

2012 - Mazda6 - Transmission/ Transaxle

MECHANICAL SYSTEM TEST [AY6A-EL]

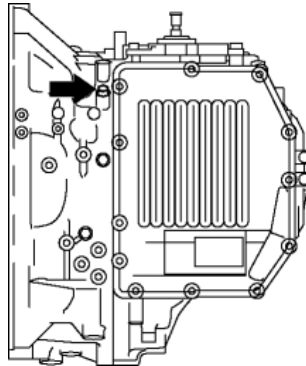
Mechanical System Test Preparation

1. Engage the parking brake and use wheel chocks at the front and rear of the wheels.
2. Inspect the engine coolant. (See [ENGINE COOLANT LEVEL INSPECTION \[MZI 3.7 V6\]](#).)
3. Inspect the engine oil. (See [ENGINE OIL LEVEL INSPECTION \[MZI 3.7 V6\]](#).)
4. Inspect the ATF. (See [AUTOMATIC TRANSAXLE FLUID \(ATF\) INSPECTION \[AY6A-EL\]](#).)
5. Inspect the idle speed. (See [ENGINE TUNE-UP \[MZI 3.7 V6\]](#).)
6. Inspect the ignition timing. (See [ENGINE TUNE-UP \[MZI 3.7 V6\]](#).)
7. Verify that no DTCs recorded. (See [ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION \[AY6A-EL\]](#).)

Line Pressure Test

NOTE:

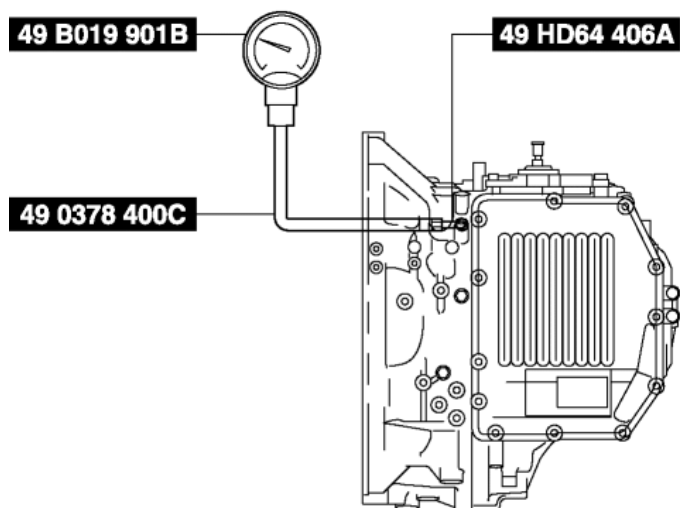
- Use a suitable oil pressure gauge that corresponds to the line pressure because the maximum scale value differs depending on the oil pressure gauge.
1. Perform the "Mechanical System Test Preparation". (See [Mechanical System Test Preparation](#).)
 2. Measure the line pressure while idling in D position.
 - a. Remove the test plug (for the D range line) and the O-ring.



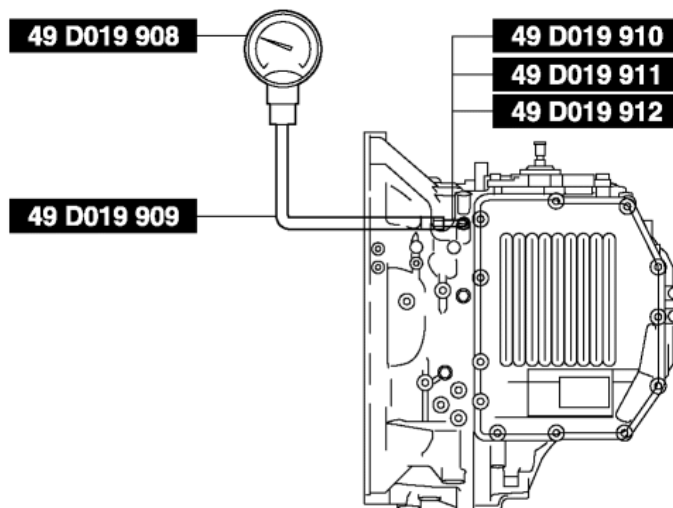
WARNING:

- Removing the test plug when the ATF is hot can be dangerous. Hot ATF can come out of the opening and badly burn you. Before removing the test plug, allow the ATF to cool.
- b. Connect the **SSTs** as following:
 - When using the oil pressure gauge set (**49 0378 400C**), connect the **SSTs** (**49 HD64 406A**, **49 0378 400C**, **49 B019 901B**) to the line pressure inspection port as shown in the figure.
 - When using the oil pressure gauge set (**49 D019 9A2**), connect the **SSTs** (**49 D019 910**, **49 D019 911**, **49 D019 912**, **49 D019 909**, **49 D019 908**) to the line pressure inspection port as shown in the figure.

USING OIL PRESSURE GAUGE SET (49 0378 400C)



USING OIL PRESSURE GAUGE SET (49 D019 9A2)



• 49 0378 400C

- 49 B019 901B (LOW Pressure Gauge): 0—1,000 kPa {0.00—10.19 kgf/cm², 0.0—145.0 psi}
- 49 B019 902A (HIGH Pressure Gauge): 0—2,500 kPa {0.00—25.49 kgf/cm², 0.0—362.5 psi}

• 49 D019 9A2

- 49 D019 908 (LOW Pressure Gauge): 0—1,000 kPa {0.00—10.19 kgf/cm², 0.0—145.0 psi}
- 49 D019 907 (HIGH Pressure Gauge): 0—3,000 kPa {0.00—30.59 kgf/cm², 0.0—435.1 psi}

c. Start the engine and warm it up until the ATF reaches 60—70 °C { 140—158 °F } .

d. Shift the selector lever to the D position.

e. Read the line pressure while the engine is idling. **Line pressure specification (while idling)**

Test condition	Specification (kPa {kgf/cm ² , psi})
IdleD position	335—505 {3.42—5.14, 48.6—73.2}

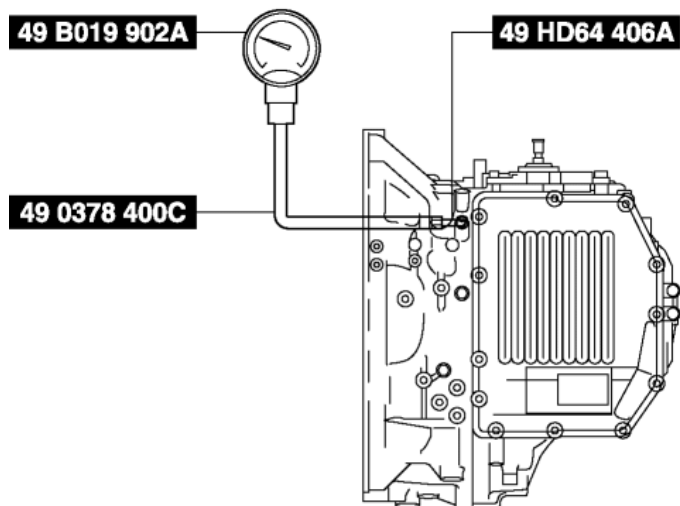
f. Stop the engine.

