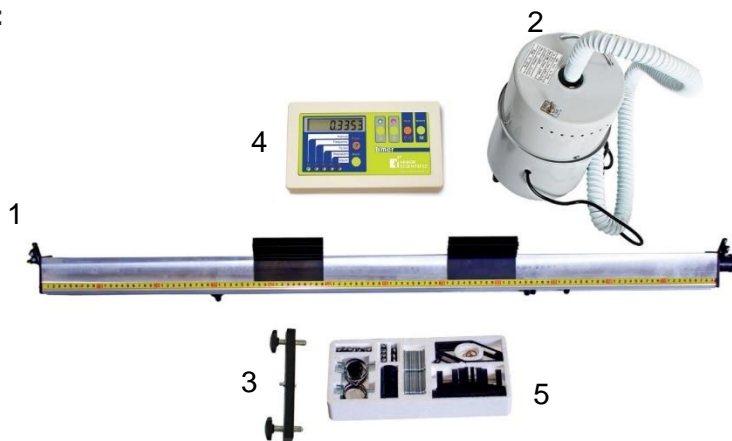


## ASSEMBLY GUIDE

### Contents

#### Economy Air Track Components:

1. Air Track
2. Air Source
3. Adjusting Stand
4. Timer with 2 photogates
5. Accessories Pack



### Assembly

#### Required for Assembly:

- 5/16" wrench
- Phillips screwdriver

#### Attaching the Level Adjusting Stand

1. Loosen the bolts of the adjusting stand approximately  $\frac{1}{4}$ " and do not remove the nut.
2. With the adjusting stand oriented so the knobs are facing up, slide the heads of the bolts on the grooves along the **bottom** of the track.
3. Position the adjusting stand approximately 12" from the end of the air track and tighten the nuts with a wrench.
4. Place one foot under each of the three legs

#### Attaching the Air Pump

1. Remove the rubber cap from the air outlet on top of the pump and set aside for storage.
2. Slide one end of the hose over the air outlet and the other end over the air inlet on the end of the air track.
3. Be sure the power cord is plugged into an outlet.

#### Leveling the Air Track

1. Place the air track on a stable, level surface. For experiments with the bucket and pulleys, extend one end of the air track over the edge of the surface.
2. Turn on the air pump and place a glider in the center of the track. If the glider moves, turn the

knobs on the adjusting stand clockwise to raise the track and counter-clockwise to lower it. Make small incremental changes until the glider no longer moves.

### Attaching the Adjustable Starting Positioner

1. Loosen one of the three hex bolts on the underside of the air track.
2. Slide the adjustable starting positioner along the air track to its desired location and tighten the hex bolt.

### Using Riser Blocks to Create an Inclined Plane

1. Remove the air track from the foot under the single leg.
2. Stack any combination of riser blocks underneath the foot. The raised flange should seat properly so the track does not slide off the stack of risers.
3. The adjusting stand can also be lowered further and the feet removed from the bottom.



### Accessories Kit:

- |   |                                 |
|---|---------------------------------|
| 1. Adjustable starting positioner           | 12. 2 Photogate supports        |
| 2. 2 Glider flags, single strip             | 13. 2 Pulleys (20 mm)           |
| 3. 2 Glider flags, U-shape (15 mm)          | 14. Riser block (5 mm)          |
| 4. 2 Glider flags, U-shape (40 mm)          | 15. 2 Riser blocks (20 mm)      |
| 5. 2 Glider flags, U-shape (60 mm)          | 16. 3 Feet (10 mm)              |
| 6. 2 Glider flags, U-shape (110 mm)         | 17. 6 Spring bumpers            |
| 7. 2 Glider hooks                           | 18. 2 Steel needles             |
| 8. 12 Glider masses (50 g/ea)               | 19. Velcro joiner set           |
| 9. 2 Spring                                 | 20. Weight bucket               |
| 10. 10 Small hex bolts with sleeves (16 mm) | 21. String with two small hooks |
| 11. 4 Small hex bolts with sleeves (23 mm)  | 22. 2 Gliders                   |

## Accessories

### Attaching the Photogates, Photogate Supports, and Timer

1. Attach an angled photogate support in the same manner as the adjustable starting positioner—slide the groove of the support onto a loosened hex bolt on the underside of the air track. Slide to desired position and tighten.
2. Remove the mounting screw on the side of the photogate.
3. Position the photogate so the mounting screw hole is positioned above the slot in the photogate bracket, and insert the mounting screw through the bracket and tighten into the photogate body.
4. Plug the photogate cords into the timer unit.
5. Repeat for the second photogate if needed.

### Mounting Spring Bumpers, Velcro Joiners, and Glider Hooks

1. Each of these accessories is mounted on a bracket which corresponds to the gliders. First, slide two short hex bolts onto the mounting grooves located on the long face of the glider.
2. With the hex bolts near the end of the mounting grooves, slide the accessory bracket over the end of the glider, making sure the arms of the bracket go around the hex bolt. Tighten the hex bolts to secure the accessory to the glider.
3. With a screwdriver, loosen the screws on either side of the bracket at the end of the air track.
4. Slide the accessory over the bracket and re-tighten the screws.
5. Repeat as necessary for different experiments.
6. If using the spring accessory, first attach glider hooks to the glider. Then use the hooks on the ends of the spring to attach to the glider on one end and the eyelet at the top of the accessory bracket on the end of the air track as in the image to the right.



### Assembling the Pulley and Bucket

1. Loosen the brass screws at the end of the air track and place the pulley between the end of the screws.
2. Tighten the brass screws to secure the pulley. Be sure not to over-tighten the screws as the pulley will not move.
3. Secure the glider hook to one of the gliders
4. Cut a piece of string to the desired length and secure one end to a small hook. Then, attach the small hook to the glider hook.
5. Pass the other end of the string through the opening at the end of the air track and over the pulley.
6. Attach the free end of string to another small hook and then attach to the handle of the bucket.

### Attaching the Glider Masses

1. Slide a hex bolt toward the center of the side mounting grooves on a glider. Slide the groove in the glider mass over the hex bolt and tighten.
2. Repeat on the opposite side of the glider to ensure the glider is balanced.

**Attaching the Glider Flags**

1. Slide one small hex bolt toward the center of the groove on top of the glider.
2. Select a glider flag and slide the groove around the hex bolt. Be sure the lip along the long edge of the flag is facing down and is seated flush against the side of the glider. This serves to align the flag perpendicularly with the glider's path.
3. Tighten the bolt to secure the flag.