

# INSTALLATION INSTRUCTIONS

## FOR COOLAIR'S

### AIR INLET

## BAFFLE BOARD SYSTEM



#### FARM PRODUCTS DIVISION

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## **I. The Air Inlet System**

The Coolair air inlet baffle system is an important part of the confinement building ventilation system. The inlet baffles are easily adjusted, varying both the volume and the velocity of the incoming air to maintain proper air distribution. The air baffle sections are constructed of carefree aluminum - no rust or paint problems. Inside each baffle section is a styrofoam insert, providing excellent insulation. Coolair's air baffle is available in 8", 12", and 16" widths by 8 feet long.

## **II. Recommended Tools**

The following is a list of tools required for the installation of your Coolair baffle system.

Chalk Line	Hack Saw
Level	Pliers
Tape Measure	Hammer
Screwdriver	Knife
5/16", 7/16", 1/2", and 9/16" wrenches	Drill and 5/8" bit

## **III. Parts List**

Your Coolair Air Baffle system consists of:

1/8" Cable (opt)	J Bolts
Pulleys	End Plates
Drop Cord	Weights
Screw Hooks	Air Baffle
Threaded rod with turnbuckle	Baffle Hangers
Aluminum Screw Nails	Drop Cord Tensioners
1/4" Hardware	Hand Winch & Hardware
Cable Clamps	Power Vent & Hardware

#### IV. INSTALLATION PROCEDURE

Upon receipt of Coolair's air inlet baffle system, check the contents of the boxes (or crates) against the packing slips. If any parts are missing, contact American Coolair. The key to the successful installation of an air baffle system is the accuracy with which the hangers and the screws are installed. If their spacing relative to the slotted opening is allowed to vary, so will the spacing between the baffle and the ceiling. If this space varies, then you will vary the velocity of the air coming out of the slot and affect the performance of the system.

First, the air inlet slot should be built or cut in the ceiling or in the wall of the building. For proper air distribution on a ceiling intake system, the ceiling should be smooth. If the ceiling is corrugated or otherwise not flat, a 12" wide "closure board" must be installed to have proper air throw. The closure board should be installed at the edge of the intake slot opening. See Figure 1 for a ceiling intake or Figure 2 for a wall intake. Dimension 'A' is the intake slot width. For ceiling intakes, Dimension 'B' is the distance to the bottom of the baffle hanger. To install the baffle hangers, a chalk line and a level must be used to level the horizontal positioning of the hangers along the wall. Mount the hinges using 9 screw nails in the pre-drilled holes in each 8 foot section of hanger.

