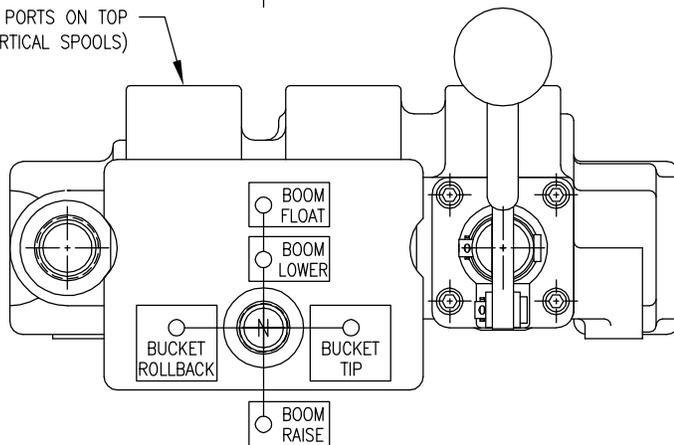
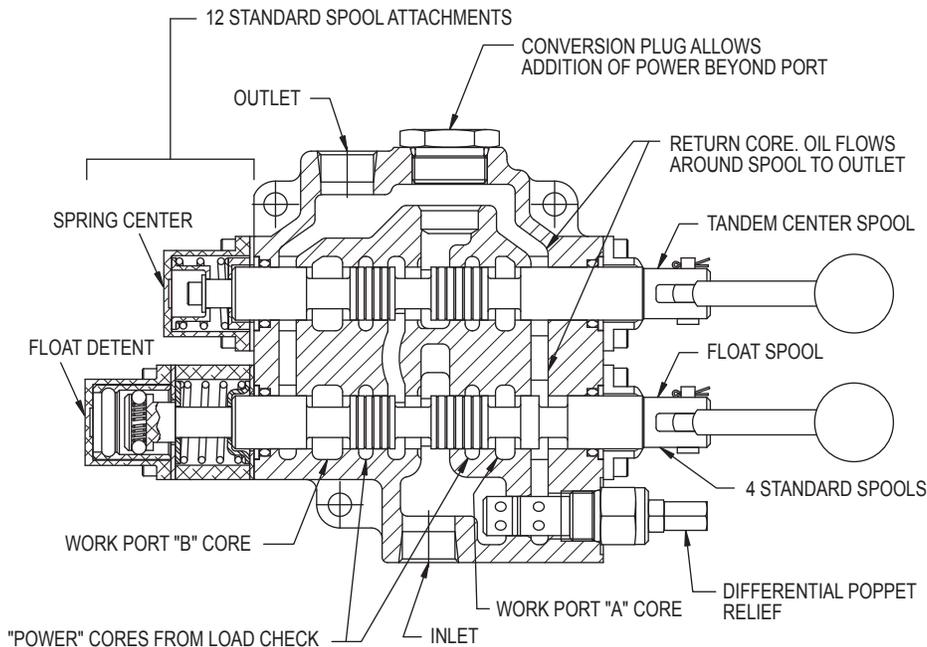


INSTALL VALVE WITH PORTS ON TOP
(OR FORWARD WITH VERTICAL SPOOLS)



JOYSTICK HANDLE OPERATION
LOOKING AT HANDLE KNOB

RD-5000 SERIES STANDARD AND SPECIAL FEATURE DESCRIPTIONS



The above drawing shows a section view of a 2-spool valve, Model RD522GCGA5A4B1. This is shown as a representative valve model. Other models will differ in appearance.

TWO SPOOL "JOYSTICK" HANDLE

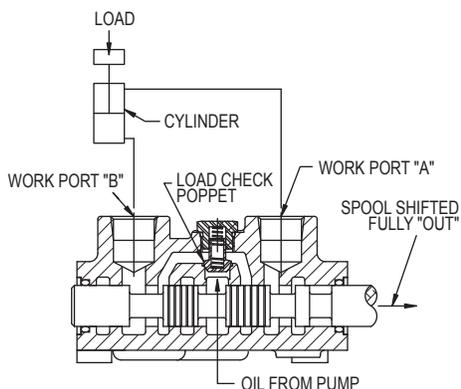
This handle will operate both spools using only one lever handle. The two spools can be operated either independently or simultaneously depending on handle movement.



