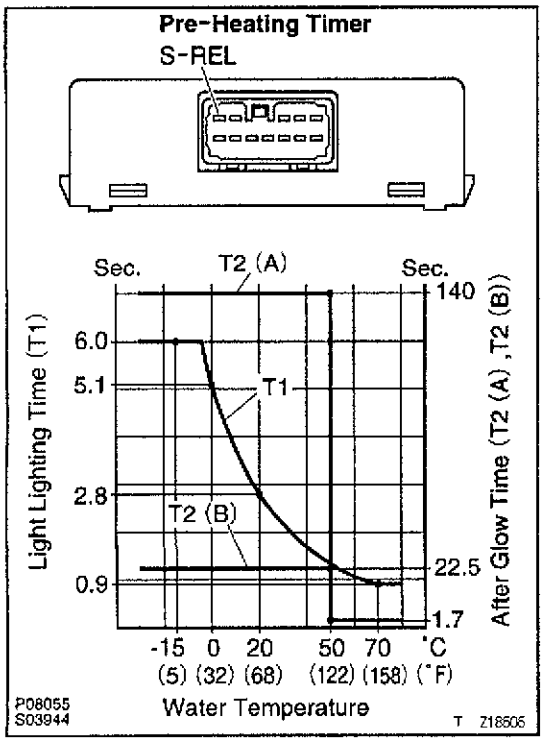


PRE—HEATING SYSTEM (Super Glow Type/with Resistor)

ST05O-0C

On—Vehicle Inspection

1. **INSPECT LIGHTING TIME OF GLOW INDICATOR LIGHT**

   Turn the ignition switch ON, and measure the lighting time.

   Light lighting time (T1):

   Refer to the chart graph

2. **INSPECT AFTER GLOW TIME**

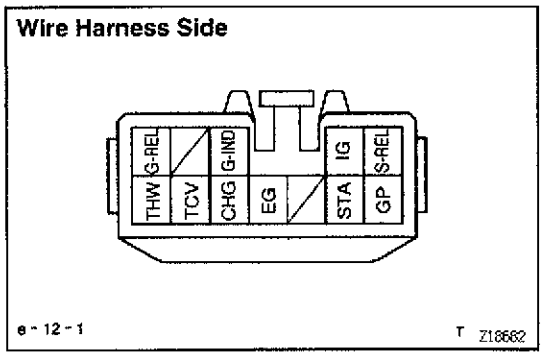
   Turn the ignition switch ON, and measure the time battery voltage is applied to terminal S—REL of the pre—heating timer.

   After glow time (T2 (A), T2 (B)):

   Refer to the chart graph

   T2 (A) Before starting the engine

   T2 (B) After starting the engine



ST0AV-07

Pre—Heating Timer

PRE—HEATING TIMER INSPECTION

1. **DISCONNECT PRE—HEATING TIMER CONNECTOR**

   LOCATION: See relay locations in Electrical Wiring Diagram.

2. **INSPECT PRE—HEATING TIMER CIRCUIT**

   Check the connector on the wire harness side as shown in these chart:

Check for	Tester connection	Condition	Specified value
Voltage	G-IND - Ground	Ignition switch OFF	No voltage
		Ignition switch ON	Battery voltage
Voltage	IG - Ground	Ignition switch OFF	No voltage
		Ignition switch ON	Battery voltage
Voltage	STA - Ground	Ignition switch OFF	No voltage
		Ignition switch START	Battery voltage
Continuity	G-REL, S-REL - Ground	—	Continuity
Continuity	GP - Ground	—	Continuity
Continuity	THW - Ground	—	Continuity
Continuity	EG - Ground	—	Continuity
Continuity	TCV (w/ TCV) - Ground	—	Continuity

T V08081

3. **RECONNECT PRE—HEATING TIMER CONNECTOR**

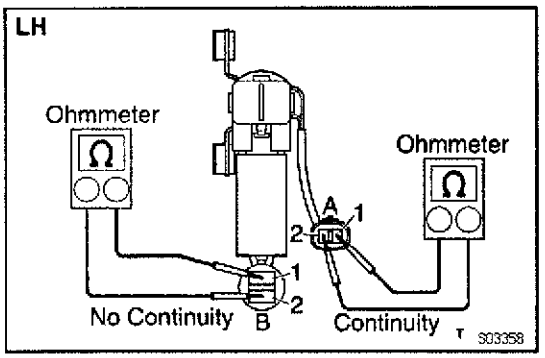
ST0AW-05

No.1 Glow Plug Relay (LH)

NO.1 GLOW PLUG RELAY INSPECTION

1. **REMOVE NO.1 GLOW PLUG RELAY**
   LOCATION: See relay locations in Electrical Wiring Diagram.

