

# **PROSPAN**

## **USER'S GUIDE**



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888-413-8100**

**[www.prospanshoring.com](http://www.prospanshoring.com)**

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### NOTE:

**Tabulated Data is Downloadable at  
[www.prospanshoring.com](http://www.prospanshoring.com)**

## INTRODUCTION

The Prospan pneumatic shoring device has been designed and engineered to assist underground contractors, municipal public works employees and the fire service with the various shoring applications they encounter.

We at Prospan are confident that the design of this product will enable those working in these environments to not only negotiate the obstacles they encounter, but to perform their work more safely.

## PRODUCT DESCRIPTION



The Prospan consists of a captive aluminum piston housed within an aluminum cylinder. The piston can be extended manually or by compressed air. A rotating collar-and-pin assembly at the juncture of the cylinder and piston allows the piston to be locked in extension by inserting a tethered steel pin through holes in the piston wall, rotating the collar until it contacts the pin and then locking the collar in place, either by means of a thumbscrew or a ratchet, depending on the model. Various extensions and attachments are available that permit the Prospan shoring device to be used in different applications, such as stabilizing vehicles or shoring trenches.

## SAFETY INFORMATION

Before using the Prospan, conduct an overall size-up of the intended use and safeguard against potential hazards before installing the product. Read and understand instructions before using the Prospan product.



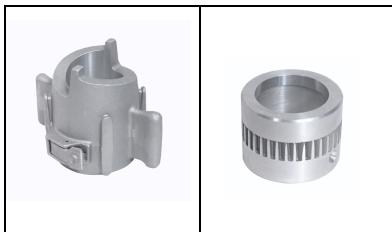
The WARNING and SAFETY labels on the product alert the user to special hazards inherent with its use. Should they become damaged or unreadable, contact the manufacturer to obtain a replacement.

Before installing the Prospan, be aware of the following:

- The Prospan is designed only for providing additional support to objects being stabilized. Never use to dislodge or lift an object.
- Compressed air may be applied to the Prospan only in trench shoring applications. All other applications require manual extension.
- The Prospan expands rapidly when air is applied. Stay clear of ends.
- Always insert tethered pin through both piston holes and rotate outer collar to engage pin and then lock outer collar in place.
- Never rely on air pressure alone to support load.
- The Prospan has been designed to support loads pushing against its ends only. Never side-load the Prospan, use it as a step or to hang something on.

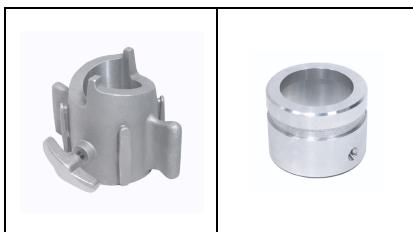
## COLLAR STYLES

### Ratchet Style Collar



The **Ratchet Style Collar** uses a spring-loaded trigger and an inner ratcheting ring that automatically locks the collar out. As the collar is rotated the spring-loaded trigger seats itself into successive serrations on the ratcheting ring. The angle of the serrations enables the automatic lockout. To unlock the collar requires a deliberate act.

### Thumbscrew Style Collar



The **Thumbscrew Style Collar** consists of a stainless steel thumbscrew that tightens against an inner aluminum ring to lock out the collar.

As the thumbscrew is turned clockwise it seats itself on the floor of the inner ring creating a metal-to-metal contact that locks the outer collar, preventing it from loosening. Turning the thumbscrew counterclockwise retracts the thumbscrew and unlocks the outer collar.

## END ATTACHMENTS

Whether it's a trench, vehicle or structural application, Prospan has the end attachment you need to get the job done right.

