HYUNDAI NEW THINKING. NEW POSSIBILITIES.	GROUP	NUMBER
Technical Service Bulletin	**AUTOMATIC TRANSMISSION**	**12-AT-012**
	DATE	MODEL
	MARCH 2012	**Santa Fe, Tucson, Sonata, Elantra, Accent Azera**

SUBJECT: AUTOMATIC TRANSAXLE HARSH AND/OR DELAYED SHIFT – GDS ANALYSIS

This TSB supersedes TSB 10-AT-006 to add 2011~12 vehicles.

Description: If you are servicing a 6-speed automatic transaxle with a harsh and/or delayed shift, follow the Service Procedure shown below.

Applicable Vehicles: 2010~ Santa Fe (CM) and Tucson (LM), 2011~ Sonata (YF) GDI, Sonata (YF) HEV, Elantra (UD/MD) and Azera (TG/HG), 2012~ Accent (RB), 2013~ Elantra Touring

WARRANTY INFORMATION: Normal warranty applies

SERVICE PROCEDURE:

1. Attach the GDS and check for Diagnostic Trouble Codes in both the "Engine" and "Automatic Transaxle" menu. If DTCs are found, repair according to the appropriate TSB or shop manual.

2. Check the ATF level when the engine is idling in "P" according to TSB 11-AT-004. Adjust the ATF level as needed using SPH-IV ATF.

★ NOTE

Ask an assistant to drive the vehicle as you monitor the GDS.

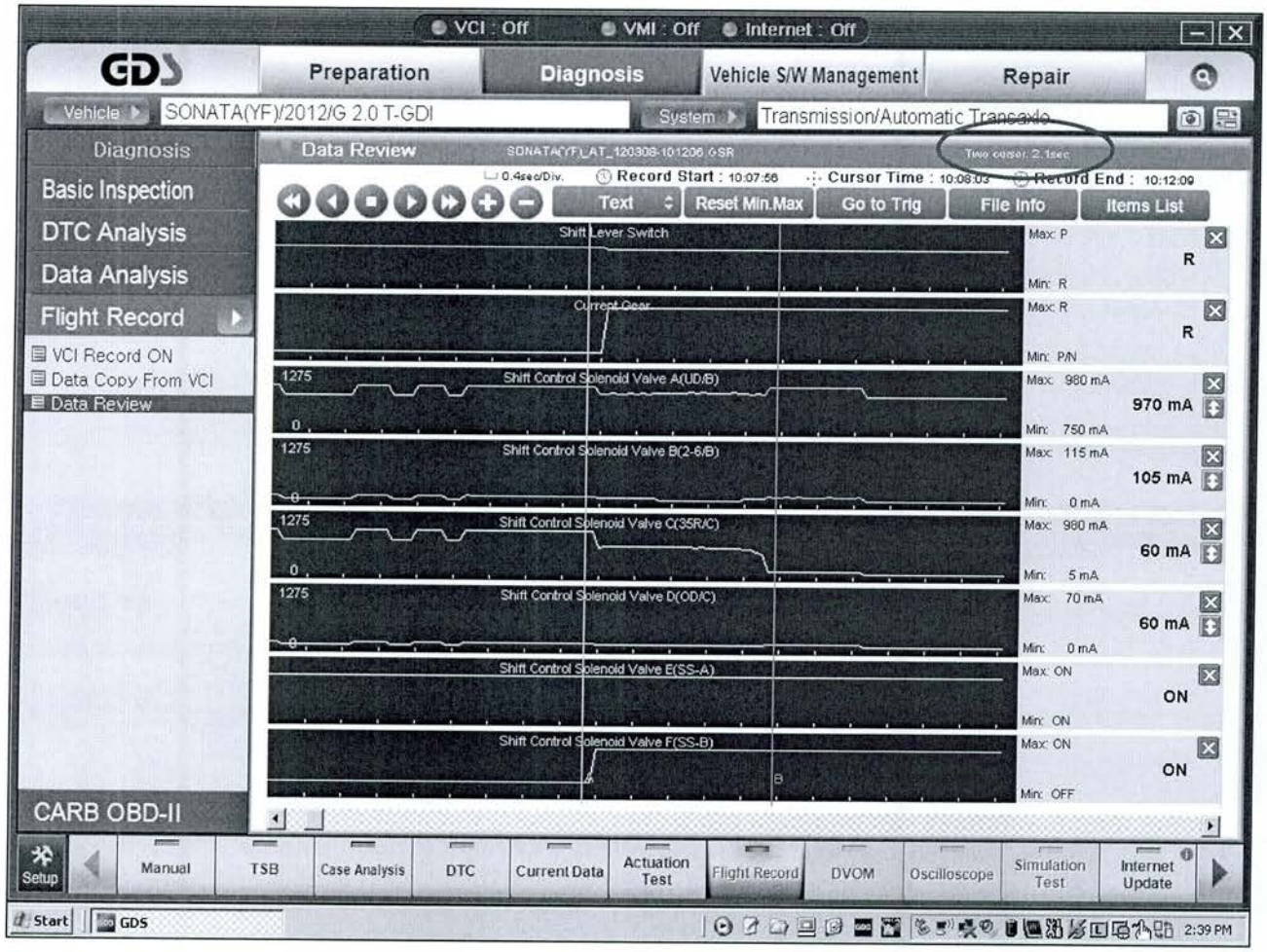
3. Attach the GDS and select the following:
   - VIN and "A/T" menu
   - "Current Data" (maximum of 8 parameters)
     - Current Gear
     - Shift Control Solenoid Valve A (UD/C)
     - Shift Control Solenoid Valve B (2-6/B)
     - Shift Control Solenoid Valve C (36R/C)
     - Shift Control Solenoid Valve D (OD/C)
     - Shift Control Solenoid Valve E (SS-A)
     - Shift Control Solenoid Valve F (SS-B)

