



NEED HELP?

Representatives are here to help with any questions concerning this product. Please email us with questions.

Summit-Hydraulics.com

Contact@Summit-Hydraulics.com

Monday-Thursday—7:30 AM to 4:30 PM (MST)

Friday—8:00 AM to 12:00 PM (MST)

HYDRAULIC MANUAL DIRECTIONAL CONTROL VALVES

APPLICATIONS: Universal



PART NUMBER: INCLUDED:

- P40X-XXX
- P80X-XXX
- P1201X-XXX
- Manual Monoblock Instructions
- Adapters & Fittings (Plugs)
- Hydraulic Handle
- Installation Instructions

	Max Flow	Max PSI	Work Port Size	Pressure Port Size	Return Port Size
P40	13 GPM	3625	#8 SAE	#10 SAE	#10 SAE
P80	21 GPM	3625	#10 SAE	#10 SAE	#12 SAE



We recommend all Summit Hydraulics products are installed by experienced professionals. With proper installation and maintenance, Summit Hydraulics products will provide exceptional longevity and durability. For any questions, please contact us immediately. Thank you for trusting Summit Hydraulics!

REPLACEMENT PART?

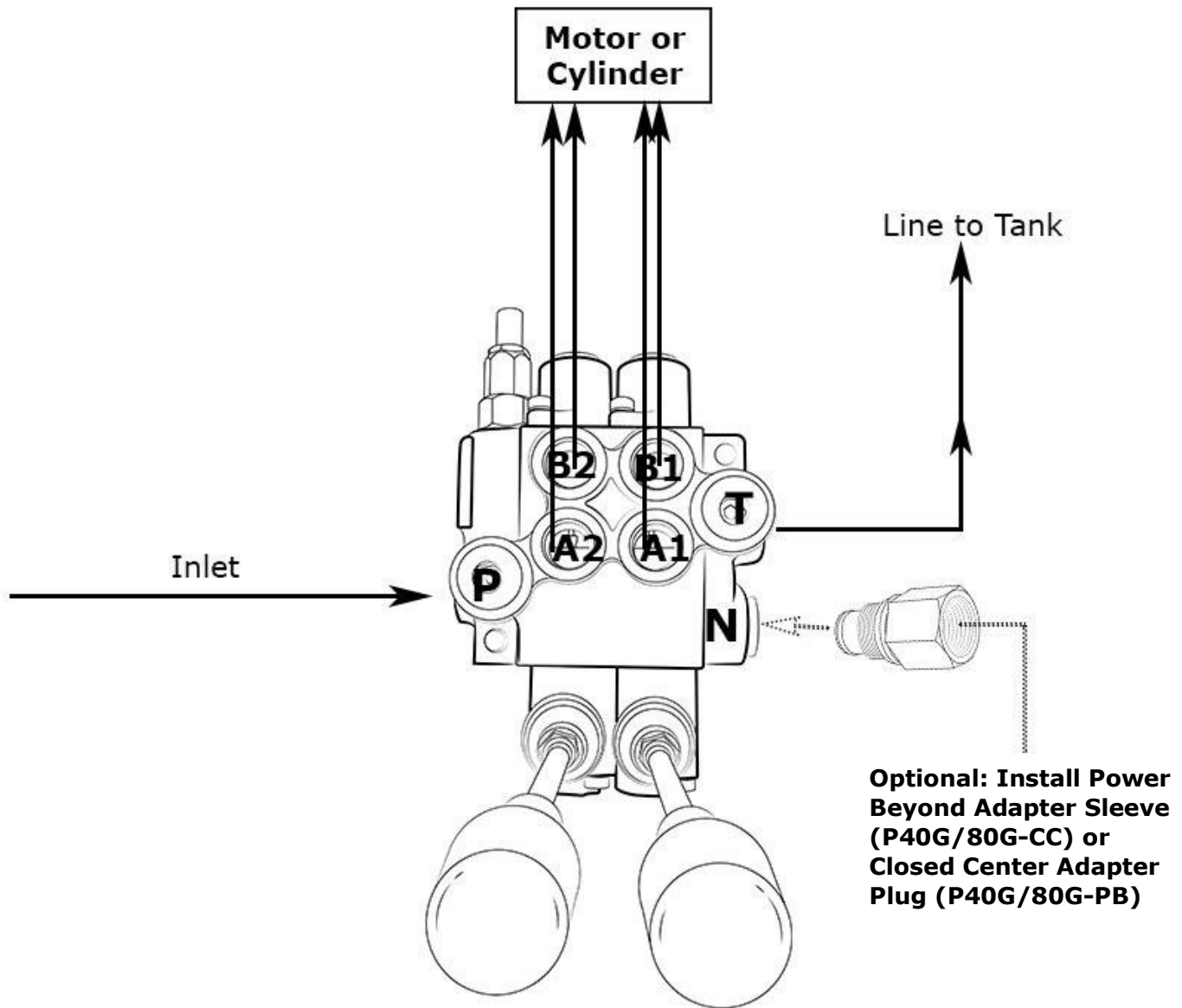
For any OEM replacement hardware/parts, please refer to OEM service. For all included hardware/parts, please refer to Summit Hydraulics' website. Please email Contact@Summit-Hydraulics.com for further questions.

