

**GCSL PROCEDURAL SUMMARY –**  
**POOLS WITH SEMI-AUTOMATIC TIMING SYSTEMS**  
**(Colorado Timing Systems with plungers and an Infinity Starting System)**

Purpose: To document the procedures that are specific to pools which have a Colorado Timing system with an Infinity Automatic Starting System.

Background – A Colorado Timing system with Infinity Start System is a semi-automatic system for timing at a swim meet. This system uses plungers to capture the times of swimmers instead of manual stopwatches. The starting system and the plungers are integrated, and therefore the starting system will automatically “start” the race for the lane timers and the timers hit the plunger buttons to capture the final end time. This data is then uploaded into the Hytek Meet Manager program, with the times importing into the run screen as the backup time 1 and time 2 for the related swimmers/race (event and heat).

The goal of the system is to help provide a more efficient and accurate method of timing at a swim meet. The advantage over manual systems is that these systems eliminate several points of human error that might occur with a manual timing system. Also, the semi-automated system is expected to make the meets run faster.

**ADJUSTED MEET PROCEDURES, BY POSITION:**

**STARTER:**

The starter will use the Infinity Starting system to start a race instead of a manual method (like an air horn). The Infinity provides swimmers with a fair and audible horn start. A visible strobe light automatically flashes as the horn sounds, providing fair starts to hearing-impaired athletes. This starting system is integrated with Colorado Timing System and the plungers and will automatically start the race for the plungers.

**TIMING SYSTEM OPERATOR:**

The Timing Equipment Operator shall be responsible for the semi-automatic timing equipment and shall advise both Team Reps of any system issues that might affect the accuracy of times. The Home Team should have stopwatches on hand for use in order to run a manual meet, if there is a mechanical issue which would make this necessary. (The Away Team should also bring enough stopwatches for their timers in case they are needed).

**TIMERS/TIMING PROCEDURES:**

Head Timer:

This position will not really have different responsibilities. He/she will still operate backup stopwatch(es) and be ready to assist any lane that has any difficulties with either their plunger or backup stopwatch. They will also assist in researching any plunger discrepancies that might be noted by the computer (or timing system) operator. Ensuring that the lane timers understand the operation of the plunger (and/or backup stopwatch).

Lane Timers:

Two timers will serve each lane. There will be one timer from each team at each lane. One will operate a plunger (button) and a timing sheet, the other will operate a plunger (button) (in dominant hand) and a stopwatch. The Away team is given the opportunity to operate the plunger/stopwatch combination.

The two plungers will serve as the primary as stated. Both times will be recorded in Meet Manager (the times will be uploaded to the meet manager program for each race.) The average (mean) of those times will be the

swimmer's time. If these two plunger times are off by 0.30 seconds or greater, the stopwatch would prove a button time, so that the button closest to the stopwatch time would be the official time, and the inaccurate button time (the failed button) would be disproved. See additional information, as follows:

#### Scenarios:

- 1) **Two buttons are within 0.30 seconds of each other.** Use the calculate function to average the two times to get the official time. No watch time needed.
- 2) **Two buttons are 0.30 seconds or greater apart.** Does the watch time come within 0.30 seconds of one of the button times? YES=use that proven button time as the official time. (To do this, the "Calculate" function will not be used, but the proven button time will be input into the Primary field of Meet Manager as the official time so that the record of the unproved button time is maintained in the system as well. Enter the watch time into Backup 3 in this scenario so that it is recorded. NO=got to 3)
- 3) **The two buttons and the stopwatch are all 0.30 seconds or greater apart.** The intermediate time of all three times is the official time (To do this, the intermediate time will be manually recorded in the Primary field of Meet Manager. The watch time is entered as Backup 3, to maintain the documentation, also done manually.)
- 4) **A timer doesn't push a button so only one button time and a backup watch time are available** (use #2).
- 5) **A timer doesn't push a button and a timer doesn't push a watch, so only one button time is available.** In most cases, this single time will be the official time (which is also what happens with a manual stopwatch situation when there is only one stopwatch time). Potentially, a single time could be verified by the order of finish. However, since there aren't order of finish judges, most likely the single time will be the official time. This would only be changed if there were several individuals to verify the order of finish (such as the Colorado Operator, starter, etc.) and both representatives agree to some appropriate time other than button time in order to achieve what was the agreed order of finish.