4. Shift from P-R, N-D and drive the vehicle through gears 1-2-3-4-5-6 to simulate the complaint condition.
   Select "Record" (on top right of screen)
   Select "PC Record" (on left of screen)
   Save the file.

P-R SHIFT DIAGNOSIS:

Open the GDS program and select:

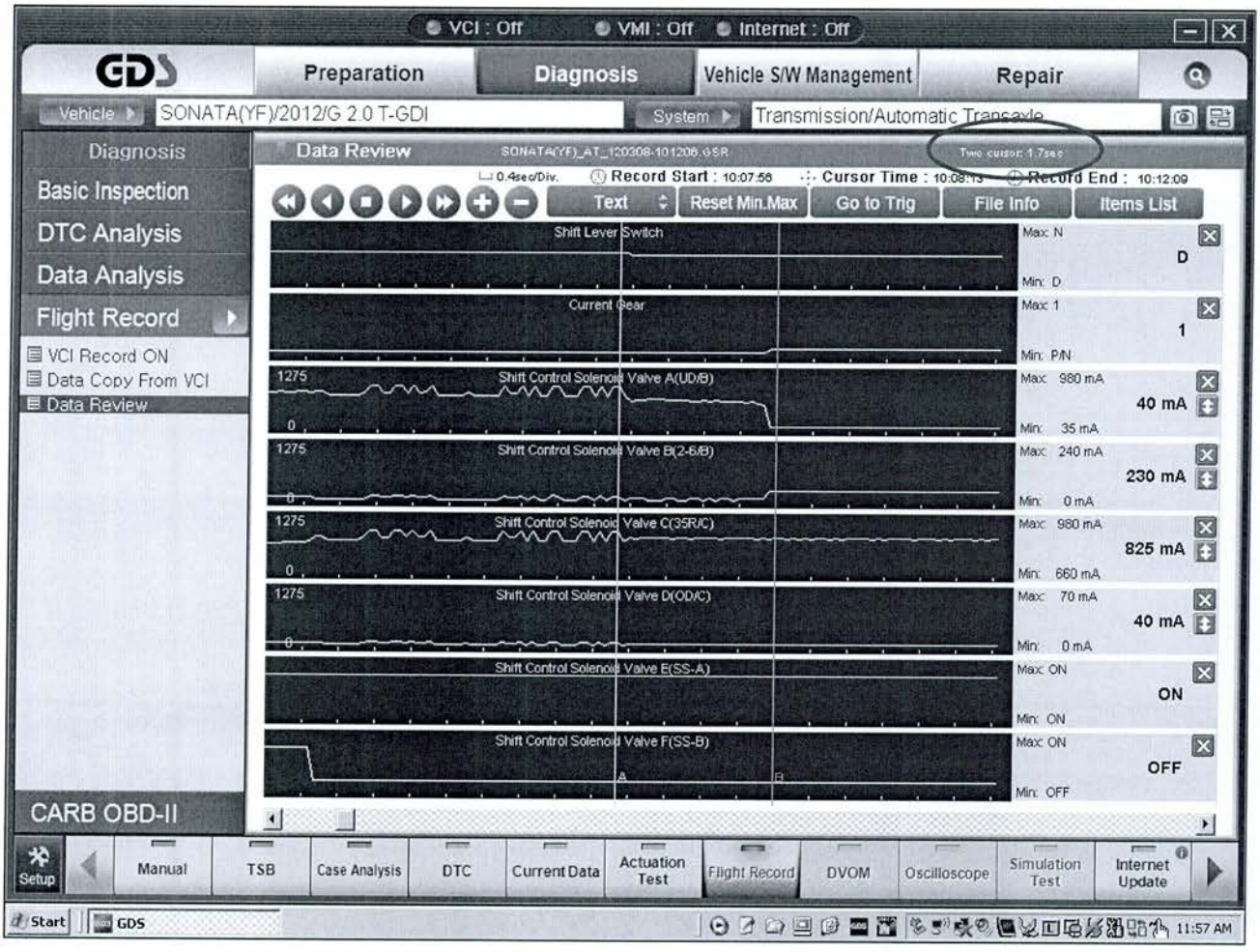
- VIN and "A/T"
- "Flight Record" and "Data Review"
- Select "Items List" (top right of screen) and select the parameters shown on the graph.
- Click the "+" or "-" buttons to choose 0.5 sec./Div or less.
- Move the cursor to the start of the shift and "Left click".
- Move the cursor to the end of the shift and "Right click".
- Read the 35R/C solenoid elapsed time at the top right of the screen. If the P-R shift requires more than 2.5 seconds, refer to TSB 11-AT-008-1, "Reset and Relearn Adaptive Values":
  - ➢ If the shift is less than 0.8 seconds, exchange a PCM from another vehicle and retest.
  - ➢ If the shift time is more than 2.5 seconds, compare to a similar model and year vehicle. Replace the transmission if the shift time is longer than a comparison vehicle.



N-D SHIFT DIAGNOSIS:

Open the GDS program and select:

