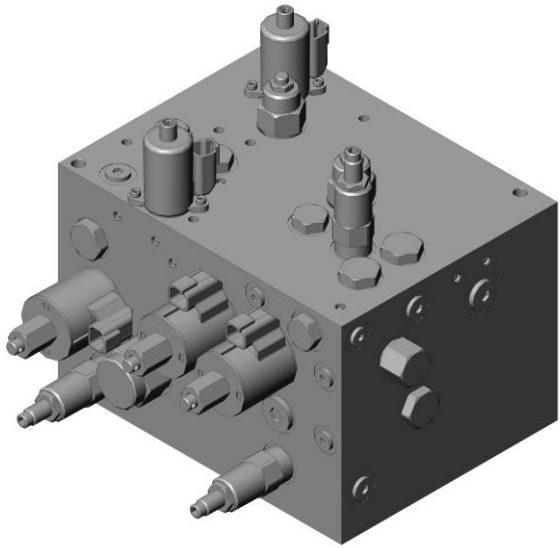
HF88332-14

INSTALLATION INSTRUCTIONS AND OWNER'S MANUAL

FEATURES • VALVE FUNCTIONS • ADJUSTMENTS • SCHEMATIC



Muncie Power Products, Inc.

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DESCRIPTION **PAGE**

FEATURES

DIRECT ACTING - PROPORTIONAL SOLENOID VALVES
For consistent and predictable flow control

ADJUSTABLE MAIN RELIEF

POST COMPENSATED – FLOW SHARING

MANUAL OVERRIDES

SPECIFICATIONS

Maximum System Pressure……2800 PSI

Auger Flow (Proportional)……..…16 GPM

Spinner Flow (Proportional)…… 7 GPM

Plow Raise/Lower Flow (Proportional)…….……16 GPM

Plow Angle Flow……....22 GPM

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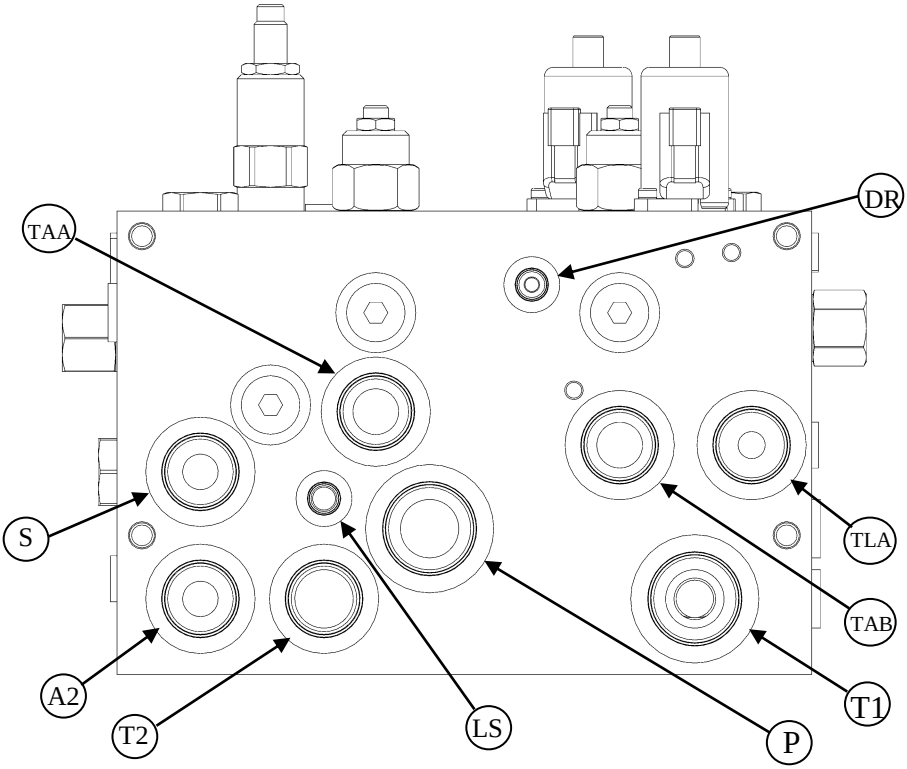

