



# Tabulated Data **Mod Series**

January, 2013

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1298 Lipsey Drive, Charlotte, MI 48813  
(800) 292-1225 Fax: (517) 541-0329

# CAUTION

## EXCAVATION PROCEDURES MAY CAUSE INJURY OR DEATH!

A COMPETENT PERSON WHO SATISFIES THE DEFINITION AND INTENT OF THE 1926 CONSTRUCTION STANDARD SUBPART P EXCAVATIONS SHALL: ENSURE THAT ALL EMPLOYEES ARE WORKING IN SAFE CONDITIONS AND THAT ALL EMPLOYEES HAVE BEEN TRAINED IN CORRECT EXCAVATION PROCEDURES AND THE PROPER USE OF THE PROTECTIVE EQUIPMENT CHOSEN.

EXCAVATIONS AND PROTECTIVE EQUIPMENT SHALL BE INSPECTED A MINIMUM OF ONCE EACH WORKING DAY AND WHENEVER THERE IS A CHANGE IN THE SOIL CONDITIONS AND/OR OTHER CHANGES SUCH AS AN INCREASE OR DECREASE IN WATER OR VIBRATIONS.

EMPLOYEES SHALL NOT BE ALLOWED TO ENTER AN EXCAVATION THAT IS NOT PROPERLY SHORED, SHIELDED, OR SLOPED.

EMPLOYEES SHALL ALWAYS ENTER, WORK, AND EXIT WITHIN THE SHORED, SHIELDED, OR SLOPED AREAS OF THE EXCAVATION AND/OR TRENCH.

ALL LIFTING AND PULLING EQUIPMENT, INCLUDING CABLES, SLINGS, CHAINS, SHACKLES AND SAFETY HOOKS SHALL BE INSPECTED FOR DAMAGE OR DEFECTS PRIOR TO USE AND SHALL BE EVALUATED FOR SUITABILITY AND CAPACITY.

THIS TABULATED DATA PROVIDES A GENERAL SET OF GUIDELINES TO ASSIST THE COMPETENT PERSON IN THE SELECTION OF A PROTECTIVE SYSTEM FOR EMPLOYEE SAFETY. THE RESPONSIBILITY FOR JOB SITE SAFETY AND THE PROPER SELECTION, INSTALLATION AND REMOVAL OF THE SHORING EQUIPMENT BELONGS TO THE COMPETENT PERSON DESIGNATED FOR THAT JOBSITE. THIS TABULATED DATA IS NOT INTENDED TO BE USED AS A JOB SPECIFIC EXCAVATION/TRENCHING SAFETY PLAN, BUT SHALL BE USED BY THE COMPETENT PERSON. TABULATED DATA IS INTENDED AS A SUPPLEMENT TO HIS/HER TRAINING, EXPERIENCE AND KNOWLEDGE OF SAFE PROCEDURES, JOB SITE CONDITIONS AND SOIL TYPES. TABULATED DATA IS INTENDED TO ASSIST HIM IN THE SELECTION OF AN APPROPRIATE PROTECTIVE SYSTEM FOR EMPLOYEE SAFETY.

## **MOD SERIES TABULATED DATA**

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### **GENERAL:**

1. This data has been prepared by a Registered Professional Engineer as required OSHA standard 29 CRF, Part 1926, Subpart P, Excavations.
  2. This data is to be used by the "competent person" for the proper use and **placement** of the MOD Series components.
  3. "Competent person" is one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.
  4. When there is a discrepancy concerning the use of protective systems between this tabulated data and the OSHA standard, this data shall take precedence. Any topic not covered by this data shall be governed by the OSHA standard.
  5. Pro-Tec Equipment shall not be liable for damage or injury resulting from improper use of the MOD Series. Improper use of or modifications to the structural components not specifically authorized by Pro-Tec Equipment without the written consent of Pro-Tec Equipment shall void this data and all manufacturers' warranty.
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### **SPECIFICATIONS FOR USE OF THE MOD SERIES**

