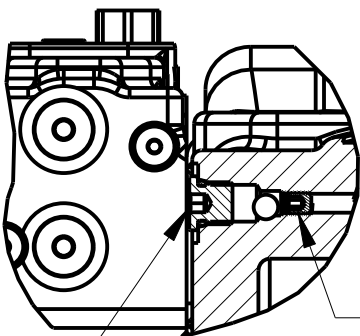
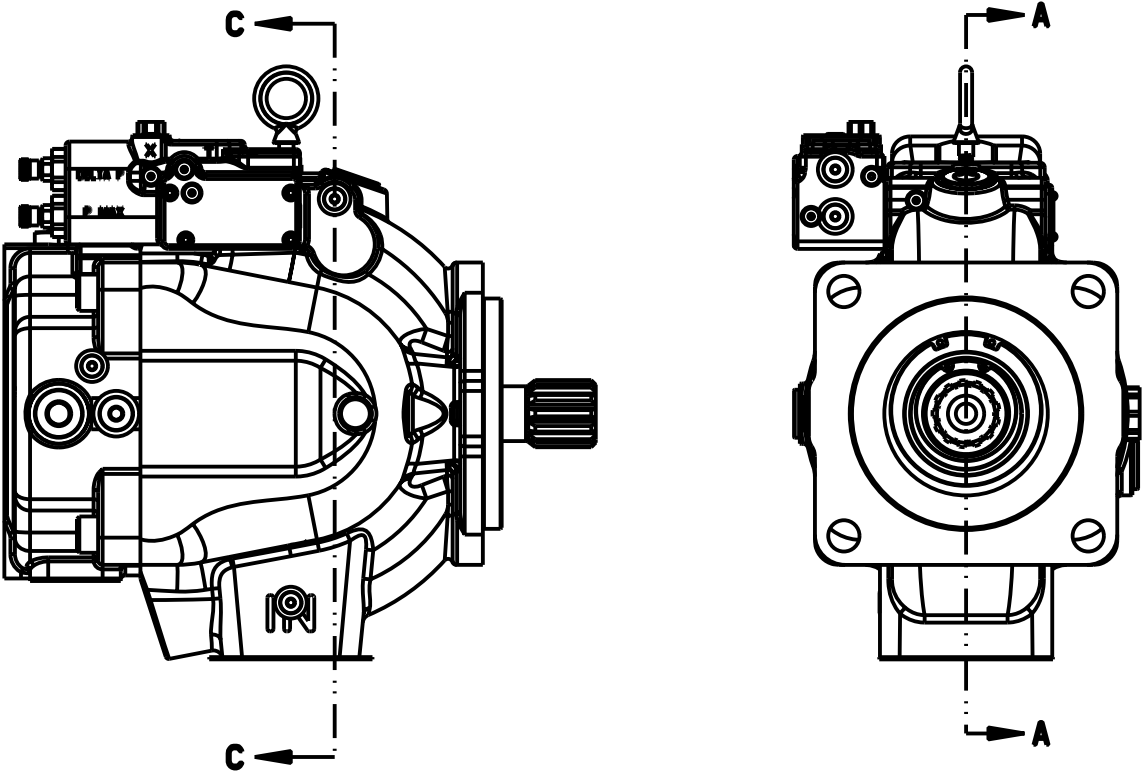




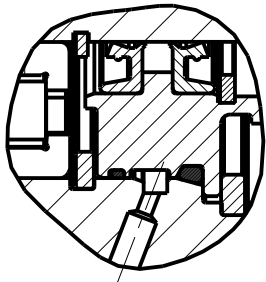
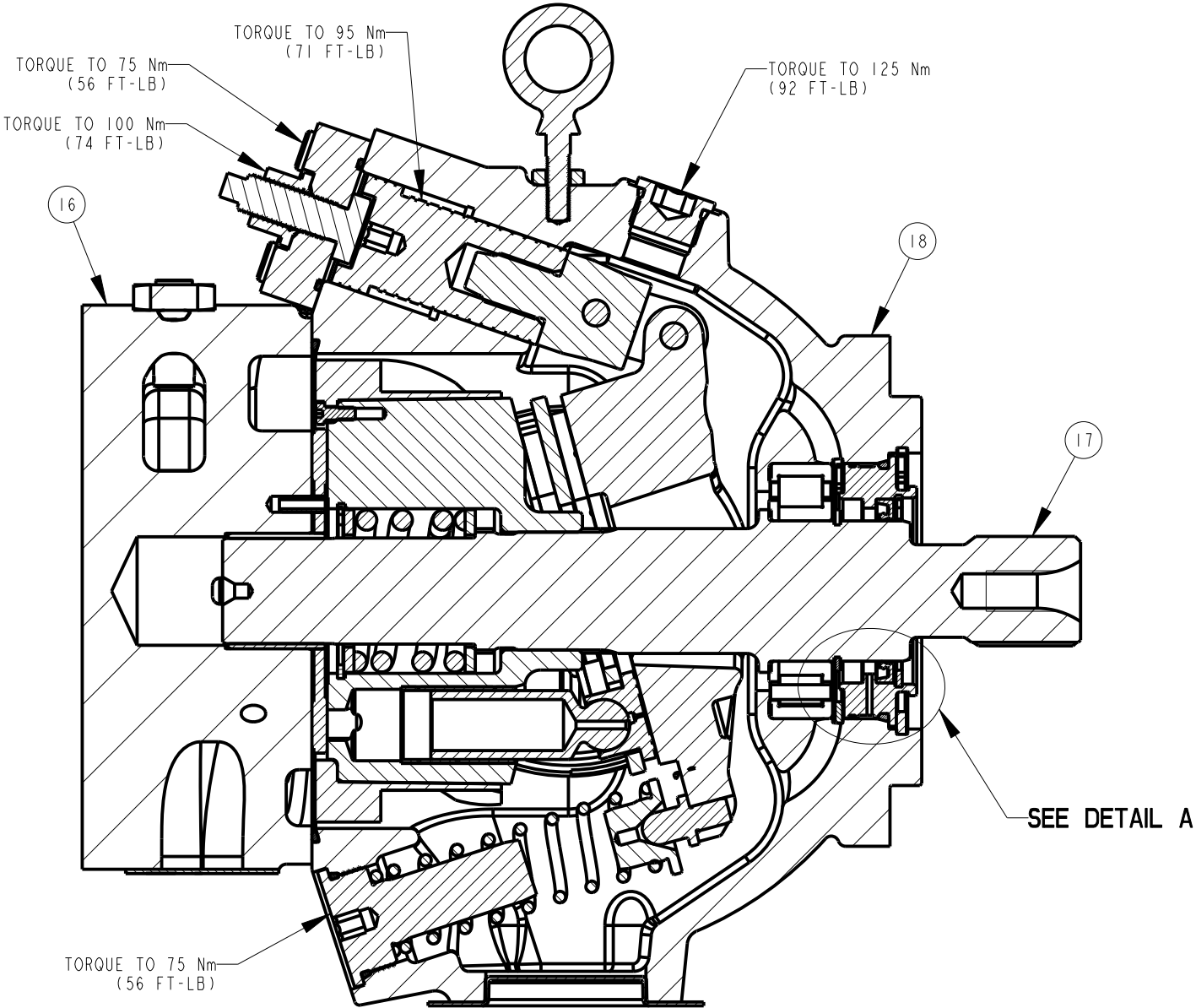
TORQUE TO:
25 Nm (18.6 FT-LB)
ISO PLUG P2-000-8964-04□;
15 Nm (11 FT-LB)
SAE PLUG P2-000-8960-04□

M6X6 SET SCREW INSTALLED FOR NON
TORQUE CONTROL OPTION PUMPS.REMOVE
SET SCREW FOR PUMPS USING TORQUE CONTROL
OPTION.

