

MAINTENANCE MANUAL

YAMADA AIR-OPERATED DIAPHRAGM PUMPS NDP-20 NDP-25

WARNING



- For your own safety, be sure to read these procedures carefully before performing maintenance on this product. After reading this document, be sure to keep it handy for future reference.

This maintenance manual covers what you should know about maintenance of the Yamada NDP-20 series and NDP-25 series Diaphragm Pumps.

This edition is based on the standards for the June 1998 production run. Remember the specifications are always subject to change; therefore, some of the information in this edition may not apply to new specifications.

• Warnings and Cautions

For safe use of this product, be sure to note the following: In this document, warnings and cautions are indicated by symbols. These symbols are for those who will operate this product and for those who will be nearby, for safe operation and for prevention of personal injury and property damage. The following warning and caution symbols have the meanings described below. Be sure to remember their meanings.



WARNING:

If you ignore the warning described and operate the product in an improper manner, there is danger of serious bodily injury or death.



CAUTION:

If you ignore the caution described and operate the product in an improper manner, there is danger of personal injury or property damage.

Furthermore, to indicate the type of danger and damage, the following symbols are also used along with those mentioned above:



This symbol indicates a DON'T, and will be accompanied by an explanation on something you must not do.



This symbol indicates a DO, and will be accompanied by instructions on something you must do in a certain situation.

WARNING



- Before starting maintenance work, cut off the feed air and clean the pump. If air pressure or residue remain in the pump, there is danger of explosion, or possible poisoning resulting in serious injury or death if chemicals adhere to the skin or are accidentally swallowed. (For details on cleaning the pump, refer to Chapter 6 of the operating manual.)



- When replacing parts, be sure to use the recommended genuine parts or equivalents. Use of other parts may cause a malfunction of the product.

CAUTION



- When it is instructed that special tools must be used, be sure to use the specified tools. Otherwise, the pump may be damaged.



- Refer to 10.1 "Specifications" in the Operating Manual. Also, remember that the pumps is heavy, and extreme care must be taken when lifting it.

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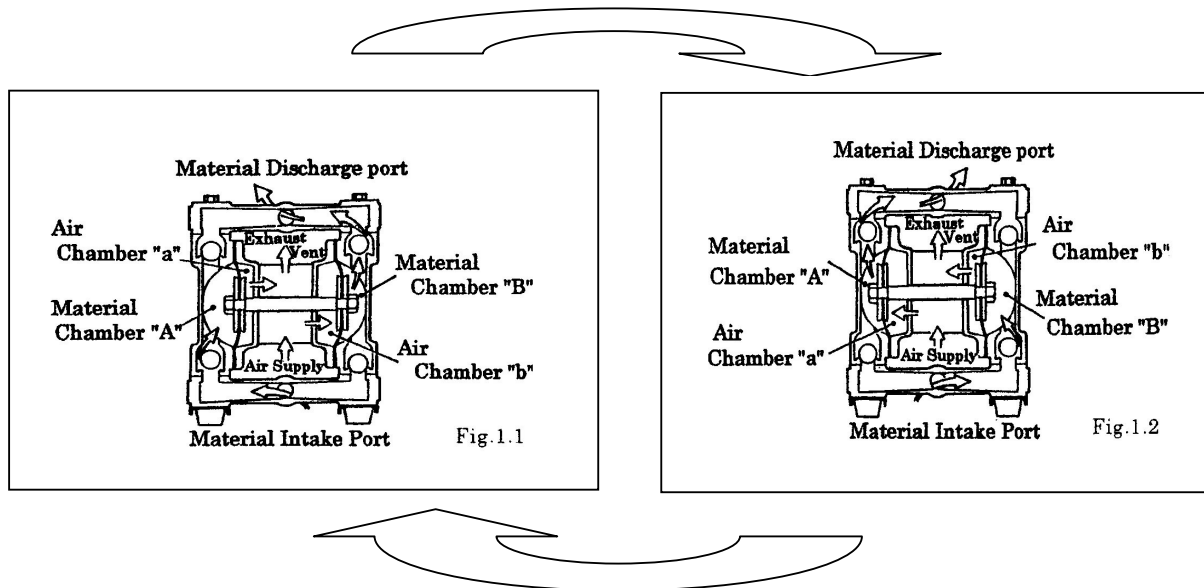
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1. Principles of operation

There are two diaphragms fixed to the centre rod, one at each end. When compressed air is supplied to air chamber B (right side, see Fig. 1.1.), the centre rod moves to the right, the material in liquid chamber B is pushed out, and at the same time material is sucked into liquid chamber A.

When the centre rod is moved full-stroke to the right, the air switch valve is switched, compressed air is sent to air chamber A (left side, see Fig. 1.2.), and the centre rod moves to the left. The material in liquid chamber A is pushed out, and at the same time material is sucked into liquid chamber B.

Through repetition of this operation, material is repeatedly taken in and discharged out.



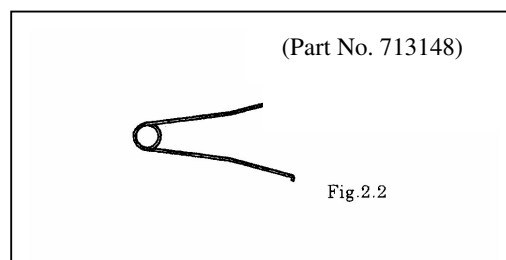
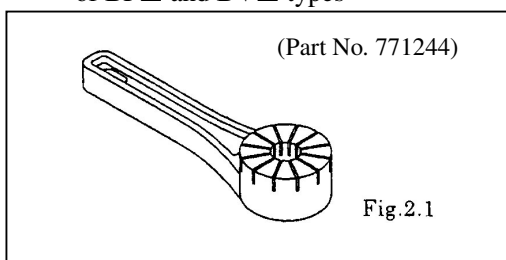
2. Tools, etc.

2.1 General tools

- Socket wrenches 10mm, 12mm, 13mm, 17mm, 22mm
- Hexagonal box wrenches 5mm
- Open-end wrenches 13mm (BP□, BV□), 22mm (BA□, BS□, BF□, BA□-D)

2.2 Special tools

- Accessory tool (Accessories)
Purpose: Removing the centre disk of BP□ and BV□ types
- Sleeve remover (sold separately)
Purpose: for removing sleeves



2.3 Misc.

- Lubricating oil Turbine oil equivalent to #32
- Nuts M14x1.5

3. Ordering replacement parts

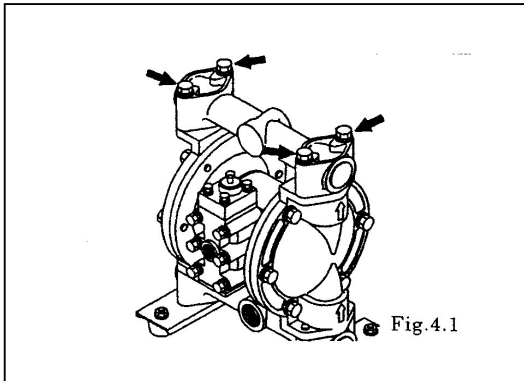
For accurate and speedy shipment of parts, be sure to order the right parts for your model to your dealer or one of our regional offices. Indicate the part number, descriptions, quantities and reasons for replacement, in as much detail as possible.

4. Balls and Valve seats

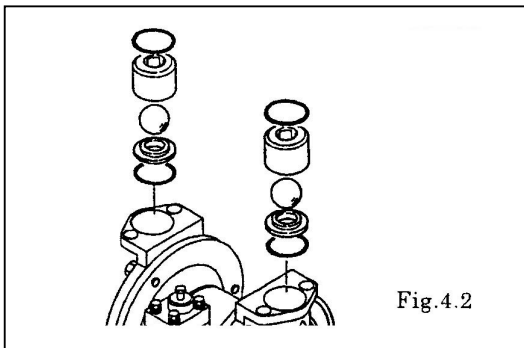
4.1 Removal

■ BA□, BS□, BF□, BDP types

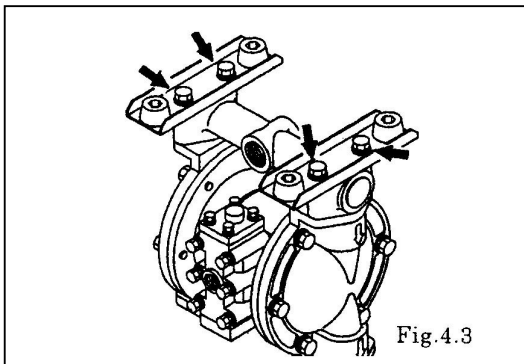
See [Exploded View] on and after p. 16. (Fig. 4.1, 4.2, 4.3 and 4.4 show the NDP-20 BS□.)



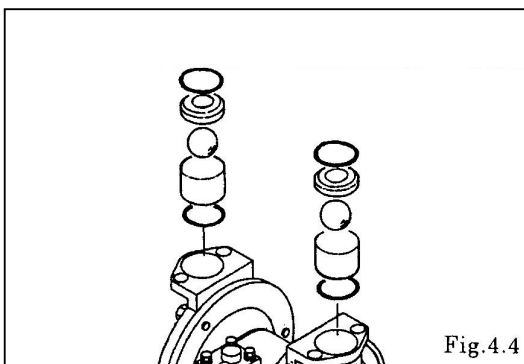
- Remove the 4 retainer bolts from the “out” manifold, and remove the “out” manifold. [Fig. 4.1.]



- Remove the O-ring, ball guide, ball and valve seat. [Fig. 4.2]



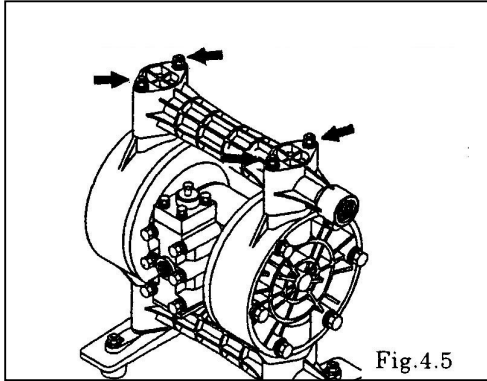
- Turn over the main body assembly. [Fig. 4.3]
- Remove the 4 retainer bolts from the “in” manifold, and remove the “in” manifold and pump bases. [Fig. 4.3] (The pump bases are not installed in BDP types.)



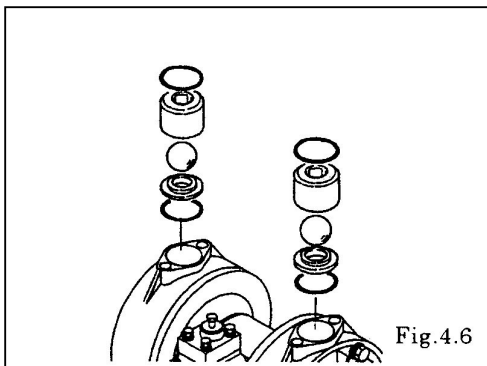
- Remove the O-ring, valve seat, ball and ball guide. [Fig. 4.4]

■ BP□, BV□ types

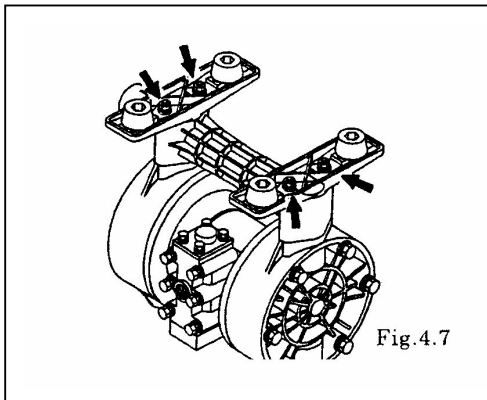
See [Exploded View] on and after p. 16. (Fig. 4.5, 4.6, 4.7 and 4.8 show the NDP-20BP□.)



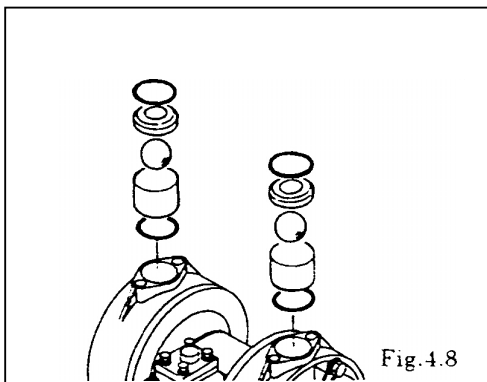
- Remove the 4 retainer nuts from the upper side of tie rods, and remove the “out” manifold. [Fig. 4.5]
- When the retainer nuts on both sides of the tie rod are removed, the “in” manifold can be removed.



- Remove the O-ring, ball guide, ball and valve seat. [Fig. 4.6]

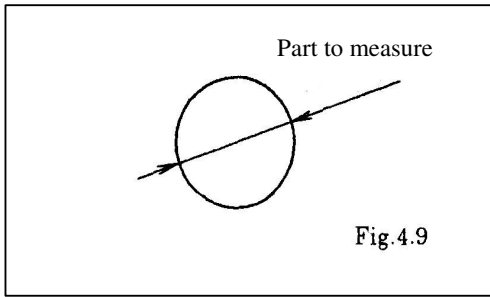


- Turn over the main body assembly. [Fig. 4.7]
- Pull out the tie rod, and remove the base and “in” manifold. [Fig. 4.7]



- Remove the O-ring, valve seat, ball and ball guide. [Fig. 4.8]

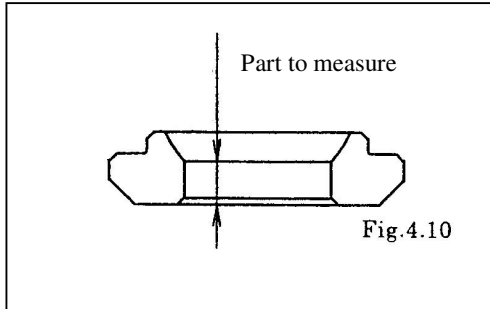
4.2 Checking



- Ball [Fig. 4.9]
Measure the outside diameter, and if it is outside the usable range, replace the ball.

Usable range of ball

NDP-20	S ϕ 24,3 ~ S ϕ 27,8 mm
NDP-25	S ϕ 31,5 ~ S ϕ 36,1 mm



- Valve seat [Fig. 4.10]
Measure the dimension shown at left, and if it is outside the usable range, replace the valve seat.

Usable range of valve seat

	BA , BS	BP , BV
NDP-20	3,4 ~ 8,5 mm	3,3 ~ 8,1 mm
NDP-25	3,8 ~ 9,5 mm	3,4 ~ 9,5 mm

- O-ring (other than PTFE)
If O-rings are worn out or cracked, replace them.

4.3 Installation

For installation, see [Exploded View] on and after p. 16, and install in the reverse order of disassembly.

Tightening torque for manifold retainer bolts

		C, N, E, V, H, S	T
NDP-20	BA	10N·m{ 100kgf·cm }	20N·m{ 200kgf·cm }
	BDP-20-BA		
	BS		35N·m{ 350kgf·cm }
NDP-25	BA	10N·m{ 100kgf·cm }	35N·m{ 350kgf·cm }
	BS		
	BF		

Tightening torque for manifold retainer nuts

		C, N, E, V	T, H, S
NDP-20	BP	10N·m { 100kgf·cm }	12N·m { 120 kgf·cm }
NDP-25	BP		
	BV		

<NOTE>

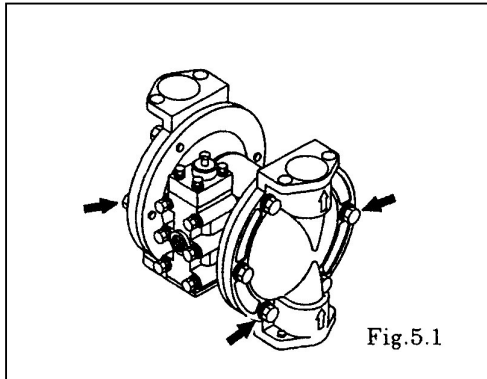
- Make sure there is no dust on the seal surface and the seal is not damaged.
- Replace the PTFE O-ring regardless of its condition

5. Diaphragm and Centre rod

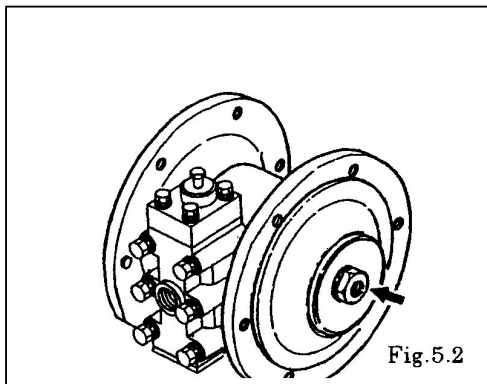
5.1 Removal

■BA□, BS□, BF□, BDP types

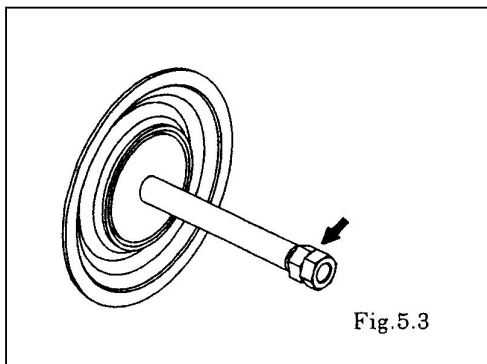
See [Exploded View] on and after p.16. (Fig. 5.1 shows the NDP-20 BS□.)



