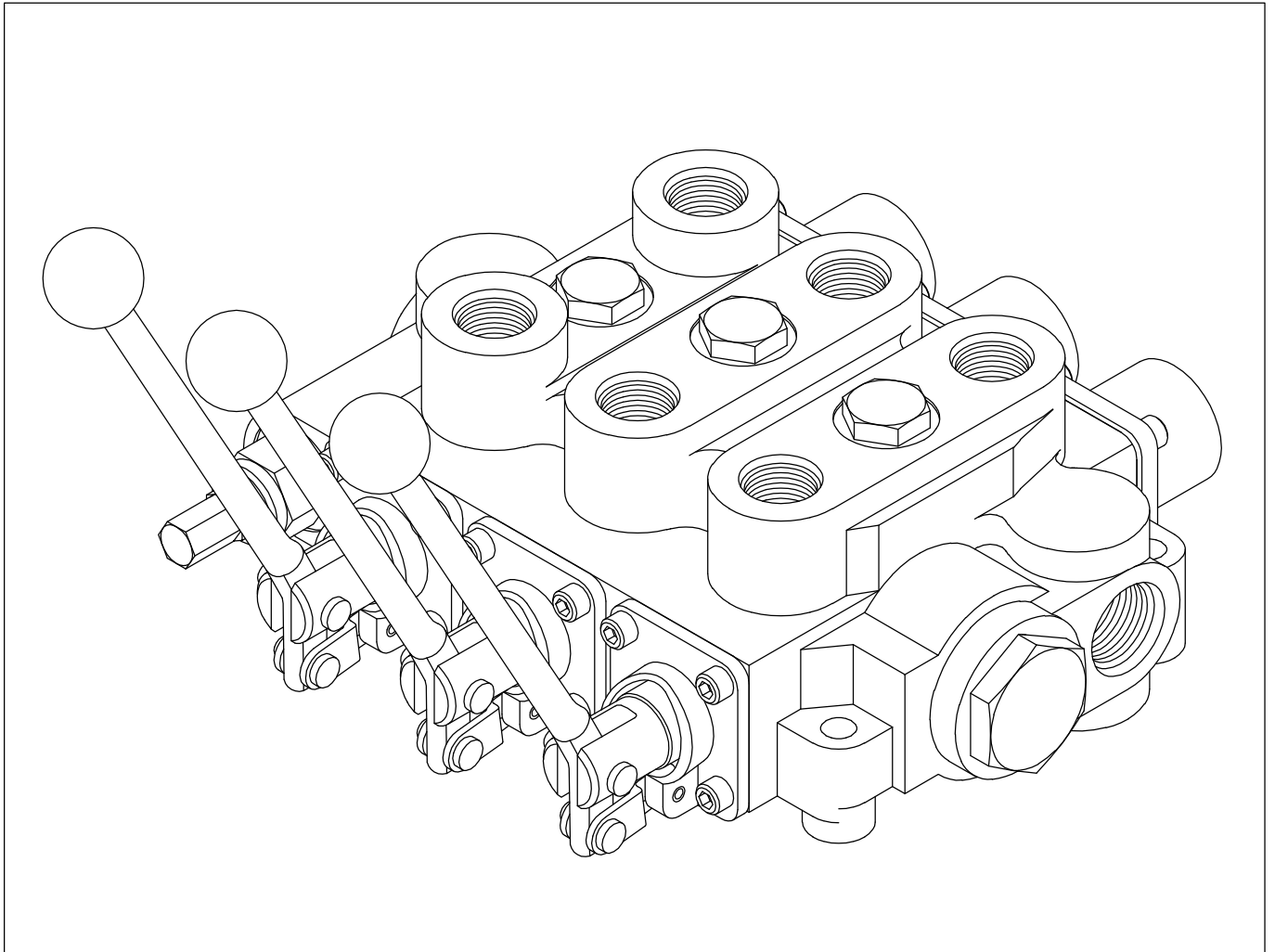
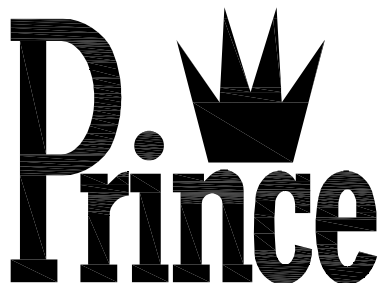


RD5000 SERIES DIRECTIONAL CONTROL VALVE PARTS MANUAL



PRINCE MANUFACTURING CORPORATION



Date: March 2018

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GENERAL SAFETY PRECAUTIONS FOR HYDRAULIC VALVES

1) ALL HYDRAULIC VALVES MUST BE PROPERLY INSTALLED INTO THE HYDRAULIC SYSTEM TO PREVENT PERSONAL INJURY AND/OR PROPERTY DAMAGE. FURTHER, THE IMPROPER SERVICING OF A VALVE MAY RESULT IN PERSONAL INJURY AND/OR PROPERTY DAMAGE. PLEASE READ AND UNDERSTAND ALL CATALOG AND SERVICE INFORMATION BEFORE STARTING. AS WITH ALL MECHANICAL WORK THE PROPER TOOLS, KNOWLEDGE, AND SAFETY EQUIPMENT ARE REQUIRED. ALWAYS WEAR SAFETY GLASSES.

2) MAKE SURE ALL PRESSURE HAS BEEN RELIEVED IN THE HYDRAULIC LINES BEFORE INSTALLING OR SERVICING A HYDRAULIC VALVE.



WARNING: ESCAPING HYDRAULIC FLUID UNDER PRESSURE CAN HAVE SUFFICIENT FORCE TO PENETRATE SKIN, CAUSING SERIOUS PERSONAL INJURY. DO NOT USE YOUR HAND TO CHECK FOR HYDRAULIC LEAKS.

3) BEFORE INSTALLING OR SERVICING A HYDRAULIC COMPONENT MAKE SURE ALL WEIGHT HAS BEEN REMOVED FROM THE CYLINDERS OR MOTORS BEFORE DISCONNECTING HYDRAULIC LINES.



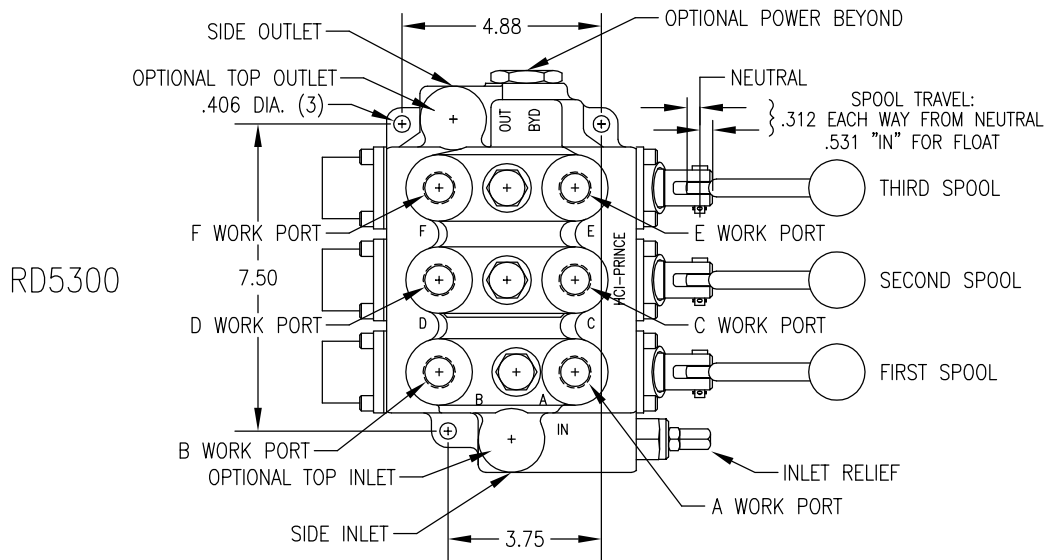
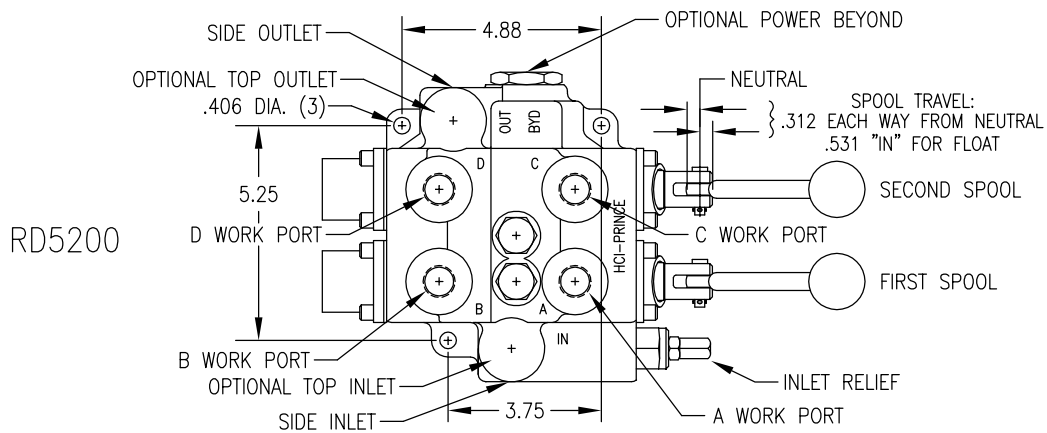
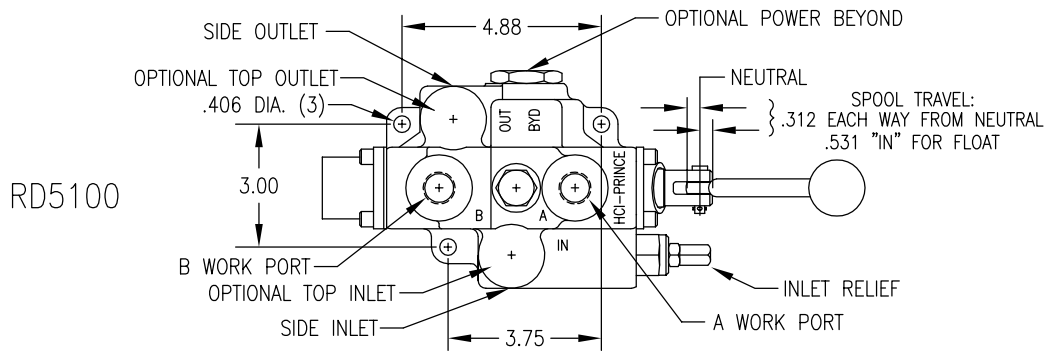
WARNING: DISCONNECTING THE HYDRAULIC LINES WHILE THE CYLINDER OR MOTOR IS UNDER LOAD MAY RESULT IN THE UNEXPECTED RAPID MOVEMENT OF MACHINE RESULTING IN SERIOUS PERSONAL INJURY.

4) DO NOT EXCEED THE OPERATING SPECIFICATIONS FOR PRESSURE, FLOW OR TEMPERATURE. ALL HYDRAULIC SYSTEMS REQUIRE A MEANS TO LIMIT THE MAXIMUM PRESSURE. THIS REQUIRES EITHER A PRESSURE RELIEF VALVE IN THE SYSTEM OR A PUMP THAT HAS PRESSURE COMPENSATION.



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.

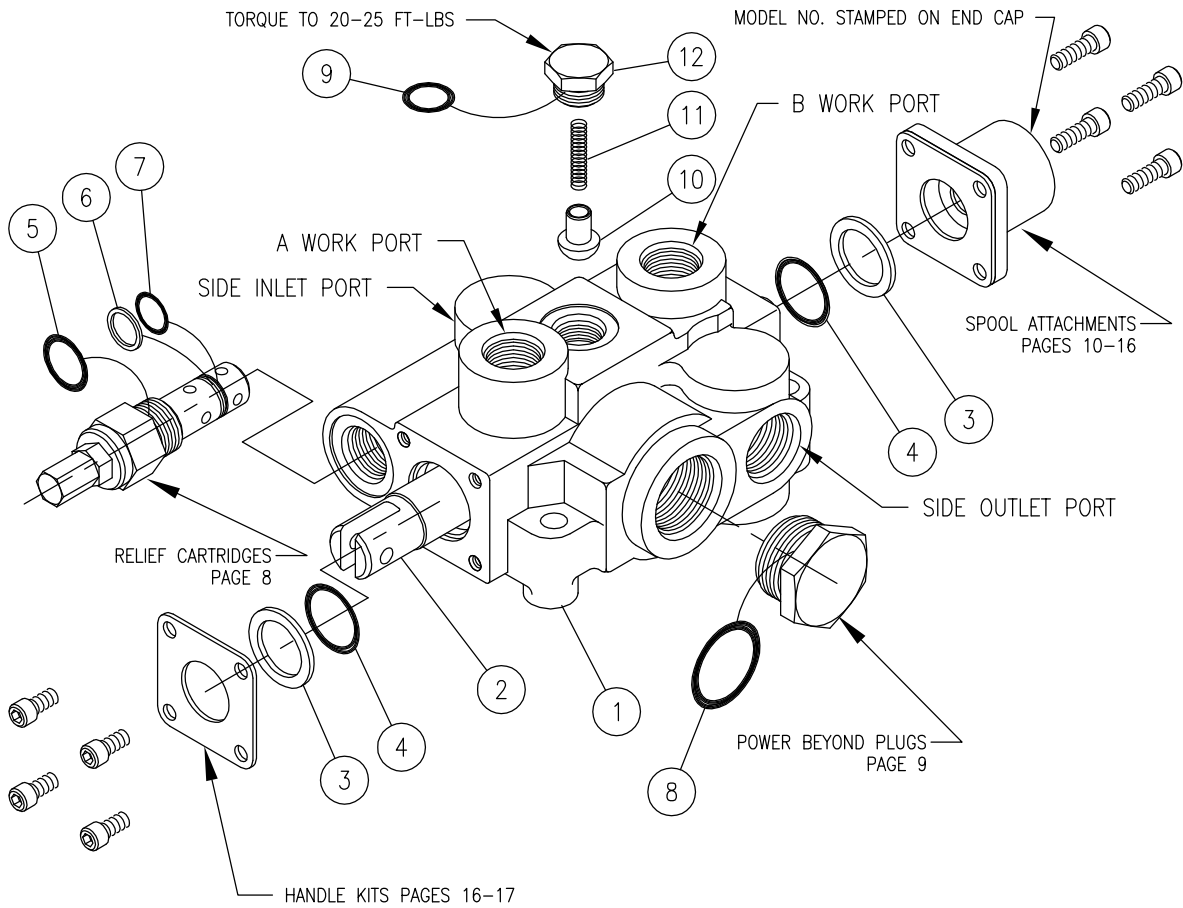
RD5000 PORT IDENTIFICATION



RD5000 SPECIFICATIONS:
 MAXIMUM OPERATING PRESSURE.....3000 PSI
 MAXIMUM TANK PRESSURE.....500 PSI
 MAXIMUM OPERATING TEMPERATURE.....180°F
 RECOMMENDED SYSTEM FILTRATION...ISO 4406 19/17/14
 FLOW RATING RD5100.....30 GPM
 RD5200 AND RD5300.....25 GPM
 RD5200 & RD5300 ARE PARALLEL CIRCUIT VALVES.



