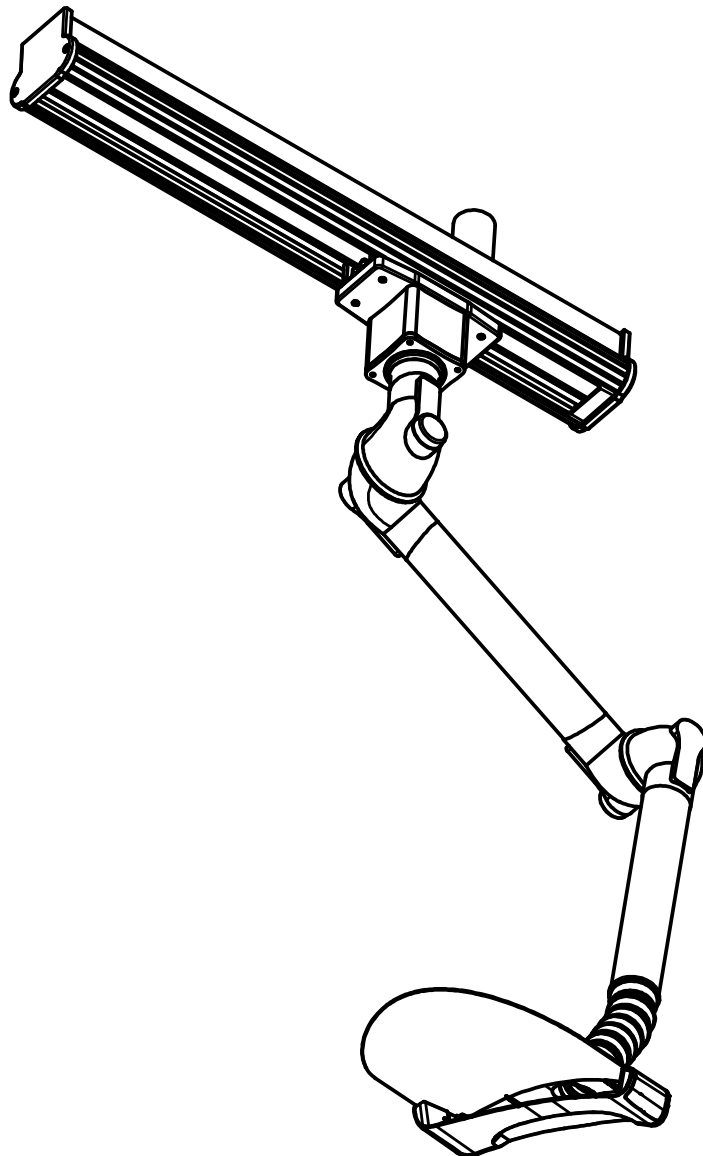




ergonomic products
Performance Without Compromise™

INSTALLATION MANUAL

Safe-T-Shield™ VacTrac



Product ID: **T2B1**
Manual: 950-109 rev A



Thank you for purchasing the Ergonomic Products Safe-T-Shield™ VacTrac.

Years of research by dentists, engineers, and designers have made this a uniquely effective product in the industry. We stand behind our equipment, and genuinely believe it to be the best available on the market.

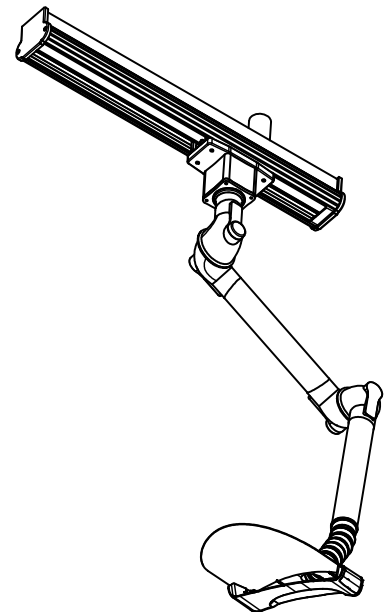
Should you have any questions regarding the product's installation or use, please don't hesitate to call our customer service specialists at **1-866-ERGO-4-US**. We may also be reached via email at **equip@ergonomic-products.com**.

We hope that you enjoy the benefits and quality of your new equipment and look forward to assisting you with your future needs as your practice continues to grow!

—The Ergonomic Products Team

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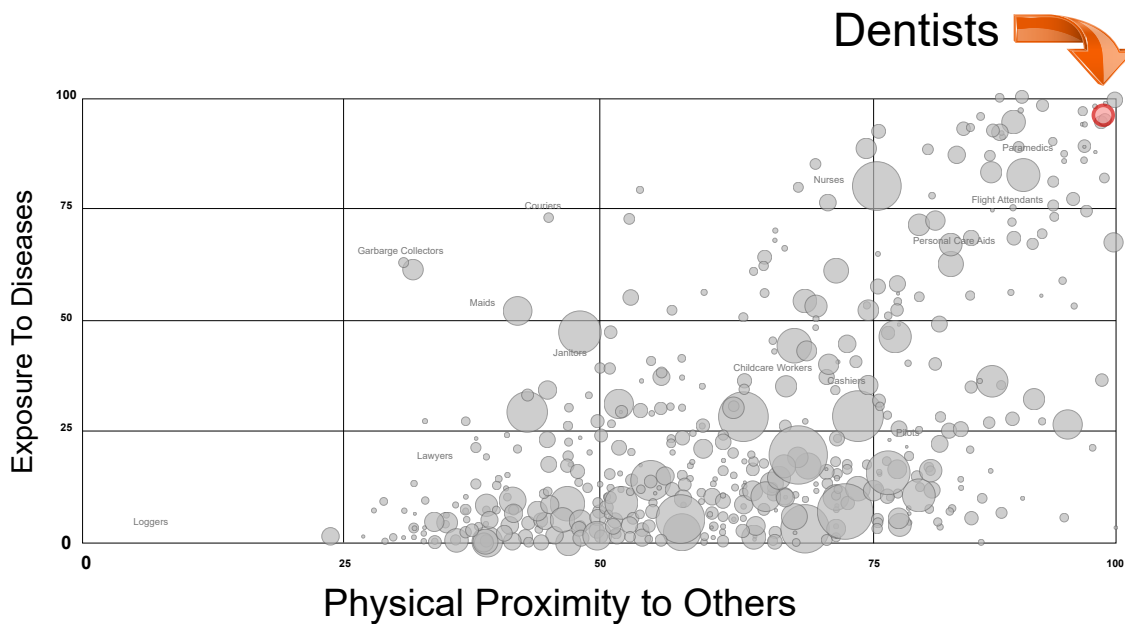
QUESTIONS?

**Call our Customer Service Specialists at:
1-866-ERGO-4-US**



1 - INTRODUCTION

The Safe-T-Shield™ represents the next generation in extraoral aerosol control for dentists, medical professionals and anyone with a high exposure to oral vapor.



The Safe-T-Shield provides both a physical barrier to droplet, spray & bio-burden ejection as well as aerosol evacuation via a patent pending laminar flow air manifold.



While the protection offered by the Safe-T-Shield is higher than any other extraoral system available, the Safe-T-Shield is intended to be used in conjunction with a sensible PPE regime. The requirements for such PPE use, including gloves, gowns, and masks will vary by region and need. Users are cautioned to take every available measure to prevent the spread of aerosol and particulate contamination.

For user safety and optimal performance, please read this Specification and User Guide thoroughly prior to use.

Demonstration videos for assembly, use and cleaning are referenced throughout this guide and may be found here in the “Demonstration Videos” tab on the Safe-T-Shield page at <https://www.ergonomic-products.com/safe-t-shield-installed/>



2 - CAUTIONS AND SAFETY INFORMATION

SYMBOLS USED IN THIS GUIDE	
 WARNING	If the instructions are not followed properly, operation may lead to hazards for the product, user or patient.
 NOTE	Useful information that will increase performance or ease of use.



