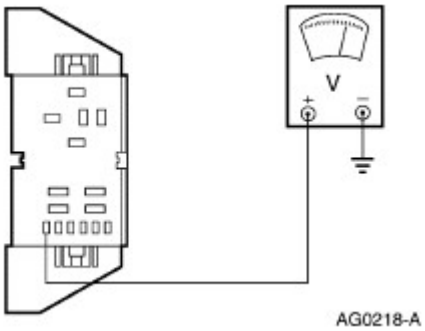
Steering Column/Ignition/Lighting Control Module Self-Test	3 Retrieve the continuous DTCs, and the self test DTCs. • **Are both DTCs B2332 and B2328 present in the self test or continuous DTCs?** → **Yes** GO to Pinpoint Test A . → **No** GO to B23322 .
B23322 CHECK CONTINUOUS DTCs	
1  Steering Column/Ignition/Lighting Control Module Continuous DTCs	• **Is DTC B2332 present?** → **Yes** GO to B23323 . → **No** GO to B23327 .
B23323 CHECK CIRCUIT 213 (DB/Y) FOR A SHORT TO THE B+	
1  Steering Column/Ignition/Lighting Control Module Connector C286 2  AG0188-A	2 Connect a voltmeter to the steering column/ignition/lighting control module connector Pin C286-6, Circuit 213 (DB/Y). • **Is voltage present?**

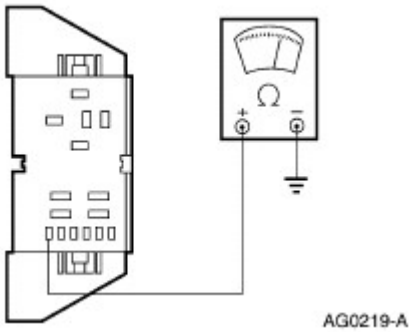
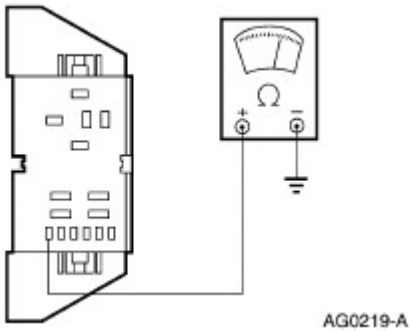
	→ **Yes** SERVICE Circuit 213 (DB/Y) for a short to the B+. RETEST the system. → **No** GO to B23324 .
B23324 CHECK CIRCUIT 213 (DB/Y) FOR A SHORT TO THE GROUND	
1  AG0189-A	1 Connect an ohmmeter between the steering column/ignition/lighting control module connector Pin C286-6, Circuit 213 (DB/Y) and the ground. • **Is the resistance 10 K ohms or less?** → **Yes** SERVICE Circuit 213 (DB/Y) for short to ground. RETEST the system. → **No** GO to B23325 .
B23325 CHECK CIRCUIT 213 (DB/Y) FOR AN OPEN	
1  Steering Column Tilt/Telescope Potentiometer Connector C216 2  AG0190-A	2 Connect an ohmmeter between the steering column/ignition/lighting control module connector Pin C286-6 and the steering column tilt/telescope potentiometer Connector C216, Circuit 213 (DB/Y). • **Is the resistance 5 ohms or less?** → **Yes** GO to B23326 .

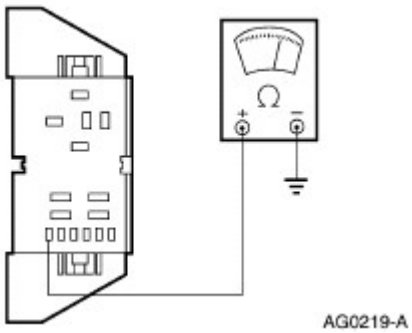
	→ **No** SERVICE Circuit 213 (DB/Y) for open. RETEST the system.
B23326 CHECK THE POTENTIOMETERS	
1  AG0154-A	1 Connect a jumper wire between the steering column tilt/telescope potentiometer Connector C216, Circuit 668 (PK/O) and the steering column tilt/telescope potentiometer terminal 1. 2 Connect a jumper wire between the steering column tilt/telescope potentiometer Connector C216, Circuit 669 (DG/W) and the steering column tilt/telescope potentiometer terminal 3. 3 Connect a jumper wire between the steering column tilt/telescope potentiometer Connector C216, Circuit 213 (DB/Y) and the steering column tilt/telescope potentiometer terminal 4. 4 Connect a jumper wire between the steering column tilt/telescope potentiometer Connector C216, Circuit 214 (PK/LB) and the steering column tilt/telescope potentiometer terminal 2.
5  Steering Column/Ignition/Lighting Control Module Self-Test	• **Is DTC B2328 retrieved?** → **Yes** REPLACE the steering column tilt/telescope potentiometers. RETEST the system. → **No** REPLACE the steering column/ignition/lighting control module. RETEST the system.
B23327 CHECK FOR STEERING COLUMN MOVEMENT	
NOTE: This active command will only power the motors for one second.	

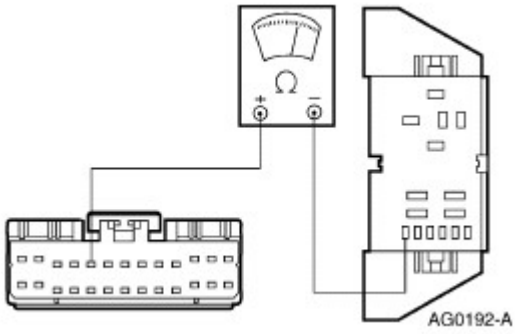
1  Steering Column/Ignition/Lighting Control Module Active Command STEERING COLUMN CONTROL 2  Trigger TELESCP IN On Then TELSCPOUT On	• **Does the steering column tilt up and down?** → **Yes** REPLACE the steering column tilt/telescope potentiometers. RETEST the system. → **No** GO to B23328 .
B23328 CHECK FOR VOLTAGE AT THE MOTOR	
1  Steering Column Motor Connector C297 2  AG0191-A 3  Steering Column/Ignition/Lighting Control Module Active Command STEERING COLUMN CONTROL 4 	2 Connect a voltmeter between the steering column motor connector Pin C297-1, Circuit 698 (R) and the Pin C297-4, Circuit 695 (BK/O).

Trigger TILT UP On Then TILT DOWN On	• **Is voltage present for one second after each command is sent?** → **Yes** REPLACE the tilt motor. RETEST the system. → **No** GO to B23329 .
B23329 CHECK THE RELAY FOR VOLTAGE	
1  Steering Column Tilt Motor Relay C278 2  	2 Connect a voltmeter to the steering column tilt motor relay connector Pin C278-5, Circuit 908 (PK/LG), then to the Pin C278-2, Circuit 908 (PK/LG). • **Is voltage B+ on both the circuits?** → **Yes** GO to B233210 . → **No** SERVICE Circuit 908 (PK/LG) for an open. RETEST the system.
B233210 CHECK THE GROUND FOR AN OPEN	
1  	1 Connect an ohmmeter between the steering column tilt motor relay connector Pin C298-4, Circuit 57 (BK) and the ground.

	• **Is the resistance 5 ohms or less?** → **Yes** GO to B233211 . → **No** SERVICE Circuit 57 (BK) for open. RETEST the system.
B233211 CHECK CIRCUIT 1220 (O/R) FOR A SHORT TO THE B+	
1  AG0218-A	1 Connect a voltmeter to the steering column tilt motor relay connector Pin C278-1, Circuit 1220 (O/R). • **Is voltage present?** → **Yes** GO to B233212 . → **No** GO to B233213 .
B233212 CHECK THE STEERING COLUMN/IGNITION/LIGHTING CONTROL MODULE FOR A SHORT TO THE B+	
1  Steering Column/Ignition/Lighting Control Module Connector C288 2  AG0218-A	2 Connect a voltmeter to the steering column tilt motor relay connector Pin C278-1, Circuit 1220 (O/R). • **Is voltage present?**

