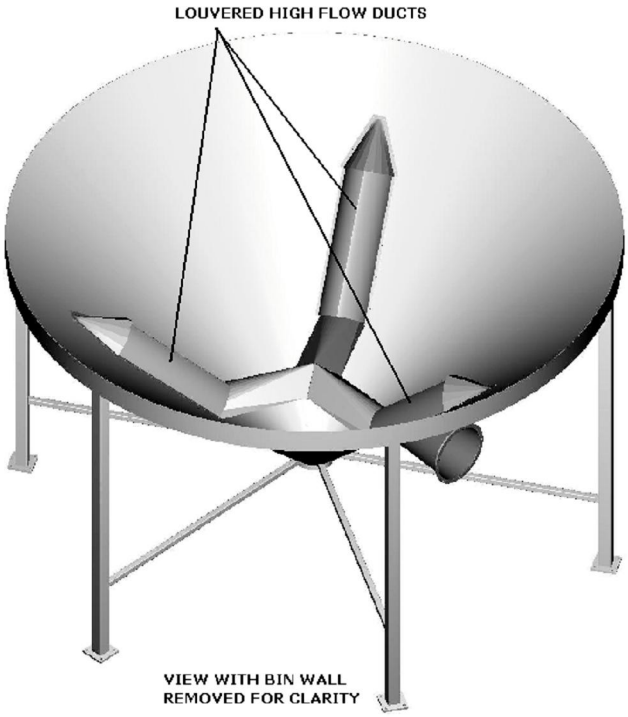
ALL SIZE PERFORATING LTD.

P.O. Box 2670 Winkler, Manitoba R6W 4C3 TEL. (204) 325 9457 www.allsize.com

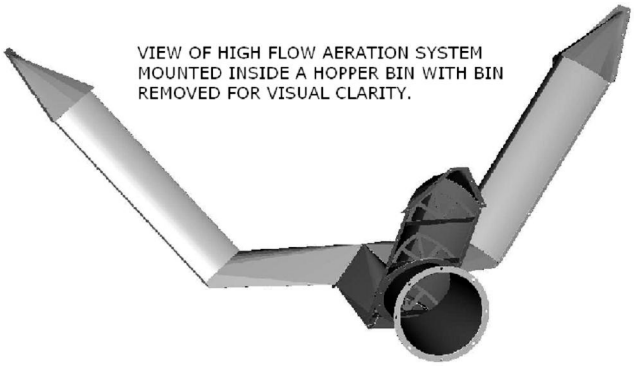
High Flow Aeration System for Hopper Bottom Bins

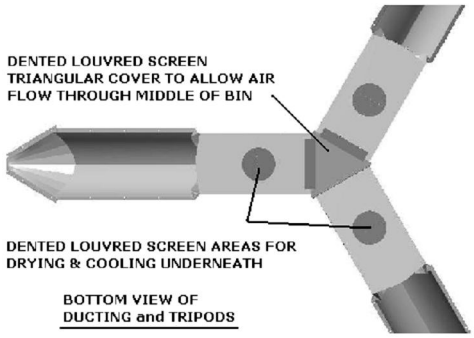
Thank you for purchasing the High Flow Aeration System by All Size Perforating Ltd. This system is designed to allow aeration in hopper bottom bins ranging in size from 14 feet to ?? feet.



Ducts are manufactured from 18 gauge material. The perforations are facing down and totally self-cleaning. Even dirt will not fall through. Heavy 10 gauge center distribution tripods have Dented Louvered panels on underside for bottom cooling and more uniform drying through middle of bin.

PAMI test and CSA approved. Full line of transitions available.