1. All personnel involved with the use of MOD Series shall be trained in the proper use and installation procedures and other applicable safety requirements.
2. The MOD Series shall be used only in soil conditions indicated in this data.
3. Refer to the installation procedures for typical installation figures.
4. The gap between the shoring and the soil face shall not exceed 6-in. It is the responsibility of the ***COMPETENT PERSON*** to ensure that the system is installed in a manner to prevent lateral movement.
5. The struts shall not be used to support side loading, nor shall the system be lifted, pulled or moved by the struts. The system shall be installed and extracted by the lifting eyes provided by the manufacturer. Struts are not designed to support vertical loads and shall not be used to provide access or egress to the trench.

## **MOD SERIES TABULATED DATA**

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### **SPECIFICATIONS FOR USE OF THE MOD SERIES CON'T**

6. This data is valid for MOD components in structurally sound condition. Any significant damage will void this data, and all manufacturers' warranty. The damaged components shall not be used.
  7. The bottom panel(s) of any configuration may be removed prior to installation provided the remaining panels are no more than 24-in from the bottom of the excavation and there are no indications while the excavation is open of a possible loss of soil from behind or below the bottom of the configuration
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### **SOIL CLASSIFICATION**

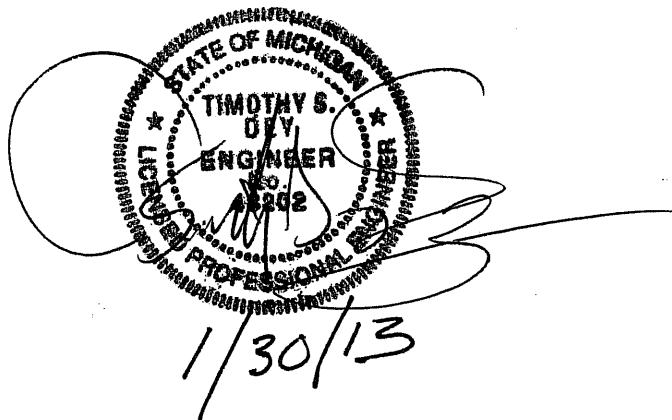
1. See the OSHA regulations for descriptions of Type A, B, and C soils.
  2. Type C-60 soil is a soft cohesive or moist granular soil that is not flowing or submerged. This soil can be cut vertically and will stand long enough to safely install the protective system.
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### **NOTES FOR TABULATED DATA**

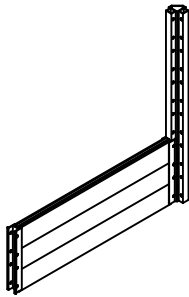
1. The top strut of the system shall be no more than twenty-four inches below the top of the vertical post element.
2. The lowest strut of the system shall be no more than the value indicated on the maximum depth tables above the bottom of the excavation. All additional struts shall be spaced at a maximum of thirty-six inches to the top of the excavation.
3. When sectional posts are utilized, a strut shall be placed at each panel joint.
4. Surcharge loads are not included in the maximum depth tables. Surcharge loads are possible due to heavy equipment, vibrations, or soil piles adjacent to the trench. (Adjacent is defined as within a distance equal to the depth of the trench.)
5. If the system is used in a four-sided configuration with different sized panels, the maximum depth of the excavation shall not exceed the depth rating of the longer panel as indicated in the Maximum Depth Table (1.1).
6. All strut components shall be approved or manufactured by Pro-Tec Equipment.

**MOD SERIES  
TABULATED DATA**

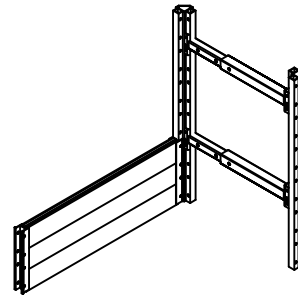
MOD MAXIMUM DEPTH TABLE (1.1)				
MODEL NUMBER	SOIL TYPE			
	A	B	C-60	C-80
MPS - 2 X 3	50 ft	50 ft	50 ft	42 ft
MPS - 2 X 4	50 ft	50 ft	42 ft	32 ft
MPS - 2 X 6	50 ft	38 ft	28 ft	21 ft
MPS - 2 X 8	50 ft	28 ft	21 ft	16 ft
MPS - 2 X 10	41 ft	23 ft	17 ft	13 ft
MPS - 2 X 12	34 ft	19 ft	14 ft	11 ft
MPS - 2 X 14	22 ft	12 ft	9 ft	7 ft
MAXIMUM VERTICAL PIPE CLEARANCE = 36 INCHES				