BEFORE OPERATING YOUR SAFE-T-SHIELD FOR THE FIRST TIME:

1. Thoroughly clean and disinfect the unit using standard maintenance protocols. See page 19.

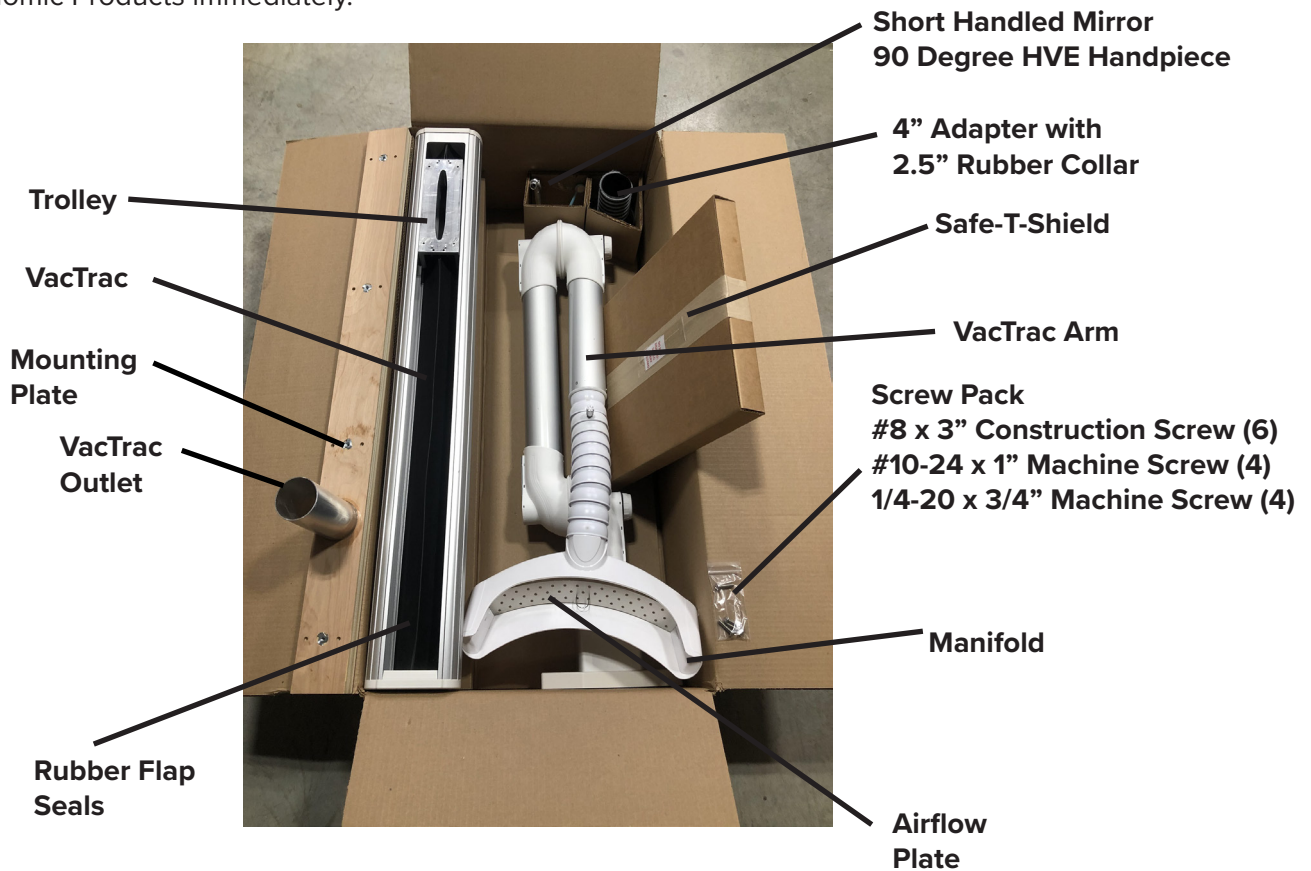


3 – REQUIRED TOOLS / UNPACKING AND INSPECTING

REQUIRED TOOLS:

- Power Drill
- Philips head screw driver
- Tape Measure
- 2-5/8" Hole Saw
- Pencil
- Utility Knife

1. Inspect shipping container for visible damage upon arrival. If transit damage is found, contact Ergonomic Products immediately (this will expedite the corrective process).
2. Use safe lifting procedures to free the product from the container, and remove all packing material and accessory boxes from shipping container.
3. Lay individual components on clean surface to avoid scratching, and inspect contents. If damage is found, contact Ergonomic Products immediately.



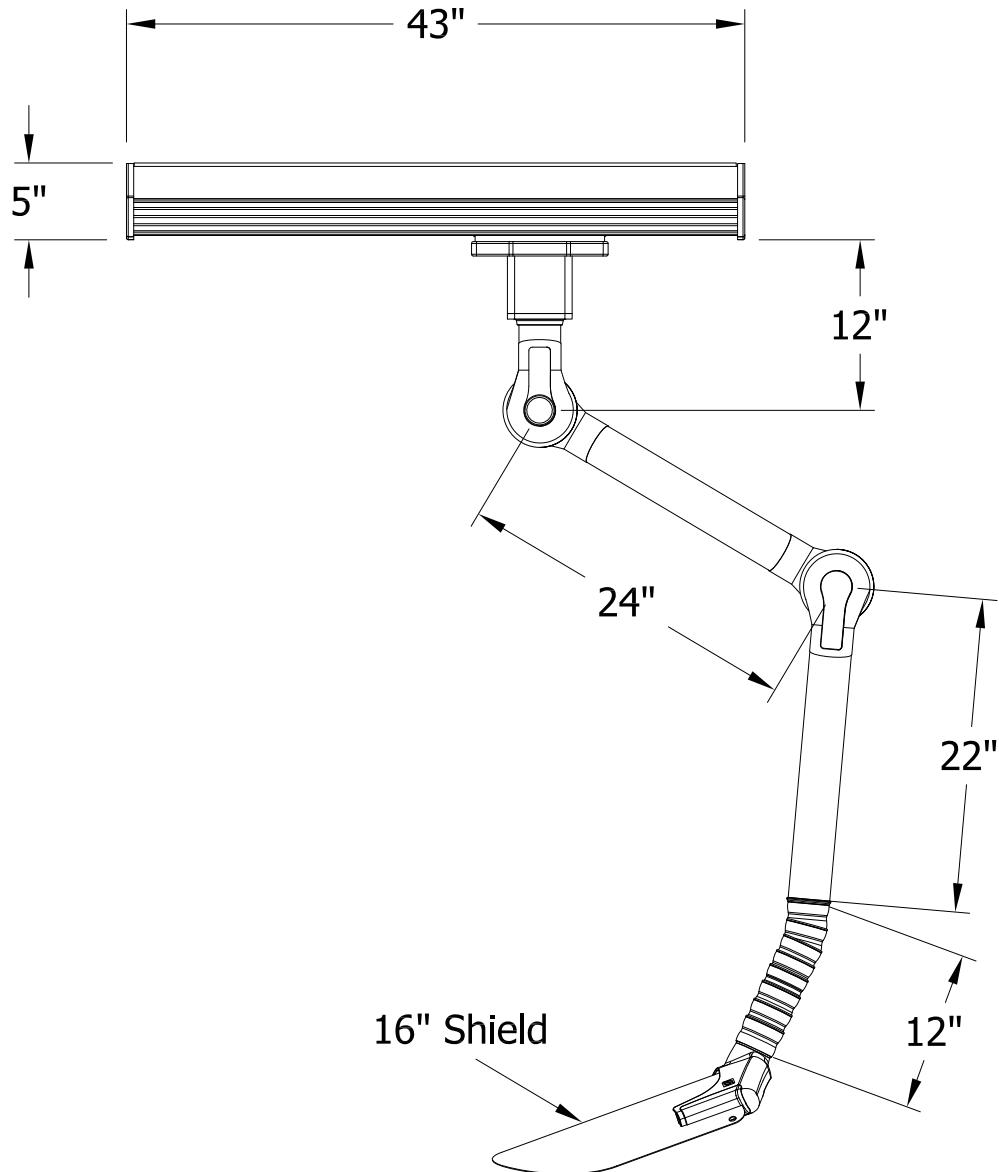
A Gift for You, Your Team and Your Patients

Your Safe-T-Shield is shipped with a 90° HVE Handpiece and an auto-clavable Short Handled Mirror. While not required for use, we have found these instruments offer the most comfortable positioning and greatest access to the oral cavity when employing the Safe-T-Shield.

We are providing these items - at no additional charge - to give you the best possible experience with our product. Please see page 17 for more information on these and other items that will help your practice treat patients safely & comfortably while maintaining the highest level of care that you demand.



