Electronic Throttle Accelerator

"WIND BOOSTER" as the cammus brands, represents the development and forward-looking technology in the field of car modification. In 2007, WIND BOOSTER, the first one to put electronic throttle accelerator which is independently developed to the market in China, so as to determine the leadership on modification technology of car electronic throttle.

Functions of products

Help the vehicle speed

WIND BOOSTER can solve the lag problem of electronic throttle and help the vehicle speed which can make driving pleasure doubled.

Accelerate switch function

WIND BOOSTER can be set "enable" or "off" accelerating function. For example, when traffic is good, open accelerated mode car; Poor road conditions like rainy weather, icy winter road, close accelerated mode to ensure safe driving.

Accelerate level adjustment function

WIND BOOSTER can set the level of acceleration, including "half speed" and "full acceleration". Half acceleration for daily use to improve running speed, and maintain safe driving. Full acceleration for racing, make the car accelerated relentless and quick in reaction.

Accelerate mode switching function

WIND BOOSTER can switch "manual mode" and automatic mode "Manual mode" for manual transmission vehicles" and automatic mode "for automatic transmission vehicles. WIND BOOSTER is setup according to the different transmissions which can make shift more smooth, reduce the impact effectively result from the frequent shift as well as avoiding the increase of fuel consumption caused by downshifts frequently of automatic-shift cars.

Avoid engine carbon deposition

Long term use of WIND BOOSTER can make electronic throttle responsive, thus can reduce the carbon deposition on engine, engine keeps new after a long time.

Avoid sudden rush

WIND BOOSTER solves the problem lag response of electronic throttle. This will effectively avoid sudden rush before the vehicle starts.

SHENZHEN CAMMUS ELECTRONIC TECHNOLOGY CO., LTD
**Improve sensitivity throttle, refueling easily**

Through improving the sensitivity of electronic throttle sensitivity, WIND BOOSTER makes driving easier. Especially when driving fiercely, due to frequent overtaking looped, frequent switching of the accelerator and brake is needed, after the installation of WIND BOOSTER, the throttle will become very sensitive, very relaxed, driving will be more easily.

**More information on WIND BOOSTER**

**Working principle**

**The electronic throttle and cable throttle**

For environmental protection, economy, reliability and other various reasons, now most new cars generally are used to electronic throttle. The so-called electronic throttle is relatively for the cable throttle, the traditional cable throttle use a fine wire rope to connect the gas pedal and the solar terms, the depth of gas pedal corresponding opening and closing size of the solar terms; The electronic throttle doesn't have cables, Throttle on the depth converted to the resistance value of the resistance by install a potentiometer (variable resistor) inside pedal, By sampling the value of the resistor, automobile electronic system determines the throttle pedal depth indirectly, finally, the position of the throttle is controlled by the ECU stepper motor. Through the comparison of principle, it's not difficult to find that, the feature of cable throttle is simple in the system, direct in control, the open between the accelerator pedal and the throttle is 1:1; while the feature of electronic throttle is that accelerator pedals just indicate the driver's operation intention, and the final throttle control is decided by the ECU.

**In the Electronic throttle models the features of ECU controls throttle**

In the electronic throttle models, when the ECU controls throttle, it will analysis comprehensively the throttle on the depth and the vehicle conditions, finally calculate the current appropriate throttle opening degree. When the driver started suddenly (end the pedals), according to the analysis of current speed, throttle size, from the fuel economy and emission reasonable point of view, ECU will limits throttle open range properly, and control fuel injection system make maximum fuel injection at the same time. This makes the driver feel that, after pulling the throttle down, the car begins to send force after a time delay obviously, which is called the hysteresis. Therefore, the hysteresis is actually formed through engine instantaneous power output limited by ECU, of course, it also brings the benefits like saving on fuel, protection on environment.

However the electronic throttle is not only used to limit the power output of the engine, when the automobile is running, if you fast on / loosen the accelerator pedal 1/3 depth, you can feel the car speed up / speed cut obviously, its effect is equivalent to almost completely on / off the accelerator, how this is going on? This is the case that ECU assists drivers to speed up / speed down according to the current condition. Therefore, in running process, ECU will help the drivers to achieve the desired acceleration / deceleration operation according to condition in electronic throttle model, allowing the driver to operate the throttle pedal easier.
Principle of WIND BOOSTER

In short, WIND BOOSTER is produced for alleviating the hysteresis of throttle. According to the characteristics of electronic throttle, WIND BOOSTER has the following advantages:

1. Accelerates to open the throttle, improve static response

   The “acceleration” of WIND BOOSTER achieved mainly through increasing throttle's sensitivity in response. When the system realized that the driver has the intention of acceleration, WIND BOOSTER can drive the throttle open as soon as possible through circuit, so that the throttle sensitivity in response get improved. But WIND BOOSTER does not reduce the grading of accelerator pedal signal like a lot of people think about, in fact the accelerator pedal signal remains the stepless adjustment.

2. Enlarge the throttle signal growth, enhance the dynamic response

   When the accelerator pedal is pulled down, the accelerator will calculate the throttle signal rate of change according to rang of throttle and time calculating the throttle signal rate of change. The faster the change is, the stronger the accelerating requirement is. Then the WIND BOOSTER will increase the rate of change, the ultimate realization of the fast dynamic response effect is better.

3. Provide false driving style for the ECU to adjust of engine parameters

   Modern engine’s ECU generally has a driving style adaptive ability, if drivers often pull the throttle down rapidly and deeply, (commonly known as the pull speed), ECU will gradually think that the driving style trends “intense”, then the engine will slowly adjust the throttle, fuel injection systems to obtain the best adjustment factor for this style. After long-term use of WIND BOOSTER, even according to “mild” driving style to drive, the engine will still get a “fierce” driving experience, which is equivalent to the adjustment of the ECU’s parameters, as time passes, the engine will automatically modify its parameters to fit the style.

Instructions for usages

The 1 entry set status

Make the ignition key hit II files (not ignition), after fast step in 2 seconds, loosen the accelerator pedal 3 times (fully depress, immediately release count once), you will hear the ”di” with a prompt, which indicates entering setting state.

The 2 setting process

After entering into the setting state, keeping completely pulling down the accelerator pedal not to loosing, you will hear the following prompt tone:

"Di" 1-[delay 2 seconds]-> (1)
"Di di" two sound-[delay 2 seconds]--> (2)

"Di di di" three-[delay 2 seconds]--> (3)

"Di" 1-[delay 2 seconds]--> (4)

"Di di" two sound, over.

Setting results will be determined according to the time when loosen the throttle.

In the position (1), loosen the accelerator pedal, set to half acceleration, and there is no longer any prompt tone, setup ended;

In the position (2), loosen the accelerator pedal, set to full acceleration, and there is no longer any prompt tone, setup ended;

In the position (3), loosen the accelerator pedal, set to close, and there is no longer any prompt tone, setup ended;

In the position (4), loosen the accelerator pedal, set to auto mode, and there is no longer any prompt tone, setup ended;

At the last, loosen the gas pedal, set to manual mode, setup is over.

Note: the factory is set to full acceleration, manual mode.

Installation Guide

Take installing the WIND BOOSTER electronic throttle accelerator for BMW 530 for an example
To install the WIND BOOSTER electronic throttle accelerator for BMW 530

This is the accelerator pedal of the BMW 530 which needs to be removed
The looking of BMW 530 electronic throttle pedal which being teared down

Install  the WIND BOOSTER electronic throttle accelerator
Installed the BMW530 electronic accelerator pedal back