  
1/30/13

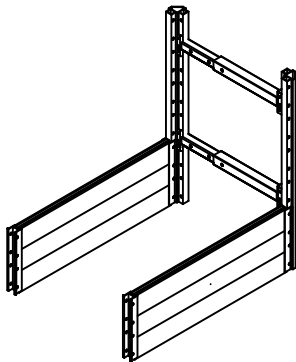
## 2-Sided Assembly Instructions For 2.75" Modular Trench Shields



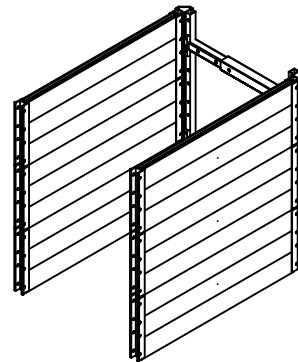
1. Corner post is attached to panel. Install pins with handle on the outside. Ensuring that all matching holes have a pin and keeper.



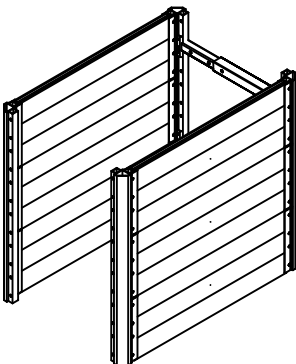
2. Set back spreaders at required spacing (refer to tabulated data) and 2nd corner post. Install pins and keepers in all matching holes.



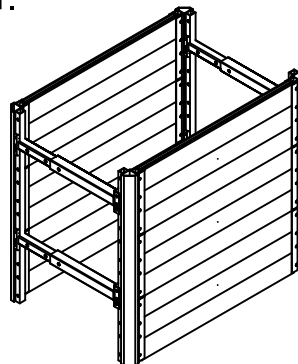
3. Place panel on 2nd corner.



4. Install factory approved lift eyes, then install the remaining panels to desired height ensuring that all matching holes have a pin and keeper.



5. Add 3rd and 4th corner post ensuring that all matching holes have a pin and keeper. Install remaining lift eyes.



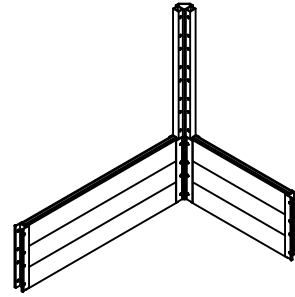
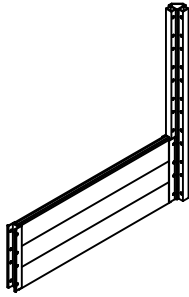
6. Install spreaders at required locations (refer to tabulated data). All matching holes require a pin and keeper.

For Disassembly: Do above steps in reverse order. Remove pins & keepers from one spreader, post, or panel at a time. **DO NOT REMOVE ALL PINS & KEEPERS AT ONE TIME.**

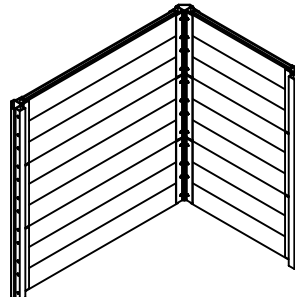
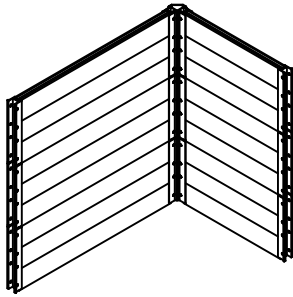
### **NOTES :**

1. Assemble on level ground.
2. Lift with factory supplied lift eyes.
3. All matching holes must have a pin and keeper.
4. System must be used in accordance to manufactures tabulated data.
5. Bottom panel may be omitted, allowing 2 feet open, only if there is no possible loss of soil from behind or below the bottom of the shield.

