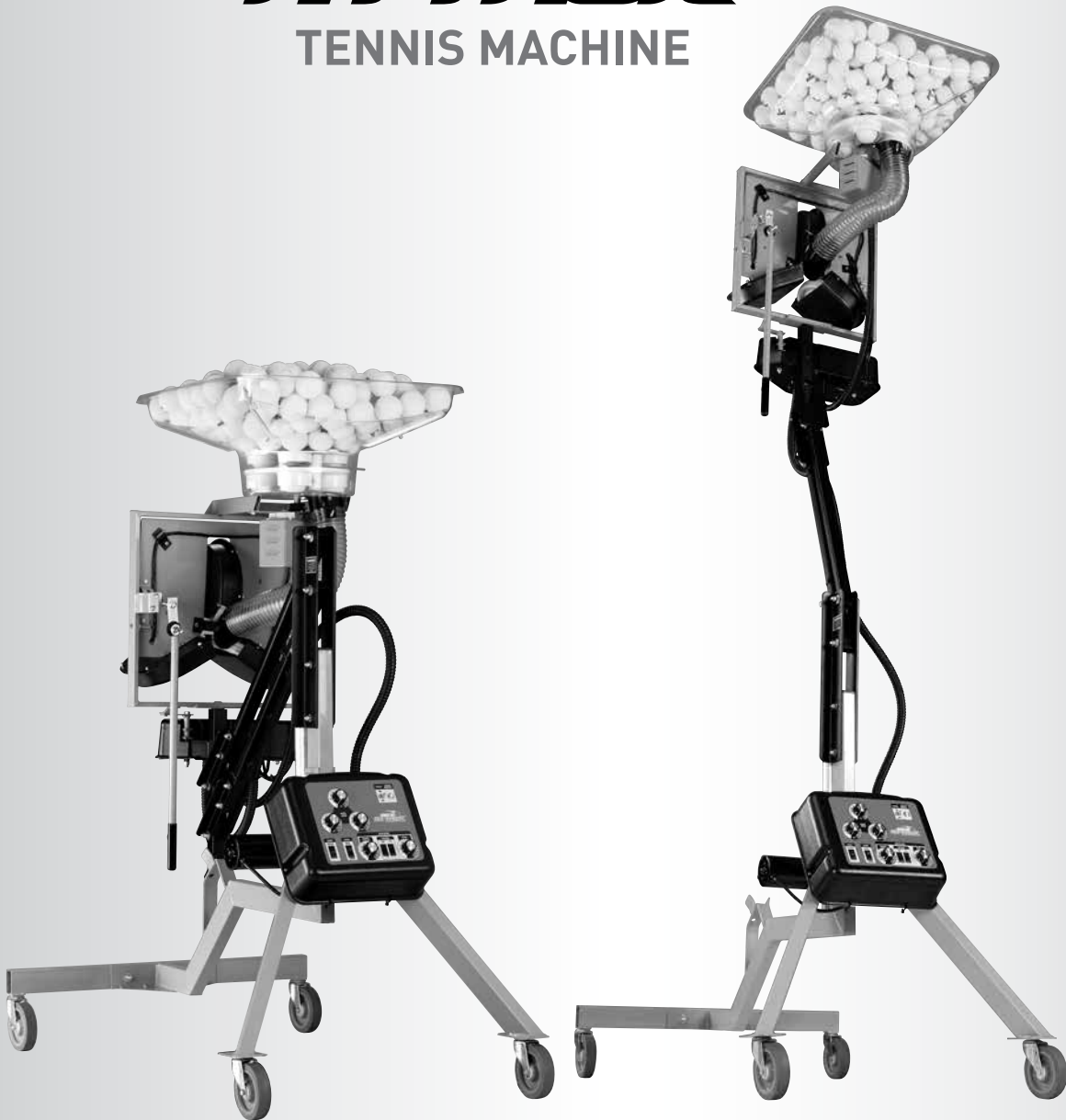


# ACE ATTACK™

TENNIS MACHINE



TENNIS

ACE ATTACK™ TENNIS MACHINE  
U.S. PATENT# 7,100,594

## INSTRUCTION MANUAL

Includes: OPERATION · SETUP · USE & CARE · SERVICE

INSTRUCTION MANUAL REV121815



SPORTS ATTACK LLC  
800-717-4251  
[www.sportsattack.com](http://www.sportsattack.com)

## WARRANTY STATEMENT

What is most important to Sports Attack is that your machine meets your expectations of quality and performance. We stand behind the material and workmanship of our machines for five (5) years from the date of original purchase for institutional and residential use and one (1) year for commercial environments, with the following exceptions:

- Throwing Wheels are warranted for two (2) years;
- Electronic Controller is warranted for two (2) years; and,
- Throwing Wheel Motors are warranted for two (2) years.

This warranty excludes any cosmetic issues or normal wear and tear of the unit, and is not in effect if the machine has been misused, misapplied, improperly assembled, or modified without the express written permission of Sports Attack. In addition, this warranty does not apply to damage in transit, in any accident unrelated to the direct operation of the equipment, or by fire, flood or act of God.

If you encounter any issues during the warranty period, Sports Attack will quickly get your machine back in working order. If the warranty repair involves a replacement part, we will make sure you get both the part and easy instructions for replacement at no cost to you. If a service person is needed, Sports Attack will pay the pre-approved labor charge to get your machine back in working order.

Please know that any problem can quickly be resolved with a phone call to our experienced, responsive customer service department at 800.717.4251. We are here to answer your questions and to make sure your machine provides you years of service.

## RETURNS

Sports Attack manufactures the highest quality sports training equipment in the world. If for any reason you are not satisfied, a machine can be returned within 30 days of receipt for any reason for a full refund less a 15% restocking fee. Cost of shipping the unit back to Sports Attack will also be the responsibility of the purchaser. Please note that the refund amount may be reduced by any non-cosmetic damage to the machine.

*If you have any questions or concerns, please give our experienced, responsive customer service department a call at 800.717.4251.*

## SHIPPING DAMAGE CLAIMS PROCEDURE

**NOTE:** For your protection, please note that equipment in this shipment was carefully inspected and packaged by skilled personnel before leaving the factory.

Upon acceptance of this shipment, the transportation company assumes full responsibility for its safe delivery.

### IF SHIPMENT ARRIVES DAMAGED:

1. **VISIBLE LOSS OR DAMAGE:** Be certain that any visible loss or damage is noted on the freight bill or express receipt, and that the note of loss or damage is signed by the delivery person.
2. **FILE CLAIM FOR DAMAGE IMMEDIATELY:** Regardless of the extent of the damage.
3. **CONCEALED LOSS OR DAMAGE:** If damage is unnoticed until the merchandise is unpacked, notify the transportation company or carrier immediately, and file "CONCEALED DAMAGE" claim with them. This must be done within fifteen (15) days from the date the delivery was made to you. Be sure to retain the container for inspection.

Sports Attack LLC. cannot assume liability for damage or loss incurred in transit. We will, however, at your request, supply you with the necessary documents to support your claim.

To register the Warranty,  
please go to our website:  
[www.sportsattack.com/warranty](http://www.sportsattack.com/warranty)

For repairs and service after the Warranty  
period, please call:

Sports Attack  
Customer Service Dept.  
Ph 800-717-4251  
Fx 775-345-2883

## RETURNS

To return an item, please contact our Customer Service Department at 800-717-4251.

A 15% restocking fee will be charged for any items accepted for return. It is the customer's responsibility to handle the repacking and shipment (as well as all associated fees) back to Sports Attack.

No returns will be accepted after 30 days of receiving product.

# TABLE OF CONTENTS

Warranty Statement	i
Safety Instructions	2-3
<b>ACE ATTACK TENNIS ASSEMBLY INSTRUCTIONS</b>	
Component View	4-5
Assembly	6-7
Operation	8
Power Switch & Circuit Breaker	8
Throwing Wheel Operation	9
Throwing Head Height "Raise/Lower" Switch	9
Feeder Switch	9
Oscillation Control	10
Basic Strokes	11-12
Ball Throwing Motor Replacement	13
Component View	14
Exploded View	15-16
Parts List	17
<b>SPORTS ATTACK</b>	
Product Line	18-19

## INTRODUCTION

Thank you for purchasing this Sports Attack LLC. equipment.

Proper assembly, careful operation and consistent maintenance of this equipment will ensure that it gives you the very best performance and a long, economical service life.

This manual contains the information needed to properly setup the Ace Attack, and to use, care for and maintain the Ace Attack in a manner which will ensure their optimum performance.

## RECEIVING THE PRODUCT

Please check the contents of your boxes to ensure you have received all parts for the machine.

If anything is missing or damaged, call Sports Attack Customer Service, 800-717-4251. If the product or package has been damaged in shipping, refer to page i "Shipping Damage Claims Procedure".

## RETURNS

To return an item, please contact our Customer Service Department at 800-717-4251.

