



**Muncie[®]
Power
Products**

DC Power Pack

Installation & Owner's Manual



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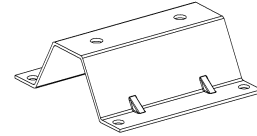
Section 1 - Installation & Operation Procedures

1. Mounting

- Mount the power pack on a solid and level surface free of debris, collision, vibration and weather conditions to ensure proper functionality of the power pack.
- The unit contains two 7/16-20 threaded holes located on the bottom and side of the manifold to provide flexibility in mounting the unit horizontally or vertically (see page 15-16 for details).

Note: Only mount in the vertical position if the intended use of the power pack is for the vertical orientation.

- An optional mounting bracket (5623512400CA) is available for better mounting stability of the power pack (see page 16 for details).



2. Oil Recommendations

- Use quality hydraulic oil with additives for inhibiting rust, oxidation, anti-wear, anti-foam, etc. Oil must be compatible with BUNA-N seals. ATF is acceptable for most applications and climates.
- Oil viscosity is important for proper operation.
 - The oil's pour point should be equal to or lower than the coldest temperature in which the unit is operating.
 - Oil that is too thin (low viscosity) can result in poor performance, leaks and premature wear. This is especially true in hot climates or as the system's oil temperature rises.
 - Viscosity should stay between 400 SUS maximum and 80 SUS minimum, 210-130 SUS optimum.
- Do not exceed 160°F. Ideal oil temperatures are 70°F - 120°F.
- Water in the oil can cause performance issues and damage system components.

3. Filtration

- Oil should be filtered or strained when filling the reservoir. The presence of contaminants in the fluid can effect operation and drastically reduce equipment life.
- The pump suction line is equipped with a 60 micron suction filter strainer and should be cleaned when the oil is changed.

4. Filling and Bleeding Air from the System

- Make sure the reservoir is free of dirt and debris before you begin to add oil.
- Begin to add oil to the reservoir until it has been completely filled.
- Jog the electric motor to prime the pump.
- Initial startup should be done under a no-load condition until all lines and cylinders have been properly filled. In most cases, the pressure line(s) may need to be loosened to allow additional air (foamy oil) to be purged.
 - Purge the system until a clear stream of oil is seen. Use care when doing this to avoid contact with any oil spray.
 - Catch all oil in a container and dispose of properly.
 - Jog the electric motor during this process and continually check the oil level in the reservoir, refilling as needed. Short cylinder strokes, followed by longer strokes while checking fluid level, works best.

5. Relief Valve

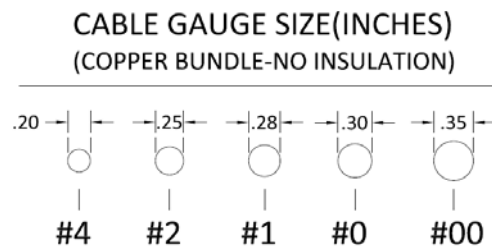
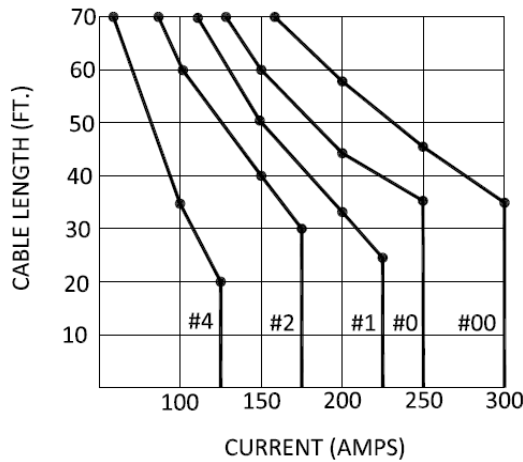
- Setting the relief valve is critical for operational and safety reasons. After purging the system, but prior to operation, set the relief valve to the desired maximum limit (the relief valve has been preset to 2500 PSI). This is best done using a pressure gauge connected to the pressure line. Do not operate against the relief valve setting for extended periods of time.

6. Maintenance

- Keep the unit clean and dry, look for any leaks and repair if needed.
- Do not pressure wash.
- Check the wiring for corrosion and for sound connections. Clean and tighten as necessary.
- Check oil level and top off as needed.
- Change annually (or as needed) and use the same type of oil that was previously used with the power pack.

7. Electrical

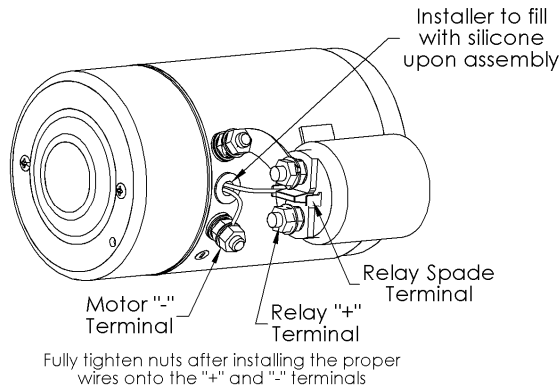
- Make sure the power pack has been properly connected with the appropriate size wiring.*
- Most chassis manufacturers recommend a dedicated circuit for the DC Power pack. A high amperage fuse or circuit breaker is typically required for proper protection.



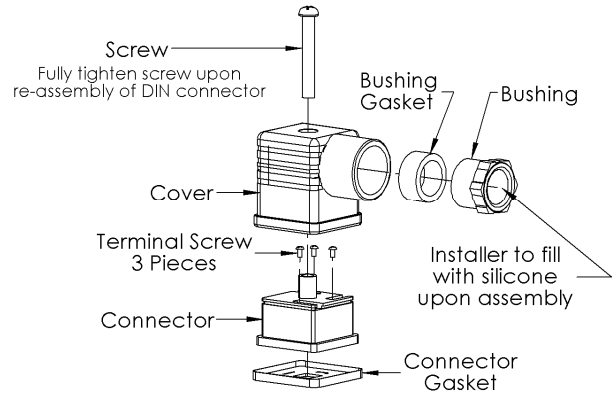
*Use same gauge wire for both power and ground leads from battery to motor.

Section 2 – DCP Component Wiring Details

Motor (12V DC) – 56250A180L0H

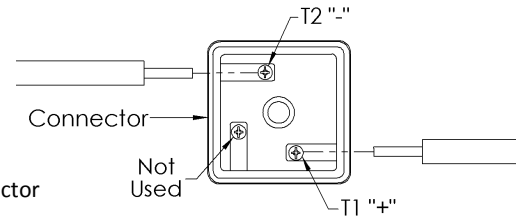


DIN Connector – 78C00100500A

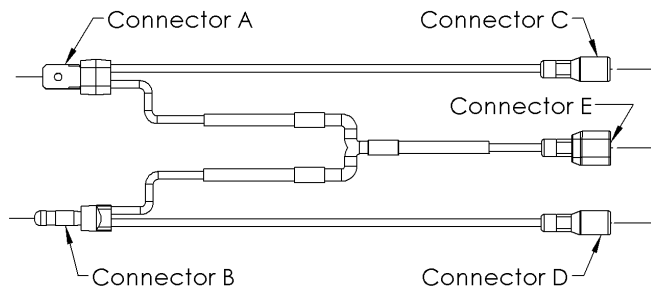


DIN Wire Connection Procedure

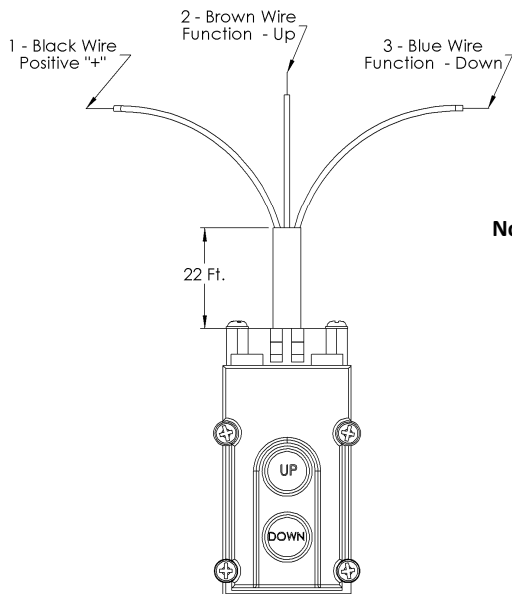
1. Disassemble the DIN connector.
2. Using two pieces of 16 gauge insulated wire, pass one end of the wire through the DIN connector in the following order:
 - a) Bushing
 - b) Bushing Gasket
 - c) Cover
3. Strip ¼" of insulation from the end of each wire.
4. Loosen the terminal screws from T1 "+" & T2 "-" on the connector.
5. Insert one of the stripped ends into T1 "+" through the hole in the top of the connector and tighten the screw; repeat for T2 "-".
6. Carefully slide the cover down over the connector and insert the top screw.



