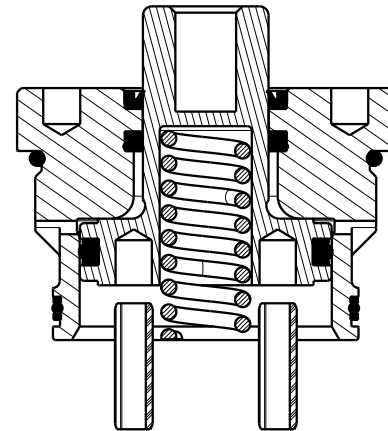
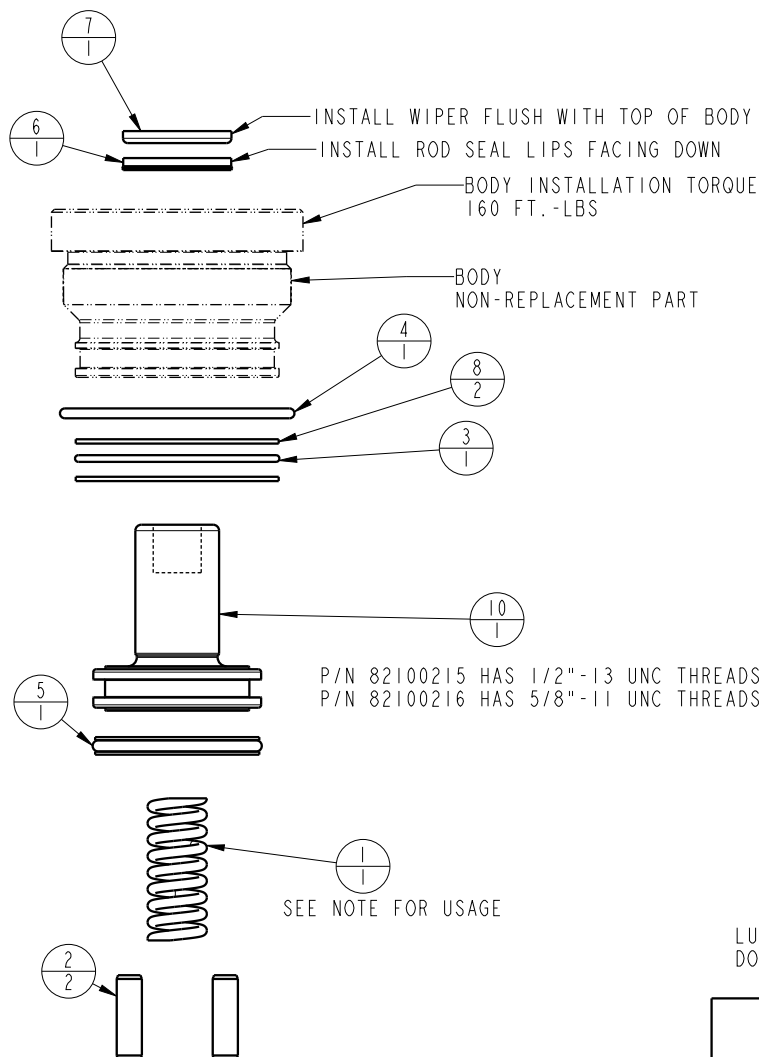


NOTE: ITEM 1 ONLY USED FOR SINGLE ACTING OPERATION

NO	QTY	PART NO	DESCRIPTION	21-0216-00		21-0216-01		STD SEAL KIT
1	1	23355015	SPRING, COMPRESSION	X		X		
2	2	23520005	PIN, SPRING, SLOTTED, 1/4 X 7/8, SST	X		X		
3	1	39051128	O-RING, (-033)	X		X		X
4	1	39051130	O-RING, (-140)	X		X		X
5	1	39052052	SEAL, T, (1 1/2 X 1/8 X 1 3/4)	X		X		X
6	1	39052054	SEAL, LL, (7/8 X 1/8 X 1/8 X 1 1/8)	X		X		X
7	1	39053054	WIPER, PRESS-IN, (7/8)	X		X		X
8	2	39054023	BU RING, (-033)	X		X		X
9	1	67010154	TAG, INSTALL, CYL, CM, THREAD-IN	X		X		X
10	1	82100215	PLUNGER, CYL, CM, PP, 12000LB	X				
-	1	82100216	PLUNGER, CYL, CM, PP, 12000LB			X		
N/A	N/A	60210207	KIT, SEAL, CYL, CM, PP, 12000LB	N/A		N/A		NOTED
N/A	N/A	IS2101	INSTRUCTIONS, INSTALL, CYL, CM, THREADED	N/A		N/A		N/A



LUBRICATE ALL SEALS WITH CLEAN HYDRAULIC OIL. DO NOT USE SILICONE BASED LUBRICANTS

### PARTS LIST



VEKTEK, INC.  
1334 E. SIXTH AVE. P.O. BOX 625  
EMPORIA, KS. 66801 U.S.A.