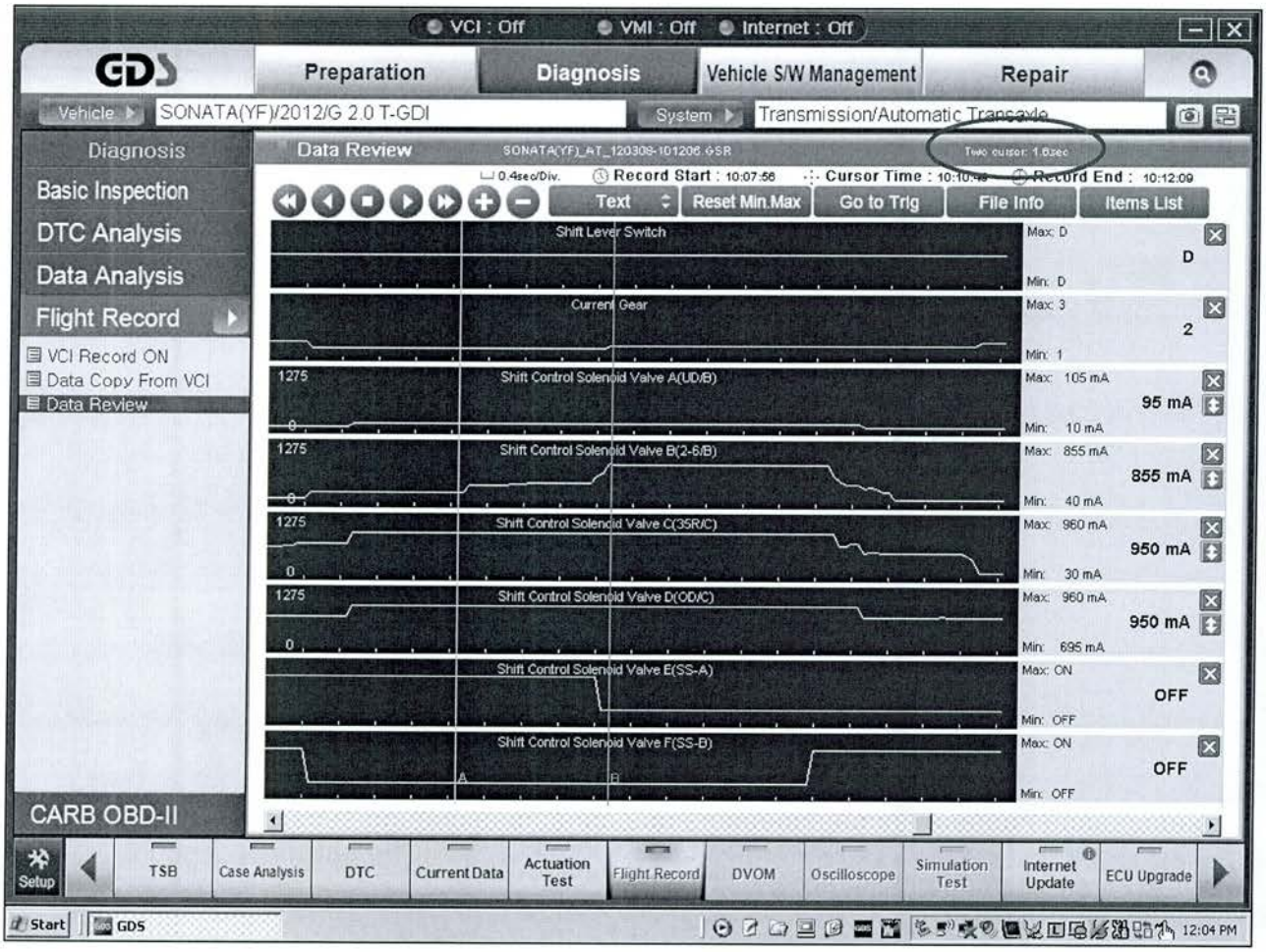
- VIN and "A/T"
- "Flight Record" and "Data Review"
- Select "Items List" (top right of screen) and select the parameters shown on the graph.
- Click the "+" or "-" buttons to choose 0.5 sec./Div or less.
- Move the cursor to the start of the shift and "Left click".
- Move the cursor to the end of the shift and "Right click".
- Read the UD/B solenoid elapsed time at the top right of the screen. If the P-R shift requires more than 2.5 seconds, refer to TSB 11-AT-008-1, "Reset and Relearn Adaptive Values":
  - ➢ If the shift is less than 0.8 seconds, exchange a PCM from another vehicle and retest.
  - ➢ If the shift time is more than 2.5 seconds, compare to a similar model and year vehicle. Replace the transmission if the shift time is longer than a comparison vehicle.



