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## **Quad Installation on Raised Floor**

P/N 006.5100.03 Updated: 8/1/16

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#### INTRODUCTION

Thank you for placing your trust in T Kennel Systems. T Kennel values you as a customer and will do everything it can to provide quality products and service, to assure your experience with T Kennel is a pleasant one.

The animal kennel system you have purchased has been precision made and shipped according to your instructions. Once assembled, your system will look custom built and especially made for your animal holding area.

For your personal safety, the safety of your workers, the public safety, and to maintain your kennel system it is very important to read and follow all instructions.

#### KENNEL INSTALLATION MANUALS ARE AVAILABLE FOR:

**Single Kennel Installation on Raised Floor** 

**Double Kennel Installation on Raised Floor** 

**Single Kennel Installation on Concrete Floor** 

**Double Kennel Installation on Concrete Floor** 

**Double Decker Installation on Concrete Floor** 

**Double Decker Installation on Raised Floor** 

**Quad Installation on Raised Floor** 

**Quad Installation on Concrete Floor** 

**Space Saver Installation on Raised Floor** 

#### **SAFETY FIRST:**

| ▲ | CAUTION | Kennels are heavy and precautions must be taken to protect from personal injury. Get help when lifting heavy parts.

| ▲ | CAUTION | Edges of steel and stainless steel kennels and parts may be sharp. We recommend that you always wear protective gloves during unloading, inspection and assembly.

▲ | WARNING T Kennel products are designed for animal use only. Never allow a person in or on your Kennel Assembly.

## California Proposition 65 Warning

This product can expose you to chemicals including chromium, which are known to the state of California to cause cancer. For more information go to: <a href="https://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>

## A. Tools Required (Not Included)

This list of tools is the minimum required to install/assemble your Kennels. Depending on your facility and kennel configuration, you may need additional tools and/or specialty tools.



**Other Tools:** Tape Measure, Straight-Line (Laser or String), Pry-Bar, Screw Driver, Hammer, Chalk Line, Saw Zall with Bi-Metal Blade, Hammer Drill with concrete Bit, Tin Snip and Hacksaw.

## **B.** Kennel Assembly Hardware

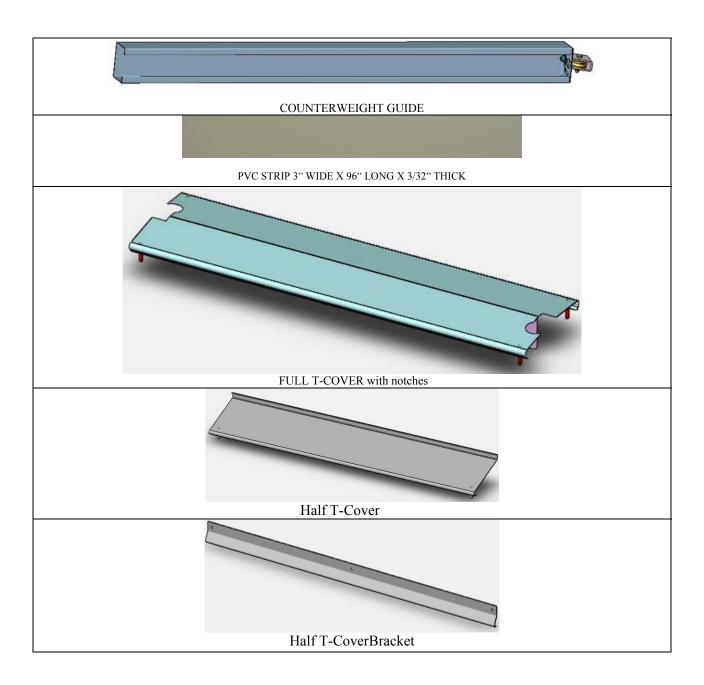
178.0009.00 TAPE, 2 FACE

Hardware pictured below is for the assembly of T Kennel's standard Quad Kennel System. Your hardware may vary depending upon your kennel configuration, building design, etc. Please feel free to call our Sales Department or Tech Services Department if you have any questions.



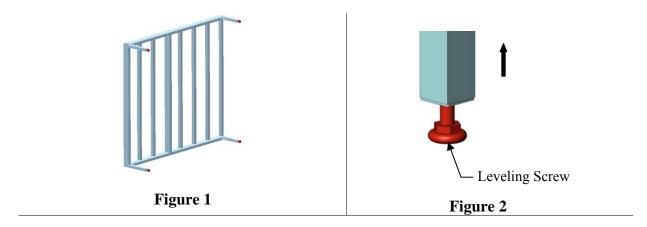
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O58.1005.00 KNOB ½-20X3/4 STUD



#### C. Floor and Drain Assembly

1. Set each floor in an upright position (**Figure 1**) to install leg-leveling screws (**Figure 2**) into legs of all floors.



**Floor Identification:** Please familiarize yourself with the different types of floors (**Figure 3**) that are used in a run of kennels.

#### **Start Floor:**

All Kennel runs will begin with a Start floor. This floor will have a total of 4 or 6 legs placed on both sides of the floor frame and will stand on its own. This floor is 1/2" wider than the width of your kennel gate panel. Example: A 48" wide kennel will require a 48 ½" Start Floor. The Start floor is only used once per row of kennels and is always placed on the left hand side. (Your kennels are designed to be assembled working left to right)

#### **Center Floor(s):**

Runs of 3 or more kennels will have a Center floor(s). This floor will have 2 or 3 legs located on the right hand side of the floor when viewed from the front. This floor will be the exact width of your kennel gate panel. Example: A 48" wide kennel will require a 48" Center floor.

#### **End Floor:**

Runs of 2 or more kennels will have a End floor. This floor will have 2 or 3 legs located on the right hand side of the floor when viewed from the front. This floor is 1/2" wider than the width of your kennel gate panel. Example: A 48" wide kennel will require a 48 ½" End Floor. The End floor is only used once per row of kennels and is always the last floor in the row located on the right hand side.