4 - SPECIFICATIONS





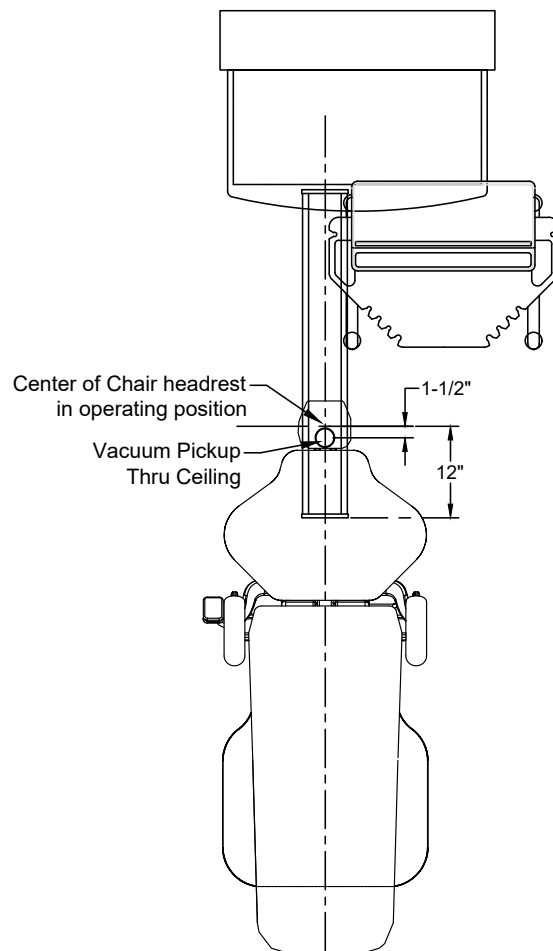
5 – SITE LAYOUT

Operatory Plan View

Measurements for locating the VacTrac are done from the center of the headrest on the patient chair in the operating position. See below for dimensions.

NOTES

- 1 Ceiling shows relation of chair to Vac Track
- 2 Chair must be in typical operating position for measuring
- 3 VacTrac is centered inline over chair



VACTRAC
Typical Op Plan View



5 - SITE LAYOUT cont'd

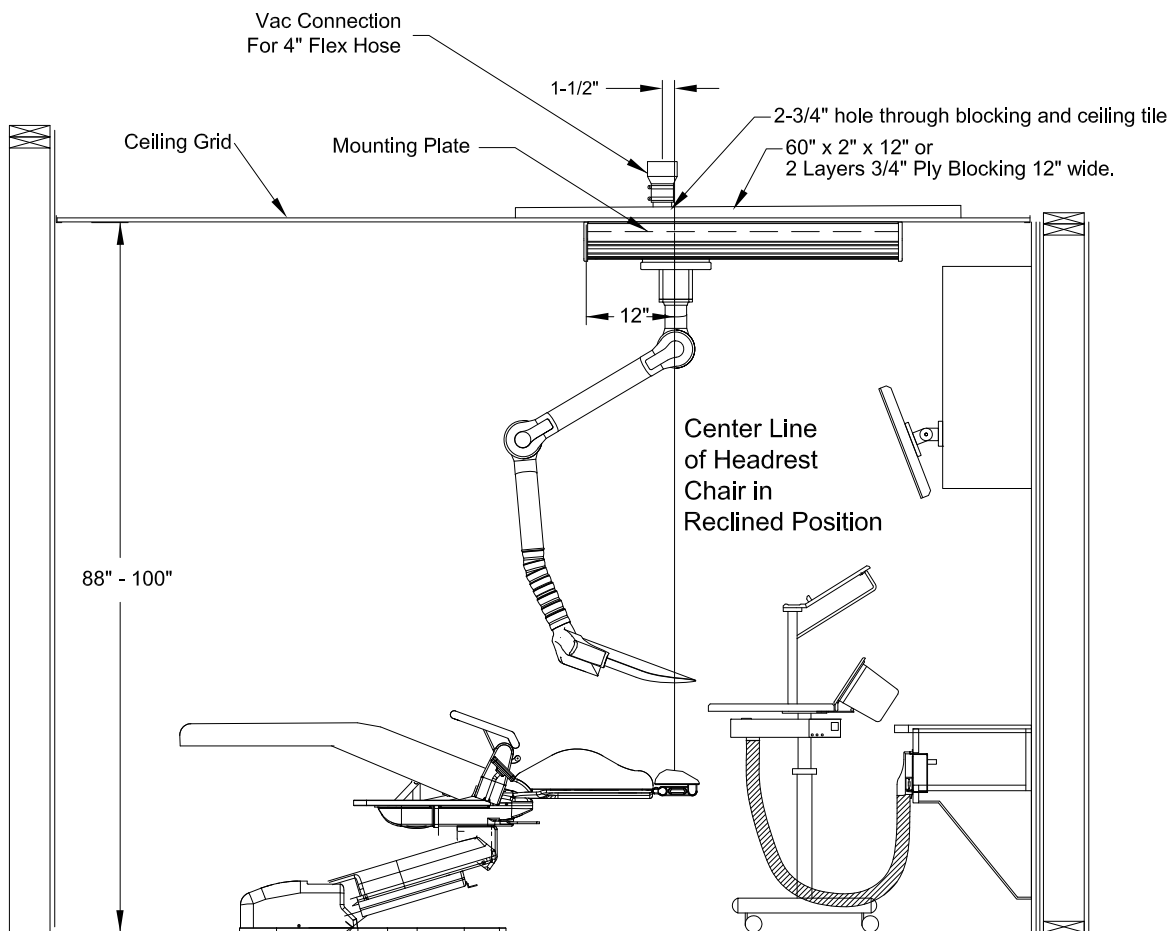
Operatory Elevation View

Measurements for locating the VacTrac are done from the center of the headrest on the patient chair in the operating position. See below for dimensions.

Note: This manual covers location and installation of the Safe-T-Shield VacTrac. Generally, the final connection to your HVAC system will be made via a 4" flex hose and will be done by your HVAC technician.

NOTES

- 1 Mount position is determined from center of headrest as shown
- 2 Standard Configuration is for 88"-100" ceiling height
- 3 Custom sizes for higher ceilings are available by special order
- 4 Chair must be in standard operating position for measurements
- 5 Affix VacTrac mounting plate to 1-1/2" solid wood min. blocking with 6 supplied #10 X 3" construction screws