A 15% restocking fee will be charged for any items accepted for return. It is the customer's responsibility to handle the repacking and shipment (as well as all associated fees) back to Sports Attack.

No returns will be accepted after 30 days of receiving product.



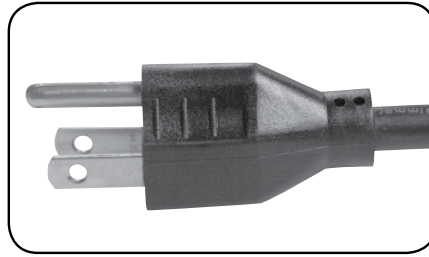
# SAFETY INSTRUCTIONS

## ELECTRICAL SAFETY

Use a 115 volt single phase 3-wire grounded power source. (220-240 volt for international models)

Up to 200 ft. from power source, use a minimum #14/3 grounded 3-wire extension cord.

Over 200 ft. from power source, consult a licensed electrician for required power cord size.



## OPERATING SAFETY

1. Never reach hands into throwing wheel area.
2. Always use the Ace Attack with throwing wheel guards in place.
3. Use the Ace Attack only under adult supervision.
4. Use the Ace Attack only for its intended purpose.
5. Do not operate the Ace Attack with a damaged cord or plug, if the machine malfunctions or has been damaged.
6. Check machine before turning "ON" to make sure there are no foreign object in feed chute.
7. If ball becomes lodged and stops motor, immediately turn machine off before dislodging.
8. To dislodge ball from throwing wheel, unplug machine and push ball through chute. Do not reach hand into feed chute with the machine running.
9. Only one person at a time should operate the Ace Attack.
10. Do not allow anyone to walk directly in front of the machine. Keep face and hands away from ball exit.
11. A ball should always be test thrown from the Ace Attack before beginning any drill. Throw several balls to verify end location.
12. Keep hands, hair and loose clothing away from moving parts.
13. Do not use near water or use damp or wet balls.

## WARNING PERSONAL INJURY HAZARD

Carefully read all instructions in this manual, and all labels and warnings on the Ace Attack before using either of the machines.

Use machine only under adult supervision. Failure to operate Ace Attack as described in this manual can result in severe personal injury or death.

## ELECTRICAL SHOCK HAZARD

Ace Attack must be connected to a properly grounded electrical receptacle.

Do not operate on wet ground.

## CAUTION PERSONAL INJURY HAZARD

Keep hands away from throwing wheels anytime the machine is connected to a power source.

Carefully check Ace Attack for completeness and condition before connecting to electrical power.

## EQUIPMENT ELECTRICAL DAMAGE

DO NOT plug in or energize the equipment until all Assembly and Operation Instructions are read and followed.

# SAFETY INSTRUCTIONS

**ALWAYS** set the speed controls to "0" before connecting the machine to power. Check that the speed controls are at "0" before turning the on/off switch "ON."

## MOVING THE ACE ATTACK

**NEVER** move or roll the machine when the throwing head is in the raised or elevated position as shown in Figure 1.

**ALWAYS** move or roll the Ace Attack when the throwing head is down in the lower position as shown in Figure 2.

## GENERAL USE

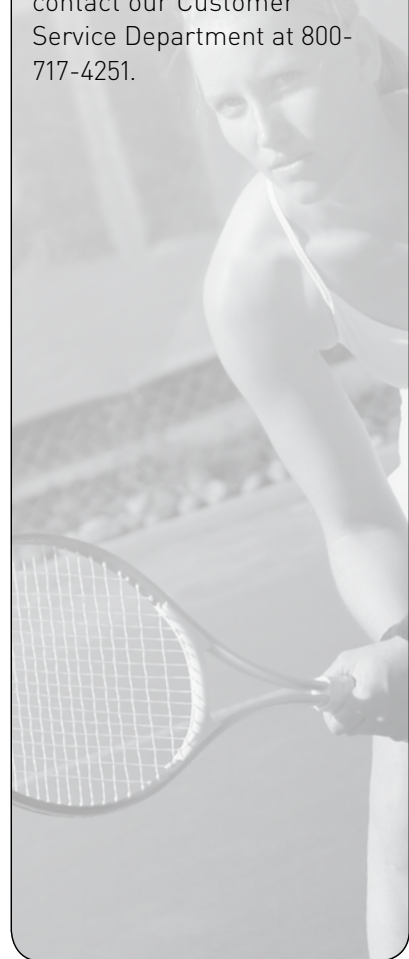
1. Keep hands and fingers well away from the throwing wheels.
2. Keep all persons away from the front of the Ace Attack.



**Figure 1** Ace Attack in elevated serving position. DO NOT move machine unless it is in the lowered position.

## ADDITIONAL INFORMATION

If you have any questions regarding the safe operation of the Ace Attack, please contact our Customer Service Department at 800-717-4251.

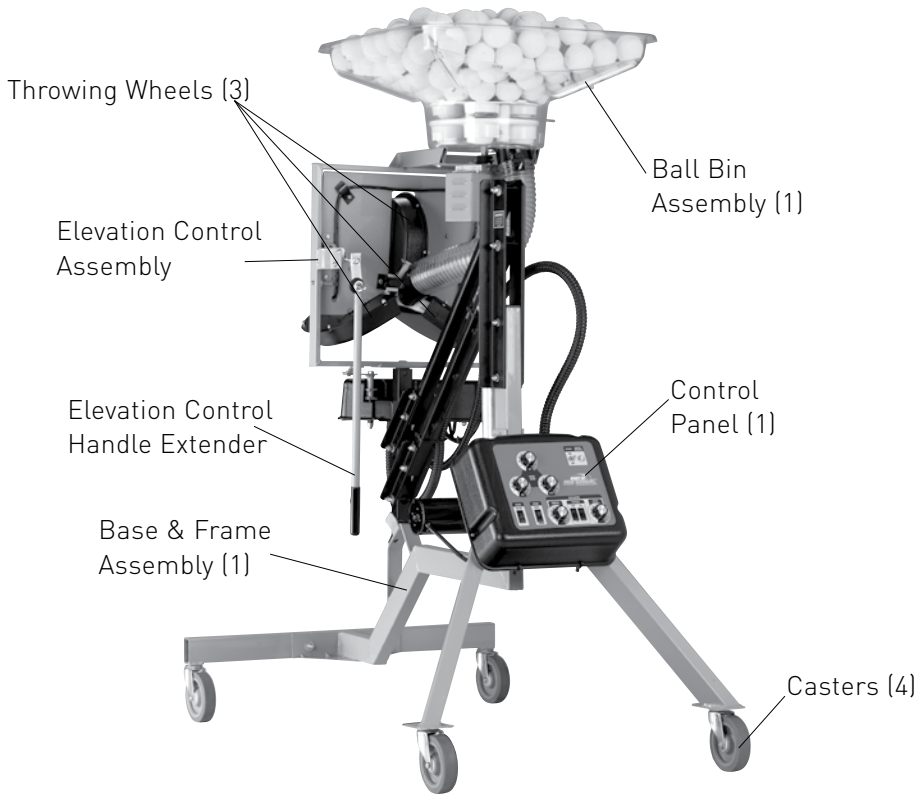


**Ace Attack™ Safety Instructions**



**Figure 2** Ace Attack in lowered position. Only move machine when it is in the lowered position.

# COMPONENT VIEW



To order additional parts, please contact:

