

VB4000/4002



Customer Service
(800) 247-7668

“Magic” telescoping volleyball system

Magic Telescoping Volleyball System Initial Installation Instructions:

These instructions are intended to cover a wide variety of installation applications including:

- Option I:** New gym construction beginning prior to pouring the concrete subfloor.
- Option II:** New gym construction with concrete subfloor poured but without finish wood floor installed.
- Option III:** New gym construction with concrete subfloor and floating wood floor already installed or existing gym floors without existing floor sockets.
- Option IV.** Existing gym floors with existing floor sockets for removable poles.

Magic Systems cannot be installed in floors that have basements, hollow spaces or other impediments under the floor that would not allow excavation of at least 12" diameter and 36" deep at each desired pole location.

Note:

Visit www.youtube.com/user/bisoninc to view the set-up/installation video.



PARTS LIST

Item	Qty	Description	Item	Qty	Description
A	2	Telescoping Pole	P	3	Carabiner
B	1	Winch	Q	4	Cable Cover
C	1	Rope Hook	R	2	VB13 Boundary Marker and Antennae
D	2	Nylon Net Collars	S	2	VB51P Pole Padding
E	2	VB23-CV Brass Floor Plate	T	1	Zippered Carrying Bag (for winch, net, cable covers, antennae and rope hook)
F	6	1/4" X 2" Hex Bolt	U	1	LPS 1 Greaseless Lubricant
G	2	Band Clamp	V	1	Official's Platform (Optional)
H	2	1/4" X 2" Carriage Bolt	W	4	Rope Ratchet (packaged with net)
I	2	1/4" Flange Nut	X	1	VB23IK Installation Kit (Optional)
J	2	Steering Wheel Installation Plate	Y	6	#6 X 1" Drywall Screw
K	6	Gray 1 1/4" Plastic Standoff	Z	1	Screwdriver
L	2	Black 1 3/8" Plastic Standoff	AA	7	3/8" Nylon Ball
M	2	Canister Cover	BB	1	Key Block
N	1	VB1250K Net	CC	2	1/4" Bolt
O	1	VB98 Height Gauge	DD	1	Set Screw

- ◆ Inspect all contents prior to installation. Report any missing parts to dealer immediately. Read all instructions before proceeding.

1. Prior to proceeding, review and follow one of the options outlined below.

Option I: New Gym Construction Beginning Prior To Pouring the Concrete Subfloor

With the assistance of the architect, accurately determine the intended centerline of each final volleyball post location. Excavate and install a 12" diameter x 36" deep sonotube at each location insuring that the top of the sonotube is flush with the finished concrete subfloor, that the tube is securely embedded in concrete and that the sonotube is perpendicular to the finished subfloor. Optionally frame a 16" opening at each location prior to pouring the subfloor. This will eliminate the need to remove concrete prior to excavation of a 12" diameter x 36" deep hole necessary to complete the installation at a later date.

Option II: New Gym Construction With Concrete Subfloor Poured But Without Finish Wood Floor Installed.

If the subfloor is existing or has already been poured, determine the intended centerline of each volleyball post location and using a concrete saw or other method, remove enough of the subfloor to allow excavation 12" diameter x 36" deep when measured from the finished concrete subfloor. Excavate soil prior to installation of wood flooring.

Option III: New Gym Construction with Concrete Subfloor and Floating Wood Floor Already Installed or Existing Gym Floors Without Existing Floor Sockets.

If no work has been completed (as outlined in Option I and Option II above) but the wood floor is already installed, precisely locate the desired centerline position of each volleyball post. Consult the architect as needed to help avoid damaging any utilities or other impediments that may be embedded in or below the concrete subfloor. Proceed to instruction #3 below to install the hinged brass floor plate at each location. When the 6" "thru bore" and the 8" "step bore" in the wood floor are complete, excavate soil creating a 10" minimum diameter x 36" deep hole (when measured from the surface of the concrete subfloor). **Take care to protect the floor during excavation.** Discard all soil.

Option IV: Existing Gym Floors with Existing Floor Sockets for Removable Poles.