VACTRAC
Typical Op Left Elevation

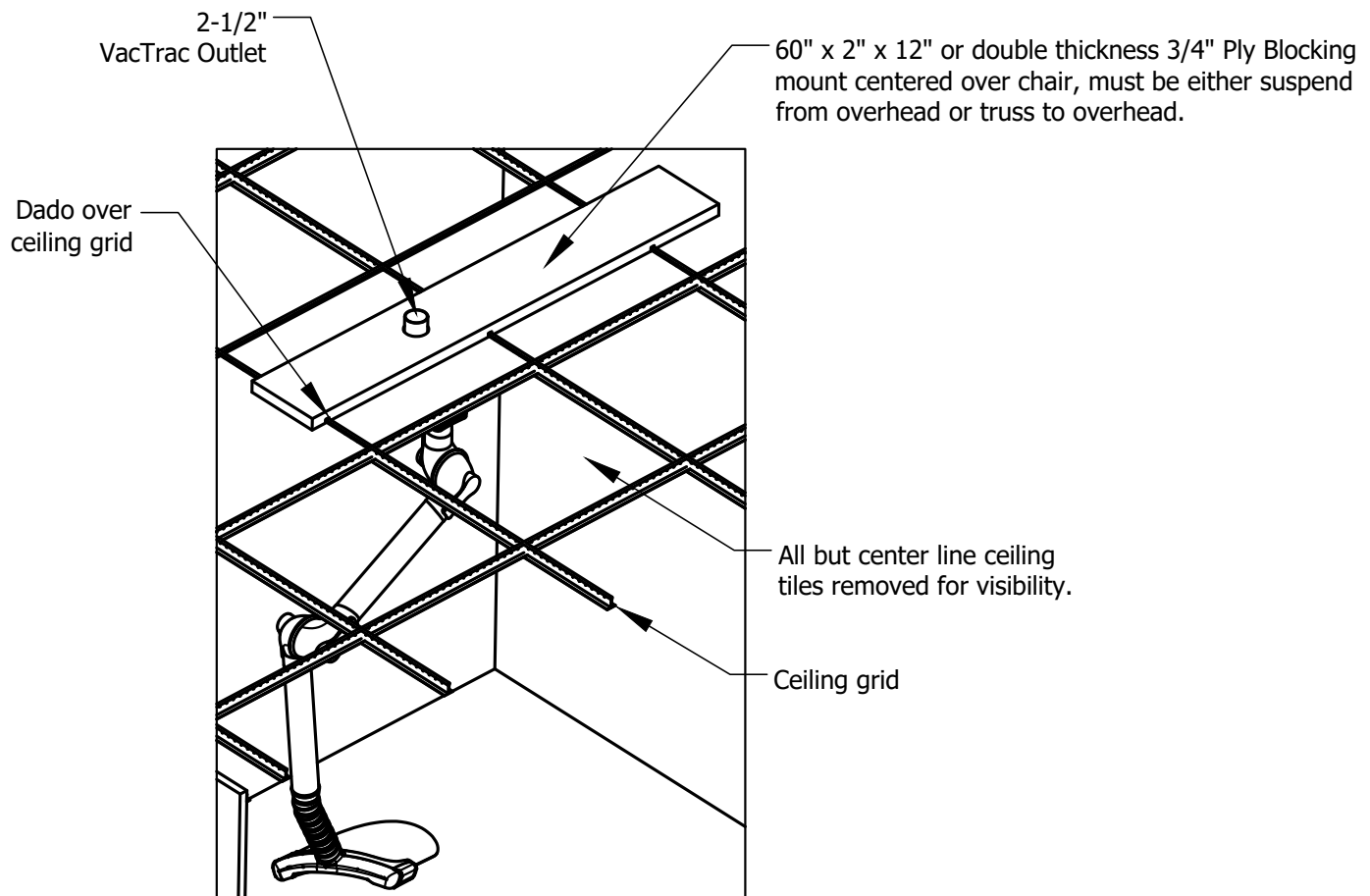


6 - VACTRAC INSTALLATION

Structure for supporting the Vac Track

View from above the ceiling grid with all the tiles removed except center line where track is installed.
All images in this manual are shown installing on a suspended ceiling.
The same approximate procedure is followed for other types of ceilings.

In planning installation confirm that there are no obstructions in the overhead that will interfere with recommended placement.





