Falcon Speedometer Adjuster Module
Installation and Setup Instructions

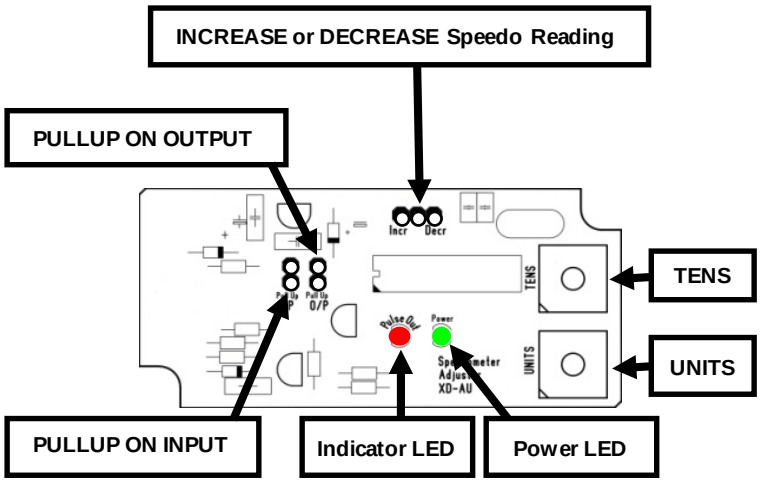
1. Operation

The Speedometer Adjuster unit adjustment range will either double (increase) or halve (decrease) the VSS (speedo) signal i.e. it will handle either doubling or halving the standard diff ratio and every combination in between.
The Increase range (+1% to +100%) is 100 steps as selected by the TENS and UNITS rotary switches.
The Decrease range (-1% to-50%) is 100 steps as selected by the TENS and UNITS rotary switches.

The Increase/Decrease setting is via a Link Jumper (see label on back of lid).

The speed adjustment will work in the range of 2 kph to 250 kph (even at worst case through a 4.11 diff and in fifth gear).
The input signal wire can be "pulled up" (to +ve input voltage via 2K2Ω) via a Jumper Link if required.
The output signal wire can be "pulled up" (to +ve input voltage via 2K2Ω) via a Jumper Link if required.

Percentage Setting - The amount of increase or decrease is set via the rotary switches. The upper switch is TENS and lower switch is UNITS (see back of lid)
Green LED indicator - Indicates power is connected.
Red LED indicator - The indicator will be ON in conjunction with an output signal being generated. At low speeds the LED will blink slowly (these are the actual output pulses).
Pull-Up resistors - A voltage Pull-Up resistor may be required for the sender or cluster to operate correctly. These Pull-Ups are provided via Jumper Links. One link sets Pull-up on the input and a second link sets pull-up on the output.
The Input pull-up is required for use in Falcons.



2. Wiring

Wire colour	*Function*	*Connection*
Red	+12v supply	Connect to Speedometer sender +8v supply. Alternatively, connect to +12v circuit which is active only when Ignition is ON. Power input range is 6v – 22v.
Black	Ground	Connect to –ve wire that goes to Speedo Sender (or –ve wire used by Cluster).
Green	Pulse Input	Input from VSS Speedo sender unit (Sender unit on Gearbox.
White	Pulse Output	Modified output. Connect to Speedometer input wire.

3. Installation

Install the unit inside the vehicle under the dash (location as required).

Connect RED wire to the +8v feed wire going to the Speedo Sender unit… this wire will be in the same connector group as the VSS (speedo signal) wire.
Alternatively, the RED wire may be connected to any +12v feed that is on only when the Ignition is on.

Connect BLACK wire to the –ve wire used by the speedo/cluster. This wire is also usually located in the same plug group as the VSS and +8v feed wires.

At an appropriate location CUT the white wire in the loom. Cut at a location that allows the ends to be stripped and connected to the wires from the Speedo Corrector Unit. Take note of which of the white wires comes from the Transmission Sender Unit and which goes to the Dash/ECU/etc.

