

2012 - Mazda6 - Engine

NO.3 WILL NOT CRANK [MZI 3.7 V6]

3	WILL NOT CRANK
DESCRIPTION	• The starter does not work.
POSSIBLE CAUSE	• Open circuit between ignition switch and starter • Starter relay No.2 malfunction • Open or short circuit in wiring harness between keyless control module and starter relay No.2 (with advanced keyless entry and push button start system) • Low or dead battery • Charging system malfunction • Starter malfunction • Seized/hydrolocked engine, drive plate • Immobilizer system and/or circuit malfunction • Immobilizer system operating properly. (Ignition key is not registered.) • Advanced keyless entry and push button start system malfunction (with advanced keyless entry and push button start system) • TR switch malfunction

WITH ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM

KEYLESS CONTROL MODULE

PCM

KEYLESS CONTROL MODULE WIRING HARNESS-SIDE CONNECTOR

PCM WIRING HARNESS-SIDE CONNECTOR

STARTER RELAY NO.2 (MAIN FUSE BLOCK)

4B 10 11 16 8 16 12 16 14 18 15 17 4AA 4K 1AQ

STARTER RELAY NO.2

STARTER

KEYLESS CONTROL MODULE WIRING HARNESS-SIDE CONNECTOR

PCM WIRING HARNESS-SIDE CONNECTOR

STARTER RELAY NO.2 (MAIN FUSE BLOCK)

STEP	INSPECTION	RESULTS	ACTION
1	DETERMINE IF MALFUNCTION CAUSE IS ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM OR OTHER NOTE: - The following test should be performed on the advanced keyless entry and push button start system. If not equipped, go to the next step. - Start the engine using the mechanical ignition key. - Does the engine start?	Yes	Inspect advanced keyless entry and push button start system. Repair or replace the malfunctioning part according to the inspection results.
		No	Go to the next step.
2	DETERMINE IF MALFUNCTION CAUSE IS IMMOBILIZER SYSTEM OR OTHER	Yes	Both conditions appear:

	- Do the following conditions appear? - The engine is not completely started. - Security indicator light illuminates or flashes short interval.		Go to Step 5.
		No	Either or other condition appears: Go to the next step.
3	INSPECT COIL ANTENNA CONNECTOR CONNECTION Is the coil antenna connector securely connected to the coil antenna?	Yes	Go to the next step.
		No	Connect the coil antenna connector securely. Return to Step 1.
4	DETERMINE IF MALFUNCTION CAUSE IS INSTRUMENT CLUSTER OR OTHER Does the security light flash?	Yes	Go to the next step.
		No	Inspect the instrument cluster and wiring harness. (See INSTRUMENT CLUSTER INSPECTION .)
5	VERIFY IMMOBILIZER SYSTEM DTC - Retrieve the DTC for immobilizer system using the M-MDS. (See DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].) (See DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM)].) - Is there any DTC present?	Yes	Go to the appropriate DTC inspection. (See DTC TABLE [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)] .) (See DTC TABLE [IMMOBILIZER SYSTEM (ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM)] .)
		No	Go to the next step.
6	INSPECT IMMOBILIZER SYSTEM RELATED CIRCUIT - Inspect the following wiring harnesses and connectors: - With advanced keyless entry and push button start system: - Between coil antenna terminal C and keyless control module terminal 2B - Between coil antenna terminal D and keyless control module terminal 2D - Between PCM terminal 1AH and keyless control module terminal 2G - Between PCM terminal 1AL and keyless control module terminal 2I - Without advanced keyless entry and push button start system: - Between coil antenna terminal C and instrument cluster terminal 2E - Between coil antenna terminal D and instrument cluster terminal 2G - Between PCM terminal 1AH and instrument cluster	Yes	Repair or replace suspected wiring harness and connector.
		No	Go to the next step.

