

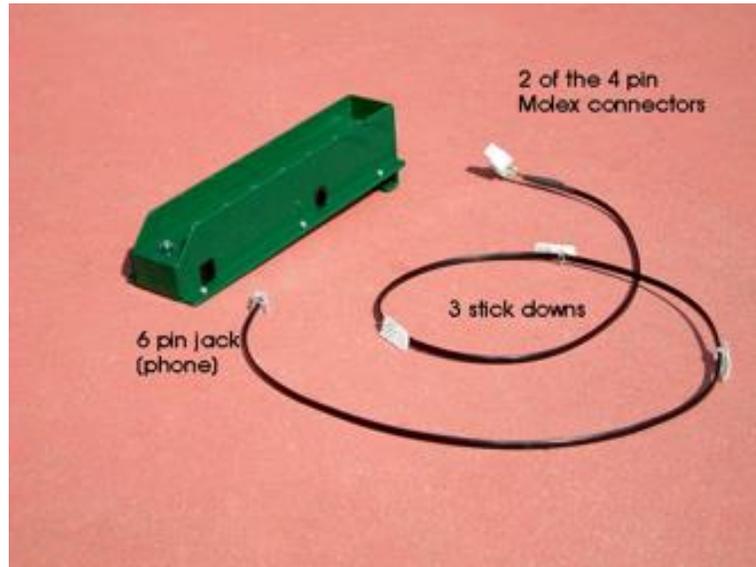
INSTALLATION MANUAL FOR THE TIMING LIGHT

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SPORTS SPLIT STEP
12566 LAZY ACRES CRT
NEVADA CITY, CA 95959
www.Sports-Split-Step.com
vicborg70@gmail.com
530-272-7345

1. The installation of the Timing Light begins by being sure the ball machine is powered down and unplugged. Verify the following components were received in the shipment.

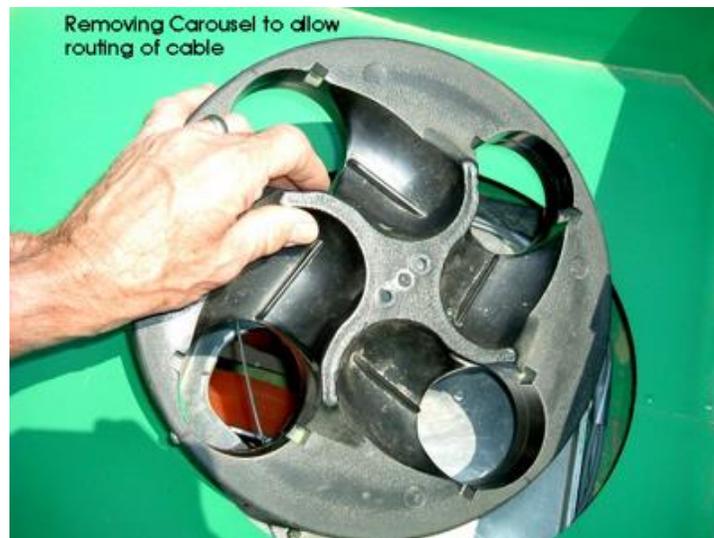


Timing Light interconnect cable for both Genie & Grand Slam

2. Prepare the Timing Light by checking for visible damage to the LEDs or metal container. Remove the backing on the 2 Velcro strips on the back of the Timing Light and then locate and hang the Timing Light from the top center of the ball hopper; press down to secure the Timing Light to the ball machine.



3. If the Playmate Company has been notified of your desire for a Timing Light they will install the cable before they ship the ball machine to your facility. One can then locate the phone jack (that appears at the right-front-bottom side of the ball hopper) and plug into the bottom connector on the Timing Light. You are ready to turn on the machine and practice your split step.
4. A 1" square stick-down with tie wrap should be used to secure the phone cable that comes from within the ball machine to the bottom phone jack of the Timing Light; this is generally placed so the cable is straight when leaving and about $\frac{1}{2}$ the distance between the light and the hole.
5. If the cable was not preinstalled at the factory then you can follow these easy steps and install the supplied cable and be up and running in 30 minutes.
6. Balls must be removed from the ball hopper, so that the carousel can be removed from the ball machine (2 screws). By doing this we can see where to route the power/signal cable going between the Control Panel to the Timing Light.



