

February 11, 2017

05608 Version 2

2012–15 MDX: Judder from the Torque Converter Lock-Up Clutch After Software Update

Supersedes 16-063 dated November 2, 2016, to revise the information highlighted in yellow

AFFECTED VEHICLES

Year	Model	Trim	VIN Range
2012	MDX	ALL	2HNYD2HCH513517 thru 2HNYD2HCH550713
2013	MDX	ALL	ALL
2014–15	MDX	ALL	ALL

REVISION SUMMARY

Added information for 2012–13 model year.

BACKGROUND

After the software update, some vehicles based on how they are driven (extreme conditions) may still experience ATF deterioration after updating the PGM-FI or A/T system and the shudder may return. The problem is typically diagnosed as a bad torque converter (TC). There is no damage to the TC, but because the ATF has deteriorated, it needs to be changed even though the "ATF Service Due" message has not appeared. Make sure the vehicle is updated by referring to the INSPECTION PROCEDURE.

If the vehicle has not been updated, do 16-062, 2012–15 MDX: Judder from the Torque Converter Lock-Up Clutch. Do this bulletin first to apply the software and flush the transmission as indicated in the REPAIR PROCEDURE.

If the vehicle has been updated, refer to the INSPECTION PROCEDURE because the fluid may need to be flushed again.

CORRECTIVE ACTION

Do the INSPECTION PROCEDURE and check if the software has been updated. If the software is updated, take an automatic transmission snapshot and review the data and confirm that the judder is coming from the torque converter. If the snapshot indicates the judder is coming from the torque converter flush the transmission as indicated in the REPAIR PROCEDURE.

PARTS INFORMATION

Part Name	Part Number	Quantity
Drain Plug Washer (18 mm)	90471-PX4-000	1
ATF Fill Sealing Washer (24 mm)	11107-PWA-300	1

REQUIRED MATERIALS

Part Name	Part Number	Quantity
Acura ATF DW-1	08200-9008A	10

CLIENT INFORMATION: The information in this bulletin is intended for use only by skilled technicians who have the proper tools, equipment, and training to correctly and safely maintain your vehicle. These procedures should not be attempted by "do-it-yourselfers," and you should not assume this bulletin applies to your vehicle, or that your vehicle has the condition described. To determine whether this information applies, contact an authorized Acura automobile dealer.

WARRANTY CLAIM INFORMATION

The warranty is 8 years or 80,000 miles, whichever comes first.

Operation Number	Description	Flat Rate Time	Defect Code	Symptom Code	Template ID	Failed Part Number
2180A5	Flush the ATF (includes test drive).	1.4 hr	01102	03505	16-063N	37805-5J6-3050

INSPECTION PROCEDURE

1. Connect the i-HDS and go to the A/T Data List. Check to see if the software has been updated by comparing the program P/N against the table below.

