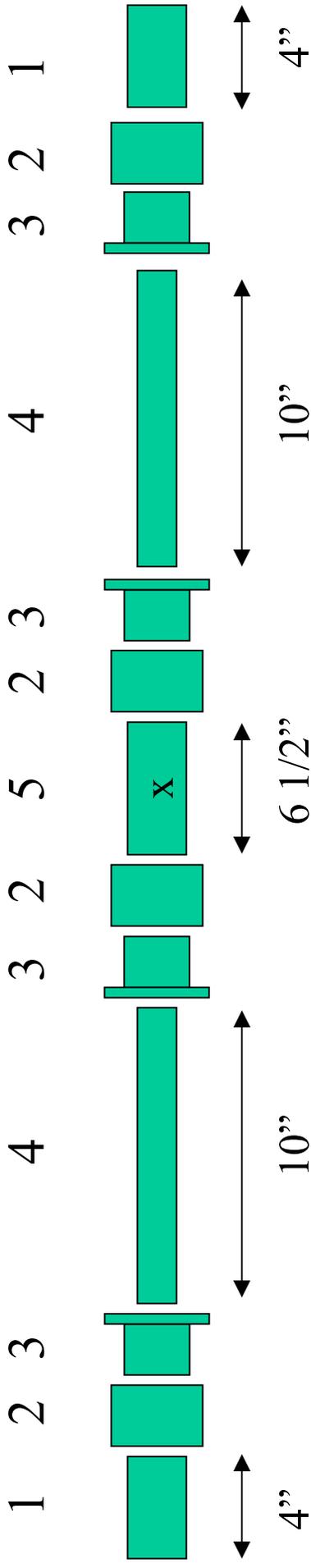


LAMBDA DEVICE

Original drawing recreated from TH2002

Designed by Dr. Orville Nyhus



1. PVC SCH 40 - 1 1/2"
2. COUPLING - 1 1/2"
3. ADAPTER - 1 1/2" → 1/2"
4. PVC SCH 40 - 1/2"
5. PVC SCH 40 - 1 1/2"

Cut each length as shown, couplings and adapters are PVC SCH40, adapters reduce 1 1/2" to 1/2" pipe, assemble making sure each completely seats using PVC cement.

TH2003 Lambda Device Modification

Required items:

- Helix 4" protractor @ Wal-Mart (upc# 007925212071)
- Line Level @ Home Depot (upc# 015812008335)
- Plumb (do not need to buy one, use like object)
- Over 5' of string/contractors twine.
- #8, 3/4" screw
- 3-4, 1/2" flat washers

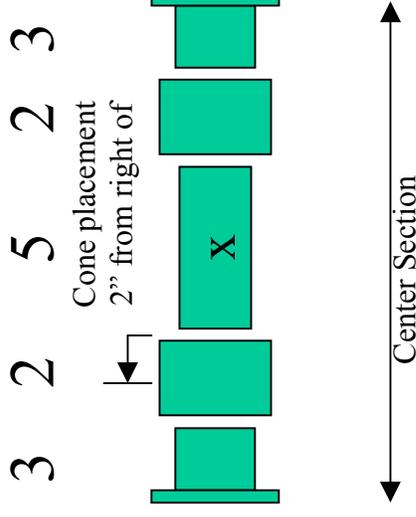
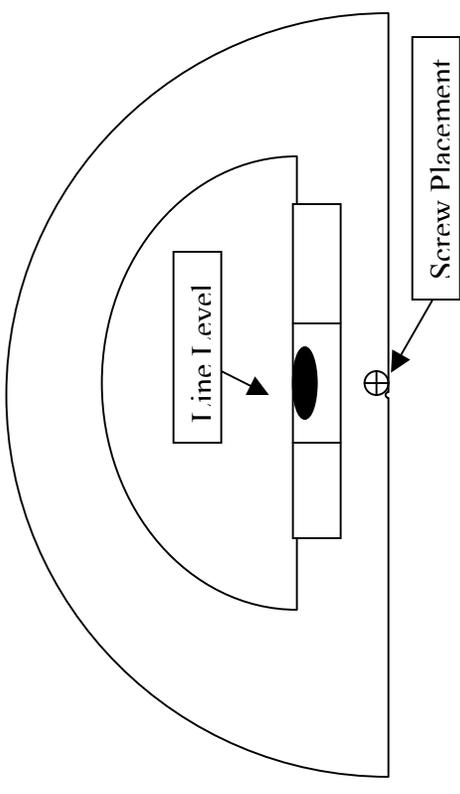
Procedure:

Glue line level to protractor using hot glue gun.

Pre-drill a hole in the indentation at 2" mark on protractor (use drill bit just a little smaller than screw used).
Pre-drill a hole in middle center of the #5 piece of PVC. Note x in drawing (using same drill bit).

Screw protractor into device using washers as spacers under protractor (take caution not to bend protractor when screwing down. Use more flat washers if it bends so that it won't break).

Level Lambda device and make reference marks on Lambda device at the 0 and 180 units of protractor.
Attach plumb by wrapping around screw and tying string to exactly 5' in length (note: this is important).

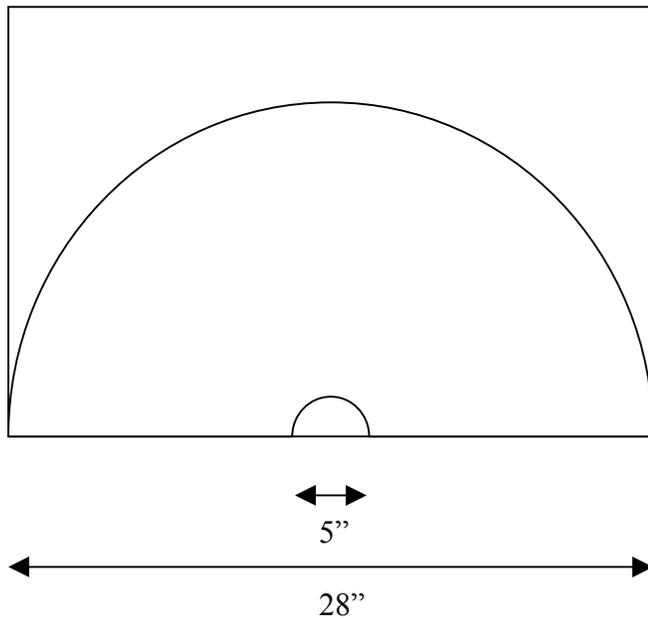


TH2003 Lambda Device Modification

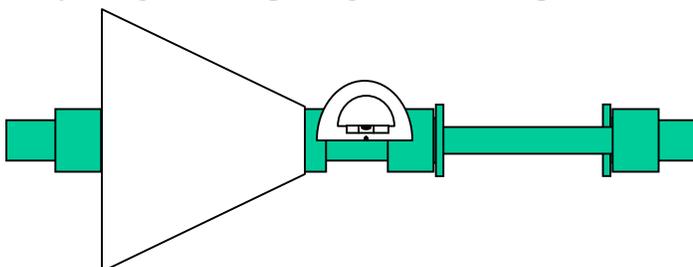
FOR BETTER RECEPTION

Purchase a white 22" x 28" poster board (Wal-Mart, Staples)

1. Draw a radius (half circle) from bottom corner to bottom corner of poster board.
2. Draw a 2 1/2" radius (half circle) from bottom center of poster board. 2 1/2" setting on compass, bottom length 5".



3. Cut on lines drawn.
4. Bend into a cone
5. Overlap about 1/2" then staple each end
6. Check for fit. Will need to slide down to 2nd 1 1/2" coupling (item#2) on Lambda Device.
7. Tape seams on both sides with masking tape.
8. Place cone 2" from right side of 2nd coupling (see modification drawing).
9. Tape in place by using 4, 4" strips lengthwise then tape around base of cone to secure.



TH2004 Lambda Device Modification

Required item:

Target UPC # 6 17977 00092 8

VECTOR Model VEC160

Bullet Beam Laser Pointer (Or equivalent)

Lambda Device Modification Procedure:

- 1) Centrally mount the Laser Pointer in one end of the Lambda Device by taping cardboard “donuts” on the Laser Pointer and Lambda Device (any suitable means of mounting the Laser Pointer in the Lambda Device is acceptable).
- 2) The Laser Pointer must be mounted such that it can be turned on and off easily.
- 3) The Laser Pointer must be aligned such that it will shine through the length of the Lambda Device and out the other end.
- 4) The Laser Pointer must be mounted strong enough such that it can be turned on and off repeatedly without disturbing the alignment of the beam.
- 5) If a Lambda Device is unavailable, a three foot length of pipe with the Laser Pointer added as described above may work just as well.
- 6) Any questions on the Lambda Device modification can be directed to Tom Kreuzsch at 602-436-6866.