

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

TORQUE NOTES:

RELIEF CARTRIDGE: 350-400 IN-LBS.
LOAD CHECK ASSY: 200-230 IN-LBS.
CAP SCREW, 5 mm (GFN): 10-12 IN-LBS.
H.P. CARRYOVER PLUG: 55-65 IN-LBS.
NOTE: CARRYOVER PLUG IS 1/4-19 BSPT AND IS
NOT COMPATIBLE WITH 1/4-18 NPTF PLUGS.

ITEM:	PART NO.:	DESCRIPTION:
1	*	VALVE BODY
2	*	SPOOL, CYLINDER
3	*	LOAD CHECK CARTRIDGE
4		RELIEF CARTRIDGE, ADJUSTABLE
5		SPRING CENTER KIT, GFN
6	660170056	HANDLE HOUSING KIT, GFN
7		HANDLE KIT
8	660570003	SEAL KIT (1 THRU 6 SPOOLS)
		* - NOT SERVICED SEPERATELY

PRINCE MODEL 'MB' SPECIFICATIONS:

MAXIMUM OPERATING PRESSURE: 3500 PSI

MAXIMUM TANK PRESSURE: 500 PSI NOMINAL FLOW RATING: 8 GPM

MAX. OPERATING TEMPERATURE: 180°F

FILTRATION RECOMMENDATIONS: ISO 4406 19/17/14

STD. PORT SIZE (INLET, OUTLET, POWER BEYOND AND WORK

PORTS): #8 SAE ORB, 3/4-16UNF-2B

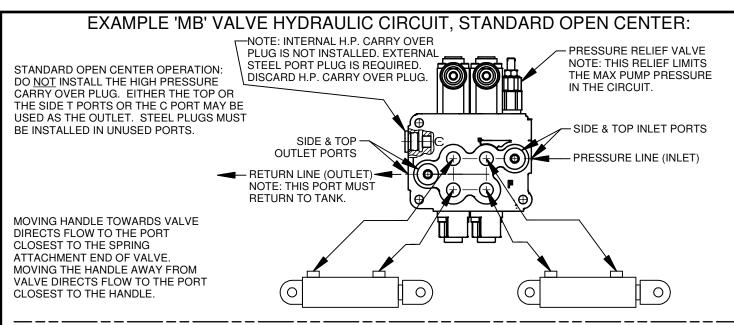
RECOMMENDED FLUID: HIGH QUALITY MINERAL BASED HYDRAULIC FLUID WITH VISCOSITY FROM 12 cSt TO 400 cSt.

RELIEF VALVE: AN ADJUSTABLE RELIEF VALVE CARTRIDGE IS STANDARD ON ALL 'MB' MODELS. THE STANDARD FACTORY SETTING IS 2500 PSI @ 6 GPM. STANDARD ADJUSTMENT RANGE IS 2000 PSI TO 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).

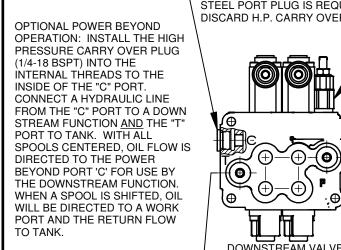
WARNING: OVERPRESSURE MAY CAUSE SUDDEN AND UNEXPECTED FAILURE OF A COMPONENT IN THE HYDRAULIC SYSTEM RESULTING IN SERIOUS PERSONAL INJURY. ALWAYS USE A GAUGE WHEN ADJUSTING A RELIEF VALVE.

672100041 - 5/20/09 WP - REV. NC SHEET 1 OF 2



EXAMPLE 'MB' VALVE CIRCUIT USING OPTIONAL POWER BEYOND OPTION:

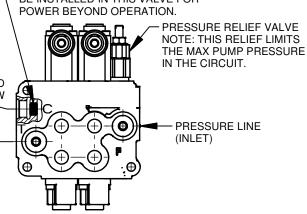
-NOTE: INTERNAL H.P. CARRY OVER



PLUG IS NOT INSTALLED. EXTERNAL STEEL PORT PLUG IS REQUIRED. DISCARD H.P. CARRY OVER PLUG. SET LOWER. POWER BEYOND **FLOW** A DOWNSTREAM VALVE RETURN FROM UPSTREAM VALVE NOTE: THIS PORT MUST RETURN

PRESSURE RELIEF VALVE NOTE: THIS RELIEF IS OPTIONAL. IT CANNOT BE SET HIGHER THAN THE FIRST VALVE'S RELIEF, BUT MAY BE

THE INTERNAL H.P. CARRYOVER PLUG MUST BE INSTALLED IN THIS VALVE FOR POWER BEYOND OPERATION.