NOTE:

For any OEM hardware, please refer to your OEM service manual for torque specifications. For all included hardware, please torque to the specifications shown in the instructions. We recommend to use a torque wrench when tightening instead of an impact wrench. All torque specifications will be included throughout the instructions. Please reference instructions.

Specification

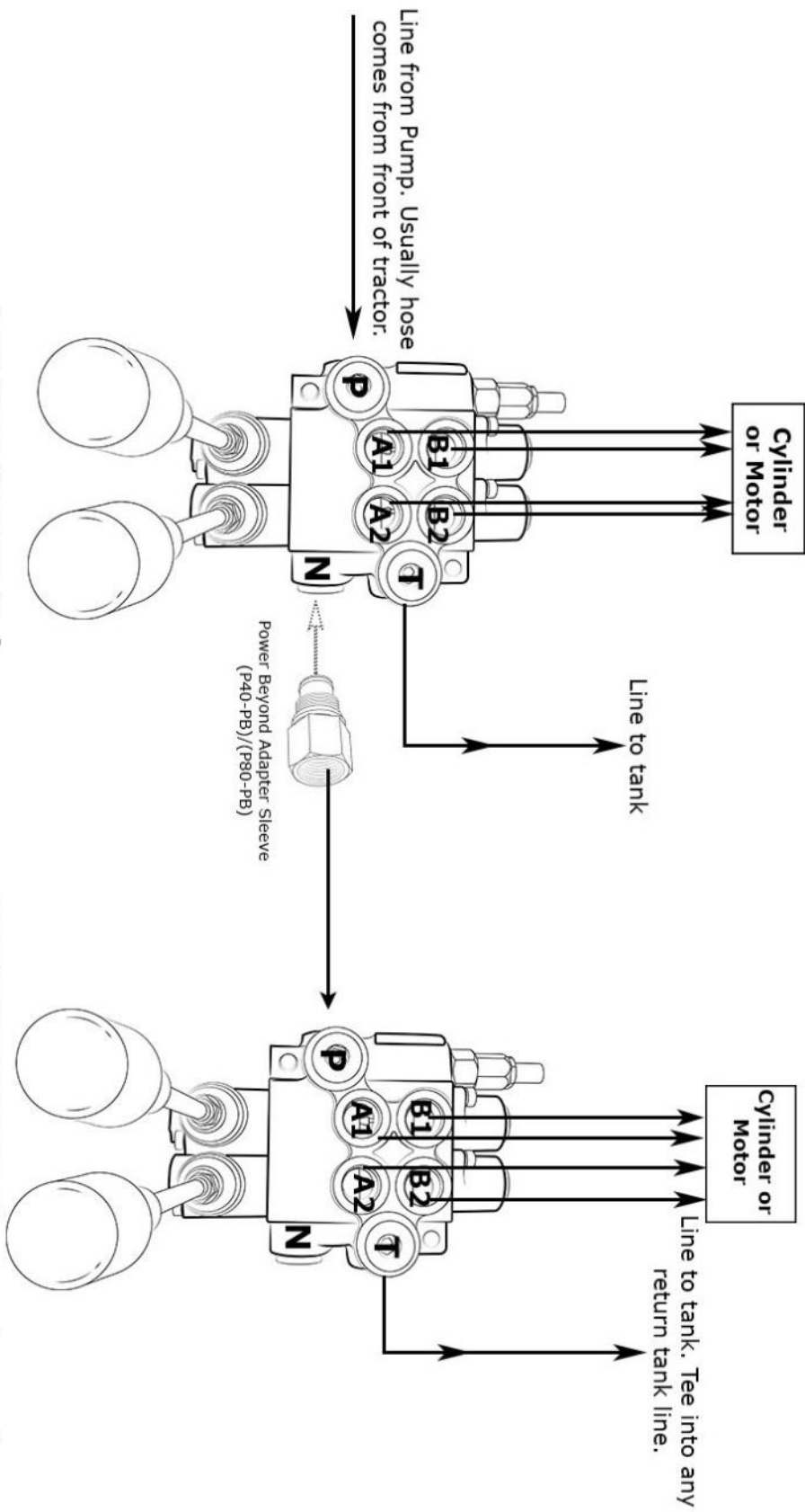
P40/P80/P1201 Valve Configuration



P40/P80/P1201 Valve

Specification

P40/P80/P1201 Valve Series Configuration

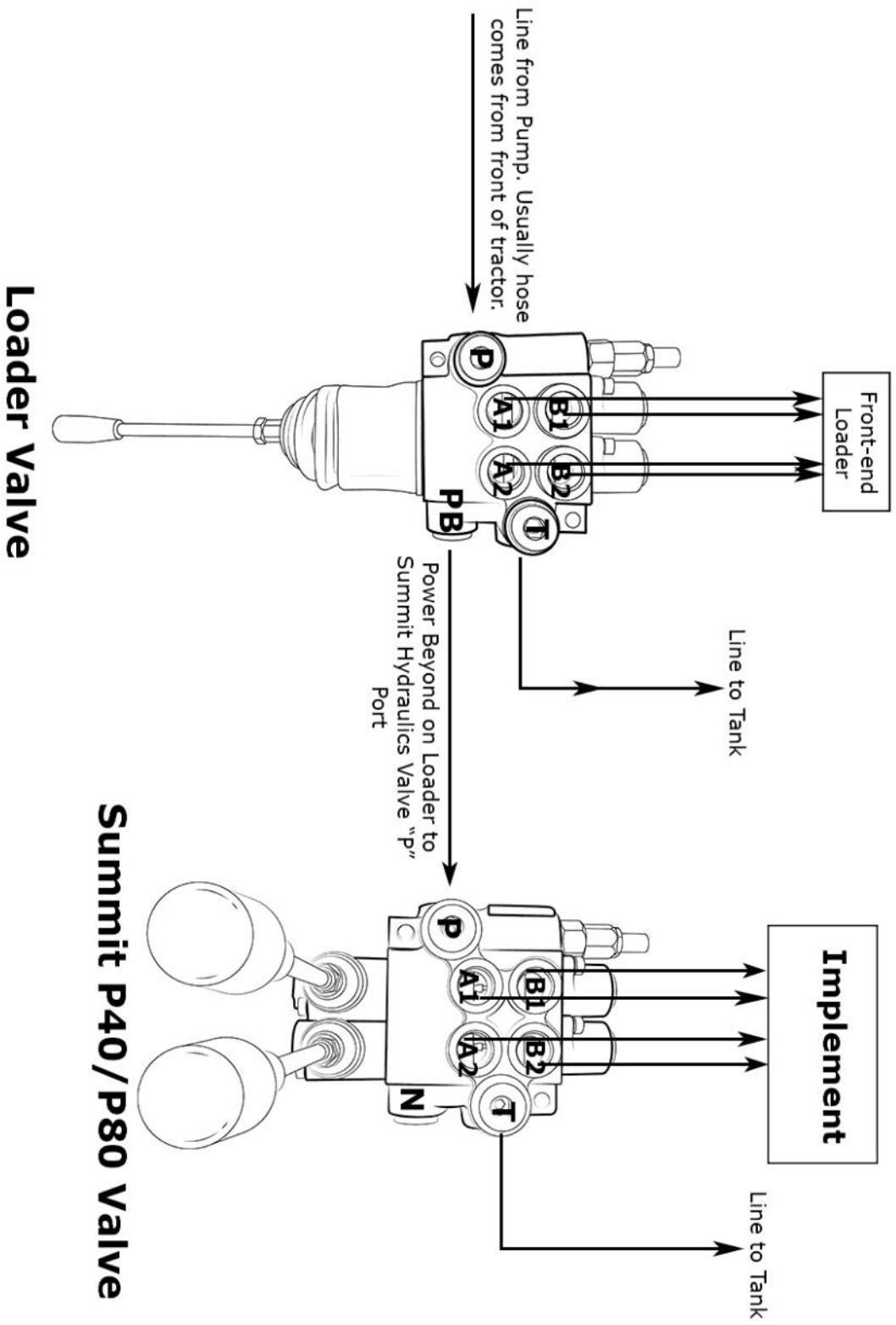


P40/P80/P1201 Valve

P40/P80/P1201 (Downstream)