1-2 UPSHIFT DIAGNOSIS:

Open the GDS program and select:

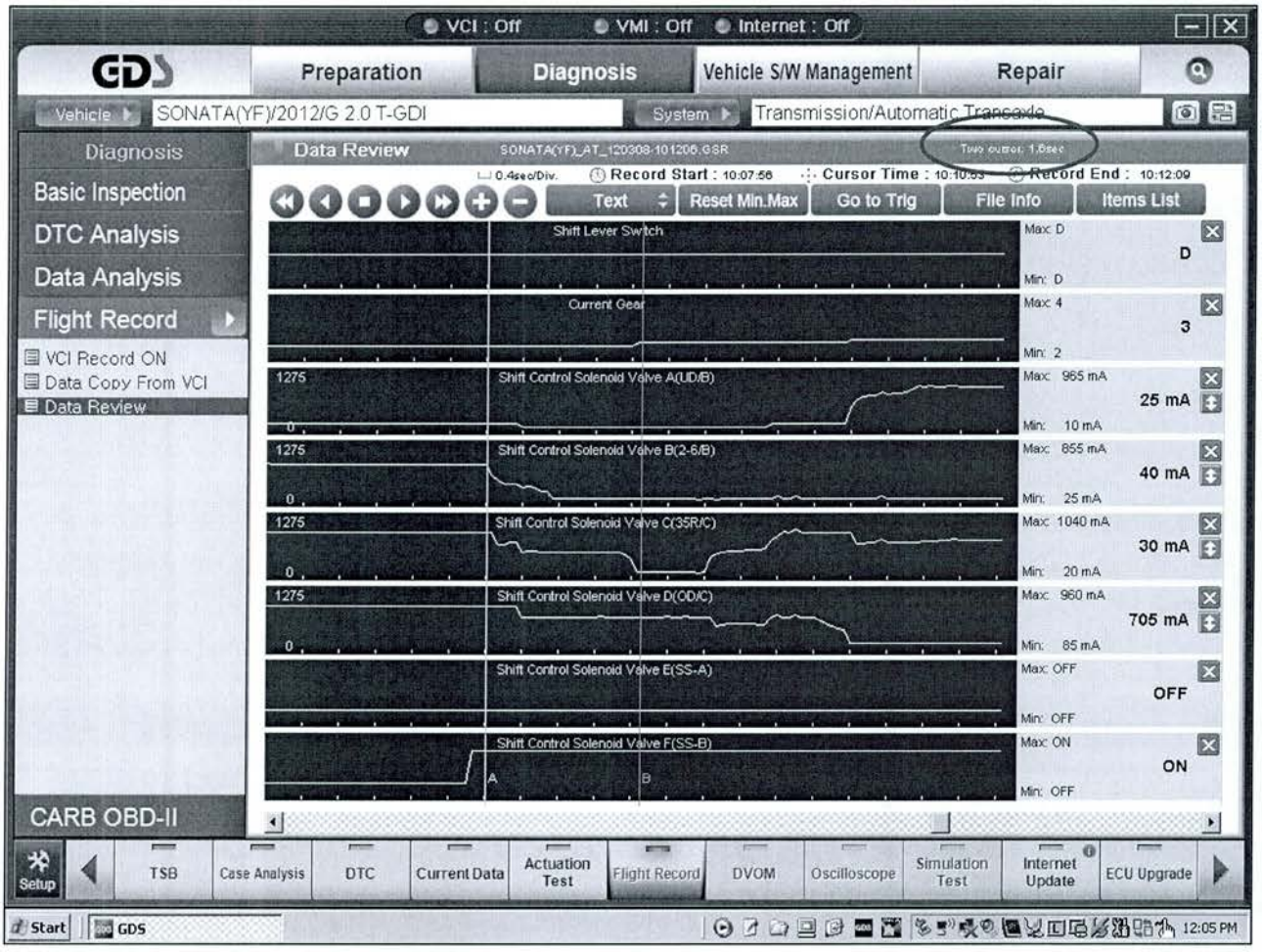
- VIN and "A/T"
- "Flight Record" and "Data Review"
- Select "Items List" (top right of screen) and select the parameters shown on the graph.
- Click the "+" or "-" buttons to choose 0.5 sec./Div or less.
- Move the cursor to the start of the shift and "Left click".
- Move the cursor to the end of the shift and "Right click".
- Read the 2-6/B solenoid elapsed time at the top right of the screen. If the P-R shift requires more than 2.5 seconds, refer to TSB 11-AT-008-1, "Reset and Relearn Adaptive Values":
  - ➢ If the shift is less than 0.8 seconds, exchange a PCM from another vehicle and retest.
  - ➢ If the shift time is more than 2.5 seconds, compare to a similar model and year vehicle. Replace the transmission if the shift time is longer than a comparison vehicle.



