

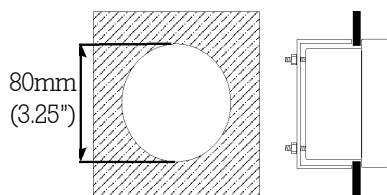
Stack Clubman Tachometer

(Model ST200)



Important Note

Your Tachometer is delivered in demonstration mode. If you have not set the cylinders the tachometer will automatically start running when you connect the Power.



Mounting

Fits 80mm (3.25") cut out. Insert in hole, fit U bracket and tighten down Nyloc nuts.

Note this Tachometer does not require any protection against vibration.

Connections

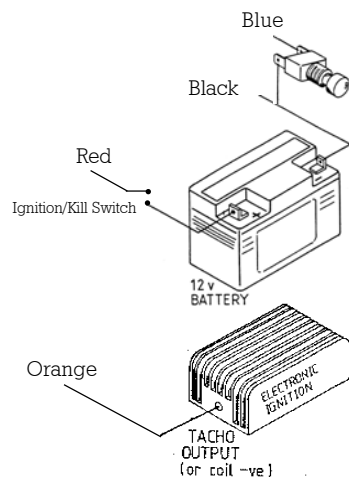
Red wire to a switched 12V supply. e.g. Ignition switch (Kill Switch on competition vehicles).

Black wire to the battery negative or to the same ground connection as the ignition system.

Blue wire to one terminal of the switch, and the other side of the switch to a convenient ground point (Black).

Orange wire to the appropriate tachometer signal pickup point.

Refer to table on following page



Part No. 542046-001

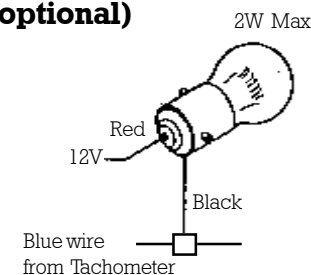
Ignition connection table

Ignition system	Connection point (Orange wire)
Coil & Points	Coil Negative (Low tension)
HEI systems	Coil Negative (Low tension)
Magneto (Ext. or Int)	Ground switch terminal (magneto side)
MSD	Tachometer output
Magneto CD (2 stroke)	Use HT pick up (ST697)

Stack Shift Light connection (optional)

Negative (black) wire of the shift-light to the Tachometer Blue switch wire and Positive (red) wire of the shift-light to a switched 12 Volt supply - e.g. Master switch, Ignition switch.





Warning: If a non STACK shift light is used the **maximum** permitted current draw is **0.2 Amps**. Exceeding this will **permanently damage the Tacho**.



Setting Engine cylinders (IMPORTANT please read)

The tachometer is factory set in **demonstration mode**. If you power up the Tachometer without setting the cylinders the pointer will automatically start moving.

Set the cylinders as follows:

1. Press & hold the switch  and apply power to the tachometer.
2. Release the switch  when the pointer has stopped resetting on the stop pin.
3. Press the switch immediately  to select the number of cylinders - the pointer will move to show the number of cylinders selected. e.g. Press 4 times for 4 cylinders (pointer will point to 4000 RPM)
4. When the desired number of cylinders have been selected wait  **3 seconds** and the tachometer will resume normal operation with the new setting.
5. To check the setting repeat operations 1 & 2 above, the pointer will move to the selected number of cylinders. After 3 seconds the unit will revert to normal mode.

Note: For 2 stroke ignition systems set the cylinders to double the actual number of cylinders.

For multi-coil ignition systems use the tach output provided or connect to one coil only and configure the tacho for the cylinders the coil fires.

When using a dedicated Tacho output check the number of pulses per engine revolution :- 1 pulse per rev = 2 cylinders (4 stroke) = 1 cylinder (2 stroke)

Normal Operation

When power is applied to the tachometer, the pointer will reset moving backwards against the stop before moving to the current RPM (Zero RPM if the engine is not running). When power is removed, the pointer is held at its' last position (it doesn't necessarily return to zero)

Tell Tale Memory

To **Recall** the Tell Tale Memory



The pointer shows the highest RPM seen since the memory was last reset.

Note: The Tell tale will be remembered even when the power is off.

To **Reset** the memory



Hold **5** seconds

The pointer will initially move to the highest RPM value, then after 5 seconds the needle will move to the full scale of the dial and sweep down to zero.

Only when the pointer reaches zero will the memory be reset.



Now the switch can be released .

Note: If the switch is released before the pointer reaches zero the memory will NOT be reset.

Shift-Light set up (optional)

To **Adjust** the Shift-RPM setting



Hold **14** seconds

Press and hold the switch as if you were to reset the Tell Tale memory (see section above).

When the pointer sweeps down to zero - resetting the Tell Tale memory, continue holding the switch for a **further 5 seconds**. The pointer will then move to the current setting for the Shift-RPM.



Release the switch. Now each time the switch is pressed or held on the pointer will increment 50 RPM. If the pointer reaches full scale it will return to zero and start to increase again.



Wait **3** seconds

When the desired Shift-RPM has been reached, release the switch and wait **3 seconds**. The pointer will then move to zero, indicating that the Shift-RPM has been set.

Note: The Shift-RPM will be remembered even when the power is off.

Maintenance

The tachometer is sealed to IP67 and requires zero maintenance - there are no wearing or consumable parts. Removal of the rear can will invalidate your warranty.

Please complete and fax us the enclosed warranty form to ensure you will enjoy a fast and efficient service in the unlikely event you suffer problems with your unit.

Troubleshooting

If you have problems with the operation of the tachometer then please check the following:

1. Recheck all electrical connections.
2. If the back-light doesn't work check power and ground connections.
3. If the back-light is on but the tachometer doesn't work check that the pickup wire is connected correctly to the ignition system.

Note that certain ignition systems provide a very low voltage Tacho output and may require a signal amplifier (ST492)

4. Tell tale not working. Check switch wiring and ground connection.
5. If the tachometer shows a constant RPM, check the switch is not shorting out.
6. If the reading is erratic check the following:

That the pickup connection is OK.

Check for possible Points bounce, float or poor ignition grounding.

Check Tachometer ground is the same as ignition system.

7. Tachometer reading too high or too low.

Check the cylinders set up is correct

Specifications

Power:	8v to 18v DC 0.3A Max (Reverse Battery protected)
Operating Temperature:	-20 to +70 deg C (0 to 160 Deg F)
Storage Temperature:	-40 to +80 deg C (-20 to 175 Deg F)
Vibration:	30G 50 to 2000cps 12Hr 3 axis (36Hr)
Accuracy:	+/- 0.45% of Full Scale
Resolution:	25rpm (on expanded scale)
Shift Light Output	200 mA maximum current sink (switched to battery negative)

Permanent damage will result if this is exceeded