

South West Timekeeping AUTOCROSS SET UP MANUAL version 2

1. SURVEY

Unlike most venues we attend, autocross and sandocross courses vary between meetings. So before any equipment is sited it is worthwhile asking the Clerk of the Course to explain the track layout and method of operation.

Consider the following points:

- start line location
- finish line location - may be different from start line
- route from paddock to start line
- route from finish line to paddock
- safe position for start lights (ask for protective bales if available)
- safe route for starter cable from lights to start line
- safe route for cable from timekeeper location to lights. *Ask club to ensure no traffic is allowed to drive over the cable. A few stakes with coloured tape or traffic cones may be sufficient. Organisers should brief breakdown crews not to drive over cables. For Sandocross, this cable needs to be buried for about 10 metres because the competitors pass between the timekeeper location and the course en route to start line.*

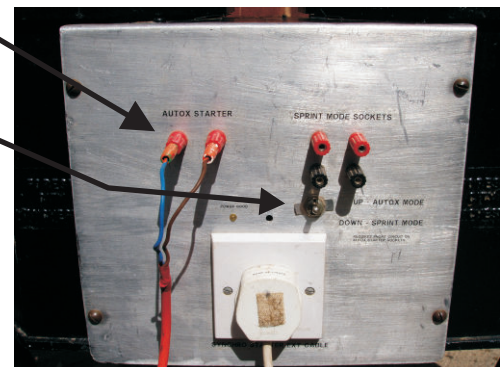
2. POSITION EXTERNAL KIT

2.1 **Site the traffic lights first.** Consider which side of the track is best allowing for a cable to be connected from the timekeepers location. Site the lights approximately 15 metres ahead of the start line at a shallow angle but far enough off the racing line so as not to impede or endanger the competitors. Also consider whether the lights pose any risk to competitors during the racing. Further protection may be needed (eg straw bales) or repositioning to reduce the risk of impact.

2.2 Roll out the orange starter cable. Leave the switch end at the start line, the two 4mm plugs connect to the rear of the lights as shown.

2.3 Ensure the toggle switch is in the UP position for Autox Mode as shown.

2.4 Connect the brown power cables to the large 12volt battery. Red to +ve, black to -ve.



2.5 Place the green drum of cable inside or near the timekeepers location and run the cable out to the lights. Plug the 3 pin plug into the white socket as shown.

2.6 If required, take any reasonable steps to protect the cables from traffic.

2.7 Create the Finish Control Line. Carry the two black/white sticks and a hammer to the finish line. To avoid them being hit, the sticks are best placed a few feet outside the boundaries of the course. Place the first one on the side of the track nearest the timekeeper location and tap it in gently at first. Move to the opposite side of the track and line up the timekeeper location with the first stick. Tap the second stick in place. Walk backwards a few paces and check the siting of both sticks. If ok, tap each stick in firmly.

Walk back to the timekeeper location. If your line positioning is correct, you should only see one stick! Re adjust the sticks or your location as necessary.

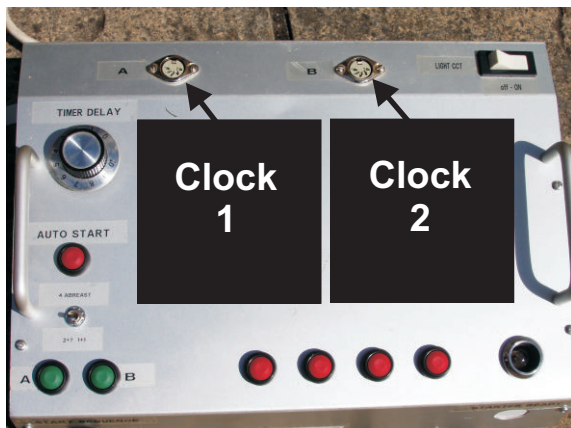
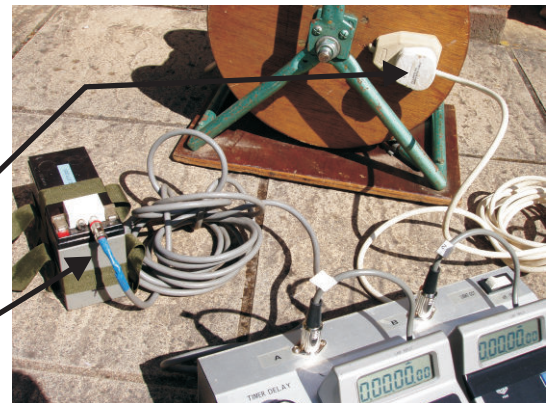
If required place the last lap/chequered board at the finish line marshal post. Remember to retrieve it at the end of the day.

3 INTERNAL KIT

3.1 Open the box containing the Synchro Starter and clocks. Site the Synchro Starter on a flat and firm working surface.

Connect the white cable 3 pin plug to the socket on the green extension cable.