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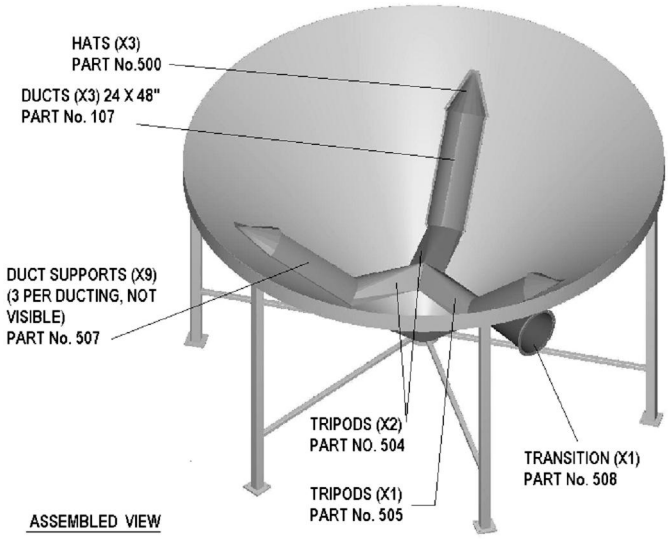
Hopper System Installation Manual

***** Before starting the installation ensure that all parts are accounted for along with the necessary mounting hardware. Read through the instruction manual to better understand the assembly process before continuing with the installation. Understanding the assembly will make for an easier installation of your High Flow Aeration System.**

******** ALWAYS KEEP SAFTEY PRIORITY ********

- ADEQUATE VENTELATION MUST BE IN THE GRAIN BIN AT ALL TIMES DURING THE INSTALLATION and WORKING FROM IN THE BIN
- ONE EXTRA PERSON MUST BE PRESENT AT ALL TIMES WHEN ANYONE IS WORKING FROM INSIDE THE HOPPER BIN



System kit includes:
- 2 pcs, Tripods – Part no. 504
- 1 pc, Tripod – Part no. 505
- 1 pc, Transition – Part no. 508
- 9 pcs, Hopper Duct Support - Part no. 507
- 3 pcs, Hats, Ducting - Part no. 500
- 3 pcs, 24" X 48" Duct – Part no.107
- Bolts, nuts, washers
- 1 pc, Slide Cover (Triangle) - Part no. 503
- 15 pcs – 3/8 Bolts with Nuts
- 75 pcs – Self-Tapping Screws

(OUTSIDE BIN WALL NOT SHOWN FOR CLARITY)

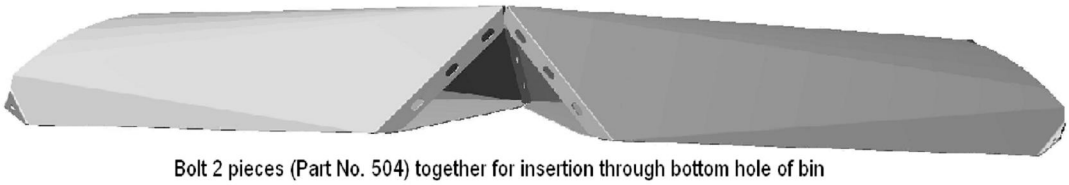
TOOLS REQUIRED

- Small hand drill – battery or cord operated
- Adapter bit for self-tapping screws
- Light source for inside of bin
- Hand wrenches and socket wrench for bolts & nuts (9/16)
- Caulking gun and sealer
- Pencil or marker
- Center punch and Twist Drill (13/32 drill – 3/8 bolts)

STEP 1 – ASSEMBLE TRIPODS

Place two of the tripods together as shown (Part No. 504) and fasten the tripods together with supplied 3/8 bolts and nuts in the three mating slotted holes, see Fig. 1. Pre-assembling the tripods outside of bin will make the installation easier then assembling in the bin.

Take the two assembled tripods and insert them into the bin using the bottom hole of the bin (if opening diameter is large enough). Parts may need to be lowered into the bin from the top of the roof of the bin. The transition hole may need to be cut first to allow for insertion of tripods into the bin. See STEP 3.