ASSEMBLIES AFFECTED

21-0216-00  
21-0216-01

PARTS LIST, CYL, CM, PP, 12000LB

THREAD IN

SIZE A PL2186

REV B

B	5572	RELEASE	BDC	11/14/24
REV	IN ACCORDANCE WITH ECN	EFFECTIVE DATE	REVISED BY	DATE
DRW BY:	DKC	<b>DRAWING STATUS: Released</b>		
DATE:	9/25/14	PRODUCTION APPROVED FOR RELEASED STATUS ONLY		

FORM FEG035\_PL\_ASIZE, REV. B

SHEET 1 OF 1

# CAVITY AND INSTALLATION INSTRUCTIONS

## PLEASE READ PRIOR TO OPERATION

**Cavity Forming**

-The 15° and 45° angle at the top of the cavity can be formed with a SAE 12 reduced spot face diameter tool.

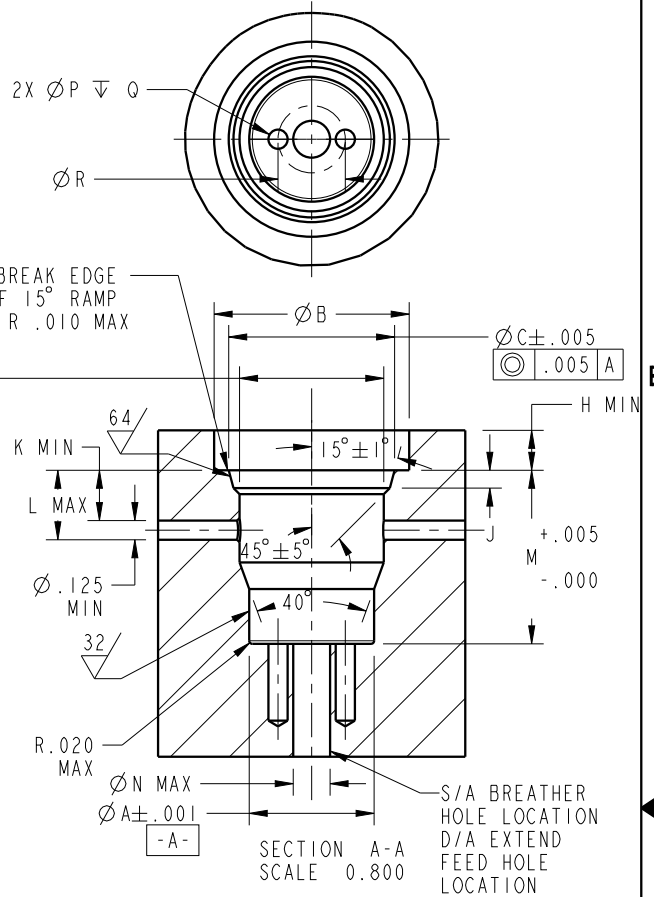
(Except the cavity for 21-0206-00/21-0206-01/21-0206-11)

-It is recommended that all cavities be prepared using a ball hone such as a

\*Flex-Hone™. This prepares the cavity for installation by deburring and rounding sharp edges to prevent seal damage.

-Intersecting feed holes should be adequately deburred and chamfered to prevent seal damage

\*Flex-hone™ is a registered trademark of Brush Research Manufacturing Co. Inc., Los Angeles, CA, 323-261-2193 Please Contact Brush Research for additional information.



MODEL NO.	CAPACITY	A	B	C	D	E	F	G	H	J*	K	L	M	N**	P***	Q***	R***	CARTRIDGE TORQUE**** (FT-LBS)
<b>Double Acting (D/A) Cylinders, actuated hydraulically in both directions**</b>																		
21-0206-0X	1500	.813	1.27	1.080	.939	.60	1-16	.48	.26	.116	.39	.75	1.130	.16	.125	.625	.44	25
21-0206-11						.86						1.01	1.374			.750		
21-0209-0X	2900	1.188	1.65	1.393	1.252	.68	1 5/16-16	.50	.26	.116	.39	.75	1.130	.18	.125	.625	.53	35
21-0209-11						1.33						1.40	1.763			.750		
21-0210-0X	3900	1.313	1.77	1.580	1.439	.67	1 1/2-16	.53	.33	.116	.46	.81	1.192	.18	.156	.625	.56	60
21-0210-11						1.32						1.46	1.822			.750		
21-0213-0X	7400	1.751	2.15	1.955	1.814	.75	1 7/8-16	.59	.33	.116	.46	.81	1.192	.33	.156	.625	.88	65
21-0213-11						1.35						1.41	1.776			.750		
21-0216-0X	12000	2.126	2.64	2.455	2.314	.70	2 3/8-16	.59	.45	.116	.45	.93	1.318	.35	.281	.625	1.00	160
21-0221-00	22000	2.876	3.39	3.205	3.064	.88	3 1/8-16	.72	.45	.116	.58	1.31	1.693	.40	.281	.625	1.57	200

\*ØN IS INTENDED FOR S/A CYLINDER ONLY TO PREVENT INTERFERENCE WITH RETURN SPRING. FOR D/A OPERATION THE FEED CAN BE POSITIONED ANYWHERE IN THE BOTTOM OF THE CAVITY.