PROGRAM PART NUMBER

Bit Let Minuel Segnal Value Units Output Shaft (Counter Shaft) Speed 30 MPH Input Shaft (Mainshaft) Speed 30 MPH Input Shaft (Counter Shaft) Speed (pm) 1168 RPH Output Shaft (Counter Shaft) Speed (pm) 1168 RPH Input Shaft (Sounter Shaft) Speed (pm) 1165 RPH Data (Sounter Shaft) Speed (pm) 1165 RPH Relative IP Sensor 10.2 % IP Sensor 1 0.34 V IP Sensor 2 1.76 V APP Sensor 6 (r) 0.84 V ECT Sensor (r) 0.84 V EARO SERSOR (r)
Bigend Valuer Units While 30 MPH Joppur Shaft (Counter Shaft) Speed 30 MPH Joppur Shaft (Counter Shaft) Speed 30 MPH Ingline Speed 30 MPH Juppur Shaft (Counter Shaft) Speed (pm) 1603 RPM Juppur Shaft (Counter Shaft) Speed (pm) 1663 RPM Jupur Shaft (Counter Shaft) Speed (pm) 1653 RPM Jupur Shaft (Counter Shaft) Speed (pm) 1653 RPM Jupur Shaft (Counter Shaft) Speed (pm) 1653 RPM Jupur Shaft (Counter Shaft) Speed (pm) 1655 S Polative TP Sensor (%) 1655 S PP Sensor 7 (%) 1655 S PP Sensor 7 (%) 1655 S PP Sensor 7 (%) 0.34 V CT Sensor (%) 0.44 V ADS Sensor (%) 4.60 V MAN SERSOR (%) 4.60 V MAR SERSOR (%) 0.54 V TF Temps Sensor (%) 0.54 V <
Big Inter Mayward Excepted Value Value Whick Is Speed 50 MPH - Stopper Shaft (Counter Shaft) Speed 30 MPH - npur Shaft (Mainshaft) Speed (pm) 1603 RPM npur Shaft (Sounter Shaft) Speed (pm) 1603 RPM npur Shaft (Counter Shaft) Speed (pm) 1603 RPM npur Shaft (Mainshaft) Speed (pm) 1603 RPM Natury Shaft (Mainshaft) Speed (pm) 1603 RPM Points Shaft (Sounter Shaft) Speed (pm) 1603 RPM Points Shaft (Sounter Shaft) Speed (pm) 1603 RPM PS sounce 1 0.54 V V PP Sensor 2 (M) 0.84 V V PP Sensor 3 (M) 0.84 V V Strip Sensor (M) 0.84 V V Strip Sensor 7 (M) 0.84 V V Strip Sensor (M) 0.84 V V Strip Sensor (M) 0.84 V V Stresons (M) 0.84 V </td
Vehicle Speed 30 MPH Ordput Shaft (Counter Shaft) Speed 30 MPH Input Shaft (Mainhaft) Speed 30 MPH Engles Speed 30 MPH Output Shaft (Counter Shaft) Speed (pm) 1663 RPM Input Shaft (Counter Shaft) Speed (pm) 1666 RPM Relative IP Sensor 10.2 % PS Sensor 1 0.34 V PS Sensor 2 1.76 V APP Sensor 4(V) 1.68 V PS Sensor 5(%) 18.5 % APP Sensor 6(%) 16.4 V Engles Coolant Temperature 208.4 V Engles Coolant Temperature 40 KPa MAPS Sensor (Y) 1.45 V ATF temp Sensor (Y) 0.54 V ATF temp Sensor (Y) 0.54 V ATF temp Sensor (Y) 3.6 V ATF temp Sensor (Y) 3.6 V ATF temp Sensor (Y) 3.6 V Shift Control 3.6 <td< td=""></td<>
Output Shaft (Counter Shaft) Speed 30 MPH Input Shaft (Mainshaft) Speed 30 MPH Dirput Shaft (Counter Shaft) Speed (rpm) 10 MPH Output Shaft (Counter Shaft) Speed (rpm) 1468 RPH Input Shaft (Mainshaft) Speed (rpm) 1468 RPH Input Shaft (Mainshaft) Speed (rpm) 1468 RPH Input Shaft (Mainshaft) Speed (rpm) 1462 % IP Sensor 1 0.34 V IP Sensor 2 1.76 V APP Sensor (N) 18.5 % APP Sensor (N) 0.44 V ECT Sensor (V) 0.44 V ECT Sensor (V) 0.45 V MAPS Sensor (V) 0.44 V Editor TP Sensor 2 0.44 V Editor TS Sensor (V) 0.45 V Manifold Absolute Pressure 40 K Pa Editor SENSOR (V) 4.00 V All Sensor (V) 3.4 V All Sensor (V) 0.54 V All Sen