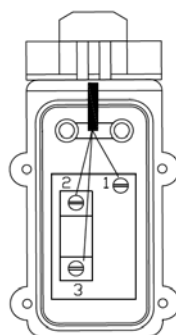
Jumper Harness – 78XK01C03020



Controller – 150123019A0U*

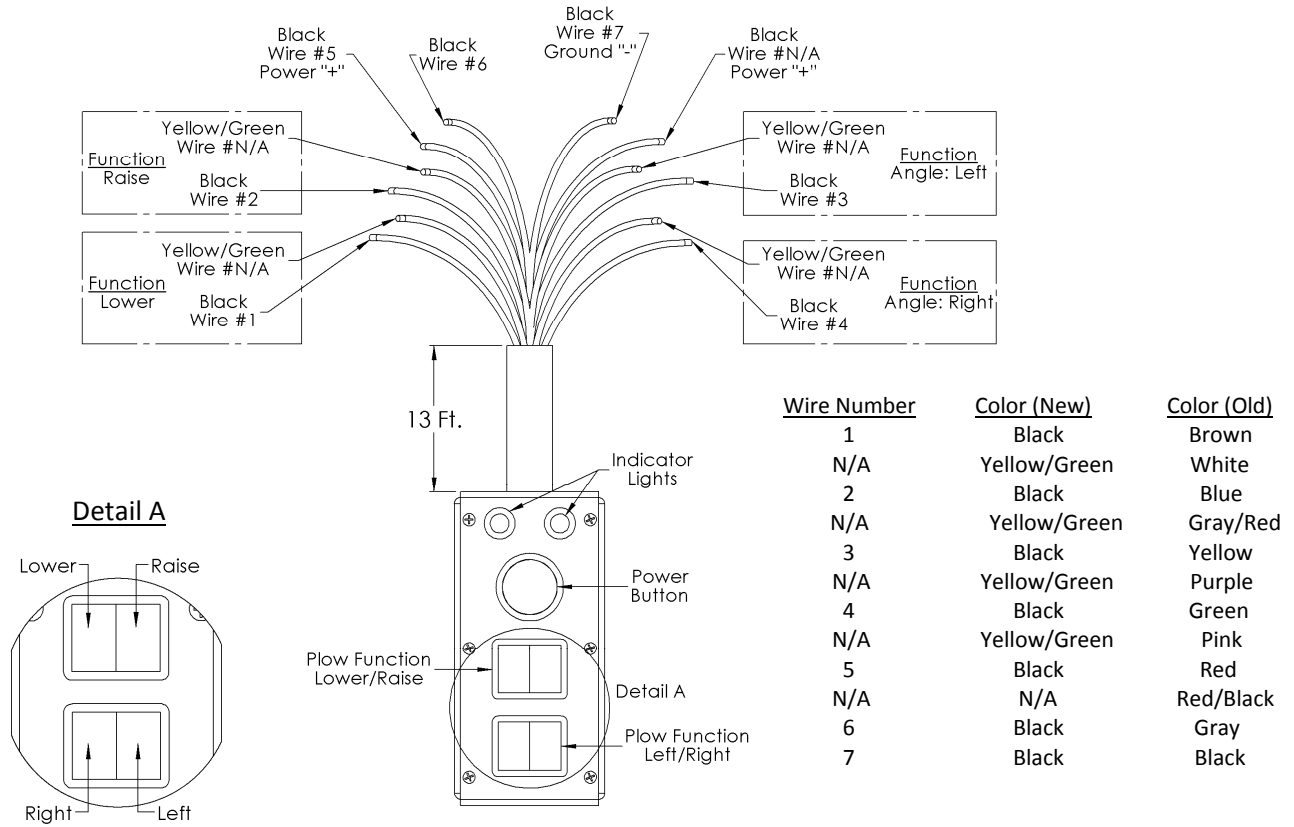


Note: Black wire and ring terminal shipped loose.

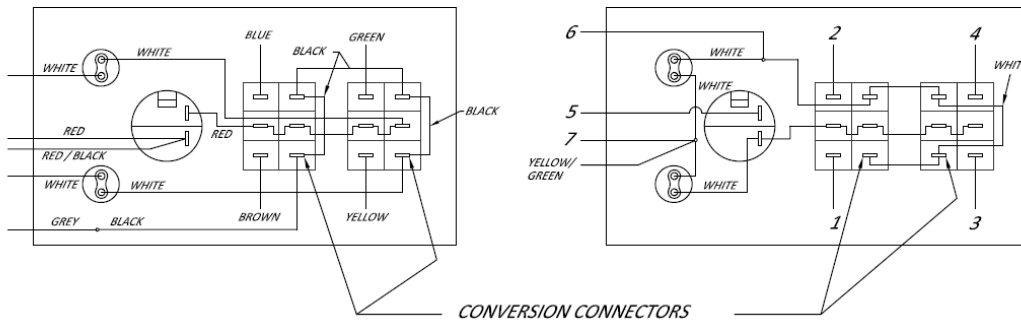


*Controller shown is the standard controller; the weather resistant controller is P/N 15012304001S.

**Preliminary
Controller – 150123019A8G (12V DC)**

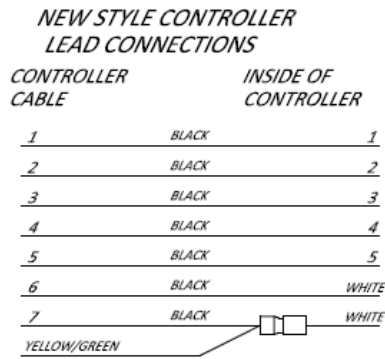
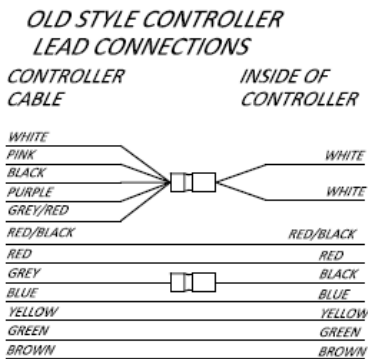


Note: Both rocker switches are factory wired for operating a double acting function.



CONVERSION CONNECTORS

Converting To a Single Acting Function



1. Select the rocker switch that controls the single acting function.
2. Remove the female spade conversion connector from the rocker switch spade. Do NOT cut the wires from the connector.
3. Insulate the connector with an insulated male spade connector or electrical tape. Insure that the connector or wire cannot short against any other terminal.

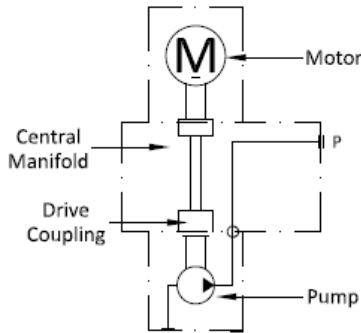
Note: Converting to a single acting function allows the solenoid valve to shift without activating the electric motor/pump during “lower” or “down” switch operation. The new style controller will operate on BOTH 12VDC & 24VDC.

Preliminary
Section 3 - DCP Unit Wiring Details

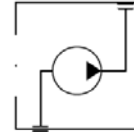
To ensure proper installation of your DCP unit, begin by wiring each DIN connector equipped with your DCP unit by completing steps 1-6 on page 5. After the DIN connectors have been wired, begin to connect the proper controller wires to your DCP unit. Refer to pages 13-14 for manual valve wiring.