- Remove the ball and valve seat etc. (see [4.1 Removal BA□, BS□, BF□, BDP types] on p.5)
- Remove the 12 retainer bolts from the “out” chambers, and remove the “out” chamber. [Fig. 5.1]



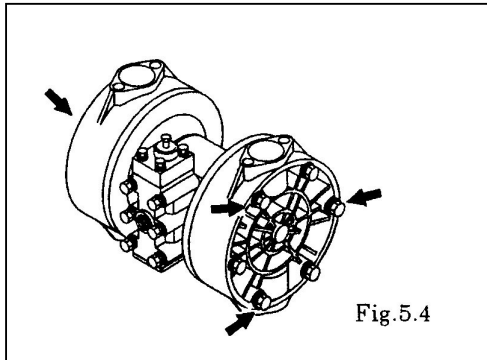
- Remove the nuts on both sides of the centre rod. [Fig. 5.2]
- After the nuts on one side have been removed, remove the centre disk and diaphragm. Remove the diaphragm, centre disk and centre rod from the opposite side of the main body.



- Remove the nuts on the opposite side using the double nut. [Fig. 5.3]
- Remove the coned disk spring, centre disk and diaphragm.

■BP□, BV□ types

See [Exploded View] on and after p.16. (Fig. 5.4 shows the NDP-20 BP□.)



- Remove the ball and valve seat etc. (see [4.1 Removal BP□, BV□ types] on p.5)
- Remove the 12 retainer bolts from the “out” chambers, and remove the “out” chamber. [Fig. 5.4]

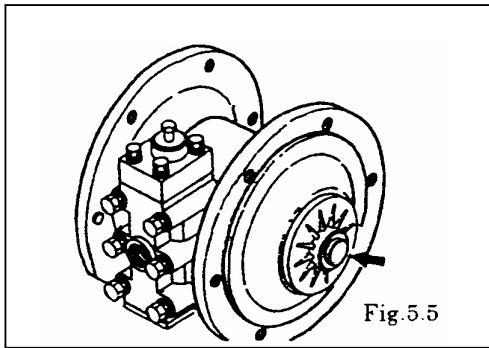


Fig.5.5

- Remove the centre disk from one side using the accessory tool (special tool: Part No. 771244). [Fig. 5.5]
- After the centre disk (outside) has been removed, remove the diaphragm and the centre disk (inside).
- Remove the centre disk and centre rod from the opposite side of the main body.

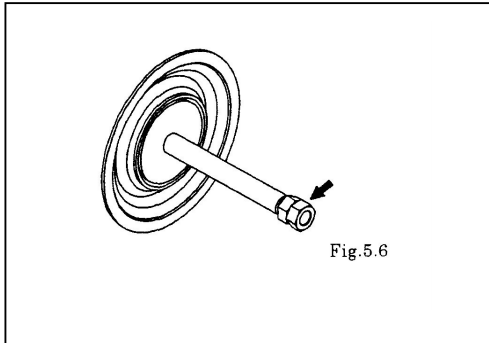


Fig.5.6

- Remove the centre disk and diaphragm from the opposite side using the double nut. [Fig. 5.6]

5.2 Checking

- Diaphragm
If the diaphragm is worn out or damaged, replace it.

Guideline of diaphragm life

CR, NBR, EPDM	10,000,000 strokes
FPM	2,500,000 strokes
PTFE	3,000,000 strokes
TPEE, TPO	15.000 000 strokes

(When used with clean water at room temperature)

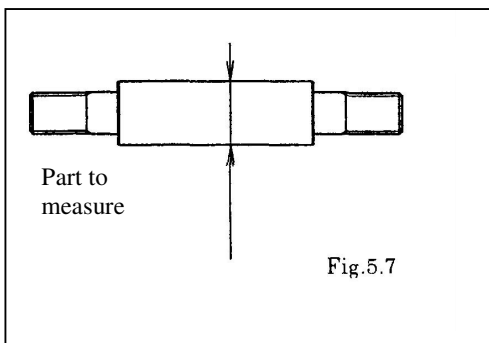


Fig.5.7

- Centre rod [Fig. 5.7]
Measure the diameter, and if it is outside the usable range, replace the centre rod.

Usable range of centre rod

ϕ 17,9 ~ ϕ 18,0 mm

5.3 Installation

■ B□C, B□N, B□E, B□V, B□H, B□S, BDP types

For installation, see [Exploded View] on and after p.16, and install in the reverse order of disassembly.

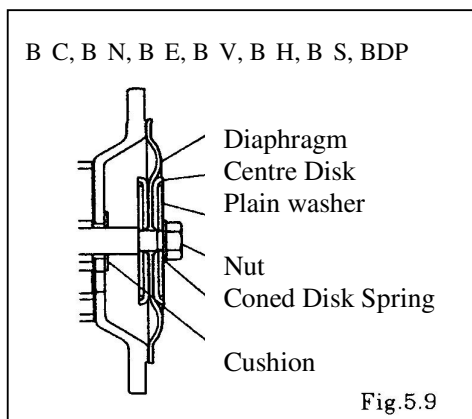


Fig.5.9

- Apply lubricating oil to the centre rod, and insert it into the main body.
- Keep the marking “OUTSIDE” to liquid end for CR, NBR, EPDM, FPM diaphragms.
- Keep the convex side to the outside for TPEE, TPO diaphragms.
- Tighten the centre disk using the Accessory tool (special tool: Part No. 771244) for the B□□, B□□ types. (No coned disk springs and nuts are needed.)

Tightening torque for centre rod

B C, B N, B E, B V	30 N·m {300 kgf·cm}
B H, B S	40 N·m {400 kgf·cm}

- Draw the centre disk to one side (exclude B□H, B□S type Fig. 5.9).
- And install the “out” chamber. Tighten the bolts temporarily.
- Draw the centre disk to the opposite side, then turn the diaphragm over (exclude B□H, B□S type cf. Fig.5.9).
- And install the “out” chamber. Tighten the bolts temporarily.
- After installation of the “out” chambers on both sides, place the pump on a flat surface and stand the pump upright for further assembly.

Tightening torque for “out” chamber.

10 N·m {100 kgf·cm}

<NOTE>

- Make sure there is no dust on the seal surface in order to prevent seal damage.
- Tighten the bolts so that the balance is equal from both sides on diagonal line with even torque.

■ B□T, BAT-D types

For installation, see [Exploded View] on and after p. 16, and install in the reverse order of disassembly.

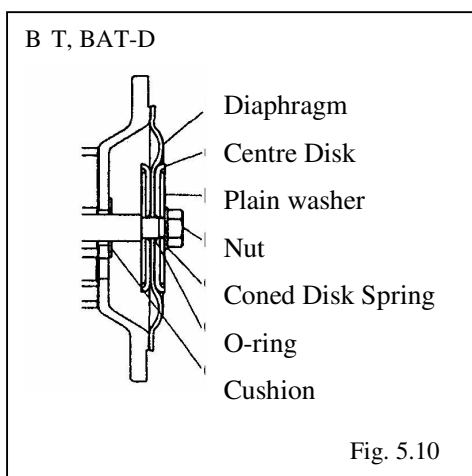


Fig. 5.10

- Apply lubricating oil to the centre rod, and insert it into the main body
- Keep the convex side to the outside (Fig. 5.10).
- Install the O-ring (Fig. 5.10).
- Tighten the centre disk using the Accessory tool (special tool: Part No. 771244) for the BPT, BVT types. (No coned disk springs and nuts are needed.)

Tightening torque for centre rod

40 N·m {400 kgf·cm}

Tighten the “out” chamber temporarily at first.

After installation of the “out” chambers on both sides, place the pump on a flat surface and stand the pump upright for further assembly.

Tightening torque for “out” chamber

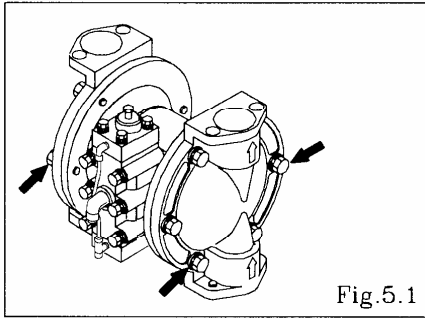
NDP20	13 N·m {1,3 mKg}
NDP25	20 N·m {2 mKg}

<NOTE>

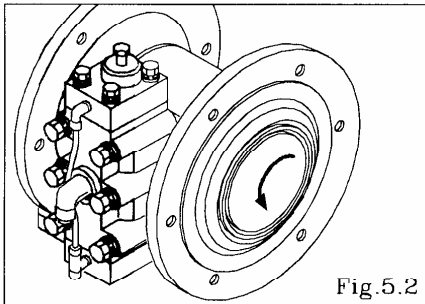
- Make sure there is no dust on the seal surface in order to prevent seal damage.
- Replace the PTFE O-ring by new one.
- Tighten the bolts so that the balance is equal from both sides on diagonal line with even torque.

5.U Diaphragm BATU(N) / BSTU(N) / BFTU(N)/ BPTU(N) / BVTU(N) Centre rod

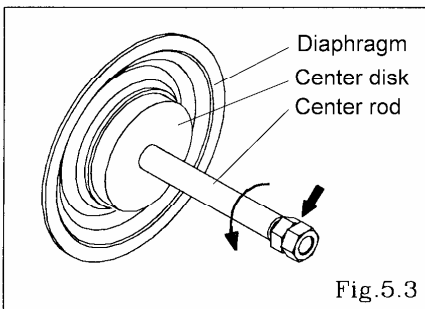
5.1 Removal



- Remove the ball and valve seat etc. (see [4.1 Removal] on p.5)
- Remove the 12 retainer bolts from the out chamber, and remove the out chamber. [Fig.5.1]

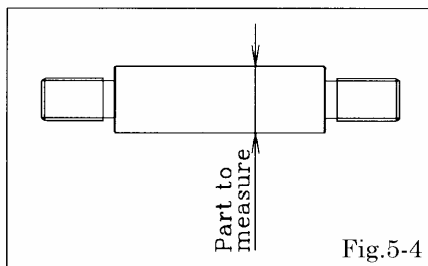


- After the out chamber on both side have been removed, [Fig.5.2]
- While fixing one diaphragm, turn another diaphragm until it is removed. [Fig.5.2]
- After one diaphragm is removed, remove another diaphragm and center rod from the body.



- Remove the diaphragm on the opposite side using the double nut. [Fig.5.3]
- Remove the centre disk and diaphragm.

5.2 Inspection



- Diaphragm

Guideline of diaphragm life

PTFE&EPDM Complex	40,000,000 cycle
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(When used with clean water at room temperature)

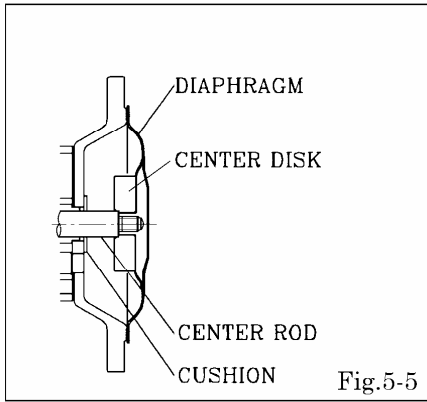
- Centre rod [Fig.5.4]
Measure the diameter, and if it is outside the usable range, replace the centre rod.

Usable range of centre rod

Ø17.9 ~ Ø18.0 mm

5.3 Installation BONDED TYPE PTFE/EPDM

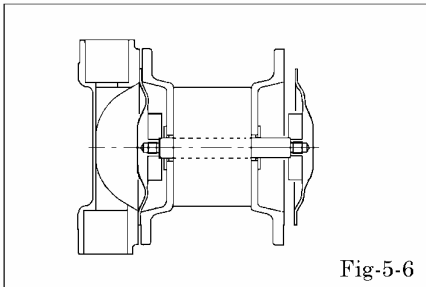
For installation, see [Exploded View] on after p. 16., and install in the reverse order of disassembly.



- Apply grease to the center rod and throat bearing, and insert it into the main body. (See 6.3 Installation on p.13.)
- Install the out chamber of one side. Tighten the bolts temporarily. [Fig.5.5, Fig.5.6]
- Push the diaphragm of opposite side. then turn the diaphragm over. [Fig.5.7]
And install the out chamber, Tighten the bolts temporarily. [Fig.5.8]
- After installation of the out chambers on both sides, place the pump on a flat surface and stand the pump upright for further assembly.

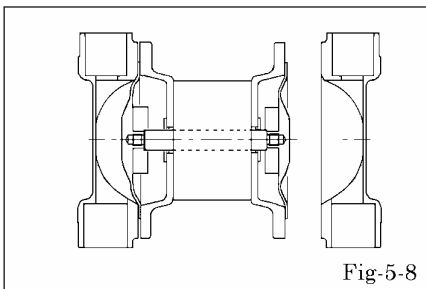
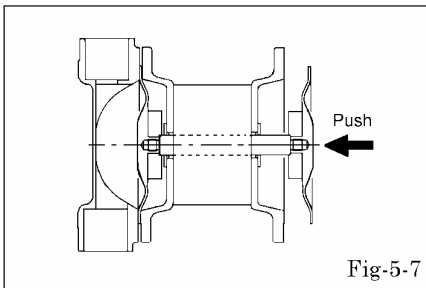
Tightening torque for out chamber.

13 N•m { 130 kgf•cm }



<NOTE>

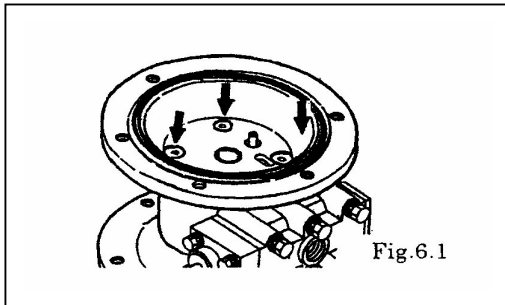
- Make sure there is no dust on the seal surface in order to prevent seal damaged.
- Tighten the bolts that balance should be equal from both side on diagonal line with even torque.



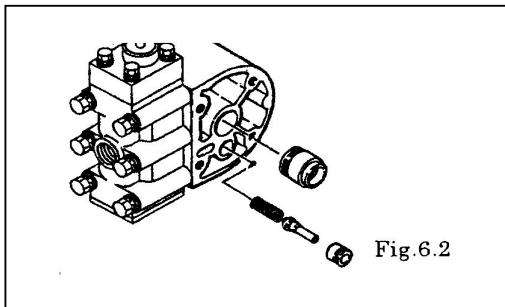
6. Throat bearing and Pilot valve

6.1 Removal

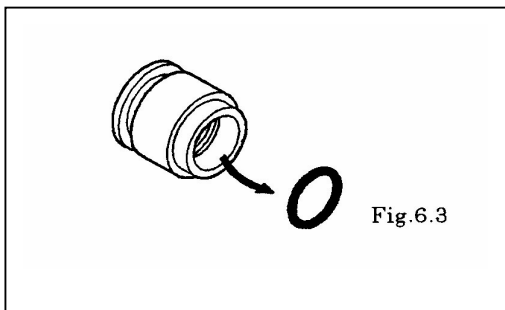
See [Exploded View] on and after p. 16.



- Remove the diaphragm and centre rod (see [5.1 Removal] on p. 10).
- Remove the 8 retainer bolts from the air chamber, and remove the air chamber. [Fig. 6.1]

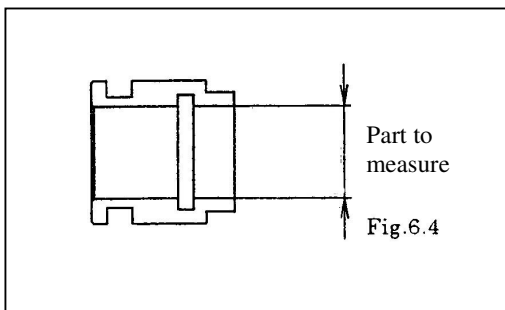


- Draw out the pilot valve assembly. [Fig. 6.2]
- Draw out the throat bearing. [Fig. 6.2]



- Remove the V-packing from the throat bearing. [Fig. 6.3]

6.2 Checking



- Throat bearing [Fig. 6.4]
Measure the inside diameter, and if it is outside the usable range, replace the throat bearing.

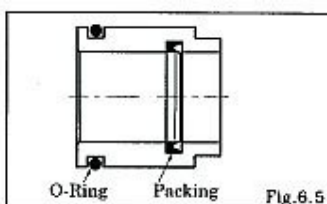
Usable range of throat bearing

$\varnothing 18,06 \sim \varnothing 18,10 \text{ mm}$

- O-rings
If the O-ring is worn out or cracked, replace it.
- Pilot valve assembly
If the pilot valve is worn out or cracked, replace it.

6.3 Installation

For installation, see [Exploded View] on and after p. 16, and install in the reverse order of disassembly.



Tightening torque for air chamber retainer bolts

$18 \text{ N}\cdot\text{m} \{ 1,8 \text{ mKg} \}$

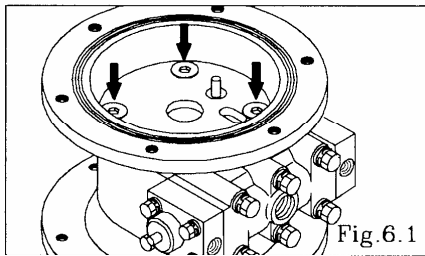
<NOTE>

Make sure there is no dust on the seal surface and the seal is not damaged.

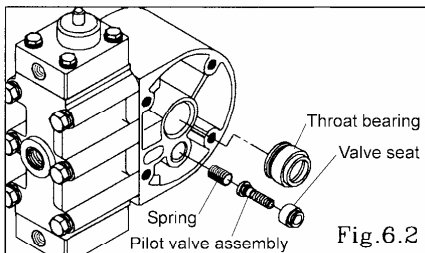
6.U Throat bearing and Pilot valve Assembly UN types

6.1 Removal

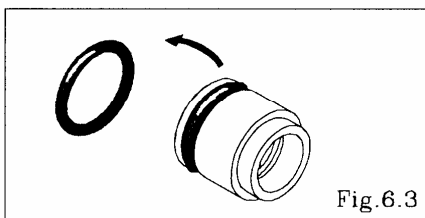
See [Exploded View] on after p.16.