VALVE WITH POWER BEYOND CONFIGURATION

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RETURN TO TANK.

– RETURN LINE (OUTLET) -

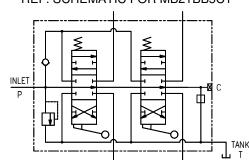
NOTE: THIS PORT MUST

ADDITIONAL SERVICE PARTS				
PART NO.:	DESCRIPTION:			
612100001	SPOOL, MOTOR			
660270006	NO-RELIEF PLUG			
	HIGH PRESSURE CARRY OVER PLUG			
671900122	(NOTE: PLUG IS 1/4-19 BSPT AND IS NOT			
	COMPATIBLE WITH 1/4-18 NPTF PLUGS)			
660170058	3 POSITION DETENT KIT			
671400307	END CAP, GFN (w/ SCREWS)			
671400306	END CAP, ALUMINUM (w/ SCREWS 50-60 IN-LBS)			
000170000	HANDLE HOUSING KIT, ALUMINUM (w/ SCREWS			
660170060	50-60 IN-LBS)			
670400111	KNOB, RUBBER			
660170061	JOYSTICK ASSY, COMPLETE			
660170061	(SEE www.princehyd.com FOR INSTALLATION DETAIL)			

CLOSED CENTER OPERATION:

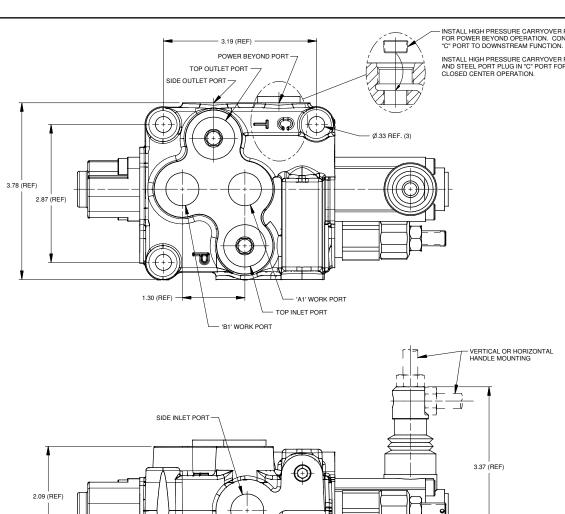
BOTH THE INTERNAL HIGH PRESSURE CARRY OVER PLUG AND A STEEL PLUG MUST BE INSTALLED IN THE C PORT. RELIEF PRESSURE MAY NEED TO BE ADJUSTED SO IT IS NOT SET LOWER THAN THE PUMP SETTING.

REF. SCHEMATIC FOR MB21BB5C1



672100041 - 5/20/09 WP - REV. NC

SHEET 2 OF 2





- 7.67 (REF)

5.36 (REF)



HIGH PRESSURE CARRY-OVER PLUG

INSTALL HIGH PRESSURE CARRYOVER PLUG FOR POWER BEYOND OPERATION. CONNECT

INSTALL HIGH PRESSURE CARRYOVER PLUG AND STEEL PORT PLUG IN "C" PORT FOR CLOSED CENTER OPERATION.

REVISION DESCRIPTION

PRODUCT NOTES:

1. SINGLE SPOOL VALVE ASSY, 4-WAY 3-POSITION CYLINDER SPOOL, SPRING CENTER ACTION.

(POWER BEYOND AND CLOSED CENTER CONVERTIBLE)

2. MAX OPERATING PRESSURE: 3500 PSI
RELIEF PRESSURE SETTING: 2500 PSI @ 6 GPM FLOW (ADJUSTMENT RANGE: 2000-3500 PSI) MAX TANK PRESSURE: 500 PSI NOMINAL FLOW RATING: 8 GPM

MAX OPERATING TEMPERATURE: 180 °F.

3. PORT SIZE (INLET/OUTLET, WORK PORTS, POWER BEYOND):

#8 SAE/ORB (3/4-16UNF-2B)

4. TOP INLET PORT, TOP OUTLET PORT AND POWER BEYOND PORT ARE TO BE SEALED WITH STEEL PLUGS.

5. NO PAINT

6. VALVE SHIPPED IN OPEN CENTER CONFIGURATION (HIGH PRESSURE CARRY-OVER PLUG IS TO BE SHIPPED UNINSTALLED).
7. HANDLE KIT IS TO BE SHIPPED UNATTACHED.

8. FILTRATION RECOMMENDATIONS: ISO 4406 19/17/14
9. NOTE: TORQUE ON CAPSCREWS HOLDING ON GFN HANDLE HOUSINGS AND GFN END CAPS TO BE 10-12 IN-LBS.