LP1A-0****-000-A

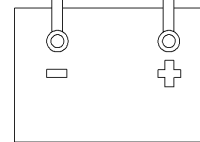
Hydraulic Schematic



Pump/Motor Control

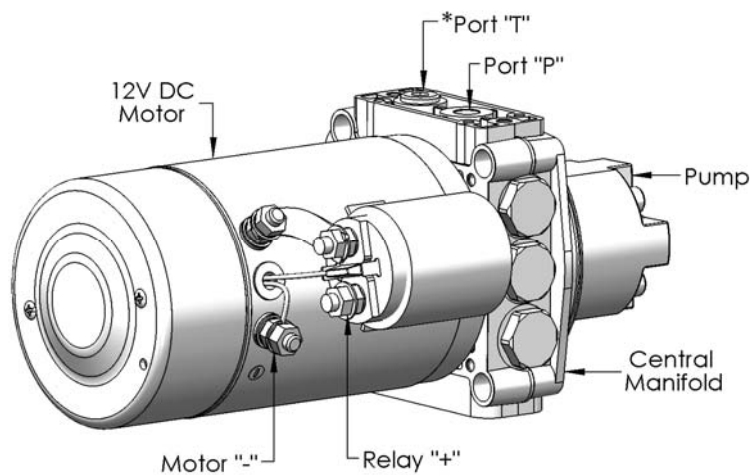


Connect To Motor "-" Terminal Connect To Relay "+" Terminal



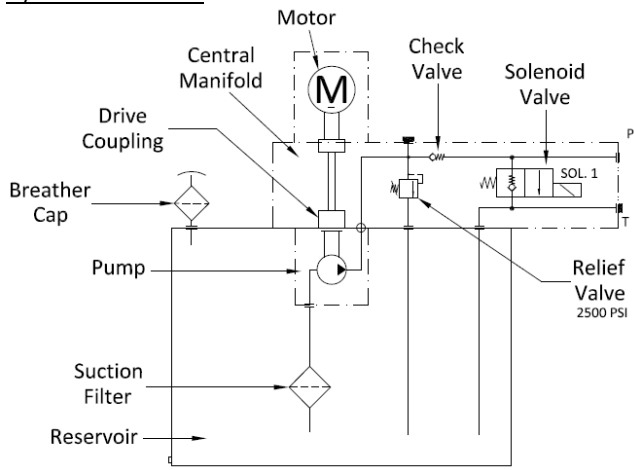
12V DC Battery

See page 5 for motor wiring details

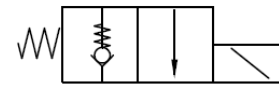


*Where Applicable

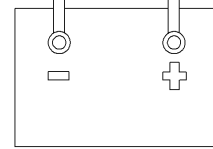
Hydraulic Schematic



Solenoid 1: 2-Position 2/3-Way Single Acting

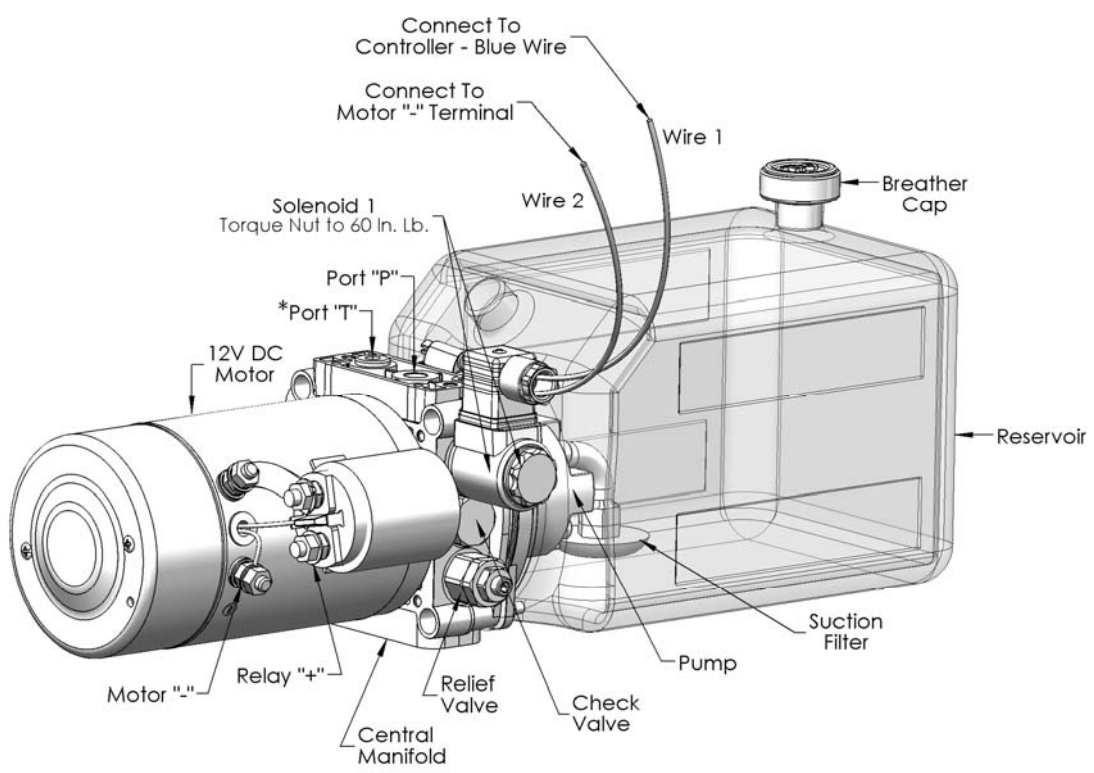
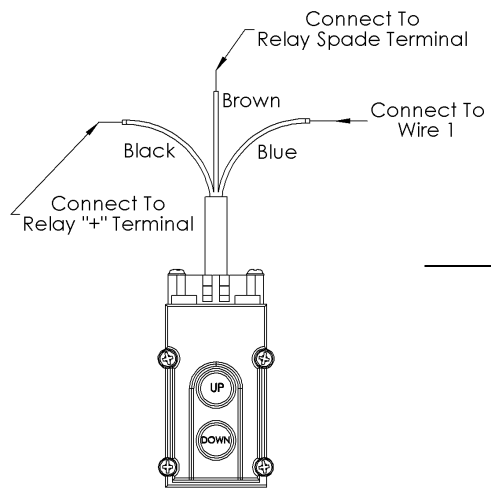


Connect To Motor "-" Terminal Connect To Relay "+" Terminal



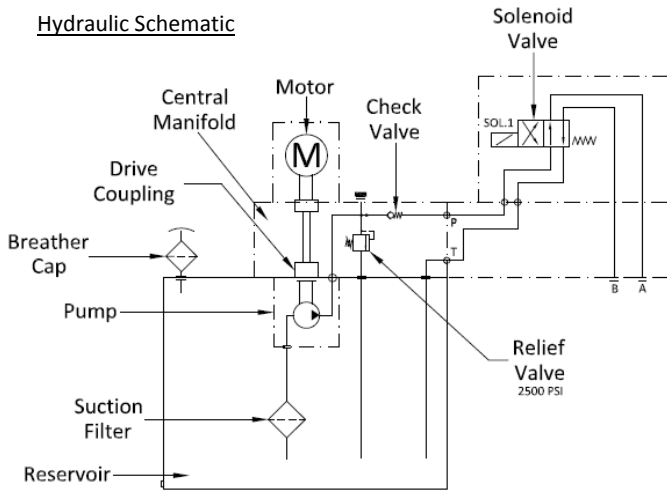
12V DC Battery

See page 5 for motor wiring details



*Where Applicable

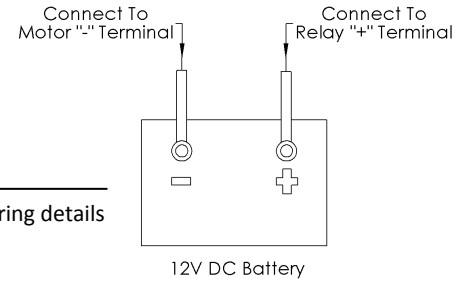
Hydraulic Schematic



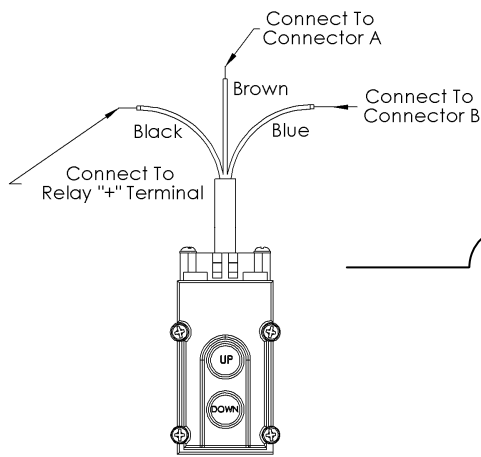
Solenoid 1: 2-Position 4-Way Single Acting