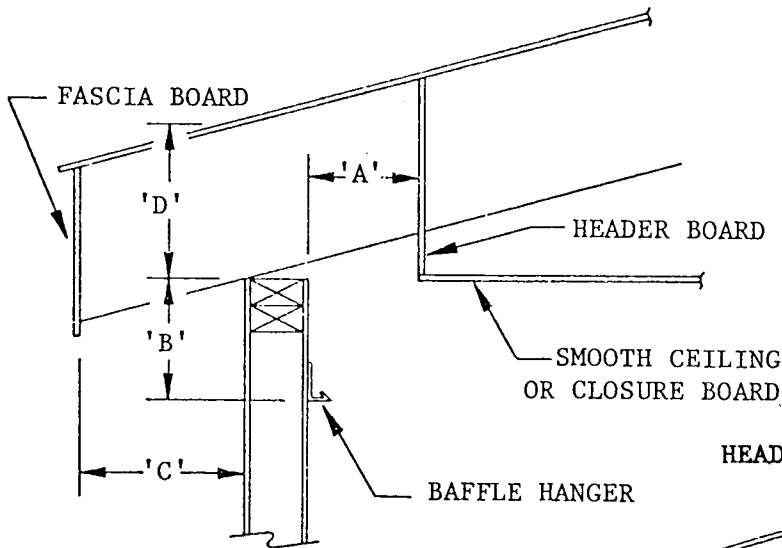


FIGURE 1

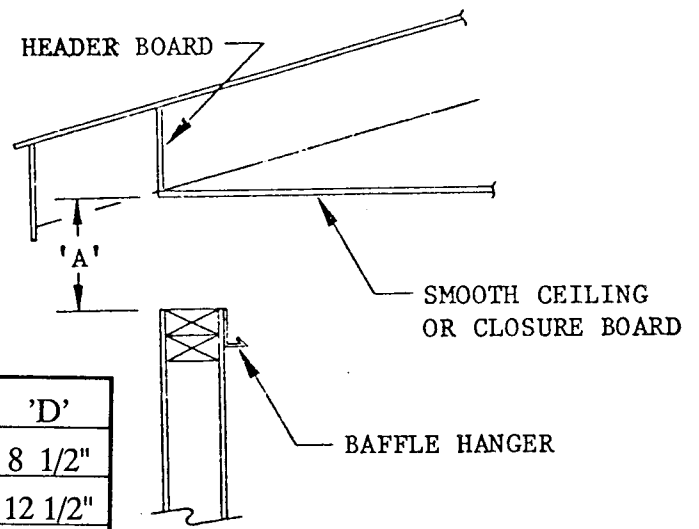


FIGURE 2

BAFFLE BOARD	'A'	'B'	'C'	'D'
8"	6"	7"	9"	8 1/2"
12"	9"	10"	13 1/2"	12 1/2"
16"	12"	13"	18"	17"

Next install two end plates at each end of the system. One end plate mounts to the ceiling and one end plate mounts to the wall, at each end. The end plates should be nailed into position with their flange facing away from the baffle hanger. See Figure 3.

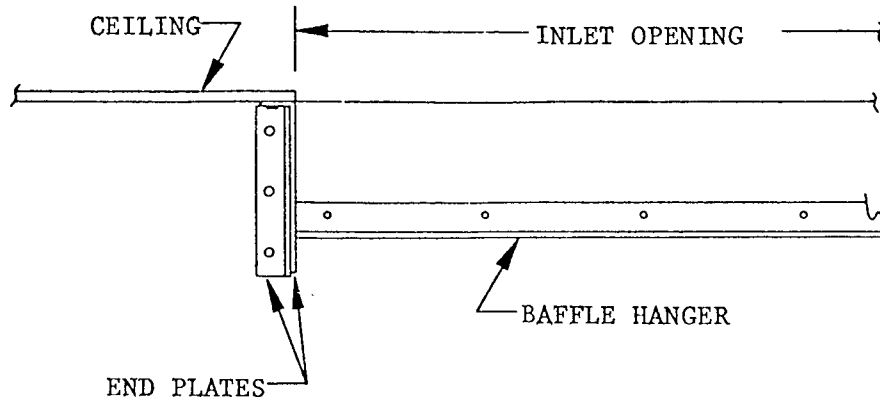
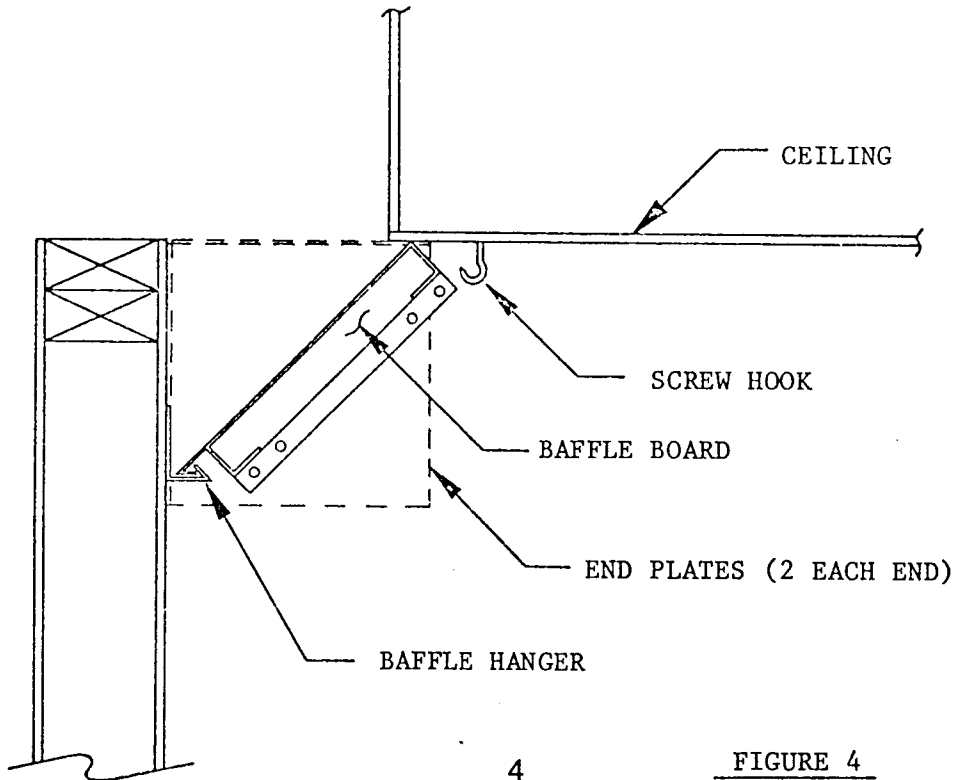