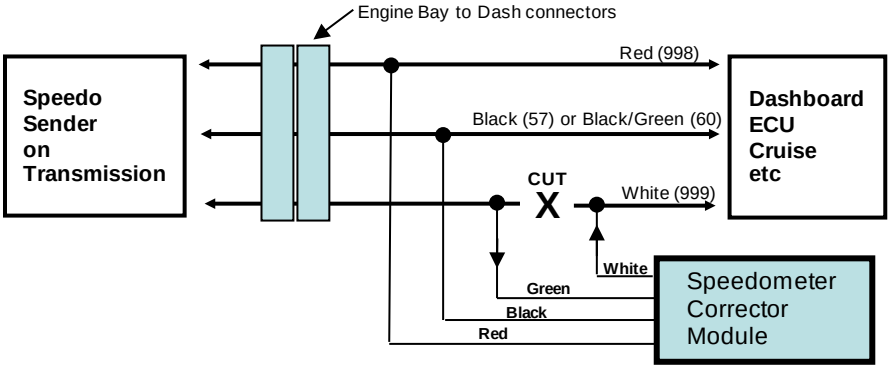
Signal Input wire GREEN is connected to the wire from the transmission mounted speedo sender unit.

Signal Output WHITE wire is connected to the speedo input wire to the Cluster.

SEE Section 6 for wiring details.

See Setting Up, below, on Jumper Link settings.

Solder all connections to Loom wires – do NOT use "tap" type connections.
Use a cable tie to secure the unit to the loom, or other suitable location, to avoid vibration.



4. Setting Up

The jumper and switches can be altered at any time, vehicle running or not.
The new setting will take effect in about two seconds.
The LED may go out after a change but will light again (assuming there is a pulse input from the Speedo Sender Unit) in approx 2 seconds after a switch change.

Set the Increase/Decrease jumper – Increase will increase the current reading (used if speedo is showing less than actual speed).
- Decrease will decrease the current reading (used if speedo is showing higher than actual speed)

Set the Input Pull-Up - Cut the speedo wire, turn ignition on, test for voltage on wire from sender, if no voltage is present you will need to have the "Input Pull-Up" link in place. If there is a voltage then leave the "Input Pull-Up" link out.

Set the Output Pull-Up - Cut the speedo wire, turn ignition on, test for voltage on wire going to the Speedometer, if no voltage is present you will need to have the "Output Pull-Up" link in place. If there is a voltage then leave the "Output Pull-Up" link out.