RD5100



USES CASTING #C-481

RD5100; 1 SPOOL MONO-BLOCK VALVE

ITEM	QTY	PART NO.	DESCRIPTION
1	1	-	1 SPOOL VALVE BODY
2	1	SEE NOTE 1	SPOOL
3	2	670500010	SPOOL SEAL BACK-UP
4	2	240000213	213 O-RING
5	1	240000116	116 O-RING
6	1	240019015	015 BACK-UP
7	1	240000015	015 O-RING
8	1	240000916	916 O-RING
9	1	240000908	908 O-RING
10	1	670100001	LOAD CHECK POPPET
11	1	670300007	LOAD CHECK SPRING
12	1	671600001	LOAD CHECK PLUG

} These are matched parts and are not sold separately.
 } SEAL KIT (INCL. OTHERS); (STD. BUNA-N) P/N 660551001
 (OPT. VITON) P/N 660590010
 } LOAD CHECK KIT; (w/STD. BUNA-N) P/N 660150015
 (w/OPT. VITON) P/N 660150057

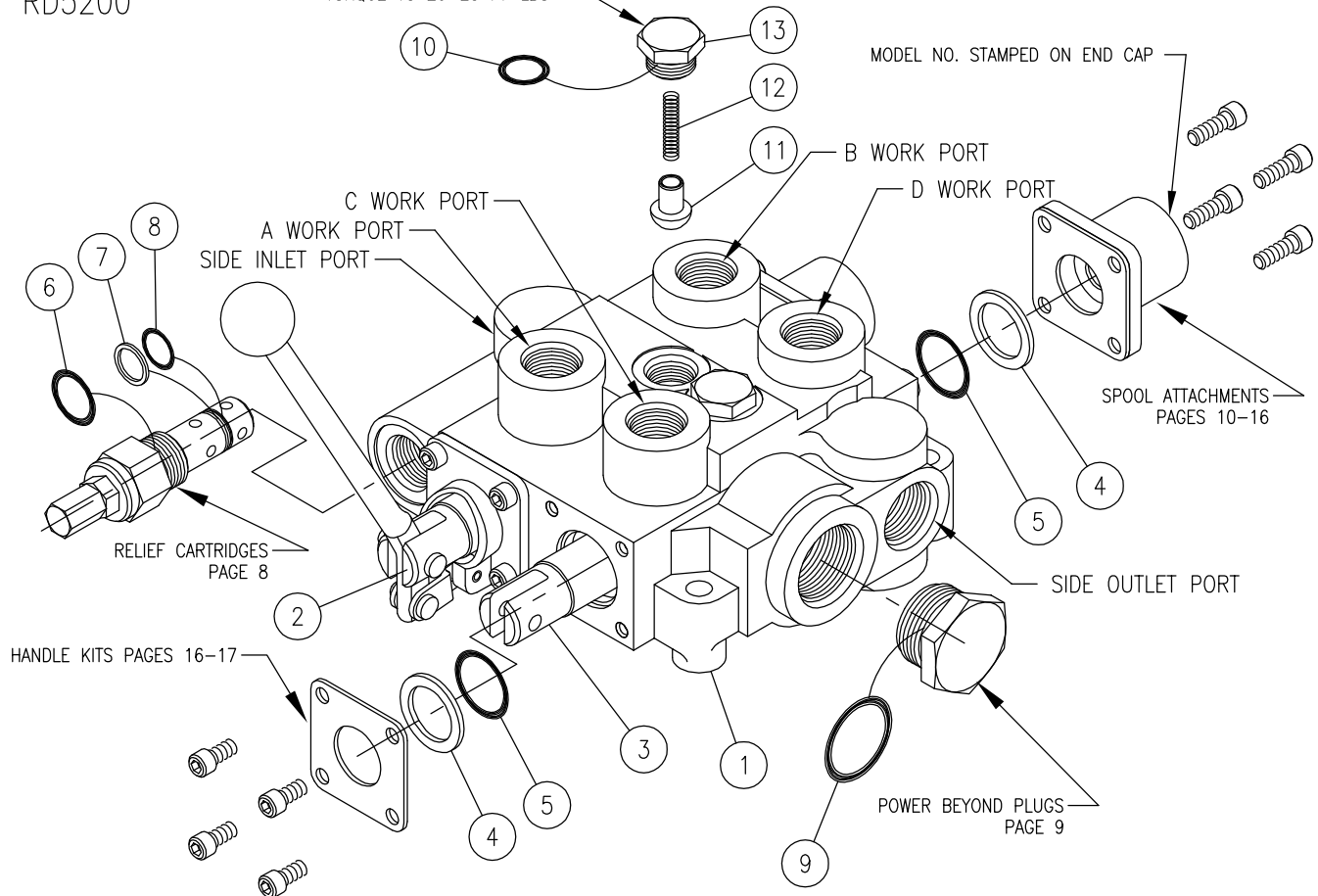
NOTES:

1. SEE SPOOL IDENTIFICATION CHART ON PAGE 7.
2. VALVES WITH 3-WAY SPOOLS INSTALLED WILL HAVE THE 'A' WORK PORT PLUGGED.

RD5200

TORQUE TO 20-25 FT-LBS

MODEL NO. STAMPED ON END CAP



USES CASTING #C-482

RD5200; 2 SPOOL MONO-BLOCK VALVE

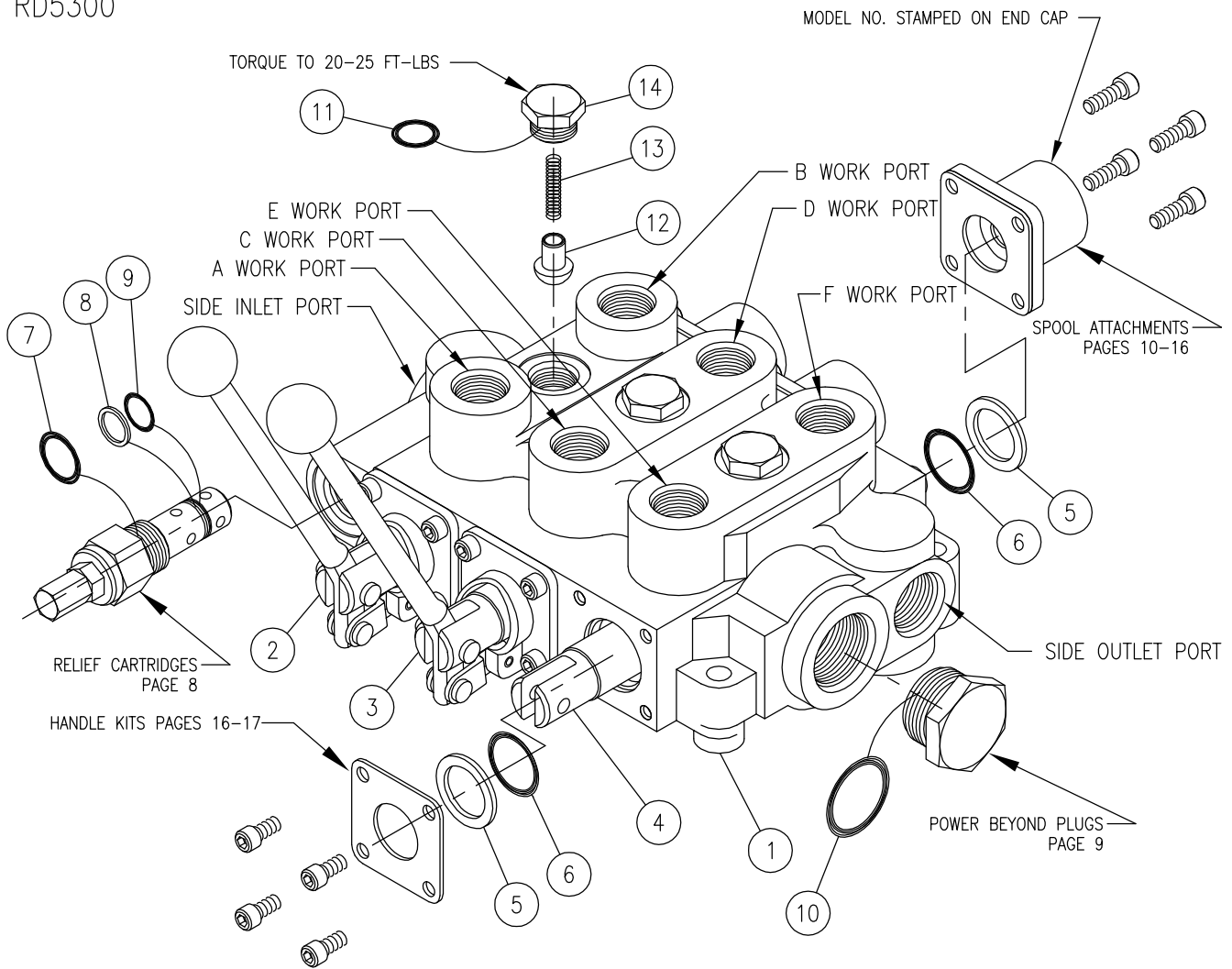
ITEM	QTY	PART NO.	DESCRIPTION
1	1	-	2 SPOOL VALVE BODY
2	1	SEE NOTE 1	FIRST SPOOL
3	1	SEE NOTE 1	SECOND SPOOL
4	4	670500010	SPOOL SEAL BACK-UP
5	4	240000213	213 O-RING
6	1	240000116	116 O-RING
7	1	240019015	015 BACK-UP
8	1	240000015	015 O-RING
9	1	240000916	916 O-RING
10	2	240000908	908 O-RING
11	2	670100001	LOAD CHECK POPPET
12	2	670300007	LOAD CHECK SPRING
13	2	671600001	LOAD CHECK PLUG

} These are matched parts and are not sold separately.
 } SEAL KIT (INCL. OTHERS); (STD. BUNA-N) P/N 660552001
 } (OPT. VITON) P/N 660552003
 } LOAD CHECK KIT; (w/STD. BUNA-N) P/N 660150015
 } (w/OPT. VITON) P/N 660150057
 } (2 KITS REQUIRED PER VALVE)

NOTES:

1. SEE SPOOL IDENTIFICATION CHART ON PAGE 7.
2. VALVES WITH 3-WAY SPOOLS INSTALLED WILL HAVE THE 'A' AND/OR 'C' WORK PORT PLUGGED.

RD5300



USES CASTING #C-483

RD5300; 3 SPOOL MONO-BLOCK VALVE

ITEM	QTY	PART NO.	DESCRIPTION
1	1	-	3 SPOOL VALVE BODY
2	1	SEE NOTE 1	FIRST SPOOL
3	1	SEE NOTE 1	SECOND SPOOL
4	1	SEE NOTE 1	THIRD SPOOL
5	6	670500010	SPOOL SEAL BACK-UP
6	6	240000213	213 O-RING
7	1	240000116	116 O-RING
8	1	240019015	015 BACK-UP
9	1	240000015	015 O-RING
10	1	240000916	916 O-RING
11	3	240000908	908 O-RING
12	3	670100001	LOAD CHECK POPPET
13	3	670300007	LOAD CHECK SPRING
14	3	671600001	LOAD CHECK PLUG

These are matched parts and are not sold separately.