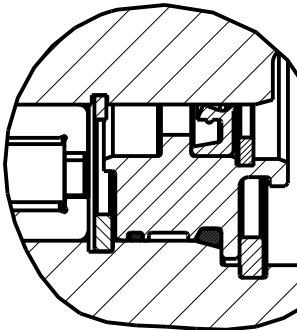
TORQUE 5 Nm
(45 IN-LB)

SECTION C-C

NOTES:
1 PUMP SHOWN IS A RIGHT HAND (CW) ROTATION PUMP. LEFT HAND (CCW) ROTATION PUMPS
HAVE OUTLET GAUGE PORT REVERSED.

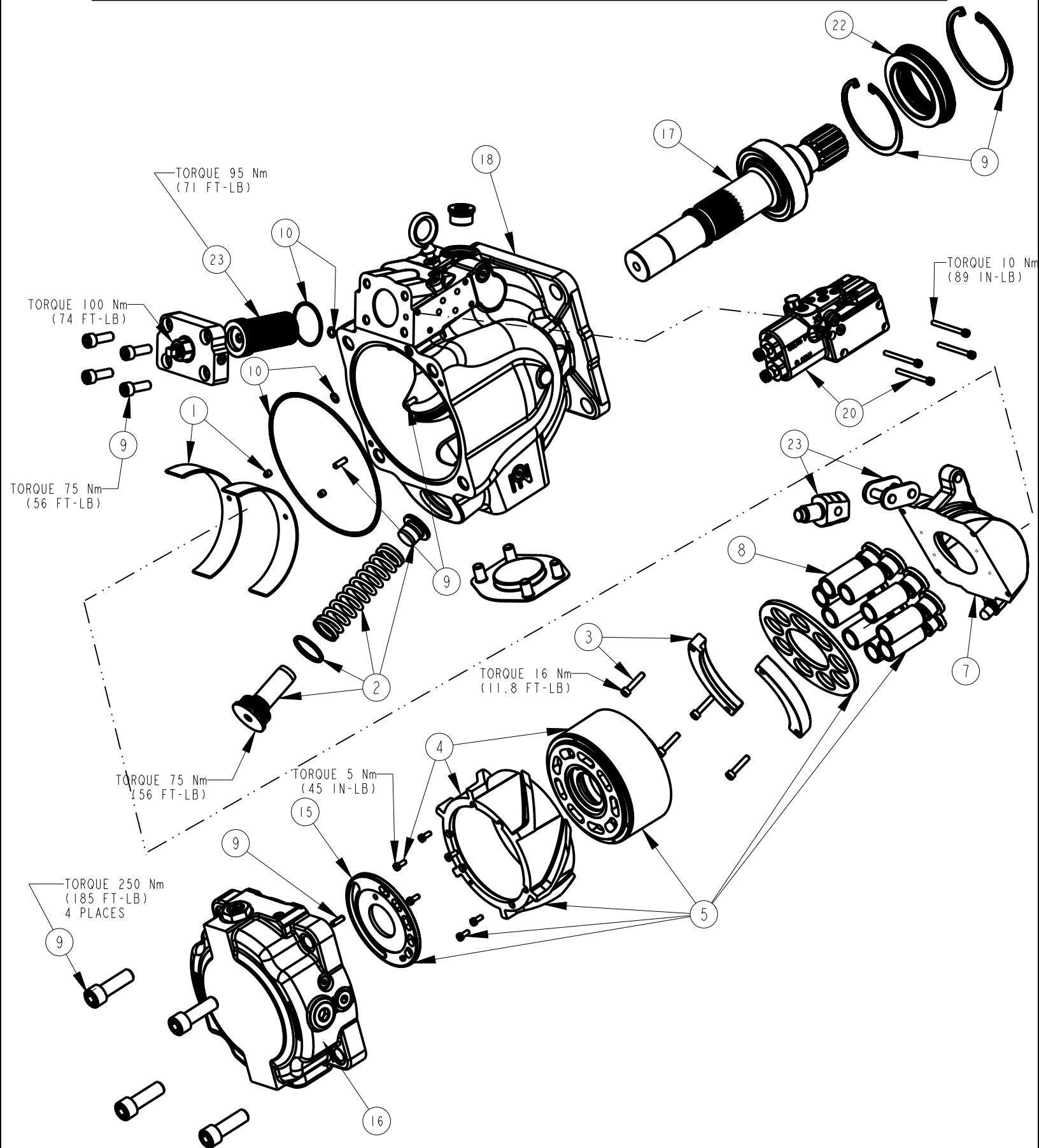


DETAIL A
DUAL SHAFT SEAL ASSEMBLY (D/T/Q OPTION)
P2-105-0210-02□



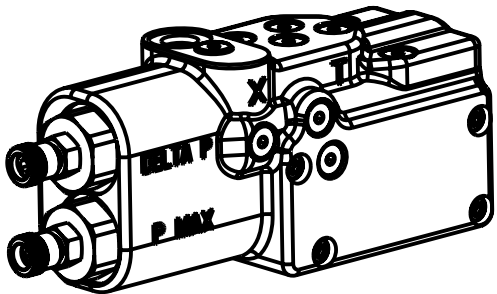
DETAIL A
SINGLE SHAFT SEAL ASSEMBLY (N/V/B OPTION)
P2-105-0210-01□

REPLACE □ SYMBOL WITH
"N" FOR NITRILE SEALS (PUMP CODE SEALING OPTION: N, D, B, Q)
"V" FOR FLOUROCARBON SEALS (PUMP CODE SEALING OPTION: T,V)



COMPENSATOR KITS

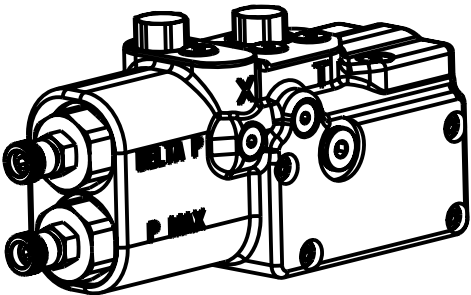
P2-075-0806-XX SPOOL OPTIONS - ITEM 20
(MODIFICATION D&E)