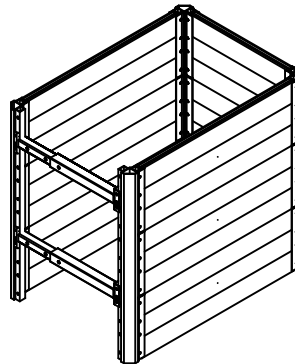
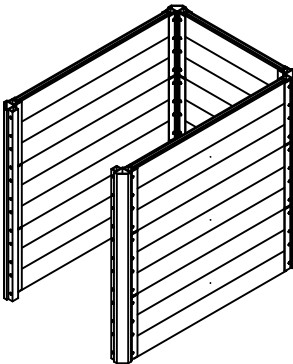
### 3-Sided Assembly Instructions For 2.75" Modular Aluminum Shields



1. Corner post is attached to panel. Install pins with handle on the outside. Ensuring that all matching holes have a pin and keeper.
2. Set back panel for 3 or 4 sided system. Install all pins and keepers in all matching holes.



3. Stack panels to desired height before adding 2nd corner post.
4. Install factory approved lift eyes, then install 2nd and 3rd corner post. Ensuring that all matching holes have a pin and keeper.



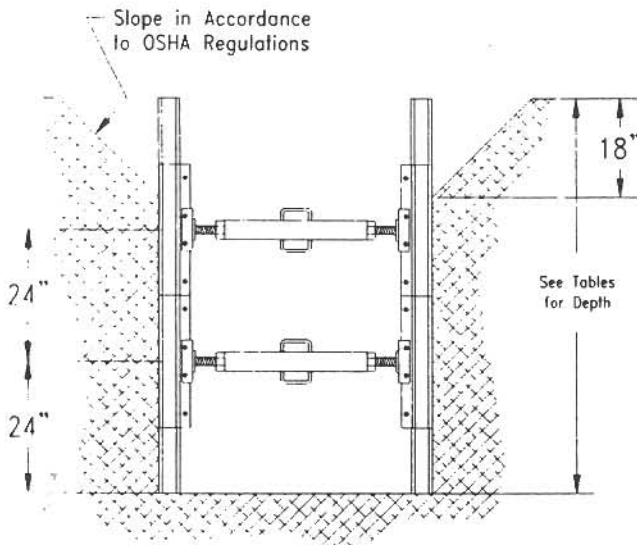
5. Add opposite panels to desired height. Add 4th corner post. Ensuring that all matching holes have a pin and keeper. Install remaining lift eyes.
6. Install spreaders at required locations (refer to tabulated data). All matching holes require a pin and keeper.

For Disassembly: Do above steps in reverse order. Remove pins & keepers from one spreader, post, or panel at a time. **DO NOT REMOVE ALL PINS & KEEPERS AT ONE TIME.**