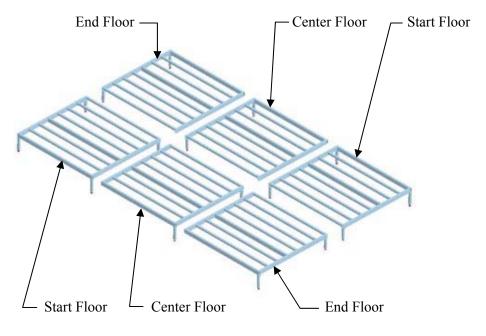
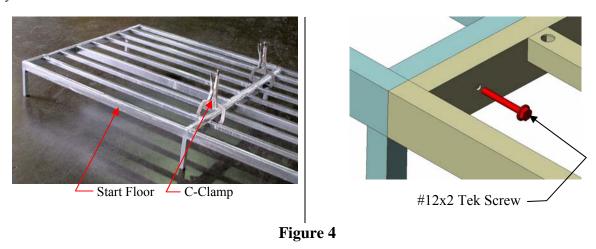


Figure 3

**Note:** Be sure to keep the top and front surfaces flush using C-Clamps to hold the floors in place until you have installed 2" Tek screws.



2. Arrange floors starting with the Start Floor (four or six-legs) on the far left. Attach a Center Floor (two or three legs) to the first Start Floor as shown in (**Figure 4**), using 2" Tek Screws at the pre-drilled holes. Use the same method to attach all the remaining floors with two or three-legs. Repeat this procedure for the other row of kennel floors. Make any final adjustments and move floors into their final position.

**Note:** When leveling floors from front to back, the floors must have a slope of 1/4 inch per foot. Be careful to maintain this slope for your kennel system (**Figure 5**). The Level shown in the picture with 12" dimension is only the representation of slope of 1/4 inch per foot (12"). For example, if your kennel floor is 6' deep there should be a  $1\frac{1}{2}$ " (1/4" x  $6 = 1\frac{1}{2}$ ") difference in height of the floor at the front than at the back.

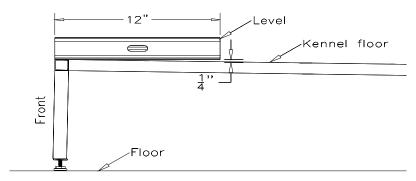
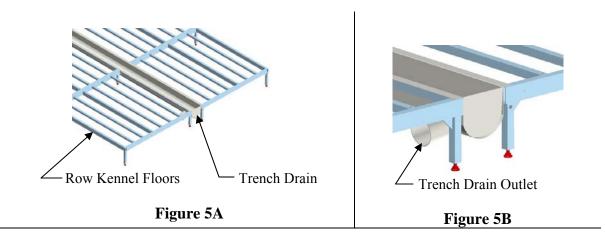


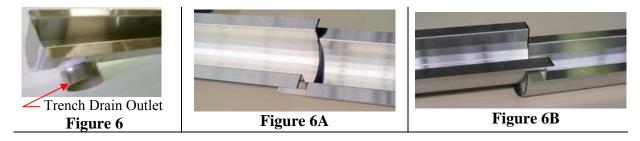
Figure 5

- 3. Using a carpenters level, adjust each floor with leg leveling screws so that all the floors are absolutely level from side-to-side only, allowing the  $\frac{1}{4}$  per foot slope from front to back.
- 4. Lay out the trench drain section(s) into position between the two rows of floors (**Figure 5A**). The drain sections are configured according to your facility layout sign-off drawing (**Figure 5B**). Please check to make sure your drain location matches with the sign-off drawing.

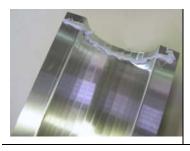


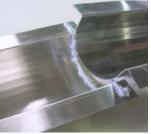
Begin trench drain installation by lining up the trench drain with the welded trench drain outlet facing your floor drain (**Figure 6**).

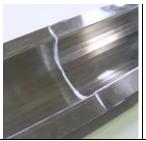
Each additional section needs to overlap 1-1/2". The shallower section is always placed inside the deeper section (**Figure 6A, 6B**). Proper overlapping the drain sections will prevent leaking.



5. Apply a generous bead of Sealant (Sikaflex) (**B. Kennel Assembly Hardware**) where the trench drain overlaps 1-1/2 inch (**Figure 7**). Next, apply a bead of sealant along the top of both sides of the drain flange. This will provide a seal between the drain and the floor frame when the drain sections are reattached. Once the drains are re-attached to the floor frames, smooth out any sealant at the drain overlap areas as shown in the (**Figure 7**).







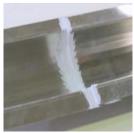
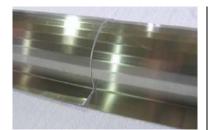


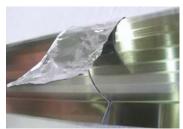
Figure 7

#### **Drain Patch installation**

Included in the hardware kit for your raised floor kennel system are 3 ½" x 8" butyl patches to be used as an extra measure to prevent leaks where the trench drain sections overlap. The butyl drain patches need to be installed after trench drains are installed and secured into place, but before the PVC flooring is installed. You will have to reach through the floor frame and under the drain(s) to do this. Install the patch by peeling off the wax paper cover and pressing the patch firmly in place on the *OUTSIDE* of the trench drains at each spot where the drain sections overlap. Center the patch so that it equally covers the areas on each side of overlapping sections (**Figure 8A & 8B**).



Drain Overlapping Sections **Figure 8** 



Drain Patch shown loose **Figure 8A** 



Drain Patch Fully Installed **Figure 8B** 

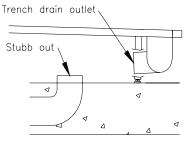


Figure 9

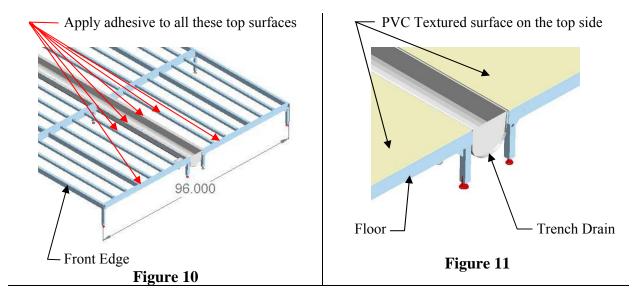
6. After installing the drains, move the floors into place (if applicable). Your plumber will make the final connection between the drain outlet and the sewer drain (**Figure 9**).

**Note:** Your T Kennel system does not include the hardware or plumbing to make this final connection. You or your plumber must supply this per local plumbing code.

