

Drivers **GUIDE**



ATS Commander Module
EXHAUST BRAKE CONTROL

Designed for Dodge Trucks
1994 to 2004

Please read all instructions before the installation of the ATS Commander Module.

Thank you for purchasing the ATS Commander Module Torque converter/exhaust brake controller. This manual is to assist you with the operation of the unit. If you are installing the unit for a customer, please pass this manual on to your customer for future reference.

1 Understanding the ATS TripleLok commander

The ATS Commander module commands the lock-up clutch of the torque converter along with the exhaust brake to stay engaged. This allows for up to 100% of the retarding force to be transferred in 3rd and 4th gear and the transmission oil temperature to remain low because of little to no slippage occurring when the converter is in these selected gears.

When the ATS Valve Body is installed, you can use engine braking in the low-speed position of around 12 mph in 1st or 2nd gear. Currently, exhaust brake usage can cause high temperatures in the automatic transmission due to torque converter slippage. And only a small portion of the retarding force is transferred through the fluid coupling of most torque converters. The ATS Commander Module has been developed to provide lock-up capability in all gears.

NOTE: On Dodge transmissions the ATS Valve Body must be installed to utilize 1st and 2nd gear lock-up capability.

The factory computer is programmed to disengage lock-up under many conditions that inhibit the performance of the transmission.

A few of these conditions are:

- Lock-up disengagement at wide open throttle
- Lock-up disengagement at closed throttle
- Delayed lock-up engagement when accelerating from a stop
- Delayed lock-up engagement before engine temperatures are reached
- Lock-up disengagement under high power output

The factory has programmed the stock computer with these features to minimize the stress on the factory torque converter. The ATS Commander module allows the driver to have manual control over the engagement and disengagement of the torque converter clutch.

The variable control panel on the face of the ATS Commander Module allows the driver to select and view the speed at which the torque converter clutch will engage and disengage. When the round button on the left side of the commander face is depressed and the blue light is turned off, the ATS Commander Module is disabled. This will allow the factory PCM (Power Train Control Module) to operate the vehicle as it is in stock form. The OFF position is indicated by none of the lights being lit on the face of the box.

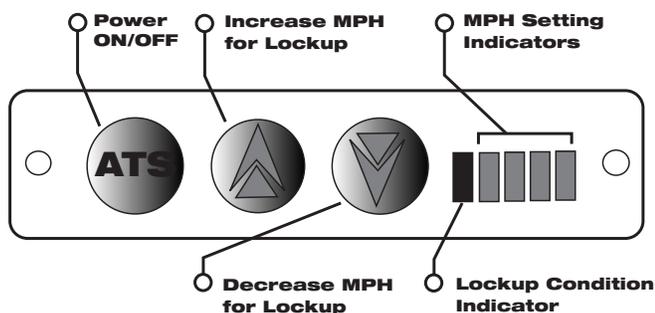
To activate the unit, depress the round button (ATS Button) on the left side of the face, one of the blue lights on the face will light up, the light also indicates the level the commander was set on before it was last shut OFF. This will tell the ATS Commander Module to watch for vehicle speed.

The minimum speed the ATS Commander Module will engage is around 12 mph. The minimum speed of around 12 mph is selected by depressing the down arrow button on the display. This will cause the Commander to send a signal to the transmission and exhaust brake to lock-up the torque converter at its minimum allowable speed. When the up arrow key is depressed the lock-up speed will increase by about 5 mph. When the down arrow key is depressed the lock-up speed will

decrease by about 5 mph. One of the blue lights on the right side of the display will indicate the set speed selected by the driver. When the Blue light is at full right the lock-up speed is indicating a maximum set speed around 55 mph.

Note: the factory TCC apply signal from the factory PCM will pass through the **ATS Commander Module** if the factory PCM signal is commanded (turned ON) before the **ATS Commander Module** sends the lock-up signal.

When the **ATS Commander Module** is turned ON the torque converter will not disengage until the minimum set speed is reached. The **ATS Commander Module** is easy to operate. Unlike other torque converter controllers, it offers variable lock-up speed control. The adjustable control panel allows the driver to select the vehicle speed at which the torque converter locks up. To better understand how the **ATS Commander Module** is operated, we recommend you look at the illustration provided.



There is an OFF position and an ON position. The OFF position disables the **ATS Commander Module** and allows the factory computer to operate the torque converter lock-up command as if the **ATS Commander Module** was not installed. The OFF position also serves another function when

used with an exhaust brake, the **ATS Commander Module** has been designed to operate the torque converter clutch along with operating the exhaust brake. When the Commander is in the OFF position, it energizes the exhaust brake (if the exhaust brake is turned ON). Many people prefer to use the exhaust brake as an engine warmer in cold conditions. In order to use the exhaust brake as an engine warmer all that is necessary is to turn OFF the **ATS Commander Module** and turn ON the power to the exhaust brake. When the **ATS Commander Module** is powered ON, the exhaust brake will only engage when the torque converter clutch is engaged.