Bolt 2 pieces (Part No. 504) together for insertion through bottom hole of bin

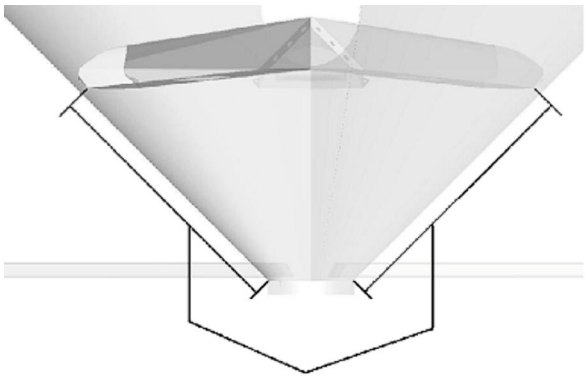
Fig. 1

With the two tripods bolted together in the bin, place the third tripod (Part No. 505) into the bin. Bolt the third tripod to the two previously assembled tripods. Figure 4 illustrates a top view of the Tripods when bolted together. For the best fit of the tripods to each other, loosen and adjust each tripod until best fit is achieved and then tighten bolts once again.

Note: Part No. 505 – does not have the rectangular piece welded underneath for the triangle slide cover.

STEP 2 – MOUNTING TRIPODS IN HOPPER BIN

From inside the bin, the tripods need to be positioned to sit level. Use common reference points from locations on the bin and tripods. Measure all three points and adjust the tripods until the measurements are equal at all three points, Fig 2.



SAME DISTANCE REQUIRED FOR ALL THREE TRIPODS
WHEN MEASUREMENTS TAKE FROM COMMON POINTS

Fig.2

IMPORTANT NOTE: Tripods are to be located in such a way that one tripod is pointing to an area to the outside of the bin clear of any obstruction for the mounting of the transition and external fan. Fig 3.

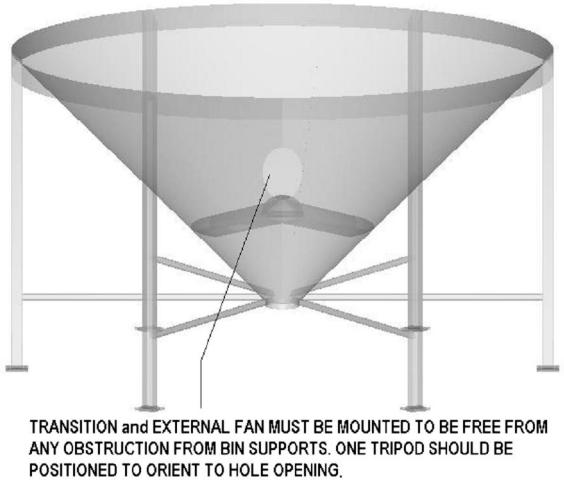


Fig 3.

At the tripod ends, take the center point of the distance between the two bolt holes that mount to the bin and ensure that there is minimal space from the edge of the tripod as illustrated. Otherwise there will be too much air forced against the wall of the ducting and not enough air forced into the tripods to distribute throughout the other ducting. Next mark the six holes at the end of the tripod for drilling. Drill through hopper bin and bolt tripods to the hopper, Fig 4.

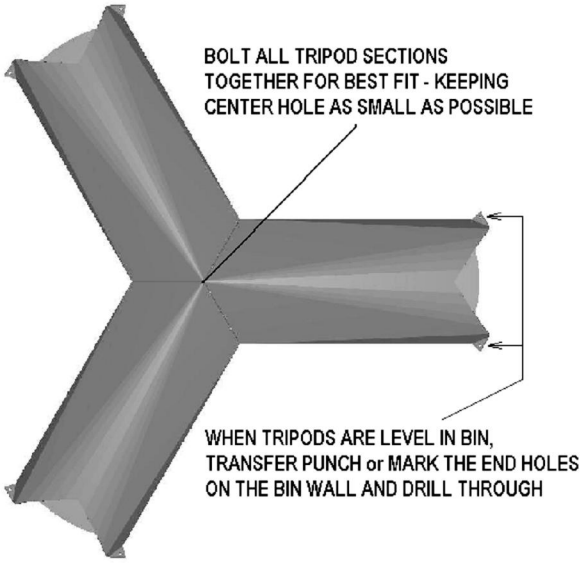


Fig 4.

