TISSUE FLEX PRESS

PURPOSE:

THE PURPOSE IS TO APPLY MECHANICAL PRESSURE TO THE PAPER WEB AND REMOVE EXPRESSED WATER. TO CONSOLIDATE THE SHEET IN ORDER TO ACHIEVE HIGHER WEB STRENGTH REQUIRED FOR GOOD RUNNABILITY ON THE REEL. THUS, ACHIEVING GOOD RUNNABILITY AT CONVERTING OPERATIONS.

A SHOE PRESS ALLOWS PRODUCTION OF TISSUE PAPER TO HAVE HIGHER BULK OR HIGHER PRODUCTION TONNAGE.

HIGH BULK IS ACHIEVED BY USING A SHOE DESIGNED TO GIVE ONE HALF THE MAXIMUM NIP PRESSURE FOR A GIVEN LINE FORCE, (eg. 90KN/m) WHEN COMPARED TO A SUCTION PRESS ROLL. THIS MEANS THAT FOR THE SAME DRYNESS AND STRENGTH, A BULK INCREASE OF 15-20% CAN BE ACHIEVED.

- HIGHER PRODUCTION IS ACHIEVED BY USING A SHOE DESIGNED TO GAIN DRYNESS FOR THE SAME BULK.

OTHER BENEFITS ARE:

- HIGHER CREPE QUALITY DUE TO LONGER CONTACT TIME BETWEEN THE PAPER AND THE YANKEE SURFACE. THIS GIVES AN IMPROVED, MORE UNIFORM ADHERENCE OF THE PAPER WEB TO THE YANKEE.
- MORE UNIFORM CREPING GIVES A BETTER HANDFEEL.
- IMPROVED CONTROL OF EDGE PROBLEMS THROUGH THE USE OF INDEPENDENT LOADING PISTONS IN THE SHOE PRESS.

PROCESS DESCRIPTION

THE TISSUE FLEX PRESS IS THE NIP BETWEEN THE YANKEE AND THE TISSUE FLEX ROLL. THE PRIMARY COMPONENTS OF THE TISSUE FLEX PRESS ARE THE TISSUE FLEX ROLL, THE SUCTION ROLL, THE FELT, HYDRAULIC UNITS 1 AND 2, THE BLOWER UNIT, THE TISSUE FLEX CONTROL CONSOLE, AND THE VACUUM PICK-UP SHOE. OTHER RELATED EQUIPMENT IN THE PRESS SECTION ARE: FELT ROLLS, SHOWERS, UHLE BOXES, DOCTORS, SAVEALLS, GUIDING AND STRETCH SYSTEMS.

THE FORMED SHEET, APPROXIMATELY 18-22% DRYNESS, IS TRANSFERRED FROM THE DUOFORMER TO THE FELT BY THE VACUUM PICK-UP SHOE. THE SHEET ADHERES TO THE UNDERSIDE OF THE FELT AROUND THE SUCTION ROLL TO THE TISSUE FLEX PRESS. THE SUCTION ROLL DOES SOME DE-WATERING. THE SHEET IS THEN CONVEYED TO THE TISSUE FLEX NIP. THIS NIP IS FORMED BY A HYDRAULICALLY LOADED SHOE INSIDE THE TISSUE FLEX ROLL, WHICH PRESSES A ROTATING SLEEVE, THE FELT, AND THE SHEET AGAINST THE YANKEE. AFTER THE PRESS NIP, THE SHEET (WITH APPROXIMATELY 40% DRYNESS) STAYS IN CONTACT WITH THE YANKEE AND IS FURTHER DRIED BY STEAM AND AIR COMING FROM THE YANKEE DRYER AND THE HOOD SYSTEM.

NEW FELT "Z" RUN

AFTER THE FELT LEAVES THE PRESS NIP IT TRAVELS THROUGH THE "Z" RUN AND THEN THROUGH THE REMAINING OLD FELT RUN.