	→ **Yes** SERVICE Circuit 1220 (O/R) for a short to the B+. RETEST the system. → **No** REPLACE the steering column/ignition/lighting control module. RETEST the system.
B233213 CHECK CIRCUIT 1220 (O/R) FOR A SHORT TO THE GROUND	
1  	1 Connect an ohmmeter between the steering column tilt motor relay connector Pin C278-1, Circuit 1220 (O/R) and the ground. • **Is the resistance 10 K ohms or less?** → **Yes** GO to B233214 . → **No** GO to B233215 .
B233214 CHECK THE STEERING COLUMN/IGNITION/LIGHTING CONTROL MODULE FOR A SHORT TO THE GROUND	
1  Steering Column/Ignition/Lighting Control Module Connector C288 2  	2 Connect an ohmmeter between the steering column tilt motor relay connector Pin C278-1, Circuit 1220 (O/R) and the ground. • **Is the resistance 10 K ohms or less?**

	→ **Yes** SERVICE Circuit 1220 (O/R) for a short to the ground. RETEST the system. → **No** REPLACE the steering column/ignition/lighting control module. RETEST the system.
B233215 CHECK THE STEERING COLUMN/IGNITION/LIGHTING CONTROL MODULE OPERATION	
1  AG0219-A 2  Steering Column/Ignition/Lighting Control Module Active Command STEERING COLUMN CONTROL 3  Trigger TILT UP On	1 Connect an ohmmeter between the steering column tilt motor relay connector Pin C278-1, Circuit 1220 (O/R) and the ground. • **Is the resistance 5 ohms or less for 1 second after the command is sent?** → **Yes** GO to B233217 . → **No** GO to B233216 .
B233216 CHECK CIRCUIT 1220 (O/R) FOR AN OPEN	
1  Steering Column/Ignition/Lighting Control Module Connector C288 2	2 Connect an ohmmeter between the steering column tilt motor relay connector



Pin C278-1, Circuit 1220 (O/R) and the steering column/ignition/lighting control module connector Pin C288-5.

- **Is the resistance 5 ohms or less?**

→ **Yes**
REPLACE the steering column/ignition/lighting control module.
RETEST the system.

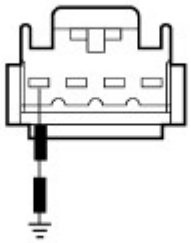
→ **No**
SERVICE Circuit 1220 (O/R) for an open.
RETEST the system.

B233217 CHECK CIRCUIT 1221 (W/O) FOR AN OPEN

1

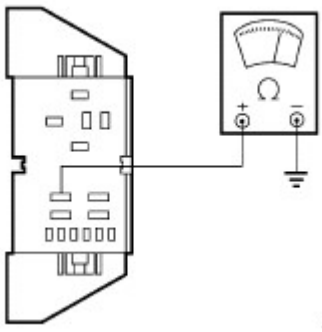
Steering Column Motor Connector C297

2

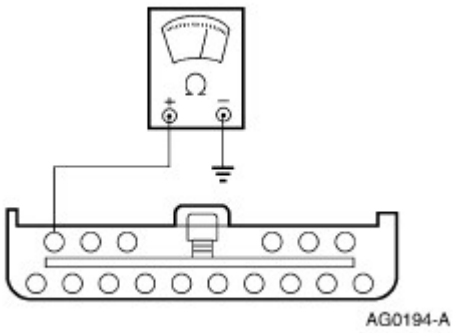
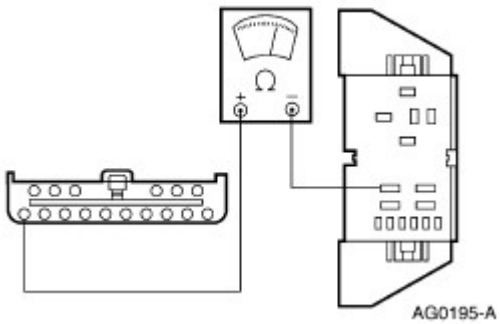


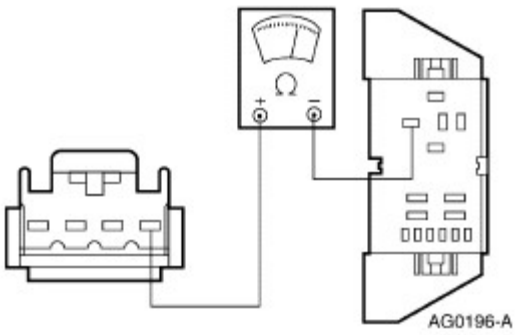
2 Connect a jumper wire between the steering column motor connector Pin C297-1, Circuit 698 (R) and the ground.

3



3 Connect an ohmmeter between the steering column tilt motor relay connector Pin C278-3, Circuit 1221 (W/O) and the ground.

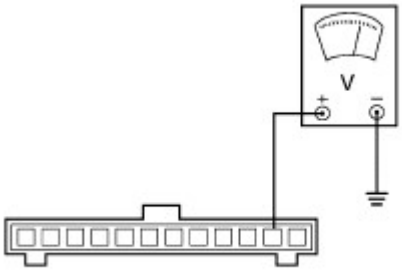
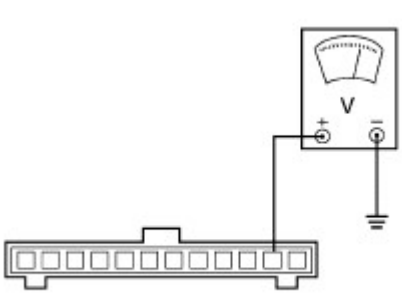
	• **Is the resistance 5 ohms or less?** → **Yes** GO to B233220 . → **No** GO to B233218 .
B233218 CHECK CIRCUIT 698 (R) FOR AN OPEN	
1  Steering Column/Ignition/Lighting Control Module Connector C289 2  AG0194-A	2 Connect an ohmmeter between the steering column/ignition/lighting control module connector Pin C289-16, Circuit 698 (R) and the ground. • **Is the resistance 5 ohms or less?** → **Yes** GO to B233219 . → **No** SERVICE Circuit 698 (R) for an open. RETEST the system.
B233219 CHECK THE STEERING COLUMN/IGNITION/LIGHTING CONTROL MODULE FOR AN OPEN	
1  AG0195-A	1 Connect an ohmmeter between the steering column/ignition/lighting control module connector Pin C289-10 and the steering column tilt motor relay connector Pin C278-3, Circuit 1221 (W/O). • **Is the resistance 5 ohms or less?**

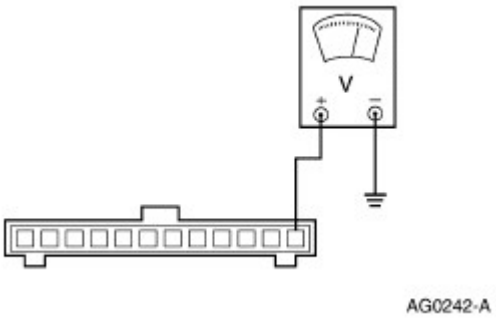
	→ **Yes** REPLACE the steering column/ignition/lighting control module. RETEST the system. → **No** SERVICE Circuit 1221 (W/O) for an open. RETEST the system.
B233220 CHECK CIRCUIT 695 (BK/O) FOR AN OPEN	
1  Steering Column Tilt/Telescope Common Motor Relay C292 2  	2 Connect an ohmmeter between the steering column motor connector Pin C297-4 and the steering column tilt/telescope common motor relay connector Pin C292-30, Circuit 695 (BK/O). • **Is the resistance 5 ohms or less?** → **Yes** REPLACE the steering column telescope motor relay. RETEST the system. → **No** SERVICE Circuit 695 (BK/O) for an open. RETEST the system.

PINPOINT TEST B2351: DTC B2351: STEERING COLUMN SWITCH SIGNAL CIRCUIT FAILURE

CONDITIONS	DETAILS/RESULTS/ACTIONS
B23511 CHECK THE PIDs	
1  Steering Column/Ignition/Lighting Control Module PID TILT and PID TELESCP	• **Does the PID TILT and the PID**

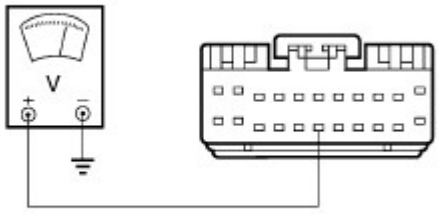
	TELESCP read OFF? → **Yes** GO to B23514 . → **No** GO to B23512 .
B23512 CHECK THE PID TILT	
1  Steering Column/Ignition/Lighting Control Module PID TILT	2 Actuate the steering column adjust switch to the tilt up then tilt down position while monitoring the PID TILT. • **Does the PID TILT read UP with the switch in the up position and DOWN with the switch in the down position and OFF with the switch in the neutral position?** → **Yes** GO to B23513 . → **No** REPLACE the multi-function switch. RETEST the system.
B23513 CHECK THE PID TELESCP	
1  Steering Column/Ignition/Lighting Control Module PID TELESCP	2 Actuate the steering column adjust switch to the telescope out then the telescope in position while monitoring the PID TELESCP. • **Does the PID TELESCP read IN with the switch in the In position and OUT with the switch in the Out position and OFF with the switch in the neutral position?** → **Yes** REPEAT the steering column/ignition/lighting control module self-test. If the DTC B2351 is retrieved, REPLACE the steering column/ignition/lighting control module.