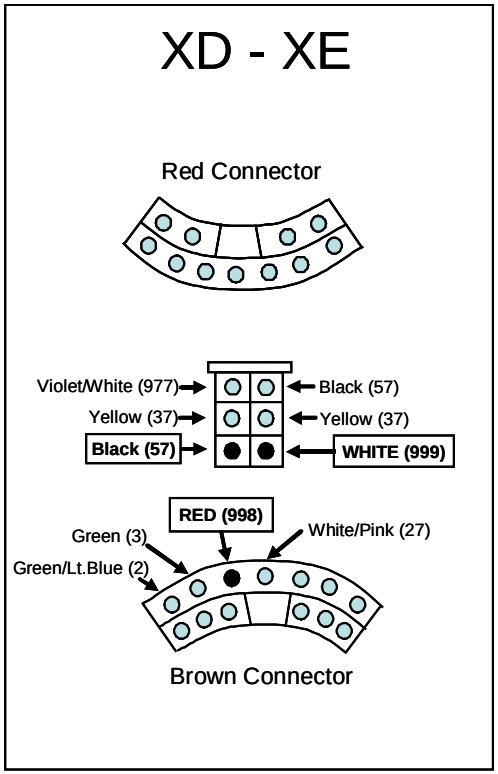
5. Testing

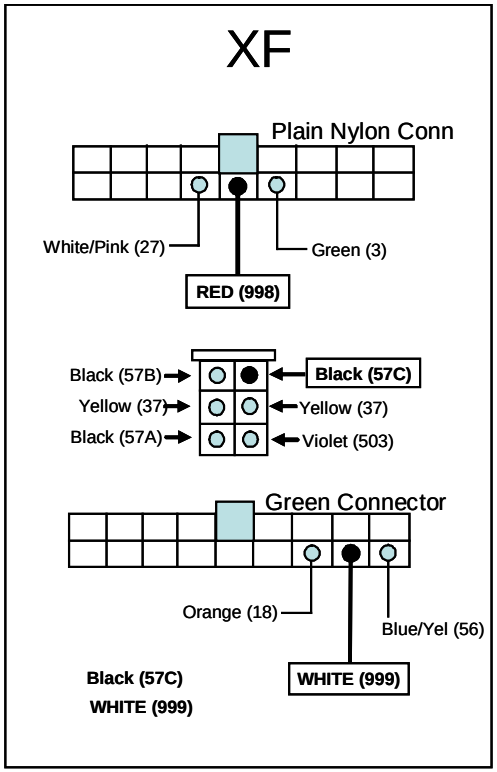
The Indicator LED will light in conjunction with Output pulses. This shows input pulses are being received.

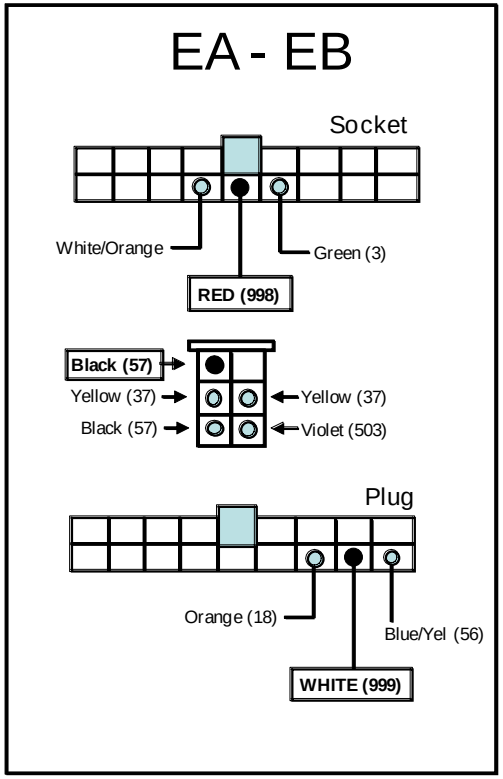
Input Test with a Multimeter - There should be more than +4v on the Input wire. This voltage will vary (between +2v to as high as +12v) as pulses are sent by the Speedo Sender unit in the gearbox.

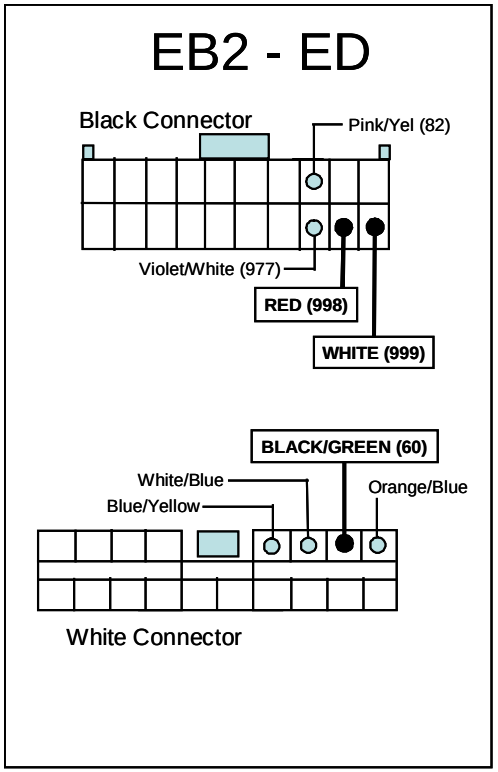
Output Test with a Multimeter - There should be more than +4v on the Output wire. This voltage will vary (between +2v to as high as +12v) as pulses are sent by the Speedo Adjuster unit (and LED Indicator should be on).

