



# Installation Guide

Thank you for your purchase of a quality TD REMAN CVT Transmission.  
The following instructions are to help with a successful installation.

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### Before Pulling the Transmission

**Before pulling your current transmission, please run a full diagnostics scan of the vehicle.**

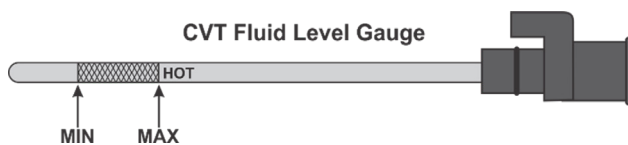
It is important to identify the root cause of the failure. Why is it necessary to do this? Our extensive CVT experience has shown that most installers think just installing and erasing codes is all that is necessary! Nothing is farther from the truth. For example: Engine misfires, mass airflow sensor, ripped air duct hose to the throttle body, crankshaft and cam sensors, ABS, brake lights, brake light switch, brake light assembly, wiring and wrong or defective TCM, can damage your new CVT. At TD REMAN we are here to help you with our dedicated team of tech support, and you can reach us at (954) 543 7724 or via email at [techsupport@tdreman.com](mailto:techsupport@tdreman.com)

Once the transmission is installed, prefill with the correct CVT fluid, then proceed with the following:

### Checking CVT Fluid for CVT-1/2/3 platforms

*Fluid level should be checked with the fluid warmed up to 50° to 80°C (122° to 176°F).*

1. Check for fluid leakage.
2. When the ambient temperature is 20°C (68°F), it takes about 10 minutes for the CVT fluid to warm up to 50 to 80°C (122 to 176°F).
3. Park the vehicle on a level surface and set the parking brake.
4. With engine at idle, while depressing brake pedal, move the selector lever throughout the entire shift range and return it to the "P" position.
5. Press the tab on the CVT fluid level gauge (dipstick) to release the lock and pull out the CVT fluid level gauge from the CVT fluid charge pipe (filler tube).
6. Wipe fluid off the CVT fluid level gauge. Then rotate the CVT fluid level gauge 180° and re-insert it into the CVT charging pipe as far as it will go.
7. Remove the CVT fluid level gauge and check that the fluid level is within the specified range as shown below. If the fluid level is at or below the low side of the range, add the necessary specified NISSAN CVT fluid through the CVT charge pipe.



**CAUTION: Only use specified NISSAN CVT fluid or the recommended fluid provided by TD REMAN. Failure to use, misuse, or mix fluid other than the specified fluid occurs, may cause serious malfunctions, and will void your warranty.**

**CAUTION: CVT fluid is not reusable. Never reuse CVT fluid.**

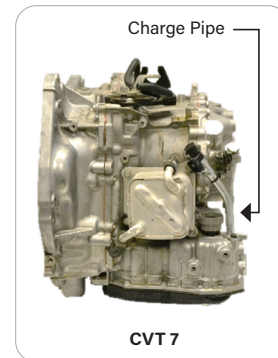
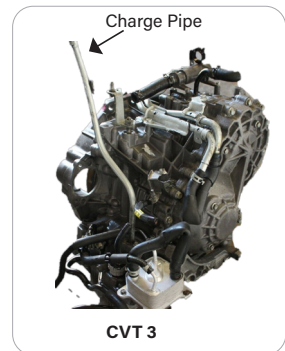
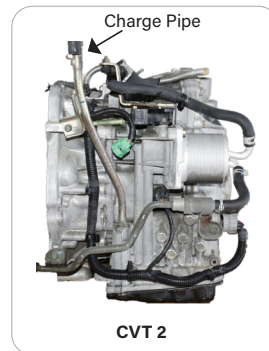
**CAUTION: Do not overfill the CVT.**

**CAUTION: After filling, always perform CVT fluid leakage check.**

**CAUTION: Clear CVT fluid deterioration with CONSULT 3 plus or CAPABLE Scan Tool after filling or changing CVT fluid.**

8. Install the CVT fluid level gauge to the CVT fluid charging pipe until it locks.
9. Check all fluid levels.

### Charge Pipe Locations



## Nissan CVT1 / CVT2 / CVT3 Fluid Service Information

All CVT1/2/3 platforms use Nissan NS-2 fluid.  
*Note: The 2012 Versa Sedan is the only exception, it has the CVT-7 platform which uses NS-2 fluid. All 2013 and later CVT-7s' use NS-3 fluid.*

