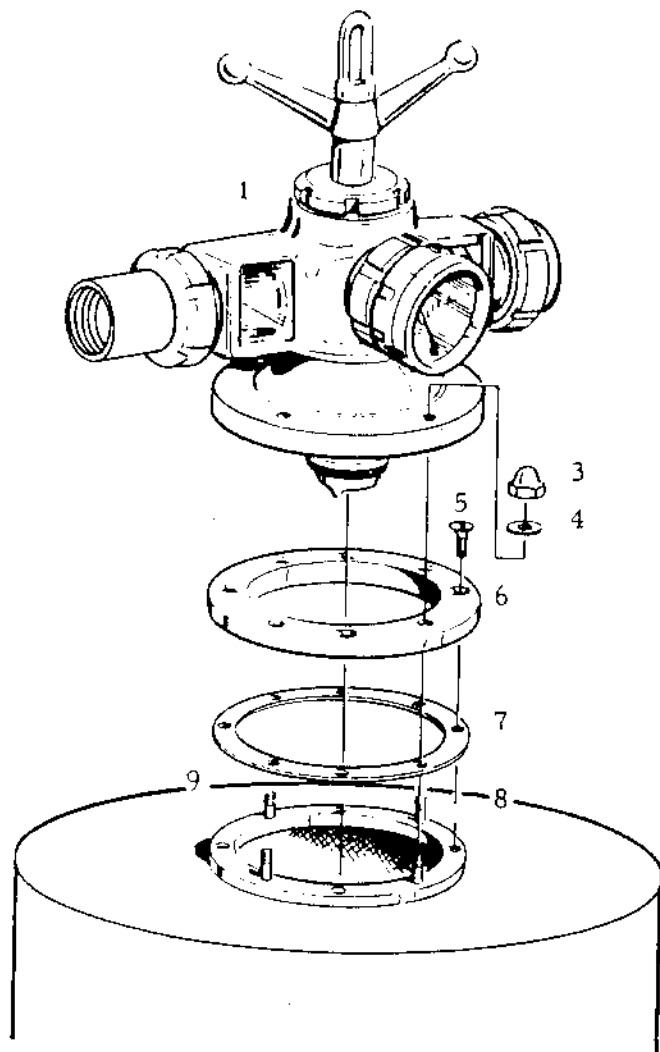


Hutchison-Hayes Separators, Inc.

Model BRPX 207SGT/P/V-20/20C **Parts List With Diagrams**

P.O. Box 2965 ♦ Houston, Texas 77252
3520 East Belt ♦ Houston, Texas 77015
(713) 455-9600 ♦ Fax (713) 455-7753

FRAME HOOD and PARTS MOUNTED ON IT



Parts list

- 1 Connection housing
-- see chapter X
- 2 Inlet Adapter
-- 38767
- 3 Cap nut (4)
-- 72947
- 4 Washer (4)
-- 223101-34
- 5 Screw (4)
-- 2212608-3
- 6 Guide ring
--- 527971-1
- 7 Height adjusting ring (1-7)
-- 528096-1
- 8 Frame hood
-- 8708654
- 9 Stud bolt (4)
-- 67912

* for purification or concentration

Dismantling

Note that the bowl must come to rest before dismantling is commenced. To render the bowl accessible e.g. for cleaning dismantle as follows:

- o Loosen the valve couplings at the connection housing.
- o Turn the handle CLOCKWISE till it recoils by spring action - the paring disc in the bowl is unscrewed.
- o Undo the hinged bolts and lift off the frame hood.

The guide ring should be removed only when the height position of the paring disc has to be adjusted. Do not dismantle the connection housing unless it is necessary. For bowl dismantling see Bowl.

Height adjustment

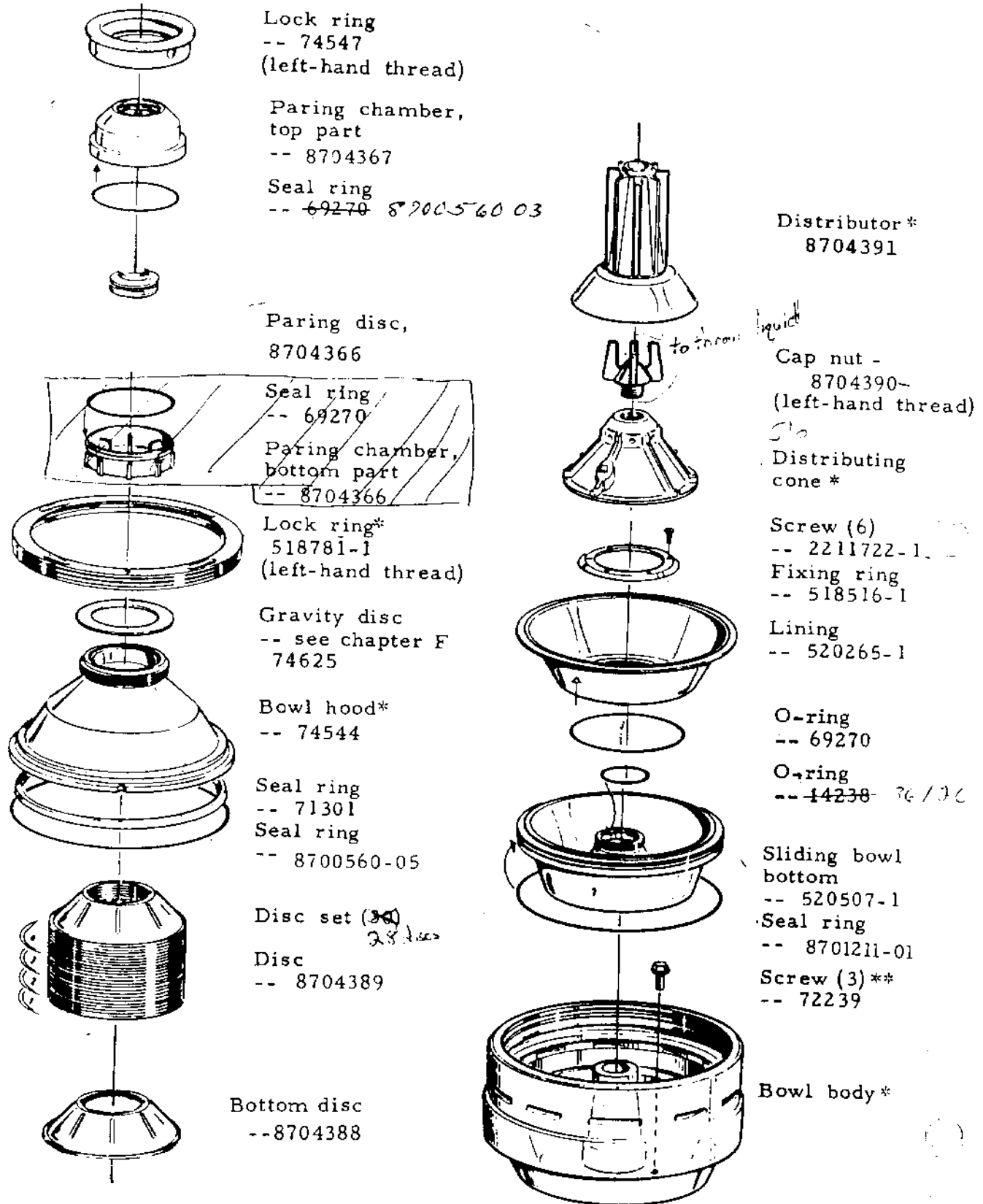
Check the height position of the paring disc before the first starting as well as after exchange of parts that can affect the height position - see chapter L, Height Adjustment.

Assembly

Clean all parts. Carefully lubricate threads and contact surfaces. Ascertain particularly that the thread of the inlet pipe is well lubricated and that the seal ring is inserted and free from defects.

Before using the machine:

- o Clamp the frame hood with the hinged bolts.
- o Connect the valves.
- o Press down the handle and screw it ANTI-CLOCKWISE till the pipe thread engages the paring disc thread. Let up the handle and tighten it firmly.



Lock ring
-- 74547
(left-hand thread)

Paring chamber,
top part
-- 8704367

Seal ring
-- ~~69270~~ 8700560 03

Paring disc,
8704366

Seal ring
-- 69270
Paring chamber,
bottom part
-- 8704366

Lock ring*
518781-1
(left-hand thread)

Gravity disc
-- see chapter F
74625

Bowl hood*
-- 74544

Seal ring
-- 71301
Seal ring
-- 8700560-05

Disc set (36)
23 discs
Disc
-- 8704389

Bottom disc
-- 8704388

Distributor*
8704391

Cap nut -
8704390-
(left-hand thread)

Distributing
cone *

Screw (6)
-- 2211722-1
Fixing ring
-- 518516-1

Lining
-- 520265-1

O-ring
-- 69270

O-ring
-- 44238 36/30

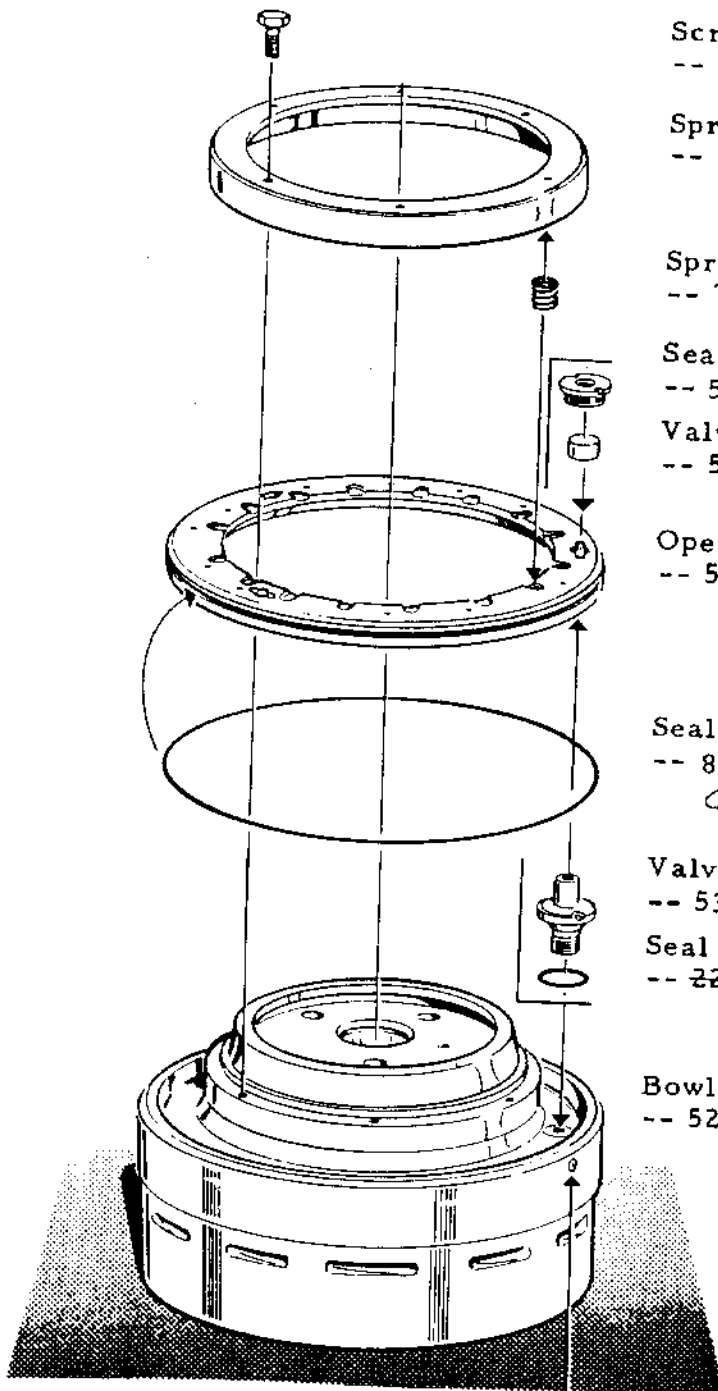
Sliding bowl
bottom
-- 520507-1

Seal ring
-- 8701211-01

Screw (3)**
-- 72239

Bowl body*

(Bowl for COMBINED PROGRAMME)