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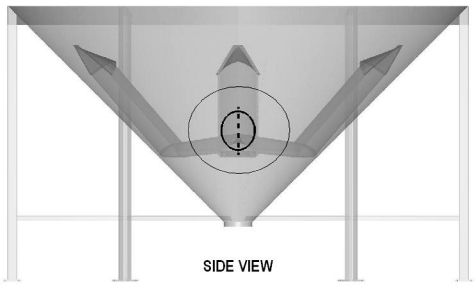
STEP 3 – CUTTING TRANSITION OPENING IN HOPPER BIN

***CAUTION:** When cutting the transition hole ensure the hole does not exceed the width of the ducting. Location of the transition hole is critical. Follow directions carefully.



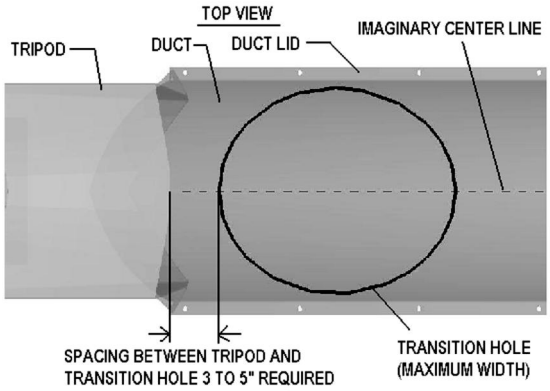
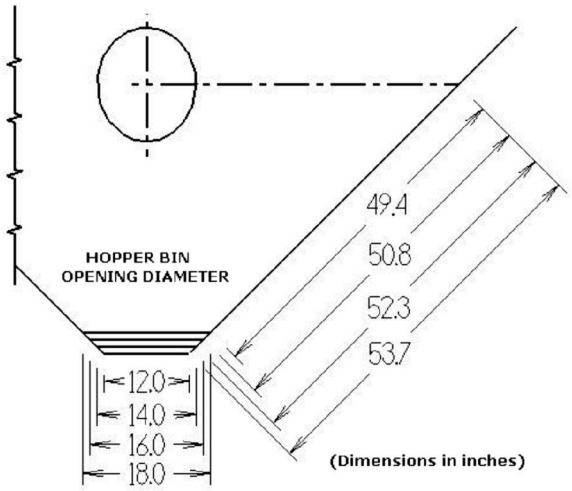


Fig. 5

Locating the Transition hole and cut size.



PLACEMENT OF TRANSITION HOLE IN RELATION TO BIN CHUTE DIAMETER, MEASURE ALONG BIN WALL TO EDGE OF BIN CHUTE.

Fig. 6

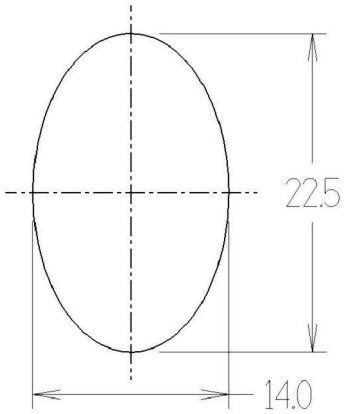


Fig. 7

Use the illustration (Fig.5) as a guideline for cutting the transition hole. To better determine placement of transition hole refer to figure 6. The large the bin opening at bottom the shorter the distance is to the center of the hole. Figure 7 shows the actual size of the hole when at a 45 degree angle facing bin hopper.