D&E	PA	A	20	P2-075-0806-07	I	COMPENSATOR ASSY
		B	20	P2-075-0806-08	I	COMPENSATOR ASSY
	PB	A	20	P2-075-0806-09	I	COMPENSATOR ASSY
		B	20	P2-075-0806-10	I	COMPENSATOR ASSY
	RA	A	20	P2-075-0806-05	I	COMPENSATOR ASSY
		B	20	P2-075-0806-06	I	COMPENSATOR ASSY
	LA	A	20	P2-075-0806-01	I	COMPENSATOR ASSY
		B	20	P2-075-0806-02	I	COMPENSATOR ASSY
	LB	A	20	P2-075-0806-03	I	COMPENSATOR ASSY
		B	20	P2-075-0806-04	I	COMPENSATOR ASSY
	TA	A	20	P2-075-0806-11	I	COMPENSATOR ASSY
		B	20	P2-075-0806-12	I	COMPENSATOR ASSY
	TB	A	20	P2-075-0806-13	I	COMPENSATOR ASSY
		B	20	P2-075-0806-14	I	COMPENSATOR ASSY
	TD	A	20	P2-075-0806-13	I	COMPENSATOR ASSY
		B	20	P2-075-0806-14	I	COMPENSATOR ASSY

WHEN ORDERING SPARE PART COMPENSATOR
PLEASE SPECIFY MAX. PRESSURE AS WELL AS
DELTA P PRESSURE IN YOUR ORDER

P2-145-0807-XX SPOOL OPTIONS - ITEM 20
(MODIFICATION U&P)



NOT D&E	PA	A	20	P2-145-0807-07	I	COMPENSATOR ASSY
		B	20	P2-145-0807-08	I	COMPENSATOR ASSY
	PB	A	20	P2-145-0807-09	I	COMPENSATOR ASSY
		B	20	P2-145-0807-10	I	COMPENSATOR ASSY
	RA	A	20	P2-145-0807-05	I	COMPENSATOR ASSY
		B	20	P2-145-0807-06	I	COMPENSATOR ASSY
	LA	A	20	P2-145-0807-01	I	COMPENSATOR ASSY
		B	20	P2-145-0807-02	I	COMPENSATOR ASSY
	LB	A	20	P2-145-0807-03	I	COMPENSATOR ASSY
		B	20	P2-145-0807-04	I	COMPENSATOR ASSY
	TA	A	20	P2-145-0807-11	I	COMPENSATOR ASSY
		B	20	P2-145-0807-12	I	COMPENSATOR ASSY
	TB	A	20	P2-145-0807-13	I	COMPENSATOR ASSY
		B	20	P2-145-0807-14	I	COMPENSATOR ASSY
	TD	A	20	P2-145-0807-13	I	COMPENSATOR ASSY
		B	20	P2-145-0807-14	I	COMPENSATOR ASSY

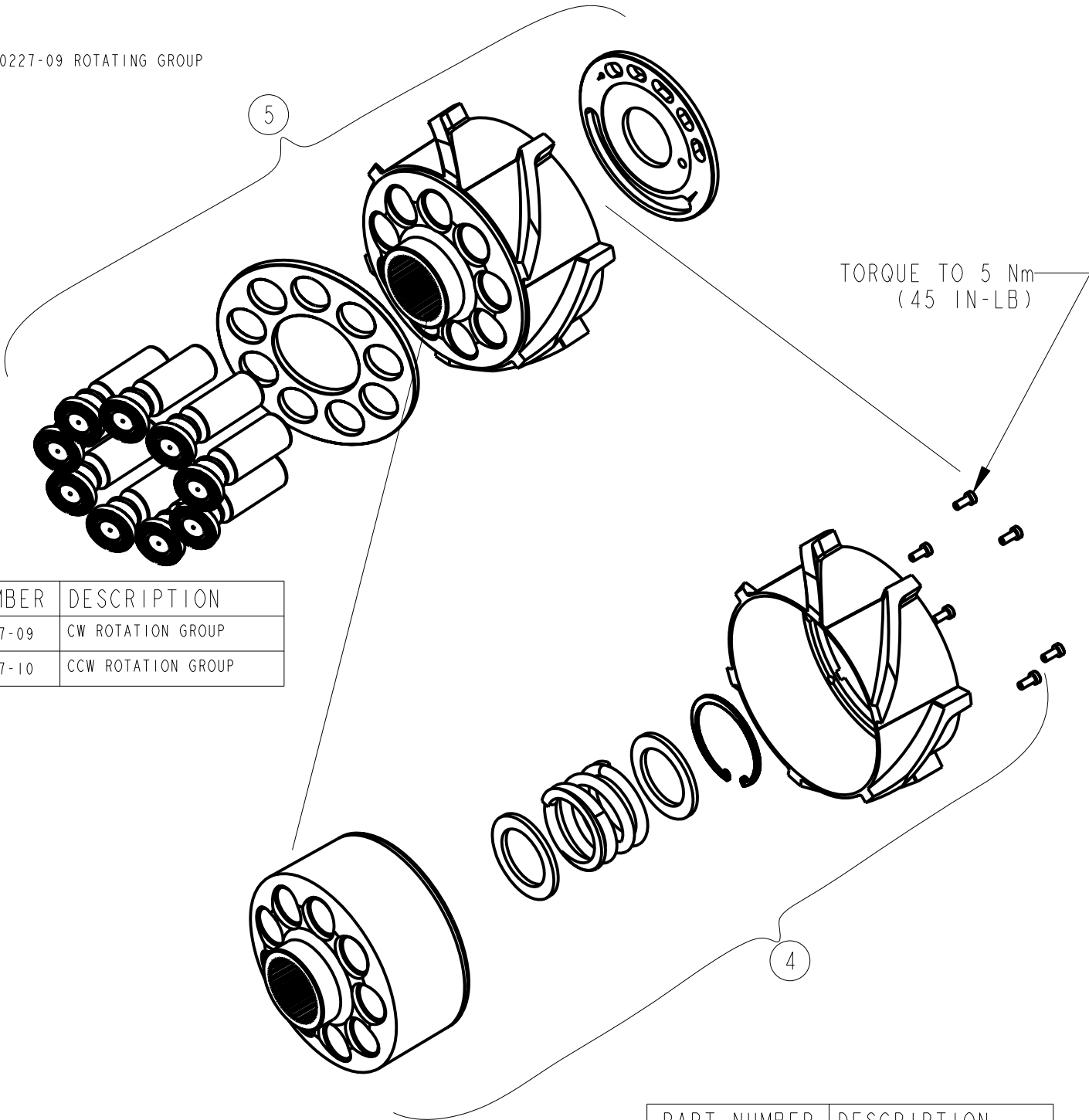
WHEN ORDERING SPARE PART COMPENSATOR
PLEASE SPECIFY MAX. PRESSURE AS WELL AS
DELTA P PRESSURE IN YOUR ORDER

REPLACE □ SYMBOL WITH
"N" FOR NITRILE SEALS (PUMP CODE SEALING OPTION: N, D, B, Q)
"V" FOR FLOUROCARBON SEALS (PUMP CODE SEALING OPTION: T,V)