- Remove the diaphragm and centre rod (see [5.1 Removal] on p.11).
- Remove the 8 retainer bolts from the air chamber, and remove the air chamber and gasket. [Fig.6.1]



- Draw out the pilot valve assembly and valve seat. [Fig.6.2]
- Draw out the throat bearing. [Fig.6.2]



- Remove the O ring from the throat bearing. [Fig.6.3]

6.2 Regular exchange

- Throat bearing [Fig.6.4]

Guideline of throat bearing and O rings.

40,000,000 cycles

- O rings
If the O ring is worn out or cracked, replace it.
- Pilot valve assembly
If the pilot valve is worn out or cracked, replace it.
- Spring

Guideline of spring.

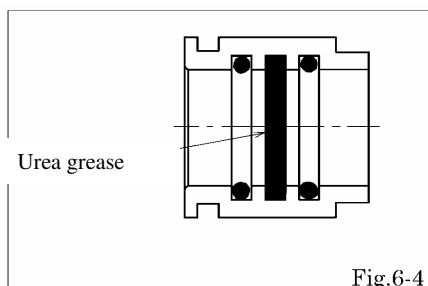
40,000,000 cycles

6.3 Installation

For installation, see [Exploded View] on after p. 16., and install in the reverse order of disassembly.

Tightening torque for air chamber retainer bolts

18 N•m { 180 kgf•cm }



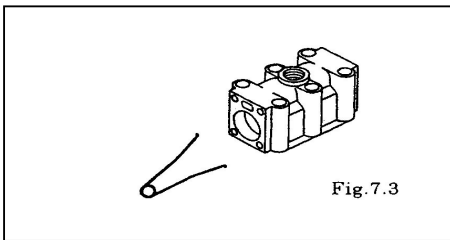
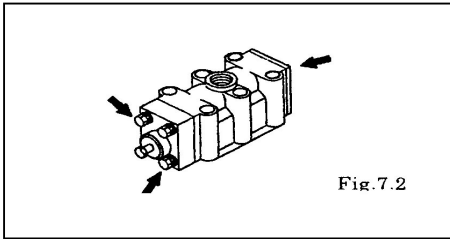
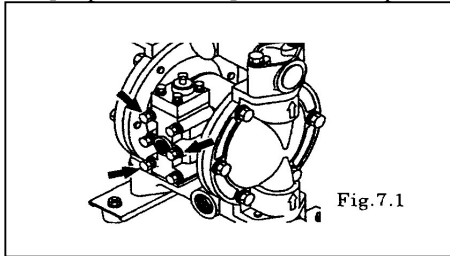
<NOTE>

- Make sure there is no dust on the seal surface and the seal is not damaged.
- Apply the grease to throat bearing. [Fig.6.4]

7. Seal ring and sleeve

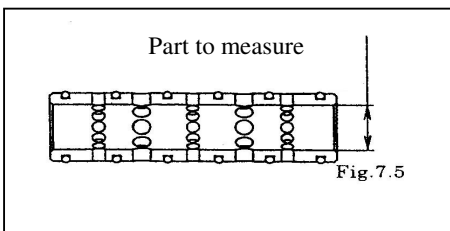
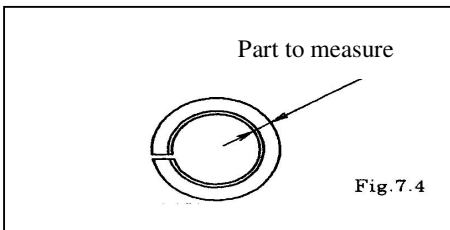
7.1 Removal

See [Exploded View] on and after p. 16.



- Remove the 6 retainer bolts from the valve body, and remove the valve body. [Fig. 7.1]
- Remove the 8 cap A and cap B retainer bolts, and remove cap A, cap B, packing, plain washer, cushion and gasket. [Fig. 7.2]
- Draw out the C spool valve assembly, and remove the seal ring from the C spool valve assembly.
- Remove the sleeve using the sleeve remover (special tool: Part number 713148). [Fig. 7.3]

7.2 Checking



- Seal ring [Fig. 7.4]
Measure the inside thick diameter, and if it is outside the usable range, replace the seal ring.
If the seal ring is worn out or cracked, replace it.

Usable range of seal ring

2,95 ~ 3.00 mm

- Sleeve [Fig. 7.5]
Measure the inside diameter, and if it is outside the usable range, replace the sleeve.

Usable range of sleeve

ø 18,45 ~ ø 18,65 mm

- O-rings
If the O-ring is worn out or cracked, replace it.

7.3 Installation

For installation see [Exploded View] on and after p.16, and install in the reverse order of disassembly.

Tightening torque for installation cap A, cap B

6 N·m {60 kgf·cm}

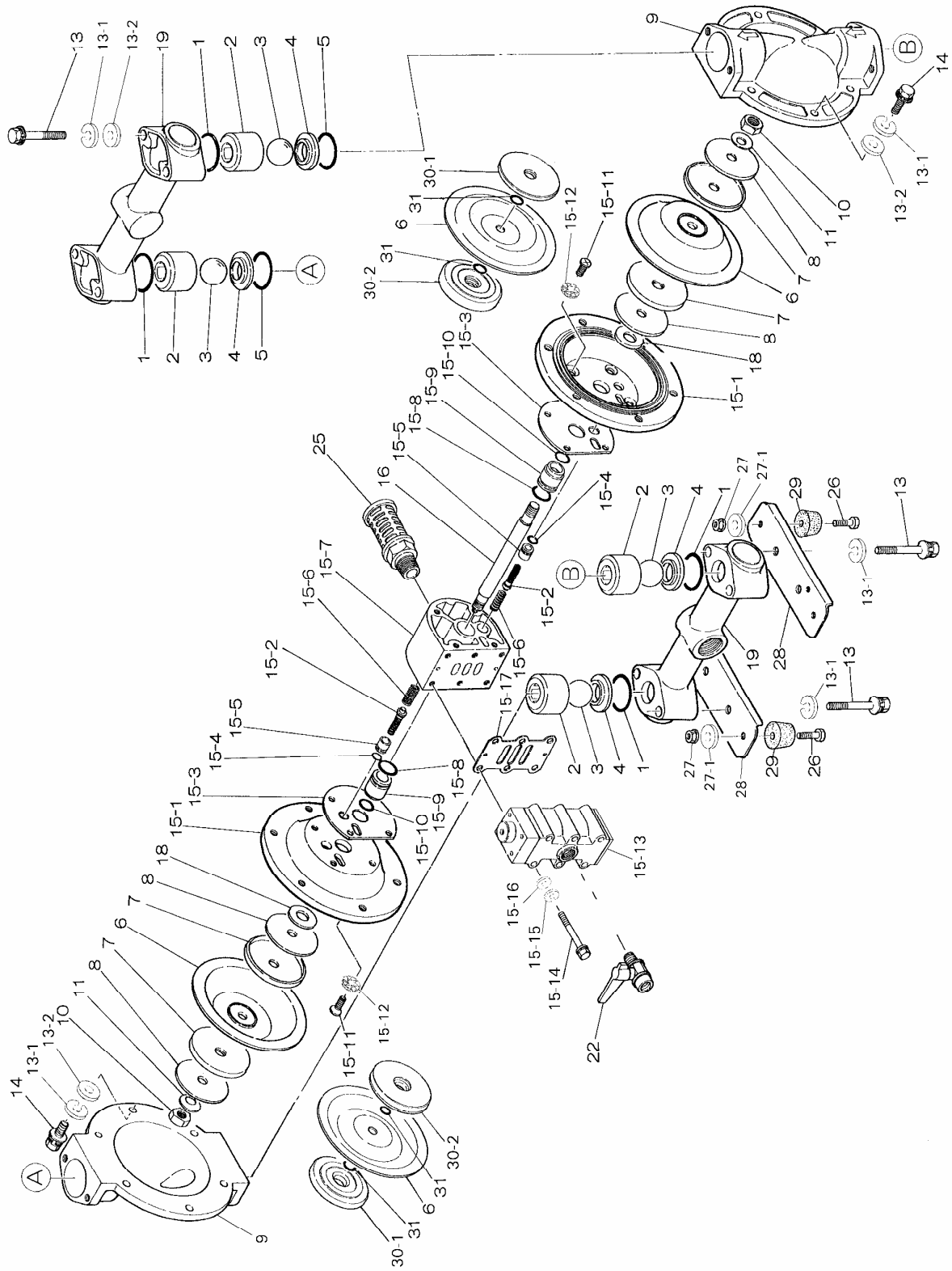
Tightening torque for valve body installation bolts

7.5 N·m {75 kgf·cm}

<NOTE>

- Make sure there is no dust on the seal surface and it is not damaged.
- Install the sleeve at the centre of the valve body. At this point, apply lubricating oil around the sleeve and O-ring.

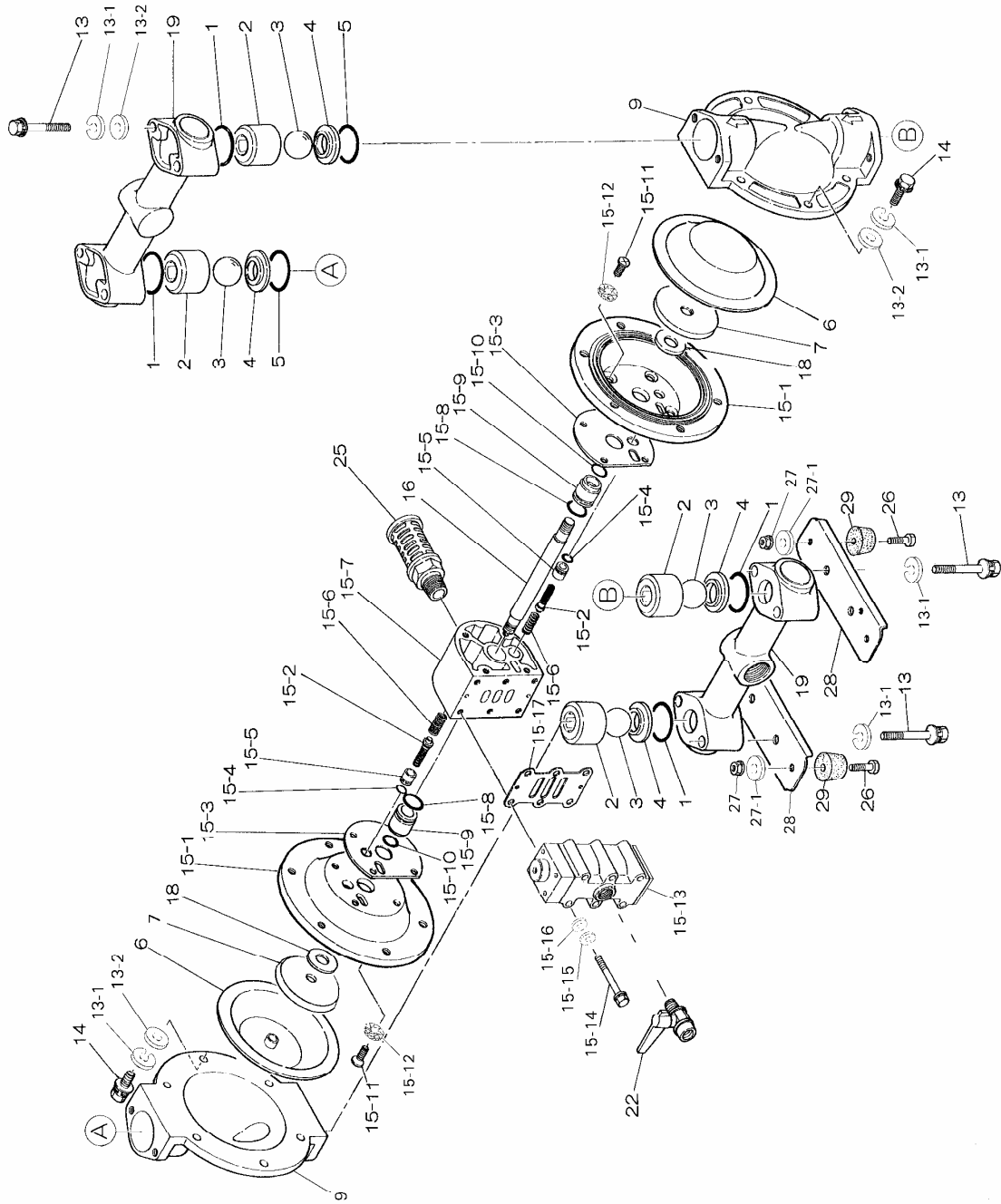
EXPLODED VIEW ■ NDP-20-BA , BS



PARTS LIST							
NDP-20-BA..							
No.	B A C B A E B A H	No.	B A N B A V B A S	No.	B A T	DESCRIPTION	Q`TY
1C	640-036	1N	640-036	1T	643-036	O-RING	4
E	684-118	V	642-036			O-RING	4
H	643-036	S	684-118			O-RING	4
2	711-700	2	711-700	2	711-700	BALL GUIDE	4
3C	770-705	3N	770-720	3T	770-736	BALL	4
E	770-723	V	770-726			BALL	4
H	770-736	S	770-723			BALL	4
4	590-086	4	590-086	4	590-086	VALVE SEAT	4
5C	640-132	5N	640-132	5T	771-131	O-RING	2
E	684-117	V	642-132			O-RING	2
H	771-131	S	684-117			O-RING	2
6C	771-254	6N	771-255	6T	771-083	DIAPHRAGM	2
E	771-256	V	771-257			DIAPHRAGM	2
H	771-362	S	771-973			DIAPHRAGM	2
7	709-153	7	709-153			CENTRE DISC	4
8	709-152	8	709-152			CD WASHER	4
9	711-686	9	711-686	9	711-686	PUMP CHAMBER	2
10	682-263	10	682-263	10	682-263	NUT	2
11	682-730	11	682-730	11	682-730	WASHER	2
13	682-264	13	682-264	13	682-264	BOLT	8
13-1	631-420	13-1	631-420	13-1	631-420	SPRING WASHER	20
13-2	631-013	13-2	631-013	13-2	631-013	WASHER	16
14	611-149	14	611-149	14	611-149	BOLT	12
15	02-0120	15	02-0120	15	02-0120	BODY	1
15-1	710-275	15-1	710-275	15-1	710-275	AIR CHAMBER	2
15-2	802-360	15-2	802-360	15-2	802-360	PILOT VALVE	2
15-3	771-057	15-3	771-057	15-3	771-057	GASKET	2
15-4	640-009	15-4	640-009	15-4	640-009	O-RING	2
15-5	771-945	15-5	771-945	15-5	771-945	VALVE SEAT	2
15-6	708-666	15-6	708-666	15-6	708-666	SPRING	2
15-7	709-154	15-7	709-154	15-7	709-154	BODY	1
15-8	685-276	15-8	685-276	15-8	685-276	O-RING	2
15-9	772-703	15-9	772-703	15-9	772-703	THROAT BEARING	2
15-10	685-414	15-10	685-414	15-10	685-414	O-RING	2
15-11	682-268	15-11	682-268	15-11	682-268	SCREW	8
15-12	000-268	15-12	000-268	15-12	000-268	WASHER	8
15-13	802-361	15-13	802-361	15-13	802-361	VALVE ASSY	1
15-14	682-265	15-14	682-265	15-14	682-265	BOLT	6
15-15	631-420	15-15	631-420	15-15	631-420	SPRING WASHER	6
15-16	631-013	15-16	631-013	15-16	631-013	WASHER	6
15-17	771-056	15-17	771-056	15-17	771-056	GASKET	1
16	709-163	16	709-163	16	709-163	CENTRE ROD	1
18	771-054	18	771-054	18	771-054	CUSHION	2
19	831-243	19	831-243	19	831-243	MANIFOLD	2
22	680-872	22	680-872	22	680-872	BALL VALVE	1
25	680-913	25	680-913	25	680-913	MUFFLER (metal)	1
	683-098		683-098		683-098	MUFFLER (plastic)	1
26	000-550	26	000-550	26	000-550	BOLT	4
27	000-549	27	000-549	27	000-549	NUT	4
27-1	000-548	27-1	000-548	27-1	000-548	WASHER	4
28	709-157	28	709-157	28	709-157	BASE	2
29	000-551	29	000-551	29	000-551	STAND RUBBER	4
				30-1	709-314	CENTRE DISC	2
				30-2	709-456	CENTRE DISC	2
				31	643-013	O-RING	4