Input Shaft (Mainshaft) Speed 30 MPH Engline Speed 1603 RPM Output Shaft (CounterShaft) Speed (rpm) 1668 RPM Input Shaft (Mainshaft) Speed (rpm) 1503 RPM Input Shaft (CounterShaft) Speed (rpm) 1503 RPM Input Shaft (Mainshaft) Speed (rpm) 1503 RPM Input Shaft (Mainshaft) Speed (rpm) 1503 RPM Relative IP Sensor 10.2 % IP Sensor 1 0.94 V PP Sensor 2 1.7.6 V APP Sensor (%) 16.5 % APP Sensor (%) 0.84 V Engles Coolant Temperature 208.4 % MAPS Sensor (V) 1.45 V Manifold Absolute Pressure 49 kPa BARG SENSR (V) 4.80 V ATF Temp Sensor (V) 0.54 V ATF Sensor (V) 0.54 V ATF Sensor (V) 155.0 %F Bancy Voltage 13.6 V Shift Control<
Engine Speed 1603 RPM Output Shaft (ConterShaft) Speed (ppm) 1468 RPM Input Shaft (Mainshaft) Speed (ppm) 1456 RPM Relative IP Sensor 162.3 RPM Relative IP Sensor 162.3 RPM Relative IP Sensor 162.3 RPM Relative IP Sensor 0.94.4 V IP Sensor 1 0.94.4 V APP Sensor (N) 18.5 % APP Sensor (N) 0.84 V Engine Cooland Temperature 0.84.5 V MAP Sensor (V) 0.45 V Engine Cooland Temperature 268.4 Y MAP Sensor (V) 1.45 V MAP Sensor (V) 0.54 V APT Femps Sensor (V) 0.54 V ATF Temps Sensor (V) 0.54 V ATF Temps Sensor (V) 0.54 V ATF Temps Sensor (V) 0.54 V ATF Sint Sol (VLX A OFF Sint Control
Output Shaft (Counter Shaft) Speed (rpm) 1466 RPM Input Shaft (Mainshaft Speed (rpm) 1953 RPM Input Shaft (Mainshaft Speed (rpm) 1953 RPM Relative TP Sensor 1 10.2 % TP Sensor 1 0.34 V PS Sensor 2 1.76 V APP Sensor (%) 18.5 % APP Sensor (%) 0.44 V ECT Sensor (%) 0.44 V APP Sensor (%) 0.48 V ECT Sensor (%) 0.48 V EQT Sensor (%) 0.48 V Manifold Absolute Pressure 286.4 *F MAP Sensor (%) 1.45 V Manifold Absolute Pressure 40 KPa BARO SERISCR (%) 4.00 V Alt Femps Sensor (%) 0.54 V ATF Temps Sensor (%) 0.54 V ATF Sint Sol VUX.A OFF Set
Input Shaft (Mainshaft) Speed (rpm) 1953 RPM Relative IP Sensor 10-2 % TP Sensor 1 0.34 V TP Sensor 2 1.76 V APP Sensor (%) 11.5 % APP Sensor 6 (%) 11.5 % CET Sensor (%) 1.68 V APP Sensor 6 (%) 0.34 V ECT Sensor (%) 0.44 V ECT Sensor (%) 0.44 V Explore Cocleant Temperature 208.4 % Max Distribution (%) 1.45 V Annopheric Pressure 48 kPa ARAD SEXSOR (V) 4.00 V ATF temp Sensor (%) 0.54 V ATF temp Sensor (%) 0.54 V Shift Control 4b; V ATF Sint Sol (VLX A OFF Set
Input Shaft (Malmshaft) Speed (rpm) 1963 RPM Relative TP Sensor 10.2 % TP Sensor 1 0.34 V TP Sensor 2 1.76 V APP Sensor (%) 115.5 % APP Sensor (%) 116.5 % APP Sensor (%) 0.84 V ECT Sensor (%) 0.84 V ECT Sensor (%) 0.84 V Engles Coclast Temperature 281.4 % MaxP Sensor (Y) 0.45 V Manifold Absolue Preserve 48 kPa BARO SENSOR (V) 4.60 V ATF Temp Sensor (Y) 0.54 V ATF Temp Sensor (Y) 0.54 V ATF Sint SO (VLX A 0.54 V
TP Sensor 1 0.94 V TP Sensor 2 1.76 V APP Sensor 2 1.76 V APP Sensor 3 (N) 16.5 5 APP Sensor 4 (N) 0.84 V CT Sensor 9 (N) 0.84 V Engles Coolant Temperature 0.45 V MAP Sensor (V) 1.45 V Manifold Absolute Pressure 48 KPa BARO SENSOR (V) 4.80 V ATF temps Sensor (V) 0.54 V ATF temps Sensor (V) 15.5 4F Banery Voltage 15.6 V ATF temps Control 4b V ATF temps Control (V) 1.45 V ATF temps Control (V) 0.54 V ATF temps Control (V) 1.5.6 V ATF temps Control (V) 1.5.6 V
