NAG-1 INSTALLATION INSTRUCTIONS

PLEASE FEEL FREE TO CALL US ON OUR TECH LINE AT (330) 434.2757 BETWEEN 8:00 AM AND 5:00 PM EST IF YOU HAVE ANY QUESTIONS.

Please read instructions completely before installing your transmission. Also, we have provided a check list of necessary items to help you along with your installation. Please mark each box after you have completed the step.

PROPER OIL LEVEL MUST BE OBTAINED BEFORE ROAD TESTING.

Please refer to Summit Racing Equipment at www.summitracing.com or call at 1-800-230-3030 for your NAG-1 Locking Transmission Dipsticks

B&M NAG-1 Locking Transmission Dipstick (P/N BMM-22301) to fit models with 5.7L V8 Engine only.
B&M NAG-1 Locking Transmission Dipstick (P/N BMM-22302) to fit models with 6.1L or 6.4L V8 Engines only.

THIS PROCEDURE MUST BE FOLLOWED OR TRANSMISSION DAMAGE WILL OCCUR

TCM ADAPTATION - NAG1 Only
The adaptation procedure requires the use of the appropriate scan tool. This program allows the electronic transmission system to re-calibrate itself. This will provide the proper baseline transmission operation. The adaptation procedure should be performed if any of the following procedures are performed:

1. Transmission Assembly Replacement
2. Transmission Control Module Replacement
3. Clutch Plate and/or Seal Replacement
4. Electro-hydraulic Unit Replacement or Recondition

1. With the scan tool, reset the Transmission adaptive's. Resetting adaptive's will set the adaptive's to factory settings. ***NOTE:*** For Upshift adaptation, the Transmission temperature must be greater than 60°C (140°F) and less than 100°C (212°F). Failure to stay within these temperature ranges will void this procedure.

2. Drive the vehicle until the transmission temperature is in the specified range.

3. Perform 4 to 5 coast downs from 5th to 4th gear and then 4th to 3rd gear.

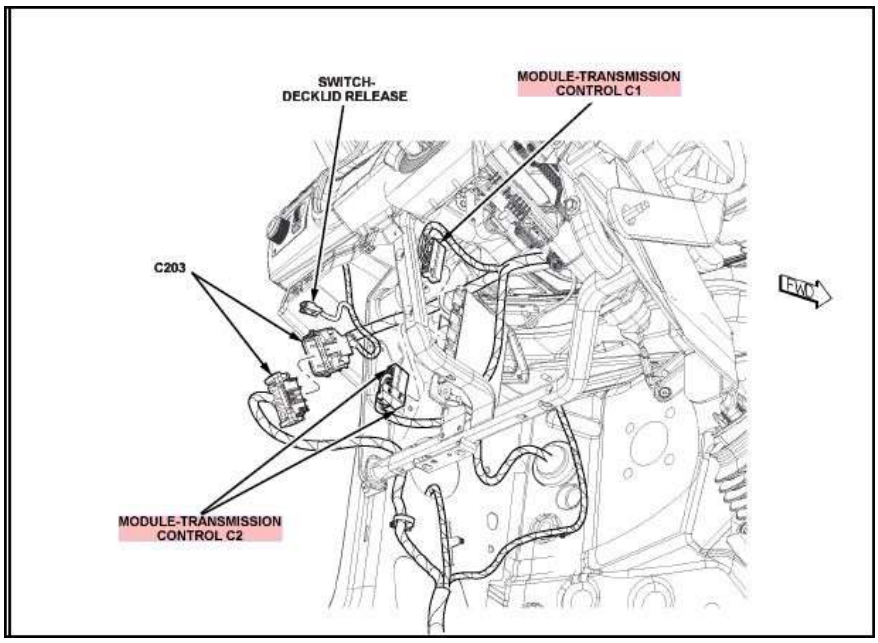
4. From a stop, moderately accelerate the vehicle and obtain all forward gear ranges while keeping the Engine RPM below 1800 RPM. Repeat this procedure 4 to 5 times.

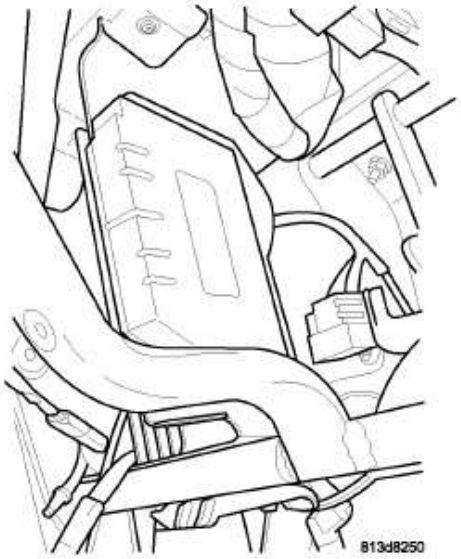
5. Obtaining 5th gear may be difficult at 1800 RPM. Allow transmission to shift into 5th gear at a higher RPM then lower the RPM to 1800 and perform manual shifts between 4th and 5th gears using the shift lever.