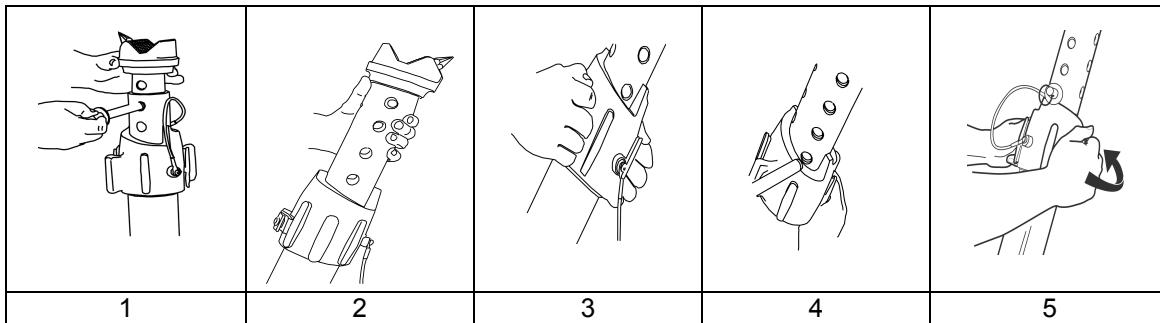


## GENERAL OPERATING INSTRUCTIONS

**IMPORTANT:** See detailed instructions for individual applications.

### Installing the Prospan

1. Insert and pin in place the desired end-attachments and or base plates.
2. Manually extend the Prospan until it contacts the object being supported.
3. Grasp the handles of the outer collar and rotate until you identify the piston hole that is closest to the angled ramp of the collar.
4. Insert the tethered pin through both holes of the piston. The pin washer should rest against the collar. Do not position washer against piston.
5. Rotate collar until pin firmly contacts angled ramp. Lockout collar by tightening the thumbscrew or by rotating collar until you hear the ratchet click, depending on collar style.

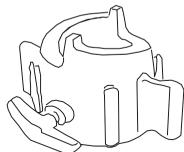


### WARNING

Never remove a Prospan shoring device until the object being supported has been supported by another means or no longer poses a safety concern.

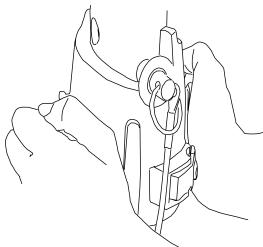
### REMOVING THE PROSPAN

#### Thumb Screw Style



1. Grasp handles of the outer collar.
2. Turn thumb screw counterclockwise to disengage thumbscrew.
3. Once the thumb screw has been retracted, rotate outer collar counterclockwise until the outer collar no longer contacts the tethered pin.
4. Remove tethered pin from piston hole and retract Prospan.

## Ratchet Style



1. Rotate outer collar clockwise to relieve pressure on spring-loaded trigger.
2. With the pressure relieved, depress the spring-loaded trigger with the heel of your right hand to disengage the trigger.
3. With the trigger depressed, rotate the outer collar counterclockwise until the outer collar no longer engages the tethered pin.
4. Remove tethered pin from piston hole and retract Prospan.

## VEHICLE SUPPORT

The Prospan system is ideal for use in stabilizing motor vehicles involved in crashes. The Prospan, in conjunction with our 10" base plates, end attachments and ratchet straps, secures a vehicle prior to entry by fire or EMS personnel. With the vehicle properly stabilized, patient packaging can be accomplished safely and efficiently.

## Components:

				
	Base Plate	Ratchet Strap	Round Swivel	V-Block

## Installation Guidelines

As in structural support, the goal in vehicle stabilization is to stabilize the vehicle in the position in which it is found.

