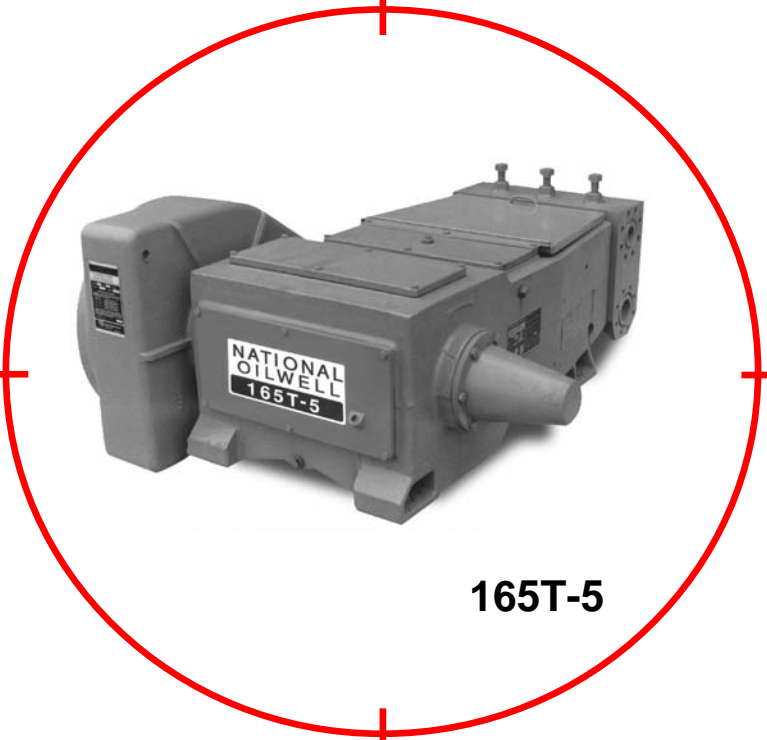
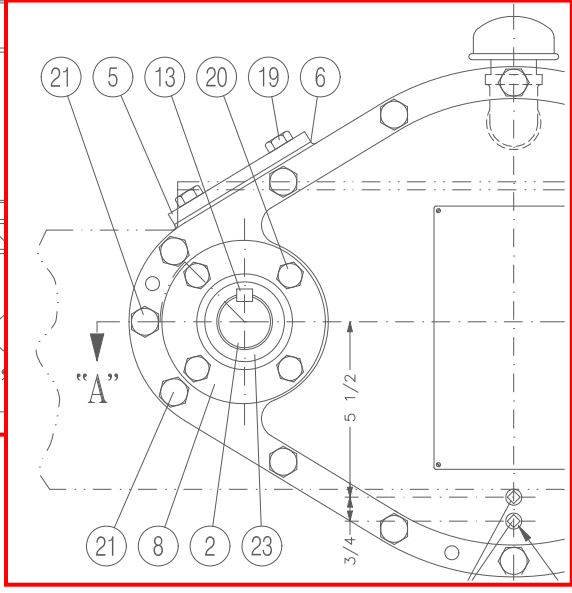
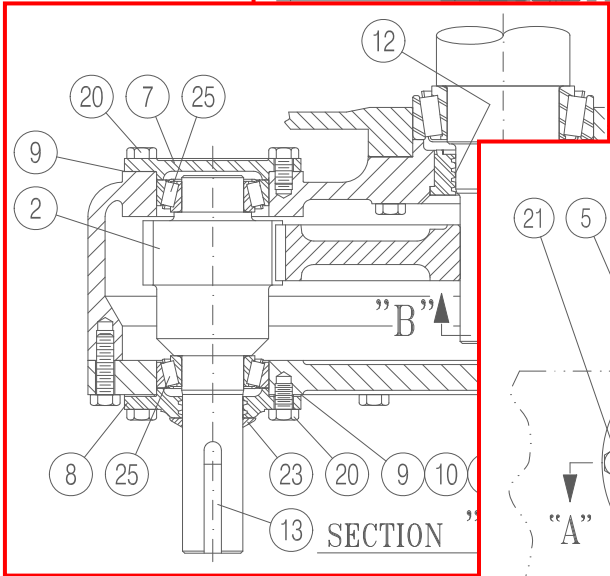
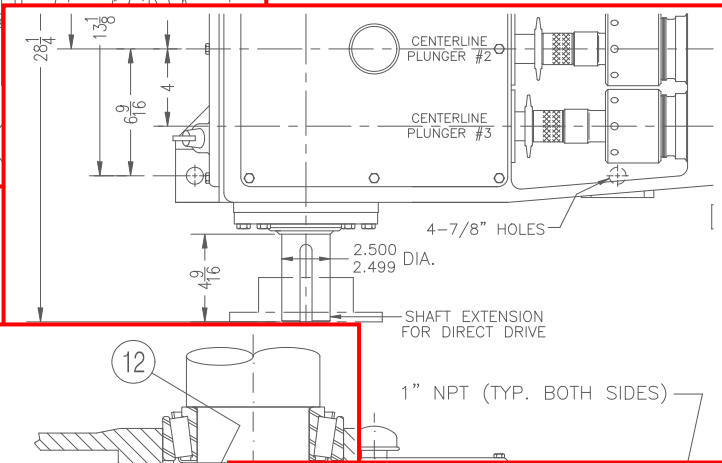
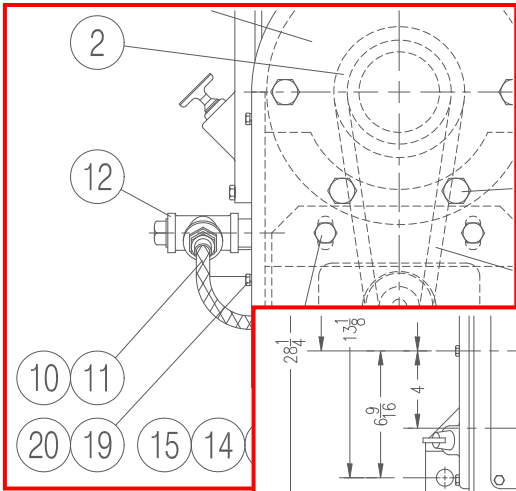


# 165T-5 Triplex Plunger Pump Parts List



**165T-5**

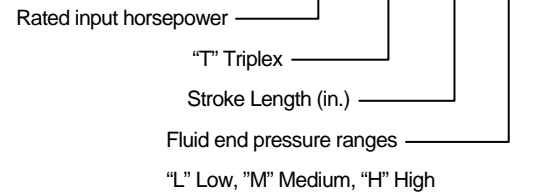
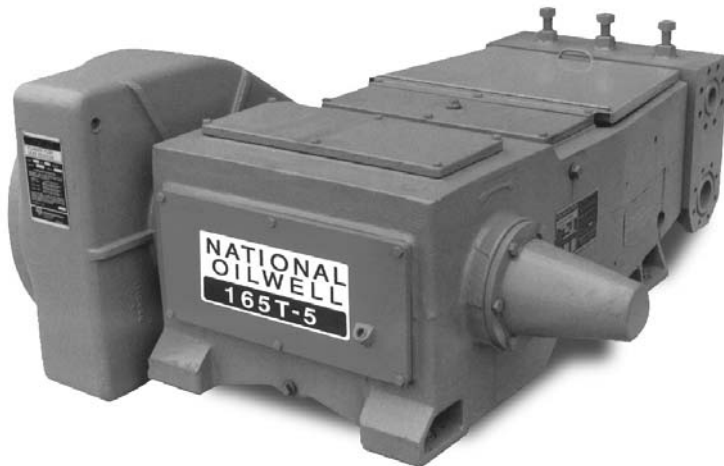


**Types:**  
**165T-5L**  
**165T-5M**  
**165T-5H**

**Sales / Technical Information**

USA Tollfree: 1 (800) 324-4706  
 Phone: 1 (918) 447-4600  
 Fax: 1 (918) 447-4677  
 Internet: <http://www.nov.com>

REVISED: FEBRUARY 22, 2008  
 REVISED: AUGUST 21, 2007  
 REVISED: FEBRUARY 9, 2005  
 ISSUE: MARCH 1, 2000

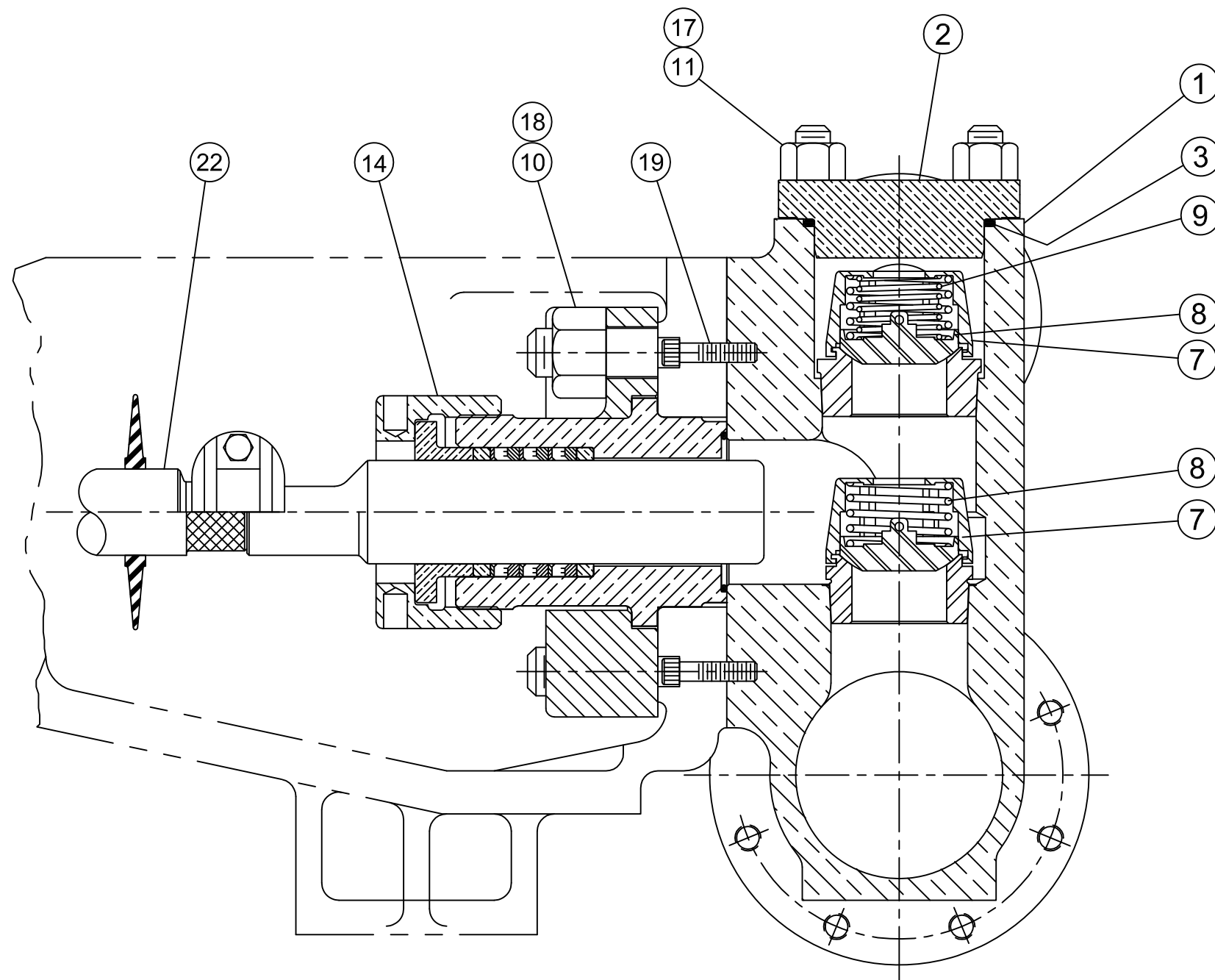


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3	1717140	ASSEMBLY, FLUID END, 165T-5H – ALUM. BRZ.	THIRD	8-21-07
4	1717135	POWER END ASSEMBLY	THIRD	7-20-07
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7	1717132	CAGE VALVE SERVICE – S.S. PLATE, BOTTOM GUIDED AND BALL AND SEAT	FIRST	06-15-95
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12	1717121	PLUNGER KIT ASSEMBLY – 165T-5H	FIRST	06-15-95
13	1717125	S.S. PLUNGER KITS W/ KEVLAR PACKING – 165T-5L AND 5M	SECOND	06-15-95
14	1717126	S.S. PLUNGER KITS W/ KEVLAR PACKING – 165T-5L, 5M AND 5H	FIRST	06-15-95
15	1717122	PLUNGER W/ INTERM. ROD ASSY. STRAIGHT / TAPERED CLAMP	FIRST	06-15-95
16	1717123	PLUNGER W/ INTERM. ROD ASSY. – DOUBLE TAPERED CLAMP (OBSOLETE)	FIRST	06-15-95
17	1717124	PLUNGER W/ INTERM. ROD ASSY. – THREADED PLUNGER	FIRST	06-15-95
18	1712225	LUBRICATOR PIPING ASSY.	FIRST	06-15-95
19	1717129	OPTIONAL ACCESSORIES	FIRST	06-15-95
20	1717133	LOW PRESSURE IN-LINE SUCTION DAMPENER (WELD-ON)	FIRST	06-15-95
21	1717134	HIGH PRESSURE IN-LINE SUCTION DAMPENER (WELD-ON)	FIRST	06-15-95
22	1717005	165T-5 OUTLINE DRAWING WITHOUT GEAR REDUCER	FIRST	06-15-95
23	1717007	165T-5 OUTLINE DRAWING WITH GEAR REDUCER	FIRST	06-15-95

Revisions effective February 22, 2008 – revised page 6.


LTR	DESCRIPTION OF CHANGE	MADE	CHKD	DATE	APPROVED	M NO
A	REVISED	DCP	RPQ	8.22.05	JCA	
B	REMOVED INDIVIDUAL VALVE AND SEAT PART NUMBERS	MTH	RPQ	8.21.07		



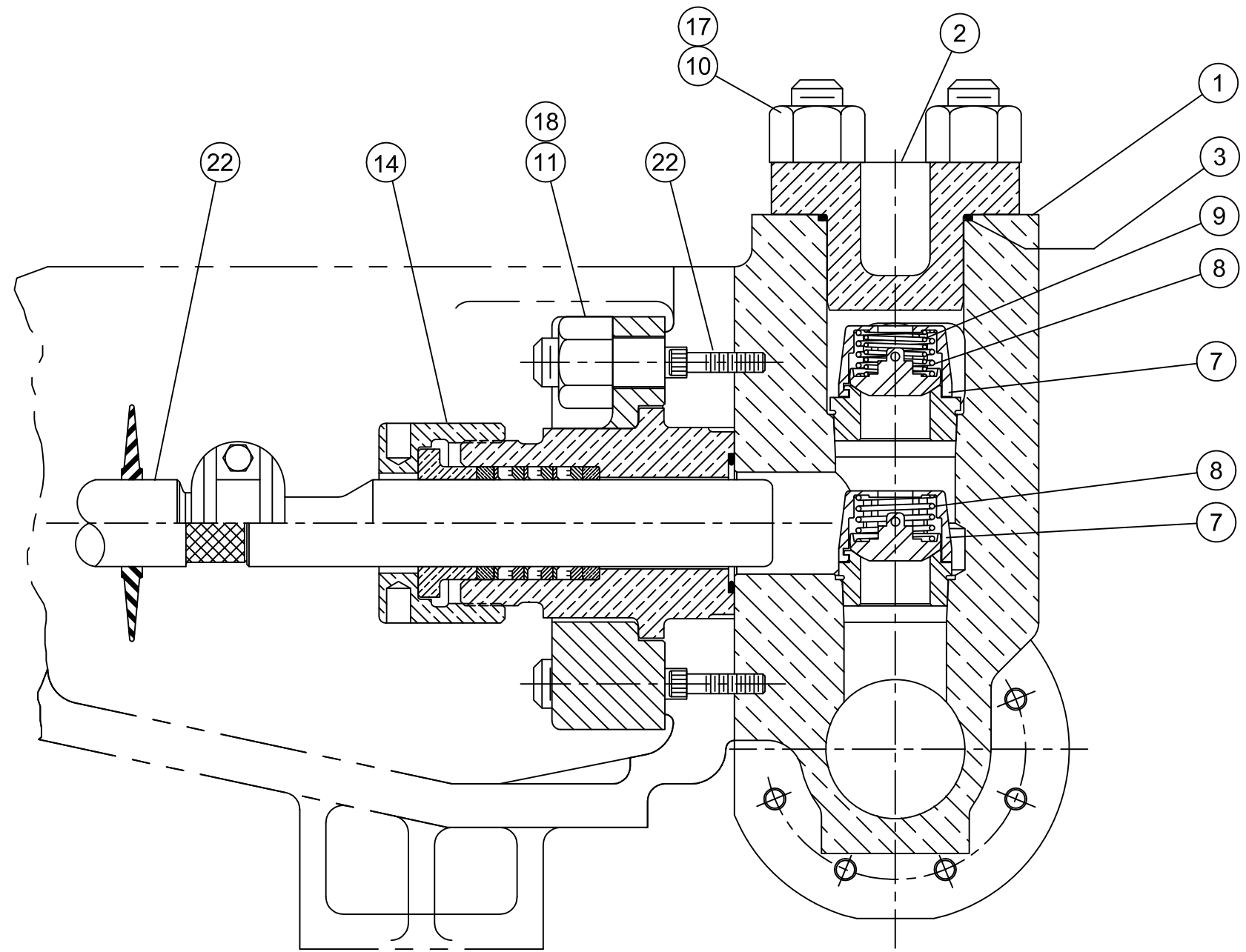
3	SEE Pgs. 15-17	INTERMEDIATE ROD (SCREW OR CLAMP TYPE)	22	
△	16	7000444-11	SCREW, 3/4" x 3 HEX HD CAP (DISCH.)	21
△	16	7000440-11	SCREW, 3/4" x 2 HEX HD CAP (SUCT.)	20
	4	7006309	SCREW, 1/2"-13 x 2 1/4" HEX SOC HD CAP	19
	12	6300220	NUT, 1 3/8"-6 HVY HEX	18
	12	6300160	NUT, 1"-8 HVY HEX	17
△	2	6908025	RING, OVAL JOINT R-31	16
△	2	6010007	GASKET, 6" 150* FLAT RING	15
	3	SEE Pgs. 11-17	STD. PLUNGER KIT SELECTION	14
⊗	2	*45-A	CAPLUG - DISCH. FLG.	13
⊗	2	*1097	CAPLUG - SUCT. FLG.	12
	12	10000185	STUD, 1" x 3 3/4" LG	11
	12	10032367	STUD, 1 3/8" x 7 1/2" LG.	10
	1	1794026	SPRING, INNER	9
	1	1794025	SPRING, OUTER	8
	1	1794024-6	RETAINER, SPRING	7
	3	1794022-25	VALVE CPT., SPHERICAL DISCHARGE	6
	3	1794020-25	VALVE CPT., SPHERICAL SUCTION	5
*	1	1712326	BAR, STUFF. BOX ADJ. NUT	4
	3	2410031429	PACKING, TOP CYL. COVER	3
	3	1712073	COVER, CYLINDER TOP	2
	1	171296414	CYLINDER ONLY, FLUID (NI-ALUM. BRONZE)	1
QTY REQ'D	PART No.	DESCRIPTION	ITEM No.	
	171296614-S	* ITEM NOT SHOWN FOR CLARITY		
	STANDARD ASSY.	⊗ FOR SHIPPING PURPOSES ONLY		
	w/ SPHER. TAPERED SEAT VALVES	△ SHIPPED SEPERATELY		

LIST OF MATERIAL

SEE PAGE 6 FOR SEVERE DUTY VALVE ASSEMBLY

			
HOUSTON, TEXAS U.S.A.		ENGINEERING, McALESTER, OKLAHOMA	
TITLE <b>FLUID END ASSEMBLY 165T-5L (J-165-L14SF)</b>			
SIZE <b>B</b>	REFERENCE No.	DRAWING No. <b>1717138</b>	REV <b>B</b>
SCALE NONE	EST WT	SHEET 1 OF 1	

LTR	DESCRIPTION OF CHANGE	MADE	CHKD	DATE	APPROVED	M NO
A	REVISED	DCP	RPQ	8.22.05	JCA	
B	REMOVED INDIVIDUAL VALVE AND SEAT PART NUMBERS	MTH	RPQ	8.21.07		



3	SEE Pgs. 15-16	INTERMEDIATE ROD (SCREW OR CLAMP TYPE)	22	
△	16	7000485-11	SCREW, 7/8" x 3 HEX HD CAP (DISCH.)	21
△	16	7000397-11	SCREW, 5/8" x 2 HEX HD CAP (SUCTION)	20
4	7006309	SCREW, 1/2"-13 x 2 1/4" HEX SOC HD CAP	19	
12	6300220	NUT, 1 3/8" HVY HEX	18	
12	6300240	NUT, 1 1/2" HVY HEX	17	
△	2	6908015	RING, OVAL JOINT R-24	16
△	2	6010006	GASKET, 4" 150* FLAT RING	15
3	SEE Pgs. 11-14	STD. PLUNGER KIT SELECTION	14	
⊗	2	*21	CAPLUG - DISCH. FLG.	13
⊗	2	*1063	CAPLUG - SUCTION FLG.	12
12	10032367	STUD, 1 3/8"-6 x 7 1/2" LG	11	
12	49-010-359	STUD, 1 1/2"-6 x 5 1/2" LG.	10	
1	1793026	SPRING, INNER	9	
1	1793025	SPRING, OUTER	8	
1	1793024-6	RETAINER, SPRING	7	
3	1793022-25	VALVE CPT., SPHERICAL DISCHARGE	6	
3	1793020-25	VALVE CPT., SPHERICAL SUCTION	5	
*	1	1712326	BAR, STUFF. BOX ADJ. NUT	4
3	2410031345	PACKING, TOP CYL. COVER	3	
3	171203314	COVER, CYLINDER TOP	2	
1	171297314	CYLINDER ONLY, FLUID (NI-ALUM. BRONZE)	1	
QTY REQ'D	PART No.	DESCRIPTION	ITEM No.	
	171297114-S	* ITEM NOT SHOWN FOR CLARITY		
	STANDARD ASSY.	⊗ FOR SHIPPING PURPOSES ONLY		
	w/ SPHER. TAPERED SEAT VALVES	△ SHIPPED SEPERATELY		