Screw (6)
-- 71348

Spring support
-- 71182

Spring (15)
-- 71181

Seat (3)
-- 519369-01

Valve plug (3)
-- 518549-03 ✓

Operating slide
-- 520399-1

Seal ring
-- 8700560-06 ✓ OR -
G 7587

Valve seat (3)
-- 536562-01

Seal ring (3)
-- ~~223406-11~~ 8700560 04

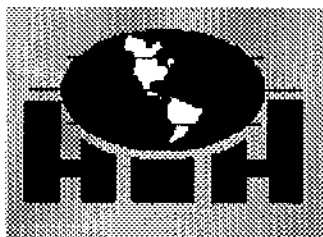
Bowl body *
-- 521572-80

Nozzle
-- 515133-1

SB719
RA # 13th

* Exchange necessitates rebalancing -- send the COMPLETE bowl to an ALFA-LAVAL/DE LAVAL representative.

** Not included in the complete-unit number.

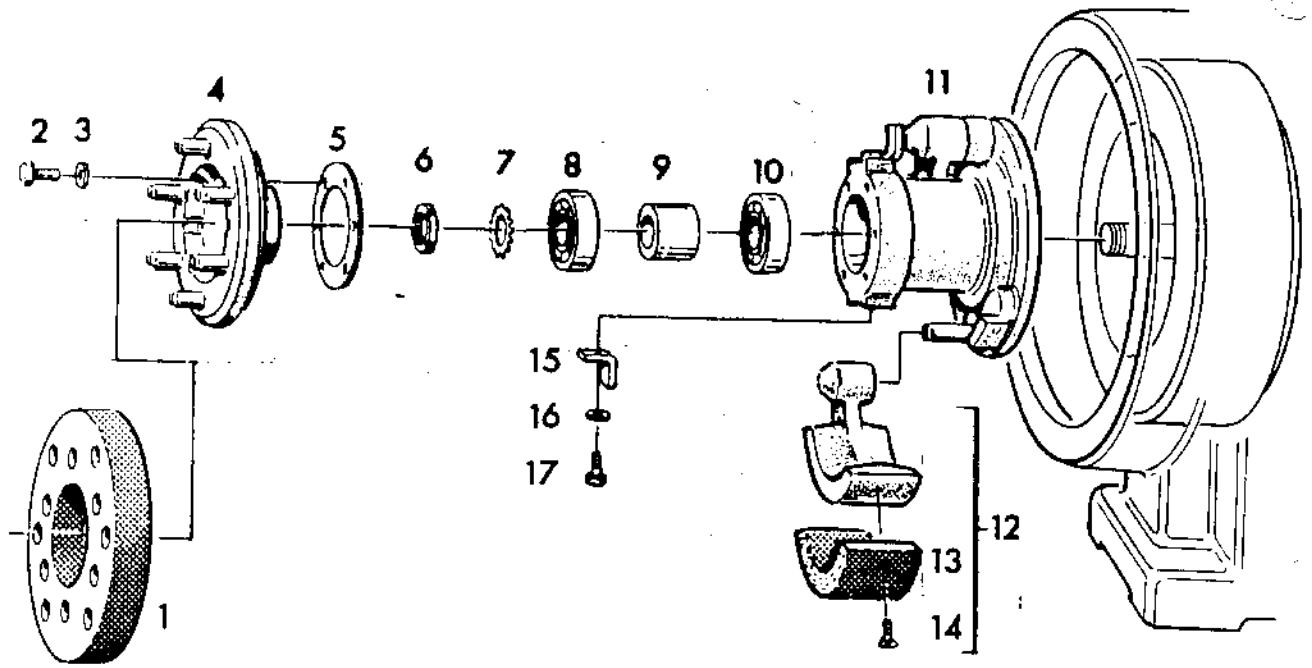


Hutchison-Hayes Separators, Inc.

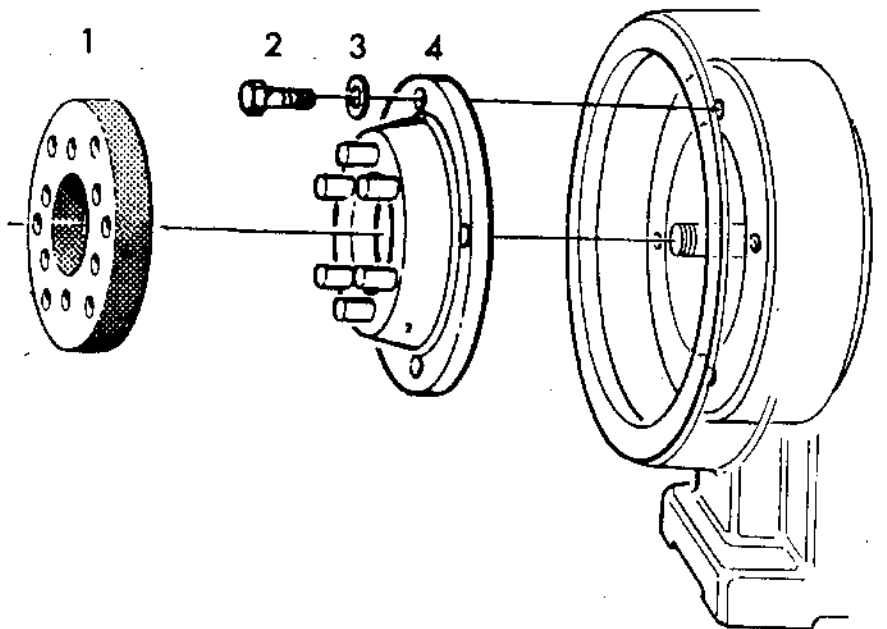
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P.O. Box 2965 ♦ Houston, Texas 77252
3520 East Belt ♦ Houston, Texas 77015
(713) 455-9600 ♦ Fax (713) 455-7753