### **WARNING:**

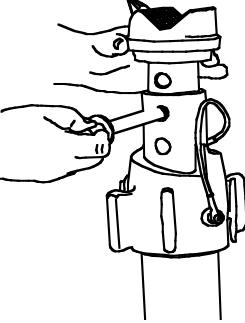
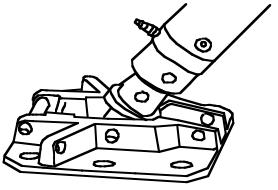
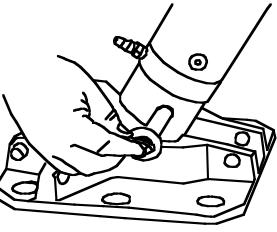
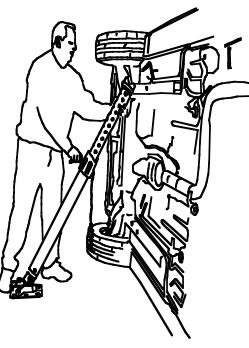
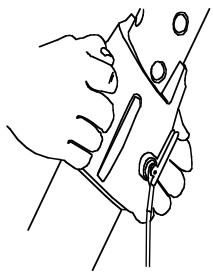
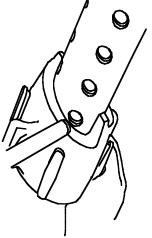
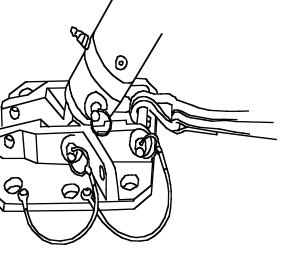
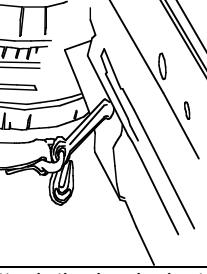
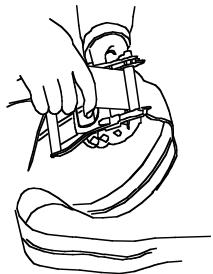
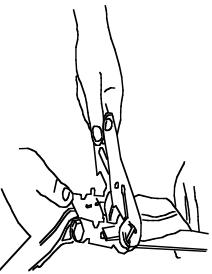
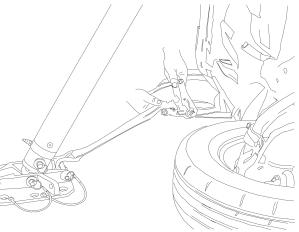
**Never attempt to move or reposition an unstable vehicle—it may shift unexpectedly, putting victim and rescuers at risk.**

Always conduct a scene size-up. Identify and safeguard against potential hazards before installing Prospan.

### **WARNING:**

**Do not place the Prospan against non-structural components. They can fail, causing the load to shift unexpectedly.**

## Vehicle Illustration:

			
1 Insert desired end attachment into piston end & secure with pin.	2-3 Place base plate on firm ground. Slide Prospan over the base plate's shoring adapter & secure with pin.		4 Manually extend the piston until it firmly engages a structural member of the vehicle.
			
5 Rotate collar to identify the piston hole that is closest to the collar's ramp.	6 Insert tethered pin to maintain the Prospan in the extended position.	7 Attach Claw Hook end of ratchet strap to steel pin at front of base plate.	8 Attach the hook cluster end of strap to a solid anchor point.
			Begin ratcheting until the Prospan is drawn securely into vehicle.  Do not Over Tighten
9 Insert the other end of the hook cluster strap and through the ratcheting device.	10 Pull excess strap through ratcheting device.		11

## STRUCTURAL SUPPORT



The Prospan system, using various extensions, base plates, and attachments, can be used to support a variety of structures and objects. This section explains how the Prospan system can be used as a column support, a gantry for lifting, and as a stabilization device for vehicles.

Proper installation of the Prospan system begins with a scene size-up. All obstacles confronting the installer should be identified and the appropriate method of protection chosen wisely. Once the Prospan has been assembled, the following procedures must be followed to expand and secure the Prospan shoring device:

### Assembly Steps:

1. Position Prospan directly under or at an angle to object in need of support with base of Prospan resting on a solid surface. For instances where the Prospan base plate is used, the base plate must be secured via ratchet strap or other recognized anchoring method to prevent a "kick-out" of the base plate.
2. Manually extend the Prospan until it contacts the object being supported.
3. Grasp the handles of the collar and rotate until the piston hole closest to the angled ramp of the collar is identified.
4. Insert tethered pin through both holes with the pin washer resting against collar. Do not position washer against piston.
5. Rotate collar until pin firmly contacts angled ramp.
6. Lockout collar by turning thumbscrew clockwise until resistance is felt or by listening for the ratchet click, depending on collar style.