SEAL KIT (INCL. OTHERS); (STD. BUNA-N) P/N 660553001
(OPT. VITON) P/N 660553003

LOAD CHECK KIT; (w/STD. BUNA-N) P/N 660150015
(w/OPT. VITON) P/N 660150057

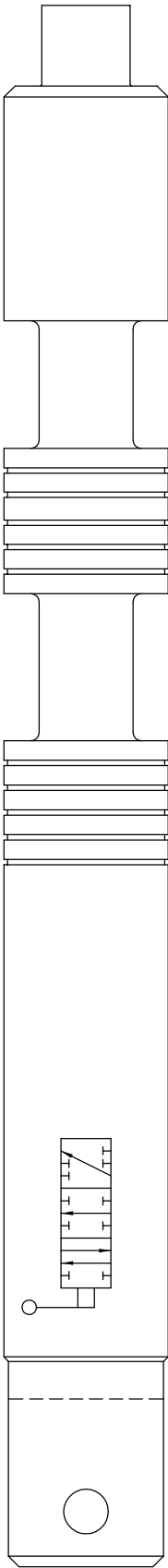
(3 KITS REQUIRED PER VALVE)

NOTES:

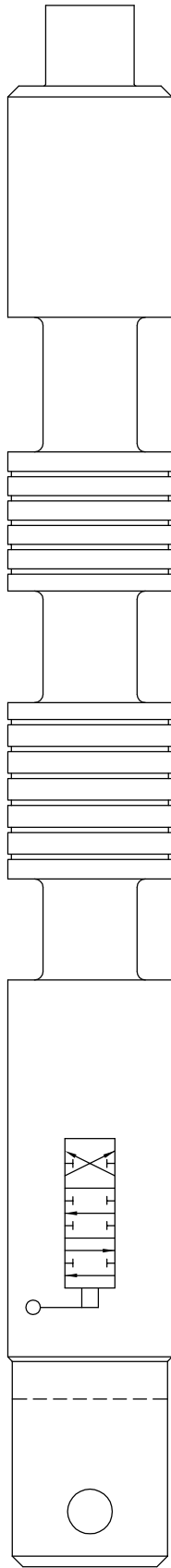
1. SEE SPOOL IDENTIFICATION CHART ON PAGE 7.
2. VALVES WITH 3-WAY SPOOLS INSTALLED WILL HAVE THE 'A', 'C', AND/OR 'E' WORK PORT PLUGGED.

RD5000 SPOOLS

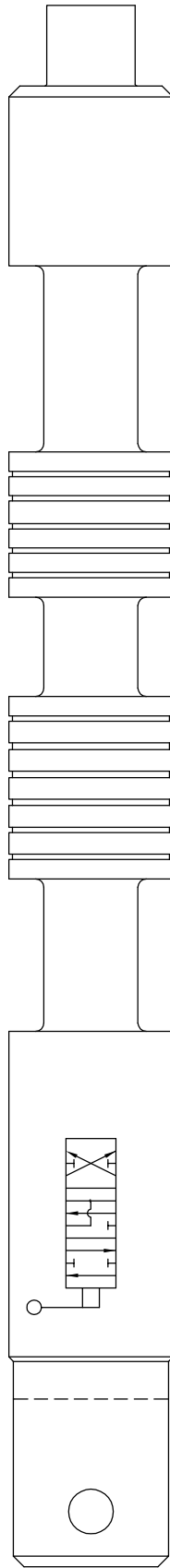
SPOOL OPTION A; 3 WAY 3 POSITION, WORK PORT BLOCKED IN NEUTRAL. THE 'A' WORK PORT IS PLUGGED.



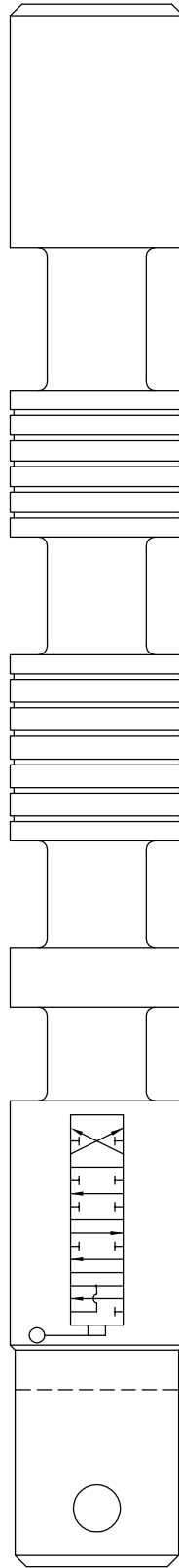
SPOOL OPTION C; 4 WAY 3 POSITION TANDEM CENTER, WORK PORTS BLOCKED IN NEUTRAL.



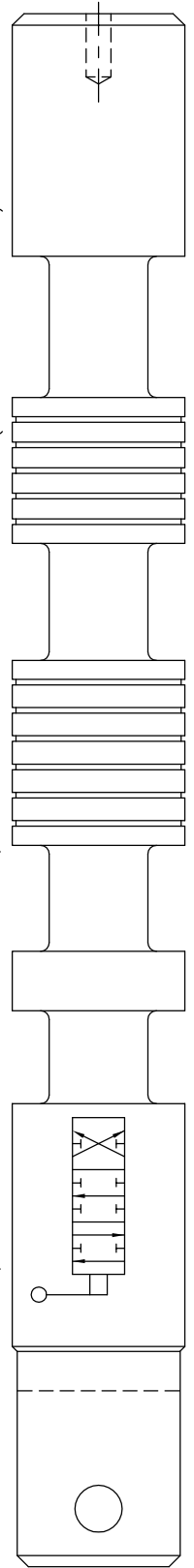
SPOOL OPTION E; 4 WAY 3 POSITION MOTOR, WORK PORTS OPEN IN NEUTRAL.



SPOOL OPTION G; 4 WAY 4 POSITION TANDEM CENTER FLOAT, WORK PORTS BLOCKED IN NEUTRAL.



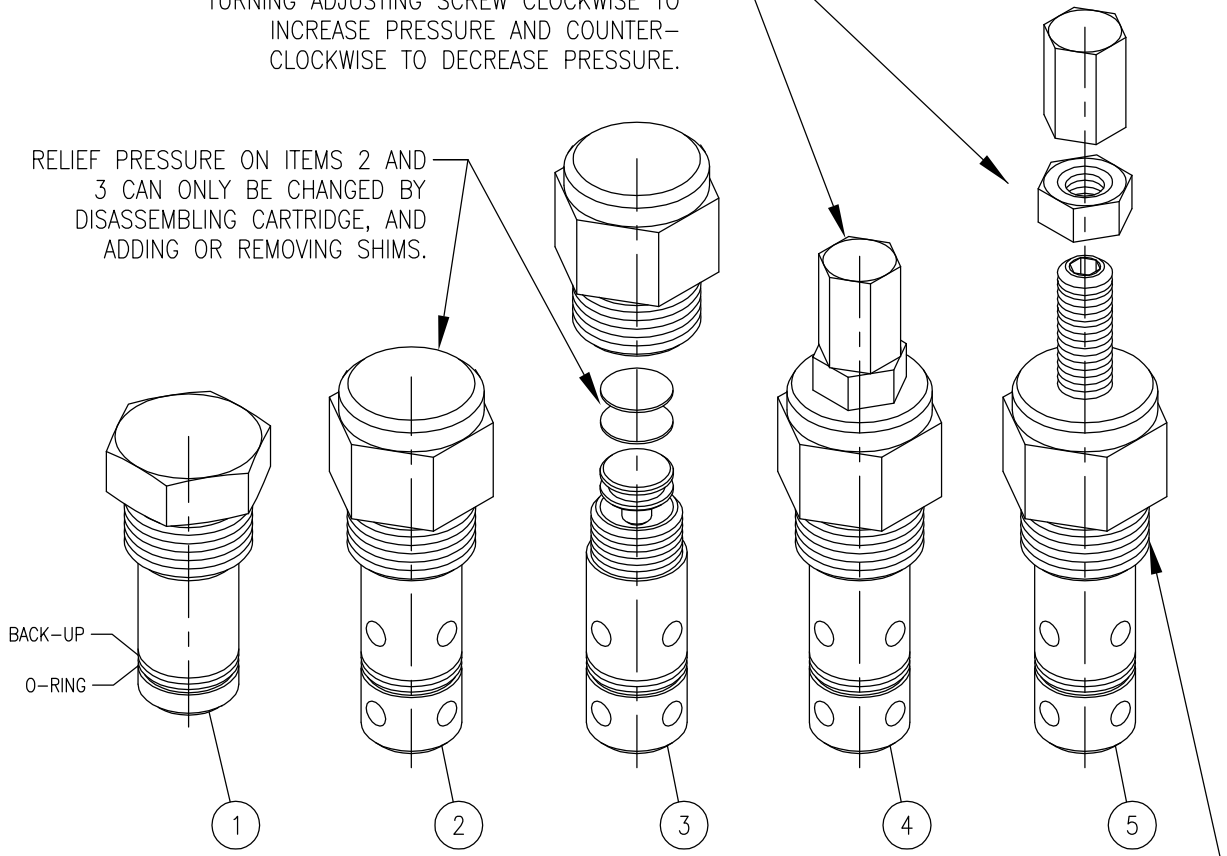
SPOOL OPTION J; 4 WAY 3 POSITION TANDEM CENTER, WORK PORTS BLOCKED IN NEUTRAL (ROTARY ATTACHMENT).



NOTE:
SPOOLS ARE NOT AVAILABLE AS REPAIR PARTS. THIS INFORMATION IS FOR IDENTIFICATION PURPOSES ONLY.

RELIEF PRESSURE ON ITEMS 4 AND 5 CAN BE CHANGED BY REMOVING ACORN NUT AND LOOSENING JAM NUT, AND THEN TURNING ADJUSTING SCREW CLOCKWISE TO INCREASE PRESSURE AND COUNTER-CLOCKWISE TO DECREASE PRESSURE.

RELIEF PRESSURE ON ITEMS 2 AND 3 CAN ONLY BE CHANGED BY DISASSEMBLING CARTRIDGE, AND ADDING OR REMOVING SHIMS.



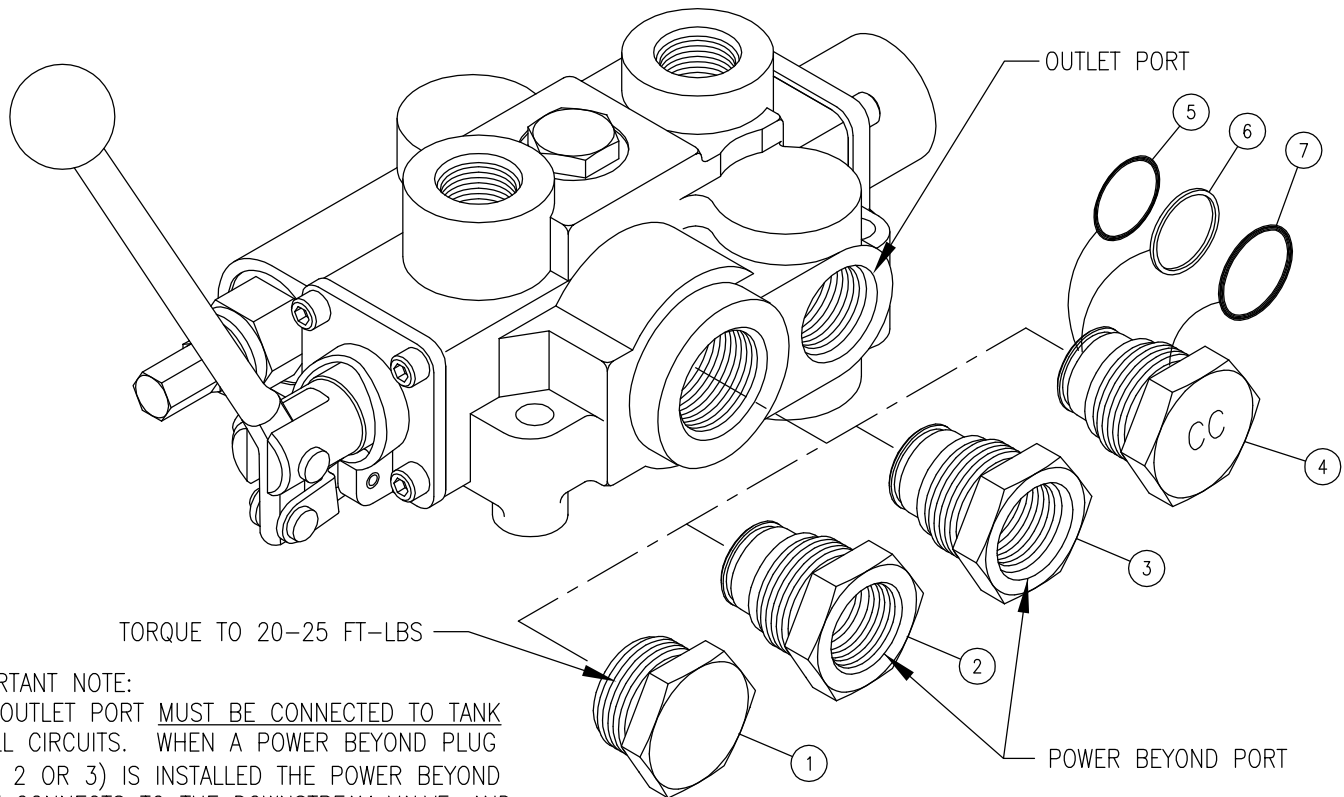
INSTALLATION TORQUE FOR ALL RELIEF CARTRIDGES 20-25 FT-LBS



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.

RD5000 RELIEF CARTRIDGES

ITEM	QTY	PART NO. (UNTESTED)	DESCRIPTION	STD. SETTING:	PRESET CARTRIDGE:
1	1	660250006	NO-RELIEF PLUG (OPTION 1)	-	-
2	1	660250005	SHIM ADJUSTABLE RELIEF 500-1500 (OPTION 2)	1000 PSI	RV-0NL-xxxx
3	1	660250004	SHIM ADJUSTABLE RELIEF 1500-3000 (OPTION 3)	2000 PSI	RV-0NH-xxxx
4	1	660250003	ADJUSTABLE RELIEF 500-1500 (OPTION 4)	1000 PSI	RV-0L-xxxx
5	1	660250002	ADJUSTABLE RELIEF 1500-3000 (OPTION 5)	2000 PSI	RV-0H-xxxx
		672000101	.015 SHIM		(LAST 4 DIGITS INDICATE PRESET)
		672000102	.033 SHIM		
		672000103	.060 SHIM		
		660180215	SHIM ASSORTMENT KIT		



IMPORTANT NOTE:

THE OUTLET PORT MUST BE CONNECTED TO TANK IN ALL CIRCUITS. WHEN A POWER BEYOND PLUG (ITEM 2 OR 3) IS INSTALLED THE POWER BEYOND PORT CONNECTS TO THE DOWNSTREAM VALVE, AND THE OUTLET PORT IS CONNECTED TO TANK.