FIGURE 3

At one end of the system, place a section of baffle board in the hanger and rotate it towards the ceiling to the fully closed position. Install a screw hook at the end of that baffle section. The screw should be mounted just ahead of the front edge of the baffle with just enough clearance so that when the baffle board is opened, it misses the screw hook. See Figure 4. Now hang another section of baffle board at the opposite end of the system and install another screw hook. attach a chalk line to both ends and mark the ceiling. Install a screw hook every four feet. Every other hook will be centered over the joint of a baffle board section.



Now install the corner pulleys (4" strap pulleys) by drilling a 5/8" diameter hole into each end of the house supporting structure. These holes should be drilled at the screw hook level. It is recommended that this area be adequately reinforced to support the total weight of the air baffle system. Bolt the 1/2" X 8" J-bolts in the previously drilled holes. Hang a 4" strap pulley on each J-bolt.

If you have purchased a cable operated system, the cable should now be installed. Be sure to allow extra cable to reach the control (manual or automatic) and also allow extra cable (approximately 4 ft.) for the weight at the end of the system. Run the cable through corner pulley, then through all the screw hooks on one side of the building and then through the corner pulley at the other end of the building. Attach a PVC weight to the cable at the opposite end from where the control (manual or automatic) will be located. See Figure 5. Next, for a manual (winch) controlled system, lag the winch and bracket to the wall. Mount a pulley above the winch. Mount two pulleys if there are baffles down both sides of the house. Attach the cable(s) to the welded ring. Use a 2 foot piece of cable for the winch. Secure one end to the winch and attach the other end to the welded ring. See Figure 6. For an automatically controlled system, mount the inlet controller to the wall and hook it up per the instructions enclosed with it.

If you have purchased a rod operated system, the 8 foot long rods should now be installed, in the screw hooks. Connect the rods with turnbuckle supplied. See Figure 7. Attach a 4 foot (approx.) piece of cable to the end of the rod opposite from where the automatic control will be located. Next, run that cable through the end corner pulley and attach a PVC weight to it. See Figure 5.

