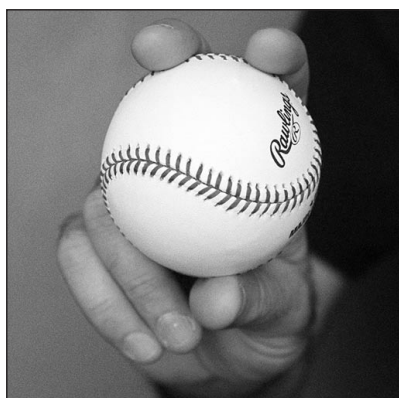


Pitching 101

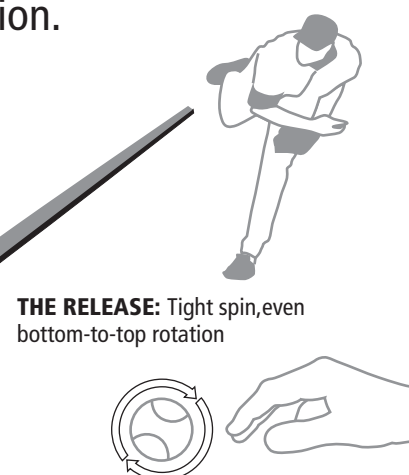
There are many variations thrown in the major leagues, but these eight pitches form the foundation.



Four-seam fastball

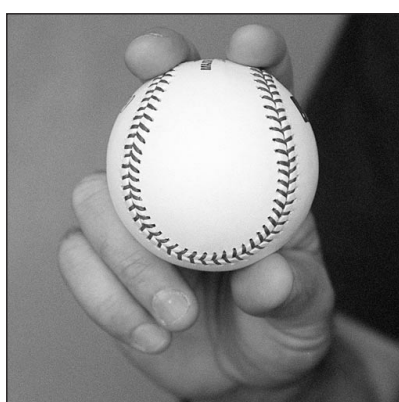
ALSO KNOWN AS: (General fastball terms) heater, cheese, smoke, cheddar, big dog
AVERAGE SPEED: 89-91 mph
WHICH MARINERS THROW IT: All
BEST IN THE AMERICAN LEAGUE* (ALL FASTBALLS): Pedro Martinez, Boston; Troy Percival, Anaheim; Bartolo Colon, Cleveland

WHAT IT DOES: The most basic fundamental pitch, this is the only one thrown by everyone. It is the easiest pitch to locate (put it where you want it). The four-seamer is thrown at maximum velocity, with the ball coming off the first two fingers and rotating bottom to top (6 to 12 on a clock) as viewed by the batter. It gets its name from the way the four parallel seams spin toward the batter, and that's what the batter is looking for to identify it.



"Every batter has nightmares about catching a fastball between the eyes. Stare at him and plant that dream in his head. Make him afraid, and he's half invisible already."

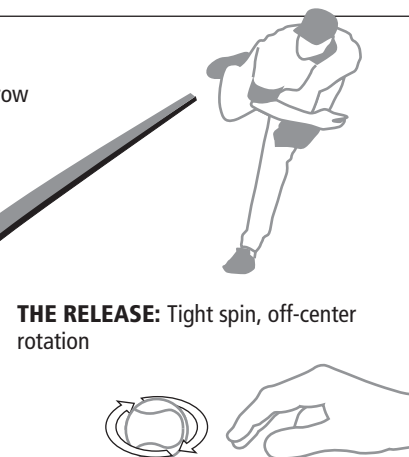
John Sayles, "Pride of the Bimbos"



Two-seam fastball

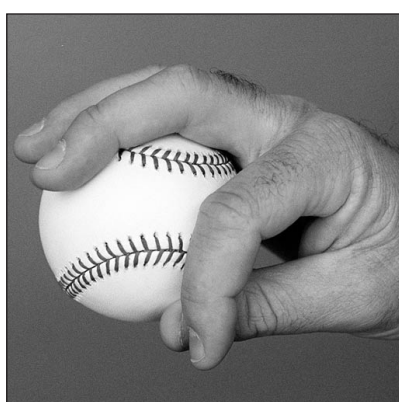
ALSO KNOWN AS: Sinker
AVERAGE SPEED: 89-91 mph
WHICH MARINERS THROW IT: Garcia, Halama, Moyer, Paniagua and Sele throw mostly two-seamers. Everyone else except Rhodes throws it with varying frequency.

