PRINCE WOLVERINE MODEL WLVS21CGB5A1 SPECIFICATIONS:

SERIES CIRCUIT DESIGN

MAX. OPERATING PRESSURE: 3625 PSI
MAXIMUM TANK PRESSURE: 290 PSI
NOMINAL FLOW RATING: 12 GPM
FILTRATION RECOMMENDATIONS: ISO 4406 19/17/14
STANDARD PORT SIZE (INLET, OUTLET, WORK PORTS, POWER BEYOND PLUG):
#8 SAE ORB, 3/4-16UNF-2B
RECOMMENDED FLUID: HIGH QUALITY MINERAL BASED HYDRAULIC FLUID
 WITH VISCOSITY FROM 12 cSt TO 400 cSt.

RELIEF VALVE: AN ADJUSTABLE RELIEF VALVE CARTRIDGE IS STANDARD ON WLVS21CGB5A1 MODELS. THE STANDARD FACTORY SETTING IS 2500 PSI @ 10 GPM. STANDARD ADJUSTMENT RANGE IS 2000–3500 PSI. THE RELIEF SETTING IS ADJUSTED BY LOOSENING THE JAM NUT, AND TURNING THE ADJUSTING SCREW. TURNING THE ADJUSTING SCREW CLOCKWISE INCREASES RELIEF PRESSURE AND COUNTERCLOCKWISE DECREASES RELIEF PRESSURE. (A PRESSURE GAUGE MUST BE INSTALLED IN THE INLET LINE OR PORT WHENEVER THE RELIEF PRESSURE IS ADJUSTED).

WARNING: OVERPRESSURE MAY CAUSE SUDDEN AND UNEXPECTED FAILURE OF A COMPONENT IN THE HYDRAULIC SYSTEM RESULTING IN SERIOUS PERSONAL INJURY. ALWAYS USE A GAUGE WHEN ADJUSTING A RELIEF VALVE.

NOT TO BE USED WITH CLOSED CENTER SYSTEMS

PRINCE #WLVS21CGB5A1 FOR STANDARD MODELS AVAILABLE & ADDITIONAL INFORMATION GO TO: www.princehyd.com

TORQUE NOTES:
RELIEF CARTRIDGE: 15–20 FT-LB.
POWER BEYOND CONV PLUG: 25 FT-LB.

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<tr>
<th>ITEM</th>
<th>PMC P/N:</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>1</td>
<td>612104092</td>
<td>SPOOL, FLOAT (A1/B1)</td>
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<tr>
<td>2</td>
<td>612104093</td>
<td>SPOOL, TANDEM CENTER (A2/B2)</td>
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<td>3</td>
<td>660170103</td>
<td>SPRING CENTER W/FLOAT KIT</td>
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<td>660170104</td>
<td>SPRING CENTER KIT</td>
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<td>5</td>
<td>660170108</td>
<td>END CAP W/ BOLTS, FLOAT</td>
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<td>6</td>
<td>660170109</td>
<td>END CAP W/ BOLTS, SPR CNTR</td>
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<td>7</td>
<td>660170105</td>
<td>LOAD CHECK KIT</td>
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<td>8</td>
<td>660170106</td>
<td>POWER BEYOND PLUG ASSY</td>
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<td>9</td>
<td>660270014</td>
<td>RELIEF CARTRIDGE ASSY</td>
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<tr>
<td>10</td>
<td>660170107</td>
<td>COMPLETE JOYSTICK/HANDLE KIT</td>
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<tr>
<td>11</td>
<td>660570008</td>
<td>SEAL KIT</td>
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</tbody>
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EXAMPLE WLVS21CGB5A1 VALVE CIRCUIT USING OPTIONAL POWER BEYOND PORT:

OPTIONAL POWER BEYOND OPERATION:
A POWER BEYOND PLUG ASSY IS INCLUDED WITH VALVE, BUT IS SHIPPED UNINSTALLED.
REMOVE & DISCARD STEEL PLUG FROM PORT ‘C’
OF UPSTREAM VALVE. INSTALL POWER BEYOND
PLUG ASSY INTO PORT ‘C’.
CONNECT A HYDRAULIC LINE FROM THE POWER
BEYOND PORT TO A DOWNSTREAM FUNCTION, AND
ALSO A LINE FROM THE TANK PORT ‘T’ TO TANK.
WITH ALL SPOOLS CENTERED, OIL FLOW IS
DIRECTED TO THE POWER BEYOND PORT FOR USE
BY THE DOWNSTREAM FUNCTION.
WHEN A SPOOL IS SHIFTED, OIL WILL BE DIRECTED
TO A WORK PORT AND THE RETURN FLOW GOES
TO TANK.

SERIES CIRCUIT DESIGN:
A SERIES CIRCUIT VALVE IS MOST COMMONLY USED TO
CONTROL MORE THAN ONE HYDRAULIC COMPONENT
SIMULTANEOUSLY. THE ENTIRE CIRCUIT FLOW IS
AVAILABLE TO EACH SPOOL THAT IS ACTUATED. WITH
BOTH SPOOLS ACTUATED, OIL FLOW IS FROM INLET TO
THE FIRST SPOOL A1/B1. RETURN FLOW OF THE FIRST
SPOOL IS DIRECTED TO THE OPEN CENTER CORE OF
THE SECOND SPOOL A2/B2. (IN A PARALLEL VALVE
THE RETURN OIL FROM THE WORK PORT IS DIRECTED
TO THE TANK CORE.) OIL THEN FLOWS TO WORK PORT
A2/B2, WITH THE RETURN OIL FLOW GOING TO THE
OUTLET. IN A SERIES CIRCUIT VALVE, THE SUMMATION
OF THE PressURES REQUIRED FOR EACH SPOOL WILL
EQUAL THE TOTAL PRESSURE REQUIRED FOR THE
CIRCUIT. THE TOTAL PRESSURE REQUIRED MUST NOT
EXCEED THE SYSTEM RELIEF SETTING FOR THE PUMP
PRESSURE RATING.

NOTE: NOT FOR USE WITH CLOSED CENTER SYSTEMS!

EXAMPLE WLVS21CGB5A1 LOADER VALVE HYDRAULIC CIRCUIT (OPEN CENTER):

WORK PORT CONNECTIONS:
A1 = BASE END OF BOOM CYLINDER
B1 = ROD END OF BOOM CYLINDER
A2 = ROD END OF BUCKET CYLINDER
B2 = BASE END OF BUCKET CYLINDER

NOTE: VALVE TO BE ORIENTED WITH INLET
PORT UP (OR TOWARDS FRONT), AND
WORK PORTS TOWARDS OPERATOR'S RIGHT
TO ACHIEVE THIS HANDLING PATTERN.

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