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## Resources: Tandem Biking – Adaptations Manual

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### Equipment Used in This Video and Its Purpose:

- Tandem Bike
  - Pilot (sighted) is up front
    - Control steering and brakes of bike
    - Most bikes have gears in the front
  - Athlete with visual impairment will be in the back (stoker)
    - Provides power by peddling
    - Some bikes have gears on the stoker's handlebars
  - Seats should be adjusted to riders
    - Typically at riders' hips
  - Pilot will adjust their seat first
- Helmet
  - Essential safety tool – must be worn by both pilot and stoker
  - Should fit correctly
    - Tightened around head so it does not move when wearer shakes their head
    - Brim should be no higher than two finger breadths above eyebrows
    - V straps should lay flat on either side of ears
    - Chin strap should be tightened so it is no more than two finger breadths away from chin

### Video Script and Commentary:

- Video opens with Lillian (athlete) and Jessica (teacher) standing side by side outside on a running track with a tandem bike in front of them. The front of the bike is pointed to the girls' left side.



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Lillian and Jessica have both hands on the seats of the tandem bike and are wearing bright green helmets.

- “Hi, my name is Jessica, and I’m a teacher.”
- “And I am Lillian and I’m the athlete.”
- Slide of NWABA logo.
- Slide introducing video reads ‘Tandem Biking’ while voiceover reads the slide.
- Slide reads ‘Tandem Biking Orientation’ while voiceover reads the slide.
- Lillian and Jessica are standing side-by-side outside on a running track with a tandem bike propped up on its kickstand in front of them. Lillian and Jessica are wearing bright green helmets. Jessica will guide Lillian to the front of the bike.
  - “So today we are going to learn about tandem biking. The first think that I want to discuss is that the individual that rides in front of the bike is called the pilot. And the individual or athlete with a visual impairment who rides in the back is called the stoker. Today, we are going to start off by orienting our athlete to the bike. So Lillian, I’m going to guide you to the front of the bike. And here we have, if you bend down, we have our tires.”
- Lillian and Jessica are bent down feeling the front tire. When prompted, both Lillian and Jessica squeeze the tire.
  - “So before every ride, you want to do a squeeze check and check both tires, that there is a sufficient amount of air inside them. How do they feel, firm?”



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- “They feel good, yeah, they’re firm.”
  - “Okay, excellent.”
- Lillian and Jessica stand up and feel the handlebars on the bike. They are standing in front of the bike on the bike’s right side to review how to use the gears and where the bell and brakes are located.
  - “So, if you trail your hand across the handlebars, excellent, you will see that there are gears on my handles. So, your left hand has the gear. So, if you turn the handle towards me, you are shifting up in gears and if you turn the handle away from you, you are shifting down in gears. And sometimes on a tandem bike, the gears on the bike can be located where the stoker sits in the back. So also, where your right hand is, there is a safety bell. So when you’re on a road ride, you can let people know that there are obstacles in your way and that you are coming down the road or down the sidewalk, whichever it may be.”
- Jessica grabs the handlebars to steady the bike as Lillian moves her hands toward the end of the handlebars. Lillian puts her thumbs on the handlebars and squeezes her thumbs toward her palms to practice using the brakes.
  - “So in both your hands, if you go down, perfect, there are brakes. And this is how we stop the bike. So, if you give them a little squeeze, excellent, we’re just going to check to make sure that the bike is not moving. Excellent. So they feel



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great? Okay, wonderful. So we are going to trail down the bike.”

- Lillian and Jessica trail down the bike, feeling the handlebars, the pilot’s seat, the stoker’s handlebars, and then the stoker’s seat.
  - “So you’re at the handlebars, that is my seat, and then this is where your handlebars are, and then your seat.”
- Lillian and Jessica are standing at the back of the bike. Lillian has a hand on the stoker’s seat and a hand on the stoker’s handlebars.
  - “So the last thing that we’re going to check is our chain.”
- Jessica guides Lillian’s hand, starting on the opposite side of the bike, from the seat, down the frame, to the chain. Once Lillian’s hand touches the chain, she briefly feels it.
  - “So if you slide your hand down the frame of the bike, excellent, you will find the chain. So, we want to make sure that our chain is tight and not loose. So how does that feel?”
  - “It feels good.”
- Slide reads ‘Mounting the Bike’ while voiceover reads the slide.
- Lillian and Jessica are standing side-by-side outside on a running track with a tandem bike propped up on its kickstand in front of them.
  - “So before getting onto the bike, you want to discuss which foot is going to be your power foot or your power stroke. That foot initially is going to press down in order to gain momentum. So, Lillian, which foot do you prefer to use as your power foot?”
  - “I prefer the right foot.”