When installing Magic posts at the same location where existing floor sockets are installed, remove existing floor plate. **Protect the wood floor prior to proceeding.** Using a jack hammer, hammer drill or other means, remove the existing socket and mortar completely. Most sockets are 3" – 4" diameter and 10" – 16" deep. The depth and diameter of mortar will vary depending on the initial installation. Once the entire existing socket is removed, excavate the soil directly below the existing floor plate until you have a 10" minimum diameter x 36" deep hole (when measured from the top surface of the concrete subfloor). It is advisable to replace the existing floor plate with *VB23-CV Brass Floor Plates (E)* unless the current plates are too large or of a design that prohibits installing of the *VB23-CV Brass Floor Plates (E)*.

2. Once the wood flooring is installed, proceed to instructions #3 - #9 below to prepare and install *VB23-CV Brass Floor Plate (E)*.

Caution!
Avoid damage to expensive floors by carefully following these instructions using the optional *VB23IK Installation Kit (X)* or by using an experienced installer.

3. Locate the desired center line of the *VB23-CV Brass Floor Plate (E)* installation. If the *VB23-CV Brass Floor Plate (E)* is being installed over an existing sonotube, subfloor cutout, excavated hole or existing socket, care must be given to assure that the *VB23-CV Brass Floor Plate (E)* is centered precisely over that center line. Consult architect as needed.

4. Drill a small (approximately 1/4" – 3/8") hole in the center of the desired location in the wood floor. See Photo 1.

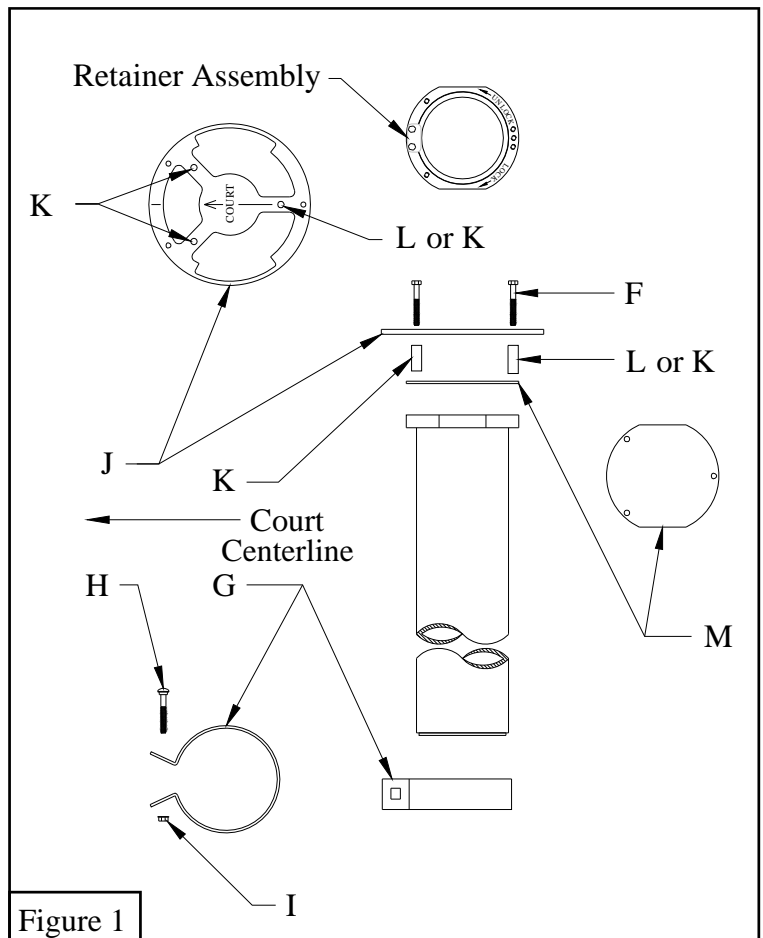
5. Center the optional *VB23IK Installation Kit (X)* "thru hole" routing template on the small center line hole. Secure the template to the floor using duct tape to avoid movement during routing. Rout a 6" hole through the finished wood floor and remove any subfloor materials between the wood floor and the concrete subfloor. An experienced installer can use any method desired that results in a clean 6" diameter "thru hole". See Photo 2.
6. Check to insure that the "thru hole" is directly over the center of the existing excavation in the concrete subfloor. If necessary, it is possible to adjust the center line of the "thru hole" as much as 1/2" in any direction before proceeding to #8 below without negatively affecting the final floor plate installation.
7. Using the optional *VB23IK Installation Kit (X)* "step bore" routing template duct taped to the wood floor and centered on the "thru hole" or excavation in the concrete sub floor, rout a 8" diameter x 3/8" deep step bore. The diameter and depth of the "step bore" is critical to insure flush and gap-free installation of the *VB23-CV Brass Floor Plate (E)*. An experienced installer can use any method desired that results in an accurate "step bore". See Photos 3 and 4.
8. Insert the *VB23-CV Brass Floor Plate (E)* into the routed floor pocket to insure proper fit. Rotate the *VB23-CV Brass Floor Plate (E)* so that the hinged lid when raised is located outside the volleyball court and 180° from the ultimate position of the net. Predrill 1/8" pilot hole through the center of the 4 holes countersunk in the *VB23-CV Brass Floor Plate (E)* to allow easy flush installation of the brass wood screws provided. The brass wood screw heads must be flush or below the *VB23-CV Brass Floor Plate (E)* surface for the cover to close properly. See Photo 5.
9. If excess gaps exist between the *VB23-CV Brass Floor Plate (E)* and the "step bore" in the floor, fill with an appropriate wood putty as needed when final pole installation is complete.

