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## Tripmeters – Fitting and Operating Instructions

### GENERAL

Keep the probe and cables away from the car's H.T. circuits and/or electronic ignition and alternator cables.

Protect the probe/cable from damage by stones etc., e.g. cover with flexible plastic tubing; it is generally safer, where possible, to fit the probe to the rear (trailing) of the vertical centre line of the wheel assembly. Do not over tighten the probe locknuts. Make sure that the electrical connections at the terminal strip, on the instrument are tight. If you lose or damage any of the three M5 mounting screws do not replace with screws longer than 10mm or you may short out and damage the internals of the electronics unit. Before switching on the electrical supply to the unit make absolutely sure you have made the correct connections at the terminal bar.

### STANDARD PROBE-FITTING

Position the probe such that it 'looks' at the bolt heads which secure the brake disc to the hub of a non-driven wheel — see drawing.

In some cases it may be convenient to look at holes in the metal surface. The probe should be co-axial with the centre line of the bolts, and the front face of the probe must be parallel with the heads of the bolts. Ideally any indentations or other markings on the bolt heads should be removed but care must be taken to ensure that the fitted heights of the bolt head are the same for each wheel set. Remove dirt, rust and grease accumulations from the inner face of the disc/hub assembly.

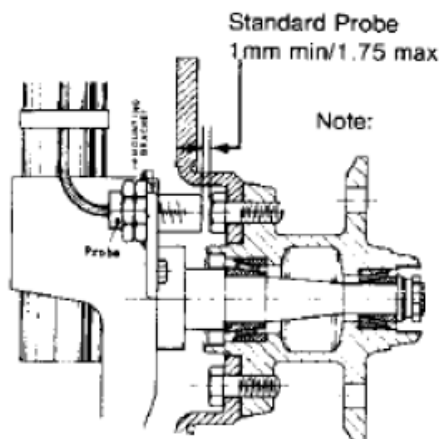
Screw in the probe until it just touches the head of one of the bolts and then turn it out 1 to 1.75 turns. Tighten the locknut to a maximum torque of 5ft lbs. Run the probe cable up to the electronic unit.

The thread of the unit is an uncommon size (M14x1), you may therefore find it useful to weld/braze the nut to a small plate and then screw or rivet the plate to the probe support bracket. If this is done then it is easy to remove the probe fixing nut from one suspension unit to another.

*NB If you weld/braze one of the probe nuts to the bracket or brake back plate for a fixing DO NOT UNDER ANY CIRCUMSTANCES use the probe to hold the nut whilst welding.*

### TYPICAL PROBE INSTALLATION

1. The bolt head must be steel. The probe will sense aluminium but the sensing distance is reduced by 50%
2. Cup head bolts are not suitable targets for the probe to sense from.
3. The bolt head must be at least 80% of the diameter of the probe.



Press FRZ. On 202 model colon (:) is shown without flashing; on 303 upper display shows F. Both distance displays freeze. Internally Total carries on counting and Interval resets to zero and starts to count again. In TSD mode (303 model only) pressing FRZ will freeze both displays, internally both Stopwatch and Interval reset to zero and then start counting again. Press FRZ again and displays count normally.

#### TSD MODE — 303 model only

Press TSD, upper display shows stopwatch, lower display shows internal distance. In TSD mode pressing FRZ will freeze both displays, internally both Stopwatch and Interval reset to zero and then start counting again. Press FRZ and displays count normally.

#### Terratrip ARC

As per Terratrip 1 except Zi zeros Interval and Zt zeros Total.

### MANUAL SETTING OF TOTAL DISTANCE

#### Terratrip 202 and 303

Press F and the least significant digit will flash. Press S and the flashing digit advances one count. After one second the display counts automatically if S is still being pressed.

Press F again and the next digit will flash and can be set. The hundredths of miles/kilometres, model 303 only, cannot be advanced by the above technique. To stop displays flashing press DIS.

#### Terratrip 1 and ARC

F + S adjusts units, F adjusts tenths and S adjusts hundredths.

### TIME MODE

#### Terratrip 303

To set time of day press CLR for 4 seconds. Seconds flash. Press S to zero seconds. Press CLR again, Minutes flash. Press S to adjust minutes. Press F to adjust ten's of minutes. Press CLR again, Hours flash. Press S to adjust hours. If you press F the hours will advance 12 hours. Press CLR again, Time stops flashing.

#### Terratrip ARC

As for 303 model except use black push button located above SW control marked TS.

### STOPWATCH

The ARC has two stopwatch modes — see table below. The Terratrip 303 is permanently in 'Continental' mode. The stopwatch is controlled by lower CLR on 303 model and SW on ARC model.

The stopwatch and average speed have two control sequences which are dependent upon whether Standard or Long Range are selected.