A

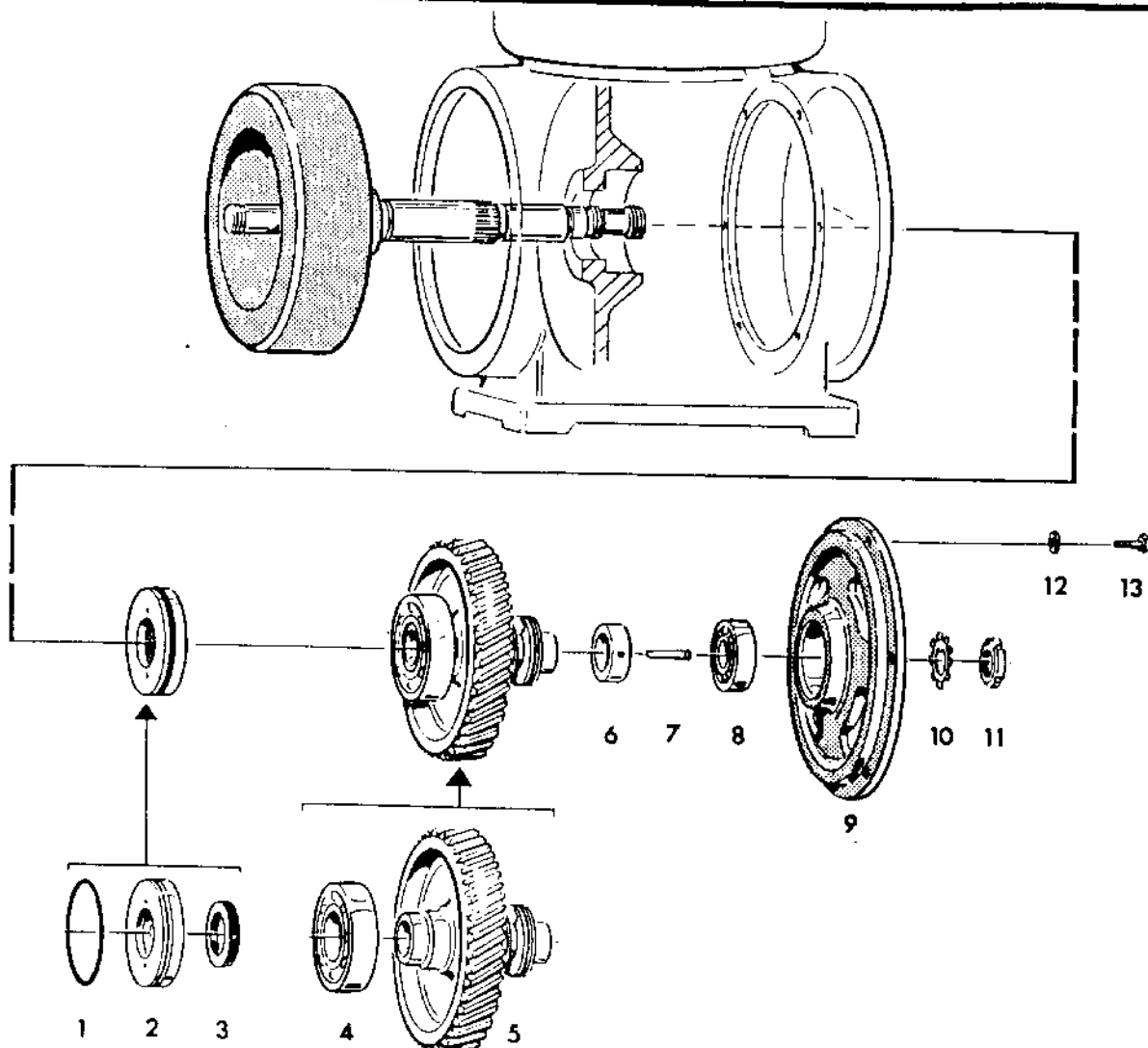


B



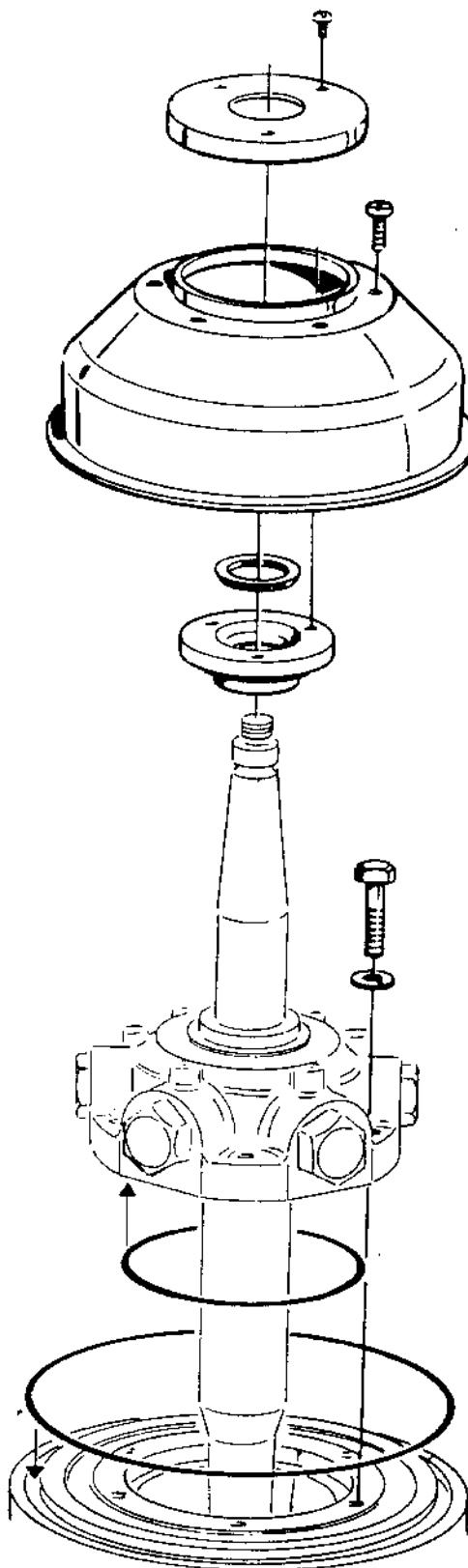
Ref.	Part No. Delnr.	Qty. Ant.	Part name	Benämning
A			CLUTCH COUPLING	FRIKTIONSKOPPLING
1	60571		Elastic plate	Ledskiva
2	34963	6	Screw	Skruv
3	40040	6	Spring washer	Fjäderbricka
4	65155		Coupling pulley	Kopplingsskiva
5	38164		Packing	Packning
6	67472 (SKF KM5)		Round nut	Rundmutter
7	38159 (SKF MB5)		Lock washer	Låsbricka
8	7026 (SKF 6305)*		Ball bearing	Kullager
9	38160		Spacing sleeve	Distanshylsa
10	8726 (SKF 6206)*		Ball bearing	Kullager
11	69826		Nave	Nav
12	See chapter F Se kapitel F	2	Friction block with pad and screws	Friktionsback med skoning och skruvar
13	71628	2	Pad	Skoning
14	8341	6	Screw	Skruv
15	65158	2	Holding bracket	Stoppvinkel
16	40040	2	Spring washer	Fjäderbricka
17	73801	2	Screw	Skruv
B			FIXED COUPLING	FAST KOPPLING
1	60571		Elastic plate	Ledskiva
2	72933	4	Screw	Skruv
3	40040	4	Spring washer	Fjäderbricka
4	516379-82		Coupling pulley	Kopplingsskiva

* or equivalent bearing of other make.
eller likvärdigt lager av annat fabrikat.



Ref.	Part No. Delnr.	Qty. Ant.	Part name	Benämning
1	223412-21		Seal ring	Tätningring
2	528098-01		Seal washer	Tätningbricka
3	73547		Lip seal ring	Tätningring
4	68827		Ball bearing (SKF 6211)*	Kullager (SKF 6211)*
5	-		Worm wheel (see ch. F)	Skruvhjul (se kap. F)
6	65170		Stop ring	Stoppring
7	64729		Pin	Sprint
8	6525		Ball bearing (SKF 6306)*	Kullager (SKF 6306)*
9	528097-01		Bearing shield	Lagersköld
10	37992		Lock washer (SKF MB6)	Låsbricka (SKF MB6)
11	67473		Round nut (SKF KM6)	Rundmutter (SKF KM6)
12	40040	6	Spring washer	Fjäderbricka
13	72933	6	Screw	Skruv
14	65165 516378-02		Worm wheel shaft with conveyor pulley, round nut and lock washer For clutch coupling (A) For control-torque (B)	Skruvhjulsaxel med med- bringarskiva, rund- mutter och låsbricka För friktionskoppling (A) För control-torque- drift (B)
			* Or equivalent bearing of other make	* Eller motsvarande kul- lager av annat fabrikat.

ASSEMBLY and DISMANTLING of COMPLETE BOWL SPINDLE



Screw (3)
-- 2211725-06
Top shield
-- 71386

Screw (6)
-- 2211723-08

Cap
-- 70888

Seal ring
-- 64706
Throw-off collar
-- 70222

Screw (6)
-- 63656
Spring washer (6)
-- 62094

Bowl spindle

Seal ring
-- 65594

Seal ring
-- 223402-11

The bowl body, control valve and paring-disc device for operating liquid must be removed to make the parts accessible for dismantling.

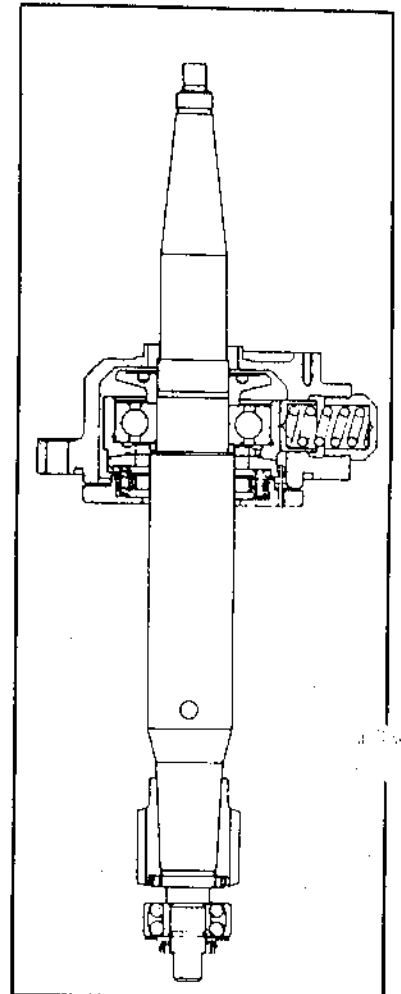
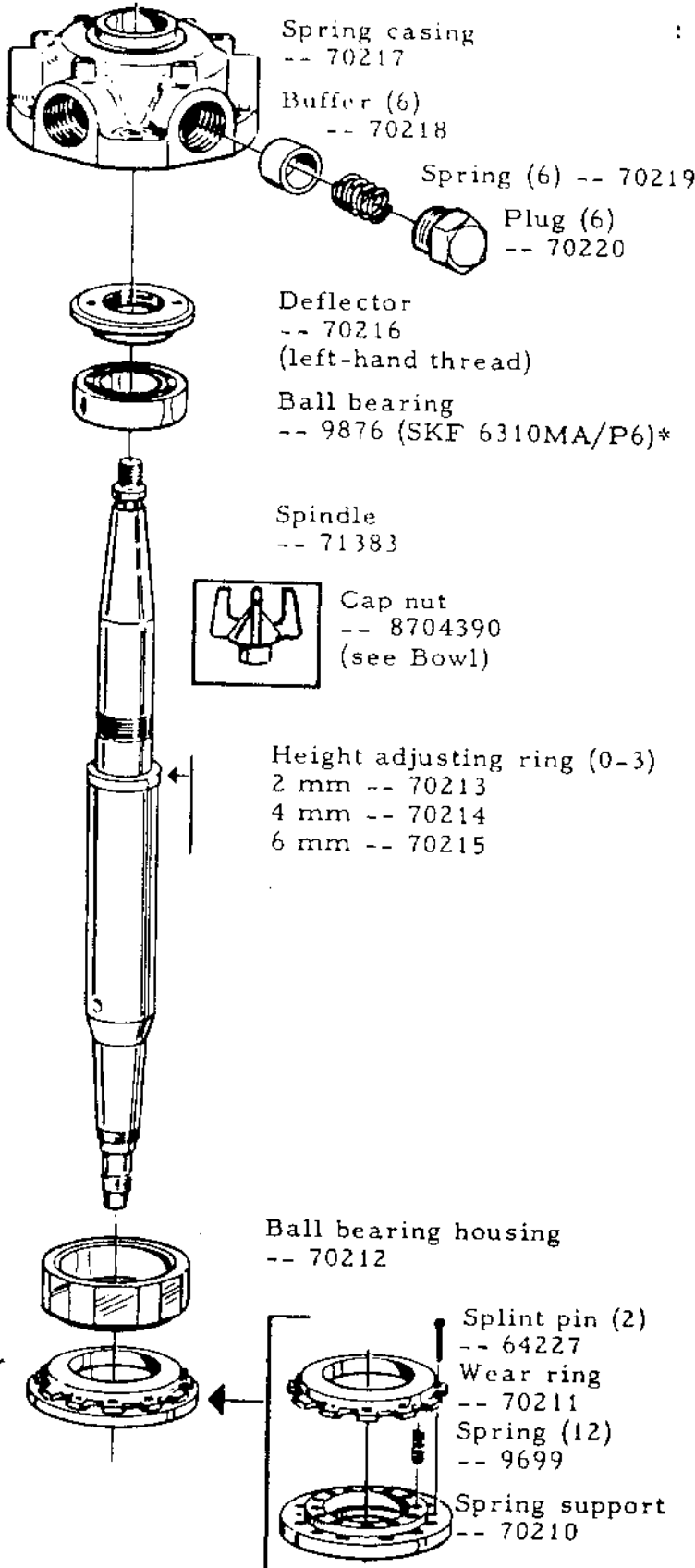
The cap screws can conveniently be used to pull off the throw-off collar.

The top bearing plugs can most conveniently be unscrewed while the bowl spindle is still in place in the frame.

Before the bowl spindle can be lifted out of the machine the worm wheel must be moved along the worm wheel shaft to disengage the worm. Access can conveniently be gained through the revolution counter cap opening. The spindle can be lifted out more easily if the cap nut is first screwed on.