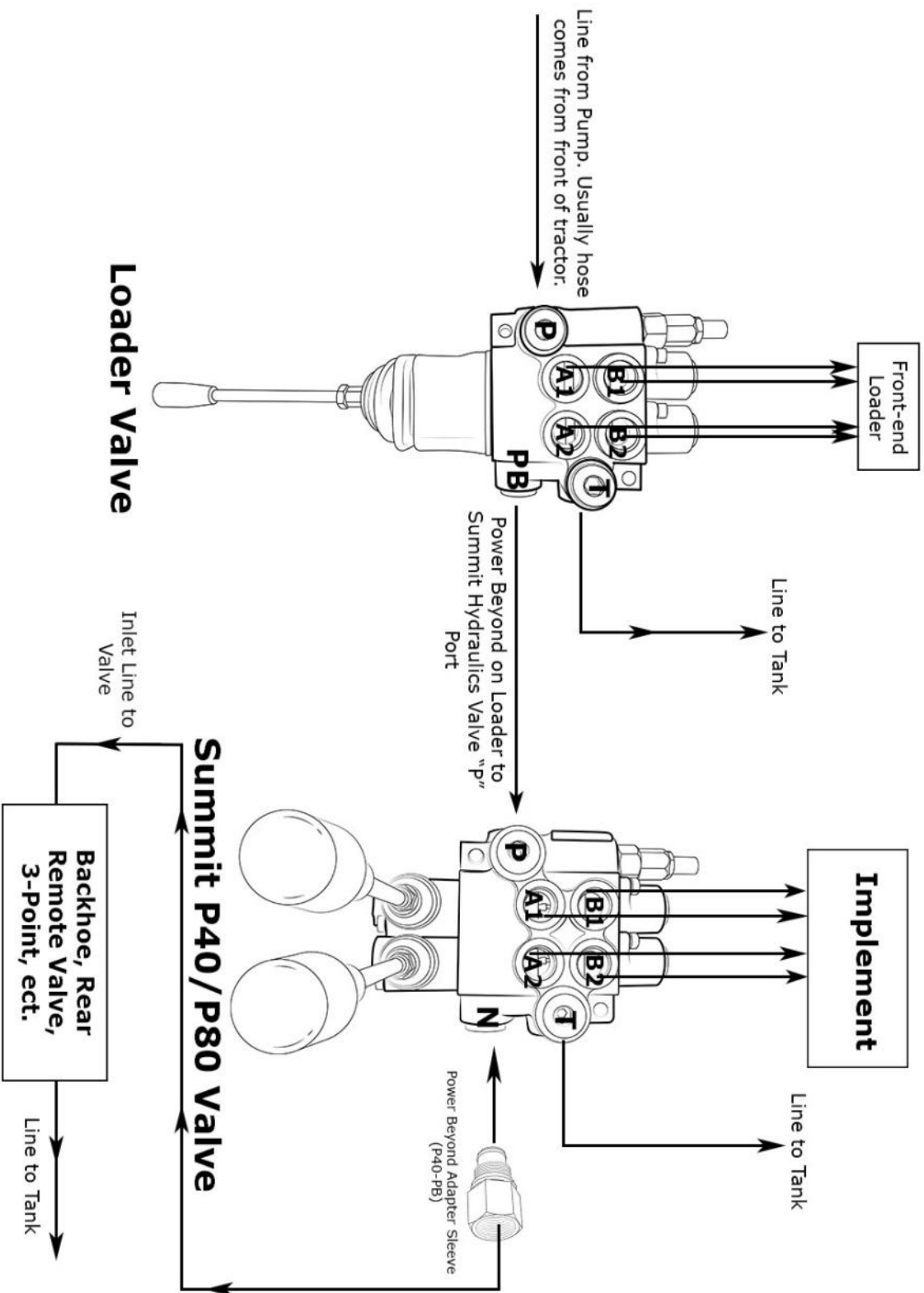
Specification

Standard Loader Valve Configuration with Summit Valve Installed



Specification

Standard Loader Valve Configuration with Summit Valve Installed with Backhoe, Rear Remotes, Ect.

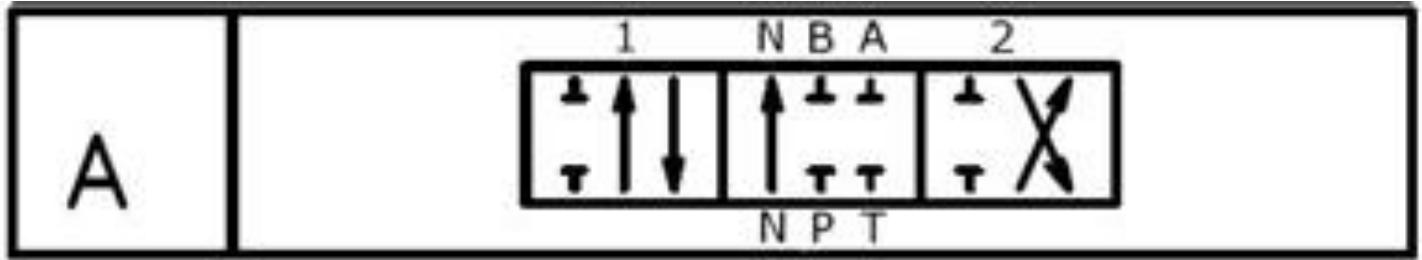




Specification

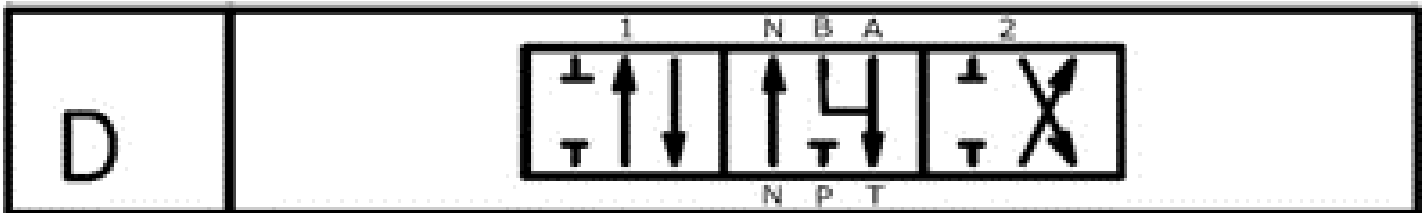
A Spool - Tandem Center Spool

- All spools are double acting with spring return to neutral position, A spool is designed to control double acting cylinders.
- A & B ports are closed to Tank in neutral position.