**CAUTION: Do not use automatic transmission fluid (ATF) or manual transmission fluid in a Nissan CVT, as it may damage the CVT. Damage caused using fluids other than as recommended is not covered under the TD REMAN Warranty.**



NS-2 Fluid used mostly in 2012 and earlier, some units up to 2015. i.e., Rogue Select with CVT 2



NS-3 Fluid used in 2013 and later.



## **Preliminary Recommended Fill Chart for Nissan CVT**

These fluid levels are approximate fill, please follow the fill procedure.

| Model      | Detail | Year   | Engine     | Platform   | Transmission      | Total fill | Service fill | Fluid          |
|------------|--------|--------|------------|------------|-------------------|------------|--------------|----------------|
| Altima     |        | 09-12  | 2.5L       | CVT2       | RE0F10A           | 7.7qts     | N/A          | NS-2           |
|            |        | 07-12  | 3.5L       | CVT3       | RE0F09B           | 10.7qts    | N/A          | NS-2           |
|            |        | 13-17  | 2.5L       | CVT2       | RE0F10D           | 7.8 qts    | N/A          | NS-3           |
|            |        | 13-18  | 3.5L       | CVT8       | RE0F10E/RE0F10H   | 8.6 qts    | N/A          | NS-3           |
|            |        | 19-20  | 2.0 /2.5L  | CVT8       | RE0F10D           | 8.7 qts    | N/A          | NS-3           |
|            | Hybrid | 07-11  | 2.5L       | CVT8       | RE0F01H Hybrid    | 4.3 qts    | N/A          | NISSAN MATIC-W |
| Cube       |        | 09-14  | 1.8L       | CVT1       | RE0F08B           | 7.8 qts    | N/A          | NS-2           |
| Juke       |        | 11-17  | 1.6T       | CVT2       | RE0F10B           | 9.1 qts    | N/A          | NS-2           |
|            | Nismo  | 15-17  | 1.6T       | CVT8       | RE0F10D           | 8.4 qts    | N/A          | NS-3           |
| Maxima     |        | 08-14  | 3.5L       | CVT3       | RE0F09B           | 10.7 qts   | N/A          | NS-2           |
|            |        | 16-21  | 3.5L       | CVT8       | RE0F10H           | 8.6 qts    | N/A          | NS-3           |
| Murano     |        | 03-08  | 3.5L       | CVT3       | RE0F09A           | 10.7 qts   | N/A          | NS-2           |
|            |        | 09-15  | 3.5L       | CVT3       | RE0F09B           | 10.7 qts   | N/A          | NS-2           |
|            |        | 15-19  | 3.5L       | CVT8       | RE0F10J           | 9.3 qts    | N/A          | NS-3           |
| NV200      |        | 11-14  | 2.0L       | CVT2       | RE0F10A           | 8.6 qts    | N/A          | NS-2           |
|            |        | 15-21  | 2.0L       | CVT8       | RE0F10D           | 8.6 qts    | N/A          | NS-3           |
| Pathfinder |        | 13-14  | 3.5L       | CVT8       | RE0F10E           | 9.3 qts    | N/A          | NS-3           |
|            |        | 15-20  | 3.5L       | CVT8       | RE0F10J           | 9.3 qts    | N/A          | NS-3           |
| Quest      |        | 11-14  | 3.5L       | CVT3       | RE0F09B           | 10.7 qts   | N/A          | NS-2           |
|            |        | 15-17  | 3.5L       | CVT8       | RE0F10J           | 9.3 qts    | N/A          | NS-3           |
| Rogue      | AWD    | 09-15  | 2.5L       | CVT2       | RE0F10A           | 9.1 qts    | N/A          | NS-2           |
|            |        | 08-15  | 2.5L       | CVT2       | RE0F10A           | 8.5 qts    | N/A          | NS-2           |
|            |        | 14- 20 | 2.5L       | CVT8       | RE0F10D           | 8.4 qts    | N/A          | NS-3           |
| Sentra     |        | 07-12  | 2.0 /2.5L  | CVT2       | RE0F10A           | 7.7 qts    | N/A          | NS-2           |
|            |        | 13-19  | 1.6L /1.8L | CVT8 /CVT7 | RE0F10D / RE0F11A | 7.8 qts    | N/A          | NS-3           |
| Versa      |        | 07-11  | 1.6L /1.8L | CVT1       | RE0F08A /B        | 7.8 qts    | N/A          | NS-2           |
|            |        | 12     | 1.6L       | CVT7       | RE0F11A           | 7.3 qts    | N/A          | NS-2           |
|            | & Note | 13-20  | 1.6L /1.8L | CVT7       | RE0F11A           | 7.3 qts    | N/A          | NS-3           |