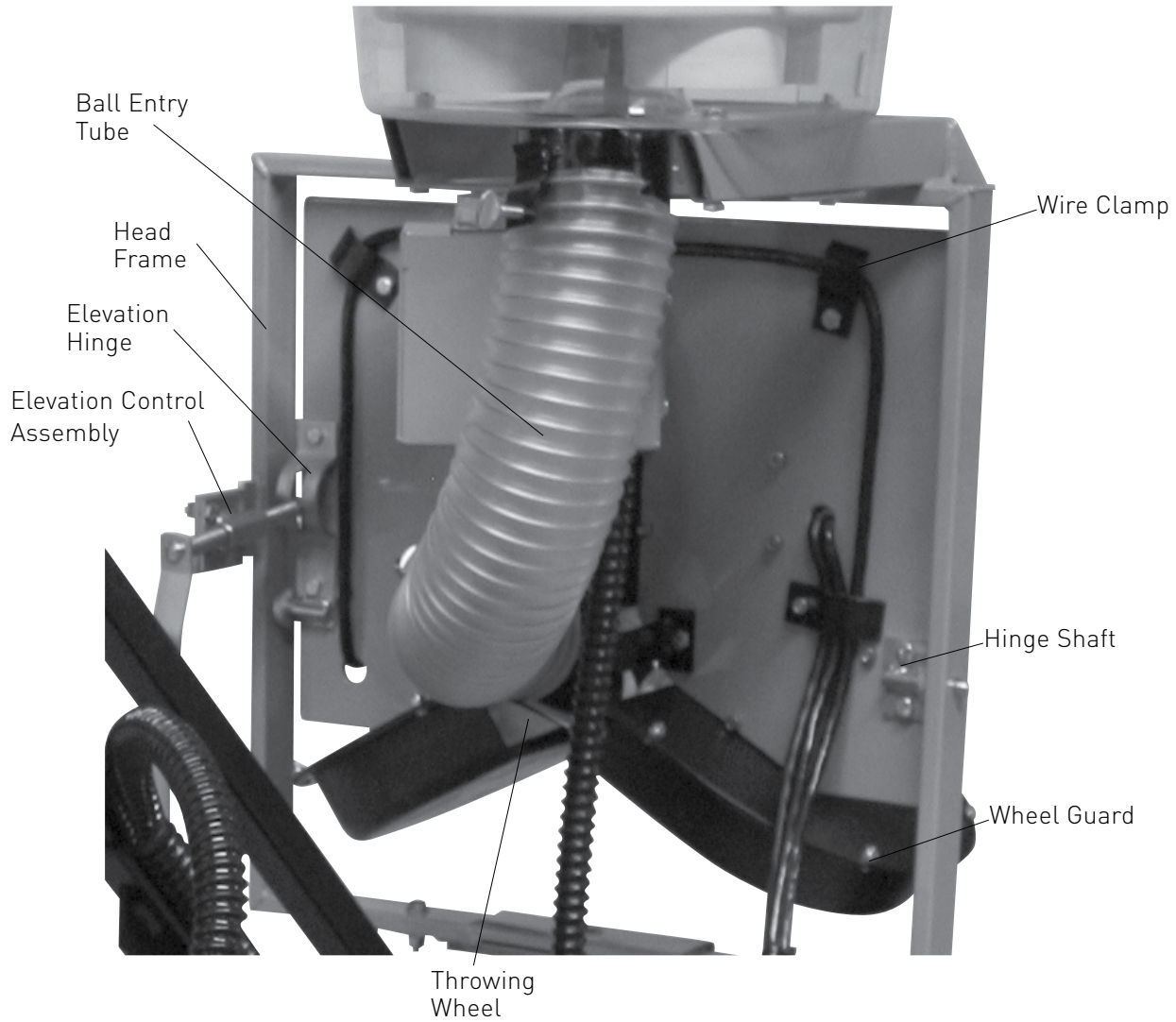
Sports Attack  
Customer Service Dept.  
Ph 800-717-4251  
Fx (775) 345-2883



Component View



# COMPONENT VIEW



# NEW FEATURE

Added stool helps to easier access the Ball bin



# ASSEMBLY

**NOTE:** We recommend that two people complete the Assembly instructions. Because of that, the instructions are written for two people to complete.

1. Unbolt machine from the pallet. Two people should stand on opposite sides of the Ace Attack from each other and carefully move the machine off the pallet.
2. Tip machine to one side so that one person can prop/hold it up while the second person installs two casters with the tool provided (see Figure 3, Page 4). Then lean machine in the opposite direction so that the remaining two casters can be installed. Be sure to fasten all four (4) casters securely using the wrench provided (see Figure 3, Page 4).
3. Place the ball bin into position on the top of the throwing head at "A" (Figure 4). Install the three (3) bolts as shown in Figure 4. Tighten bolts securely.

**NOTE:** There is one 2" bolt and two 2 1/4" bolts with washer and nut.

**NOTE:** Tighten casters securely using the wrench provided (see Figure 3, Page 4).



Figure 4

4. Attach both ends for the ball feed tube. To do this, squeeze tube attachment and push the end of the ball feed tube over the tube attachment on the bottom of the ball bin. When the tube has been pushed all the way, release the tube attachment. Finger-tighten the two thumb screws to secure the ball feed tube. See Figure 5 and Figure 6 on page 7.
5. Following the same procedure, attach the opposite end of the Tube.

**The assembly of your Ace Attack is now complete.**

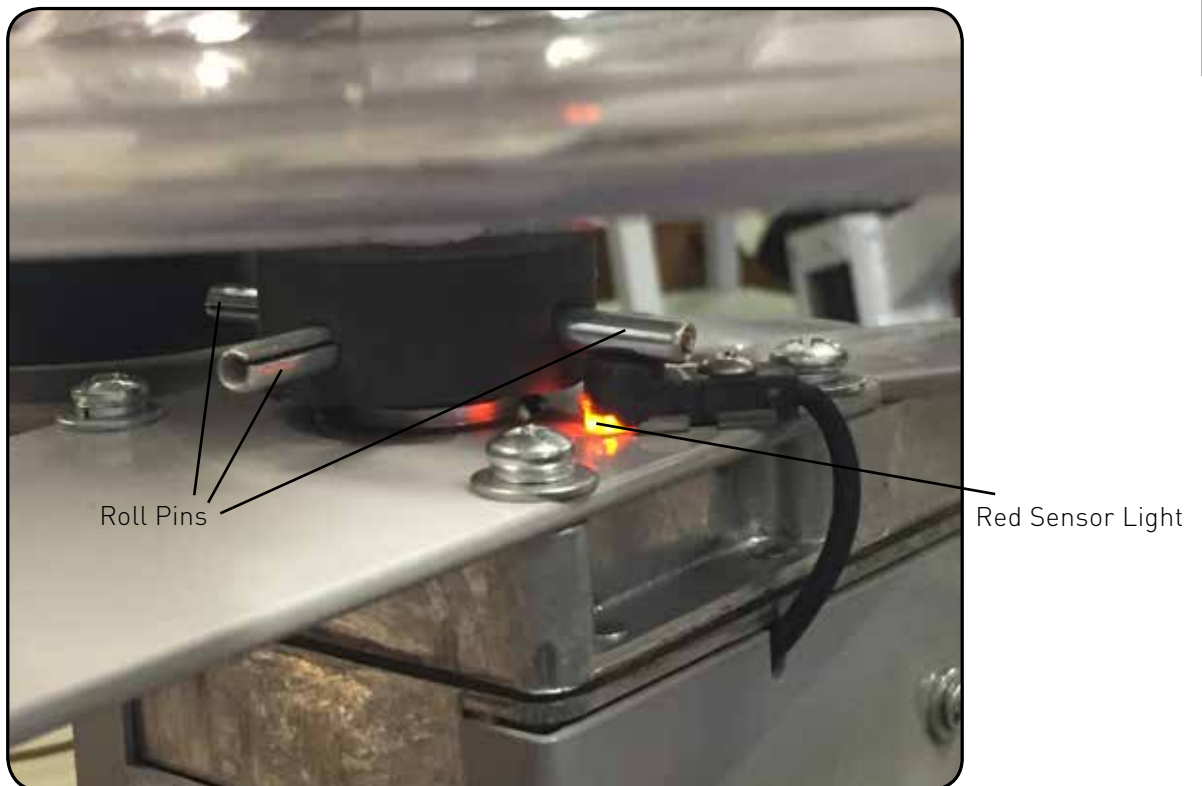


## TIMING

1. Roll pin to sensor  $\frac{1}{8}$ ." The red light on the end of the sensor (See Figure 6) should flash as the roll pin passes over it.
2. Twist to adjust rubber grommet.



**Figure 5** The tube attachment has two thumb screws.



**Figure 6** The red sensor light should flash as the roll pin passes over it.

# OPERATION

## POWER SWITCH & CIRCUIT BREAKER

1. This is the main power switch that energizes the entire machine. Nothing will operate until the main switch is turned "ON." **Be advised that there is a five (5) second delay once the machine is energized, as indicated on the label.**
2. **Circuit Breaker:** When the circuit breaker is activated, turn the on/off switch "OFF." Also turn the feeder and throwing wheels "OFF." Allow machine to sit a few minutes and cool. After several minutes, push the circuit breaker back "ON" and power should be restored.



## OPERATION (cont'd)

### THROWING WHEEL OPERATION

**General:** Throwing wheels impart velocity and spin to the ball. The higher the RPM, the faster the ball goes. Spin is imparted when the wheels are turning at different RPMs. The greater the difference, the greater the spin. RPM increases as you turn the dials clockwise and decrease as you turn the dials counter clockwise. When all wheels are turning at the same RPM, the ball is imparted with no spin.

### THROWING HEAD HEIGHT "RAISE/LOWER" SWITCH

For ground strokes, press and hold the "LOWER" switch until the throwing head is all the way down. For serving, press and hold the "RAISE" switch until machine reaches the desired height. "Reverse" - start with raise position.

**NOTE:** All other functions automatically turn "OFF" when you raise or lower the throwing head. These functions will automatically turn back "ON" once you stop raising or lowering the throwing head.

**IMPORTANT:** Always have the throwing head in the lower position when you are filling the ball bin or moving the Ace Attack.