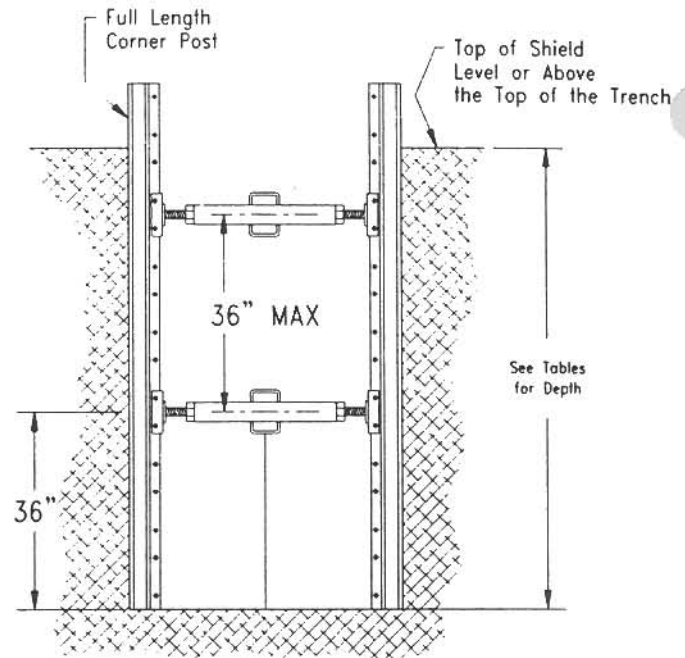
#### **NOTES :**

1. Assemble on level ground.
2. Lift with factory supplied lift eyes.
3. All matching holes must have a pin and keeper.
4. System must be used in accordance to manufactures tabulated data.
5. Bottom panel may be omitted, allowing 2 feet open, only if there is no possible loss of soil from behind or below the bottom of the shield.

## Sectional Corner Posts



## Full Length Corner Posts



**ALL PANELS AND STRUTS MUST BE COMPLETELY PINNED**

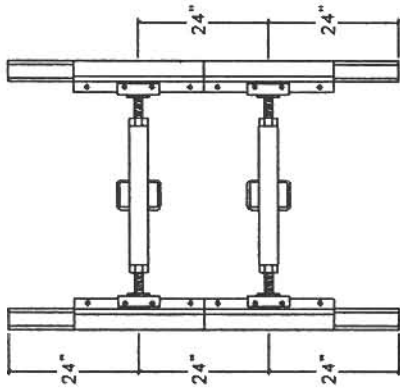
## **LIMITATIONS**

- 1) Soil above shield must be sloped according to OSHA Subpart P. Slope must begin no less than 18" below the top of shield.
- 2) Shield may be suspended no more than 2 feet above bottom of the trench and only if there is no possible loss of soil from behind or below bottom of shield.
- 3) A minimum of 2 spreader pipes are required on each end with manufacturer approved pins and keepers.
- 4) Repairs and modifications must first be approved by manufacturer or registered professional engineer.
- 5) Shields may be stacked as long as each is rated to the depth it is used and manufacturer approved stack connections are utilized to prevent lateral movement of the shields.
- 6) Surcharge loads have not been included in the above depth ratings. The allowable working depth of the shield must be reduced to account for any surcharge loading which occurs within the influence line of the shield.
- 7) Not Type A if fissured, subject to vibration, previously disturbed or part of a sloped layered system where layers dip into excavation on a slope of four horizontals to one vertical (4H:1V) or greater.
- 8) Previously disturbed soils may be Type B unless they would be classed as Type C. Soil that meets requirements of Type A but is subject to vibration or fissured may be Type B. Dry rock that is not stable or soil that is part of a sloped layered system where layers dip into the excavation on a slope less steep than four horizontal to one vertical (4H:1V) are Type B if material would otherwise be classified as Type B.
- 9) Soil in a sloped layered system where layers dip into the excavation on a slope of four horizontal to one vertical (4H:1V) or steeper may be Type C. Saturated soil or soils from which water is freely seeping but is not standing in the trench.  
 \*Conditions more severe would require dewatering or the sealing of four sides of the excavation and pumping the trench. Such severe conditions would require the services of a soils engineer to establish the design pressure. Consult the manufacturer for pressures exceeding tabulated values.
- 10) PRO-TEC trench shields are to be used in accordance with Federal, State, and Local laws. Refer to Occupational Safety and Health Administration (OSHA) rules and regulations Vol. 54, No. 209, 10/31/89, Part 1926, Subpart P.