When the **ATS Commander Module** is sending the apply signal to the converter clutch and exhaust brake the green light in the control panel will illuminate. When the **ATS Commander Module** disengages the torque converter clutch, the exhaust brake also turns OFF at the speed previously selected by the driver. We have designed this feature into the **ATS Commander Module** to automate the torque converter clutch and exhaust brake actuation. This eliminates the need to turn OFF the exhaust brake when coming to a stop. This feature has been designed for heavy pullers that require engine braking at low speeds. The **ATS TripleLok Converter** and **ATS Valve Body** have been designed to maximize this feature. The minimum set speed position of the **ATS Commander Module** will only be effective when installed with the **ATS Valve Body**. You can use this function on a stock valve body, however you will not notice a difference in performance at low speeds due to the design of the factory valve body. When used with the **ATS Valve Body** and **ATS TripleLok™ Converter**, you will find you can have 100% engine retard down to around 12 mph. Below this speed, the torque converter clutch and exhaust brake, if equipped, will automatically disengage. When used with the factory (stock) valve body you will not be able to utilize the 1st or 2nd gear lock-up feature, lock-up will only occur in 3rd and 4th gear. The **ATS Commander**

Module works off of an interface that will only take effect when the vehicle is above the speed selected by the driver.

The best way to familiarize yourself with the operation of the **ATS Commander Module** is to set the **ATS Commander Module** to the maximum (highest) set speed (up arrow) available. Cancel the Over Drive (OD light ON) if it is not already off and hold a steady speed of approximately 35 mph. While cruising at a speed of 35 mph, depress the down arrow on the controller panel, watching for the green light on the **ATS Commander Module** to illuminate; about 3 seconds after the light illuminates, the torque converter clutch should engage. You can familiarize yourself with the adjustment of the control panel by repeating this step at different speeds below the posted speed limit.

There is an automatic over drive cancel built into the **ATS Commander module**, this feature cancels the over drive as the vehicle is accelerated from a stop. The OD cancel only takes place immediately after the ignition has been cycled, after the initial cancel signal is sent the feature is disabled.

2 Operating Instructions when used with a factory or stock valve body

During deceleration on vehicles with a stock type converter, the lock-up clutch can be manually engaged by applying pressure to the accelerator pedal until lock-up engages, after the converter clutch has been seated, lift your foot off of the accelerator. Accelerator pedal pressure is also required after shifting out of or into overdrive to reengage the lock-up clutch. The **ATS Commander Module** is programmed to disengage the lock-up clutch and exhaust brake once the vehicle's speed drops below the pre-selected set speed selected by the driver when in the ON position. For proper operation of the Dodge transmission with a stock valve body, the lock-up clutch must disengage before the transmission will shift out of overdrive 4th and into 3rd gear. The **ATS Commander Module** compensates for this by disengaging the lock-up clutch for 2.5 seconds when the (O/D) button is activated. To reactivate the lock-up, apply pressure to the accelerator pedal until lock-up engages, then lift your foot off of the accelerator pedal. The factory valve body and most after market valve bodies will not make a shift from 4th gear to 3rd gear with out releasing the torque converter clutch momentary, this causes additional stress on the torque converter clutch when the converter clutch is re-engaged after the 4-3 shift takes place. This is the reason it is important to apply throttle pressure during the 4-3 down shift to synchronize the converter clutch to the engine.

3 Transmission Quirks

On some 1999 and up Dodge trucks that are programmed with California emissions the commander module will set a diagnostic trouble code for insufficient converter slip. The best way around this known condition is to raise the commander engagement set speed above 42mph during acceleration.

4 Setting up the ATS Commander Module for Installation

The ATS Commander Module will need to be set up for your vehicle and application. The ATS Commander Module will need to be disassembled to access the dipswitches on the electronic board. You will need a 1/16th - inch hex (Allen wrench) to remove the face from the ATS Commander Module. After the face has been removed the electronic board can be slid out of the casing from the front. The digital face is attached to the circuit board with a ribbon cable; do not force the board from the case. There are four (4) switches on the circuit board; the switches allow the user to select the features desired. The settings are listed below. When reinstalling the face on the commander module do not over tighten the 2 small screws on the face.

Dip Switch selection:

	ON	Switch	OFF
Momentary TCC disengagement from 4 th to 3 rd when OD button is pushed <ul style="list-style-type: none"> Dodge with stock valve body flip #1 switch to ON position Dodge with ATS valve body flip #1 switch to OFF position 	Enable	1#	Disable
Dodge automatically cancels OD from a stop, only cancels once after ignition has cycled, cancels at speed above 3mph. <ul style="list-style-type: none"> If you want automatic OD cancel from a stop flip #2 switch ON If you do not want automatic OD cancel from a stop flip #2 switch OFF Note: This feature is not available on Fords from 90 to 97 flip #2 OFF	Enable	2#	Disable
Speed setting, On = low speed cut out is 8mph, Off = low speed cut out is around 18mph, recommended setting	Lower	3#	Higher
This switch must be set for the correct speedometer calibration <ul style="list-style-type: none"> Dodge, 1994 to 2004 flip #4 switch to ON position 	All	4#	

We have pre set the dip switches for Dodge, factory valve body, 18mph TCC cut out, momentary release of TCC during a 4th to 3rd gear down shift and automatic over drive cancel when vehicle is first started out from a stop. As you can see there are many combinations available to the driver. We have given you some pre-selected combinations for your particular applications.

Dodge With ATS Valve Body, 94 to 04	1#OFF	2#ON	3#OFF	4#ON
Dodge With Stock Valve Body, 94 to 04	1#ON	2#ON	3#OFF	4#ON

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