10. Each *Telescoping Pole (A)* comes preassembled in an integrated 4 1/2" outside diameter floor storage canister. Remove the *Telescoping Pole (A)* assembly from the outer canister by removing 2 hex bolts and the retainer assembly. See Photo 6 and Figure 1.

11. Remove the telescoping pole assembly from the canister by lifting upward while holding the canister stationary. See Photo 7 and 8.

12. Store the telescoping pole assembly and the hex bolts and retainer assembly until reinstallation into the installed floor canister at a later date when grout is cured.

13. Using the disposable installation hardware provided in the hardware kit for each pole, install the *Canister Cover (M)*, 3 *Plastic Standoffs (K and L)* and the *Steering Wheel Installation Plate (J)* using three 1/4" X 2" *Hex Bolts (F)* provided. See Photo 9,10, 11 and Figure 1.



Critical Importance!

All volleyball posts deflect when proper net tension is applied during setup for competition volleyball. For this reason most manufacturers recommend installing floor sockets at a slight angle leaning away from the court so that the posts are perpendicular to the floor when tensioned. The exception is when installing a pole that is to be used as a center post in a 3 post, 2 court "side-by-side" configuration in which case the center post canister should be installed perpendicular to the floor.

For this purpose, the installation hardware includes three *Gray 1 1/4" Plastic Standoffs (K)* and one *Black 1 3/8" Plastic Standoff (L)*. When installing the canister for center post use, use the three *Gray 1 1/4" Plastic Standoffs (K)*. When installing the canister for end post(s), (either winch or non winch end), use one *Black 1 3/8" Plastic Standoff (L)* and two *Gray 1 1/4" Plastic Standoffs (K)*. Note the *Black 1 3/8" Plastic Standoff (L)* is positioned to the outside of the court. See Photo 10 and Figure 1.

When you are certain that the standoffs are in the correct location, bolt the canister assembly together using the *1/4" X 2" Hex Bolts (F)* provided. See Photo 12 and Figure 1.

Caution!

It is critical to insure that the standoffs are properly placed as it is virtually impossible to remove the canister if it is installed incorrectly and the posts lean in the wrong direction or lean when they should be straight for center post use.

14. Securely attach the *Band Clamp (G)* approximately 6" – 12" from the bottom of the floor canister using the *1/4" X 2" Carriage Bolt (H)* and *1/4" Flange Nut (I)*. See Photo 13 and Figure 1.
15. Remove the *VB23-CV Brass Floor Plate (E)* and save it and the brass wood screws for reinstallation at a later time after the grout has cured.
16. The canister assembly is now ready for installation into the excavated hole where the *VB23-CV Brass Floor Plate (E)* was previously installed Note arrow that indicates proper rotation of the canister assembly in relationship to the court. See Photo 14.
17. Using a heavy tarp or plastic sheet, cover a large area of the floor around each cutout to **protect the floor**. Use duct tape to secure in place.
18. Using an electric jigsaw, router or small handsaw, remove a portion of the wood floor in the "step bore" to allow adding grout when installing the canister assembly. Avoid removing wood where the brass screws attach the *VB23-CV Brass Floor Plate (E)*. See Photos 15 and 16.
19. Prior to inserting the canister assembly into the previously prepared hole, fill the hole with very wet grout to within approximately 6" of the top of the concrete subfloor (not the wood floor). The concrete mix must be very wet to allow easy insertion of the canister assembly. See Photo 17.
20. With the canister assembly centered on the hole in the wood floor and the "court" arrow on the *Steering Wheel Installation Plate (J)* shaped assembly pointing in the direction of the volleyball net, slowly work the canister assembly into the wet grout until the entire assembly is completely seated in the *VB23-CV Brass Floor Plate (E)* "step bore" flush with the wood floor surface and with the arrow pointing in the direction of the court. It may take two or three tries to get the canister assembly properly centered and seated. See Photos 18 and 19.

