

307-01 Automatic Transmission - 10-Speed Automatic Transmission - 10R80  
 Diagnosis and Testing

2019 Ranger

Procedure revision date: 11/1/2018

### Parameter Identification (PID) Chart

#### Diagnostic PID Chart

| PID Acronym    | PID Name   | Description   |
|----------------|--|---|
| APP            | <u>APP</u> sensor  | <u>APP</u>  |
| APP1           | <u>APP</u> sensor 1                                      | <u>APP</u> 1  |
| AST            | Time Since Start   | Time (in seconds) since the vehicle was started             |
| CLRDIST        | Distance since <u>DTC</u> cleared                        | Distance driven since <u>PCM DTCs</u> were cleared          |
| ECT TCM        | <u>ECT TCM</u>   | Engine coolant temperature data provided to the <u>TCM</u>  |
| ENGLOAD        | Engine Load  | Engine load calculated by <u>PCM</u>                        |
| ETC_ACT        | Electronic Throttle Control Actual                       | Electronic Throttle Control Actual calculated by <u>PCM</u> |
| FOOT_BRAKE     | Foot Brake - Foot brake state used by strategy           | Foot brake state used by strategy calculated by <u>PCM</u>  |
| GEAR_CMD       | Gear Commanded by Module                                 | <u>PCM</u> commanded transmission gear                      |
| GEAR_ENGAGED   | Transmission Gear Engaged                                | Transmission Gear Engaged                                   |
| GEAR_OSC#      | Gear Commanded by Output State Control                   | Output state control commanded gear                         |
| ISS_A_QF       | Transmission Input Shaft Speed Sensor -A- Quality Factor | Transmission Input Shaft Speed Sensor -A- Quality Factor    |
| ISS_A_RAW      | Intermediate Speed -A- Raw                               | Intermediate Speed -A- Raw                                  |
| ISS_B_RAW      | Intermediate Shaft Speed -B- Raw                         | Intermediate Shaft Speed -B- Raw                            |
| ISS_B_QF       | Transmission Input Shaft Speed Sensor -B- Quality Factor | Transmission Input Shaft Speed Sensor -B- Quality Factor    |
| LINEDSD#       | Line Pressure Control Desired                            | Commanded line pressure                                     |
| MIL_DIS        | The distance travelled since the (MIL) was activated     | The distance travelled since the <u>MIL</u> was activated   |
| OSS_QF         | Transmission Output Shaft Speed Sensor Quality Factor    | Fault status for the <u>OSS</u> sensor                      |
| OSS_RAW        | Output Shaft Speed - Raw                                 | Actual speed of the <u>OSS</u> sensor (rpm)                 |
| PCA            | Pressure Control Solenoid A                              | <u>LPC</u>  |
| PCA AMP#       | Pressure Control Solenoid A                              | <u>LPC</u>  |
| PCA_F          | Pressure Control Solenoid A Status                       | <u>LPC</u>  |
| PWRT_FUNCMON_A | Powertrain Secondary Monitor/Performance Fault A         | Powertrain Secondary Monitor/Performance Fault A            |

|                    |   |   |
|--------------------|---|---|
| PWRT_FUNCMON_B     | Powertrain Secondary Monitor/Performance Fault A  | Powertrain Secondary Monitor/Performance Fault A  |
| REALTIME           | Total time (ECU) has been active  | ECU Time running  |
| RPM_TCM            | Engine Revolutions Per Minute   | Engine rpm input to <u>TCM</u>  |
| SHFT_DROP          | Shift RPM Drop in Input Shaft Speed Below Expected  | Shift rpm drop in input shaft speed below expected  |
| SHFT_FLRE          | Shift RPM Rise in Input Shaft Speed Above Expected  | Shift rpm rise in input shaft speed above expected  |
| SHFT_ID            | Shift Identification of Shift (PID)s Lag, Time, Flare and Drop  | Shift identification of shift <u>PIDs</u> lag, time, flare and drop   |
| SHFT_LAG           | Shift Time Elapsed From 10% to 90% of Complete  | Actual time during shift between 10% and 90% complete   |
| SHFT_TIME          | Shift Time Elapsed From Commanded to 10% Complete   | Shift time 0% to 10% complete   |
| SNOWPLW_CFG        | Snowplow as configured in the (PCM).  | Snowplow as configured in the (PCM).  |
| SS_ABS_TC_IN       | (Stop-Start) Antilock Brake And Traction Control Summary  | (Stop-Start) Antilock Brake And Traction Control Summary  |
| SS_CONTROL_STATE   | (Stop-Start) Main Control State Machine   | (Stop-Start) Main Control State Machine   |
| SS_CTRL_CRANK_CMD  | (Stop-Start) Main Control Crank Command And Hardware Feedback   | (Stop-Start) Main Control Crank Command And Hardware Feedback   |
| SS_HUMAN_INPUT     | (Stop-Start) Monitor Human Input Summary Including Accelerator, Brake, Clutch, Shift Input, Or Cruise Control | (Stop-Start) Monitor Human Input Summary Including Accelerator, Brake, Clutch, Shift Input, Or Cruise Control |
| SS_MON_STATE_TIMER | (Stop-Start) Monitor State Machine Transition Timer   | (Stop-Start) Monitor State Machine Transition Timer   |
| SS_MONITOR_STATE   | (Stop-Start) Monitor State Machine  | (Stop-Start) Monitor State Machine  |
| SS_SHIFTER_IN      | (Stop-Start) Shift Lever Position Input   | (Stop-Start) Vehicle Speed and Powertrain Shaft Speeds Summary  |
| SS_SPEED_INPUT     | (Stop-Start) Vehicle Speed and Powertrain Shaft Speeds Summary  | (Stop-Start) Vehicle Speed and Powertrain Shaft Speeds Summary  |
| SS_STRTR_HEAT      | (Start-Stop) Starter Motor Heat State   | (Start-Stop) Starter Motor Heat State   |
| SSPCA              | Shift Solenoid Pressure Control A   | Commanded pressure for the Shift Solenoid Pressure Control A (SSPCA)/CB1234                                   |
| SSA_AMP #          | Shift Solenoid Pressure Control A   | Commanded current for the Shift Solenoid Pressure Control A (SSPCA)/CB1234                                    |
| SSPCA_F            | (SSPCA) Status  | Fault status for the Shift Solenoid Pressure Control A (SSPCA)/CB1234   |
| SSPCB              | Shift Solenoid Pressure Control B   | Commanded pressure for the Shift Solenoid Pressure Control B (SSPCB)/C35R                                     |
| SSB_AMP            | Shift Solenoid Pressure Control B   | Commanded current for the Shift Solenoid Pressure Control B   |