LIST OF MATERIAL

SEE PAGE 6 FOR SEVERE DUTY VALVE ASSEMBLY

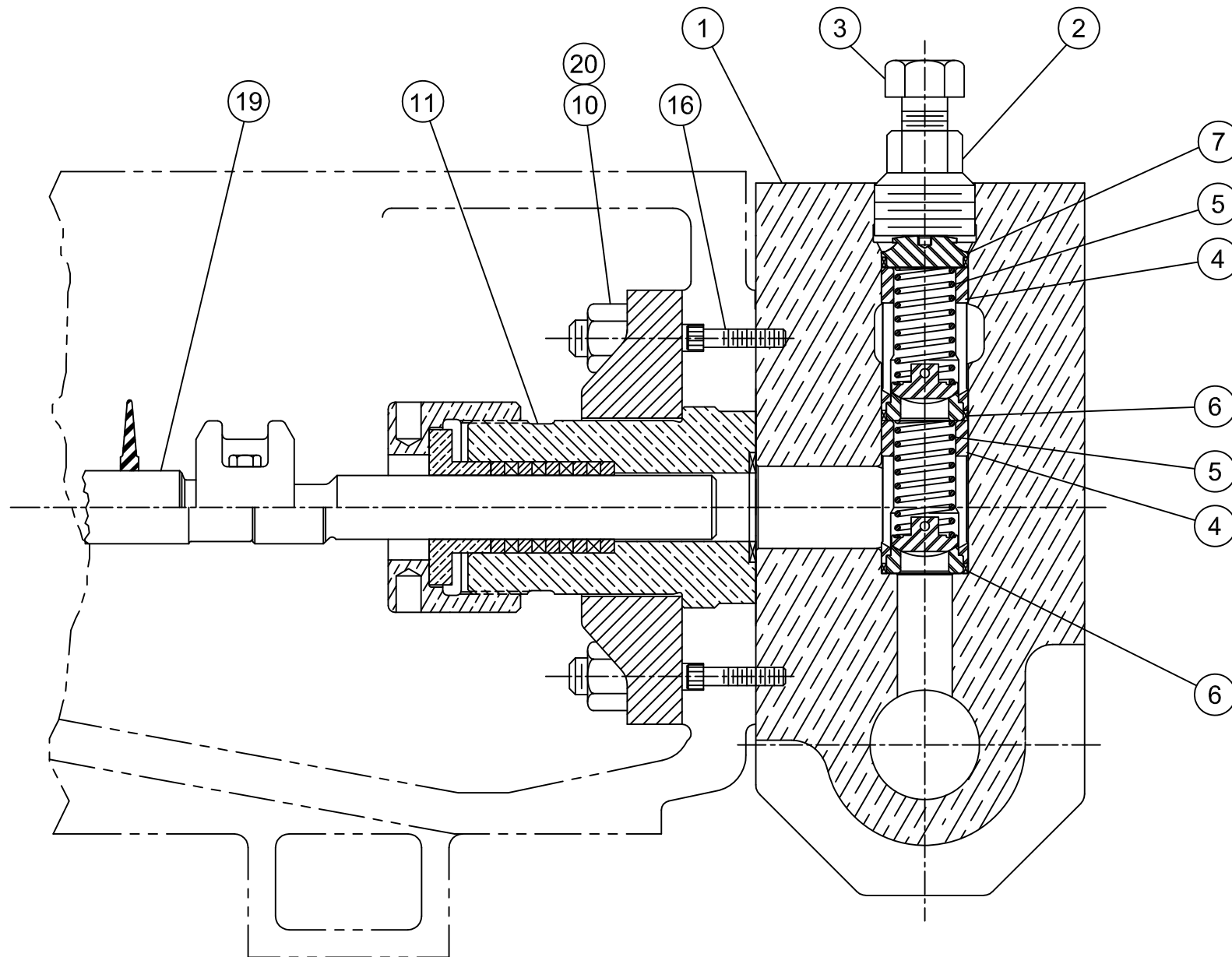
**NOV NATIONAL OILWELL VARCO**

HOUSTON, TEXAS U.S.A. ENGINEERING, McALESTER, OKLAHOMA

TITLE **FLUID END ASSEMBLY  
165T-5M (J-165-M14SF)**

SIZE <b>B</b>	REFERENCE No.	DRAWING No. <b>1717139</b>	REV <b>B</b>
SCALE <b>NONE</b>	EST WT	SHEET 1 OF 1	

LTR	DESCRIPTION OF CHANGE	MADE	CHKD	DATE	APPROVED	M NO
A	REVISED	DCP	RPQ	8.26.05	JCA	
B	REMOVED INDIVIDUAL VALVE AND SEAT PART NUMBERS	MTH	RPQ	8.21.07		



12	6300220	NUT, 1 3/8" x -6 HVY HEX	20
3	SEE Pgs. 15-17	ROD, INTERMEDIATE (CLAMP OR THREADED TYPE)	19
△	16	700053011 SCREW, 1" x 4" LG. HEX HD CAP (DISCH.)	18
△	16	700044411 SCREW, 3/4" x 3" LG. HEX HD (SUCTION)	17
△	4	7006309 SCREW, 1/2" x 2 1/4" LG. HEX SOC HD CAP	16
△	2	6908025 RING, OVAL JOINT R-31 (SUCTION)	15
△	2	6908019 RING, OVAL JOINT R-26 (DISCH.)	14
⊗	2	*250 CAPLUG, DISCHARGE FLANGE	13
⊗	2	*501 CAPLUG, SUCTION FLANGE	12
3	SEE Pgs. 11-14	STANDARD PLUNGER KIT OPTIONS	11
12	10032367	STUD, 1 3/8" x 7 1/2" LG.	10
*	1	1712326 BAR, STUFFING BOX ADJUSTING NUT	9
6	1717090-25	VALVE CPT, SPHERICAL (INCL. 9 & 10)	8
3	17134172	RETAINER, VALVE CAGE	7
9	1712373	SEAL, VALVE CAGE	6
6	1712486	SPRING, BALL VALVE	5
6	17125854	CAGE, VALVE	4
3	1713410	SCREW, CAGE LOADING	3
3	17094842	COVER, CYLINDER TOP	2
1	171247914	CYLINDER ONLY, FLUID (NI-ALUM. BRONZE)	1

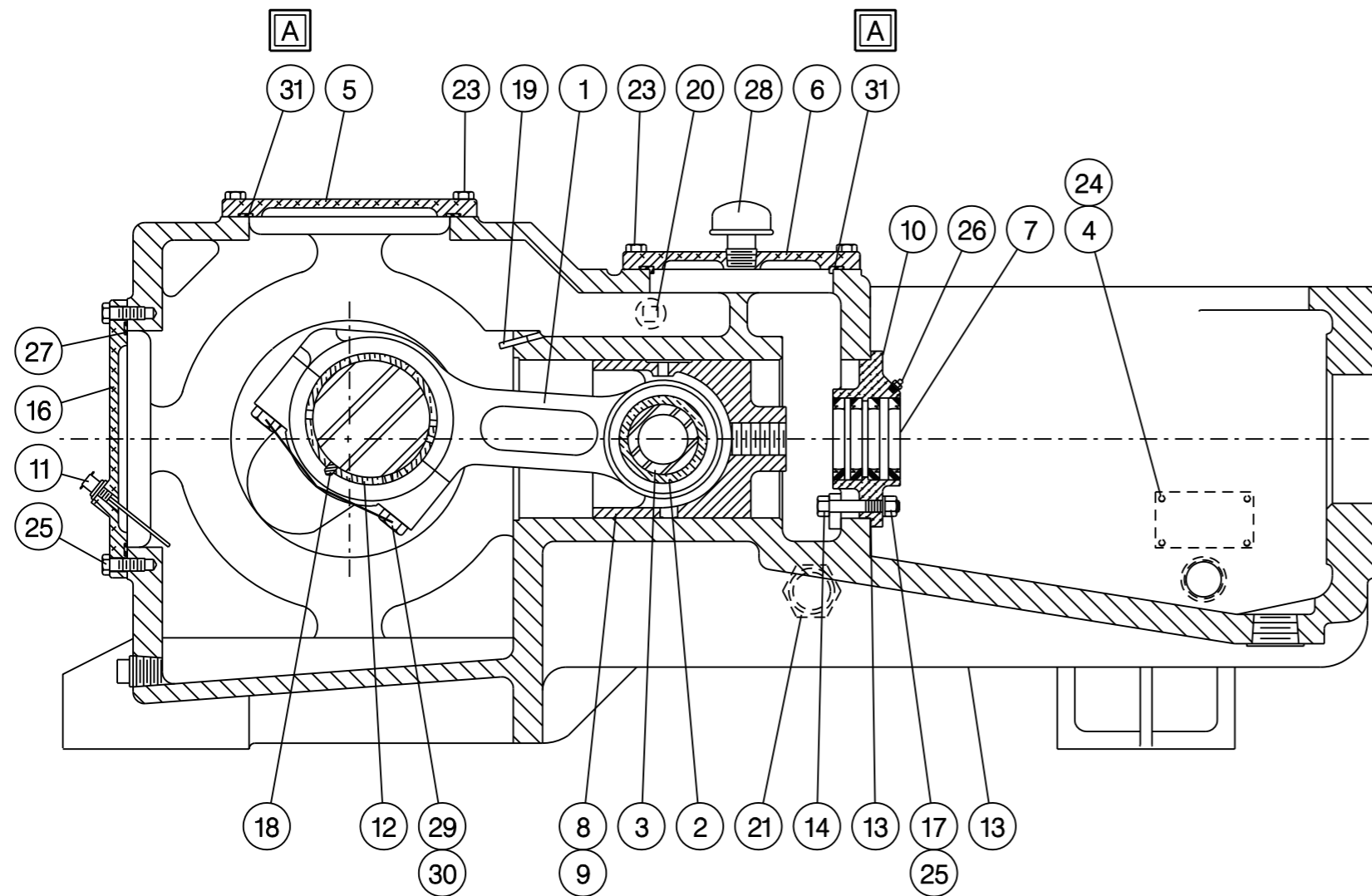
QTY REQD	PART No.	DESCRIPTION	ITEM No.
	171247714-S	* ITEM NOT SHOWN FOR CLARITY	
	STANDARD ASSY.	⊗ FOR SHIPPING PURPOSES ONLY	
	w/ SPHER. TAPERED SEAT VALVES	△ SHIPPED SEPERATELY	

LIST OF MATERIAL

SEE PAGE 6 FOR SEVERE DUTY VALVE ASSEMBLY

<b>NOV NATIONAL OILWELL VARCO</b>	
<small>HOUSTON, TEXAS U.S.A. ENGINEERING, McALESTER, OKLAHOMA</small>	
TITLE <b>FLUID END ASSEMBLY 165T-5H (J-165-H14SF)</b>	
SIZE <b>B</b>	REFERENCE No. DRAWING No. <b>1717140</b>
SCALE NONE	EST WT SHEET 1 OF 1

LTR	DESCRIPTION OF CHANGE	MADE	CHKD	DATE	APPROVED	M NO
A	REVISED COVER GASKETS	DCP	RPQ	10-17-00		
B	WAS P/N 1716016	MTH	RPQ	7.20.07		



A	2	1717111	GASKET, TOP COVER	31
	3	FT 59-800-016	WIRE, 16 GA. ANNEALED	30
B	2	21032044	BOLT, CONN. ROD - DRILLED HD	29
	1	7802020	CAP, 1" BREATHER	28
A	1	1717110	GASKET, REAR COVER	27
	3	7805052	FITTING, LUBE 1/8	26
	6	7618018	WASHER, 1/2 PARKER	25
	4	7178025	DRIVESCREW, *2-1/4" ROUND HEAD	24
	18	700030511	CAPSCREW, 1/2" x 1/2" LG. HEX HD	23
*	2	7026299	SETSCREW, 1/2" x 1/2" LG. HEX SOCKET	22
	1	6874012	PLUG, 1/2" STD SOLID SQ. HD.	21
	2	6874008	PLUG, 1" STD SOLID SQ. HD.	20
	3	6572420	PIN, 3/8" x 1/4" SPRING SLOT	19
	1	6510604	PIN, 3/8" x 1/2" DOWEL	18
	6	6308080	NUT, 1/2" ESNA	17
	1	1717015	PLATE, POWER END REAR COVER	16
	1	1717001	FRAME, MAIN	15
	6	1716031	BOLT, HOOK INT ROD	14
	3	1716017	GASKET, INT ROD	13
	6	1716012	BUSHING, CONN ROD	12
	1	2400054	GAUGE, DIPSTICK OIL	11
	3	1716009	RETAINER, WIPER	10
	1	H7028104	SETSCREW, 1/4" x 1/2" LG. HEX SOC CONE	9
	3	1716005	CROSSHEAD	8
	12	1713297	WIPER, OIL JM 16203	7
	1	1712014	PLATE, CROSSHEAD COVER	6
	1	1712013	PLATE, POWER END TOP	5
	1	G2407274	PLATE, WARNING	4
	3	1716008	PIN, CROSSHEAD	3
	3	1716010	BUSHING, CROSSHEAD PIN	2
	3	G1716004	ROD CPT, CONNECTING (INCL. ITEM No. 2, 18 & 29)	1
QTY REQ'D	PART NO.	DESCRIPTION / MATERIAL / SPECIFICATION		ITEM NO.

LIST OF MATERIAL

4

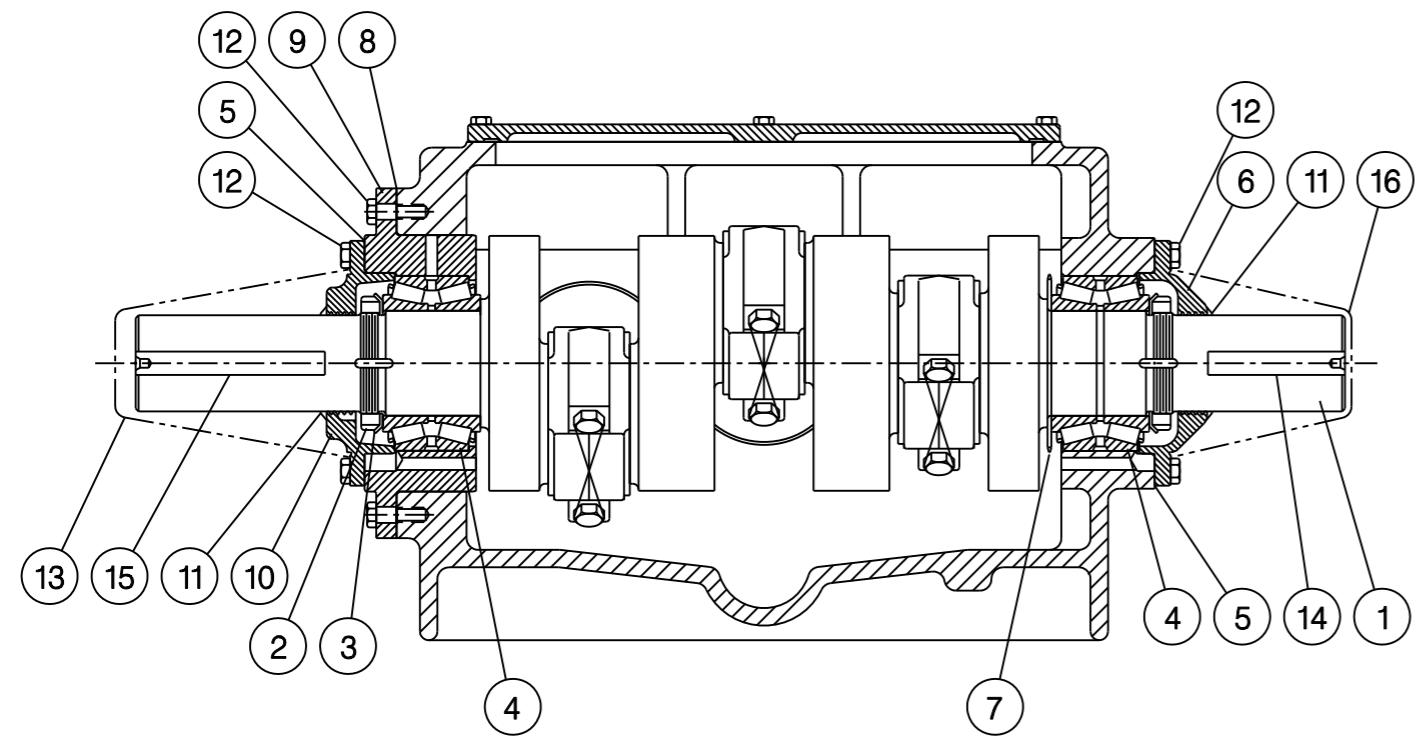
\* ITEM NOT SHOWN FOR CLARITY

**NATIONAL OILWELL VARCO**  
HOUSTON, TEXAS U.S.A. ENGINEERING, McALESTER, OKLAHOMA

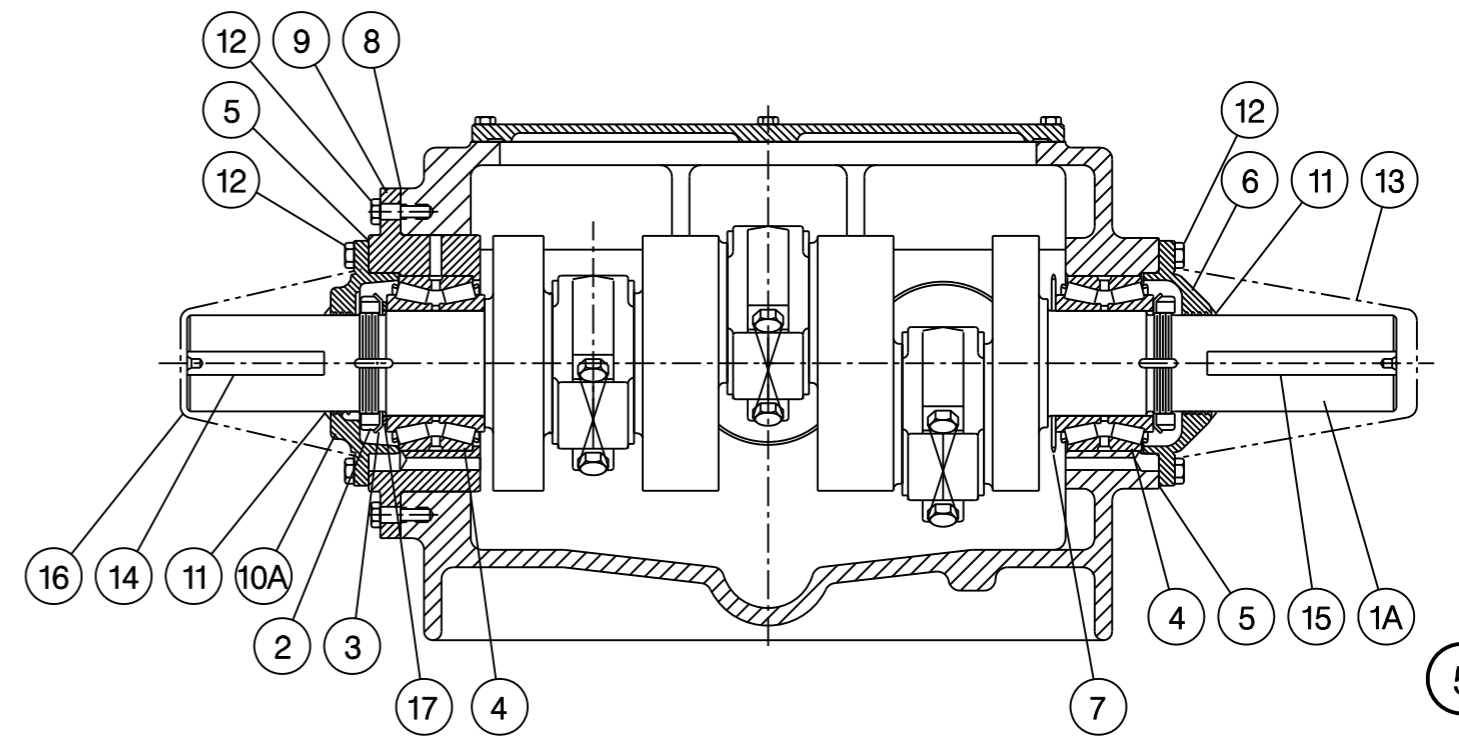
TITLE ASSEMBLY, POWER END  
165T-5 PLUNGER PUMP

SIZE	REFERENCE No.	DRAWING No.	REV
B		1717135	B
SCALE	NONE	EST WT	SHEET 1 OF 1

LTR	DESCRIPTION OF CHANGE	MADE	CHKD	DATE	APPROVED	M NO
A	ADDED R.H. DRIVE ARRANGEMENT	WFL	RPQ	10-9-01		
B	REVISED	DCP	RPQ	12.19.03		
C	ITEM 1 WAS G1712002 & REVISED SHAFT VIEWS	DCP	RPQ	2.28.07	JCA	



165T LEFT HAND DRIVE ARRANGEMENT C



165T RIGHT HAND DRIVE ARRANGEMENT C

1	X17-3709	SPACER, SHAFT (R.H.HAND DRIVE ONLY)	17
1	1712129	COVER, RIGHT CRANKSHAFT EXTENSION	16
1	2401630	KEY, CRANKSHAFT 1"x6 1/2" (BELT DRIVE)	15
1	2400024	KEY, CRANKSHAFT 1"x4" (DIRECT DRIVE)	14
1	1712128	COVER, CRANKSHAFT EXTENSION	13
20	2400930	SCREW, 5/8 X 1 3/4 DRLD HEX HD CAP	12
2	2229659	EXCLUDER, DIRT	11
1	1717017	RETAINER, CRANKSHAFT -(R.H. DRIVE), CAGE SIDE	10A
1	1712618	RETAINER, CRANKSHAFT -(L.H. DRIVE), CAGE SIDE	10
1	1712617	CAGE, MAIN BEARING	9
1	1712614	GASKET, MAIN BEARING CAGE	8
1	1712016	SPROCKET, CRANKSHAFT-62T	7
1	1701830	RETAINER, CRANKSHAFT BEARING	6
2	1701070	GASKET, CRANKSHAFT BEARING RETAINER	5
2	ZT4506	BEARING, TIMKEN	4
2	7610046	WASHER, TIMKEN	3
2	6304044	NUT, TIMKEN BEARING LOCK	2
1	1717012	CRANKSHAFT, R.H. DRIVE	1A
1	1717002	CRANKSHAFT, J165	1