2-3 UPSHIFT DIAGNOSIS:

Open the GDS program and select:

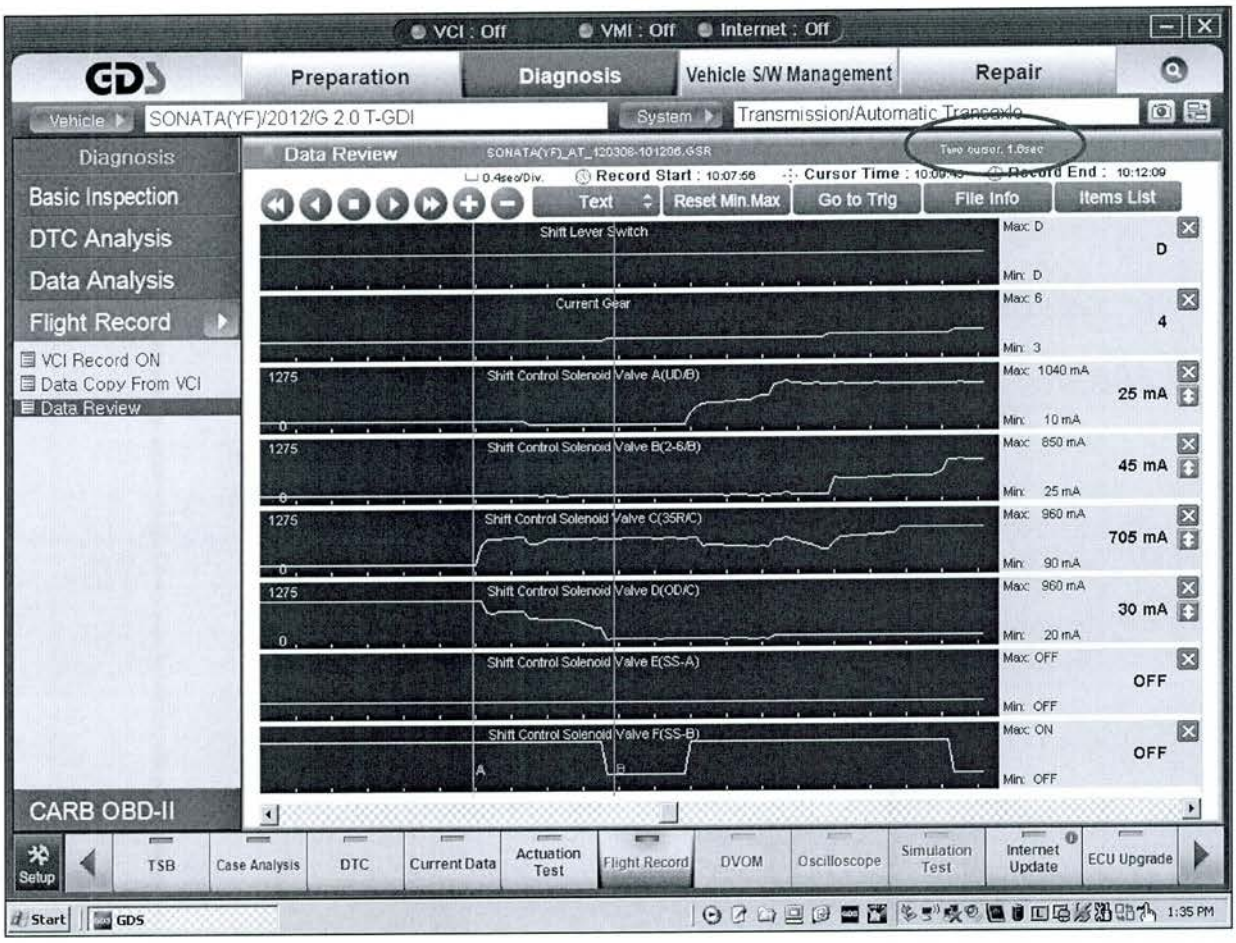
- VIN and "A/T"
- "Flight Record" and "Data Review"
- Select "Items List" (top right of screen) and select the parameters shown on the graph.
- Click the "+" or "-" buttons to choose 0.5 sec./Div or less.
- Move the cursor to the start of the shift and "Left click".
- Move the cursor to the end of the shift and "Right click".
- Read the 35R/C solenoid elapsed time at the top right of the screen. If the P-R shift requires more than 2.5 seconds, refer to TSB 11-AT-008-1, "Reset and Relearn Adaptive Values":
  - ➢ If the shift is less than 0.8 seconds, exchange a PCM from another vehicle and retest.
  - ➢ If the shift time is more than 2.5 seconds, compare to a similar model and year vehicle. Replace the transmission if the shift time is longer than a comparison vehicle.