21. When you are confident that the canister assembly is properly positioned, install three #6 X 1" Drywall Screws (Y) to temporarily hold the canister in place as the grout cures. See Photo 19.
22. Using a small scoop, funnel or other method, add wet grout around the canister assembly until it reaches approximately 4" below the finished wood floor. Take care to agitate the grout as it is installed to allow it to fill-in 360° around the canister. **Make sure not to overfill or to leave excess wet grout on or around the top** of the *Canister Cover* (M) on the canister assembly. See Photo 20.
23. Remove the tarp and remove any excess grout or other debris from the surrounding floor and the exposed portion of the canister assembly. See Photo 21.
24. Allow the grout to cure at least 3 days prior to proceeding with the final installation of the telescoping volleyball tube assembly and net setup. **Early removal may cause system failure.**
25. When grout is cured, remove the #6 X 1" Drywall Screws (Y) and the three 1/4" X 2" Hex Bolts (F). Remove the *Steering Wheel Installation Plate* (J), *Gray and/or Black Plastic Standoffs* (K and L) and the *Canister Cover* (M) from the canister assembly exposing the inside diameter of the canister.
26. Wipe the inside of the canister to remove all debris. Applying a little *LPS 1 Greaseless Lubricant* (U) to the inside of the canister will help with installation.
27. Carefully slide the telescoping pole assembly into the canister being careful not to let it free fall. See Photo 22.
28. Rotate the pole assembly in the canister until the groove on the side of the pole assembly lines up between the two threaded holes that are used to mount the retainer assembly to the top flange of the canister. Use the 2 hex bolts to bolt the retainer assembly securely to the canister flange with the ball nose set screw in the slot in the tube assembly. See Photos 23, 24 and Figure 1.
29. Reinstall the *VB23-CV Brass Floor Plate* (E) using the brass screws provided. The hinged portion of the *VB23-CV Brass Floor Plate* (E) should open away from the court and net. Make sure top of the plate is flush with the finished floor and that the hinged cover completely closes.
30. With the telescoping pole securely in place and the *VB23-CV Brass Floor Plate* (E) reinstalled, lift the telescoping pole assembly by grasping the top rope guide finger slots. See Photo 25.
31. The *Telescoping Pole* (A) has 5 movable sections. Raise and lock each one individually by lifting approximately 20" until the spring pin engages into the hole in the corresponding outer section. The largest diameter section will need to be lifted approximately 20" then rotated 10° clockwise to lock into place. See Photos 26, 27, 28, and Figure 1.
32. The **top** pole section can be adjusted in 1/2" increments by pressing in the spring pin that allows the top tube section to telescope, locking into any of the slots provided when the spring pin is released. Note that Men's "M", Women's "W" and Junior "J" heights are clearly marked on the upper pole for easy height adjustment once the system height has been fine tuned. See Photo 31.
33. The first time the net system is set up, it will be necessary to fine tune the net height to adjust for any minor differences in the installation depth in relationship to the finished floor or other variables. The top rope guide can be adjusted in 1/16" increments by loosening the set screw and rotating the rope guide 180°. The slot on the top of the rope guide must always be in line with the court. Loosen the set screw so that you can fine tune and retighten later in the instructions. See Photos 29 and 30..

