



# OWNER'S MANUAL

## Instructions

# JUGS Cricket Bowling Machine

Part No. M1950/M2950



**SAVE THIS MANUAL**

# Attention

## Coaches and Operators of this Bowling Machine:

This manual must be kept with the bowling machine at all times. Each coach and/or operator must read and understand the instructions in this manual before using the JUGS Cricket Bowling Machine. If you need additional copies of this manual, call toll free (in the U.S. and Canada) 1-800-547-6843 or (outside the U.S. and Canada) 0-503-692-1635.

## Illustrations

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# Introduction

Your new JUGS bowling machine has been checked for quality and craftsmanship. Its innovative design is backed by three decades of research, development and manufacturing experience. It has many features designed to make your practices more efficient and enjoyable. Safety, performance and dependability have been given top priority in the design of all JUGS bowling machines, making them easy to operate and maintain. With proper care, your JUGS bowling machine will give you many years of enjoyable service.


At JUGS, we are committed to providing our customers with safe, dependable products.-Your comments are always welcome and they help us to continue to be the #1 producer of ball-throwing machines in the world. Call or write us! Our phone numbers and address are on the back cover.





# Product-Safety Signs & Labels

## Safety-Alert Symbols

Safety-Alert Symbols indicate **DANGER**, **WARNING** or **CAUTION**. These symbols may be used in conjunction with other symbols or pictographs. Failure to obey a safety warning will result in serious injury to yourself or to others. Always follow the safety precautions to reduce the risk of electric shock and personal injury.

 **DANGER:** Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations.

 **WARNING:** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

 **CAUTION:** Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

## Product-Safety Signs and Labels

The purpose of product-safety signs and labels is to attract your attention to possible dangers. The safety symbols, signal words and the explanations with them, deserve your careful attention and understanding. The safety warnings do not by themselves eliminate any danger. The instructions or warnings they give are not substitutes for proper accident-prevention measures.


# Product-Safety Signs & Labels


Carefully read all safety-sign decals affixed to the machine before operating your JUGS bowling machine. See examples below.




Figure 1

# Rules For Safe Operation

 **WARNING:** JUGS bowling machines are intended for use by operators who are at least 18 years of age and who have been instructed in their use.

 **WARNING:** Do not attempt to operate this machine until you have read thoroughly and understand completely all instructions, safety rules, machine labels, etc., contained in this manual. Failure to comply can result in accidents involving electric shock or serious personal injury. Save this Owner's Manual and review frequently for continuing safe operation, and for instructing others who may use this machine.

 **WARNING:** Do not connect your bowling machine to a power source until you have assembled and adjusted the machine as described in this manual and have read and understood all precautions and operating instructions in the manual and printed on the machine.

## READ THIS MANUAL:

- **Know Your Bowling Machine.** Read the Owner's Manual carefully. Learn the machine's capabilities, features and limitations, as well as the specific potential hazards related to this machine.
- **Guard against electrical shock** by preventing body contact with grounded surfaces—for example, radiators, pipes, fences, or other enclosures.
- **Keep the operator's area free of clutter.** Pick up all loose balls around the machine and keep ball supply in a pail, bucket or other suitable container. Cluttered operating areas invite accidents.
- **Do not allow children to operate the bowling machine. You must be at least 18 years of age or older** and instructed in the proper operation, maintenance, care, and storage of this machine before operating it. Close supervision is necessary when this machine is used near children.


# Rules For Safe Operation

- **Use the right ball.** For best results, use JUGS dimpled-style, JUGS hard dimpled-style, Lite-Flite, or cricket-style balls in this machine.
- **Inspect extension cords periodically** and replace if damaged.
- **Use the proper extension cord.** Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your machine will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. A wire-gauge size (A.W.G.) of at least 16 is recommended for an extension cord 25 feet or less in length. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.
- **Do not abuse the cord.** Never yank cord to disconnect it from receptacle. Keep cord away from heat, oil, and sharp edges. Stay constantly aware of cord location and keep it well away from the rotating tires.
- **Dress properly.** Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry. They can get caught and draw you into the moving parts. Long hair should be tied up and tucked under hats and helmets. Severe physical harm may result if loose clothing, jewelry or hair is caught in rotating tires.
- **Always wear safety glasses and batting helmets while the wheels are rotating.** Debris on the tires can fly off and cause physical harm. Everyday eyeglasses have only impact-resistant lenses; they are NOT safety glasses.
- **Never touch rotating tires.** Do not put hands or fingers into the ball-feed chute. Hands and fingers should only go to the edge of the chute (or the edge of the sleeve, in the case of fly-ball or pop-up practice).
- **Inspect the machine before every use.** If damaged, have it repaired by a qualified JUGS service technician.
- **Inspect the tires before every use.** Be sure tires are free of grit and debris before turning on the machine.
- **Do not use the machine if ON/OFF switch does not work.** In the unlikely event that the switch becomes defective, have it replaced by a qualified JUGS service technician.



