

Installation Instructions

HVC06 & GPS1 Electric-Hydraulic Spreader & Electric Liquid Spray Control

Spreader Flow Controller

For hydraulically driven tailgate and V-Box Spreaders using the HV715E/HV1030E valve or similar proportional valve block. Also has incorporated Liquid Spray controller for use with Buyers Products Electrically controlled LS systems or similar units.

Manual and Auto GPS Controlled Auger Switch Function

When "AUTO/MAN" switch (located above "BLAST" button) is in "MAN" position the controller automatically starts at previous settings for Auger and Spinner when power is applied. When "AUTO/MAN" switch is in "AUTO" position displays will flash "AT" (automatic) until unit acquires a GPS signal. After signal is established, displays will stop flashing and show "AT" (this process may take from 30 sec to 1 minute depending upon GPS signal strength and is normal). The Auger, spinner and Spray flows will vary based upon speed of vehicle. The selected flow value will be indicated on the LED panels as 0-10 when in "MAN" mode, not in "AUTO". To set desired flow for GPS control, change "AUTO/MAN" switch to "MAN" then set desired flow with adjustment knobs and then flip "Auto/MAN" switch back to "AUTO" and controller will output signal based upon speed of vehicle.

Auger-Blast Function

When the Auger is being operated at less than full power, the operator can deliver additional salt by depressing the "BLAST" button ideal for those "TROUBLE" spots. The output to the Auger will return to its preset speed after set time (which is adjustable from 0-30 seconds) has elapsed. The LED display will indicate "BT" during this function and the blast button will "illuminate" to indicate that this function has been activated. Please see setting "BLAST TIME" to change value further down in instructions sheets.

Liquid Spray Control

Control unit has incorporated liquid spray control for electrically operated systems, such as Buyers Products P/N's LS1 thru LS8. When controller is first turned on, the "LOW PRESSURE" light will illuminate for approx. 2 seconds as well as the "LOW PRESSURE" buzzer to signal that the system is ready to operate. The light and buzzer will go off after the 2 seconds (if the tank is not empty or a nozzle is not plugged). When control is in "MAN" mode, the liquid spray is controlled by the adjustment knob. To control the flow rate of the liquid spray, turn adjustment knob under display to desired flow. If controller is in "AUTO" the liquid spray output is controlled by GPS and will vary the output with the Auger flow rate based upon speed of vehicle.

Inline Mounted Main Fuse

A "MINI" style fast acting fuse is incorporated into the main power harness to facilitate fast changing in case of failure. If the spreader valve or wiring harness becomes damaged or shorted out, the main power fuse on controller harness will "blow" shutting off power to controller. The cause must be repaired before replacing fuse. Use 15 amp "Mini" Automotive style fast blow fuse only.

Calibration Of GPS Based Speed Using "Trim" Adjustment

To synchronize the GPS speed signal with desired flow rate



WARNING

To prevent serious injury, always turn control off and disconnect spreader from rear plug while servicing or clearing jammed spreader.

for Auger/Liquid spray output (if factory default range is not satisfactory 0-60 MPH) please follow the instructions below.

Low Range Adjustment: Flip "AUTO/MAN" switch to "MAN" (if unit was left in Auto position when last powered down). Drive vehicle at slowest speed (if not at zero or stopped) that you require the spreader to operate at. Using a paperclip (that is straightened out) or similar tool push adjustment button for "L" on "TRIM" (front panel next to Spinner knob) display will flash showing that controller is in adjustment mode. Then rotate Auger adjustment knob until desired quantity of material feeds out of spreader and using paperclip again, press "L" button again to lock in setting. Note: minimum speed is 3-5 MPH for Low end of Trim setting. If you do not need to adjust the High range, this will complete synchronization of GPS to speed signal. Please place "AUTO/MAN" switch back to "AUTO" and wait for unit to acquire a GPS signal to return to automatic control.