**Usage of trench shields other than specified could result in failure or cave-ins causing serious injury or death.**

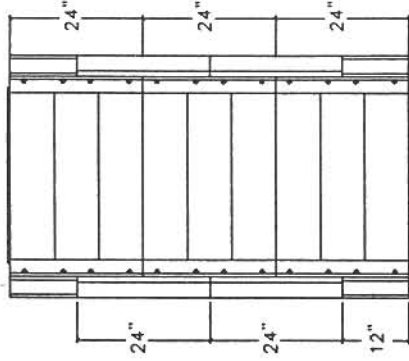


# SECTIONAL CORNER POST



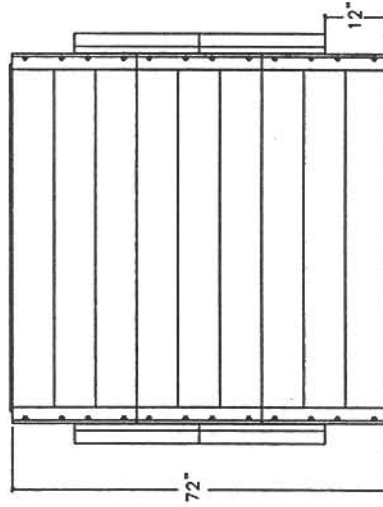
## END VIEW

SECTIONAL CORNER POST w/ ADJUSTABLE STRUTS.



## END VIEW

SECTIONAL CORNER POST w/ END PANELS

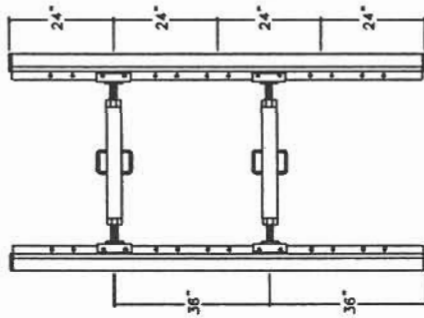


## SIDE VIEW

SECTIONAL CORNER POST w/ ADJUSTABLE STRUTS

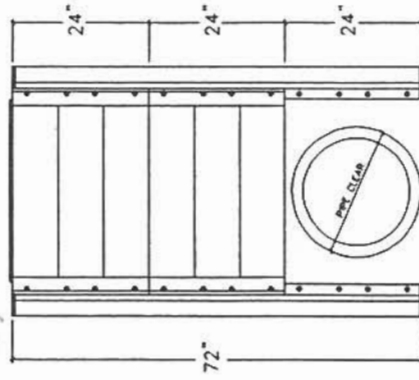
PRO-TEC EQUIPMENT, INC.  
P.O. BOX 130  
CHARLOTTE, MI 48813  
PH: (517) 541-0303  
FAX: (517) 541-0329

## FULL LENGTH CORNER POST



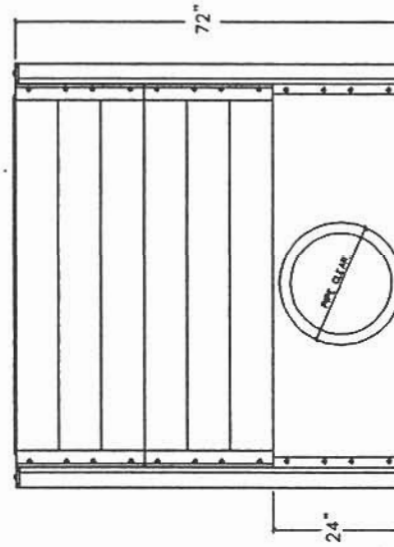
### END VIEW

FULL LENGTH CORNER POST w/ ADJUSTABLE STRUTS.



### END VIEW

FULL LENGTH CORNER POST w/ END PANELS  
(BOTTOM PANELS OMITTED)

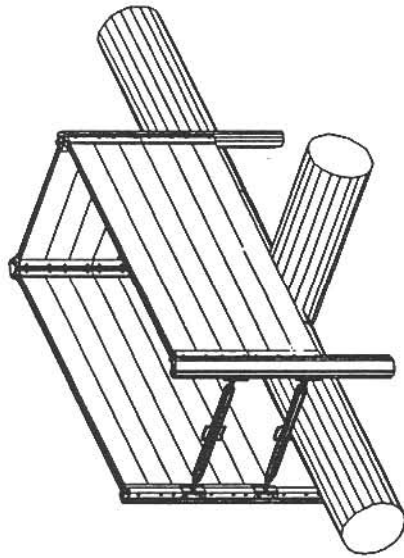


### SIDE VIEW

FULL LENGTH CORNER POST w/ END PANELS  
(BOTTOM PANELS OMITTED)