# Rules For Safe Operation

- **Keep the machine clean—and free of grit and dirt.** With the machine unplugged, use only a clean damp cloth for cleaning. Never use brake fluids, gasoline, petroleum-based products, or any solvents to clean machine.
- **Tighten the Lock knobs and T-Clamps securely** after adjusting trajectory.
- **To protect the operator**, a pitcher's screen must be placed in front of the bowling machine.
- **Operate and store this bowling machine only in a clean, dry location.** Do not use outdoors if it is raining. If the machine becomes wet, do not use it. A potential shock hazard exists if this machine is used while or after it has been exposed to water. Hand-dry surface water from machine with a clean cloth and allow the machine to completely air dry before its next use.
- **Avoid awkward operations and hand positions** where a sudden slip could cause your hand to move into the rotating tires. **ALWAYS** make sure you have good footing and balance.
- **Replacement parts:** All repairs, whether electrical or mechanical, should be made by a qualified JUGS service technician. When servicing, use only JUGS replacement parts.
- **Do not operate this machine under the influence of drugs, alcohol, or any medication.**
- **Stay alert and exercise control.** Watch what you are doing and use common sense. Do not operate this machine when you are tired. Do not rush.
- **Avoid accidental starting when reconnecting to a power supply.** Always turn off the machine before disconnecting it from a power source. Never leave the machine running unattended. Turn the power off. Do not leave the machine until the tires come to a complete stop.

 **WARNING:** Do not allow your familiarity with the machine to cause you to be careless. Remember that a careless fraction of a second is enough time to inflict severe injury to yourself or others.

# Rules For Safe Operation

**SAVE THIS MANUAL.** Refer to it often and use it to instruct other users. Do not loan your bowling machine to anyone who has not been instructed in its use. If you do loan your machine, be sure this manual goes with it.

## Electrical

### Grounding Instructions

This product must be grounded. If it should malfunction or break down, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with a cord having an equipment-grounding conductor and grounding plug. The plug must be connected to an appropriate GFCI outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Do not modify the plug provided. If it will not fit the outlet, have the proper outlet installed by a qualified electrician. Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.

Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the bowling machine is properly grounded.

### Extension Cords

Use only 3-wire 16 AWG or larger grounding-type extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the machine's plug. When using the machine at a considerable distance from a power source, use an extension cord heavy enough to carry the current that the machine will draw. An undersized extension cord will cause a drop in line voltage, resulting in a loss of

power and causing the motor to overheat.

When working with the machine outdoors, use an extension cord designed for outside use. This is indicated by the letters “WA” on the cord’s jacket. Before using the extension cord, inspect it for loose or exposed wires and cut or worn insulation.

**⚠ WARNING:** Keep the cord away from the rotating tire area. Repair or replace a damaged or worn cord immediately.

## Electrical Connection

Your JUGS bowling machine is powered by a 90-volt motor for a 110-volt outlet, or a 180-volt motor for a 220-volt outlet. Do not operate this machine on direct current (DC). A substantial voltage drop will cause a loss of power and the motor will overheat. If the machine does not operate when plugged into an outlet, double-check the power supply. Your bowling machine will operate under a standard AC outlet.

This machine is intended for use on a circuit that has a U.S. outlet like the one shown in Figure 2. It also has a U.S. grounding pin like the one shown.