High Range Adjustment: Drive vehicle at fastest speed that you require the spreader to operate at. Using a paperclip (that is straightened out) or similar tool push adjustment button for "H" on "TRIM" (front panel next to Spinner knob) display will flash showing that controller is in adjustment mode. Then rotate Auger adjustment knob until desired quantity of material feeds out of spreader and using paperclip again, press "H" button again to lock in setting. This will complete speed to Auger/Liquid spray synchronization procedure. Place "AUTO/MAN" switch back to "AUTO" and wait for unit to acquire a GPS signal to return to automatic control.

Adjusting Spinner Zero Settings

NOTE: Before beginning manual adjustment of Spinner and Auger outputs, please verify that controller Auto/Man switch is in the "MAN" position before proceeding.

1. Verify that the spinner knob is turned completely CCW to the zero position before beginning adjustments and display shows "00".
2. Visually make sure that spinner disk has stopped, if it is rotating, see step #3
3. If display shows anything else than "00" using a paperclip (that has been straightened out) push the "SET" button that is located between the Spinner and Auger knobs to enter "ADJUSTMENT MODE".
4. Using the "UP/DOWN" arrow buttons to the left of the spinner display to adjust, press the "DOWN" arrow button to decrease the output to the spinner disk (display should show 00).

—continued inside

5. Visually make sure that the spinner has stopped rotating, use paper clip to press the "SET" button to lock-in setting.

Adjusting Spinner Span Settings

1. Verify that the spinner knob is turned completely CW to the max speed position you want before beginning adjustment.
2. Visually check to see that spinner disk is spinning at desired speed then proceed to step #3
3. Using a paperclip (that has been straightened out) press the "SET" button that is located between the Spinner and Auger knobs to enter "ADJUSTMENT MODE".
4. Using the "UP/DOWN" arrow buttons to the left of the spinner display, press the "UP" arrow button to increase or decrease the output to the spinner disk. When desired speed is achieved Display should show "FL" for full output or set to customers desired max speed.
5. Visually make sure that spinner is rotating at desired speed, use paper clip to press the "SET" button to lock-in setting.

Adjusting Auger Zero Settings

1. Verify that the Auger knob is turned completely CCW to the zero position before beginning adjustments.
2. Visually Make sure that Auger is stopped, if it is moving proceed to step #3
3. Using a paperclip (that has been straightened out) push the "SET" button that is located between the Spinner and Auger knobs to enter "ADJUSTMENT MODE".
4. If display shows anything else than "00" use the "UP/DOWN" arrow buttons to the left of the spinner display to adjust. Press the "DOWN" arrow button to decrease the output to the Auger (display should show 00).
5. Visually make sure that Auger has stopped rotating, use paper clip to press the "SET" button to lock-in setting.

Adjusting Auger Span Settings

1. Verify that the Auger knob is turned completely CW to the max speed position you want before beginning adjustments.
2. Visually check to see that auger is rotating to desired speed, if not then proceed to step #3
3. Using a paperclip (that has been straightened out) press the "SET" button that is located between the Spinner and Auger knobs to enter "ADJUSTMENT MODE".
4. Using the "UP/DOWN" arrow buttons to the left of the spinner display, press the "UP" arrow button to increase the output to the Auger if it is rotating too slow till desired speed is achieved Display should show "FL" for full output or set to desired max speed.
5. Visually make sure that the Auger is rotating at desired speed, use paper clip to press the "SET" button to lock-in setting.

Setting Blast Time

NOTE: Before beginning manual adjustment of Auger-Blast function, please verify that controller Auto/Man switch is in the "MAN" position before proceeding.

1. Check to make sure the Auger speed knob is NOT turned to full speed (CW) before beginning blast time adjustment.
2. Press the "BLAST" button on the front of the controller to initiate the "BLAST" function.
3. Using the same paper clip that was used for spinner and auger adjustments, depress the "SET" button between the Auger and Spinner knobs to enter "ADJUSTMENT MODE".
4. The auger display will show "BT", using the "UP/DOWN" arrow buttons located to the left of the Auger display, press the "DOWN" arrow to decrease the blast time or press the "UP" arrow to increase the blast time.
5. Use paper clip to press the "SET" button again to lock in Blast time setting.