D Spool - Motor Spool

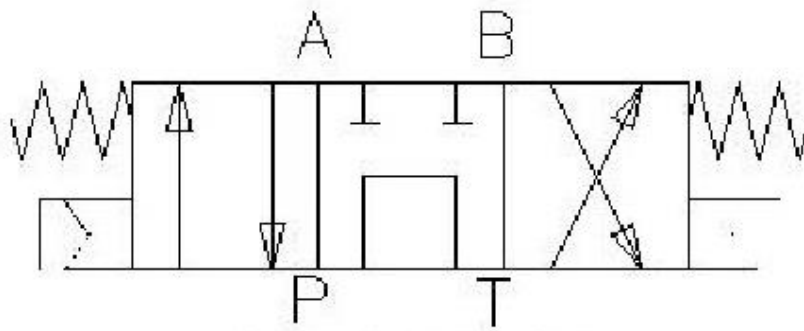
- All spools are double acting with spring return to neutral position, D spool is designed for non-load holding applications such as motors and horizontal cylinders



Specification

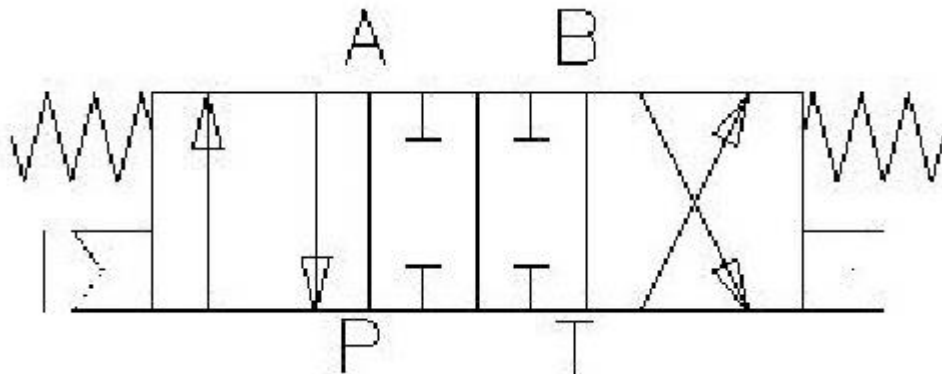
Tandem Center Spool

- Neutral Position—A & B are blocked.
- Neutral Position—P & T are connected.



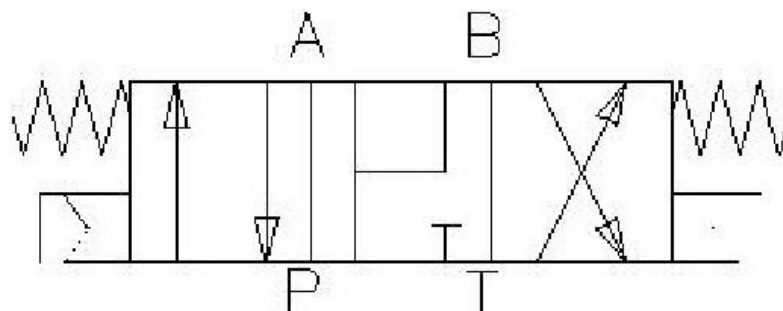
Closed Center Spool

- Neutral Position—A & B are blocked.
- Neutral Position—P & T are blocked.



Motor Spool

- Neutral Position—A & B are connected to Pressure.
- Neutral Position—T is blocked to allow pressure to build up.





Installation Procedure

WARNING:

- Lubricate all threads and O-Rings with hydraulic fluid before installing fittings into the hydraulic manifold. All ports are SAE/O-Ring Boss Thread. Do not use Teflon tape or pipe dope.
- We recommend hand tightening the fitting first, snugging the fitting using a wrench, and applying a quarter turn of torque to the fitting.
- Unless stated otherwise, all fittings/adapters are right hand thread. Please tighten all fitting/adaptor in the correct orientation. Right turn-tighten. Left turn-loosen. Damaged thread can lead to possible leaks and failure. Improper install of thread will result in warranty denial. Reference warranty page for details.