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- “The right foot, excellent. The next step would be to check the seat height. And you want to make sure that the seat height for yourself and the athlete is about hip height.”
- Jessica and Lillian turn toward each other. Lillian is standing directly beside the stoker’s seat.
  - “So Lillian, if you turn to your left and square up, excellent, is the seat a good height for you?”
- Lillian feels the height of the stoker’s seat and compares it to her hip height. The seat comes up to Lillian’s hip.
  - “Yes, yep.”
  - “Excellent.”
- Lillian and Jessica face the camera. Jessica points to the stoker’s seat and Lillian puts her hand on the seat. When prompted, Lillian moves her hand from the seat, to the frame below the seat, to the pedals and kickstand.
  - So our last thing before we start moving is, Lillian, if you grab the seat and trail down to where the pedals are, you’ll feel that there is a kickstand to your right. Excellent, so you wanna make sure that, before you take off, that you sweep the kickstand away with your right foot.”
- Lillian is standing upright with her right hand on the stoker’s seat. Jessica is standing upright with her right hand on the stoker’s handlebars and her left hand on the pilot’s handlebars. Lillian takes a step toward the bike and with her right foot, and moves the kickstand toward the back end of the bike with her foot.



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- “So if you could find that, excellent. Excellent. When you start tandem biking, the pilot is the one to get onto the bike first.”
- Jessica puts her left hand on the pilot’s handlebars and her right hand on the pilot’s seat. She steps through the bike with her right foot and places it on the ground while grabbing the pilot’s handlebars with her right hand. Jessica is now straddling and stabilizing the bike. She grabs the handlebars and engages the brakes by pulling the brakes toward her palms with her fingers.
  - “So I’m going to get on. You want to make sure that your feet are planted and you’re holding on the brakes for stability. So the next step would be to tell the athlete that they are ready to go on.”
- Jessica balances her weight on her right foot, puts her left foot on the pedal, and pushes it back to make the pedals level and parallel to the ground. She then puts her knee behind the right pedal to stabilize it.
  - “So what I would do is, I move the pedal back. And I hold it in front of my knee. That way, when the athlete goes on the pedal is not going to hit them in their shin. So Lillian, when you’re ready, you’re able to go on.”
  - “Okay.”
- Lillian gets on the bike.
  - “Great, and I’m on.”
- Lillian and Jessica are on the bike. Lillian has both hands on the stoker’s handlebars, her right foot is on the pedal and her left foot



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is on the ground. Jessica has both hands on the pilot's handlebars and both feet are planted on the ground.

- “Excellent, excellent. Are you ready for takeoff, Lillian?”
- “I am!”
- “Excellent. So you wanna make sure that you keep your head up and you look straight ahead, and I’m gonna count down, three, two, one, pedal. And we’re going to drive our right foot down. Okay, ready?”
- Jessica puts her right foot on the pedal. Lillian and Jessica pedal away from the camera’s view in unison when Jessica gives the cue, “Pedal.”
  - “So, three, two, one, pedal.”
- Slide reads ‘Tandem Biking, Dismount’ while voiceover reads slide.
- Lillian and Jessica are positioned in the middle of the camera’s view, still on the bike. The bike is stationary. Lillian has both hands on the stoker’s handlebars and her right foot on the right pedal and her left foot on the ground. Jessica has both hands on the brakes and both feet planted on the ground to stabilize the bike.
  - “When discussing the takeoff with your athlete, you want to discuss with them which foot they prefer to finish on. So, Lillian, I know that when we started, you chose the right foot as your power foot, but is that the same for landing as well?”
  - “No, I’d like to do the left.”
  - “Okay, so excellent. So you want to land on the left. So you want to make sure that you count down with your athlete,



three, two, one, brake. Or you can say, three, two, one, left. And as a pilot, you're not going to squeeze both brakes at the same time because that will make you jolt forward. You want to make sure that you're talking to your athlete about slowing down and you're pumping the brakes. That way it's a gradual slowdown and not an abrupt stop. So when exiting the bike, your athlete is going to get off the bike first, so after you stop, you're going to have both hands on the brakes and you're going to tell your athlete that it's ok to exit the bike. So, Lillian, whenever you're ready, you're okay to exit."