ROTATING GROUP / BARREL KIT
ITEM 5
ITEM 4

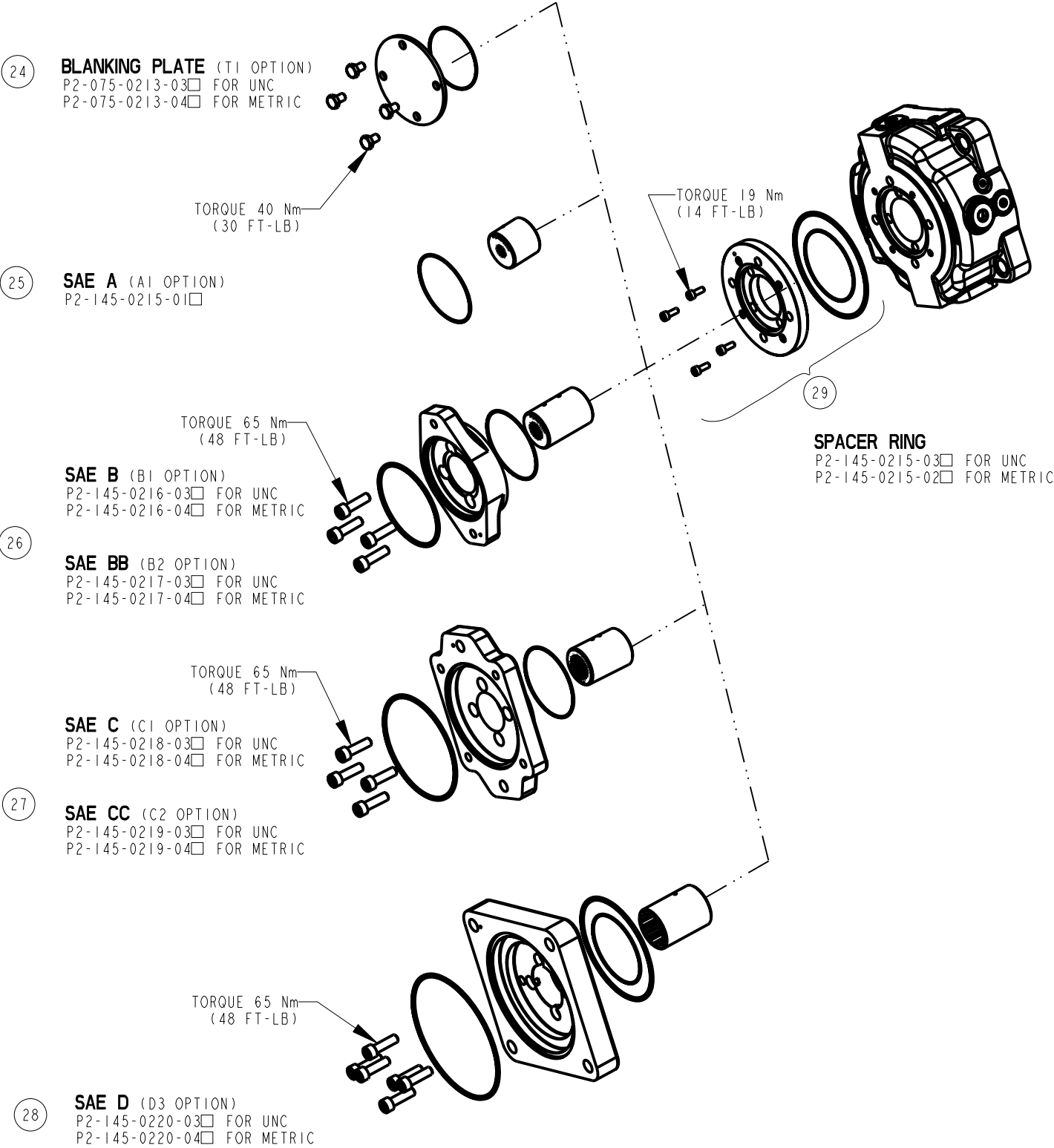
SHOWN:
P2-145-0227-09 ROTATING GROUP



PART NUMBER	DESCRIPTION
P2-145-0227-09	CW ROTATION GROUP
P2-145-0227-10	CCW ROTATION GROUP

PART NUMBER	DESCRIPTION
P2-145-0222-06	CW BARREL KIT
P2-145-0222-07	CCW BARREL KIT

THRU DRIVE KIT



24 **BLANKING PLATE** (T1 OPTION)
P2-075-0213-03 ☐ FOR UNC
P2-075-0213-04 ☐ FOR METRIC

25 **SAE A** (A1 OPTION)
P2-145-0215-01 ☐

26 **SAE B** (B1 OPTION)
P2-145-0216-03 ☐ FOR UNC
P2-145-0216-04 ☐ FOR METRIC

SAE BB (B2 OPTION)
P2-145-0217-03 ☐ FOR UNC
P2-145-0217-04 ☐ FOR METRIC

SAE C (C1 OPTION)
P2-145-0218-03 ☐ FOR UNC
P2-145-0218-04 ☐ FOR METRIC

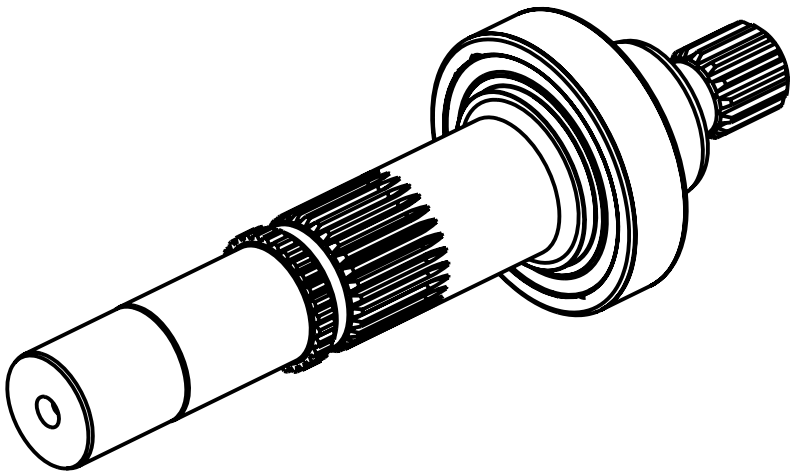
27 **SAE CC** (C2 OPTION)
P2-145-0219-03 ☐ FOR UNC
P2-145-0219-04 ☐ FOR METRIC

