DrillClock *electronics for athletics*

Reflective Trigger System

RTS-10 Setup Instruction

Description:

The RTS-10 is a trigger for starting and stopping the Stopwatch timer feature of the DrillClock DM1-100 Timer control. Used with the MAX-20 LED Display trigger input XLR3 connection. Easy to set up for running a 3 cone "L" drill, the RTS-10 provides the athlete interface for a non-contact clean finish. There are two modes on the DM1-100 that can use the RTS-10. These are the Stopclock mode and the Dual Reaction Capture mode. It is possible to use the RTS-10 as the "start" trigger and as the "finish" trigger. It is much easier to use a Padswitch trigger plate to start the routine. The Padswitch provides the "athlete contact" for a routine by the athlete applying pressure to the Padswitch.

Setting Up A Drill

To setup a 3 cone drill, begin by placing the cones in their places. Often called an "L" drill because of the cone placement, see the drill layout for details.

1. Place the **RTS-10** on a stand and place the Reflector panel on another stand. These must be free from being moved by wind or other forces. They should form a line on the Start line of the drill and be placed approximately 45 inches apart. Spacing is only critical for getting a light "OFF" condition on the **RTS-10**. Use whatever distance that you need to provide a gate for the athlete to easily pass through.
2. The LED Display should be set where it is clearly visible to the athletes and coaches.
3. Connect the **DM1-100** Timer to the **MAX-20** Display and connect the Power pack to the MAX-20.
4. Before connecting the **RTS-10** to the **MAX-20**, On the **DM1-100** press the **SET** button then press the **RELOAD** button. The Display will scroll "Stopclock".
5. Connect the **RTS-10** to the **MAX-20** and aim the **RTS-10** and the reflector panel until the RED LED on the **RTS-10** is **OFF**.

## Running The Typical 3 Cone Drill With Padswitch

1. Athlete moves to the Start Line, begins applying pressure to the Padswitch using hand or foot. The MAX-10 Display will show a series of characters ending with "00" and a reset

2. The athlete can release from the Padswitch, this Starts the 1/100th second timer.

3. To finish the drill, the athlete will run through the time gate, breaking the IR beam of the RTS-10. The Clock is stopped. The Time Result is then displayed in a scrolling format, seen as seconds "00"followed by an underscore "_" which represents a decimal point. The 1/100ths of a second scroll into place. The scroll format can be illustrated as snapshots: Example; A captured time of 5 seconds and 45/100ths of a second. _05.45 seconds_

     Snapshot #1. "05"   5 seconds
     Snapshot #2. "5_"   Scroll right to left
     Snapshot #3. "_4"   Scroll right to left
     Snapshot #4. "45"   45 hundredths of a second

4. The last athlete's time will continue scrolling until the next athlete steps up to the Start Line, and the time is reset.

Running The Typical 3 Cone Drill Without Padswitch

1. Athlete moves to the Start Line, interrupting the beam from the RTS-10. The MAX-10 Display will show a series of characters ending with "00" and a reset.

2. The athlete can release from the Start Line, this Starts the 1/100th second timer.

3. To finish the drill, the athlete will run back through the Start Line, breaking the IR beam of the RTS-10. The Clock is stopped. The Time Result is then displayed in a scrolling format, seen as seconds "00"followed by an underscore "_" which represents a decimal point. The 1/100ths of a second scroll into place. The scroll format can be illustrated as snapshots: Example; A captured time of 5 seconds and 45/100ths of a second. _05.45 seconds_

     Snapshot #1. "05"   5 seconds
     Snapshot #2. "5_"   Scroll right to left
     Snapshot #3. "_4"   Scroll right to left
     Snapshot #4. "45"   45 hundredths of a second

4. The last athlete's time will continue scrolling until the next athlete steps up to the Start Line, repeating the time reset.

The time captures described above can provide excellent time comparisons. How accurate is the captured time? The times that are displayed will represent repeatable time captures when the system is setup and ran in the same manner by the coaching staff. The DRILLClock DM1-100 time capture routines can be used as a means to compare an athletes improvement over time to 1/100th of a second. Once the system is set up for time capture, the capture routine will run automatically for a group of athletes. Each athlete gets their time and then find how to improve on the last time. The DRILLClock timer can't coach, but it can be an assistant that is better at running a stop watch drill.