RD5000 POWER BEYOND PLUGS

ITEM	QTY	PART NO.	DESCRIPTION
1	1	660312003	CONVERSION PLUG ASSY. (OPTION B)
2	1	660312004	3/4-NPTF POWER BEYOND PLUG ASSY. (OPTION C)
3	1	660312008	#12 SAE POWER BEYOND PLUG ASSY. (OPTION F)
4	1	660312005	CLOSED CENTER CONVERSION PLUG ASSY. (OPTION D)
5	1	240000020	-020 O-RING
6	1	240005020	-020 BACK-UP WASHER
7	1	240000916	-916 O-RING

-OPTION B, STANDARD OPEN CENTER CONVERSION PLUG;

This is the standard outlet option. This option allows for conversion in the field for power beyond or closed center applications. When the spools are in neutral the inlet is unloaded to tank.

-OPTION C, POWER BEYOND PLUG 3/4-NPTF -AND- OPTION F, POWER BEYOND PLUG #12 SAE;

This option provides for a high pressure power beyond port. This would be used if a valve is to be added downstream. PLEASE NOTE: The outlet must be connected to tank. When spools are in neutral the inlet is connected to power beyond port.

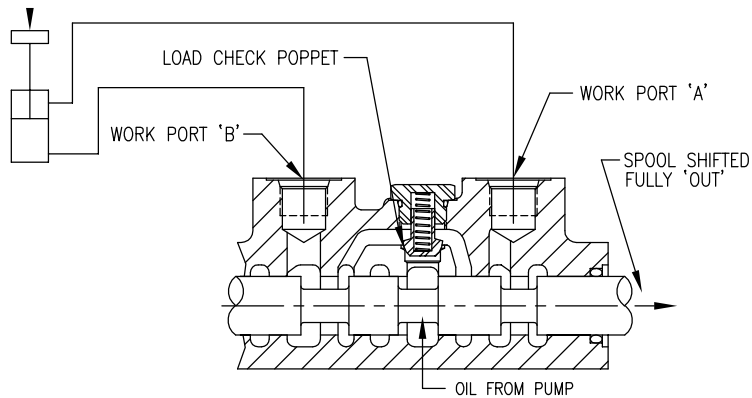
-OPTION D, CLOSED CENTER PLUG;

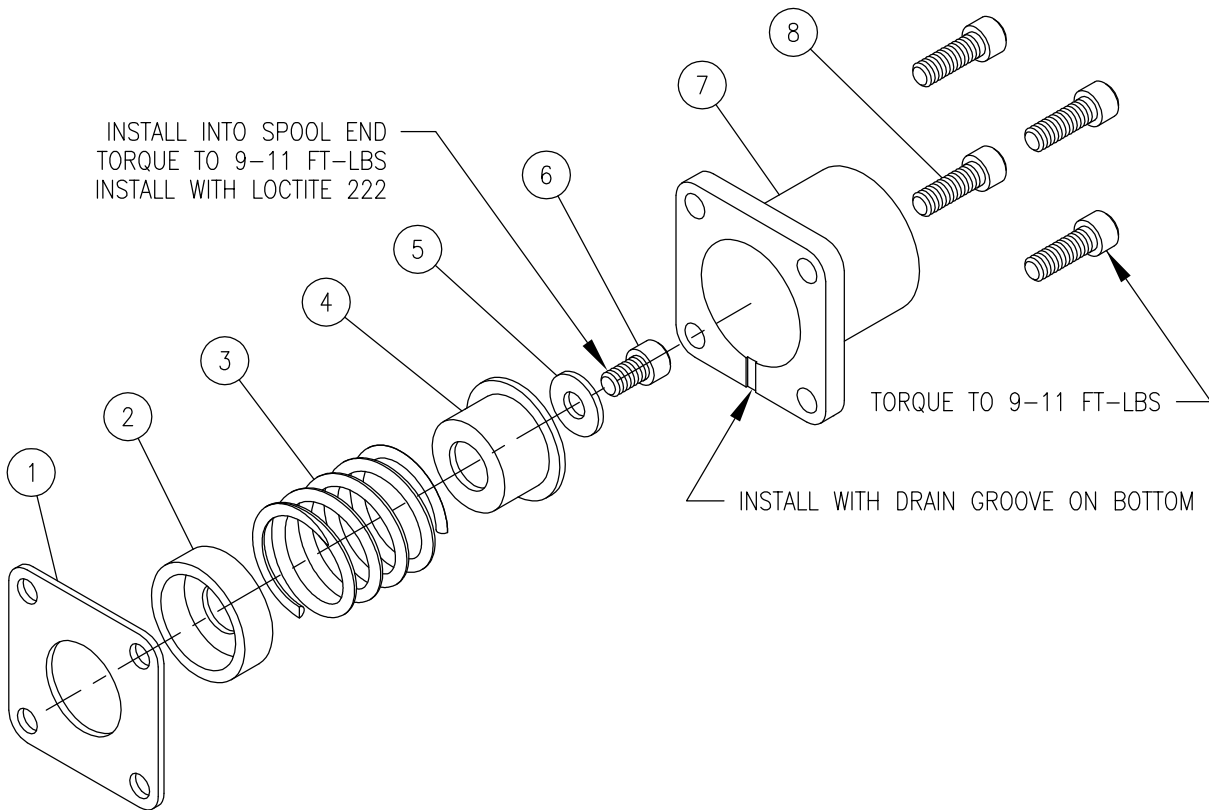
This option provides for closed center operation. This is typically used with a variable displacement pressure compensated pump or in a system with an unloading valve. When the spools are in neutral the inlet port is blocked. The power beyond plugs can be used for closed center conversion by plugging the power beyond port.

LOAD CHECK DESCRIPTION:

The load check feature is standard on all RD5000 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 to the right, 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 being shifted.



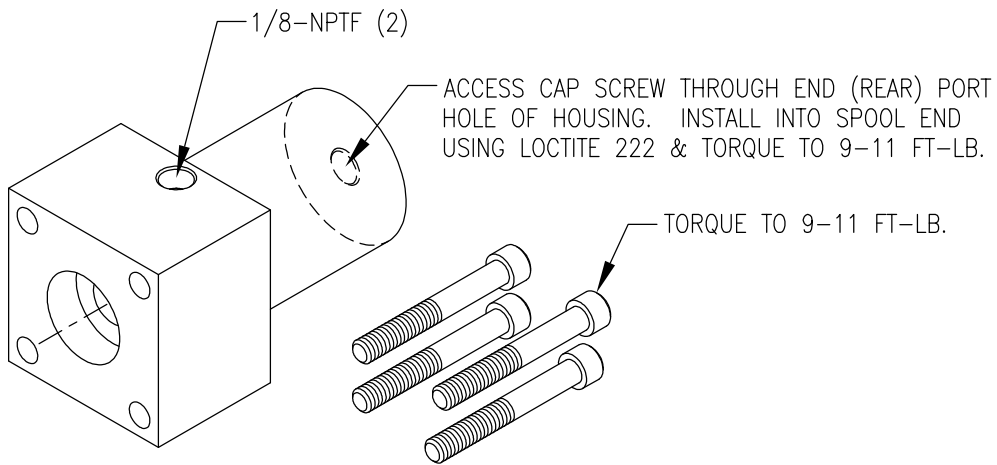


RD5000 SPRING CENTER SPOOL ATTACHMENT (OPTION A)

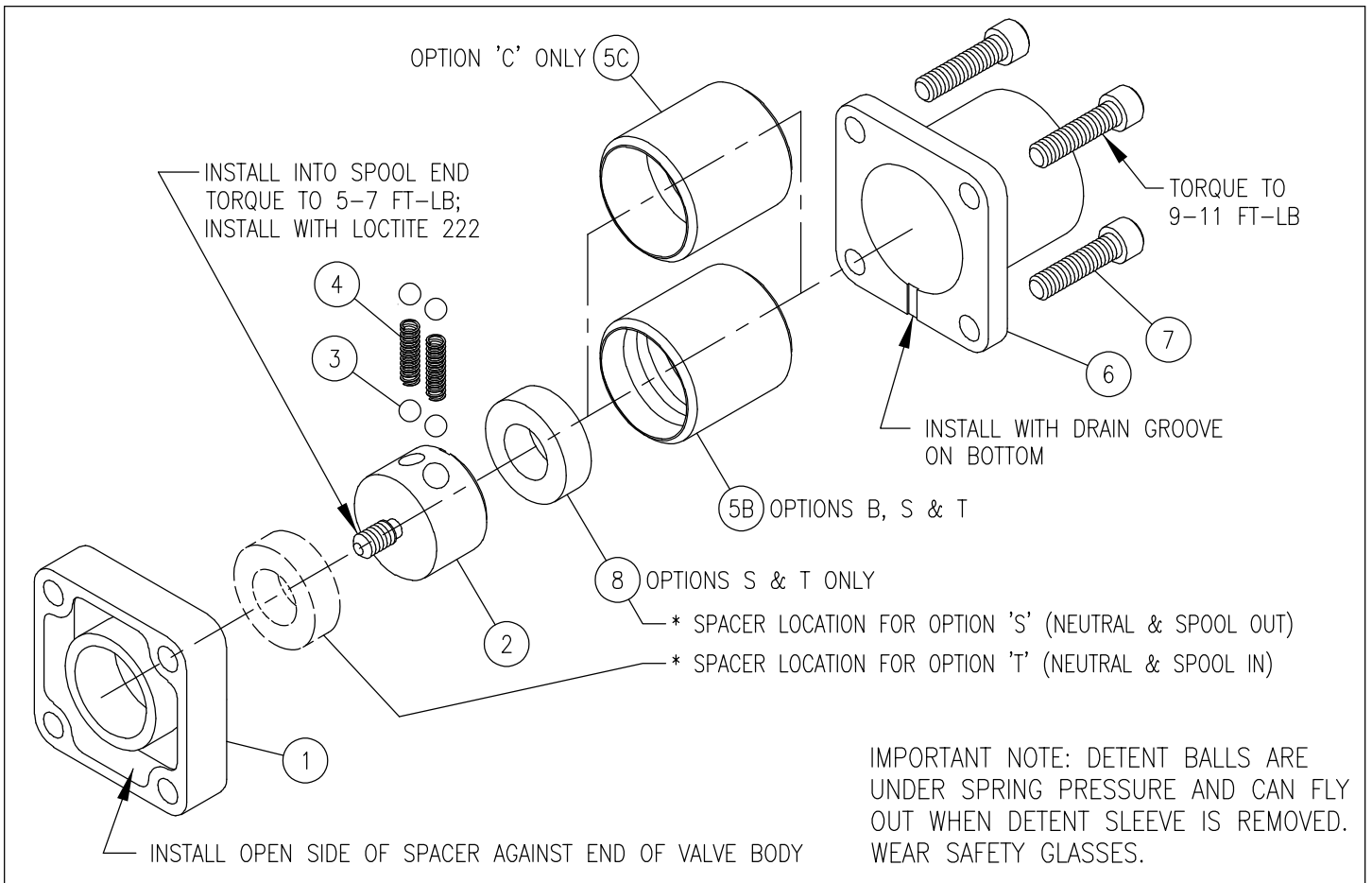
ITEM	QTY	PART NO.	DESCRIPTION
1	1	670500003	RETAINER PLATE
2	1	671400001	STOP CUP (INNER)
3	1	670300001	CENTERING SPRING *
4	1	671400011	STOP CUP (OUTER)
5	1	670500004	WASHER
6	1	170003007	SOCKET HEAD CAP SCREW
7	1	670500005	END CAP
8	4	170003008	SOCKET HEAD CAP SCREW

} SPRING CENTER KIT; P/N 660150001

*STANDARD CENTERING SPRING CAN BE REPLACED WITH MEDIUM HEAVY SPRING P/N 670300047, OR HEAVY SPRING P/N 670300043.