3. Measure the line pressure while stalling in D position.

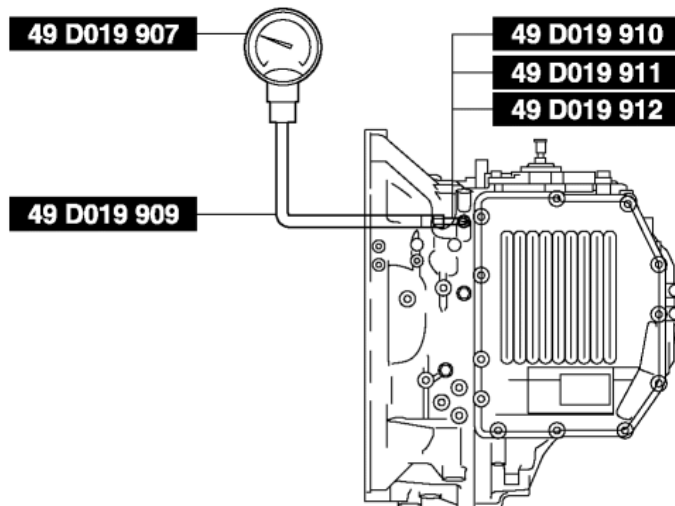
a. Replace the oil pressure gauge as following:

- When using the oil pressure gauge set (49 0378 400C) , replace the SST (49 B019 901B) with SST (49 B019 902A) .
- When using the oil pressure gauge set (49 D019 9A2) , replace the SST (49 D019 908) with SST (49 D019 907) .

USING OIL PRESSURE GAUGE SET (49 0378 400C)



USING OIL PRESSURE GAUGE SET (49 D019 9A2)



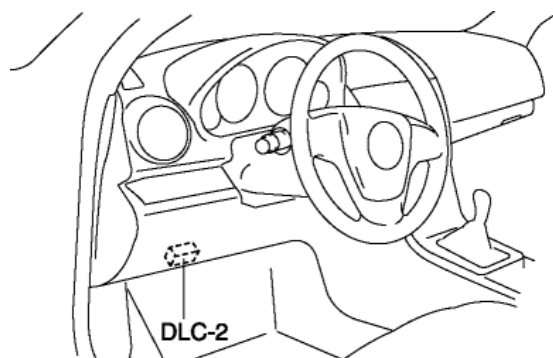
• 49 0378 400C

- 49 B019 901B (LOW Pressure Gauge): 0—1,000 kPa {0.00—10.19 kgf/cm², 0.0—145.0 psi}
- 49 B019 902A (HIGH Pressure Gauge): 0—2,500 kPa {0.00—25.49 kgf/cm², 0.0—362.5 psi}

• 49 D019 9A2

- 49 D019 908 (LOW Pressure Gauge): 0—1,000 kPa {0.00—10.19 kgf/cm², 0.0—145.0 psi}
- 49 D019 907 (HIGH Pressure Gauge): 0—3,000 kPa {0.00—30.59 kgf/cm², 0.0—435.1 psi}

b. Connect the M-MDS to the DLC-2.



c. Monitor the pressure control solenoid current (LPS) using the M-MDS data monitor function.

d. Start the engine.

e. Firmly depress the brake pedal with the left foot.

f. Shift the selector lever to the D position.

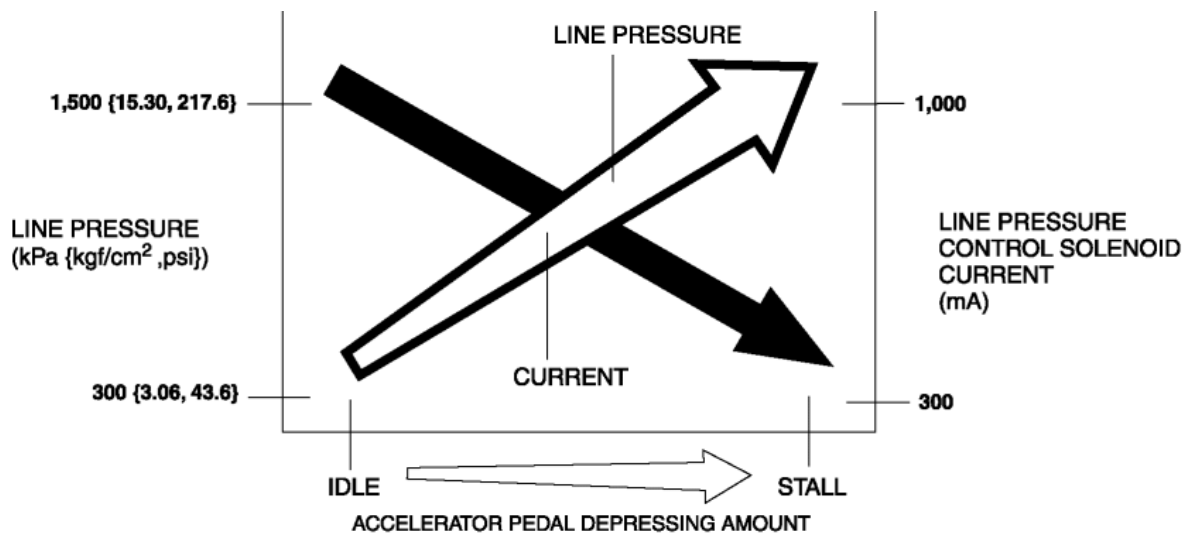
CAUTION:

- If the accelerator pedal is pressed for longer than 5 s while the brake pedal is pressed, the transaxle could be damaged. Therefore, perform Steps (7)—(8) within 5 s.

g. Gradually depress the accelerator pedal with the right foot.

h. When the engine speed no longer increases, quickly read the line pressure and release the accelerator pedal.

i. Verify that the pressure control solenoid current changes as shown in the figure depending on the throttle opening angle.



NOTE:

- The line pressure standard other than when the engine is idling cannot be determined because the maximum line pressure for this transaxle is controlled by vehicle conditions.

j. Shift the selector lever to the N position and idle the engine for **1 min** or more to cool the ATF.

k. Remove the **SSTs**.

WARNING:

- Removing the SSTs when the ATF is hot can be dangerous. Hot ATF can come out of the opening and badly burn you. Before removing the SSTs, allow the ATF to cool.

l. Install the test plug and new O-ring in the inspection port.

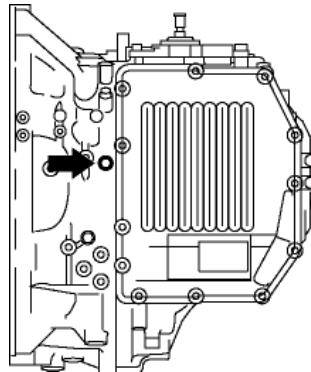
Tightening torque

- 5.9—8.8 N·m {61—89 kgf·cm, 53—77 in·lbf}

m. Stop the engine.