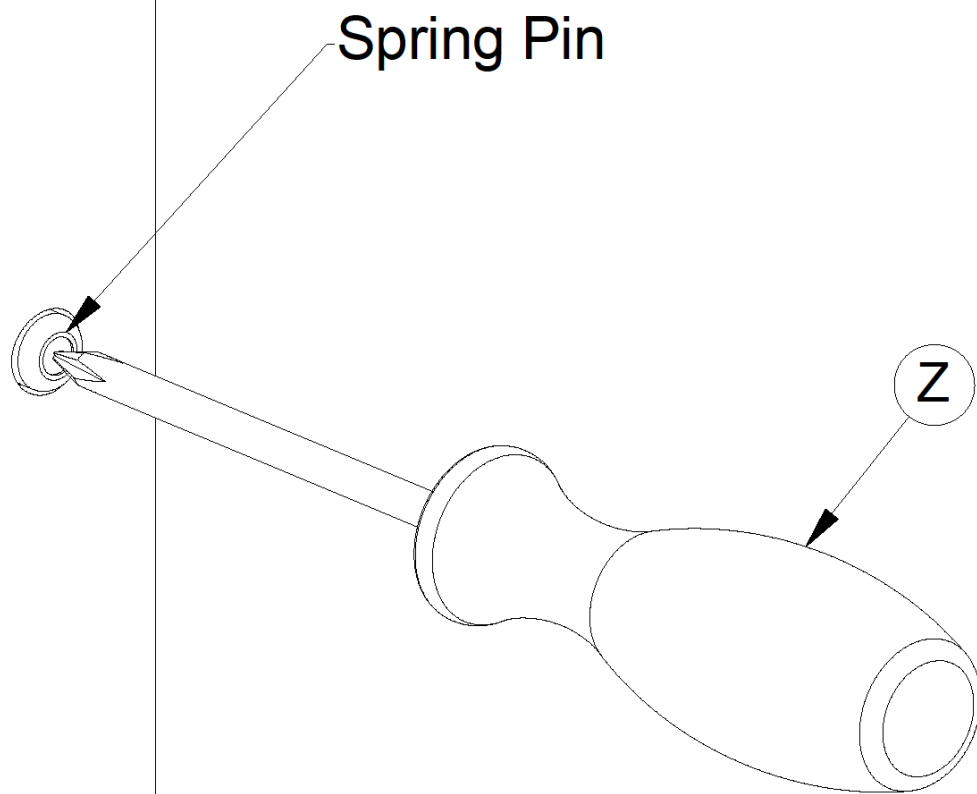
34. With the lower *Telescoping Pole* (A) sections extended and locked in place and the top pole section adjusted to indicate Women's "W" height, attach the *Winch* (B) and the *Rope Hook* (C) onto the pole by placing the pins in the key slots on the *Telescoping Pole* (A) and lifting upward until the detent ball locks into the detent hole. Make sure that the *Winch* (B) is positioned so that the rounded corners on the *Winch* (B) are on the top and the winch handle is on the bottom. See Photos 31, 32 and 33.
35. Extend the 2" wide web strap on the *Winch* (B) until approximately 36" of web protrudes from the *Winch* (B) body.
36. Stretch the *VB1250K Net* (N) along the width of the court and identify the top of the *VB1250K Net* (N) and the top rope by reading the writing on the side tapes. The end of the *VB1250K Net* (N) that has loops pre-crimped on the top and bottom ropes should be used on the non winch post end. See Photo 34.
37. Make sure the adjustable top rope guides on both ends of the court are extended the same distance and that the rope groves are parallel to the *VB1250K Net* (N). Place the top rope in the rope guide groove and slip the loop on the top rope over the pin on the non winch end *Rope Hook* (C). See Photos 35 and 36.
38. Proceed to the other end of the *VB1250K Net* (N) and loop the top rope over the rope guide groove. Create a loop in the top rope using an overhand knot in the middle of the rope so that when the *VB1250K Net* (N) is suspended freely between the poles, the *VB1250K Net* (N) can be attached and tensioned easily by one person. Using the *Carabiner* (P) provided, connect the loop in the top rope to the D-Ring on the 2" wide winch strap. Using the winch handle, tension the *VB1250K Net* (N) until the top rope is taut. If you run out of winch strap adjustment before the top rope is properly tensioned, loosen the *Winch* (B), disconnect the *Carabiner* (P) and retie the loop on the top rope at a different location to allow more tensioning. See Photo 37.
39. Attach a *Nylon Net Collar* (D) on each post approximately 40" below the top of the rope guide at the top of each *Telescoping Pole* (A). Attach the *VB1250K Net* (N) existing loop on the non winch end of the bottom rope to the *Nylon Net Collar* (D) with a *Carabiner* (P). Attach bottom rope ratchet tensioner to the *Nylon Net Collar* (D) on the *Winch* (B) end using the spring clip attached to the bottom rope ratchet tensioner. Tension the bottom rope by pulling on the loose end of the rope which will automatically lock in place as it passes through the tensioner. The rope can be released by putting tension on the loose end of the rope and operating the finger release lever. See Photos 38, 39 and 40.
40. Install the 4 *Rope Ratchet* (W) tensioners by looping the rope through the hole in the side tapes of *VB1250K Net* (N) and around *Telescoping Pole* (A). Two *Rope Ratchet* (W) tensioners are used for each end. The purpose of the *Rope Ratchets* (W) is to stretch the *VB1250K Net* (N) left to right along the top and bottom ropes to achieve desired net tension. See Photo 41.
41. As needed, loosen the bottom and top ropes of the *VB1250K Net* (N) and the *Rope Ratchets* (W) and rotate the top rope guide up or down until you are satisfied that when the height indicator on the upper pole is in the "W" (Women's) position and the top and bottom ropes are property tensioned that the height of the *VB1250K Net* (N) measured in the middle of the court is 7' 4 1/8". Each system comes with a free *VB98 Height Gauge* (O). See Photo 30 and 31.