\* \*  
\*  
\*  
\*

\* OPTIONAL EQUIPMENT  
\* \* FURNISHED ONLY WHEN NO ACCESSORY DRIVES ARE REQUIRED



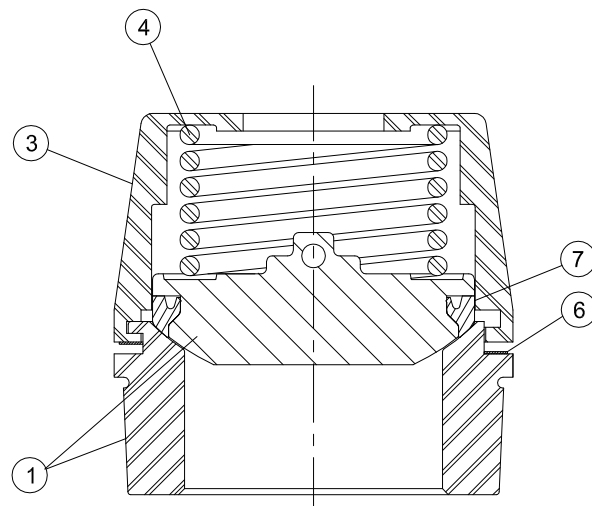
TITLE  
CRANKSHAFT ASSEMBLY  
165T-5 PLUNGER PUMP

B  
C

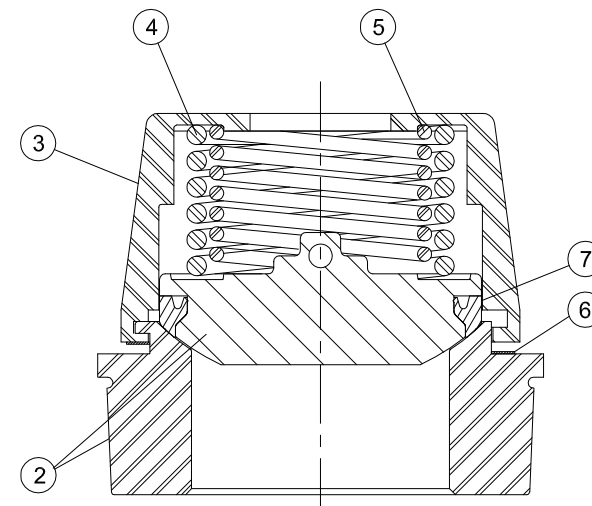
SIZE	REFERENCE No.	DRAWING No.	REV
B		1717136	C

QTY REQ'D	PART NO.	DESCRIPTION / MATERIAL / SPECIFICATION	ITEM NO.
LIST OF MATERIAL			

LTR	DESCRIPTION OF CHANGE	MADE	CHKD	DATE	APPROVED	M NO
A	REVISED DRAWING	DCP	RPQ	9.24.07	RPQ	



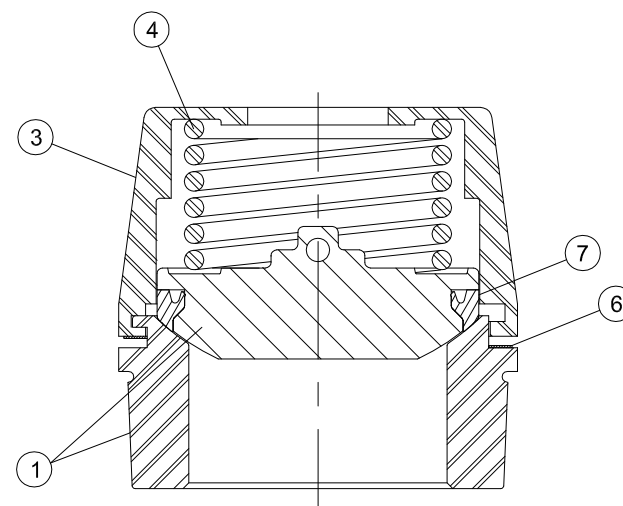
SUCTION



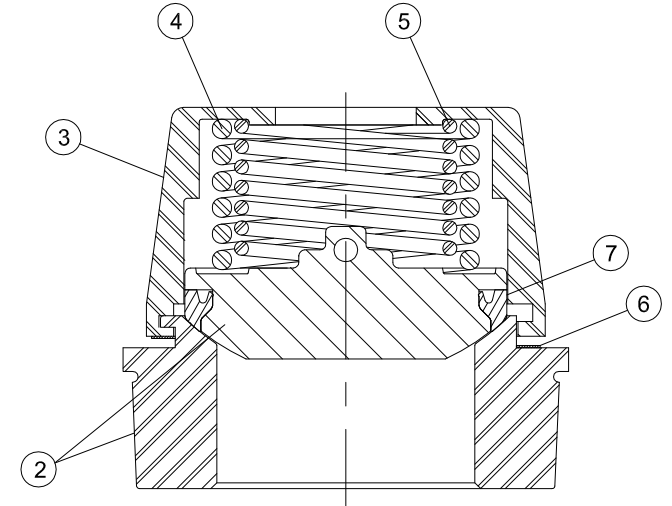
DISCHARGE

1	9707084	SEAL / INSERT	7
1	9707080	WAVE RING	6
1	1794026	SPRING, INNER	5
1	1794025	SPRING, OUTER	4
1	1794024-6W	RETAINER, SPRING	3
1	1794022-25SD	VALVE CPT., DISCHARGE - SEVERE DUTY	2
1	1794020-25SD	VALVE CPT., SUCTION - SEVERE DUTY	1
QTY REQ'D	PART No.	DESCRIPTION	ITEM No.

165T-5L  
TAPERED SEAT  
SPHERICAL SD TYPE



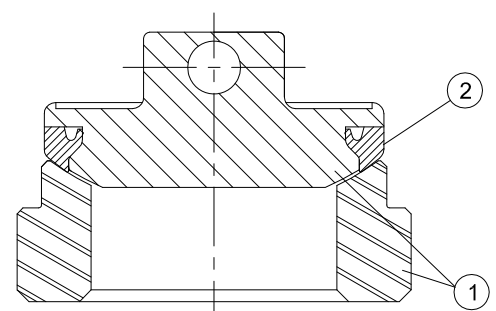
SUCTION



DISCHARGE

1	9707086	SEAL / INSERT	7
1	9707082	WAVE RING	6
1	1793026	SPRING, INNER	5
1	1793025	SPRING, OUTER	4
1	1793024-6W	RETAINER, SPRING	3
1	1793022-25SD	VALVE CPT., DISCHARGE - SEVERE DUTY	2
1	1793020-25SD	VALVE CPT., SUCTION - SEVERE DUTY	1
QTY REQ'D	PART No.	DESCRIPTION	ITEM No.

165T-5M  
TAPERED SEAT  
SPHERICAL SD TYPE



SUCTION & DISCHARGE

1	9707094	SEAL / INSERT	2
1	1717090-25SD	VALVE CPT., SUCTION & DISCHARGE - SEVERE DUTY	1
QTY REQ'D	PART No.	DESCRIPTION	ITEM No.

165T-5H  
CAGE TYPE  
SPHERICAL SD TYPE

6

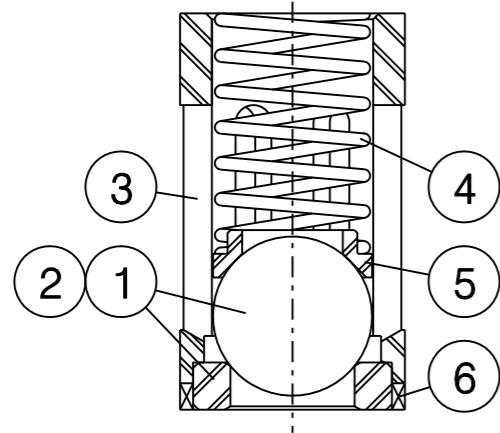
**NOV NATIONAL OILWELL VARCO**  
HOUSTON, TEXAS U.S.A. ENGINEERING, McALESTER, OKLAHOMA

TITLE SEVERE DUTY VALVE ASSY.  
165T-5 TRIPLEX PLUNGER PUMP

SIZE B	REFERENCE No.	DRAWING No. 1717131	REV A
SCALE	EST WT	SHEET 1 OF 1	

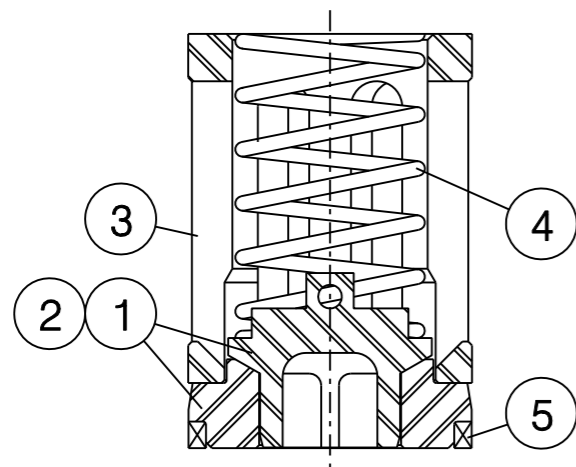


1	1712373	SEAL	6
1	1712372	RETAINER, SPRING	5
1	1712371	SPRING	4
1	1712370-4	CAGE	3
1	1712367	VALVE & SEAT (DISCHARGE)	2
1	1712367	VALVE & SEAT (SUCTION)	1
QTY REQ'D	PART NO.	DESCRIPTION	ITEM NO.
LIST OF MATERIAL			



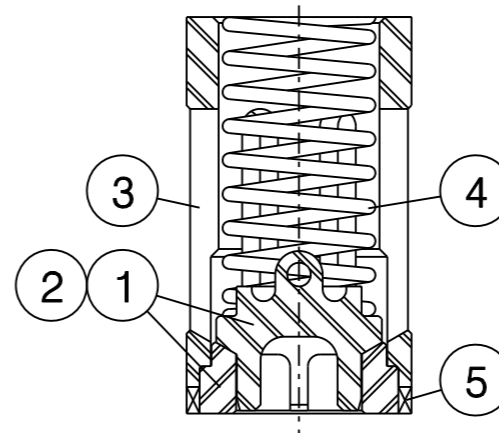
165T - 5H & 5PO  
CAGE TYPE  
BALL VALVE

1	1716112	SEAL	5
1	1716336	SPRING	4
1	1716335-4	CAGE	3
1	1716330-25	VALVE & SEAT (DISCHARGE)	2
1	1716330-25	VALVE & SEAT (SUCTION)	1
QTY REQ'D	PART NO.	DESCRIPTION	ITEM NO.
LIST OF MATERIAL			



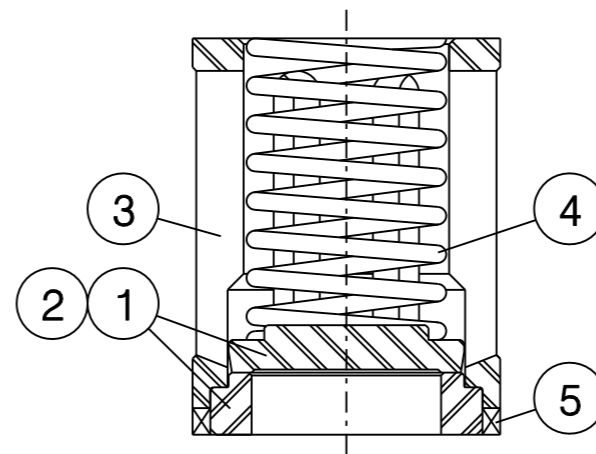
165T - 5HCB  
BOTTOM GUIDED  
CAGE TYPE VALVE

1	1713038	1712373	SEAL	5
1	1713036	1712486	SPRING	4
1	1713065-4	1712585-4	CAGE	3
1	1713500-25	1717080-25	VALVE & SEAT (DISCHARGE)	2
1	1713500-25	1717080-25	VALVE & SEAT (SUCTION)	1
QTY REQ'D	PART NO. 165T-5M	PART NO. 165T-5H	DESCRIPTION	ITEM NO.
LIST OF MATERIAL				



165T - 5MCA & 5HCA  
BOTTOM GUIDED  
CAGE TYPE VALVE

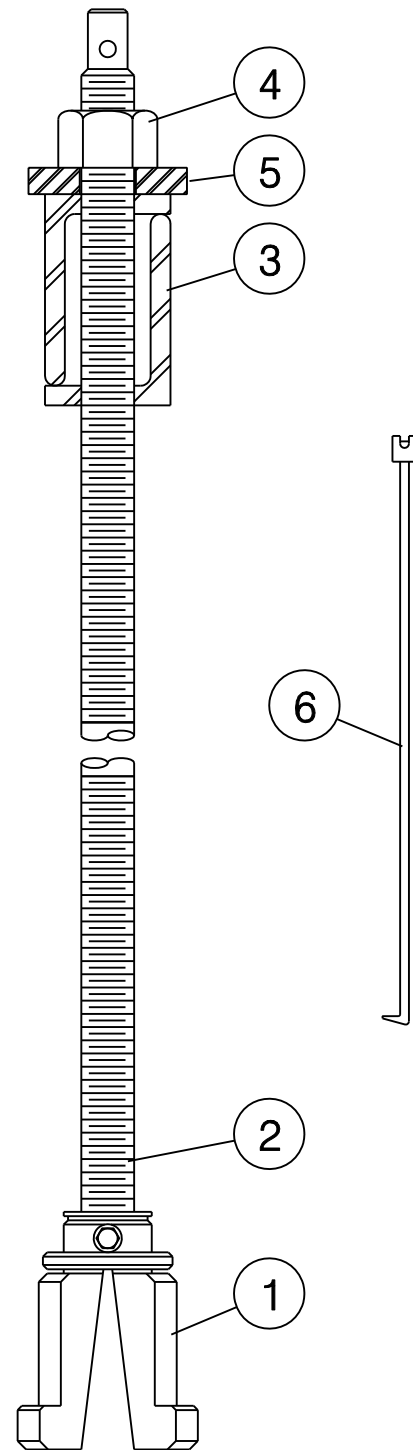
1	1713038	1712373	SEAL	5
1	1713036	1712486	SPRING	4
1	1713065-4	1712585-4	CAGE	3
1	1713062	1712582	VALVE & SEAT (DISCHARGE)	2
1	1713060	1712580	VALVE & SEAT (SUCTION)	1
QTY REQ'D	PART NO. 165T-5M	PART NO. 165T-5H	DESCRIPTION	ITEM NO.
LIST OF MATERIAL				



165T - 5MCA & 5HCA  
CAGE TYPE  
DISC VALVE

<b>NOV NATIONAL OILWELL VARCO</b>			
TITLE CAGE TYPE VALVE ASSEMBLY 165T-5 TRIPLEX PLUNGER PUMP			
SIZE B	REFERENCE No.	DRAWING No. 1717132	REV
SCALE 1/2	EST WT	SHEET 1 OF 1	

LTR	DESCRIPTION OF CHANGE	MADE	CHKD	DATE	APPROVED	M NO
A	REMOVED DURABLA VALVE	MTH	RPQ	8.21.07		



**SPHERICAL TAPERED SEAT VALVE KIT**

165T-5L			
ITEM NO.	PART No.	DESCRIPTION	QTY. REQD.
	180104135	VALVE KIT COMPLETE	1
1	181259409	HEAD	1
2	20220159	STEM	1
3	181205709	SPACER	1
4	75518308	NUT, 1"-8	1
5	20220194	WASHER	1
6	1790034	RETRIEVER	1

165T-5M			
ITEM NO.	PART No.	DESCRIPTION	QTY. REQD.
	180104127	VALVE KIT COMPLETE	1
1	181259300	HEAD	1
2	20220159	STEM	1
3	181205709	SPACER	1
4	75518308	NUT, 1"-8	1
5	20220194	WASHER	1
6	1790034	RETRIEVER	1

8

**NOV NATIONAL OILWELL VARCO**

TITLE VALVE SERVICE KITS  
165T-5 PLUNGER PUMP

SIZE B	REFERENCE No.	DRAWING No. 1717127	REV A
SCALE 3/16	EST WT	SHEET 1 OF 1	

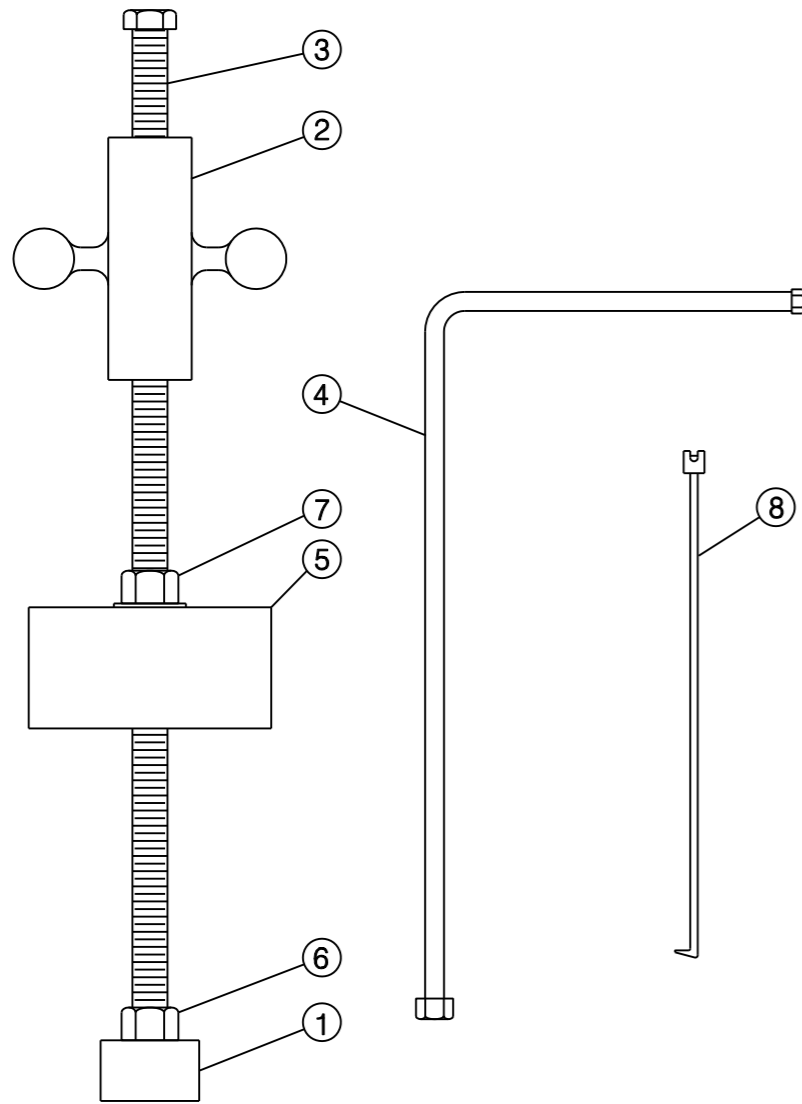
165T - 5L			
ITEM NO.	PART NO.	DESCRIPTION	QTY. REQ'D
	1794007	VALVE KIT CPT.	1
1	1794006	HEAD	1
2	1790080	BUMPER	1
3	1790081	BAR	1
4	1790082	WRENCH	1
5	1713109	SUPPORT	1
6	6300160	NUT	1
7	6314002	NUT	1
8	1790034	RETRIEVER	1

165T - 5M			
ITEM NO.	PART NO.	DESCRIPTION	QTY. REQ'D
	1793007	VALVE KIT CPT.	1
1	1793006	HEAD	1
2	1790080	BUMPER	1
3	1790081	BAR	1
4	1790082	WRENCH	1
5	1713109	SUPPORT	1
6	6300160	NUT	1
7	6314002	NUT	1
8	1790034	RETRIEVER	1

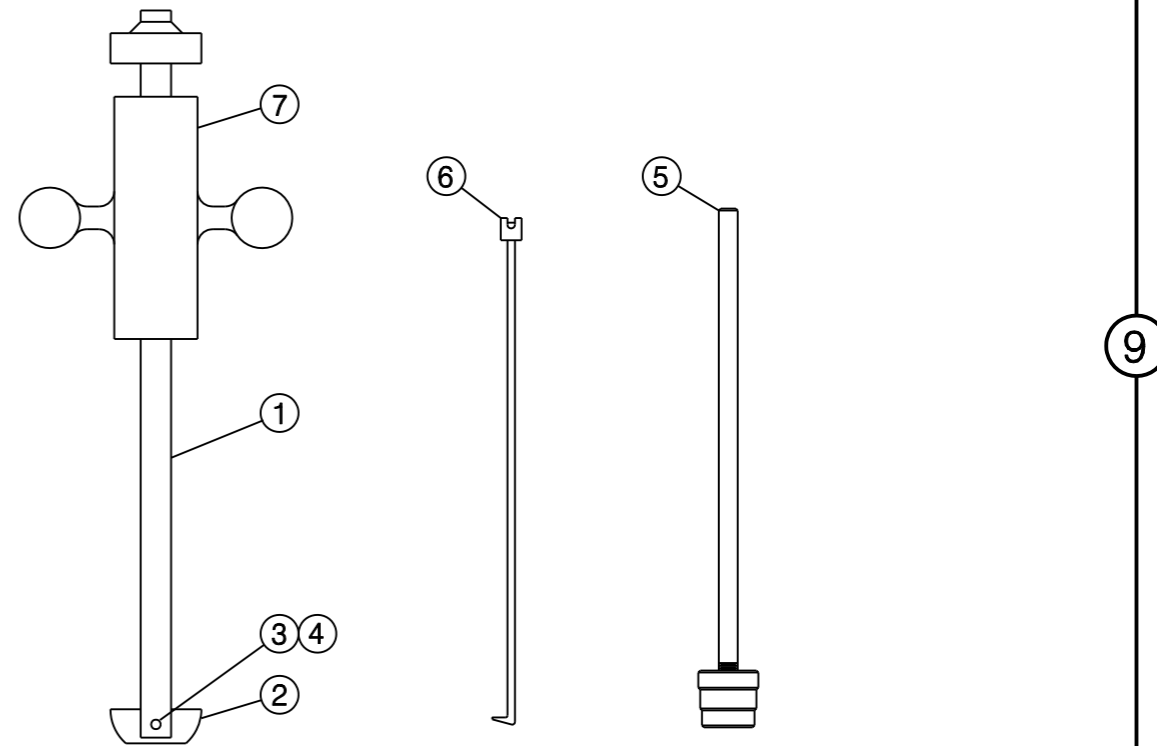
165T - 5M (MCA)			
ITEM NO.	PART NO.	DESCRIPTION	QTY. REQ'D
	1713068	VALVE KIT CPT.	1
	1713069	BAR CPT., INCL.	1
1	1713070	BAR	1
2	1713072	PLATE	1
3	6572018	PIN	1
4	6571218	PIN	1
5	1790043	DRIVER	1
6	1790034	RETRIEVER	1
7	1790080	BUMPER	1