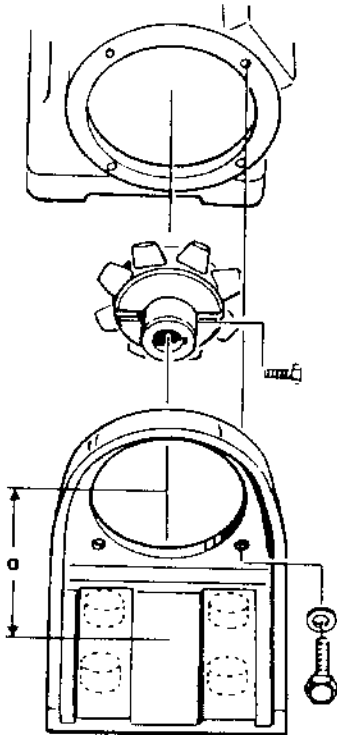
After assembling, check that the bowl spindle turns when the worm wheel shaft is rotated. Check the height adjustment (see Chapter L).

BOWL SPINDLE (complete-unit number) for: 1420-1500 r/m -- 528110-80



*or equivalent bearing of another make.

MOTOR BRACKET ("9" drive)



Coupling pulley

-- 533487-80*

Set screw

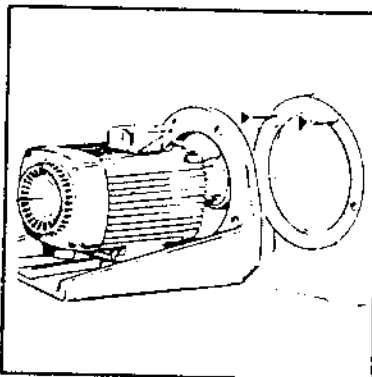
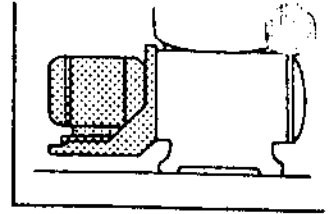
-- 2210941-18

Motor bracket

-- 71367

Screw (4)

-- 73397



Motor and motor bracket are marked with the manufacturing number of the machine. Note that they are mounted together when installing several machines at the same time.

Note that, as a rule, it is not necessary to loosen the motor and motor bracket from each other when mounting and dismounting.

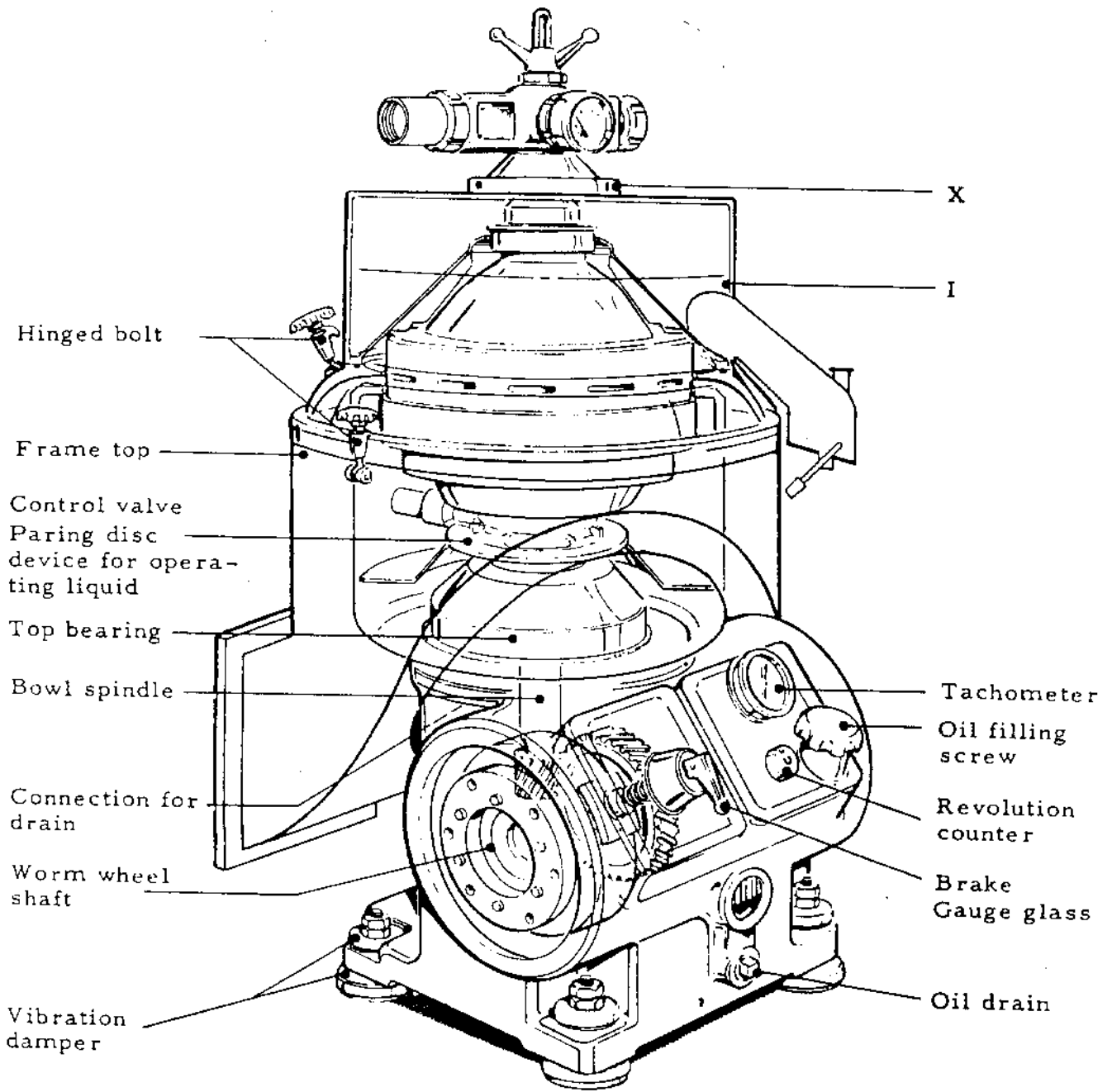
If the motor is not fastened to the bracket put it on the base blocks, fix its position with the guide pins and fasten with the screws.

Push the elastic plate onto the pins of the machine coupling pulley and screw the two guide bolts (see chapter F) into the two upper, opposed screw holes in the frame flange.

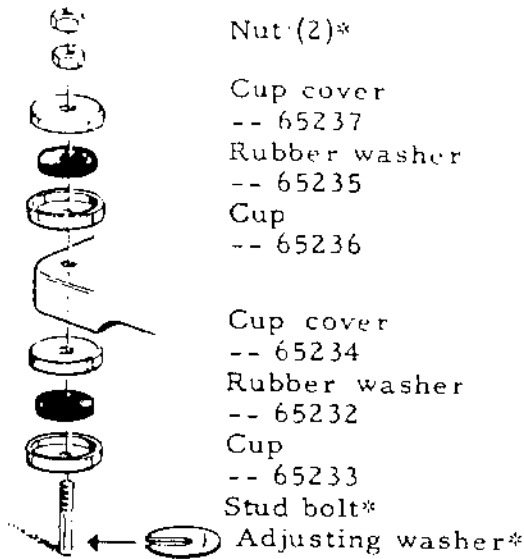
Hang the bracket with motor attached on the guide bolts and push it into correct position, fitting the pins of the motor coupling pulley into the holes in the elastic plate. Fasten the bracket and replace the guide bolts by screws. Tighten the screws alternately and check that the bracket enters the frame.

* When ordering — follow the instructions given in chapter A.

FRAME PARTS. FRAME ERECTION.



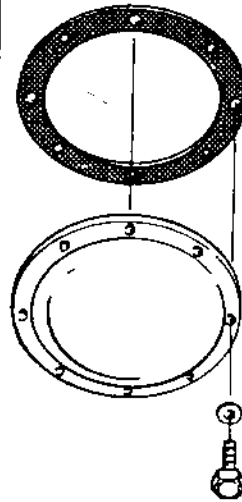
VIBRATION DAMPER



- Nut (2)*
- Cup cover -- 65237
- Rubber washer -- 65235
- Cup -- 65236
- Cup cover -- 65234
- Rubber washer -- 65232
- Cup -- 65233
- Stud bolt*
- Adjusting washer*

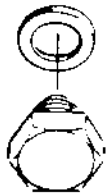
*Not included

FRAME SHIELD (is removed if machine is equipped with pump).



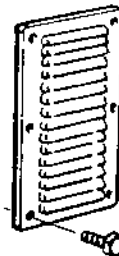
- Packing -- 37490
- Shield -- 528045-2
- Washer (6) -- 66381
- Screw (6) -- 62627

OIL DRAIN



- Packing -- 35607
- Screw -- 62467

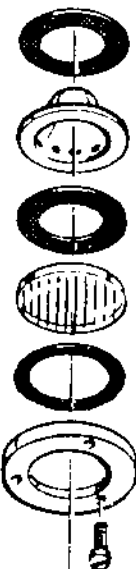
GRATING - vent hole



- Grating -- 65445
- Screw (6) -- 11677, 221051-5**

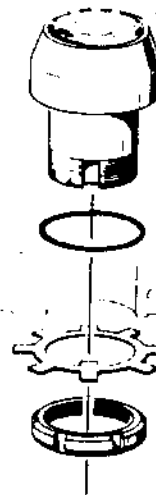
** Stainless steel

GAUGE GLASS



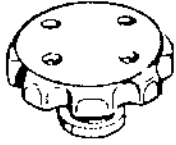
- Packing -- 38967
- Oil level stabilizer -- 61899
- Packing -- 38967
- Glass disc -- 38685
- Packing -- 37167
- Fixing ring -- 65457
- Screw (3) -- 65458

BOTTOM BUSHING

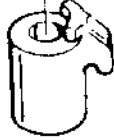


- Bushing -- 70202
- Seal ring -- 66554
- Lock washer -- 38723 (SKF MB10)
- Round nut -- 67477 (SKF KM10)

CLAMP BOLT (4)