ST

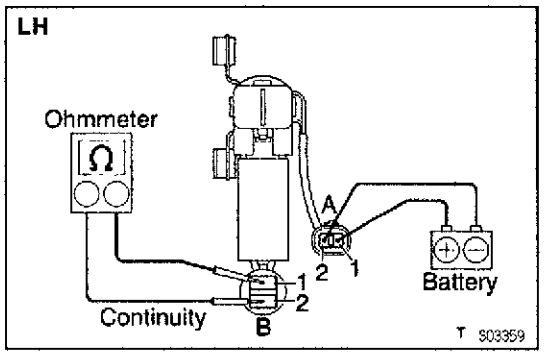


2. **INSPECT NO.1 GLOW PLUG RELAY**

A. Inspect relay continuity

(a) Using an ohmmeter, check that there is continuity between terminals 1 and 2 of connector A.
If there is no continuity, replace the relay.

(b) Check that there is no continuity between terminals 1 and 2 of connector B.
If there is continuity, replace the relay.



B. Inspect relay operation

(a) Apply battery voltage across terminals 1 and 2 of connector A.

(b) Using an ohmmeter, check that there is continuity between terminals 1 and 2 of connector B.
If there is no continuity, replace the relay.

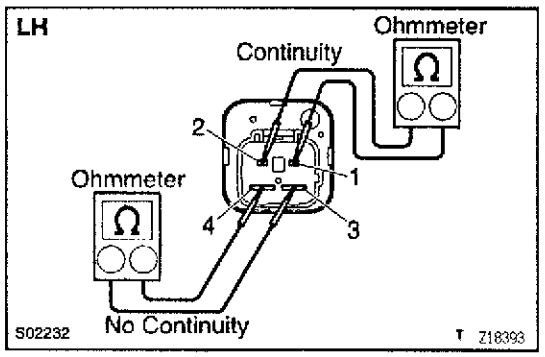
3. **REINSTALL NO.1 GLOW PLUG RELAY**

ST0AX-04

No.2 Glow Plug Relay (LH)

NO.2 GLOW PLUG RELAY INSPECTION

1. **REMOVE NO.2 GLOW PLUG RELAY**
   LOCATION: See relay locations in Electrical Wiring Diagram.

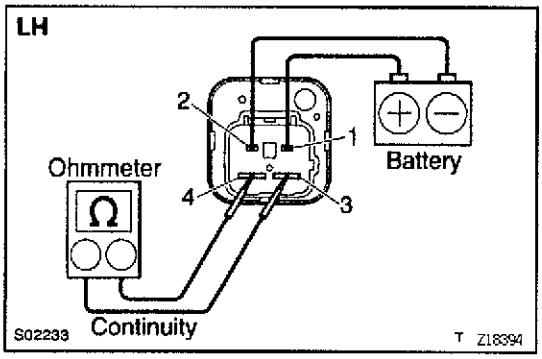


2. **INSPECT NO.2 GLOW PLUG RELAY**

A. Inspect relay continuity

(a) Using an ohmmeter, check that there is continuity between terminals 1 and 2.
If there is no continuity, replace the relay.

(b) Check that there is no continuity between terminals 3 and 4.
If there is continuity, replace the relay.



B. Inspect relay operation

(a) Apply battery voltage across terminals 1 and 2.

(b) Using an ohmmeter, check that there is continuity between terminals 3 and 4.
If there is no continuity, replace the relay.

3. REINSTALL NO.2 GLOW PLUG RELAY

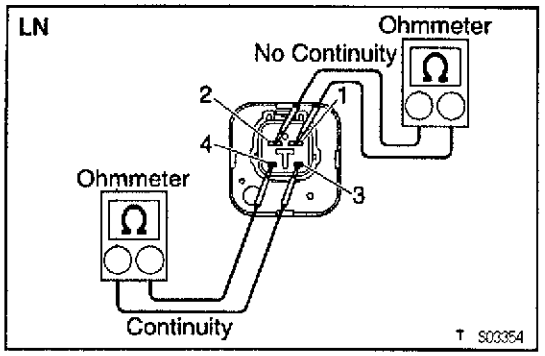
ST

ST0AW–06

No.1 and No.2 Glow Plug Relays (LN)

NO.1 AND NO.2 GLOW PLUG RELAYS INSPECTION

1. REMOVE NO.1 AND NO.2 GLOW PLUG RELAYS
LOCATION: See relay locations in Electrical Wiring Diagram.

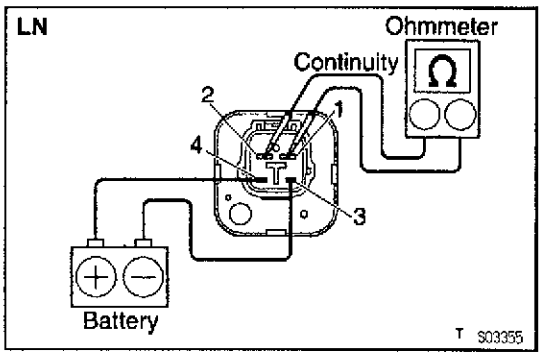


2. INSPECT NO.1 AND NO.2 GLOW PLUG RELAYS

A. Inspect relay continuity

(a) Using an ohmmeter, check that there is no continuity between terminals 1 and 2.
If there is continuity, replace the relay.