Another option is to place the transition in the position on the outer area of the bin and the inside hole of the transition can be traced for exact layout. Cut hole smaller then required for better locating the transition and gradually cut the hole larger to match the transition inside flange hole.

Step 4 – MOUNTING DUCTS and SUPPORTS TO HOPPER WALL

For ease of installation fit all the components to the hopper wall prior to drilling. This will allow for a better fit and allow adjustment to any areas where gaps are present.

Place the duct over the ends of the tripod making sure the louvers are facing down toward the bottom of the hopper (this ensures self-cleaning of the ducts). If there is a problem with the ducts fitting properly, cut the tip of the ducts as shown in the illustration, making sure the duct overlaps the tripod no less than 1 1/2 to 2 inches. Take the two bolts to fasten the ducting and the flange together onto the tripod. Space the self-drilling, self-tapping screws approximately every 8 inches apart, or as where needed. See Fig. 9.

***SAFETY TIP:** Cut off the screws protruding outward from the outside of the bin with a small hand grinder.

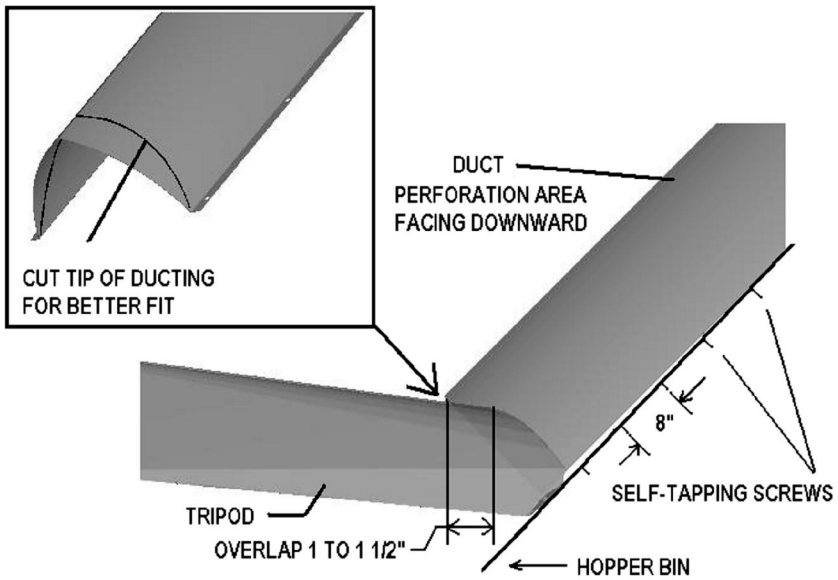


Fig. 9

Duct support spacing and setup

Space the duct supports (Fig. 9a) about 19” center to center, measuring from the center of the duct. The lower duct needs to be positioned so that the flange faces downward otherwise the support area interferes with the tripod and duct end holes. See Fig. 10

The remaining supports are not critical to direction they face. Note: Supports must be inline at the tip to ensure the ducting will be straight up and down upon final assembly. Ducting may not bottom out on the supports until loaded with weight of crop/grains. See Fig. 11