	terminal 2X Between PCM terminal 1AL and instrument cluster terminal 2W • Is there any malfunction?		
7	INSPECT POWER SUPPLY - Inspect the following: - Battery connection - Battery condition (See BATTERY INSPECTION [MZI 3.7 V6].) - Fuses (See NO.1 MELTING OF MAIN OR OTHER FUSES [MZI 3.7 V6].) - Transmission in Park or Neutral - Is there any malfunction?	Yes Service if necessary. Repeat Step 7.	
		No With advanced keyless entry and push button start system: - Go to the next step. Without advanced keyless entry and push button start system: - Go to Step 19.	
8	INSPECT STARTER RELAY - Inspect the starter relay. (See RELAY INSPECTION.) - Is there any malfunction?	Yes Replace the starter relay.	
		No Go to the next step.	
9	DETERMINE IF MALFUNCTION CAUSE IS POWER SUPPLY OR OTHER - Remove the starter relay. - Measure the voltage of the connector terminal (primary coil power supply) on the starter relay wiring harness while cranking. - Is the voltage B+ ?	Yes Go to Step 12.	
		No Go to the next step.	
10	INSPECT STARTER RELAY PRIMARY COIL POWER SUPPLY CIRCUIT FOR OPEN CIRCUIT - Switch the ignition to off. - Disconnect the keyless control module connector. - Verify continuity between keyless control module terminal 4B and starter relay terminal (primary coil power supply). - Is there continuity?	Yes Go to the next step.	
		No Repair or replace suspect wiring harness and connector.	
11	INSPECT STARTER RELAY PRIMARY COIL POWER SUPPLY CIRCUIT FOR SHORT TO GROUND - Verify continuity between keyless control module terminal 4B and body ground. - Is there continuity?	Yes Replace the keyless control module. (See KEYLESS CONTROL MODULE REMOVAL/ INSTALLATION [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM].)	
		No Repair or replace suspect wiring harness and connector.	
12	DETERMINE IF MALFUNCTION CAUSE IS STARTER RELAY NO.2 OR OTHER - Install the starter relay. - Remove the starter relay No.2. - Short the terminals of the starter relay No.2 terminal C and D on the wiring harness using a jumper wire.	Yes Inspect the following: - Starter relay No.2 (See RELAY INSPECTION.) - Wiring harness between TCM terminal A5 and starter relay No.2	

	- Switch the ignition to start. - Does the engine start?		Wiring harness between BCM terminal 2G and starter relay No.2 Repair or replace the malfunctioning part according to the inspection results.
		No	Install the starter relay No.2. Go to the next step.
13	DETERMINE IF MALFUNCTION CAUSE IS STARTER RELAY CONTROL CIRCUIT OR OTHER Is the starter relay operation sound heard when the engine starting procedure is performed in Step 12?	Yes	Go to the next step.
		No	Go to Step 17.
14	INSPECT STARTER MONITOR SIGNAL CIRCUIT - Switch the ignition to ON (Engine off). - Measure the voltage at keyless control module terminal 4AA. - Is the voltage specified? Specification - Shift position is not P or N position: 1.0 V or less - Shift position is P or N position: 4.0 V or more	Yes	Go to the next step.
		No	Repair or replace suspect wiring harness and connector.
15	INSPECT STARTER RELAY NO.2 CONTROL CIRCUIT (BETWEEN KEYLESS CONTROL MODULE AND STARTER RELAY NO.2) FOR OPEN CIRCUIT - Switch the ignition to off. - Disconnect the keyless control module and starter relay No.2 connectors. - Verify continuity between keyless control module terminal 4K and starter relay No.2. - Is there continuity?	Yes	Go to the next step.
		No	Repair or replace suspected wiring harness and connector.
16	INSPECT STARTER AND STARTER POWER SUPPLY/ GROUND CIRCUIT - Inspect the following: - Starter - Starter and body ground - Starter power supply (from battery through starter relay, to starter) - Is there any malfunction?	Yes	Repair or replace the malfunctioning part according to the inspection results.
		No	Replace the keyless control module. (See KEYLESS CONTROL MODULE REMOVAL/ INSTALLATION [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM] .)
17	INSPECT STARTER RELAY NO.2 CONTROL CIRCUIT (BETWEEN KEYLESS CONTROL MODULE AND STARTER RELAY NO.2) FOR OPEN CIRCUIT - Switch the ignition to off. - Disconnect the keyless control module and starter relay No.2 connectors. - Verify continuity between the following terminals: - Verify continuity between keyless control module terminal 4K and starter relay No.2. - Is there continuity?	Yes	Go to the next step.
		No	Repair or replace suspected wiring harness and connector.
	INSPECT STARTER RELAY NO.2 CONTROL CIRCUIT (BETWEEN		