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DESIGNATION	DESCRIPTION	SIZE (SAE)
T1	TANK	16
T2	TANK	12
P	PUMP	16
TAA	ANGLE LEFT	12
TAB	ANGLE RIGHT	12
TLA	RAISE	12
DR	DRAIN	04
LS	LOAD SENSE	04
A2	AUGER	12
S	SPINNER	12

CARTRIDGE DESIGNATIONS AND PART NUMBERS

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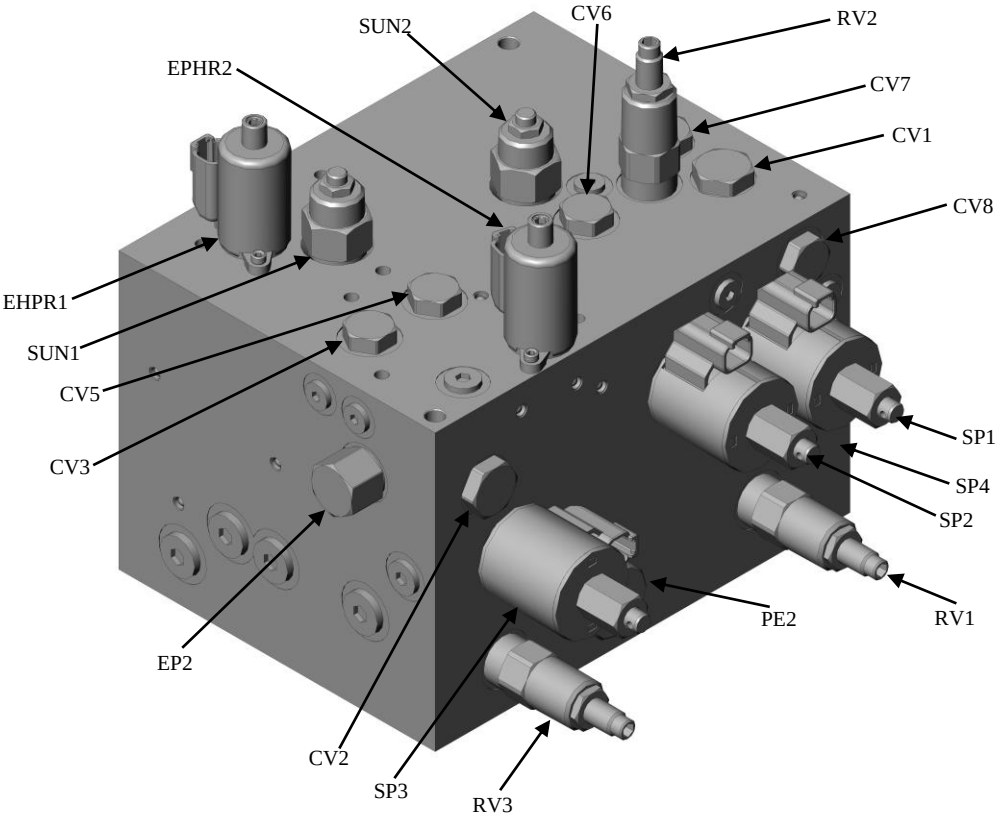
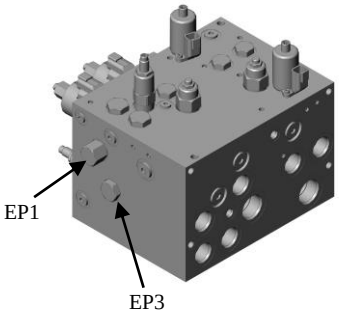