(b) Check that there is continuity between terminals 3 and 4.
If there is no continuity, replace the relay.



B. Inspect relay operation

(a) Apply battery voltage across terminals 3 and 4.

(b) Using an ohmmeter, check that there is continuity between terminals 1 and 2.
If there is no continuity, replace the relay.

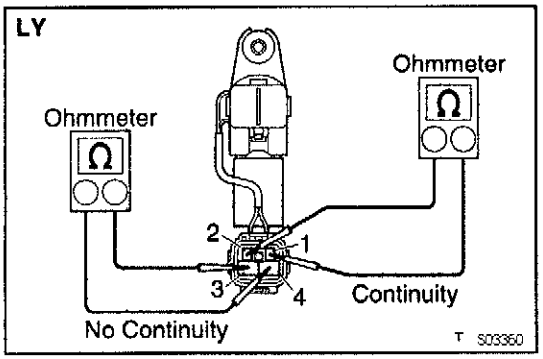
3. REINSTALL NO.1 AND NO.2 GLOW PLUG RELAYS

ST0AW–07

No.1 Glow Plug Relay (LY)

NO.1 GLOW PLUG RELAY INSPECTION

1. REMOVE NO.1 GLOW PLUG RELAY
LOCATION: See relay locations in Electrical Wiring Diagram.

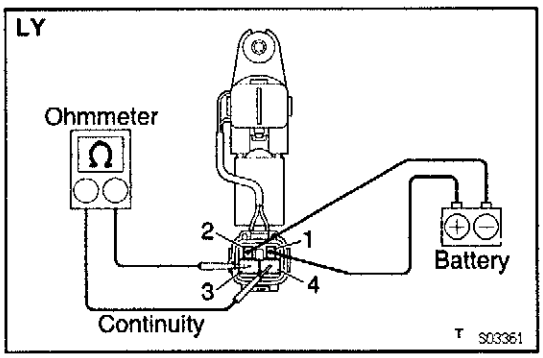


2. INSPECT NO.1 GLOW PLUG RELAY

A. Inspect relay continuity

(a) Using an ohmmeter, check that there is continuity between terminals 1 and 2.
If there is no continuity, replace the relay.

(b) Check that there is no continuity between terminals 3 and 4.
If there is continuity, replace the relay.



B. Inspect relay operation

(a) Apply battery voltage across terminals 1 and 2.

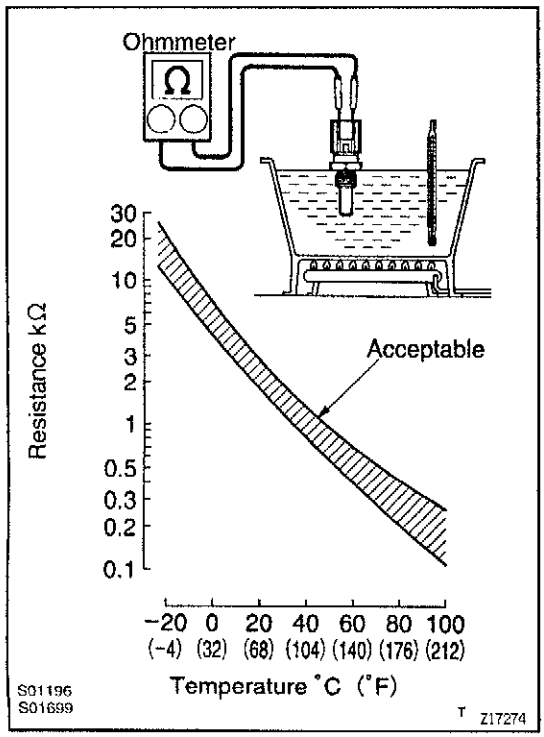
(b) Using an ohmmeter, check that there is continuity between terminals 3 and 4.
If there is no continuity, replace the relay.

3. REINSTALL NO.1 GLOW PLUG RELAY

ST

No.2 Glow Plug Relay (LY)

(See No.1 and No.2 glow plug relays (LN))



Water Temperature Sensor

WATER TEMPERATURE SENSOR INSPECTION

1. REMOVE WATER TEMPERATURE SENSOR
LOCATION: In water outlet housing.

2. INSPECT WATER TEMPERATURE SENSOR
Using an ohmmeter, measure the resistance between the terminals.
Resistance:
Refer to the chart graph
If the resistance is not as specified, replace the sensor.

3. REINSTALL WATER TEMPERATURE SENSOR
Torque: 17.5 N·m (178 kgf·cm, 13 ft·lbf)