



## **Lite-Flite<sup>®</sup> Machine Drill Book for Baseball & Softball**

*The fun way to learn the  
fundamentals of hitting!*

### **The JUGS Lite-Flite<sup>®</sup> Machine will help you:**

- Learn the fundamentals of hitting by removing the "Fear Factor"
- Learn the fundamentals of hitting the curveball by removing the "Fear Factor"
- Learn the fundamentals of defense by removing the "Fear Factor"
- Learn correct hitting fundamentals
- Help perfect the batting swing
- Develop hand/eye coordination and a quick bat
- Hit in "limited space" safely
- Practice indoor hitting drills
- Increase the number of hitting opportunities each player has during practice
- Warm-up prior to taking live batting practice
- Learn how to get out of the way of the ball correctly and safely
- Maximize indoor hitting instruction during inclement weather

## Lite-Flite® Drills were compiled by legendary baseball coach Jack Dunn



A baseball legend, Jack Dunn retired from coaching after his 20th season as head coach at Portland State University and his 39th year of coaching baseball. He never had a losing season at PSU, compiling 630 wins. His lengthy career also included 19 years at Portland high schools Cleveland (14 years) and Wilson (5 years).

In the Division I PAC-10 North Conference, Portland State won the title in 1984, advancing to the championship game of the league's post-season tournament in 1986 and 1990.

The Vikings also won the NorPac in 1977 and traveled to Tempe, Arizona for the NCAA Regionals. In 1984 and 1986, Dunn's teams won 39 games, the state's collegiate record.

Since 1975, 35 Portland State players have signed professional baseball contracts. Most notable of Dunn's graduates to play Major League Baseball were pitchers Jeff Lahti, Eric Gunderson, and the late Steve Olin. Also, two-time National League MVP Dale Murphy and former Chicago Cubs manager Tom Trebelhorn, played for Dunn when he coached Portland high schools Wilson and Cleveland.

Prior to succeeding Roy Love at PSU in 1975, Jack's Wilson High School team won three straight league titles. His American Legion team, Watco Electric, was so successful that he earned the Slat's Gill Award as Oregon's Coach of the Year for all sports in 1973 when Watco finished third at the American Legion World Series. In 18 years under Dunn, Watco won 14 division titles and three state championships.

The "Mentor" has also been published in numerous coaching magazines and, in 1972, received the Rollie Truitt Award for his contribution to baseball. In 1998, he received The Oregonian's Distinguished Sports Career Award and, in 1999, was inducted into the Oregon Sports Hall of Fame. Jack is also a member of the Oregon High School Hall of Fame and the Portland State University Hall of Fame.

# Index

## Offensive Drills—Weight-Retention Drills

Drill No. 1: Lob Drill .....	4
Drill No. 2: Balance Drill.....	5

## Fastball Drills

Drill No. 3: Point of Contact Drill—Up the Middle .....	6
Drill No. 4: Point of Contact Drill—Inside Pitch .....	7
Drill No. 5: Point of Contact Drill—Outside Pitch .....	8
Drill No. 6: Offset JUGS Lite-Flite® Drill.....	9

## Curveball Drills

Drill No. 7: Curveball Hitting Drill .....	10
Drill No. 8: Pylon Curveball Drill.....	12

## Offensive Drill

Drill No. 9: Defensive Roll.....	14
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## Defensive Drills

Drill No. 10: Routine Fly-Ball Drill.....	15
Drill No. 11: Drop Step Left and Right.....	16
Drill No. 12: Wrong Way Drill .....	17
Drill No. 13: Catcher Blocking Drill .....	18
Drill No. 14: Catcher Pop-fly Drill .....	19

# Offensive Drills

## Weight-Retention Drill

### Drill No. 1: Lob Drill

**Purpose:** To teach the hitter—

1. To wait on the ball and allow the ball to come to him.
2. To learn not to lunge at the ball.
3. To learn weight control.
4. To “step to hit,” not to step and then hit.