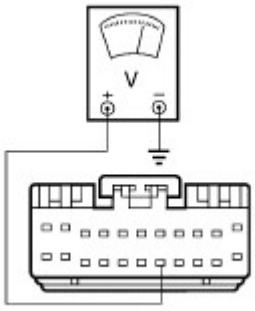
	RETEST the system. → **No** REPLACE the multi-function switch. RETEST the system.
B23514 CHECK CIRCUIT WITH THE MULTI-FUNCTION SWITCH DISCONNECTED	
1  Multi-Function Switch Connector 2  AG0243-A	2 Connect a voltmeter to the multi-function switch connector Pin C215-11, Circuit 998 (Y/R). • **Is the voltage reading B+?** → **Yes** GO to B23515 . → **No** GO to B23516 .
B23515 CHECK CIRCUIT 998 (Y/R) FOR A SHORT B+	
1  Steering Column/Ignition/Lighting Control Module Connector C286 2  AG0243-A	2 Connect a voltmeter to the multi-function switch connector Pin C215-11, Circuit 998 (Y/R).

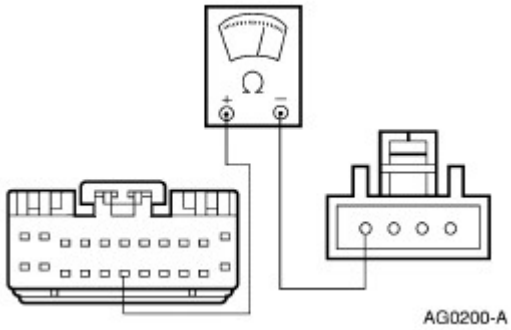
	• **Is the voltage reading B+?** → **Yes** SERVICE Circuit 998 (Y/R) for short to B+. RETEST the system. → **No** REPLACE the steering column/ignition/lighting control module. RETEST the system.
B23516 CHECK CIRCUIT 997 (BR) FOR SHORT TO B+	
1  AG0242-A	1 Connect a voltmeter to the multi-function switch connector Pin C215-12, Circuit 997 (BR). • **Is the voltage reading B+?** → **Yes** SERVICE Circuit 997 (BR) for a short to B+. RETEST the system. → **No** GO to B23517 .
B23517 CHECK THE STEERING COLUMN/IGNITION/LIGHTING CONTROL MODULE	
2  Steering Column/Ignition/Lighting Control Module Self-Test	1 Restore the vehicle. • **Is DTC B2351 retrieved?** → **Yes** REPLACE the steering column/ignition/lighting control module. RETEST the system. → **No** REPLACE the multi-function switch. RETEST

	the system.

PINPOINT TEST A: DTC B2332 AND DTC B2328 COLUMN FEEDBACK POTENTIOMETERS CIRCUIT FAILURE

CONDITIONS	DETAILS/RESULTS/ACTIONS
A1 CHECK FOR CONTINUOUS DTCs	
1  Steering Column/Ignition/Lighting Control Module Self-Test	• **Are DTCs B2332 and B2328 retrieved?** → **Yes** GO to A5 . → **No** GO to A2 .
A2 CHECK CIRCUIT 668 (PK/O) FOR A SHORT TO THE B+	
1  Steering Column/Ignition/Lighting Control Module Connector C286 2  3  AG0198-A	3 Connect a voltmeter to the steering column/ignition/lighting control module connector Pin C286-17, Circuit 668 (PK/O). • **Is voltage reading B+?** → **Yes** GO to A3 .

	→ **No** GO to A4 .
A3 CHECK CIRCUIT 669 (DG/W) FOR A SHORT TO THE B+	
1  2  Steering Column Tilt/Telescope Potentiometer Connector C216 3  4  AG0199-A	4 Connect a voltmeter to the steering column/ignition/lighting control module connector Pin C286-18, Circuit 669 (DG/W). • **Is the voltage reading B+?** → **Yes** SERVICE Circuit 669 (DG/W) for a short to the B+. RETEST the system. → **No** SERVICE Circuit 668 (PK/O) for a short to the B+. RETEST the system.
A4 CHECK CIRCUIT 668 (PK/O) FOR AN OPEN	
1	1 Connect an ohmmeter between the steering column/ignition/lighting control module connector Pin C286-17 and the steering column tilt/telescope potentiometer Connector C216, Circuit 668 (PK/O).



- **Is the resistance 5 ohms or less?**

→ **Yes**
REPLACE the steering column/ignition/lighting control module. RETEST the system.

→ **No**
SERVICE Circuit 668 (PK/O) for an open. RETEST the system.

A5 CHECK FOR COLUMN MOTOR MOTION

NOTE: This active command will only power the motors for one second per trigger.

1

Steering Column/Ignition/Lighting Control Module Active Command STEERING COLUMN CONTROL

2

Trigger TILT UP, TILT DOWN, TELSCP IN and TELSCPOUT On

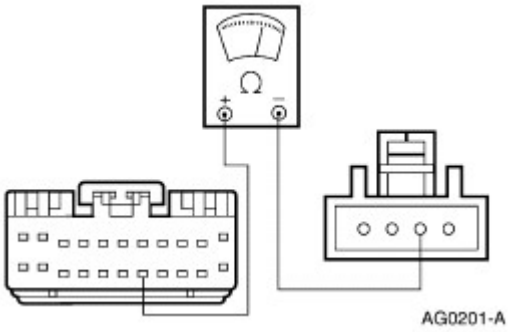
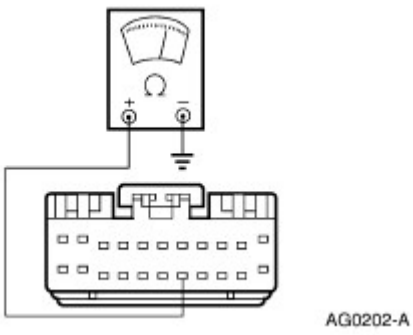
- **Did the steering column motors move?**

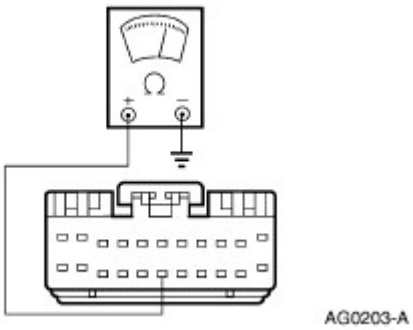
→ **Yes**
GO to A6 .

→ **No**
GO to A10 .

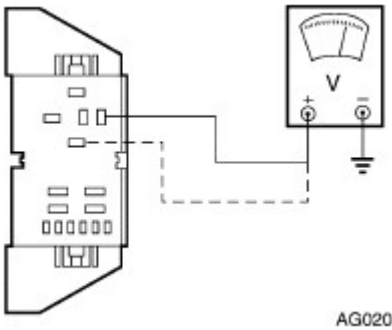
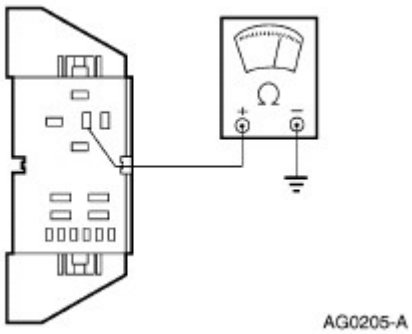
A6 CHECK CIRCUIT 669 (DG/W) FOR AN OPEN