## COLUMN SUPPORT

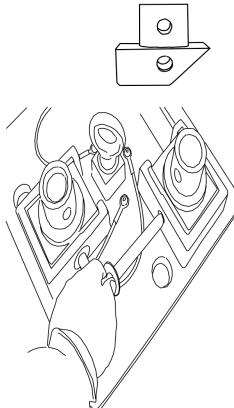
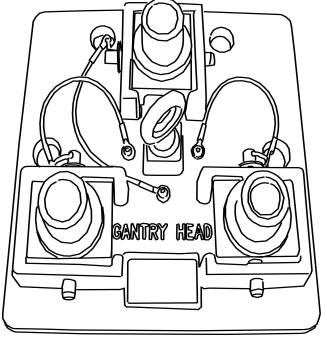
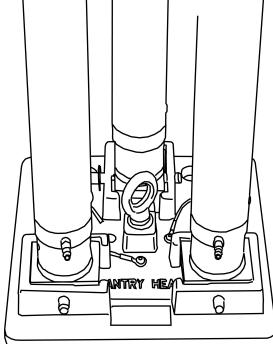
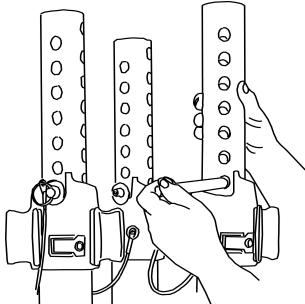
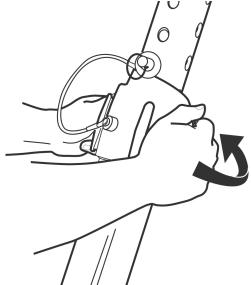
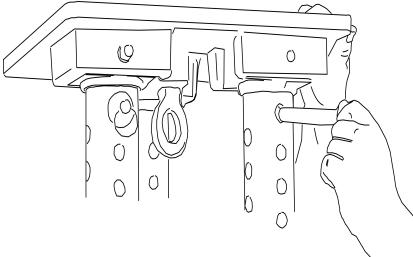
Using the Column/Gantry Plate and (3) Prospan shoring devices you can create a columnar support.

### Components:

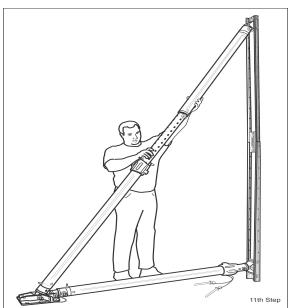


Column/Gantry Plate Qty (2)	Column Shoring Adapter Qty (6)

## COLUMN ILLUSTRATION

		
<p>Position Column/Gantry Plates on ground and insert (3) Column Shoring Adapters into each plate and secure with tethered pins.</p>	<p>Place the barrel end of one Prospan on each shoring adapter and secure with separate pin.</p>	<p>1 2</p>
		
<p>Manually extend each piston to the desired height and insert tethered pin of outer collar through desired hole in piston.</p> <p>3</p>	<p>Rotate outer collar until pin firmly contacts angled ramp. Lockout collar as described in General Operating Instructions.</p> <p>4</p>	<p>Place second Column/Gantry Plate atop the three Prospans with the shoring adapters inserted into each piston. and secure with separate pins.</p> <p>5</p>

## RAKER RAILS



Raker Rails are designed to provide additional support to the walls of a weakened or failing structure. They should be installed in pairs and anchored to the structure being supported whenever possible. The most common angles used (US Army Corps of Engineers) to construct a raker system are 45 and 60 degrees. A 60 degree angle is the maximum recommended angle.

**See Engineering Data for additional requirements.**

Prospan Raker Rails are 5' long for ease of storage and require minimal assembly prior to use. Each rail contains holes drilled along its side profile enabling Prospan attachment at the desired position.

### Components:

36" Extension		RR Splice	Base Plate	RR Nailing Blocks
Raker Rails	RR Shoring Adapter			
Base Plate Shoring Adapter	Base Plate Timber Block			

### WARNING:

**Minimize your exposure to unstable structures—they can shift or collapse without warning. Assemble as much of the Raker Rail system as possible in a safe area, then move it to the deployment site.**