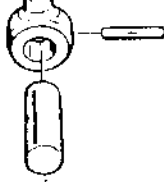
Hand wheel
-- 67885



Clamping shoe
-- 70279

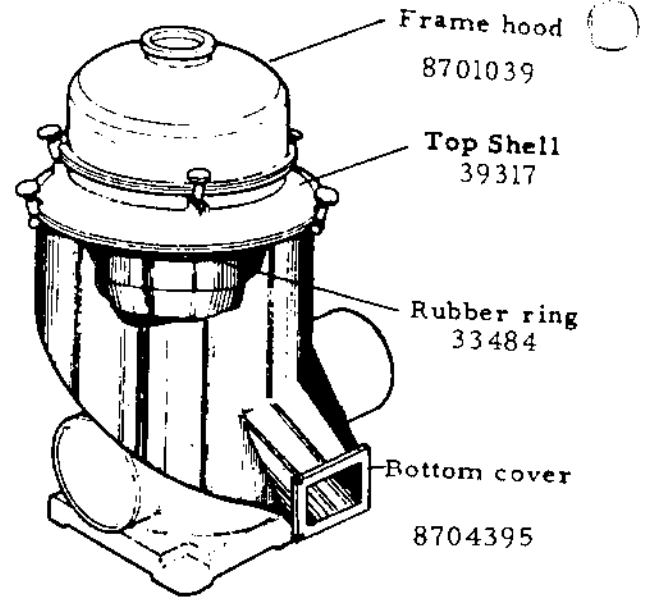


Hinged bolt
-- 68121



Pin
-- 67783

Hinge pin
-- 67789



Frame hood
8701039

Top Shell
39317

Rubber ring
33484

Bottom cover
8704395

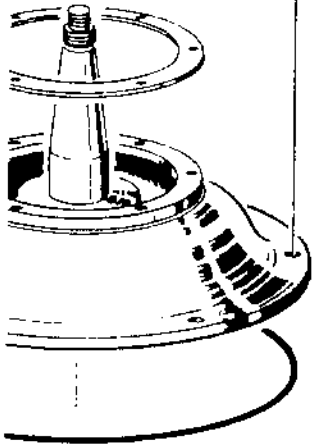
HOOD for PARING DISC DEVICE



Screw (6)
-- 41271



Washer (6)
-- 22405

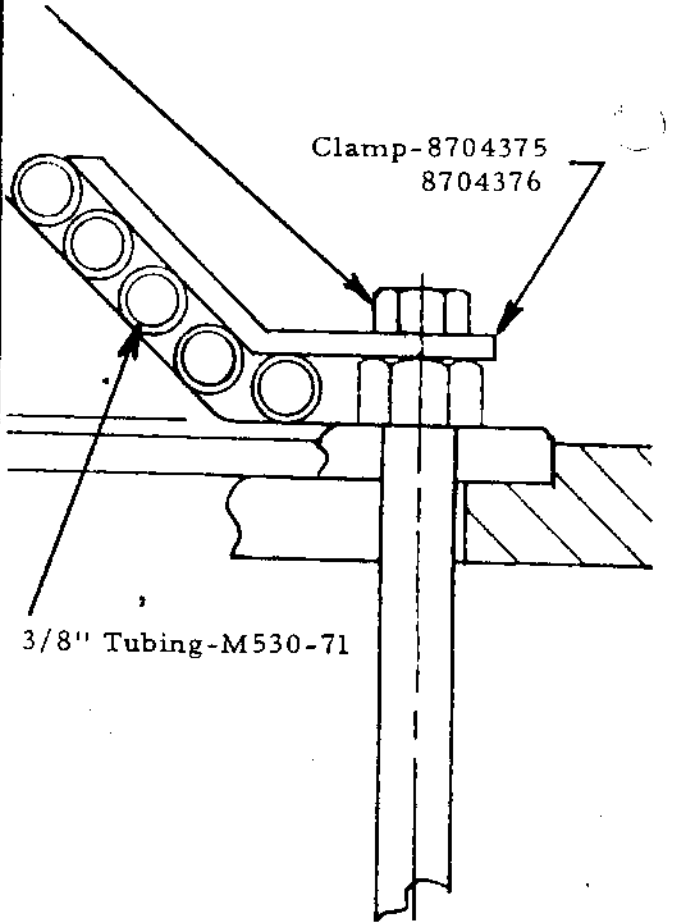


Height adjusting
ring (1-5)
-- 67642

Hood
-- 71384

Seal ring
--
8700560-07

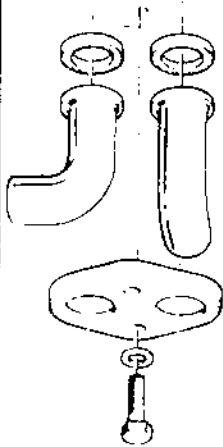
Screw-8400361-02



Clamp-8704375
8704376

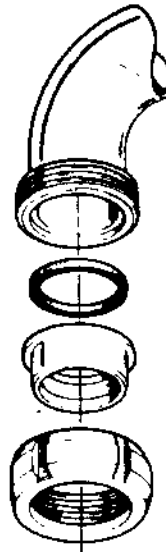
3/8" Tubing-M530-71

CONNECTION for VENTILATION and DRAIN on FRAME TOP PART



- Packing (2)
-- 71066
- Pipe (2)
-- 532047-80
- Flange
-- 531774-2
- Washer (2)
-- 66381
- Screw (2)
-- 62627

CONNECTION for OUTLET in FRAME TOP PART



- Packing
-- 190611
- Sleeve
-- 190632
- Coupling nut
-- 190618

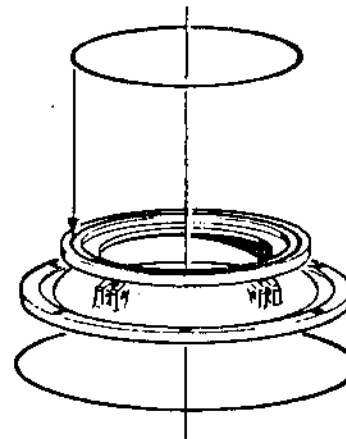
VENTILATION on FRAME BOTTOM PART



- Grating
-- 65445
- Screw (6)
-- 2211722-25

or for machine with forced ventilation

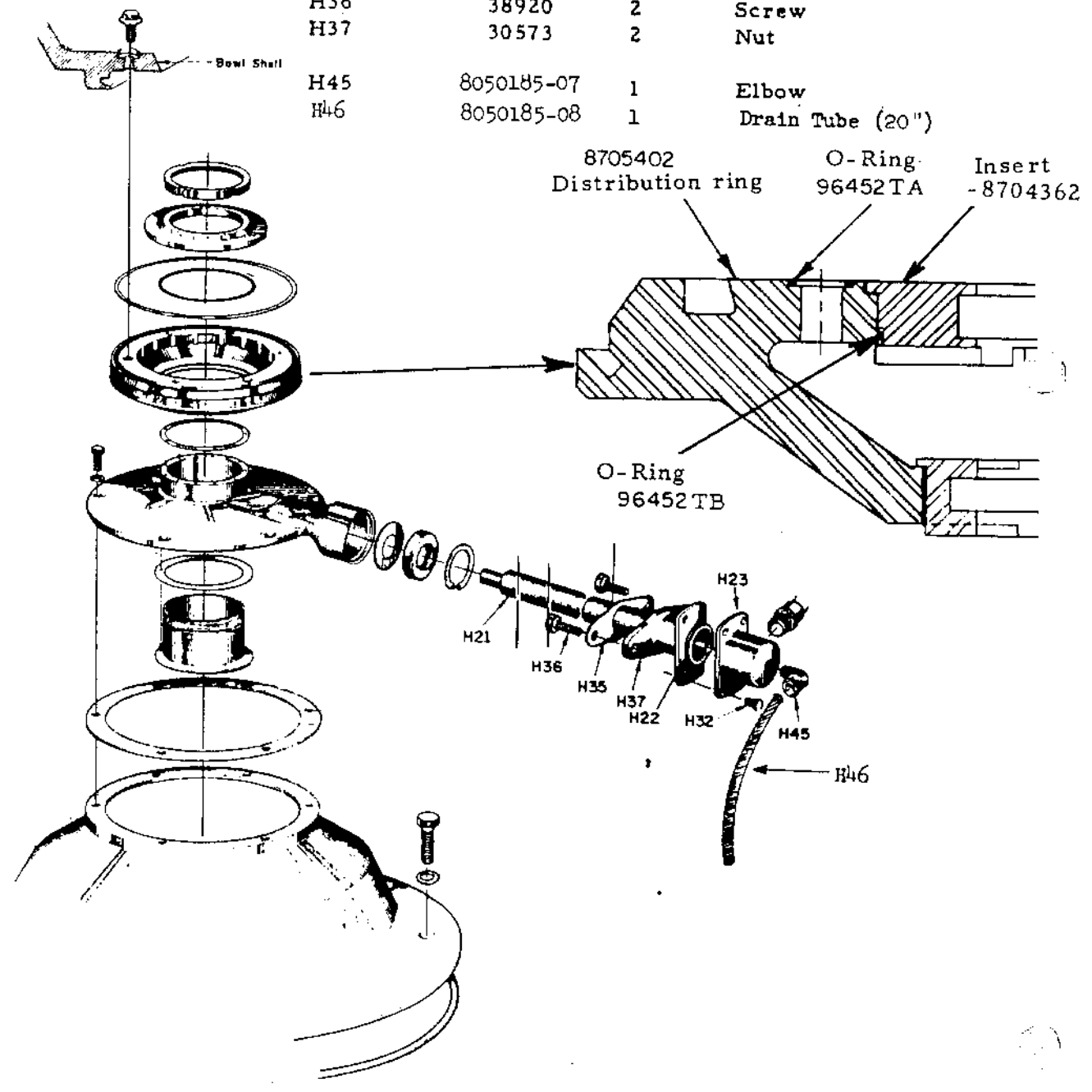
FRAME RING



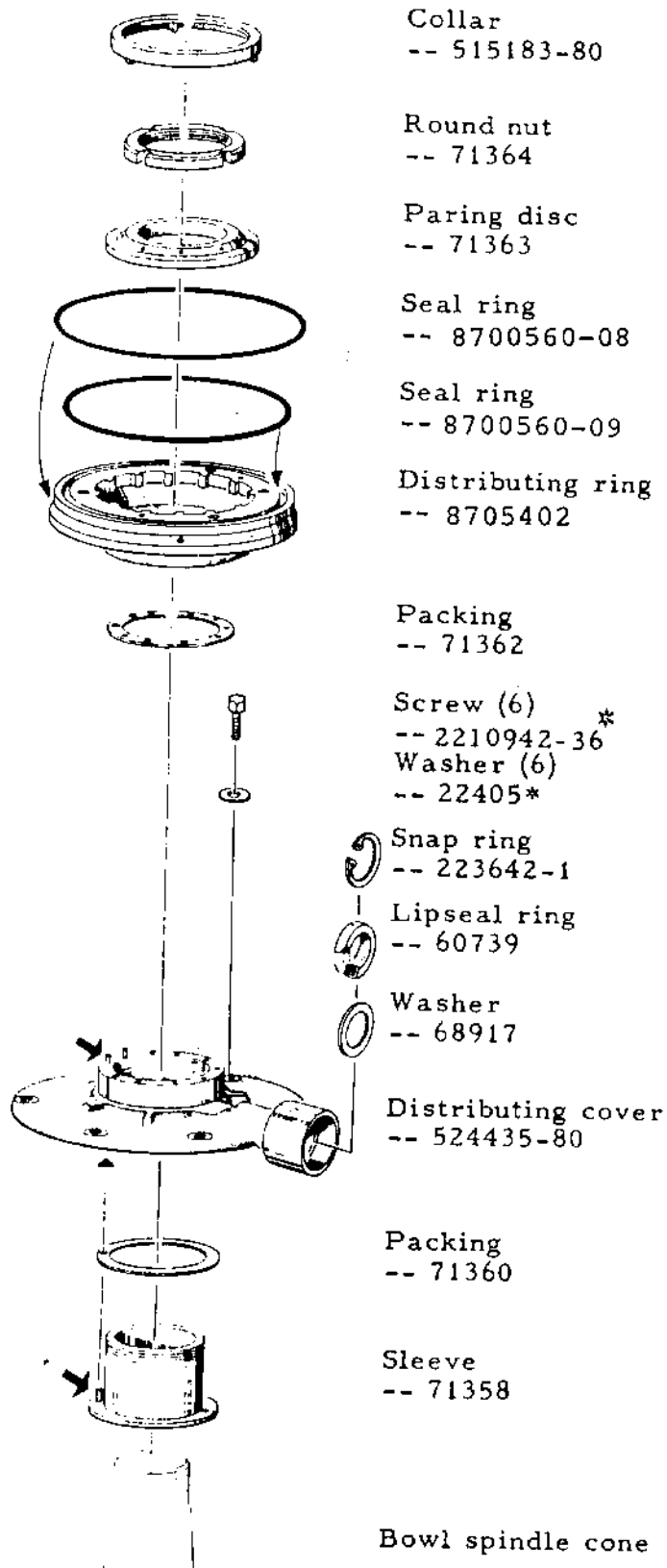
- Seal ring
-- 71402
- Frame ring
-- 39317
- Seal ring
-- 33484