**Procedure:**



1. Set the JUGS Lite-Flite® Machine 40 feet from home plate.
2. Set the JUGS Lite-Flite® Machine to throw slow, looping pitches down the middle of home plate.
3. Hitter assumes an extra wide stance and does not stride.
4. Hitter waits on the pitch, allows the ball to come to him before swinging the bat.
5. When swing is taken be sure to unlock the hips by rotating the back heel upward and out—squash the bug!

# Offensive Drills

## Weight-Retention Drill

### Drill No. 2: Balance Drill

Once hitters learn concepts of Lob Drill, they are ready to advance to the “Balance Drill.”

**Purpose:** To teach the hitter—

1. To not lunge at the ball.
2. To wait on the pitch.
3. To learn weight control.
4. “To step to hit”, not to step and then hit.

**Procedure:**



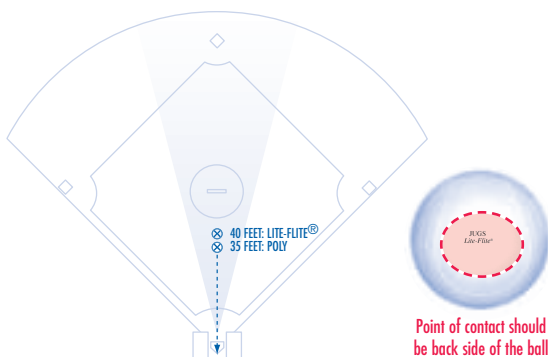
1. Set the JUGS Lite-Flite® Machine 40 feet from home plate.
2. Set the JUGS Lite-Flite® Machine to throw waist-high fastballs down the middle of home plate.
3. Hitter assumes position similar to pitcher's balance position—crown of head over ball of back foot.
4. Weight is entirely on back leg with front leg off the ground or toe resting lightly on the ground.
5. Hitter can turn front hip and knee inward to cock body and for better balance—hitter shows “back-pocket” to pitcher.
6. Hitter waits as long as possible and then “gets the ball with the bat!”

**Coaching Points:** If hitter goes after the ball prematurely, it will be virtually impossible to make solid contact—step to hit!

# Fastball Drills

## Drill No. 3: Point of Contact Drill—Up the Middle

**Purpose:** To teach the contact point (where bat meets ball) for the ball-up-the-middle pitch.



### Procedure:

1. Hitter assumes normal batting stance.
2. Set JUGS Lite-Flite® Machine to throw waist-high pitches down the center of home plate.
3. Hitter should concentrate on hitting the ball back through the middle (straight away) into center field.
4. Contact point should be on the backside of the ball.
5. Barrel of the bat and hands are even at contact (even with lead knee.)
6. Keep head down. This helps hitter keep eye on the ball and minimizes head pulling.

**For the various balls shown below, position the machine distance from Home Plate as follows:**

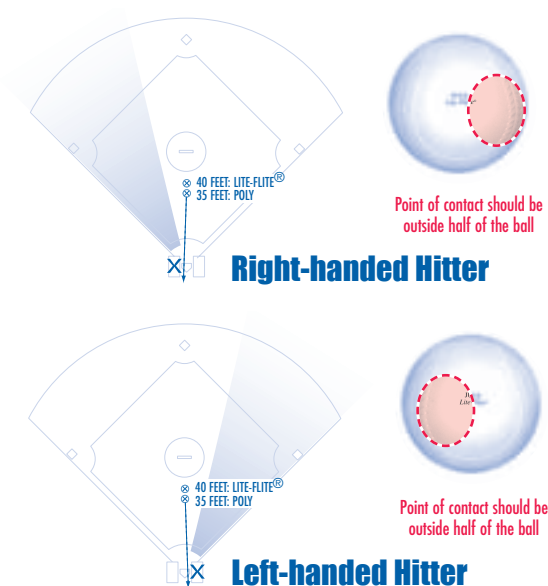
JUGS Lite-Flite® baseball-sized balls	40 feet
JUGS Lite-Flite® softball-sized balls	40 feet
JUGS Polyballs (both baseball and softball size)	35 feet

Due to varying atmospheric conditions, Polyball pitches may be inconsistent at times.