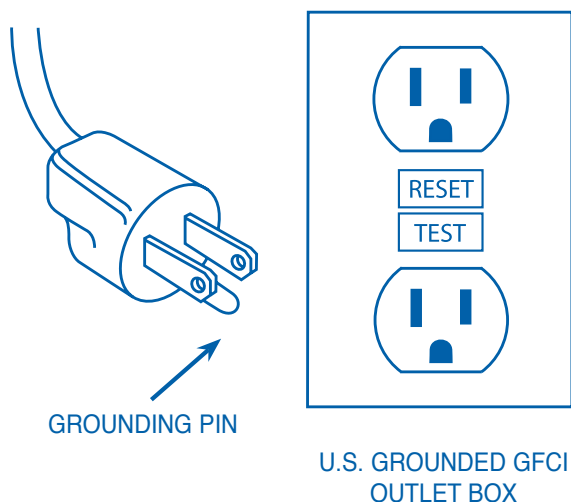


Figure 2

# Nomenclature

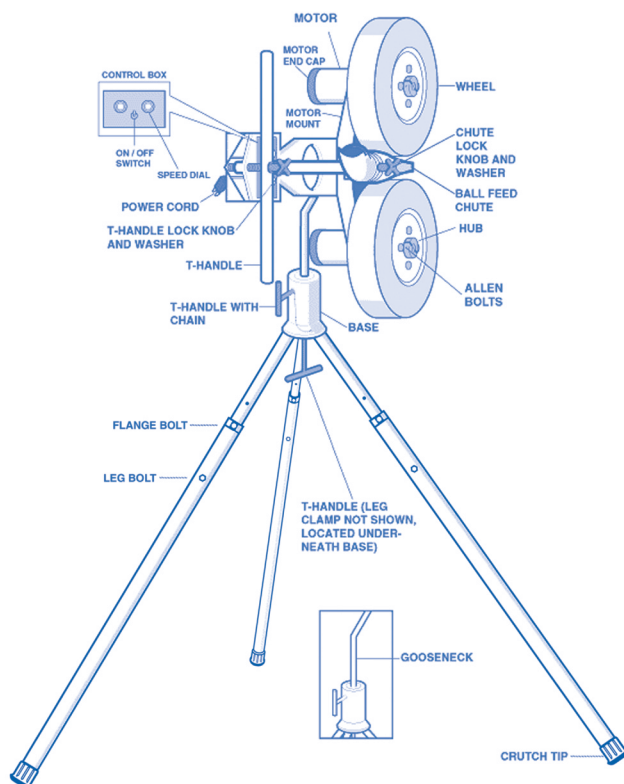


Figure 3

## JUGS Adjustable Cricket-Bowling-Machine Legs

### Includes the following:

- Three, sturdy, 41" steel hollow inner legs (which can be used alone to deliver balls at a standard JUGS Curveball height for baseball)
- Three, sturdy, 47" steel hollow outer legs
- Six 3/8" lock washers
- Three 3/8" x 2 1/4" hex bolts
- Three 3/8"-16 hex nuts
- Three 3/8"-16 x 3/4" hex flange bolts
- Three crutch tips for indoor use

### Features:

- Three height adjustments for different levels of play
- Retractable design for easy transportation
- Dual bolts for a safe and sturdy leg base

# Unpacking

**⚠ WARNING:** To prevent accidental starting or electrical shock that could cause possible serious injury, assemble all parts to your machine before connecting it to the power supply. The bowling machine should never be connected to a power supply when you are assembling parts, making adjustments, cleaning, servicing, or when not in use.

- Carefully lift the machine from the carton and place on a level surface.
- Make sure you have all the parts (See Figure 3). If any parts are missing, do not operate the machine until the missing parts are replaced. Failure to do so could result in possible serious personal injury.
- Do not discard the packing materials until you have carefully inspected the machine, identified all the parts, and satisfactorily operated the machine.

**NOTE:** If any parts are damaged or missing, do not attempt to plug in the power cord or turn on the switch until the damaged or missing parts are obtained and are installed correctly.

# Set Up

1. With the tire-side down, place the triangular leg clamp in the leg clamp casting (see Figure 3).
2. Insert the threaded end of the T-Clamp through the center hole in the leg clamp casting and start the threads.
3. Install one leg in each round hole in the center piece of the leg-clamp casting. Tighten the T-Clamp sufficiently to hold the legs in place very snugly.
4. Place rubber crutch tips on the lower end of the legs if JUGS is to be used indoors. The crutch tips are not recommended for outdoor use.
5. Lift the bowling machine upright.

# Set Up

Your JUGS Cricket machine is equipped with three adjustable legs for different levels of play.



- Position 1**

Total Leg Length: 51 inches (1.30 meters)

Delivery height in Vertical position: 60 inches (5 feet) (1.53 meters)

Delivery height in Horizontal position: 67 inches (5 feet, 7 inches) (1.71 meters)

For **junior-level** play, slide inner legs all the way until hole #1 lines up with the outer leg hole (see illustration above). Place one 3/8" lock washer on a 3/8" x 2 1/4" hex bolt and insert bolt through both legs. Place second 3/8" lock washer and one 3/8" hex nut on end of bolt and tighten. Tighten the flange bolt as well (see figure 4). Legs at the base are 57 inches apart.

Hole 1



- Position 2**

Total Leg Length: 61 inches (1.55 meters)

Delivery height in Vertical position: 68 inches (5 feet, 8 inches) (1.73 meters)

Delivery height in Horizontal position: 75 inches (6 feet, 3 inches) (1.91 meters)

For **college-level** play, slide inner legs all the way until hole #2 lines up with the outer leg hole (see illustration above). Place one 3/8" lock washer on a 3/8" x 2 1/4" hex bolt and insert bolt through both legs. Place second 3/8" lock washer and one 3/8" hex nut on end of bolt and tighten. Tighten the flange bolt as well (see figure 4). Legs at the base are 67 inches apart.