7. Tilt the BM backwards onto the handles so that you can prepare to feed the two 4 pin connectors on the cable from the Timing Light into the hole at the right front bottom of the ball hopper (as you face the ball exit hole).
8. Plug the phone jack into lower connector of the Timing Light and then insert the other end of the cable with the two white 4 pin connectors into the hole at the right front bottom of the ball hopper. Push & pull the cable thru the hole on the Genie so as to remove the slack in phone cable, leaving enough slack to remove and insert the phone cable plug.



Genie uses existing opening

9. On the Grand Slam a hole will have to be drilled (use a tapered sheet metal drill) at the location shown below and any sharp edges burred or removed; the phone jack end of the cable will have to be inserted thru the hole from the inside of the ball hopper.



Grand Slam needs a hole



Tapered Sheet Metal Drill

10. Manually route the inserted cable from the front opening under ball hopper up and along the right side (as you face the ball exit hole) towards the back of the machine.



11. Continue routing around the feed 'wire' ball hold down post and towards the left side of the ball machine (the side with the control panel). Locate the 3 Stick Downs on the cable and clean the aluminum plate with a rag so that you can secure the cable by removing the paper tabs from the 3 Stick Downs. A tie wrap can be used to secure the cable to existing electrical cable at the back of the carousel being sure to keep the cable away from the carousel's path.
12. The cable shown below will curve around as shown, but will be located under the green shroud; tie-downs will secure the cable to the inside of the chassis sides and then behind the existing cable bundle at the back of the aluminum plate.



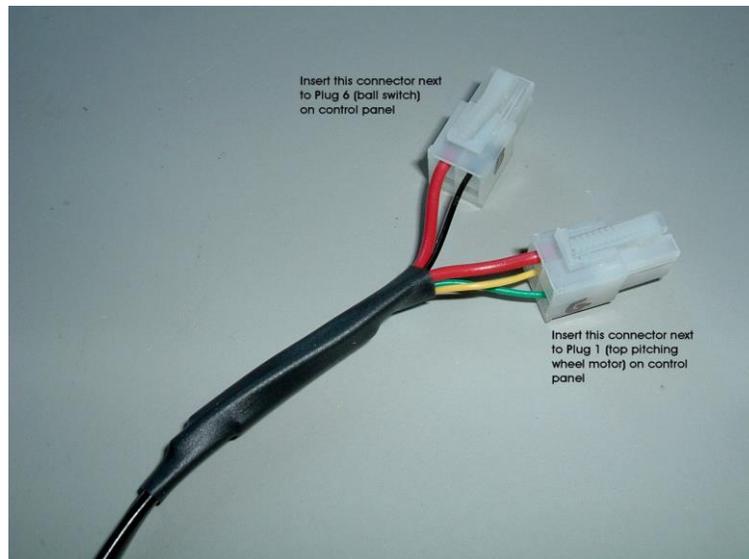
13. Route the phone cable down the rear-left side (as reference when standing & facing the front of ball machine) being sure to keep the cable as close to the metal side and away from the rotating wheels and motors. Cable damage can occur if not properly routed.



14. You can now tilt the ball machine to expose the bottom opening so that you can more easily see into the bottom of the ball machine.