### Assembly Steps:

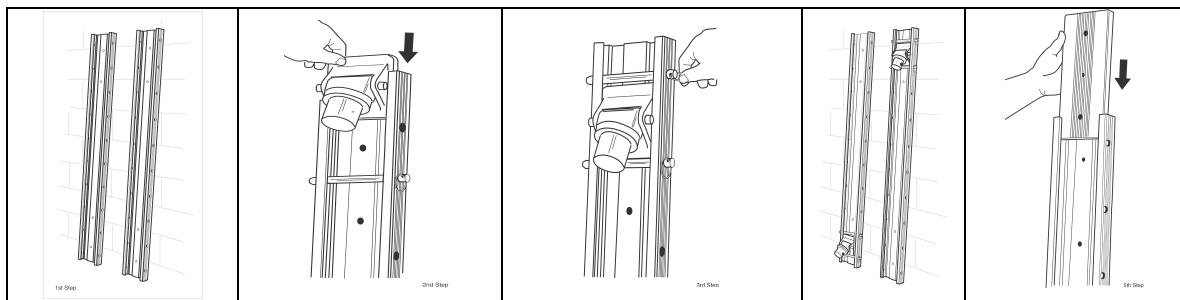
1. Position two rails alongside one another. Rail ends are identical so it doesn't matter which end is up.
2. Insert (1) Raker Rail Shoring Adapter into the top of one rail and another into the bottom of the other. Secure with provided pins.
3. Insert Raker Rail Splice half way into the end of the rail that has the shoring adapter positioned at the bottom of the rail.
4. Insert thumbscrew through hole in splice and turn clockwise into tapped hole provided in the floor of the rail until tight.

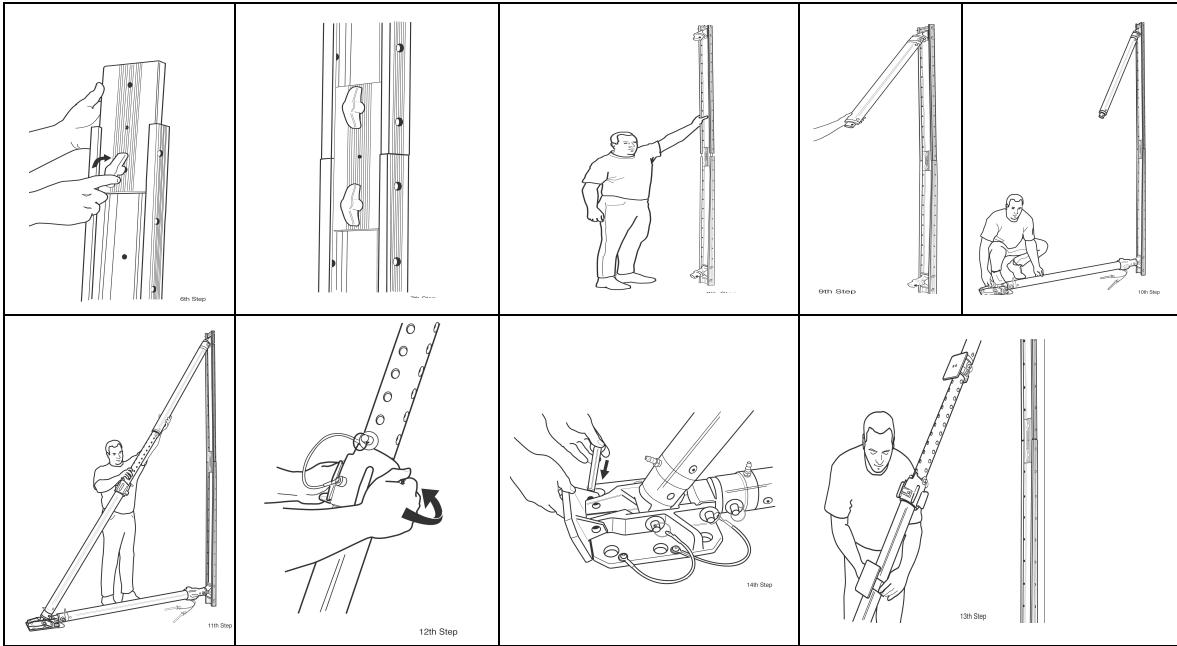
- Position remaining rail over exposed splice and secure in similar fashion.