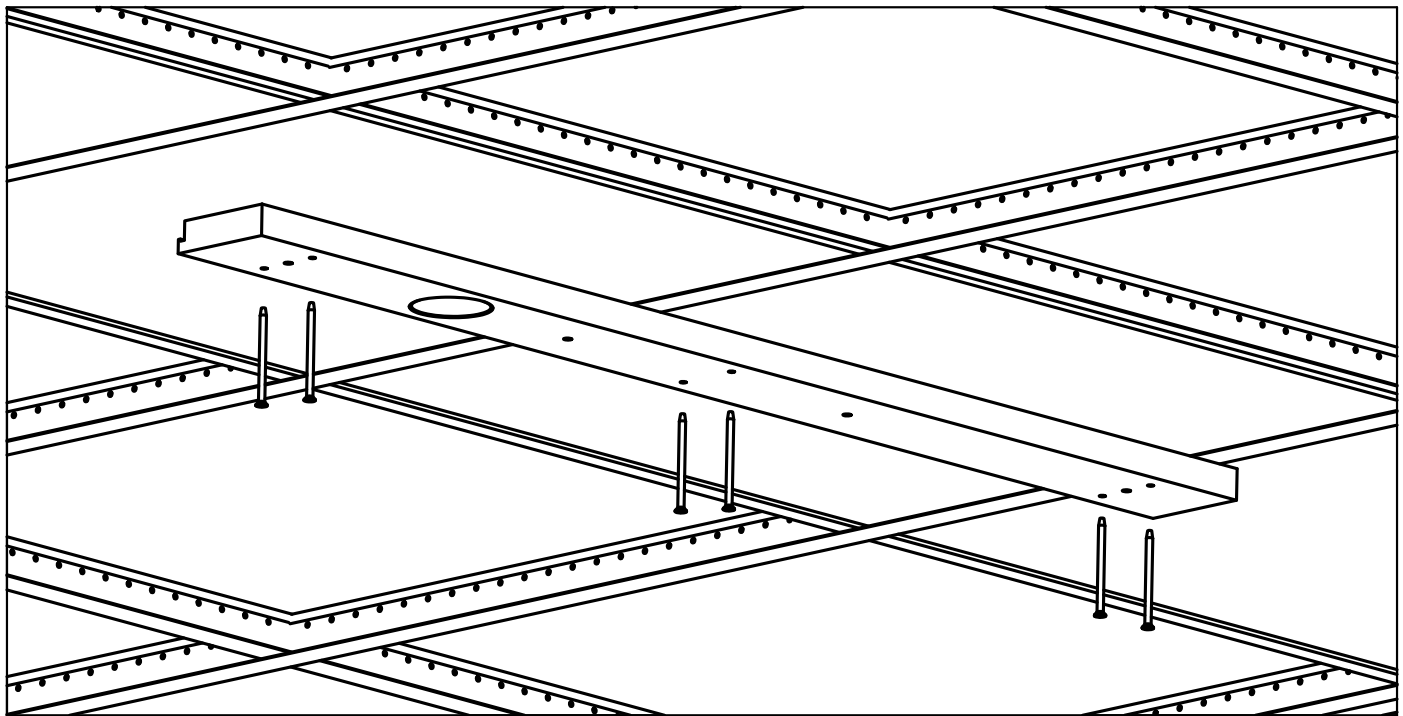
6 – VACTRAC INSTALLATION cont'd

Install Vac Track Mounting Plate

1. Drill 2-5/8" hole through ceiling tile and backing block.

See page 7 for location of 2-5/8" hole

2. Install Mount Plate as shown square to ceiling grid or walls, using (6) #8 x 3" construction screws.



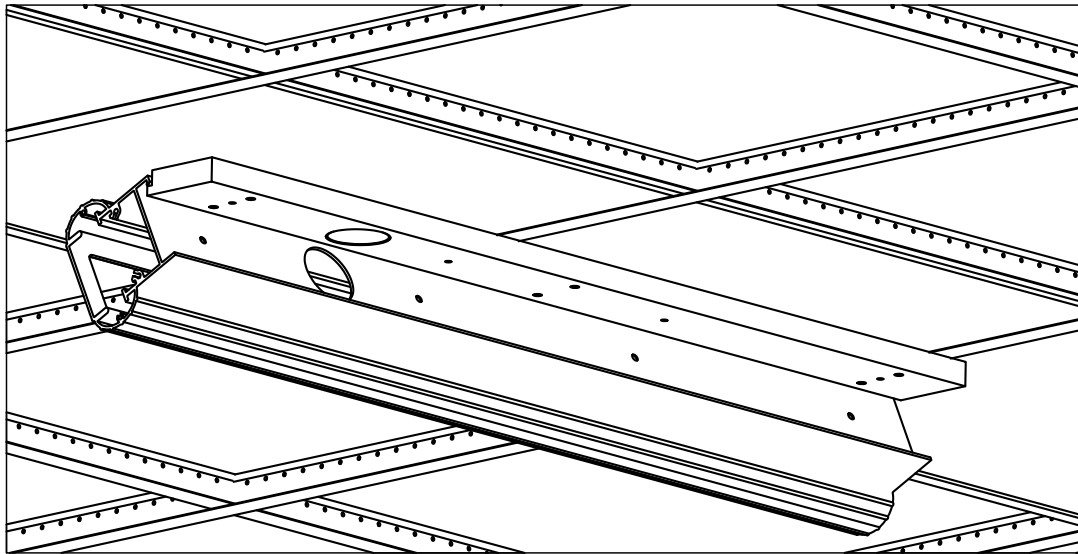
Viewed from below



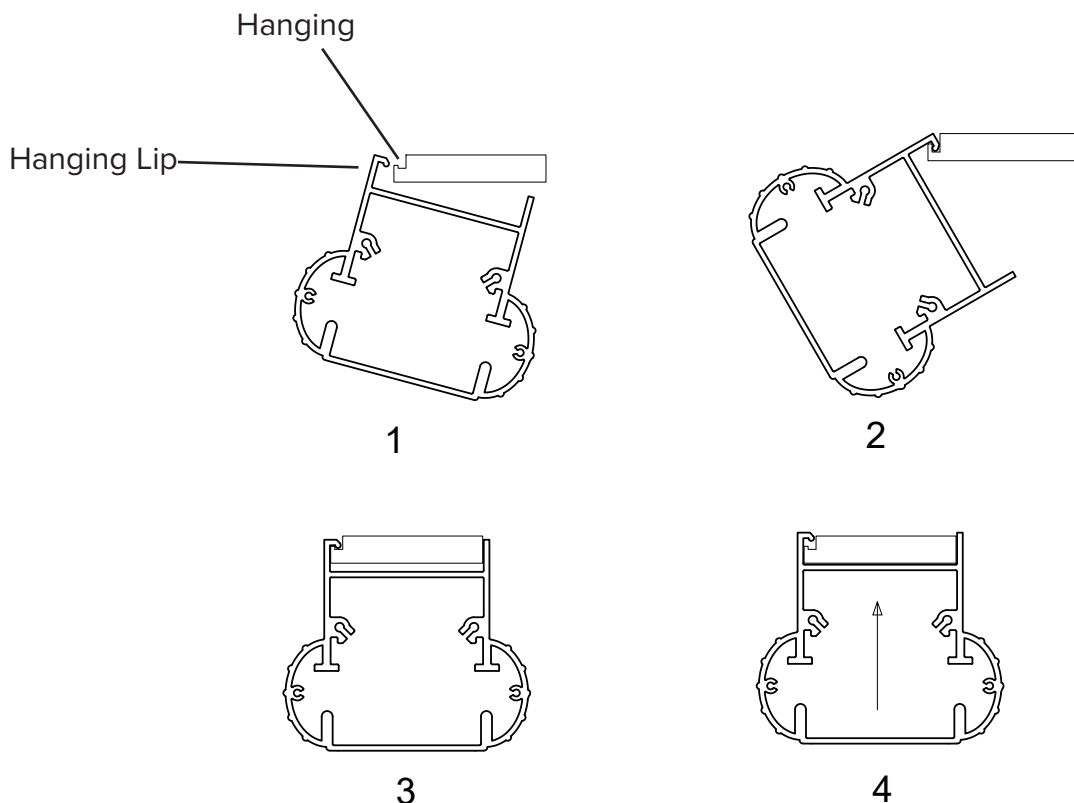
6 – VACTRAC INSTALLATION cont'd

Install Vac Track on Mount Plate

Hang VacTrac on dado by inserting the hanging lip into the entire length of Mounting Plate dado as shown.



Note: End caps not shown in this image for clarity.



VacTrac cross section



6 – VACTRAC INSTALLATION cont'd

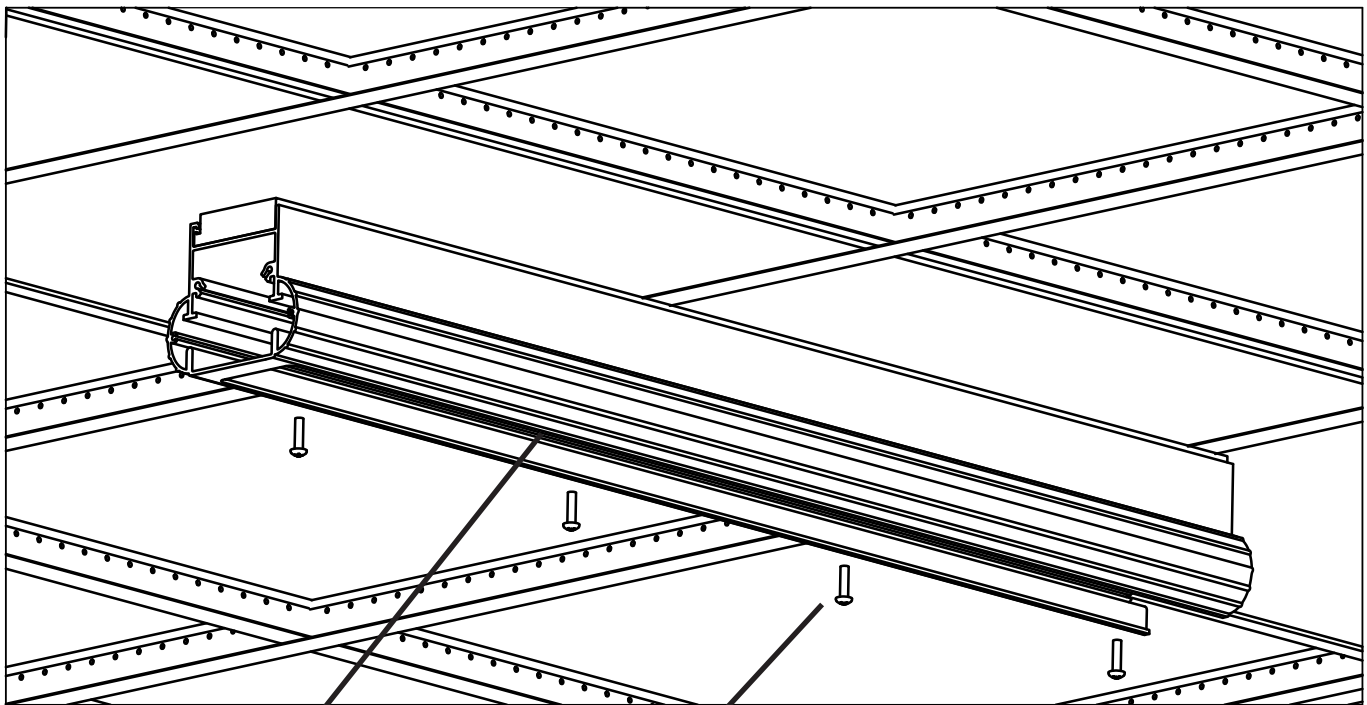
Attaching Vac Track to Mount Plate

1. Swing Track up tight against ceiling.
2. Working through Rubber Flap seals, with a long philips screw driver carefully install the (4) 1/4"-20 pan head machine screws.



WARNING

Avoid damaging the Rubber Flap seal as this may reduce the effectiveness of the VacTrac suction.



Note: End caps and trolley not shown for clarity.