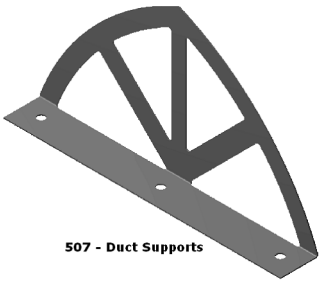


Fig. 9a

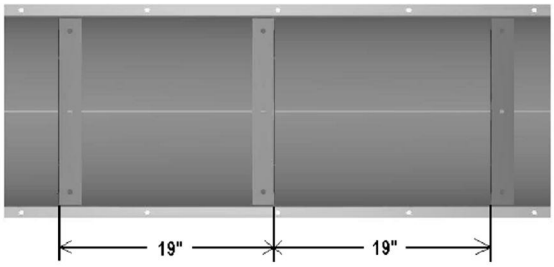


Fig. 10

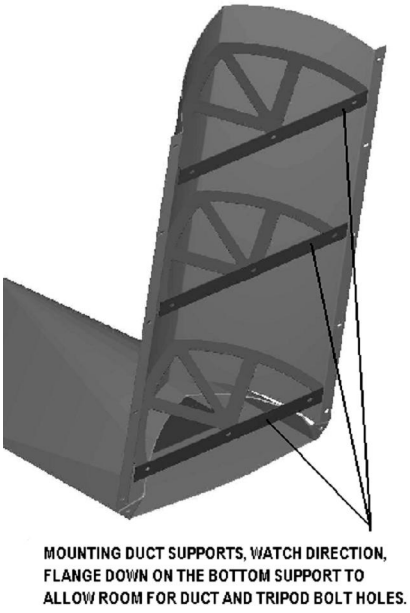


Fig. 11

Step 5 – Attaching Hats to top of Ducts

The hopper hat is to be installed at the top of the duct and is to have a sure seal along the flange where it is fastened to the hopper bin wall with the self-tapping screws. It is normal if there is a little opening where the duct and hat meet so long as it overlaps the duct by about 2-3 inches. See Fig. 12, 13.

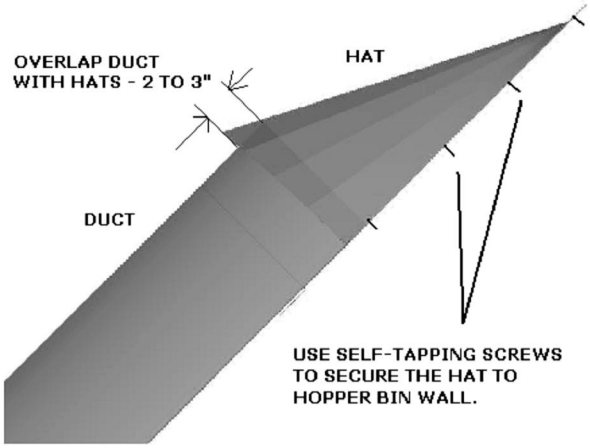


Fig. 12

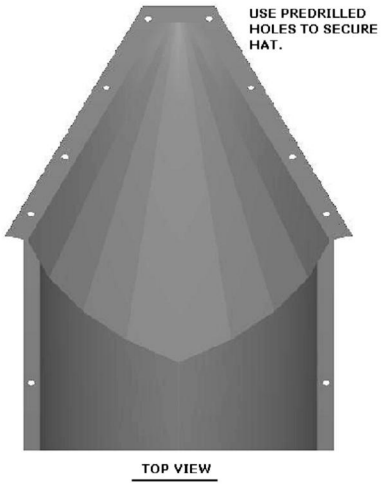


Fig. 13

***SAFETY TIP:** Cut off the screws protruding outward from the outside of the bin with a small hand grinder.

Step 6 – Mounting Transition

Place the transition against the wall of the hopper bin. The transition must line up with the hole previously cut. The oblong flange faces against the hopper bin and the circular end (18″) for the aeration fan.

Mark the top hole of the transition oblong end of the flange at appropriate height on the hopper bin. Drill through the bin and bolt the transition to hopper bin. Visually line up the transition to be inline with the tripod and hopper bin. Center punch or mark the bottom hole. Drill through the bin using bottom hole as a guide ensure that flange is straight and held secure before drilling. Secure the transition to the bin with a bolt and nut in the bottom drilled hole. Drill through the remaining holes along the perimeter of the oblong transition flange.

When fastening the transition to the bin start with top and bottom holes (Fig. 14) Hand tighten the bolts in the middle, followed by all the remaining bolts and nuts. When all bolts and nuts are tight use wrenches or socket wrench to tighten each bolt and nut around the flange a little at a time. Work in a circular pattern, this will allow the flange to conform to the outside shape of the hopper bin.