4. Measure the line pressure while idling in R position.

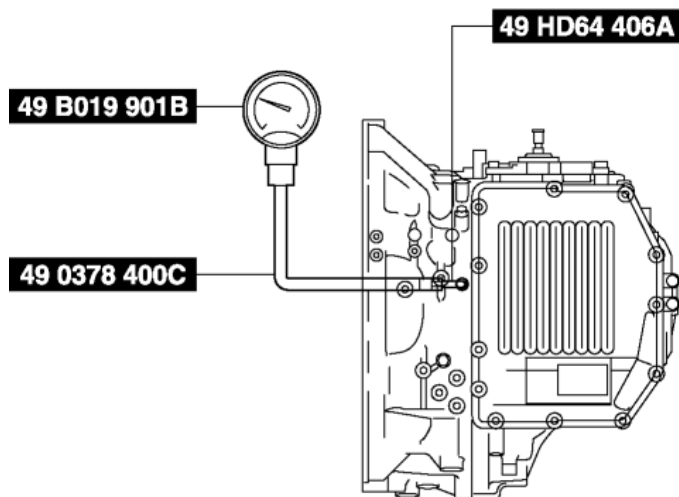
a. Remove the test plug (for the R position line) and the O-ring.



b. Connect the **SSTs** as following:

- When using the oil pressure gauge set (49 0378 400C), connect the **SSTs** (49 HD64 406A, 49 0378 400C, 49 B019 901B) to the line pressure inspection port as shown in the figure.
- When using the oil pressure gauge set (49 D019 9A2), connect the **SSTs** (49 D019 910, 49 D019 911, 49 D019 912, 49 D019 909, 49 D019 908) to the line pressure inspection port as shown in the figure.

USING OIL PRESSURE GAUGE SET (49 0378 400C)



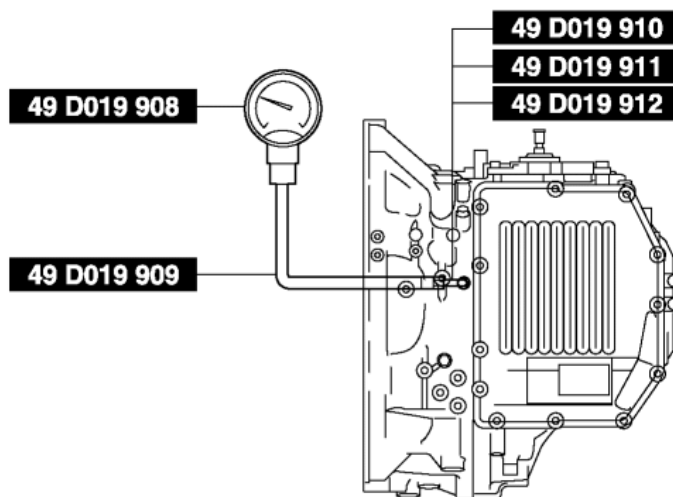
▪ 49 0378 400C

- 49 B019 901B (LOW Pressure Gauge): 0—1,000 kPa {0.00—10.19 kgf/cm², 0.0—145.0 psi}
- 49 B019 902A (HIGH Pressure Gauge): 0—2,500 kPa {0.00—25.49 kgf/cm², 0.0—362.5 psi}

▪ 49 D019 9A2

- 49 D019 908 (LOW Pressure Gauge): 0—1,000 kPa {0.00—10.19 kgf/cm², 0.0—145.0 psi}
- 49 D019 907 (HIGH Pressure Gauge): 0—3,000 kPa {0.00—30.59 kgf/cm², 0.0—435.1 psi}

USING OIL PRESSURE GAUGE SET (49 D019 9A2)



c. Start the engine and warm it up until the ATF reaches 60—70 °C { 140—158 °F } .

d. Shift the selector lever to the R position.

e. Read the line pressure while the engine is idling. **Line pressure specification (while idling)**

Test condition	Specification (kPa {kgf/cm ² , psi})
IdleR position	495—705 {5.05—7.18, 71.8—102.0}

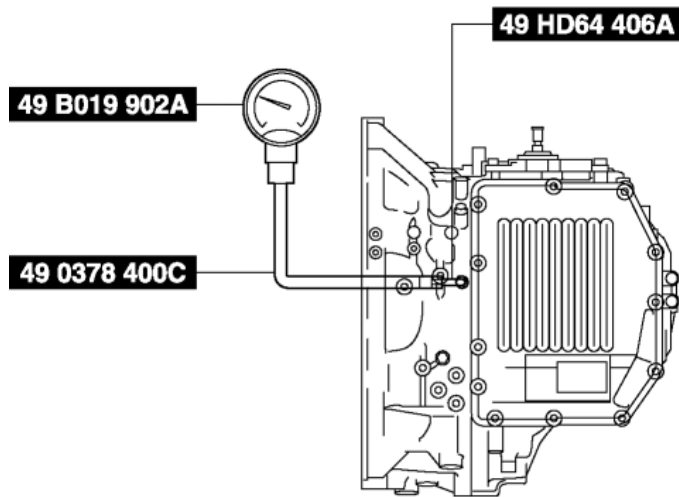
f. Stop the engine.

5. Measure the line pressure while stalling in R position.

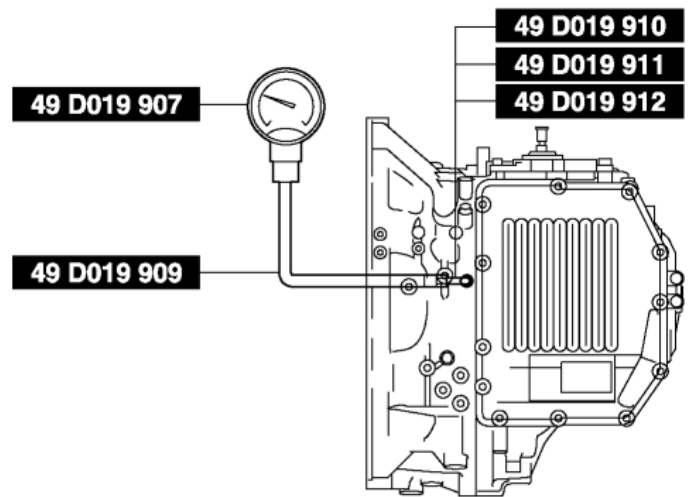
a. Replace the oil pressure gauge as following:

- When using the oil pressure gauge set (49 0378 400C) , replace the SST (49 B019 901B) with SST (49 B019 902A) .
- When using the oil pressure gauge set (49 D019 9A2) , replace the SST (49 D019 908) with SST (49 D019 907) .

USING OIL PRESSURE GAUGE SET (49 0378 400C)



USING OIL PRESSURE GAUGE SET (49 D019 9A2)



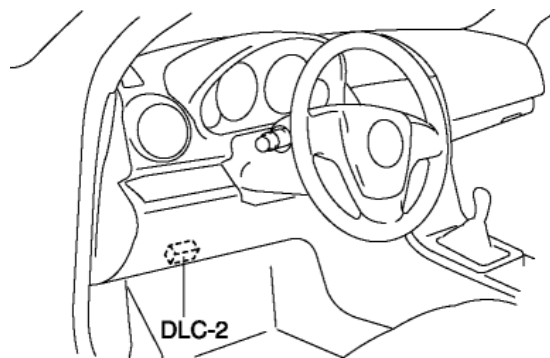
• 49 0378 400C

- 49 B019 901B (LOW Pressure Gauge): 0—1,000 kPa {0.00—10.19 kgf/cm², 0.0—145.0 psi}
- 49 B019 902A (HIGH Pressure Gauge): 0—2,500 kPa {0.00—25.49 kgf/cm², 0.0—362.5 psi}

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- 49 D019 908 (LOW Pressure Gauge): 0—1,000 kPa {0.00—10.19 kgf/cm², 0.0—145.0 psi}
- 49 D019 907 (HIGH Pressure Gauge): 0—3,000 kPa {0.00—30.59 kgf/cm², 0.0—435.1 psi}

b. Connect the M-MDS to the DLC-2.



c. Monitor the pressure control solenoid current (LPS) using the M-MDS data monitor function.

d. Start the engine.

e. Firmly depress the brake pedal with the left foot.

f. Shift the selector lever to the R position.