Rubber Flap

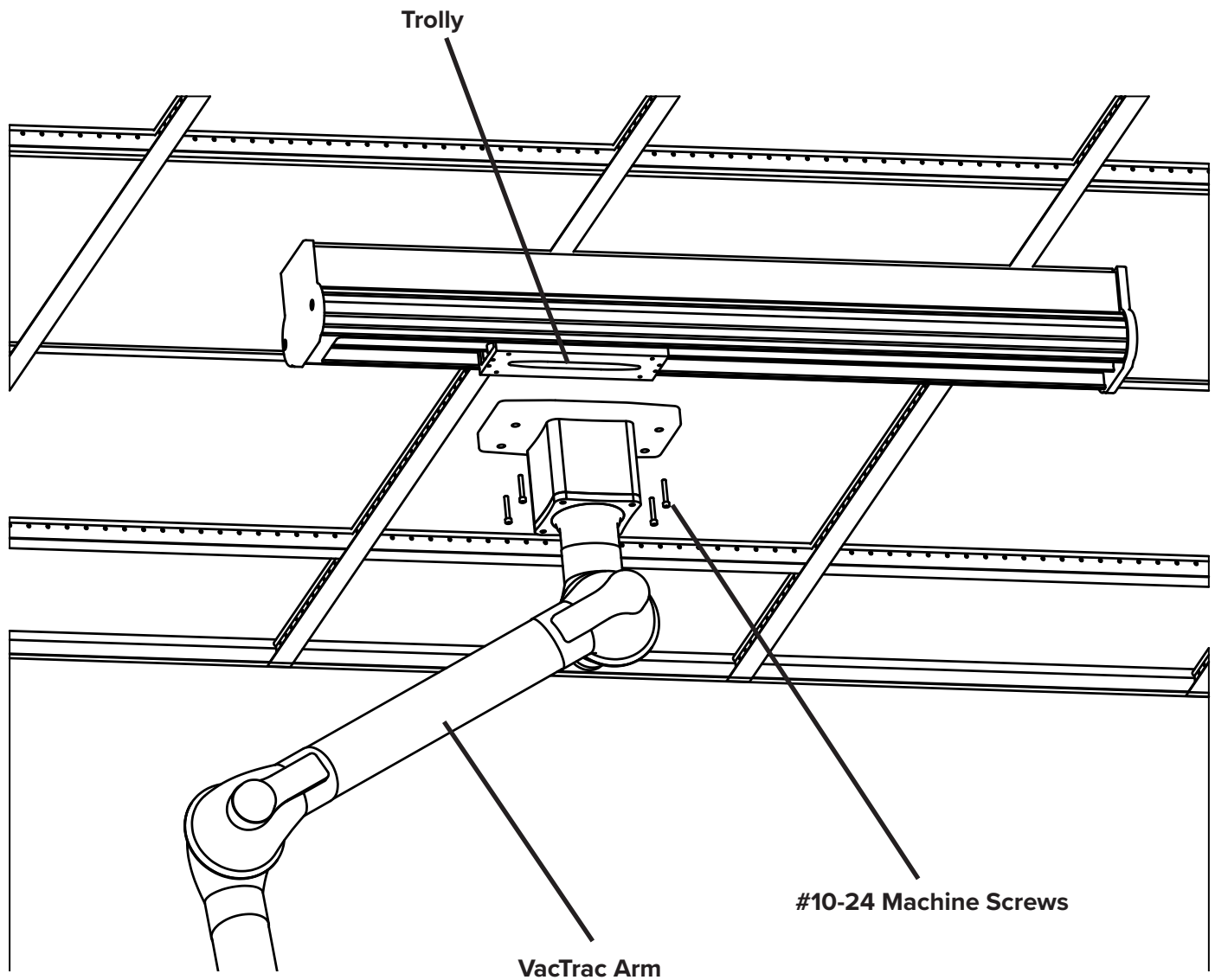
1/4"-20 pan head machine



6 – VACTRAC INSTALLATION cont'd

Installing Arm

1. Install VacTrac Arm on Trolley with (4) #10-24 machine screws.

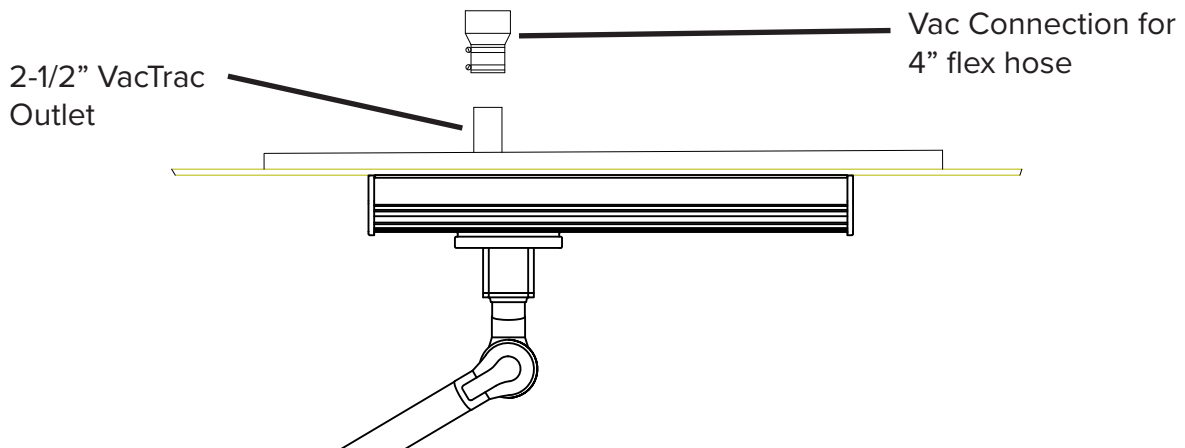




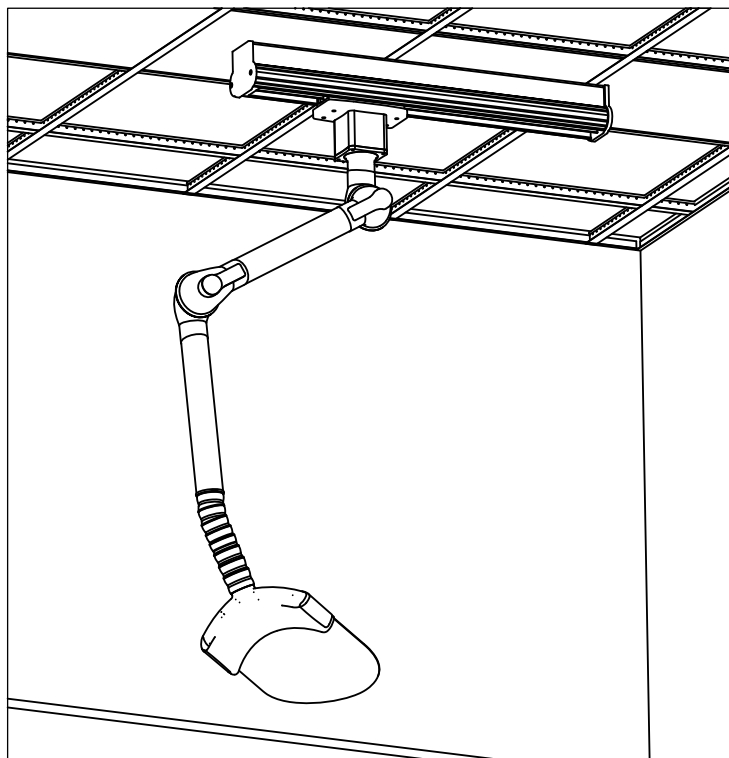
6 – VACTRAC INSTALLATION cont'd

Connect to Vacuum Source

1. Working from overhead, install the Rubber 4" Connection Adapter onto the 2-1/2" VacTrac Outlet Tube



Final Assembly

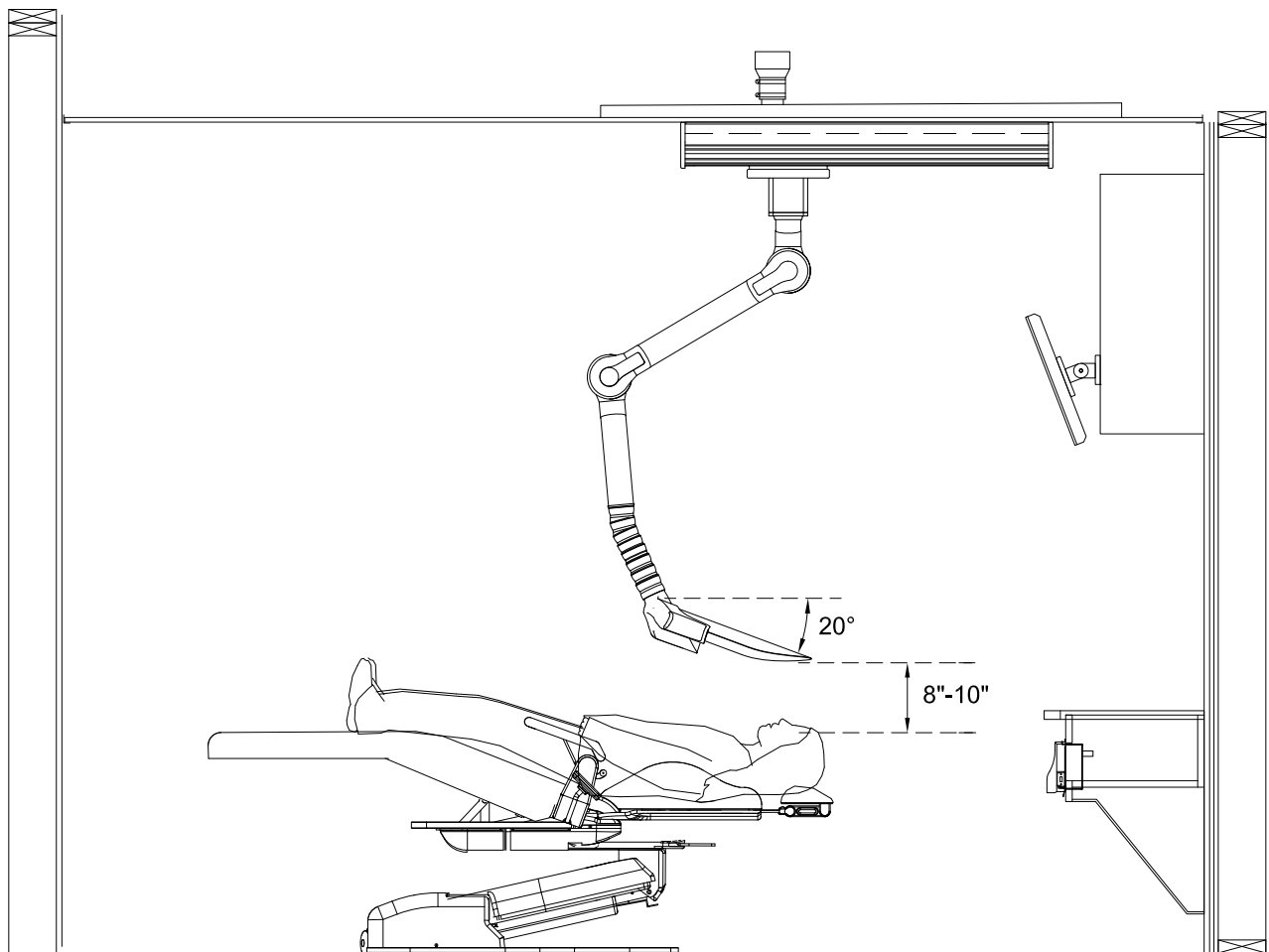




7 - POSITIONING FOR TREATMENT

Ideal positioning may vary depending on user preference and treatment requirements.