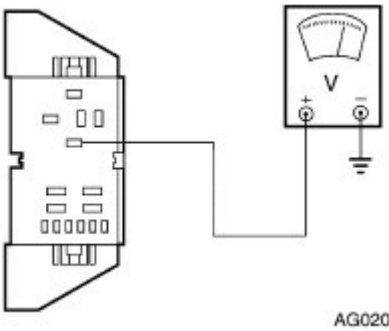
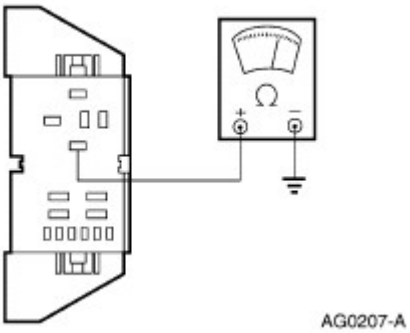
1

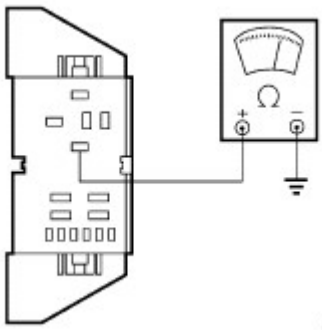
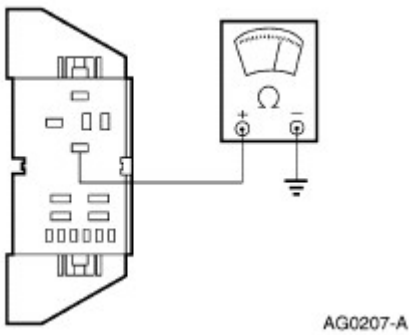
Steering Column/Ignition/Lighting Control Module Connector C286 2  Steering Column Tilt/Telescope Potentiometer Connector C216 3  	3 Connect an ohmmeter between the steering column/ignition/lighting control module connector Pin C286-18 and the steering column tilt/telescope potentiometer Connector C216, Circuit 669 (DG/W). • **Is the resistance 5 ohms or less?** → **Yes** GO to A7 . → **No** SERVICE Circuit 669 (DG/W) for an open. RETEST the system.
A7 CHECK CIRCUIT 669 (DG/W) FOR A SHORT TO THE GROUND	
1  	1 Connect an ohmmeter between the steering column/ignition/lighting control module connector Pin C286-18, Circuit 669 (DG/W) and the ground. • **Is the resistance 10 K ohms or less?** → **Yes** SERVICE Circuit 669 (DG/W) for a short to the ground. RETEST the system. → **No** GO to A8 .
A8 CHECK CIRCUIT 668 (PK/O) FOR A SHORT TO THE GROUND	

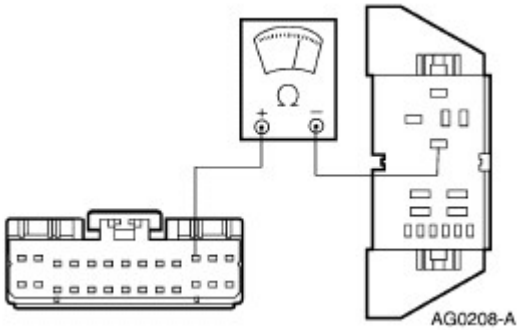
1  AG0203-A	1 Connect an ohmmeter between the steering column/ignition/lighting control module connector Pin C286-17, Circuit 668 (PK/O) and the ground. • **Is the resistance 10 K ohms or less?** → **Yes** SERVICE Circuit 668 (PK/O) for a short to the ground. RETEST the system. → **No** GO to A9 .
A9 CHECK FOR MOTOR MOTION SENSED	
1  Steering Column/Ignition/ Lighting Control Module Connector C286 2  Steering Column Tilt/Telescope Potentiometer Connector C216 3  Steering Column/Ignition/ Lighting Control Module Active Command STEERING COLUMN CONTROL 4  Select PIDs TELEPOS and TILTPOS	5 **NOTE:** This active command will only power the motors for one second. Trigger TILT UP, TILT DOWN, TELSCP IN and TELSCPOUT on, one at a time while monitoring the PID TELEPOS and

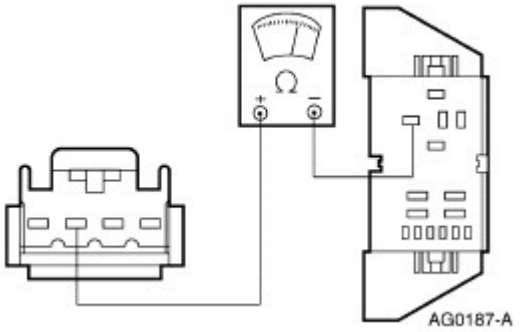
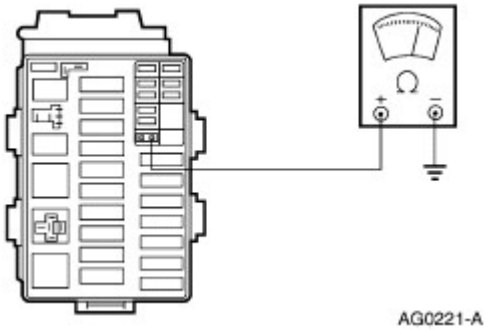
	TILTPOS. • **Do the PIDs TELEPOS and TILTPOS read SENSED when the corresponding motors are triggered on?** → **Yes** INSPECT the steering column tilt/telescope potentiometer connection and the steering column/ignition/lighting control module connectors for loose or intermittent connections. RETEST the system. → **No** REPLACE the steering column tilt-telescope potentiometers. RETEST the system.
A10 CHECK POWER DISTRIBUTION BOX FUSE 12 (15A)	
1  Power Distribution Box Fuse 12 (15A) 2  Power Distribution Box Fuse 12 (15A)	• **Is Fuse 12 (15A) OK?** → **Yes** GO to A11 . → **No** GO to A19 .
A11 CHECK CIRCUIT 908 (PK/LG) FOR AN OPEN	
1  Power Distribution Box Fuse 12 (15A) 2  Steering Column Tilt/Telescope Common Motor Relay C292 3	3 Connect a voltmeter to the steering column

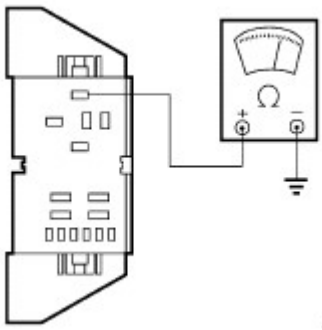
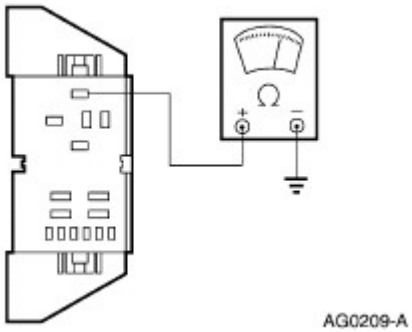
	tilt/telescope common motor relay connector Pin C292-85, Circuit 908 (PK/LG) then Pin C292-87, Circuit 908 (PK/LG). • **Is voltage present on both the circuits?** → **Yes** GO to A12 . → **No** SERVICE Circuit 908 (PK/LG) for open. RETEST the system.
A12 CHECK CIRCUIT 57 (BK) FOR AN OPEN	
1 	1 Connect an ohmmeter between the steering column tilt/telescope common motor relay connector Pin C292-87A, Circuit 57 (BK) and the ground. • **Is the resistance 5 ohms or less?** → **Yes** GO to A13 . → **No** SERVICE Circuit 57 (BK) for an open. RETEST the system.
A13 CHECK CIRCUIT 462 (P) FOR VOLTAGE	
1	1 Connect a voltmeter to the steering column tilt/telescope common motor relay connector Pin C292-86, Circuit 462 (P).