## **Service Fill**

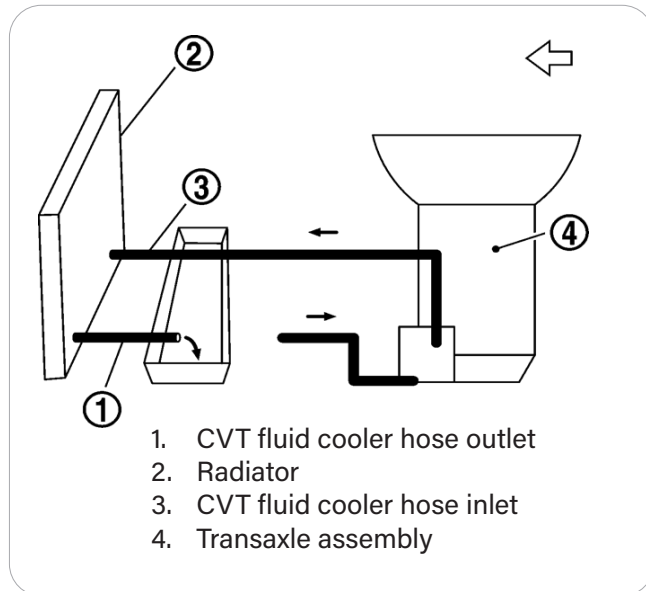
The recommended Nissan CVT transmission fluid change interval is every 30,000 miles or 24 months, whichever comes first. However, it can vary depending on the make and model of your vehicle. It is important to refer to your owner's manual for specific maintenance recommendations since some vehicles may require a more frequent change interval.

## Changing CVT Fluid

The following information is from the 2010 Nissan factory manual.

1. Warm up CVT fluid by driving the vehicle for 10 minutes.
2. Drain CVT fluid from CVT fluid cooler hose outlet side (figure1). Refill with new specified NISSAN NS-2 CVT fluid, filling to the specified level through the Charge pipe (Filler tube, Dipstick tube) with the engine running at idle speed.
3. Refill until new CVT fluid comes out from CVT fluid cooler hose [outlet side (1)].

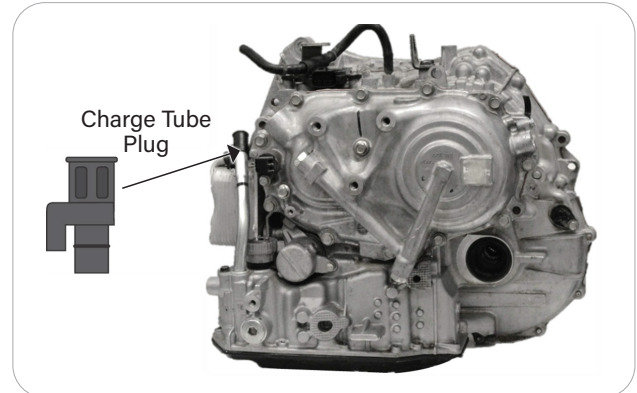
**NOTE: About 30 to 50% extra fluid will be required for this procedure.**



