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Model Year Start: 2016	Model: LX570	Prod Date Range: [09/2015 -]
Title: JF2A TRANSFER / 4WD / AWD: TRANSFER ASSEMBLY: INSPECTION; 2016 - 2018 MY LX570 [09/2015 -]		

INSPECTION

PROCEDURE

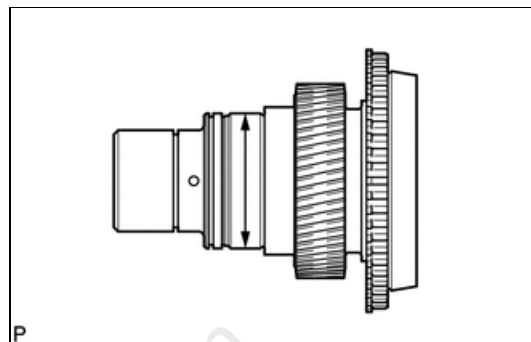
1. INSPECT TRANSFER INPUT SHAFT

- (a) Using a micrometer, measure the diameter of the input shaft journal surface.

Minimum Diameter:

68 mm (2.68 in.)

If the diameter is less than the minimum, replace the input shaft.

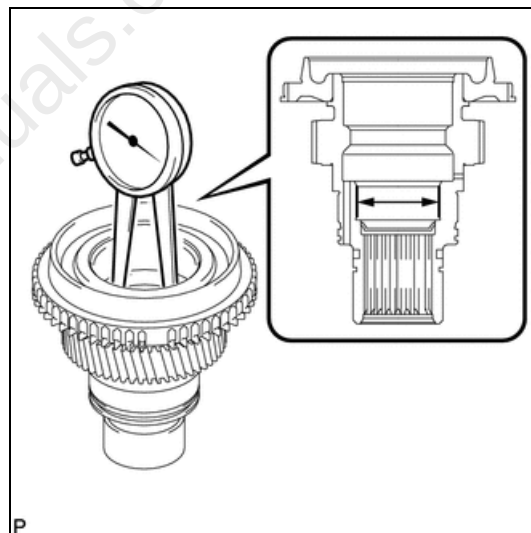


- (b) Using a dial indicator, measure the inside diameter of the input shaft bush.

Maximum Inside Diameter:

46 mm (1.81 in.)

If the inside diameter is more than the maximum, replace the input shaft.



2. INSPECT TRANSFER LOW PLANETARY GEAR ASSEMBLY

- (a) Using a feeler gauge, measure the thrust clearance of the pinion gear.

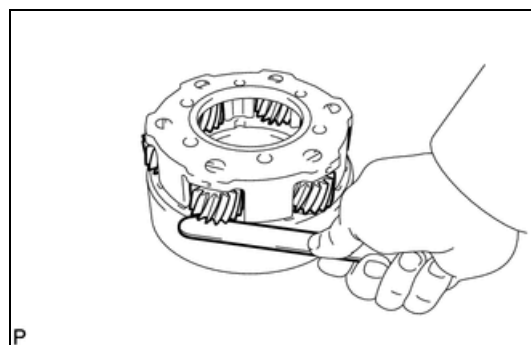
Standard Clearance:

0.11 to 0.85 mm (0.00434 to 0.0334 in.)

Maximum Clearance:

0.85 mm (0.0334 in.)

If the clearance is more than the maximum, replace the low planetary gear assembly.



(b) Using a dial indicator, measure the radial clearance of the pinion gear.

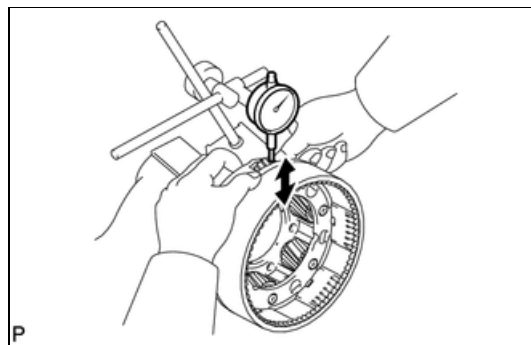
Standard Clearance:

0.01 to 0.04 mm (0.000434 to 0.00150 in.)