	• **Is voltage present?** → **Yes** SERVICE Circuit 462 (P) for a short to the B+. RETEST the system. → **No** GO to A14.
A14 CHECK CIRCUIT 462 (P) FOR A SHORT TO THE GROUND	
1 	1 Connect an ohmmeter between the steering column tilt/telescope common motor relay connector Pin C292-86, Circuit 462 (P) and the ground. • **Is the resistance 10 K ohms or less?** → **Yes** GO to A15. → **No** GO to A16.
A15 CHECK THE STEERING COLUMN/IGNITION/LIGHTING CONTROL MODULE FOR A SHORT TO THE GROUND	
1  Steering Column/Ignition/Lighting Control Module Connector C288 2	2 Connect an ohmmeter between the steering column tilt/telescope common

 AG0207-A	motor relay connector Pin C292-86, Circuit 462 (P) and the ground. • **Is the resistance 10 K ohms or less?** → **Yes** SERVICE Circuit 462 (P) for a short to the ground. RETEST the system. → **No** REPLACE the steering column/ignition/lighting control module. RETEST the system.
A16 CHECK THE RELAY INPUT	
NOTE: This active command will only power the motors for one second.	
1  AG0207-A 2  Steering Column/Ignition/Lighting Control Module Active Command STEERING COLUMN CONTROL 3  Trigger TILT DOWN ON	1 Connect an ohmmeter between the steering column tilt/telescope common motor relay connector Pin C292-86, Circuit 462 (P) and the ground. • **Is the resistance 5 ohms or less for 1 second after the command is sent?**

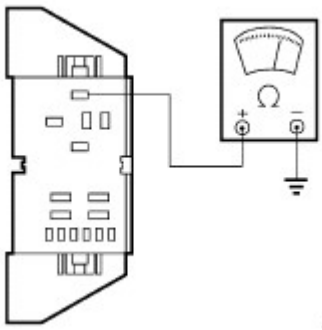
	→ **Yes** GO to A18 . → **No** GO to A17 .
A17 CHECK CIRCUIT 462 (P) FOR AN OPEN	
1  Steering Column/Ignition/Lighting Control Module Connector C288 2  	2 Connect an ohmmeter between the steering column/ignition/lighting control module connector Pin C288-11 and the steering column tilt/telescope common motor relay connector Pin C292-86, Circuit 462 (P). • **Is the resistance 5 ohms or less?** → **Yes** REPLACE the steering column/ignition/lighting control module. RETEST the system. → **No** SERVICE Circuit 462 (P) for an open. RETEST the system.
A18 CHECK CIRCUIT 695 (BK/O) FOR AN OPEN	
1  Steering Column Motor Connector C297 2	2 Connect an ohmmeter between the steering column tilt/telescope common motor relay connector Pin C292-30 and the steering column motor connector Pin C297-2, Circuit 695 (BK/O).

	• **Is the resistance 5 ohms or less?** → **Yes** REPLACE the steering column tilt/telescope common motor relay. RETEST the system. → **No** SERVICE Circuit 695 (BK/O) for a short to the ground. RETEST the system.
A19 CHECK CIRCUIT 908 (PK/LG) FOR A SHORT TO THE GROUND	
1 	1 Connect an ohmmeter between the output cavity of power distribution box Fuse 12 (15A) and the ground. • **Is the resistance 10 K ohms or less?** → **Yes** GO to A20 . → **No** GO to A24 .
A20 CHECK THE STEERING COLUMN TILT/TELESCOPE COMMON MOTOR RELAY FOR A SHORT TO THE GROUND	
1  Steering Column Tilt/Telescope Common Motor Relay C292 2	2 Connect an ohmmeter between the steering column tilt/telescope common

 AG0209-A	motor relay connector Pin C292-85, Circuit 908 (PK/LG) and the ground. • **Is the resistance 10 K ohms or less?** → **Yes** GO to A21 . → **No** REPLACE the steering column tilt/telescope common motor relay. RETEST the system.
A21 CHECK THE STEERING COLUMN TILT MOTOR RELAY FOR A SHORT TO THE GROUND	
1  Steering Column Tilt Motor Relay C278 2  AG0209-A	2 Connect an ohmmeter between the steering column tilt/telescope common motor relay connector Pin C292-85, Circuit 908 (PK/LG) and the ground. • **Is the resistance 10 K ohms or less?** → **Yes** GO to A22 . → **No** REPLACE the steering column tilt motor relay. RETEST the system.
A22 CHECK THE STEERING COLUMN TELESCOPE MOTOR RELAY FOR A SHORT TO THE GROUND	
1	

Steering Column Telescope Motor Relay C279

2



2 Connect an ohmmeter between the steering column tilt/telescope common motor relay connector Pin C292-85, Circuit 908 (PK/LG) and the ground.

- **Is the resistance 10 K ohms or less?**

→ **Yes**
GO to A23 .

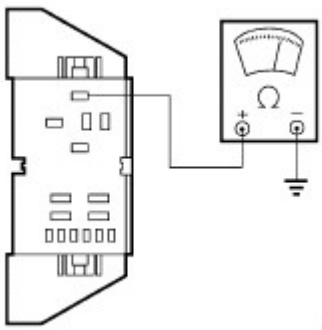
→ **No**
REPLACE the steering column telescope motor relay. RETEST the system.

A23 CHECK THE STEERING COLUMN/IGNITION LIGHTING CONTROL MODULE

1

Steering Column/Ignition/Lighting Control Module Connector C289

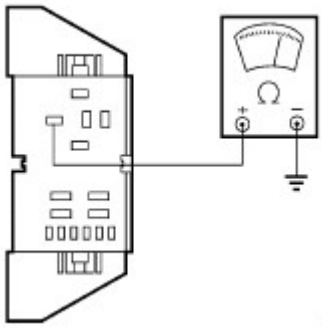
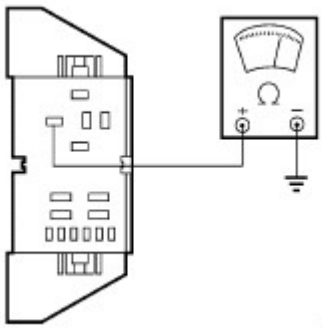
2

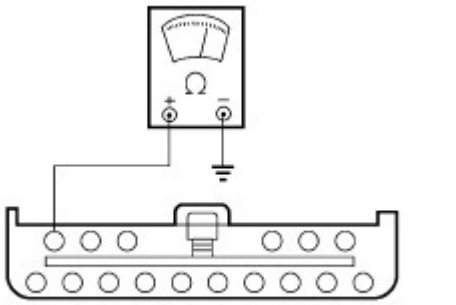
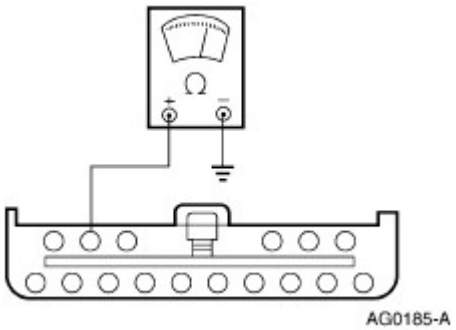


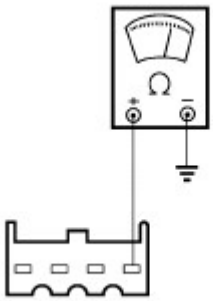
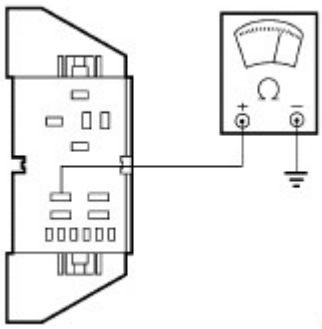
2 Connect an ohmmeter between the steering column tilt/telescope common motor relay connector Pin C292-85, Circuit 908 (PK/LG) and the ground.

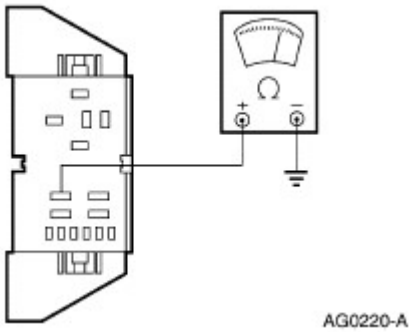
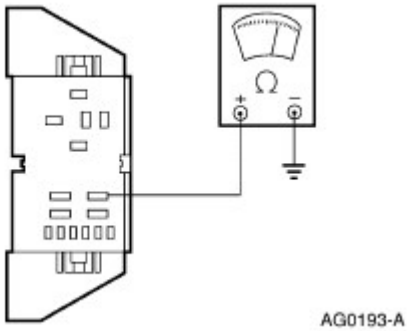
- **Is the resistance 10 K ohms or less?**

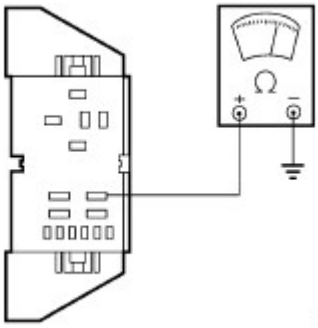
→ **Yes**
SERVICE Circuit 908 (PK/LG) for a short to the ground. RETEST the system.