## Instructions for CVT 7 Transmission Fluid Fill

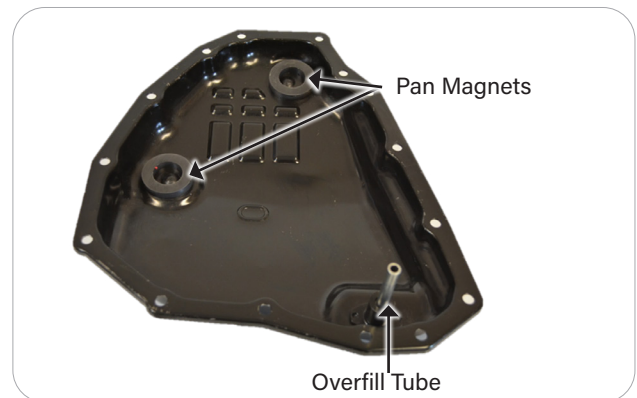
1. Fill with the correct CVT fluid through the charge pipe to the specified level with the engine idling.
2. With engine at idle, while depressing brake pedal, move the selector lever throughout the entire shift range and return it to the "P" position.
3. Remove the drain plug and check fluid level by letting the excess fluid drain past the fluid level overfill tube. If nothing comes out add fluid until it dribbles out
4. Check that CVT fluid level is within the specified level verifying the fluid temperature at 50 to 80°C (122 to 176°F). Verify fluid temperature with a capable scan tool.
5. Install pan bolt with its washer, torque to 25ft-lbs.

## Charge Tube Plug



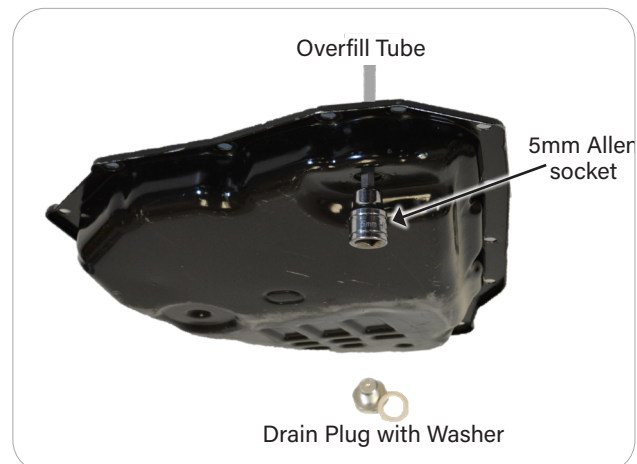
## Pan Magnets

Most have 2, some have 3.



## Overfill Tube

5mm Allen socket to remove overfill tube for fluid change.



## Drain Plug

Tighten to 25'ft-lbs torque.

## Service Fill (CVT 7)

1. Select "Data Monitor" in "TRANSMISSION" using CONSULT 3 Plus.
2. Select "FLUID TEMP" and confirm that the CVT fluid temperature is 40°C (104°F) or less.
3. Check that the selector lever is in the "P" position, then engage the parking brake.
4. Lift the vehicle.
5. Remove the drain plug (17mm) and overflow tube (5mm Allen) and drain the CVT fluid from the oil pan.
6. Change the filter, install the pan torque pan bolts to 52 in-lbs, install the overfill tube and torque to 11 ft-lbs, Install the drain plug.
7. Lower the vehicle.
8. Add 3 quarts of the correct CVT fluid.
9. Start the engine.
10. While depressing the brake pedal, shift the selector lever to the from "P" to "L," and shift back to the "P" position.

**NOTE: Hold the lever at each position for 5 seconds.**

11. Check that the CONSULT 3 plus or capable scan tool "Data monitor" in "FLUID TEMP" is over 50°C (122°F).
12. Lift the vehicle up while idling.
13. Remove the drain plug and confirm that the CVT fluid is drained from the overflow tube. If the fluid does not dribble out of the overflow tube add until it does. Install Drain Plug.
14. Let the vehicle down.
15. Select "Work Support" in "TRANSMISSION" using CONSULT 3 or capable scan tool.
16. Select "CONFORM CVTF DETERIORTN" in WORK SUPPORT or SPECIAL FUNCTIONS.
17. Select "Erase", confirm the counter goes to "0". If not, cycle the key and try again until it goes to "0".
18. Stop the engine.