Note:

For proper *VB1250K Net* (N) tension, approximately 150# - 250# of tension needs to be applied to the top rope with the *Winch* (B). Over tightening will cause damage to the net system and will not result in correct *VB1250K Net* (N) tensioning.

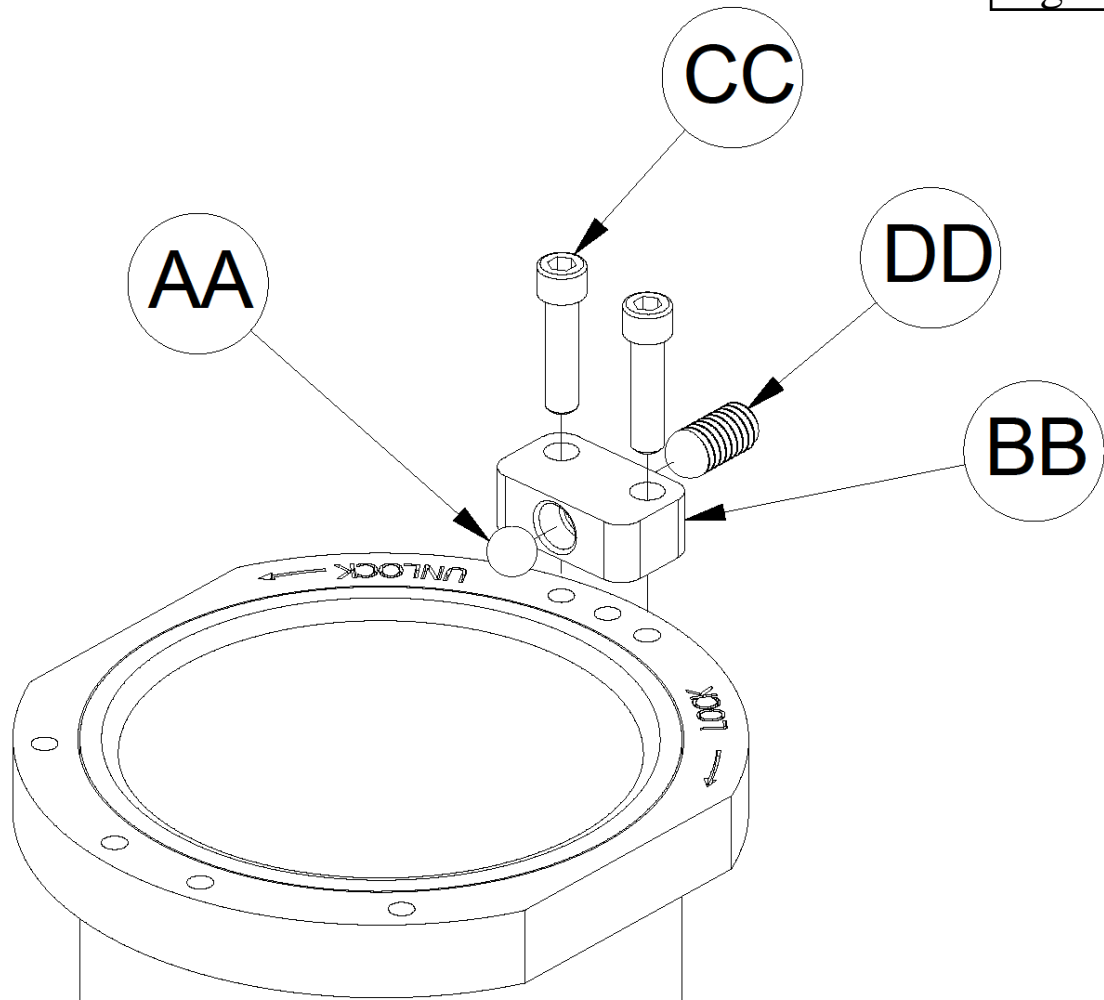
42. Once you are satisfied that the *VB1250K Net (N)* is set up correctly with proper tension and at the Women's height, retighten the set screw that holds the top rope guide in place. Once set up correctly at Women's height the first time, future set up for Men's (M), Women's (W) and Junior (J) height will require no additional adjustment of the top rope guide and should be 100% repeatable. See Photo 29.
43. It is acceptable to remove excess top and bottom rope material from the winch post ends if desired. The ropes are provided extra long to allow installation of the *VB1250K Net (N)* on posts that are further apart than our recommended 37' center to center (see attached court layout diagram). It is advisable to leave 2'-3' extra rope to allow future adjustments and easy tensioning of the bottom rope. When court is in use, the extra rope will be hidden behind the safety padding.
44. Prior to play, attach the *VB51P Pole Padding (S)* after placing the winch tensioning handle in the storage position. See Photos 33 and 42.
45. Install white top and bottom *Cable Covers (Q)*. These may need to be shortened with a scissors by trimming just outside the sewn seam depending on how far apart the posts are installed.
46. Install *VB13 Boundary Markers and Antennas (R)* on the court boundary lines. Note that the antenna is two piece and that the top section can be stored in the boundary marker pocket leaving the assembly attached to the net while not in use.
47. Install the optional *Official's Platform (V)* following the instructions supplied with the platform.
48. Your initial installation is now complete. Future installation should be simple, quick and repeatable. See Photo 44.