Controller and Vehicle wiring harness Installation

Make sure that you have connected the correct harnesses to the correct wire colors. This is a negative ground electrically controlled unit. No ground connections to body or painted surfaces allowed, connect directly to negative battery terminal connection or direct frame grounding point.

WARNING

Do not drill holes for mounting unit into fuel lines, electrical wire harnesses etc. To insure performance of your system, check the condition of your truck's electrical system. Using a digital voltmeter, check alternator and battery voltage with vehicle running. The correct voltage should fall between 13.0 and 15.3 vdc with all devices powered as it would be when salting. If voltage falls out of this range, check for faulty item and repair before using system.

NOTE: Always disconnect battery before attempting to install electrical components on your vehicle.

CAUTION

Do not mount controller in the way of air bag deployment!

1. Mount the controller in a convenient location in the truck cab. Do not mount the controller directly in front of heater vents and allow ample space around controller for heat dissipation.
2. Route valve wire harness (P/N- HVH15) from electrical valve into the truck cab through the firewall (it may be necessary to drill holes). Insulate hole to avoid water intrusion. Connect valve wire harness to 4 pin weather pak connector on rear of control box.
3. Insure no wire are nicked or damaged during installation.
4. Route main power harness (P/N-HVH9) from fuse terminal box to controller and connect to 3 pin weather pak connector on rear of controller.
5. If using GPS ground speed control feature, connect round 4 pin connector to round socket on rear of controller.

WARNING

Improper installation and operation could cause personal injury, and /or property damage. Observe the following safety precautions before, during and after operating the system. By following these precautions and using common sense, possible injury to persons and potential damage to equipment may be avoided.

Safety Precautions

1. Read the entire installation instructions and make sure you fully understand operations before using the equipment.
2. Read all safety warnings and caution statements before operating.
3. Check to make sure all safety guards are securely installed and mounting before using spreader equipment.
4. Do not over load your vehicle beyond payload limits. If there are any doubts about payload, please contact vehicle manufacturer.