THE "Z" RUN IS DESIGNED TO ALLOW THE PLACEMENT OF A HIGH VOLUME NIP FLOODING SHOWER AT THE FIRST INGOING NIP BETWEEN THE ROLL SIDE OF THE FELT AND THE RETURN ROLL. THIS RETURN ROLL IS ROLL #14. THE HYDRAULIC FORCE CREATED BY THE SHOWER WATER BEING SQUEEZED BETWEEN THE ROLL AND THE FELT FLUSHES ANY DEPOSITS AND FIBRES THROUGH TO THE SHEET SIDE OF THE FELT TO BE REMOVED AT THE UHLE BOX (NEW). THIS "Z" CONFIGURATION ENSURES THAT THE SHEET SIDE OF THE FELT DOES NOT TRAVEL OVER ANY RETURN ROLL BEFORE BEING TREATED BY THE NIP FLOODING SHOWER AND THE UHLE BOX. THIS PREVENTS DEPOSITS AND FIBRES FROM BEING PUSHED INTO THE FELT, MAKING THEM HARDER TO REMOVE LATER.

AFTER LEAVING ROLL #14, THE FELT PASSES PAST THE HIGH PRESSURE OSCILLATING NEEDLE SHOWER #21. THIS IS OUR OLD SHOWER #23 RELOCATED TO THIS NEW POSITION. THE FELT THEN PASSES PAST THE NEW UHLE BOX. THIS UHLE BOX IS ACTUALLY THE WEB RETENTION BOX WHICH WAS ORIGINALLY IN PLACE BEFORE OUR OLD FIRST PRESS ROLL. (SEE PRESS SECTION 7: WEB RETENTION BOX, IN THE MACHINE MANUAL FOR A MORE DETAILED DESCRIPTION) AFTER THE UHLE BOX, THE FELT PASSES AROUND THE NEW FELT DRIVE ROLL (ROLL #15). THIS DRIVE ROLL WORKS WITH THE SUCTION ROLL TO DRIVE THE FELT. ROLL #15 IS DRIVEN BY THE OLD SECOND PRESS DRIVE MOTOR. THE ONLY CHANGE HERE WILL BE THAT THERE IS NO LONGER A GEAR BOX FOR THIS DRIVE. THE MOTOR WILL TURN THE ROLL BY MEANS OF A DRIVE SHAFT GOING DIRECTLY FROM THE MOTOR TO THE ROLL.

THE FELT THEN PASSES FROM ROLL #15 TO ROLL#16. THIS ROLL IS THE OLD ROLL #13. IT IS IN THE SAME LOCATION AS BEFORE, BUT THE FELT ONLY PASSES UNDER IT AS IT MOVES UP THROUGH THE OLD FELT SECTION FOR FURTHER CONDITIONING. THE ONLY CHANGES IN THE OLD SECTION ARE:

1. SHOWER #23 IS MOVED TO ITS NEW POSITION
2. THE FELT CLEANING CHEMICAL SHOWER IS MOVED TO THE SHEET SIDE OF THE FELT BETWEEN THE NEW UHLE BOX AND ROLL #15.

New Roll #, Name	Old Roll #, Name	Location Change
11	11	moved closer to dry end
12 Suction roll	12 1st press roll	Old 1st press roll (renamed "suction roll") – dropped closer to floor
13 Tissue flex roll	14 2nd press roll	Same location
14	15	Closer to dry end, higher elevation
15 Felt drive roll	N/A	Driven roll above roll #11
16	13	Same location
17	16	Same location
18 Stretch roll	17	Same location
19 Guide roll	18	Same location
20	19	Same location
21	20	Same location

BASIC COMPONENTS

1. TISSUE FLEX ROLL AND PRESS SLEEVE
2. SUCTION ROLL
3. FELT RETURN ROLLS (ROLLS # 11,14,15)
4. FELT
5. UHLE BOX
6. SHOWERS (ROLLS #19,20,21,22,23,24)
7. DOCTOR BLADES
8. SAVEALLS
9. HYDRAULIC UNIT #2 – HU3D1
10. HYDRAULIC UNIT #1 – UH-1
11. BLOWER UNIT
12. TISSUE FLEX CONTROL CONSOLE
13. VACUUM PICK-UP SHOE
14. FELT STRETCH SYSTEM
15. FELT GUIDE SYSTEM

