

May 3, 2013

MINIMUM SPECIFICATIONS FOR
HYDRAULIC SYSTEM

HYDRAULIC COMPONENTS

- a. Piston pump, crank shaft driven load sense hydraulic system to operate a double acting front plow hoist, scraper up & down, scraper reverse, patrol wing and heavy duty material spreader, main chain and spinner. All capable of simultaneous operation.
- b. System shall consist of a 1300 Series Spicer driveshaft, Oil Gear 6 cubic inch piston pump; Model PVWH45-LDFY-CFNN-ADJZ-245C. Direct mount electronic low oil shutdown system with a manual override switch.
- c. Rexroth, model M-4-12, 6-bank, 4-bank airshift, 2-bank electronic proportional; to include pressure limiting feature – No exceptions
- d. Plow, scraper and scraper reverse banks shall be 16 GPM, wing bank 19 GPM, 24 GPM main chain, 7 GPM spinner.
- e. Main chain and spinner controls; shall be Dickey John Control Point – No exceptions

Closed loop control system used for simultaneously controlling the spreading of granular and liquid ice control materials in conjunction with ground speed, also controls liquid channel for applying pre-wetting material.

Dickey John Control consisting of six basic components:

- (1) Console
- (2) Switch module
- (3) Ground speed sensor
- (4) Feed back devices to monitor application rates
- (5) Activator devise to regulate applicator rates
- (6) Harnesses to interconnect all system devices

County will need (1) keyboard, (1) Dart data retrieval tool. The data collected for records includes:

- Quantity of granular and liquid material dispensing during spreading operation
- Total vehicle motor driving and miles spreading granular and liquid materials

- Application rates selected while spreading granular and liquid materials
 - Time and date records indicating when granular and liquid materials were spread
 - Alarm history that indicates when the control system operated in an error condition
- f. Supply stainless steel valve enclosure large enough to house 6 bank valve body, cushion and lock valves.
- g. Plow/scrapper/scrapper reverse and wing shall be air proportional, self-centering type, configured for maximum clearance between handles by using 20/35/45/55 degree offsets, supply custom built pedestal to house controls that can be mounted between the seats.

FUEL AND HYDRAULIC COMBINATION RESERVOIR: Riverside - **No Exceptions.**

They are UL certified, meet FHWA requirements, 30 ft. drop and pressure tested.

- a. Combination diesel & hydraulic two separate tanks, each constructed of 7 ga. steel mounted together using an angle iron carriage; tanks are to set on neoprene cushion pads, including ¼” retainers – total of ten; strapped in place using three spring loaded straps.
- b. FUEL TANK
- 122 gallon diesel fuel capacity mounted on street side
 - Brass fuel cap
 - ½” supply with ½” – ¼” turn ball valve for ease of changing fuel filter, ½” return port
 - Threaded moisture drain plug
 - Isspro RA9536-ACLP fuel sending unit
- c. HYDRAULIC TANK
- 49 gallon hydraulic oil capacity mounted on curb side
 - AB Screened fill cap
 - Oil site tube
 - 3” flange and include 2” Zinga suction strainer #TS2030-03
 - Top of tank filter flange and include Zinga return filter #FR1215-S-MP-1 with RE-409-10 Micron element
 - ½” low oil level port with Parker’s #ROM 1221 low oil monitor
 - 2” ¼ turn full flow ball valve
- d. ACCESSORIES:
- Decals as to the contents “Diesel Fuel” or “Hydraulic Oil”
 - Low oil light and alarm
- e. Tank shall be prepped and Corsol treated

Option to have hydraulic system components installed; to consist of the following:

a. Installation of all of the above components

- Supplying pump mounting bracket
- All air lines, fittings to plumb air controllers
- In cab switches, wiring – complete for low oil level, electronic shut down and Dickey John System.
- Installation of hydraulic and fuel reservoirs including tank mounting brackets, all necessary fuel lines and sending units, painting urethane top coat.
- Supply line from reservoir to pump shall be 2” hard pipe, with short hose assemblies at each end, minimum 2” I.D. swivel crimp on hose ends
- All necessary hoses, fittings and adaptors: All hose to have crimp swivel type fittings each end and have abrasive resistant sleeve covering in high wear areas. All clamps to be lined with abrasive resistant sleeve covering. Routing of pressure hoses shall be on the left side of engine as to stay away from turbo heat, using proper extension hangers and to leave room for service of engine filters
- Sander and wing plumbing to the rear shall be stainless steel piping. Shall have jumper hoses each end rated minimum 3,000 PSI, including bulk head fittings capped off.
- Hydraulic system to be filled with AW32 oil, all pressures set and system tested.