

# **COBRA Softball Throwing TD**

## **11 Inch and 12 Inch Circumference models**

**INTRODUCTION** The COBRA SB is the very first ever softball throwing TD in two models for both 11 inch and 12 inch circumference softballs. The COBRA is very adjustable and requires tuning to provide the user with OPTIMUM performance and natural, instinctive throwing capability. The COBRA comes with the Flex Arm angle set at approximately 45 degrees and neutral Ball Cup position. The Flex Arm and Ball Cup are easily adjustable and will require tuning to the individual player. Special tuning/re-configuring is required for slow pitch and fast pitch underhand throwing. When tuned for underhand pitching the COBRA will not perform for overhand throwing until it is re-tuned/reconfigured. (Review the photos to help with tuning/reconfiguration.)

### **ALWAYS STORE A SOFTBALL IN THE COBRA WHILE NOT IN USE!**

The COBRA consists of three primary parts: Wrist Adapter, Flex Arm and Ball Cup. (See Photo **A**)

The Wrist Adapter is equipped with a USA Standard (1/2" -20), threaded, mounting stud. It can screw into a friction style prosthetic wrist or accepts a variety of quick-disconnect adapters. A tensioning machine bolt (1/4" - 20) connects and locks the Wrist Adapter to the Flex Arm. A second machine screw (#10-32) connects and locks the Ball Cup to the Flex Arm. Tighten securely with a good Allen (Hex) wrench but be careful not to over tighten and strip the socket head.

**Practice... Practice!** We suggest practicing by throwing a softball with the COBRA against a concrete or similar durable wall. Cover the wall with a sheet of plywood or foam to protect the wall. Paint a two foot diameter circle TARGET on that plywood or foam surface. (See Photo **B**) Stand back about 15-20 feet from the target and practice throwing. Adjust (re-configure) the COBRA and your throwing technique until you are throwing naturally and hitting the target. Step back five feet and continue to practice... continue increasing the distance as your accuracy improves. The Flex Arm captures your arm's and torso's energy during the throw using the mass and momentum of the ball, then the Ball Cup controls the final trajectory.

**Tuning/Adjustment FLEX ARM** Typically the Flex Arm should be positioned and LOCKED in an "extended wrist" position from 0 degrees (Neutral alignment) to about 45 degrees from the centerline of the prosthesis. Underhand pitching could occasionally force the alignment to a slightly flexed position of about plus 5-10 degrees. (See photos **C, D & E**). Experimentation with this angle is critical and an important part of the ball throwing-tuning process.

**OVERHAND THROWING:** Position the Flex Arm to about 45 degrees and start experimenting with the cup's rotation. Reducing the angle, less than 45 degrees, the ball will DIVE, lowering its trajectory. Increasing the angle to greater than 45 degrees will cause the ball to RISE raising its trajectory. Always position the cup in a neutral (un-rotated) position to start and then adjust the cup's position to tune the trajectory.

**UNDERHAND THROWING:** Position the arm to 0 degrees (straight alignment) and the cup in a neutral aligned position first. Check the trajectory and control that you have then begin experimenting with the cup's rotation and Flex Arm position to adjust the ball's trajectory.

The softball is held in the Ball Cup by the elastic tension of the cup material and by 4 small ramped bumps that capture the softball at the Cup's extended "finger" edges. The Ball Cup has TWO adjustment ranges controlled by a locking screw and slot, in the center of the Ball Cup pocket. The Ball Cup can be rotated to control "Windage" of the trajectory. By rotating the cup you alter the position of the "FACE" of the cup. If the baseball's trajectory is too far to one side or the other.. rotate the cup "FACE" **slightly in the opposite direction** and lock it down. Reposition as needed to achieve the trajectory desired then always lock down the fastener to ensure repeatability. (See photo **F & G**)

The Ball Cup also controls the baseball's height trajectory. Rotating the cup in the slot will alter and control this aspect of the trajectory forcing the ball to fall or rise. Locking the cup in between the two extreme slot positions will allow the user to tune the ball's trajectory to the user's throwing style for the best accuracy and control. (See photos **H & I**)

**STITCHED SEAMS** Experiment with the orientation of the baseball within the Ball Cup. The ramped bumps and flexible material allow the ball to release due to momentum developed during the throw. If a stitched seam is captured by a bump it can cause changes in the baseball's trajectory and spin. It is possible with practice to throw a curve ball with the COBRA. A combination of ball orientation in the cup and throwing technique will influence the softball's spin as it releases from the cup.

### **ALWAYS STORE A SOFTBALL IN THE COBRA WHILE NOT IN USE**

*For assistance and questions about the COBRA please call 800.279.1865*



**A. Soft Ball Cup Flex Arm Wrist Adapter**



**B. Ball Throwing Target**



**C. Flex Arm 0 Degrees**



**D. Flex Arm 45 Degrees**



**E. Flex Arm 60 Degrees**



**F. Counterclockwise Rotation**



**G. Clockwise Rotation**



**H. Full Forward Cup Rotation**



**I. Full Backward Cup Rotation**