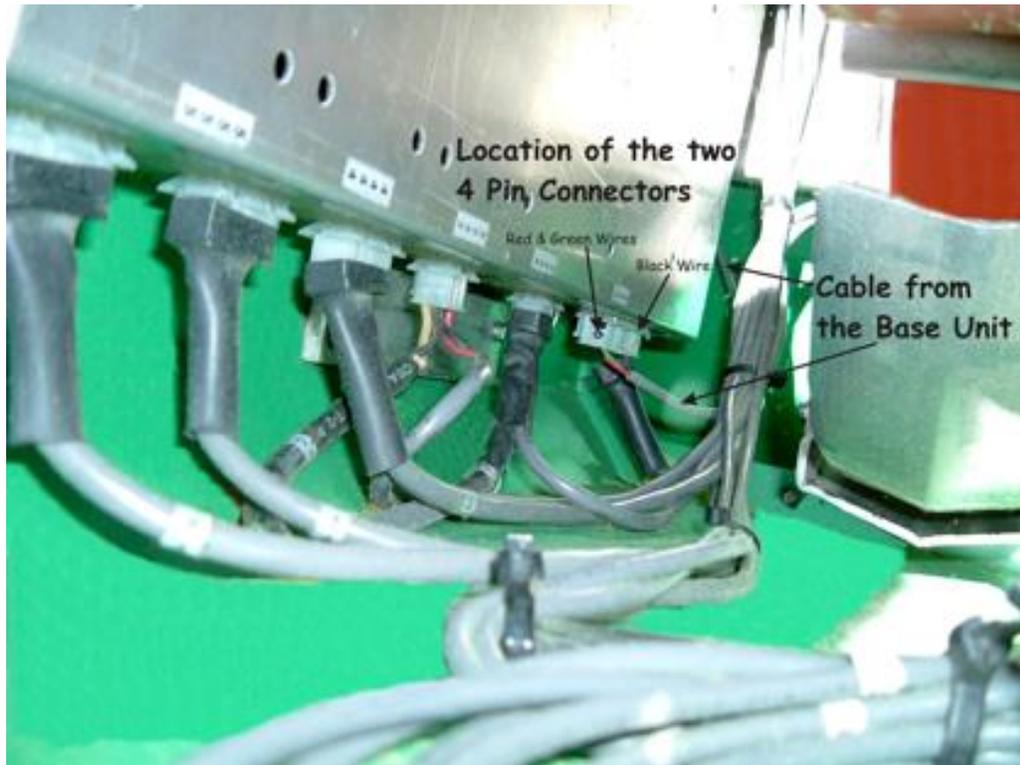
15. Reach into the bottom opening of the ball machine and locate the 4 pin Molex connector that has 1 black and 1 red wire, then insert it next to Plug 6 (Ball Switch). Locate the other 4 pin Molex connector that has 3 wires (1 red, 1 yellow and 1 green) and insert it next to Plug 1 (Top Pitch Wheel Motor). The locking mechanism on the 4 pin Molex connectors are oriented the same as the other ball machine Molex connectors.





Ball Machine Connector Layout and Definitions

- Phone Jack => Remote Control (Farthest connector away from the bottom opening of ball machine)
- Plug 6 => Ball Switch
- **Aux 1 => 4 pin with a red wire and a black wire**
- **Aux 2 => 4 pin with red & yellow & green wire**
- Plug 1 => Top Pitch Wheel Motor
- Plug 2 => Bottom Pitch Wheel Motor
- Plug 3 => Carousel Motor
- Plug 4 => Elevation Motor (Up & Down)
- Plug 5 => Oscillation Motor (Closest connector to bottom opening of ball machine)