165T - 5H (HCB)			
ITEM NO.	PART NO.	DESCRIPTION	QTY. REQ'D
	1713351	VALVE KIT CPT.	1
	1713352	BAR CPT., INCL.	1
1	1713070	BAR	1
2	1713353	PLATE	1
3	6572018	PIN	1
4	6571218	PIN	1
5	G-1790064	DRIVER	1
6	1790034	RETRIEVER	1
7	1790080	BUMPER	1

165T - 5PO / 5HCA			
ITEM NO.	PART NO.	DESCRIPTION	QTY. REQ'D
	1712342	VALVE KIT CPT.	1
	1712242	BAR CPT., INCL.	1
1	1710250	BAR	1
2	1712263	PLATE	1
3	6572016	PIN	1
4	6571216	PIN	1
5	1790042	DRIVER	1
6	1790034	RETRIEVER	1
7	1790080	BUMPER	1



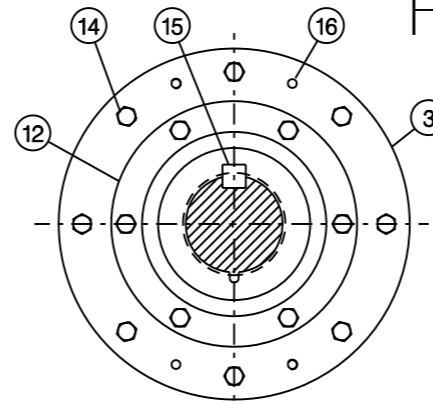
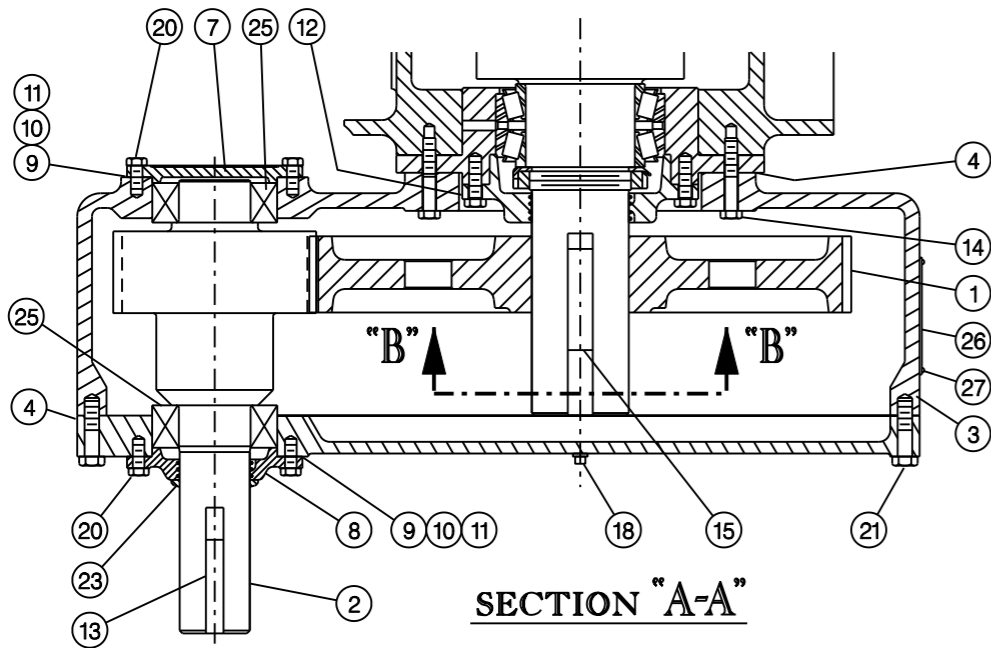
NATIONAL OILWELL VARCO TAPERED SEAT VALVE KIT



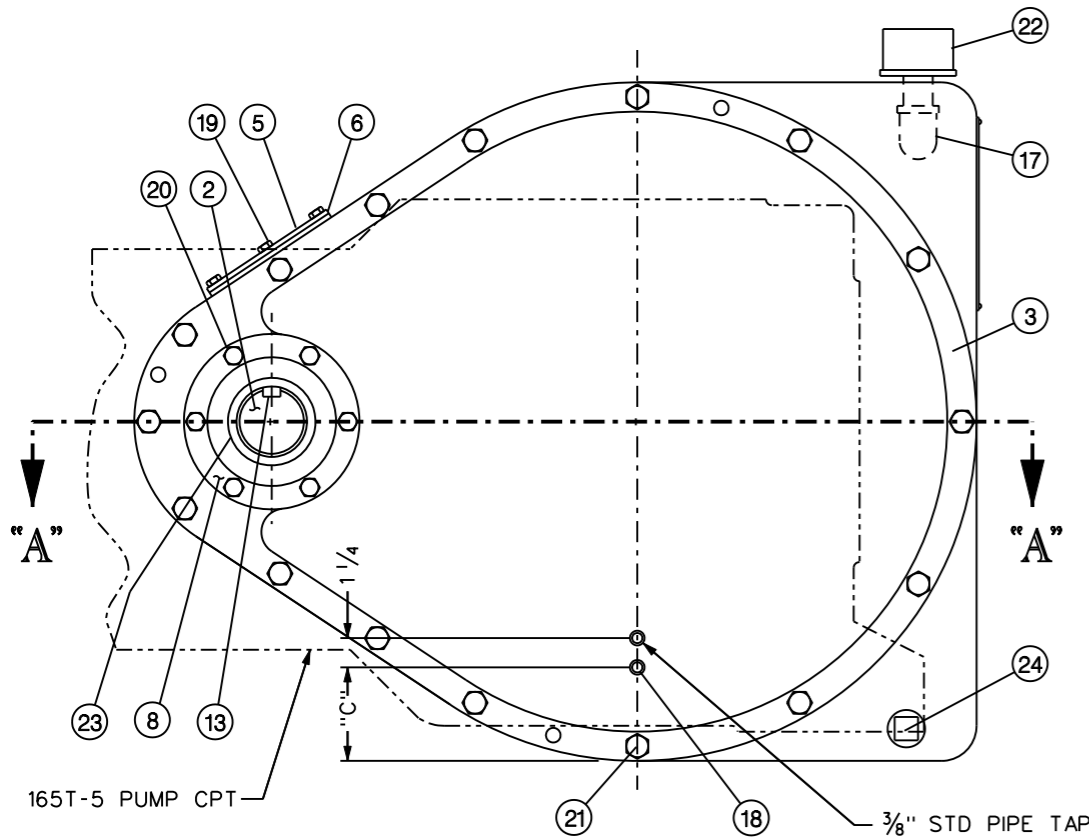
CAGE TYPE VALVE KIT  
(SPHERICAL, BOTTOM GUIDED, DISC, OR BALL)

<b>NATIONAL OILWELL VARCO</b>			
TITLE VALVE SERVICE KITS 165T-5 PLUNGER PUMP			
SIZE C	REFERENCE No.	DRAWING No. 1717137	REV
SCALE 1/4	EST WT	SHEET 1 OF 1	

LTR	DESCRIPTION OF CHANGE	MADE	CHKD	DATE	APPROVED	M NO
A	ADDED 3.73 RATIO	WFL	RPQ	10-9-01	RPQ	



**SECTION "B-B"**  
ITEM #1 REMOVED FOR CLARITY



1		7178025		SCREW, RD HD DRIVE #2 x 1/4"	27						
1		1711606		PLATE, NAME & INSTRUCTION	26						
2		ZT-3060		BEARING, PINION SHAFT	25						
1		7815059		PLUG, MAGNETIC DRAIN 1/4	24						
1		7804040		EXCLUDER, BRG	23						
1		7802020		CAP, BREATHER #S-183	22						
16		7000400-11		SCREW, HEX HD CAP 5/8" x 2 3/4"	21						
12		7000304-11		SCREW, HEX HD CAP 1/2" x 1 1/4"	20						
4		7000206-11		SCREW, HEX HD CAP 3/8" x 3/4"	19						
2		6874003		PLUG, STD PIPE 3/8"	18						
1		6829008		ELBOW, STD 1" x 90° STREET	17						
2		6581060		PIN, TAPER #10 x 3 3/4"	16						
1		2404047		KEY, GEAR 1" x 1" x 3 1/4"	15						
8		2403190		SCREW, HEX HD DRLD 5/8" x 3 1/2"	14						
1		2401710		KEY, PINION 3/4" x 3/4" x 4"	13						
1		1712639		RETAINER, CRANKSHAFT BRG	12						
6		1712627		SHIM, BEARING RETAINER .007	11						
6		1712625		SHIM, BEARING RETAINER .005	10						
2		1712620		SHIM, BEARING RETAINER .020	9						
1		1712605		CAP, H.S. PINION BRG OPEN	8						
1		1712604		CAP, H.S. PINION BRG BLIND	7						
1		1711619		GASKET, INSPECTION COVER	6						
1		1105609		COVER, INSPECTION	5						
1		7817200-68		GASKET, LOCTITE PLASTIC	4						
1	1712628	1712607	1712602	1712602	1712602	1712602	1712602	1712602	HOUSING CPT, GEAR REDUCER	3	
1	1712626	1712619	1712616	1712615	1712638	1712697	1712613	1712659	1712612	PINION	2
1	1712621	1712608	1712608	1712609	1712637	1712696	1712610	1712658	1712611	GEAR	1
QTY REQD	PART NO.	PART NO.	PART NO.	PART NO.	PART NO.	PART NO.	PART NO.	PART NO.	PART NO.	DESCRIPTION /MAT'L. /SPEC.	ITEM NO.
	1712635	1712634	1712633	1712632	1712636	1712695	1712631	1712657	1712630		
	5.74 RATIO	4.96 RATIO	4.78 RATIO	4.38 RATIO	4.00 RATIO	3.73 RATIO	3.46 RATIO	3.22 RATIO	2.80 RATIO		

**GEAR REDUCER ASSY. COMPLETE BILL OF MATERIAL No.'s**

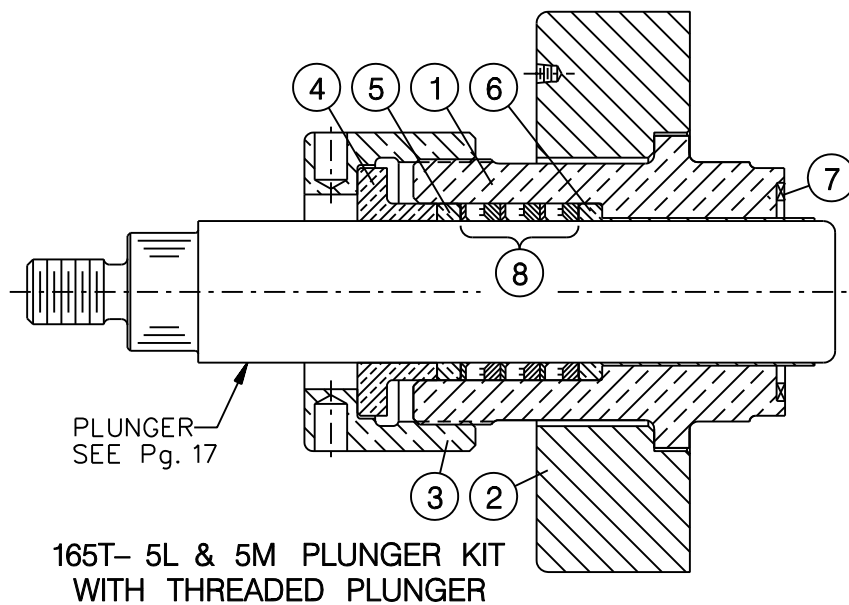
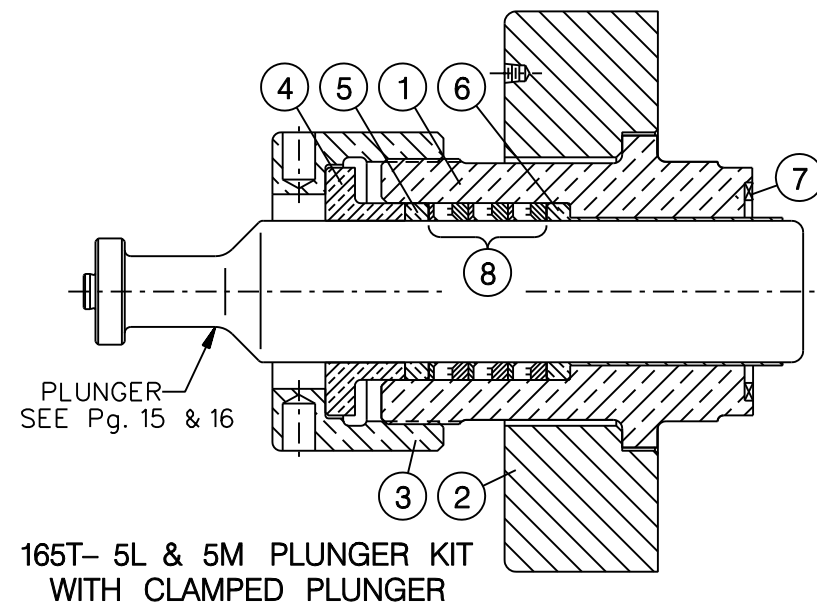
**LIST OF MATERIAL**

OIL LEVEL LOCATION		
GEAR RED. CPT. / RATIO	"C"	
1712630 / 2.80	4"	
1712657 / 3.22	4"	
1712631 / 3.46	3 1/4"	
1712695 / 3.73	2 1/2"	
1712636 / 4.00	3"	
1712632 / 4.38	2 1/2"	
1712633 / 4.78	2 1/2"	
1712634 / 4.96	2 1/2"	
1712635 / 5.74	2 1/2"	

**NOV NATIONAL OILWELL VARCO**

TITLE  
GEAR REDUCER ASSEMBLY  
165-T, JWS-165 & JWS-185 PUMPS

SIZE B	REFERENCE No.	DRAWING No. 1717141	REV A
SCALE 1/8	EST WT	SHEET 1 OF 1	



QTY REQ'D	PART NO.	DESCRIPTION	ITEM NO.
1	6422338	2 3/4" - 850-N UNIVERSAL PACKING	8
1	6422340	3" - 850-N UNIVERSAL PACKING	
1	6422342	3 1/4" - 850-N UNIVERSAL PACKING	
1	6422343	3 1/2" - 850-N UNIVERSAL PACKING	
1	6422345	3 3/4" - 850-N UNIVERSAL PACKING	
1	6422346	4" - 850-N UNIVERSAL PACKING	
1	2410031-347	SEAL, STUFFING BOX	7
1	1712513	2 3/4" SLEEVE WASHER	6
1	1712514	3" SLEEVE WASHER	
1	1712515	3 1/4" SLEEVE WASHER	
1	1712516	3 1/2" SLEEVE WASHER	
1	1712517	3 3/4" SLEEVE WASHER	
1	1712518	4" SLEEVE WASHER	
2	1712095	2 3/4" WASHER	5
2	1712096	3" WASHER	
2	1712097	3 1/4" WASHER	
2	1712098	3 1/2" WASHER	
2	1712099	3 3/4" WASHER	
2	1712100	4" WASHER	
1	1712089	2 3/4" GLAND	4
1	1712090	3" GLAND	
1	1712091	3 1/4" GLAND	
1	1712092	3 1/2" GLAND	
1	1712093	3 3/4" GLAND	
1	1712094	4" GLAND	
1	1712065	NUT, ADJUSTING	3
1	1716034	RETAINER, STUFFING BOX	2
1	1716078-2	2 3/4" PLG'R x 3 3/4" BORE STUFFING BOX	1
1	1716078-2	3" PLG'R x 3 3/4" BORE STUFFING BOX	
1	1716079-2	3 1/4" PLG'R x 4 1/4" BORE STUFFING BOX	
1	1716079-2	3 1/2" PLG'R x 4 1/4" BORE STUFFING BOX	
1	1716080-2	3 3/4" PLG'R x 4 3/4" BORE STUFFING BOX	
1	1716080-2	4" PLG'R x 4 3/4" BORE STUFFING BOX	

LIST OF MATERIAL

165T- 5L PLUNGER KIT

QTY REQ'D	PART NO.	DESCRIPTION	ITEM NO.	
1	6422324	2" - 850-N UNIVERSAL PACKING	8	
1	6422326	2 1/8" - 850-N UNIVERSAL PACKING		
1	6422329	2 1/4" - 850-N UNIVERSAL PACKING		
1	6422359	2 3/8" - 850-N UNIVERSAL PACKING		
1	6422333	2 1/2" - 850-N UNIVERSAL PACKING		
1	6422335	2 5/8" - 850-N UNIVERSAL PACKING		
1	6422337	2 3/4" - 850-N UNIVERSAL PACKING		
1	2410031-342	SEAL, STUFFING BOX		7
1	1712506	2" SLEEVE WASHER	6	
1	1712503	2 1/8" SLEEVE WASHER		
1	1712507	2 1/4" SLEEVE WASHER		
1	1716092-2	2 3/8" SLEEVE WASHER		
1	1716095-2	2 1/2" SLEEVE WASHER		
1	1713058	2 5/8" SLEEVE WASHER		
1	1712509	2 3/4" SLEEVE WASHER	5	
2	1712057	2" WASHER		
2	1712333	2 1/8" WASHER		
2	1712058	2 1/4" WASHER		
2	1716091-2	2 3/8" WASHER		
2	1716094-2	2 1/2" WASHER		
2	1713057	2 5/8" WASHER	4	
2	1712060	2 3/4" WASHER		
1	1712051	2" GLAND		
1	1712332	2 1/8" GLAND		
1	1712052	2 1/4" GLAND		
1	1716090-2	2 3/8" GLAND		
1	1716093-2	2 1/2" GLAND	3	
1	1713056	2 5/8" GLAND		
1	1712054	2 3/4" GLAND		
1	1712025	NUT, ADJUSTING		3
1	1716034	RETAINER, STUFFING BOX		2
1	1716075-2	2" PLG'R x 3" BORE STUFFING BOX		1
1	1716075-2	2 1/8" PLG'R x 3" BORE STUFFING BOX		
1	1716075-2	2 1/4" PLG'R x 3" BORE STUFFING BOX		
1	1716076-2	2 3/8" PLG'R x 3 1/4" BORE STUFFING BOX		
1	1716076-2	2 1/2" PLG'R x 3 1/4" BORE STUFFING BOX		
1	1716077-2	2 5/8" PLG'R x 3 1/2" BORE STUFFING BOX		
1	1716077-2	2 3/4" PLG'R x 3 1/2" BORE STUFFING BOX		

LIST OF MATERIAL

165T- 5M PLUNGER KIT

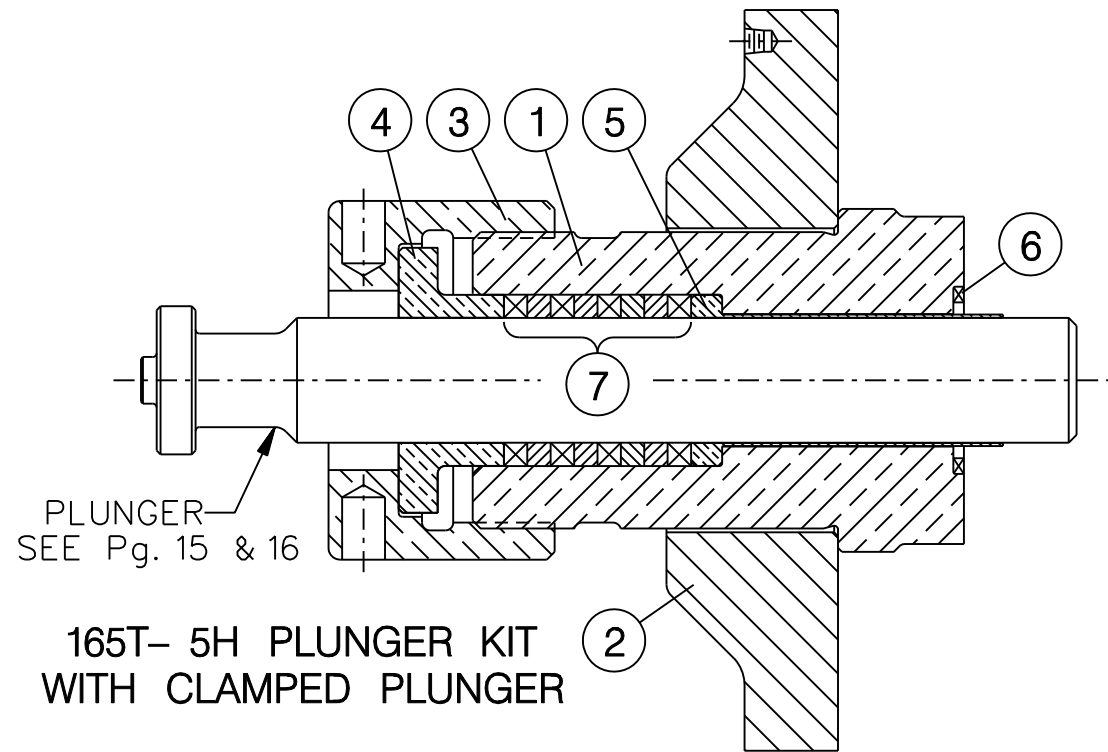


TITLE  
ASSEMBLY, PLUNGER KIT  
165T-5L & 5M TRIPLEX PUMP

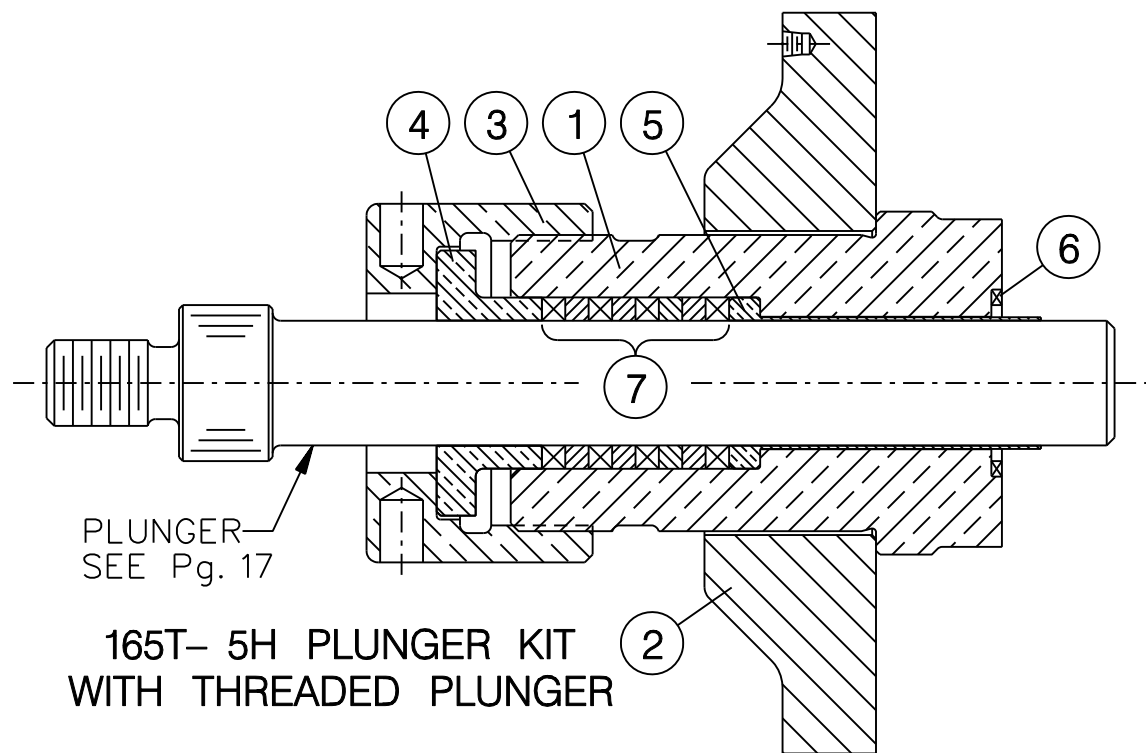
SIZE B REFERENCE No. DRAWING No. 1717120 REV

△ USE ONLY WITH CERAMIC PLUNGER.  
REPLACE ONE OF ITEM \*5 WITH ITEM \*6

SCALE 1/4 EST WT SHEET 1 OF 1



165T- 5H PLUNGER KIT  
WITH CLAMPED PLUNGER



165T- 5H PLUNGER KIT  
WITH THREADED PLUNGER

QTY REQ'D	PART NO.	DESCRIPTION	ITEM NO.
1	6420459	1 1/2" - 1045 UNIVERSAL PACKING	7
1	6420460	1 5/8" - 1045 UNIVERSAL PACKING	
1	6420461	1 3/4" - 1045 UNIVERSAL PACKING	
1	6420462	1 7/8" - 1045 UNIVERSAL PACKING	
1	6420463	2" - 1045 UNIVERSAL PACKING	
1	2410031-334	SEAL, STUFFING BOX	6
1	1712498	1 1/2" SLEEVE WASHER	5
1	1712499	1 5/8" SLEEVE WASHER	
1	1712552	1 3/4" SLEEVE WASHER	
1	1713101-2	1 7/8" SLEEVE WASHER	
1	1712554	2" SLEEVE WASHER	
1	1712049	1 1/2" GLAND	4
1	1712159	1 5/8" GLAND	
1	1712050	1 3/4" GLAND	
1	1713100-2	1 7/8" GLAND	
1	1712527	2" GLAND	
1	1712025	NUT, ADJUSTING	3
1	1713304-1	RETAINER, STUFFING BOX	2
1	1716070-2	1 1/2" PLG'R x 2 1/2" BORE STUFFING BOX	1
1	1716070-2	1 5/8" PLG'R x 2 1/2" BORE STUFFING BOX	
1	1716070-2	1 3/4" PLG'R x 2 1/2" BORE STUFFING BOX	
1	1716071-2	1 7/8" PLG'R x 2 3/4" BORE STUFFING BOX	
1	1716071-2	2" PLG'R x 2 3/4" BORE STUFFING BOX	
QTY REQ'D	PART NO.	DESCRIPTION	ITEM NO.