***You should now have a 10' rail with a shoring adapter at each end***

- Position base plate with shoring adapter approximately four feet (4') from wall and attach remaining BP Shoring Adapter to front of plate facing rails.
- Attach barrel end of Prospan to the 36" extension and secure with pin.
- Attach piston end of Prospan to the shoring adapter located in the center of the base plate and secure with pin.
- Attach barrel end of a second Prospan to the remaining base plate shoring adapter and secure with pin.
- Manually extend the piston and attach to bottom rail's shoring adapter and secure with pin.
- Secure rails to wall with lag bolts.
- Secure base plate to concrete/pavement with lag bolts. For instances where you are on soft ground, secure base plate by driving pickets or rebar through available holes in top of base plate.
- Attach Base Plate Timber Block to back of base plate and secure with pin.
- Attach Raker Rail Nailing Blocks to barrel end and piston end of the top Prospan. Attach a block of wood to the nailing blocks using the holes provided.
- Manually extend both Prospans until the desired angle is achieved and lockout collar as described in General Operating Instructions.
- Install 2<sup>nd</sup> raker rail system in similar fashion.
- Attach a horizontal 2x6 board joining the top nailing blocks of each system together.
- Attach a horizontal 2x6 board joining the two lower nailing blocks of each system together.
- Nail a 2x6 from the bottom nailing block of one system to the top nailing block of the other system and repeat until all cross bracing is in place.

#### Raker Rail Illustration:





## **WARNING**

**The engineering data governing the installation of the Raker Rail System must be followed at all times. Proper anchoring of the base plate is mandatory.**

## **TRENCH SHORING**

Prospan shoring devices meet the requirements of OSHA 29 CFR1926.650, the federal standard governing entry into trenches as well as the requirements of the Registered Professional Engineer who has approved this product for this type of application.

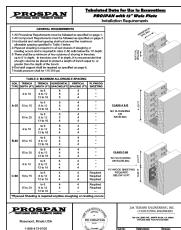


The goal in trench shoring is to take away the earth's ability to move. In doing so, the likelihood of cave-in has been greatly reduced.

## **WARNING:**

Trench shoring operations require a thorough understanding of the principals of trench shoring and its special requirements and limitations.

## **Placement Requirements**



A Registered Professional Engineer has reviewed and approved the spacing requirements shown in the following tables and has affixed his engineering stamp to these data. **These data are mandatory.**

## **Using Air Pressure**



The Prospan may be expanded by air pressure **only** for trench shoring applications. The pressure range for installing the Prospan is 115-225 psi. Compressed air supplied from any source having a range greater than 225 psi must have a pressure-reducing regulator to bring the pressure within the required limits.



## **Thumb Controller**

The Prospan pneumatic thumb controller is a handheld, thumb-operated, 3-way valve. The thumb controller is placed between two lengths of air hose. One hose runs from the air source to the INLET side of the controller and the other hose runs from the OUTLET side of the controller to the Prospan.



As source air is introduced, it travels through the air hose to the inlet side of the controller and is stopped at the valve.

When called for by the installer, the operator of the thumb controller depresses the controller's button enabling air to travel through the valve to

the Prospan. Then, when called for by the installer, the button is released and downstream pressure is vented automatically at thumb control.

## **WARNING:**

**Thumb Controller button must remain depressed until installer has locked the Prospan in extension.**

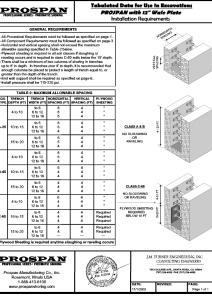
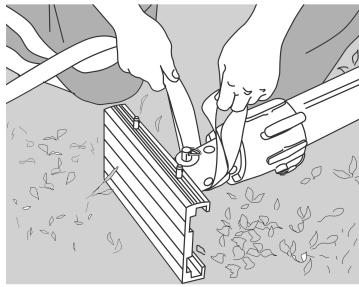
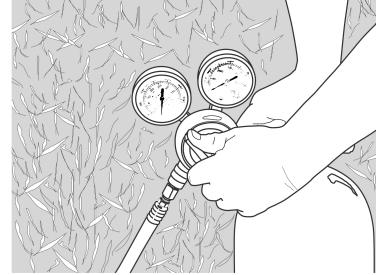
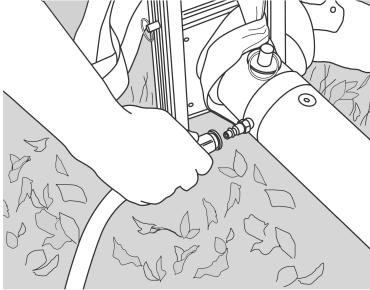
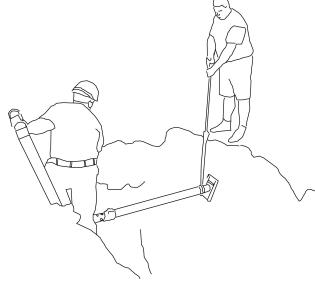
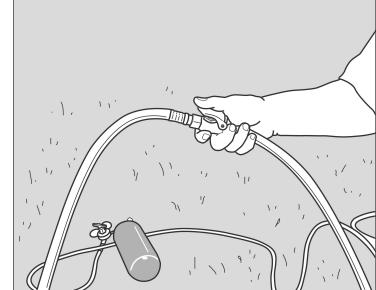
# INSTALLING PROSPAN TRENCH-APPLICATIONS