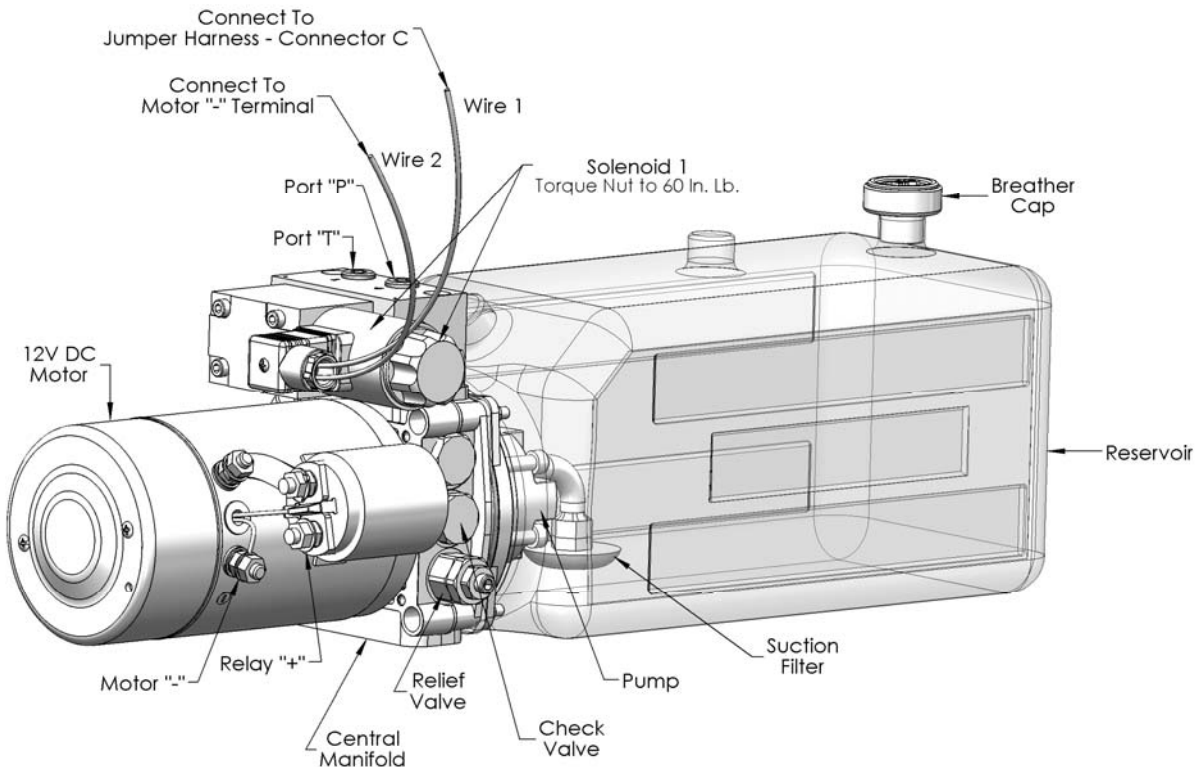
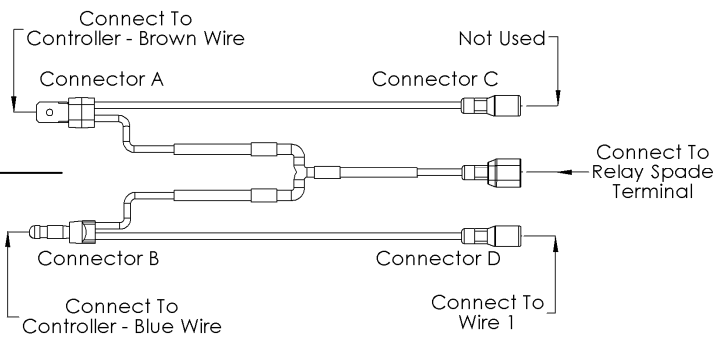
Note: Not for use on truck mounted dump body applications that require a downside relief for proper hoist structure protection; see LP1A-4****-100-C.



See page 5 for motor wiring details



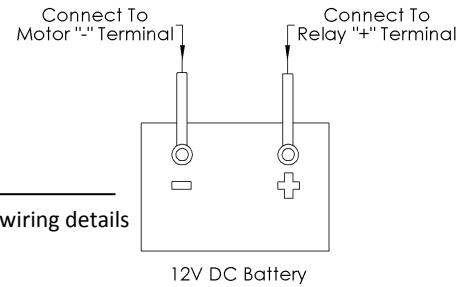
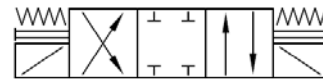
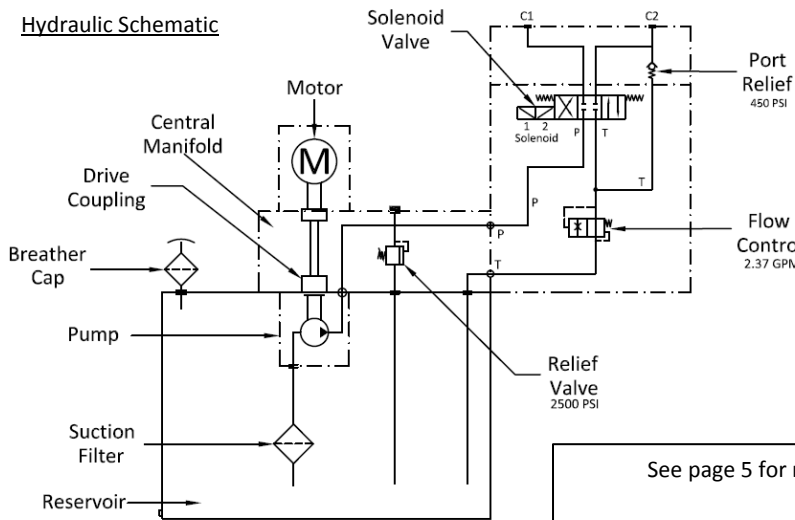
Jumper Harness – 78XK01C03020



Preliminary
LP1A-4*-100-C**

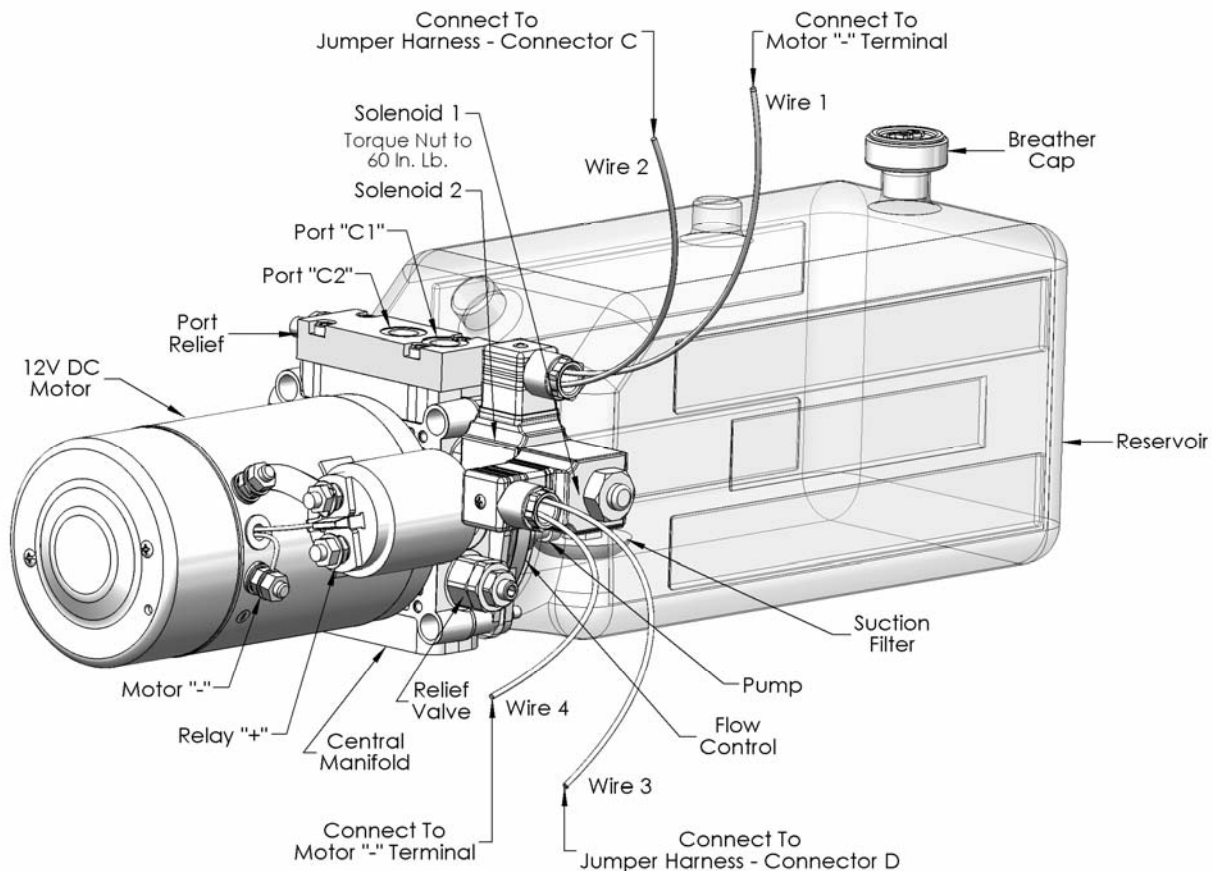
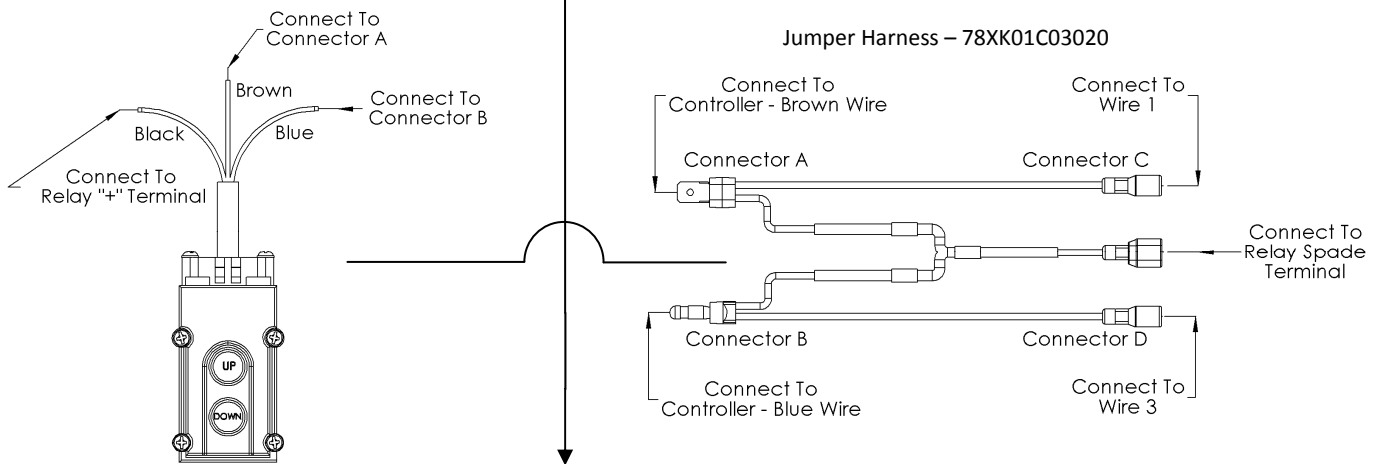
Solenoids 1 & 2: 3-Position 4-Way Double Acting