### FEEDER SWITCH

1. This switch stops and starts the ball feeder. Be sure the throwing wheels are on before you turn on the feeder. Turning the feeder "ON" before the throwing wheels are turning will cause the ball to jam.
2. To remove jammed balls, turn the throwing wheel dials to "0" and turn the on/off switch "OFF" and unplug machine. Loosen tube thumb screws, squeeze the handles on the ball chute attachment piece at the throwing head and remove ball feed chute (See Figure 3 on page 7). This will allow you to remove all jammed balls. Replace ball feed chute and continue operation.



# OPERATION (cont'd)

## OSCILLATION CONTROL

The Ace Attack provides a variety of oscillation selections:

**Single Line:** The ball is thrown to the same spot.

**Two or Three Line:** The ball is thrown to two or three locations on the court. The ball direction will now alternate between forehand and backhand or throw to two or three separate lines for group instruction. To set the machine for two or three positions, position the switch to either the middle position for two-line or the lower point for three-line, "switch" and select either the two position or three position option on the adjacent switch that is immediately left.

**Two Line "Four Ball" Drill:** Used for simultaneously training two players, or two lines of players, the ball is thrown to the backhand, then forehand, followed by two (2) balls to the center of the oscillation width.

**Random:** Randomly automatically throws balls in a sweeping pattern from side to side to different (or random) spots (locations) on the court

**Width Control:** This dial controls the distance between shot locations. The range or distance between shots is infinite and easily dialed. The width increases as you turn the dial clockwise.

- 10 = widest
- 1 = narrowest

**Interval Control:** This dial allows you to change the frequency or time between shots. Depth of shot, range of shots, type of shot and method of instruction all require different intervals between shots. The interval increases as you turn the dial clockwise.

- 10 = approximate 10 second interval
- 1 = approximate 1 second interval



Single Line



Two Line



Three Line



Four Ball Drill



Random

# OPERATION (cont'd)

## BASIC STROKES

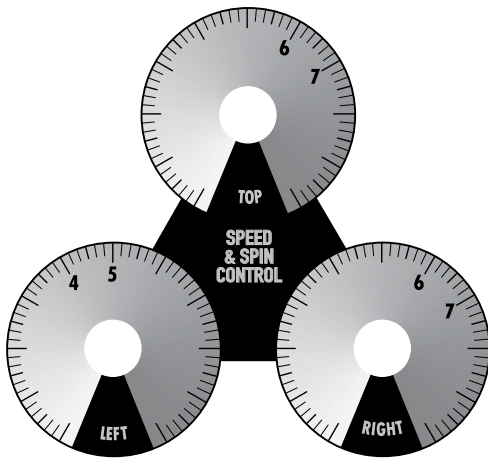
### GROUND STROKES

Throwing head in the "DOWN" position.

1. **No Spin** - Set all dials at same speed.
2. **Top Spin** - Set top dial faster, lower dials slower.
1. **Back Spin (Slice)** - Set top dial slower, lower dials faster.

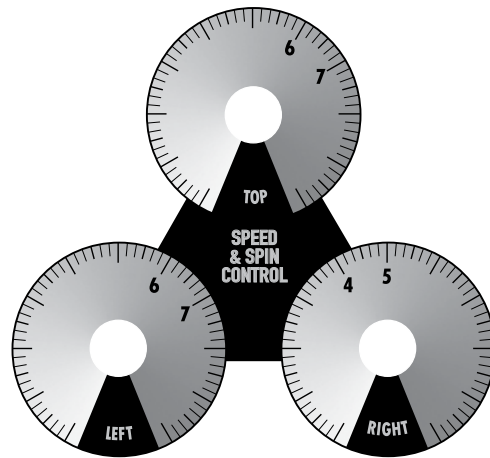
### SERVES

Throwing head in the "UP" position.



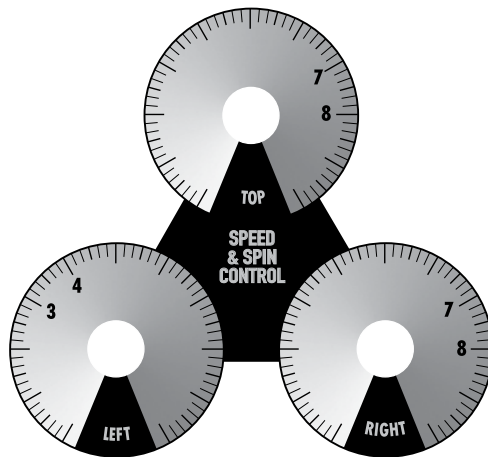
#### RIGHT-HAND SERVE

- Top Dial 6 - 7
- Left Dial 4 - 5
- Right Dial 6 - 7



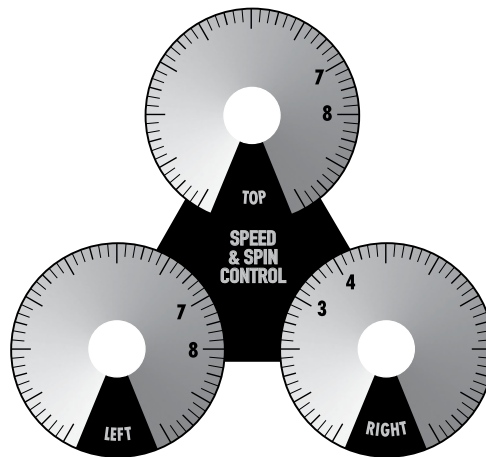
#### LEFT-HAND SERVE

- Top Dial 6 - 7
- Left Dial 6 - 7
- Right Dial 4 - 5



#### RIGHT-HAND KICK

- Top Dial 7 - 8
- Left Dial 3 - 4
- Right Dial 7 - 8



#### LEFT-HAND KICK

- Top Dial 7 - 8
- Left Dial 7 - 8
- Right Dial 3 - 4

## Speed & Spin Controls

*Dial setting guidelines for groundstrokes and serves using the Speed & Spin Controls*

Groundstrokes (lowered position)				Serves (raised position)			
	Top	Left	Right		Top	Left	Right
<b>Flat</b>	4-6	4-6	4-6	<b>Flat</b>	4-6	4-6	4-6
<b>Topspin</b>	4-6	3-5	3-5	<b>Right-Handed Slice</b>	4-5	3-4	7-8
<b>Backspin</b>	3-4	4-6	4-6	<b>Left-Handed Slice</b>	4-5	7-8	3-4
<b>Defensive Lob</b> (with highest arc)	2	3	3	<b>Right-Handed Kick</b>	7-8	2-3	3-4
				<b>Left-Handed Kick</b>	7-8	3-4	2-3

*A range in dial positions is provided due to differences in skill levels, balls and court surfaces.*

### WARNING PERSONAL INJURY HAZARD

Never test or change strokes while player is on the court. Adjust machine for stroke location before serving to a player.

•

Stroke speeds are for advanced players at the baseline. Reduce proportionally for less skilled players.

# BALL THROWING MOTOR REPLACEMENT

TURN OFF ACE ATTACK AND UNPLUG FROM THE POWER SOURCE

## 1. Disconnect Head Frame from the Control Box



## 2. Remove Outer-Upper Control Box



### CAUTION PERSONAL INJURY HAZARD

Carefully read all instructions in this manual, and all labels and warnings on the Ace Attack before using the machine.