Maximum Clearance:

0.04 mm (0.00150 in.)

If the clearance is more than the maximum, replace the low planetary gear assembly.



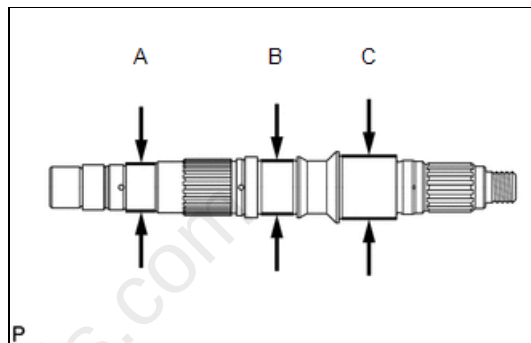
3. INSPECT REAR TRANSFER OUTPUT SHAFT

(a) Using a micrometer, measure the diameter of the output shaft journals.

Minimum Diameter:

JOURNAL	SPECIFIED CONDITION
A	38 mm (1.50 in.)
B	42 mm (1.65 in.)
C	49 mm (1.93 in.)

If the diameter is less than the minimum, replace the output shaft.



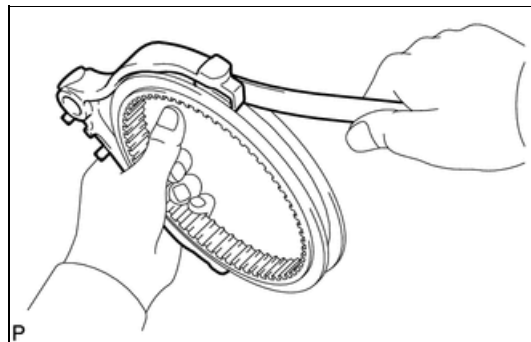
4. INSPECT NO. 1 TRANSFER GEAR SHIFT FORK AND FRONT DRIVE CLUTCH SLEEVE

(a) Using a feeler gauge, measure the clearance between the clutch sleeve and gear shift fork.

Maximum Clearance:

0.8 mm (0.0315 in.)

If the clearance is more than the maximum, replace the clutch sleeve or shift fork.



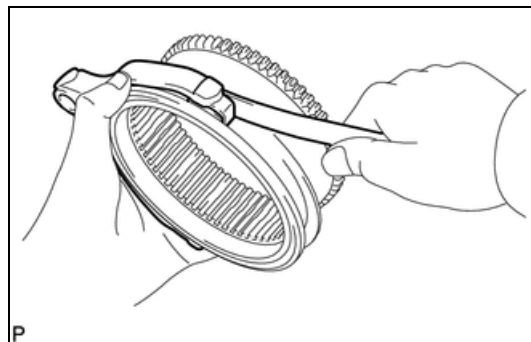
5. INSPECT NO. 2 TRANSFER GEAR SHIFT FORK AND HIGH AND LOW CLUTCH SLEEVE

(a) Using a feeler gauge, measure the clearance between the clutch sleeve and gear shift fork.

Maximum Clearance:

3.15 mm (0.124 in.)

If the clearance is more than the maximum, replace the clutch sleeve or shift fork.



6. INSPECT TRANSFER SHIFT ACTUATOR ASSEMBLY

(a) Check the high-low transfer shift actuator.

(1) Check the high to low switch.