FRAME PARTS **S**

Letter- ing	Part Number	Quan- tity	
H21	8700585-82	1	Water Inlet Connection
H22	35333	1	Rubber Ring
H23	37917	1	End Cap
H32	11677	4	Screw
H35	20376	1	Gasket
H36	38920	2	Screw
H37	30573	2	Nut
H45	8050185-07	1	Elbow
H46	8050185-08	1	Drain Tube (20")



PARING DISC DEVICE for OPERATING LIQUID -- 515184-81 (*-marked parts are not included in the complete unit number)



The distributing ring rotates, the other parts are non-moving.

Dismantling

For dismantling the bowl see chapter I. The distributing ring is fastened to the bowl body by screws. These screws must be removed before the bowl body can be lifted off from the spindle. Remove the control valve.

Take out the distributing cover and dismantle the parts in the sequence appearing from the illustration. Use the special tools.

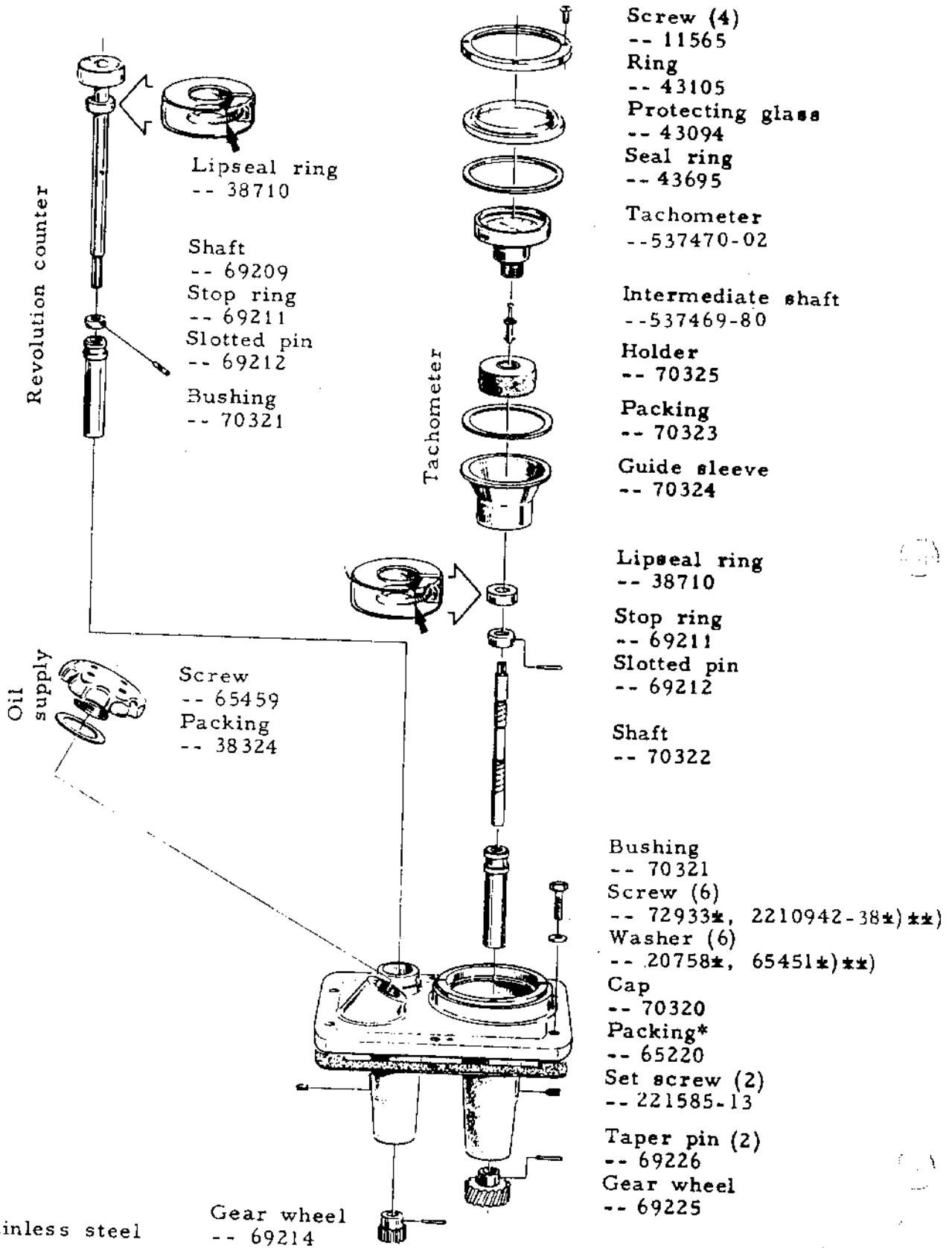
Cleaning

Make sure the parts (particularly all holes and channels) are carefully cleaned - for cleaning agents see chapter L.

Assembling

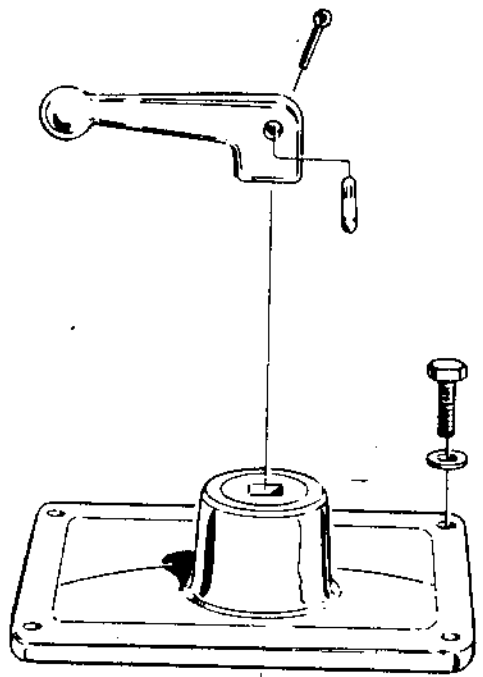
Fit the parts in the distributing cover. Make sure that the height adjusting rings are put in place, that the parts are placed in the positions defined by the guides, and that the holes in packing and distributing cover face each other. Check the height position (see chapter L) and fit the control valve. Supply operating liquid and check throughflow according to directions in chapter L.

REVOLUTION COUNTER and TACHOMETER -- 519678-80 (*-marked parts are not included in the complete-unit number)

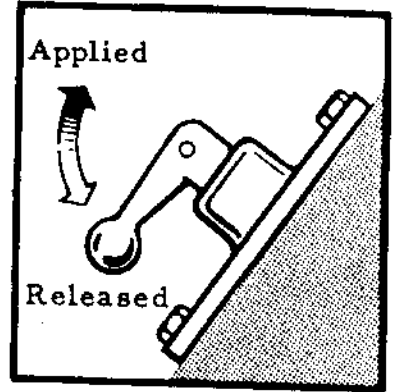


** stainless steel

BRAKE -- 67799 (*-marked parts are not included in the complete-unit No.)



- Split pin -- 8199
- Handle -- 533513-1
- Pivot -- 39098
- Screw (4)* -- 2210942-38
- Washer (4)* -- 65451
- Cap -- 67786

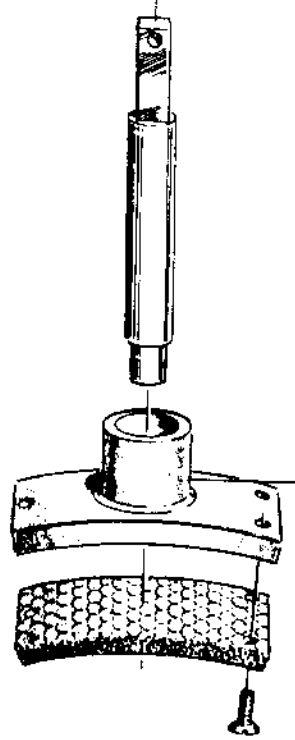


Exchange of lining
 Release the brake and remove the cap. Exchange the lining. Note that the screws are slotted at both ends (use an angle driver). Fasten the cap to the machine with the handle pointing downward.