6. The TCM will store the adaptive's every 10 minutes. After completion of the adaptation procedure make sure the vehicle stays running for at least 10 minutes.

7. It is possible to manually store the adaptive's under the 10 minute time frame using the scan tool Store Adaptive's procedure.

TRANSMISSION CONTROL MODULE - NAG1
The TCM is located under the left side of the instrument panel for left hand drive vehicles. There are two connectors that attach to the unit for control C1 and C2.





Access is obtained by removing the lower kick panel (has deck lid release button) and cover below the steering wheel and instrument cluster.

SHIFT SCHEDULES:
The basic shift schedule includes up and downshifts for all five gears. The TCM adapts the shift program according to driving style, accelerator pedal position and deviation of vehicle speed. Influencing factors are:

1. Road Conditions.
2. Incline, Decline and Altitude.
3. Trailer Operation, Loading.
4. Engine Coolant Temperature.
5. Cruise Control Operation.
6. Sporty Driving Style.
7. Low and High ATF Temperature.

DOWNSHIFT SAFETY:
Selector lever downshifts are not performed if inadmissible high engine rpm is sensed.

ADAPTATION:
To equalize tolerances and wear, an automatic adaptation takes place for:
1. Shift Time.
2. Clutch Filling Time.
3. Clutch Filling Pressure.
4. Torque Converter Lock-Up Control.

Adaptation data may be stored permanently and to some extent, can be diagnosed.

Driving Style Adaptation:
The shift point is modified in steps based on the information from the inputs.

The control module looks at inputs such as:

1. vehicle acceleration and deceleration (calculated by the TCM).
2. rate of change as well as the position of the throttle pedal (fuel injection information from the PCM).
3. lateral acceleration (calculated by the TCM).
4. gear change frequency (how often the shift occurs).

Based on how aggressive the driver is, the TCM moves up the shift so that the present gear is held a little longer before the next upshift.
If the driving style is still aggressive, the shift point is modified up to ten steps.
If the driving returns to normal, then the shift point modification also returns to the base position.

This adaptation has no memory.

The adaptation to driving style is nothing more than a shift point modification meant to assist an aggressive driver. The shift points are adjusted for the moment and return to base position as soon as the inputs are controlled in a more normal manner.

CONTROLLER MODES OF OPERATION

Permanent Limp-In Mode:
When the TCM determines there is a non-recoverable condition present that does not allow proper transmission operation, it places the transmission in permanent Limp-In Mode. When the condition occurs the TCM turns off all solenoids as well as the solenoid supply output circuit. If this occurs while the vehicle is moving, the transmission remains in the current gear position until the ignition is turned off or the shifter is placed in the "P" position.

When the shifter has been placed in "P," the transmission only allows 2nd gear operation. If this occurs while the vehicle is not moving, the transmission only allows operation in 2nd gear.

Temporary Limp-In Mode:
This mode is the same as the permanent Limp-In Mode except if the condition is no longer present, the system resumes normal operation. Under Voltage Limp-In Mode When the TCM detects that system voltage has dropped below 8.5 volts, it disables voltage-dependant diagnostics and places the transmission in the temporary Limp-In Mode. When the TCM senses that the voltage has risen above 9.0 volts, normal transmission operation is resumed.

Hardware Error Mode:
When the TCM detects a major internal error, the transmission is placed in the permanent Limp-In Mode and ceases all communication over the CAN bus. When the TCM has entered this mode normal transmission operation does not resume until all DTCs are cleared from the TCM.

Loss of Drive:
If the TCM detects a situation that has resulted or may result in a catastrophic engine or transmission problem, the transmission is placed in the neutral position. Improper Ratio, Input Sensor Overspeed or Engine Overspeed DTCs cause the loss of drive.

Controlled Limp-in Mode:
When a failure does not require the TCM to shut down the solenoid supply, but the failure is severe enough that the TCM places the transmission into a predefined gear, there are several shift performance concerns. For instance, if the transmission is slipping, the controller tries to place the transmission into 3rd gear and maintain 3rd gear for all forward drive conditions.