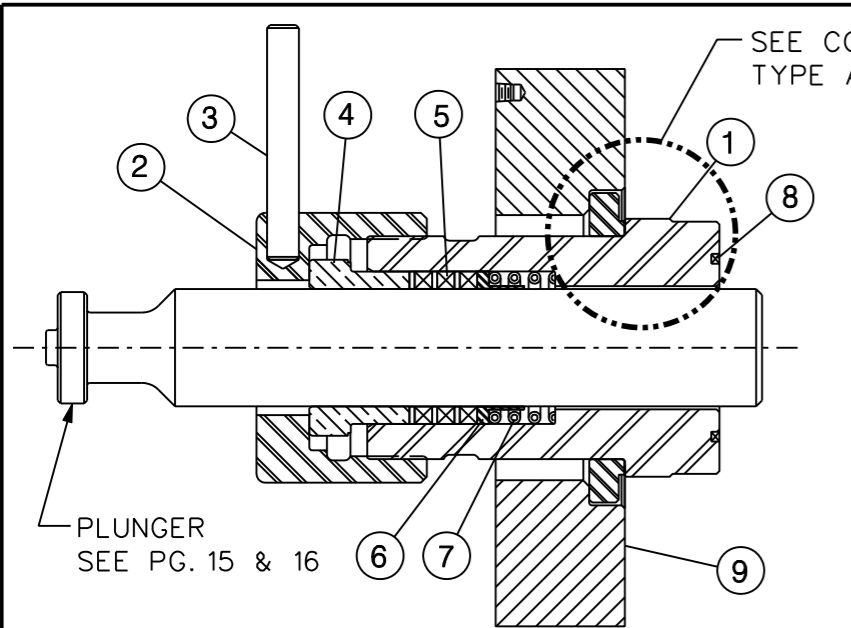
LIST OF MATERIAL

**NOV NATIONAL OILWELL VARCO**

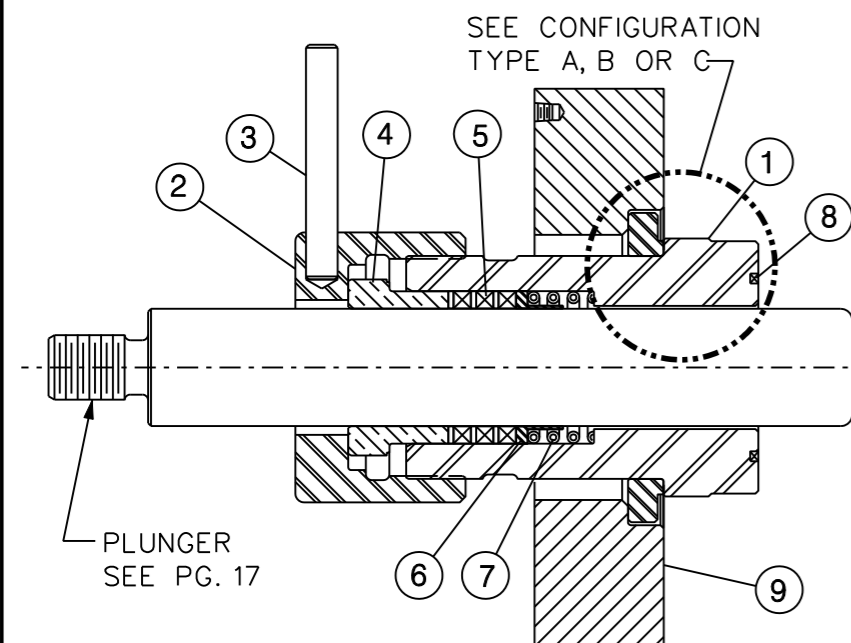
TITLE: ASSEMBLY, PLUNGER KIT  
165T-5H TRIPLEX PUMP

SIZE B	REFERENCE No.	DRAWING No. 1717121	REV
SCALE 1/3	EST WT	SHEET 1 OF 1	

5 USE ONLY WITH CERAMIC PLUNGER



165T- 5L & 5M PLUNGER KIT WITH CLAMPED PLUNGER



165T- 5L & 5M PLUNGER KIT WITH THREADED PLUNGER

⚠ 2" STUFFING BOX P/N L342-908 IS CUT WITH AN EXTRA SEAL GROOVE. USE BOTH SEALS.

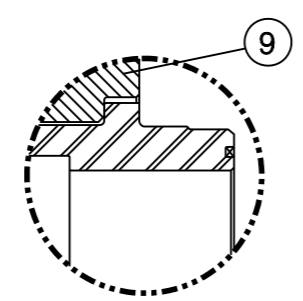
QTY REQ'D	PART NO.	DESCRIPTION	ITEM NO.
1	1716034	RETAINER, STUFFING BOX	9
1	2410031-347	SEAL, STUFFING BOX	8
1	342-008	3" & 2 3/4" SPRING	7
1	342-007	3 1/2" & 3 1/4" SPRING	
1	342-269	4" & 3 3/4" SPRING	6
1	342-014	2 3/4" FOLLOWER	
1	342-015	3" FOLLOWER	5
1	342-009	3 1/4" FOLLOWER	
1	342-028	3 1/2" FOLLOWER	4
1	342-359	3 3/4" FOLLOWER	
1	342-360	4" FOLLOWER	3
1	342-018	2 3/4" KEVLAR PACKING	
1	342-019	3" KEVLAR PACKING	2
1	342-016	3 1/4" KEVLAR PACKING	
1	342-017	3 1/2" KEVLAR PACKING	1
1	342-757	3 3/4" KEVLAR PACKING	
1	342-758	4" KEVLAR PACKING	9
1	342-022	2 3/4" GLAND	
1	342-023	3" GLAND	8
1	342-020	3 1/4" GLAND	
1	342-021	3 1/2" GLAND	7
1	342-127	3 3/4" GLAND	
1	342-128	4" GLAND	6
1	342-930	PIN	
1	342-928	3" & 2 3/4" NUT	5
1	342-927	3 1/2" & 3 1/4" NUT	
1	342-962	4" & 3 3/4" NUT	4
1	342-924	2 3/4" PLG'R x 3 3/4" BORE STUFFING BOX	
1	342-924	3" PLG'R x 3 3/4" BORE STUFFING BOX	3
1	342-923	3 1/4" PLG'R x 4 1/4" BORE STUFFING BOX	
1	342-923	3 1/2" PLG'R x 4 1/4" BORE STUFFING BOX	2
1	342-953	3 3/4" PLG'R x 4 3/4" BORE STUFFING BOX	
1	342-953	4" PLG'R x 4 3/4" BORE STUFFING BOX	1

165T - 5L PLUNGER KIT

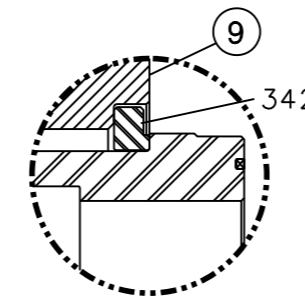
QTY REQ'D	PART NO.	DESCRIPTION	ITEM NO.
1	1716034	RETAINER, STUFFING BOX	9
1	2410031-342	2" SEAL, STUFFING BOX	8
1	2410031-334	2" SEAL, STUFFING BOX	
1	2410031-342	2 5/8", 2 1/2", 2 3/8", 2 1/4" & 2 1/8" SEAL, STF. BOX	7
1	2410031-347	2 3/4" SEAL, STUFFING BOX	
1	L342-260	2 1/8" & 2" SPRING	6
1	342-000	2 1/2", 2 3/8" & 2 1/4" SPRING	
1	342-270	2 5/8" SPRING	5
1	342-008	2 3/4" SPRING	
1	L342-368	2" FOLLOWER	4
1	342-353	2 1/8" FOLLOWER	
1	342-001	2 1/4" FOLLOWER	3
1	342-354	2 3/8" FOLLOWER	
1	342-002	2 1/2" FOLLOWER	2
1	342-355	2 5/8" FOLLOWER	
1	342-014	2 3/4" FOLLOWER	1
1	342-768	2" KEVLAR PACKING	
1	342-751	2 1/8" KEVLAR PACKING	9
1	342-003	2 1/4" KEVLAR PACKING	
1	342-752	2 3/8" KEVLAR PACKING	8
1	342-004	2 1/2" KEVLAR PACKING	
1	342-753	2 5/8" KEVLAR PACKING	7
1	324-018	2 3/4" KEVLAR PACKING	
1	L342-168	2" GLAND	6
1	342-121	2 1/8" GLAND	
1	342-005	2 1/4" GLAND	5
1	342-122	2 3/8" GLAND	
1	342-006	2 1/2" GLAND	4
1	342-123	2 5/8" GLAND	
1	342-022	2 3/4" GLAND	3
1	342-914	2 1/8" & 2" PIN	
1	342-930	2 3/4", 2 5/8", 2 1/2", 2 3/8" & 2 1/4" PIN	2
1	L342-913	2 1/8" & 2" NUT	
1	342-916	2 1/2", 2 3/8" & 2 1/4" NUT	1
1	342-928	2 3/4" & 2 5/8" NUT	
1	L342-908	2" PLG'R x 2 3/4" BORE STUFFING BOX	9
1	342-948	2 1/8" PLG'R x 2 7/8" BORE STUFFING BOX	
1	342-915	2 1/4" PLG'R x 3 1/4" BORE STUFFING BOX	8
1	342-915	2 3/8" PLG'R x 3 1/4" BORE STUFFING BOX	
1	342-915	2 1/2" PLG'R x 3 1/4" BORE STUFFING BOX	7
1	342-952	2 5/8" PLG'R x 3 5/8" BORE STUFFING BOX	
1	342-924	2 3/4" PLG'R x 3 3/4" BORE STUFFING BOX	6

165T - 5M PLUNGER KIT

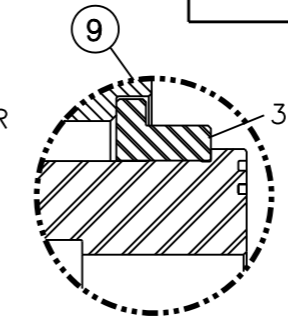
PLUNGER SIZE	RETAINER/ADAPTER CONFIG. SEE DETAIL FOR TYPE
2"	TYPE C
2 1/8"	TYPE C
2 1/4"	TYPE B
2 3/8"	TYPE B
2 1/2"	TYPE B
2 5/8"	TYPE B
2 3/4"	TYPE B
3"	TYPE B
3 1/4"	TYPE A
3 1/2"	TYPE A
3 3/4"	TYPE A
4"	TYPE A



TYPE A - 165T - 5L



TYPE B - 165T - 5L & M



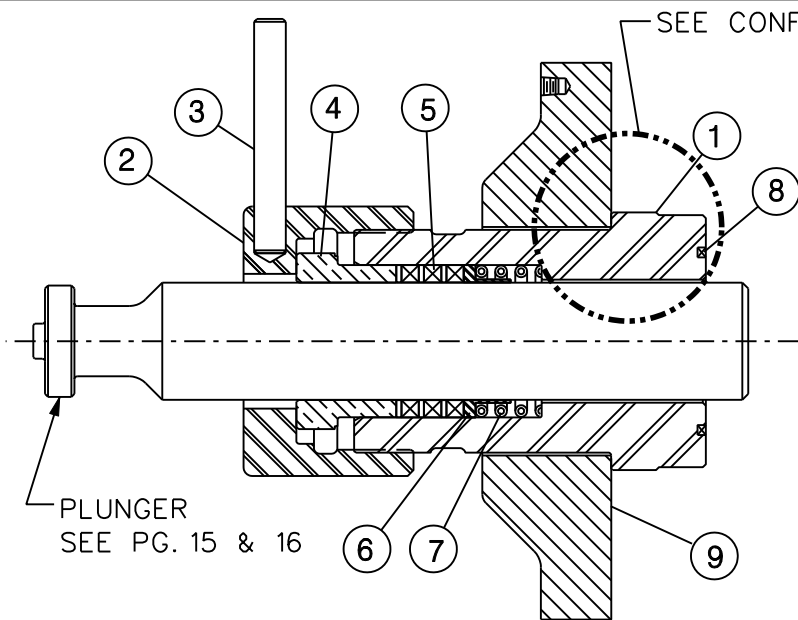
TYPE C - 165T - 5M

**NATIONAL OILWELL VARCO**

TITLE ASSEMBLY, SS PLUNGER KITS WITH KEVLAR PACKING 165T-5L/5M TRIPLEX PUMP

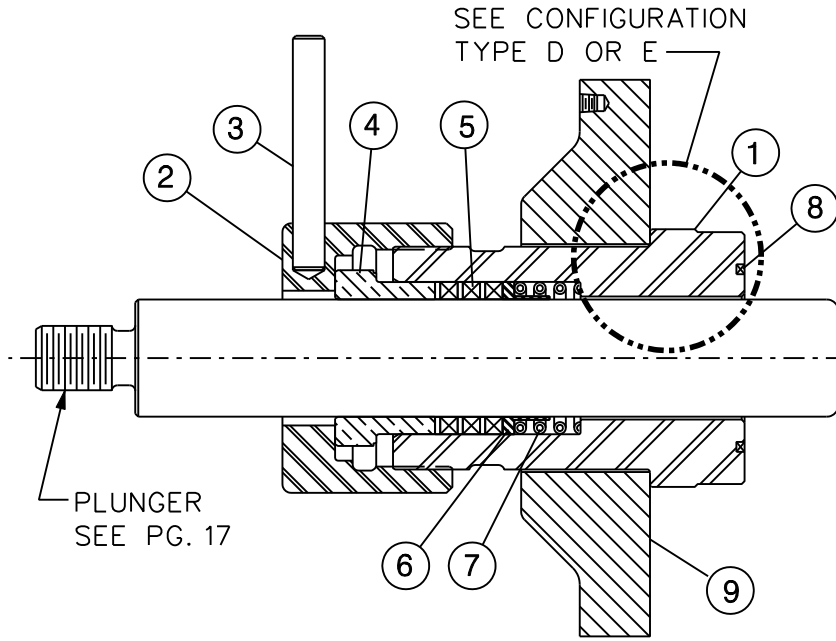
SIZE B REFERENCE No. DRAWING No. 1717125 REV A

SCALE 1/4 EST WT SHEET 1 OF 1



PLUNGER  
SEE PG. 15 & 16

**165T- 5L, 5M & 5H PLUNGER KIT  
WITH CLAMPED PLUNGER**



PLUNGER  
SEE PG. 17

**165T- 5L, 5M & 5H PLUNGER KIT  
WITH THREADED PLUNGER**

1	1713304-1	RETAINER, STUFFING BOX	9
1	2410031-334	SEAL, STUFFING BOX	8
1	L342-240	1 3/4", 1 5/8" & 1 1/2" SPRING	7
1	L342-260	2" & 1 1/8" SPRING	6
1	L342-344	1 1/2" FOLLOWER	5
1	L342-345	1 5/8" FOLLOWER	4
1	L342-346	1 3/4" FOLLOWER	3
1	L342-367	1 7/8" FOLLOWER	2
1	L342-368	2" FOLLOWER	1
1	L342-744	1 1/2" KEVLAR PACKING	
1	L342-745	1 5/8" KEVLAR PACKING	
1	L342-746	1 3/4" KEVLAR PACKING	
1	L342-767	1 7/8" KEVLAR PACKING	
1	342-768	2" KEVLAR PACKING	
1	L342-544	1 1/2" GLAND	
1	L342-545	1 5/8" GLAND	
1	L342-546	1 3/4" GLAND	
1	L342-167	1 7/8" GLAND	
1	L342-168	2" GLAND	
1	342-914	PIN	
1	L342-913	NUT	
1	342-919	1 1/2" PLG'R x 2 1/2" BORE STUFFING BOX	
1	342-919	1 5/8" PLG'R x 2 1/2" BORE STUFFING BOX	
1	342-919	1 3/4" PLG'R x 2 1/2" BORE STUFFING BOX	
1	L342-908	1 7/8" PLG'R x 2 3/4" BORE STUFFING BOX	
1	L342-908	2" PLG'R x 2 3/4" BORE STUFFING BOX	

**165T- 5H PLUNGER KIT**

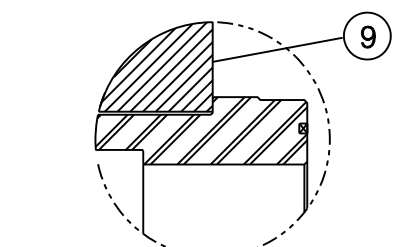
1	1713304-1	RETAINER, STUFFING BOX	9
1	2410031-347	SEAL, STUFFING BOX	8
1	342-008	3" & 2 3/4" SPRING	7
1	342-014	2 3/4" FOLLOWER	6
1	342-015	3" FOLLOWER	5
1	342-018	2 3/4" KEVLAR PACKING	4
1	342-019	3" KEVLAR PACKING	3
1	342-022	2 3/4" GLAND	2
1	342-023	3" GLAND	1
1	342-930	PIN	
1	342-928	NUT	
1	342-924	2 3/4" PLG'R x 3 3/4" BORE STUFFING BOX	
1	342-924	3" PLG'R x 3 3/4" BORE STUFFING BOX	

**165T- 5L PLUNGER KIT**

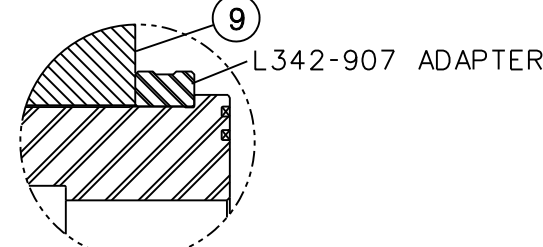
1	1713304-1	RETAINER, STUFFING BOX	9
1	2410031-342	2 5/8", 2 1/2", 2 3/8", 2 1/4", 2 1/8" & 2" SEAL, STF. BOX	8
1	2410031-347	2 3/4" SEAL, STUFFING BOX	7
1	L342-260	2 1/8" & 2" SPRING	6
1	342-000	2 1/2", 2 3/8" & 2 1/4" SPRING	5
1	342-270	2 5/8" SPRING	4
1	342-008	2 3/4" SPRING	3
1	L342-368	2" FOLLOWER	2
1	342-353	2 1/8" FOLLOWER	1
1	342-001	2 1/4" FOLLOWER	
1	342-354	2 3/8" FOLLOWER	
1	342-002	2 1/2" FOLLOWER	
1	342-355	2 5/8" FOLLOWER	
1	342-014	2 3/4" FOLLOWER	
1	342-768	2" KEVLAR PACKING	
1	342-751	2 1/8" KEVLAR PACKING	
1	342-003	2 1/4" KEVLAR PACKING	
1	342-752	2 3/8" KEVLAR PACKING	
1	342-004	2 1/2" KEVLAR PACKING	
1	342-753	2 5/8" KEVLAR PACKING	
1	324-018	2 3/4" KEVLAR PACKING	
1	L342-168	2" GLAND	
1	342-121	2 1/8" GLAND	
1	342-005	2 1/4" GLAND	
1	342-122	2 3/8" GLAND	
1	342-006	2 1/2" GLAND	
1	342-123	2 5/8" GLAND	
1	342-022	2 3/4" GLAND	
1	342-914	2 1/8" & 2" PIN	
1	342-930	2 3/4", 2 5/8", 2 1/2", 2 3/8" & 2 1/4" PIN	
1	L342-913	2 1/8" & 2" NUT	
1	342-916	2 1/2", 2 3/8" & 2 1/4" NUT	
1	342-928	2 3/4" & 2 5/8" NUT	
1	L342-908	2" PLG'R x 2 3/4" BORE STUFFING BOX	
1	342-948	2 1/8" PLG'R x 2 7/8" BORE STUFFING BOX	
1	342-915	2 1/4" PLG'R x 3 1/4" BORE STUFFING BOX	
1	342-915	2 3/8" PLG'R x 3 1/4" BORE STUFFING BOX	
1	342-915	2 1/2" PLG'R x 3 1/4" BORE STUFFING BOX	
1	342-952	2 5/8" PLG'R x 3 5/8" BORE STUFFING BOX	
1	342-924	2 3/4" PLG'R x 3 3/4" BORE STUFFING BOX	