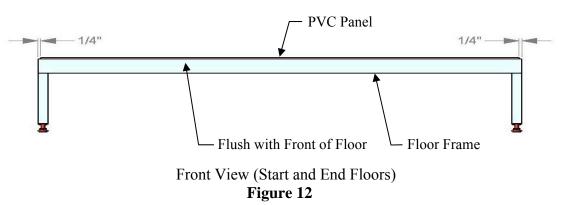
#### 7. Floor Adjustment

Based on your Quad Kennel System on raised floor order, the installer is required to adjust the distance from the front edge of nearest floor to the front edge of the opposite floor before placing the PVC floor panels. For example, on 8FT Quad Kennel System on raised floor, the distance should be 96 inches as shown in (**Figure 10**).

8. After making the final plumbing connections and floor adjustments, prepare to attach the Acrylic PVC floor panels to the open kennel floor frames. Lay the PVC floor panels textured surface side up on the kennel floors to make sure they fit properly, and then remove. Apply a generous bead of adhesive (page 5) around the top surface perimeter and cross members of the floor frames (**Figure 10**).

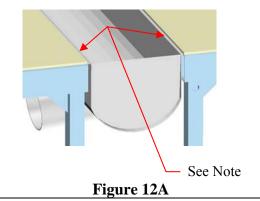


9. Place the pre cut Acrylic PVC floor panel textured surface side up on the open floor frame (**Figure 11**). Make sure the PVC floor panel lines up flush with the front edge of the floor frame. The Start and the End floors are 1/2" wider than the PVC floor panel so you must center the PVC panel to accomplish a ¼-inch gap on either side of the floor (**Figure 12**). The PVC floor panel for the Center floors will fit flush on both sides. After placing all the PVC floor panels in place, apply a generous but constant bead of sealant all the way around (perimeter) to all outer edges of PVC floor panels to ensure a watertight seal.



10. Apply even pressure to the Acrylic PVC floor panel to insure even adhesion. Remove any adhesive from around the exterior edges with rag or putty knife. A full cure will take 72 hours.

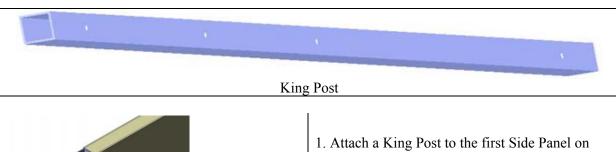
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**Note:** After the PVC floor panels have dried enough to walk on, apply a generous bead of sealant along both sides of the drain where the PVC floor panels meet the drain flanges (**Figure 12A**).

#### **D.** King Post and Side Panel Assembly

(Note: The Kennel System is designed to assemble from left to right.)



King Post Side Panel
#12x2 Mounting Tek Screw

Figure 13

1. Attach a King Post to the first Side Panel on the far left using 2" Self-Drilling Tek Screws through the pre-drilled holes (**Figure 13**). The King Post should always mount to the short front end of the Side Panel.

#### **Remove Door from each Gate Panel**

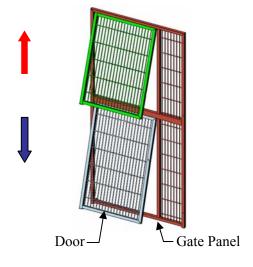


Figure 14

2. Locate the Gate Panels and remove the Door from each Gate Panel. Slightly open and lift up on the door. Once the Door clears the hinge pin at the bottom, pull the bottom of Door toward you (**Figure 14**). Pull the top of the Door down until the top of the Door clears the top hinge pin.

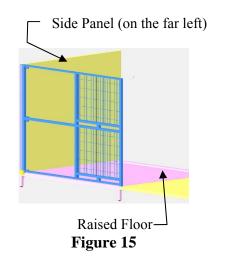
Mark all of the Doors so that they match with the original Gate Panels. Put the Doors aside until all the Gate Panels are ready to attach.

## E. Attach Gate Panel to the King Post

- 1. Set the first Side Panel (with King Post attached) on the left side of the raised floor. Be sure the bottom of the panel slopes from the front to back of the Kennel. Have a helper hold it in place (**Figure 15**).
- 2. Attach the Gate Panel to the King Post using 2" Self-Drilling Tek Screws through the pre-drilled holes. Make sure that Gate Panel and King Post are flush up against each other (**Figure 16**).

#### Note:

For kennels with the optional Stainless Steel Gates, you must pre-drill a pilot hole for the 2" self-drilling Tek Screws. Using the pre-drilled holes as a guide, drill 3/16" hole into the King Post or Gate Panel you are installing. We strongly suggest using a Cobalt drill-bit for this step.



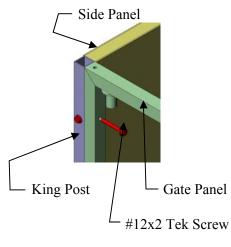
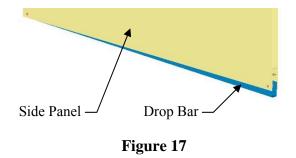
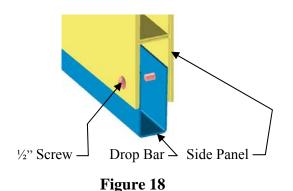


Figure 16



**Note**: On standard Side Panels, the slope is ½" per foot.

To match the bottom of the Side Panel with the slope of raised floor, adjust the Drop Bar by pulling it downwards, which is located and inserted in the bottom U-Channel of the Side Panel at the time of shipping (**Figure 17**). Make sure the Side Panel is level at the Top.



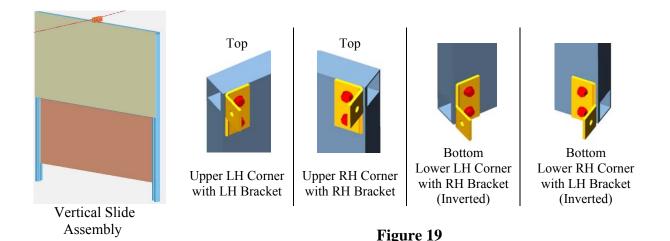
After making the final adjustment of the Drop Bar, secure it in place with ½" self-drilling screws on both sides of Side Panel at both ends as shown in (**Figure 18**).

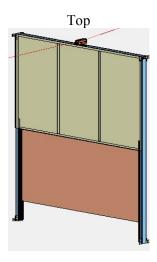
## F. Attach Brackets to the Vertical Slide Assembly

**Figure 19** the left side of figure shows the Vertical Slide Assembly w/o Brackets. On the right side of same figure it shows individual positions of Brackets.