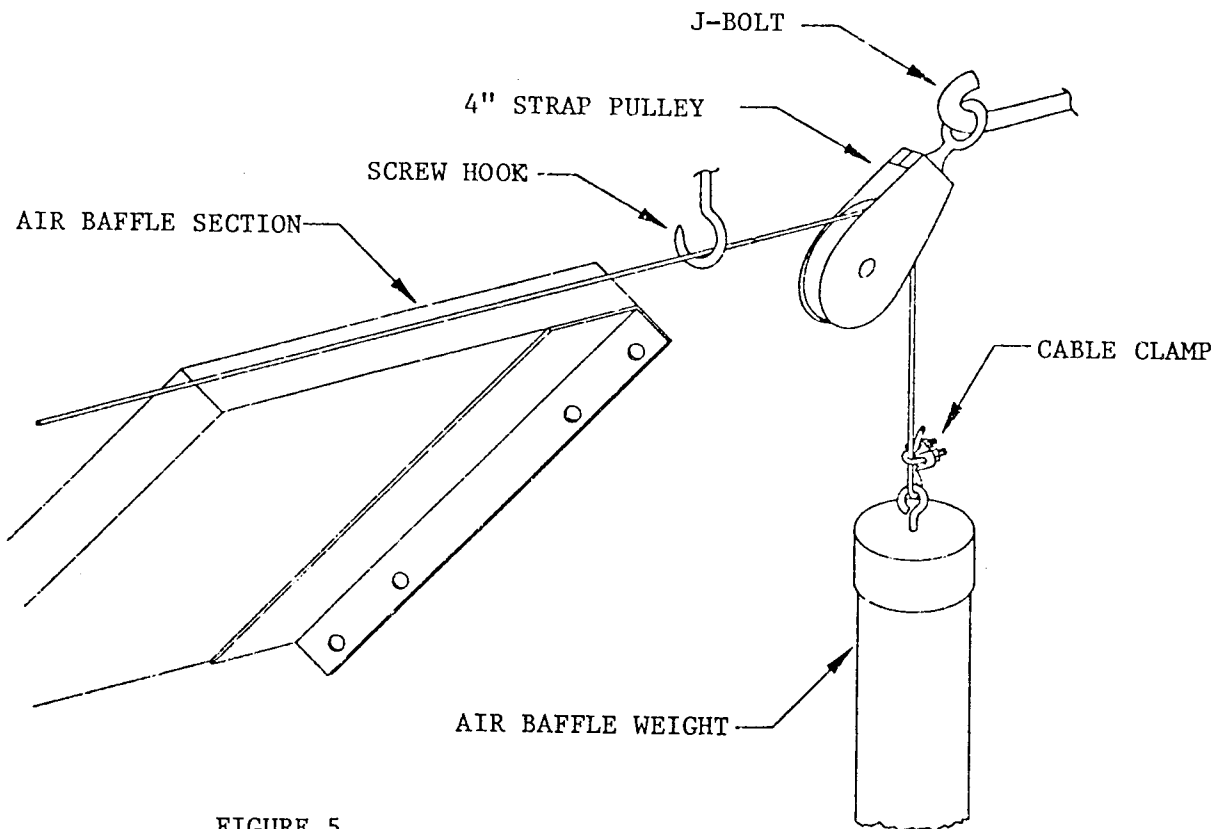


FIGURE 5

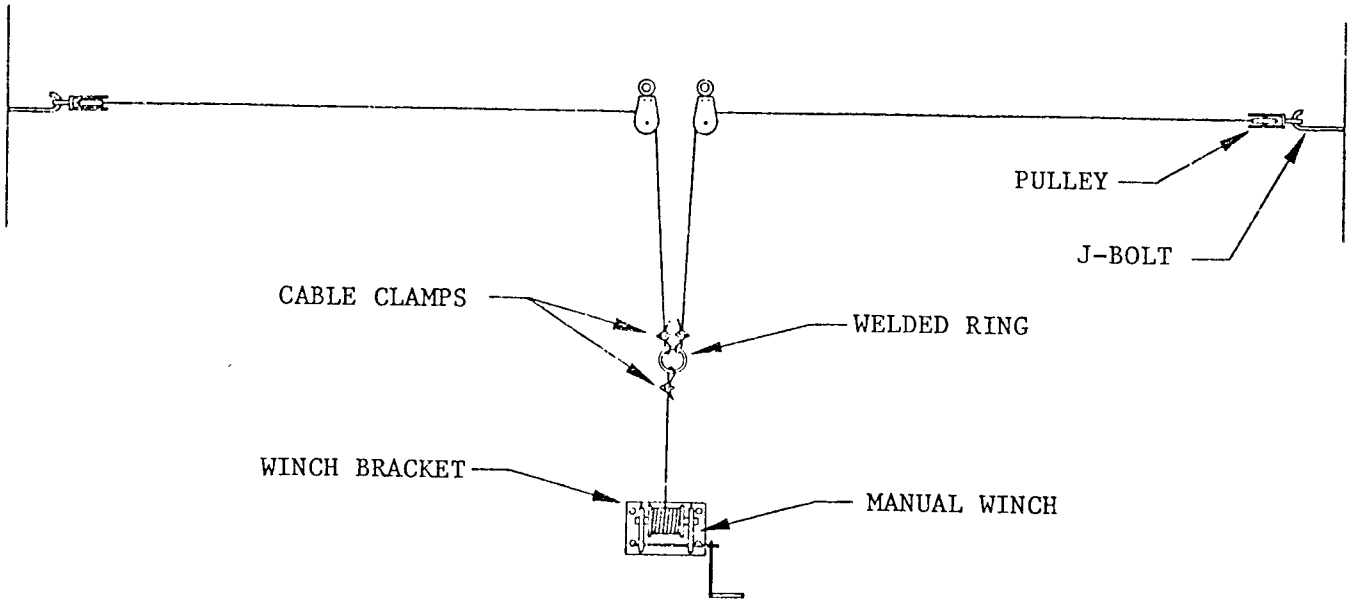


FIGURE 6

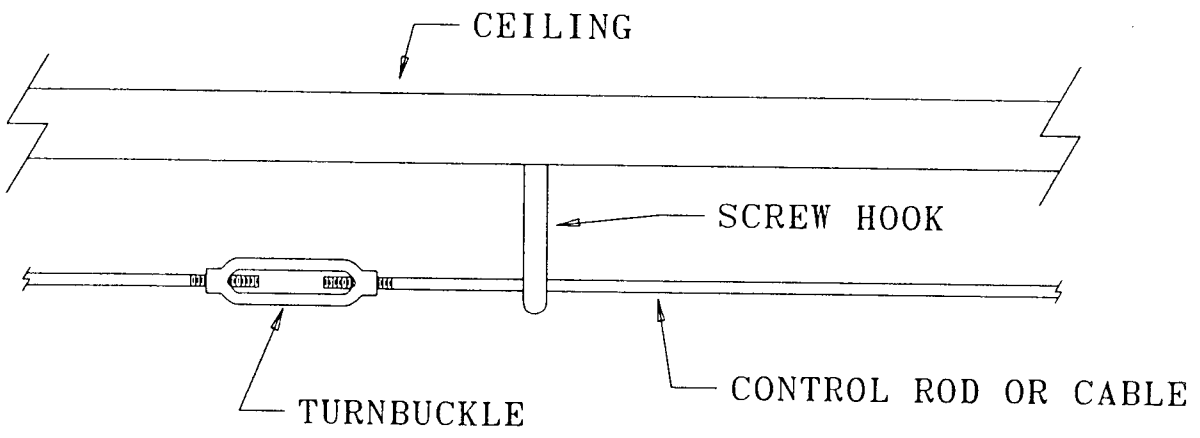


FIGURE 7

For an automatically controlled system, the Power Vent should now be installed. The Power Vent can be installed on the front or back inside wall of the building. First, mount the head bracket behind the top of the power unit. The head bracket is the 16" long piece of 3 1/2" x 5" angle. Fasten it to the wall using the two outside holes only. Then mount the power unit over the head bracket with 2 lag screws at the top and bottom. The hand winches should be mounted on each side of the power unit as shown in Figure 8. First, lag the winch brackets to the wall and then attach the winches to the brackets. The control unit can now be mounted on the wall, close to the power unit. The power unit has an 8-wire conductor cable which should be connected to the control unit according to the wiring diagram included in these instructions. With the Power Vent now mounted on the wall, you can set the gauge on PHOTOHELIC. The black pointer on the dial should be set exactly on the zero mark. Set it by using the zero adjustment screws located at the bottom of the front cover. Uncoil the plastic tube and extend it into the attic or to the outside of the building. If it is placed outside, it should go on the building side opposite the prevailing winds with a set up similar to Figure 9.

The Power Vent is now in working order. Set the AUTO/MANUAL toggle switch to manual. This will activate the OPEN/OFF/CLOSE toggle switch. If the brass load nut is not close to the bottom of the screw then it should be moved to 3-4 inches of the lower limit switches. You will need this much space to thread the cable(s) into the brass load nut. The cables should enter through the misaligned holes and be turned back up through the center holes with lock bolts. Tighten cables in place. When cable hook-up is complete, set control unit to MANUAL and CLOSE. The brass load nut will now move until it depresses the limit switch.