SPRING CENTER PNEUMATIC ACTUATOR (OPTION H); KIT P/N 660150060



RD5000 3 POSITION DETENT SPOOL ATTACHMENT (OPTION B)

ITEM	QTY	PART NO.	DESCRIPTION
1	1	671200002	DETENT SPACER
2	1	670700008	DETENT ADAPTER
3	4	230009009	STEEL BALL
4	2	670300002	SPRING
5B	1	670700002	DETENT SLEEVE (3 GROOVES)
6	1	670500005	END CAP
7	4	170003018	SOCKET HD. CAP SCREW

} 3 POSITION DETENT KIT; P/N 660150002

RD5000 FRICTION DETENT SPOOL ATTACHMENT (OPTION C)

ITEM	QTY	PART NO.	DESCRIPTION
1	1	671200002	DETENT SPACER
2	1	670700008	DETENT ADAPTER
3	4	230009009	STEEL BALL
4	2	670300002	SPRING
5C	1	670700001	DETENT SLEEVE (1 GROOVE)
6	1	670500005	END CAP
7	4	170003018	SOCKET HD. CAP SCREW

} 1 POSITION DETENT KIT; P/N 660150003

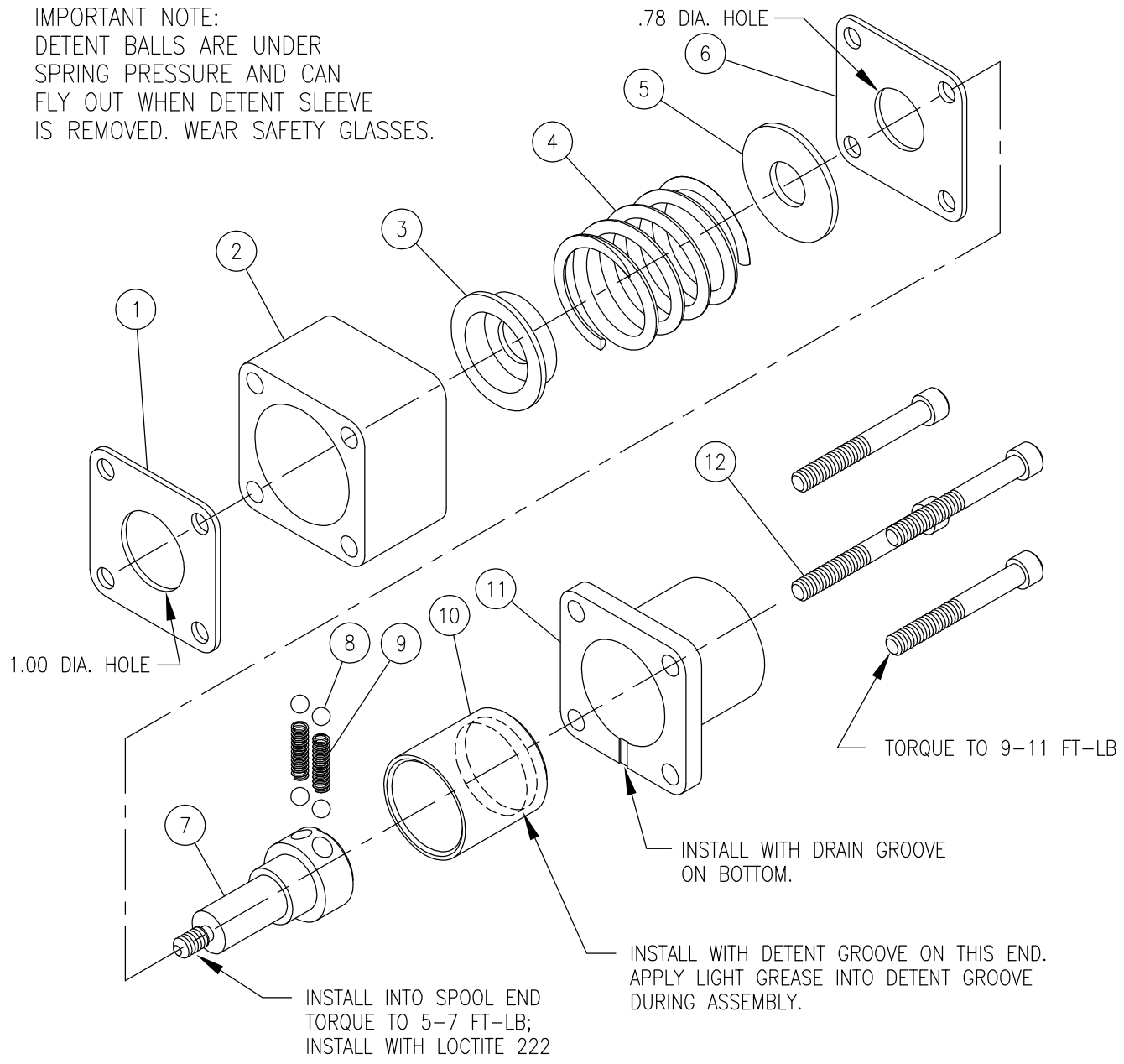
RD5000 2 POSITION DETENT SPOOL ATTACHMENT (OPTIONS S & T)

ITEM	QTY	PART NO.	DESCRIPTION
1	1	671200002	DETENT SPACER
2	1	670700008	DETENT ADAPTER
3	4	230009009	STEEL BALL
4	2	670300002	SPRING
5B	1	670700002	DET. SLEEVE (3 GROOVES)
6	1	670500005	END CAP
7	4	170003018	SOCKET HD. CAP SCREW
8	1	671200006	SPACER *

} OPTION 'S': NEUTRAL & SPOOL OUT ONLY -
(SPACER BETWEEN DETENT ADAPTER & END CAP)
OPTION 'T': NEUTRAL & SPOOL IN ONLY -
(SPACER BETWEEN DETENT ADAPTER & DETENT SPACER)
(* SPACER LOCATION DETERMINES FUNCTION)

} 2 POSITION DETENT KIT; P/N 660150067

IMPORTANT NOTE:
 DETENT BALLS ARE UNDER
 SPRING PRESSURE AND CAN
 FLY OUT WHEN DETENT SLEEVE
 IS REMOVED. WEAR SAFETY GLASSES.



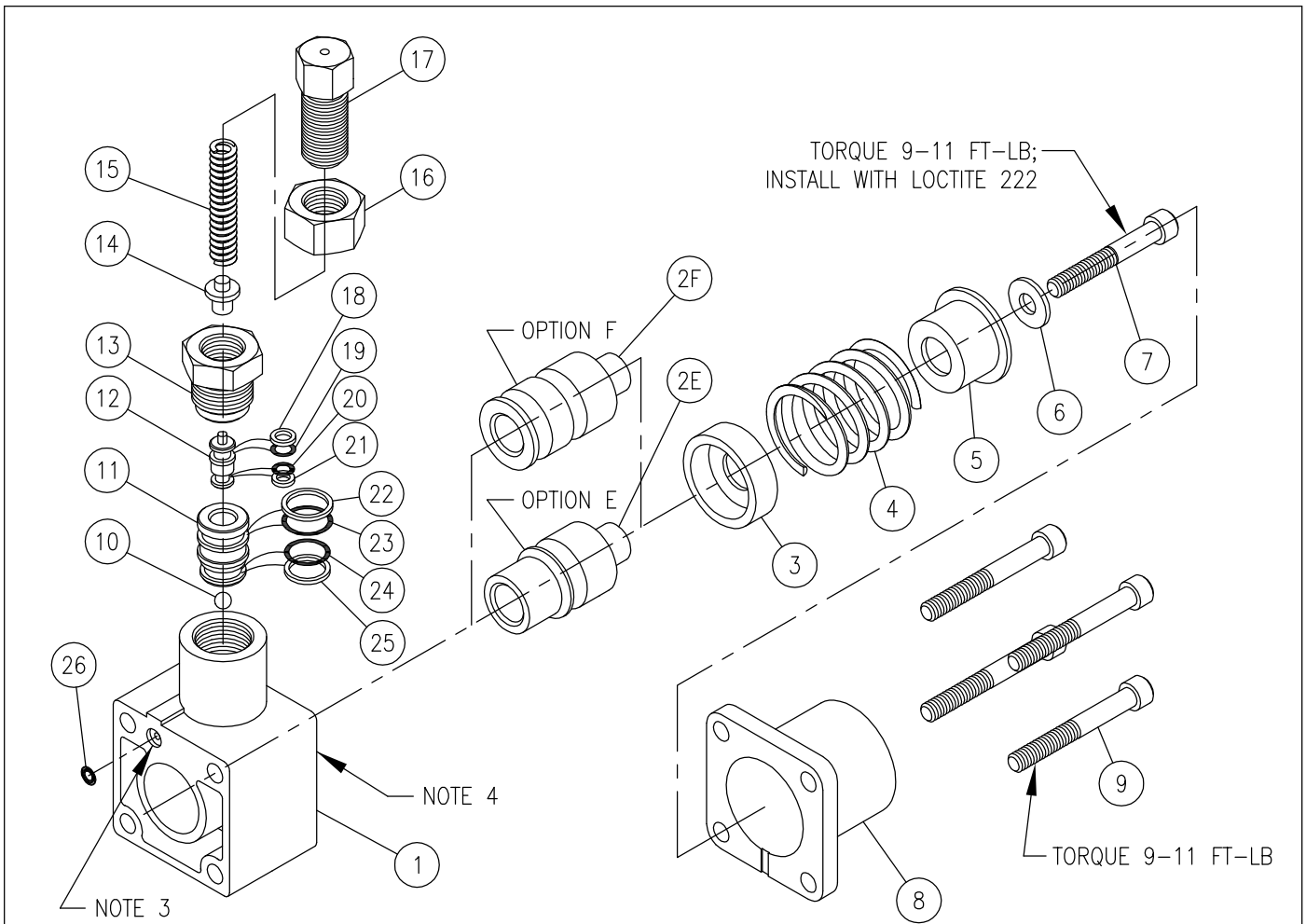
RD5000 SPRING CENTER FLOAT DETENT SPOOL ATTACHMENT (OPTION G)

ITEM	QTY	PART NO.	DESCRIPTION
1	1	670500003	RETAINER PLATE
2	1	671200001	FLOAT SPACER
3	1	670500007	STOP CUP
4	1	670300003	SPRING, CENTERING
5	1	670500008	WASHER
6	1	670500009	RETAINER PLATE
7	1	670700007	FLOAT DETENT RETAINER
8	4	230009009	STEEL BALL
9	2	670300002	SPRING, DETENT
10	1	670700003	FLOAT DETENT SLEEVE
11	1	670500005	END CAP
12	4	170003019	SOCKET HEAD CAP SCREW

FLOAT HARDWARE KIT; P/N 660150014

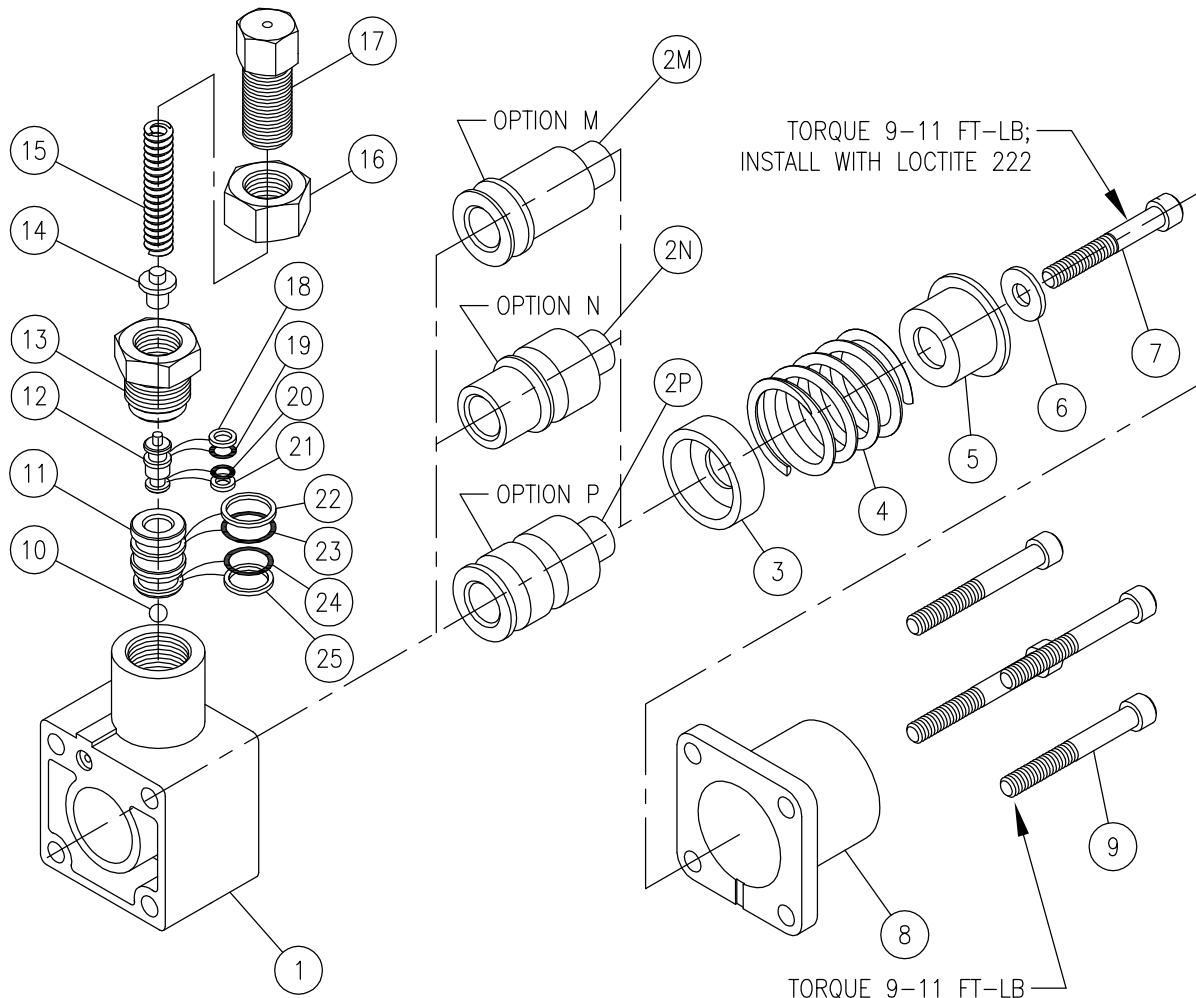
NOTE:

1. THIS OPTION CANNOT BE ADDED TO A 'NON-FLOAT' VALVE IN THE FIELD. MUST BE USED WITH FLOAT SPOOL OPTION G.



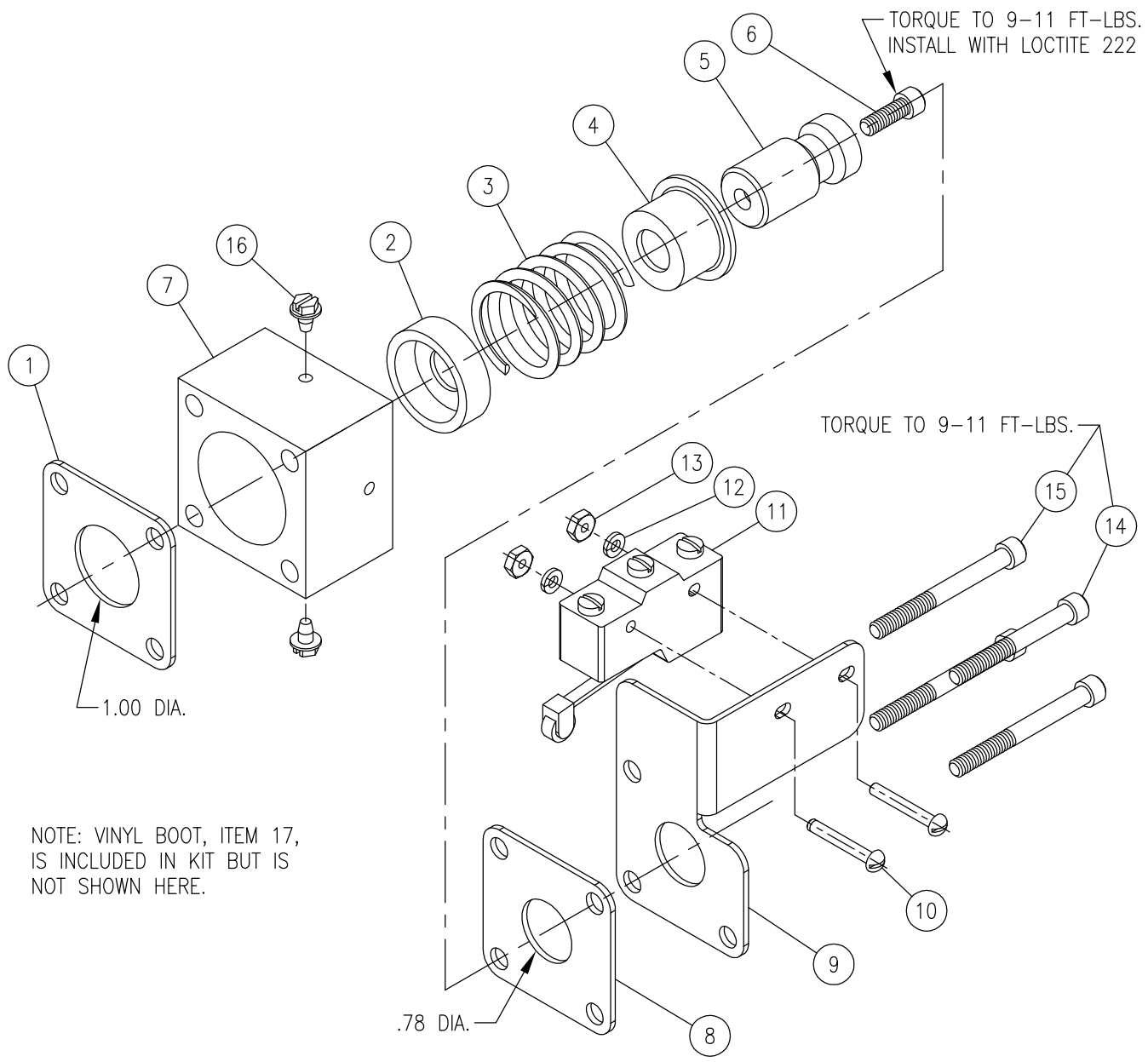
RD5000 PRESSURE RELEASE DETENT OUT (OPTION E)
 PRESSURE RELEASE DETENT IN AND OUT (OPTION F)

ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	1	624890001	DETENT BODY	24**	1	240016737	O-RING
2E	1	670700004	SPOOL SLEEVE (OPTION E)	25**	1	240019013	013 BACK-UP WASHER
2F	1	670700005	SPOOL SLEEVE (OPTION F)	26	1	240000006	006 O-RING
3	1	671400001	STOP CUP (INNER)	OPTION E; KIT P/N 660150048 OPTION F; KIT P/N 660150049 * ADJUSTING CARTRIDGE; P/N 660330002 ** DETENT REPAIR KIT; P/N 660130007			
4	1	670300001	SPRING, CENTERING				
5	1	671400011	STOP CUP (OUTER)	NOTES: 1. TO ADJUST DETENT RELEASE PRESSURE LOOSEN JAM NUT, ITEM 16, AND TURN ADJUSTING SCREW, ITEM 17, CLOCKWISE TO INCREASE DETENT RELEASE PRESSURE OR COUNTER-CLOCKWISE TO DECREASE DETENT RELEASE PRESSURE. DETENT RELEASE PRESSURE IS ADJUSTABLE FROM 900 TO 2000 PSI. 2. THESE OPTIONS CANNOT BE ADDED TO A VALVE IN THE FIELD. 3. THIS HOLE MUST LINE UP WITH THE PRESSURE HOLE IN THE END OF THE VALVE BODY. 4. OPTION 'E' MOUNTS WITH DETENT VERTICAL, AS SHOWN. OPTION 'F' IS MOUNTED WITH DETENT PARTS HORIZONTAL ON VALVE, NOT VERTICALLY AS SHOWN. 5. APPLY LIGHT COAT OF GREASE TO MOVING DETENT PARTS DURING ASSEMBLY.			
6	1	670500004	WASHER				
7	1	170003019	CAP SCREW				
8	1	670500005	END CAP				
9	4	170003019	CAP SCREW				
10**	1	230009009	STEEL BALL				
11**	1	671100012	PISTON SLEEVE				
12**	1	671100011	PISTON				
13**	1	671600052 *	RETAINER PLUG				
14**	1	671100016 *	SPRING ADAPTER				
15**	1	670300033 *	SPRING, DETENT				
16**	1	671800013 *	JAM NUT				
17**	1	671900016 *	ADJUSTING SCREW				
18**	1	240019008	008 BACK-UP WASHER				
19**	1	240016068	O-RING				
20**	1	240016736	O-RING				
21**	1	240019007	007 BACK-UP WASHER				
22**	1	240019014	014 BACK-UP WASHER				
23**	1	240000014	014 O-RING				



RD5000 SPRING CENTER DETENT IN (OPTION M)
 SPRING CENTER DETENT OUT (OPTION N)
 SPRING CENTER DETENT IN AND OUT (OPTION P)

ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	1	624890001	DETENT BODY	20**	1	240016736	O-RING
2P	1	670700005	SPOOL SLEEVE (OPTION P)	21**	1	240019007	007 BACK-UP WASHER
2N	1	670700004	SPOOL SLEEVE (OPTION N)	22**	1	240019014	014 BACK-UP WASHER
2M	1	670700027	SPOOL SLEEVE (OPTION M)	23**	1	240000014	014 O-RING
3	1	671400001	STOP CUP (INNER)	24**	1	240016737	O-RING
4	1	670300001	SPRING, CENTERING	25**	1	240019013	013 BACK-UP WASHER
5	1	671400011	STOP CUP (OUTER)	OPTION M; KIT P/N 660150023 OPTION N; KIT P/N 660150018 OPTION P; KIT P/N 660150020 * ADJUSTING CARTRIDGE; P/N 660330002 **DETENT REPAIR KIT; P/N 660130007 NOTE: 1. TO ADJUST MANUAL DETENT HOLDING FORCE LOOSEN JAM NUT, ITEM 16, AND TURN ADJUSTING SCREW, ITEM 17, CLOCKWISE TO INCREASE HOLDING FORCE AND COUNTERCLOCKWISE TO DECREASE HOLDING FORCE. HANDLE FORCE TO MOVE SPOOL OUT OF DETENT SHOULD BE APPROXIMATELY 4-5 LBS. 2. APPLY LIGHT COAT OF GREASE TO MOVING DETENT PARTS DURING ASSEMBLY.			
6	1	670500004	WASHER				
7	1	170003019	CAP SCREW				
8	1	670500005	END CAP				
9	4	170003019	CAP SCREW				
10**	1	230009009	STEEL BALL				
11**	1	671100012	PISTON SLEEVE				
12**	1	671100011	PISTON				
13**	1	671600052	* RETAINER PLUG				
14**	1	671100016	* SPRING ADAPTER				
15**	1	670300033	* SPRING, DETENT				
16**	1	671800013	* JAM NUT				
17**	1	671900016	* ADJUSTING SCREW				
18**	1	240019008	008 BACK-UP WASHER				
19**	1	240016068	O-RING				

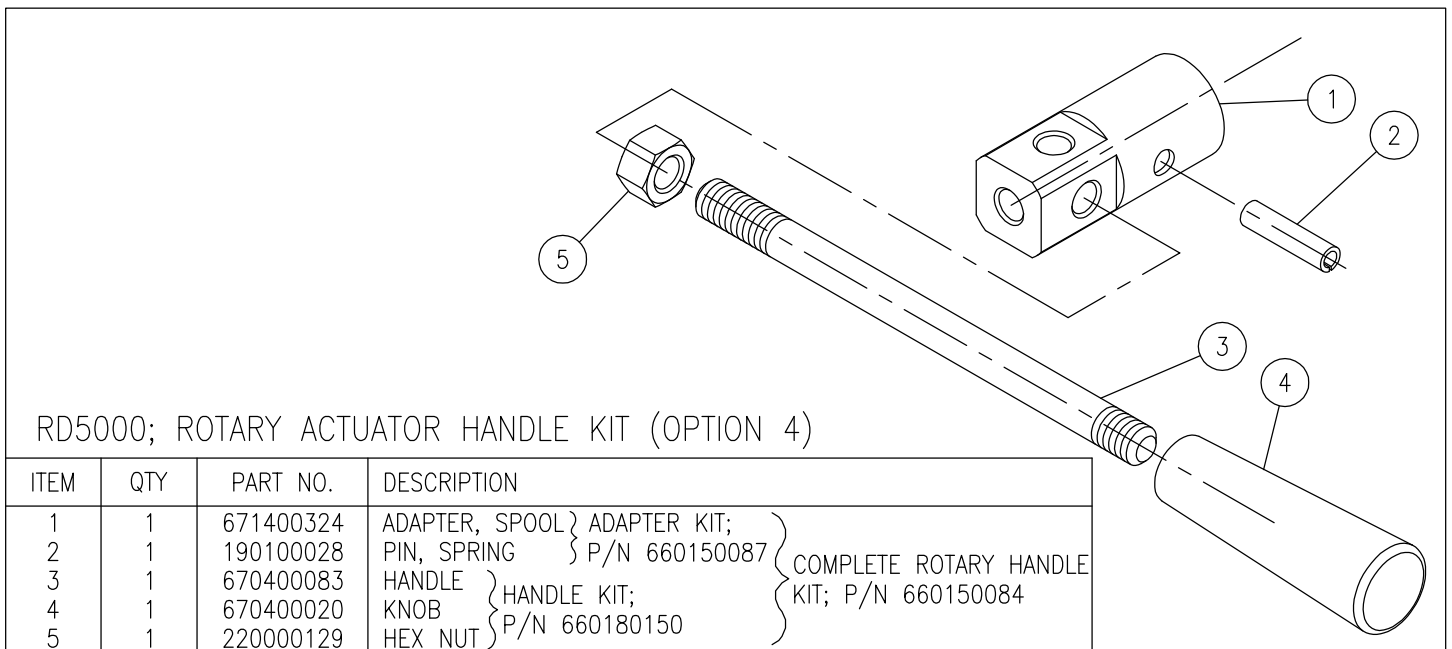
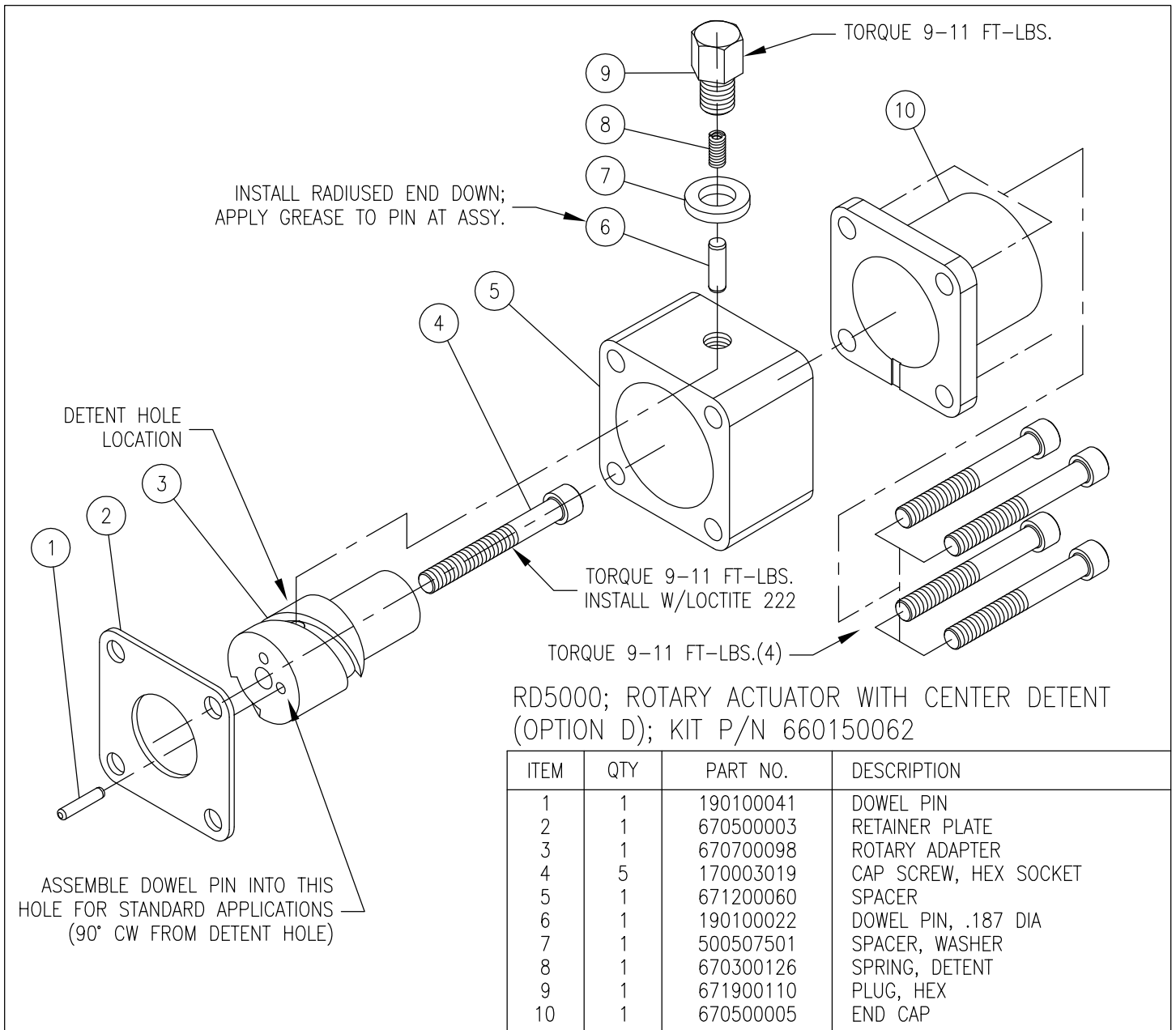