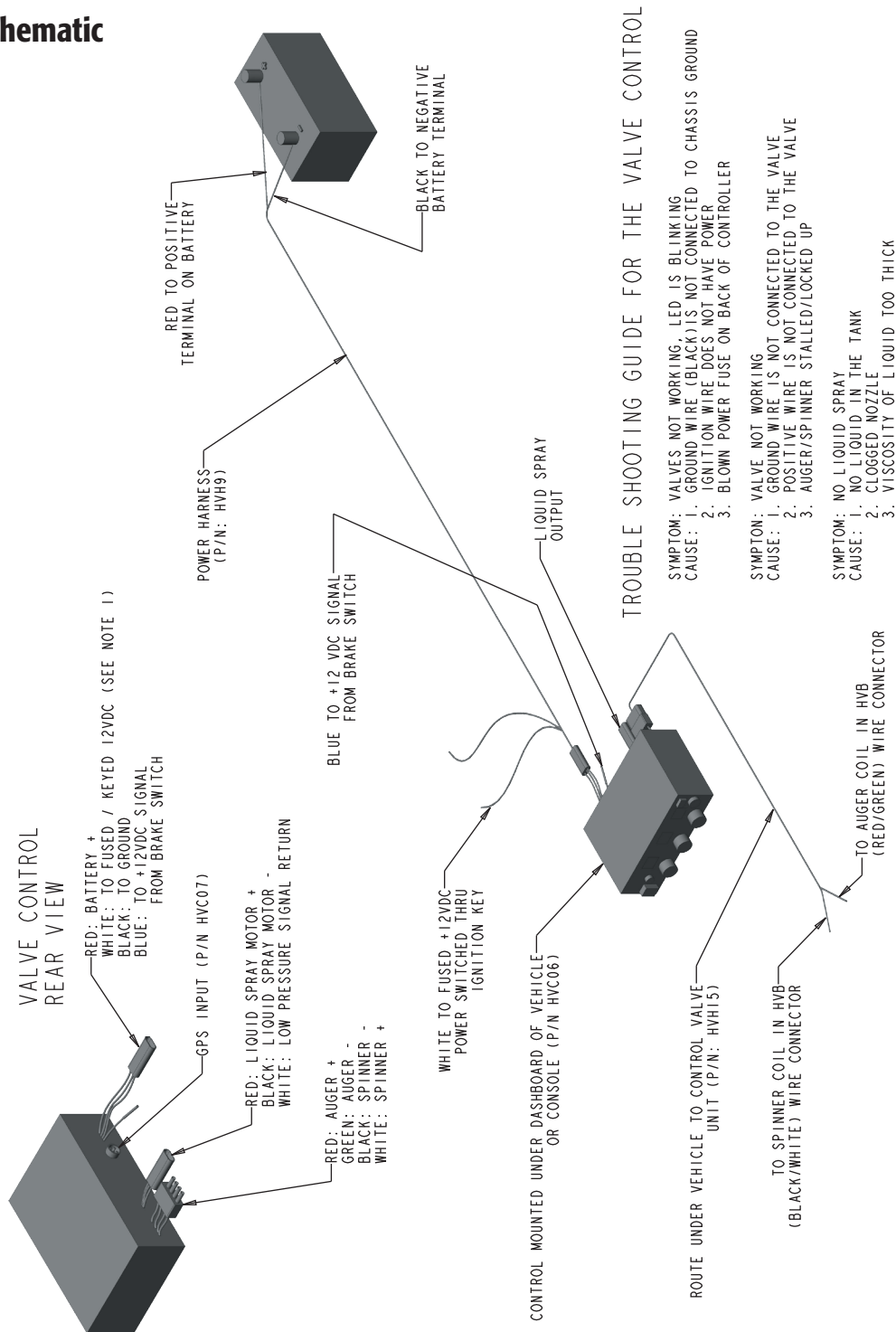
5. Do not adjust, clean or lubricate or unclog material jams without turning off spreader and verifying unit has stopped.
6. Do not climb on or in the spreader during operation.
7. Do not ride on spreader while vehicle is in motion.
8. Do not operate the spreader that is in need of service or repair.
9. Batteries normally produce explosive gases in normal operation and can cause personal injury. Always disconnect battery before removing or replacing electrical components.
10. Do not leave unused material in hopper when not in use.

Material can freeze or solidify, causing spreader to not function properly and or damage unit. Empty and clean after each use.

⚠ IMPORTANT

Make sure all wires are securely attached to vehicle before operating. Use wire ties or wire clamps to attach wires. All excess wires must be rolled into bundles and attached to vehicle or spreader.