**Figure 20** shows the Brackets mounted on both sides of panel. You can choose to mount Brackets at time of installing the Vertical Slide Assembly.

1. Locate the Brackets (as shown) used to attach the Vertical Slide Assembly. The Bracket should have three drilled holes. Use 1" Tek Screws to attach the Brackets to the Vertical Slide Assembly first by using the side of the Bracket where two holes are drilled. The upper Brackets should be flush with top and the lower Brackets should be flush with the bottom (**Figure 19**).





Front and Back of Vertical Slide Assembly to have Brackets

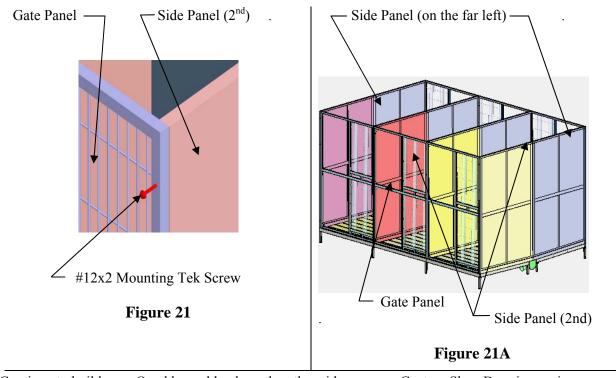
#### Figure 20

2. After installing the Brackets, place the Vertical Slide Assembly inside toward the back of the kennel up against the Side Panel. This will eliminate the need to lift it over the top of the kennel when it is time to install. Be sure to center back end of Side Panel over trench drain.

#### G. Attach Second Side Panel to the Gate Panel

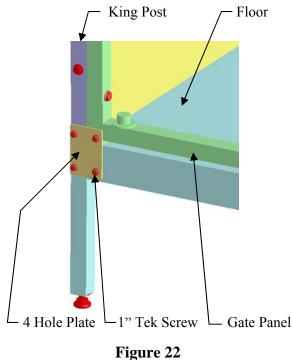
Mount the second Side Panel to the Gate Panel using 2" Self-Drilling Tek Screws through the pre-drilled holes (**Figure 21 & 21A**).

**Note:** From Second Kennel on, the Gate Panels will attach to the preceding Kennels' Gate Panel. Build both sides of kennel bank to look like (**Figure 21A**).



Continue to build your Quad kennel bank on the other side per your Custom Shop Drawings using (Figure 13 thru Figure 21A).

## H. Secure Gate Panel to Floor using 4 Hole Plates



1. After all the Gate Panels are installed, locate the 4 Hole Plate. Attach the first 4 Hole Plate over the King Post and the first Gate Panel frame tube with (4) 1" Tek Screws as shown in (**Figure 22**). The rest of the Plates will mount where each Gate Panel meets with another Gate Panel (**Figure 22A**).

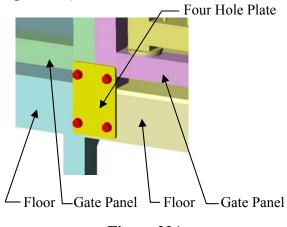


Figure 22A

2. After assembling the kennel system, locate the Four Hole Mounting Plate. Mount the first Four Hole Mounting Plate over the side of the Floor and the Side Panel on the front side of the kennel with (4) 1" Tek Screws as shown in (**Figure 23A**). Then mount the next Four Hole Plate on the rear side of the kennel with (4) 1" Tek Screws as shown in (**Figure 23**). Repeat the same instructions on the other side of the kennel system.

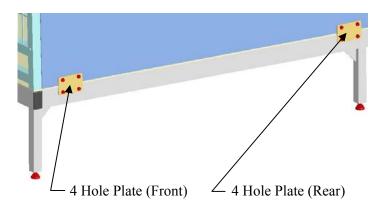


Figure 23

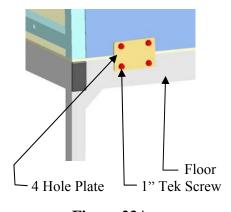
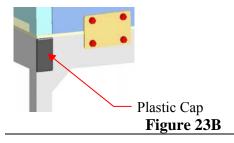


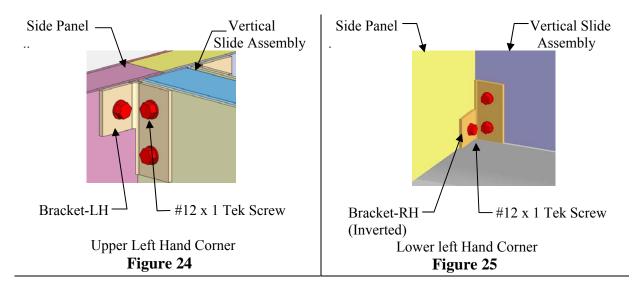
Figure 23A



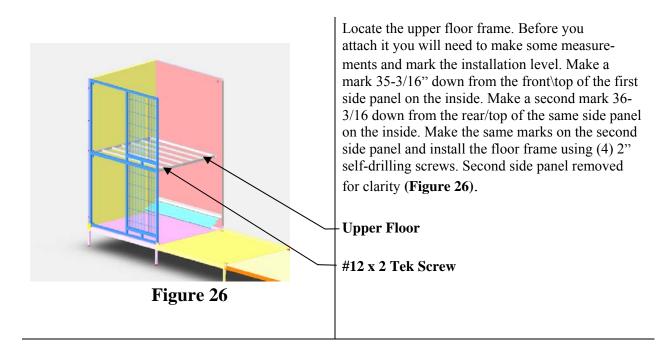
Plug open ends of tubing with Plastic Cap on each end of the kennel system as shown in (**Figure 23B**).

## I. Attach Vertical Slide Assembly to the Side Panels

Attach the Vertical Slide Assembly to the first Side Panel (**Figure 24 & 25**) using 1" Tek Screws. Attach Vertical Slide Assembly to the second Side Panel. Continue assembling the Kennels by repeating the steps in **F**, **G** and **H**. Vertical Slide Assembly should be centered between (2) Side Panels as shown in **Figure 24**.