Hole 2



- Position 3**

Total Leg Length: 67 inches (1.70 meters)

Delivery height in Vertical position: 72 inches (6 feet) (1.83 meters)

Delivery height in Horizontal position: 79 inches (6 feet, 7 inches) (2.01 meters)

For **pro-level** play, slide inner legs all the way until hole #3 lines up with the outer leg hole (see illustration above). Place one 3/8" lock washer on a 3/8" x 2 1/4" hex bolt and insert bolt through both legs. Place second 3/8" lock washer and one 3/8" hex nut on end of bolt and tighten. Tighten the flange bolt as well (see figure 4). Legs at the base are 75 inches apart.

Hole 3




- Total height (surface to top of vertical wheel) is 90 inches (2.29 meters).
- Set of Cricket legs weighs 43 lbs (19.5 kilos).
- Use a 9/16-inch (14-mm) wrench for hex-head bolts and nuts.

### **IMPORTANT:**

Always set up the bowling machine so that two legs are positioned in front, facing the protective screen and batter, and one leg is facing back toward the operator.

6. Check both speed dials and make sure they are in the full counter-clockwise position (pointer at “0” setting) and the toggle switch is in the **OFF** position.
7. Plug heavy-duty No.-16-gauge, three-prong, extension cord into GFCI outlet and connect to the short cord on the bowling machine. Place the protective screen in front of the bowling machine to protect the operator and the bowling machine from batted balls.
8. Loosen the handle-bar lock knob on top of the handle bar and position the machine to aim at the desired target. Tighten the handle-bar lock knob. (You will have to practice this targeting so you will know how to set the machine for each delivery.)

 **WARNING:** The T-Clamp and all lock knobs must be tightened firmly before using the bowling machine. The Horizontal Adjustment must always be tightened securely before bowling deliveries.

## Transporting

- To move the bowling machine, slowly tip the machine over until the tires rest on the ground. Grasp and lift two legs and roll on its wheels to the new location as you would a wheelbarrow. The JUGS bowling machine will fit in the trunk of a car when its legs are removed.
- Do not roll the tire on surfaces that might damage it. If the tire becomes deformed, flat, or damaged, it must be repaired before using the machine. (See tire specifications, on page 18.)

 **WARNING:** Never leave bowling machine unattended.


# Operation

1. Operators of Jugs Bowling Machines must wear safety glasses and batting helmets at all times.
2. Check speed dial and make sure it is in the full counter-clockwise position (pointer at 0 mph setting) and the toggle switch is in the OFF position.
3. Plug heavy-duty no. 18-gauge, extension cord into A/C outlet and connect to short cord on the bowling machine. Place the protective screen in front of the bowling machine to protect the operator and the bowling machine from batted balls.
4. Position the machine to aim at the desired target. While grasping the T-Handle above the control box, loosen the Lock Knob and adjust the trajectory as desired. Tighten Lock Knob securely. (You will have to practice this targeting so you will know how to set the machine for each delivery.) Be sure to tighten base and leg T-Clamps
5. Place toggle switch in the ON position. Gradually turn the speed dials to the desired speed.
6. Have all batters and observers stand well clear of the target as you bowl practice balls. To adjust trajectory and point of aim, use the T-handle, Lock Knob and Base T-Clamp, (It is normal to bowl five or six balls before arriving at the setting you desire.) Always have the batter stand clear while adjusting your JUGS bowling machine.
7. At the beginning of practice, or after any change in speed, curve, or trajectory, have the batter stand well clear while at least one test ball is bowled to make sure the ball is bowled at the desired target. If you move the machine for any reason, repeat this process.
8. Bowl balls at speeds the batter can learn to hit. As the batter's skills increase, you can bowl faster deliveries.
9. When you increase the speed of any delivery, you must lower the elevation of aim; when you decrease speed, you must increase the aim elevation.



# Operation

10. Space all deliveries approximately six seconds apart. Try to get the batter to regard each delivery as a “separate” delivery and not to be an “automatic” swinger.
11. Always “show” the ball to batter. When you are certain the batter has acknowledged that he or she is ready, set the ball in the feed chute and release. Do not drop the ball into the chute.
12. Do not permit more than one or two persons around the bowling machine during its operation.
13. Do not permit the bowling machine to fall on its wheels. This could result in non-warranted damage.
14. Check the tightness of all bolts and nuts at regular intervals. If any looseness, vibration or rattle is noticed, correct it immediately before further use.
15. Always turn the speed dial to the full counter-clockwise position when bowling is completed or temporarily stopped. Then turn the toggle switch to the **OFF** position.

 **WARNING:** A protective screen must be used to protect the operator and the machine from batted balls.

## **NOTE:**

We suggest that each operator spend a couple of hours experimenting with the JUGS bowling machine. Try many different speed settings. Do not be afraid that any setting you make will harm the bowling machine; however, you should use a wide backstop when experimenting with faster speeds.