WHAT IT DOES: For the two-seamer, the first and second fingers lay across the narrow area between the two horseshoe-shaped seam outlines. It is released the same way as the four-seamer, but the slight difference in the pronation of the hand causes it to rotate off-center; where a four-seamer rotates 6-to-12 on a clock face in the batter's view, a two-seamer still rotates bottom to top, but might be 4-to-10. That causes the ball to sink to some degree, though this is not considered a "breaking pitch" and is thrown at full velocity. It's called the two-seamer because, due to the grip, the batter sees only one pair or horizontal seams spinning, instead of two. This pitch is slightly more difficult to locate than the four-seamer, but still is thrown with good control.



"The power pitcher — the man who can rear back and fog it by the hitter — is the brightest star in the pitching firmament."

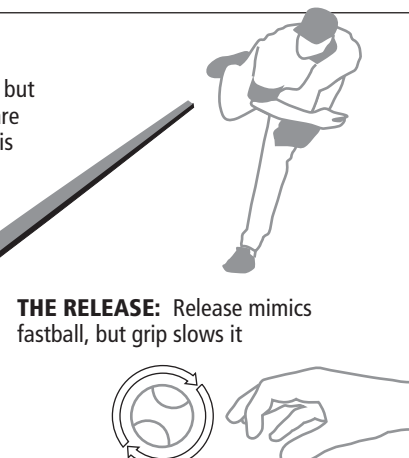
John Thorn and John Holway, "The Pitcher"



Changeup

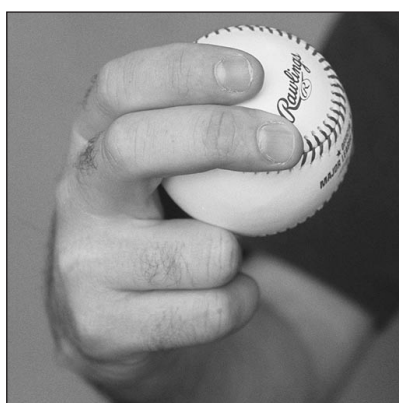
ALSO KNOWN AS: Off-speed pitch, dead fish, fosh, skirt, horseshoe
AVERAGE SPEED: 7-11 mph slower than fastball
WHICH MARINERS THROW IT: Abbott, Franklin, Garcia, Halama, Moyer, Pineiro, Rhodes, Sele
BEST IN THE LEAGUE*: Pedro Martinez, Boston; Brad Radke, Minnesota; Jamie Moyer, Mariners

WHAT IT DOES: The changeup is the great impostor, meant to look like the fastball, but coming in slower to throw off the batter's timing. The arm motion and release point are ideally the same as the fastball, but the difference is the grip. The most common grip is some form of the "circle change," in which the thumb and forefinger touch to create a circle on the side of the ball, which sits back close to the palm. The remaining fingers are spread around the ball. Where the fastball uses leverage to impart force and spin using the first two fingers, the changeup spreads the force around the ball, concentrating it in the middle of the ball and taking speed off. Variations on the grip include the palm ball, where the ball is held all the way back in the palm, and the horseshoe or pitchfork change, in which fingers are spread evenly around the ball, without the thumb-and-forefinger circle.



"Hitting is timing. Pitching is upsetting timing."

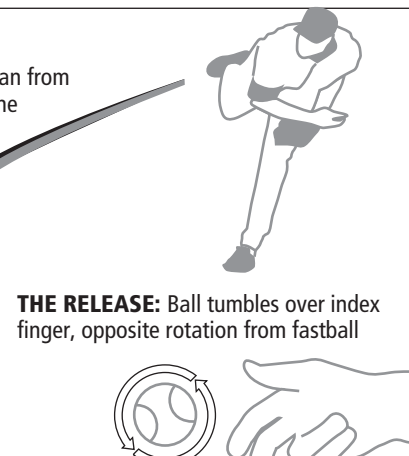
Warren Spahn, legendary left-hander



Curveball

ALSO KNOWN AS: Hammer, yellow hammer, whip, yakker
AVERAGE SPEED: 11-14 mph slower than fastball
WHICH MARINERS THROW IT: Garcia, Halama, Pineiro, Sasaki, Sele. Moyer and Abbott have the pitch, but generally throw fewer than five per game.
BEST IN THE LEAGUE*: Mike Mussina, New York; Aaron Sele, Mariners; Troy Percival, Anaheim