10. FOR ADDITIONAL INFORMATION OR REPAIR KITS INFORMATION SEE INCLUDED INSTRUCTION SHEET OR WEBSITE; www.princehyd.com

DRAWN BY: WP DATE:6/25/2009 CHECKED BY: MO DATE: 6/25/2009 APPROVED BY: MO DATE: 6/25/2009 TOLERANCES:

ALL NON-TOLERANCED DIMENSIONS ARE FOR REFERENCE USE ONLY

PRINCE MANUFACTURING CORPORATION 612 NORTH DERBY LANE P.O. BOX 7000 NORTH SIOUX CITY, SOUTH DAKOTA 57049-7000

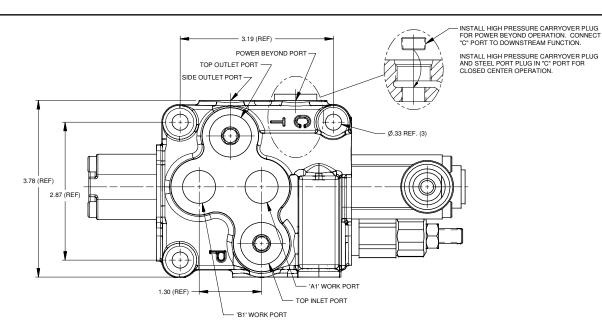
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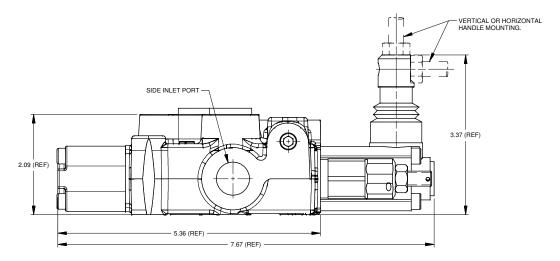
SINGLE SPOOL VALVE SCALE MB11B5C1 1:1 1 OF 1 SEE DRAWING

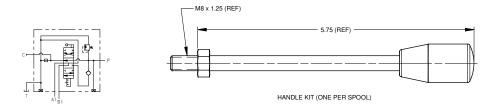
MAT'L DESC: DEBURR & BREAK ALL EDGES DO NOT SCALE DRAWING

P/N·

NEXT N/A





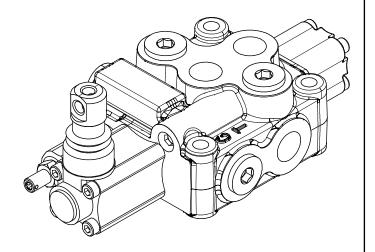




HIGH PRESSURE CARRY-OVER PLUG REVISION DESCRIPTION

ADD METAL CAP/HOUSING REFERENCE TO NOTE

Α 1; ECN-20914 10/7/09 WP



PRODUCT NOTES:

- 1. SINGLE SPOOL VALVE ASSY, 4-WAY 3-POSITION MOTOR SPOOL, 3 POSITION DETENT ACTION. (3 POSITION DETENT ACTION TO HAVE METAL END CAP AND HANDLE HOUSING.)
- (POWER BEYOND AND CLOSED CENTER CONVERTIBLE)
 2. MAX OPERATING PRESSURE: 3500 PSI

RELIEF PRESSURE SETTING: 2500 PSI @ 6 GPM FLOW (ADJUSTMENT RANGE: 2000-3500 PSI) MAX TANK PRESSURE: 500 PSI NOMINAL FLOW RATING: 8 GPM

- MAX OPERATING TEMPERATURE: 180 °F.

 3. PORT SIZE (INLET/OUTLET, WORK PORTS, POWER BEYOND):
- #8 SAE/ORB (3/4-16UNF-2B)
- 4. TOP INLET PORT, TOP OUTLET PORT AND POWER BEYOND PORT ARE TO BE SEALED WITH 5. NO PAINT
- 6. VALVE SHIPPED IN OPEN CENTER CONFIGURATION (HIGH PRESSURE CARRY-OVER PLUG IS TO BE SHIPPED UNINSTALLED).
 7. HANDLE KIT IS TO BE SHIPPED UNATTACHED.
- 8. FILTRATION RECOMMENDATIONS: ISO 4406 19/17/14
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TOLERANCES:	1
ALL NON-TOLERANCED	-
DIMENSIONS ARE FOR	l

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NORTH SIOUX CITY WWW.princehyd.com

SINGLE SPOOL VALVE MB11C5C1 1:1 1 OF 1 MAT'L SEE DRAWING

DEBURR & BREAK ALL EDGES DO NOT SCALE DRAWING

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NEXT N/A P/N·