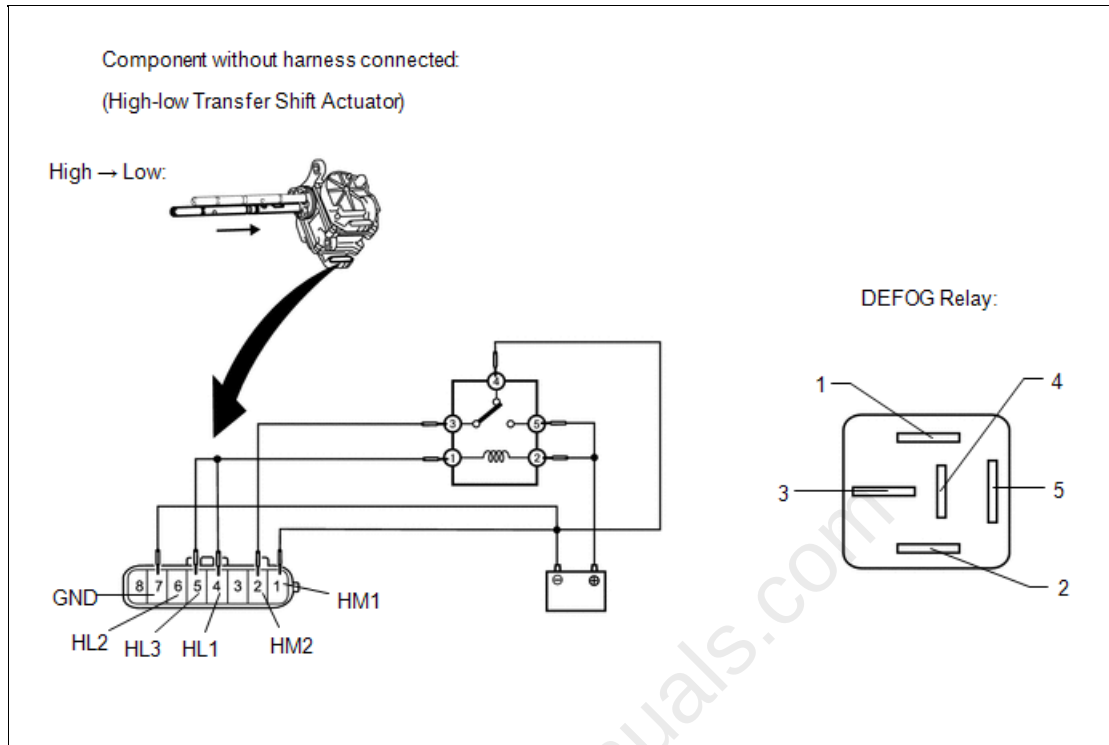
1. Connect lines via a relay as shown in the illustration, and check that the actuator fork moves from the high to low position.

NOTICE:

- Make sure to perform this inspection with the actuator removed from the vehicle. If this inspection is performed with the actuator installed to the vehicle, the actuator will be damaged.
- When inspecting the actuator, make sure to operate it with the lines connected via a relay. If the lines are not connected via a relay and battery voltage is directly applied to the actuator, the actuator will be damaged.

HINT:

When performing the operation described above, use the DEFOG relay.



2. After the high to low switch is complete, check the neutral position detection switch and limit switch.

- a. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
4 (HL1) - 7 (GND)	After high to low switch is complete	10 kΩ or higher
5 (HL3) - 7 (GND)	After high to low switch is complete	10 kΩ or higher
6 (HL2) - 7 (GND)	After high to low switch is complete	Below 1 Ω

If there is a malfunction, replace the transfer shift actuator assembly.

- (2) Check the low to high switch.