**165T - 5M PLUNGER KIT**

PLUNGER SIZE	RETAINER/ADAPTER CONFIG. SEE DETAIL FOR TYPE
1/2"	TYPE E
1 5/8"	TYPE E
1 3/4"	TYPE E
1 7/8"	TYPE E
2"	TYPE E
2 1/8"	TYPE E
2 1/4"	TYPE D
2 3/8"	TYPE D
2 1/2"	TYPE D
2 5/8"	TYPE D
2 3/4"	TYPE D
3"	TYPE D



TYPE D - 165T- 5L & M



TYPE E - 165T- 5M & 5H

**NOV NATIONAL OILWELL VARCO**

TITLE: ASSEMBLY, SS PLUNGER KITS WITH KEVLAR PACKING  
165T-5L/5M/5H TRIPLEX PUMP

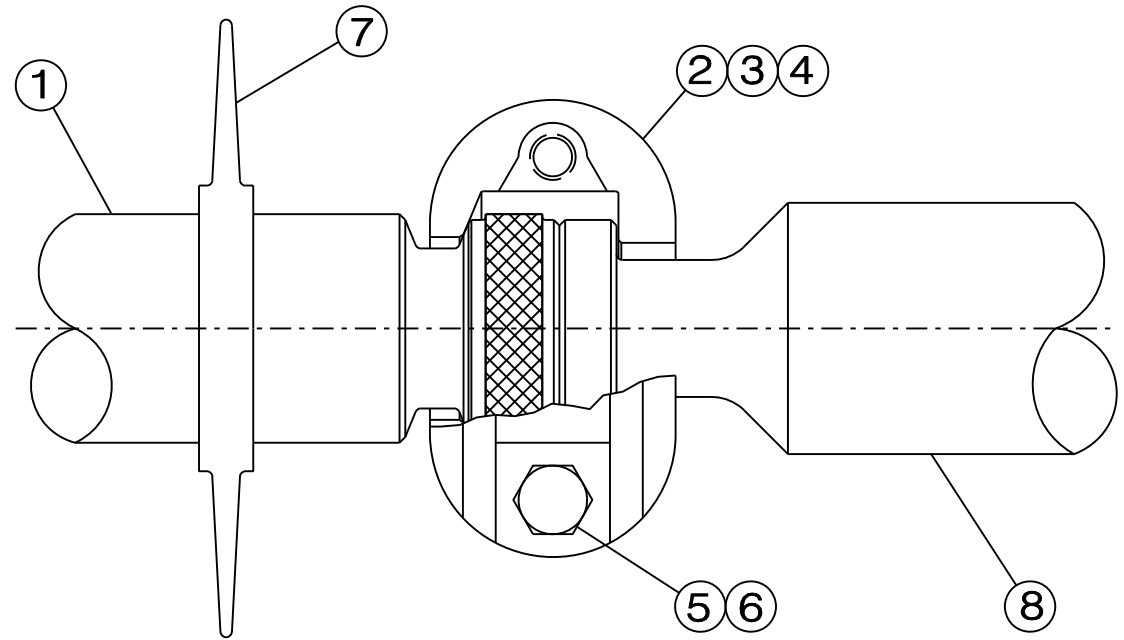
SIZE: B REFERENCE No. DRAWING No. 1717126 REV

SCALE: 1/4 EST WT SHEET 1 OF 1



**BILL OF MATERIAL**

ITEM	PART NO.	DESCRIPTION
1	340-019	INTERMEDIATE ROD STAINLESS
2	1716037	CLAMP CPT.
3	1716035	BOLT HALF
4	1716036	THREAD HALF
5	700031211	SCREW, H.H. CAP
6	7616050	WASHER, SPRING LOCK
7	1717016	BAFFLE, INTERMEDIATE ROD



**STRAIGHT / TAPER CLAMP**

**PLUNGERS FOR STRAIGHT / TAPER CLAMPS**

**165T - 5L**

ITEM	*PART NO.*	PART NO.	DESCRIPTION
8	1716166	340-204	4" CARBIDE PLUNGER
	1716165	340-203	3-3/4 " CARBIDE PLUNGER
	1716164	340-010	3-1/2 " CARBIDE PLUNGER
	1716163	340-004	3-1/4 " CARBIDE PLUNGER
	1716162	340-012	3" CARBIDE PLUNGER
	1716160	340-011	2-3/4 " CARBIDE PLUNGER

**165T - 5M**

1716160	340-011	2-3/4" CARBIDE PLUNGER
1716159	340-202	2-5/8 " CARBIDE PLUNGER
1716158	340-150	2-1/2 " CARBIDE PLUNGER
1716157	340-201	2-3/8 " CARBIDE PLUNGER
1716156	340-149	2-1/4" CARBIDE PLUNGER
1716155	340-200	2-1/8 " CARBIDE PLUNGER
1716154	L340-148	2" CARBIDE PLUNGER

**165T - 5H**

1716154	L340-148	2" CARBIDE PLUNGER
1716153	L340-147	1-7/8 " CARBIDE PLUNGER
1716152	L340-146	1-3/4 " CARBIDE PLUNGER
1716151	340-145	1-5/8 " CARBIDE PLUNGER
1716150	340-144	1-1/2" CARBIDE PLUNGER

**PLUNGERS FOR STRAIGHT / TAPER CLAMPS**

**165T - 5L**

ITEM	PART NO.	DESCRIPTION
8	1716066	4" CERAMIC PLUNGER
	1716065	3-3/4 " CERAMIC PLUNGER
	1716064	3-1/2 " CERAMIC PLUNGER
	1716063	3-1/4 " CERAMIC PLUNGER
	1716062	3" CERAMIC PLUNGER
	1716060	2-3/4 " CERAMIC PLUNGER

**165T - 5M**

1716060	2-3/4" CERAMIC PLUNGER
1716059	2-5/8 " CERAMIC PLUNGER
1716058	2-1/2 " CERAMIC PLUNGER
1716057	2-3/8 " CERAMIC PLUNGER
1716056	2-1/4" CERAMIC PLUNGER
1716055	2-1/8 " CERAMIC PLUNGER
1716054	2" CERAMIC PLUNGER

**165T - 5H**

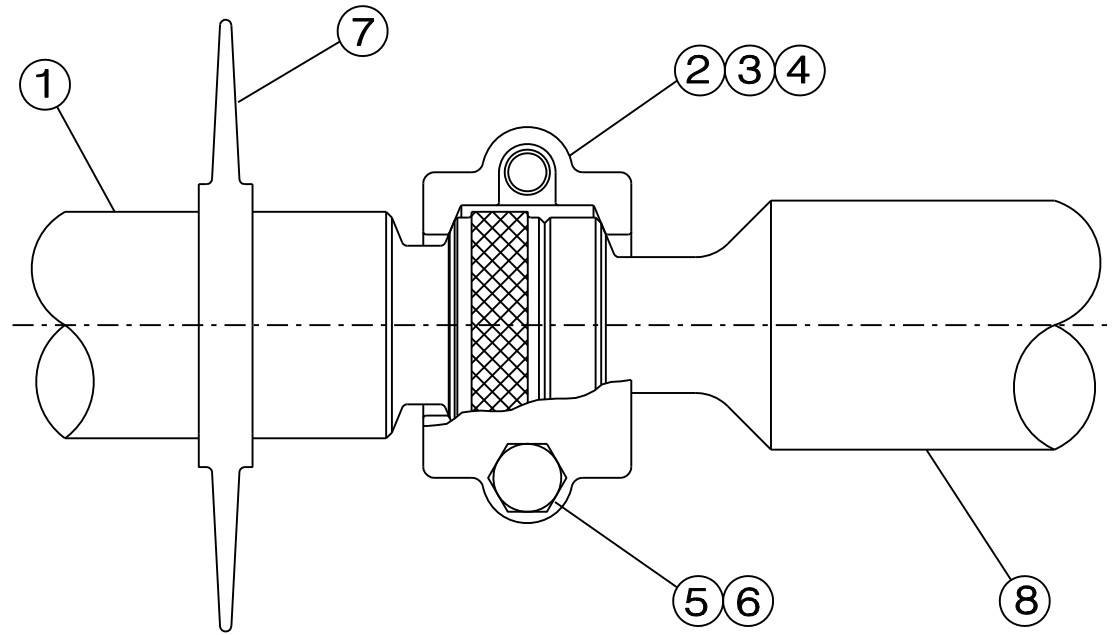
1716054	2" CERAMIC PLUNGER
1716053	1-7/8 " CERAMIC PLUNGER
1716052	1-3/4 " CERAMIC PLUNGER
1716051	1-5/8 " CERAMIC PLUNGER
1716050	1-1/2" CERAMIC PLUNGER

\* LISTED PART NUMBERS WERE PREVIOUSLY HARD COAT PLUNGERS.

<b>NOV NATIONAL OILWELL VARCO</b>			
TITLE PLUNGER/INTERMEDIATE ROD ASSY. STRAIGHT / TAPER CLAMP 165T-5 PLUNGER PUMP			
SIZE <b>C</b>	REFERENCE No.	DRAWING No. <b>1717122</b>	REV
SCALE 1 / 1	EST WT	SHEET 1 OF 1	

BILL OF MATERIAL

ITEM	PART NO.	DESCRIPTION
1	340-019	INTERMEDIATE ROD STAINLESS
2	340-007	CLAMP CPT.
3	340-007-1	BOLT HALF
4	340-007-2	THREAD HALF
5	195-092	SCREW, H.H. CAP
6	195-093	WASHER, SPRING LOCK
7	1717016	BAFFLE, INTERMEDIATE ROD



**DOUBLE TAPER CLAMP**

PLUNGERS FOR DOUBLE TAPER CLAMPS

**165T – 5L**

ITEM	PART NO.	PART NO.	DESCRIPTION
8	1717170	340-270	4" CARBIDE PLUNGER
	1717168	340-269	3-3/4 " CARBIDE PLUNGER
	1717166	340-268	3-1/2 " CARBIDE PLUNGER
	1717164	340-267	3-1/4 " CARBIDE PLUNGER
	1717162	340-266	3" CARBIDE PLUNGER
	1717160	340-265	2-3/4 " CARBIDE PLUNGER

**165T – 5M**

1717160	340-265	2-3/4" CARBIDE PLUNGER
1717159	340-264	2-5/8 " CARBIDE PLUNGER
1717158	340-263	2-1/2 " CARBIDE PLUNGER
1717157	340-262	2-3/8 " CARBIDE PLUNGER
1717156	340-261	2-1/4" CARBIDE PLUNGER
1717155	340-260	2-1/8 " CARBIDE PLUNGER
1717154	340-259	2" CARBIDE PLUNGER

**165T – 5H**

1717154	340-259	2" CARBIDE PLUNGER
1717153	340-258	1-7/8 " CARBIDE PLUNGER
1717152	340-257	1-3/4 " CARBIDE PLUNGER
1717151	340-256	1-5/8 " CARBIDE PLUNGER
1717150	340-255	1-1/2" CARBIDE PLUNGER

PLUNGERS FOR DOUBLE TAPER CLAMPS

**165T – 5L**

ITEM	PART NO.	DESCRIPTION
8	1717070	4" CERAMIC PLUNGER
	1717068	3-3/4 " CERAMIC PLUNGER
	1717066	3-1/2 " CERAMIC PLUNGER
	1717064	3-1/4 " CERAMIC PLUNGER
	1717062	3" CERAMIC PLUNGER
	1717060	2-3/4 " CERAMIC PLUNGER

**165T – 5M**

1717060	2-3/4" CERAMIC PLUNGER
1717059	2-5/8 " CERAMIC PLUNGER
1717058	2-1/2 " CERAMIC PLUNGER
1717057	2-3/8 " CERAMIC PLUNGER
1717056	2-1/4" CERAMIC PLUNGER
1717055	2-1/8 " CERAMIC PLUNGER
1717054	2" CERAMIC PLUNGER

**165T – 5H**

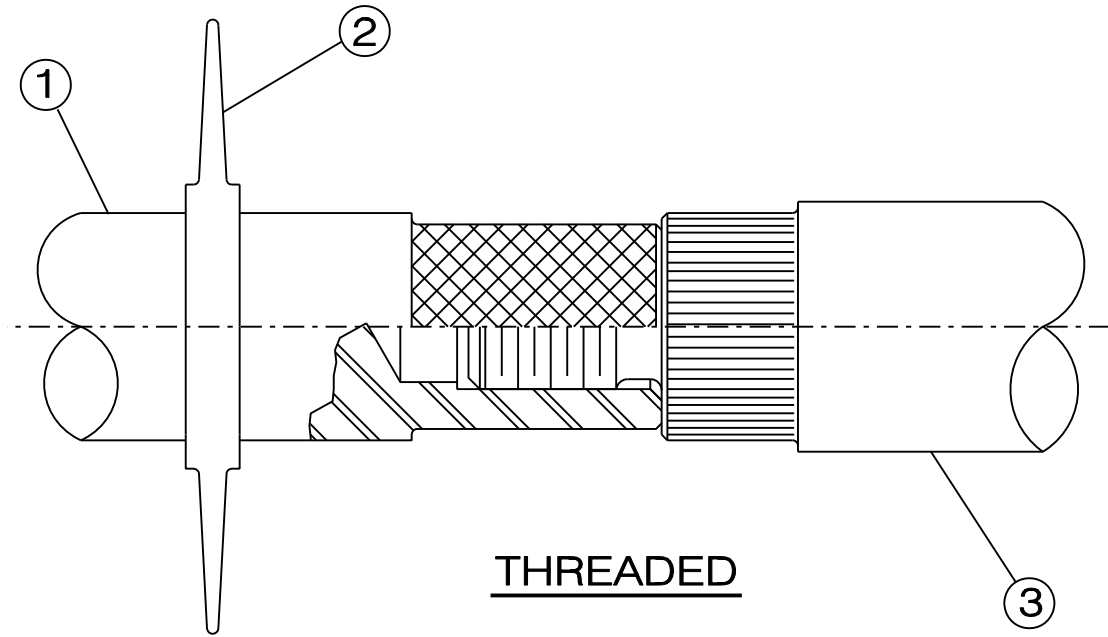
1717054	2" CERAMIC PLUNGER
1717053	1-7/8 " CERAMIC PLUNGER
1717052	1-3/4 " CERAMIC PLUNGER
1717051	1-5/8 " CERAMIC PLUNGER
1717050	1-1/2" CERAMIC PLUNGER

**CAUTION: FOR REFERENCE ONLY**

– OBSOLETE DESIGN –  
SEE DWG. 1717122 OR  
1717124 FOR CURRENT DESIGN

<b>NOV NATIONAL OILWELL VARCO</b>			
TITLE PLUNGER/INTERMEDIATE ROD ASSY. DOUBLE TAPER CLAMP 165T-5 PLUNGER PUMP			
SIZE C	REFERENCE No.	DRAWING No. 1717123	REV
SCALE 1 / 1	EST WT	SHEET 1 OF 1	

BILL OF MATERIAL		
ITEM	PART NO.	DESCRIPTION
1	340-023	INTERMEDIATE ROD STAINLESS
2	1717016	BAFFLE, INTERMEDIATE ROD

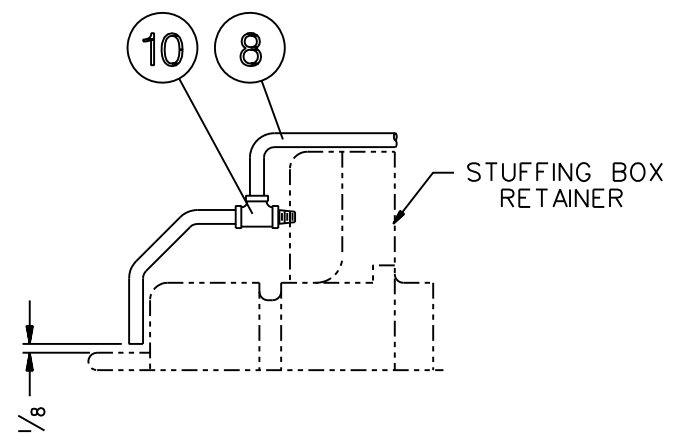
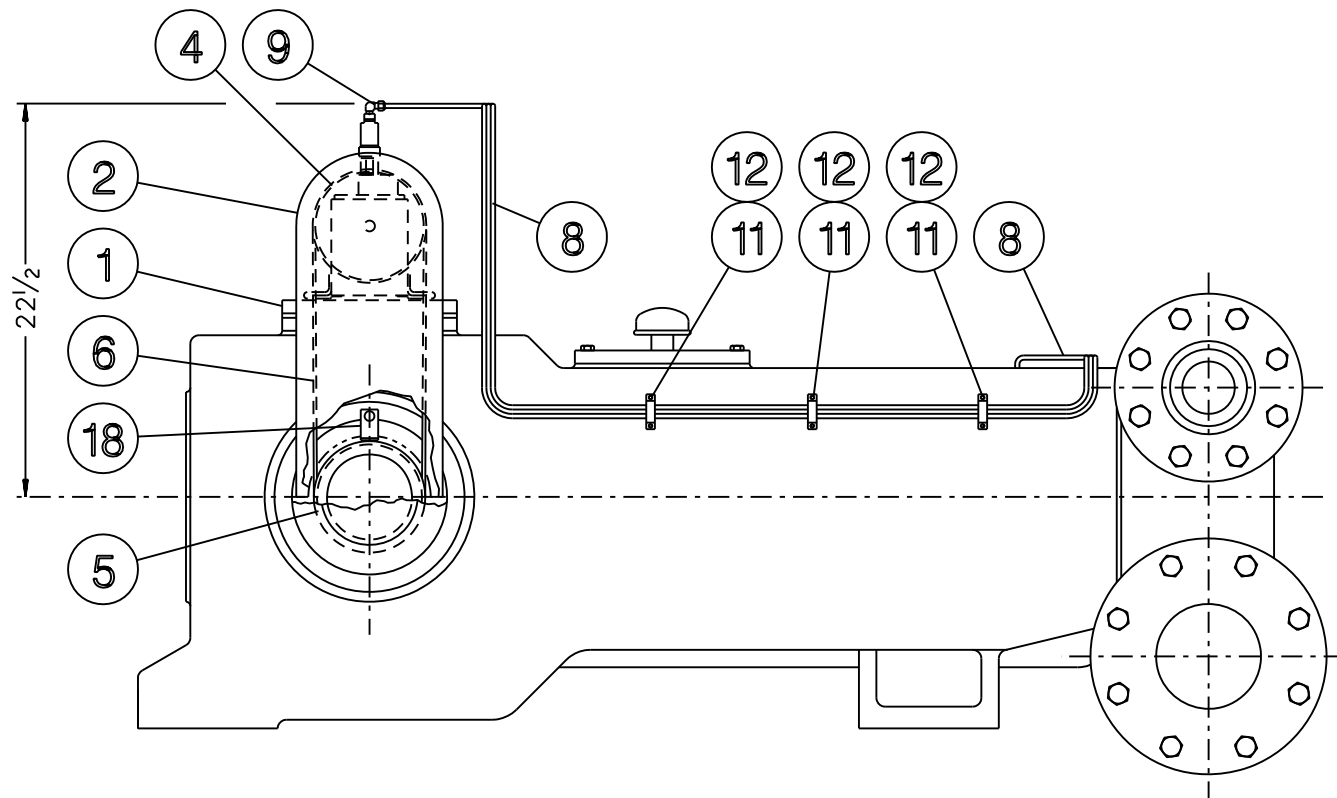
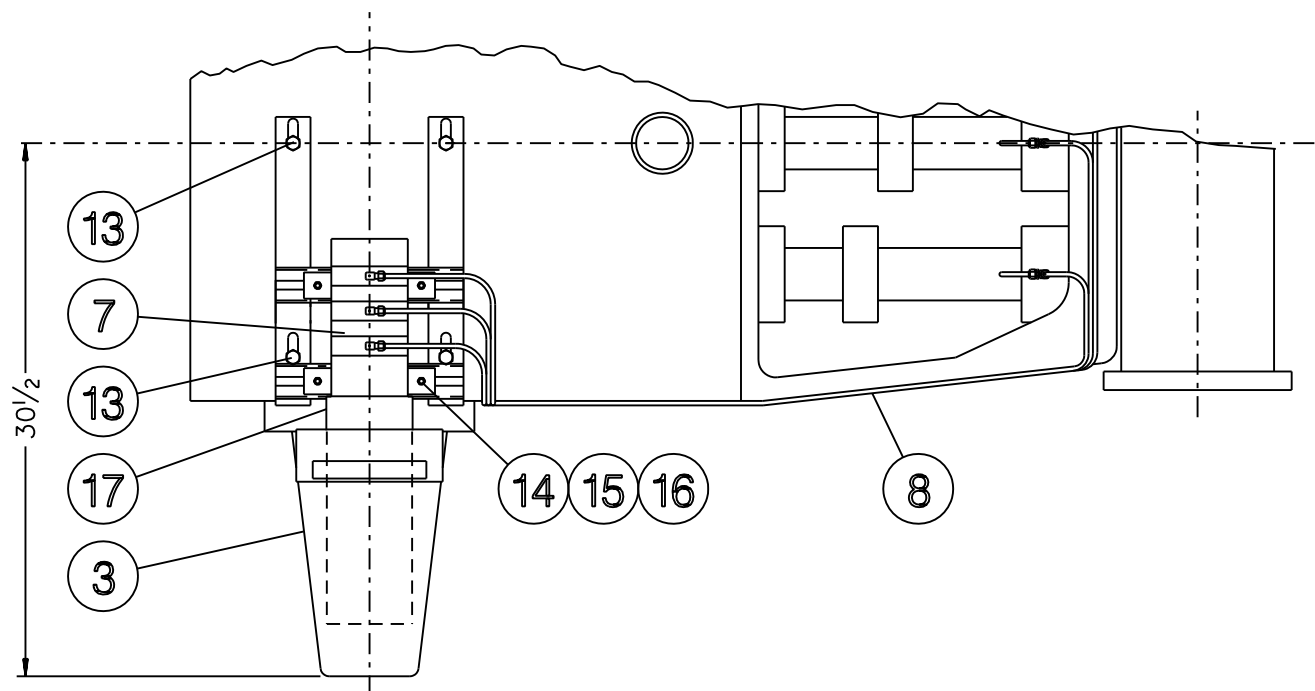