\*\*FEATURES USED ONLY IF ANTI-ROTATE PINS ARE INSTALLED. ANTI-ROTATE PINS AND RETURN SPRINGS INCLUDED WITH CYLINDERS.

**INSTALLATION INSTRUCTIONS**



VEKTEK, INC.  
1334 E. SIXTH AVE. P.O. BOX 625  
EMPORIA, KS. 66801 U.S.A.

B	5572	RELEASE	BDC	11/15/24
REV	IN ACCORDANCE WITH ECN	EFFECTIVE DATE	REVISED BY	DATE
DRW BY:	DKC	<b>DRAWING STATUS: Released</b> PRODUCTION APPROVED FOR RELEASED STATUS ONLY		
DATE:	3/10/14			

ASSEMBLIES AFFECTED  
21-0206-XX 21-0209-XX  
21-0210-XX 21-0213-XX  
21-0216-XX 21-0221-XX

INSTRUCTIONS, INSTALL, CYL, CM, THREADED	
THREAD IN	SIZE
A	IS2101
REV	B

FORM FEG041-1S.AS1ZE, REV. B

SHEET 1 OF 3

# INSTALLATION INSTRUCTIONS CONTINUED

## Anti-Rotation Pins- Optional

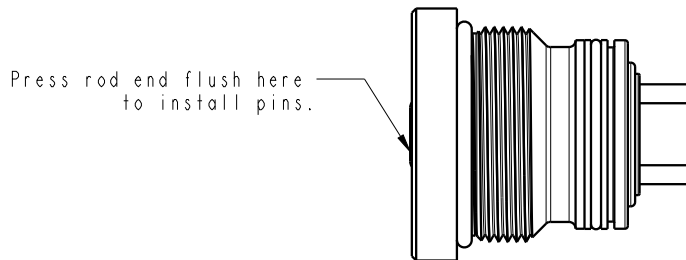
- Anti-Rotation Pins are included with all cylinders
- Anti-Rotation Pins are only to resist normal rotational force from cylinder actuation. The pins are not intended to resist torque from other applications.
- The use of anti-rotation pins are not required.
- Anti-Rotation Pins (included with each device) have sufficient length to fully engage in plunger as well as engage in the fixture greater than the total plunger stroke.
- Replacement anti-rotation pin part numbers are below for each size of cylinder.

MODEL NO.	PIN NO.
21-0206-0X	81-5905-09
21-0209-0X	23-5200-03
21-0210-0X	23-5200-04
21-0213-0X	23-5200-04
21-0216-0X	23-5200-05
21-0221-0X	23-5200-05

MODEL NO.	PIN NO.
21-0206-11	90-1999-83
21-0209-11	23-5200-11
21-0210-11	23-5200-12
21-0213-11	23-5200-12

## Installation of Anti-Rotation Pins- Optional

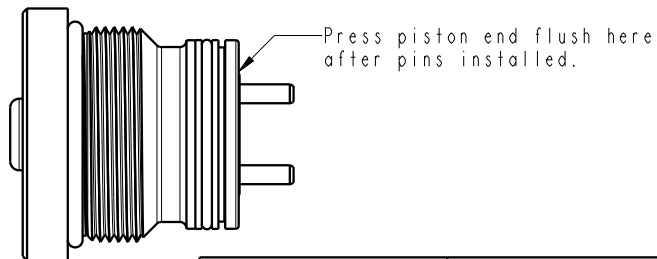
1. Press rod end of plunger flush with the end of the cylinder body. See view below. Care must be taken not to push the rod out of the rod seal. Piston seal may be exposed in certain cylinder models.



2. Press in the pins provided. Ensure pins start straight and are fully seated in the plunger. (An increase in resistance will be felt when pin is fully seated.)

NOTE: If piston seal was exposed during anti-rotation pin installation. Lubricate seal with non-silicone grease or clean hydraulic oil prior to reinstallation.

3. With both pins installed, carefully press piston end of the plunger flush with end of body. See view below.



4. Cylinder is ready for installation into fixture.

### INSTALLATION INSTRUCTIONS



VEKTEK, INC.  
1334 E. SIXTH AVE. P.O. BOX 625  
EMPORIA, KS. 66801 U.S.A.

B	5572	RELEASE	BDC	11/15/24
REV	IN ACCORDANCE WITH ECN	EFFECTIVE DATE	REVISED BY	DATE
DRW BY: DKC	<b>DRAWING STATUS: Released</b> PRODUCTION APPROVED FOR RELEASED STATUS ONLY			
DATE: 3/10/14				

#### ASSEMBLIES AFFECTED

21-0206-XX 21-0209-XX  
21-0210-XX 21-0213-XX  
21-0216-XX 21-0221-XX

#### INSTRUCTIONS, INSTALL, CYL, CM, THREADED

THREAD IN

SIZE  
A

IS2101

REV  
B

FORM FEG041-IS.ASIZE, REV. B

SHEET 2 OF 3