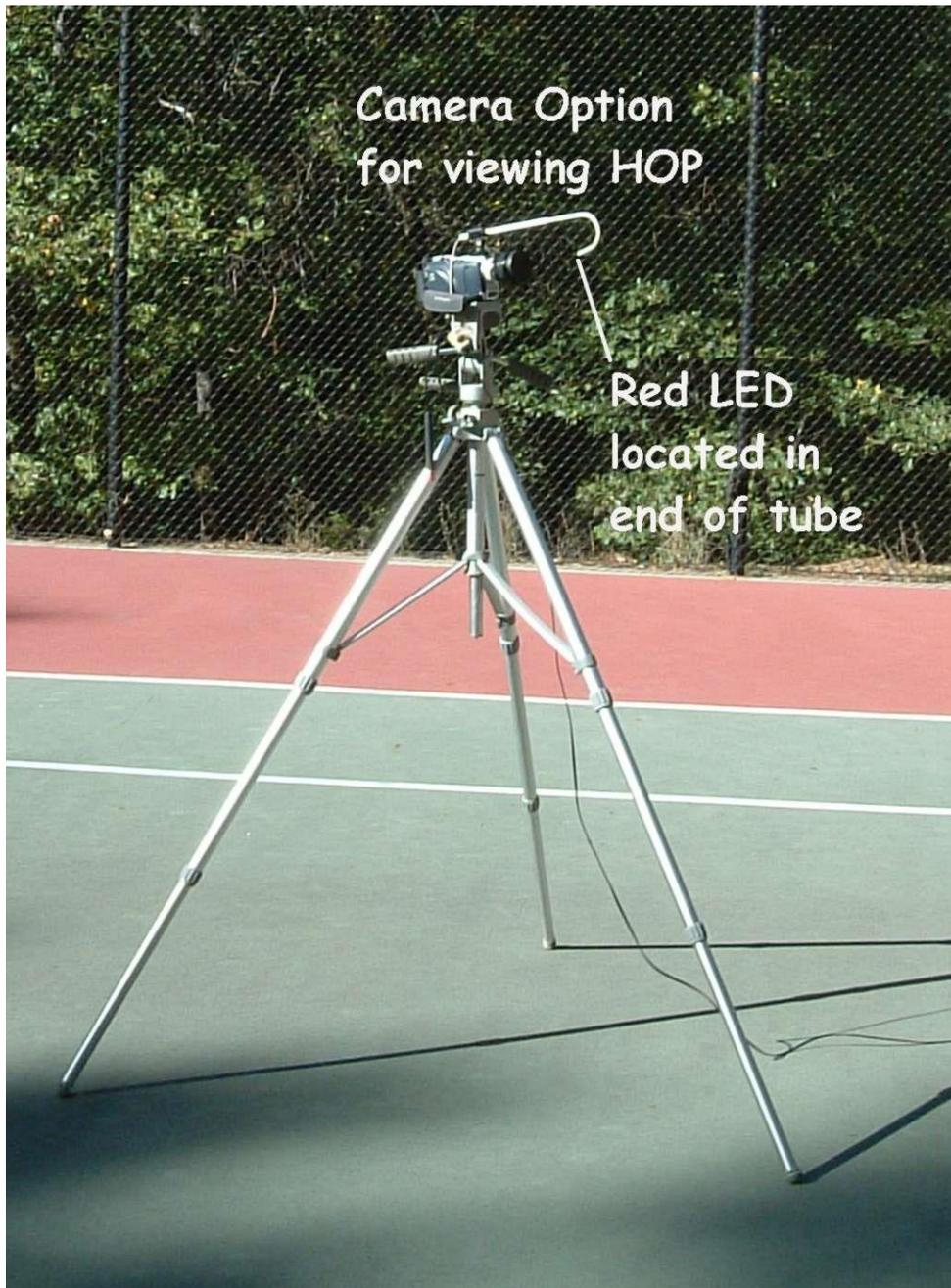
16. A cautionary comment on handling the two 4 pin Molex connectors. We have put a protection resistor inside the black sleaving at the cable end with the two 4 pin connectors and one should be careful when trying to insert these connectors into the control panel; excessive bending of the sleaving and cable could damage the connections. We mention this caution as the room inside the machine is very limited and can be frustrating because of the limited light/visibility and trying to put 2 connectors inside receptacles one cannot easily see.
17. The installation is now complete and ready for operation. See operational manual on various aspects of how to use the Timing Light.



18. We have another feature that you might not be aware of and that has to do with using the Timing Light (TL) to help train players with hopping and preparing for the split step. After the power has been turned on for 1 minute the TL will automatically start a downward sequence (the player will use this for 'loading') and then the TL will begin an upward sequence during which the player can run to a hitting position and prepare to hit an imaginary ball; the idea being that they must anticipate and prepare to decelerate and swing so that when the top LED comes ON their racket will be at the contact point. The player then returns to the starting position and repeats moves to various hitting positions (verbally given by the coach) and executes an imaginary hit. The coach can critique the split step, the landing, the movement, the actual stroke production, the recovery and return for the next imaginary ball. This type of training can really be effective if done prior to actually hitting a ball (delivered by the ball machine), this technique will keep the player focused and not wondering where they hit the ball 'went'.
19. If a Camera Option has been purchased then the camera option cable is plugged into the phone connector at the top right side of the Timing Light.
20. The Camera Option will include the LED mounting bracket, a cable and a modular coupler. Specify the length of the cable when ordering.
21. Note: Use only straight thru couplers or the camera option LED will not function properly; if you make up your own cables they should all have the cable wires oriented as shown below. If you crimp the wires in a different order relative to the release mechanism on top, the unit will not work. The 4 wires must be inserted into the middle 4 slots of the 6 slot phone connector. These two demo connectors have the backing pulled back to allow

viewing of the 4 wires being inserted into the middle 4 slots of the 6 pin (RJ-12) connector. On a properly made cable the sleeve should be cut back leaving 3/16" length on the colored wires; this allows the black sleeve to be captured by the phone crimp, thus stress relieving the connection.





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