# Fastball Drills

## Drill No. 4: Point of Contact Drill—Inside Pitch

**Purpose:** To teach the contact point (where bat meets ball) for the inside pitch.



### Procedure:

1. Set the JUGS Lite-Flite® Machine to throw pitches, waist high, on the inside one-third of home plate
2. The ball should be hit anywhere from a foot to two feet in front of home plate.
3. The barrel of the bat is ahead of the hands—inside pitch must be pulled.
4. Contact point should be on the outside half of the ball.

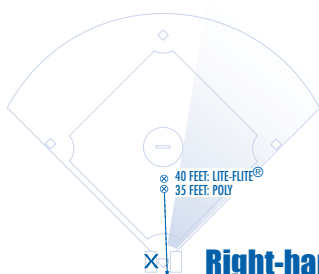
Keep head down and eye on the ball. Try to see the bat hit the ball—this minimizes head pulling, which often happens when pulling the ball.

# Fastball Drills

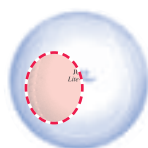
## Drill No. 5: Point of Contact–Outside Pitch

### Purpose:

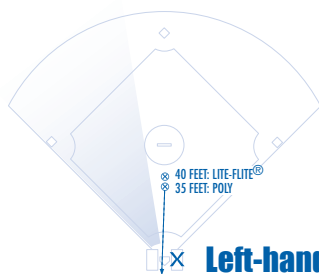
1. To teach the correct contact point (where bat meets ball) for the outside pitch.
2. To teach hitters to keep head down and eye on the ball.
3. To teach hitters to keep front side closed!
4. To prevent head pulling.



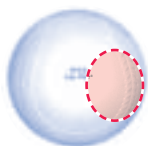
**Right-handed Hitter**



Point of contact should be inside half of the ball



**Left-handed Hitter**



Point of contact should be inside half of the ball

### Procedure:

1. Set the JUGS Lite-Flite® Machine to throw pitches waist high, on the outside one-third of home plate.
2. Outside pitch must be hit when ball is over home plate.
3. Barrel of the bat is behind the hands upon contact.
4. Contact point should be on the inside half of the ball.
5. Outside pitch must be hit to the opposite field.



# Fastball Drills

## Drill No. 6: Offset JUGS Lite-Flite® Machine Drill

**Purpose:** To teach the hitter to—

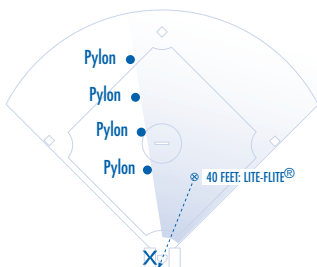
1. Hit to the opposite field.
2. Keep front side closed.
3. Learn the correct point of contact to hit to the opposite field.

**Use ONLY JUGS Lite-Flite® Balls on this drill.**

**Procedure:**

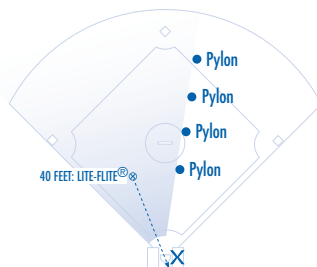
1. Set the JUGS Lite-Flite® Machine halfway between the first base foul line and the pitcher's mound and approximately 40 feet from home plate.

### Right-handed Hitter



2. Set the JUGS Lite-Flite® Machine to throw fast balls (use **JUGS Lite-Flite® Balls ONLY**) waist high directly over home plate.

### Left-handed Hitter



3. Place a pylon in the baseline 20 feet from second base on the third base side of second base.
4. Space three or four additional pylons or markers directly toward home plate to form a line of demarcation.
5. Right-handed hitters attempt to hit all pitches to the right of this line—to the shortstop's left.

**Note:** Left-handed hitters attempt to hit all pitches to the left of this line—to the second baseman's right, as shown above.