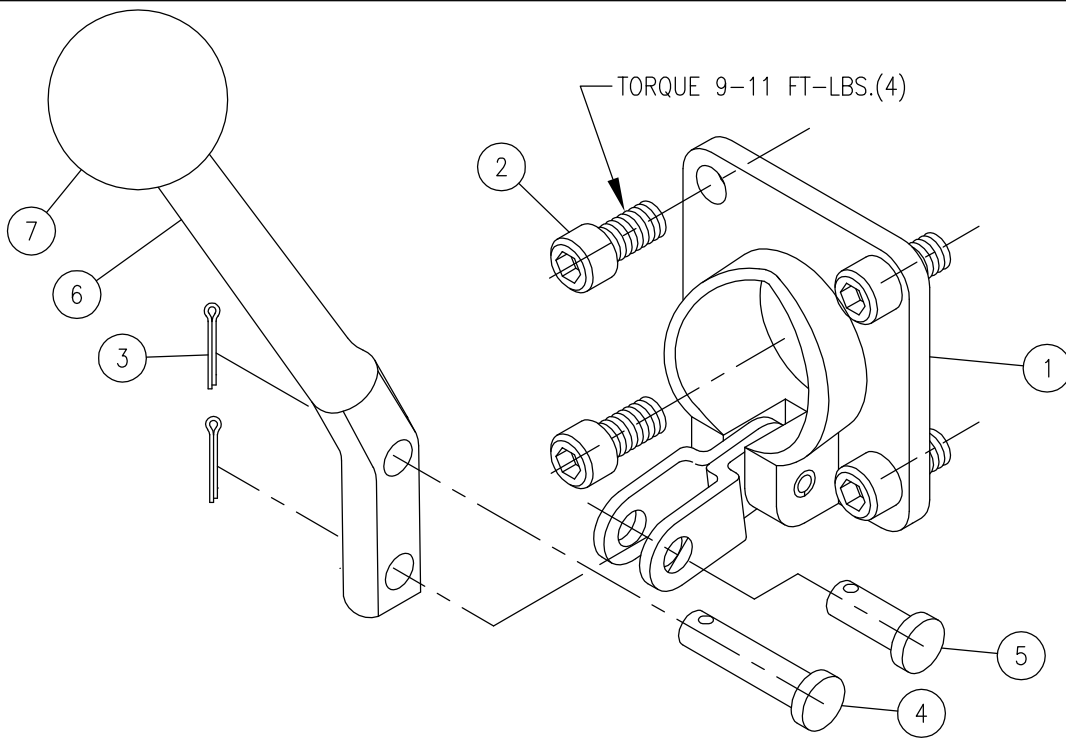
NOTE: VINYL BOOT, ITEM 17, IS INCLUDED IN KIT BUT IS NOT SHOWN HERE.

RD5000 SPRING CENTER ATTACHMENT w/MICROSWITCH & BOOT (OPTION R)

ITEM	QTY	PART NO.	DESCRIPTION
1	1	670500003	RETAINER PLATE
2	1	671400001	STOP CUP, INNER
3	1	670300001	SPRING, CENTERING
4	1	671400011	STOP CUP, OUTER
5	1	671400188	ACTUATOR
6	1	170003007	CAP SCREW, HEX HEAD
7	1	671200025	SPACER
8	1	670500009	RETAINER PLATE
9	1	670500083	BRACKET, MICROSWITCH
10	2	170005008	MACH. SCREW, #6-32 X 1
11	1	671300022	MICROSWITCH
12	2	220001011	LOCK WASHER
13	2	220000126	HEX NUT, #6-32
14	1	170003034	CAP SCREW, HEX HEAD
15	3	170003019	CAP SCREW, HEX HEAD
16	2	220000420	SCREW, SELF TAPPING
17	1	671300023	BOOT, VINYL (NOT SHOWN)

SPRING CENTER MICROSWITCH KIT P/N 660150045

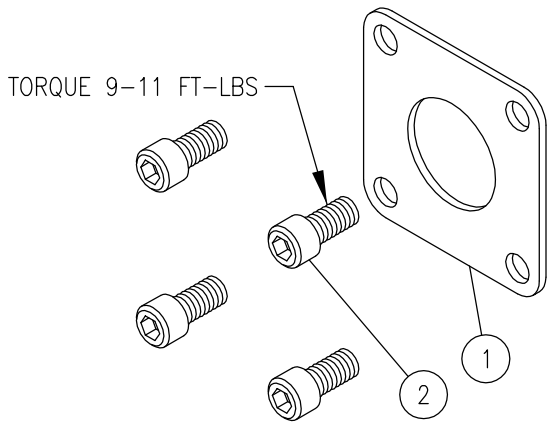




RD5000; COMPLETE HANDLE KIT (OPTION 1) & LESS HANDLE ONLY (OPTION 2)

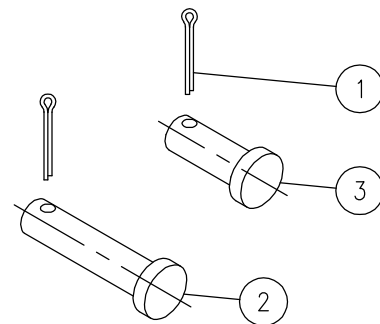
ITEM	QTY	PART NO.	DESCRIPTION
1	1	660350001	CLEVIS SUB-ASSY
2	4	170003017	CAP SCREW
3	2	220001512	COTTER PIN
4	1	671700002	CLEVIS PIN
5	1	671700001	CLEVIS PIN
6	1	670400001	HANDLE
7	1	670400002	KNOB

LESS HANDLE ONLY KIT; OPTION 2 (ITEMS 1-5) P/N 660150090
 HANDLE KIT; P/N 660150004
 COMPLETE HANDLE KIT; OPTION 1 (ITEMS 1-7) P/N 660150039



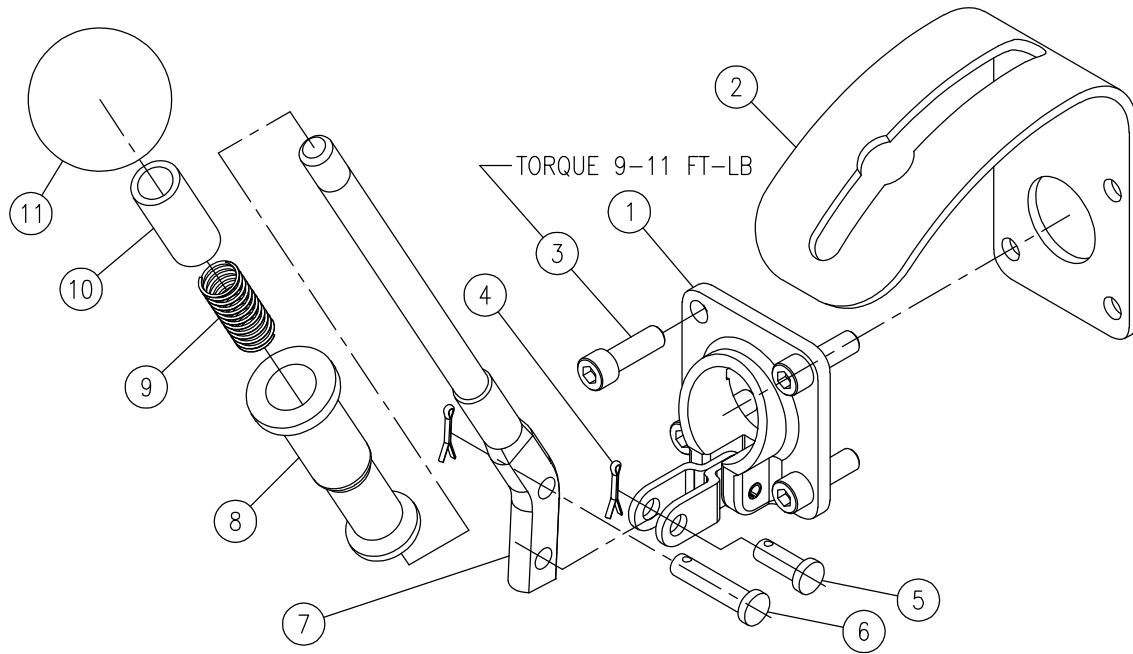
RD5000; LESS COMPLETE HANDLE (OPTION 3); P/N 660150091

ITEM	QTY	PART NO.	DESCRIPTION
1	1	670500003	RETAINER PLATE
2	4	170003017	CAP SCREW



PIN KIT; P/N 660150022

ITEM	QTY	PART NO.	DESCRIPTION
1	2	220001512	COTTER PIN
2	1	671700002	CLEVIS PIN, LONG
3	1	671700001	CLEVIS PIN

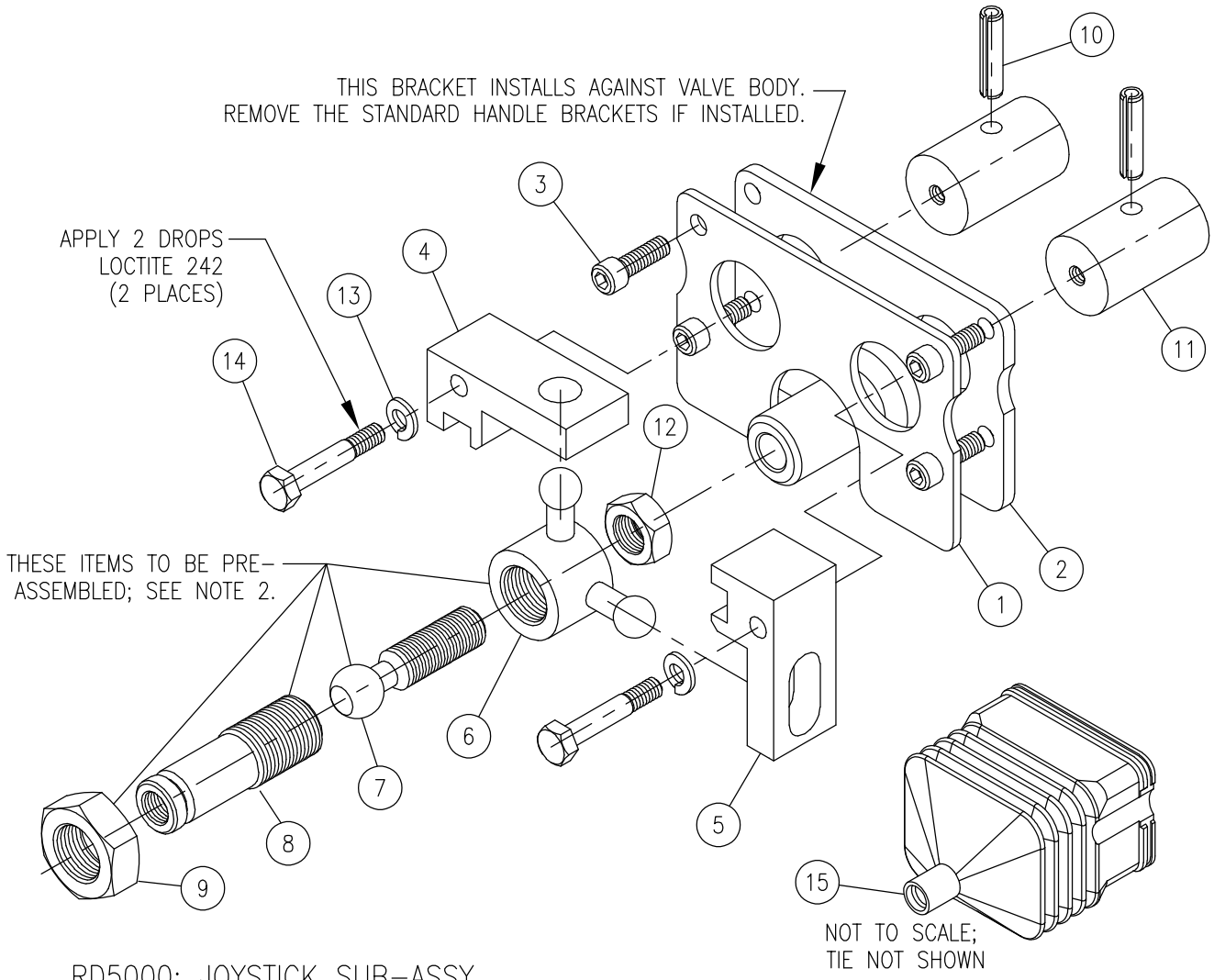


RD5000; LOCKING HANDLE KIT (OPTION 7)

ITEM	QTY	PART NO.	DESCRIPTION
1	1	660350001	CLEVIS SUB-ASSY
2	1	670500139	HANDLE GUIDE
3	4	170003008	CAP SCREW
4	2	220001512	COTTER PIN
5	1	671700001	CLEVIS PIN
6	1	671700002	CLEVIS PIN
7	1	670400129	HANDLE
8	1	671400334	SLEEVE, LOCKING
9	1	670300146	SPRING
10	1	671200075	SPRING SPACER
11	1	670400010	KNOB

} HANDLE KIT, LOCKING: P/N 660150095
 } CONVERSION KIT: P/N 660150099 *
 } COMPLETE HANDLE KIT, LOCKING: P/N 660150100

* CONVERSION KIT ALLOWS THE CONVERSION OF ONE SPOOL'S STANDARD HANDLE TO A LOCKING HANDLE.