Hydraulic Connection

Ports on Valve:

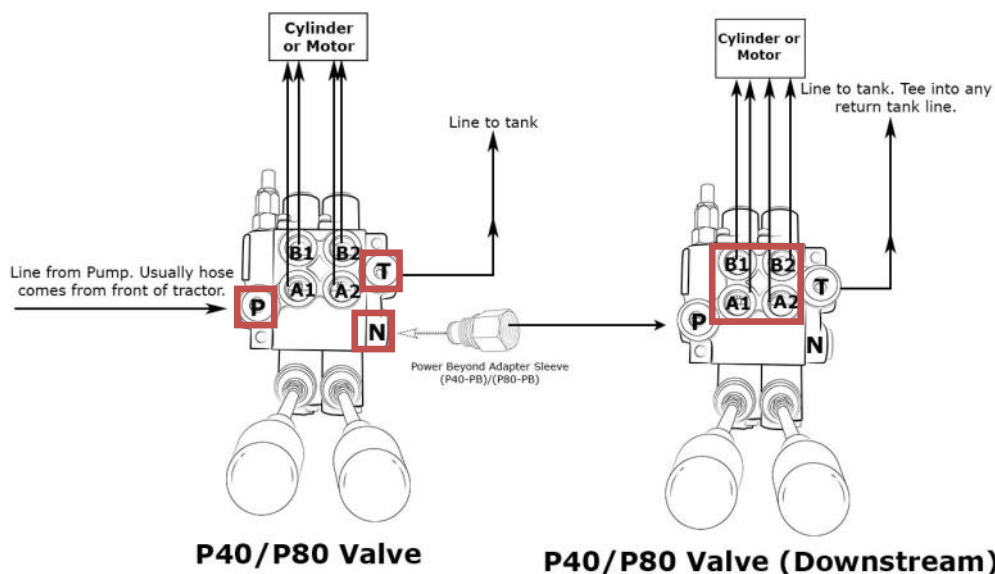
"P" Port: Pressure or Inlet Port. This port connects to the Power Beyond Port on your loader valve, your power beyond hose, or directly to your pump. Note: You **cannot** tee pressure lines in an open center hydraulic system.

"T" Port: Return or Tank Port. This port connects to your tank. Note: You **can** tee into any tank line going back to your reservoir.

"A" & "B" Ports: These are your work ports that connect to your cylinders or hydraulic motor. A1 & B1 connect to cylinder 1 while A2 & B2 connect to cylinder 2.

"N" Port: Port for Closed Center Plug or Power Beyond Adapter Sleeve. If Power Beyond Adapter Sleeve is installed, this valve now has Power Beyond to provide flow and pressure to another valve downstream. If Closed Center Plug is installed, this valve can be used on a closed center system (no load sensing options available).

Multiple P40/P80 Valve Series Configuration



Installation Procedure

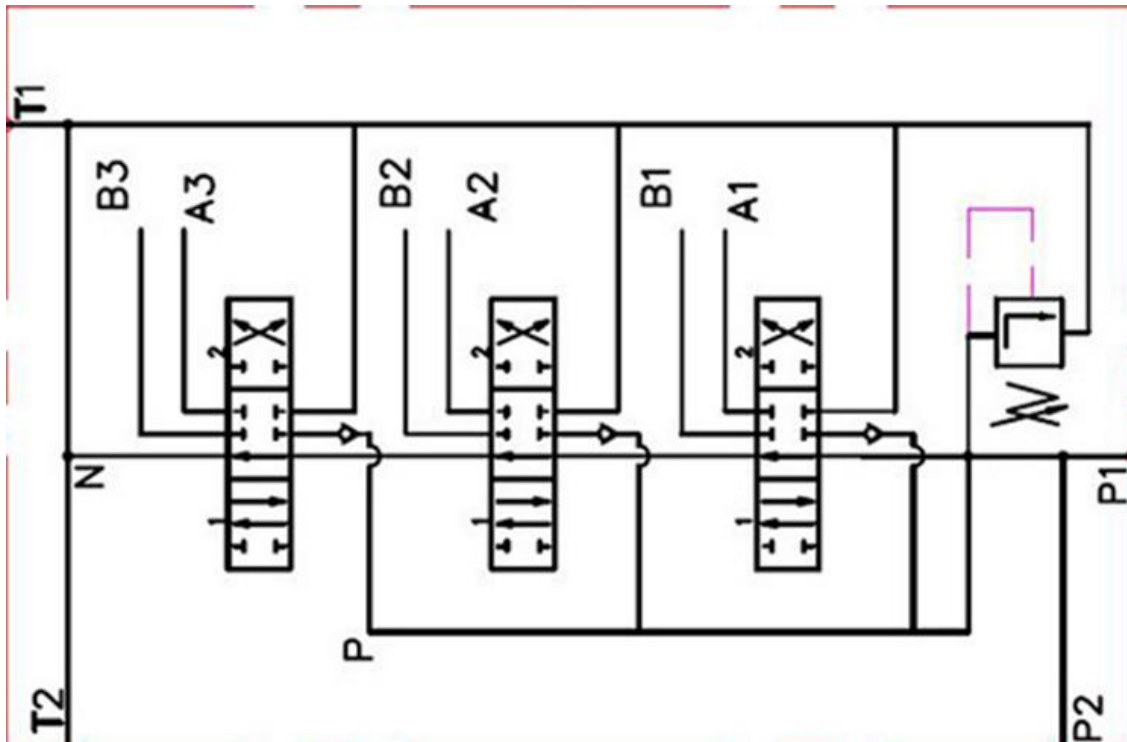
WARNING:

- Lubricate all threads and O-Rings with hydraulic fluid before installing fittings into the hydraulic manifold. All ports are SAE/O-Ring Boss Thread. Do not use Teflon tape or pipe dope.
- We recommend hand tightening the fitting first, snugging the fitting using a wrench, and applying a quarter turn of torque to the fitting.
- Unless stated otherwise, all fittings/adapters are right hand thread. Please tighten all fitting/adaptor in the correct orientation. Right turn-tighten. Left turn-loosen. Damaged thread can lead to possible leaks and failure. Improper install of thread will result in warranty denial. Reference warranty page for details.