- Spring -- 39096

Dismantling. Assembling



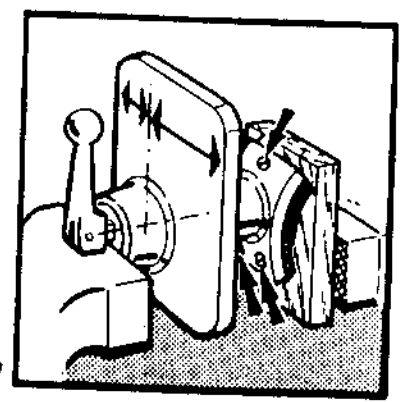
- Spindle -- 65461

- Brake shoe, compl. - 537602-80

- Slotted pin -- 67960
- Brake shoe -- 65226

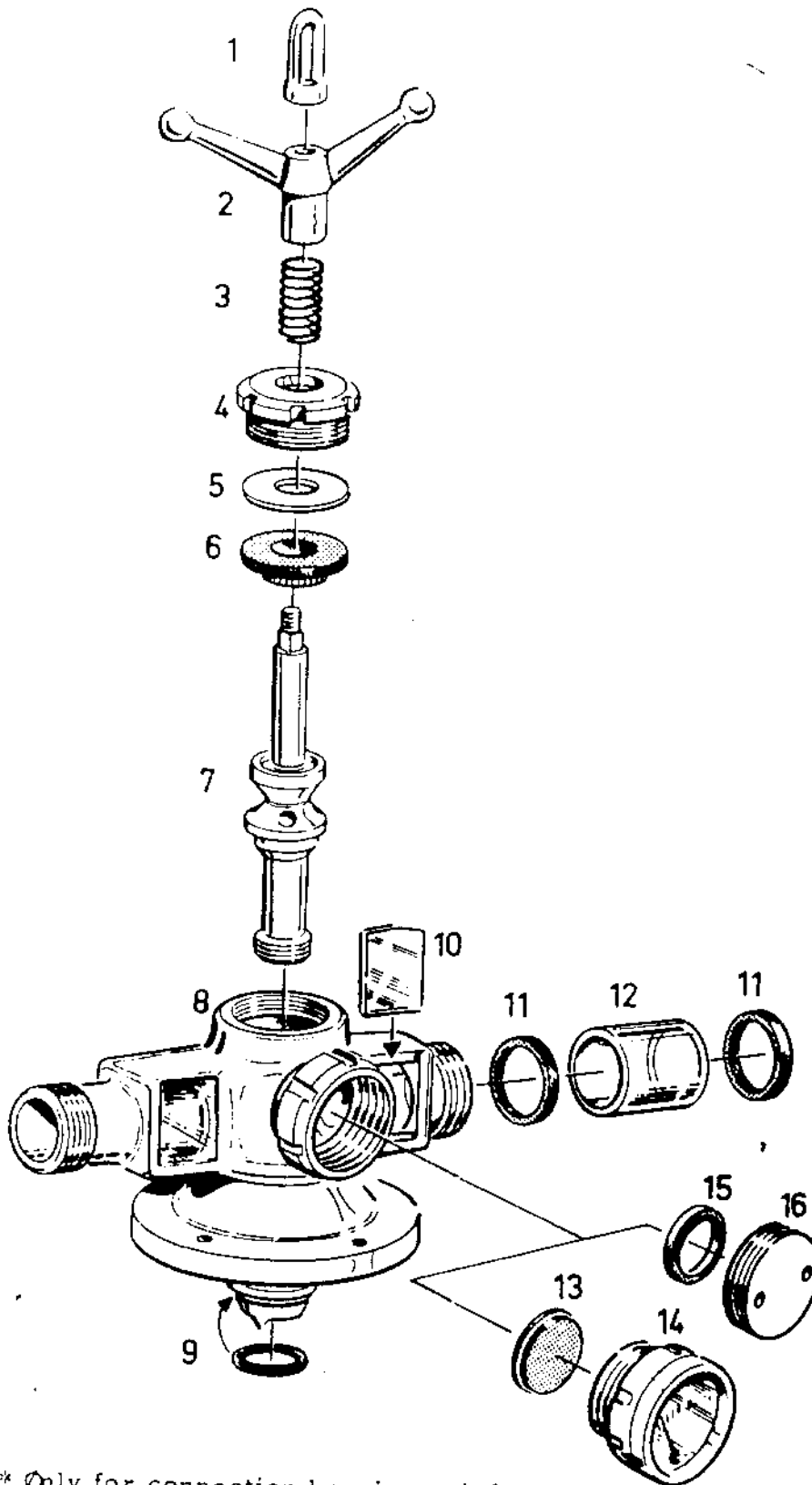
- Lining -- 65228

- Screw (3) -- 8341



Clamp the cap in a screw vice, apply the brake, and remove the handle. See that cap, handle, and brake shoe are turned as shown by the arrows in the figure. Fasten the cap to the machine with the handle pointing downward.

CONNECTION HOUSING (with pressure gauge) -- 528088-81, (without pressure gauge) -- 528088-83



- 1 Lifting eye nut
-- 527976-2
- 2 Handle
-- 71404
- 3 Spring
-- 70634
- 4 Cap nut
-- 70635
- 5 Washer
-- 70633
- 6 Packing collar
-- 75020
- 7 Inlet pipe
-- 8704363
- 8 Housing
-- 528003-81
- 9 Seal ring
-- 71866
- 10 Protecting glass(2)
-- 523339-1
- 11 Packing(4)
-- 71068 37305
- 12 Sight glass (2)
-- 8704363
- 13 Membrane*
-- 74384
- 14 Pressure gauge*
-- 74386
- 15 Packing**
-- 71066
- 16 Cover**
-- 74656

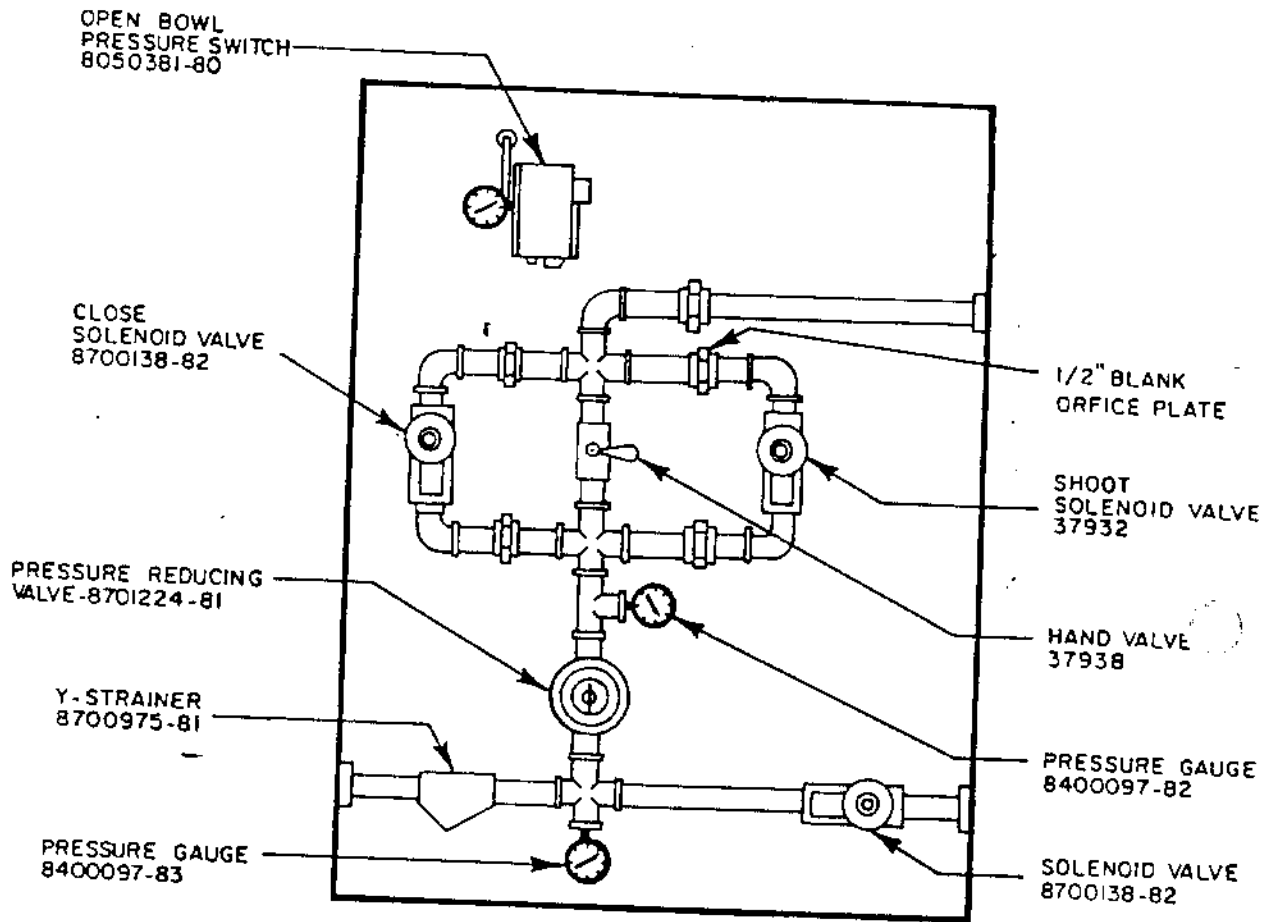
Set of Spares

- 6 Packing collar
-- 75020
- 9 Seal ring (2)
-- 71866
- 11 Packing (4)
-- 71068
- 12 Sight glass (2)
-- 8704363
- 13 Membrane*
-- 74384

* Only for connection housing with pressure gauge.

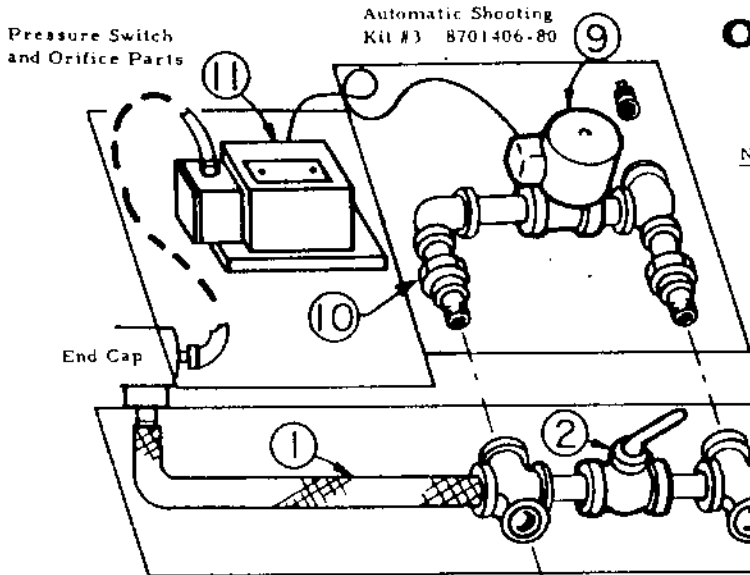
** Only for connection housing without pressure gauge.

