SpeedSafe

Electronic Speed Limiter for ATV's

The 'SpeedSafe' speed limiter is an electronic speed limiter for fitment to ATV's (Quad Bikes) and RTV's and UTV's (side by side 4 wheelers and utility vehicles).

It is a 'stand-alone' device or may be added to an existing 'QuadCruise' cruise control installation. A cruise control cannot be added to an existing speed limiter installation without replacing most of the parts.

The 'SpeedSafe' speed limiter can be set to any speed desired. The 'SpeedSafe' speed limiter allows full use of the available power on the vehicle up to the limiting speed. The limiting speed is normally defaults to 25kph (15mph), but can be set to any speed the owner/manager desires.

When the vehicle reaches the limiting speed, the speed limiter causes the engine to misfire, progressively cutting engine power by controlling the operation of the fuel injector in most cases or the ignition system on carburetted vehicles.

The principles behind the 'SpeedSafe' speed limiter are very simple:

• The SpeedSafe 'computer' monitors the frequency of electrical impulses generated by the speed sensor. This may be the vehicles' speedometer sender or a speed sensor provided with the cruise control, depending on the model of ATV (Quad) it is fitted to;

• When the vehicle reaches the pre-set limiter trigger speed, the computer sends a signal to the speed limiter circuit to cut ignition or fuel flow (on most fuel injected models) but only for a very short period. As a result the engine develops a misfire. The severity and rate (how often) of the misfire is adjustable (see below).

• As soon as the speed drops below the limiter trigger speed, normal operation resumes.

The speed limiter is designed this way to prevent a sudden cut in power from destabilising the vehicle in a turn.

'Tamper Resistant' and 'Standard' configurations are available. This option must be specified when ordering the speed limiter in order to be sure the correct 'default' setting is supplied.

When 'Tamper Resistant' is selected, in most cases any interference with the speed limiter (disconnecting electrical plugs, removing a fuse or other 'tampering' and most failure modes) will result in the vehicle not running. Most electronic or electrical failures will also prevent the engine running. When 'Standard' is selected, in most cases disconnecting wires or removing the fuse will disable the speed limiter, allowing the vehicle to operate normally Most electrical or electronic failures will also disable the speed limiter, but not the vehicle. The hardware for both versions is the same, with a minor change to one wiring connection.

If failure of the vehicle is possibly life threatening (due to weather conditions or operating in remote areas) do NOT order 'Tamper Resistant' configuration, order 'Standard' configuration.

There are several different operating modes available. Note that not all of these modes are available on older cruise controls. All new speed limiters have these modes.

When 'Soft Cut Mode' is selected, at the limiting speed the engine develops a slight but rapid misfire. If the operator tries to go faster by applying more throttle, the speed limiter makes the misfire worse as speed increases. The 'range' of the speed variation from slight misfire to severe misfire is selectable

(0.5kph to 8kph in several steps) as well as the 'rate' of the misfire (2, 4 or 6 'misfires' per second). The misfire is so severe at the highest cut rate, the vehicle cannot exceed the maximum speed. If a very 'firm' limit is desired, a low speed range (0.5kph) would be selected, if a 'soft' limit is desired a high speed range (8kph) would be selected. The 'rate' of the misfire also affects the 'feel' of the limiter, but not the operation. 2 misfires per second is very rough, 6 is less rough.

When 'Hard Cut Mode' is selected, at the limiting speed the engine is cut several times a second (4 to 5 times per second). The severity of the cut or misfire is selectable to produce a moderate 'roughness' in the misfire to a more severe misfire. If the limiting speed is exceeded by 2kph, the engine is cut completely until the speed drops below the 2kph 'buffer'.

'Penalty Mode' can also be selected when using either soft or hard cut modes. If the operator persists in running on the limit (causing misfire) for more than 5 seconds, the limiting speed is reduced progressively and is held for a period of time. If the operator keeps the speed below the limiting speed, after the time has elapsed, the original limiting speed is restored. The amount of the speed reduction and the penalty time period are both selectable.

If the speed limiter is purchased as a stand alone unit, you will get all the parts needed to fit the 'SpeedSafe' speed limiter to your vehicle.

If you already have a 'QuadCruise' cruise control, then you only require the extra wiring harness to connect the speed limiter function. The cruise control already has the speed limiter function built into it*.

Mounting brackets and other components are made to suit specific ATV models. The calibration of the computer is also set up to suit the specific model of ATV.

If the ATV does not come with a suitable electric speedometer, the kit comes with a speed sensor. This is usually mounted on the rear axle and detects rear wheel speed. On some models the speed sensor may be mounted on the gearbox or a drive shaft.

Alterations to the ATV are minimal and generally easy, if required. Electrical connection is simply a matter of plugging the cruise control loom into the vehicle's loom in most cases, as the same type of electrical connectors as those used on the vehicle are provided. If alterations to the vehicle loom are required, all terminals for connection are supplied in the kit. In most cases, electrical components for the speed limiter are placed in the ATV's luggage locker at the rear of the vehicle. Suitable grommets are provided on the wiring loom to seal any holes cut in the locker.

The installation instructions provided with the speed limiter are very detailed. A comprehensive trouble-shooting guide is also provided, including a full electrical schematic diagram.

See your dealer, our web site or phone us, for full details of models and prices.

*Note: - Some very early versions of our 'QuadCruise' cruise control electronic module (computer) do NOT have the speed limiter function. Any computer with a version number 2.49 or later has the speed limiter function built in. You will find a label on the back end plate of the computer with a version number on it.

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If the label is missing, the following test will tell you if you have version 2.49 or later.

If your 'QuadCruise' control switch has a toggle ON-OFF switch (most have a push button switch), move the switch to the OFF position.

- Turn the vehicle ignition switch OFF.

- Press and HOLD the RES/DEC button.

- Turn the ignition switch ON.

- Release the RES/DEC button.

If you have a version that is suitable, the indicator light on the control switch will start flashing slowly. On the later small switch with a push button ON-OFF the indicator light will come on red and flash yellow. On the earlier large switch with a toggle ON-OFF the indicator light will flash red on and off .

- Turn the ignition switch OFF.

If your version is earlier than 2.49, the indicator light will not flash. Your computer does NOT have the speed limiter function built in. You will need to upgrade to a later version computer to be able to fit the speed limiter.

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