* Coil P/N: NX4303712



DESIGNATION	P/N	FUNCTION
SP1	NXSP1020M0N00	AUGER CTRL
SP4	NXSP1020M0N00	SPINNER CTRL
SP2	NXSP1020M0N00	PLOW RAISE CTRL
SP3	NXSP1020M0N00	PLOW LOWER CTRL
RV1	NXRV1022A0N35/28.0	MAIN RELIEF
RV2	NXRV1022A0N35/20.0	SPREADER RELIEF
RV3	NXRV1022A0N35/20.0	PLOW UPSIDE RELIEF
PE2	NXPE16S67K0N	ANGLE SPOOL
EHPR1	NXEHPR98T33M0N12ER	ANGLE LEFT CTRL
EHPR2	NXEHPR98T33M0N12ER	ANGLE RIGHT CTRL
EP1	NXEP10S350N10	AUGER COMPENSATOR
EP2	NXEP10S350N10	PLOW COMPENSATOR
EP3	NXEP10S350N10	SPINNER COMPENSATOR
CV1, CV7	NXCV10200N15	SPREADER LS CHECK VALVES
CV2	NXCV10200N15	PLOW LIFT CHECK VALVE
CV3	NXCV08200N04	PLOW LS CHECK VALVE
CV5, CV6	NXCV08200N04	ANGLE LS CHECK VALVES
CV8	NXCV08200N04	SPREADER LS CHECK VALVE
SUN1	NXCBEA-LAN	COUNTERBALANCE VALVE
SUN2	NXCBEA-LAN	COUNTERBALANCE VALVE
NOT SHOWN	NX6108070	EXPANDER PLUG
ORF1, ORF3	NX6101025	ORIFICE PLUGS
CL1	NX4303712	COIL

SCHEMATIC

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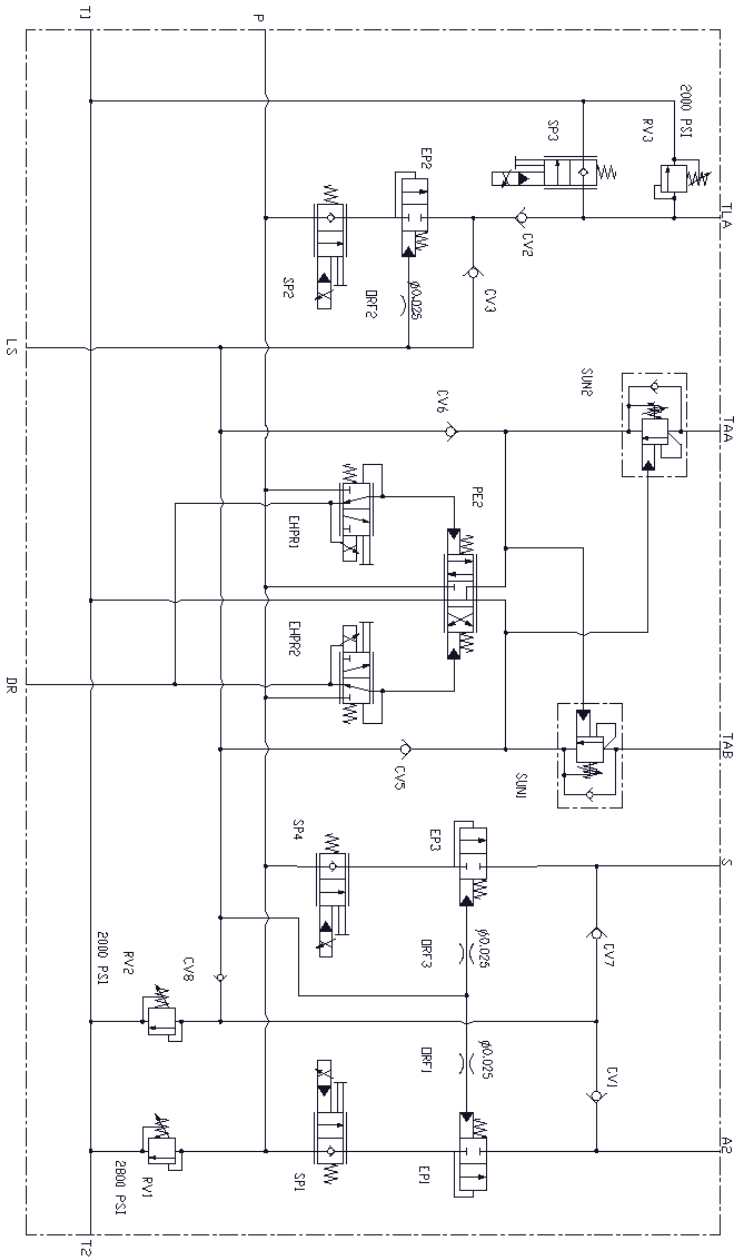