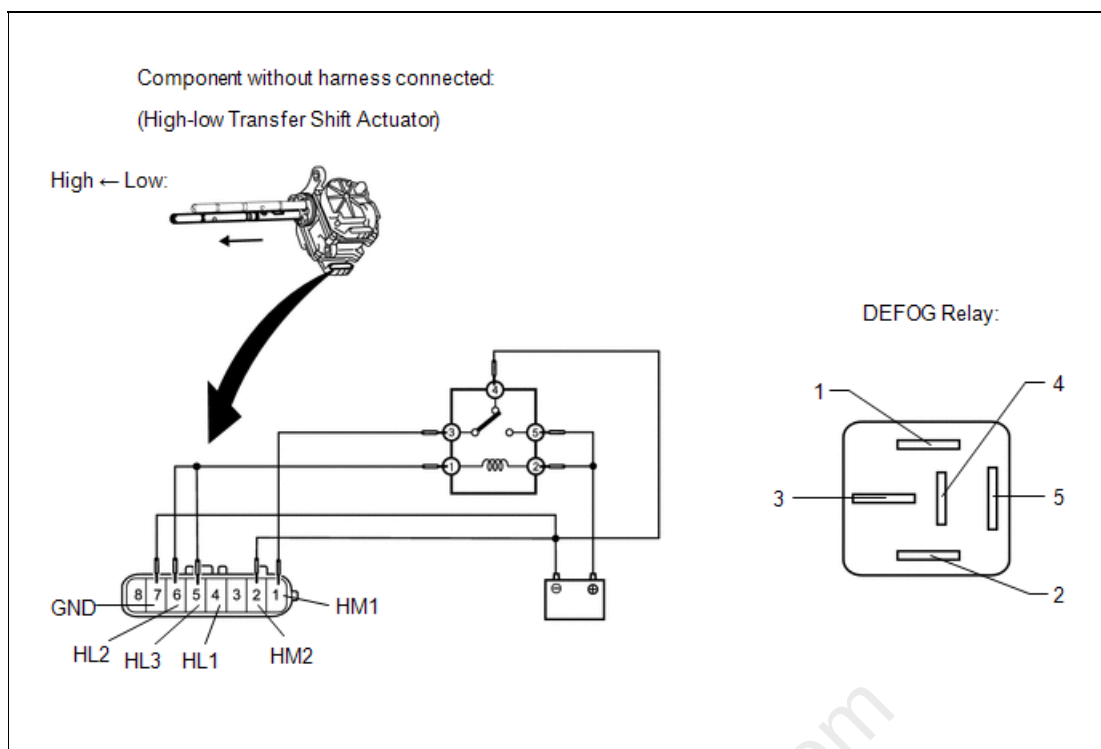
1. Connect lines via a relay as shown in the illustration, and check that the actuator fork moves from the low to high position.

NOTICE:

- Make sure to perform this inspection with the actuator removed from the vehicle. If this inspection is performed with the actuator installed to the vehicle, the actuator will be damaged.
- When inspecting the actuator, make sure to operate it with the lines connected via a relay. If the lines are not connected via a relay and battery voltage is directly applied to the actuator, the actuator will be damaged.

HINT:

When performing the operation described above, use the DEFOG relay.



2. After the low to high switch is complete, check the neutral position detection switch and limit switch.

a. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
4 (HL1) - 7 (GND)	After low to high switch is complete	Below 1 Ω
5 (HL3) - 7 (GND)	After low to high switch is complete	10 k Ω or higher
6 (HL2) - 7 (GND)	After low to high switch is complete	10 k Ω or higher

If there is a malfunction, replace the transfer shift actuator assembly.

(b) Check the center differential lock actuator.

(1) Check the free to lock switch.

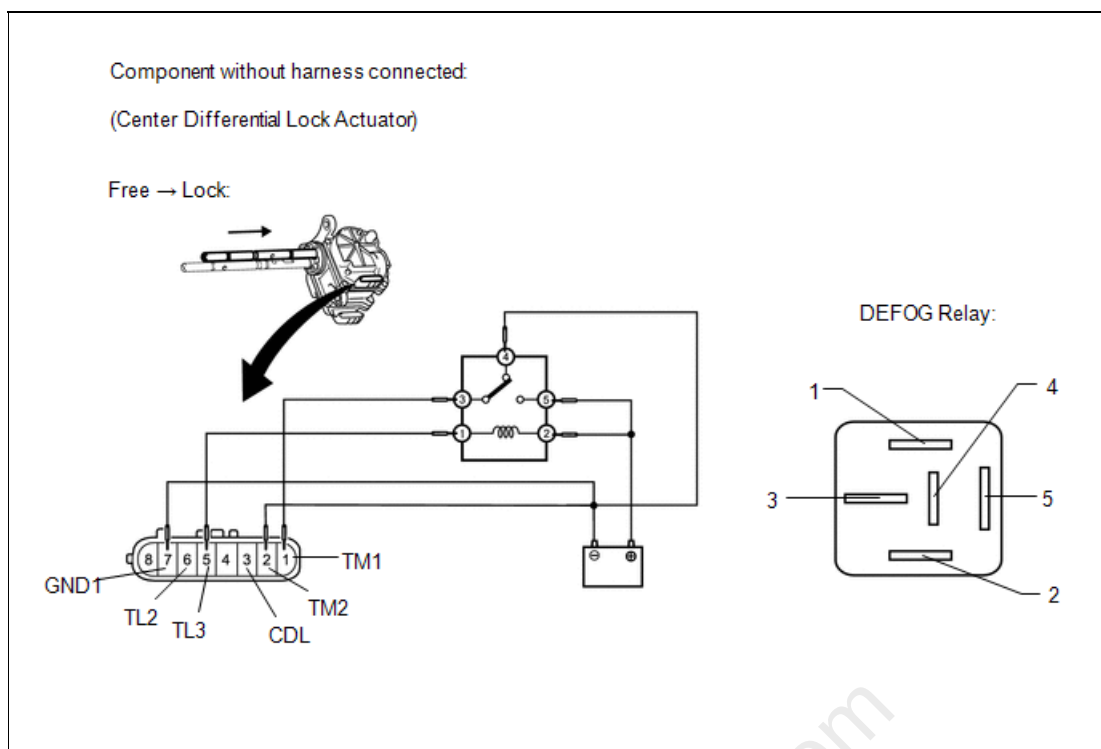
1. Connect lines via a relay as shown in the illustration, and check that the actuator fork moves from the free to lock position.

NOTICE:

- Make sure to perform this inspection with the actuator removed from the vehicle. If this inspection is performed with the actuator installed to the vehicle, the actuator will be damaged.
- When inspecting the actuator, make sure to operate it with the lines connected via a relay. If the lines are not connected via a relay and battery voltage is directly applied to the actuator, the actuator will be damaged.

HINT:

When performing the operation described above, use the DEFOG relay.



2. After the free to lock switch is complete, check the center differential lock detection switch and limit switch.

- a. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
3 (CDL) - 7 (GND1)	After free to lock switch is complete	Below 1 Ω
5 (TL3) - 7 (GND)	After free to lock switch is complete	10 k Ω or higher
6 (TL2) - 7 (GND1)	After free to lock switch is complete	Below 1 Ω

If there is a malfunction, replace the transfer shift actuator assembly.

- (2) Check the lock to free switch.

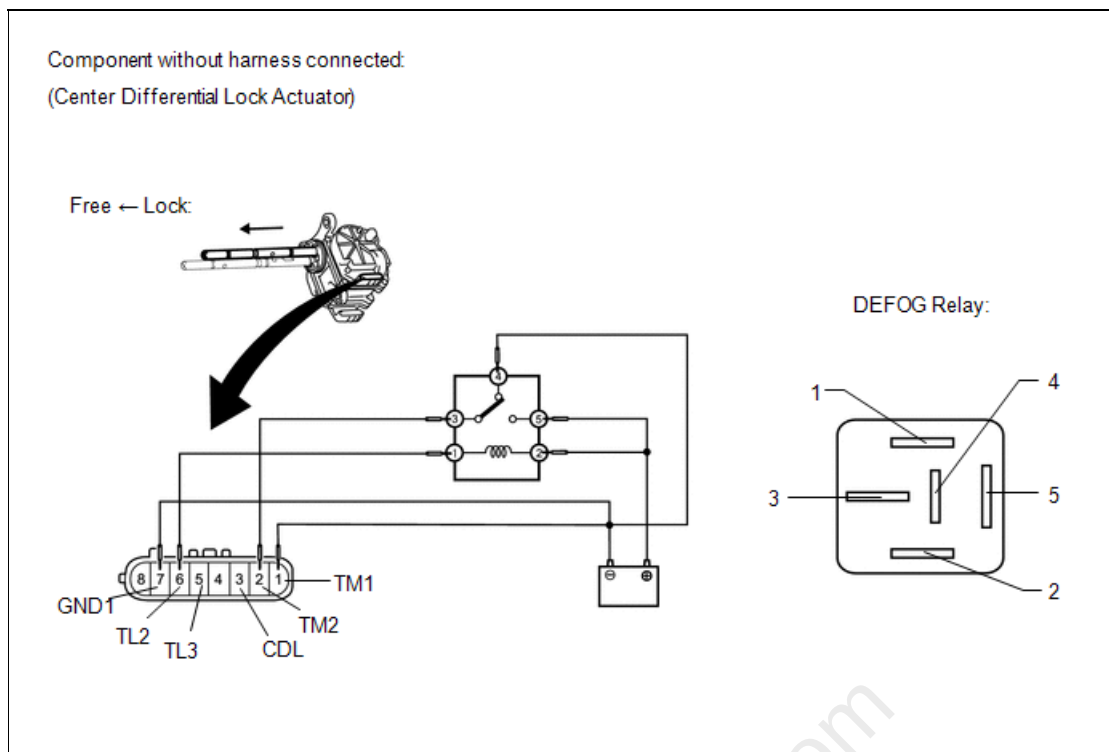
1. Connect lines via a relay as shown in the illustration, and check that the actuator fork moves from the lock to free position.

NOTICE:

- Make sure to perform this inspection with the actuator removed from the vehicle. If this inspection is performed with the actuator installed to the vehicle, the actuator will be damaged.
- When inspecting the actuator, make sure to operate it with the lines connected via a relay. If the lines are not connected via a relay and battery voltage is directly applied to the actuator, the actuator will be damaged.

HINT:

When performing the operation described above, use the DEFOG relay.



2. After the lock to free switch is complete, check the center differential lock detection switch and limit switch.

a. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
3 (CDL) - 7 (GND1)	After lock to free switch is complete	10 kΩ or higher
5 (TL3) - 7 (GND1)	After lock to free switch is complete	Below 1 Ω
6 (TL2) - 7 (GND1)	After lock to free switch is complete	10 kΩ or higher

If there is a malfunction, replace the transfer shift actuator assembly.

(c) w/ Temperature Sensor:

Check the Temperature Sensor.

(1) Measure the resistance according to the value(s) in the table below.

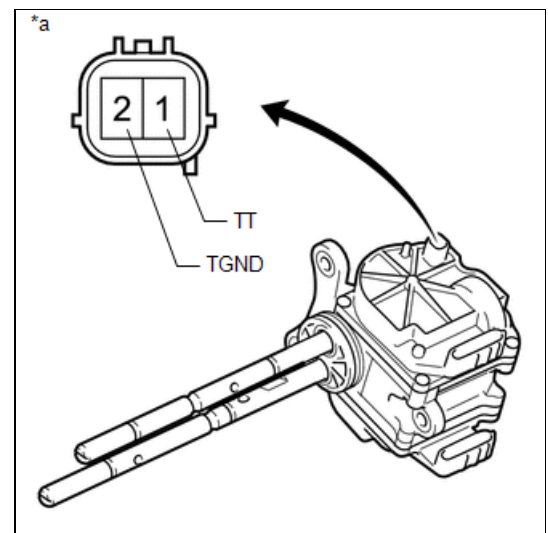
Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 (TT) - Body ground	Always	10 kΩ or higher
2 (TGND) - Body ground	Always	10 kΩ or higher

Text in Illustration

*a	Component without harness connected (Temperature Sensor)
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If the result is not as specified, replace the transfer shift actuator assembly.



(2) While warming the transfer shift actuator assembly, measure the resistance according to the value(s) in the table below.

Standard Resistance :

TESTER CONNECTION	TEMPERATURE	SPECIFIED CONDITION
1 (TT) - 2 (TGND)	10°C (50°F)	3.61 kΩ
	20°C (68°F)	2.38 kΩ

TESTER CONNECTION	TEMPERATURE	SPECIFIED CONDITION
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If the result is not as specified, replace the transfer shift actuator assembly.