Unit Wire colour	***Function***	***Description***	***CONNECTION DETAIL***					
			XD / XE	***XF***	***EA-EB***	***EB2-ED / XG***	***EF-EL***	***AU Series***
			Connector Locations:- Brown curved connector and small block connector under dash above accel pedal	Connector Locations:- Square connectors under dash above accelerator pedal	Connector Locations:- Square connectors under dash above accelerator pedal	Connector Locations:- Square connectors under dash above accelerator pedal	Connector Locations:- Very large dual connector block on bracket in RHS of pedal box.	Connector Locations:- Square connector under dash under Passenger side A pillar (above ECU).
Red	+8v or +12v supply	Connect to +12v circuit which is active only when Ignition is ON. Can be connected to Speedometer sender +8v supply. Power input range is 6v – 22v.	Red wire (998) on Brown Curved connector below “A” pillar. Voltage is 8v.	Red wire (998) on plain nylon body connector below “A” pillar. Voltage is 8v.	Red wire (998) on plain nylon body socket connector below “A” pillar. Voltage is 8v.	Red wire (998) on small 20pin Black bodied connector below “A” pillar. Voltage is 8v.	Red wire (998) on large connector assembly on RH side of pedal box and below “A” pillar. Voltage is 8v.	Red wire (998) on large connector above ECU plug on LH side under dash and below “A” pillar. Voltage is 8v.
Black	Ground	Connect to –ve wire that goes to Speedo Sender (or –ve wire used by Cluster).	Black wire (57) beside White wire on 6 pin connector below “A” pillar.	Black wire (57) on 6 pin connector below “A” pillar.	Black wire (57) on 6 pin connector below “A” pillar.	Black/Green wire (60) on white 18pin connector below “A” pillar.	Black/Green (60) wire on large connector assembly on RH side of pedal box and below “A” pillar.	Black/Green wire to ECU bracket. OR any one of the four(4) wires at one end of the ECU plug. ECU is behind LH side kick panel.
Green	Pulse Input	Input from VSS Speedo sender unit (Sender unit on Gearbox.	White wire (999) in 6 pin connector. Connect to White wire going to the plug.	White wire (999) in Green body connector. Connect to White wire going to the plug.	White wire (999) in nylon plug body connector. Connect to White wire going to the plug.	White wire (999) on small 20pin black connector. Connect to White wire going to the plug.	White wire (999) wire on large connector assembly on RH side of pedal box and below “A” pillar. Connect to White wire going to the plug.	White wire (999) on large connector above ECU plug on LH side under dash and below “A” pillar. Connect to White wire going into loom.
White	Pulse Output	Modified output. Connect to Speedometer input wire.	After White wire (999) in Loom is cut……. connect to White wire going to the dash.	After White wire (999) in Loom is cut…… connect to White wire going to the dash.	After White wire (999) in Loom is cut….. connect to White wire going to the dash.	After White wire (999) in Loom is cut….. connect to White wire going to the dash.	After White wire (999) in Loom is cut….. connect to White wire going to the dash.	After White wire (999) in Loom is cut…..connect to White wire going to the plug.
Pull-Up on Input			Install Link	Install Link	Install Link	Install Link	Install Link	Install Link
Pull-Up on Output			No Link	No Link	No Link	No Link	No Link	No Link