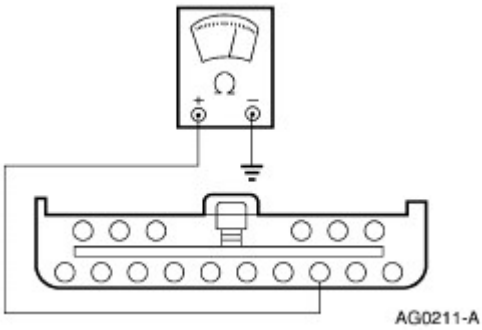
	→ **No** REPLACE the steering column/ignition/lighting control module. RETEST the system.
A24 CHECK CIRCUIT 695 (BK/O) FOR A SHORT TO THE GROUND	
1  Steering Column Tilt/Telescope Common Motor Relay C292 2  AG0210-A	2 Connect an ohmmeter between the steering column tilt/telescope common motor relay connector Pin C292-30, Circuit 695 (BK/O) and the ground. • **Is the resistance 10 K ohms or less?** → **Yes** GO to A25 . → **No** GO to A29 .
A25 CHECK FOR MOTOR SHORT	
1  Steering Column Motor Connector C297 2  AG0210-A	2 Connect an ohmmeter between the steering column tilt/telescope common motor relay connector Pin C292-30, Circuit 695 (BK/O) and the ground. • **Is the resistance 10 K ohms or less?**

	→ **Yes** SERVICE Circuit 695 (BK/O) for a short to the ground. RETEST the system. → **No** GO to A26.
A26 CHECK CIRCUIT 698 (R) FOR A SHORT TO THE GROUND	
1  Steering Column/Ignition/Lighting Control Module Connector C289 2  AG0194-A	2 Connect an ohmmeter between the steering column/ignition/lighting control module connector Pin C289-16, Circuit 698 (R) and the ground. • **Is the resistance 10 K ohms or less?** → **Yes** SERVICE Circuit 698 (R) for short to ground. RETEST the system. → **No** GO to A27.
A27 CHECK CIRCUIT 216 (T/R) FOR A SHORT TO THE GROUND	
1  AG0185-A	1 Connect an ohmmeter between the steering column/ignition/lighting control module connector Pin C289-15, Circuit 216 (T/R) and the ground. • **Is the resistance 10 K ohms or less?** → **Yes**

	SERVICE Circuit 216 (T/R) for short to ground. RETEST the system. → **No** GO to A28.
A28 CHECK THE TILT MOTOR FOR A SHORT TO THE GROUND	
1  AG0153-A	1 Connect an ohmmeter between the motor side of the steering column motor connector Pin C297-1, Circuit 698 (R) and the ground. • **Is the resistance 10 K ohms or less?** → **Yes** REPLACE the steering column tilt motor. RETEST the system. → **No** REPLACE the steering column telescope motor. RETEST the system.
A29 CHECK CIRCUIT 1221 (W/O) FOR A SHORT TO THE GROUND	
1  Steering Column Tilt Motor Relay C278 2  AG0220-A	2 Connect an ohmmeter between the steering column tilt motor relay connector Pin C278-3, Circuit 1221 (W/O) and the ground. • **Is the resistance 10 K ohms or less?** → **Yes** GO to A30.

	→ **No** GO to A31.
A30 ISOLATE THE SHORT TO THE GROUND	
1  Steering Column/Ignition/Lighting Control Module Connector C289 2  AG0220-A	2 Connect an ohmmeter between the steering column tilt motor relay connector Pin C278-3, Circuit 1221 (W/O) and the ground. • **Is the resistance 10 K ohms or less?** → **Yes** SERVICE Circuit 1221 (W/O) for a short to the ground. RETEST the system. → **No** REPLACE the steering column/ignition/lighting control module. RETEST the system.
A31 CHECK CIRCUIT 1223 (GY/R) FOR A SHORT TO THE GROUND	
1  Steering Column Telescope Motor Relay C279 2  AG0193-A	2 Connect an ohmmeter between the steering column telescope motor relay connector Pin C279-3, Circuit 1223 (GY/R) and the ground.

	• **Is the resistance 10 K ohms or less?** → **Yes** GO to A32 . → **No** GO to A33 .
A32 CHECK THE CONTROL MODULE	
1  Steering Column/Ignition/Lighting Control Module Connector C289 2  AG0193-A	2 Connect an ohmmeter between the steering column telescope motor relay connector Pin C279-3, Circuit 1223 (GY/R) and the ground. • **Is the resistance 10 K ohms or less?** → **Yes** SERVICE Circuit 1223 (GY/R) for a short to the ground. RETEST the system. → **No** REPLACE the steering column/ignition/lighting control module. RETEST the system.
A33 CHECK CIRCUIT 750 (Y/LG) FOR A SHORT TO THE GROUND	
1  Steering Column/Ignition/Lighting Control Module Connector C289 3	2 Make sure the parking brake is released. 3 Connect an ohmmeter between the steering column/ignition/lighting control module connector Pin C289-3, Circuit 750 (Y/LG) and the ground.



- **Is the resistance 10 K ohms or less?**

→ **Yes**
GO to A34 .

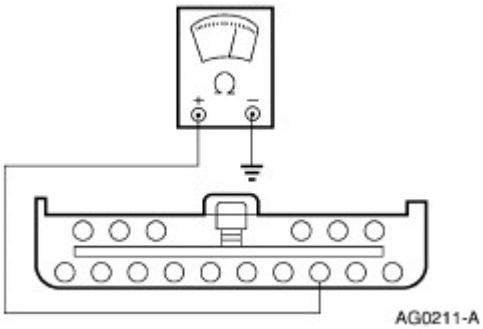
→ **No**
GO to A35 .

A34 CHECK THE AUTO PARK BRAKE RELEASE SOLENOID FOR A SHORT

1

Auto Park Brake Release Solenoid Connector C2003

2



2 Connect an ohmmeter between the steering column/ignition/lighting control module connector Pin C289-3, Circuit 750 (Y/LG) and the ground.

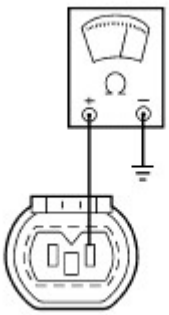
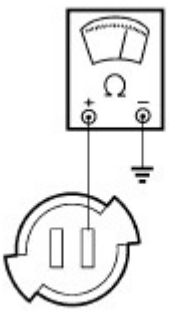
- **Is the resistance 10 K ohms or less?**

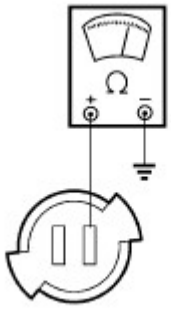
→ **Yes**
SERVICE Circuit 750 (Y/LG) for a short to the ground. RETEST the system.

→ **No**
REPLACE the auto park brake release solenoid. RETEST the system.

A35 CHECK THE INTERNAL CIRCUITRY

1

 Steering Column/Ignition/Lighting Control Module Connector C289 2  Auto Park Brake Release Solenoid Connector C2003 3  AH0179-A	3 Connect an ohmmeter between the auto park brake release solenoid connector C2003, Circuit 750 (Y/LG) and the ground. • **Is the resistance 10 K ohms or less?** → **Yes** REPLACE the steering column/ignition/lighting control module. RETEST the system. → **No** GO to A36 .
A36 CHECK CIRCUIT 1037 (P/LG) FOR A SHORT TO THE GROUND	
1  LH and RH Outside Rearview Mirror Ground Illumination Bulbs 2  AG0224-A	2 Connect an ohmmeter between the LH outside rear view mirror ground illumination lamp socket, Circuit 1037 (P/LG) and the ground.

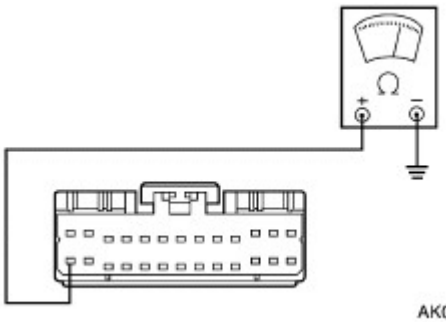
	• **Is the resistance 10 K ohms or less?** → **Yes** GO to A37 . → **No** REPLACE the steering column/ignition/lighting control module. RETEST the system.
A37 CHECK THE GROUND ILLUMINATION OUTPUT FOR A SHORT	
1  Steering Column/Ignition/Lighting Control Module Connector C289 2  AG0224-A	2 Connect an ohmmeter between the LH outside rear view mirror ground illumination lamp socket, Circuit 1037 (P/LG) and the ground. • **Is the resistance 10 K ohms or less?** → **Yes** SERVICE Circuit 1037 (P/LG) for short to ground. RETEST the system. → **No** REPLACE the steering column/ignition/lighting control module. RETEST the system.