DESCRIPTION

THE PRIMARY COMPONENTS OF THE TISSUE FLEX PRESS ARE: THE TISSUE FLEX ROLL, THE ROTATING PRESS SLEEVE, THE PRESS SLEEVE CLAMPING DEVICES (T.S AND D.S), THE PRESSURE SHOE, HYDRAULIC UNITS 1 AND 2, THE BLOWER UNIT, THE ROLL MOVEMENT ARMS AND THEIR ASSOCIATED LOCKING ARMS.

THE PRESSURE SHOE IS INSTALLED INSIDE THE TISSUE FLEX ROLL. IT IS PRESSED AGAINST THE PRESS SLEEVE AND YANKEE, AT 90KN/m BY HYDRAULIC ELEMENTS SUPPLIED BY THE PRESSURE OIL SYSTEM IN HYDRAULIC UNIT #2 (HU3D1). THE ROLL MOVEMENT ARMS BRING THE ROLL INTO CLOSE (OPERATING) POSITION. THIS POSITION IS AT A PRE-SET MEASUREMENT OF 10mm, BETWEEN THE ROLL AND THE YANKEE.

FROM THIS POSITION THE ROLL ~~CAN~~ NO LONGER MOVES TOWARDS THE YANKEE. THE PRESSURE SHOE PUSHES THE PRESS SLEEVE, PRESS FELT, AND SHEET AGAINST THE YANKEE TO FORM THE NIP. IT IS POSSIBLE TO INCREASE OR DECREASE THE EDGE AREAS (T.S AND D.S) OF THE SHOE WITH INDIVIDUAL LOADING ELEMENTS (3 PER SIDE), ALSO SUPPLIED BY THE PRESSURE SYSTEM IN HYDRAULIC UNIT #2.

AS THE FELT PASSES THE SHEET THROUGH THE TISSUE FLEX NIP, WATER IS SQUEEZED THROUGH THE SHEET INTO THE FELT AND INTO THE BLIND DRILLED HOLES OF THE ROTATING PRESS SLEEVE. THIS WATER IS THEN RELEASED INTO THE FELT AFTER THE NIP. THE WATER IS THEN REMOVED FROM THE FELT BY VACUUM AT U~~HLE BOX #3~~. THE SHEET LEAVES THE NIP, AT APPROXIMATELY 40-45% DRYNESS, ADHERING TO THE YANKEE TO BE FURTHER DRIED BY THE STEAM AND HOOD SYSTEMS.

We use groved sleeves

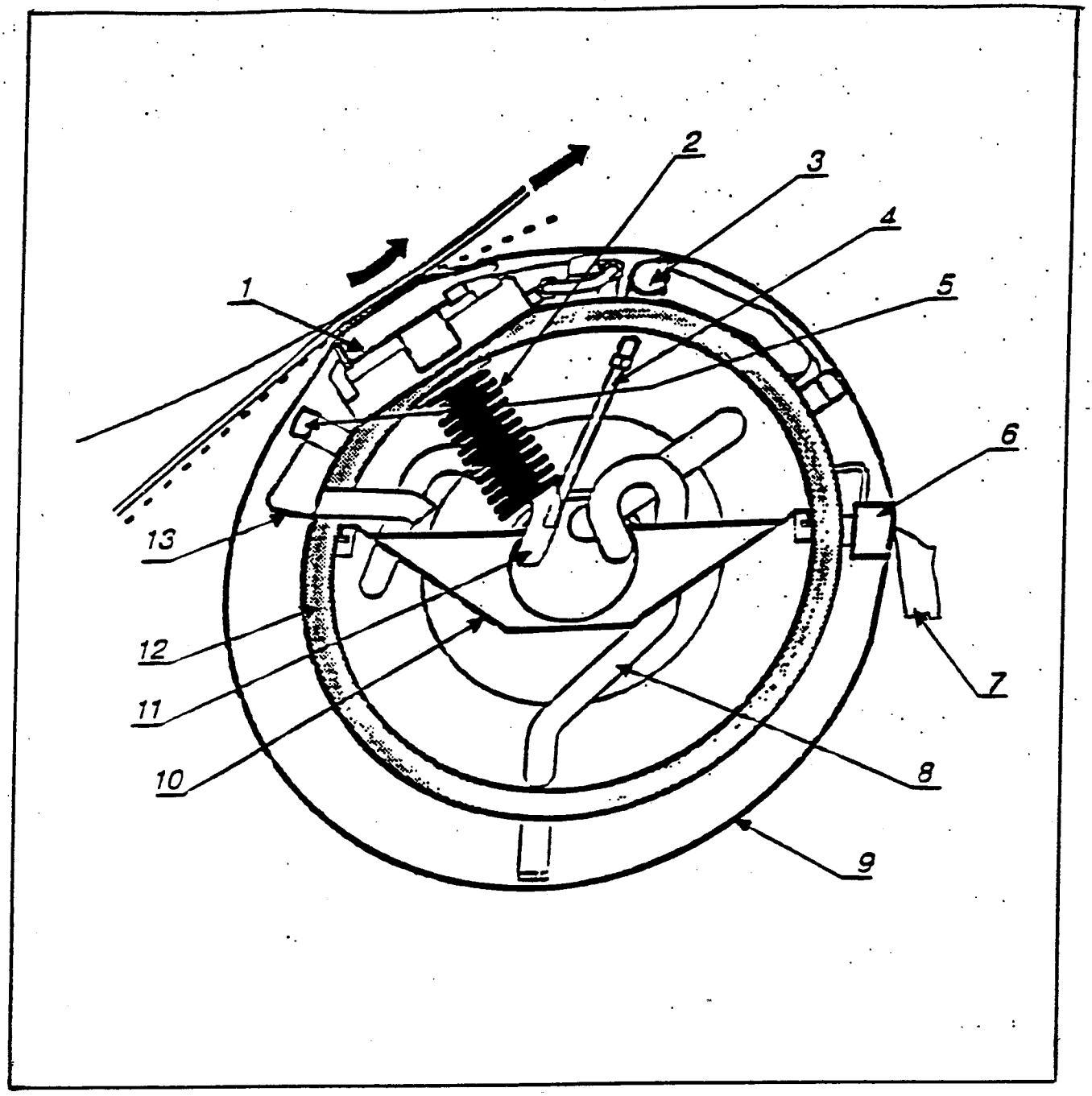


Fig. 1 - 2 Cross-section of TissueFlex roll

1 Pressure shoe
2 Return spring
3 Cooling-oil supply
4 Pressure-oil piping
5 Guide
6 Pneumatic supporting strip (DOCTOR)
7 Water scraper (option)
8 Oil exhaust system
9 Press sleeve
10 Oil pan
11 Cooling-oil piping of hydrostatic pressure-shoe lubrication
12 Supporting body
13 Discharge pan

BASIC COMPONENT DESCRIPTIONS

1.0 TISSUE FLEX ROLL

THE TISSUE FLEX ROLL ACCOMMODATES THE PRESSURE SHOE AND GUIDES THE ROTATING PRESS SLEEVE.

CONTAINED WITHIN THIS ROLL ARE:

- **DIAGRAM AND COMPONENTS *4.1* IN MANUAL**

1.1 TECHNICAL DATA

EXTERNAL DIAMETER:	1112mm
LENGTH OF SHOE:	2870mm
PRESS SLEEVE LENGTH:	3710mm
YANKEE SHELL LENGTH:	3230mm
SHEET WIDTH (POND):	2770mm

4.1.3 QualiFlex press sleeve

Task

The QualiFlex press sleeve supports dewatering of the paper sheet.