## J. Attaching Upper Floor



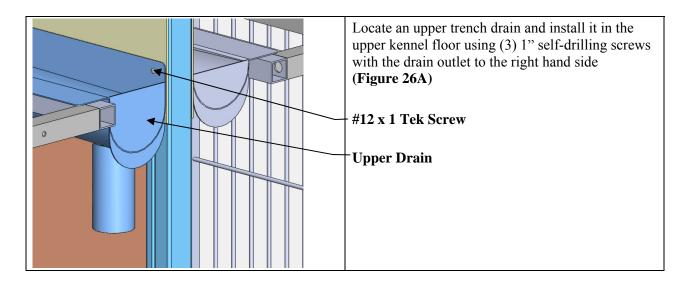
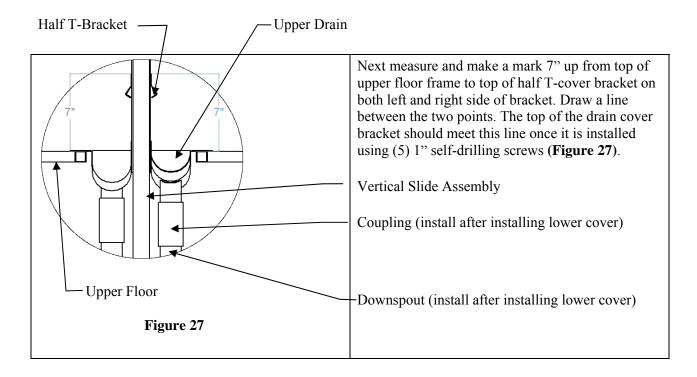
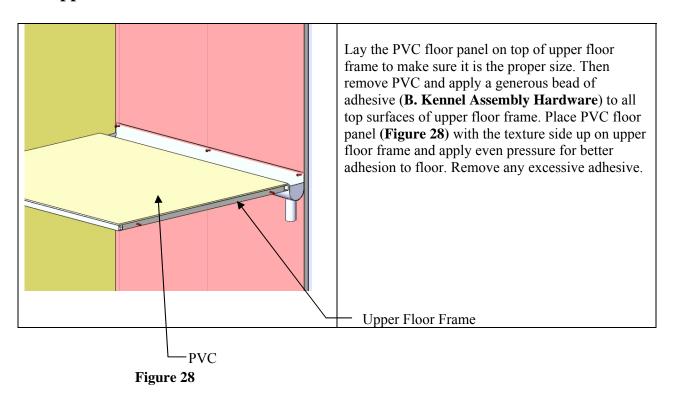


Figure 26A

## K. Install Upper T Kennel Bracket



## L. Upper PVC Installation



## M. Sealing Kennel Assembly

**READ THIS ENTIRE SECTION PRIOR TO SEALING THE KENNELS.** The goal is to start in the back of the kennel and work your way out. Having to walk into a freshly sealed kennel may compromise the sealant and possibly cause leaking.

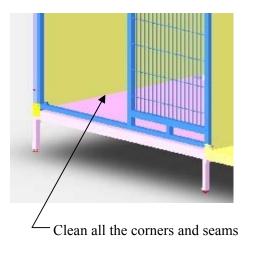


Figure 29

- 1. Use a primer or Isopropyl Alcohol (read health hazard information) to clean all the corners, cracks, edges, and areas that need to be sealed. This should remove any dust or oil that would inhibit good adhesion (**Figure 29**).
- 2. Cut the Sealant tube (**B. Kennel Assembly Hardware**) end off at a 60° angle (**Figure 30**). The hole should be about the diameter of a ballpoint pen. Use a coat hanger or longer pin to poke a hole in the Sealant tube to start the flow (**Figure 31**).







Figure 30

Figure 31

Figure 32

**Sealing Tip:** Running a strip of masking tape (**Figure 32**) approximately ½" from either side of the seam to be sealed will help produce a professional looking caulking job.

- 3. Begin sealing at the back of the kennel. Seal the corners where the Side Panels meet the Vertical Slide Assembly, working top to bottom. Smooth the sealant with the tip of your gloved finger so that there are no gaps or pinholes in the sealant. It may help to dip your gloved finger into a bowl of dish detergent to prevent sticking. After applying and smoothing the sealant with you finger, peel off the masking tape using caution not to smear the fresh sealant.
- 4. Seal the Side Panels to the floor working back to front. Smooth the sealant with the tip of your gloved finger so that there are no gaps or pinholes in the sealant. Refer to the sealant manufacturer's directions for drying times. We strongly suggest waiting at least 72 hours for the sealant to cure completely before applying any water or using the kennels.

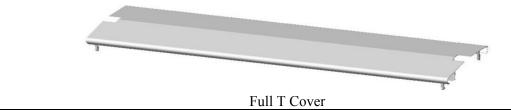




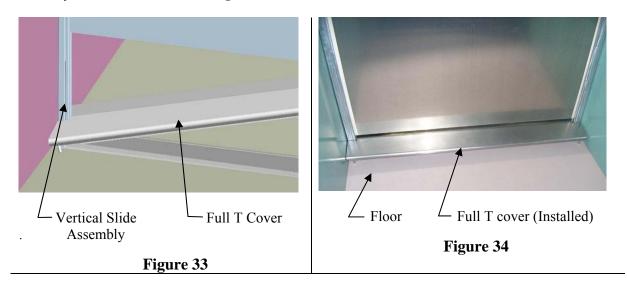


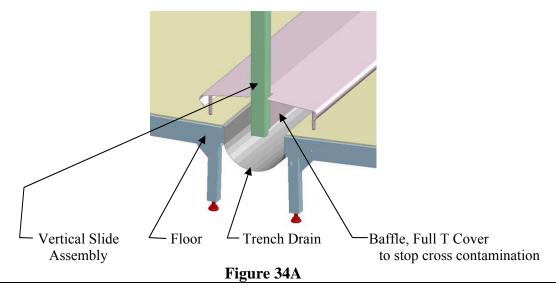


## N. Installing Full T Kennel Cover

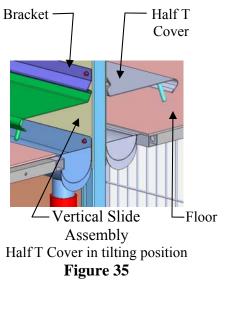


Tilt the Full T Cover to install between two legs of Vertical Slide Assembly, first placing on one leg in the cutout of Full T Cover as shown in (**Figure 33**). The legs of the Full T Cover will touch the Floor and it will fully cover the trench drain (**Figure 34 & 34A**).