PINPOINT TEST B: NO COMMUNICATION WITH THE STEERING COLUMN/IGNITION/LIGHTING (SCIL) CONTROL MODULE

CONDITIONS	DETAILS/RESULTS/ACTIONS
B1 CHECK CIRCUIT 875 (BK/LB) FOR AN OPEN	
1	

Steering Column/Ignition/Lighting Control Module Connector C288

2



2 Connect an ohmmeter between the steering column/ignition/lighting control module connector Pin C288-14, Circuit 875 (BK/LB) and the ground.

- **Is the resistance 5 ohms or less?**

→ **Yes**
GO to B2 .

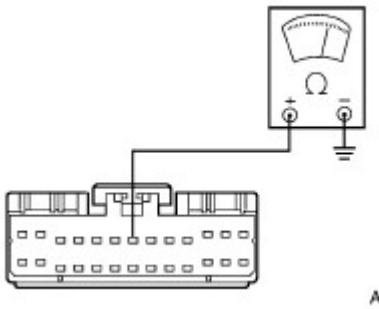
→ **No**
SERVICE Circuit 875 (BK/LB) for an open. RESTORE vehicle. REPEAT the steering column/ignition/lighting control module self test.

B2 CHECK CIRCUIT 57 (BK) FOR AN OPEN

1

Steering Column/Ignition/Lighting Control Module Connector C287

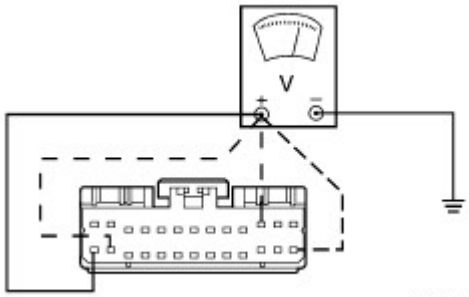
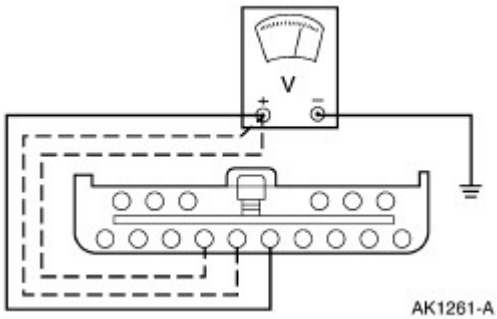
2



2 Connect an ohmmeter between the steering column/ignition/lighting control module connector Pin C287-7, Circuit 57 (BK) and the ground.

- **Is the resistance 5 ohms or less?**

→ **Yes**
GO to B3 .

	→ **No** SERVICE Circuit 57 (BK) for an open. RESTORE the vehicle. REPEAT the steering column/ignition/lighting control module self test.
B3 CHECK FOR THE B+ SUPPLY ON THE STEERING COLUMN/IGNITION/LIGHTING CONTROL MODULE CONNECTOR C287	
1  AK1260-A	1 Connect a voltmeter to each of the following steering column/ignition/lighting control module connector C287 Pins. Note the voltage reading at each Pin: • C287-14, Circuit 906 (R/O) • C287-26, Circuit 19 (LB/R) • C287-15, Circuit 1055 (W/LG) • C287-11, Circuit 1056 (DB/LG) • **Is the voltage reading on any circuit B+?** → **Yes** GO to Communication Network Diagnostics in Section 418-00 to diagnose the network concern. → **No** SERVICE as required. GO to B4 .
B4 CHECK FOR THE B+ SUPPLY ON THE STEERING COLUMN/IGNITION/LIGHTING CONTROL MODULE CONNECTOR C289	
1  Steering Column/Ignition/Lighting Control Module Connector C289 2  AK1261-A	2 Connect a voltmeter to each of the following steering column/ignition/lighting control module connector C289 Pins. Note the voltage reading at each pin: • C289-5, Circuit 1058 (BR/W) • C289-6, Circuit 1057 (O/BK) • C289-7, Circuit 908 (PK/LG) • **Is voltage reading on any circuit B+?**

	→ **Yes** GO to Communication Network Diagnostics in Section 418-00 to diagnose the network concern. → **No** SERVICE as required. RESTORE the vehicle. REPEAT the steering column/ignition/lighting control module self test.

PINPOINT TEST C: THE STEERING COLUMN TILT ADJUSTMENT IS INOPERATIVE

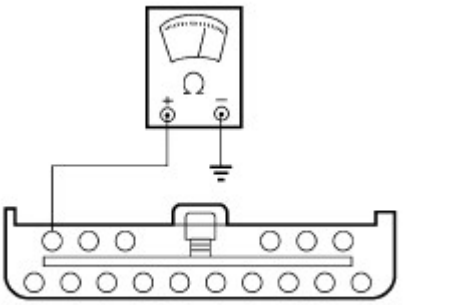
CONDITIONS	DETAILS/RESULTS/ACTIONS
C1 CHECK THE STEERING COLUMN TELESCOPE ADJUSTMENT	
	1 Activate the steering column adjustment switch to the telescope in and telescope out position. • **Does the steering column telescope in and out?** → **Yes** GO to C2 . → **No** GO to Pinpoint Test E .
C2 CHECK THE PID TILT	
1  Steering Column/Ignition/Lighting Control Module PID TILT	2 Activate the steering column adjustment switch to the tilt up then the tilt down position, while monitoring the PID TILT. • **Does the PID TILT read OFF when the switch is active?** → **Yes** REPLACE the multi-function switch. RETEST the system. → **No** GO to C3 .
C3 CHECK CIRCUIT 698 (R) FOR A SHORT TO THE GROUND	
1	

Steering Column Motor Connector C297

2

Steering Column/Ignition/Lighting Control Module Connector C289

3



AG0194-A

3 Connect an ohmmeter between the steering column/ignition/lighting control module connector Pin C289-16, Circuit 698 (R) and the ground.

- **Is the resistance 10 K ohms or less?**

→ **Yes**
SERVICE Circuit 698 (R) for a short to the ground. RETEST the system.

→ **No**
GO to C4 .

C4 CHECK THE STEERING COLUMN/IGNITION/LIGHTING CONTROL MODULE

1

Steering Column/Ignition/Lighting Control Module Connector C289

2

Steering Column/Ignition/Lighting Control Module Self-Test

- **Is DTC B2332 retrieved?**

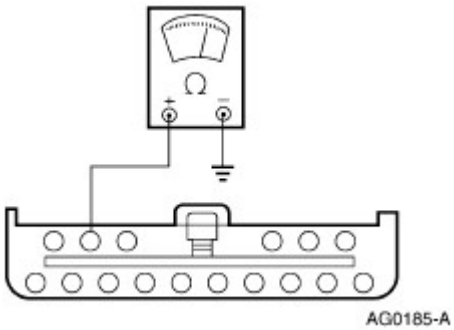
→ **Yes**
GO to C5 .

→ **No**
REPLACE the steering

	column/ignition/lighting control module. RETEST the system.
C5 CHECK THE TILT MOTOR	
NOTE: This active command will only power motor for one second.	
2  Steering Column Motor Connector C297 3  Steering Column/Ignition/Lighting Control Module Active Command STEERING COLUMN CONTROL 4  Trigger TILT UP On The TILT DOWN On	1 Remove the tilt motor from the steering column. • **Does the tilt motor spin for one second after either command?** → **Yes** SERVICE the steering column for stuck or binding mechanism. RETEST the system. → **No** REPLACE the tilt motor. RETEST the system.

PINPOINT TEST D: THE STEERING COLUMN TELESCOPE ADJUSTMENT IS INOPERATIVE

CONDITIONS	DETAILS/RESULTS/ACTIONS
D1 CHECK THE STEERING COLUMN TILT ADJUSTMENT	
	1 Activate the steering column adjustment switch to the tilt up and tilt down positions. • **Does the steering column tilt adjustment function?** → **Yes** GO to D2 .