49. To store the Magic System, remove *Officials Platform (V)* (if applicable), *VB51P Pole Padding (S)*, *VB1250K Net (N)* and other components attached to the pole. All items except the *Officials Platform (V)* and the *VB51P Pole Padding (S)* can be stored in the *Zippered Carrying Bag (T)* supplied with each system. See Photo 43.
50. To lower the *Telescoping Pole (A)* into the floor, lower each section starting at the top being careful to keep clothing, jewelry and body parts away from moving parts. Start with the top section and lower each one slowly to reduce the chance of damage. Using the supplied *Screwdriver (Z)* press in on the spring pin while holding the pole, then lower each pole carefully. Continue that process down to the largest diameter section, lift up on that section then rotate approximately 10° counter clockwise then carefully lower the post into the socket. See Figure 2.
51. Make sure that the *Telescoping Pole (A)* is fully retracted prior to closing the *VB23-CV Brass Floor Plate (E)*.
52. The pole assembly is held in place by a *Key Block (BB)*. Inside the *Key Block (BB)* is a *Set Screw (DD)* and a *3/8 Nylon Ball (AA)*. With continued use the *3/8 Nylon Ball (AA)* may get damaged. We have included 6 extra *3/8 Nylon Balls (AA)*. If pole #1 of the pole assembly becomes hard to raise and lower or you notice visible damage to the *3/8 Nylon Ball (AA)* simply remove the two *1/4" Bolts (CC)* and remove the *Key Block (BB)*. Tighten the *Set Screw (DD)* until the damaged *3/8 Nylon Ball (AA)* falls out. Loosen the *Set Screw (DD)* and then replace the *3/8 Nylon Ball (AA)* with one of the 6 that are included in the hardware. Reinstall the *Key Block (BB)* then tighten the *Set Screw (DD)* until the *3/8 Nylon Ball (AA)* contacts pole #1, then loosen 1/4 to 1/2 turn. Contact your dealer if you need more replacement *3/8 Nylon Balls (AA)*. See Figure 3.