- Lillian brings her right foot over the bike and stands behind it with her right hand on the seat and left hand on the stoker's handlebars.
  - "I'm off."
  - "Okay, and now you're going to instruct your athlete to slide towards the back tire."
- Lillian walks toward the back of the bike and stands beside it, placing both hands on the seat to give the pilot space to dismount.
  - "So come around towards the back tire, keep both hands on the seat, exactly. And now it's appropriate time for the pilot to exit the bike."
- Slides reads 'Use clear descriptions for the athlete as you approach the dismount. Use the cues 3-2-1 brake.' Voiceover reads the slide aloud.





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- Jessica and Lillian are riding the bike around the curve of the track. They begin to slow down as they coast on Jessica’s cue. The both put their left foot down when Jessica says, “Down.”
  - So we’re going to be slowing down a little bit, and you want to get off on your left. So we’re going to coast. And coasting, coasting, coasting, three, two, one, brake.”
- Slide readings ‘Dismounting the Tandem Bike’ while voiceover reads the slide.
- Lillian and Jessica are on the bike. Lillian has both hands on the stoker’s handlebars and both feet on the ground; she is standing upright. Jessica has both hands on the pilot’s handlebars and both feet are planted on the ground; she resting on the seat of the bike.
  - “All right, Lillian, so now you’re going to exit the bike.”
  - “Okay.”
- Lillian puts her right hand on the stoker’s seat.
  - “So, you are going to exit to your left.”
- Lillian puts her right hand back on the stoker’s handlebars.
  - “My left.”
  - “Yes.”
  - “Great, okay.”
- Lillian takes a step to the left with her left foot and pivots it to step over the bike. She stands beside it, grabs the seat, and walks behind the bike to straddle it and stabilize it so Jessica can dismount safely. Jessica dismounts the bike by stepping to the left with her left foot and pivots it to step over the bike. She stands



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beside it, grabs the seat with her right hand and the pilot's handlebars with her left hand. On Jessica's cue, Lillian walks toward the stoker's seat and handlebars and places a hand on each.

- "Yeah, grab the seat, excellent, now swing around to the back of the bike, behind the tire, excellent, you can even straddle the tire. Perfect, I'm going to get off now, and now what you can do is walk your hands forward, put your left hand on the handlebar, right hand on the seat, and now we are going to walk the bike."
- "Okay."
- "Forward."
- Slide reading 'Tandem Biking on the Road' while voiceover reads the slide.
- Jessica and Lillian are riding a tandem bike on a sidewalk. The pairs slows down and stops when Jessica calls out the cues.
  - "We are approaching a cross walk. So, we're going to start to slow down and coast. Excellent, and we're going to start slowing down. 3-2-1 brake."
- Slides reads 'Describe surroundings to the athlete as you are biking. Include crosswalks, cars, pedestrians, and other objects. Dismount the bike to cross the street.' Voiceover reads the slide.
- Lillian dismounts the bike and straddles the back tire so Jessica can also safely dismount. Once Jessica has dismounted, Lillian walks up to and holds the stoker's handlebar and seat to walk with bike across the street.



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- “Perfect, grab that seat. I’m going to exit. Okay, so one hand on the seat, one hand on the handlebars. And we are going to look both ways before we cross the street.”
- Jessica looks up and down the street to check for oncoming traffic. On Jessica’s cue, they walk the bike across a crosswalk.
  - “It’s all clear, and now we’re going to walk through the crosswalk.”
- Slide reads ‘For more, visit the Sports Adaptations page at [www.nwaba.org](http://www.nwaba.org). Thank you for watching!’ Voiceover reads the slide aloud.
- Slide with Washington State School for the Blind logo
  - “Thank you to the Washington State School for the Blind for allowing us to use their campus in the making of these videos.”
- Slide with Guide Dogs for the Blind logo.
  - “Thank you to Guide Dogs for the Blind who create partnerships between people, dogs, and communities.”
- Slide of NWABA logo.

### Other Adaptations and Extending the Skill of Tandem Biking

- Use pedals with toe clips as necessary to help athlete keep their feet on the pedals
- Riding a tandem bike for longer periods of time
- Riding on differing terrains, such as hills