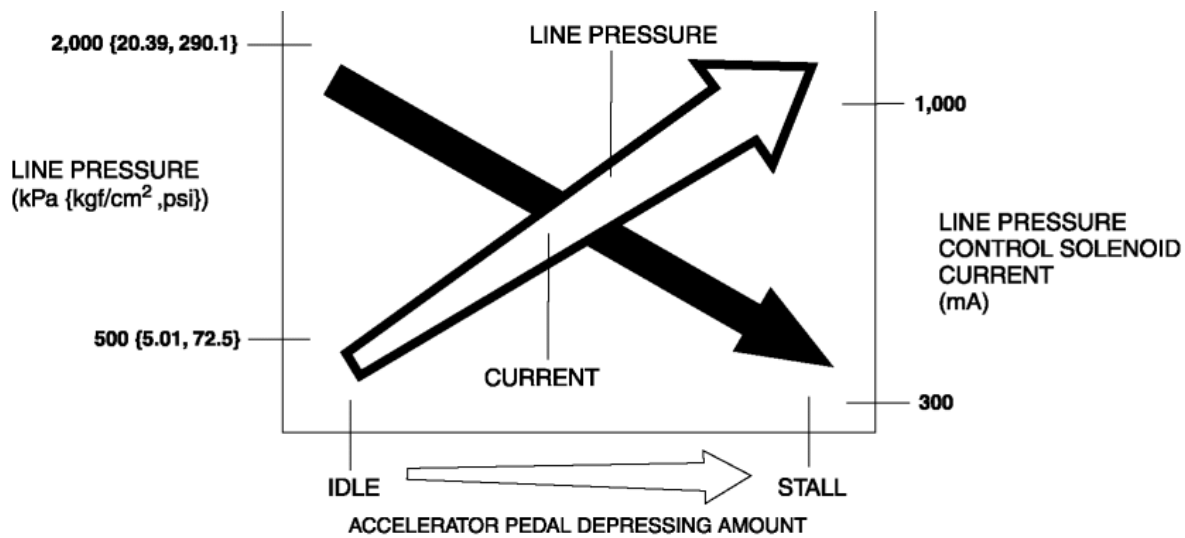
CAUTION:

- If the accelerator pedal is pressed for longer than 5 s while the brake pedal is pressed, the transaxle could be damaged. Therefore, perform Steps (7)—(8) within 5 s.

g. Gradually depress the accelerator pedal with the right foot.

h. When the engine speed no longer increases, quickly read the line pressure and release the accelerator pedal.

i. Verify that the pressure control solenoid current changes as shown in the figure depending on the throttle opening angle.



NOTE:

- The line pressure standard other than when the engine is idling cannot be determined because the maximum line pressure for this transaxle is controlled by vehicle conditions.

j. Shift the selector lever to the N position and idle the engine for **1 min** or more to cool the ATF.

k. Remove the **SSTs**.

WARNING:

- Removing the SSTs when the ATF is hot can be dangerous. Hot ATF can come out of the opening and badly burn you. Before removing the SSTs, allow the ATF to cool.

l. Install the test plug and new O-ring in the inspection port.

Tightening torque

- 5.9—8.8 N·m {61—89 kgf·cm, 53—77 in·lbf}

6. Stop the engine.

- If there is any malfunction, inspect the following "Possible Cause" according to the condition.

Condition	Possible cause
Lower than specification in R, D positions	• Line pressure control solenoid malfunction • Primary regulator valve malfunction • Oil pump malfunction • Oil leaking from D position or R position hydraulic circuit
Constant pressure without fluctuation in hydraulic pressure to throttle in R, D positions	• Line pressure control solenoid malfunction • Control valve body internal malfunction
Current to throttle does not change in R, D positions	• TCM internal malfunction • Connector malfunction
Hydraulic pressure in R position is not higher than D position	• Primary regulator valve malfunction

Stall Test

1. Perform the "Mechanical System Test Preparation". (See [Mechanical System Test Preparation](#).)
2. Start the engine.
3. Perform the stall test at D position.
 - a. Firmly depress the brake pedal with the left foot.

b. Shift the selector lever to D position.

CAUTION:

- If the accelerator pedal is pressed for longer than 5 s while the brake pedal is pressed, the transaxle could be damaged. Therefore, perform Steps (3)–(4) within 5 s.

4. Shift the selector lever to the D position.

CAUTION:

- If the accelerator pedal is depressed for more than 5 s while the brake pedal is depressed, the transaxle could be damaged. Therefore, perform Steps 5 and 6 within 5 s.

5. Gently depress the accelerator pedal with the right foot.

6. When the engine speed no longer increases, quickly read the engine speed and release the accelerator pedal.

7. Shift the selector lever to the N position and idle the engine for **1 min** or more to cool the ATF.

8. Perform a stall test of the R position in the same manner.

- If there is any malfunction, inspect the following “Possible Cause” according to the condition.

Condition	Possible cause	
Above specification	In D position	• Low line pressure (Line pressure control solenoid malfunction, primary regulator valve malfunction) • Control valve body component malfunction (shift solenoid C hydraulic pressure system) • C1 clutch slipping • One-way clutch malfunction
	In R position	• Low line pressure (Line pressure control solenoid malfunction, primary regulator valve malfunction) • Control valve body component malfunction (shift solenoid E hydraulic pressure system) • C3 clutch malfunction (slipping) • B2 brake malfunction (slipping)
	In R, D positions	• Low line pressure (Line pressure control solenoid malfunction, primary regulator valve malfunction) • Oil pump malfunction • Oil strainer clogging
Below specification		• Engine lack of power • Torque converter one-way clutch slipping

Stall speed

Test condition	Specification (rpm)
R position	2,555
D position	2,637

Time Lag Test

1. Perform the “Mechanical System Test Preparation”. (See [Mechanical System Test Preparation](#).)

2. Start the engine.

3. Perform the time lag test when shifting the selector lever from N position to D position.

a. Shift the selector lever from N position to D position while the brake pedal is depressed.

b. Measure the time it takes from shifting until shock is felt when shifting the selector lever from N position to D position.

4. Perform a time lag test of the N position to R position in the same manner.

- If there is any malfunction, inspect the following “Possible Cause” according to the condition.