**Note: Always verify fluid capacities with factory information. If the fill specifications are followed correctly after a rebuild there would no need to check fluid level.**

**It is recommended to use only genuine Nissan CVT Fluid NS-2 or NS-3 (model dependent) using any other fluid may damage the transmission.**

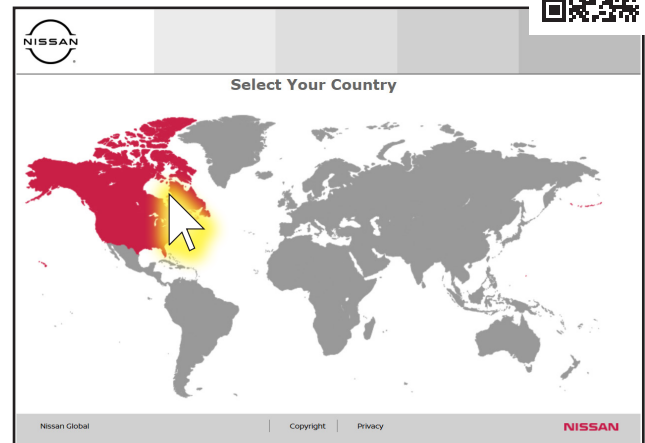
## Programming

Now that your transmission is installed and with the correct fluid level, we can move to *Programming*.

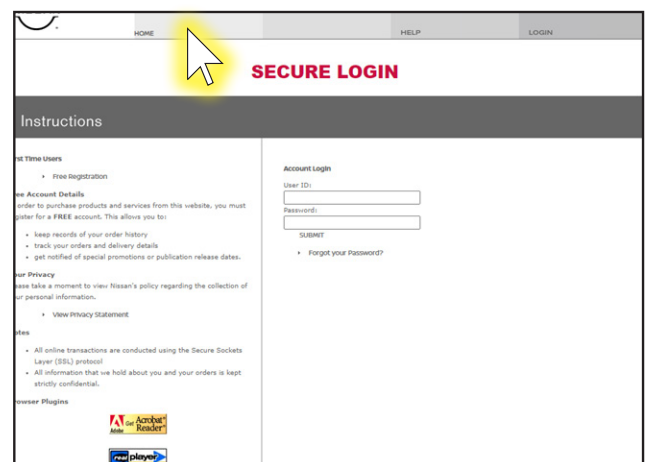
Programming the TCM is usually not necessary with the CVT-1/2/3 models, they are usually "Plug and Play". First,

we need to confirm the software in the TCM. To accomplish this, we need to hook up a Consult 3 plus or capable Scan Tool. Read all the codes and save them for reference, clear all codes and see if any come back. Once you have cleared the codes you need to enter the transmission section and go to ECM or TCM part number. They always start with 31036 prefix, once you find the TCM part number you need to go to Nissan Publications [www.nissan-techinfo.com](http://www.nissan-techinfo.com) and follow the next steps provided:

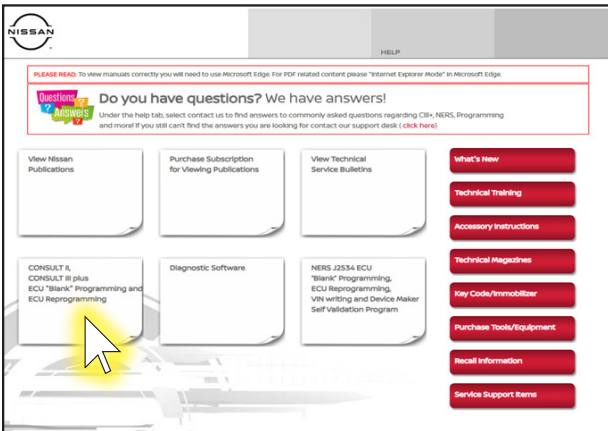
**You do not need to register for this website to get the information you need.**