However, for optimal evacuation and protection from spray and bioburden ejection, the Shield should be located at a distance of 8" to 10" directly above the oral cavity, and at a downward angle of approximately 20° as shown below.





7 - POSITIONING FOR TREATMENT cont.

POSITIONING THE SHIELD ABOVE THE PATIENT

Click here for a demonstration video or go to: www.ergonomic-products.com/safe-t-shield-installed/

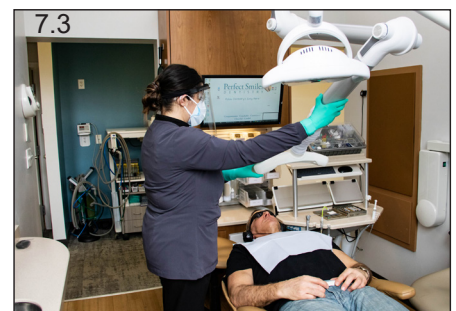
Adjust the Arm Tension and Resistance:

Prior to positioning, adjust the Arm Tension Adjustment Knobs. Twist clockwise firmly until the Suction Tube Arms may be moved, but will remain in place when released. This will allow you to adjust the position of the arms without having to release tension. The Tension Knobs may require occasional tightening to maintain the proper resistance.

To Adjust the Height and Location of the Shield Above the Patient:

Follow the steps below to properly position the Shield above the patient.

1. While supporting the Lower Suction Tube arm, slide the Shield back from the home position by your headwall towards the patient's feet (fig.7.1 - fig. 7.2).
2. Tilt Lower Suction Tube Arm down 30° - 45°, until it is approximately one foot above the patient's level (fig.7.3).
3. To complete final positioning, move to the patient's head (fig.7.4).



WARNING

To avoid damage or unintended Shield removal, do not attempt to adjust the position by grasping the Shield itself.

Handle only by the Manifold.



8 - PROCEDURE TECHNIQUES AND SUGGESTIONS

When we say our products are “designed *by* dentists, *for* dentists” we mean it. Our founder and the source of our industry-changing designs is Dr. David Ahearn, a practitioner with two thriving practices in Massachusetts. While Dr. Ahearn’s experience-driven insights alone give us a unique position in the field, his practices allow us the opportunity to test our designs in live dental environments. We test, we learn, we refine - and repeat the process to continuously bring you the highest quality, most effective products available.

RECOMMENDED INSTRUMENTS

In testing live procedures under the Safe-T-Shield, we found that angled HVE handpieces provided the highest level of comfort and access to the oral cavity, while allowing the Shield to best perform its critical task of controlling the aerosols generated in treatment (fig. 8.1).

Some of our team hadn’t used these instrument variants before, but all adapted quickly and became strong proponents.

The team’s reaction was so strong, in fact, that we felt obligated to include (at no charge) the 90° Bull Frog HVE handpiece shipped with your Safe-T-Shield. We encourage you to test the instrument and see for yourself the benefits it brings.

We also tested 45° ASI handpiece as well, and to great effect.



90° - HVE Handpiece

Manufacturer: Bull Frog

Name: Ergo Vac Stationary HVE Handpiece

Mfg Item: B111715

Aluminum, fits universal holders, autoclavable

45° - HVE Handpiece

Manufacturer: ASI

Name: Ergo Handle High Volume Evacuator

Manufacturer’s Item Number: 90-2706E



8 - PROCEDURE TECHNIQUES AND SUGGESTIONS cont.

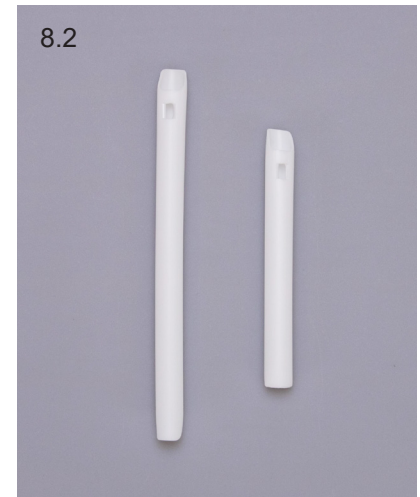
RECOMMENDED INSTRUMENTS cont.

We discovered a few other methods to optimize comfort and control without sacrificing treatment quality during Shield use.

Short HVE Tips (fig 8.2)

Shorter HVE tips allowed better positioning. For instance, assistants suctioning from the left, during treatment of posterior upper left teeth.

Standard tips may be easily cut to any length desired, as shown right. We recommend cutting to a length of approximately 4”.



Short Handle Mirror (fig 8.3)

As we mentioned, we included a short handle mirror with your shipment at no charge. Our team has found these to be very effective in all cases.

This mirror is auto-clavable.

Manufacturer: Osung
Name: Osung Dental Mirror
Manufacturer's Item Number: D-MDA-01





9 - CLEANING AND DISINFECTION

For proper infection control, the exterior of all Safe-T-Shield components should be thoroughly disinfected after each use. These include the Shield, Manifold, Airflow Plate, and Suction Tube as detailed below. See page 21 for weekly cleaning procedures.



WARNING

USE ONLY RECOMMENDED CLEANING COMPOUNDS AS DESCRIBED BELOW

RECOMMENDED DISINFECTION PRODUCTS

To more effectively capture patient exhalations and generated aerosols, the Shield is formed with a significant downward curve. The most effective material to create this form, while maintaining optical clarity and patient safety, is PETG (polyethylene terephthalate glycol). While PETG is a very durable material, some disinfectants in dental use may harm the finish or clarity of the Shield and Manifold.

Though other components of the Safe-T-Shield may be less susceptible to residue or fogging, we recommend using only the cleaning solutions and disinfection products below on the *entire* unit to avoid accidental contact with the Shield and Manifold.

Allowed Cleaning Solutions	
Family	Notes
Hydrogen Peroxide	<ul style="list-style-type: none"> Use a 3%-5% solution (these are available out of the bottle). Do not dilute. Let stand per manufacturer's guidelines.
Warm, Soapy Water	<ul style="list-style-type: none"> The use of warm, gentle dish soap is a common form of cleaning and disinfecting. Thoroughly and vigorously wash the surface of the plastic with dish washing soap for a minimum of 20 seconds or longer. Rinse with clean water.

Allowed Manufactured Disinfection Solutions					
EPA Reg. Number	Active Ingredient	Product Name	Manufacturer	Contact Time*	Formulation Type
67619-25	Hydrogen peroxide	Clorox Commercial Solutions Å® Hydrogen Peroxide Wipes	Clorox Professional Products Co.	2 min.	Wipe
67619-24	Hydrogen peroxide	Peroxide Multi Surface Cleaner and Disinfectant	Clorox Professional Products Co.	1 min.	Ready-to-use
1677-238	Hydrogen peroxide	Peroxide Multi Surface Cleaner and Disinfectant	Ecolab Inc	2 min.	Dilutable

*Source: EPA List N: Disinfectants for Use Against SARS-CoV-2 (COVID-19)



9 - CLEANING AND DISINFECTION cont.

As with all disinfection processes, follow your office's standard protocols regarding PPE and other guidelines.

After cleaning and disinfection, inspect the parts and components. Any pieces that appear worn, cracked, or damaged should no longer be used. Contact us for repairs or replacement parts.