Condition		Possible cause
N→D shift	More than specification	• Control valve body malfunction (shift solenoid C hydraulic pressure system) • C1 clutch slipping • One-way clutch malfunction • Oil pump malfunction • Oil strainer clogging
N→R shift	More than specification	• Control valve body malfunction (shift solenoid E hydraulic pressure system) • C3 clutch slipping • B2 brake slipping • Oil pump malfunction • Oil strainer clogging

Time Lag

Test condition	Specification
From N position to D position	1.5 s or less
From N position to R position	

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MECHANICAL SYSTEM TEST [AY6A-EL]

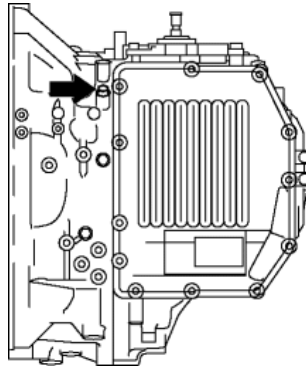
Mechanical System Test Preparation

1. Engage the parking brake and use wheel chocks at the front and rear of the wheels.
2. Inspect the engine coolant. (See [ENGINE COOLANT LEVEL INSPECTION \[MZI 3.7 V6\]](#).)
3. Inspect the engine oil. (See [ENGINE OIL LEVEL INSPECTION \[MZI 3.7 V6\]](#).)
4. Inspect the ATF. (See [AUTOMATIC TRANSAXLE FLUID \(ATF\) INSPECTION \[AY6A-EL\]](#).)
5. Inspect the idle speed. (See [ENGINE TUNE-UP \[MZI 3.7 V6\]](#).)
6. Inspect the ignition timing. (See [ENGINE TUNE-UP \[MZI 3.7 V6\]](#).)
7. Verify that no DTCs recorded. (See [ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION \[AY6A-EL\]](#).)

Line Pressure Test

NOTE:

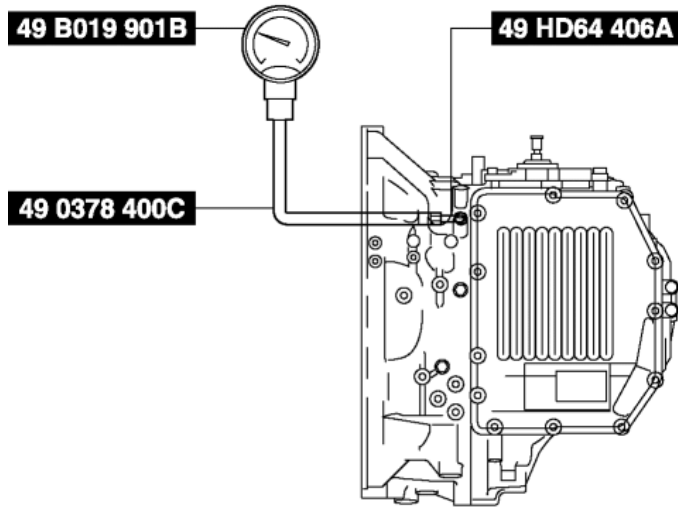
- Use a suitable oil pressure gauge that corresponds to the line pressure because the maximum scale value differs depending on the oil pressure gauge.
1. Perform the "Mechanical System Test Preparation". (See [Mechanical System Test Preparation](#).)
 2. Measure the line pressure while idling in D position.
 - a. Remove the test plug (for the D range line) and the O-ring.



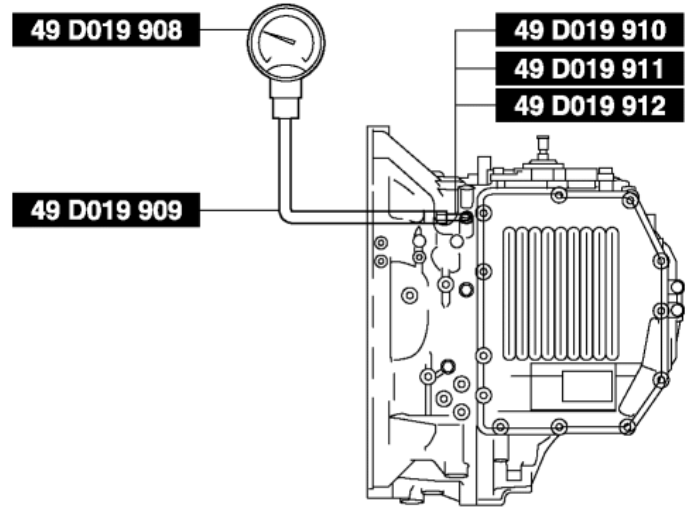
WARNING:

- Removing the test plug when the ATF is hot can be dangerous. Hot ATF can come out of the opening and badly burn you. Before removing the test plug, allow the ATF to cool.
- b. Connect the **SSTs** as following:
 - When using the oil pressure gauge set (**49 0378 400C**), connect the **SSTs** (**49 HD64 406A**, **49 0378 400C**, **49 B019 901B**) to the line pressure inspection port as shown in the figure.
 - When using the oil pressure gauge set (**49 D019 9A2**), connect the **SSTs** (**49 D019 910**, **49 D019 911**, **49 D019 912**, **49 D019 909**, **49 D019 908**) to the line pressure inspection port as shown in the figure.

USING OIL PRESSURE GAUGE SET (49 0378 400C)



USING OIL PRESSURE GAUGE SET (49 D019 9A2)



• 49 0378 400C

- 49 B019 901B (LOW Pressure Gauge): 0—1,000 kPa {0.00—10.19 kgf/cm², 0.0—145.0 psi}
- 49 B019 902A (HIGH Pressure Gauge): 0—2,500 kPa {0.00—25.49 kgf/cm², 0.0—362.5 psi}

• 49 D019 9A2

- 49 D019 908 (LOW Pressure Gauge): 0—1,000 kPa {0.00—10.19 kgf/cm², 0.0—145.0 psi}
- 49 D019 907 (HIGH Pressure Gauge): 0—3,000 kPa {0.00—30.59 kgf/cm², 0.0—435.1 psi}

c. Start the engine and warm it up until the ATF reaches 60—70 °C { 140—158 °F } .

d. Shift the selector lever to the D position.

e. Read the line pressure while the engine is idling. **Line pressure specification (while idling)**

Test condition	Specification (kPa {kgf/cm ² , psi})
IdleD position	335—505 {3.42—5.14, 48.6—73.2}

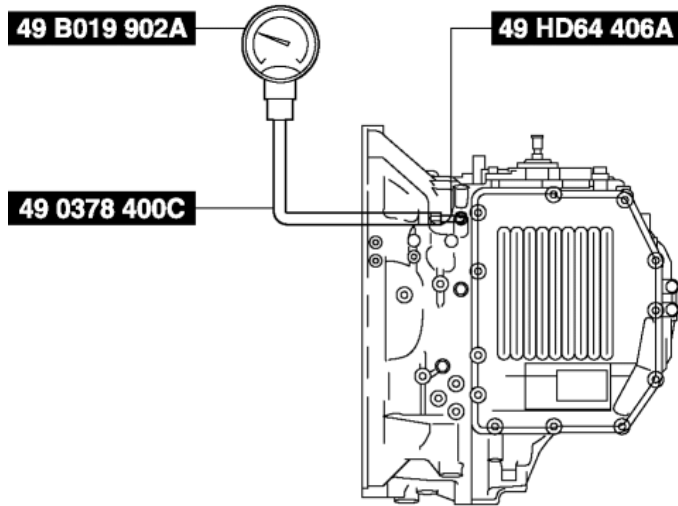
f. Stop the engine.