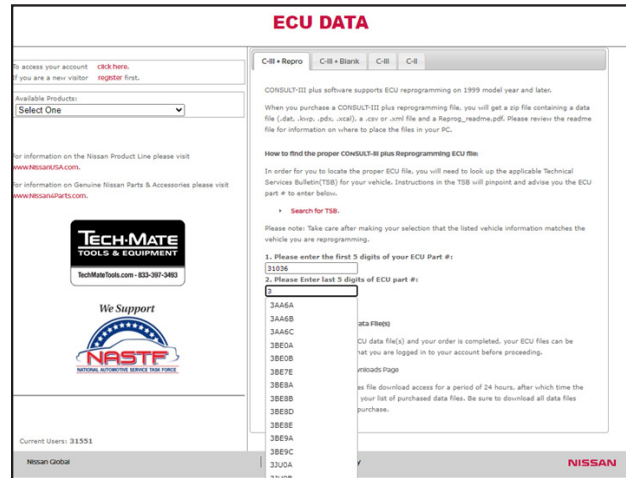
Once you open the Nissan Tech Info page, you need to select your country. Place your cursor on the country. Click to open the next page.



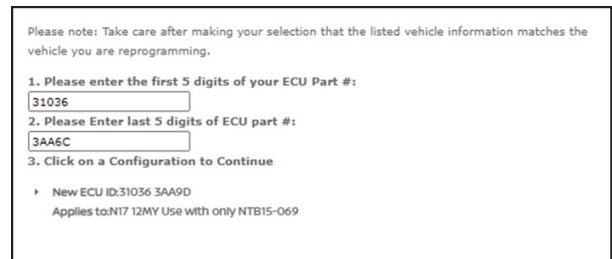
If you have visited the page before and created an account, this page may show up. Just click on the home button as shown above to be directed to the following page.



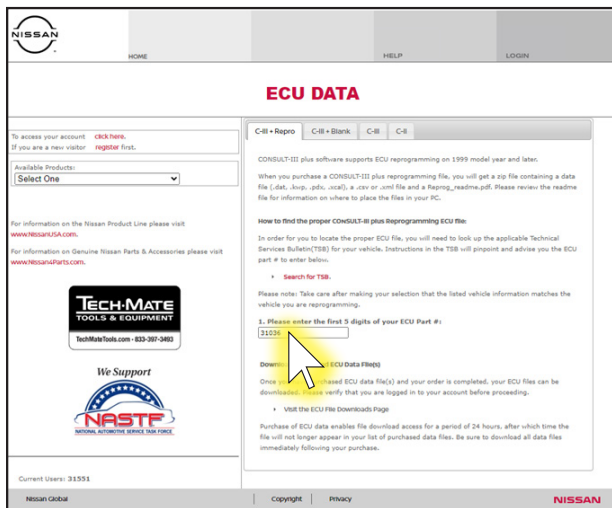
That should bring you to this page, click on the CONSULT II, CONSULT III plus, ECU “Blank” Programming and ECU Reprogramming box highlighted above.



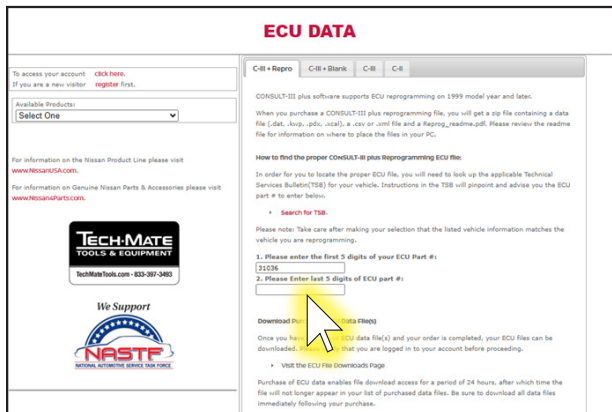
As you are typing the suffix you will see how many programs there are for your TCM, finish typing your suffix or select your suffix then click enter.



The new ECU ID appears if it needs updating. If your ECU shows it needs updating, it must be done! Verify the model year and download the required NTB (Nissan Technical Bulletin) for additional information if applicable.



Once you are at the ECU DATA page type in the prefix in the box shown with the cursor to your TCM, it should be 31036. Then click.



Now it should open another box below the first box, this is where you type in the 5 digit suffix.