### TOOLS NEEDED

2 -  $\frac{7}{16}$ " Allen wrench

$\frac{3}{8}$ " Allen wrench

#2 Phillips screwdriver

Diagonal Cutter

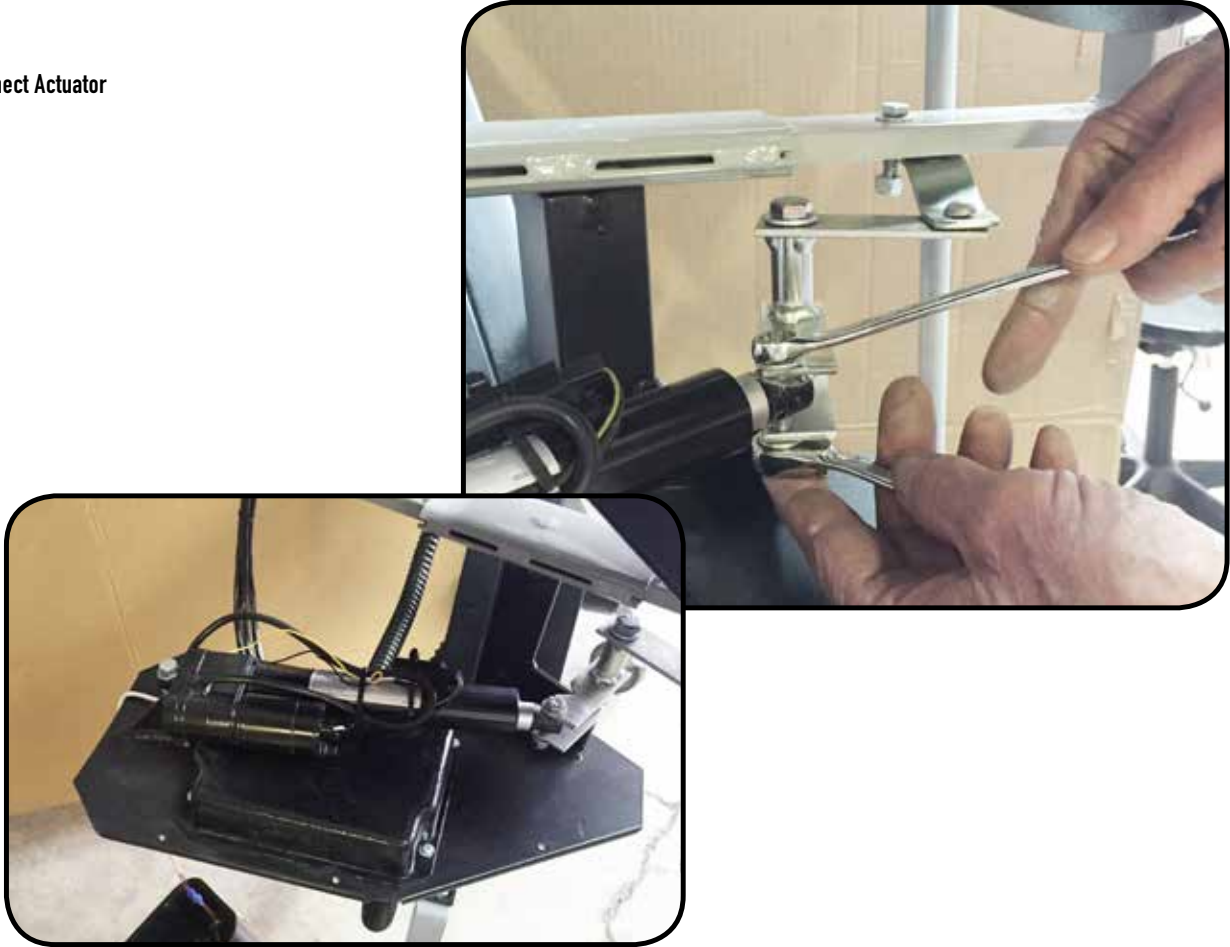
Pliers

*For machines dated 2013  
& earlier use also  
 $\frac{1}{8}$ " Hex wrench*

# BALL THROWING MOTOR REPLACEMENT

TURN OFF ACE ATTACK AND UNPLUG FROM THE POWER SOURCE

## 3. Disconnect Actuator



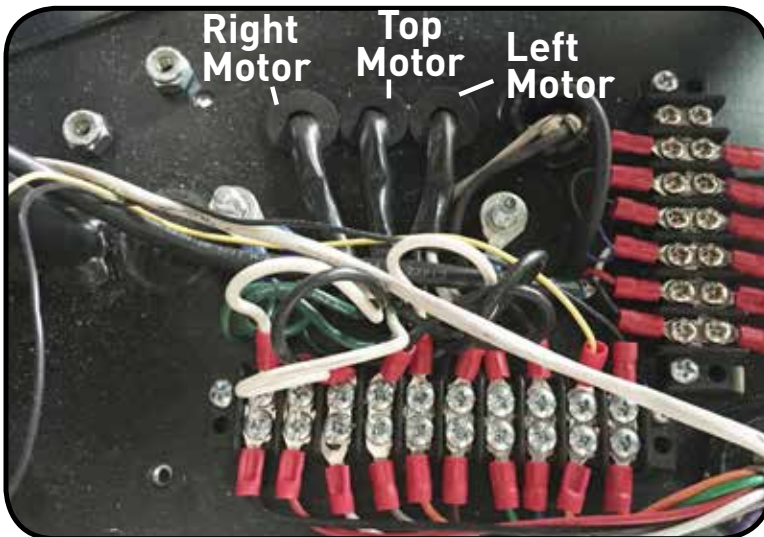
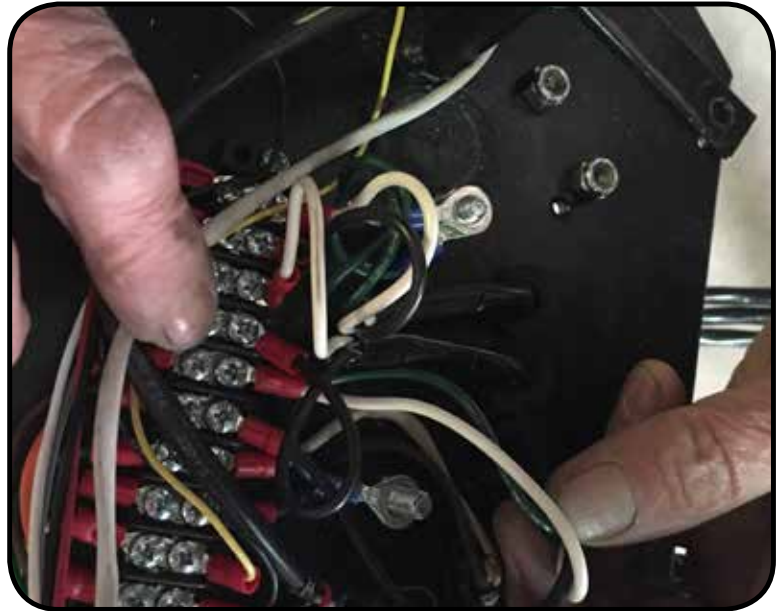
## 4. Remove Inner-Upper Control Box





# BALL THROWING MOTOR REPLACEMENT - Cont'd

- 4. Locate and disconnect the wires to the motor being replaced and after remove the ground



## BALL THROWING MOTOR REPLACEMENT - Cont'd

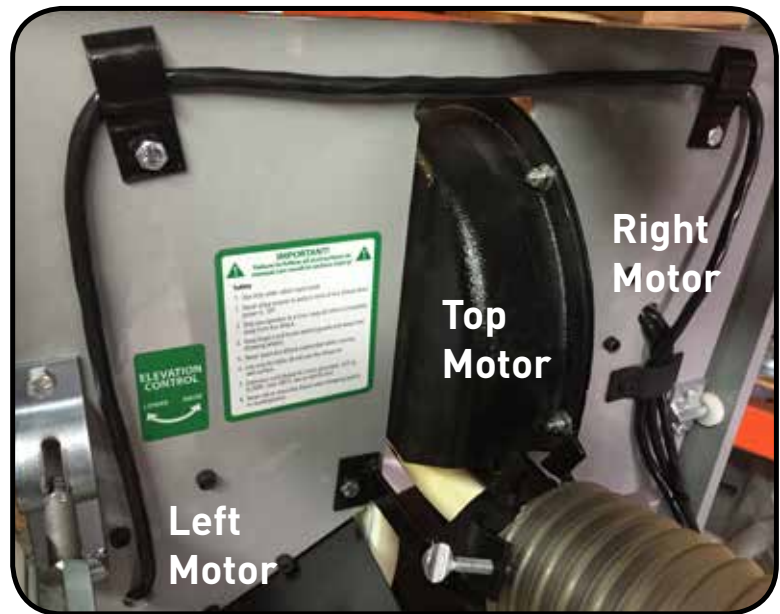
5. **Separate wires and Loosen wires on the Back of the Head Plate**

*Left Motor - loosen all clamps on the back of the head plate*

*Top Motor 2 - Loosen the bottom clamp*

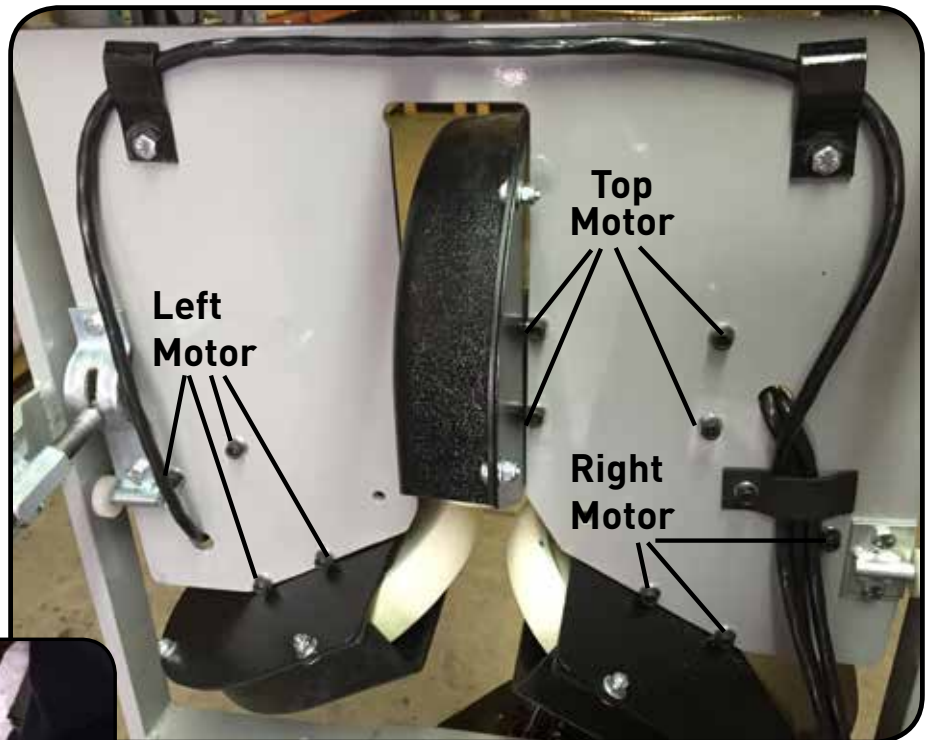
*Right Motor - Remove the bottom clamp*

Pull wires through the hole in the Head Frame



6. **Unscrew motor you want to replace**

(motor is attached to the throwing wheel)