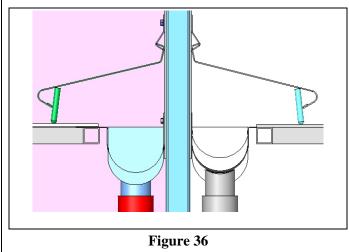




## O. Install Half T Cover



Hang the Half T Cover from the Bracket by tilting the Half T Cover back and up into the Bracket as shown in (**Figure 35**). Now rotate the Half T-Cover down so that the legs of Half T-Cover touch the Upper Floor. Half T-Cover will cover the Upper Drain totally. (**Figure 36**)



## P. Install Cap, plastic 1 x 1 x 16 ga tube

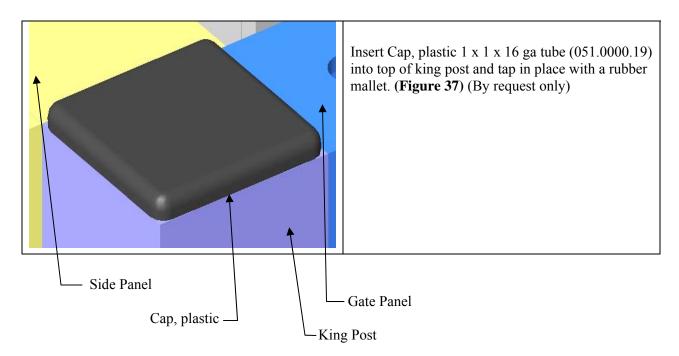


Figure 37

## Q. Install Striker Bar and Latch Assembly

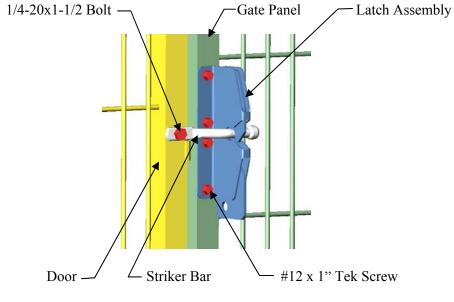


Figure 38

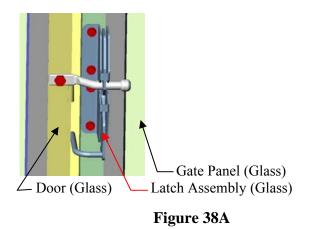
1. Install the Striker Bar to the pre-drilled Door using a 1/4"-20 x 1-1/2 Hex Bolt and 1/4"-20 Nylock Nut (**Figure 38**). Position the Striker bar into a horizontal position.

#### Note:

To install the Latch Assembly to an **Optional** Stainless Steel Gate Panel, you must pre-drill the holes using a 3/16 cobalt drill bit through only one wall of tube for the 1" Tek Screws by matching with the pre-drilled holes in the Latch Assembly.

2. Hold the Latch Assembly in place against the Gate Panel and close the Door. Make sure to center the Striker Bar within the latch pocket and latch looks straight. Using (4) 1" Tek Screws, attach the Latch Assembly to the Gate Panel (**Figure 38 & 38A**).

#### **Latch Assembly for optional Glass Gate Panel Assembly**



Use the same installation instructions as shown above for the Glass Gate Panel Assembly.

## **R.** Installation Options:

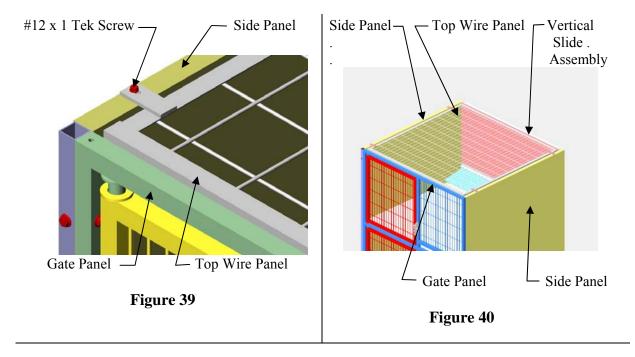
#### 1. Top Wire Panel

#### **Hardware Required**



061.1010.00 - #12X1 TEK SCREW

Locate Top Wire Panel with slotted tabs. Position the Top Wire Panel with the tabs resting on the top of Side Panels equally spaced within the opening. Attach Top Wire Panel to the Side Panels using 1" Tek Screws through the slotted tabs as shown in (**Figure 39 & 40**). The mount tabs are staggered to avoid interference with each other when assembling multiple kennels.



#### 2. Side Transfer door Assembly

#### **Hardware Required**

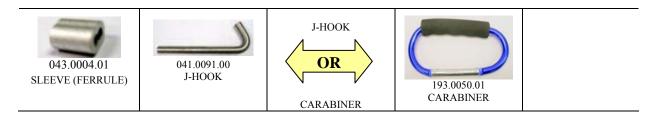




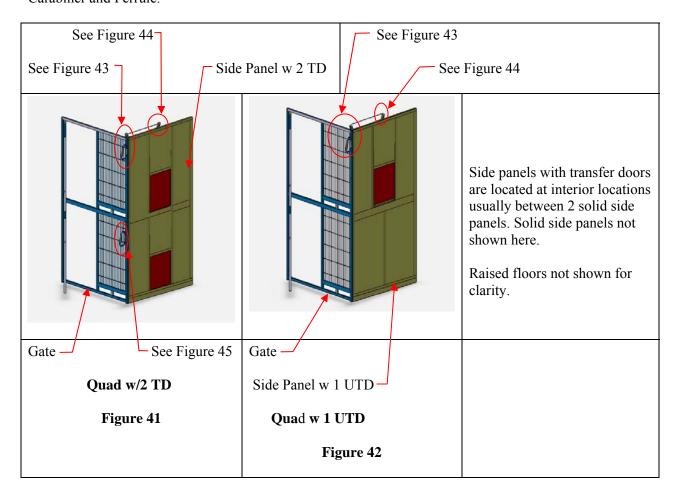


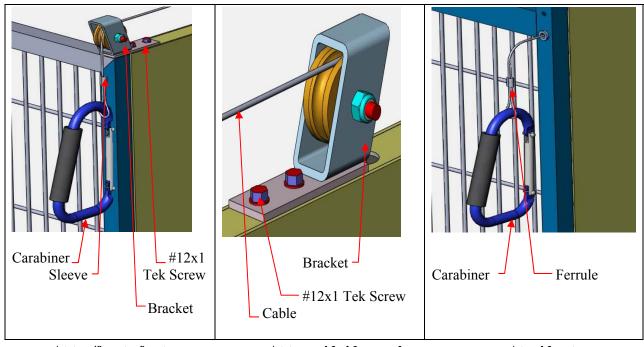






Install Pulley Bracket Assemblies using #12 x 1" long Self-Drilling Screws as shown. Locate J-Hook or Carabiner and Ferrule.