## Service After Replacing TCM and Transaxle Assembly

Perform the applicable service in the following table when replacing TCM or transaxle assembly.

**CAUTION: Do not start the engine until the service is completed.**

**CAUTION: “TCM- POWER SUPPLY [P1701]” may be indicated soon after replacing TCM or transaxle assembly (after erasing the memory at the pattern B). Restart the self-diagnosis after erasing the self-diagnosis result.**

**Check that no error codes are detected.**

Perform the applicable service when replacing TCM or transaxle assembly:

| TCM                      | CVT Assembly  | Service Pattern |
|--------------------------|---|-----------------|
| Replaced with new TCM.   | Did not replace the CVT.  | "PATTERN A"     |
| Did not replace the TCM. | Replaced with either new or used CVT.                             | "PATTERN B"     |
| Replace with used TCM    | Did not replace the CVT.<br>Replaced with either new or used CVT. |                 |
| Replaced with new TCM.   | Replaced with either new or used CVT.                             | "PATTERN C"     |

### Pattern A

- Shift the selector lever to "P" position after replacing TCM. Turn the ignition switch ON.
- Check that the shift position indicator in the combination meter turns ON.

**Note: It indicates approximately 1 or 2 seconds after turning the ignition switch ON.**

**Check the following items if the shift position indicator does not turn ON. Repair or replace the shift position indicator if necessary.**

- The harness between TCM and ROM ASSY in the transaxle assembly is open or short.
- Cable disconnected, loosened, or bent from the connector housing.

### Pattern B

- Turn ignition switch ON after replacing each part.
- Start engine.

**CAUTION: Do not start driving. May cause serious damage to new transmission.**

- Select "Data monitor" in "TRANSMISSION".
- Warm up transaxle assembly until "ATFTEMP COUNT" indicates 47 [approximately 20°C (68°F)] or more, and then turn ignition switch OFF.
- Turn ignition switch ON.

**CAUTION: Do not start driving. May cause serious damage to new transmission.**

- Select "Self Diagnostic Results" in "TRANSMISSION".
- Shift the selector lever to "R" position.
- Depress slightly the accelerator pedal (Pedal angle: 2/8) while depressing the brake pedal.
- Select "Erase".
- Release brake pedal and accelerator pedal.
- Turn ignition switch OFF while keeping the selector lever in "R" position.
- Wait approximately 10 seconds.
- Turn ignition switch ON while keeping the selector lever in "R" position

- Select "Special function" in "TRANSMISSION".
- Verify the value on "CALIB DATA" in CONSULT-III is the same as the data listed in the table below:

**(Restart the procedure from step 3 if the values are not the same)**

#### CALIB DATA

| Item name        | Display value |
|------------------|---------------|
| UNIT CLB ID 1 00 | 00            |
| UNIT CLB ID 2 00 | 00            |
| UNIT CLB ID 3 00 | 00            |
| UNIT CLB ID 4 00 | 00            |
| UNIT CLB ID 5 00 | 00            |
| UNIT CLB ID 6 00 | 00            |

- Shift the selector lever to "P" position.
- Check that the shift position indicator in combination meter turns ON. (It indicates approximately 1 or 2 seconds after shifting the selector lever to "P" position.)

**Check the following items if shift position indicator does not turn ON. Repair or replace accordingly as necessary.**

- The harness between TCM and ROM ASSY in transaxle assembly is open or shorted.
- Terminals disconnected, loose, or bent from connector housing.
- Power supply and ground of TCM.

### Pattern C

- Replace transaxle assembly first, and then replace TCM.
- Perform the service of "PATTERN A".

**Note: Perform the service of "PATTERN B" if TCM is replaced first.**

Once the Calibration Data has been reset scan all systems for codes and erase, select "Transmission", "Work Support" reset "Oil Degradation" to "0".

Confirm the transmission operates normally.



## 2012 VERSA CVT-7

The TCM for the 2012 Versa is easy to damage, most of them will already be updated to the 31036-3AA9D (Latest Software). If that is not the case the TCM software will need to be updated.

Once the TCM software is confirmed and updated (if necessary) proceed with the following.