RELIEF VALVE ADJUSTMENTS

Main System Relief (Factory Setting 2800 PSI) – RV1

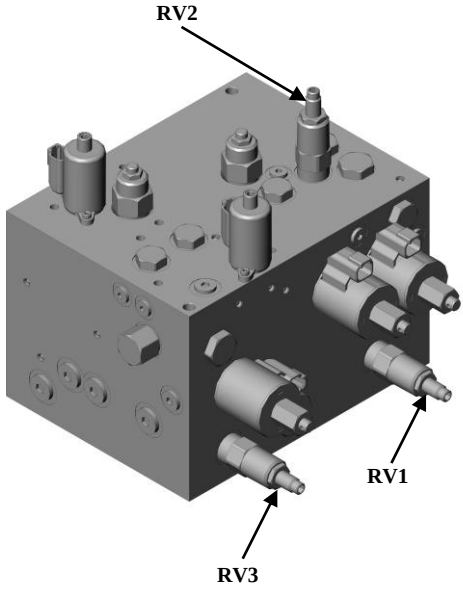
1. The tools required for adjusting the main relief setting includes: ¾" wrench and a ¼" Allen drive.

2. Tee a pressure gauge into the pump port
(gauge greater than 3000 PSI)

3. Loosen the lock nut while holding the Allen screw stationary.

4. While observing the pressure gauge, turn the Allen screw CCW to decrease pressure, and CW to increase pressure.
*** DO NOT EXCEED 3000 PSI**

5. Once the desired pressure has been established, hold the Allen screw stationary and tighten the lock-nut.



Spreader Relief (Factory Setting 2000 PSI) – RV2

1. The tools required for adjusting the spreader relief setting includes: ¾" wrench and a ¼" Allen drive.

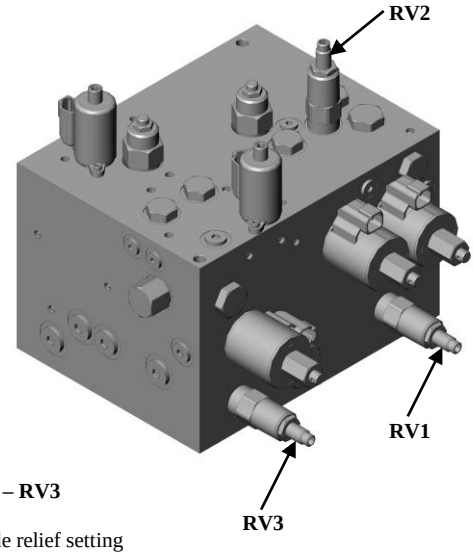
2. Tee a pressure gauge into the spreader (S or A) port
(Gauge greater than 1000 PSI)

3. Loosen the lock nut while holding the Allen screw stationary.

4. Start the truck and deadhead the hoist down. (Pressure will increase to the downside relief setting)

5. While observing the pressure gauge, turn the Allen screw CCW to decrease pressure, and CW to increase pressure.

6. Once the desired pressure has been established, hold the Allen screw stationary and tighten the lock-nut.



Plow Upside Relief (Factory Setting 2000 PSI) – RV3

1. The tools required for adjusting the plow upside relief setting includes: ¾" wrench and a ¼" Allen drive.

2. Tee a pressure gauge into the plow raise (TLA) port
(Gauge greater than 1000 PSI)

3. Loosen the lock nut while holding the Allen screw stationary.

4. Start the truck and deadhead the plow raise. (Pressure will increase to the upside relief setting)

5. While observing the pressure gauge, turn the Allen screw CCW to decrease pressure, and CW to increase pressure.

6. Once the desired pressure has been established, hold the Allen screw stationary and tighten the lock-nut.

MANUAL OVERRIDE INSTRUCTIONS

SP1 & SP4 – Auger / Spinner
1. To manually override SP1 or SP4: Push the red override down and turn CCW. (Up Position)

2. To disengage SP1 or SP4: Push the red override down and turn CW. (Down Position)

Normal Operation: Push down and turn CW

SP2 & SP3 - Plow
1. To manually override SP2 and SP3: Push the red override down and turn CCW. (Up Position)

2. To disengage SP2 or SP3: Push the red override down and turn CW. (Down Position)

Normal Operation: Push down and turn CW

The manual override is spring centered, therefore when the override is released, the valve will return to its normal operating position (closed).