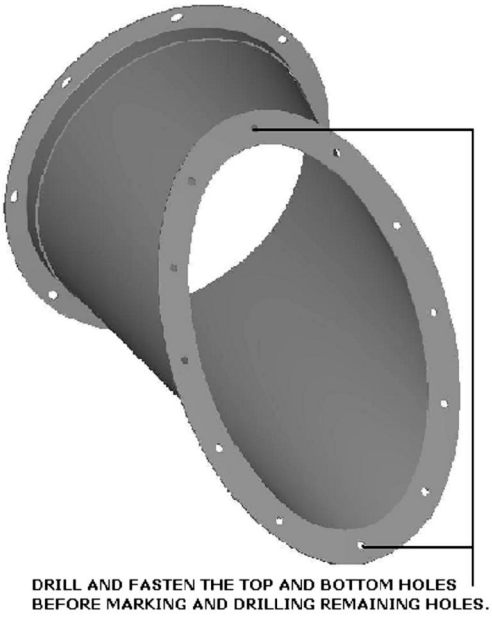


Fig. 14

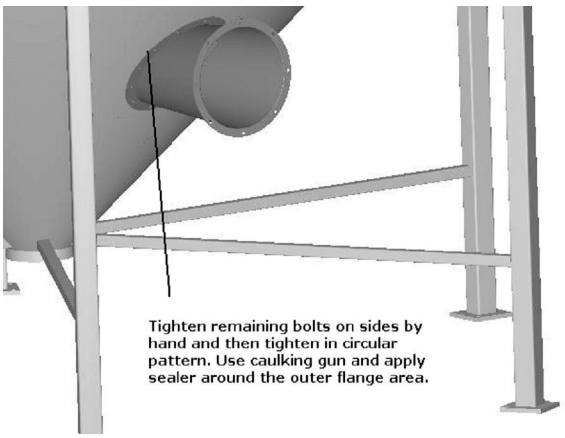


Fig. 15

Seal – When transition is seated against the hopper bin use a sealing compound to fill any gaps between the bin and transition mounting flange. Fig. 15.

Step 7 – Final Assembly

With tripods, ducts, hats and duct supports all mounted to the hopper bin, insert the Slide Cover (Part No. 503). Two of the tripods have tabs welded underneath (No.504). Slide the cover into place by wedging it under the tabs as shown in figure 15.

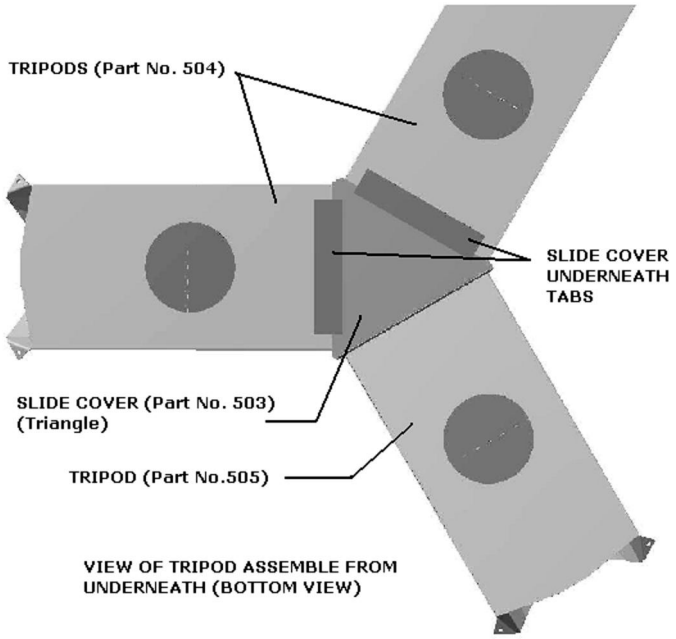


Fig. 15

NOTES: