

# Tire Tank Installation Guidelines:

(Prepared by Herschel George - K-State watershed specialist)

**K-STATE**

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## 1. Choose size of tire and type of opening.

- Small circles for drinking
- Whole tire (I really like 30.5x32 (combine tires) and 48x31x20 (front tire on fertilizer trucks.) or heavy equipment tires that have height available for at least 18 of water above the lower tire bead.
- Half tire (the large mining tires that are cut like a bagel, up to 13 ft. diameter)

## 2. Cut tire opening.

- Tools
  - Tire chalk
  - Reciprocating saw with metal cutting blade with 5 to 6 tpi (teeth per inch).
  - Special cleaning and lubricating fluid (I use a mixture of Dawn dishwater soap and water)
- Mark the desired cut line with tire chalk
- Cut tire and remove the center

## 3. Select site for tank.

- When placing the tank below a pond, it is ideal the site will have at least 6 ft. difference between water level in pond (bottom of the primary spillway pipe) and soil line where the bottom of the tank will set. About 4 ft. is the minimum.
- Ideal to have overflow line that drains to daylight



## 4. Plumb water lines to and from proposed site

- Ideal to have 1 ½ or 2 inch waterline to and from the waterer.
- Ideal to have flexible connector or a “swing joint” on the incoming lines below the tank.
- Ideal to have Brass nipple coming into tank to connect to float valve. I do not recommend PVC to come through the concrete and connect to the valve.
- Plumb intake line so bottom of threads on the metal pipe is even with top of concrete line (top of bead inside the tank).
  - Lightly thread a PVC female adapter onto the top of the pipe nipple with about 1 ft. of pipe in it to prevent concrete from getting into the nipple or threads and to allow you to maintain as perfectly vertical as possible pipe placement. Do not glue these pieces; they will be removed when concrete is cured.
- Plumb the drain and overflow so the top of the PVC collar connector is installed to be just flush with the top of the concrete (even with the top of bead inside of the tank).
  - Lightly place a 1 ft or longer piece of spare pipe into connector, but do not glue it! This is to protect the pipe from being filled with concrete and to allow you to maintain the pipe as vertical as possible. This will be removed after the concrete is cured.

## 5. Firm, tamp and fill center of tank so there are 4 to 6 inches of space left for the concrete. There can be greater space, but it requires more concrete.

## 6. Level and set tire into site.

- The tank should set on a slightly elevated area.
- Ideal to have geotextile under the tank and gravel to extend the life of the gravel from sinking into mud
- Firm and tamp any gravel base under tank.
- Level tank site !!!!. 1 inch out of level is noticeable when tank is full.

7. **Install a bead of silicone** onto the center of the tire bead that will be in the concrete.
  - Install a bead of silicone onto the incoming and outgoing lines about 2 inches down from the top of concrete line.
  - An optional 2<sup>nd</sup> bead of silicone can be installed on the tire bead and on all pipes about 4 inches from the top of the concrete line (top of tire bead inside the tank).
  - Put the silicone on the tire bead and pipe(s) immediately before placing the concrete into the tire.
  - Using you finger, smear the silicone bead so that it covers a majority of the bead and the pipes.
8. **Mix the concrete for the tank.**
  - Mix the concrete mixture (with fiber) for the tire.
    - The fiberglass fiber is purchased from the ready-mix concrete company. One bag is enough for 1 cu. yd. of concrete (enough for 45 sacks of pre-mixed 80# concrete mix). Cost \$5 to \$7 per bag. Add a small handful per sack of pre-mixed concrete mix.
  - Place concrete into the center through the tire bead opening only.
  - Work the concrete under the tire as best as you can. You may need a trowel to make the concrete move under the tire well. Hitting the tire near the bead with a hammer also helps move the cement under the tire.
  - Make sure the incoming and outgoing pipes are straight.
  - Continue poring concrete until area below the tire is full up to the top of the tire bead. Trowel the area. You can have a ½ inch of crown to the concrete if you desire. Check the level of the threads of the intake pipe and the top of the drain pipe collar to make sure they are at the desired depths.
9. **Run water into the tire outside the concrete area**, until the water softly flows across the concrete and covers the concrete by at least 2 inches.
  - Clean all tools.
  - The tank can be filled water, but the more depth placed on the concrete, the better the base must be to withstand the pressure. If the base settles within the first few hours, there is a chance the water will leak out.
  - Leave the project (with the at least 2 inches of water on the top of the fresh concrete!).
10. **After the concrete cures** (ideally 1 weeks or so), you can install the water level valve with float.
  - Consider the refill rate of the tank when selecting a valve. Small valves cost less but may have slow flow or refill rates.
  - Tanks installed using gravity flow from a pond have very low pressure, select the valve accordingly.
    - I recommend the use of stainless-steel chains on all floats.
    - The valve I often show is from: Watson Manufacturing Inc., Stock Water Control Products, P.O. Box 397, Morrill, NE 69358, 1-800-292-2987, 1-308-247-2281
    - <http://floatvalveusa.com/index.html>
  - Where possible, install a winter minimum continuous flow valve to help prevent freezing along with an overflow drain line.
  - Set the float level for the desired water level.
11. **Place additional gravel** onto the geotextile and up the sides of the tank, leaving at least 1ft. of tank showing above the finished gravel layer. It is best to wait at least 5 days before using equipment to put gravel around the tank.