At top/front of gate

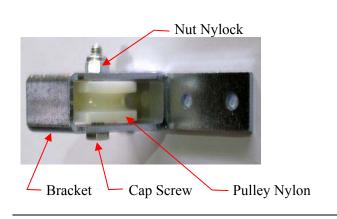
At top mid side panel

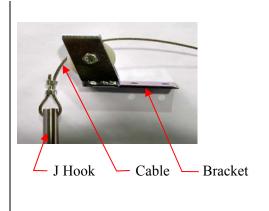
At mid gate

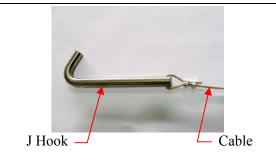
Figure 43

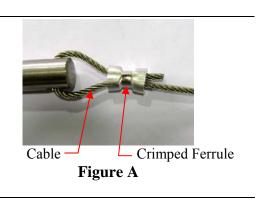
Figure 44

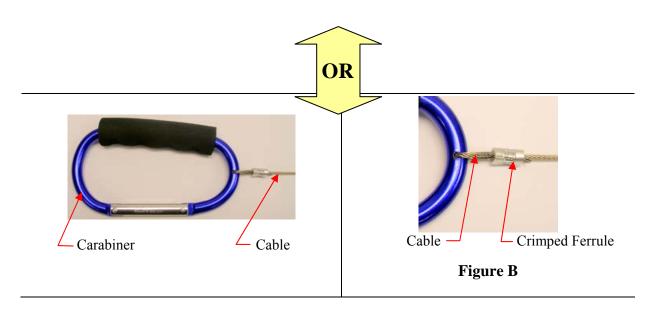
Figure 45











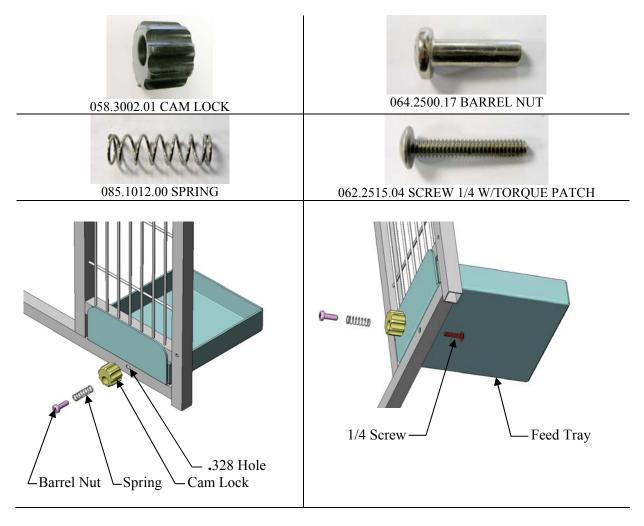
#### J-Hook or Carabiner Installation

To install the J-Hook or Carabiner for the optional transfer door, route the cable as shown in (**Figure A**). Take an aluminum ferrule and route the cable through the ferrule, then through the hole in the J-Hook/Carabiner, and back through the ferrule.

Before crimping the ferrule to secure the cable, adjust the length of the cable so that the J-Hook or Carabiner can properly hook to the cross members of the wire mesh panel in a position that will hold the transfer door fully open. When you are satisfied with the position of the J-Hook/Carabiner, crimp the ferrule tightly to the cable and trim off any excess cable (**Figure B**).

#### 3. Feed Tray Cam Lock Installation

#### **Hardware Required**



- 1. Locate .328 Diameter hole on the right hand side of bottom tube. Align Cam Lock 058.3002.01 with .328 diameter hole in bottom tube by holding larger diameter towards front.
- 2. Slide Spring 058.1012.00 onto a Barrel Nut 064.2500.17 and insert it into Cam Lock. Screw 062.2515.04 as shown from the backside of bottom tube and tighten securely.
- 3. Adjust the Cam Lock so that it can freely move clockwise or counterclockwise.
- 4. Insert Feed Tray into the Feed Tray slot. Turn Cam Lock to lock the Feed Tray in place.

## 4. Top Trim Plates

- 1. For Side Panels and Vertical Slide Assemblies at the end of each row, attach a T-Bracket on the top of both joining Side Panels and Vertical Slide Assembly using 1" self-drilling Tek Screws as shown in (Figure 46). Follow the same instructions to attach Bracket on the other end of the kennels.
- 2. For all other Side Panels and Vertical Slide Assemblies in the row, attach an X-Bracket by placing it on the top of both joining Side Panels and both Vertical Slide Assemblies using 1" self-drilling Tek Screws as shown in (Figure 47).

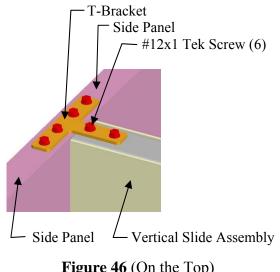
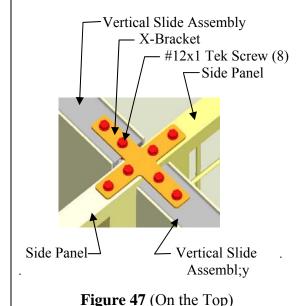
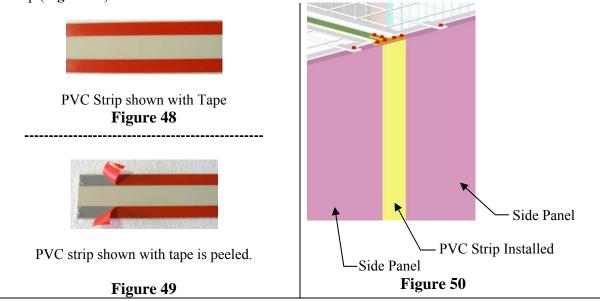


Figure 46 (On the Top)



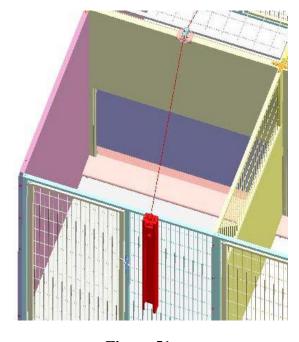
## 5. PVC Decorative Strip Installation

3" PVC Strips have been provided to cover the seam where the two side panels butt up against each other at the outside ends of the double kennels. To install the optional 3" PVC Strip, measure the length needed to cover the seam and cut to length. Apply a row of 2-sided adhesive tape down each side of the PVC Strip (**Figure 48**). Peel back approximately 1" (**Figure 49**) of the protective backing on the tape rows and place the PVC Strip evenly over the seam to be covered. Working from top to bottom press the PVC Strip down firmly, and slowly pull the protective cover off the adhesive tape while applying pressure to the strip (**Figure 50**).