3-4 UPSHIFT DIAGNOSIS:

Open the GDS program and select:

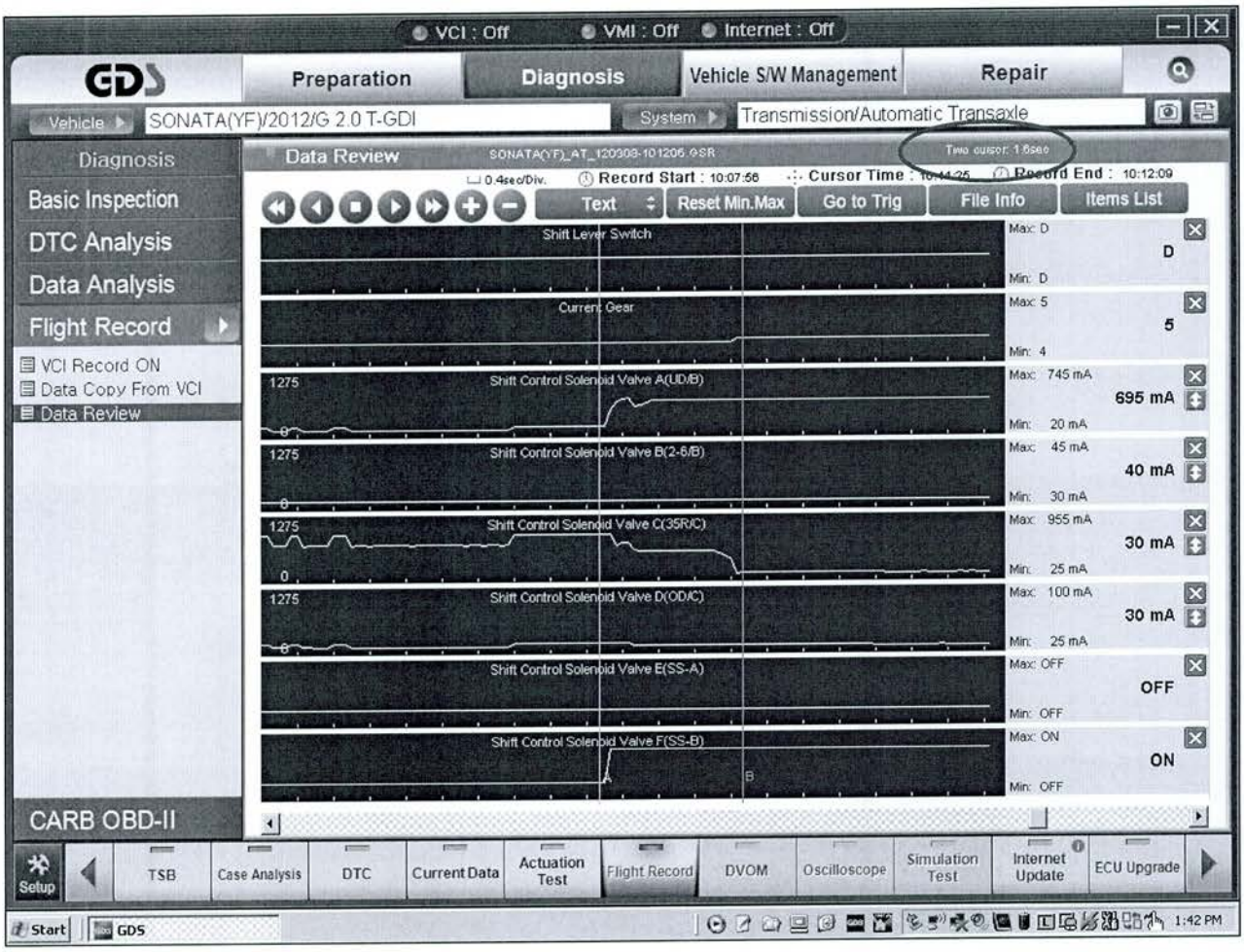
- VIN and "A/T"
- "Flight Record" and "Data Review"
- Select "Items List" (top right of screen) and select the parameters shown on the graph.
- Click the "+" or "-" buttons to choose 0.5 sec./Div or less.
- Move the cursor to the start of the shift and "Left click".
- Move the cursor to the end of the shift and "Right click".
- Read the OD/C solenoid elapsed time at the top right of the screen. If the P-R shift requires more than 2.5 seconds, refer to TSB 11-AT-008-1, "Reset and Relearn Adaptive Values":
  - ➢ If the shift is less than 0.8 seconds, exchange a PCM from another vehicle and retest.
  - ➢ If the shift time is more than 2.5 seconds, compare to a similar model and year vehicle. Replace the transmission if the shift time is longer than a comparison vehicle.