Hydraulic Schematic

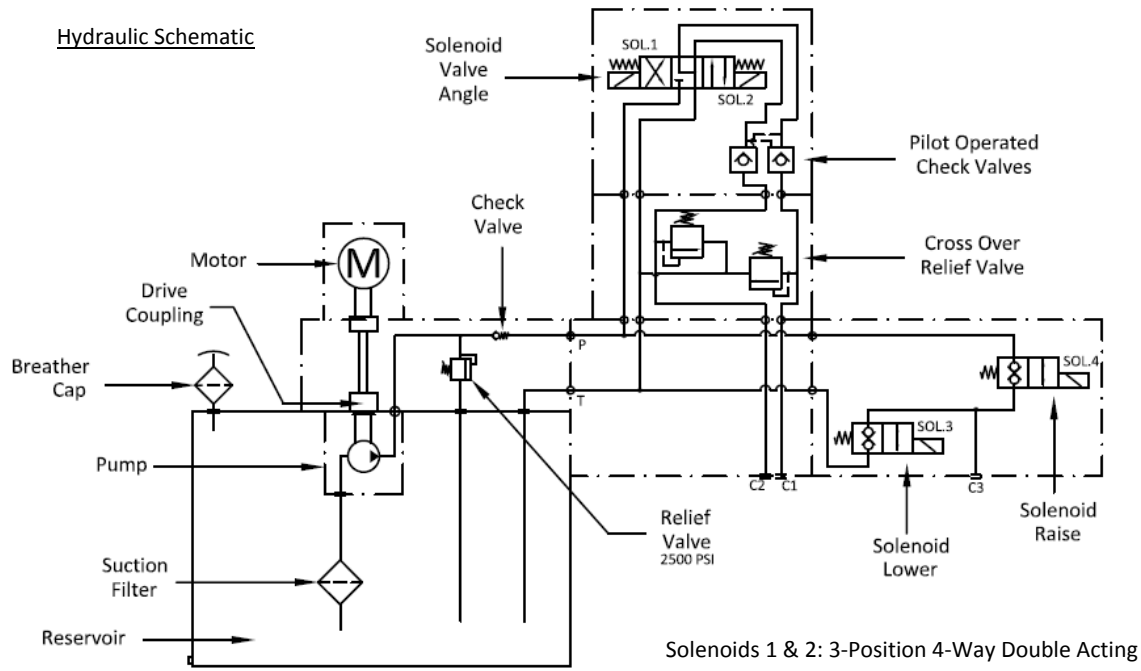


See page 5 for motor wiring details

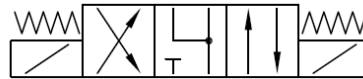
Jumper Harness – 78XK01C03020



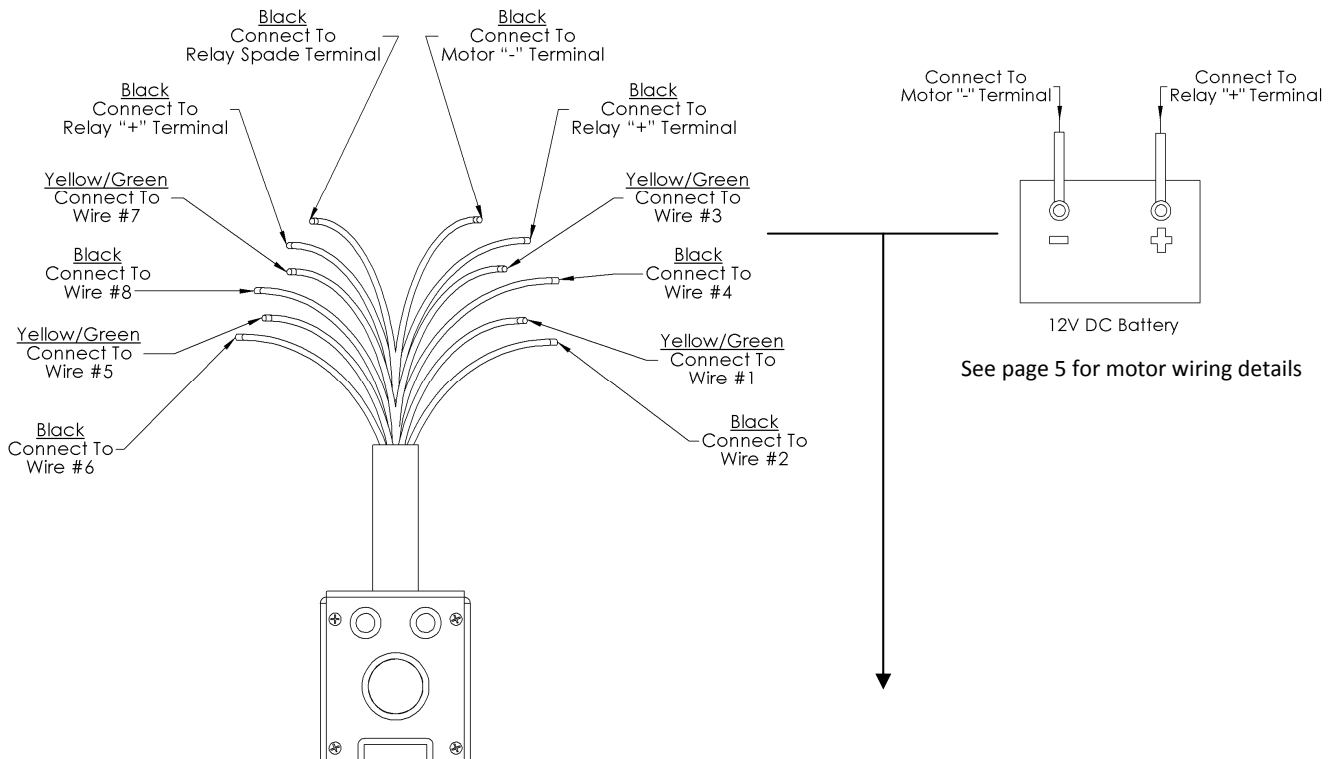
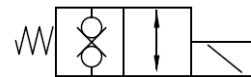
Hydraulic Schematic