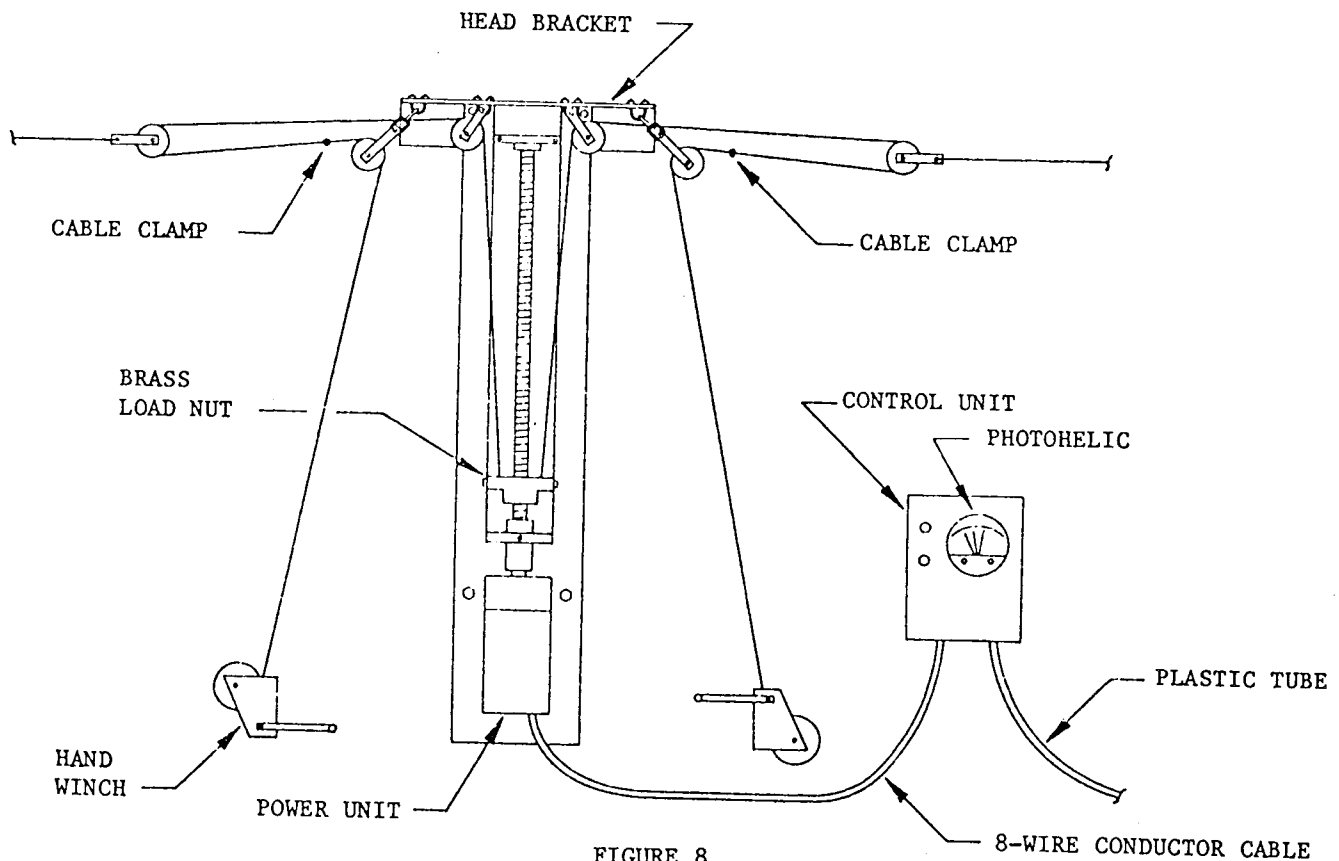


FIGURE 8

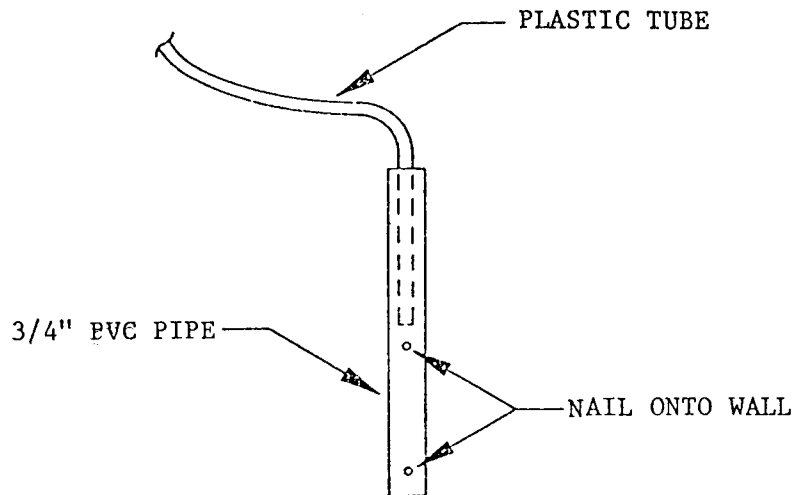


FIGURE 9

For a cable operated system, tighten the cable until it is taut. Now the baffles can be installed. For a rod operated system, begin installing the baffles. Hang two baffle sections on the baffle hanger and bolt them and a drop cord tensioner together using four 1/4" nuts and bolts. See Figure 10. Also bolt on a drop cord tensioner at the midpoint of each baffle section. Repeat this procedure for the entire length of the system.