1P Sensor 2 1.76 V APP Sensor 2 18.5 % APP Sensor 3 (V) 16.5 V APP Sensor 4 (V) 0.84 V ECT Sensor (V) 0.84 V ECT Sensor (V) 0.84 V Engles Cooleast Temperature 288.4 °F MAP Sensor (V) 1.45 V Manoldr Absolute Pressure 48 KP BARO SCHSOR (V) 4.00 V Altrospharic Pressure 99 KPa ATF Temp Sensor (V) 0.54 V ATF Temp Sensor (V) 0.54 V ATF Temp Sensor (V) 185.9 °F Banery Voltage 13.6 V Shift Control 4b V
APP Sensor (%) 18.5 % APP Sensor X (V) 1.49 V APP Sensor X (V) 0.84 V ECT Sensor (V) 0.84 V ECT Sensor (V) 0.84 V Engine Coolant Yemperature 286.4 °F Manifold Absolute Pressure 44 KPa EADS SENSOR (V) 4.00 V Almospharic Pressure 59 KPa ATF Temp Sensor (V) 0.54 V ATF Temp Sensor (V) 0.54 V ATF Temp Sensor (V) 11.5 V Atmospharic Pressure 195.0 °F Battory Voltage 11.5 V Ahr Control 4b V
APP Sensor A (V) 1.69 V APP Sensor B (V) 0.84 V CCT Sensor (V) 0.84 V Engles Coolaat Temperature 0.44 V Engles Coolaat Temperature 288.4 *F MAP Sensor (V) 1.45 V Manifold Absolute Pressure 48 kPa ARAD SENSOR (V) 4.00 V Manifold Absolute Pressure 59 kPa ATF Temp Sensor (V) 0.54 V ATF Temp Sensor (V) 10.5 *F Battery Voltage 10.5 *F Shift Control 4b V
APP Sensor 8 (V) 0.84 V ECT Sensor (V) 0.49 V ECT Sensor (V) 0.49 V MAP Sensor (V) 1.45 V MAP Sensor (V) 1.45 V Maniloid Absolute Pressure 48 KPa RAD SEnsor (V) 4.00 V Almosphark Pressure 59 KPa AIF Temp Sensor (V) 0.54 V AIF Temps Sensor (V) 1.5.9 *F Battlery Voltage 10.5 V Shift Control 40b V
ECT Sense (V) 0.49 V Engine Coolant Temperature 286.4 Y Manifold Absolute Pressure 1.45 V Manifold Absolute Pressure 48 KPa RARD SENSOR (V) 4.00 V Allmospheric Pressure 99 KPa AllF Temps Sensor (V) 0.54 V AllF Temps Construit 115.5 4° Battery Voltage 112.5 V Shift Constral 4b V
Englise Coolest Temperature 286.4 9F MAP Sensor (V) 1.45 V MARD Sensor (V) 4.6 kPa Daniold Absolute Pressure 48 kPa DARO SERSOR (V) 4.00 V Dancopter/E Pressure 59 kPa DAT Etemp Sensor (V) 0.54 V Datery Voltage 13.6 V Shift Control 4dh V
MAP Sensor (V) 1.45 V Manihold Absolute Pressure 40 kPa BARD SERSOR (V) 4.00 V Attimospharic Pressure 59 kPa ATF Temps Sensor (V) 0.54 V ATF Temps Sensor (V) 10.54 V ATF Temps Sensor (V) 40h V ATF Sint Sol VUX.A OFF Sensor (V)
Manifold Absolue Pressure 48 kPa BARO SENSOR (V) 4.60 V Annopheric Pressure 59 kPa DATE Temps Sensor (V) 0.54 V ATF Temps Sensor (V) 0.54 V ATF Temps Sensor (V) 10.5.0 °F Banery Voltage 10.5.0 V Shift Control 4dr V ATF Shift Sol VU/.A OFF Sensor
BARO SENSOR (V) 4.00 V Almospharic Pressure 59 k/a ATF Temp Sensor (V) 0.54 V AIF Temp Sensor (V) 0.54 V AIF Temp Sensor (V) 0.54 V Sattery Voltage 10.5 V Sattery Voltage 13.6 V Shift Control 4th V AT Faint Sol VUX.A OFFF
Atmospheric Pressure 99 kPa Attr Temps Sensor (V) 0.54 V Attr Attr Stemps Consortium 185.0 4F Battory Voktage 12.6 V Shift Control 4th V Attr Shift Sol VUX.A OFF G
AIF Temp Sensor (V) 0.54 V AIF Temperature 185.0 4F Battery Voltage 13.6 V Shitt Control 4th V AIT Shitt Sol VLV. A OFF S
AIF Temperature 185.0 1F Sattery Voltage 13.6 V Shift Control 4th V ATF Tshift Sol VLV.A OFFF ©
Banery Voltage 13.6 V Shift Control 4th AT Shift Sol VU.A OFF ●
Shift Control 4th AT Shift Sol VLV. A OFF 💊
A/T Shih Soi VLV. A OFF 💊
A/T Shift Sol VLV. 8 OFF
A/T Shilk Sof VLV. C ON
Line Pressure Sol VLV. A OFF
Shift Lock Solenoid OFF
ETR 97 %
GEAR RATIO 4.000
SHIFT MAP NUMBER 4 -