28 **SAE D** (D3 OPTION)
P2-145-0220-03 ☐ FOR UNC
P2-145-0220-04 ☐ FOR METRIC

29 **SPACER RING**
P2-145-0215-03 ☐ FOR UNC
P2-145-0215-02 ☐ FOR METRIC

SHAFT ASSEMBLY KIT

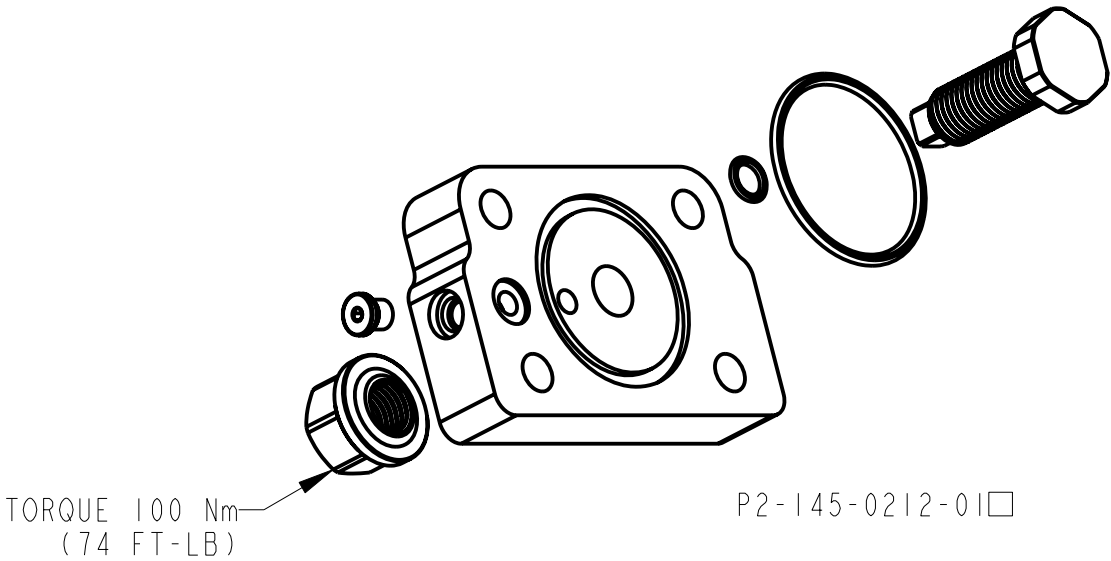
ITEM 17



	OPTION	PART NUMBER	DESCRIPTION
C1	NOT SI	P2-145-0225-136	1 SHAFT ASSY - C SPLINE
	SI	P2-145-0225-135	1 SHAFT ASSY - C SPLINE
C2	NOT SI	P2-145-0225-138	1 SHAFT ASSY - CC SPLINE
	SI	P2-145-0225-137	1 SHAFT ASSY - CC SPLINE
C3	NOT SI	P2-145-0225-156	1 SHAFT ASSY - C SPLINE - NO U'CUT
	SI	P2-145-0225-155	1 SHAFT ASSY - C SPLINE - NO U'CUT
C5	NOT SI	P2-145-0225-146	1 SHAFT ASSY - C KEY
	SI	P2-145-0225-145	1 SHAFT ASSY - C KEY
C6	NOT SI	P2-145-0225-148	1 SHAFT ASSY - CC KEY
	SI	P2-145-0225-147	1 SHAFT ASSY - CC KEY
D1	NOT SI	P2-145-0225-140	1 SHAFT ASSY - D SPLINE
	SI	P2-145-0225-139	1 SHAFT ASSY - D SPLINE
D2	NOT SI	P2-145-0225-160	1 SHAFT ASSY - D SPLINE NO U'CUT
D3	NOT SI	P2-145-0225-150	1 SHAFT ASSY - D KEY
	SI	P2-145-0225-149	1 SHAFT ASSY - D KEY

MAX. VOLUME ASSEMBLY

ITEM 6



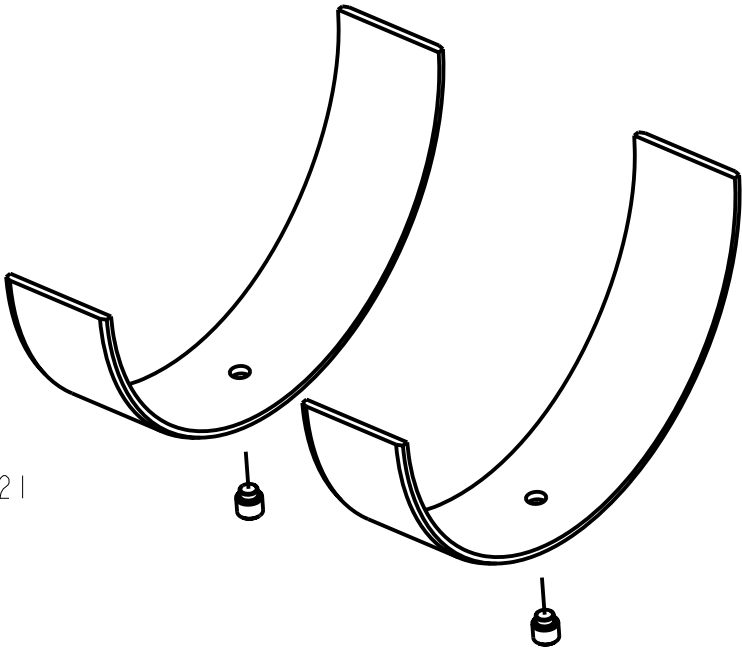
P2-145-0212-01□

REPLACE □ SYMBOL WITH
"N" FOR NITRILE SEALS (PUMP CODE SEALING OPTION: N, D, B, Q)
"V" FOR FLOUROCARBON SEALS (PUMP CODE SEALING OPTION: T,V)