**Important—Remember to move machine to other side of the mound.**

# Curveball Drills

## Drill No. 7: Curveball Hitting

### Purpose:

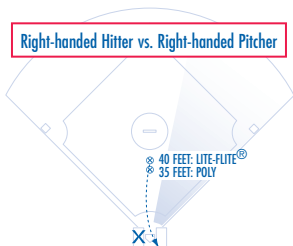
1. To learn to hit the curve correctly and consistently.
2. To understand that a curveball is an off-speed pitch and off-speed pitches should be hit to the opposite field.
3. To learn to hit the ball the way it is breaking.
4. To learn to pull only those curveballs that are hung—high and inside.
5. Learn to wait on the curve ball by keeping weight back and front shoulder closed as long as possible.
6. To learn to keep weight back—roll front shoulder inward when you recognize that pitch is a curve ball.
7. Look fast ball and react to the curveball.

### Procedure:



1. Set the JUGS Lite-Flite® Machine to throw curveballs waist high, and down the middle of home plate

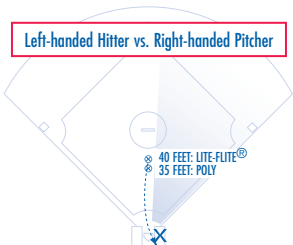
Right-handed Hitter vs. Right-handed Pitcher



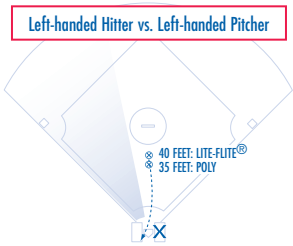
Right-handed Hitter vs. Left-handed Pitcher



Left-handed Hitter vs. Right-handed Pitcher



Left-handed Hitter vs. Left-handed Pitcher



2. The hitter hits the curveball to the opposite field if the ball is breaking away from him/her (right-hand pitcher vs. right-hand hitter or left-hand pitcher vs. left-hand hitter.)
3. The back of the bottom of your hand is facing skyward when the bat makes contact with ball...this prevents pulling the outside pitch.
4. Hitter should attempt to drive curveball back through the pitcher's box. (left-hand pitcher vs. right-hand hitter or right-hand pitcher vs. left-hand hitter.)
5. If hitter is being jammed, the hitter should attempt to pull the ball.
6. Adjust the JUGS Lite-Flite® Machine to throw both right and left-handed curveballs.

**For the various balls shown below, position the machine distance from Home Plate as follows:**

JUGS Lite-Flite® baseball-sized balls ..... 40 feet

JUGS Lite-Flite® softball-sized balls ..... 40 feet

JUGS Polyballs (both baseball and softball size) ..... 35 feet

Due to varying atmospheric conditions, Polyball pitches may be inconsistent at times.

# Curveball Drills

## Drill No. 8: Pylon Curveball Drill

**Purpose:** To teach the hitters to—

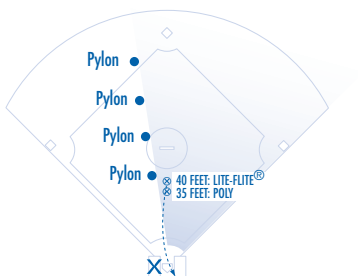
1. Hit the ball the way it is breaking—to the opposite field.
2. Not to pull the curveball unless it is inside.
3. Wait on the curveball, which is approximately 15 mph slower than the fast ball.
4. Learn the correct point of contact to hit the ball to the opposite field.

**Procedure:**

### Right-handed Hitter vs. Right-handed Pitcher

1. Set the JUGS Lite-Flite<sup>®</sup> Machine 40 feet from home plate.

2. Set the JUGS Lite-Flite<sup>®</sup> Machine to throw waist high curveballs on the outside half of home plate.



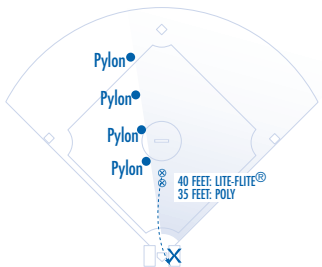
3. Place a pylon in the baseline 20 feet from second base on the third side of second base.
4. Space three or four additional pylons in a direct line toward home plate to form a line of demarcation.
5. Right-handed hitters attempt to hit all pitches to the right of this line of demarcation.

### Coaching Communication for Right-handed Hitter—"Hit the ball to the shortstop's left!"

Hitting the curveball to the shortstop's left forces the hitter to wait on the pitch—the curveball is usually 15 mph slower than the fast ball. Hitter must wait longer on the curveball than the fast ball, so front shoulder must be kept closed and weight back as long as possible to be successful.