THREADED PLUNGERS			
165T - 5L			
ITEM	*PART NO.*	PART NO.	DESCRIPTION
3	1712264	340-199	4" CARBIDE PLUNGER
	1712265	340-198	3-3/4 " CARBIDE PLUNGER
	1712266	340-197	3-1/2 " CARBIDE PLUNGER
	1712267	340-196	3-1/4 " CARBIDE PLUNGER
	1712268	340-195	3" CARBIDE PLUNGER
	1712269	340-194	2-3/4 " CARBIDE PLUNGER
165T - 5M			
	1712269	340-194	2-3/4" CARBIDE PLUNGER
	1712589	340-193	2-5/8 " CARBIDE PLUNGER
	1712270	340-192	2-1/2 " CARBIDE PLUNGER
	1712376	340-191	2-3/8 " CARBIDE PLUNGER
	1712271	340-190	2-1/4" CARBIDE PLUNGER
	1712447	340-189	2-1/8 " CARBIDE PLUNGER
	1712272	L340-188	2" CARBIDE PLUNGER
165T - 5H			
	1712272	L340-188	2" CARBIDE PLUNGER
	1712445	L340-187	1-7/8 " CARBIDE PLUNGER
	1712273	340-186	1-3/4 " CARBIDE PLUNGER
	1712274	340-185	1-5/8 " CARBIDE PLUNGER
	1712275	340-184	1-1/2" CARBIDE PLUNGER

THREADED PLUNGERS		
165T - 5L		
ITEM	PART NO.	DESCRIPTION
3	1712082	4" CERAMIC PLUNGER
	1712081	3-3/4 " CERAMIC PLUNGER
	1712080	3-1/2 " CERAMIC PLUNGER
	1712079	3-1/4 " CERAMIC PLUNGER
	1712078	3" CERAMIC PLUNGER
	1712042	2-3/4 " CERAMIC PLUNGER
165T - 5M		
	1712042	2-3/4" CERAMIC PLUNGER
	1712588	2-5/8 " CERAMIC PLUNGER
	1712041	2-1/2 " CERAMIC PLUNGER
	1712377	2-3/8 " CERAMIC PLUNGER
	1712040	2-1/4" CERAMIC PLUNGER
	1712331	2-1/8 " CERAMIC PLUNGER
	1712039	2" CERAMIC PLUNGER
165T - 5H		
	1712039	2" CERAMIC PLUNGER
	1712459	1-7/8 " CERAMIC PLUNGER
	1712038	1-3/4 " CERAMIC PLUNGER
	1712150	1-5/8 " CERAMIC PLUNGER
	1712037	1-1/2" CERAMIC PLUNGER

\* LISTED PART NUMBERS WERE PREVIOUSLY HARD COAT PLUNGERS

<b>NOV NATIONAL OILWELL VARCO</b>			
TITLE PLUNGER/INTERMEDIATE ROD ASSY. THREADED PLUNGER 165T-5 PLUNGER PUMP			
SIZE C	REFERENCE No.	DRAWING No. 1717124	REV
SCALE 1/1	EST WT	SHEET 1 OF 1	



**DETAIL OF DRIP LUBE PIPING**  
SCALE : NONE

1	1790074	1790074	BRACKET, LUBRICATOR GUARD - BOTTOM	18
1	1790051	1790051	BRACKET, LUBRICATOR GUARD - TOP	17
4	6300070	6300070	NUT, HEX 7/16"	16
20	7600032	7600032	WASHER, 1/2" N TYPE A 1.062 O.D.	15
4	7000258-11	7000258-11	SCREW, HEX HEAD CAP 7/16x 1 1/2" LG.	14
4	7000306-11	7000306-11	SCREW, HEX HEAD CAP 1/2" x 1 3/4" LG.	13
6	7168073	7168073	SCREW, HEX HEAD *8-32 x 1/4" TYPE F SELF TAPPING	12
3	7802200	7802200	CLIP, MULTI-LINE TUBING	11
3	25854704		TEE, 1/4" TUBE x 1/4" TUBE x 1/4" N.P.T. - S.S.	10
		G7819165	TEE, 1/4" TUBE x 1/4" TUBE x 1/4" N.P.T.	
3	64226988		ELBOW, 90° x 1/4" TUBE x 1/8" N.P.T. - S.S.	9
		7804080	ELBOW, 90° x 1/4" TUBE x 1/8" N.P.T.	
25 F	64699402		TUBING, STAINLESS STEEL 1/4" O.D. x .035 WALL	8
		7400420	TUBING, COPPER 1/4" O.D. x .032 WALL	
1	7811072	7811072	LUBRICATOR, 3 FEED (LH)	7
	7811071	7811071	LUBRICATOR, 3 FEED (RH)	
1	4712510	4712510	BELT, V - 2510	6
1	1712201	1712201	SHEAVE, DRIVER 6" PD	5
1	7200020	7200020	SHEAVE, LUBRICATOR 6.2" PD	4
1	1712202	1712202	COVER, CRANKSHAFT EXTENSION	3
1	1710125	1710125	GUARD, LUBRICATOR BELT (INCL. ITEMS 17 & 18)	2
1	1712315	1712315	BRACKET, LUBRICATOR	1

QTY REQ'D	PART No.	DESCRIPTION / MATERIAL / SPECIFICATION	ITEM NO.
	LUBRICATOR ASSY. COMPLETE WITH STAINLESS STEEL LINES P/N 1712225RSS	LUBRICATOR ASSY. COMPLETE WITH COPPER LINES P/N 1712225	

LIST OF MATERIAL

L. H. P/N 1712225LSS

**NOTE:**

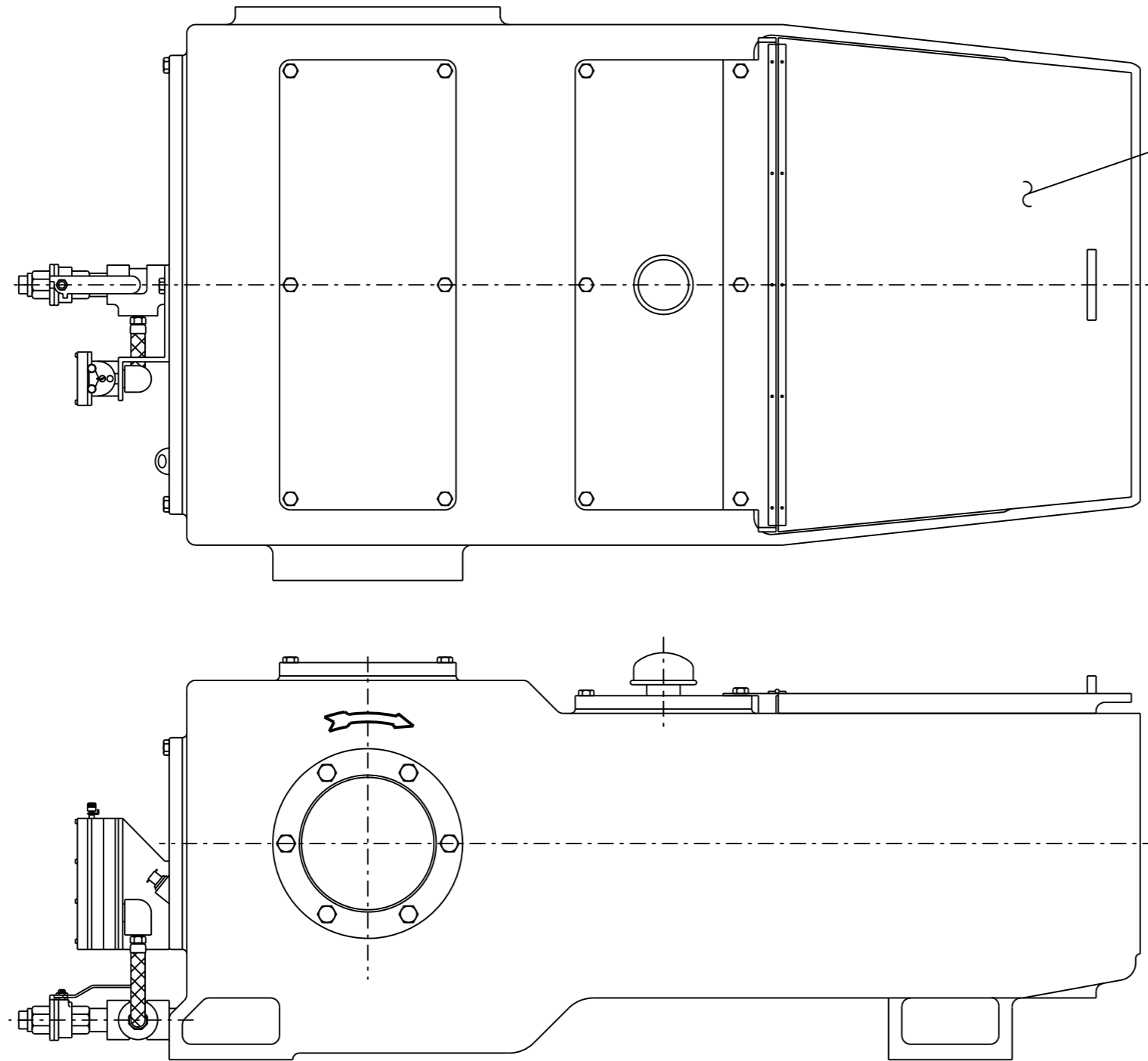
R.H. LUBRICATOR SHOWN  
L.H. OPPOSITE

**NOV NATIONAL OILWELL VARCO**

TITLE  
LUBRICATOR ASSEMBLY PIPING  
3-FEED LUBRICATOR (R.H. OR L.H.)  
165T-5 TRIPLEX PLUNGER PUMP

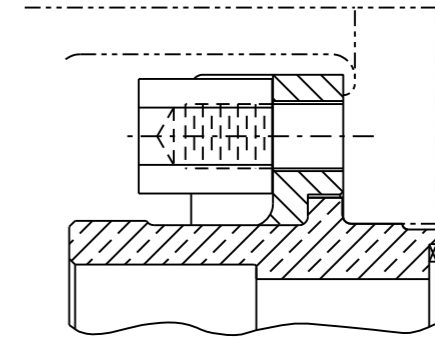
SIZE <b>B</b>	REFERENCE No.	DRAWING No. 1712225	REV
SCALE NONE	EST WT	SHEET 1 OF 1	

18



PLUNGER CHAMBER COVER  
P/N 1717344 (14 GA. STL.)

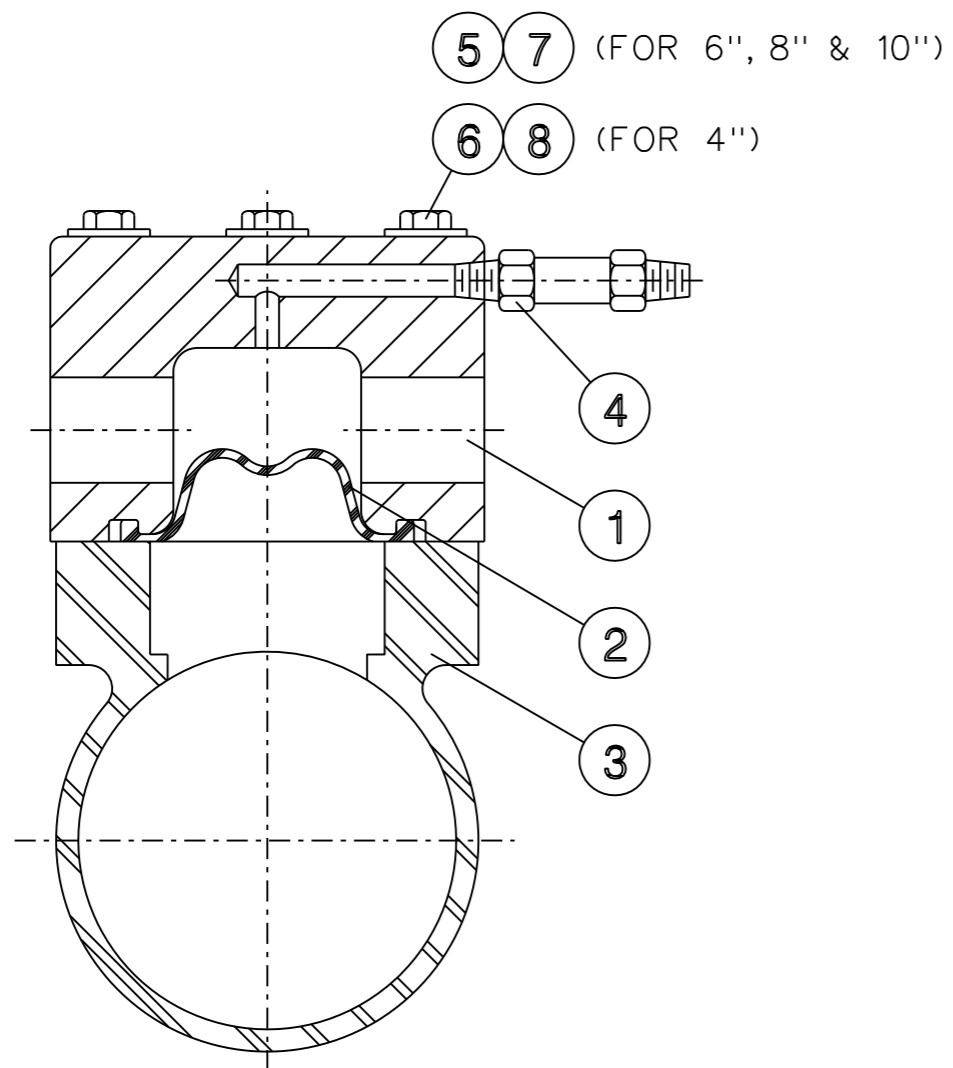
STUFFING BOX RETAINER  
1 3/8" ACORN NUT OPTION  
P/N 1712024 (ALUM. BRZ.)



**165T- 5L, 5M or 5H**  
(STUFFING BOX & RETAINER SHOWN  
ARE REPRESENTATIVE ONLY)

OIL LEVEL SWITCH ASSY.  
(TYPICAL ARRANGEMENT)  
MURPHY L-129 SHOWN  
SWITCH MODEL, LOCATION & PIPING ARRANGEMENT  
WILL VARY DEPENDING ON APPLICATION

TITLE			
OPTIONAL ACCESSORIES			
165T-5 TRIPLEX PLUNGER PUMP			
SIZE	REFERENCE No.	DRAWING No.	REV
B		1717129	
SCALE	EST WT	SHEET	
1/8		1 OF 1	



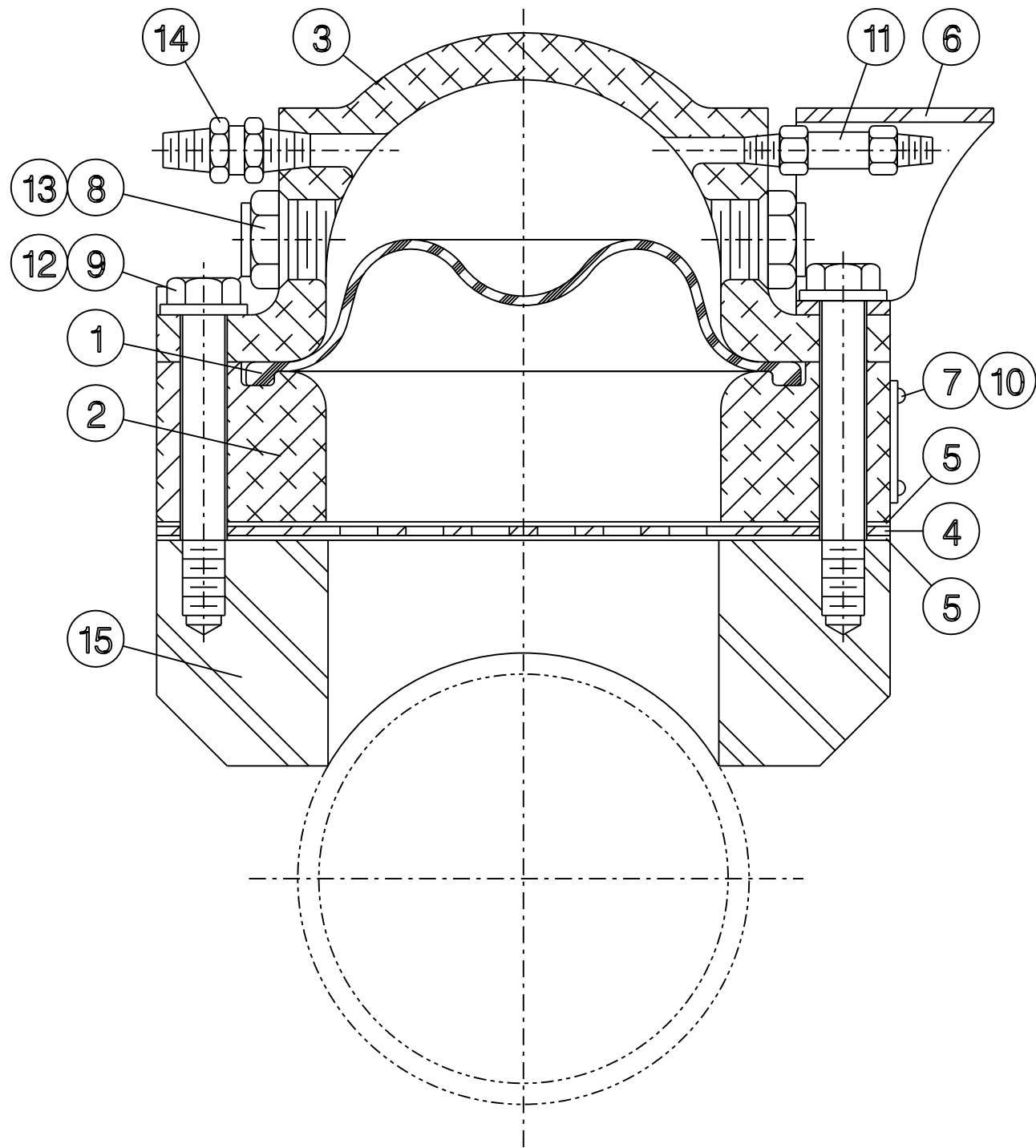
14	7600020	WASHER, 5/16" (FOR 4")	14
18	7600032	WASHER, 1/2" (FOR 6", 8" & 10")	13
14	7000157-11	CAPSCREW, 5/16-18 x 1" LG. (FOR 4")	12
18	7000304-11	CAPSCREW, 1/2-13 x 1 1/4" LG. (FOR 6", 8" & 10")	11
1	1712218	GASKET, BLANKING PLATE (FOR 6", 8" & 10")	10
1	6000004	GASKET, BLANKING PLATE (FOR 4")	
1	1712217	PLATE, BLANKING (FOR 6", 8" & 10")	9
1	X17-1569	PLATE, BLANKING (FOR 4")	
14	7600020	WASHER, 5/16" (FOR 4")	8
18	7600032	WASHER, 1/2" (FOR 6", 8" & 10")	7
14	7000168-11	CAPSCREW, 5/16-18 x 3 3/4" LG. (FOR 4")	6
18	7000316-11	CAPSCREW, 1/2-13 x 4" LG. (FOR 6", 8" & 10")	5
1	7500021	CHECK VALVE, 1/8" (FOR 4", 6", 8" & 10")	4
1	1713201	10" PIPE BODY	3
1	1712501	8" PIPE BODY	
1	1712251	6" PIPE BODY	
1	1712250	4" PIPE BODY	2
1	1712327	10" DIAPHRAGM	
1	1712327	8" DIAPHRAGM	
1	1712327	6" DIAPHRAGM	
1	1712262	4" DIAPHRAGM	1
1	1712329	10" DAMPENER	
1	1712329	8" DAMPENER	
1	1712329	6" DAMPENER	
1	1712290	4" DAMPENER	
	1713200	DAMPENER COMPLETE - 10" (29" LG.)	
	1712502	DAMPENER COMPLETE - 8" (29" LG.)	
	1712253	DAMPENER COMPLETE - 6" (28" LG.)	
	1712252	DAMPENER COMPLETE - 4" (25 1/2" LG.)	
QTY REQ'D	PART NO.	DESCRIPTION	ITEM NO.
LIST OF MATERIAL			

**NOV NATIONAL OILWELL VARCO**

TITLE LOW PRESSURE PLASTIC BODY  
IN-LINE SUCTION DAMPENER (WELD-ON)  
PLUNGER PUMPS

SIZE	REFERENCE No.	DRAWING No.	REV
B		1717133	
SCALE	EST WT	SHEET 1 OF 1	
1/2			

\* L/M FOR BLANKING PLATE ASSEMBLY  
ITEMS #9 THRU #14 ARE NOT SHOWN



\*

1	1292234	PLATE, MOUNTING (FOR 12")	15
1	1290209	PLATE, MOUNTING (FOR 10")	
1	1290211	PLATE, MOUNTING (FOR 8")	
1	1291271	PLATE, MOUNTING (FOR 6")	
1	7500396	VALVE, RELIEF 1/4" NPT #559B-2M-70	14
1	7815106	PLUG, SIGHT TEDECO #W-54	13
32	7600036	WASHER, 9/16 N TYPE "A" 1.159 O.D.	12
1	7500021	VALVE, CHECK - DILL #02500-100AA-643VC	11
8	7178025	DRIVESCREW, #2 x 1/4" LG. ROUND HD.	10
32	7000361-11	CAPSCREW, 9/16-12UNC x 4" LG. HEX HD.	9
2	2410031-024	PACKING, SIGHT PLUG	8
1	2407136	PLATE, INSTRUCTION	7
1	1290228	GUARD, AIR VALVE	6
2	1290199	GASKET	5
1	1290198	RETAINER	4
1	1290197	COVER	3
1	1290196	SPACER	2
1	1290195	DIAPHRAGM	1
	1292233	DAMPENER COMPLETE - 12" (34 1/2" LG.)	
	1290208	DAMPENER COMPLETE - 10" (34 1/2" LG.)	
	1290210	DAMPENER COMPLETE - 8" (34 1/2" LG.)	
	1291270	DAMPENER COMPLETE - 6" (34 1/2" LG.)	
QTY REQ'D	PART NO.	DESCRIPTION	ITEM NO.