### INITIALIZE TCM

**CAUTION: DO NOT INITIALIZE the 2012 CVT-7 Versa with a Snap-On scanner, it can render the TCM useless!**

Using a Consult 3 plus or capable Scan tool proceed with the following.

1. Set parking brake.
2. Turn ignition switch ON.
3. Select "Work Support" in "TRANSMISSION".
4. Select "ERASE MEMORY DATA".
5. While maintaining the conditions below, touch "Start".
  - Key On Engine Off
  - Place the selector lever in the "R" position
  - Accelerator pedal: Depressed
  - Click Start and it should display "COMPLETED" within 20 seconds

#### Is "COMPLETED" displayed?

NO: Turn the ignition off, wait 10 seconds then retry the process from step 1.

YES: Proceed with the following.

### CHECK "CALIB DATA" AFTER TCM IS INITIALIZED With CONSULT 3 plus

1. Turn ignition switch OFF with the selector lever in the "R" position and wait at least 10 seconds or more.
2. Turn ignition switch ON with the selector lever still in the "R" position.

**CAUTION: Do not start the engine**

3. Select "Special function" in "TRANSMISSION".
4. Select "CALIB DATA".
5. Check that indicated value of "CALIB DATA" is the same as the value displayed in the following table.

#### Does the "CALIB DATA" match the chart?

NO: Go to "DETECT MALFUNCTION"

YES: Go to "LOAD CALIBRATION DATA"

| Item name     | Display value | Item name           | Display value |
|---------------|---------------|---------------------|---------------|
| UNIT CLB ID1  | 00            | MAP NO HC/RB        | 00            |
| UNIT CLB ID2  | 00            | MAP NO L/B          | 00            |
| UNIT CLB ID3  | 00            | OFFSET2 LU          | 0             |
| UNIT CLB ID4  | 00            | OFFSET2 PL          | 0             |
| UNIT CLB ID5  | 00            | OFFSET2 PRI         | 0             |
| UNIT CLB ID6  | 00            | OFFSET2 H/R         | 0             |
| UNIT CLB ID7  | 00            | OFFSET2 L/B         | 0             |
| UNIT CLB ID8  | 00            | INIT OFFSET H/R A   | 0             |
| UNIT CLB ID9  | 00            | INIT OFFSET H/R B   | 0             |
| UNIT CLB ID10 | 00            | INIT OFFSET H/R C   | 0             |
| UNIT CLB ID11 | 00            | INIT OFFSET H/R D   | 0             |
| GAIN LU       | 256           | INIT OFFSET H/R E   | 0             |
| GAIN PL       | 256           | INIT OFFSET H/R F   | 0             |
| GAIN PRI      | 256           | INIT OFFSET LB A    | 0             |
| GAIN HC/RB    | 256           | INIT OFFSET LB B    | 0             |
| GAIN LB       | 256           | INIT OFFSET LB C    | 0             |
| OFFSET LU     | 0             | INIT OFFSET LB D    | 0             |
| OFFSET PL     | 0             | INIT OFFSET LB E    | 0             |
| OFFSET PRI    | 0             | INIT OFFSET LB F    | 0             |
| OFFSET HC/RB  | 0             | LB INITIALIZE LEARN | -1            |
| OFFSET LB     | 0             | HC INITIALIZE LEARN | -1            |
| MAP NO LU     | 00            | LB INITIALIZE TEMP  | FF            |
| MAP NO PL     | 00            | HC INITIALIZE TEMP  | FF            |
| MAP PRI       | 00            |                     |               |

### DETECT MALFUNCTION

Check the following items:

- Harness between the TCM and the ROM assembly for opens or shorts
- Disconnected, loose, bent pins, or damaged connector.

### LOAD CALIBRATION DATA

Shift the selector lever to "P", verify the "P" is displayed in the dash.

YES: Go to "RESET OIL DEGRADATION"

### RESET OIL DEGRADATION

With CONSULT 3 plus

1. Select "WORK SUPPORT" in "TRANSMISSION".
2. Select "CONFORM CVTF DETERIORATION".
3. Touch "Clear".

Confirm the transmission operates normally.