PARTS LIST							
NDP-20-BS..							
No.	B S C B S E B S H	No.	B S N B S V B S S	No.	B S T	DESCRIPTION	Q`TY
1C	640-036	1N	640-036	1T	643-036	O-RING	4
E	684-118	V	642-036			O-RING	4
H	643-036	S	684-118			O-RING	4
2	711-701	2	711-701	2	711-701	BALL GUIDE	4
3C	770-705	3N	770-720	3T	770-736	BALL	4
E	770-723	V	770-726			BALL	4
H	770-736	S	770-723			BALL	4
4	711-705	4	711-705	4	711-705	VALVE SEAT	4
5C	640-132	5N	640-132	5T	771-131	O-RING	2
E	684-117	V	642-132			O-RING	2
H	771-131	S	684-117			O-RING	2
6C	771-254	6N	771-255	6T	771-083	DIAPHRAGM	2
E	771-256	V	771-257			DIAPHRAGM	2
H	771-362	S	771-973			DIAPHRAGM	2
7	709-153	7	709-153			CENTRE DISC	4
8	709-152	8	709-152			CD WASHER	4
9	711-693	9	711-693	9	711-693	PUMP CHAMBER	2
10	682-263	10	682-263	10	682-263	NUT	2
11	682-730	11	682-730	11	682-730	WASHER	2
13	621-159	13	621-159	13	621-159	BOLT	8
13-1	681-300	13-1	681-300	13-1	681-300	SPRING WASHER	20
13-2	631-329	13-2	631-329	13-2	631-329	WASHER	16
14	621-149	14	621-149	14	621-149	BOLT	12
15	02-0120	15	02-0120	15	02-0120	BODY	1
15-1	710-275	15-1	710-275	15-1	710-275	AIR CHAMBER	2
15-2	802-360	15-2	802-360	15-2	802-360	PILOT VALVE	2
15-3	771-057	15-3	771-057	15-3	771-057	GASKET	2
15-4	640-009	15-4	640-009	15-4	640-009	O-RING	2
15-5	771-945	15-5	771-945	15-5	771-945	VALVE SEAT	2
15-6	708-666	15-6	708-666	15-6	708-666	SPRING	2
15-7	709-154	15-7	709-154	15-7	709-154	BODY	1
15-8	685-276	15-8	685-276	15-8	685-276	O-RING	2
15-9	772-703	15-9	772-703	15-9	772-703	THROAT BEARING	2
15-10	685-414	15-10	685-414	15-10	685-414	O-RING	2
15-11	682-268	15-11	682-268	15-11	682-268	SCREW	8
15-12	000-268	15-12	000-268	15-12	000-268	WASHER	8
15-13	802-361	15-13	802-361	15-13	802-361	VALVE ASSY	1
15-14	682-265	15-14	682-265	15-14	682-265	BOLT	6
15-15	631-420	15-15	631-420	15-15	631-420	SPRING WASHER	6
15-16	631-013	15-16	631-013	15-16	631-013	WASHER	6
15-17	771-056	15-17	771-056	15-17	771-056	GASKET	1
16	709-163	16	709-163	16	709-163	CENTRE ROD	1
18	771-054	18	771-054	18	771-054	CUSHION	2
19	831-245	19	831-245	19	831-245	MANIFOLD	2
22	680-872	22	680-872	22	680-872	BALL VALVE	1
25	680-913	25	680-913	25	680-913	MUFFLER (metal)	1
	683-098		683-098		683-098	MUFFLER (plastic)	1
26	000-550	26	000-550	26	000-550	BOLT	4
27	000-549	27	000-549	27	000-549	NUT	4
27-1	000-548	27-1	000-548	27-1	000-548	WASHER	4
28	709-157	28	709-157	28	709-157	BASE	2
29	000-551	29	000-551	29	000-551	STAND RUBBER	4
				30-1	709-326	CENTRE DISC	2
				30-2	709-456	CENTRE DISC	2
				31	643-013	O-RING	4

EXPLODED VIEW ■ NDP-20-BATU(N)/BSTU(N)

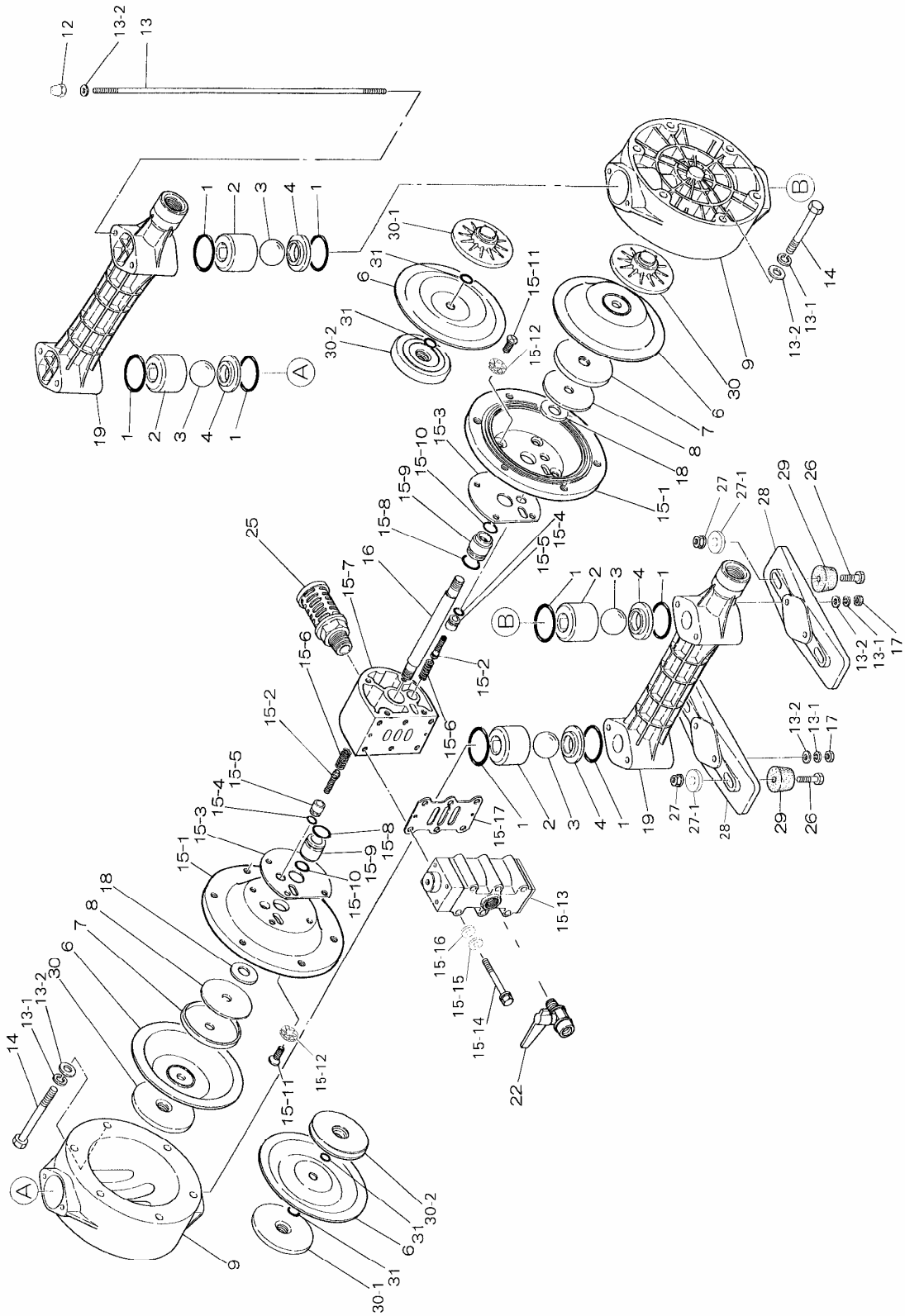


PARTS LIST					
NDP-20-BATU(N) / BSTU(N).					
No.	B A T U B A T U N	No.	B S T U B S T U N	DESCRIPTION	Q`TY
1	643-036	1	643-036	O-RING	4
2	711-700	2	711-701	BALL GUIDE	4
3	770-736	3	770-736	BALL	4
4	590-086	4	711-705	VALVE SEAT	4
5	771-131	5	771-131	O-RING	2
6	02-1164	6	02-1164	DIAPHRAGM	2
7	02-1150	7	02-1150	CENTRE DISC	2
9	711-686	9	711-693	PUMP CHAMBER	2
13	682-264	13	621-159	BOLT	8
13-1	631-420	13-1	681-300	SPRING WASHER	20
13-2	631-013	13-2	631-329	WASHER	16
14	611-149	14	621-149	BOLT	12
15TU	02-0120	15TU	02-0120	BODY	1
15TUN	02-0120N	15TUN	02-0120N	BODY	1
15-1	710-275	15-1	710-275	AIR CHAMBER	2
15-2	802-360	15-2	802-360	PILOT VALVE	2
15-3	771-057	15-3	771-057	GASKET	2
15-4	640-009	15-4	640-009	O-RING	2
15-5	771-945	15-5	771-945	VALVE SEAT	2
15-6	708-666	15-6	708-666	SPRING	2
15-7	709-154	15-7	709-154	BODY	1
15-8	685-276	15-8	685-276	O-RING	2
15-8TUN	683-285	15-8TUN	683-285	O-RING	2
15-9TU	772-703	15-9TU	772-703	THROAT BEARING	2
TUN	02-0561	TUN	02-0561	THROAT BEARING ASSY WITH GREASE	
15-9TUN	772-561	15-9TUN	772-561	THROAT BEARING	2
15-10	685-414	15-10	685-414	V-PACKING	2
15-11	682-268	15-11	682-268	SCREW	8
15-12	000-268	15-12	000-268	WASHER	8
15-13	802-361	15-13	802-361	VALVE ASSY	1
15-14	682-265	15-14	682-265	BOLT	6
15-15	631-420	15-15	631-420	SPRING WASHER	6
15-16	631-013	15-16	631-013	WASHER	6
15-17	771-056	15-17	771-056	GASKET	1
16	02-1163	16	02-1163	CENTRE ROD	1
18	771-054	18	771-054	CUSHION	2
19	831-243	19	831-245	MANIFOLD	2
22	680-872	22	680-872	BALL VALVE	1
25	680-913	25	680-913	MUFFLER (metal)	1
26	000-550	26	000-550	BOLT	4
27	000-549	27	000-549	NUT	4
27-1	000-548	27-1	000-548	WASHER	4
28	709-157	28	709-157	BASE	2
29	000-551	29	000-551	STAND RUBBER	4

* NOTE 02-0561 IS

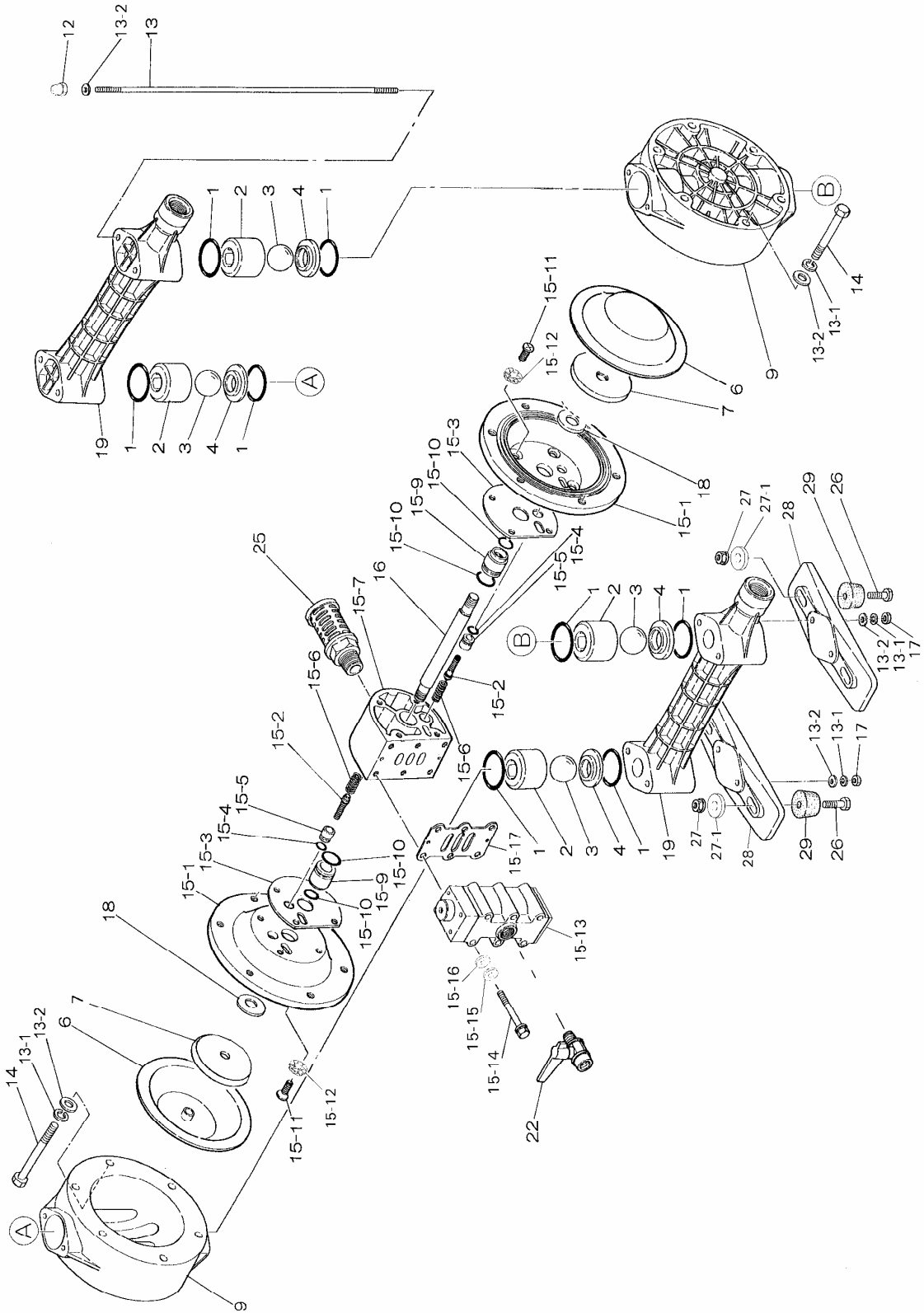
O-RING	683-285	1
O-RING	685-276	1
V-PACKING	685-414	1
THROAT BEARING	772-561	1
UREA GREASE	684-200	

EXPLODED VIEW ■ NDP-20-BP



PARTS LIST							
NDP-20-BP..							
No.	B P C B P E B P H	No.	B P N B P V B P S	No.	B P T	DESCRIPTION	Q`TY
1C	640-033	1N	640-033	1T	643-033	O-RING	8
E	684-116	V	642-033			O-RING	8
H	643-033	S	684-116			O-RING	8
2	771-216	2	771-216	2	771-216	BALL GUIDE	4
3C	770-705	3N	770-720	3T	770-736	BALL	4
E	770-723	V	770-726			BALL	4
H	770-736	S	770-723			BALL	4
4	780-137	4	780-137	4	780-137	VALVE SEAT	4
6C	771-254	6N	771-255	6T	771-083	DIAPHRAGM	2
E	771-256	V	771-257			DIAPHRAGM	2
H	771-362	S	771-973			DIAPHRAGM	2
7	709-153	7	709-153			CENTRE DISC	2
8	709-152	8	709-152			CD WASHER	2
9	780-134	9	780-134	9	780-134	PUMP CHAMBER	2
12	000-074	12	000-074	12	000-074	CAP NUT	4
13	710-122	13	710-122	13	710-122	THREAD END	4
13-1	681-300	13-1	681-300	13-1	681-300	SPRING WASHER	16
13-2	631-329	13-2	631-329	13-2	631-329	WASHER	20
14	621-162	14	621-162	14	621-162	BOLT	12
15	02-0120	15	02-0120	15	02-0120	BODY	1
15-1	710-275	15-1	710-275	15-1	710-275	AIR CHAMBER	2
15-2	802-360	15-2	802-360	15-2	802-360	PILOT VALVE	2
15-3	771-057	15-3	771-057	15-3	771-057	GASKET	2
15-4	640-009	15-4	640-009	15-4	640-009	O-RING	2
15-5	771-945	15-5	771-945	15-5	771-945	VALVE SEAT	2
15-6	708-666	15-6	708-666	15-6	708-666	SPRING	2
15-7	709-154	15-7	709-154	15-7	709-154	BODY	1
15-8	685-276	15-8	685-276	15-8	685-276	O-RING	2
15-9	772-703	15-9	772-703	15-9	772-703	THROAT BEARING	2
15-10	685-414	15-10	685-414	15-10	685-414	O-RING	2
15-11	682-268	15-11	682-268	15-11	682-268	BOLT	8
15-12	000-268	15-12	000-268	15-12	000-268	SPRING WASHER	8
15-13	802-361	15-13	802-361	15-13	802-361	VALVE ASSY	1
15-14	682-265	15-14	682-265	15-14	682-265	BOLT	6
15-15	631-420	15-15	631-420	15-15	631-420	SPRING WASHER	6
15-16	631-013	15-16	631-013	15-16	631-013	WASHER	6
15-17	771-056	15-17	771-056	15-17	771-056	GASKET	1
16	710-252	16	710-252	16	710-252	CENTRE ROD	1
17	628-012	17	628-012	17	628-012	NUT	4
18	771-054	18	771-054	18	771-054	CUSHION	2
19	780-172	19	780-172	19	780-172	MANIFOLD	2
22	680-872	22	680-872	22	680-872	BALL VALVE	1
25	680-913	25	680-913	25	680-913	MUFFLER (metal)	1
	683-098		683-098		MUFFLER (plastic)	1	
26	000-071	26	000-071	26	000-071	BOLT	4
27	000-068	27	000-068	27	000-068	NUT	4
27-1	000-069	27-1	000-069	27-1	000-069	WASHER	4
28	771-219	28	771-219	28	771-219	BASE	2
29	000-551	29	000-551	29	000-551	STAND RUBBER	4
30-1	780-123	30-1	780-123	30-1	780-124	CENTRE DISC	2
				30-2	709-456	CENTRE DISC	2
				31	643-013	O-RING	4

EXPLODED VIEW ■ NDP-20 BPTU(N)