LOAD CHECK:

The load check feature is standard on all RD-5000 series valves. Each spool has a separate load check. The load check will prevent the fall of a cylinder as the spool is shifted. It also prevents the backflow of oil from the work port to the inlet. As shown below the pump must build up enough pressure to overcome the pressure on the work port caused by the weight of the load before the cylinder can move.

Please note that the load check has nothing to do with how well the valve will hold up a cylinder with the spool in neutral. The load check is functional only when the spool is shifted.



The above drawing shows a section view thru work ports of a RD-5100 Single Spool Valve.

OPEN CENTER APPLICATIONS:

The Standard RD-5000 Series Valves are open center type valves. For open center valves the hydraulic oil is directed from the inlet to the outlet, or power beyond, through the open center passage when the spools are in neutral. Moving one or more spools closes off the open center passage and directs oil to the work ports.

Open center systems most often contain fixed displacement pumps. The PMC hydraulic PTO pumps are fixed displacement gear pumps. The maximum pressure in an open center system is controlled by a relief valve. The RD-5000 series valves have a built in relief valve for this purpose.

CLOSED CENTER APPLICATIONS:

RD-5000 Series Valves are available as closed center type valves. For closed center valves the oil through the open center passage is blocked when the spools are in neutral.

Closed center systems often use a variable displacement pressure compensated pump. When this type of pump is used in a closed center system the system pressure is controlled by the pressure compensator. When the spools of RD-5000 series valve are in neutral, system pressure is maintained at the inlet of the valve. For this reason a relief is normally not required or must be set at a higher pressure than the pump compensator.

PLEASE NOTE that this closed center option does not provide for the drain off of standby spool leakage. This can allow a very small amount of oil to enter the work ports when in neutral.

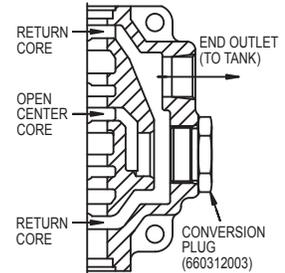
RD-5000 SERIES POWER BEYOND OPTIONS

CONVERSION PLUG INSTALLED

This option should be used with the open center spool options and allows the valve to be converted to have power beyond function or be converted from open to closed center. This option is considered the PMC Standard power beyond option because of the flexibility it adds to the valve.

When all the valve spools are in neutral oil goes through open center core to return core and then to outlet.

To convert a valve in the field to have power beyond, remove the conversion plug and replace it with one of the power beyond plugs listed. To convert valve to closed center, replace conversion plug with closed center plug 660312005.

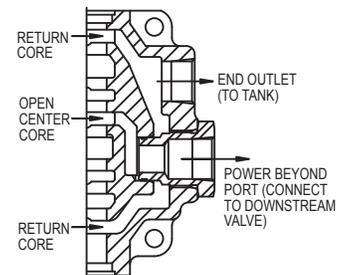


POWER BEYOND PLUG INSTALLED

This option provides both an outlet and a power beyond port (also referred to as a high pressure carry over port). This allows another valve to be connected downstream. When all the spools of a RD-5000 series valve are in neutral high pressure oil can go through the open center core and out the power beyond port to the inlet of downstream valve. The downstream valve only receives oil when all spools of the first valve are in neutral. This option must be used with open center spools and the outlet of valve must be connected to tank.

If the power beyond port is not used on a valve in an open center system the power beyond port must be connected to tank or the power beyond plug replaced with conversion plug 660312003.

A valve with power beyond can be converted to closed center by plugging the power beyond port or installing closed center plug 660312005.



CLOSED CENTER CONVERSION PLUG INSTALLED

This option converts an otherwise open center valve to closed center operation. The open center core is blocked by the conversion plug. Oil cannot pass through the valve when the spools are in neutral. Closed center systems are normally associated with variable displacement pumps or any other system where the pump flow is unloaded when system pressure is reached.

Note: If the closed center plug is installed in a valve that has a relief it may be necessary to install the no relief plug or adjust the relief pressure above the compensator setting.

Also, this closed center option does not provide for the drain off of standby spool leakage. This can allow a very small amount of oil to enter the work ports when in neutral.