3. Measure the line pressure while stalling in D position.

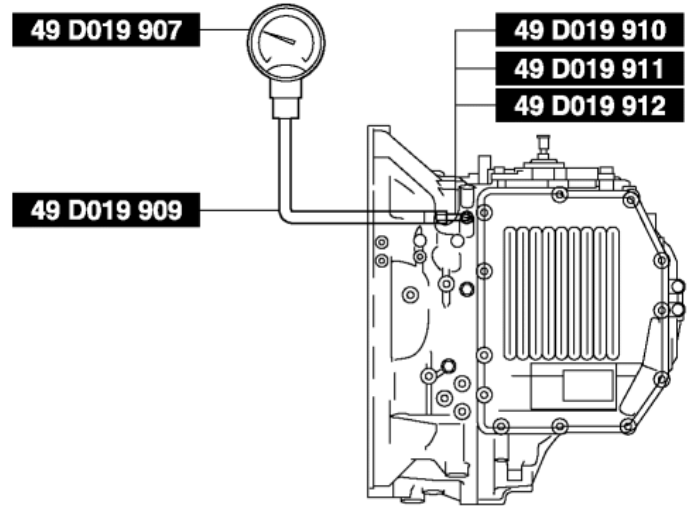
a. Replace the oil pressure gauge as following:

- When using the oil pressure gauge set (49 0378 400C) , replace the SST (49 B019 901B) with SST (49 B019 902A) .
- When using the oil pressure gauge set (49 D019 9A2) , replace the SST (49 D019 908) with SST (49 D019 907) .

USING OIL PRESSURE GAUGE SET (49 0378 400C)



USING OIL PRESSURE GAUGE SET (49 D019 9A2)



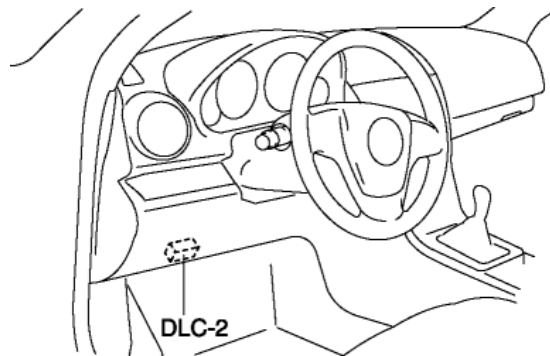
• 49 0378 400C

- 49 B019 901B (LOW Pressure Gauge): 0—1,000 kPa {0.00—10.19 kgf/cm², 0.0—145.0 psi}
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- 49 D019 907 (HIGH Pressure Gauge): 0—3,000 kPa {0.00—30.59 kgf/cm², 0.0—435.1 psi}

b. Connect the M-MDS to the DLC-2.



c. Monitor the pressure control solenoid current (LPS) using the M-MDS data monitor function.

d. Start the engine.

e. Firmly depress the brake pedal with the left foot.

f. Shift the selector lever to the D position.

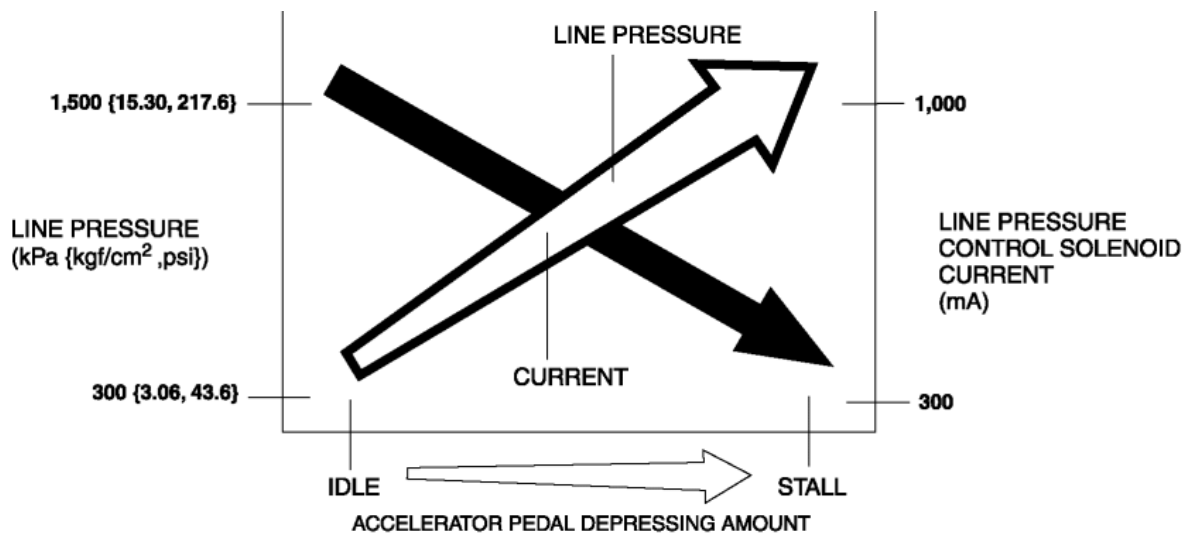
CAUTION:

- If the accelerator pedal is pressed for longer than 5 s while the brake pedal is pressed, the transaxle could be damaged. Therefore, perform Steps (7)—(8) within 5 s.

g. Gradually depress the accelerator pedal with the right foot.

h. When the engine speed no longer increases, quickly read the line pressure and release the accelerator pedal.

i. Verify that the pressure control solenoid current changes as shown in the figure depending on the throttle opening angle.



NOTE:

- The line pressure standard other than when the engine is idling cannot be determined because the maximum line pressure for this transaxle is controlled by vehicle conditions.

j. Shift the selector lever to the N position and idle the engine for **1 min** or more to cool the ATF.

k. Remove the **SSTs**.

WARNING:

- Removing the SSTs when the ATF is hot can be dangerous. Hot ATF can come out of the opening and badly burn you. Before removing the SSTs, allow the ATF to cool.

l. Install the test plug and new O-ring in the inspection port.

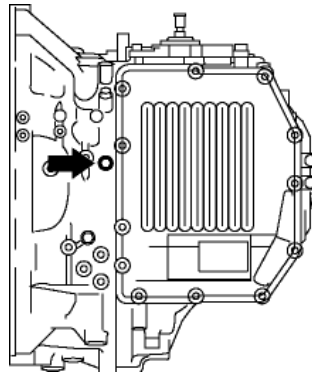
Tightening torque

- 5.9—8.8 N·m {61—89 kgf·cm, 53—77 in·lbf}

m. Stop the engine.