UTILITY ENCLOSURE

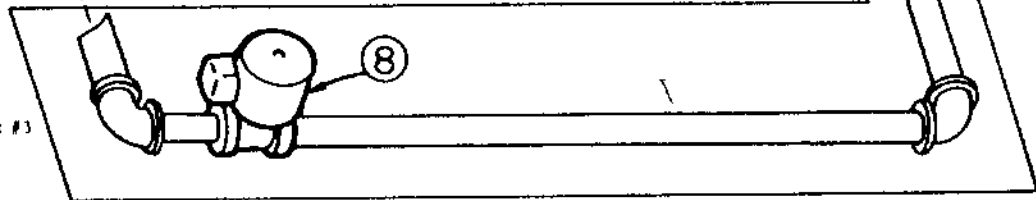
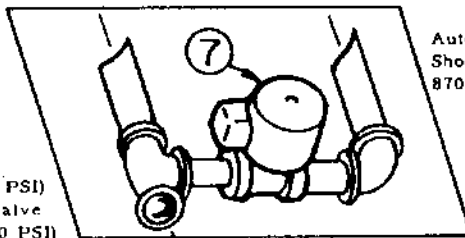
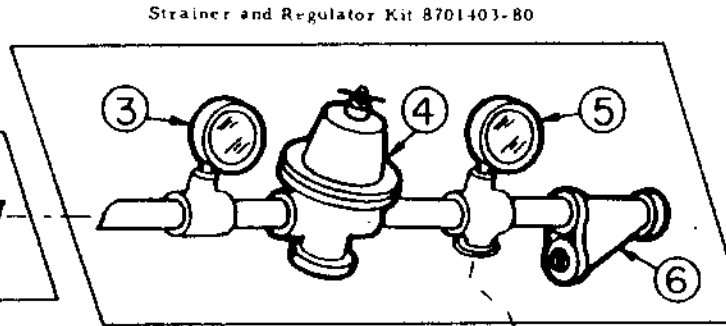


OPERATING WATER MANIFOLD

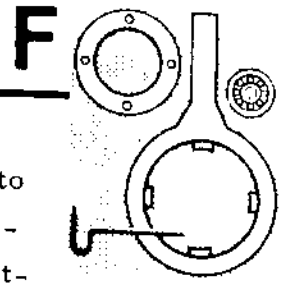
(FOR OPTIONS 1 AND 2)



NOTE:
For manual operation only.
use Kits 8701402-80 and
8701403-80 only.



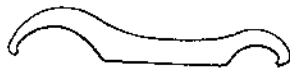
P. N.	Part
8701401-01	3/4" Flexible Hose
37938	1/2" Bronze Cock
8400097-81	3/4" Pressure Gage (0-60 PSI)
8701224-80	3/4" Pressure Reducing Valve
8400097-80	3/4" Pressure Gage (0-100 PSI)
8700975-81	3/4" Y-Strainer
8700138-82	3/4" Solenoid Valve
8700138-82	3/4" Solenoid Valve
37932	1/2" Solenoid Valve
8702980-01	1/2" Blank Orifice Plate (Drilled and inserted in union of Kit #3 when required. See page 14A).
8050381-80	Pressure Switch
Hook-up for Cover Flush Line	



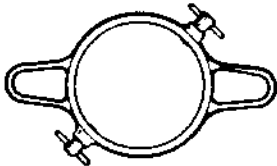
SET OF TOOLS

The special tools for the bowl are preferably hung up as close to the machine (or the cleaning place) as possible. If a tool is provided with left-hand screwed joint, this has been specially pointed out in the dismantling and assembling instructions. Notification in this respect is not made where right-hand thread is concerned.

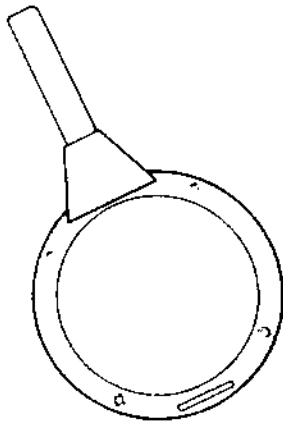
TOOLS for BOWL, INLET and OUTLET



Hook spanner for coupling nuts
-- 69696



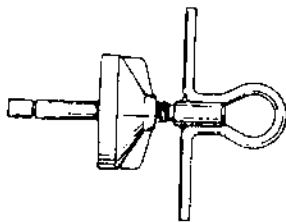
Spanner for small lock ring
-- 72625



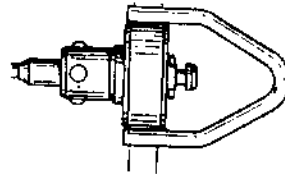
Spanner for large lock ring
-- 72236



Tin mallet
-- 64324



Lifting tool for bowl hood
-- 72621



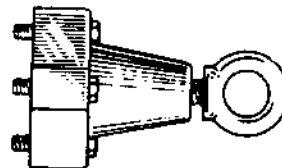
Lifting tool for distributor
-- 74387



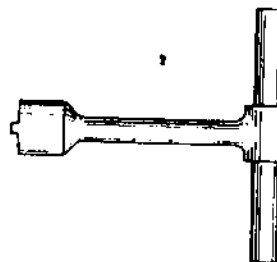
Lifting tool for distributing cone.
Spanner for cap nut -- 516773-80



Lifting tool for sliding bowl bottom
-- 72623

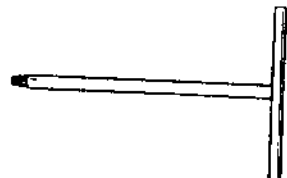


Lifting tool for bowl body
-- 72712



Only for bowl for combined programme:

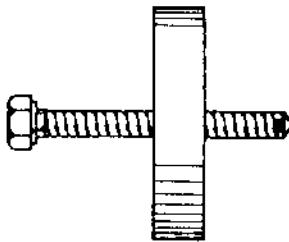
Pin spanner for valve seat and seat
-- 519370-80



Only for bowl for partial discharge:

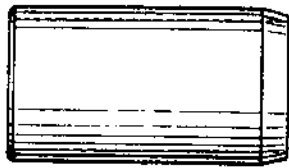
Lifting tool (2) for level ring
-- 516866-80

TOOLS for POWER TRANSMISSION



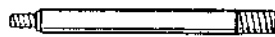
Only for machine with clutch coupling

Driving-off tool for nave
-- 523249-80



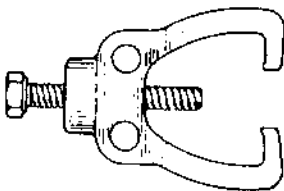
Only for machine with clutch coupling

Driving-on sleeve for ball bearings
-- 65374

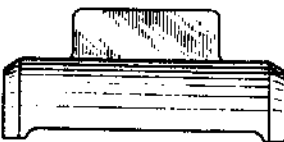


Extractor bolt (2) for seal washer.
Guide bolt for motor
-- 70300

TOOLS for BOWL SPINDLE



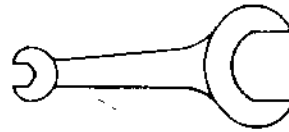
Ball bearing puller
-- 70895



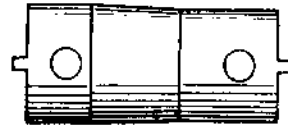
Driving-off tool for ball bearing of top bearing
-- 70293



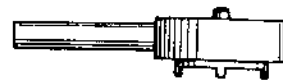
Templet for height adjustment
-- 72999



Screw spanner
-- 39456



Pin spanner for round nuts
-- 72719

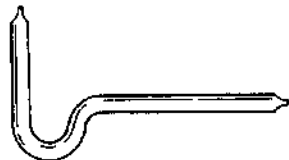


Pin spanner for deflector
-- 73101

GENERAL TOOLS



Drift
small -- 2279
large -- 37666



Screw driver
-- 14486



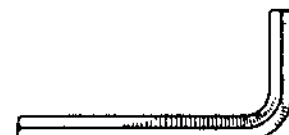
T-handle
-- 72243



Extension rod
-- 72244

Socket (2)
15 mm -- 72245
21 mm -- 72246
9/16" -- 73376**

Hexagonal hole wrench
10 mm -- 66769



** only for UNC.

The set of spares listed below includes only parts belonging to the standard equipment of the machine. Spare parts for special equipment are found together with the description of the latter in chapter X. In both cases make it a rule always to keep consuming articles in stock. Avoid incorrect dispatch observe the ordering routine described in chapter A.

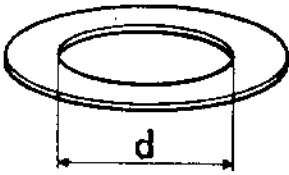
The figure in bracket indicates the quantity (if more than one).

BOWL (comp. chapter I)		CLUTCH COUPLING. WORM WHEEL SHAFT (comp. chapter P)	
71181	Spring for operating slide (5) Bowl disc - see relevant bowl	71627	Friction pad (2) incl. 6 screws No. 8341
520265-1	Liner for sliding bowl bottom	223412-21	Seal ring for seal washer
	Seal rings:	73547	Lip-seal ring
71301	for bowl hood	BOWL SPINDLE (comp. chapter P)	
8700560-05	for bowl hood (2)	9876	Ball bearings: for top bearing (SKF 6310MA/P6)
8700560-06	for operating slide (2)	60695	for bottom bearing (SKF 2305M)
69270	for paring chamber top part (2)		Springs:
69270*	for paring chamber bottom part (2)	70219	for top bearing (6)
14238	small, for sliding bowl bottom (2)	65594	Seal rings: for spring casing
* clarifier		64706	for throw-off collar
** purifier		223402-11	for protecting cap
<u>Additional parts depending on bowl type:</u>		FRAME PARTS (comp. chapter S)	
Bowl for total discharge		65227	Brake lining incl. 3 screws No. 8341
515133-1	Nozzle (for rapid total discharge)	518859-82	Touch-up paint (tin 1/8 l)
Bowl for partial discharge		515482-36	Strainer inset
37501	Seal ring for level ring (2)	73632	Seal rings: for distributing ring
515133-1	Nozzle	64708	for control valve
Bowl for combined programme		71401	for hood (paring disc device)
515133-1	Nozzle	60739	for control valve
518549-2	Valve plug (3)	223402-25	for frame ring
520243-1	Valve seat (3)	71402	for frame hood
223406-11	Seal ring for valve seat (3)		Packings:
		71360	for paring disc device
		71362	for paring disc device
		71068	for regulating valve (2)

SPECIAL SPARE PART NUMBERS

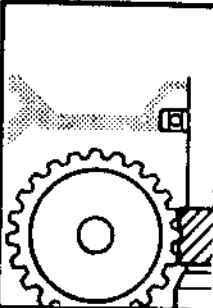
Listed below are some spare part numbers which for practical reasons have not been inserted in the chapter where they properly belong.

Gravity discs
(comp. chapter I)

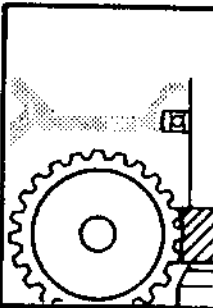
 <p>The hole diameter expressed in mm is stamped on each disc.</p>	Hole diameter in mm	Part number
	101	74625

Power transmission
(comp. chapter P)

Machine with motorpower 5.5 kW (7,5 HP):

	Speed of worm wheel shaft in r.p.m.	1420-1500	1700-1800
	Worm wheel	528100-89	528100-88
	Friction block (2) with pad and screws	520576-81	69892

Machine with motorpower 6.7 kW (9 HP):

	Speed of worm wheel shaft in r.p.m.	1420-1500	1700-1800
	Worm wheel	528100-89	528100-88
	Friction block (2) with pad and screws	43705	74315

The speed of the worm wheel shaft is indicated on the type plate.

Always check that the old worm gear part and the new one have the same number of teeth.

With D.C. or A.C. 50 c/s operate the machine at a speed of 1420 - 1500 r.p.m.

With A.C. 60 c/s operate the machine at a speed of 1700 - 1800 r.p.m.