## BALL THROWING MOTOR REPLACEMENT - Cont'd

### 7. Remove Motor Cover

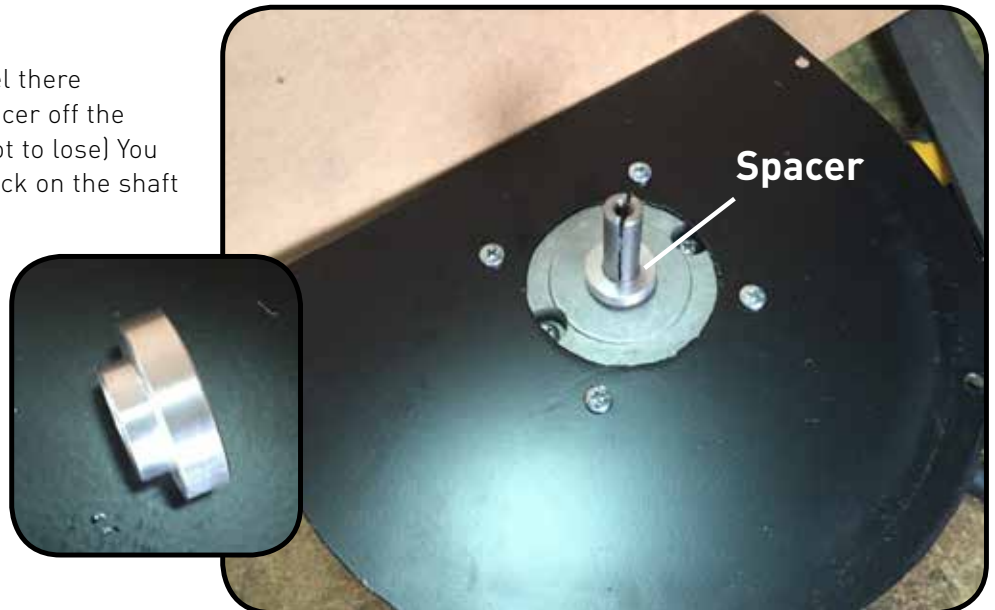
- a. First take off the black plastic wheel guard. Wheel guard is held on by four (4) screws.



- b. Using an Allen wrench, remove the Allen head screw (careful not to lose) that is in the end of the motor shaft that holds the throwing head wheel. After removing the screw slide wheel off from shaft.



- c. Behind the ball throwing wheel there will be a spacer. Slide the spacer off the shaft of the motor. (Careful not to lose) You will need to put the spacer back on the shaft of the new motor.



## BALL THROWING MOTOR REPLACEMENT - Cont'd

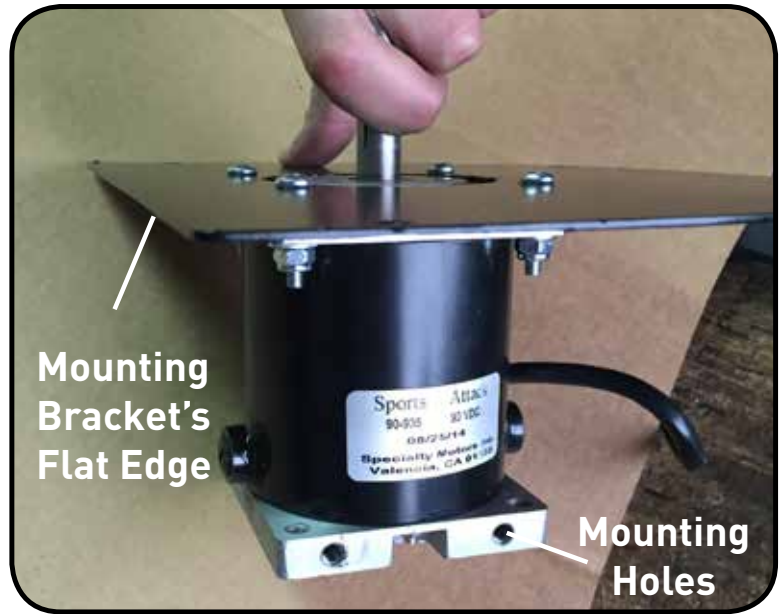
### 8. Remove Motor

The motor is held on by four (4) screws. You will need an Allen wrench to loosen all four (4) screws. The motor will then come off the mounting bracket.

*Remember the position of the mounting bracket towards the motor's mounting holes. You can also use the Wheel Guard Assembly guide on page 16.*

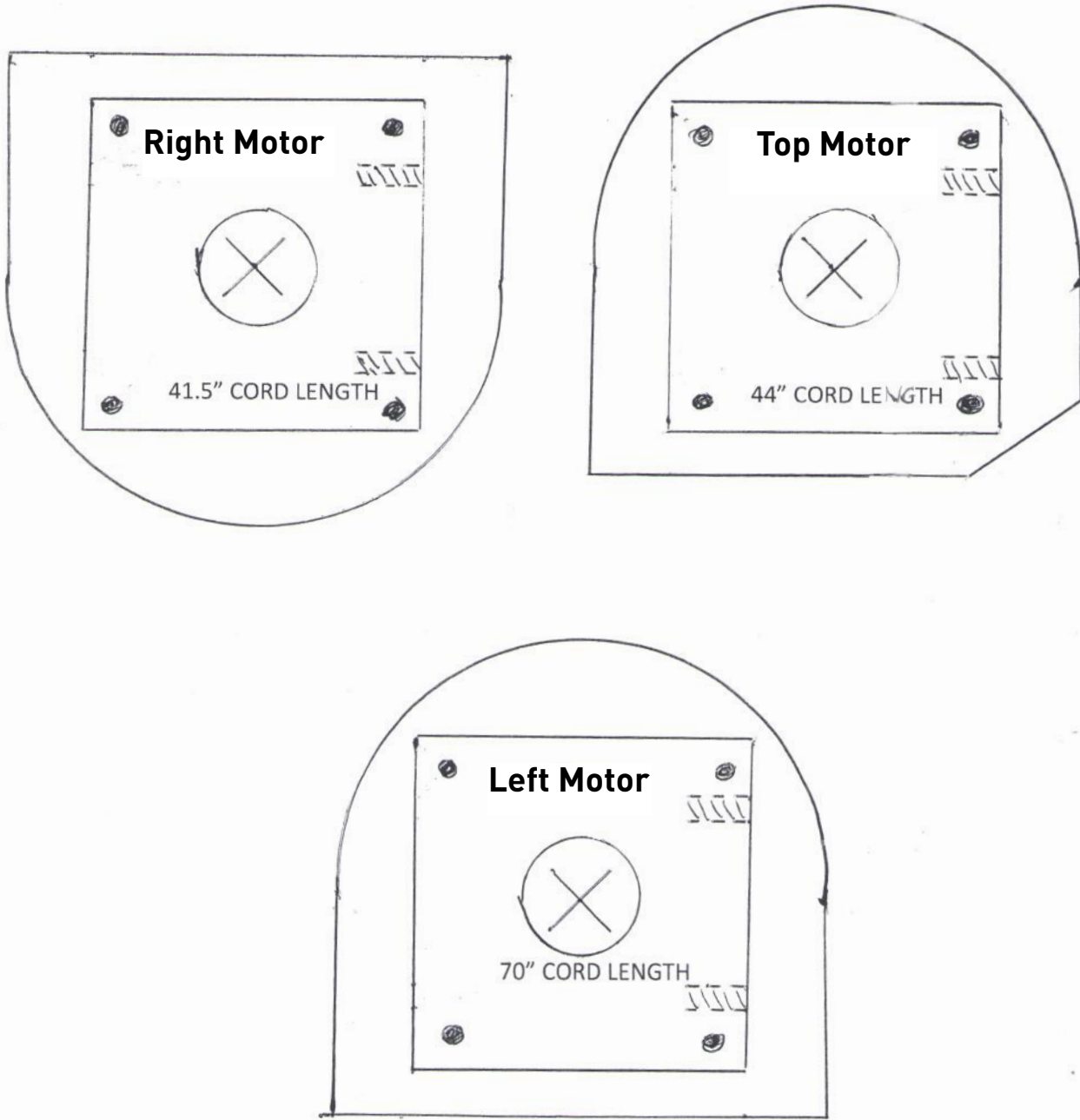
### 9. Install New Motor

Install the new motor in reverse order.

