

# Armbruster Mfg. Co.

## Installation INSTRUCTIONS 60'/80' WIDE EUROTENT®

**Last update: 04 April 2001** by B. Hellar Armbruster

**Reference: (a) The IFAI Procedural Handbook for the Safe Installation and Maintenance of Tentage - Part One**

- 1. REQUIRED MANPOWER:** Five to Six experienced installers should be able to install an 80x80/60x60 tent in approximately 5-6 hours. The biggest time determining factor is going to be stake driving methods, and center pole erection methods. As 20 foot middles are added, additional personal are recommended to keep your installation times down. (For example and 80x220 takes 12 men approximately 10-12 hours to install depending on the type of surface).
- 2. SITE INSPECTION:** Prior to installation, ensure you have inspected site, and consulted with the local utility company. Be sure that you have inspected all overhead obstructions (ie telephone and electrical lines, trees, etc.) to ensure no part of the tent comes in contact with any obstacles (Page 2 Ref (a)).
- 3. CHECKLISTS:** Go over load list (see attached example). Ensure all proper equipment and tools are checked prior to arriving at job site. Double and triple check loadlist to ensure nothing is forgotten.
- 4. LAYOUT AT SITE:** The first thing that needs to be done is to mark the site (paint your layout). It's recommended you use the 3-4-5 triangle method to obtain your square or Diagonal Method (page 6 Ref (a)). Once you have a square marked out on the ground, and double checked it back at the beginning point then laydown your stake plate marks. On 8ft legs, a 7ft stake-line is recommended. Remember 6 hole bars at the saddles. Corners are usually offset at least 1ft to ensure a fuller tensioning on the perimeter. Spacing is 10ft around the entire tent. Once this is done, pre-mark your center poles where they should be (see diagram).
- 5. SAFETY BRIEF:** Conduct safety brief prior to unloading the truck. Identify who the foreman will be, point out any hazards, ensure first aid kit is on site, locate nearest phone, and know quickest route to nearest medical facility in case of emergency. Ensure all applicable fire and building codes are met.
- 6. SPREAD TENT:** Ensure drop clothes are first spread out, and weighted down if necessary (ie if its windy). Cover or pad any sharp objects to ensure tent is not torn while spreading. Then spread the pieces on the ground. Open all pieces first before lacing so that if any pieces need to be moved it's easier to do. Make sure grommet sides match up with laces on your hips and middles.
- 7. LACE TENT:** With tent sections on the ground, overlap grommet side on top of lace side. Lace between center pole holes first, then down each side to rim of tent. Push first loop up through corresponding grommet. Continue lacing process and cover with rain flaps by securing velcro closure and you move. Tie off last loop with a secure knot. **BE SURE NOT TO MISS A LACE!!!!** This is critical, because if not caught early, the tent may have to be dropped back down and partially disassembled to fix. After section between center poles, and from center poles down is laced then secure shackles and at rim, and overlap plates at

laceline. IS IT CRITICAL THAT THE SHACKLE FASTENS BOTH PLATES TOGETHER AT THE LACELINES, AND RATCHET STRAP IS THEN FASTENED TO SHACKLE.

