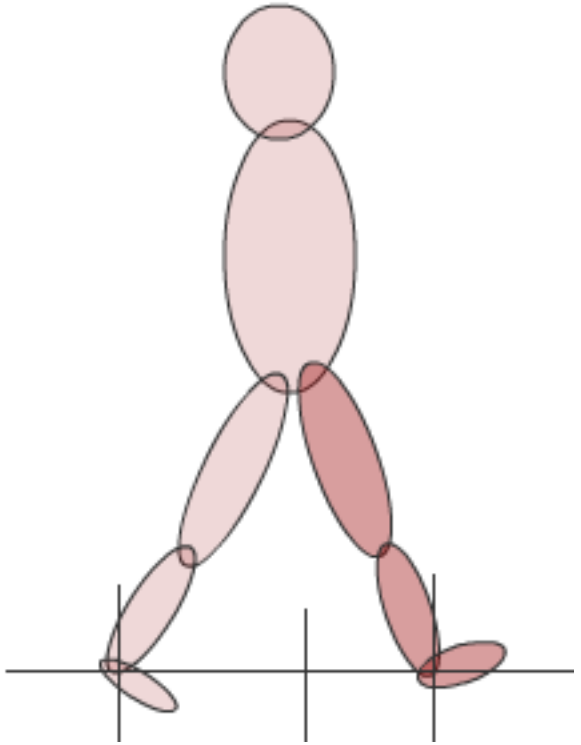
The walk cycle

Creating the walk cycle

- To create a convincing walk cycle you build it based on 4 distinct positions of the body.
  - Contact
  - Recoil
  - Pass Through
  - High Point
- Integrating these 4 positions and then repeating them mirrored (left side then right side) along with the necessary in-between steps will make for a smooth, convincing walk for your character.

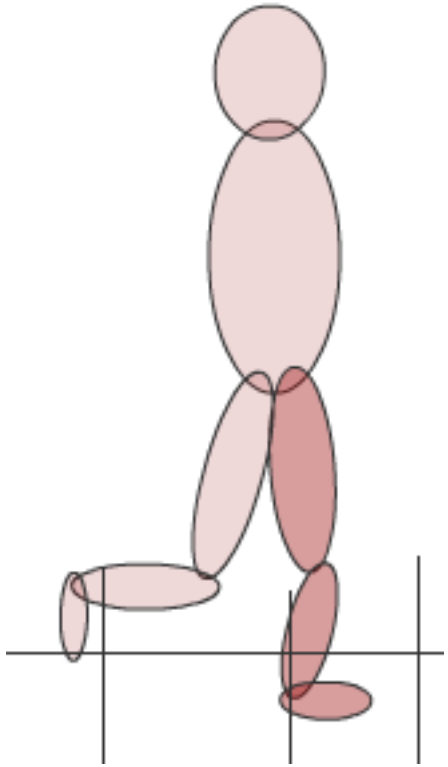
Contact

- Both feet are on the ground
- This is the point where the body shifts its weight from the back to the front foot
- It represents a big shift in weight



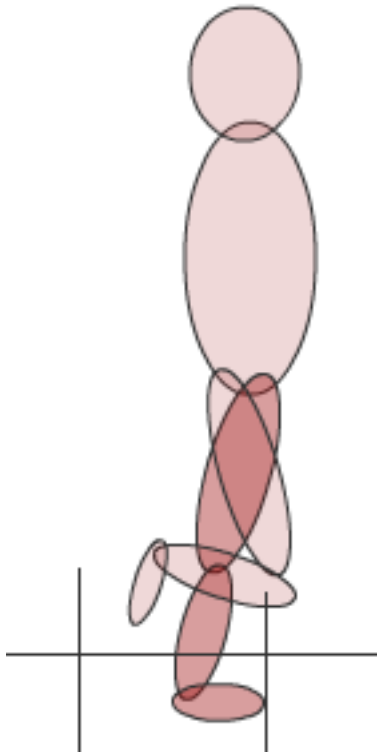
Recoil

- The weight sets down on the front foot
- The shift in weight causes the character to bend at the knees to balance the weight
- The head and hips are at their lowest point



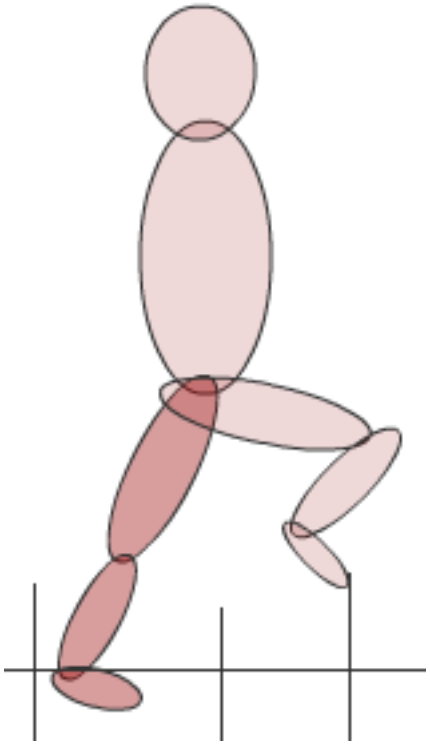
Pass through

- The weight is now pushed up
- The back leg passes the front leg
- The back leg supports the body as there is only one foot on the ground



High point

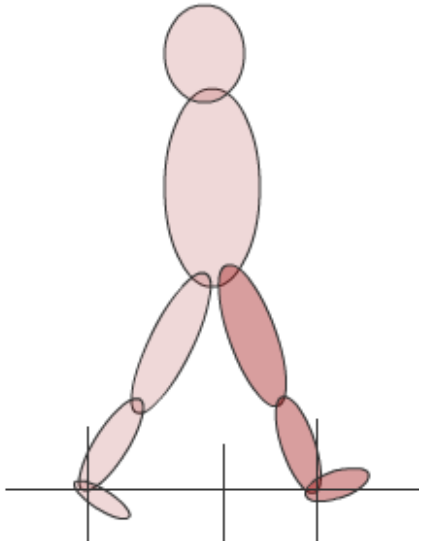
- The front leg is now at it's highest point
- The front leg is preparing to set down
- The head and hips are at their highest point



Guide for speed

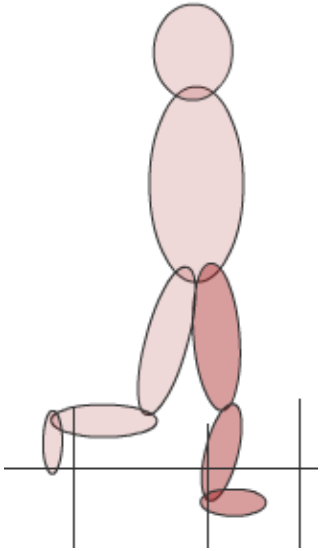
- The following works for 24fps composition

Contact



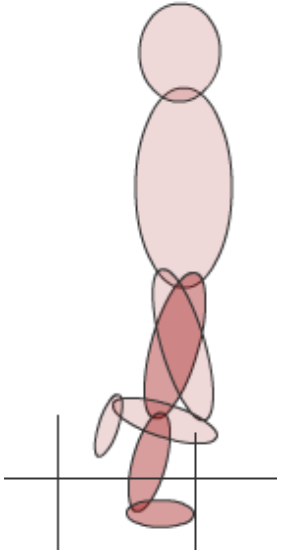
Frame 1, 17, 33

Recoil



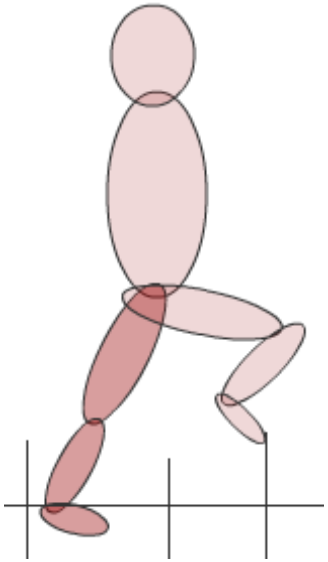
Frame 5, 21

Passing



Frame 9, 25

High Point



Frame 13, 29

Animating a character on screen

- There are two basic types of animation that shows a character moving within your animation world.
  - The character is stationary and the background moves behind the character.
    - If your character is walking, they are, in effect, walking in place but with the background moving behind them you give the illusion of motion through a world.
  - The background is stationary and the character moves across the stage.
    - If your character is walking they will move across the stage. If their movement is horizontal they will simply move L-R or R-L and their scale will remain constant. If their movement is front to back or back to front you will want to adjust their scale accordingly to present a proper perspective to the scene.

Animating a 2D background

- If you are animating a 2D background…
  - The simplest method is to simply create a 2D drawing of your background that is much larger than your stage (frame size) and then simply animate the background against your character moving in the foreground.
    - Pros – It's easy
    - Cons – It's not very realistic. There is no parallax or perspective
  - To present a realistic animation you want things closest in your background to move the fastest while you want objects further back to move slower. This gives the illusion of perspective and parallax to the viewer.
    - Pros – More realistic
    - Cons – Harder to do. Requires more work on the part of the animator

Tips n tricks

- A common trick in an animation to present a moving background is to create your background as if it was on a large sphere with your character walking on the surface. The sphere rotates scenery around as your character walks.
- Use motion blur on your background to present even more convincing movement of the background to the foreground

Little known tip Hollywood uses

- Very often, in a movie made in the US or for European audience you will see that the first time a hero or protagonist appears on the stage their movement will be from left to right. In converse, when the "bad guy" or antagonist appears they will move from right to left.
  - This is because we read left to right. That is a natural eye motion and is comfortable. Using that motion for the first appearance of the "good guy" imprints a slight psychological bias towards the character. Moving our eyes right to left is un-natural, thus it is used to first associate with a "bad guy".
  - This trick works less on Asian and Middle Eastern cultures as they read from right to left.