## 6. Reverse Gates

# **Option: Reverse Pulley System** (For the Reverse Gate Panel)



In the Reverse Pulley System, the cable will be set at an angle between both Counterweight Guide Channels because of Reverse Gate Panel as shown in (Figure 51 & 52).

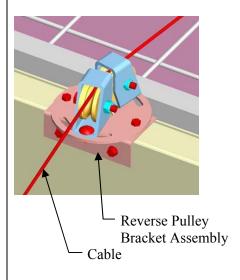
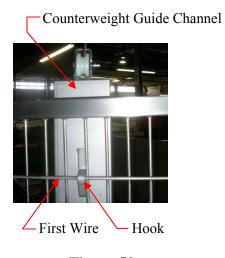


Figure 51

Figure 52

## 7. Install Counterweight System for the Transfer Door

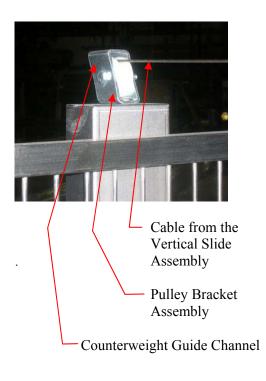


Insert Counterweight Guide Channel into the first and fourth wire to the right of the Gate Panel opening using the hooks welded to the back of the Counterweight Guide Channel as shown in (**Figure 53 & 54**).



Figure 53

**Note:** To install the counterweights, check to make sure the sliding door in the Vertical Slide Assembly is secure in the open (up) position, which is held in position with a setscrew, installed by the factory. *This setscrew is located in the door channel. Do not remove it until you install both counterweights.* 



After installing the counterweight guide channel, route the cable from the Vertical Slide Assembly over the nylon pulley wheel (which is the part of the pulley bracket assembly that is mounted on the top of the counterweight guide) down through the hole in the top of the counterweight guide channel (**Figure 55 & 56**).

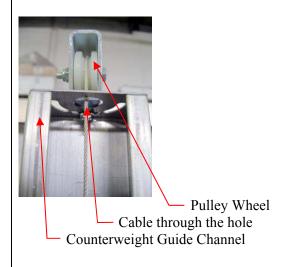
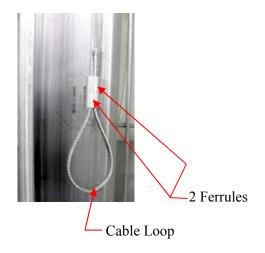


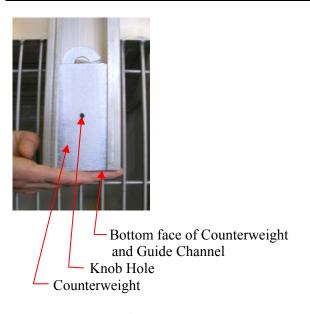
Figure 56

**Note:** Two persons will be required to complete the following steps.



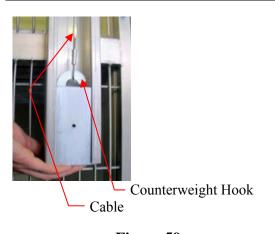
With the cable properly routed into the counterweight guide channel, have person #1 slide two (2) ferrules onto the cable then make a loop with the cable, and route the cable back through the two (2) ferrules (**Figure 57**).

Figure 57



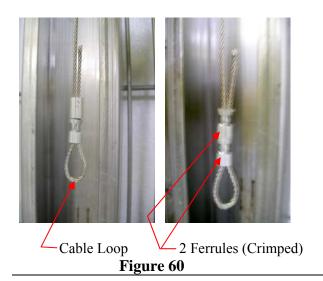
Have person #2 locate the counterweight to be installed and place it into the bottom of the counterweight guide channel. Make sure the threaded knob hole is facing outward. Slide the weight up until the bottom of the weight is even with the bottom of the counterweight guide channel (**Figure 58**).

Figure 58



Place the cable loop around the counterweight hook at the top of the counterweight. Pull the cable tight so there is no slack from the Vertical Slide Assembly to the counterweight. Leave enough slack in the loop to allow the counterweight to be removed (**Figure 59**).

Figure 59



Slide the cable loop off of the counterweight hook and have person #2 set the counterweight on the floor. With person #1 holding the cable loop and ferrules secure, person #2 can now crimp both Ferrules tightly with crimping tool. (**Figure 60**).

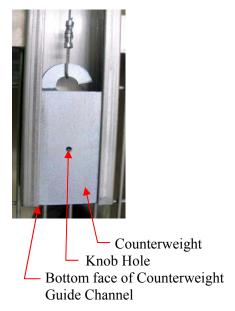
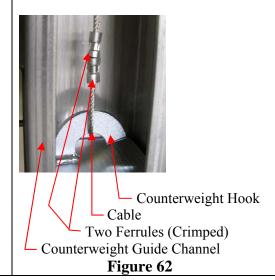
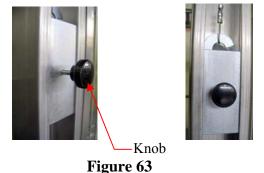


Figure 61

Install counterweight back into the counterweight guide channel with the threaded hole facing outward (**Figure 61**). Slide cable loop over counterweight hook and allow counterweight to hang freely. Trim off any excess cable (**Figure 62**).





Install the Knob into the threaded hole in the Counterweight (**Figure 63**).

After all the counterweights are installed, remove the setscrew from the track of the Vertical Slide Assembly(s). This will release the door and all the Counterweights will control the movements of the door.