

Subaru Select Monitor

CONTINUOUSLY VARIABLE TRANSMISSION (DIAGNOSTICS)

6. Subaru Select Monitor

A: OPERATION

1. HOW TO USE SUBARU SELECT MONITOR

For detailed operation procedures, refer to “PC application help for Subaru Select Monitor”.

2. READ CURRENT DATA

For detailed operation procedures, refer to “PC application help for Subaru Select Monitor”.

Display	Contents	Unit of measure
Engine Speed	Engine speed signal transmitted from the ECM. Calculated from crankshaft position sensor signal. TCM input value.	rpm
Turbine Speed	Turbine rotation speed calculated by the TCM using signals from the turbine speed sensor.	rpm
Accel opening angle	Accelerator pedal opening angle transmitted from the ECM. Value calculated from the accelerator pedal position sensor output. TCM input value.	%
Front Wheel Speed	Front wheel speed calculated from the output clutch output axis rotation speed.	km/h or MPH
ATF Temp.	Value calculated from the ATF temperature sensor output value. ATF temperature of the control valve section.	°C or °F
Lock Up Duty Ratio	Lock-up duty solenoid control duty ratio. TCM output value.	%
Transfer Duty Ratio	Transfer duty solenoid control duty ratio. TCM output value.	%
Actual Gear Ratio	Current gear ratio (rotation ratio of the pulley) calculated from the primary pulley axis rotation speed and the secondary pulley axis rotation speed.	—
Secondary Rev Speed	Secondary pulley rotation speed calculated by the TCM using signals from the secondary speed sensor.	rpm
Front Wheel Speed	Front wheel rotation speed calculated from the output clutch output axis rotation speed.	rpm
Stop light SW	Stop light SW signal. Set to ON when the brake pedal is depressed. TCM input value.	ON or OFF
Secondary Set Current	Value of the indicator current for controlling the secondary solenoid calculated by the TCM.	mA
Secondary Actual Current	Actual current value of the secondary solenoid. TCM output value.	mA
F&R Linear Solenoid Set Current	Value of the indicator current for controlling the F&R linear solenoid calculated by the TCM.	mA
F&R Linear Solenoid Actual Current	Actual current value of the F&R linear solenoid. TCM output value.	mA
ECU ACC	Battery voltage. TCM input value.	V
Primary UP Duty	Primary UP solenoid control duty ratio. TCM output value.	%
Primary DOWN Duty	Primary DOWN solenoid control duty ratio. TCM output value.	%
P Range	Inhibitor SW signal. Set to ON when the select lever is in P range. TCM input value.	ON or OFF
R Range	Inhibitor SW signal. Set to ON when the select lever is in R range. TCM input value.	ON or OFF
N Range	Inhibitor SW signal. Set to ON when the select lever is in N range. TCM input value.	ON or OFF
D Range	Inhibitor SW signal. Set to ON when the select lever is in D range. TCM input value.	ON or OFF
Tiptronic Mode Switch	Manual mode SW signal. Set to ON when the select lever is in the manual shift gate. TCM input value.	ON or OFF
Up Switch	Status of the paddle shift up SW. Set to ON when the plus (+) side of the steering wheel paddle shift is pulled. TCM input value.	ON or OFF
Down Switch	Status of the paddle shift down SW. Set to ON when the minus (–) side of the steering wheel paddle shift is pulled. TCM input value.	ON or OFF

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Display	Contents	Unit of measure
Emphasized idle stop request	Permission status of EV traveling and Auto Start Stop are displayed as TCM requirement.	ON or OFF
secondary pressure sensor voltage.	Voltage value after an analog/digital conversion is done inside the TCM using the signal input from the secondary pressure sensor to the TCM. TCM input value.	V
ATF Temp sensor voltage.	Sensor voltage value input from the ATF temperature sensor to the TCM. TCM input value.	V
Diagnosis Lamp	Transmission failure detection status. Set to ON when a failure is detected. AT oil temperature warning light blinks at 2 Hz. TCM output value.	ON or OFF
ATF Temperature Lamp	ATF high temperature detection status. Set to ON when high temperature is detected. AT oil temperature warning light illuminates. TCM output value.	ON or OFF
AT learning	AT initial learning completion status. AT oil temperature warning light blinks at 4 Hz when the learning is not completed. TCM output value.	Completed or Not Completed
Ignition SW ON Count	Number of times the ignition switch is turned ON since the vehicle was manufactured.	times
Count	Shows whether the elapsed time counter after turning ON the ignition switch is synchronized with the integrated unit (master unit) or an original counter. "Common" means the integrated unit, and "Originally" means that the original counter is used.	—
Time Count	Shows the elapsed time after turning ON the ignition switch.	ms
Actual Secondary Pressure	Pressure value applied to the secondary pulley cylinder (line pressure) detected by the secondary pressure sensor.	MPa
N/P Range Signal	Inhibitor SW signal. Set to ON when the select lever is in P range or in N range. TCM input value.	ON or OFF
R Range Signal2	Inhibitor SW signal. Set to ON when the select lever is in R range. TCM input value.	ON or OFF
System Voltage	Power supply voltage supplied to the backup power supply (≈ battery voltage).	V
Electric Fluid Pump Target RPM	Rotation speed indication to the electric oil pump inverter calculated by the TCM. TCM output value.	rpm
Electric Fluid Pump Actual RPM	Actual rotation speed transmitted from the electric oil pump inverter. TCM input value.	rpm
Electric Fluid Pump Actual Current	Actual current value transmitted from the electric oil pump inverter. TCM input value.	A
Output Clutch Linear Solenoid Set Current	Value of the indicator current calculated by the TCM for controlling the output clutch linear solenoid.	mA
Output Clutch Linear Solenoid Actual Current	Actual current value of the output clutch linear solenoid. TCM output value.	mA
Primary Rev Speed	Rotation speed signal of the primary axis resolver transmitted from the drive motor. TCM input value.	rpm

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3. READ FREEZE FRAME DATA

For detailed operation procedures, refer to “PC application help for Subaru Select Monitor”.