Wiring Schematic

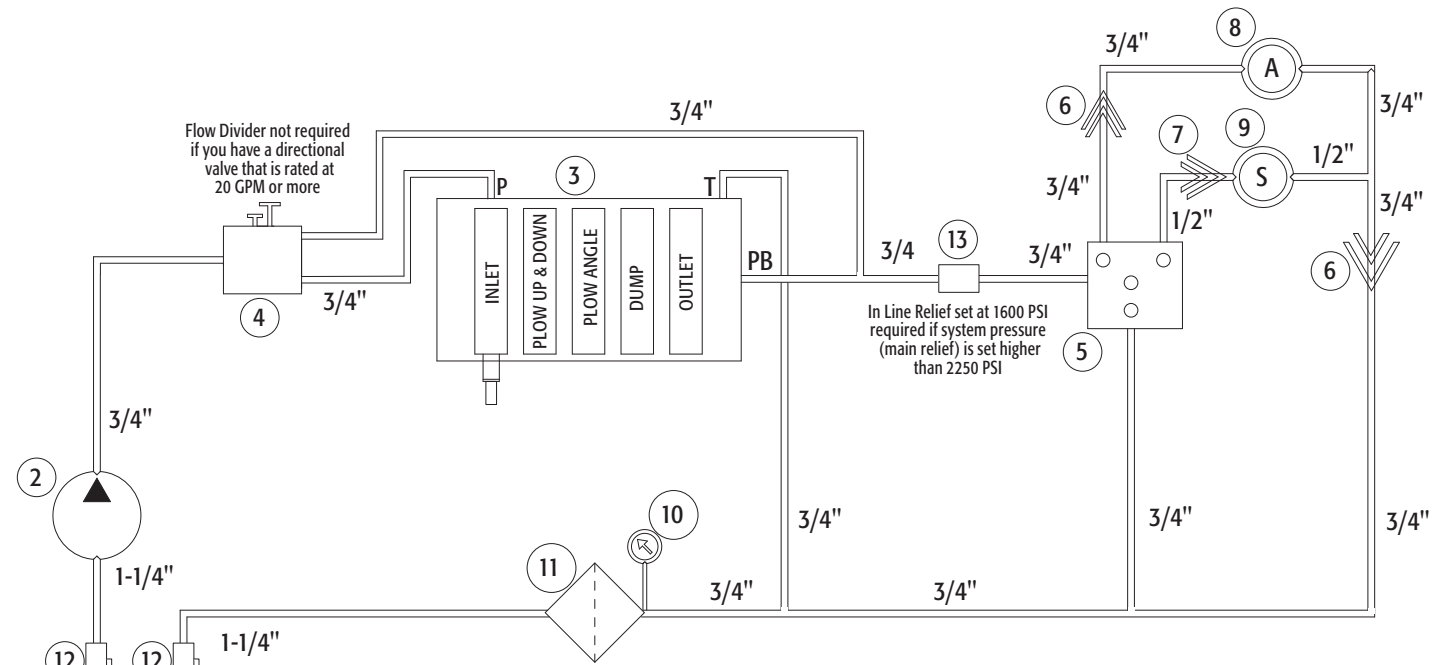


NOTE:
 1. ALL THREE WIRES MUST BE CONNECTED (INCLUDING THE BLACK GROUND WIRE) IN ORDER FOR THE CONTROLLER TO WORK PROPERLY

HVC06_WIRE_DIAGRAM

Hydraulic Schematic

shown with 11 GPM Directional Valve Bank



- 1- RESERVOIR
- 2- PUMP
- 3- VALVE (HVE344PB Shown)
- 4- FLOW DIVIDER
- 5- VALVE, SPREADER
- 6- QUICK DISCONNECT 3/4"
- 7- QUICK DISCONNECT 1/2"
- 8- MOTOR, AUGER
- 9- MOTOR, SPINNER
- 10- GAUGE
- 11- FILTER
- 12- VALVE, BALL
- 13- RELIEF VALVE, IN LINE

Parts List

QTY	HV715EPG	HV1030EPG	DESCRIPTION
1	HV715E	HV1030E	Valve, Spreader, Electric
1	3016036	3016036	Box, HV715E/HV1030E
1	HVC06	HVC06	Controller, HV715EP or HV1030EP
1	HVH15	HVH15	Harness, Wire 15'
1	HVH9	HVH9	Harness, Wire 9'
1	3016035	3016035	Bracket HV715E/HV1030E
2	FSH025020400	FSH025020400	Screw, Socket HD Cap 1/4" x 4" LG
2	FWF025063007	FWF025063007	Washer, Flat 1/4" SAE ZN
2	FNE025020031	FNE025020031	Nut-Elastic Stop 1/4"-20 ZINC
4	FSH010032075	FSH010032075	Screw, Socket HD Cap, 10-32 x 3/4" PL
1	3026553	3026553	Instruction Sheet
1	3016037	3016037	Gasket

WARRANTY

Buyers Products Co. warrants all truck/trailer hardware manufactured or distributed by it, to be free from defects in material and workmanship for a period of one year from date of shipment. Parts must be properly installed and used under normal conditions. Any product which has been altered, including modification, misuse, accident or lack of maintenance will not be considered under warranty. Normal wear is excluded. The sole responsibility of Buyers Products Co. under this warranty is limited to repairing or replacing any part or parts which are returned, prepaid, and are found to be defective by Buyers Products Co. Authorization from Buyers Products Co. must be obtained before returning any part. No charges for transportation or labor performed on Buyers' products will be allowed under this warranty.