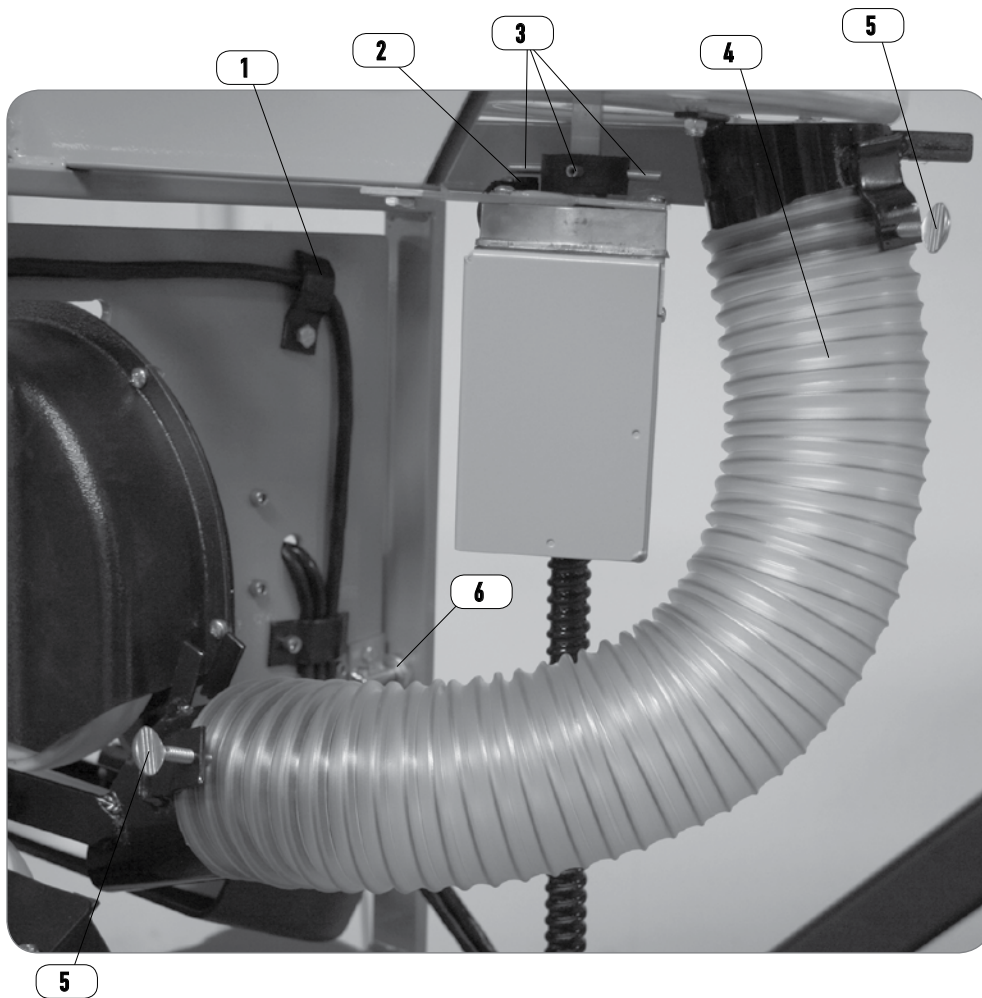


Motor 1 shown

WHEEL GUARD PLATE ASSEMBLY  
LOOKING DOWN AT TOP OF MOTORS

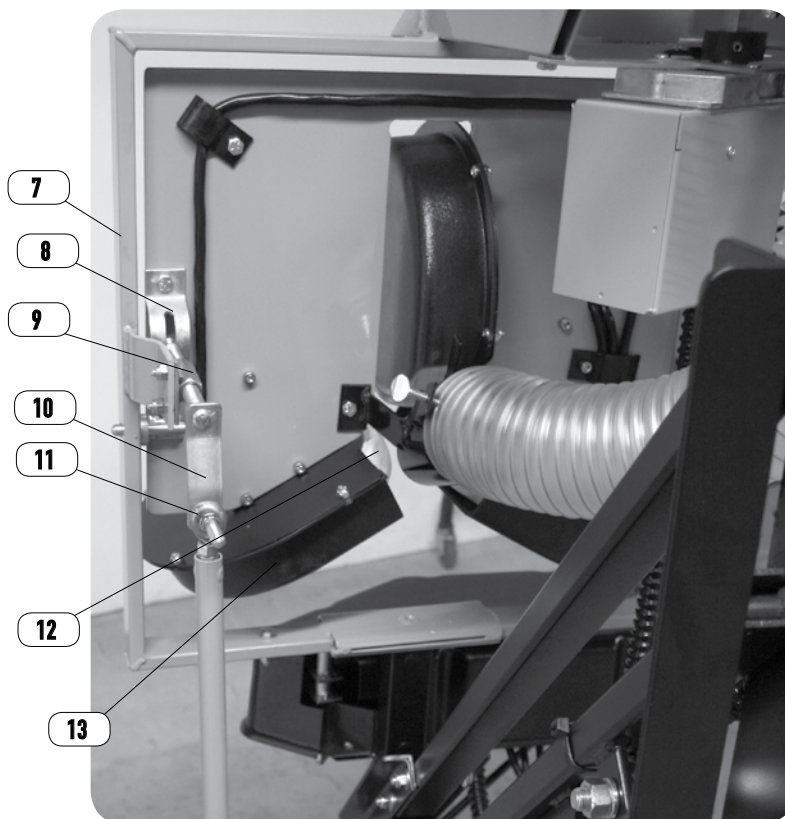


# COMPONENT VIEW

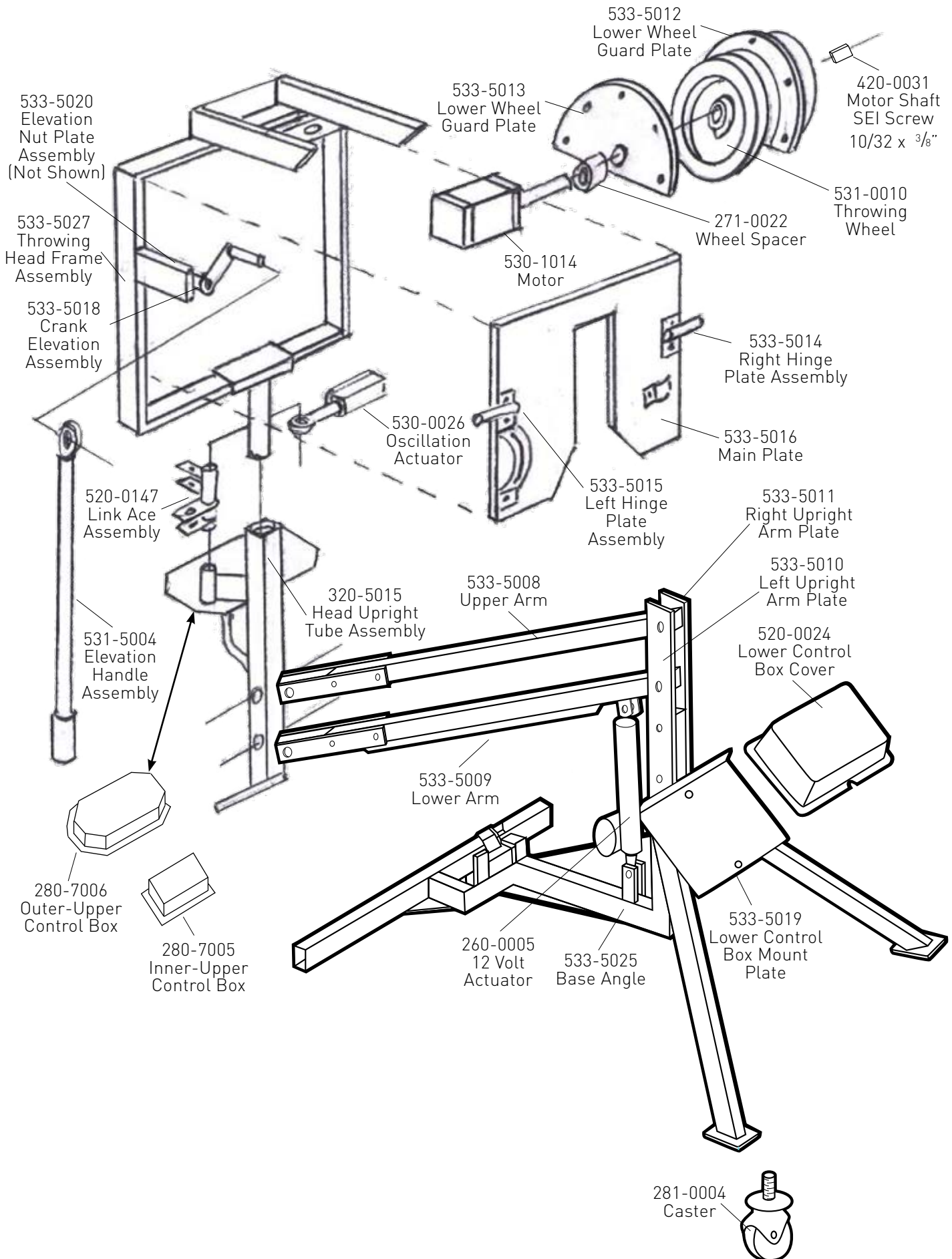


- 1 Wire Clamp
- 2 Sensor
- 3 Roll Pins
- 4 Ball Entry Tube
- 5 Thumbscrews
- 6 Hinge Shaft
- 7 Head Frame
- 8 Elevation Hinge
- 9 Elevation Actuator
- 10 Elevation Handle
- 11 Elevation Screw
- 12 Throwing Wheel
- 13 Throwing Wheel Guard

Component View



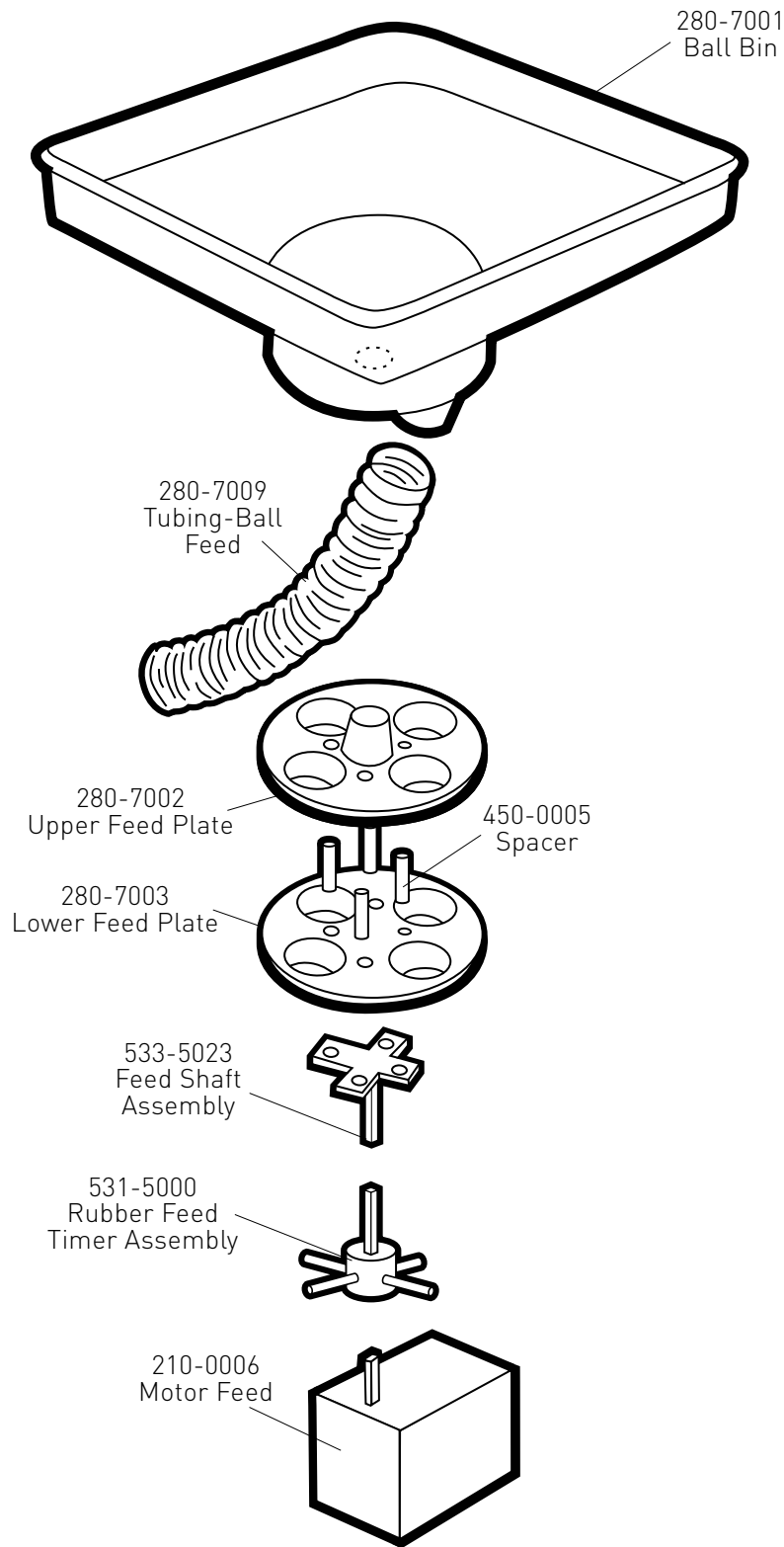
# EXPLODED VIEW



Ace Attack™ Exploded View

## ACE ATTACK™ TENNIS MACHINE

# EXPLODED VIEW (cont'd)



**Ace Attack™ Exploded View**



# PARTS LIST

EM	PART NO.	DESCRIPTION	QTY PER
	281-0004	Caster	4
	533-5025	Base Angle	1
	533-5010	Left Upright Arm Plate	1
	533-5011	Left Upright Arm Plate	1
	520-0024	Lower Control Box Cover	1
	533-5019	Lower Control Box Mount Plate	1
	280-7006	Outer-Upper Control Box	1
	280-7005	Inner-Upper Control Box	1
	533-5008	Upper Arm	1
	533-5009	Lower Arm	1
	320-5015	Head Upright Tube Assembly	1
	533-5015	Left Hinge Plate Assembly	1
	533-5014	Right Hinge Plate Assembly	1
	533-5023	Feed Shaft Assembly	1
	533-5027	Throwing Head Frame Assembly	1
	280-7002	Upper Feed Plate	1
	280-7003	Lower Feed Plate	2
	530-1014	Motor	1
	450-0005	Spacer	3
	531-5000	Rubber Feed Timer Assembly	1
	210-0006	Motor Feed	1
	280-7001	Ball Bin	1