RD5000; JOYSTICK SUB-ASSY,
WITHOUT HANDLE; 660150041

ITEM	QTY	PART NO.	DESCRIPTION
1	1	670500125	RETAINER PLATE
2	1	671400020	END PLATE ASSEMBLY
3	4	170003008	HEX SOCKET CAP SCREW
4	1	671400015	SLIDE BLOCK, w/ HOLE
5	1	671400016	SLIDE BLOCK, w/ SLOT
6	1	671400018	PIVOT
7	1	671900009	BALL CENTER
8	1	671900008	HANDLE ADAPTER
9	1	220001308	JAM NUT
10	2	190100028	SPRING PIN
11	2	671400017	SPOOL ADAPTER
12	1	220001306	JAM NUT
13	2	220001002	LOCK WASHER
14	2	170002052	HEX CAP SCREW
15	1	660150063	BOOT & TIE KIT

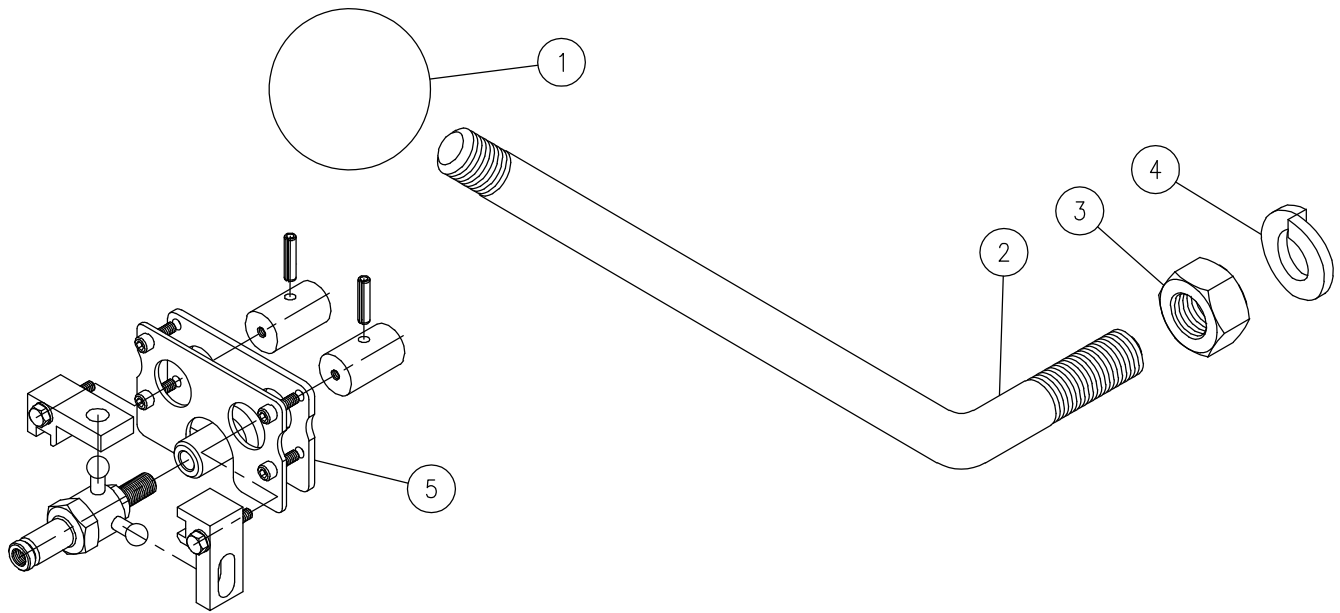
NOTES:

JOYSTICK ASSEMBLY INSTRUCTIONS:

1. DURING ASSEMBLY, APPLY PERMATHEX ANTI-SEIZE HIGH STRESS LUBRICANT TO BALL CENTER (ITEM 7) AND SPHERICAL ENDS OF PIVOT (ITEM 6).
2. HANDLE ADAPTER (ITEM 8) TO BE INSTALLED INTO PIVOT (ITEM 6) UNTIL IT MAKES CONTACT ON BALL CENTER (ITEM 7). TURN HANDLE ADAPTER 1/4 TURN BACK OUT. APPLY TWO DROPS LOCTITE TO THREADS OF JAM NUT (ITEM 9) DURING ASSEMBLY. TIGHTEN JAM NUT (ITEM 9) TO 60-80 FT-LB.
3. TO ADJUST HANDLE ANGLE, TURN BALL CENTER (ITEM 7) UNTIL DESIRED ANGLE IS OBTAINED. THEN TIGHTEN JAM NUT (ITEM 12).
4. AFTER ASSEMBLY, PIVOT (ITEM 6) MUST MOVE FREELY AND HANDLE MUST RETURN TO NEUTRAL FROM ALL POSITIONS.
5. TORQUE ALL 1/4-20 CAP SCREWS TO: 9-11 FT-LB (110-130 IN-LB).
6. SPRING PINS (ITEM 10) TO BE INSTALLED ONLY AFTER SPOOL ADAPTERS (ITEM 11) ARE OVER SPOOL ENDS.

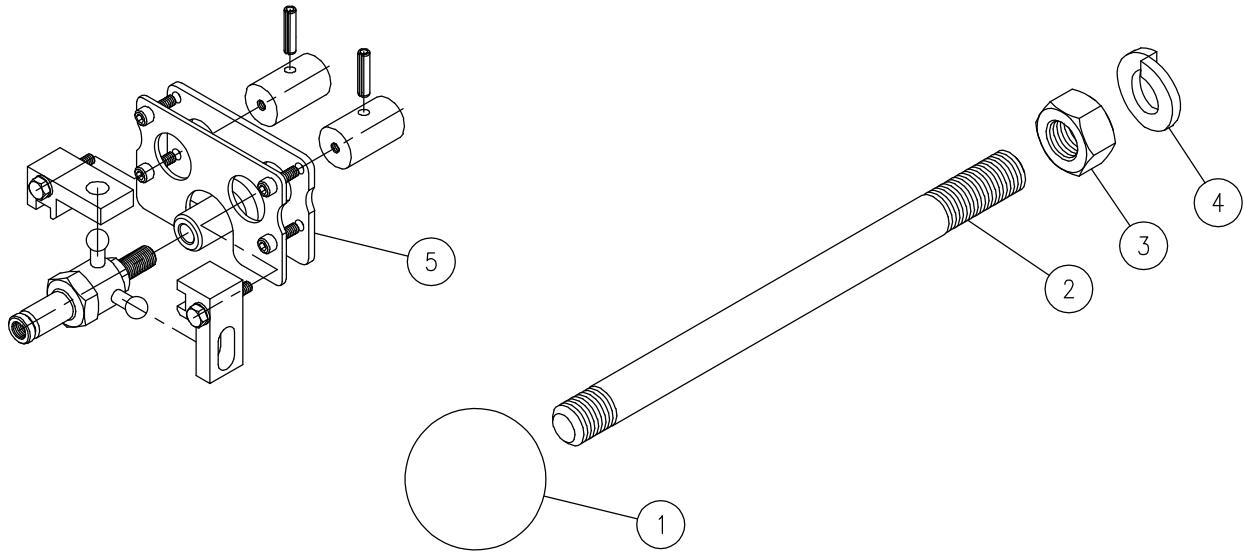
SUB-ASSY 660350002 CONTAINS ITEMS 1-3 ABOVE.
SUB-ASSY 660350003 CONTAINS ITEMS 4-14 ABOVE.

USE KITS ON PAGE 20 IF HANDLE & KNOB ARE REQUIRED.



RD5000 JOYSTICK W/BENT HANDLE KIT (OPTION 5); P/N 660150012

ITEM	QTY	PART NO.	DESCRIPTION
1	1	670400002	KNOB HANDLE, BENT HEX NUT LOCK WASHER JOYSTICK SUB-ASSY w/BOOT (SEE PREVIOUS PAGE) } HANDLE KIT, BENT; P/N 660150017
2	1	670400013	
3	1	220000121	
4	1	220001004	
5	1	660150041	

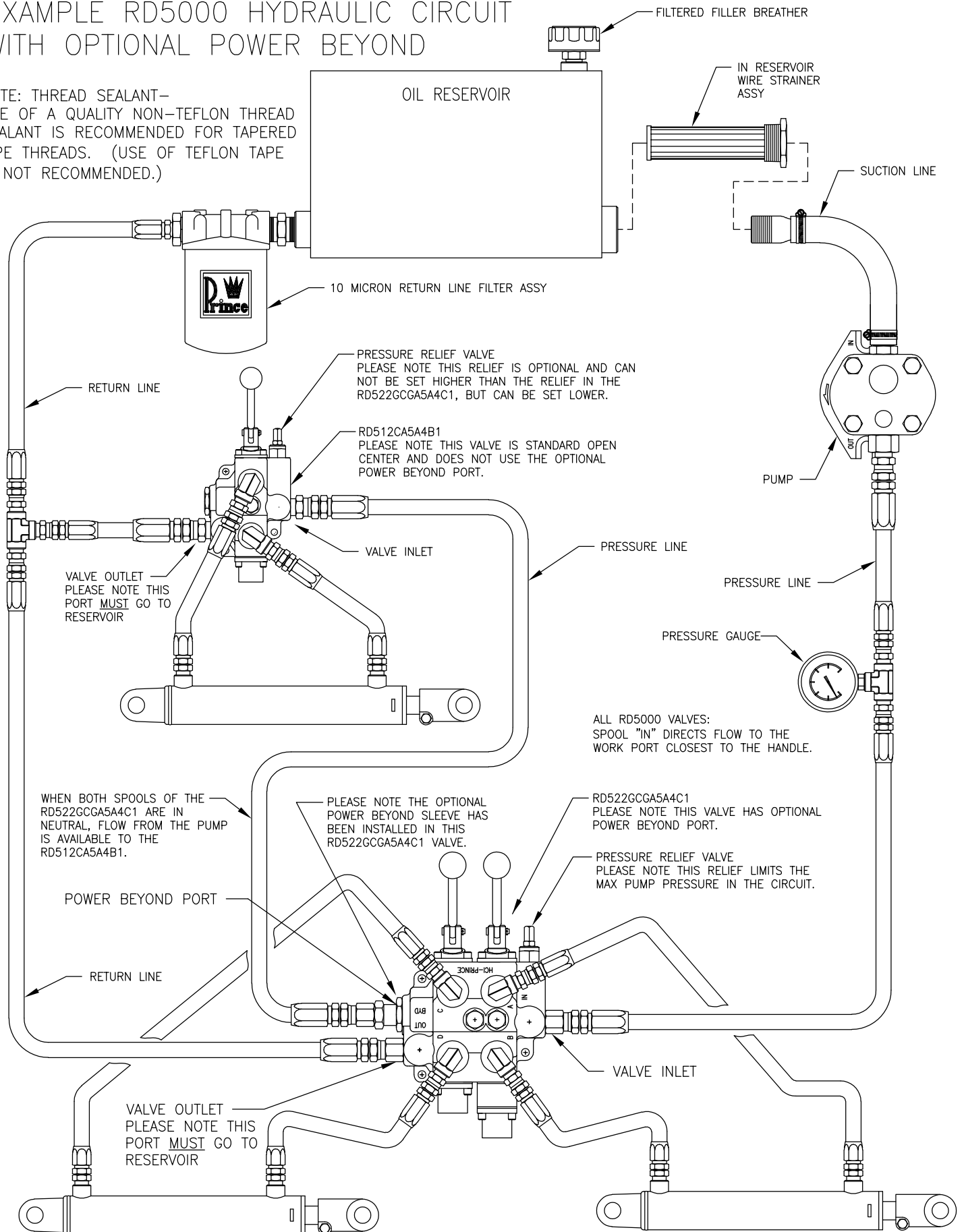


RD5000 JOYSTICK W/STRAIGHT HANDLE KIT (OPTION 6); P/N 660150011

ITEM	QTY	PART NO.	DESCRIPTION
1	1	670400002	KNOB HANDLE, STRAIGHT HEX NUT LOCK WASHER JOYSTICK SUB-ASSY w/BOOT (SEE PREVIOUS PAGE) } HANDLE KIT, STRAIGHT; P/N 660150006
2	1	670400014	
3	1	220000121	
4	1	220001004	
5	1	660150041	

EXAMPLE RD5000 HYDRAULIC CIRCUIT WITH OPTIONAL POWER BEYOND

NOTE: THREAD SEALANT—USE OF A QUALITY NON-TEFLON THREAD SEALANT IS RECOMMENDED FOR TAPERED PIPE THREADS. (USE OF TEFLON TAPE IS NOT RECOMMENDED.)





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