18	PCM AND STARTER RELAY NO.2) FOR OPEN CIRCUIT - Disconnect the PCM connector (with starter relay No.2 connectors left removed). - Verify continuity between starter relay No.2 and PCM terminal 1AQ. - Is there continuity?	Yes	Go to Step 26.
		No	Repair or replace suspected wiring harness and connector.
19	DETERMINE IF MALFUNCTION CAUSE IS STARTER CONTROL CIRCUIT OR STARTER - Selector lever is in P or N position. - Is a clicking sound heard from the starter relay when switch the ignition to start?	Yes	Go to Step 24.
		No	Go to the next step.
20	DETERMINE IF MALFUNCTION CAUSE IS STARTER RELAY NO.2 OR OTHER - Install the starter relay. - Remove the starter relay No.2. - Short the terminals of the starter relay No.2 terminal C and D on the wiring harness using a jumper wire. - Switch the ignition to start. - Does the engine start?	Yes	Inspect the following: - Starter relay No.2 (See RELAY INSPECTION.) - Wiring harness between TCM terminal A5 and starter relay No.2 - Wiring harness between BCM terminal 2G and starter relay No.2 Repair or replace the malfunctioning part according to the inspection results.
		No	Go to the next step.
21	INSPECT STARTER RELAY NO.2 CONTROL CIRCUIT FOR OPEN CIRCUIT - Disconnect the PCM connector (with starter relay No.2 connectors left removed). - Verify continuity between the following: - Starter relay No.2 and PCM 1AQ - Starter relay No.2 and starter relay - Is there continuity?	Yes	Go to the next step.
		No	Repair or replace suspected wiring harness and connector. Then repeat Step 19.
22	INSPECT STARTER RELAY AND RELATED CIRCUIT - Inspect the following: - Starter relay (See RELAY INSPECTION.) - Wiring harness between starter relay and ignition switch - Is there any malfunction?	Yes	Repair or replace the malfunctioning part according to the inspection results. Then repeat Step 19.
		No	Go to the next step.
23	INSPECT IGNITION SWITCH AND RELATED CIRCUIT - Inspect ignition switch and related harnesses. (See: IGNITION SWITCH INSPECTION [WITHOUT ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]) (See: PUSH BUTTON START INSPECTION [WITH ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]) - Is there any malfunction?	Yes	Repair or replace the malfunctioning part according to the inspection results. Then repeat Step 19.
		No	Go to the next step.
24	INSPECT WIRING HARNESS OF STARTER POWER SUPPLY CIRCUIT Inspect the following harnesses:	Yes	Repair or replace suspected wiring harness and connector.

	▪ Between starter relay and battery ▪ Between starter relay and starter • Is there any malfunction?		Go to the next step.
		No	Go to the next step.
25	INSPECT STARTER AND GROUND CIRCUIT • Inspect the starter. (See STARTER INSPECTION [MZI 3.7 V6].) • Is there any malfunction?	Yes	Repair or replace the malfunctioning part according to the inspection results.
		No	Go to the next step.
26	DETERMINE IF MALFUNCTION CAUSE IS BASE ENGINE OR OTHER • Inspect for seized/hydrolocked engine or drive plate. • Is the engine seized or hydrolocked?	Yes	Repair or replace the malfunctioning part according to the inspection results.
		No	Go to the next step.
27	VERIFY PCM DTC • Retrieve any continuous memory DTCs using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZI 3.7 V6].) • Are there any DTCs displayed?	Yes	DTC is displayed: • Go to the appropriate DTC inspection. (See DTC TABLE [MZI 3.7 V6].) Communication error message is displayed: • Inspect the following: ▪ Open circuit in wiring harness between main relay terminal C and PCM terminal 1BP or 1BK ▪ Open circuit in wiring harness between main relay terminal D and PCM terminal 1AZ ▪ Main relay is stuck open. ▪ Open or short circuit in wiring harness between the DLC-2 and PCM terminals 1AH or 1AL ▪ Open or poor ground circuit (PCM terminal 1B, 1J, 1E) ▪ Poor connection of vehicle body ground • Repair or replace the malfunctioning part according to the inspection results.
		No	No DTC is displayed: • Go to the next step.
28	VERIFY PRESENT MALFUNCTION DTC • Retrieve any KOEO DTCs using M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZI 3.7 V6].)	Yes	DTC is displayed: • Go to the appropriate DTC inspection.

	Are there DTCs displayed during KOEO inspection?		(See DTC TABLE [MZI 3.7 V6] .)
		No	No DTC is displayed: Go to the next step.
29	Verify test results. - If normal, return to diagnostic index to service any additional symptoms. (See SYMPTOM DIAGNOSTIC INDEX [MZI 3.7 V6].) - If malfunction remains, inspect related Service Bulletins and/or On-line Repair Information and perform repair or diagnosis. - If vehicle is repaired, troubleshooting completed. - If vehicle is not repaired or additional diagnostic information is not available, reprogram the PCM if a later calibration is available. Retest.		