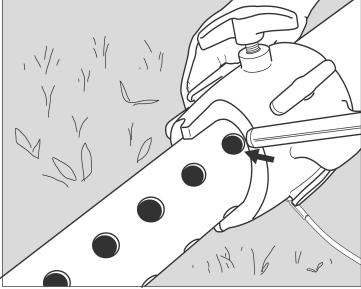
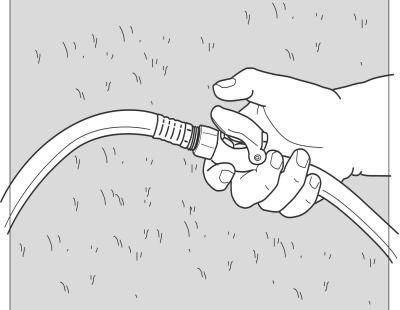
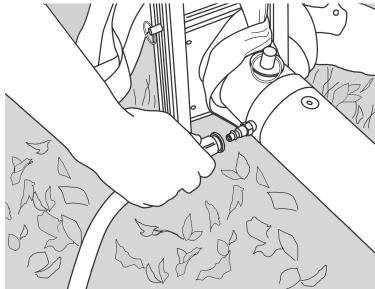
## WARNING:

**Crush/Impact hazard.**

**The Prospan expands rapidly when air pressure is applied.**

**Stay clear of ends when air is connected.**

		
<p>Place ladder in trench.</p> <p>1</p>	<p>Measure width and depth of trench.</p> <p>2</p>	<p>Use Tabulated Data to determine appropriate method of protection.</p> <p>3</p>
		
<p>Choose appropriate sized Prospan, install desired end-attachments and secure with pins.</p> <p>4</p>	<p>Attach lowering strap to each end of Prospan.</p> <p>5</p>	<p>Adjust or reduce source pressure to within required range. 115-225 psi.</p> <p>6</p>
		
<p>Attach air supply hose to the inlet fitting on the Prospan.</p>	<p>Lower the Prospan to the 2' depth and make level.</p>	<p>Introduce air pressure and wait for Prospan to stop expanding. (See Thumb Controller for</p>

7	8	proper operation).
		
Descend ladder (no lower than waist high to the pressurized Prospan), and lockout collar using thumbscrew or ratchet as described in General Operating Instructions.	Have thumb control operator release the thumb control button to vent downstream air supplying Prospan.	Remove air hose and continue installing Prospans until the requirements of the tabulated data have been met.
10	11	12

## **WARRANTY DISCLAIMER**

The PROSPAN product is warranted to the original purchaser against defects in workmanship or materials under normal use for two years from the date of purchase. Any part, which is determined by PROSPAN MANUFACTURING CO., INC. to be defective in material or workmanship, will be, as the sole and exclusive remedy, repaired or replaced at the option of PROSPAN Manufacturing Co., Inc.