Connecting Multiple Valves In-Line:

In order to connect multiple valves in-line, you must connect second valve's "P" pressure line **not** to the pump, but to the "N" port of the first valve using the Power Beyond Plug (sold separately).

- 1). Remove steel plug from "N" port on first valve in-line.
- 2). Install Power Beyond plug into "N" Port firmly.
 - a. For P40 SKU: P40-PB
 - b. For P80 SKU: P80-PB
- 3). Install fitting or hydraulic hose into Power Beyond Plug.
- 4). Connect other end of hose to "P" Pressure Port of second valve.
- 5). If multiple valves need to be connected, repeat process. Running hose from "T" Port to tank on each.





Installation Procedure

WARNING:

- Lubricate all threads and O-Rings with hydraulic fluid before installing fittings into the hydraulic manifold. All ports are SAE/O-Ring Boss Thread. Do not use Teflon tape or pipe dope.
- We recommend hand tightening the fitting first, snugging the fitting using a wrench, and applying a quarter turn of torque to the fitting.
- Unless stated otherwise, all fittings/adapters are right hand thread. Please tighten all fitting/adaptor in the correct orientation. Right turn-tighten. Left turn-loosen. Damaged thread can lead to possible leaks and failure. Improper install of thread will result in warranty denial. Reference warranty page for details.

If Connecting to Closed Center Hydraulic System:

Our valves are open center valves. If you need to connect to a closed center hydraulic system, our valve needs to be converted to closed center with a Closed Center Plug (sold separately). For all P40 Valves, plug (SKU: P40-CC) must be used. For all P80 Valves, plug (SKU: P80-CC) must be used. To install, remove steel plug from "N" Port on valve and install Closed Center Plug firmly.

Adjusting Pressure Relief Valve:

An adjustable relief valve is installed on all of our Monoblock Directional Valves. The factory setting of these relief valves is set at 2,610 PSI. The relief pressure is adjusted by removing Acorn Nut, and turning the Adjusting Screw. Turning the Adjusting Screw clockwise will increase the pressure and counterclockwise will decrease the pressure (A pressure gauge must be installed in the inlet line whenever the relief pressure is adjusted). Adjustable pressure range is 435 psi to 3600 psi. Do not backout Adjusting Screw to the point it falls out.





Installation Procedure

Frequently Asked Questions:

1. Where Can I Find the Dimensions of These Valves?

You can find the dimensions for both the P40 & P80 valves on our website www.summit-hydraulics.com.

2. Can I Rotate the Levers on This Valve?

Yes, simply remove the two hex nuts on each spool where the handles attach, rotate your handles, and screw them back on.

3. Are These Valves in Series or Parallel?

All our valves at Summit Hydraulics are in parallel.

4. How Do I Mount This Valve?

Mount this valve using the 5/16" mounting holes located on the valve body. It may be beneficial to fabricate a bracket for mounting.

5. Can I Have a Float Detent on These Valves?

Different detent positions can be installed on valves prior to shipment.

6. How Do I Identify my Power Beyond Port on my Existing Loader Valve?

Typically, there are seven hoses or steel tubes connected to the loader valve. If there are only six hoses or tubes, there is no Power Beyond Port on your loader valve. The first four are connected to your loader for the up, down, dump, and curl functions. The fifth line comes from your pump to feed your loader valve. The sixth line goes directly to your reservoir so that when the pressure relief valve opens, the fluid is dumped directly to the reservoir. The seventh line is connected to the "Power Beyond Port" on your loader valve, which is used to power other valves beyond the loader valve. On some loader valves there is a "PB" stamped on the valve next to the Power Beyond Port. Some loaders indicate their Power Beyond Port with green tape or a green mark on the hose or valve. Some loader valves have a Power Beyond Sleeve inserted into the Power Beyond Port. This sleeve looks like a nut; however, it is 3 to 4 times longer than a normal sized nut. On some loader valves, there are no clues to help determine which connection is the Power Beyond Port. Your owner's manual may or may not indicate the location.