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3	WILL NOT CRANK
DESCRIPTION	• The starter does not work.
POSSIBLE CAUSE	• Open circuit between ignition switch and starter • Starter relay No.2 malfunction • Open or short circuit in wiring harness between keyless control module and starter relay No.2 (with advanced keyless entry and push button start system) • Low or dead battery • Charging system malfunction • Starter malfunction • Seized/hydrolocked engine, drive plate • Immobilizer system and/or circuit malfunction • Immobilizer system operating properly. (Ignition key is not registered.) • Advanced keyless entry and push button start system malfunction (with advanced keyless entry and push button start system) • TR switch malfunction

WITH ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM

KEYLESS CONTROL MODULE

PCM

KEYLESS CONTROL MODULE WIRING HARNESS-SIDE CONNECTOR

PCM WIRING HARNESS-SIDE CONNECTOR

STARTER RELAY NO.2 (MAIN FUSE BLOCK)

WIRING HARNESS-SIDE CONNECTOR

STEP	INSPECTION	RESULTS	ACTION
1	DETERMINE IF MALFUNCTION CAUSE IS ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM OR OTHER NOTE: - The following test should be performed on the advanced keyless entry and push button start system. If not equipped, go to the next step. - Start the engine using the mechanical ignition key. - Does the engine start?	Yes	Inspect advanced keyless entry and push button start system. Repair or replace the malfunctioning part according to the inspection results.
		No	Go to the next step.
2	DETERMINE IF MALFUNCTION CAUSE IS IMMOBILIZER SYSTEM OR OTHER	Yes	Both conditions appear:

	- Do the following conditions appear? - The engine is not completely started. - Security indicator light illuminates or flashes short interval.		Go to Step 5.
		No	Either or other condition appears: Go to the next step.
3	INSPECT COIL ANTENNA CONNECTOR CONNECTION Is the coil antenna connector securely connected to the coil antenna?	Yes	Go to the next step.
		No	Connect the coil antenna connector securely. Return to Step 1.
4	DETERMINE IF MALFUNCTION CAUSE IS INSTRUMENT CLUSTER OR OTHER Does the security light flash?	Yes	Go to the next step.
		No	Inspect the instrument cluster and wiring harness. (See INSTRUMENT CLUSTER INSPECTION .)
5	VERIFY IMMOBILIZER SYSTEM DTC - Retrieve the DTC for immobilizer system using the M-MDS. (See DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].) (See DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM)].) - Is there any DTC present?	Yes	Go to the appropriate DTC inspection. (See DTC TABLE [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)] .) (See DTC TABLE [IMMOBILIZER SYSTEM (ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM)] .)
		No	Go to the next step.
6	INSPECT IMMOBILIZER SYSTEM RELATED CIRCUIT - Inspect the following wiring harnesses and connectors: - With advanced keyless entry and push button start system: - Between coil antenna terminal C and keyless control module terminal 2B - Between coil antenna terminal D and keyless control module terminal 2D - Between PCM terminal 1AH and keyless control module terminal 2G - Between PCM terminal 1AL and keyless control module terminal 2I - Without advanced keyless entry and push button start system: - Between coil antenna terminal C and instrument cluster terminal 2E - Between coil antenna terminal D and instrument cluster terminal 2G - Between PCM terminal 1AH and instrument cluster	Yes	Repair or replace suspected wiring harness and connector.
		No	Go to the next step.