LIST OF MATERIAL

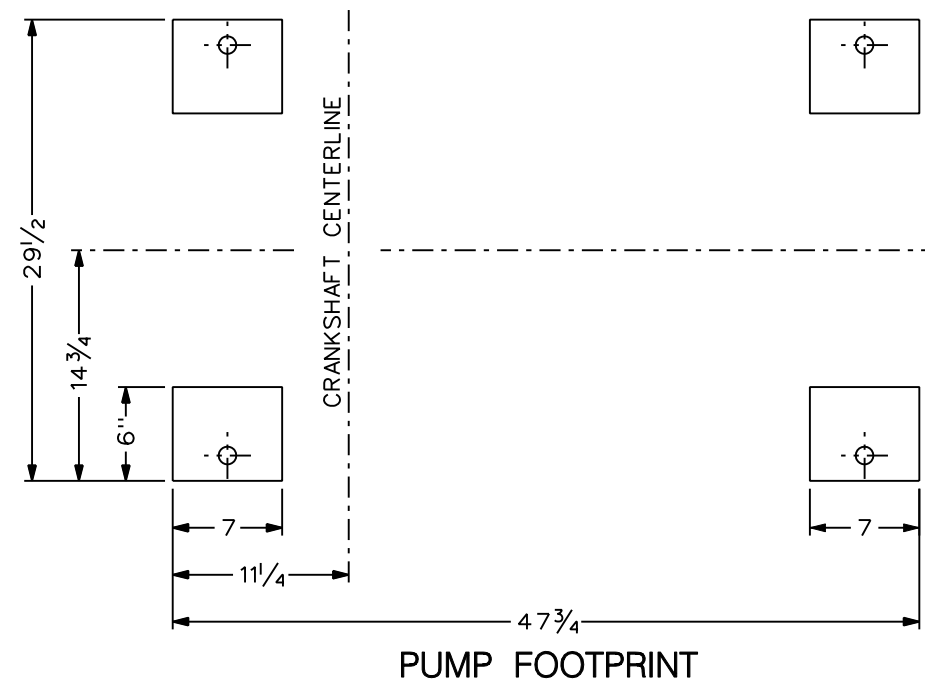
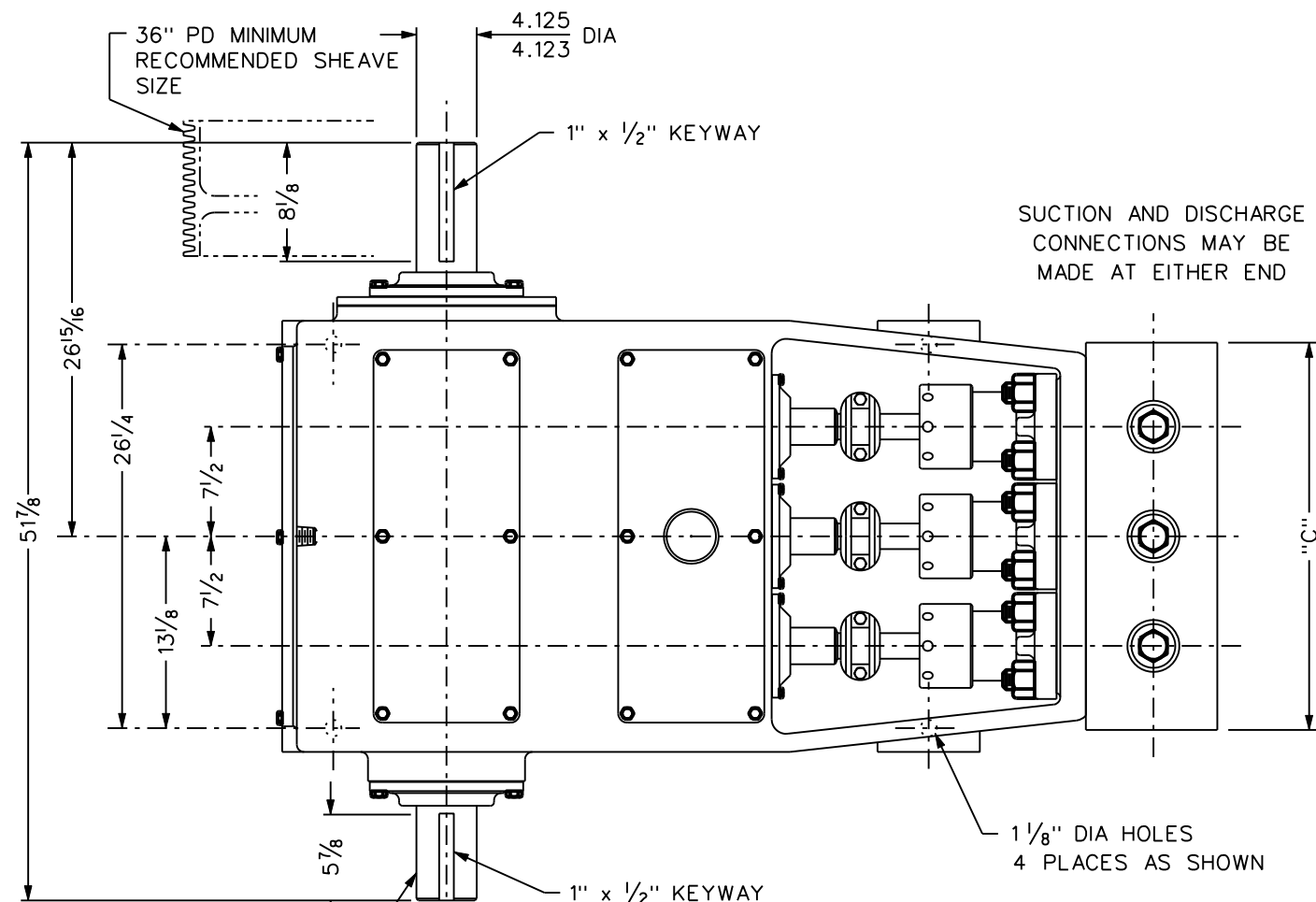
**NOV** NATIONAL OILWELL VARCO

TITLE HIGH PRESSURE ALUMINUM BODY  
IN-LINE SUCTION DAMPENER (WELD-ON)  
PLUNGER PUMPS

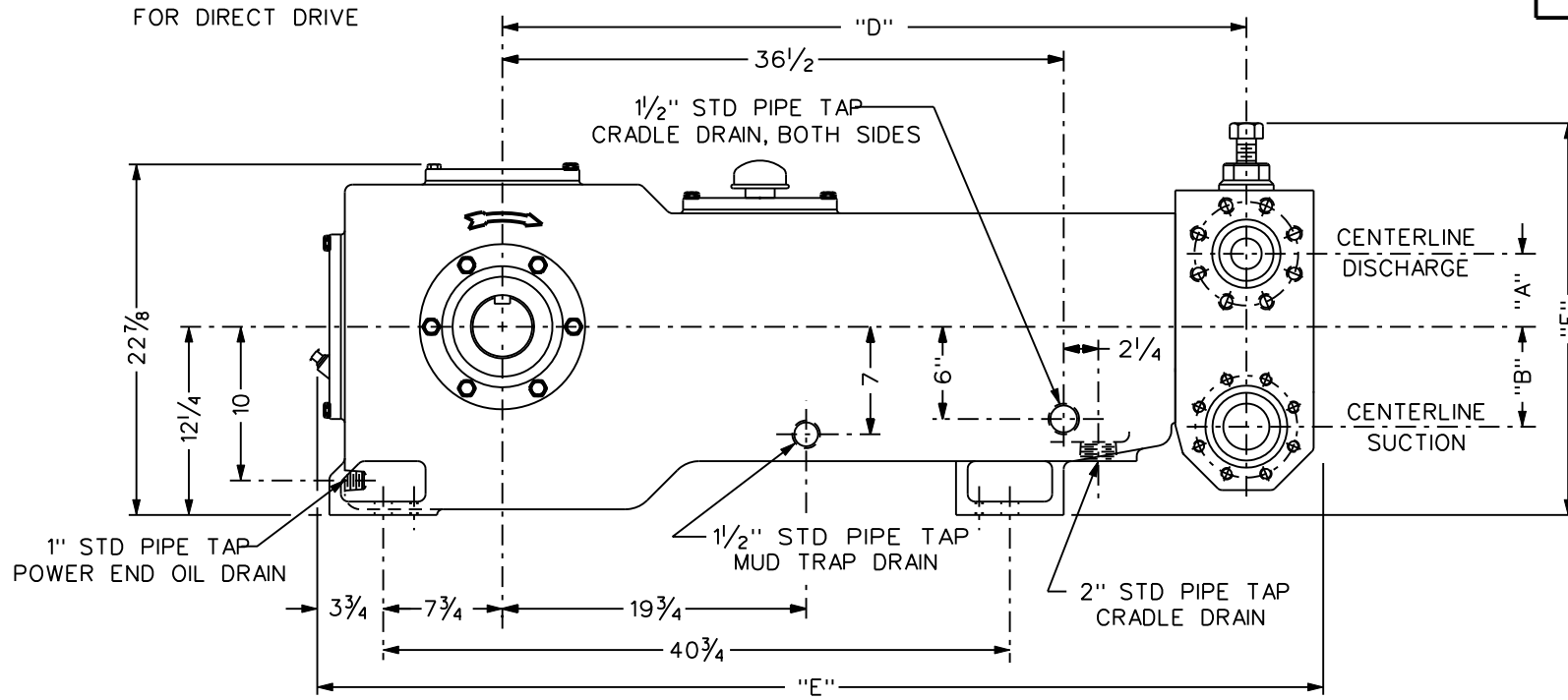
SIZE	REFERENCE No.	DRAWING No.	REV
B		1717134	

\* FOR 6", 8", 10" & 12" DIA. DAMPENERS

SCALE	EST WT	SHEET
1/2		1 OF 1



PUMP TYPE	DISCHARGE CONNECTION	SUCTION CONNECTION	DIMENSIONS IN INCHES					
			A	B	C	D	E	F
165T-5L	3" API-2000* R.J	6" ANSI-150* F.F.	5 1/16	7 5/8	27 3/4	48 3/4	65 3/4	23
165T-5M	2" API-5000* R.J	4" ANSI-150* F.F.	4 3/4	6 1/2	26 1/2	48 3/8	64 7/8	25 5/16
165T-5H	2" ANSI-2500* R.J	3" API-2000* R.J	4 3/4	6 1/2	26 1/2	48 3/8	64 1/4	25 5/16



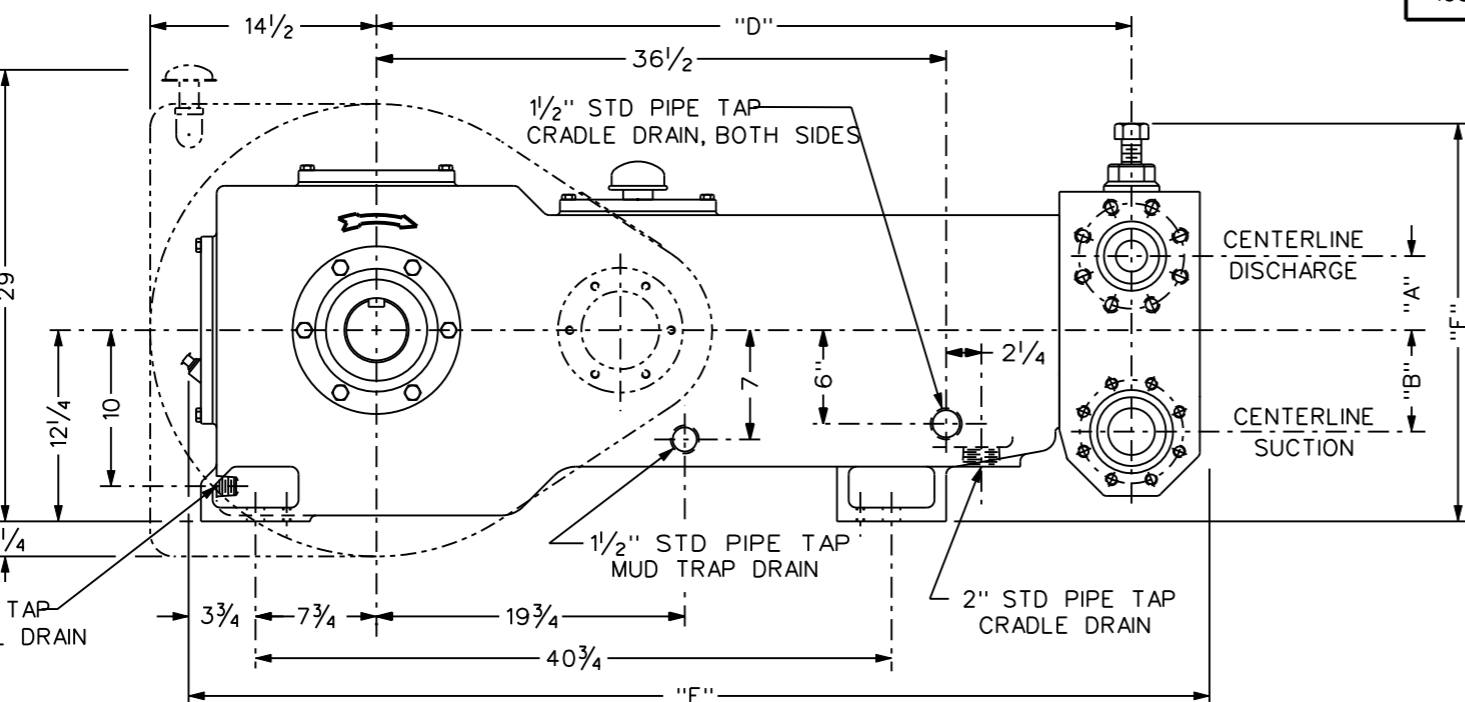
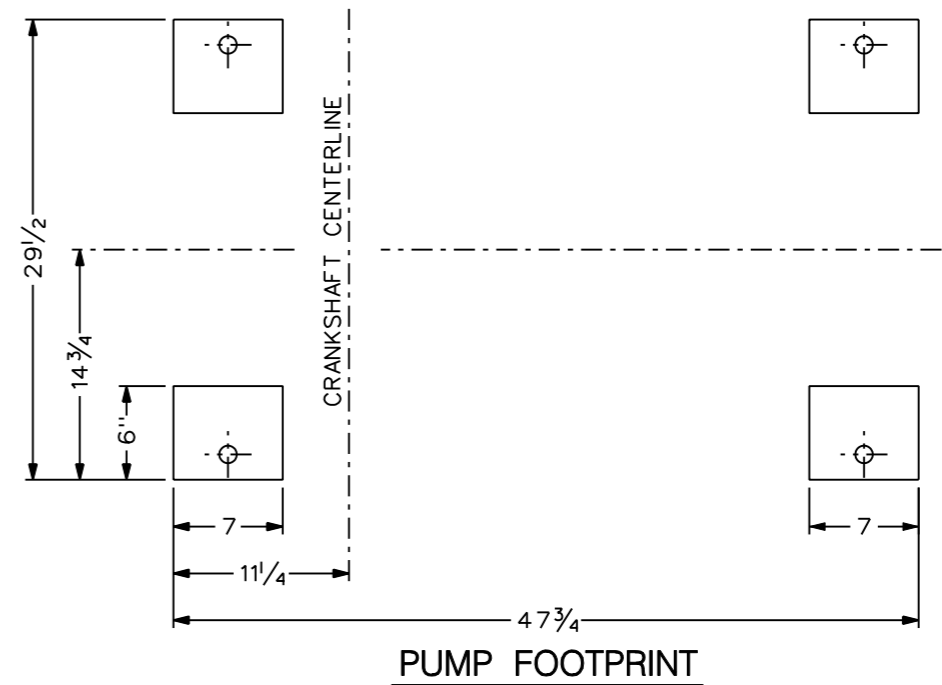
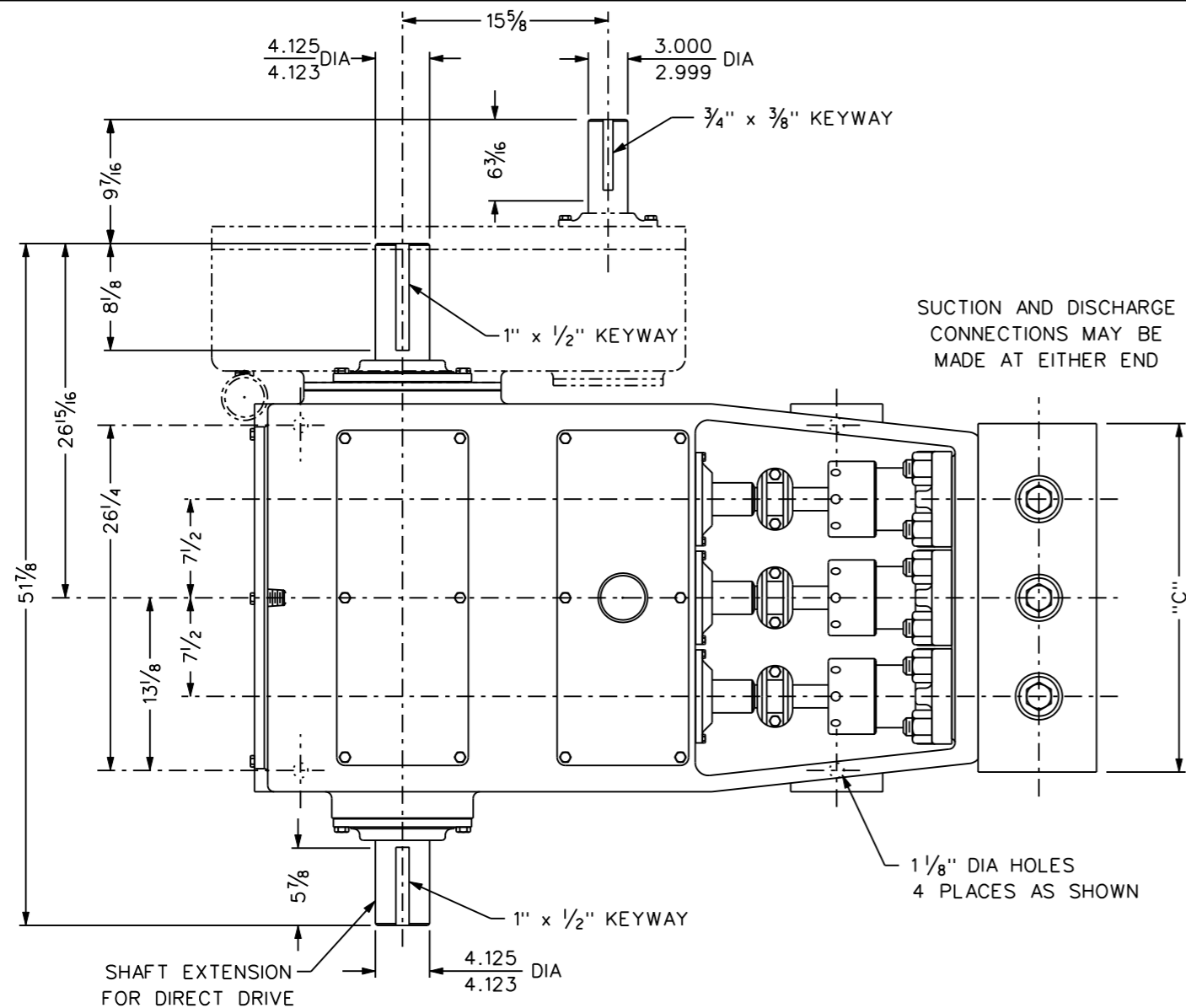
165T-5H MODEL IS SHOWN

**NOV NATIONAL OILWELL VARCO**

TITLE: OUTLINE DRAWING  
165T-5 TRIPLEX PLUNGER PUMP  
WITHOUT GEAR REDUCER

SIZE B	REFERENCE No.	DRAWING No. 1717005	REV
SCALE 1/12	EST WT 4000#	SHEET 1 OF 1	





PUMP TYPE	DISCHARGE CONNECTION	SUCTION CONNECTION	DIMENSIONS IN INCHES					
			A	B	C	D	E	F
165T-5L	3" API-2000* R.J	6" ANSI-150* F.F.	5 11/16	7 5/8	27 3/4	48 3/4	65 3/4	23
165T-5M	2" API-5000* R.J	4" ANSI-150* F.F.	4 3/4	6 1/2	26 1/2	48 3/8	64 7/8	25 5/16
165T-5H	2" ANSI-2500* R.J	3" API-2000* R.J	4 3/4	6 1/2	26 1/2	48 3/8	64 1/4	25 5/16

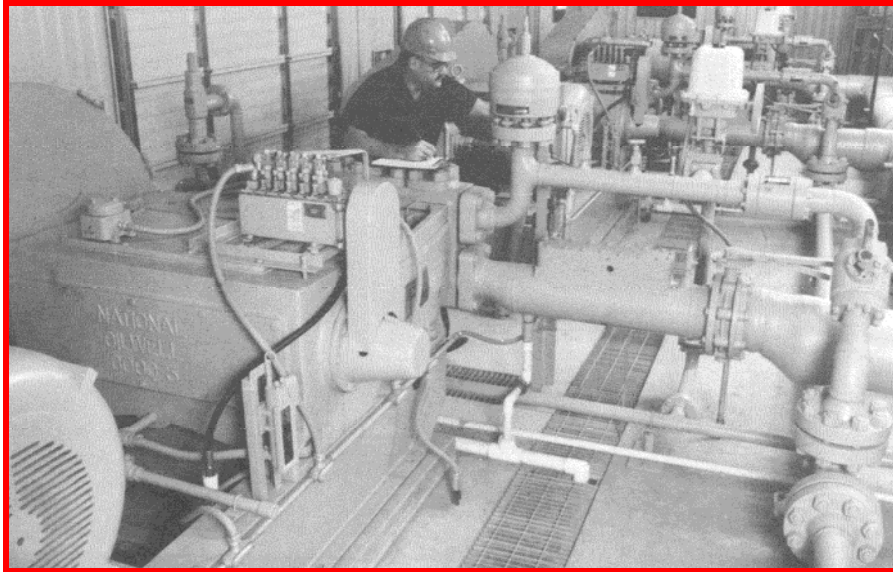
165T-5H MODEL IS SHOWN

**NOV NATIONAL OILWELL VARCO**

TITLE: OUTLINE DRAWING  
165T-5 TRIPLEX PLUNGER PUMP  
WITH GEAR REDUCER

SIZE <b>B</b>	REFERENCE No.	DRAWING No. <b>1717007</b>	REV
SCALE 1/12	EST WT 4800*	SHEET 1 OF 1	

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