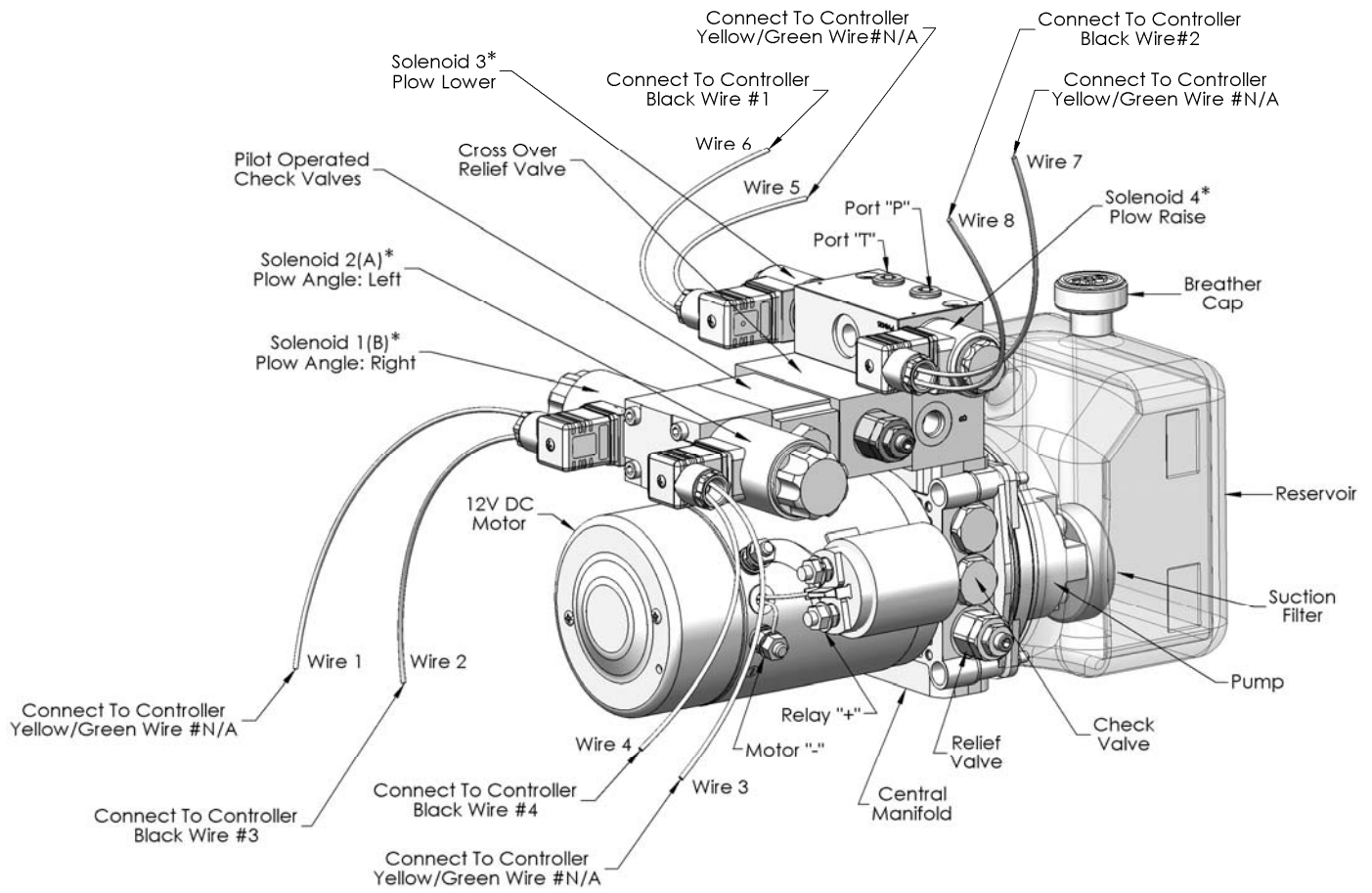
Solenoids 1 & 2: 3-Position 4-Way Double Acting



Solenoids 3 & 4: 2-Position 3-Way Single Acting

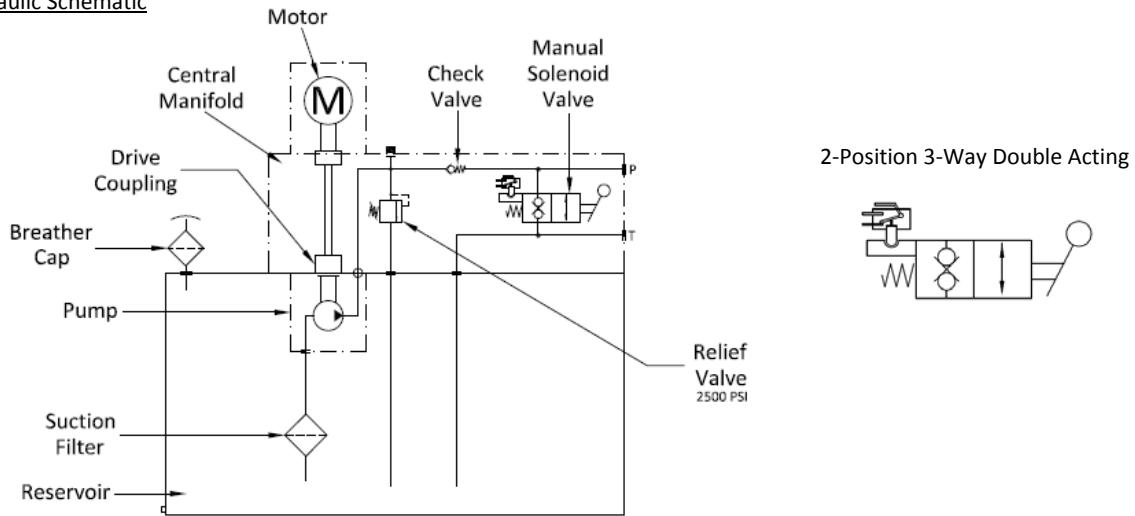


Preliminary

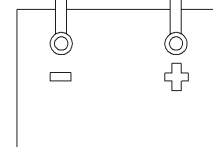


*Torque nut to 60 In. Lb.