	terminal 2X Between PCM terminal 1AL and instrument cluster terminal 2W • Is there any malfunction?		
7	INSPECT POWER SUPPLY - Inspect the following: - Battery connection - Battery condition (See BATTERY INSPECTION [MZI 3.7 V6].) - Fuses (See NO.1 MELTING OF MAIN OR OTHER FUSES [MZI 3.7 V6].) - Transmission in Park or Neutral - Is there any malfunction?	Yes Service if necessary. Repeat Step 7.	
		No With advanced keyless entry and push button start system: - Go to the next step. Without advanced keyless entry and push button start system: - Go to Step 19.	
8	INSPECT STARTER RELAY - Inspect the starter relay. (See RELAY INSPECTION.) - Is there any malfunction?	Yes Replace the starter relay.	
		No Go to the next step.	
9	DETERMINE IF MALFUNCTION CAUSE IS POWER SUPPLY OR OTHER - Remove the starter relay. - Measure the voltage of the connector terminal (primary coil power supply) on the starter relay wiring harness while cranking. - Is the voltage B+ ?	Yes Go to Step 12.	
		No Go to the next step.	
10	INSPECT STARTER RELAY PRIMARY COIL POWER SUPPLY CIRCUIT FOR OPEN CIRCUIT - Switch the ignition to off. - Disconnect the keyless control module connector. - Verify continuity between keyless control module terminal 4B and starter relay terminal (primary coil power supply). - Is there continuity?	Yes Go to the next step.	
		No Repair or replace suspect wiring harness and connector.	
11	INSPECT STARTER RELAY PRIMARY COIL POWER SUPPLY CIRCUIT FOR SHORT TO GROUND - Verify continuity between keyless control module terminal 4B and body ground. - Is there continuity?	Yes Replace the keyless control module. (See KEYLESS CONTROL MODULE REMOVAL/ INSTALLATION [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM].)	
		No Repair or replace suspect wiring harness and connector.	
12	DETERMINE IF MALFUNCTION CAUSE IS STARTER RELAY NO.2 OR OTHER - Install the starter relay. - Remove the starter relay No.2. - Short the terminals of the starter relay No.2 terminal C and D on the wiring harness using a jumper wire.	Yes Inspect the following: - Starter relay No.2 (See RELAY INSPECTION.) - Wiring harness between TCM terminal A5 and starter relay No.2	

	- Switch the ignition to start. - Does the engine start?		Wiring harness between BCM terminal 2G and starter relay No.2 Repair or replace the malfunctioning part according to the inspection results.
		No	Install the starter relay No.2. Go to the next step.
13	DETERMINE IF MALFUNCTION CAUSE IS STARTER RELAY CONTROL CIRCUIT OR OTHER Is the starter relay operation sound heard when the engine starting procedure is performed in Step 12?	Yes	Go to the next step.
		No	Go to Step 17.
14	INSPECT STARTER MONITOR SIGNAL CIRCUIT - Switch the ignition to ON (Engine off). - Measure the voltage at keyless control module terminal 4AA. - Is the voltage specified? Specification - Shift position is not P or N position: 1.0 V or less - Shift position is P or N position: 4.0 V or more	Yes	Go to the next step.
		No	Repair or replace suspect wiring harness and connector.
15	INSPECT STARTER RELAY NO.2 CONTROL CIRCUIT (BETWEEN KEYLESS CONTROL MODULE AND STARTER RELAY NO.2) FOR OPEN CIRCUIT - Switch the ignition to off. - Disconnect the keyless control module and starter relay No.2 connectors. - Verify continuity between keyless control module terminal 4K and starter relay No.2. - Is there continuity?	Yes	Go to the next step.
		No	Repair or replace suspected wiring harness and connector.
16	INSPECT STARTER AND STARTER POWER SUPPLY/ GROUND CIRCUIT - Inspect the following: - Starter - Starter and body ground - Starter power supply (from battery through starter relay, to starter) - Is there any malfunction?	Yes	Repair or replace the malfunctioning part according to the inspection results.
		No	Replace the keyless control module. (See KEYLESS CONTROL MODULE REMOVAL/ INSTALLATION [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM] .)
17	INSPECT STARTER RELAY NO.2 CONTROL CIRCUIT (BETWEEN KEYLESS CONTROL MODULE AND STARTER RELAY NO.2) FOR OPEN CIRCUIT - Switch the ignition to off. - Disconnect the keyless control module and starter relay No.2 connectors. - Verify continuity between the following terminals: - Verify continuity between keyless control module terminal 4K and starter relay No.2. - Is there continuity?	Yes	Go to the next step.
		No	Repair or replace suspected wiring harness and connector.
	INSPECT STARTER RELAY NO.2 CONTROL CIRCUIT (BETWEEN		