Connect the grey power cable to a small 12volt battery.



3.2 Place two Tag Heuer Clocks on the Synchro Starter as shown. Connect each plug in the multipin socket above and to the left of the clock.

3.3 Make sure both clocks are in SPLIT mode. Use the MODE button to change from Lap to SPLIT if necessary.



Notes about the Tag Heuer Clocks.

The clocks are powered by a single AA battery accessible from underneath. Spare batteries are stored in the box. An indicator appears on the display when power is low.

Spare clocks are stored beneath the two silver clocks.

They are different in colour but operate in exactly the same way.

3.4 Make sure the output to the light circuit is ON. This is a switch on the top right of the Synchro Starter Box.

3.5 Carry out an initial lights test by walking to the start line, press and hold the switch down. The red light should come on. If not, check the battery connections, the starter cable connections and the toggle switch position.



4. PRE-FLIGHT SETTINGS

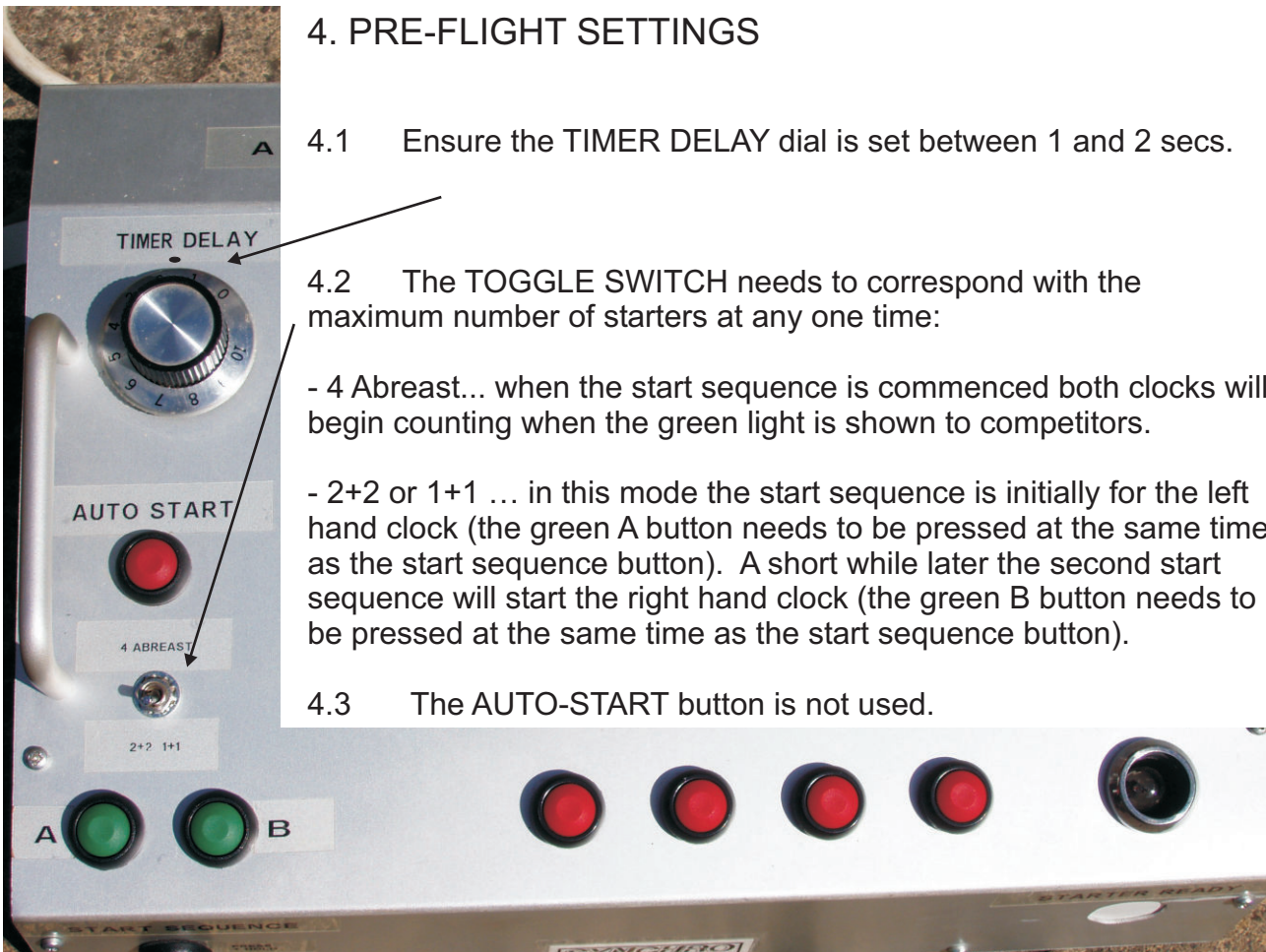
4.1 Ensure the TIMER DELAY dial is set between 1 and 2 secs.