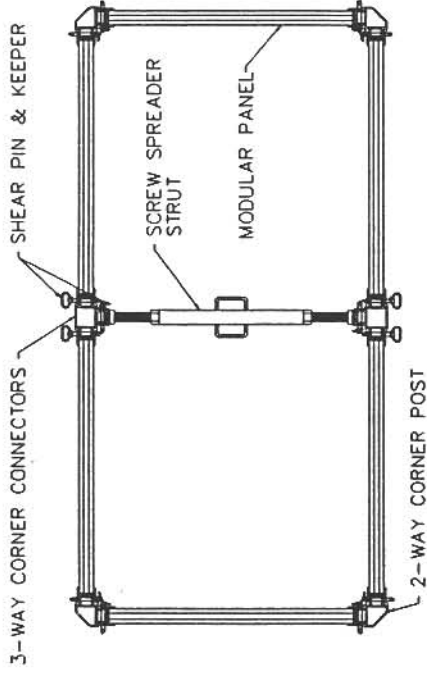
PRO-TEC EQUIPMENT, INC.  
P.O. BOX 130  
CHARLOTTE, MI 48813  
PH: (517) 541-0303  
FAX: (517) 541-0329

## BOTTOM PANELS OMITTED



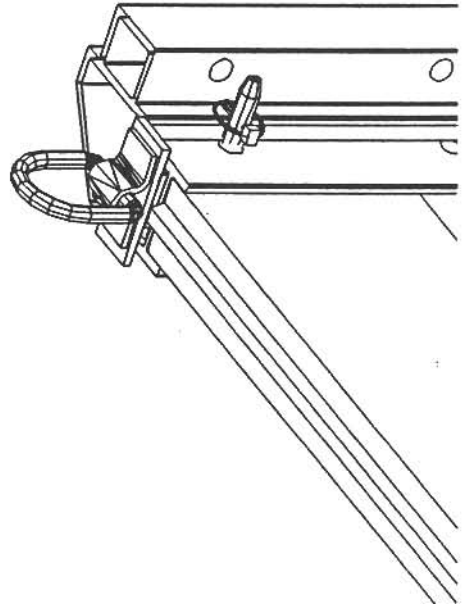
BOTTOM PANELS MAY BE OMITTED FOR TEE CONNECTION OR CROSS UTILITIES, WHEN SOIL CONDITIONS PERMIT. (SEE TABULATED DATA)

## 3-WAY CORNER POST

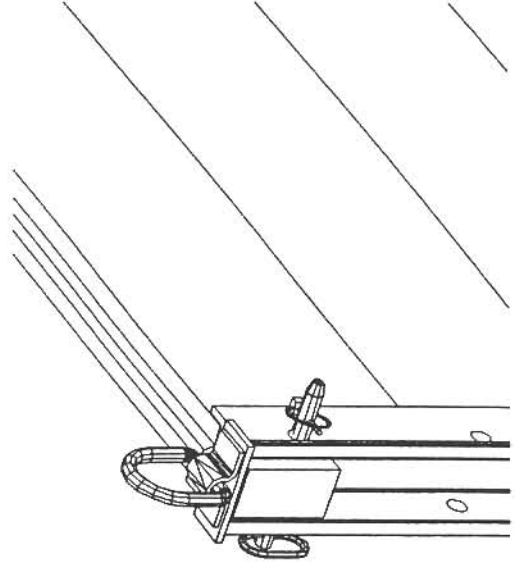


TOP VIEW  
SYSTEM USING 3-WAY CORNER POST

## LIFT & EYE PIN CONNECTOR



LIFT EYE AND PIN CONNECTOR THRU CORNER POST.



LIFT EYE AND PIN CONNECTOR THRU PANEL END BRACKET  
(USE OVERSLEEVE IN THIS POSITION)