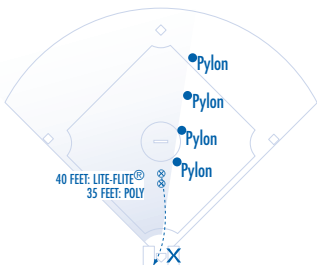
## Left-handed Hitter vs. Right-handed Pitcher

1. Curveball will be breaking into left-handed hitter.
2. Hitter should attempt to drive the curveball back through the pitcher's box.
3. If hitter is being jammed, the hitter should attempt to pull the ball!



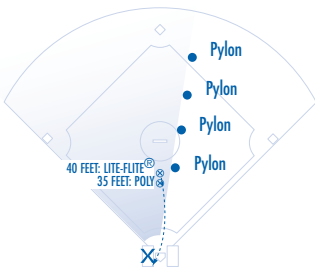
## Left-handed Hitter vs. Left-handed Pitcher

1. Set the JUGS Lite-Flite® Machine to throw curveballs on the outside one third of home plate.
2. Place a pylon in the baseline 20 feet from second base on the first base side of second base.
3. Space three or four pylons directly toward home plate to form a line of demarcation.
4. Left-hand hitters attempt to hit all pitches to the left of this line of demarcation—second baseman's right!



## Right-Handed Hitter vs. Left-Handed Pitcher

1. Curveball will be breaking into right-handed hitter.
2. Hitter should attempt to drive the curveball back through the pitcher's box.
3. If hitter is being jammed, the hitter should attempt to pull the ball!



# Offensive Drills

## Drill No. 9: Defensive Roll

**Purpose:** The Defensive Roll is a method the hitter may use to avoid being hit by a pitched ball. This drill should not be used until the fundamentals of this technique have been thoroughly taught and are understood by the hitter.

### Procedure:



1. Set the JUGS Lite-Flite® Machine to throw Lite-Flite® balls only high and tight to the hitter.



2. On pitches thrown directly at the hitter, the hitter turns away from the pitch in the direction of the catcher with his/her back to the ball.

3. The hitter simultaneously pivots, drops to one knee, and ducks head.



**Pivot Phase:** The hitter spins on the balls of his/her feet away from the pitcher toward the catcher.

**Knee Phase:** Hitter drops to the ground on to the knee of what was the front or striding leg.

**Duck Phase:** Bat must be extended backwards and the arms are inside the upright knee. This assures that the elbows are protected. Head should be below shoulders so that ball will glance off hitter's back and over head.

**Coaching Points:** On close pitches, hitter simply rolls his body away from the pitch by turning front shoulder in toward the catcher, pulling the lead elbow into the body and tucking the chin behind the front shoulder.

# Defensive Drills

## Drill No. 10: Routine Fly Ball

**Purpose:** To teach the player how to catch fly balls correctly.

**Procedure:**



1. Set the JUGS Lite-Flite<sup>®</sup> Machine so that it will throw lazy fly balls to the fielder.
2. Fielders form a single file line about 30 feet from JUGS Lite-Flite<sup>®</sup> Machine.
3. First fielder in line steps out and away from the line, assuming his ready/set position.
4. The coach uses JUGS Lite-Flite<sup>®</sup> Machine to throw a lazy fly ball to the fielder.
5. Fielder makes the catch then throws the Lite-Flite<sup>®</sup> Ball back to the coach and goes to the end of the line.



**Coaching Points:** The “Soft Hands Drill” can be run “bare-handed” without fielders gloves to force players to concentrate and focus on the ball and to develop “soft” hands.

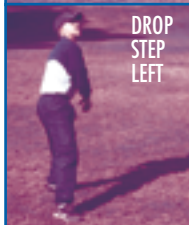
**Use ONLY JUGS Lite-Flite<sup>®</sup> Balls on this drill.**

# Defensive Drills

## Drill No. 11: Drop Step Left and Right

**Purpose:** To teach the fielder the proper footwork for going back on fly-balls, and to assure that the “Drop Step” is deep enough.