	533-5013	Lower Wheel Guard Plate	3
	533-5012	Top Wheel Guard Plate	3
	260-0005	12 Volt Elevation Actuator	1
	533-5016	Main Plate	1
	531-5004	Elevation Handle Assembly	1
	520-0147	Link Lace Assembly	1
	531-0010	Throwing Wheel	3
	280-7009	Tubing Ball Feed	1
	533-5020	Elevation Nut Plate Assembly	1
	533-5018	Crank Elevation Assembly	1
	530-0026	Oscillation Actuator	1
	271-0022	Wheel Spacer	3
	420-0031	Motor Shaft SEI Screw 10/32 x 3/8"	3

To order additional parts, please contact:

Sports Attack  
Customer Service Dept.  
Ph 800-717-4251  
Fx (775) 345-2883



Parts List

# SPORTS ATTACK PRODUCTS

## BASEBALL

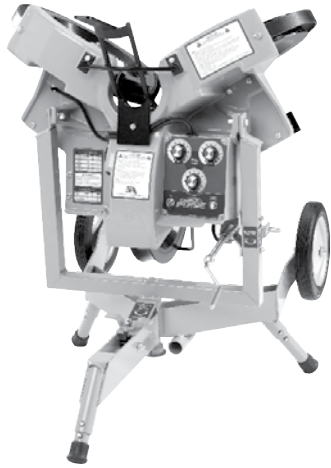


**HACK ATTACK BASEBALL**



**JUNIOR HACK ATTACK BASEBALL**

## SOFTBALL



**HACK ATTACK SOFTBALL**



**JUNIOR HACK ATTACK SOFTBALL (shown with optional Solo feeder)**



Please visit our web site [www.sportsattack.com](http://www.sportsattack.com) for information about Sports Attack sports training products, or call 800-717-4251 for complete information and specifications.

# SPORTS ATTACK PRODUCTS

## SOCCER



STRIKE ATTACK

## FOOTBALL



SNAP ATTACK

## VOLLEYBALL



ATTACK



ATTACK II (shown with optional ball bags)



SKILL ATTACK



Please visit our web site [www.sportsattack.com](http://www.sportsattack.com) for information about Sports Attack sports training products, or call 800-717-4251 for complete information and specifications.