18	PCM AND STARTER RELAY NO.2) FOR OPEN CIRCUIT • Disconnect the PCM connector (with starter relay No.2 connectors left removed). • Verify continuity between starter relay No.2 and PCM terminal 1AQ. • Is there continuity?	Yes	Go to Step 26.
		No	Repair or replace suspected wiring harness and connector.
19	DETERMINE IF MALFUNCTION CAUSE IS STARTER CONTROL CIRCUIT OR STARTER • Selector lever is in P or N position. • Is a clicking sound heard from the starter relay when switch the ignition to start?	Yes	Go to Step 24.
		No	Go to the next step.
20	DETERMINE IF MALFUNCTION CAUSE IS STARTER RELAY NO.2 OR OTHER • Install the starter relay. • Remove the starter relay No.2. • Short the terminals of the starter relay No.2 terminal C and D on the wiring harness using a jumper wire. • Switch the ignition to start. • Does the engine start?	Yes	Inspect the following: • Starter relay No.2 (See RELAY INSPECTION.) • Wiring harness between TCM terminal A5 and starter relay No.2 • Wiring harness between BCM terminal 2G and starter relay No.2 Repair or replace the malfunctioning part according to the inspection results.
		No	Go to the next step.
21	INSPECT STARTER RELAY NO.2 CONTROL CIRCUIT FOR OPEN CIRCUIT • Disconnect the PCM connector (with starter relay No.2 connectors left removed). • Verify continuity between the following: ▪ Starter relay No.2 and PCM 1AQ ▪ Starter relay No.2 and starter relay • Is there continuity?	Yes	Go to the next step.
		No	Repair or replace suspected wiring harness and connector. Then repeat Step 19.
22	INSPECT STARTER RELAY AND RELATED CIRCUIT • Inspect the following: ▪ Starter relay (See RELAY INSPECTION.) ▪ Wiring harness between starter relay and ignition switch • Is there any malfunction?	Yes	Repair or replace the malfunctioning part according to the inspection results. Then repeat Step 19.
		No	Go to the next step.
23	INSPECT IGNITION SWITCH AND RELATED CIRCUIT • Inspect ignition switch and related harnesses. (See: IGNITION SWITCH INSPECTION [WITHOUT ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]) • (See: PUSH BUTTON START INSPECTION [WITH ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]) • Is there any malfunction?	Yes	Repair or replace the malfunctioning part according to the inspection results. Then repeat Step 19.
		No	Go to the next step.
24	INSPECT WIRING HARNESS OF STARTER POWER SUPPLY CIRCUIT • Inspect the following harnesses:	Yes	Repair or replace suspected wiring harness and connector.

	▪ Between starter relay and battery ▪ Between starter relay and starter • Is there any malfunction?		Go to the next step.
		No	Go to the next step.
25	INSPECT STARTER AND GROUND CIRCUIT • Inspect the starter. (See STARTER INSPECTION [MZI 3.7 V6].) • Is there any malfunction?	Yes	Repair or replace the malfunctioning part according to the inspection results.
		No	Go to the next step.
26	DETERMINE IF MALFUNCTION CAUSE IS BASE ENGINE OR OTHER • Inspect for seized/hydrolocked engine or drive plate. • Is the engine seized or hydrolocked?	Yes	Repair or replace the malfunctioning part according to the inspection results.
		No	Go to the next step.
27	VERIFY PCM DTC • Retrieve any continuous memory DTCs using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZI 3.7 V6].) • Are there any DTCs displayed?	Yes	DTC is displayed: • Go to the appropriate DTC inspection. (See DTC TABLE [MZI 3.7 V6].) Communication error message is displayed: • Inspect the following: ▪ Open circuit in wiring harness between main relay terminal C and PCM terminal 1BP or 1BK ▪ Open circuit in wiring harness between main relay terminal D and PCM terminal 1AZ ▪ Main relay is stuck open. ▪ Open or short circuit in wiring harness between the DLC-2 and PCM terminals 1AH or 1AL ▪ Open or poor ground circuit (PCM terminal 1B, 1J, 1E) ▪ Poor connection of vehicle body ground • Repair or replace the malfunctioning part according to the inspection results.
		No	No DTC is displayed: • Go to the next step.
28	VERIFY PRESENT MALFUNCTION DTC • Retrieve any KOEO DTCs using M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZI 3.7 V6].)	Yes	DTC is displayed: • Go to the appropriate DTC inspection.

	Are there DTCs displayed during KOEO inspection?		(See DTC TABLE [MZI 3.7 V6] .)
		No	No DTC is displayed: Go to the next step.
29	Verify test results. - If normal, return to diagnostic index to service any additional symptoms. (See SYMPTOM DIAGNOSTIC INDEX [MZI 3.7 V6].) - If malfunction remains, inspect related Service Bulletins and/or On-line Repair Information and perform repair or diagnosis. - If vehicle is repaired, troubleshooting completed. - If vehicle is not repaired or additional diagnostic information is not available, reprogram the PCM if a later calibration is available. Retest.		