TROUBLESHOOTING

Symptom	Possible Problem	Recommended Action
No Function	Electrical Issue/Solenoid	1) Touch the large mounting nut on the top of solenoid coil with a screwdriver. 2) If screwdriver does not stick to top of coil, use a voltmeter to check for voltage (min. 11V) between the coil terminal and mounting nut. If screwdriver sticks, then this not an electrical issue. 3) If low voltage, check voltage at source where power wire for control was connected. 4) If no voltage is found, measure the voltage between coil terminal and tractor frame. If voltage is indicated, the valve is not being grounded. 5) Check the black ground wire. If no voltage is indicated between the coil wire and the ground, first check the fuse and then the hot wire to the control.
No Function: Non-Electrical	No Hydraulic Flow	1) If multiple valves are connected in-line, then Power Beyond Plug must be used (see section: "if connecting multiple valves in-line:"). 2) Ensure Valve is plumbed in-series and no pressurized lines have tees. 3) Ensure hoses are each connected to their corresponding cylinder. 4) Inspect couplers and tips for proper mating. 5) Ensure that you have an open center hydraulic system; if not, then a Closed Center Plug must be installed.
Slow Actuation	Low Voltage, Low Flow	1) Check voltage between coil terminal and mounting nut. If less than 11V, check all connections, battery and grounding. 2) Ensure pump is large enough to allow for enough flow to cylinders.

Operation

In the neutral state, the flow path to the primary circuit (C & D) is open. By activating the switch, the operator de-energizes the primary circuit and energizes the auxiliary circuit (A & B) for as long as the button is pressed. By energizing either circuit the operator can direct hydraulic oil down that circuit with the existing control valve. This valve selects the circuit, the existing lever extends and retracts the cylinder. This valve uses spool-type cartridge valves for controlling the flow of oil. These cartridges have a small amount of internal leakage. Loads held in place for extended periods of time may eventually settle.

CAUTION: Do not loosen or remove any fittings or the valve cartridge while there is pressure in the system or a load is being held up by the valve.

Maintenance

As with any pieces of equipment, periodic maintenance will help provide longer life and trouble-free operation of your valve.

- 1) Periodically inspect electrical connections which are exposed to the elements for signs of corrosion or other damage.
- 2) Replace any terminals that look as if they might fail in the field.
- 3) Inspect the cable connecting the switch to the valve.
- 4) Normal operation over time can cause a cable to move to a dangerous area. If the cable is in any danger of being crushed or cut, move it to a safer area and secure it.
- 5) Check the hydraulic hoses connected to the Valve.
- 6) Wipe the body of the Valve off and look for leaks. Tighten or replace any fitting you suspect of leaking. Inspect the hydraulic hoses for signs of leaking, cracking, or bulging. Replace any hose that shows these signs of impending failure.



WARRANTY

Summit Hydraulics' only obligation under this Limited Warranty shall be as follows: If Summit Hydraulics determines, in its sole judgment, that an operational failure has occurred in a Product manufactured by Summit Hydraulics, that the Product was being used properly, and that such operational failure was caused solely by defective materials or workmanship, Summit Hydraulics will, at its sole option, either refund the price paid by the Customer for the Product, or replace the Product or part and pay shipping charges incurred as a result thereof for the lowest round-trip transportation charges from Summit Hydraulics' Customer's location to a designated Summit Hydraulics location for return. An inspection fee, plus shipping and handling, will apply to all returns that do not result from an operational failure, as determined by Summit Hydraulics.

Unless otherwise specified, Summit Hydraulics warrants all valves manufactured by Summit Hydraulics for a period of one (1) year and all Quick Couplers for a period of (180) days from the date of purchase against operational failure solely to the extent caused by defective materials or workmanship, provided that: (a) such failure occurs during use of the Product in conformance with the Product Specifications provided by Summit Hydraulics, and (b) there has been no disassembly, damage during shipment, abuse, misuse, misapplication, maintenance, alteration, or improper installation or maintenance or repair of the Product. Warranty coverage is conditioned upon Customer: (a) advising Summit Hydraulics in writing of the warranty claim, within fifteen (15) days of the alleged operational failure, (b) obtaining from Summit Hydraulics warranty personnel an RGA and location for return of the Product, (c) complying with all applicable procedures and instructions from Summit Hydraulics regarding the return of Product, (d) providing to Summit Hydraulics a complete written report of the circumstances of the claimed operational failure of the Product, and (e) providing Summit Hydraulics a reasonable time to inspect the Product and investigate the claim.

Summit Hydraulics has the right to refuse a warranty claim if procedures are not met by the original consumer. Summit Hydraulics reserves the right to refuse any and all warranty claims from any Distributor which has not purchased the original Summit Hydraulics product directly from Summit Hydraulics. Summit Hydraulics reserves the right to refuse any Return Goods Authorization of said merchandise in which it is believed to be fraudulent or distressed merchandise not purchased originally from Summit Hydraulics. Summit Hydraulics also reserves the right to not cover any 3rd party costs, labor, or services for troubleshooting or installation of our product.

This warranty does not apply to any Summit Hydraulics' product which has been modified, customized, painted, dented, rusted, or improperly installed.



QR Code Instructions

1. Open your phone device camera
2. Hold your phone device camera over a QR code.
3. The phone will either automatically detect the QR code, or you must click on the QR code.
4. Once QR is detected. Press on the links to gain access to the information.

Contact Us



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