SADDLE BEARING KIT

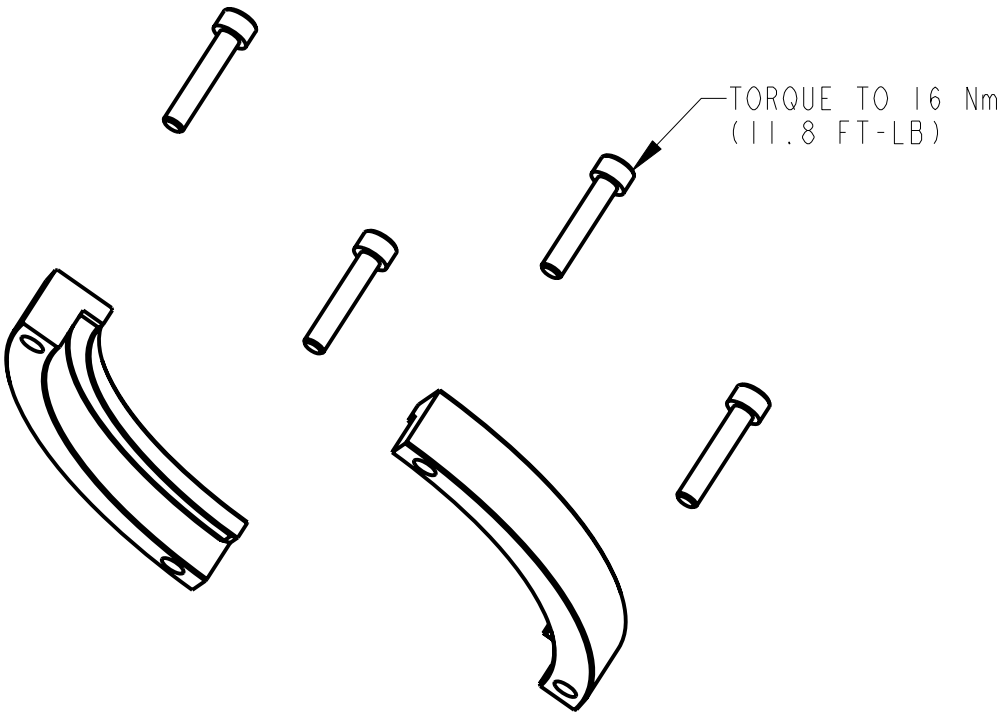
ITEM 1



P2-145-0229-21

FIXED CLEARANCE HOLD DOWN KIT

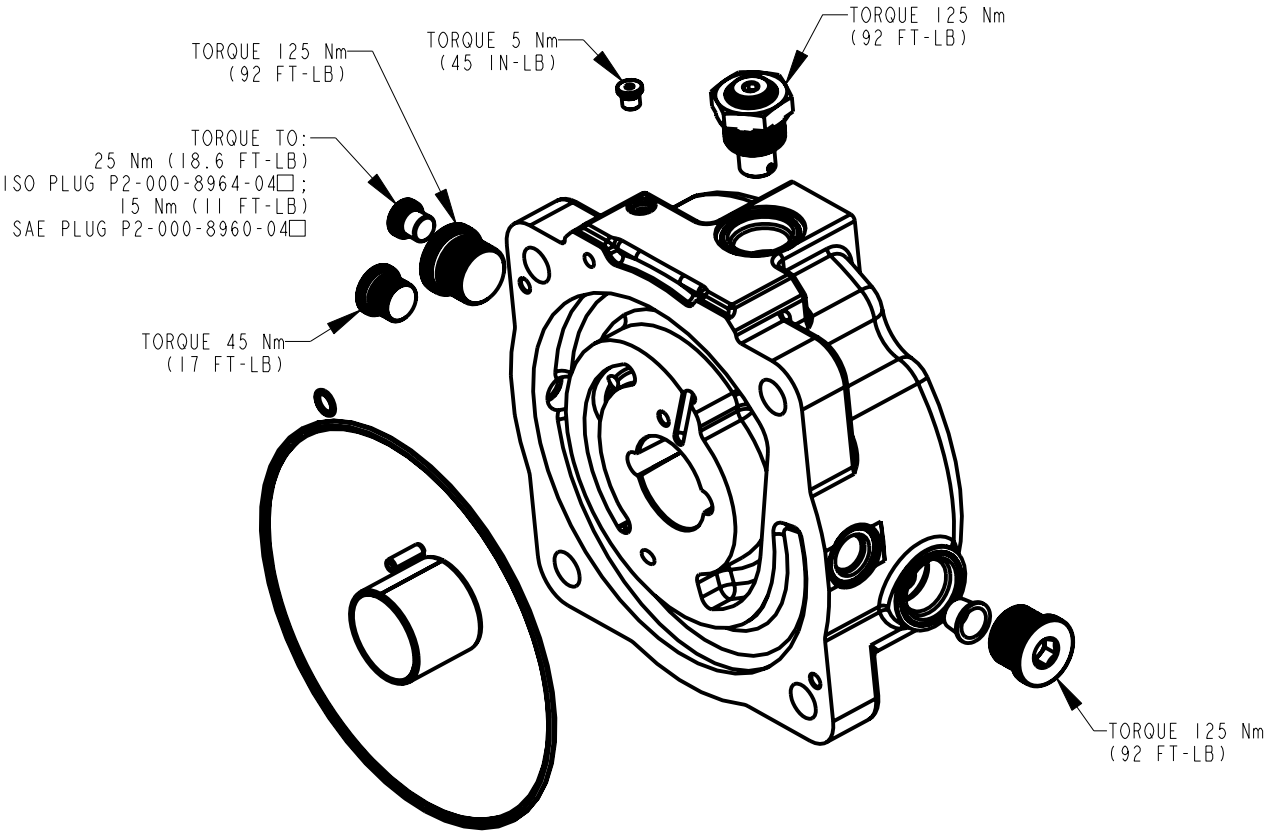
ITEM 3



P2-145-0229-23



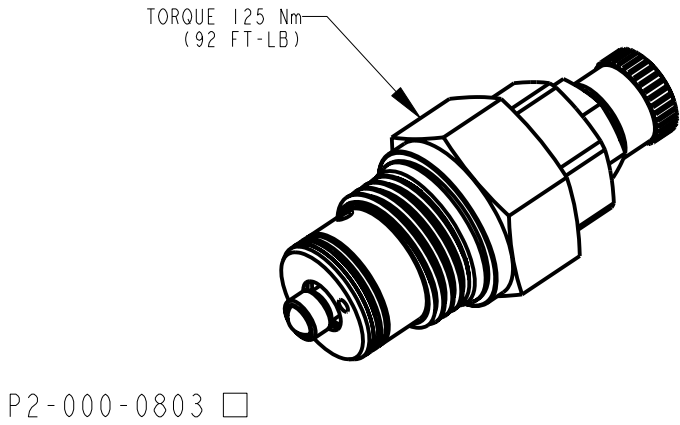
COVER ASSEMBLY KIT
ITEM 16



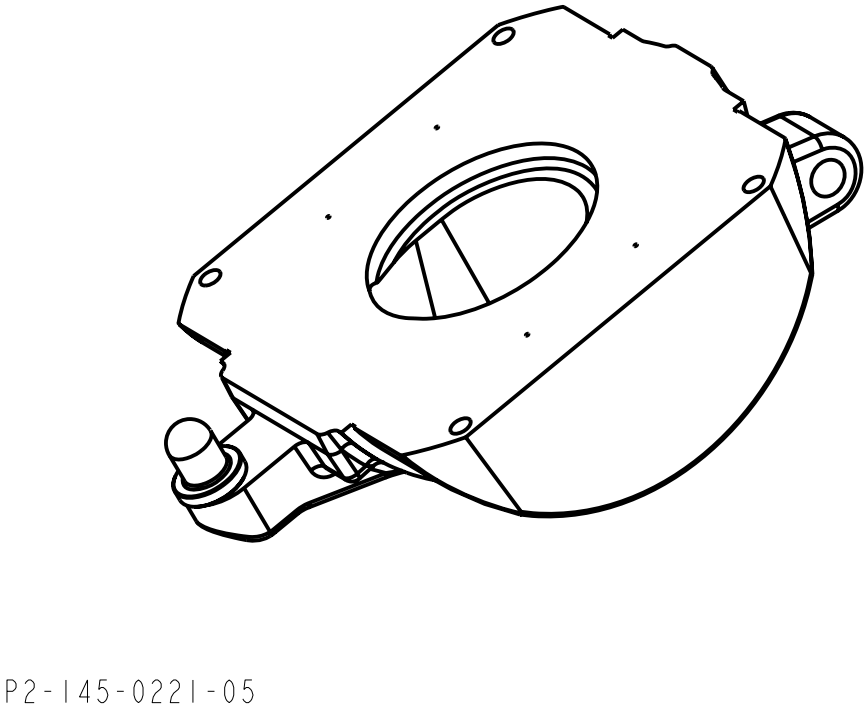
	THRDS	CODE		COVER ASSEMBLY	DESCRIPTION
L	A	U & P	SI	P2-145-0226-09	SIDE PORT, CCW, UNC
	A	U & P	NOT SI	P2-145-0226-10	SIDE PORT, CCW, UNC, THRU
	B	U & P	SI	P2-145-0226-11	SIDE PORT, CCW, METRIC
	B	U & P	NOT SI	P2-145-0226-12	SIDE PORT, CCW, METRIC, THRU
	A	D & E	SI	P2-145-0226-37	SIDE PORT, CCW, UNC, DRAINS
	A	D & E	NOT SI	P2-145-0226-38	SIDE PORT, CCW, UNC, THRU, DRAINS
	B	D & E	SI	P2-145-0226-39	SIDE PORT, CCW, METRIC, DRAINS
	B	D & E	NOT SI	P2-145-0226-40	SIDE PORT, CCW, METRIC, THRU, DRAINS
R	A	U & P	SI	P2-145-0226-13	SIDE PORT, CW, UNC
	A	U & P	NOT SI	P2-145-0226-14	SIDE PORT, CW, UNC, THRU
	B	U & P	SI	P2-145-0226-15	SIDE PORT, CW, METRIC
	B	U & P	NOT SI	P2-145-0226-16	SIDE PORT, CW, METRIC, THRU
	A	D & E	SI	P2-145-0226-41	SIDE PORT, CW, UNC, DRAINS
	A	D & E	NOT SI	P2-145-0226-42	SIDE PORT, CW, UNC, THRU, DRAINS
	B	D & E	SI	P2-145-0226-43	SIDE PORT, CW, METRIC, DRAINS
	B	D & E	NOT SI	P2-145-0226-44	SIDE PORT, CW, METRIC, THRU, DRAINS