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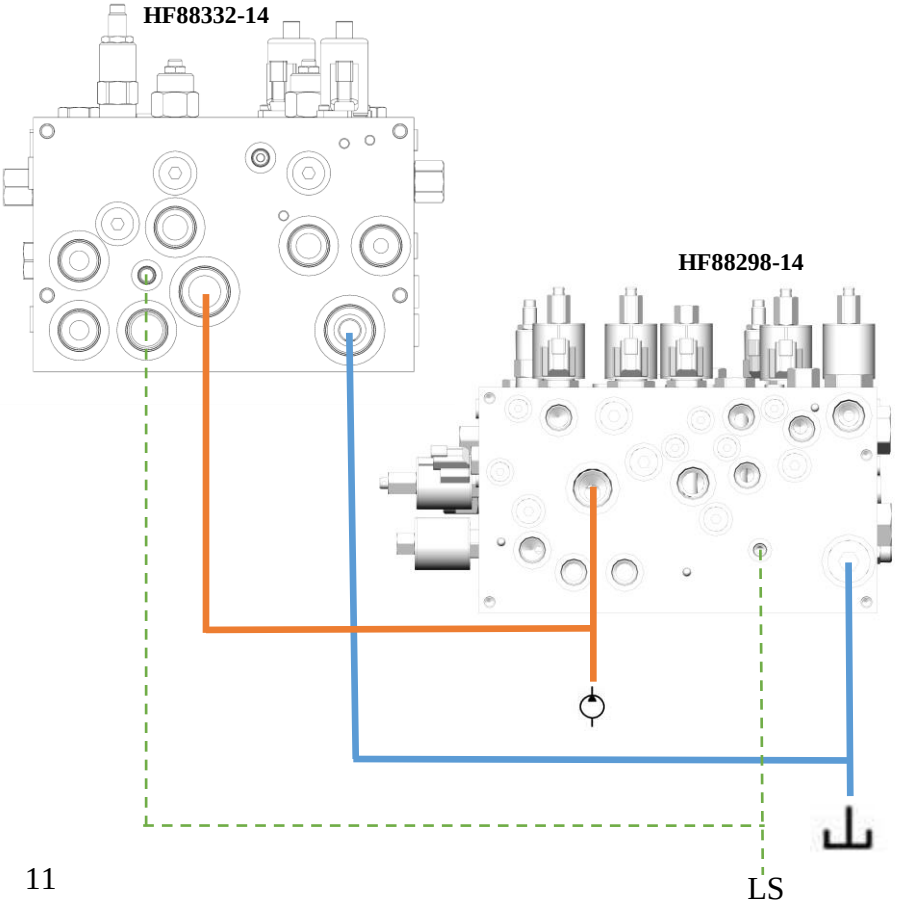
Instructions:

1. Tee “P” port to the Pump Outlet
(Orange Line in Illustration below)

2. Tee the “T” port to a Tank Return on the Primary Manifold
(Blue Line in Illustration below)

3. *Tee the “LS” port to the LS port on the Primary Manifold.
(Green Line in Illustration below)

*= If using a Variable Displacement Pump, route the LS line back to the LS pump symbol.



Troubleshooting

Symptom	Solution
• Either the auger or spinner operates wide open.	• Check manual overrides of SP1 or SP4 (Reference pg. 10 for manual override instructions) – disengage if necessary • Remove SP1 or SP4 from manifold and inspect cavity and cartridge for contamination
• Either the auger or spinner are inoperative	• Inspect wiring and check continuity of Deutsch connector into solenoid receptacle • Verify that the flow is not bypassing motor (loss of efficiency) • Verify that the SP1 or SP4 are magnetizing when energized
• No function operates, System doesn't build pressure.	• Check main relief (RV1) for contamination • Verify that pump is producing flow
• The tow plow will not operate	• Inspect plumbing – verify that the TLA is connected to the appropriate port on the tow plow cylinders. • Inspect Wiring • Increase the main relief pressure setting (pg. 8)
• Manifold operates continuously at main relief pressure (2800 PSI)	• Inspect plumbing – If applicable, check quick disconnects.

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