4. Measure the line pressure while idling in R position.

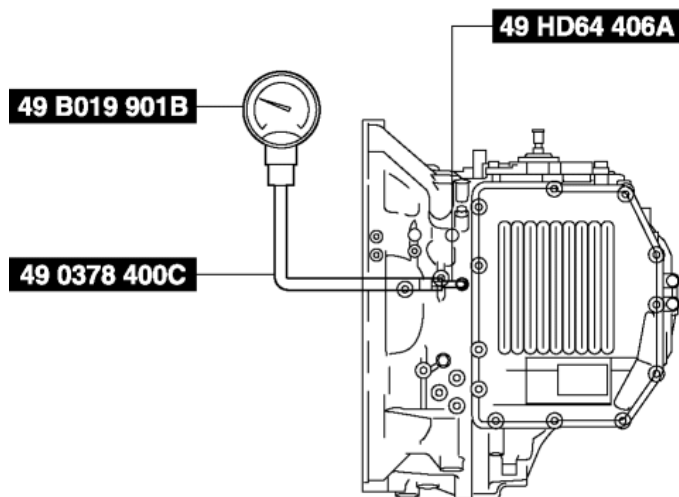
a. Remove the test plug (for the R position line) and the O-ring.



b. Connect the **SSTs** as following:

- When using the oil pressure gauge set (49 0378 400C), connect the **SSTs** (49 HD64 406A, 49 0378 400C, 49 B019 901B) to the line pressure inspection port as shown in the figure.
- When using the oil pressure gauge set (49 D019 9A2), connect the **SSTs** (49 D019 910, 49 D019 911, 49 D019 912, 49 D019 909, 49 D019 908) to the line pressure inspection port as shown in the figure.

USING OIL PRESSURE GAUGE SET (49 0378 400C)



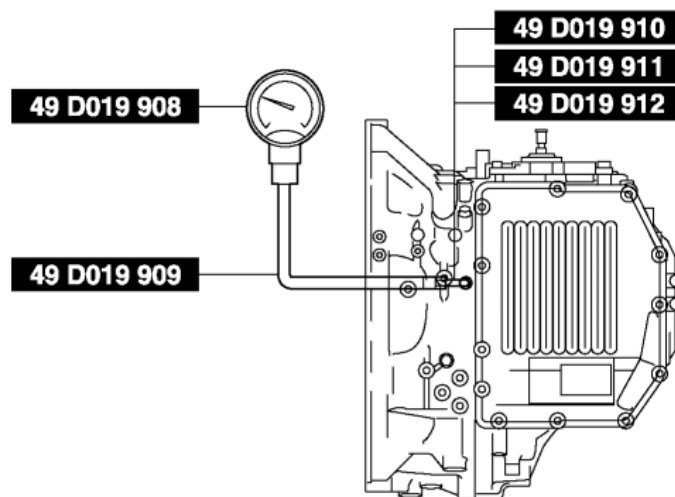
• 49 0378 400C

- 49 B019 901B (LOW Pressure Gauge): 0—1,000 kPa {0.00—10.19 kgf/cm², 0.0—145.0 psi}
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- 49 D019 908 (LOW Pressure Gauge): 0—1,000 kPa {0.00—10.19 kgf/cm², 0.0—145.0 psi}
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USING OIL PRESSURE GAUGE SET (49 D019 9A2)



c. Start the engine and warm it up until the ATF reaches 60—70 °C { 140—158 °F } .

d. Shift the selector lever to the R position.

e. Read the line pressure while the engine is idling. **Line pressure specification (while idling)**

Test condition	Specification (kPa {kgf/cm ² , psi})
IdleR position	495—705 {5.05—7.18, 71.8—102.0}

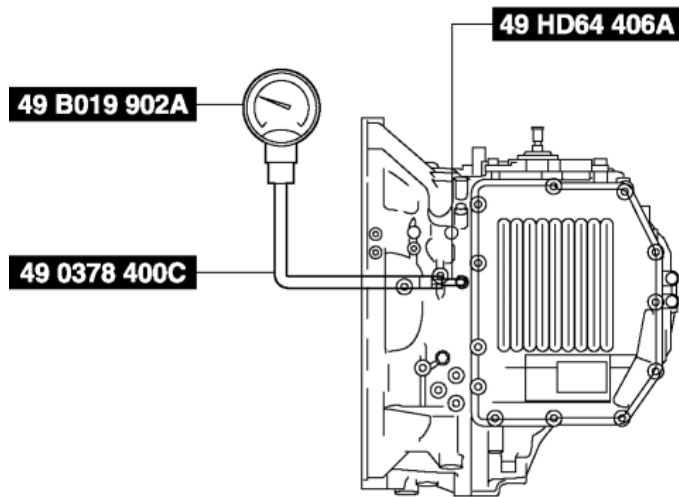
f. Stop the engine.

5. Measure the line pressure while stalling in R position.

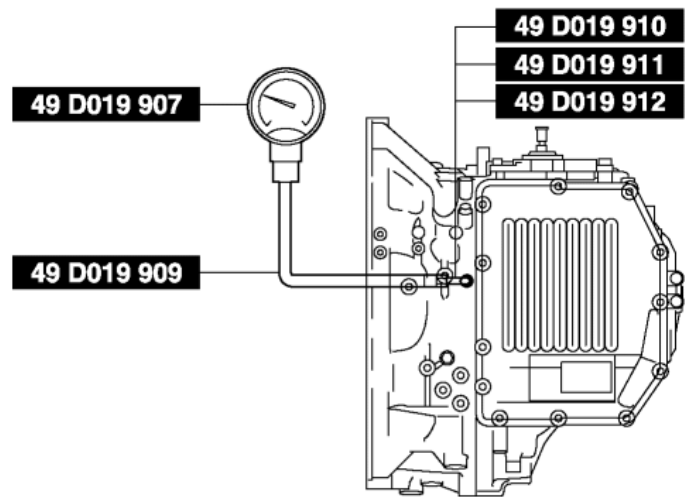
a. Replace the oil pressure gauge as following:

- When using the oil pressure gauge set (49 0378 400C) , replace the SST (49 B019 901B) with SST (49 B019 902A) .
- When using the oil pressure gauge set (49 D019 9A2) , replace the SST (49 D019 908) with SST (49 D019 907) .

USING OIL PRESSURE GAUGE SET (49 0378 400C)



USING OIL PRESSURE GAUGE SET (49 D019 9A2)



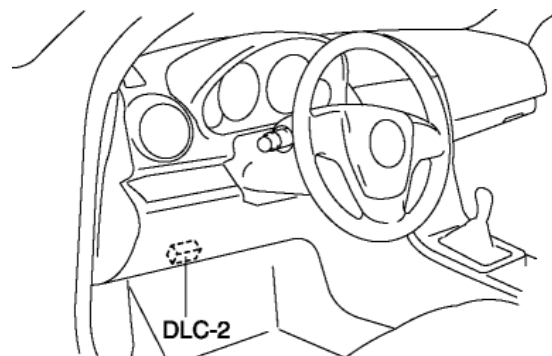
• 49 0378 400C

- 49 B019 901B (LOW Pressure Gauge): 0—1,000 kPa {0.00—10.19 kgf/cm², 0.0—145.0 psi}
- 49 B019 902A (HIGH Pressure Gauge): 0—2,500 kPa {0.00—25.49 kgf/cm², 0.0—362.5 psi}

• 49 D019 9A2

- 49 D019 908 (LOW Pressure Gauge): 0—1,000 kPa {0.00—10.19 kgf/cm², 0.0—145.0 psi}
- 49 D019 907 (HIGH Pressure Gauge): 0—3,000 kPa {0.00—30.59 kgf/cm², 0.0—435.1 psi}

b. Connect the M-MDS to the DLC-2.



c. Monitor the pressure control solenoid current (LPS) using the M-MDS data monitor function.

d. Start the engine.

e. Firmly depress the brake pedal with the left foot.

f. Shift the selector lever to the R position.