"3 CONE DRILL" AGILITY TEST

5 YDS

#1 TAG

5 YDS
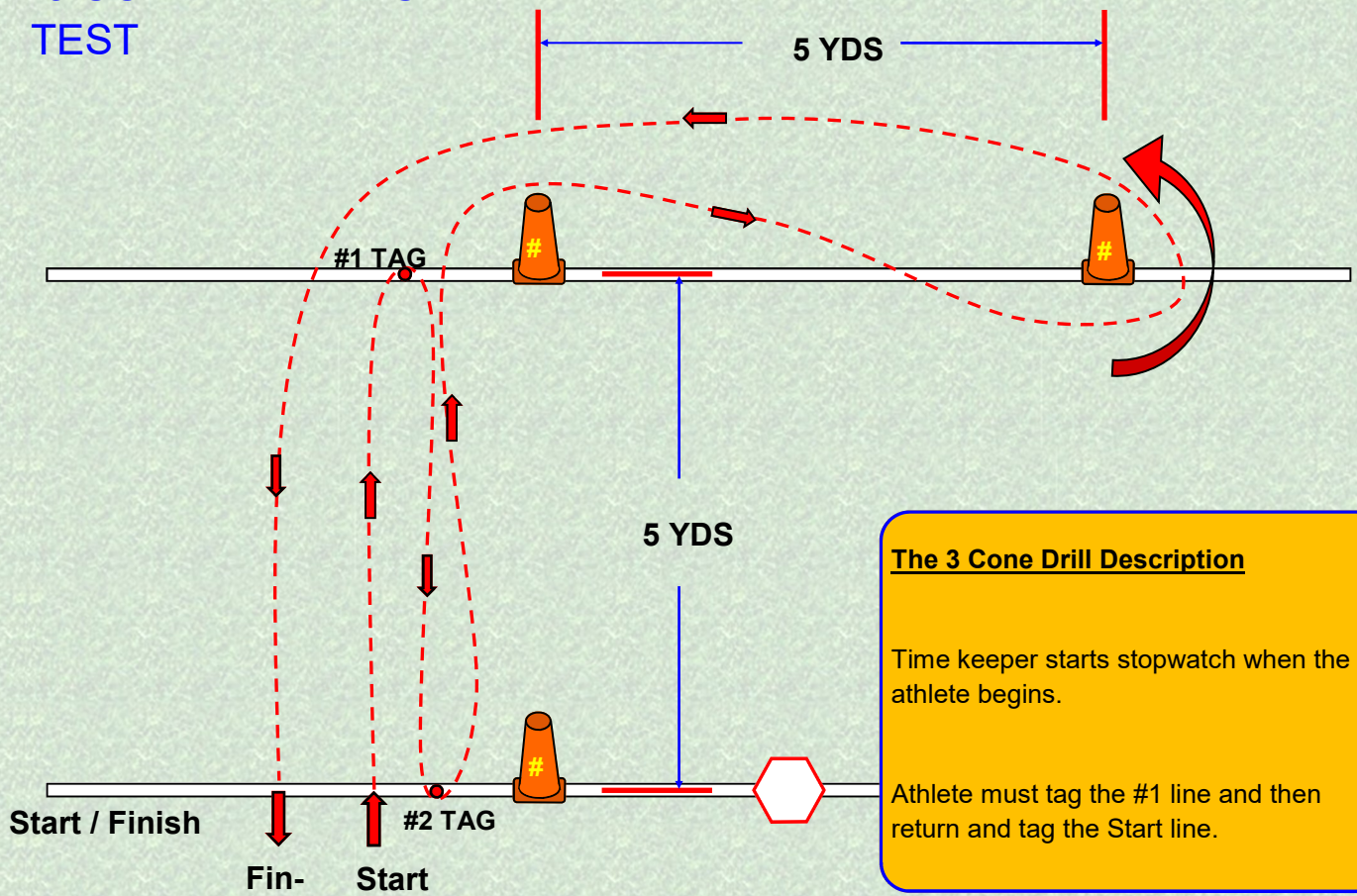
The 3 Cone Drill Description
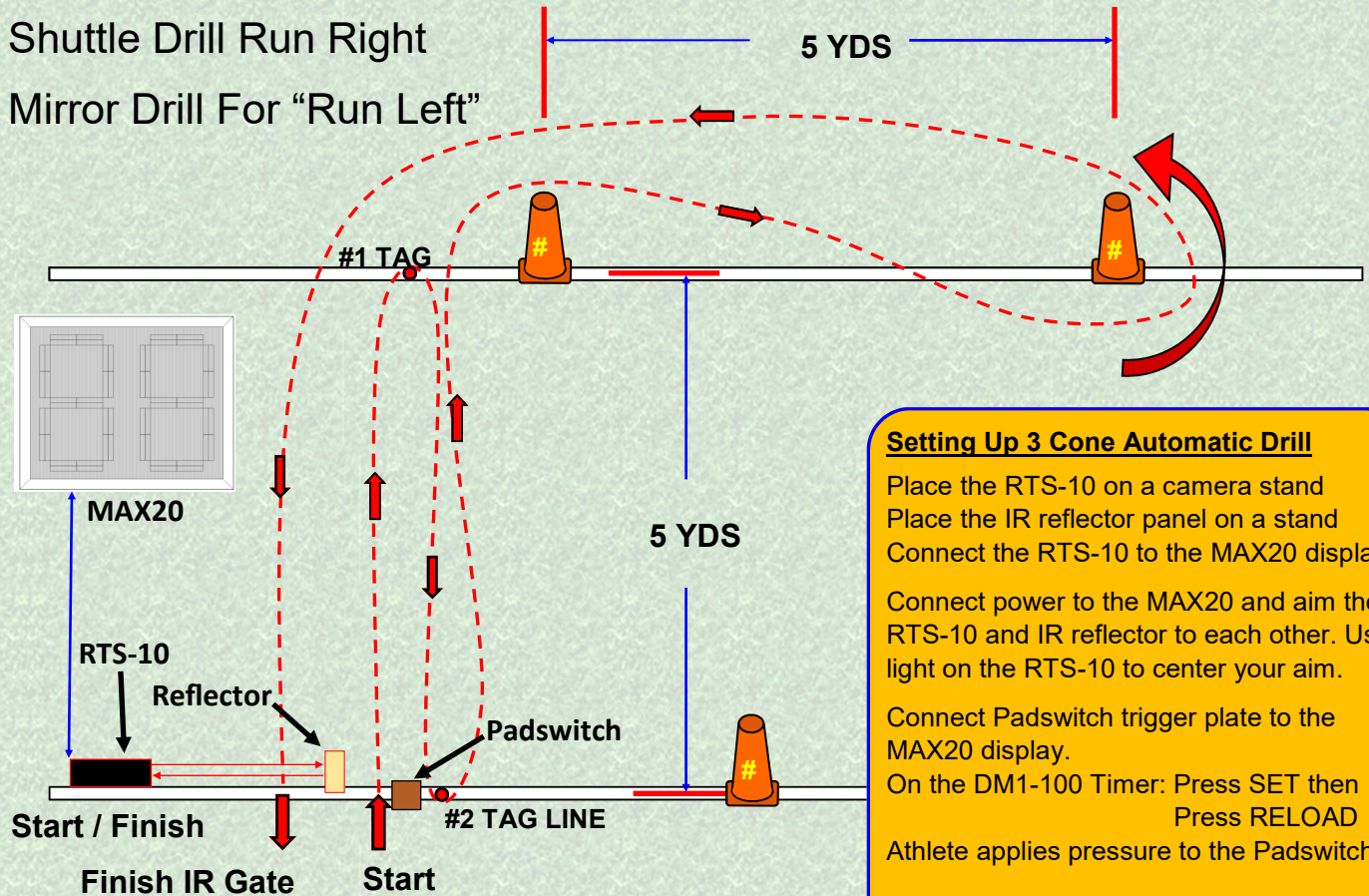
Time keeper starts stopwatch when the athlete begins.

Athlete must tag the #1 line and then return and tag the Start line.

Start / Finish

Fin-   **Start**   **#2 TAG**

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"3 CONE DRILL" AGILITY TEST AUTOMATIC Drill   DM1-100 Timer

Shuttle Drill Run Right

Mirror Drill For "Run Left"

5 YDS

#1 TAG

MAX20

5 YDS

RTS-10

Reflector

Padswitch

Start / Finish

Finish IR Gate

Start

#2 TAG LINE

Setting Up 3 Cone Automatic Drill

Place the RTS-10 on a camera stand
Place the IR reflector panel on a stand
Connect the RTS-10 to the MAX20 display

Connect power to the MAX20 and aim the RTS-10 and IR reflector to each other. Use light on the RTS-10 to center your aim.

Connect Padswitch trigger plate to the MAX20 display.
On the DM1-100 Timer: Press SET then
                                         Press RELOAD
Athlete applies pressure to the Padswitch

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