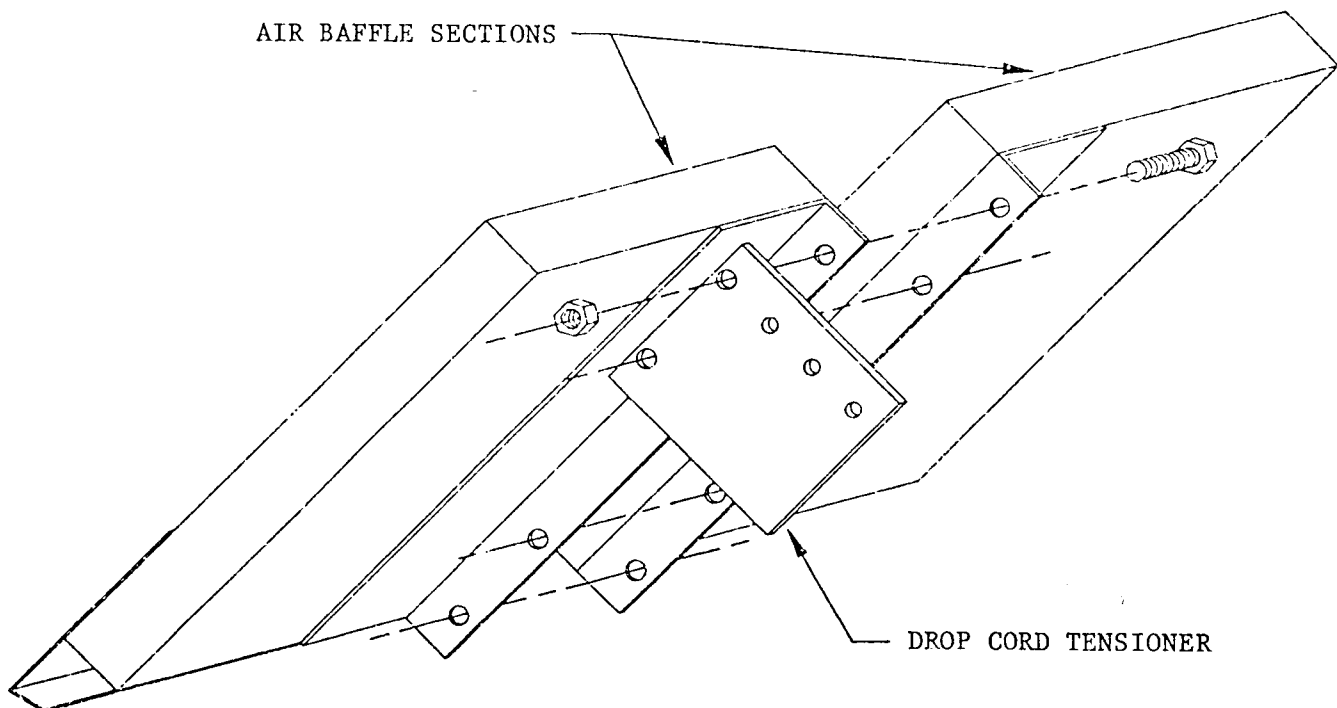


FIGURE 10

The drop cords should now be installed. The drop cord is one long piece and needs to be cut into pieces three feet long. Attach a drop cord to the tensioner and the string it through the screw hook and attach it to the main rod or (cable) using the cable clamp. On the rod system, attach every other drop cord as stated above. The remaining drops should be tied through the turnbuckle connecting the rods. Adjust each drop cord using the tensioner to obtain an even inlet opening. See Figure 11