8. **DRIVE STAKES:** To best use your time it is suggested that while one crew laces together the tent another crew is driving stakes. Numerous methods can be used to drive stakes, but at least two mechanical stake drivers are recommended. If you run these simultaneously much time can be saved. Ensure your stake drivers have a cup that will fit the double-headed stakes. The number of stakes driven depends on type of surface.
9. **ATTACH CENTER POLE RINGS:** As the tent is being laced together, connect your center pole rings. Each ring should have shackles that connect around the ring and to the tabs on the tent. Each individual tab on the tent should have a corresponding shackle attaching to the ring, make sure to overlap lacelines and use same shackle.
10. **CONNECT RATCHETS/INSERT SIDE POLES:** Once tent is laced together and you have double checked that each laceline is tied off and rim shackles have been fastened, connect your ratchet straps to the tent and plates. Each saddle gets two ratchets, and all other points get one. For longer or more permanent installations you may want to put more plates and ratchets at each anchor point. Make sure at the lacelines that both plates are connected to shackle. **IT IS CRITICAL THAT RATCHETS REMAIN AS LOOSE AS POSSIBLE!!!!** If they are too tight, you will have difficulty raising poles. After ratchets are connected then insert side poles around perimeter of tent. It is not critical that they are exactly straight, the key is to get as much weight up as possible to make insertion of center poles easier.
11. **RAISE CENTER POLES:** Once you assemble your center poles (ie slide inserts into poles and then slide together-Note: **WHEN SLIDING TOGETHER CENTER POLES KEEP FINGERS CLEAR!!!!!!**). Review safety hazards once more prior to raising center poles. Identify again who will be giving commands, ensure that everyone knows the procedures (especially any temporary labor). Start at one end of the tent (preferably, the one end towards the direction of the wind if possible). The first center pole will be the most difficult to raise, then it becomes much easier as you move on. Once identified where you will start insert at least one cheater poles in the center pole holes around the center pole you are starting on (this helps get the weight up, a 16-18ft pole is recommended). Then commence raising center poles. It is recommended that the base of each pole be put inside the tent parallel to the lacelines and the pole be erected by pulling the baseplate outwards towards the stake plates. As you carry the pole inside the tent make sure the person on the pin side (top of the pole) is guiding the pin into the center pole ring the pin does not puncture the tent as men carry it forward. Most large diameter poles are made of unanodized aluminum, so ensure the pole does not rub on the tent and leave black marks. Make sure ratchets are loose, this is usually the number one reason center poles are difficult to raise. As you erect each pole move your cheater poles down each time. This makes it easier to raise, and gets the tent off the ground so it is easier to bring the center poles in each time. The following are some of the recommended methods used to raise center poles:
  - I. **MANPOWER:** With enough men the center poles can be raised by hand. At least 9-12 men are recommended. Make sure you connect ropes to the skid plate at the bottom so as men are lifting the pole, men are also pulling the ropes. This will help to make sure you don't lose any footing.
  - II. **FORKLIFT/VEHICLE:** Another method is using a forklift, or vehicle (ie truck) to either push or pull the pole up. This can also be the most dangerous method. Make sure the you have a skilled driver, clear communications, and you proceed slowly to ensure the tent is not damaged, torn, or anyone is hurt. Also make sure if the vehicle is pulling you have people guiding the base with handles on the pole or ropes on the base plate to where the pre-marked center pole spot is.
  - III. **BLOCK AND TACKLE:** Another method that is low cost and works quite well is the block and tackle method. Take two double pulley blocks and at least 300ft of line

and connect the base of the center pole a stake plate on the stake line. Then as some men lift the pole other pull on the block and tackle to slide the base of the pole along the ground. This method is fast and safe. Use quick link carabiners on the pulley so it can be quickly fastened to base and stake plates as you move down erected the center poles. To ease this process even more use two blocks pulling at 45 degrees from each other.

12. **GUY OUT TENT:** Once all center poles are erected and positioned on their marks then commence guying out the tent by tensioning the ratchets. Set your 4 corners first, make sure base of corner side pole is at 90 degree intersection of baseplate on corner. After corners are set then tighten all saddles down first. The tension on the saddles will determine the lean of the center poles. Once saddles are tensioned then tighten lacelines and then finally the ends of the tent. You may have to go back and re-tension the corners again once the saddles are complete. This process can be varied, with the exception of the saddles being tensioned after the corners are set. Sometimes the first ratchet in on each corner must be tightened first to get the corner out where it needs to be (ie 90 degree point). Ensure the first ratchet in from the corner is not too tight, otherwise you will have wrinkles in the corner, and the corner will be too flat. Also ensure you do not pull excessively on the ends of the tents otherwise this will stretch the ends out to far. Remember, the saddles are the strength in this tent.
13. **ATTACH SAFETY EQUIPMENT:** Once ratchets are all tightened and loose ends are secured it is highly recommended plastic zip ties or some other method be used to secure the ratchet handles down. This will help eliminate any outside persons removing a ratchet, or loosening a ratchet, which will impact on the structural integrity of the tent. It is paramount that 60/80 EuroTents® have all ratchets installed at all times.
14. **POLICE JOB SITE:** Once complete, roll up drop clothes, and police site to make sure no tools or equipment was left on site. Ensure tent diapers are labeled and ready for disassembly.

#### **DISSASSEMBLY**

1. Spread ground covers
2. Release ratchets on entire tent
3. Remove Center Poles: Ensure you use cheater poles
4. Remove Side poles
5. Reverse Installation Steps

**FOR ANY QUESTIONS ON THE STEPS LISTED ABOVE PLEASE  
CALL 800-637-4326**