# Operation

## Bowling to Batters

Follow all safety performance instructions in this manual. The following feeding instructions should be used to insure accurate and efficient operation of the JUGS bowling machine.

### IMPORTANT BOWLING-MACHINE FEEDING INSTRUCTIONS:

- When feeding the machine, hold the ball the same way every time.
- Have all batters and observers stand well clear of the target as you bowl test balls to adjust the trajectory and aiming point.
- **VERY IMPORTANT:** Before you place the ball in the feeding chute, you should look up at the batter and make absolutely sure the batter is watching you and is ready to receive the delivery. It is **extremely important** that you make sure that the immediate area in front of the bowling machine and the flight path of the ball is clear before you feed the balls into the bowling machine.
- When the batter has taken his or her stance and indicates he or she is ready to hit, hold the ball high in the air where the batter can see the ball. Then bring the ball down to the chute, simulating live action so that the batter can time the ball correctly. Set the ball in the feed chute and release. Do not drop the ball into the chute. Watch the ball go into the wheels, then look up at the batter. The whole feeding operation should be smooth and without interruption.
- Every batter, after taking his or her stance, as well as between deliveries, goes through a personal-readiness routine. The ball feeder should adjust the delivery spacing to each batter's habits accordingly. This will assure that the batter is ready to receive the delivery and will also help to simulate live action. The batter can then regard each delivery separately and avoid becoming an "automatic swinger". Generally speaking, deliveries can be spaced between 6 and 10 seconds apart.

# Operation

## NOTE:

Follow the above feeding instructions when using your JUGS bowling machine for fielding practice, as further described in this manual (see page 21).

- Out-of-round, soft, mushy, or wet balls will affect accuracy of deliveries and must not be used. Mixing different types of balls (leather, rubber, JUGS, etc.) will affect consistency of deliveries. For best accuracy, bowl only one type of ball at a time.
- For best results, use only JUGS dimpled-style, JUGS hard dimpled-style, Lite-Flite or cricket-style balls in this machine.
- Do not permit more than one or two persons around the bowling machine during its operation.

## BATTING HELMETS MUST BE WORN AT ALL TIMES.

- Operators of Jugs Bowling Machines must wear safety glasses and batting helmets at all times.

## Control Panel

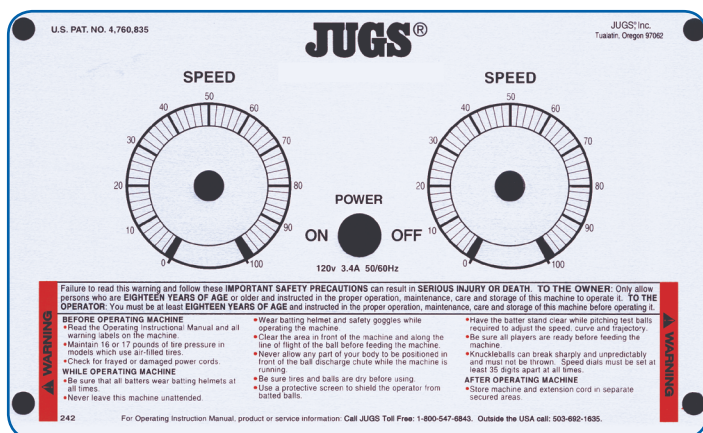


Figure 4

# Operation

## Bowling In-Swingers and Out-Swingers:

1. Place toggle switch on the Control Panel in the ON position (Figure 4). Gradually turn the right-hand speed dial to the full clockwise position. The right wheel will be turning rapidly clockwise, and the left wheel will be turning slowly counter-clockwise.
  - a. The above will result in the maximum right-hand In-Swinger. Dial settings should be reversed for a left-hand In-Swinger
  - b. For Slow-Spin deliveries, loosen the lock knob and tilt the bowling machine to a 65-degree angle, with the faster turning wheel highest.
  - c. To increase the speed of the ball, turn the dial for the slower turning wheel clockwise.
  - d. To reduce the speed of the ball, or to reduce the amount of curve, turn the dial counter-clockwise for the faster turning wheel.
2. Loosen Handle-Bar lock knob (Figure 3) and adjust it until the desired trajectory is attained, then tighten it securely. For fine adjustments, loosen the lock knob slightly and adjust the Handle Bar down, or sideways. (It is normal to bowl five or six test balls before arriving at the curve setting and aim point you desire.) Always have the batter and others stand clear while adjusting your JUGS bowling machine and bowling test balls.
3. Be sure to try different settings. For example, when bowling an In-Swinger, set the right-hand dial at 80 or 95 and the left-hand dial at 45 or 60. Observe the curve and speed of the ball and decide whether the settings used give you the speed and type of curve desired. Most coaches devise a table for the operators of the bowling machine to show what settings to use for any given practice.

**NOTE:** The greater the speed differential between the wheels, the greater the curve. Conversely, a small differential will result in a smaller curve.

# Operation



*Figure 5*

## **Bowling Fast-Rising Deliveries:**

- 1 A Fast Riser can be bowled by setting the bowling machine with one wheel directly on top of the other wheel, as shown in Figure 5, and adjusting the lower wheel to a faster speed than the upper wheel. A minimum 35-digit differential should be maintained between the speed-dial settings of the two wheels at all times.
2. To bowl Fast Risers, you must set the speed dials 35 digits apart, as shown in Figure 6 (next page). For faster deliveries, turn both speed dials up the same amount. For slower deliveries, turn both down the same amount. Always keep the dials 35 digits apart.

# Operation

## Dial Settings for Various Deliveries

Use the diagrams below, in Figure 6, as guides for using the JUGS Cricket Bowling Machine. Each diagram shows the approximate tilt of the wheels. Numbers represent the speed-dial settings.

**IMPORTANT:** You may have to vary speeds slightly, from the examples, to get the desired accuracy and consistency.

**⚠ WARNING:** Equal dial speeds and any dial-speed differential of less than 35 digits may result in a knuckleball. Knuckleballs can be dangerous and **SHOULD NOT** be bowled.

## DIAL SETTINGS FOR VARIOUS PITCHES WITH JUGS CRICKET BOWLING MACHINE

Circles show tilt of wheels. Numbers show dial-setting examples.

When you increase speed of any ball delivery, you must lower elevation of aim.

When you decrease speed, increase elevation.

Always move batsperson away from batting end while making any directional or speed changes.

**DANGER:** Dials must not be set any closer than 35 digits apart.




Figure 6

# Operation

## NOTE:

We suggest that each operator spend a couple of hours experimenting with the JUGS Bowling Machine. (You may want to jot down the wheel position and speed-dial settings for future reference). Try many different speed settings. Do not be afraid that any setting you make will harm the bowling machine; however, you should use a wide backstop when experimenting with faster speeds.

- At the beginning of practice, or after any change in speed, curve, or trajectory, have the batter stand well clear while at least one test ball is bowled to make sure the ball is aimed at the desired target. If you move the machine for any reason, repeat this process.
- Bowl balls at speeds the batter can learn to hit. As the batter's skills increase you can bowl faster deliveries.
- When you increase the speed of any delivery, you must lower the elevation of aim; when you decrease the speed, you must increase the aim elevation.
- Do not permit the bowling machine to fall on its wheels. This could result in non-warranted damage.
- Check the tightness of all bolts and nuts at regular intervals. If any looseness, vibration, or rattle is noticed, correct it immediately before further use.
- Always turn both dials to the full counter-clockwise position when bowling is completed or temporarily stopped. Then turn the toggle switch to the OFF position.

 **WARNING:** A protective screen must be used to protect the operator and the machine from batted balls.

# Operation

## Delivery Types and Directions

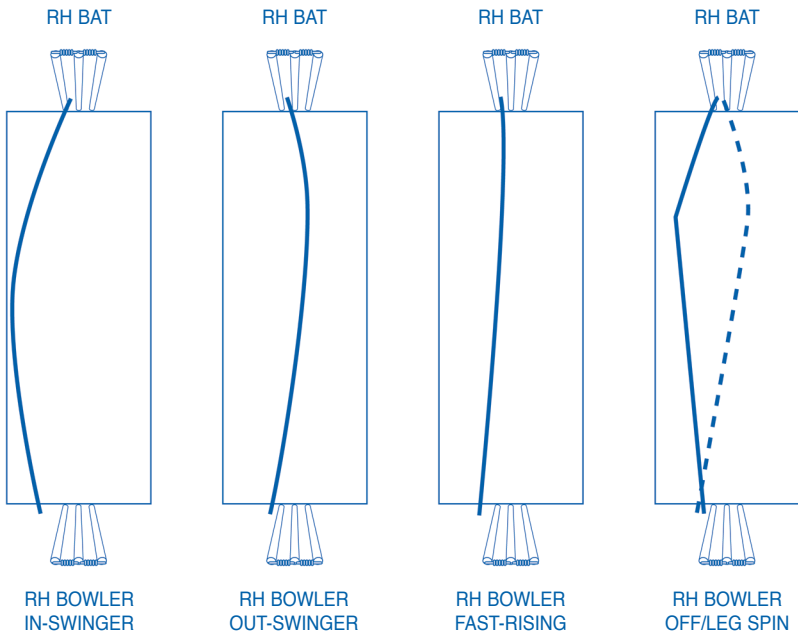


Figure 7

Figure 8 (next page) is a detailed chart which depicts approximately how fast, in miles per hour, a JUGS Cricket Bowling machine is bowling, when the dials are set in various positions.

The speeds listed, in miles per hour, are the average speeds of five deliveries at each of the respective dial settings.

The speed-to-dial settings ratio will vary somewhat, depending on the air pressure in the tires, the type of ball used, and the way in which the ball is fed into the bowling machine. This chart will give you a fairly close approximation of the ball speed.



# Approximate Speeds, in miles per hour, from the JUGS Cricket Bowling Machine

| RIGHT-WHEEL DIAL SETTING |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0                        | 5  | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 |
| 0                        |    |    |    |    |    |    | 27 | 29 | 33 | 36 | 40 | 43 | 46 | 49 | 50 |
| 5                        |    |    |    |    |    |    |    | 29 | 34 | 37 | 41 | 44 | 47 | 50 | 51 |
| 10                       |    |    |    |    |    |    |    |    | 35 | 39 | 43 | 46 | 48 | 52 | 53 |
| 15                       |    |    |    |    |    |    |    |    |    | 41 | 45 | 48 | 50 | 53 | 56 |
| 20                       |    |    |    |    |    |    |    |    |    |    | 47 | 51 | 53 | 56 | 58 |
| 25                       |    |    |    |    |    |    |    |    |    |    |    | 52 | 55 | 59 | 60 |
| 30                       |    |    |    |    |    |    |    |    |    |    |    |    | 57 | 60 | 62 |
| 35                       | 27 |    |    |    |    |    |    |    |    |    |    |    |    | 62 | 65 |
| 40                       | 29 | 29 |    |    |    |    |    |    |    |    |    |    |    |    | 68 |
| 45                       | 33 | 34 | 35 |    |    |    |    |    |    |    |    |    |    |    |    |
| 50                       | 36 | 37 | 39 | 41 |    |    |    |    |    |    |    |    |    |    |    |
| 55                       | 40 | 41 | 43 | 45 | 47 |    |    |    |    |    |    |    |    |    |    |
| 60                       | 43 | 44 | 46 | 48 | 51 | 52 |    |    |    |    |    |    |    |    |    |
| 65                       | 46 | 47 | 48 | 50 | 53 | 55 | 57 |    |    |    |    |    |    |    |    |
| 70                       | 49 | 50 | 52 | 53 | 56 | 59 | 60 | 62 |    |    |    |    |    |    |    |
| 75                       | 50 | 51 | 53 | 56 | 58 | 60 | 62 | 65 | 68 |    |    |    |    |    |    |
| 80                       | 54 | 54 | 55 | 59 | 60 | 62 | 65 | 68 | 70 | 74 |    |    |    |    |    |
| 85                       | 55 | 56 | 57 | 60 | 62 | 64 | 66 | 69 | 72 | 76 | 77 |    |    |    |    |
| 90                       | 55 | 56 | 60 | 61 | 63 | 65 | 67 | 70 | 74 | 77 | 82 |    |    |    |    |
| 95                       | 56 | 57 | 61 | 62 | 64 | 65 | 68 | 71 | 75 | 78 | 80 | 83 | 86 |    |    |
| 100                      | 57 | 58 | 62 | 63 | 64 | 65 | 69 | 71 | 75 | 79 | 81 | 84 | 87 | 89 |    |
| LEFT-WHEEL DIAL SETTING  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 0                        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5                        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 10                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 15                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 20                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 25                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 30                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 35                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 40                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 45                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 50                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 55                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 60                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 65                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 70                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 75                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 80                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 85                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 90                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 95                       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 100                      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**Example:** If the left wheel is set at 65 and the right wheel is set at 100, the machine will bowl at approximately 89 mph.

Figure 8

# Fielding Practice

## Fielding Practice

Your JUGS bowling machine can be locked in one position, or you can loosen and remove the horizontal adjustment T-clamp, which will allow you to turn the bowling machine freely from side to side.

### Fly Balls and Pop-ups



*Figure 10  
Fly Balls & Pop-Ups*

### Grounders (Figure 9)

Position the wheels so they point downward. The greater the downward angle, the bigger the hop will be on the groundball.



*Figure 9 Ground Balls*

### (Figure 10)

Position the wheels pointing upward. The greater the upward angle, the steeper the angle of the fly ball or the pop-up will be. For best results, loosen the ball chute lock knob and remove the ball chute. This will then allow you to “push” the ball into the sleeve.

The angle of the fly ball, the pop-up, or the grounder, can be adjusted by loosening the handle-bar lock knob (power off) and changing the angle of the wheels. Different spins can be put on the ball by changing the speed-dial settings.

**⚠ WARNING:** Keep hands and fingers away from the tires and tire-side edges of the ball chute. When bowling pop-ups, the operator must wear a catcher's mask. When finished bowling flyballs and pop-ups, always reconnect the ball chute and tighten the ball-chute lock knob.

# Maintenance

**Review the following instructions carefully to maintain maximum accuracy with your Jugs Bowling Machine.**

- Maintain tire pressure at 16 to 17 psi.

## Cleaning

- **Keep the machine clean, and free of grit and dirt.** Always use a clean, damp cloth when cleaning. Never use brake fluids, gasoline, petroleum-based products, or any solvents to clean the machine.
- Periodically, you must **clean the tires** to help maintain their maximum performance. A dirty tire can easily be distinguished by either a dark ring around the tire surface or a yellow and very glossy or shiny finish.
- In order to begin cleaning, you must **first inflate the tires** to approximately 17 pounds.
- Take medium grade sandpaper (sometimes an even coarser grade is necessary, depending on the amount of soil buildup) and begin to **scrub the tire surface** as you would a very dirty frying pan. This process can be very tedious and could take up to 10 minutes per tire. However, it is necessary in order to completely clean all foreign substances off the rubber, as well as prepare it for better machine performance. You should sand the tires whenever you notice the soil build-up forming. **Always sand tires with the power switch OFF and the machine unplugged.**

Once you complete this operation the tire surface will, in most cases, take on the white color it was originally. Maintaining the tire in this fashion will not only maximize the performance and accuracy of your machine, but it will extend the life of the tire.

## Storage

- Always store machine and extension cord in separate, clean, dry secured areas. Cover the machine with a suitable dust cover that does not retain moisture. Do not use plastic.

# Product Specifications

## JUGS      Cricket      Bowling-Machine      Specifications

### Motor Specifications

|                                   |                |          |
|-----------------------------------|----------------|----------|
| Variable Speed .....              | 110v .....     | 220v     |
| Maximum developed horsepower..... | 1/4 hp .....   | 1/4 hp   |
| Volts .....                       | 90vDC .....    | 180vDC   |
| Amps.....                         | 3 amps .....   | 3 amps   |
| Hertz .....                       | 50/60 Hz ..... | 50/60 Hz |
| RPM (no load) .....               | 1900 rpm ..... | 1900 rpm |
| Overload protection .....         | yes .....      | yes      |

### Tire Specifications:

|                |             |
|----------------|-------------|
| Size .....     | 4.00/4.80-8 |
| Pressure ..... | 16-17 lbs.  |

### Frame Specifications:

|   |               |
|---|---------------|
| Adjustable Legs .....                   | steel tubing  |
| Motor-Mount and Leg-Clamp Casting ..... | cast aluminum |
| Ball-Feed Chute.....                    | cast aluminum |
| Overall Height.....                     | 90 in.        |
| Overall Width .....                     | 75 in.        |
| Overall Weight .....                    | 170 lbs.      |
| Recommended Generator .....             | Yamaha EF1000 |
| Recommended Balls.....                  | JUGS Balls    |

### IMPORTANT:

Servicing requires extreme care and knowledge of the machine and should be performed only by JUGS. For service, we suggest you return the machine to JUGS for repair. Always use original factory replacement parts when servicing.

# Warranty

JUGS Sports guarantees that the JUGS Bowling Machines are well made; of good materials, and workmanship; and agrees that if, within five years after shipment thereof, any part so guaranteed should fail because of defective material or workmanship in its manufacture, the Company will repair or replace such part, free of charge F.O.B. to its factory in Tualatin, Oregon; provided, however, that upon request, the Buyer shall return the allegedly defective part to the Company's factory with transportation charges thereon prepaid. Commercial use of any JUGS product automatically limits this warranty to 30 days after date of shipment.

*This warranty shall not be effective if the equipment has been subject to misuse, negligence or accident, nor if the equipment has been repaired or altered outside of our Tualatin factory in any respect which, in our judgment, affects its condition or operation.*

JUGS Sports • P.O. Drawer 365 • Tualatin, Oregon 97062

↓ **RETURN PERFORATED CARD BELOW TO JUGS SPORTS** ↓

## WARRANTY RECORD

|   |                 |
|---|-----------------|
| JUGS Serial No.   | Date Delivered: |
| Model:  |                 |
| Name:   |                 |
| Address:  |                 |
|   |                 |
| Zip:  |                 |
| Phone: (      )   |                 |
| Purchased From:   |                 |
| Type Activity if other than school: (Club, Association, League) |                 |
|   |                 |
| Coach/Manager Name:   |                 |



In the USA & Canada, call (toll-free) **1-800-547-6843**.  
Outside the USA & Canada, call (collect) **0-503-692-1635**.  
Our fax number is **503-691-1100**.  
[jugssports.com](http://jugssports.com)

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Model

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Serial No.

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Date Delivered

**SAVE THIS PORTION FOR YOUR RECORDS**

PLACE  
STAMP  
HERE

**JUGS Sports**  
**P.O. Drawer 365**  
**Tualatin, Oregon 97062**



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the manufacturer:**



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