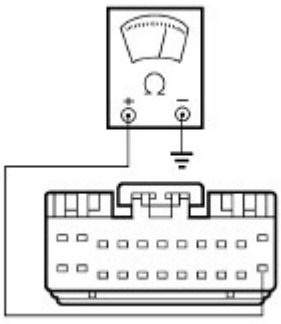
	→ **No** GO to Pinpoint Test E .
D2 CHECK THE PID TELESCP	
1  Steering Column/Ignition/Lighting Control Module PID TELESCP	2 Activate the steering column adjustment switch to the telescope in and the telescope out position. • **Does the PID TELESCP read OFF when the switch is active?** → **Yes** REPLACE the multi-function switch. RETEST the system. → **No** GO to D3 .
D3 CHECK CIRCUIT 216 (T/R) FOR A SHORT TO THE GROUND	
1  Steering Column Motor Connector C297 2  Steering Column/Ignition/Lighting Control Module Connector C289 3  AG0185-A	3 Connect an ohmmeter between the steering column/ignition/lighting control module connector Pin C289-15, Circuit 216 (T/R) and the ground. • **Is the resistance 10 K ohms or less?** → **Yes**

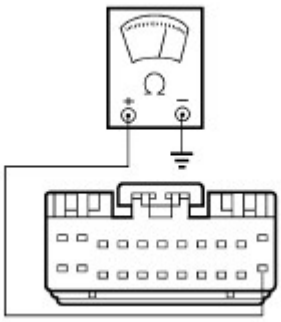
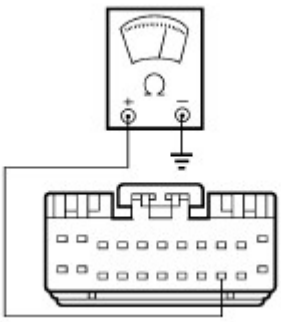
	SERVICE Circuit 216 (T/R) for a short to the ground. RETEST the system. → **No** GO to D4 .
D4 CHECK THE STEERING COLUMN/IGNITION/LIGHTING CONTROL MODULE	
1  Steering Column/Ignition/Lighting Control Module Connector C289 2  Steering Column/Ignition/Lighting Control Module Self-Test	• **Is DTC B2328 retrieved?** → **Yes** GO to D5 . → **No** REPLACE the steering column/ignition/lighting control module. RETEST the system.
D5 CHECK THE TELESCOPE MOTOR	
NOTE: This active command will only power motor for one second.	
2  Steering Column Motor Connector C297 3  Steering Column/Ignition/Lighting Control Module Active Command STEERING COLUMN CONTROL 4  Trigger TELESCP IN On Then TELESCP OUT On	1 Remove the telescope motor from the steering column.

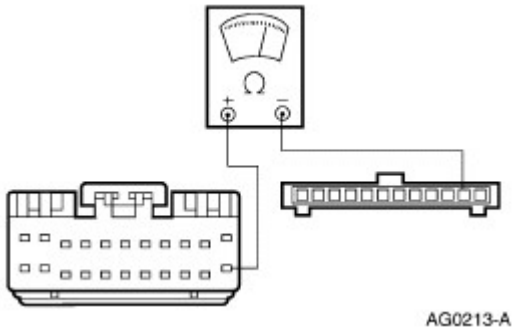
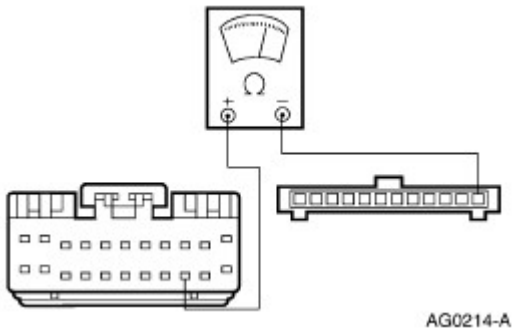
	• **Does the telescope motor spin for one second after either command?** → **Yes** SERVICE the steering column for a stuck or binding mechanism. RETEST the system. → **No** REPLACE the telescope motor. RETEST the system.

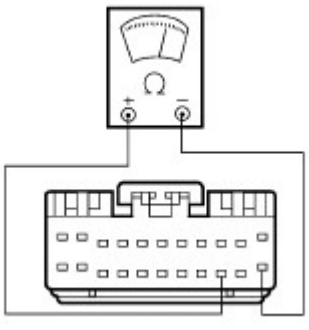
PINPOINT TEST E: THE STEERING COLUMN TILT AND TELESCOPE ADJUSTMENT IS INOPERATIVE

CONDITIONS	DETAILS/RESULTS/ACTIONS
E1 CHECK THE SELF TEST RESULTS	
1  Steering Column/Ignition/Lighting Control Module Self-Test	• **Are DTCs B2332 and B2328 retrieved?** → **Yes** GO to Pinpoint Test A . → **No** GO to E2 .
E2 CHECK THE PID TILT	
1  Steering Column/Ignition/Lighting Control Module PID TILT	2 Activate the steering column adjustment switch to the Tilt Up and Tilt Down position while monitoring the PID TILT. • **Does the PID TILT read UP and DOWN?** → **Yes** REPLACE the steering column/ignition/lighting control module. RETEST the system. → **No** GO to E3 .
E3 CHECK THE PID TELESCP	

1  Steering Column/Ignition/Lighting Control Module PID TELESCP	2 Activate the steering column adjustment switch to the Telescope In and Telescope Out position while monitoring the PID TELESCP. • **Does the PID TELESCP read IN and OUT?** → **Yes** REPLACE the steering column/ignition/lighting control module. RETEST the system. → **No** GO to E4 .
E4 CHECK CIRCUIT 998 (Y/R) FOR A SHORT TO THE GROUND	
1  Steering Column/Ignition/Lighting Control Module Connector C286 2  AG0212-A	2 Connect an ohmmeter between the steering column/ignition/lighting control module connector Pin C286-22, Circuit 998 (Y/R) and the ground. • **Is the resistance 10 K ohms or less?** → **Yes** GO to E5 . → **No** GO to E7 .
E5 CHECK THE STEERING COLUMN ADJUSTMENT SWITCH FOR A SHORT TO THE GROUND	
1	

 Multi-Function Switch Connector C215 2  AG0212-A	2 Connect an ohmmeter between the steering column/ignition/lighting control module connector Pin C286-22, Circuit 998 (Y/R) and the ground. • **Is the resistance 10 K ohms or less?** → **Yes** SERVICE Circuit 998 (Y/R) for a short to the ground. RETEST the system. → **No** GO to E6.
E6 CHECK CIRCUIT 997 (BR) FOR A SHORT TO THE GROUND	
1  AG0225-A	1 Connect an ohmmeter between the steering column/ignition/lighting control module connector Pin C286-20, Circuit 997 (BR) and the ground. • **Is the resistance 10 K ohms or less?** → **Yes** SERVICE Circuit 997 (BR) for a short to the ground. RETEST the system. → **No** REPLACE the multi-function switch. RETEST the system.
E7 CHECK CIRCUIT 998 (Y/R) FOR AN OPEN	
1	

 Multi-Function Switch Connector C215 2  AG0213-A	2 Connect an ohmmeter between the steering column/ignition/lighting control module connector Pin C286-22 and the multi-function switch connector Pin C215-11, Circuit 998 (Y/R). • **Is the resistance less than 5 ohms?** → **Yes** GO to E8 . → **No** SERVICE Circuit 998 (Y/R) for an open. RETEST the system.
E8 CHECK CIRCUIT 997 (BR) FOR AN OPEN	
1  AG0214-A	1 Connect an ohmmeter between the steering column/ignition/lighting control module connector Pin C286-20 and the multi-function switch connector Pin C215-12, Circuit 997 (BR). • **Is the resistance less than 5 ohms?** → **Yes** GO to E9 . → **No** SERVICE Circuit 997 (BR) for an open. RETEST the system.
E9 CHECK THE STEERING COLUMN ADJUSTMENT SWITCH	
1	

Multi-Function Switch Connector C215 2  AG0215-A	2 Connect an ohmmeter between the steering column/ignition/lighting control module connector Pin C286-22, Circuit 998 (Y/R) and the Pin C286-20, Circuit 997 (BR). 3 Actuate the steering column adjustment switch to the OUT position. • **Is the resistance reading between 2.0 K - 2.4 K ohms?** → **Yes** REPLACE the steering column/ignition/lighting control module. RETEST the system. → **No** REPLACE the multi-function switch. RETEST the system.