**NO OTHER WARRANTY, EXPRESSED OR IMPLIED, AS TO DESCRIPTION, QUALITY, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, COURSE OF DEALING, PERFORMANCE OR USES OF TRADE, OR ANY OTHER MATTER IS GIVEN BY PROSPAN MANUFACTURING CO., INC. IN CONNECTION HEREWITH, UNDER NO CIRCUMSTANCES SHALL THE SELLER BE LIABLE FOR LOSS OF PROFITS, ANY OTHER DIRECT OR INDIRECT COSTS, EXPENSES, LOSSES OR DAMAGES ARISING OUT OF DEFECTS IN, OR FAILURE OF THE PRODUCT OR ANY PART THEREOF.**

**IT IS AGREED THAT PROSPAN SHALL BE EXEMPT FROM LIABILITY FOR LOSS, DAMAGE, OR INJURY TO ANY PROPERTY, INCLUDING, WITHOUT LIMITATION LOST PROFITS DUE DIRECTLY OR INDIRECTLY TO OCCURRENCES, OR CONSEQUENCES THEREFROM, ARISING OUT OF DEFECTS IN, OR FAILURE OF THE PRODUCT OR ANY PART THEREOF. THIS LIMITATION OF LIABILITY SHALL APPLY IF THE LOSS OR DAMAGE TO PROPERTY RESULTS FROM PERFORMANCE OR NONPERFORMANCE OF THE OBLIGATIONS IMPOSED BY CONTRACT, NEGLIGENCE OR STRICT LIABILITY.**

The purchaser shall be solely responsible for compliance with all applicable Federal, State and local OSHA laws and their requirements. Product designs, specifications and pricing are subject to change without notification.

## **DISCLAIMER OF SAFE DELIVERY**

1. Our terms of sale are FOB factory or point of shipment...the responsibility for damage in transit is the carrier's, whether it is visible damage or concealed damage.
2. Inspect shipments immediately. Insist that visible damages be indicated on your copy of the freight bill.
3. Open shipments immediately and check the condition of the delivered goods.
4. In case of damage, notify the delivery carrier immediately, requesting that an inspection be made.
5. The consignee must make claims for damages immediately to the carrier.
6. Merchandise shortages must be reported within 10-days of receipt of goods.

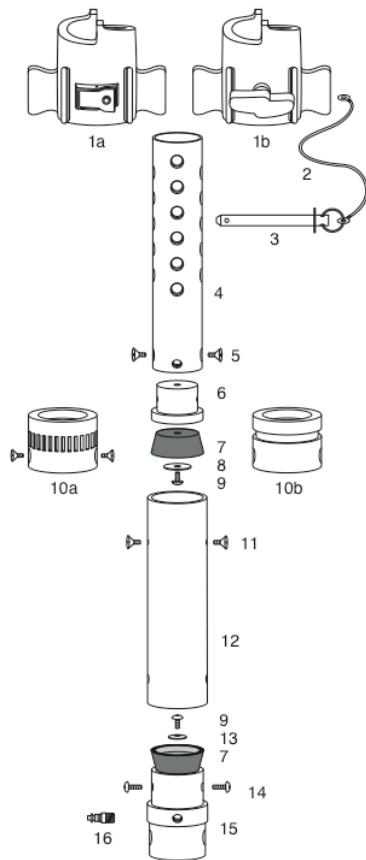
## **MERCHANDISE RETURNS**

No product can be returned without prior authorization from PROSPAN Manufacturing Co., Inc. and returned freight prepaid.

## **PRODUCT LABELING**

All product information and warning labeling must be affixed to the Prospan product at all times. Should the need arise to replace a label, contact the manufacturer or your local dealer and arrange for replacement.

## Prospan Parts Assembly



### Parts Legend

ITEM	PART #	ITEM	PART #
1a	PRO-OCFD	9	PISTON CUP BOLT (5/16-18 x 1-1/4)
1b	PRO-OCPW	10a	INNER COLLAR-FD
2	PRO-LAN16	10b	INNER COLLAR-PW
3	PRO-DPC10-500T	11	IC FHSCS (1/4-20 x 1/2)
4	PISTON (P1-4)	12	Barrel (B1-B4)
5	PEP FHSCS (5/16-18X1/2	13	BELLEVILLE WASHER
6	PISTON END PLUG	14	BEP-RHSCS (3/8-16 X 1/2)
7	PISTON CUP	15	BARREL END PLUG
8	FENDER WASHER	16	AIR NIPPLE (MALE PLUG)