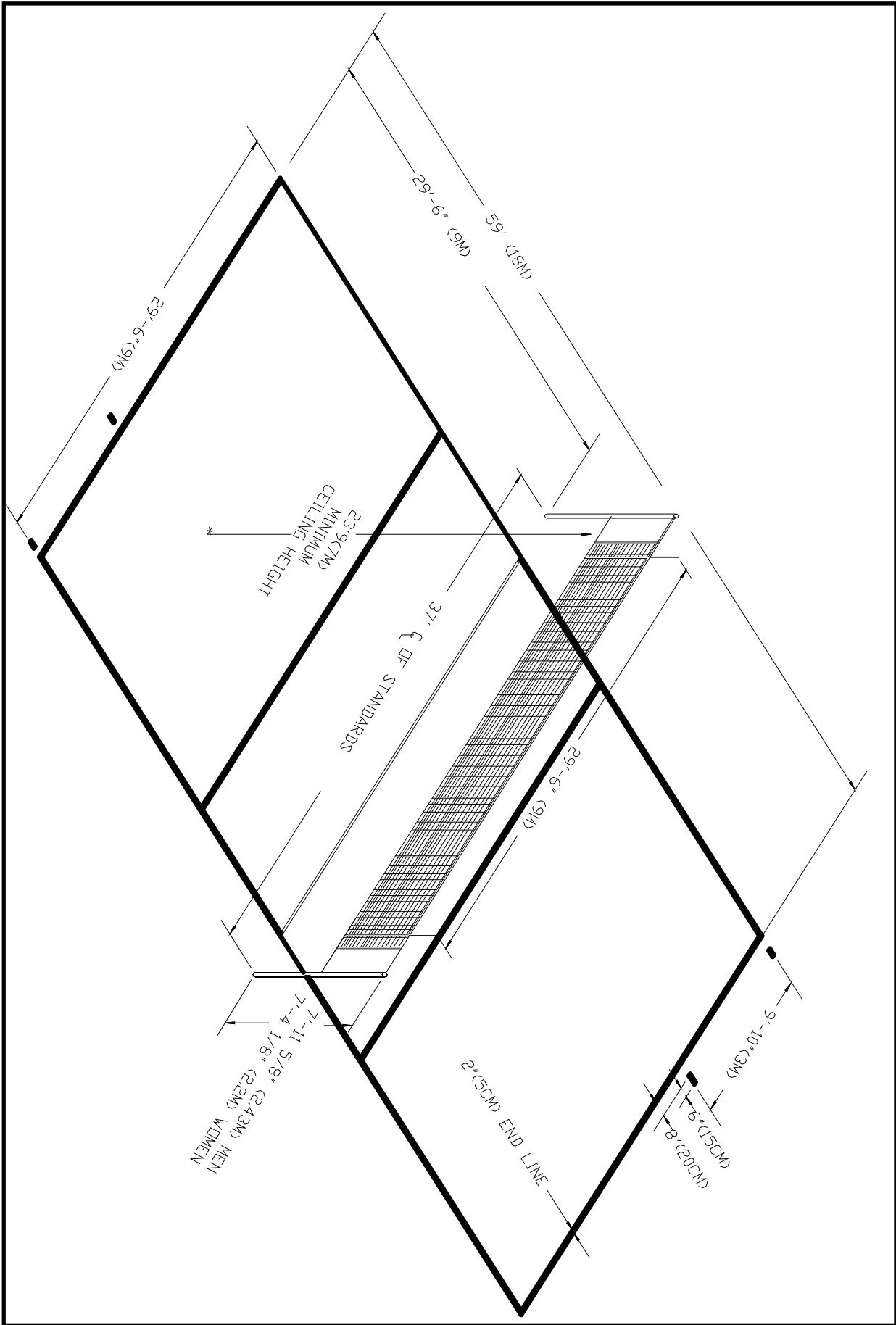
Figure 2



Caution!
Spring Lock Pin is under significant pressure.
Always use tool to depress to avoid pinched fingers.

Figure 3





Court Diagram