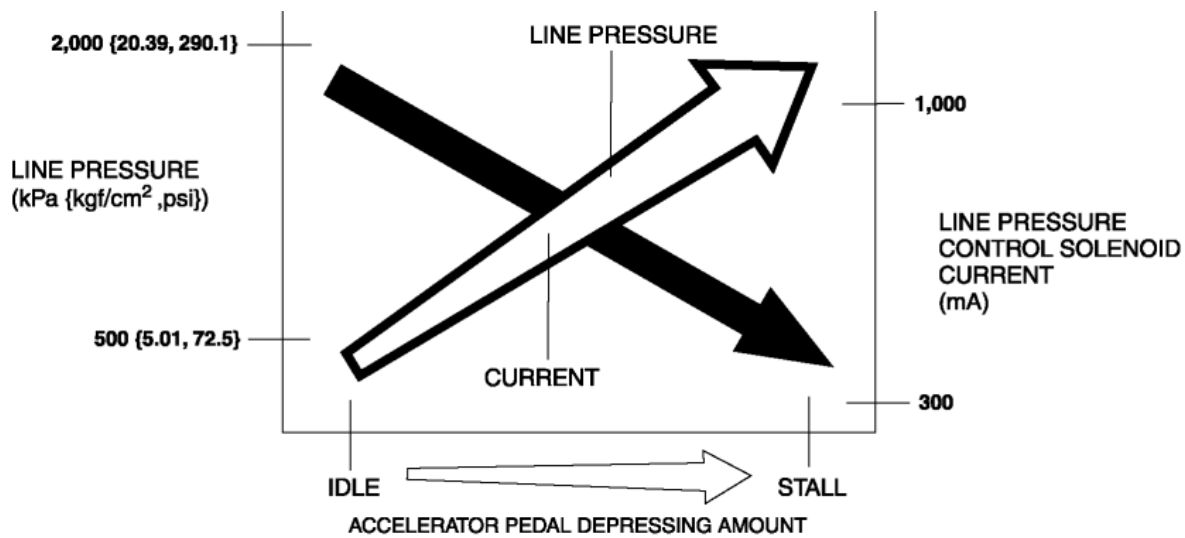
CAUTION:

- If the accelerator pedal is pressed for longer than 5 s while the brake pedal is pressed, the transaxle could be damaged. Therefore, perform Steps (7)—(8) within 5 s.

g. Gradually depress the accelerator pedal with the right foot.

h. When the engine speed no longer increases, quickly read the line pressure and release the accelerator pedal.

i. Verify that the pressure control solenoid current changes as shown in the figure depending on the throttle opening angle.



NOTE:

- The line pressure standard other than when the engine is idling cannot be determined because the maximum line pressure for this transaxle is controlled by vehicle conditions.

j. Shift the selector lever to the N position and idle the engine for **1 min** or more to cool the ATF.

k. Remove the **SSTs**.

WARNING:

- Removing the SSTs when the ATF is hot can be dangerous. Hot ATF can come out of the opening and badly burn you. Before removing the SSTs, allow the ATF to cool.

l. Install the test plug and new O-ring in the inspection port.

Tightening torque

- 5.9—8.8 N·m {61—89 kgf·cm, 53—77 in·lbf}

6. Stop the engine.

- If there is any malfunction, inspect the following "Possible Cause" according to the condition.

Condition	Possible cause
Lower than specification in R, D positions	• Line pressure control solenoid malfunction • Primary regulator valve malfunction • Oil pump malfunction • Oil leaking from D position or R position hydraulic circuit
Constant pressure without fluctuation in hydraulic pressure to throttle in R, D positions	• Line pressure control solenoid malfunction • Control valve body internal malfunction
Current to throttle does not change in R, D positions	• TCM internal malfunction • Connector malfunction
Hydraulic pressure in R position is not higher than D position	• Primary regulator valve malfunction

Stall Test

1. Perform the "Mechanical System Test Preparation". (See [Mechanical System Test Preparation](#).)
2. Start the engine.
3. Perform the stall test at D position.
 - a. Firmly depress the brake pedal with the left foot.

b. Shift the selector lever to D position.

CAUTION:

- If the accelerator pedal is pressed for longer than 5 s while the brake pedal is pressed, the transaxle could be damaged. Therefore, perform Steps (3)–(4) within 5 s.

4. Shift the selector lever to the D position.

CAUTION:

- If the accelerator pedal is depressed for more than 5 s while the brake pedal is depressed, the transaxle could be damaged. Therefore, perform Steps 5 and 6 within 5 s.

5. Gently depress the accelerator pedal with the right foot.

6. When the engine speed no longer increases, quickly read the engine speed and release the accelerator pedal.

7. Shift the selector lever to the N position and idle the engine for **1 min** or more to cool the ATF.

8. Perform a stall test of the R position in the same manner.

- If there is any malfunction, inspect the following “Possible Cause” according to the condition.

Condition	Possible cause	
Above specification	In D position	• Low line pressure (Line pressure control solenoid malfunction, primary regulator valve malfunction) • Control valve body component malfunction (shift solenoid C hydraulic pressure system) • C1 clutch slipping • One-way clutch malfunction
	In R position	• Low line pressure (Line pressure control solenoid malfunction, primary regulator valve malfunction) • Control valve body component malfunction (shift solenoid E hydraulic pressure system) • C3 clutch malfunction (slipping) • B2 brake malfunction (slipping)
	In R, D positions	• Low line pressure (Line pressure control solenoid malfunction, primary regulator valve malfunction) • Oil pump malfunction • Oil strainer clogging
Below specification		• Engine lack of power • Torque converter one-way clutch slipping

Stall speed

Test condition	Specification (rpm)
R position	2,555
D position	2,637

Time Lag Test

1. Perform the “Mechanical System Test Preparation”. (See [Mechanical System Test Preparation](#).)

2. Start the engine.

3. Perform the time lag test when shifting the selector lever from N position to D position.

a. Shift the selector lever from N position to D position while the brake pedal is depressed.

b. Measure the time it takes from shifting until shock is felt when shifting the selector lever from N position to D position.

4. Perform a time lag test of the N position to R position in the same manner.

- If there is any malfunction, inspect the following “Possible Cause” according to the condition.

Condition		Possible cause
N→D shift	More than specification	• Control valve body malfunction (shift solenoid C hydraulic pressure system) • C1 clutch slipping • One-way clutch malfunction • Oil pump malfunction • Oil strainer clogging
N→R shift	More than specification	• Control valve body malfunction (shift solenoid E hydraulic pressure system) • C3 clutch slipping • B2 brake slipping • Oil pump malfunction • Oil strainer clogging

Time Lag

Test condition	Specification
From N position to D position	1.5 s or less
From N position to R position	