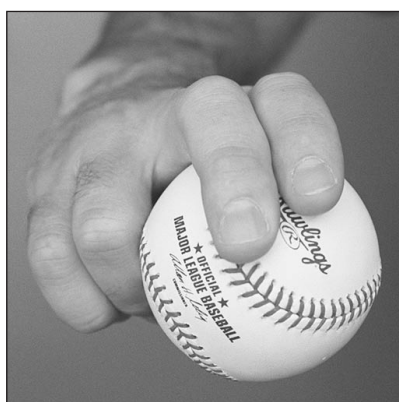
WHAT IT DOES: The curve is unusual in that it rotates from top to bottom, rather than from bottom to top like the fastball. That's because instead of being released forward, in the direction of the fingers toward the batter, the curve is thrown with the wrist cocked so that the thumb is on top. With the arm coming down, the ball rolls over the outside of the index finger, causing a downward spin. The curve sinks dramatically and can be thrown for a strike or as a "miss" pitch. Depending on the arm position of the individual pitcher — straight over the top or more sidearm — the ball might also break across the plate and wind up outside. On this pitch, having the hand speed to transfer leverage to the front of the ball is more important than arm strength.



"In the confrontation between batter and pitcher, it is the curveball that makes the batter the underdog."

Martin Quigley, "The Crooked Pitch"

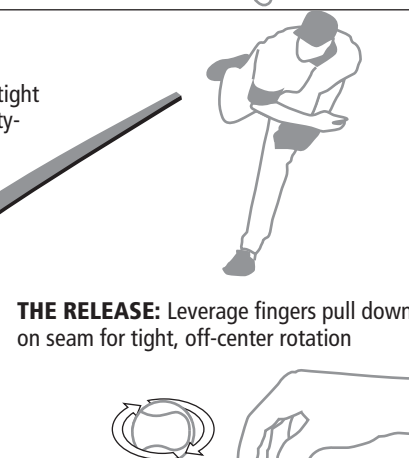
NOTE: Children should not throw the curveball, as serious arm problems can result. Most coaches say the curve can be safely introduced at about age 15, and it should be learned only under supervision.



Slider

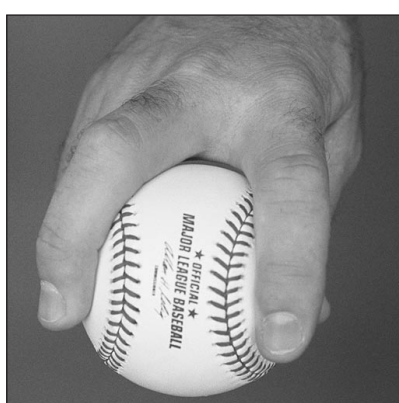
ALSO KNOWN AS: No common nickname
AVERAGE SPEED: 4-6 mph slower than fastball
WHICH MARINERS THROW IT: Abbott, Charlton, Franklin, Halama, Nelson, Paniagua, Pineiro, Rhodes
BEST IN THE LEAGUE*: Jeff Nelson, Mariners; Pedro Martinez, Boston; Tim Hudson, Oakland

WHAT IT DOES: The slider is the next-fastest pitch to the fastball, and it relies on a tight spin that mimics the fastball, plus a pronounced late break down and away (in a righty-vs.-righty matchup). The grip has the first two fingers close together and off-center, positioned down the length of a seam. On release, the pitcher uses the contact along the length of the seam and pulls downward to create spin. The slider uses the leverage of the seam, rather than a wrist action, to impart spin; try to do both at the same time and you're headed for arm problems. The spin is not straight through the ball, but off-center, due to the grip, and that spin pattern eventually causes the ball to "snap off" at a downward angle as it approaches the plate. The speed is below that of the fastball, but the closer a pitcher can get to throwing it at fastball speed, the better.



"It is the pitch that has changed the game of baseball. ... You can see the spin, but unless you anticipate it or the pitcher hangs it, there is not much chance of your hitting it solidly."