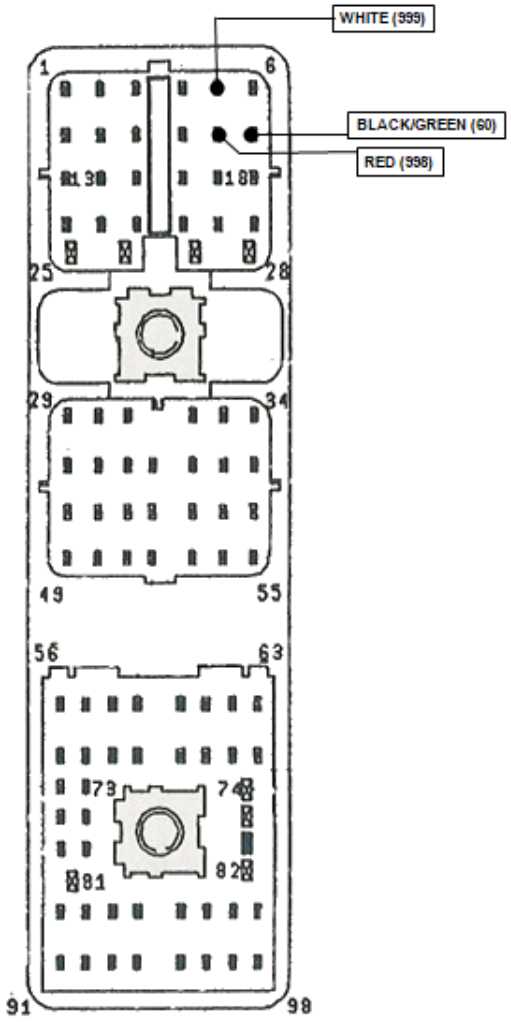




XD – XE – XF – EA – EB – EB2 – XG - ED

Connector Locations:- Under dash below Driver side A pillar - above accelerator pedal.
Connectors join Engine bay loom to Dash loom.

Connections:- Connector view shown in all cases is the Dash Loom side connector viewed from the wire entry side.
"T" into the RED(998) and BLACK(57) wires (Black/Green(60) in EB2/ED).
Cut the WHITE(999) wire 50mm from the plug or at a place that allow ends to be stripped and joined.
White(999) wire going into the plug goes to Speedo unit on transmission – Connect Green.
White(999) wire going into Dash loom side is feed to the Instrument panel – Connect White.



EF / EL

Connector Locations:- Under dash below Driver side A pillar - above accelerator pedal
Large connector block mounted on a metal bracket.
Metal bracket is bolted onto the pedal box.
May be easier to unbolt bracket to gain better access to connector.

Connections:- Diagram shows connector viewed from cable entry side.
Wires go to dash loom.
"T" into the RED(998) and BLACK/GREEN(60) wires.

Cut the WHITE(999) wire 50mm from the plug or at a place that allow ends to be stripped and joined.

White(999) wire going into the plug goes to Speedo unit on transmission – Connect Green.
White(999) wire going into Dash loom side is feed to the Instrument panel - Connect White.

Note that the Dash feeds VSS pulses to all other systems.