4-5 UPSHIFT DIAGNOSIS:

Open the GDS program and select:

- VIN and "A/T"
- "Flight Record" and "Data Review"
- Select "Items List" (top right of screen) and select the parameters shown on the graph.
- Click the "+" or "-" buttons to choose 0.5 sec./Div or less.
- Move the cursor to the start of the shift and "Left click".
- Move the cursor to the end of the shift and "Right click".
- Read the 35R/C solenoid elapsed time at the top right of the screen. If the P-R shift requires more than 2.5 seconds, refer to TSB 11-AT-008-1, "Reset and Relearn Adaptive Values":
  - ➢ If the shift is less than 0.8 seconds, exchange a PCM from another vehicle and retest.
  - ➢ If the shift time is more than 2.5 seconds, compare to a similar model and year vehicle. Replace the transmission if the shift time is longer than a comparison vehicle.



5-6 UPSHIFT DIAGNOSIS:

Open the GDS program and select:

- VIN and "A/T"
- "Flight Record" and "Data Review"
- Select "Items List" (top right of screen) and select the parameters shown on the graph.
- Click the "+" or "-" buttons to choose 0.5 sec./Div or less.
- Move the cursor to the start of the shift and "Left click".
- Move the cursor to the end of the shift and "Right click".
- Read the 2-6/B solenoid elapsed time at the top right of the screen. If the P-R shift requires more than 2.5 seconds, refer to TSB 11-AT-008-1, "Reset and Relearn Adaptive Values":
  - ➢ If the shift is less than 0.8 seconds, exchange a PCM from another vehicle and retest.
  - ➢ If the shift time is more than 2.5 seconds, compare to a similar model and year vehicle. Replace the transmission if the shift time is longer than a comparison vehicle.