Hydraulic Schematic

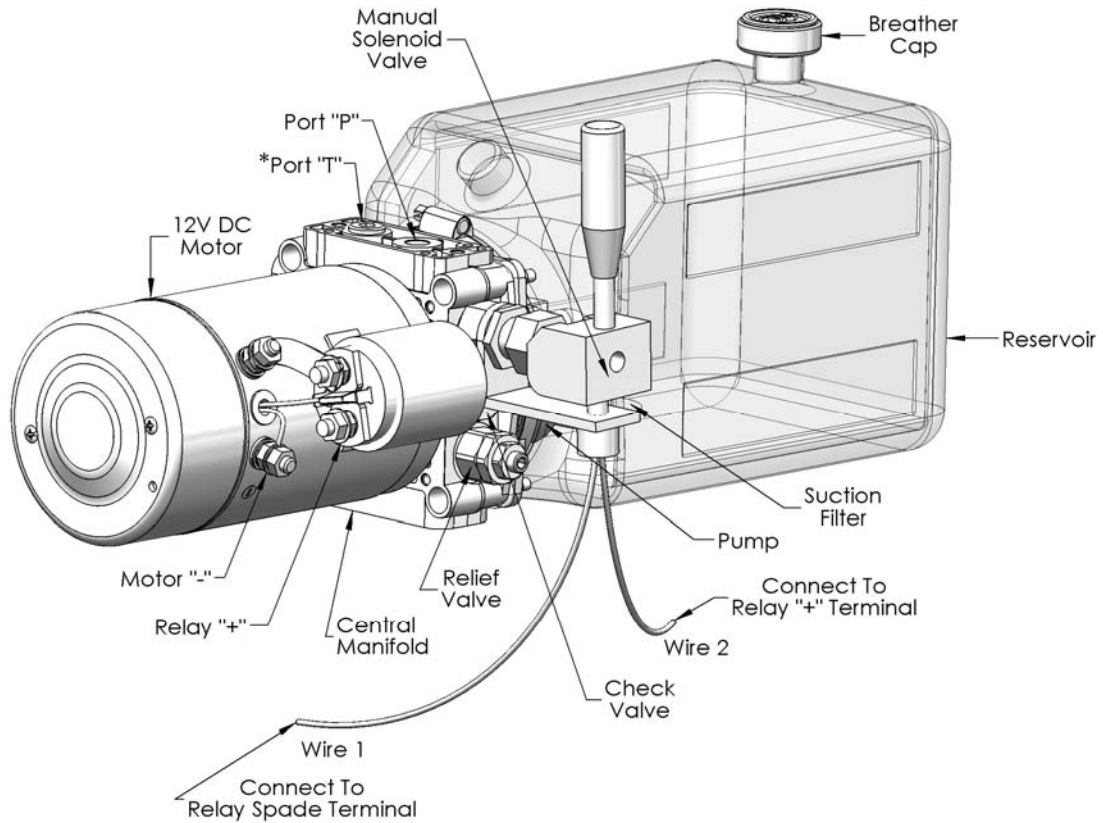


Connect To Motor "-" Terminal Connect To Relay "+" Terminal

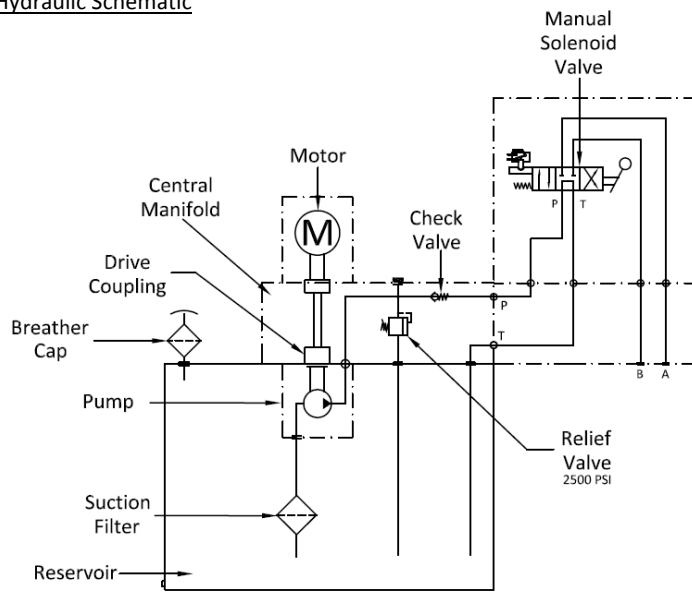


12V DC Battery

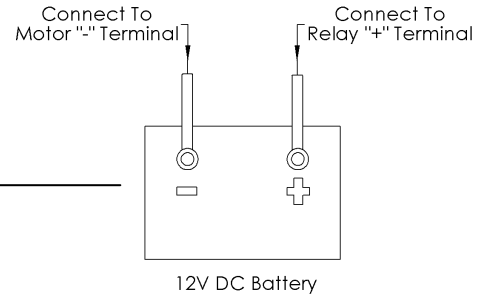
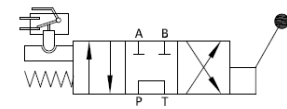
See page 5 for motor wiring details



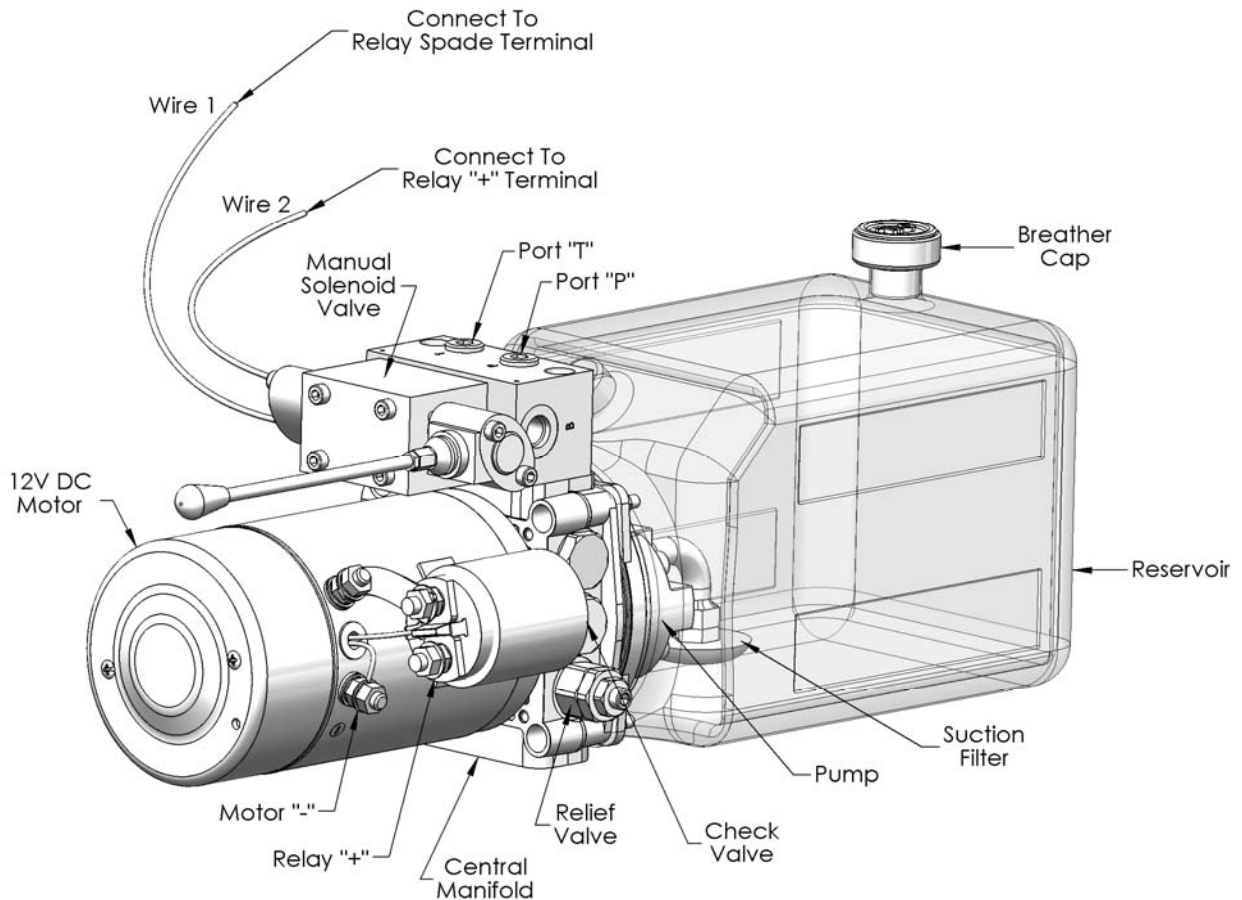
Hydraulic Schematic



3-Position 3/4-Way Double Acting



See page 5 for motor wiring details



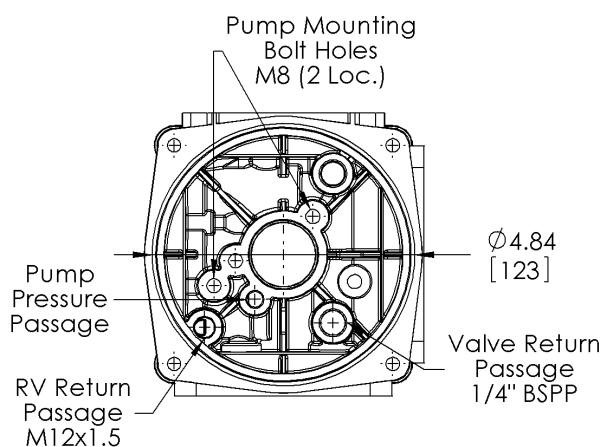
Preliminary
Section 4 - Dimensional Details

Central Manifold Details

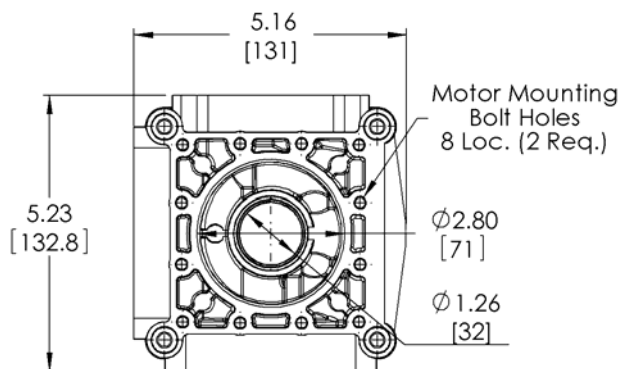
5620121031AB – Used in LP1A-4****-100-* & LP1A-4****-101-*