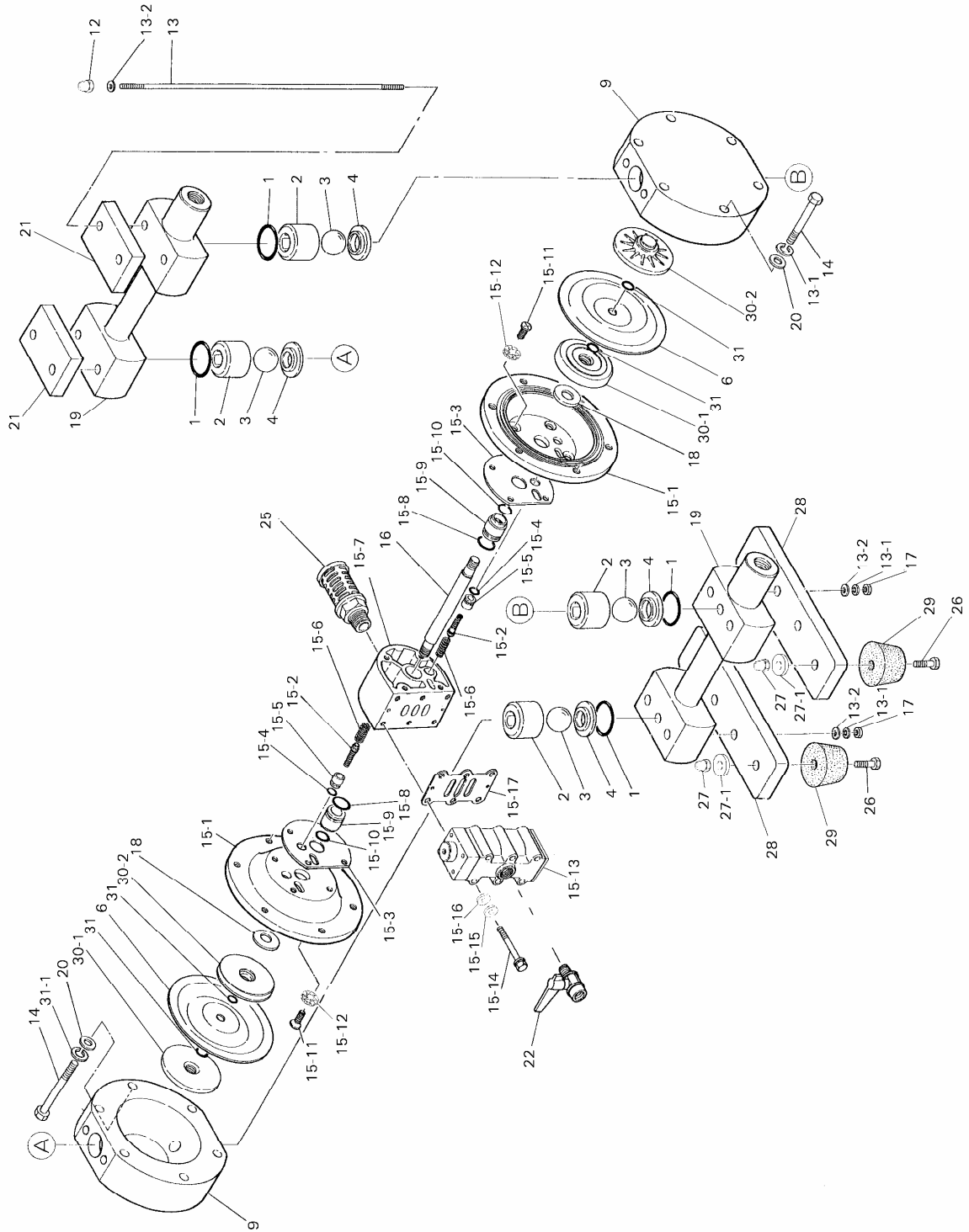


PARTS LIST					
NDP-20-BP..					
No.	B P T U	No.	B P T U N	DESCRIPTION	Q'TY
1	643-033	1	643-033	O-RING	8
2	771-216	2	771-216	BALL GUIDE	4
3	770-736	3	770-736	BALL	4
4	780-137	4	780-137	VALVE SEAT	4
6	02-1164	6	02-1164	DIAPHRAGM	2
7	02-1150	7	02-1150	CENTRE DISC	2
9	780-134	9	780-134	PUMP CHAMBER	2
12	000-074	12	000-074	CAP NUT	4
13	710-122	13	710-122	THREAD END	4
13-1	681-300	13-1	681-300	SPRING WASHER	16
13-2	631-329	13-2	631-329	WASHER	20
14	621-162	14	621-162	BOLT	12
15	02-0120	15	02-0120N	BODY	1
15-1	710-275	15-1	710-275	AIR CHAMBER	2
15-2	802-360	15-2	802-360	PILOT VALVE	2
15-3	771-057	15-3	771-057	GASKET	2
15-4	640-009	15-4	640-009	O-RING	2
15-5	771-945	15-5	771-945	VALVE SEAT	2
15-6	708-666	15-6	708-666	SPRING	2
15-7	709-154	15-7	709-154	BODY	1
15-8	685-276	15-8	685-276	O-RING	2
		15-8UN	683-285	O-RING	2
		UN	02-0561	BEARING ASSY WITH GREASE	2
15-9	772-703	15-9	772-561	THROAT BEARING	2
15-10	685-414	15-10	685-414	O-RING	2
15-11	682-268	15-11	682-268	BOLT	8
15-12	000-268	15-12	000-268	SPRING WASHER	8
15-13	802-361	15-13	802-361	VALVE ASSY	1
15-14	682-265	15-14	682-265	BOLT	6
15-15	631-420	15-15	631-420	SPRING WASHER	6
15-16	631-013	15-16	631-013	WASHER	6
15-17	771-056	15-17	771-056	GASKET	1
16	710-252	16	710-252	CENTRE ROD	1
17	628-012	17	628-012	NUT	4
18	771-054	18	771-054	CUSHION	2
19	780-172	19	780-172	MANIFOLD	2
22	680-872	22	680-872	BALL VALVE	1
25	680-913	25	680-913	MUFFLER (metal)	1
26	000-071	26	000-071	BOLT	4
27	000-068	27	000-068	NUT	4
27-1	000-069	27-1	000-069	WASHER	4
28	771-219	28	771-219	BASE	2
29	000-551	29	000-551	STAND RUBBER	4

* NOTE 02-0561 IS

O-RING	683-285	1
O-RING	685-276	1
V-PACKING	685-414	1
THROAT BEARING	772-561	1
UREA GREASE	684-200	

EXPLODED VIEW ■ NDP-20 BTT, BXT



PARTS LIST					
NDP-20-BTT,BXT					
No.	B T T	No.	B X T	DESCRIPTION	Q`TY
1	643-033	1	643-033	O-RING	4
2	000-987	2	000-600	BALL GUIDE	4
3	770-736	3	770-736	BALL	4
4	000-999	4	000-602	VALVE SEAT	4
6	770-805	6	770-805	DIAPHRAGM	2
9	000-998	9	000-604	PUMP CHAMBER	2
12	000-074	12	000-074	CAP NUT	4
13	000-122	13	000-122	THREAD END	4
13-1	681-300	13-1	681-300	SPRING WASHER	16
13-2	631-329	13-2	631-329	WASHER	8
14	621-162	14	621-162	BOLT	12
15	02-0120 EC	15	02-0120	BODY	1
15-1	710-275	15-1	710-275	AIR CHAMBER	2
15-2	802-360	15-2	802-360	PILOT VALVE	2
15-3	771-057	15-3	771-057	GASKET	2
15-4	640-009	15-4	640-009	O-RING	2
15-5	771-945	15-5	771-945	VALVE SEAT	2
15-6	708-666	15-6	708-666	SPRING	2
15-7	709-154	15-7	709-154	BODY	1
15-8	685-276	15-8	685-276	O-RING	2
15-9	772-703	15-9	772-703	THROAT BEARING	2
15-10	685-414	15-10	685-414	O-RING	2
15-11	682-268	15-11	682-268	BOLT	8
15-12	000-268	15-12	000-268	SPRING WASHER	8
15-13	802-361	15-13	802-361	VALVE ASSY	1
15-14	682-265	15-14	682-265	BOLT	6
15-15	631-420	15-15	631-420	SPRING WASHER	6
15-16	631-013	15-16	631-013	WASHER	6
15-17	771-056	15-17	771-056	GASKET	1
16	000-996	16	000-996	CENTRE ROD	1
17	628-012	17	628-012	NUT	4
18	771-054	18	771-054	CUSHION	2
19	000-997	19	000-606	MANIFOLD	2
20	000-076	20	000-076	WASHER	12
21	000-986	21	000-986	PROTECTOR PLATE	2
22	680-872	22	680-872	BALL VALVE	1
25	680-913	25	680-913	MUFFLER (metal)	1
	683-098		683-098	MUFFLER (plastic)	1
26	621-149	26	621-149	BOLT	4
27	000-074	27	000-074	CAP NUT	4
27-1	631-329	27-1	631-329	WASHER	4
28	000-989	28	000-989	BASE	2
29	770-551	29	770-551	STAND RUBBER	4
30-1	707-764	30-1	707-764	CENTRE DISC (metal)	2
30-2	780-180	30-2	780-180	CENTRE DISC (plastic)	2
31	643-007	31	643-007	O-RING	4

Servicekits Diaphragmpumps (NDP-20)

DIAPHRAGM KITS (BA,BS)

No.	DESCRIPTION	K20D-MN	Q'TY	K20D-MH	Q'TY	K20D-MC	Q'TY	K20D-ME	Q'TY	K20D-MS	Q'TY
1	O-RING	640-036	4	643-036	4	640-036	4	684-118	4	684-118	4
6	DIAPHRAGM	771-255	2	771-362	2	771-254	2	771-256	2	771-973	2
10	NUT	682-263	2	682-263	2	682-263	2	682-263	2	682-263	2
11	CONED DISC SPRING	682-730	2	682-730	2	682-730	2	682-730	2	682-730	2
31	O-RING										

No.	DESCRIPTION	K20D-MV	Q'TY	K20D-MU	Q'TY	K20D-MT	Q'TY
1	O-RING	642-036	4	643-036	4	643-036	4
6	DIAPHRAGM	771-257	2	02-1164	2	771-083	2
10	NUT	682-263	2			682-263	2
11	CONED DISC SPRING	682-730	2			682-730	2
31	O-RING					643-013	4

DIAPHRAGM KITS (BP,BTT,BXT)

No.	DESCRIPTION	K20D-PN	Q'TY	K20D-PH	Q'TY	K20D-PC	Q'TY	K20D-PE	Q'TY	K20D-PS	Q'TY
1	O-RING	640-033	4	643-033	4	640-033	4	684-116	4	684-116	4
6	DIAPHRAGM	771-255	2	771-362	2	771-254	2	771-256	2	771-973	2
31	O-RING										

No.	DESCRIPTION	K20D-PV	Q'TY	K20D-PT	Q'TY	K20D-PU	Q'TY	K20D-TT	Q'TY
1	O-RING	642-033	4	643-033	4	643-033	4	643-033	4
6	DIAPHRAGM	771-257	2	771-083	2	02-1164	2	770-805	2
31	O-RING			643-013	4			643-007	4

VALVE KITS (BA,BS)

No.	DESCRIPTION	K20V-AN	Q'TY	K20V-AT	Q'TY	K20V-AC	Q'TY	K20V-AE	Q'TY	K20V-AV	Q'TY
1	O-RING	640-036	4	643-036	4	640-036	4	684-118	4	642-036	4
2	BALL GUIDE	711-700	4	711-700	4	711-700	4	711-700	4	711-700	4
3	BALL	770-720	4	770-736	4	770-705	4	770-723	4	770-726	4
4	VALVE SEAT	590-086	4	590-086	4	590-086	4	590-086	4	590-086	4
5	O-RING	640-132	2	771-131	2	640-132	2	684-117	2	642-132	2

No.	DESCRIPTION	K20V-SN	Q'TY	K20V-ST	Q'TY	K20V-SC	Q'TY	K20V-SE	Q'TY	K20V-SV	Q'TY
1	O-RING	640-036	4	643-036	4	640-036	4	684-118	4	642-036	4
2	BALL GUIDE	711-701	4	711-701	4	711-701	4	711-701	4	711-701	4
3	BALL	770-720	4	770-736	4	770-705	4	770-723	4	770-726	4
4	VALVE SEAT	711-705	4	711-705	4	711-705	4	711-705	4	711-705	4
5	O-RING	640-132	2	771-131	2	640-132	2	684-117	2	642-132	2

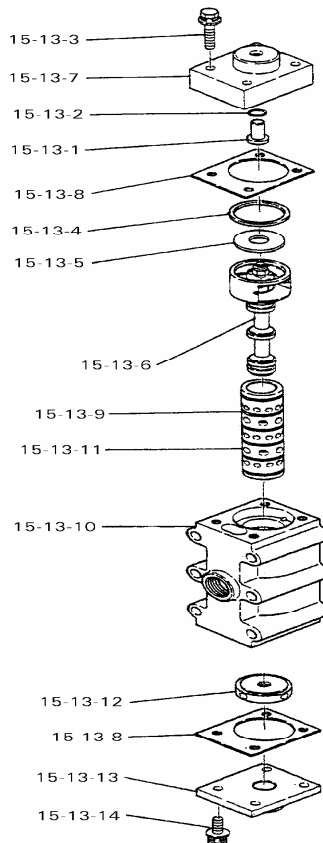
VALVE KITS (BP,BTT,BXT)

No.	DESCRIPTION	K20V-PN	Q'TY	K20V-PT	Q'TY	K20V-PC	Q'TY	K20V-PE	Q'TY	K20V-PV	Q'TY
1	O-RING	640-033	8	643-033	8	640-033	8	684-116	8	642-033	8
2	BALL GUIDE	771-216	4	771-216	4	771-216	4	771-216	4	771-216	4
3	BALL	770-720	4	770-736	4	770-705	4	770-723	4	770-726	4
4	VALVE SEAT	780-137	4	780-137	4	780-137	4	780-137	4	780-137	4
5	O-RING										

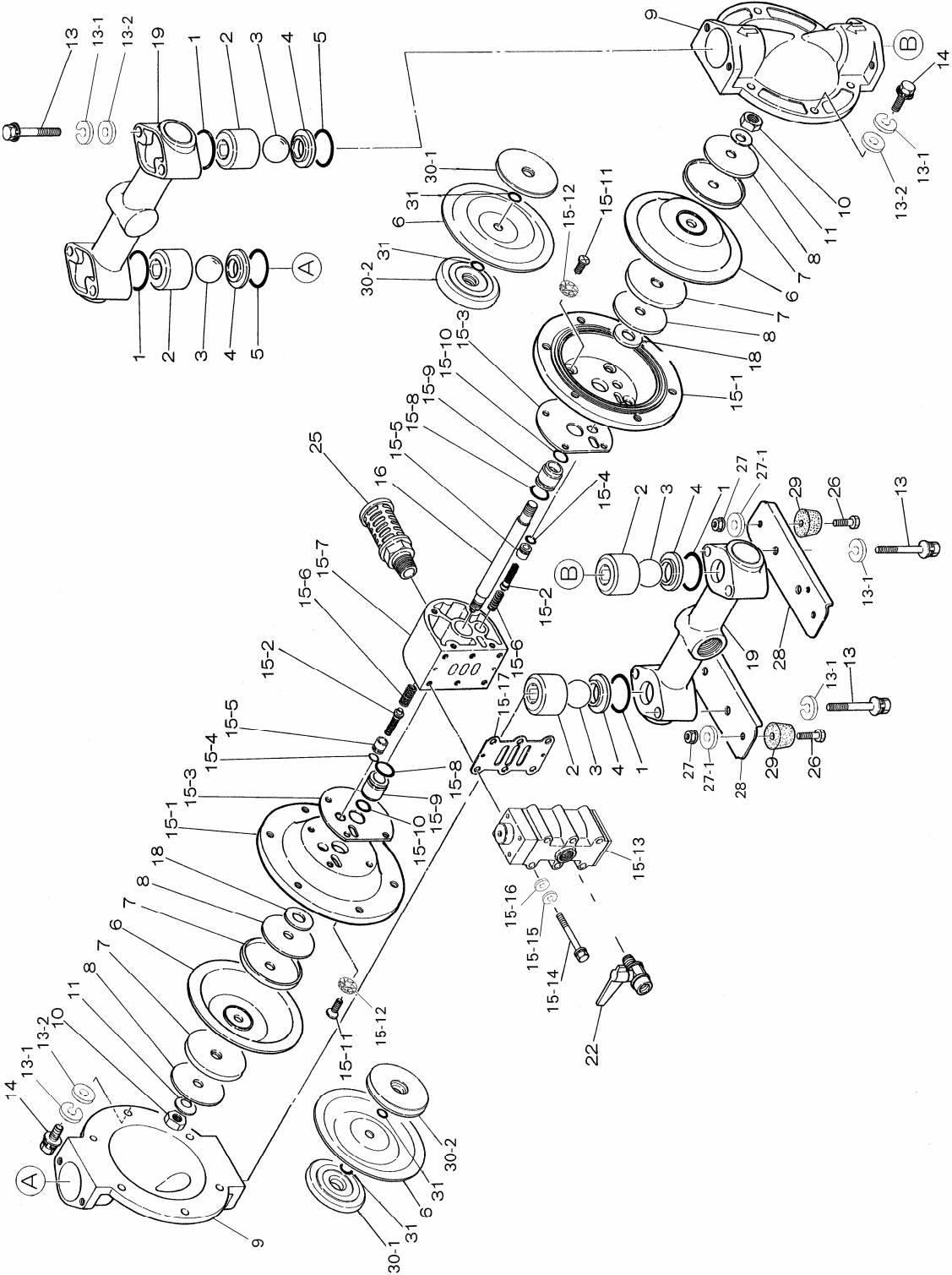
No.	DESCRIPTION	K20V-TT	Q'TY	K20V-XT	Q'TY
1	O-RING	643-033	8	643-033	4
2	BALL GUIDE	000-987	4	000-600	4
3	BALL	770-736	4	770-736	4
4	VALVE SEAT	000-999	4	000-602	4
5	O-RING				

K20/25-AM AIR MOTOR KIT FOR NDP-20/25					
K20/25-AMN AIR MOTOR KIT FOR NDP-20/25 UN					
K20/25-AMS AIR MOTOR SEAL KIT FOR NDP-20/25					
NO.	PART NO.	DESCRIPTION	K20/25-AM	K20/25-AMN	K20/25-AMS
15-2	802-360	PILOT VALVE ASSY	2	2	
15-3	771-057	GASKET	2	2	2
15-4	640-009	O-RING	2	2	2
15-5	771-945	VALVE SEAT	2	2	
15-6	708-666	SPRING	2	2	
15-13-12	771-914	CUSHION INSIDE VALVE ASSY	1	1	
15-8	685-276	O-RING	2		2
15-9	772-703	THROAT BEARING	2		
	02-0561	THROAT BEARING ASSY		2	
15-10	685-414	PACKING	2		2
15-13-2	640-005	O-RING VALVE ASSY	1	1	1
15-13-4	771-241	PACKING VALVE ASSY	1	1	1
15-13-6	802-400	C SPOOL VALVE ASSY	1	1	
15-13-8	771-240	GASKET VALVE ASSY	2	2	2
15-13-9	771-080	O-RING VALVE ASSY			6
18	771-054	CUSHION	2	2	2
15-17	771-056	GASKET	1	1	1