• If the program P/N is listed below (or later), the vehicle has been updated. Go to step 2.

	Program P/N (or later)			
5 -	37806-RYE-3080			
	37806-RYE-3090			
	37805-5J6-3050			
	37805-5J6-3060			
	37805-5J6-3070			
	37805-5J6-3080			

- If the program P/N is not listed, the vehicle has not been updated. Go to Service Bulletin 16-062, 2012–15 MDX: Judder from the Torque Converter Lock-Up Clutch.
- 2. Take an automatic transmission snapshot and forward it to Tech Line using the RO number. For more information about capturing and interpreting the data, refer to the job aid *Torque Converter Clutch Shudder* and Vibration and the *Tech2Tech*® video "Interpreting Torque Converter Judder Snapshot Data."
 - If the snapshot indicates there is a judder, go to step REPAIR PROCEDURE.
 - If the snapshot does not indicate a judder, this bulletin does not apply. Continue with normal troubleshooting.
 NOTE: You do not need to contact Tech Line after sending the snapshot. However, if you do not send a snapshot, your claim may be subject to debit.

REPAIR PROCEDURE

NOTE: The term "flushing" refers to repeatedly draining and filling the transmission with Acura Genuine ATF-DW1. Other aftermarket flush systems are available, but American Honda strongly recommends that you avoid using them on any Acura vehicles.

- 1. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or Neutral) until the radiator fan comes on, then let it idle.
- 2. Position the vehicle on a lift and turn off the engine.
- 3. Remove the ATF filler bolt and sealing washer.
- 4. Raise the vehicle and make sure it is securely supported.
- 5. Remove the drain plug and drain the ATF.
- 6. Install the drain plug and original washer and torque it to 49 N·m (36 lb-ft).
- 7. Lower the vehicle and fill the transmission with **3.3 US qts (3.1 L)** of ATF-DW1 through the filler hole. NOTE: Do not use non-Acura ATF because it can affect shift quality.
- 8. Install the ATF filler bolt and original sealing washer and torque it to 44 N·m (32 lb-ft).
- 9. Check that the fluid is filled to the proper level.
- 10. Raise the vehicle and make sure it is securely supported.
- 11. Start the engine.
- 12. Press the VSA Off button.
- 13. Press the brake pedal and shift to Drive.
- 14. Release the brake pedal. Press the accelerator pedal and bring the speedometer up to 50 mph. Make sure the transmission shifts through the first three lower gears and into fourth gear and the torque converter is locking up.
- 15. Apply the brakes to stop the front wheels.
- 16. Shift to Reverse, then Neutral.
- 17. Repeat the shifting procedure (steps 12 through 15) four more times.
- 18. Turn off the engine.
- 19. Repeat the above drain, fill, and shifting procedure (steps 2 through 17) one more time.
- 20. After the second refill and drive cycle, drain the transmission.
- 21. Install the drain bolt with a new washer and torque to 49 N'm (36 lb-ft).
- 22. Fill the transmission with 3.3 US qts (3.1 L) of ATF-DW1.

Automatic Transmission Fluid Capacity

AWD: 3.3 US qts (3.1 L) at change

2WD: 3.3 US qts (3.1 L) at change

NOTE: Do not use non-Acura ATF because it can affect shift quality.

- 23. Install the ATF filler bolt with a new sealing washer and torque the bolt to 44 Nrm (32 lb-ft).
- 24. Confirm the judder is gone and clear any DTCs that were set while driving on the lift.
- 25. If the Maintenance Minder did not indicate the ATF needed replacement, reset the Maintenance Minder with the HDS. For more information about resetting individual maintenance items, refer to the service information. If the Maintenance Minder indicated the ATF needed replacement and a full service was done, reset the maintenance minder with the multi-information display.

END