5620121031BT – Used in all other DCPD models

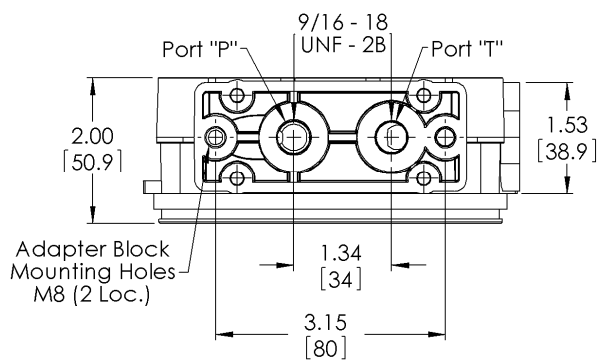
Front View – Both Manifolds



Rear View – Both Manifolds

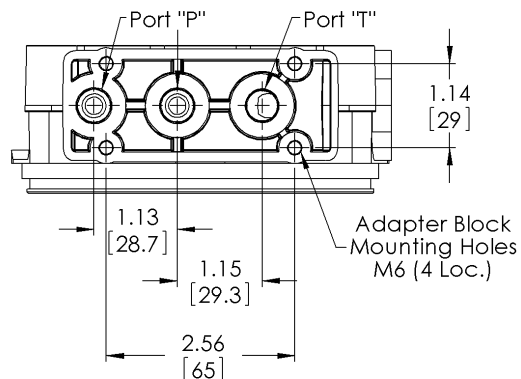


Top View – 5620121031BT



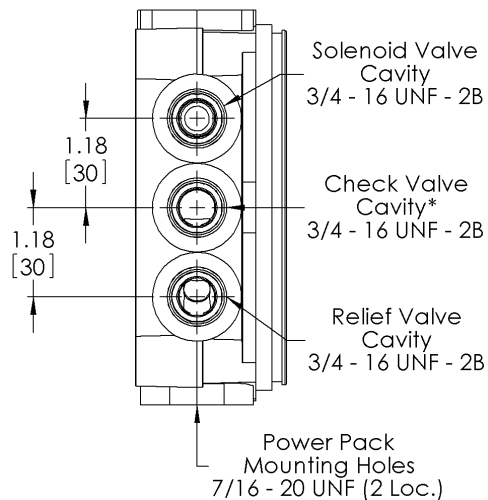
Note: Surface machined to accept either port fitting or adapter blocks for adding Cetop valves.

Top View – 5620121031AB



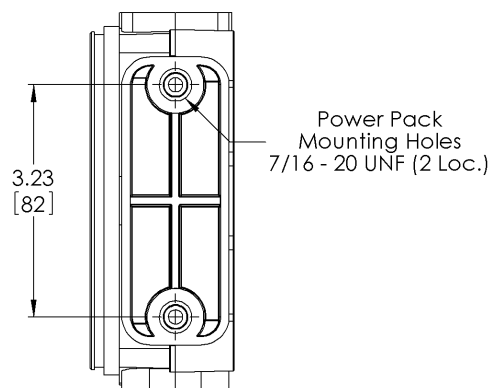
Note: Manifold must be used with 5628560B546B/C port relief valve block.

Left Side View – Both Manifolds

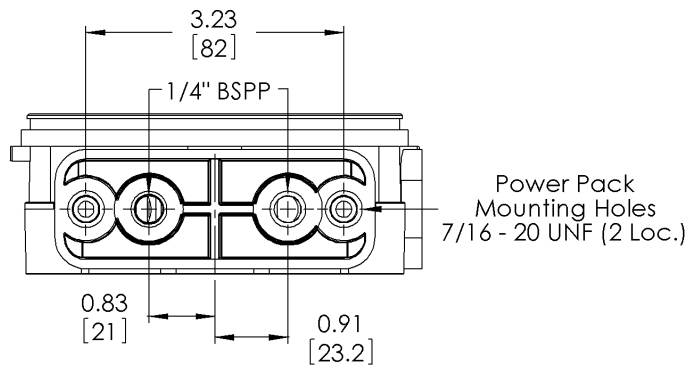


*Check Valve Cavity is N/A for the 562012031AB central manifold.

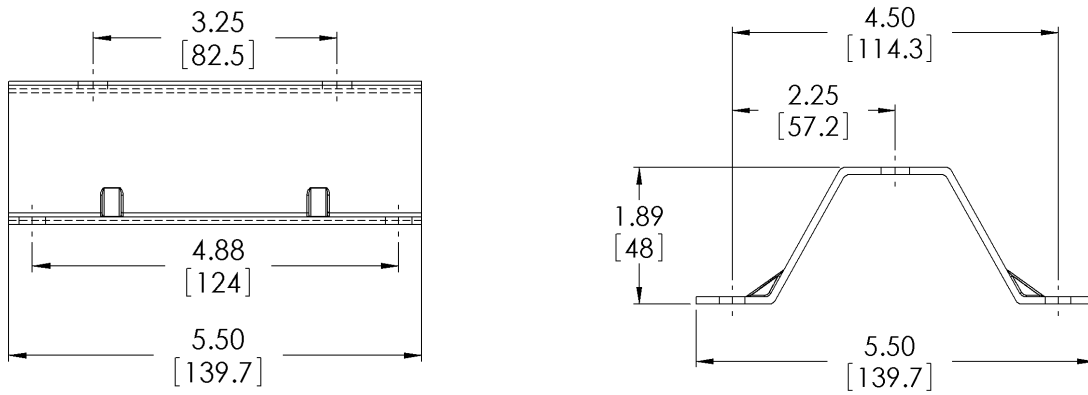
Right Side View – Both Manifolds



Bottom View – Both Manifolds



Optional Mounting Bracket - 5623512400CA



Preliminary
Section 5 – Owner’s Manual

Troubleshooting

Listed below is a trouble shooting guide for DC power packs. Analysis and proper repair can be shortened with the use of a hydraulic pressure gauge (0-5000) and an electric multi-meter (Volts, Ohm). All work should be done by qualified personnel. Before starting, make sure:

- All electrical connections have been properly made.
- The reservoir is full of oil.
- Battery(s) are fully charged and functional.
- Remove all jewelry and metal that may come in contact with electrical connections.

Note: The DC motor is protected from overheating as a result of electrical overload with the use of a thermocouple set to kick out at 203°F, +/- 5%.

| Symptom | Cause | Cure |
|--|--|--|
| Motor does not run | Low voltage Poor Ground Pump seized Heat overload | Check battery charge/functionality Check wiring and connections Repair or replace Let thermocouple reset |
| Pump noisy | Low oil supply Heavy oil Strainer plugged | Fill to proper level Change to proper oil Clean or replace |
| Cylinders Drift (Power off) | Leakage at pump check valve Leakage through solenoid valve Cylinder internal leakage Air trapped in cylinder | Clean or replace Clean or replace Rebuild or replace Purge trapped air |
| Motor runs but cylinders do not move or are slow | Low voltage Poor ground Solenoid coil Solenoid damage Insufficient relief valve pressure Low oil supply Leakage through solenoid valve Cylinder internal leakage Load too heavy Air trapped in cylinder | Check battery charge/functionality Check wiring and connections Check coil for damage/operation Clean or replace Set to correct pressure Fill to proper level Clean or replace Rebuild or replace Set RV to correct pressure w/ gauge Lighten load Purge trapped air |

Muncie’s DC power pack is warranted against any defect in material and workmanship which existed at the time of sale by Muncie, according to the following provisions, subject to the requirements that the product must be used only in accordance with catalogue and package instructions.

The DC power pack is warranted for a period of one year from the date of installation*, or eighteen months from the marked date code, whichever comes first. If during the warranty period the DC power pack fails to operate to Muncie’s specifications due to defect in any part in material or workmanship that existed at the time of sale by Muncie, the defective part will be repaired or replaced, at Muncie’s election, at no charge, if the defective part is returned to Muncie with transportation prepaid.

Warning: The above warranty shall terminate if any alterations or repairs are made to the DC power pack other than by Muncie Power Products, or if the DC power pack is used on any equipment other than the equipment upon which it is first installed.

The foregoing warranties are in lieu of all other obligations and liabilities, including negligence and all warranties of merchantability and suitability, expressed or implied and state Muncie’s entire and exclusive liability and buyer’s exclusive remedy for any claim of damages in connection with the sale, repair or replacement of the above goods, their design, installation or operation. Muncie will in no event be liable for any direct, indirect, special, incidental or consequential damages whatsoever, and our liability under no circumstances will exceed the contract price for the goods for which liability is claimed.

*Normal maintenance items such as connectors, motor, motor relay, etc. are limited to a 90 day warranty period.



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