4.2 The TOGGLE SWITCH needs to correspond with the maximum number of starters at any one time:

- 4 Abreast... when the start sequence is commenced both clocks will begin counting when the green light is shown to competitors.

- 2+2 or 1+1 ... in this mode the start sequence is initially for the left hand clock (the green A button needs to be pressed at the same time as the start sequence button). A short while later the second start sequence will start the right hand clock (the green B button needs to be pressed at the same time as the start sequence button).

4.3 The AUTO-START button is not used.



5. SYSTEM TEST

5.1 Ask the starter to press and hold his button. Ask him to wave at you when the green light shows. Walk back to your location..

The starter ready indicator should now be lit. (It is not very bright).



5.2 Using your left index finger, press and hold green button A. Using your left thumb press and hold the Start Sequence Button on the front face of the Synchro Starter. After about 2 seconds (the delay time) you should here a click and the left hand clock should start counting. At the same time, the red light should go out and the green light should come on. Look for the starter's wave! Give him a thumbs up, he can now release his button.

5.3 Repeat the process in 5.2 using green button B this time. This will check the right hand clock is functioning correctly. Don't worry about the starter and the green light - you have already tested this aspect.

6. START SEQUENCE (in 2 + 2 or 1 + 1 mode)

6.1 When the heat is ready to commence, check both clocks are reset to zero. If either is running, use the right hand button to stop the clock, then the left button to reset.

6.2 Record the numbers of the cars if you can see them clearly. If 2 cars are starting first, record these numbers first, then the following pair after.

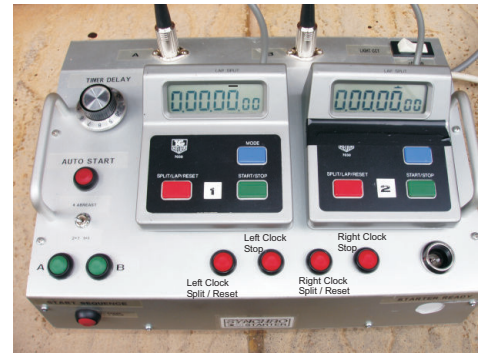
6.3 When the starter ready light comes on, press and hold green button **A**, at the same time use your left thumb to press and hold the Start Sequence button. KEEP AN EYE ON THE START LINE - LOOK FOR JUMP STARTS. THEY ARE PENALISED. After about 2 seconds the **left** clock should start and the cars should leave the start line.

6.4 Important: As soon as the clock has started, release your finger from green button A. Wait until the starter ready light has gone out before releasing your thumb from the start sequence button.

6.5 The second pair of cars will now move forward to the start line. When the starter ready light comes on, press and hold green button **B**, at the same time use your left thumb to press and hold the Start Sequence button. KEEP AN EYE ON THE START LINE - LOOK FOR JUMP STARTS. THEY ARE PENALISED. After about 2 seconds the **right** clock should start and the cars should leave the start line.

6.6 Important: As soon as the clock has started, release your finger from green button B. Wait until the starter ready light has gone out before releasing your thumb from the start sequence button.

YOU HAVE COMPLETED THE START PROCESS FOR THIS HEAT.



7. START SEQUENCE (in 4 ABREAST Mode)

7.1 Record the numbers of competing cars.

7.2 When the starter ready light comes on, use your left thumb to press and hold the Start Sequence button (there is no need to press and hold either of the green buttons). KEEP AN EYE ON THE START LINE - LOOK FOR JUMP STARTS. THEY ARE PENALISED. After about 2 seconds **both clocks** should start and the cars should leave the start line.

7.3 Wait for the starter ready light to go out, then release your thumb.

7.4 As the cars leave the line, double check the competition numbers in case you missed any.

YOU HAVE COMPLETED THE START PROCESS FOR A 4 ABREAST HEAT.

8. LAP RECORDING

8.1 As each car crosses the control line record their relative order in their starting pairs. Fig 1 shows for 2+2, 1+1 mode whether the car is car 1 or 2 of the first or second pair. This corresponds to left clock for the first pair, right clock for the second pair.

8.2 Be aware that faster cars in the second pair may pass slower cars in the first pair so lap recording is a good way of keeping track of which clock is timing which car.

8.3 4 Abreast mode is much simpler because all cars start simultaneously and both clocks start together, so all you need to do is record the order 1,2,3,4 as they complete each lap.

Fig.1

PRACTICE EVENT RUN		1	2	SERIAL NO.
932				1
		RECORDED		
1st pair recorded relative to each other on left clock	14	1	2	2.31.4
	16	2	1	2.29.6
2nd pair recorded relative to each other on right clock	54	2	1	2.47.2
	37	1	2	2.59.1

position after lap 1 ↑
 position after lap 2 ↑
 position at end of heat ↑

Fig.2

PRACTICE EVENT RUN		1	2	SERIAL NO.
932				1
		RECORDED		
All four started simultaneously, recorded as position 1,2,3,4.	14	1	2	2.31.4
	16	2	1	2.29.6
	54	4	3	2.35.7
	37	3	4	2.44.8

9 CREATING THE TIME IN 2+2, 1+1 MODE.

9.1 Because cars start simultaneously, by using the Split function, each clock is capable of providing finish times for up to two cars.

9.2 As the first of the cars approaches the completion of his final lap, prepare your right index finger on the left most red button of the appropriate clock. As the front of the car crosses the line, press the button once only. The clock will show a split time for that car and a running man symbol will show that the clock is still running for the other car.

9.3 If the next finishing car is sharing the same clock, move your finger to the 2nd red button. When the button is pressed the running man will change to a standing man and another time will be recorded but will not be visible at this stage.

*** or ***

If the car is using the other clock, move your finger to the 3rd red button to register the time on the right hand clock.

9.4 Follow these rules until all cars have crossed the line (assuming they are all running) and both clocks show a standing man symbol.

9.4 Do not press any buttons until you are ready to write the times down.

10 TIME RETRIEVAL.

10.1 The visible times relate to the earlier of the cars for each clock. Write these down first. Record times to a tenth of a second (eg 3.29.7). Do not round times up.

Press the 1st red button ONCE to retrieve the time awarded to the latter car timed on the left clock.

Press the 3rd red button ONCE to retrieve the time awarded to the latter car timed on the right clock.

Now write these times down.



11. CLOCK RESET

11.1 Only reset the clock after you are sure you have recorded the times correctly.

11.2

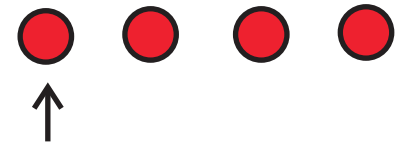
To reset the left clock, press the 1st red button again.
To reset the right clock, press the 3rd red button again.

The system is now ready for the next heat.

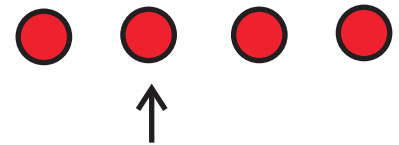


12 CREATING THE TIME IN 4 ABREAST MODE

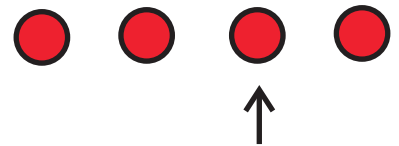
12.1 As the 1st of the cars approaches the completion of his final lap, prepare your right index finger on the left most red button.
As the front of the car crosses the line, press the button once only.
The clock will show a split time for that car and a running man symbol will show that the clock is still running for the other car.



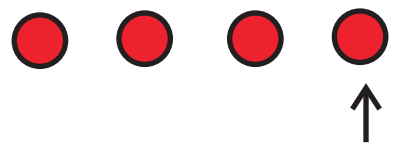
12.2 As the 2nd car to finish approaches the line move your finger to the 2nd red button. When the button is pressed the running man will change to a standing man and another time will be recorded but will not be visible at this stage.



12.3 As the 3rd car to finish approaches the line move your finger to the 3rd red button. When the button is pressed the right clock will show a split time for that car and a running man will show that the clock is still running for the remaining car.



12.4 As the last car to finish approaches the line move your finger to the 4th red button. When the button is pressed the running man will change to a standing man and his time will be recorded but will not be visible at this stage.



12.5 Do not press any buttons until you are ready to write the times down.

12.6

Retrieve and record times as explained in Section 10.

13. General Notes

13.1 **Time transfer by radio or telephone.** Some organisers ask us to relay times after each heat. I always wait until the next heat is started. This allows time to relay the information. Make a mark beside the times record (see Fig. 3) to signify you have transferred information. Break your transmission if necessary to lap record accurately, timing takes priority.

13.2 **Starter button.** It is important that once the starter presses his button he keeps it pressed until both cars (or all 4 if 4 abreast) are beyond the lights.

13.3 **Cars starting singly.** Don't worry if in some heats there is only one car running. Time as normal and create a dummy time at the end to stop the clock.

Fig.3

PRACTICE EVENT RUN		1	1	SERIAL NO.
932		RECORDED		1
14	1	1	2	2.31.4
16	2	2	1	2.29.6
54	4	3	3	2.35.7
37	3	4	4	2.44.8

A mark to signify times above have been transferred to organisers by radio or telephone.