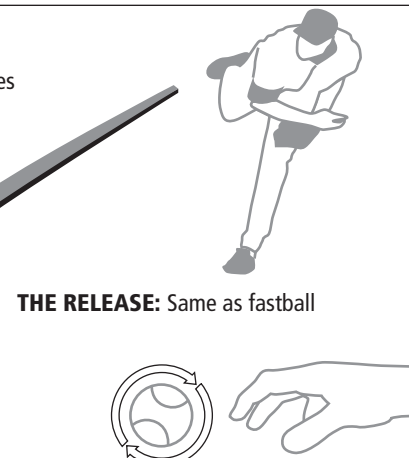
Lou Piniella, Mariners manager



Split-finger

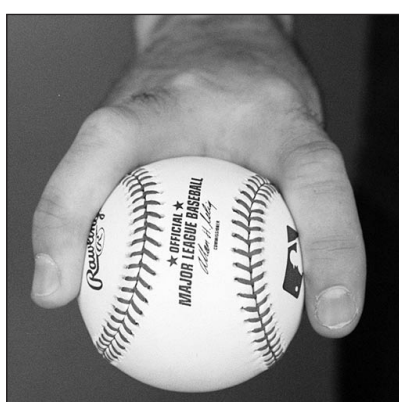
ALSO KNOWN AS: Splitter
AVERAGE SPEED: 4-6 mph slower than fastball
WHICH MARINERS THROW IT: Franklin, Paniagua
BEST IN THE LEAGUE: Tim Hudson, Oakland

WHAT IT DOES: The splitter comes in with tight rotation and good velocity and dives straight down at the last second. The grip is similar to the two-seam fastball, but with the fingers spread farther apart to change the rotation and add break. This pitch is generally not thrown for strikes, but to coax a swing and miss.



"The key to an effective split-finger is to think fastball."

Roger Craig, former pitcher, coach



Forkball

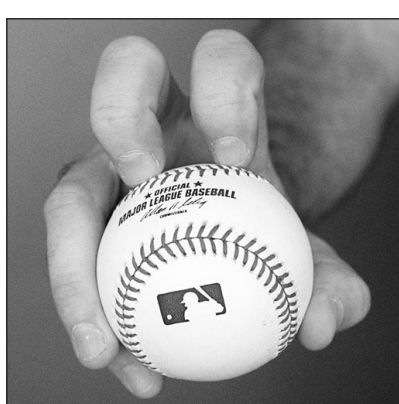
ALSO KNOWN AS: Fang
AVERAGE SPEED: Varies, as fast as 84-86 mph but usually slower
WHICH MARINERS THROW IT: Sasaki, Charlton and, rarely, Nelson
BEST IN THE LEAGUE: Sasaki, Seattle; Roger Clemens, New York

WHAT IT DOES: For the fork, take the split-finger grip and spread the fingers out as far as possible so that they are almost at the sides of the ball, and the ball sits back more toward the palm. The pitch was allegedly invented by Dave Keefe, a pitcher from 1917-22 who held the ball between his index and fourth fingers because he had lost the middle finger in a childhood accident. This grip takes a lot of velocity off the ball but causes an extreme break. Like the splitter, the fork is not thrown for strikes and usually winds up in the dirt. But if you can get a batter to commit his swing when it looks like it's headed for the strike zone, by the time the bat gets there, the ball's underneath it. This one can make a batter look very bad.



"If you throw a 97-mph fastball, then come back with a 87-mph forkball, the hitter sees the same wrist each time. Not only could he end up out front of the ball (swinging early), he could be swung at a ball that has just plunged into the dirt."

Roger Clemens, Yankees pitcher



Knuckleball

ALSO KNOWN AS: Knuckler, dancer, various expletives
AVERAGE SPEED: Anywhere from 50s to 70s
WHICH MARINERS THROW IT: None
BEST IN THE LEAGUE: Boston's Tim Wakefield is the most effective knuckleballer of his generation. Detroit's Steve Sparks is the only other AL knuckleball starter.

WHAT IT DOES: The knuckler is rare, difficult to learn, difficult to control and even more difficult to hit. Gripped with the tips of the first two fingers on top and anchored at the bottom by the thumb, the knuckleball is pushed straight out at the release. There is ideally no spin at all, and the air moving against the seams pushes the ball around at its will. Knuckleball pitchers throw the pitch almost exclusively, but usually mix in a fastball. Hitters hate the knuckler because it is so slow it's difficult to time, and even if you know when it's going to get there, there's no way to predict where it's going to be. Dick Allen, a star first baseman in the '60s and '70s, said the safest thing was to take your three swings and sit down: "I'm afraid if I even think about hitting it, I'll mess up my swing for life."



"Like some cult religion that barely survives, there has always been at least one but rarely more than five or six devotees throwing the knuckleball in the big leagues ... Not only can't pitchers control it, hitters can't hit it, catchers can't catch it, coaches can't coach it, and most pitchers can't learn it. The perfect pitch."

Ron Luciano, former AL umpire

* 2001 survey of American League managers by Baseball America; otherwise determined through informal poll of players and coaches
 Source: P-I research, Mariners pitching coach Bryan Price