CLEAN & DISINFECT THE SHIELD, MANIFOLD AND AIRFLOW PLATE AFTER USE

1. Use an alcohol wipe to clean any large particulate matter or spray off the Shield and Manifold. Let air dry, approximately 1 minute.
2. Use an allowed disinfection solution and standard protocols to thoroughly disinfect both sides of the Safe-T-Shield, both the exterior and interior of the Manifold, and the stainless steel Airflow Plate. Follow the disinfection manufacturer's instructions for appropriate application.



NOTE

While a clean Shield is obviously important for visual acuity, it is worth mentioning that the Airflow Plate is prominently in the patient's view during treatment. To maintain a positive patient experience, it is vital that this plate is not only thoroughly disinfected, but that it LOOKS as clean as possible, too. An alcohol wipe is effective to remove any streaks or spotting from disinfection. Additionally, we offer replacement Airflow Plates should standard wear and tear degrade the appearance.

CLEAN & DISINFECT THE SUCTION TUBE AND LOWER ELEMENTS AFTER USE

1. If necessary, use an alcohol wipe to clean any large particulate matter or spray off the Suction Tube and lower elements of the Safe-T-Shield. Let air dry, approximately 1 minute.
2. Use an allowed disinfection solution/product and standard protocols to thoroughly disinfect the Suction Tube. Follow the disinfection manufacturer's instructions for appropriate application.
3. Follow applicable regulatory board protocols on cleaning & disinfection for equipment below the chair level when addressing the Housing and Base. Again, use only allowable solutions/products as listed.

SHIELD REPLACEMENT SCHEDULE

For optimal visual clarity, the Shield will require occasional replacement. Frequency will vary depending on usage.

TO ORDER REPLACEMENT SHIELDS, PLEASE CONTACT US

Ergonomic Products Customer Service: 866-374-6487
or email: equip@ergonomic-products.com



9 - CLEANING AND DISINFECTION cont.

WEEKLY CLEANING AND DISINFECTION

The Suction Tube Interior

In addition to cleaning and disinfection of the exterior elements of the Safe-T-Shield after each use, we recommend disinfecting the interior of the Suction Tube weekly.

The best method for this is to employ a fogger using hypo-chlorous acid.

1. Remove the Shield from the manifold (see p. 22).
2. Remove the stainless steel Airflow Plate from the manifold (see p. 23).
3. Follow your manufacturer's instructions to prepare your fogger for use.
4. Turn on the Safe-T-Shield.
5. Place the fogger nozzle in the center of the Suction Tube
6. Fog the tube for 10 seconds only and stop. To avoid saturation of the Primary Cotton Filter, do not run the fogger longer than the recommended 10 seconds.
7. Turn off the Safe-T-Shield and replace the Airflow Plate and Shield (see pp. 22 & 23).

The Airflow Plate

The Airflow Plate may be autoclaved. We recommend this weekly as well. See page 23 for instructions on removal and re-installation of the Plate.

As previously mentioned, some clients prefer to have spare Airflow Plates available for a quick swap out should they require additional cleaning to maintain a pristine appearance.



10 – INSERTING (OR REMOVING) THE SHIELD

INSERTING (OR REMOVING) THE SHIELD

[Click here for a demonstration video or go to: www.ergonomic-products.com/safe-t-shield](http://www.ergonomic-products.com/safe-t-shield)

The Shield is removed from the Manifold for shipping purposes. Installation (or removal) is simple and does not require tools.

The Shield may be easily removed for replacement or as part of scheduled maintenance and cleaning routine. See user manual for cleaning and disinfection recommendations.



WARNING

To avoid damaging the Manifold, be sure the Airflow Plate is properly installed before inserting the Shield.

To insert the Shield:

1. Carefully line up the Shield edges to the slots in the Manifold. Gently but firmly, slide the Shield in until the retaining tabs click (fig. 10.1).

Confirm both tabs are engaged.

To remove the Shield (for cleaning or replacement):

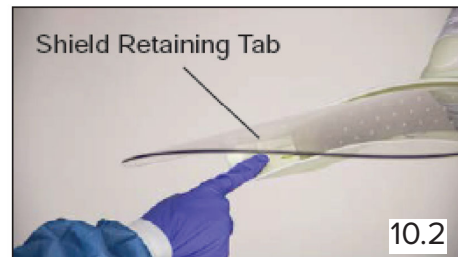
1. Depress the retaining tab on one side of the inner part of the Manifold and gently angle the Shield out until free of that tab (fig. 10.2).

2. While supporting the Shield, depress the other tab (fig. 10.3).

3. Withdraw the Shield straight out of the slots in the Manifold (fig. 10.4).



10.1



10.2



10.3



10.4



11 – INSERTING (OR REMOVING) THE AIRFLOW PLATE

INSERTING (OR REMOVING) THE AIRFLOW PLATE

[Click here for a demonstration video or go to: www.ergonomic-products.com/safe-t-shield](http://www.ergonomic-products.com/safe-t-shield)

The stainless steel, perforated Airflow Plate should arrive pre-installed in the Manifold. If it has become dislodged, reinstall it as shown below. Under normal use, the Airflow Plate will only need to be removed for weekly cleaning.



WARNING

To avoid scratching the underside of the Shield, remove it prior to inserting or removing the Airflow Plate.

To insert the Airflow Plate:

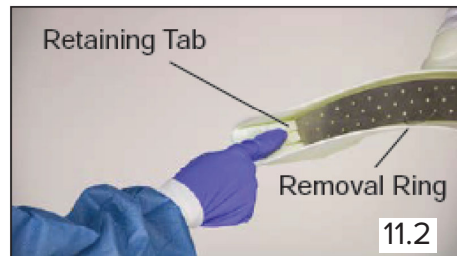
1. With the Shield removed, insert one side of the Airflow Plate behind the retaining tab.
2. Gently press the other side of the Airflow Plate straight into the Manifold until the retaining tab clicks (fig. 11.1).



11.1

To remove the Airflow Plate (for cleaning or replacement):

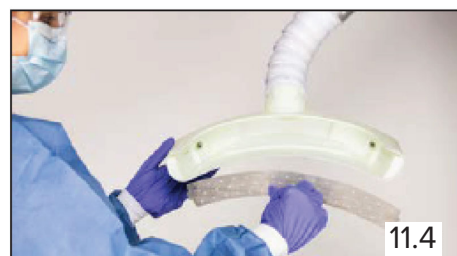
1. Remove the Shield from the Manifold (see opposite page)
2. Depress either retaining tab holding the Plate in place (fig. 11.2).
3. Grasp the removal ring in the center of the Plate and pull out to remove it (figs. 11.3 & 11.4).



11.2



11.3



11.4



12 – AIRFLOW DAMPER

To restrict the airflow when the VacTrac unit is not in use, turn the knob in the “close” position as shown in Fig 12.1. To open the air flow when the unit is in use, turn the knob in the “open” position as shown in Fig 12.2.

12.1



12.2





13 – WARRANTY INFORMATION

Ergonomic Products offers the following warranty on our products:

- 5-year limited warranty on all Corian® surfaces*
- 3-year warranty on all RapidCarts®**
- 5-year warranty on all EP 3 Series® Patient Chairs***
- 3-year warranty on all Workstations®
- 3-year warranty on all EP Lighting****
- 1-year warranty on all cabinetry, laminates and components
- 1-year warranty on all storage tubs and bins
- 3rd party components carry the original manufacturer's warranty:
 - 1-year warranty on scalers
 - 1-year warranty on cure lights
 - 1-year warranty on Ultraleather upholstery
 - 1-year warranty on BienAir Electric Motors

* Limited to manufacturer's defects only

** Excludes powder-coated RapidCarts® tops (1 year warranty)

*** Excludes upholstery (1 year warranty)

**** Excludes bulbs

Discontinued parts or components cannot be serviced once the warranty has expired. Additional 3rd-party sources may be available.

We promise to offer you prompt, inexpensive repairs. Products under warranty will be fixed as quickly as possible and service will be done on-site if possible. If a product must be returned to our technical center, it will be returned to you without additional shipping charges. If the time needed to repair it will affect your practice schedule, we will try to provide a loaner so as to not interrupt your service to your patients. In an emergency, our Doctor Delivery Power Channels® will ship overnight.

Should your office damage equipment, due to improper use or inadequate installation or maintenance, we'll still make sure to fix your problem promptly. The warranty will not apply. There is no warranty for fabric damaged by infection control products.

We promise to keep working to inspire you with our products and services. We want to hear from you and help you to continue to improve your practice.

Sincerely,
The Staff at Ergonomic Products, Inc.
1-866-ERGO-4-US