AU series

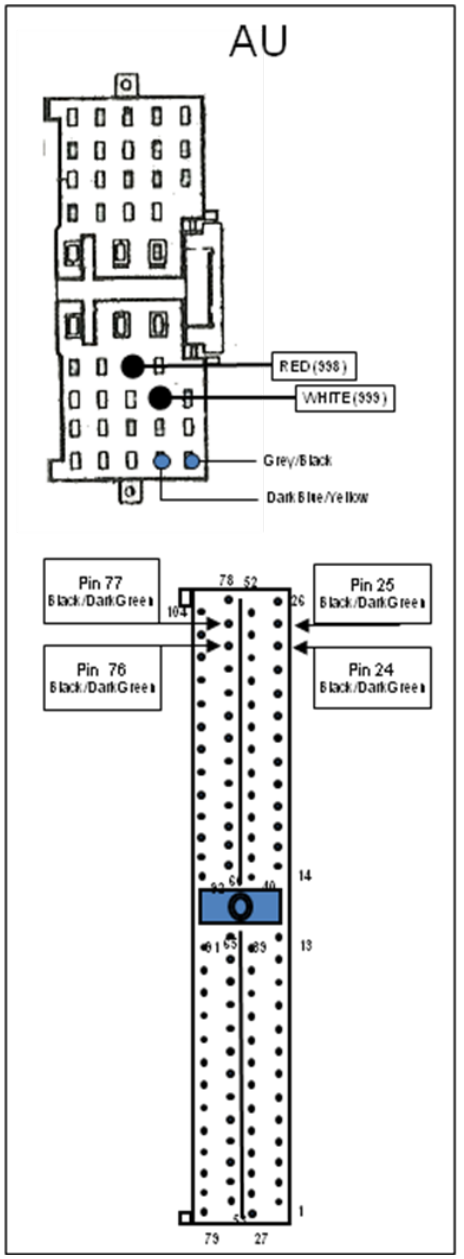
Connector Locations:- Under dash below Passenger side A pillar just above ECU.
If the retaining plate on ECU is removed to drop ECU down to gain access to the plug..... DO NOT UNPLUG the ECU.

Connections:- Diagram shows connector viewed from cable entry side.
Wires go to dash loom.
"T" into the RED(998) wire,
Cut the WHITE(999) wire 50mm from the plug or at a place that allow ends to be stripped and joined.

White(999) wire going into the loom side goes to Speedo unit on transmission – Connect Green.
White(999) wire going into the connector is feed to the Instrument panel - Connect White.

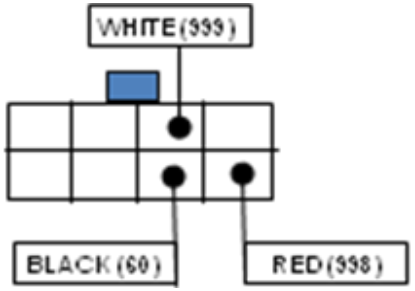
Note that the Dash feeds VSS pulses to all other systems.
GROUND – 2 options:-

1. "T" into the BLACK/GREEN(60) wire "flylead" to the lug secured to the retainer bracket.
2. PREFFERED connection is into one of the four BLACK/GREEN(60) wires going to the ECU connector.



XH

Connection is in the ENGINE bay.
Connector is located near the heater hoses connection point in the firewall.



Connections:- Diagram shows connector viewed from cable entry side of the connector carrying the loom wires (the mating connector carries the wiring to the transmission).
Wires go to dash and ECU loom.
"T" into the RED(998) wire,
"T" into the BLACK RED(998) wire,

Cut the WHITE(999) wire 50mm from the plug or at a place that allow ends to be stripped and joined.

White(999) wire going into the plug goes to Speedo unit on transmission – Connect Green.
White(999) wire going into Dash loom side is feed to the Instrument panel - Connect White.

WARNING – the Adjuster Module case is NOT Waterproof.
Locate the unit inside a plastic bag (or similar) to make waterproof.
Secure the unit into a location, in the engine bay, away from heat sources (heater pipes, exhaust, air con, etc pipes).

DISCLAIMER

This device has been designed to be, electrically, well within the voltage, current and signalling ranges expected within the systems fitted to the vehicle. This device has been designed and built to operate effectively and reliably.

Due to the wide range of variables within the vehicles to which this unit may be fitted, the designer and maker of this unit provides no warranty or guarantee to the accuracy of the unit in relation to speedometer readings (versus any indicated speed nominated by law enforcement and/or speed detection devices).

Limitation of liability and damages: The entire and sole liability of the designer and maker of this device shall be limited to the greater of:-
a) the purchase amount of this device, or;
b) the minimum amount permitted by applicable laws.

Installation and use of this device is regarded as acceptance of the above terms.