

# Smith<sup>R</sup> Fertilizer Injector Maintenance Check List

Smith meaSUREmix liquid fertilizer injectors models R3,4,6&8

**FIRST-** Check the flow rate to determine the right injector for your system. Using a flo meter, time the flow for exactly 7.5 minutes. The difference between the beginning and ending meter reading is equivalent to gallons per minute. Flows that are higher or lower than recommended result in excess injector wear and improper proportioning.

**WARNINGS-** 1. Strainers or filter should be used if abrasives are in water 2. Freezing temperatures will cause water in injector to freeze causing damage to internal and external parts, so keep at temps at 32F at all times 3. Water inlet connection must be on the bottom to prevent mechanical damage

Date Inspected: \_\_\_\_\_

- Check proper functioning of back flow prevention device on line
- Check for knocking sounds during operation, which indicate the need for repair
- Check proper piston functioning by listening to the rhythmic click with every suction stroke
- Check water strainer screen or filter for build up and blockage, remove them, clean or replace
- Check dip tube strainer for plugging, remove, clean or replace
- Check stock dip tube for any restrictions in allowing fertilizer to pass though and for air leaks (bubbles or holes in tube)
- Check plastic window for clarity and cracks, clean and/or repair as needed
- Check to see (through window) if crankshaft is moving freely when water is running through the injector  
Note: If not, the injector will need to be sent to factory for repairs
- Check for corrosion
- Check characteristics of O-rings (follow manual directions to get to O-rings); be sure of proper size
- Check for accuracy after any repairs or replacement of O-rings
- Check for accuracy by: 1. Meter readings 2. Lab sample readings 3. "Stroke Count"- fill measuring cup, graduated in ounces, place dip tub in cup then count the number of revolutions of the crankshaft to take up 8 ounces of water, this information can then be checked against the chart in the operating manual (less stokes than necessary means good working order)
- Check integrity of hoses, connections and carts/stands; replace as needed
- Check for sticking or stopping of injector and clean if needed by following operation manual instructions

## Recommendations

NEVER operate dry for extended periods of time

Record date that maintenance was completed

Review start up procedures in operation manual if there is a problem with injector functioning properly

Check and clean check valves twice a year or if improper functioning

(remove and soak in hot distilled water no more than 150° F

Or safely soak in weak solution of phosphoric acid for a few hours to remove chemical deposits)

Store operation manual in safe place with manufacture contact information, update when necessary

**References:** Smith meaSUREmix liquid fertilizer injectors Models R-3,4,6,8  
Installation Operation Servicing manual,  
W. Thompson & P. Davis, Cornell Growers-specializing in injector maintenance

Prepared by A. Roberts 7/18/03 Reviewed: 06/03/08