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Model Year Start: 2016	Model: LX570	Prod Date Range: [09/2015 -]
Title: JF2A TRANSFER / 4WD / AWD: TRANSFER SYSTEM: DATA LIST / ACTIVE TEST; 2016 - 2018 MY LX570 [09/2015 -]		

DATA LIST / ACTIVE TEST

NOTICE:

In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

HINT:

Using the Techstream to read the Data List allows the values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time.

1. DATA LIST OF 4 WHEEL DRIVE CONTROL ECU

- Turn the engine switch off.
- Connect the Techstream to the DLC3.
- Turn the engine switch on (IG).
- Turn the Techstream on.
- Enter the following menus: Powertrain / Four Wheel Drive / Data List.
- According to the display on the Techstream, read the Data List.

Four Wheel Drive

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
FR Wheel Speed	Front wheel speed sensor RH reading/ Min.: 0.00 km/h (0.00 mph) Max.: 327.67 km/h (203.61 mph)	Vehicle stopped: 0.00 km/h (0.00 mph)	No large fluctuations when driving at a constant speed.
FL Wheel Speed	Front wheel speed sensor LH reading/ Min.: 0.00 km/h (0.00 mph) Max.: 327.67 km/h (203.61 mph)	Vehicle stopped: 0.00 km/h (0.00 mph)	No large fluctuations when driving at a constant speed.
RR Wheel Speed	Rear wheel speed sensor RH reading/ Min.: 0.00 km/h (0.00 mph) Max.: 327.67 km/h (203.61 mph)	Vehicle stopped: 0.00 km/h (0.00 mph)	No large fluctuations when driving at a constant speed.
RL Wheel Speed	Rear wheel speed sensor LH reading/ Min.: 0.00 km/h (0.00 mph) Max.: 327.67 km/h (203.61 mph)	Vehicle stopped: 0.00 km/h (0.00 mph)	No large fluctuations when driving at a constant speed.
Vehicle Speed	Maximum wheel speed sensor reading/ Min.: 0.00 km/h (0.00 mph) Max.: 327.67 km/h (203.61 mph)	Vehicle stopped: 0.00 km/h (0.00 mph)	No large fluctuations when driving at a constant speed.
Transfer Oil Temperature	Transfer actuator shift temperature/ Min.: -56°C (-69°F) Max.: 199°C (390°F)	Displays transfer shift actuator temperature	-
Ambient Temperature	Ambient Temperature/ Min.: -56°C (-69°F) Max.: 199°C (390°F)	Displays ambient temperature	-
Transfer Position Control SW	Transfer position switch (integration control and panel assembly) status/ ON or OFF	ON: L4 OFF: H4	-
Center Differential Lock Control SW	Center differential lock switch (integration control and panel assembly) status/ ON or OFF	ON: Switch pressed and held OFF: Switch not pressed	-
Rear Differential Lock Control SW	-	-	This option is displayed but it is not used.
Center Differential Lock Position SW	Center differential lock detection switch status/ ON or OFF	ON: Switch on (lock) OFF: Switch off (free)	-
Transfer	-	-	This option is displayed but

Neutral Position SW TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Rear Differential Lock Position SW	-	-	It is not used. This option is displayed but it is not used.
IG SW	Engine switch status/ ON or OFF	ON: Engine switch on (IG)	-
Center Differential Lock Limit SW (TL2)	Center differential lock limit switch (TL2) status/ ON or OFF	ON: Switching between free and lock, or set to lock OFF: Set to free	-
Center Differential Lock Limit SW (TL3)	Center differential lock limit switch (TL3) status/ ON or OFF	ON: Set to free or switching between free and lock OFF: Set to lock	-
Rear Differential Lock Limit SW (RLY1)	-	-	This option is displayed but it is not used.
Rear Differential Lock Limit SW (RLY2)	-	-	This option is displayed but it is not used.
H-L Limit SW (HL1)	High-low transfer limit switch (HL1) status/ ON or OFF	ON: 4H OFF: 4L	Switches from on to off: While switching from 4H to 4L Switches from off to on: While switching from 4L to 4H
H-L Limit SW (HL2)	High-low transfer limit switch (HL2) status/ ON or OFF	ON: 4L OFF: 4H	Switches from off to on: While switching from 4H to 4L Switches from on to off: While switching from 4L to 4H
H-L Limit SW (HL3)	High-low transfer limit switch (HL3) status/ ON or OFF	ON: While switching between 4H and 4L OFF: Set to 4H or 4L	-
Clutch SW	-	-	This option is displayed but it is not used.
Shift SW Status (N Range)	Shift lever neutral condition/ ON or OFF	ON: Shift lever in N OFF: Shift lever not in N	-
Engine Fail Signal	Engine control system malfunction status/ Normal or Abnormal	Normal: Engine control system normal	Abnormal: Engine control system malfunctioning
Shift SW Status (P Range)	Shift lever P condition/ ON or OFF	ON: Shift lever in P OFF: Shift lever not in P	-
Stop Light SW	Stop light switch assembly condition/ ON or OFF	ON: Brake pedal depressed OFF: Brake pedal released	-
VSC System	VSC system availability/ Without or With	With: w/ VSC	-
VSC Fail Signal	VSC system malfunction status/ Normal or Abnormal	Normal: VSC system normal	Abnormal: VSC system malfunctioning
Center Differential Lock Shift Motor Target Current	Center differential lock shift motor driver circuit target current value/ Min.: 0.0 A Max.: 25.5 A	Normal: 0.0 A Switching: 0.0 to 25.5 A	-
H-L Shift	High-low transfer shift motor drive circuit target current value/ Min.: 0.0 A	Normal: 0.0 A	

Motor Target Current TESTER DISPLAY	Max.: 25.5 A MEASUREMENT ITEM/RANGE	Switching: 0.0 to 25.5 A NORMAL CONDITION	DIAGNOSTIC NOTE
Rear Differential Lock Shift Motor Target Current	-	-	This option is displayed but it is not used.
Motor Actual Current	Motor drive circuit actual current value/ Min.: 0.0 A Max.: 25.5 A	Normal: 0.0 A Switching: 0.0 to 25.5 A	-
Motor Energization Status Signal	Motor power signal status/ ON or OFF	ON: Power supplied to motor OFF: Power not supplied to motor	-
C/C Cancel Request	Cruise control cancellation signal status/ ON or OFF	ON: Cruise control cancellation requested OFF: Cruise control cancellation not requested	-
L4 Position Signal	L4 status signal/ ON or OFF	ON: L4 state OFF: State other than L4	-
Rear Differential Lock Position Signal	-	-	This option is displayed but it is not used.
H-L Actuator Fail Signal	High-low transfer actuator malfunction status/ Normal or Abnormal	Normal: High-low transfer actuator normal	Abnormal: High-low transfer actuator malfunctioning
Center Differential Lock Position Signal	Center differential lock condition signal/ ON or OFF	ON: Lock condition OFF: Condition other than lock	-
Transfer Neutral Position Signal	-	-	This option is displayed but it is not used.
Buzzer Request	Buzzer sounding request/ Sound, Sound(3 times), No Sound	No Sound: Does not sound	Sound(3 times): During a malfunction*1
L4 Indicator Request	4LO indicator light request/ Blink3, Blink1, ON, OFF	• Blink3: Indicator light rapidly blinks • Blink1: Indicator light blinks • ON: Indicator light illuminates • OFF: Indicator light turns off	• Blinking: 0.5 second intervals (0.5 seconds on and 0.5 seconds off) • Rapidly blinking: 0.25 second intervals (0.25 seconds on and 0.25 seconds off)
Rear Differential Lock Indicator Request	-	-	This option is displayed but it is not used.
Center Differential Lock Indicator Request	Center differential lock indicator light request/ Blink3, Blink2, Blink1, ON or OFF	• Blink3: Indicator light rapidly blinks • Blink2: Indicator light blinks 3 times • Blink1: Indicator light blinks • ON: Indicator light	• Blinking: 0.5 second intervals (0.5 seconds on and 0.5 seconds off) • Rapidly blinking: 0.25 second intervals (0.25 seconds on

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION illuminates • OFF: Indicator light turns off	DIAGNOSTIC NOTE and 0.25 seconds off)
IG Voltage	IG monitor voltage/ Min.: 0.0 V Max.: 25.5 V	11 to 14 V: Engine switch on (IG)	-
Motor Voltage	Motor driver circuit monitor voltage/ Min.: 0.0 V Max.: 25.5 V	Normal: 1.5 to 12.0 V Switching: 3.5 V	-
Mode Status	Mode transition condition/ Initial Control, Particular Control at Start-Up, Shift Setting Control at Start-Up, H4F, H4L, L4F, L4L, L4LL*2, H4F->H4L, H4L->H4F, L4F->L4L, L4L->L4F, H4F->L4F, L4F-> H4F, H4L->L4L, L4L->H4L, L4L->L4LL*2, L4LL->L4L*2, S04, S05, S06, S07, S08, S09, S10, B1, B2, B3, B4, HF1	Transition condition of the high-low transfer actuator and center differential lock actuator	HINT: - S04 to S10: Control while switching limited - B1 to B4: During return control - HF1: During fuel control
Motor Relay (RY1-1)	Internal ECU relay (RY1-1) condition*3/ ON or OFF	ON: Relay on OFF: Relay off	-
Motor Relay (RY1-2)	Internal ECU relay (RY1-2) condition*3/ ON or OFF	ON: Relay on OFF: Relay off	-
Motor Relay (RY2-1)	Internal ECU relay (RY2-1) condition*3/ ON or OFF	ON: Relay on OFF: Relay off	-
Motor Relay (RY2-2)	Internal ECU relay (RY2-2) condition*3/ ON or OFF	ON: Relay on OFF: Relay off	-
AT/MT	AT or MT identification/ AT or MT	AT: Automatic transmission	-
CAN Signal Invalid Status by IG Voltage Low	Whether CAN communication data invalid condition due to IG voltage drop/ Valid or Inval	Valid: IG voltage 10 V or higher	Inval: IG voltage below 10 V
SW Input Invalid Status by IG Voltage Low	Input invalid condition of switches inside actuator due to IG voltage drop/ Valid or Inval	Valid: IG voltage 7.4 V or higher	Inval: IG voltage below 7.4 V
Transfer Shift Invalid Status by IG Voltage Low	Transfer shift actuator switching operation invalid condition due to IG voltage drop/ Valid or Inval	Valid: IG voltage 10 V or higher	Inval: IG voltage below 10 V
Number of DTC	Number of DTCs stored/ Min.: 0 Max.: 255	0	-

*1: For details regarding malfunctions, refer to the buzzer sounding conditions of the diagnosis system (See page [INFO](#)).

*2: Item not equipped, therefore not displayed

*3: For the position of the relay, refer to the P17A9 wiring diagram (See page [INFO](#)).