#### STANDARD RANGE (UK TARGET TIMING)

SW pressed	1	2	3
Stopwatch	Starts	Stop	Zeroed
Time of Day	Runs	Frozen	Rejoins real time
Av. Speed	Runs	Zeroed and restarted	Runs

#### LONG RANGE (CONTINENTAL TARGET TIMING)

SW pressed	1	2	3	4	5
Stopwatch	Starts	Frozen	Rejoins	Stops	Zeroed
Time	Runs	Frozen	Rejoins real time	Frozen	Rejoins real time
AV. Speed	Zeroed and restarted	Runs	Runs	Runs	Runs

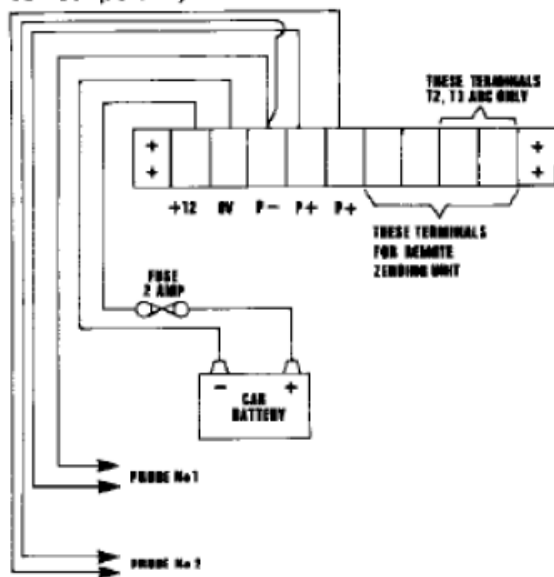
## ELECTRONIC UNIT

The electrical supply to the electronic unit **MUST** be fused (at no more than 2 amps). Use a line fuse, using a separate 12V feed from the remainder of the car's electrics — from a permanently available supply, (e.g. NOT ignition switch controlled).

You may of course fit a good quality switch into the tripmeter supply but it should be placed in a relatively inaccessible position so that the tripmeter is not inadvertently switched off.

**NOTE:** Automobile quality switches are not usually suitable.

Connect a good earth (0 volt) and a fused battery positive (12 volt) to the terminal strip. Connect the probe(s) to the terminal strip. Ensure that the probe(s) is connected with the correct polarity.



## CABLE DRIVE PROBES

These probes are fitted into the speedometer cable. This involves cutting a section out of the speedometer cable. See instructions supplied with probe.

## ELECTRONICS ON/OFF

The electronics on/off switch (models T1 and ARC) is marked I/O, I = on; O = off. On T202 and T303 the electronics on/off switch is on the upper right hand side of the unit. When the switch is 'up' the electronics are 'off', and when the switch is 'down' the electronics are 'on'.

**IMPORTANT:** Never press more than one control on the T202 and T303 at any one time. You will not damage the unit but you may get some peculiar results.

## CALIBRATION-SETTING NUMBER

### Terratrip 1

Set CAL switch to CAL, display shows C100. Press F and S to adjust hundreds, F to adjust tens, S to adjust units.

### Terratrip 202 and 303

Press CAL. Upper display shows CAL, lower display shows 4 digits one of which is flashing. Press S to adjust flashing digit. Press F next digit flashes. Press S to adjust flashing digit. Continue until all 4 digits are set. Press CAL (T202), DIS (T303) to get out of Calibration mode.

*N.B. The calibration is stored when the unit is switched off, and restored when the unit is switched on. If errors are detected in the calibration when the unit is switched on the displays will show CAL 1000. Corruption of the calibration will incur if the internal battery becomes discharged or is removed. With the internal battery fully charged the calibration number will be held for approximately 1000 hours. If the instrument is left connected to the car battery (even if the displays are switched off) the calibration number will be held for as long as the voltage of the car battery remains above 8 volts.*

### Terratrip ARC

The calibration on the ARC is set by use of the 3 digit control marked 'PROGRAM', at the bottom right hand corner of the unit.

## CALIBRATION NUMBER-CALCULATION

### Terratrip 202 and 303

Set calibration number to number of pulses probe gives per mile (for mileage readout) or per kilometre (for kilometre readout).

### Terratrip 202 and 303

Set calibration to 10% of number of pulses probe gives per mile (for mileage readout) or per kilometre of (kilometre readout).

### ALL MODELS

Set calibration to 100, Set tripmeter to read distance and run car over a distance of 1 mile (or 1 kilometre if you want km displayed). At the end of your run set the CAL to the number shown on the interval display.

## DISTANCE SECTION CONTROLS

### Terratrip 1

Press ZERO to zero display. Switch +/- makes display count up or down. Switch 1/0/2 selects which probe is to be used for distance sensing. The centre position of the switch — marked 0 — cuts out both probes. To adjust the display S adjusts hundredths, F adjusts tenths, F and S adjusts units.

### Terratrip 202 and 303

Press DIS (303 only). Total display shows 5 digits 000.00 on 303 model and 00.00 on 202 model. Interval shows 00.00. Press 1, Probe 1 selected. Press 2, Probe 2 selected. Press 0, Probes disconnected. Press (-), Displays count down. Upper display shows flashing colon (:) on 202 model and minus (-) on 303.

Press (+), Display count up. Press upper CLR for 4 seconds, Total zeros. Press CLR, Interval clears immediately.

## Remote connection



## Speedo sensor connection

For three wire probe. 0v for negative, Pulse P-, Power P+