NOTE) *771-374 O-RING IS PART OF 802-360



EXPLODED VIEW ■ NDP-25 BA , BS , BF

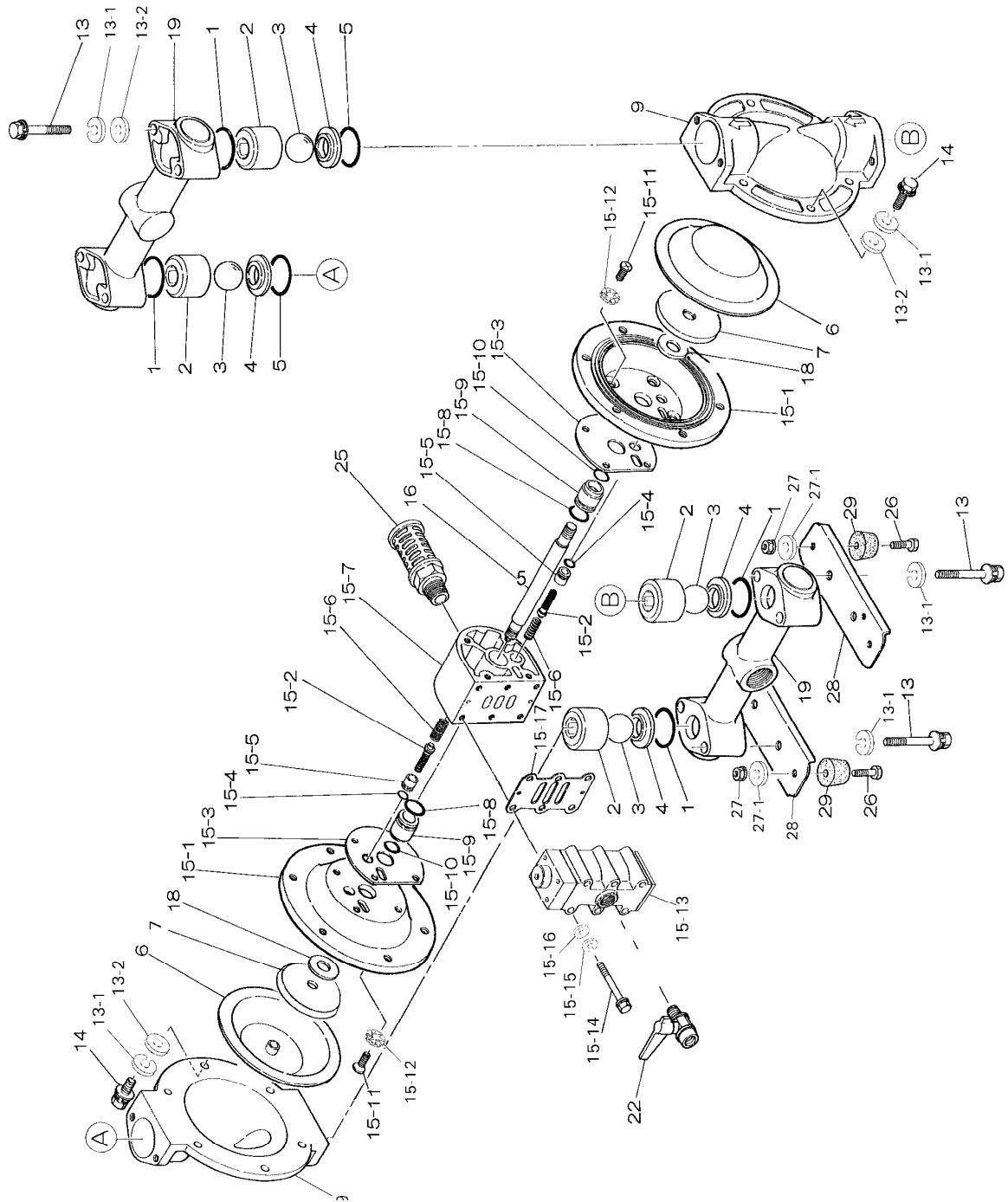


PARTS LIST							
NDP-25-BA..							
No.	B A C B A E B A H	No.	B A N B A V B A S	No.	B A T	DESCRIPTION	Q`TY
1C	640-044	1N	640-044	1T	643-044	O-RING	4
E	683-997	V	642-044			O-RING	4
H	643-044	S	683-997			O-RING	4
2	711-702	2	711-702	2	711-702	BALL GUIDE	4
3C	770-556	3N	770-581	3T	770-691	BALL	4
E	770-590	V	770-599			BALL	4
H	770-691	S	770-590			BALL	4
4	590-087	4	590-087	4	590-087	VALVE SEAT	4
5C	640-134	5N	640-134	5T	771-130	O-RING	2
E	683-996	V	642-134			O-RING	2
H	771-130	S	683-996			O-RING	2
6C	771-258	6N	771-259	6T	771-110	DIAPHRAGM	2
E	771-260	V	771-261			DIAPHRAGM	2
H	771-363	S	771-974			DIAPHRAGM	2
7	709-151	7	709-151			CENTRE DISC	4
8	709-150	8	709-150			CD WASHER	4
9	711-687	9	711-687	9	711-687	PUMP CHAMBER	2
10	682-263	10	682-263	10	682-263	NUT	2
11	682-730	11	682-730	11	682-730	WASHER	2
13	682-267	13	682-267	13	682-267	BOLT	8
13-1	631-421	13-1	631-421	13-1	631-421	SPRING WASHER	20
13-2	631-210	13-2	631-210	13-2	631-210	WASHER	16
14	611-175	14	611-175	14	611-175	BOLT	12
15	02-0125	15	02-0125	15	02-0125	BODY	1
15-1	710-276	15-1	710-276	15-1	710-276	AIR CHAMBER	2
15-2	802-360	15-2	802-360	15-2	802-360	PILOT VALVE	2
15-3	771-057	15-3	771-057	15-3	771-057	GASKET	2
15-4	640-009	15-4	640-009	15-4	640-009	O-RING	2
15-5	771-945	15-5	771-945	15-5	771-945	VALVE SEAT	2
15-6	708-666	15-6	708-666	15-6	708-666	SPRING	2
15-7	709-154	15-7	709-154	15-7	709-154	BODY	1
15-8	685-276	15-8	685-276	15-8	685-276	O-RING	2
15-9	772-703	15-9	772-703	15-9	772-703	THROAT BEARING	2
15-10	685-414	15-10	685-414	15-10	685-414	O-RING	2
15-11	682-268	15-11	682-268	15-11	682-268	SCREW	8
15-12	000-268	15-12	000-268	15-12	000-268	WASHER	8
15-13	802-361	15-13	802-361	15-13	802-361	VALVE ASSY	1
15-14	682-265	15-14	682-265	15-14	682-265	BOLT	6
15-15	631-420	15-15	631-420	15-15	631-420	SPRING WASHER	6
15-16	631-013	15-16	631-013	15-16	631-013	WASHER	6
15-17	771-056	15-17	771-056	15-17	771-056	GASKET	1
16	709-162	16	709-162	16	709-162	CENTRE ROD	1
18	771-054	18	771-054	18	771-054	CUSHION	2
19	831-244	19	831-244	19	831-244	MANIFOLD	2
22	680-872	22	680-872	22	680-872	BALL VALVE	1
25	680-913	25	680-913	25	680-913	MUFFLER (metal)	1
	683-098		683-098		683-098	MUFFLER (plastic)	1
26	000-550	26	000-550	26	000-550	BOLT	4
27	000-549	27	000-549	27	000-549	NUT	4
27-1	000-548	27-1	000-548	27-1	000-548	WASHER	4
28	709-156	28	709-156	28	709-156	BASE	2
29	000-551	29	000-551	29	000-551	STAND RUBBER	4
				30-1	709-327	CENTRE DISC	2
				30-2	709-459	CENTRE DISC	2
				31	643-013	O-RING	4

PARTS LIST							
NDP-25-BS..							
No.	B S C B S E B S H	No.	B S N B S V B S S	No.	B S T	DESCRIPTION	Q T Y
1C	640-044	1N	640-044	1T	643-044	O-RING	4
E	683-997	V	642-044			O-RING	4
H	643-044	S	683-997			O-RING	4
2	711-703	2	711-703	2	711-703	BALL GUIDE	4
3C	770-556	3N	770-581	3T	770-691	BALL	4
E	770-590	V	770-599			BALL	4
H	770-691	S	770-590			BALL	4
4	711-707	4	711-707	4	711-707	VALVE SEAT	4
5C	640-134	5N	640-134	5T	771-130	O-RING	2
E	683-996	V	642-134			O-RING	2
H	771-130	S	683-996			O-RING	2
6C	771-258	6N	771-259	6T	771-110	DIAPHRAGM	2
E	771-260	V	771-261			DIAPHRAGM	2
H	771-363	S	771-974			DIAPHRAGM	2
7	709-151	7	709-151			CENTRE DISC	4
8	709-150	8	709-150			CD WASHER	4
9	711-694	9	711-694	9	711-694	PUMP CHAMBER	2
10	682-263	10	682-263	10	682-263	NUT	2
11	682-730	11	682-730	11	682-730	WASHER	2
13	621-186	13	621-186	13	621-186	BOLT	8
13-1	680-257	13-1	680-257	13-1	680-257	SPRING WASHER	20
13-2	631-330	13-2	631-330	13-2	631-330	WASHER	16
14	621-175	14	621-175	14	621-175	BOLT	12
15	02-0125	15	02-0125	15	02-0125	BODY	1
15-1	710-276	15-1	710-276	15-1	710-276	AIR CHAMBER	2
15-2	802-360	15-2	802-360	15-2	802-360	PILOT VALVE	2
15-3	771-057	15-3	771-057	15-3	771-057	GASKET	2
15-4	640-009	15-4	640-009	15-4	640-009	O-RING	2
15-5	771-945	15-5	771-945	15-5	771-945	VALVE SEAT	2
15-6	708-666	15-6	708-666	15-6	708-666	SPRING	2
15-7	709-154	15-7	709-154	15-7	709-154	BODY	1
15-8	685-276	15-8	685-276	15-8	685-276	O-RING	2
15-9	772-703	15-9	772-703	15-9	772-703	THROAT BEARING	2
15-10	685-414	15-10	685-414	15-10	685-414	O-RING	2
15-11	682-268	15-11	682-268	15-11	682-268	SCREW	8
15-12	000-268	15-12	000-268	15-12	000-268	WASHER	8
15-13	802-361	15-13	802-361	15-13	802-361	VALVE ASSY	1
15-14	682-265	15-14	682-265	15-14	682-265	BOLT	6
15-15	431-420	15-15	431-420	15-15	431-420	SPRING WASHER	6
15-16	631-013	15-16	631-013	15-16	631-013	WASHER	6
15-17	771-056	15-17	771-056	15-17	771-056	GASKET	1
16	709-162	16	709-162	16	709-162	CENTRE ROD	1
18	771-054	18	771-054	18	771-054	CUSHION	2
19	831-250	19	831-250	19	831-250	MANIFOLD	2
22	680-872	22	680-872	22	680-872	BALL VALVE	1
25	680-913	25	680-913	25	680-913	MUFFLER (metal)	1
	683-098		683-098		683-098	MUFFLER (plastic)	1
26	000-550	26	000-550	26	000-550	BOLT	4
27	000-549	27	000-549	27	000-549	NUT	4
27-1	000-548	27-1	000-548	27-1	000-548	WASHER	4
28	709-156	28	709-156	28	709-156	BASE	2
29	000-551	29	000-551	29	000-551	STAND RUBBER	4
				30-1	709-331	CENTRE DISC	2
				30-2	709-459	CENTRE DISC	2
				31	643-013	O-RING	4

PARTS LIST							
NDP-25-BF..							
No.	B F C B F E B F H	No.	B F N B F V B F S	No.	B F T	DESCRIPTION	Q T Y
1C	640-044	1N	640-044	1T	643-044	O-RING	4
E	683-997	V	642-044			O-RING	4
H	643-044	S	683-997			O-RING	4
2	711-703	2	711-703	2	711-703	BALL GUIDE	4
3C	770-556	3N	770-581	3T	770-691	BALL	4
E	770-590	V	770-599			BALL	4
H	770-691	S	770-590			BALL	4
4	711-707	4	711-707	4	711-707	VALVE SEAT	4
5C	640-134	5N	640-134	5T	771-130	O-RING	2
E	683-996	V	642-134			O-RING	2
H	771-130	S	683-996			O-RING	2
6C	771-258	6N	771-259	6T	771-110	DIAPHRAGM	2
E	771-260	V	771-261			DIAPHRAGM	2
H	771-363	S	771-974			DIAPHRAGM	2
7	709-151	7	709-151			CENTRE DISC	4
8	709-150	8	709-150			CD WASHER	4
9	711-695	9	711-695	9	711-695	PUMP CHAMBER	2
10	682-263	10	682-263	10	682-263	NUT	2
11	682-730	11	682-730	11	682-730	WASHER	2
13	682-267	13	682-267	13	682-267	BOLT	8
13-1	631-421	13-1	631-421	13-1	631-421	SPRING WASHER	20
13-2	631-210	13-2	631-210	13-2	631-210	WASHER	16
14	611-175	14	611-175	14	611-175	BOLT	12
15	02-0125	15	02-0125	15	02-0125	BODY	1
15-1	710-276	15-1	710-276	15-1	710-276	AIR CHAMBER	2
15-2	802-360	15-2	802-360	15-2	802-360	PILOT VALVE	2
15-3	771-057	15-3	771-057	15-3	771-057	GASKET	2
15-4	640-009	15-4	640-009	15-4	640-009	O-RING	2
15-5	771-945	15-5	771-945	15-5	771-945	VALVE SEAT	2
15-6	708-666	15-6	708-666	15-6	708-666	SPRING	2
15-7	709-154	15-7	709-154	15-7	709-154	BODY	1
15-8	685-276	15-8	685-276	15-8	685-276	O-RING	2
15-9	772-703	15-9	772-703	15-9	772-703	THROAT BEARING	2
15-10	685-414	15-10	685-414	15-10	685-414	O-RING	2
15-11	682-268	15-11	682-268	15-11	682-268	SCREW	8
15-12	000-268	15-12	000-268	15-12	000-268	WASHER	8
15-13	802-361	15-13	802-361	15-13	802-361	VALVE ASSY	1
15-14	682-265	15-14	682-265	15-14	682-265	BOLT	6
15-15	631-420	15-15	631-420	15-15	631-420	SPRING WASHER	6
15-16	631-013	15-16	631-013	15-16	631-013	WASHER	6
15-17	771-056	15-17	771-056	15-17	771-056	GASKET	1
16	709-162	16	709-162	16	709-162	CENTRE ROD	1
18	771-054	18	771-054	18	771-054	CUSHION	2
19	831-249	19	831-249	19	831-249	MANIFOLD	2
22	680-872	22	680-872	22	680-872	BALL VALVE	1
25	680-913	25	680-913	25	680-913	MUFFLER (metal)	1
	683-098		683-098		683-098	MUFFLER (plastic)	1
26	000-550	26	000-550	26	000-550	BOLT	4
27	000-549	27	000-549	27	000-549	NUT	4
27-1	000-548	27-1	000-548	27-1	000-548	WASHER	4
28	709-156	28	709-156	28	709-156	BASE	2
29	000-551	29	000-551	29	000-551	STAND RUBBER	4
				30-1	709-331	CENTRE DISC	2
				30-2	709-459	CENTRE DISC	2
				31	643-013	O-RING	4

EXPLODED VIEW ■ NDP-25 BATU(N) / BSTU(N) / BFTU(N)