TORQUE CONTROL CARTRIDGE
ITEM 19



SWASH PLATE KIT
ITEM 7

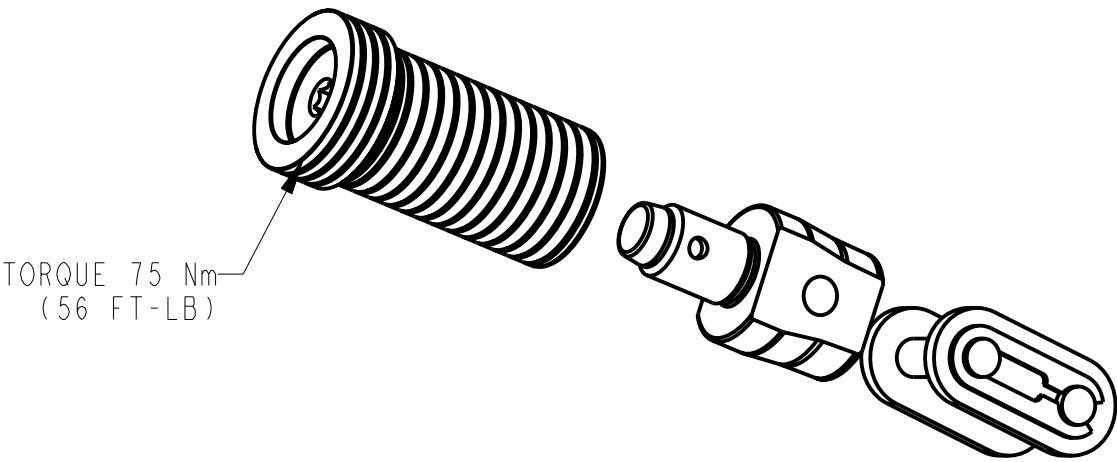


REPLACE ☐ SYMBOL WITH
"N" FOR NITRILE SEALS (PUMP CODE SEALING OPTION: N, D, B, Q)
"V" FOR FLOUROCARBON SEALS (PUMP CODE SEALING OPTION: T,V)



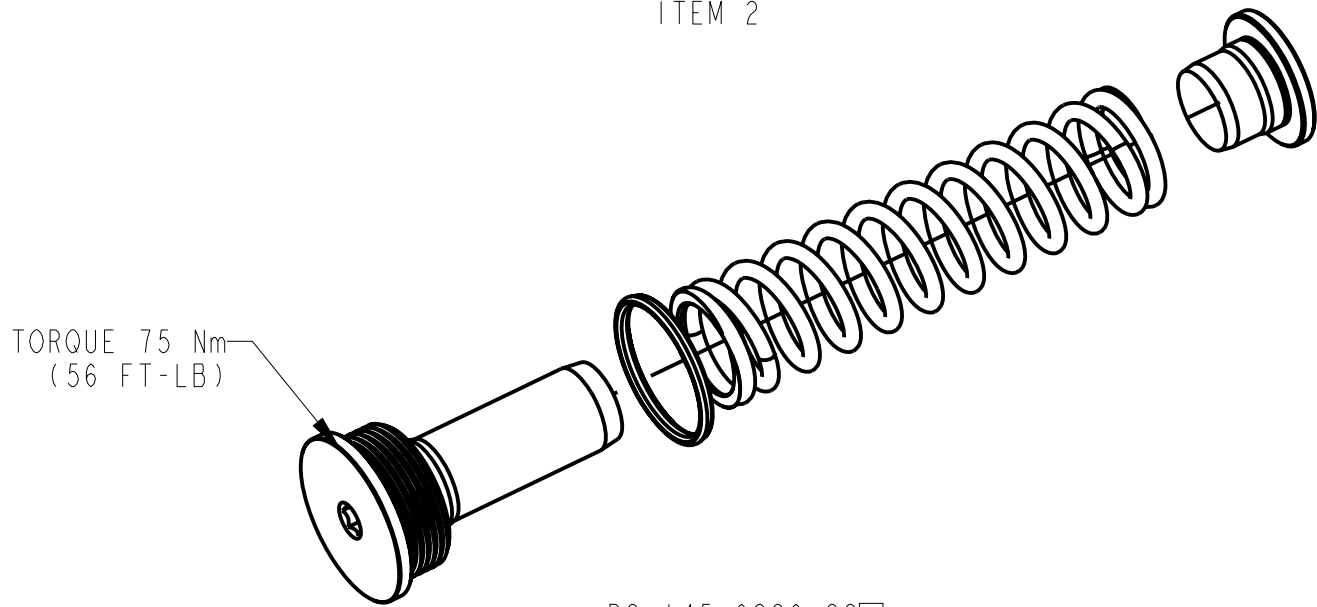
TITLE	SERVICE PARTS P3145 DESIGN SERIES 16	DRAWING NUMBER	P2-145-0414	REVISION	-	STATUS	PR	SHEET 6 OF 8
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SERVO PISTON KIT
ITEM 23



PART NUMBER	DESCRIPTION	
P2-145-0229-19	SERVO PISTON KIT 40%	USE EXEPT WITH TC & TD OPTION
P2-145-0229-20	SERVO PISTON KIT 70%	USE WITH TC & TD OPTION