**Procedure:**



1. Set JUGS Lite-Flite® Machine to throw lazy fly balls.
2. Fielders form a single file line in front of the coach.
3. First fielder in line steps out and away from the line and assumes the “ready/set position.”
4. On the command “Drop!” the fielder “Drop Steps” straight back with their left foot and holds this position.
5. The “Drop Step” should be ninety degrees straight back.
6. On the command “Go!” the fielder runs straight back looking at the coach over their shoulder.
7. Coach feeds the JUGS Lite-Lite® Machine which throws a looping fly ball over the fielder’s left side. Fielder makes the catch, rolls the baseball back to the coach, and returns to the end of the line.
8. After all fielders have “Drop Stepped” left, **reverse the drill and have all fielders “Drop Step” right.**

**Coaching Points:** Fielder can recover from too deep a “Drop Step,” but never from too shallow a “Drop Step.” Too shallow of a “Drop Step” results in a poor angle of pursuit to the ball.



# Defensive Drills

## Drill No. 12: Wrong Way Drill

**Purpose:** To teach the fielder how to recover from a “Wrong Initial Drop Step,” (turning the wrong way), when attempting to field a fly ball hit over their head.

**Procedure:**



1. Follow “Drop Step” Drill steps 1 through 7.
2. On the command “Head!” The fielder turns head around to the opposite (right) shoulder and the coach feeds the JUGS Lite-Flite® Machine, which throws a looping fly ball on the opposite side of the fielder’s initial step. The fielder continues around to make the catch.
3. After all fielders have “Drop Stepped” right, reverse the drill and have all fielders “Drop Step” left.

**Coaching Points:** The Wrong Way Drill teaches the fielders not to “Back Pedal” or get their legs tied-up by opening up their body to the ball when they have initially turned the wrong way. By continuing around, the fielder maintains body rhythm and a smooth coordinated approach to the ball.

The one handed catch is acceptable and should be encouraged on balls the fielder must reach out for. The one handed catch increases the fielder’s reach and enables him/her to maintain better body balance than would be possible using the two handed method.

# Defensive Drills

## Drill No. 13: Catcher Blocking Drill

**Purpose:** To teach the catcher to block balls in the dirt and keep the ball in front.



### Procedure:

1. Set the JUGS Lite-Flite<sup>®</sup> Machine to throw balls in the dirt in front of the catcher.
2. Catcher in full equipment—mask only is an option if ground or gym floor isn't too hard.
3. Catcher drops to both knees and places mitt between knees.
4. Chest should be square to the ball to keep ball in front.
5. Keep the head and chin down and cup shoulders to keep ball in front.

**Variation:** Same procedure as above except catcher keeps hands behind his back and does not have a mitt.

# Defensive Drills

## Drill No. 14: Catcher Pop-Fly Drill

**Purpose:** To teach the catcher how to catch pop-flies correctly and to understand the trajectory of the ball on its downward flight.

### Procedure:

1. The catcher assumes normal stance and reacts to pop-fly depending upon its location and trajectory.
2. Pop-flies behind home plate will come back toward the infield as they descend.



- a. Pop-flies behind home plate should be caught like an outfielder with the glove up.
- b. Catcher should be facing the stands with his back toward the infield.
- c. Catcher should allow the ball to reach its peak and come back to him/her. Catch the ball chest/face high to compensate for the ball curving back toward the infield.



3. Pop flies in front of home plate will drift toward the mound as they descend.
  - a. Whenever possible get past the ball, turn and make the catch facing the stands with back to the infield. The ball will come to you.
  - b. To compensate for the descending curve of the ball when making the catch facing the infield, play the ball to "hit you on the nose."

The JUGS Lite-Flite® Machine has a full range of movement to adjust for all types of pitches including fastballs, curveballs and sliders. It also simulates left-handed and right-handed pitches for both baseball and softball.



If you need more information about this product  
or any other JUGS product or service, please contact the manufacturer:



In the USA and Canada, call toll free: 1-800-547-6843.

For International orders, call collect: 0-503-692-1635.

Our fax number is: 503-691-1100.

Visit our website at: [www.jugssports.com](http://www.jugssports.com).

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