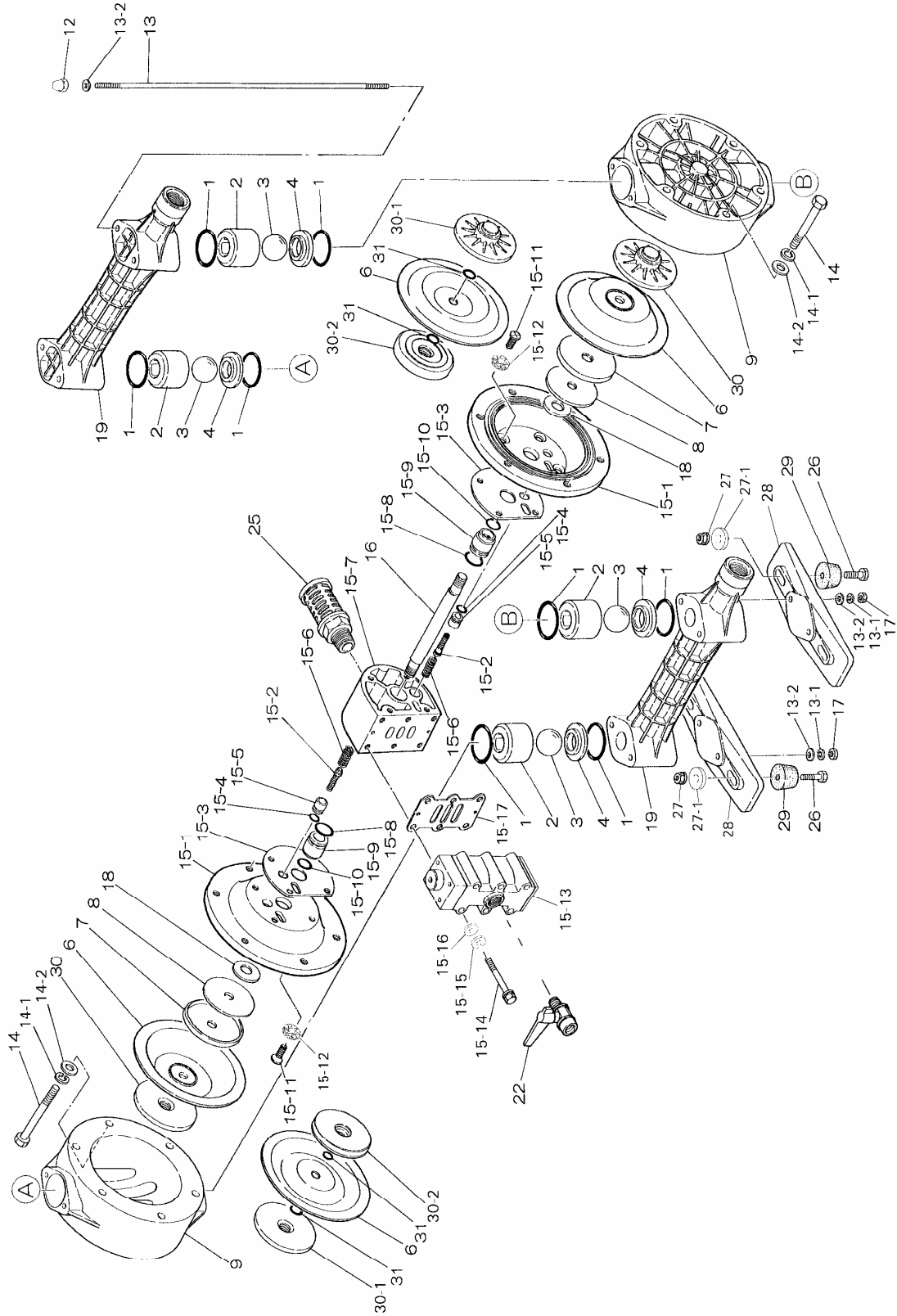


PARTS LIST							
NDP-25-BA / BS / BFTU(N)..							
No.	B A T U B A T U N	No.	B S T U B S T U N	No.	B F T U B F T U N	DESCRIPTION	Q'TY
1	643-044	1	643-044	1	643-044	O-RING	4
2	711-702	2	711-703	2	711-703	BALL GUIDE	4
3	770-691	3	770-691	3	770-691	BALL	4
4	590-087	4	711-707	4	711-707	VALVE SEAT	4
5	771-130	5	771-130	5	771-130	O-RING	2
6	02-1166	6	02-1166	6	02-1166	DIAPHRAGM	2
7	02-1152	7	02-1152	7	02-1152	CENTRE DISC	2
9	711-687	9	711-694	9	711-695	PUMP CHAMBER	2
13	682-267	13	621-186	13	682-267	BOLT	8
13-1	631-421	13-1	680-257	13-1	631-421	SPRING WASHER	20
13-2	631-210	13-2	631-330	13-2	631-210	WASHER	16
14	611-175	14	621-175	14	611-175	BOLT	12
15U	02-0125	15U	02-0125	15U	02-0125	BODY	1
15UN	02-0125N	15UN	02-0125N	15UN	02-0125N	BODY	1
15-1	710-276	15-1	710-276	15-1	710-276	AIR CHAMBER	2
15-2	802-360	15-2	802-360	15-2	802-360	PILOT VALVE	2
15-3	771-057	15-3	771-057	15-3	771-057	GASKET	2
15-4	640-009	15-4	640-009	15-4	640-009	O-RING	2
15-5	771-945	15-5	771-945	15-5	771-945	VALVE SEAT	2
15-6	708-666	15-6	708-666	15-6	708-666	SPRING	2
15-7	709-154	15-7	709-154	15-7	709-154	BODY	1
15-8	685-276	15-8	685-276	15-8	685-276	O-RING	2
15-8UN	683-285	15-8UN	683-285	15-8UN	683-285	O-RING	2
15-9	772-703	15-9	772-703	15-9	772-703	THROAT BEARING	2
UN	02-0561	UN	02-0561	UN	02-0561	BEARING ASSY GREASE	2
15-9UN	772-561	15-9UN	772-561	15-9UN	772-561	THROAT BEARING	2
15-10	685-414	15-10	685-414	15-10	685-414	V-PACKING	2
15-11	682-268	15-11	682-268	15-11	682-268	SCREW	8
15-12	000-268	15-12	000-268	15-12	000-268	WASHER	8
15-13	802-361	15-13	802-361	15-13	802-361	VALVE ASSY	1
15-14	682-265	15-14	682-265	15-14	682-265	BOLT	6
15-15	631-420	15-15	431-420	15-15	631-420	SPRING WASHER	6
15-16	631-013	15-16	631-013	15-16	631-013	WASHER	6
15-17	771-056	15-17	771-056	15-17	771-056	GASKET	1
16	709-162	16	709-162	16	709-162	CENTRE ROD	1
18	771-054	18	771-054	18	771-054	CUSHION	2
19	831-244	19	831-250	19	831-249	MANIFOLD	2
22	680-872	22	680-872	22	680-872	BALL VALVE	1
25	680-913	25	680-913	25	680-913	MUFFLER (metal)	1
26	000-550	26	000-550	26	000-550	BOLT	4
27	000-549	27	000-549	27	000-549	NUT	4
27-1	000-548	27-1	000-548	27-1	000-548	WASHER	4
28	709-156	28	709-156	28	709-156	BASE	2
29	000-551	29	000-551	29	000-551	STAND RUBBER	4

* NOTE 02-0561 IS

O-RING	683-285	1
O-RING	685-276	1
V-PACKING	685-414	1
THROAT BEARING	772-561	1
UREA GREASE	684-200	

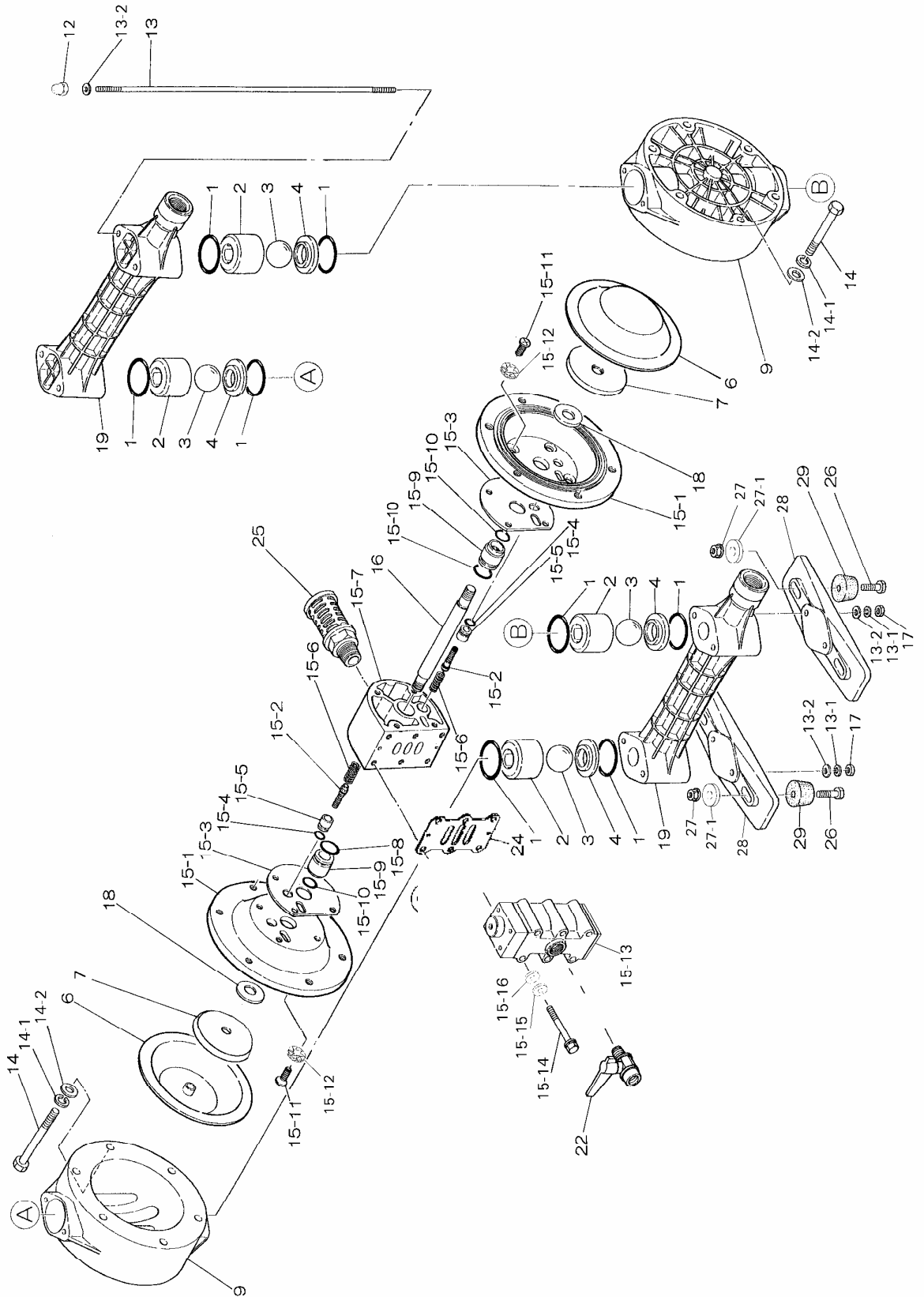
EXPLODED VIEW ■ NDP-25 BP , BV



PARTS LIST							
NDP-25-BP..							
No.	B P C B P E B P H	No.	B P N B P V B P S	No.	B P T	DESCRIPTION	Q`TY
1C	640-042	1N	640-042	1T	643-042	O-RING	8
E	684-119	V	642-042			O-RING	8
H	643-042	S	684-119			O-RING	8
2	771-231	2	771-231	2	771-231	BALL GUIDE	4
3C	770-556	3N	770-581	3T	770-691	BALL	4
E	770-590	V	770-599			BALL	4
H	770-691	S	770-590			BALL	4
4	780-138	4	780-138	4	780-138	VALVE SEAT	4
6C	771-258	6N	771-259	6T	771-110	DIAPHRAGM	2
E	771-260	V	771-261			DIAPHRAGM	2
H	771-363	S	771-974			DIAPHRAGM	2
7	709-151	7	709-151			CENTRE DISC	2
8	709-150	8	709-150			CD WASHER	2
9	780-135	9	780-135	9	780-135	PUMP CHAMBER	2
12	000-074	12	000-074	12	000-074	CAP NUT	4
13	710-207	13	710-207	13	710-207	THREAD END	4
13-1	681-300	13-1	681-300	13-1	681-300	SPRING WASHER	4
13-2	631-329	13-2	631-329	13-2	631-329	WASHER	8
14	000-075	14	000-075	14	000-075	BOLT	12
14-1	680-257	14-1	680-257	14-1	680-257	SPRING WASHER	12
14-2	631-330	14-2	631-330	14-2	631-330	WASHER	12
15	02-0125	15	02-0125	15	02-0125	BODY	1
15-1	710-276	15-1	710-276	15-1	710-276	AIR CHAMBER	2
15-2	802-360	15-2	802-360	15-2	802-360	PILOT VALVE	2
15-3	771-057	15-3	771-057	15-3	771-057	GASKET	2
15-4	640-009	15-4	640-009	15-4	640-009	O-RING	2
15-5	771-945	15-5	771-945	15-5	771-945	VALVE SEAT	2
15-6	708-666	15-6	708-666	15-6	708-666	SPRING	2
15-7	709-154	15-7	709-154	15-7	709-154	BODY	1
15-8	685-276	15-8	685-276	15-8	685-276	O-RING	2
15-9	772-703	15-9	772-703	15-9	772-703	THROAT BEARING	2
15-10	685-414	15-10	685-414	15-10	685-414	O-RING	2
15-11	682-268	15-11	682-268	15-11	682-268	SCREW	8
15-12	000-268	15-12	000-268	15-12	000-268	WASHER	8
15-13	802-361	15-13	802-361	15-13	802-361	VALVE ASSY	1
15-14	682-265	15-14	682-265	15-14	682-265	BOLT	6
15-15	431-420	15-15	431-420	15-15	431-420	SPRING WASHER	6
15-16	631-013	15-16	631-013	15-16	631-013	WASHER	6
15-17	771-056	15-17	771-056	15-17	771-056	GASKET	1
16	710-271	16	710-271	16	710-271	CENTRE ROD	1
17	628-012	17	628-012	17	628-012	NUT	4
18	771-054	18	771-054	18	771-054	CUSHION	2
19	780-173	19	780-173	19	780-173	MANIFOLD	2
22	680-872	22	680-872	22	680-872	BALL VALVE	1
25	680-913	25	680-913	25	680-913	MUFFLER (metal)	1
	683-098		683-098		683-098	MUFFLER (plastic)	1
26	000-071	26	000-071	26	000-071	BOLT	4
27	000-068	27	000-068	27	000-068	NUT	4
27-1	000-069	27-1	000-069	27-1	000-069	WASHER	4
28	771-235	28	771-235	28	771-235	BASE	2
29	000-551	29	000-551	29	000-551	STAND RUBBER	4
30-1	780-125	30-1	780-125	30-1	780-126	CENTRE DISC	2
				30-2	709-459	CENTRE DISC	2
				31	643-013	O-RING	4

PARTS LIST							
NDP-25-BV..							
No.	BVC BVE BVH	No.	BVN BVV BVS	No.	BVT	DESCRIPTION	Q'TY
1C	640-042	1N	640-042	1T	643-042	O-RING	8
E	684-119	V	642-042			O-RING	8
H	643-042	S	684-119			O-RING	8
2	780-141	2	780-141	2	780-141	BALL GUIDE	4
3C	770-556	3N	770-581	3T	770-691	BALL	4
E	770-590	V	770-599			BALL	4
H	770-691	S	770-590			BALL	4
4	780-139	4	780-139	4	780-139	VALVE SEAT	4
6C	771-258	6N	771-259	6T	771-110	DIAPHRAGM	2
E	771-260	V	771-261			DIAPHRAGM	2
H	771-363	S	771-974			DIAPHRAGM	2
7	709-151	7	709-151			CENTRE DISC	2
8	709-150	8	709-150			CD WASHER	2
9	780-136	9	780-136	9	780-136	PUMP CHAMBER	2
12	000-074	12	000-074	12	000-074	CAP NUT	4
13	710-207	13	710-207	13	710-207	THREAD END	4
13-1	681-300	13-1	681-300	13-1	681-300	SPRING WASHER	4
13-2	631-329	13-2	631-329	13-2	631-329	WASHER	8
14	000-075	14	000-075	14	000-075	BOLT	12
14-1	680-257	14-1	680-257	14-1	680-257	SPRING WASHER	12
14-2	631-330	14-2	631-330	14-2	631-330	WASHER	12
15	02-0125	15	02-0125	15	02-0125	BODY	1
15-1	710-276	15-1	710-276	15-1	710-276	AIR CHAMBER	2
15-2	802-360	15-2	802-360	15-2	802-360	PILOT VALVE	2
15-3	771-057	15-3	771-057	15-3	771-057	GASKET	2
15-4	640-009	15-4	640-009	15-4	640-009	O-RING	2
15-5	771-945	15-5	771-945	15-5	771-945	VALVE SEAT	2
15-6	708-666	15-6	708-666	15-6	708-666	SPRING	2
15-7	709-154	15-7	709-154	15-7	709-154	BODY	1
15-8	685-276	15-8	685-276	15-8	685-276	O-RING	2
15-9	772-703	15-9	772-703	15-9	772-703	THROAT BEARING	2
15-10	685-414	15-10	685-414	15-10	685-414	O-RING	2
15-11	682-268	15-11	682-268	15-11	682-268	SCREW	8
15-12	000-268	15-12	000-268	15-12	000-268	WASHER	8
15-13	802-361	15-13	802-361	15-13	802-361	VALVE ASSY	1
15-14	682-265	15-14	682-265	15-14	682-265	BOLT	6
15-15	431-420	15-15	431-420	15-15	431-420	SPRING WASHER	6
15-16	631-013	15-16	631-013	15-16	631-013	WASHER	6
15-17	771-056	15-17	771-056	15-17	771-056	GASKET	1
16	710-271	16	710-271	16	710-271	CENTRE ROD	1
17	628-012	17	628-012	17	628-012	NUT	4
18	771-054	18	771-054	18	771-054	CUSHION	2
19	780-174	19	780-174	19	780-174	MANIFOLD	2
22	680-872	22	680-872	22	680-872	BALL VALVE	1
25	680-913	25	680-913	25	680-913	MUFFLER (metal)	1
	683-098		683-098		MUFFLER (plastic)	1	
26	000-071	26	000-071	26	000-071	BOLT	4
27	000-068	27	000-068	27	000-068	NUT	4
27-1	000-069	27-1	000-069	27-1	000-069	WASHER	4
28	771-749	28	771-749	28	771-749	BASE	2
29	000-551	29	000-551	29	000-551	STAND RUBBER	4
30-1	780-127	30-1	780-127	30-1	780-128	CENTRE DISC	2
				30-2	709-459	CENTRE DISC	2
				31	643-013	O-RING	4

EXPLODED VIEW ■ NDP-25 BPTU(N) / BVTU(N)