#### COMPUTER OPERATOR AND ASSISTANT OPERATOR PROCEDURES:

As at all other meets, there should be a computer (Hytek) operator from the home team and an assistant operator from the away team. Having one from each team is an important oversight control for the meets. The use of plungers should not change that requirement. However, the duties would vary from a manual stopwatch situation. These procedures are as follows -

- The **computer operator** (home team) would be responsible for:
  - Uploading the times ("get times") from the timing system into Hytek in the appropriate "race" (event/heat)
  - Ensuring there are a times for every swimmer listed, with differences being investigated (i.e. look for deck changes from timer sheets, clerk of course data, etc.)
  - Ensuring that the times being imported appear reasonable compared to seed times, and investigating to ensure the proper race info was imported if times appear significantly different than expected
  - Ensuring that any significant plunger differences are investigated. If necessary, he/she should obtain the backup stopwatch times from timer sheets to either identify the appropriate plunger time as the "official time" or to use the stopwatch time as the third time with the median time being the "official time" (see further details in "timing" procedures above).
  - Notifying the head timer/timing operator if there are consistent plunger issues with a certain lane, to have this investigated further (to determine if timer error, issue with a plunger itself, etc.)

- Entering in DQ info., updating swimmer info for "deck changes" in lanes/events, "calculating" the times using the system, scoring the meet, printing ribbons and reports, etc. (all other standard Hytek procedures as done at any other meet)
- The **assistant operator** (away) team would be responsible for:
  - Observing/reviewing the process of uploading times, ensuring two plunger times are being uploaded, that they appear to be matching up appropriately with swimmers listed – such as ensuring there is a time for every swimmer listed, with differences being investigated (i.e. look for deck changes from timer sheets, clerk of course data)
  - Ensuring imported times appear reasonable compared to seed times (for ex: a seed time is 35.25 and the upload is 52.12 then the operator should be investigating that the proper info was imported, review timing sheets, etc). The assistant operator should ensure a review is done, and help as necessary.
  - Assisting in resolving discrepancies noted between plunger times. He/she would assist with the entry of the manual stopwatch time in determining the "official" times (as noted in "timing" procedures above)
  - Assisting with entry of DQs, and any other computer processes that occur during the meet.

NOTE: The resolution of any timing discrepancy will be solved by joint agreement between the Computer Operator and the Assistant Operator based on the timing procedures noted above. This will determine the official time.

### **RUNNER/TIMER SHEETS /Alternatively - TIME RECORDER:**

There will still be timer sheets at each lane which are used to document the manual backup stopwatch. These timer sheets will also indicate any deck changes to swimmers (adjustment to swimmers in a lane/heat) as well as 'no shows'. These procedures should not be different with a plunger system. The Runner (home team) will collect these sheets and provide them to the computer operator and asst. computer operator for use as needed during the meet. Alternatively, a Timer Recorder can be used to record stopwatch times. Also, deck changes to swimmers can be noted on the Timer Sheets by the Timers, or can be communicated to the Time Recorder or Computer Operator directly from the Clerk of Course workers. Home Teams should inform Away Teams of the method they are using to communicate deck changes to swimmers.

### **NOTE:**

All other standard procedures of various officials/workers (stroke & turn judges, starters, clerk of course, etc) should remain the same at a meet with a semi-automatic system as any other GCSL meet.

For further information on the Colorado Timing System and Infinity Starting system – see websites: <https://www.coloradotime.com/system-6/> and <https://www.coloradotime.com/infinity-start-systems/>