|            |  |   |
|------------|--|---|
|            |  | (SSPCB)/C35R  |
| SSPCB_F    | (SSPCB) Status                                 | Fault status for the Shift Solenoid Pressure Control B (SSPCB)/C35R                     |
| SSPCC      | Shift Solenoid Pressure Control C              | Commanded pressure for the Shift Solenoid Pressure Control C (SSPCC)/CB26               |
| SSC_AMP    | Shift Solenoid Pressure Control C              | Commanded current for the Shift Solenoid Pressure Control C (SSPCC)/CB26                |
| SSPCC_F    | (SSPCC) Status                                 | Fault status for the Shift Solenoid Pressure Control C (SSPCC)/CB26                     |
| SSPCD      | Shift Solenoid Pressure Control D              | Commanded pressure for the Shift Solenoid Pressure Control D (SSPCD)/CBLR, C456         |
| SSD_AMP    | Shift Solenoid Pressure Control D              | Commanded current for the Shift Solenoid Pressure Control D (SSPCD)/CBLR, C456          |
| SSPCD_F    | (SSPCD) Status                                 | Fault status for the Shift Solenoid Pressure Control D (SSPCD)/CBLR, C456               |
| SSPCE      | Shift Solenoid Pressure Control E              | Commanded pressure for the Shift Solenoid Pressure Control E (SSPCE)/CBLR, C456         |
| SSE_AMP    | Shift Solenoid Pressure Control E              | Commanded current for the Shift Solenoid Pressure Control E (SSPCE)/CBLR, C456          |
| SSPCE_F    | (SSPCE) Status                                 | Fault status for the Shift Solenoid Pressure Control E (SSPCE)/CBLR, C456               |
| SST_D      | SelectShift™ Transmission - Down Switch Input  | SelectShift™ transmission-down switch input   |
| SST_U      | SelectShift™ Transmission - Up Switch Input    | SelectShift™ transmission-up switch input   |
| TCC AMP    | Converter Pressure Control                     | Commanded current for the <u>TCC</u>  |
| TC_SLIPACT | Torque Converter Slip Actual                   | Actual difference between engine speed and turbine speed, measured in rpm               |
| TC_SLIPDSD | Torque Converter Slip Desired                  | <u>PCM</u> commanded difference between engine speed and turbine speed, measured in rpm |
| TCC        | Torque Converter Clutch Solenoid               | Commanded pressure for the <u>TCC</u>   |
| TCC_F      | Torque Converter Clutch Pressure Control Fault | Fault status for the <u>TCC</u>   |
| TCC_OSC    | Output State Control of Torque Converter       | Output state control commanded pressure to the <u>TCC</u>                               |
| TCC_RAT    | Torque Slip Ratio                              | Actual speed ratio of torque converter (1.0 = fully engaged)                            |

|              |  |   |
|--------------|--|---|
| TCS_DEPRES   | Transmission Control Switch Pressed            | <u>TCS</u> status                               |
| TCS_STATE    | Transmission Control Switch Requested State    | <u>TCS</u> status                               |
| TFT          | Transmission Fluid Temperature                 | <u>TFT</u>                                      |
| TFT_F        | Transmission Fluid Temperature Status          | Fault status for <u>TFT</u> sensor              |
| TFTV         | Transmission Fluid Temperature                 | <u>TFT</u> voltage                              |
| TR           | Transmission Range                             | <u>TR</u>                                       |
| TR_CRANK     | Transmission Range Input Allowing Engine Start | <u>TR</u>                                       |
| TR_F         | Transmission Range Status                      | Fault status for <u>TR</u> sensor               |
| TRAN_RAT     | Gear Ratio Measured                            | Actual transmission gear ratio                  |
| TRANS_VOLT_A | Transmission Supply Voltage Control State      | Transmission supply voltage                     |
| TRO_N_F      | Neutral Output Status                          | Transmission neutral output status              |
| TRO_P_F      | Park Output Status                             | Transmission park output status                 |
| TSS_F        | Turbine Shaft Speed Reliable                   | Fault status of the <u>TSS</u> sensor (rpm)     |
| TSS_RAW      | Unfiltered Turbine Shaft Speed                 | Actual speed of the <u>TSS</u> sensor (rpm)     |
| VPWR_PCM     | Module supply voltage                          | <u>PCM</u> supply voltage                       |
| VSS          | Vehicle Speed                                  | Vehicle Speed                                   |
| VSS_HR       | Vehicle Speed High Resolution                  | Vehicle Speed High Resolution                   |
| WARMUPS      | Number Of Warm-ups Since (DTCs) Cleared        | Number Of Warm-ups Since (DTCs) Cleared counter |

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