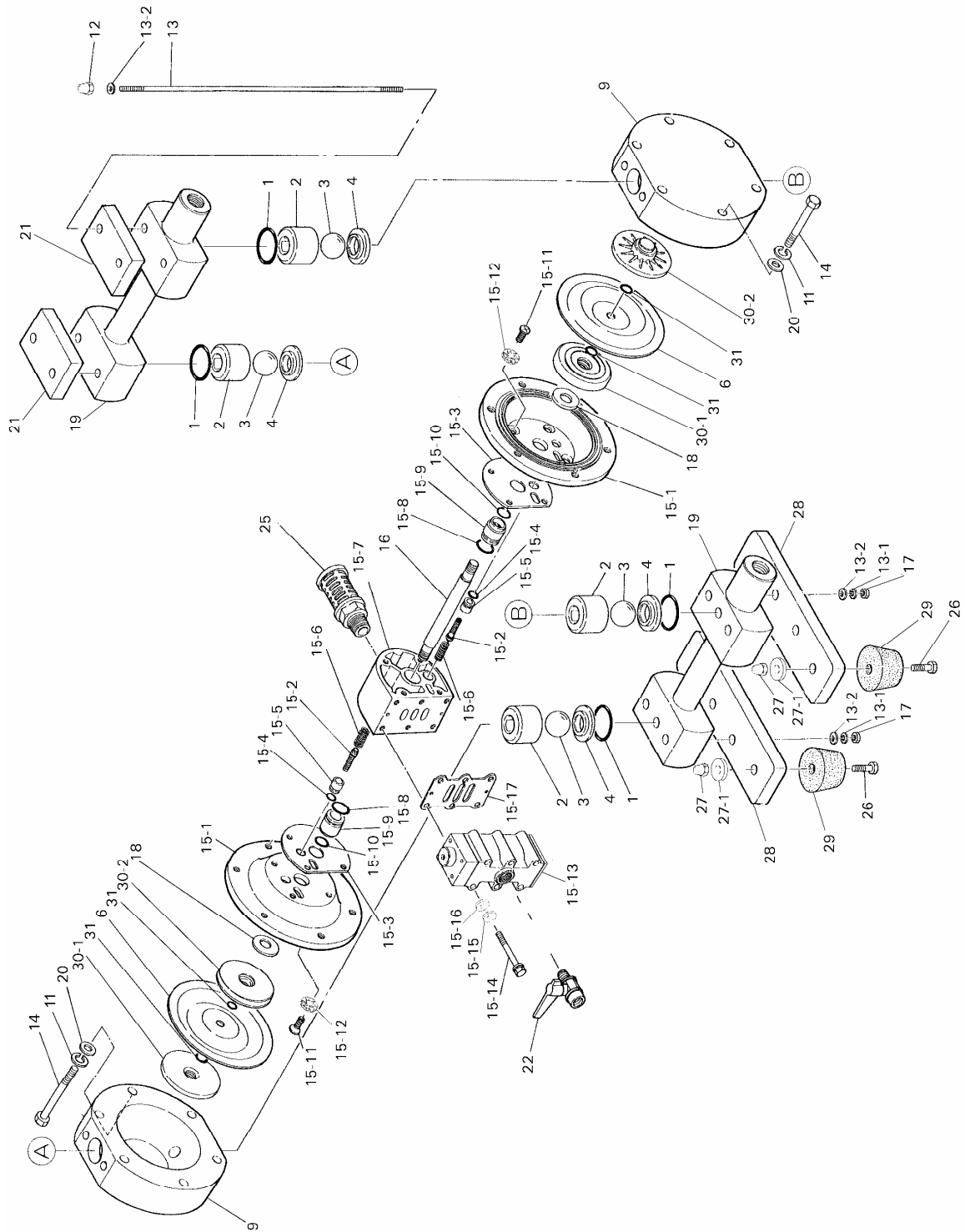


PARTS LIST					
NDP-25-BP / BVTU(N)..					
No.	B P T U B P T U N	No.	B V T U B V T U N	DESCRIPTION	Q`TY
1	643-042	1	643-042	O-RING	8
2	771-231	2	780-141	BALL GUIDE	4
3	770-691	3	770-691	BALL	4
4	780-138	4	780-139	VALVE SEAT	4
6	02-1166	6	02-1166	DIAPHRAGM	2
7	02-1152	7	02-1152	CENTRE DISC	2
9	780-135	9	780-136	PUMP CHAMBER	2
12	000-074	12	000-074	CAP NUT	4
13	710-207	13	710-207	THREAD END	4
13-1	681-300	13-1	681-300	SPRING WASHER	4
13-2	631-329	13-2	631-329	WASHER	8
14	000-075	14	000-075	BOLT	12
14-1	680-257	14-1	680-257	SPRING WASHER	12
14-2	631-330	14-2	631-330	WASHER	12
15	02-0125	15	02-0125	BODY	1
15UN	02-0125N	15UN	02-0125N	BODY	1
15-1	710-276	15-1	710-276	AIR CHAMBER	2
15-2	802-360	15-2	802-360	PILOT VALVE	2
15-3	771-057	15-3	771-057	GASKET	2
15-4	640-009	15-4	640-009	O-RING	2
15-5	771-945	15-5	771-945	VALVE SEAT	2
15-6	708-666	15-6	708-666	SPRING	2
15-7	709-154	15-7	709-154	BODY	1
15-8	685-276	15-8	685-276	O-RING	2
UN	683-285	UN	683-285	O-RING	2
15-9	772-703	15-9	772-703	THROAT BEARING	2
UN	02-0561	UN	02-0561	BEARING ASSY GREASE	2
15-9UN	772-561	15-9UN	772-561	THROAT BEARING	2
15-10	685-414	15-10	685-414	O-RING	2
15-11	682-268	15-11	682-268	SCREW	8
15-12	000-268	15-12	000-268	WASHER	8
15-13	802-361	15-13	802-361	VALVE ASSY	1
15-14	682-265	15-14	682-265	BOLT	6
15-15	431-420	15-15	431-420	SPRING WASHER	6
15-16	631-013	15-16	631-013	WASHER	6
15-17	771-056	15-17	771-056	GASKET	1
16	710-271	16	710-271	CENTRE ROD	1
17	628-012	17	628-012	NUT	4
18	771-054	18	771-054	CUSHION	2
19	780-173	19	780-174	MANIFOLD	2
22	680-872	22	680-872	BALL VALVE	1
25	680-913	25	680-913	MUFFLER (metal)	1
26	000-071	26	000-071	BOLT	4
27	000-068	27	000-068	NUT	4
27-1	000-069	27-1	000-069	WASHER	4
28	771-235	28	771-749	BASE	2
29	000-551	29	000-551	STAND RUBBER	4

* NOTE 02-0561 IS

O-RING	683-285	1
O-RING	685-276	1
V-PACKING	685-414	1
THROAT BEARING	772-561	1
UREA GREASE	684-200	

EXPLODED VIEW ■ NDP-25 BTT, BXT



PARTS LIST					
NDP-25-BTT,BXT					
No.	B T T	No.	B X T	DESCRIPTION	Q`TY
1	643-042	1	643-042	O-RING	4
2	000-991	2	000-601	BALL GUIDE	4
3	770-691	3	770-691	BALL	4
4	000-992	4	000-603	VALVE SEAT	4
6	771-110	6	771-110	DIAPHRAGM	2
9	000-995	9	000-605	PUMP CHAMBER	2
11	680-257	11	680-257	SPRING WASHER	12
12	000-074	12	000-074	CAP NUT	4
13	000-207	13	000-207	THREAD END	4
13-1	681-300	13-1	681-300	SPRING WASHER	4
13-2	631-329	13-2	631-329	WASHER	8
14	683-541	14	683-541	BOLT	12
15	02-0125 EC	15	02-0125	BODY	1
15-1	710-276	15-1	710-276	AIR CHAMBER	2
15-2	802-360	15-2	802-360	PILOT VALVE	2
15-3	771-057	15-3	771-057	GASKET	2
15-4	640-009	15-4	640-009	O-RING	2
15-5	771-945	15-5	771-945	VALVE SEAT	2
15-6	708-666	15-6	708-666	SPRING	2
15-7	709-154	15-7	709-154	BODY	1
15-8	685-276	15-8	685-276	O-RING	2
15-9	772-703	15-9	772-703	THROAT BEARING	2
15-10	685-414	15-10	685-414	O-RING	2
15-11	682-268	15-11	682-268	BOLT	8
15-12	000-268	15-12	000-268	SPRING WASHER	8
15-13	802-361	15-13	802-361	VALVE ASSY	1
15-14	682-265	15-14	682-265	BOLT	6
15-15	631-420	15-15	631-420	SPRING WASHER	6
15-16	631-013	15-16	631-013	WASHER	6
15-17	771-056	15-17	771-056	GASKET	1
16	710-271	16	710-271	CENTRE ROD	1
17	628-012	17	628-012	NUT	4
18	771-054	18	771-054	CUSHION	2
19	000-994	19	000-607	MANIFOLD	2
20	000-077	20	000-077	WASHER	12
21	000-988	21	000-988	PROTECTOR PLATE	2
22	680-872	22	680-872	BALL VALVE	1
25	680-913	25	680-913	MUFFLER (metal)	1
	683-098		683-098	MUFFLER (plastic)	1
26	621-149	26	621-149	BOLT	4
27	000-074	27	000-074	CAP NUT	4
27-1	631-329	27-1	631-329	WASHER	4
28	000-990	28	000-990	BASE	2
29	770-551	29	770-551	STAND RUBBER	4
30-1	709-459	30-1	709-459	CENTRE DISC	2
30-2	780-181	30-2	780-181	CENTRE DISC	2
31	643-013	31	643-013	O-RING	4

Servicekits Diaphragmpumps (NDP-25)

DIAPHRAGM KITS (BA, BS)

No.	DESCRIPTION	K25D-MN	Q'TY	K25D-MH	Q'TY	K25D-MC	Q'TY	K25D-ME	Q'TY	K25D-MS	Q'TY
1	O-RING	640-044	4	643-044	4	640-044	4	683-997	4	683-997	4
6	DIAPHRAGM	771-259	2	771-363	2	771-258	2	771-260	2	771-974	2
10	NUT	682-263	2	682-263	2	682-263	2	682-263	2	682-263	2
11	WASHER	682-730	2	682-730	2	682-730	2	682-730	2	682-730	2
31	O-RING										

No.	DESCRIPTION	K25D-MV	Q'TY	K25D-MU	Q'TY	K25D-MT	Q'TY
1	O-RING	642-044	4	643-044	4	643-044	4
6	DIAPHRAGM	771-261	2	02-1166	2	771-110	2
10	NUT	682-263	2			682-263	2
11	WASHER	682-730	2			682-730	2
31	O-RING					643-013	4

DIAPHRAGM KITS (BP, BTT, BXT)

No.	DESCRIPTION	K25D-PN	Q'TY	K25D-PH	Q'TY	K25D-PC	Q'TY	K25D-PE	Q'TY	K25D-PS	Q'TY
1	O-RING	640-042	4	643-042	4	640-042	4	684-119	4	684-119	4
6	DIAPHRAGM	771-259	2	771-363	2	771-258	2	771-260	2	771-974	2
31	O-RING										

No.	DESCRIPTION	K25D-PV	Q'TY	K25D-PU	Q'TY	K25D-PT	Q'TY
1	O-RING	642-042	4	643-042	4	643-042	4
6	DIAPHRAGM	771-261	2	02-1166	2	771-110	2
31	O-RING					643-013	4

VALVE KITS (BA, BS)

No.	DESCRIPTION	K25V-AN	Q'TY	K25V-AT	Q'TY	K25V-AC	Q'TY	K25V-AE	Q'TY	K25V-AV	Q'TY
1	O-RING	640-044	4	643-044	4	640-044	4	683-997	4	642-044	4
2	BALL GUIDE	711-702	4	711-702	4	711-702	4	711-702	4	711-702	4
3	BALL	770-581	4	770-691	4	770-556	4	770-590	4	770-599	4
4	VALVE SEAT	590-087	4	590-087	4	590-087	4	590-087	4	590-087	4
5	O-RING	640-134	2	771-130	2	640-134	2	683-996	2	642-134	2

No.	DESCRIPTION	K25V-SN	Q'TY	K25V-ST	Q'TY	K25V-SC	Q'TY	K25V-SE	Q'TY	K25V-SV	Q'TY
1	O-RING	640-044	4	643-044	4	640-044	4	683-997	4	642-044	4
2	BALL GUIDE	711-703	4	711-703	4	711-703	4	711-703	4	711-703	4
3	BALL	770-581	4	770-691	4	770-556	4	770-590	4	770-599	4
4	VALVE SEAT	711-707	4	711-707	4	711-707	4	711-707	4	711-707	4
5	O-RING	640-134	2	771-130	2	640-134	2	683-996	2	642-134	2

VALVE KITS (BP, BV, BTT, BXT)

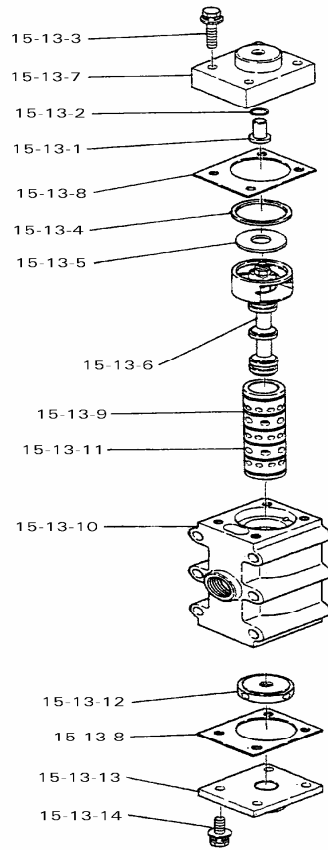
No.	DESCRIPTION	K25V-PN	Q'TY	K25V-PT	Q'TY	K25V-PC	Q'TY	K25V-PE	Q'TY	K25V-PV	Q'TY
1	O-RING	640-042	8	643-042	8	640-042	8	684-119	8	642-042	8
2	BALL GUIDE	771-231	4	771-231	4	771-231	4	771-231	4	771-231	4
3	BALL	770-581	4	770-691	4	770-556	4	770-590	4	770-599	4
4	VALVE SEAT	780-138	4	780-138	4	780-138	4	780-138	4	780-138	4

No.	DESCRIPTION	K25V-VN	Q'TY	K25V-VT	Q'TY	K25V-VC	Q'TY	K25V-VE	Q'TY	K25V-VV	Q'TY
1	O-RING	640-042	8	643-042	8	640-042	8	684-119	8	642-042	8
2	BALL GUIDE	780-141	4	780-141	4	780-141	4	780-141	4	780-141	4
3	BALL	770-581	4	770-691	4	770-556	4	770-590	4	770-599	4
4	VALVE SEAT	780-139	4	780-139	4	780-139	4	780-139	4	780-139	4

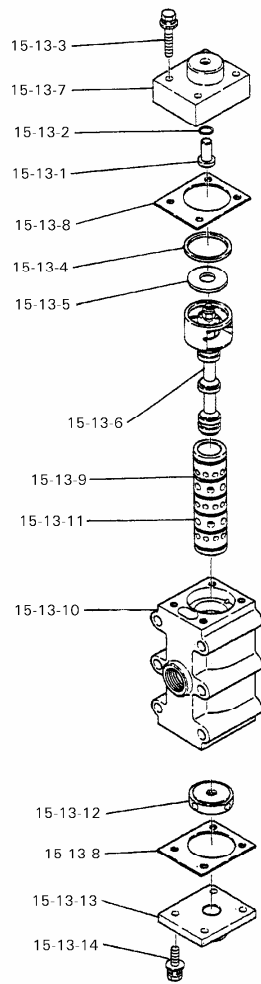
No.	DESCRIPTION	K25V-TT	Q'TY	K25V-XT	Q'TY
1	O-RING	643-042	4	643-042	4
2	BALL GUIDE	000-991	4	000-601	4
3	BALL	770-691	4	770-691	4
4	VALVE SEAT	000-992	4	000-603	4

K20/25-AM AIR MOTOR KIT FOR NDP-20/25					
K20/25-AMN AIR MOTOR KIT FOR NDP-20/25 UN					
K20/25-AMS AIR MOTOR SEAL KIT FOR NDP-20/25					
NO.	PART NO.	DESCRIPTION	K20/25-AM	K20/25-AMN	K20/25-AMS
15-2	802-360	PILOT VALVE ASSY	2	2	
15-3	771-057	GASKET	2	2	2
15-4	640-009	O-RING	2	2	2
15-5	771-945	VALVE SEAT	2	2	
15-6	708-666	SPRING	2	2	
15-13-12	771-914	CUSHION INSIDE VALVE ASSY	1	1	
15-8	685-276	O-RING	2		2
15-9	772-703	THROAT BEARING	2		
	02-0561	THROAT BEARING ASSY		2	
15-10	685-414	PACKING	2		2
15-13-2	640-005	O-RING VALVE ASSY	1	1	1
15-13-4	771-241	PACKING VALVE ASSY	1	1	1
15-13-6	802-400	C SPOOL VALVE ASSY	1	1	
15-13-8	771-240	GASKET VALVE ASSY	2	2	2
15-13-9	771-080	O-RING VALVE ASSY			6
18	771-054	CUSHION	2	2	2
15-17	771-056	GASKET	1	1	1

(NOTE) *771-374 O-RING IS PART OF 802-360





EXPLODED VIEW ■ 802-361



PARTS LIST			
802-361			
NO.		DESCRIPTION	Q'TY
15-13-1	709-161	RESET BUTTON	1
15-13-2	640-005	O-RING	1
15-13-3	682-704	BOLT	4
15-13-4	771-241	GASKET	1
15-13-5	710-270	WASHER	1
15-13-6	802-400	SPOOL ASSY "C"	1
15-13-7	711-219	CAP	1
15-13-8	771-240	GASKET	2
15-13-9	771-080	O-RING	6
15-13-10	711-638	VALVE BODY	1
15-13-11	803-931	SLEEVE COMPLETE	1
15-13-12	771-914	DETENT ASSY	1
15-13-13	711-212	CAP	1
15-13-14	682-262	BOLT	4

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