Display	Contents	Unit of measure
Engine Speed	Engine speed signal transmitted from the ECM. Calculated from crankshaft position sensor signal. TCM input value.	rpm
Turbine Speed	Turbine rotation speed calculated by the TCM using signals from the turbine speed sensor.	rpm
Accel opening angle	Accelerator pedal opening angle transmitted from the ECM. Value calculated from the accelerator pedal position sensor output. TCM input value.	%
Front Wheel Speed	Front wheel speed calculated from the output clutch output axis rotation speed.	km/h or MPH
ATF Temp.	Value calculated from the ATF temperature sensor output value. ATF temperature of the control valve section.	°C or °F
Lock Up Duty Ratio	Lock-up duty solenoid control duty ratio. TCM output value.	%
Transfer Duty Ratio	Transfer duty solenoid control duty ratio. TCM output value.	%
Actual Gear Ratio	Current gear ratio (rotation ratio of the pulley) calculated from the primary pulley axis rotation speed and the secondary pulley axis rotation speed.	—
Secondary Rev Speed	Secondary pulley rotation speed calculated by the TCM using signals from the secondary speed sensor.	rpm
Front Wheel Speed	Front wheel rotation speed calculated from the output clutch output axis rotation speed.	rpm
Stop light SW	Stop light SW signal. Set to ON when the brake pedal is depressed. TCM input value.	ON or OFF
Secondary Set Current	Value of the indicator current for controlling the secondary solenoid calculated by the TCM.	mA
Secondary Actual Current	Actual current value of the secondary solenoid. TCM output value.	mA
F&R Linear Solenoid Set Current	Value of the indicator current for controlling the F&R linear solenoid calculated by the TCM.	mA
F&R Linear Solenoid Actual Current	Actual current value of the F&R linear solenoid. TCM output value.	mA
ECU ACC	Battery voltage. TCM input value.	V
Primary UP Duty	Primary UP solenoid control duty ratio. TCM output value.	%
Primary DOWN Duty	Primary DOWN solenoid control duty ratio. TCM output value.	%
P Range	Inhibitor SW signal. Set to ON when the select lever is in P range. TCM input value.	ON or OFF
R Range	Inhibitor SW signal. Set to ON when the select lever is in R range. TCM input value.	ON or OFF
N Range	Inhibitor SW signal. Set to ON when the select lever is in N range. TCM input value.	ON or OFF
D Range	Inhibitor SW signal. Set to ON when the select lever is in D range. TCM input value.	ON or OFF
Tiptronic Mode Switch	Manual mode SW signal. Set to ON when the select lever is in the manual shift gate. TCM input value.	ON or OFF
Up Switch	Status of the paddle shift up SW. Set to ON when the plus (+) side of the steering wheel paddle shift is pulled. TCM input value.	ON or OFF
Down Switch	Status of the paddle shift down SW. Set to ON when the minus (–) side of the steering wheel paddle shift is pulled. TCM input value.	ON or OFF
Emphasized idle stop request	Permission status of EV traveling and Auto Start Stop are displayed as TCM requirement.	ON or OFF
secondary pressure sensor voltage.	Voltage value after an analog/digital conversion is done inside the TCM using the signal input from the secondary pressure sensor to the TCM. TCM input value.	V
ATF Temp sensor voltage.	Sensor voltage value input from the ATF temperature sensor to the TCM. TCM input value.	V

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Display	Contents	Unit of measure
Diagnosis Lamp	Transmission failure detection status. Set to ON when a failure is detected. AT oil temperature warning light blinks at 2 Hz. TCM output value.	ON or OFF
ATF Temperature Lamp	ATF high temperature detection status. Set to ON when high temperature is detected. AT oil temperature warning light illuminates. TCM output value.	ON or OFF
Ignition SW ON Count	Number of times the ignition switch is turned ON since the vehicle was manufactured.	times
Count	Shows whether the elapsed time counter after turning ON the ignition switch is synchronized with the integrated unit (master unit) or an original counter. "Common" means the integrated unit, and "Originally" means that the original counter is used.	—
Time Count	Shows the elapsed time after turning ON the ignition switch.	ms
Actual Secondary Pressure	Pressure value applied to the secondary pulley cylinder (line pressure) detected by the secondary pressure sensor.	MPa
N/P Range Signal	Inhibitor SW signal. Set to ON when the select lever is in P range or in N range. TCM input value.	ON or OFF
R Range Signal2	Inhibitor SW signal. Set to ON when the select lever is in R range. TCM input value.	ON or OFF
System Voltage	Power supply voltage supplied to the backup power supply (\approx battery voltage).	V
Electric Fluid Pump Target RPM	Rotation speed indication to the electric oil pump inverter calculated by the TCM. TCM output value.	rpm
Electric Fluid Pump Actual RPM	Actual rotation speed transmitted from the electric oil pump inverter. TCM input value.	rpm
Electric Fluid Pump Actual Current	Actual current value transmitted from the electric oil pump inverter. TCM input value.	A
Output Clutch Linear Solenoid Set Current	Value of the indicator current calculated by the TCM for controlling the output clutch linear solenoid.	mA
Output Clutch Linear Solenoid Actual Current	Actual current value of the output clutch linear solenoid. TCM output value.	mA
Primary Rev Speed	Rotation speed signal of the primary axis resolver transmitted from the drive motor. TCM input value.	rpm