BIAS SPRING KIT
ITEM 2



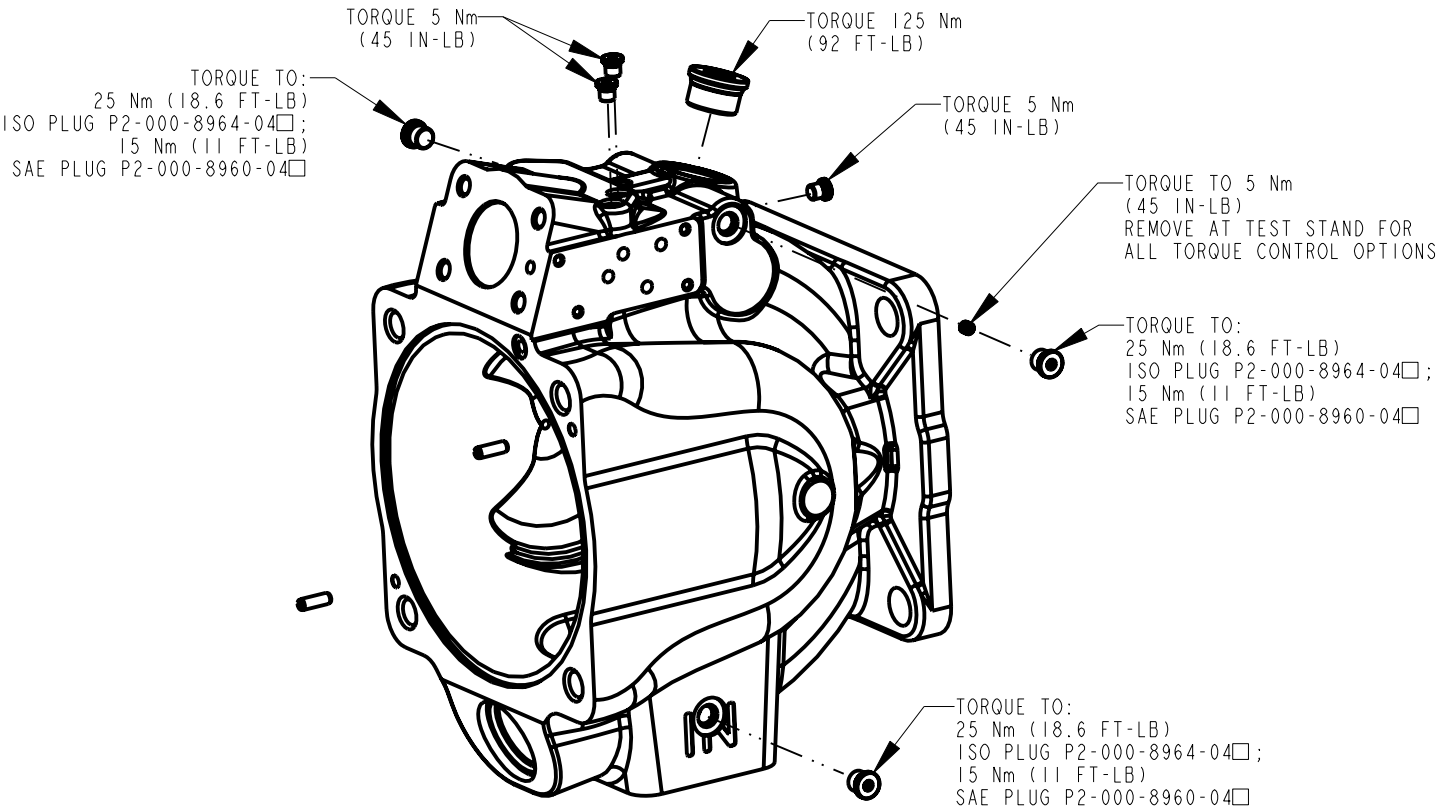
P2-145-0229-22□

REPLACE □ SYMBOL WITH
"N" FOR NITRILE SEALS (PUMP CODE SEALING OPTION: N, D, B, Q)
"V" FOR FLOUROCARBON SEALS (PUMP CODE SEALING OPTION: T,V)



DRAWN BY	DATE	CHANGED BY	DATE	ECN NUMBER
L. NAGEL	17JAN13	-	-	709512

HOUSING KIT
ITEM 18



REPLACE □ SYMBOL WITH
"N" FOR NITRILE SEALS (PUMP CODE SEALING OPTION: N, D, B, Q)
"V" FOR FLOUROCARBON SEALS (PUMP CODE SEALING OPTION: T,V)

MTG-PILOT	SEAL OPTION	THRDS	PART NUMBER	DESCRIPTION
C	N/V/B	B	P2-145-0221-50□	MACHINING C-PILOT 1 SEAL METRIC HOUSING
	D/T/Q	B	P2-145-0221-51□	MACHINING C-PILOT 2 SEAL METRIC HOUSING
D	N/V/B	B	P2-145-0221-52□	MACHINING D-PILOT 1 SEAL METRIC HOUSING
	D/T/Q	B	P2-145-0221-53□	MACHINING D-PILOT 2 SEAL METRIC HOUSING
C	N/V/B	A	P2-145-0221-54□	MACHINING C-PILOT 1 SEAL UNC HOUSING
	D/T/Q	A	P2-145-0221-55□	MACHINING C-PILOT 2 SEAL UNC HOUSING
D	N/V/B	A	P2-145-0221-56□	MACHINING D-PILOT 1 SEAL UNC HOUSING
	D/T/Q	A	P2-145-0221-57□	MACHINING D-PILOT 2 SEAL UNC HOUSING



TITLE	SERVICE PARTS P3145 DESIGN SERIES 16	DRAWING NUMBER	P2-145-0414	REVISION	-	STATUS	PR	SHEET 7 OF 8
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ASSEMBLY, DIS-ASSEMBLY AND REPAIR NOTES

DISASSEMBLY STEPS FOR ENTIRE PUMP

- 1. REMOVE COVER SCREWS AND COVER
- 2. REMOVE MAX. VOLUME ASSY
- 3. REMOVE SERVO PISTON
- 4. REMOVE IMPELLER RING
- 5. REMOVE BIAS SPRING PLUG, SPRING AND RETAINER
- 6. REMOVE FIXED CLEARANCE HOLD DOWN SCREWS AND HOLD DOWN PARTS
- 7. REMOVE ROTATING GROUP (BARREL, SLIPPER RETAINER AND PISTONS)
- 8. REMOVE SHAFT SEAL CARRIER
- 9. REMOVE SHAFT
- 10. REMOVE SWASHPLATE ASSEMBLY

ASSEMBLY STEPS FOR ENTIRE PUMP

- 1. PUT IN SWASHPLATE ASSEMBLY
- 2. INSTALL SHAFT ASSEMBLY
- 3. INSTALL SHAFT SEAL CARRIER
- 4. PLACE ROTATING GROUP (BARREL, SLIPPER RETAINER AND PISTONS)
- 5. FIX THE IMPELLER RING
- 6. FIX HOLD DOWN PARTS AND SCREW IN FIXED CLEARANCE HOLD DOWN SCREWS
- 7. SCREW IN BIAS SPRING PLUG INCL. SPRING AND RETAINER
- 8. SCREW IN SERVO PISTON (NEW LINK PISTON REQUIRED!)
- 9. MOUNT MAX. VOLUME ASSY
- 10. FIX COVER AND SCREW IN COVER SCREWS

ATTENTION: • STEP 4 AND 5 REQUIRES SPECIAL TOOL FOR INSTALLATION THE HOLD DOWN PARTS
=> PLEASE ASK YOUR RESPONSIBLE TECHNICAL SUPPORT

SHAFT SEAL REPLACEMENT

- 1. REMOVE SEAL CARRIER ONLY
- 2. REMOVE OLD SEAL
- 3. INSPECT SHAFT
- 4. IF SHAFT IS WORN INSTALL NEW SEAL
IN INNER LOCATION FOR SINGLE SEAL
APPLICATIONS (SEE SHEET 1).
REPLACE SHAFT FOR DUAL SEAL APPLICATIONS



DRAWN BY	L. NAGEL	DATE	17JAN13	CHANGED BY	-	DATE	-	ECN NUMBER	709512
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NOTES:



