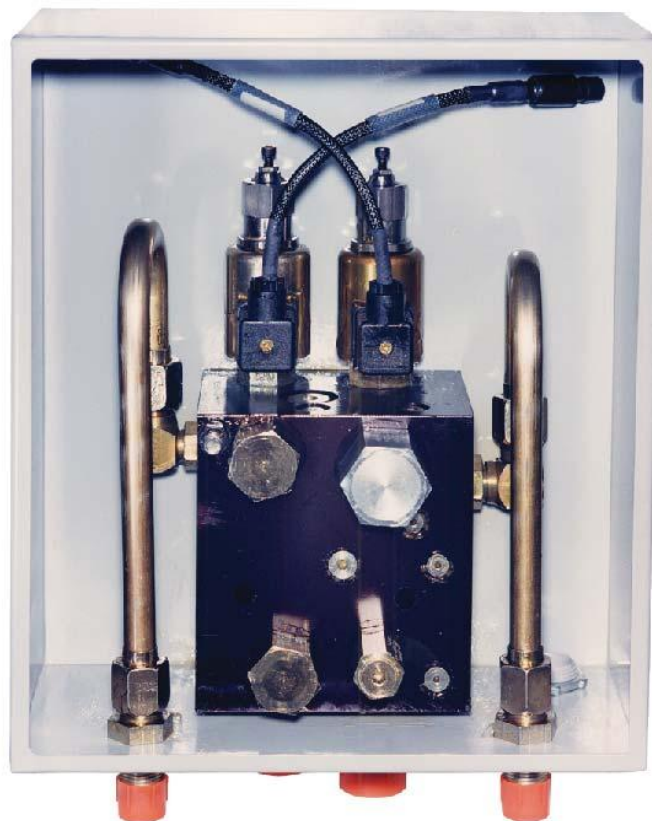


# CS-SCB Sander Control Block Manual

The Drive & Control Company



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## FEATURES

- Cost Efficient
- Open and Closed Centre Configurations Available
- (for use with fixed or variable displacement pumps)
- Pressure Control is Built In
- Flow Control is Independent of Load
- Functions Operate Independent of Each Other
- Long Service Life
- Cartridge Valve Design
- Small Size
- Anodized Aluminum Construction

## FUNCTIONAL PURPOSE

This manifold block type valve system provides a small, cost efficient hydraulic circuit that yields a long service life and trouble free operation.

Blocks are available to accept the flow from variable (piston) or from fixed (gear) pumps in an energy efficient manner.

These hydraulic integrated circuits also provide all the hydraulic valving necessary to meet the needs of your spreader application, in an easy to mount package.

Valve cartridges in the manifold allow for electronic control of the spreader hydraulic motors. In this way, the operator can vary the spinner speed and the Compu-spread electronic controller can automatically vary the material conveyor/auger speed, according to the vehicle speed, maintaining a selectable and constant spread rate.

## DESCRIPTION

The CS-SCB manifold blocks contain the integrated circuit valving for the spreader hydraulic functions (conveyor/auger and spinner motor drives).

There are two CS-SCB manifold blocks to choose from. A closed centre circuit is incorporated in one, for use with variable displacement (piston) pumps. This block has a load (pressure) sensing port for communicating the system's requirements to the pump's control valves. In this way the pump will limit the maximum pressure that can be produced and will only provide the power that your hydraulic system requires.

If a fixed displacement pump is to be used, the other manifold has an open centre circuit. This block includes a relief valve, to limit the maximum pressure that can be produced. The relief valve also provides a load (pressure) sensing control based on the system's requirements. In this way the excess flow, provided by the pump, is bypassed to the reservoir at no greater pressure than necessary, reducing the power wasted (heat) that occurs in fixed displacement pump systems.

A load (pressure) sensing circuit within the valve manifolds determines the maximum pressure requirement of your vehicle and communicates this information to the main pressure control valve. This main pressure control valve could be in the pump (variable displacement types) or in the inlet block of this valve assembly (if a fixed displacement pump is used).

The spreader valve cartridges have spools that are positioned by electronic solenoids to control the oil flow to, and therefore speed of, the hydraulic motors. The flow is controlled proportionally to the electric current supplied.

All of the valves in these manifold blocks are of a cartridge design. This allows for their replacement without disturbing any of the tubes or hoses connected to the block.

Each valve function contains a pressure control valve that monitors the load (pressure) requirement of its hydraulic motor and provides constant fluid flow (compensates) regardless of load changes and regardless of other valve function activity. By doing this, control is consistent and repeatable.

Manual overrides are provided for emergency operation of the valves should the electronic controller fail, and to aid in trouble shooting the system. There is an override pin in the end of each electrical solenoid. The harder the pin is pushed the faster the hydraulic motor should turn.

## SPECIFICATIONS

### Pressure

Maximum Primary Relief Setting 3,000 P.S.I.

### Flow

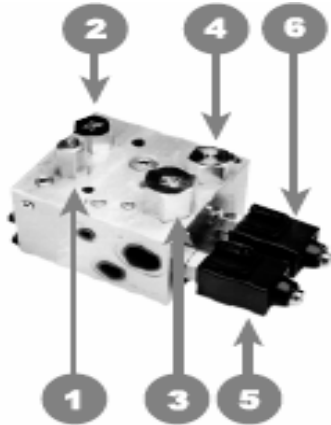
Maximum Flow 35 G.P.M. (133L/Min.) Unloader Cartridge

### Solenoids

Proportional	P/N 150235 12 Volt	P/N 121777 24 Volt
Type of Supply	DC	DC
Nominal Voltage (V)	12	24
Control Current, max (A)	2.0	1.0
Coil Resistance 68°F (20°C) (ohms)	4.8 ± 10%	19 ± 10%
Duty in (%)	100	100

## SPECIFICATIONS

### Torque Values



1. Relief Valve  
25-30 ft/lbs., 47-54 (Nm)
2. Differential Sensing Valve  
15-18 ft/lbs., 20-24 (Nm)
3. Differential Sensing Valve  
15-18 ft/lbs., 20-24 (Nm)
4. Differential Sensing Valve  
15-18 ft/lbs., 20-24 (Nm)
5. Proportional Flow Cartridge Auger/Conveyor  
15-18 ft/lbs., 20-24 (Nm)
6. Proportional Flow Cartridge Spinner  
10-12 ft/lbs., 14-16 (Nm)

### Upon assembly, check the following:

- Prepare the cartridge for Insertion into the block
- Check that the cartridge is free of external contamination
- Check that O rings and back-up rings are intact
- Dip Cartridge into clean oil, to top of the threads, to lubricate O rings.

## OPERATING CONDITIONS

### Recommended Filtration

In order to guarantee reliable function, both return and pressure filters should have 10 micron absolute elements installed.

## PRESSURE ADJUSTMENTS

### Open Centre Unloading Inlet ( MP18/SIO )

Turn the maximum pressure adjustment screw counter clockwise as far as possible. To do this, you must first remove protective cap.

While "Dead Heading" one of the valve functions, turn the pressure adjustment screw clockwise.

**NOTE:** Ensure 3,000 P.S.I. pressure gauge is installed on the pressure line from the pump. Turn until you read the maximum pressure your system requires (usually 1500-2500 P.S.I.). Replace protective cap.



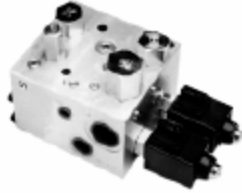
1. Unloader Relief Valve Cartridge
2. Protective Cap

NOTE: Remove cap first to expose internal adjustment for relief setting.



## HYDRAULIC VALVE ASSEMBLIES

### Spinner and Auger /Conveyor Assemblies



Model CS - SCB - 0F - A2

Valve P/N148646. This assembly is equipped with an unloader inlet for gear pump applications. Valves are mounted on a manifold utilizing proportional cartridge valves for spinner and auger/conveyor functions. Anodized aluminum construction, compact size and pressure compensation for both spinner and auger/conveyor functions are standard.



Model CS - SCB - CV - A2

Valve P/N148647. Used for closed center variable piston pump applications. In this case, the unloader inlet has been removed. Again functionality and construction as per P/N135313 (shown above), only the pump supplying the valve assembly is a closed center variable piston pump (see Module 3 for pump information.)

## HYDRAULIC VALVE ASSEMBLIES

Spinner and Auger / Conveyor Assemblies Continued



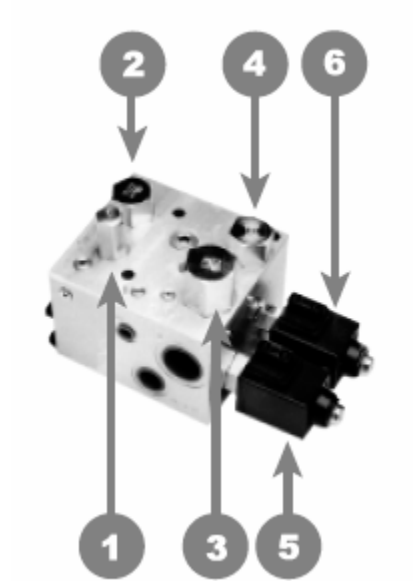
Model CS - SCB - 0F - ENCL - A3

Enclosure Assembly P/N148650 includes valve assembly P/N148646 (on preceding page), mounted in a Nema 12 enclosure for further protection. This configuration is available for immediate delivery. Other configurations are available. Please contact your nearest Basic Technologies location for assistance.

## UNIT DIMENSIONS

Please refer to General Assembly Drawings for port size and dimension information.

**STANDARD SPARE PARTS**



Part Number	Description
121659	CP208-1-B-0-A-C-150 Relief Cartridge (for Unloader)
120221	Seal Kit
013378	CP701-1-B-0-150 Differential Sensing Valve (for Unloader)
120013	Seal Kit
131087	CP702-4-B-0-150 Differential Sensing Valve (for Auger)
120033	Seal Kit
002089	CP701-4-B-0-150 Differential Sensing Valve (for Spinner)
242473	CP551-38-B-0-5H-12D-H Auger/Conveyor Proportional flow control
150235	320813 Replacement 12 Volt Coil only
121777	320814 Replacement 24 Volt Coil only
120053	Seal Kit
242476	CP550-30-B-0-3H-12D-H Spinner Proportional Flow Control
131517	120009 Seal Kit Replacement coil see Auger/Conveyor Proportional Flow Control.

**STANDARD SPARE PARTS**

Part Number	Description
121442	Herschman to I.T.T. connector for solenoids

**NOTE:** Please refer to General assembly drawings for identification of additional spare parts. For additional spare parts and repair information, please contact your nearest Basic Technologies location for assistance.