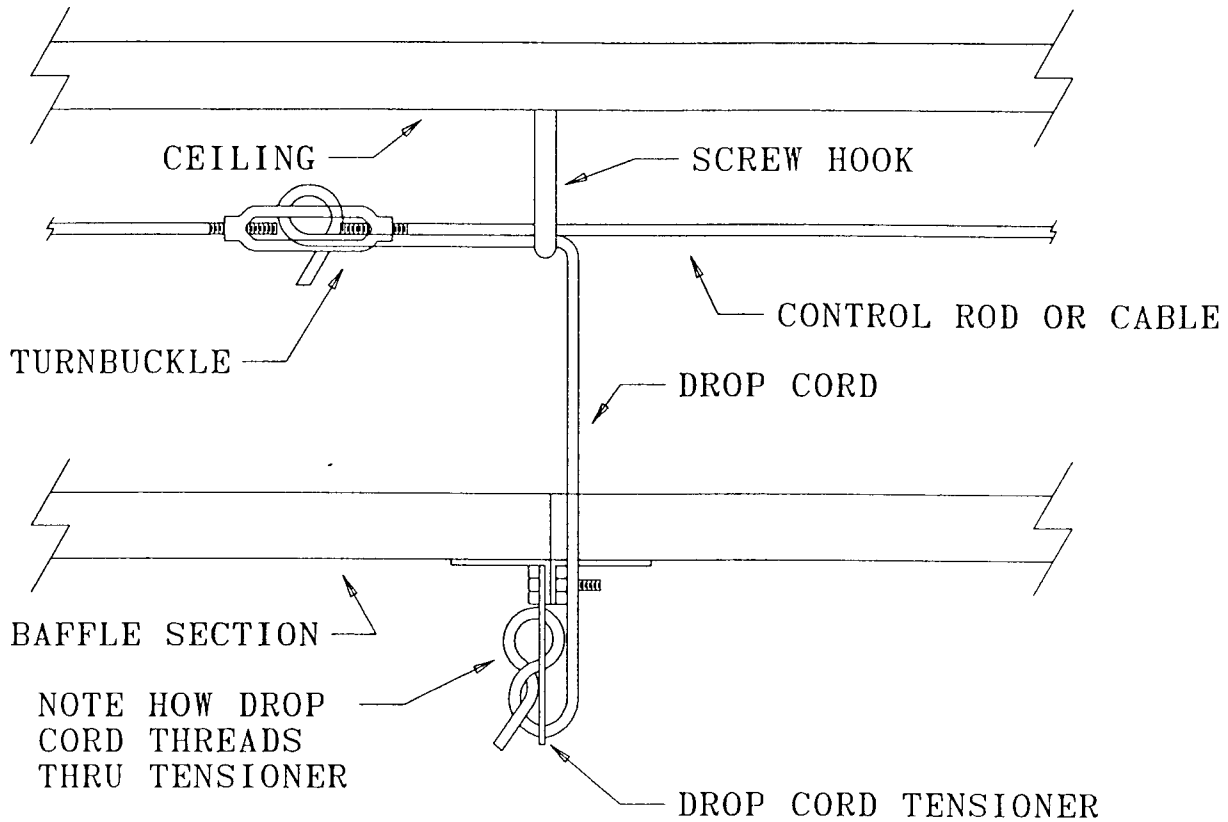


FIGURE 11

For a manual system, close the inlet baffles completely to confirm that they are all operating simultaneously. If they are not, adjust the baffles by adjusting the drop cords in the tensioners.

For an automatically controlled system, you should now pull the air inlet baffles to the maximum closed position with the use of the manual winches (note where the cable clamps should be placed on the cable to prevent over closing the inlets manually). See Figure 8.

The lower limit switch is not moveable and represents the closed position of the inlet baffles. To set the maximum open position of the inlet baffles, flip the toggle switch to OPEN. When the door is at the widest opening ever desired, loosen the thumb screw

on the upper limit switch and move it down until the long arm limit switch touches the brass load nut and tighten the thumb screw. The short arm switches on the top and bottom are safety switches. They are used only to stop the power unit in case the long arm switch malfunctions.

Your Power vent allows you to select AUTOMATIC or MANUAL operation. The automatic setting is primarily used. The PHOTOHELIC is activated when the toggle switch is set to AUTOMATIC. A Dwyer model 3000.00 PHOTOHELIC is used with a scale of 0 to .25" of water column.

The Power Vent is used with exhaust fans and air inlet baffle boards. It controls the inlet baffle to maintain the desired air velocity. High velocity air entering the building will interact with the air inside the building causing a turbulent air movement throughout.

The wider the inlet baffle opening, the greater the air volume. The smaller the inlet baffle opening, the greater the air velocity. You should find the optimum combination of these two to suit your own air movement needs.

We suggest, as a starting point, a setting of .08". To get this, set the lower limit's red pointer to about .06" (use the dial on your left). Set the upper limit's red pointer to about .10" (use the dial on your right). When the black pointer gets out of this range, it will activate the Power Vent which will adjust the inlet baffles to bring the air pressure back to the desired level.

When there is a reason to open or close the inlet baffles, this can be accomplished by changing the upper toggle switch to MANUAL. This activates the lower toggle switch, with which you can either open or close the inlet baffles.

The hand winches provide manual adjustment to the system. They can also provide emergency ventilation in case of a power failure.

There is always a 10 second delay before the power unit activates on the AUTO setting. This will prevent sudden momentary changes (someone entering a door, or a gust of wind on the outside sensor) in the negative pressure from activating the Power Vent.

We recommend that the Acme screw and thrust bearing (grease fitting) be greased with Valvoline Val-Plex EP Wheel bearing grease or equivalent at least 4 times per year. Also, the power unit should be electrically grounded.