Components

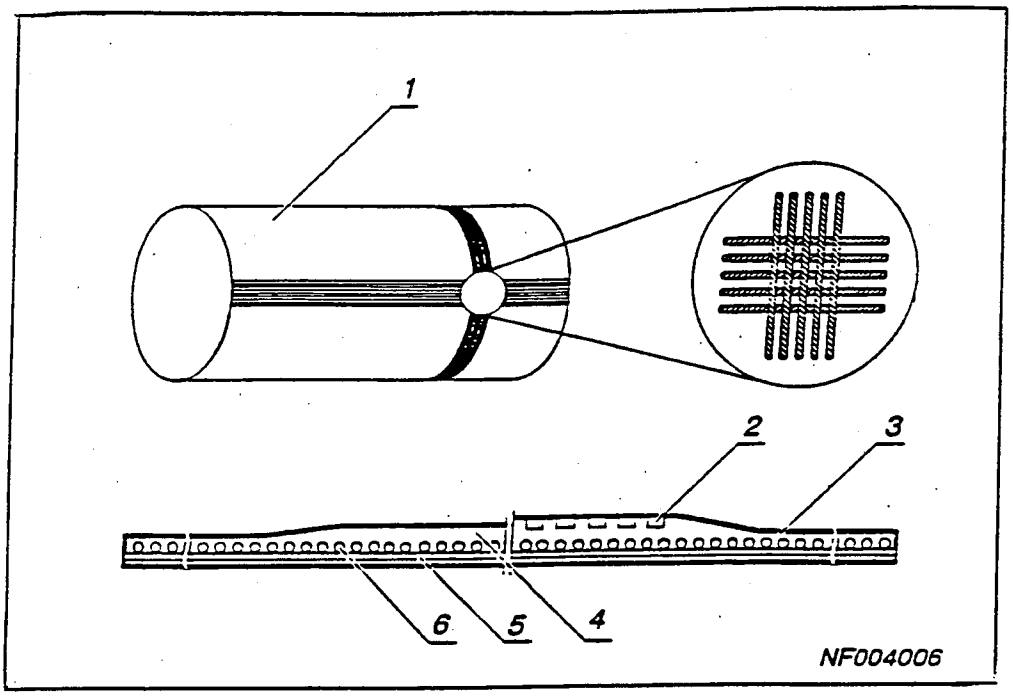


Fig. 4 - 5 View and cross-section of QualiFlex press sleeve

1 *QualiFlex press sleeve*
2 *Blind-drilled holes*
3 *Type QualiFlex B*
4 *Type QualiFlex S*
5 *Longitudinal yarns*
6 *Circumferential yarns*

2.0 PRESS SLEEVE

2.1 FUNCTION

THE PRESS SLEEVE AIDS THE DE-WATERING OF THE PAPER SHEET BY HOLDING THE EXPRESSED WATER FROM THE TISSUE FLEX NIP AND CARRYING IT TO THE FELT AND SAVEALL TO BE RECOVERED FOR FURTHER USE.

2.2 DESCRIPTION

THE PRESS SLEEVE CONSISTS OF REINFORCEMENT YARNS EMBEDDED IN POLYURETHANE. THESE YARNS ARE ORIENTED IN THE MACHINE DIRECTION AND THE CROSS DIRECTION.

- THERE ARE THREE TYPES OF PRESS SLEEVES:

  - BLIND DRILLED: QUALIFLEX B
    - STANDARD DESIGN
    - BLIND DRILLED HOLES ACT AS WATER STORAGE
    - WE WILL BE USING THIS STYLE DURING START-UP.

  - GROOVED: QUALIFLEX G
    - OUTSIDE GROOVES IN MACHINE DIRECTION
    - GROOVES ASSIST DISCHARGE OF WATER OUT OF PRESS NIP

  - SMOOTH: QUALIFLEX S

BLIND DRILLED - TECHNICAL DATA:

HOLE DIAMETER:	2.2mm
HOLE DEPTH:	2.0mm
INSIDE DIAMETER:	1100mm
SLEEVE LENGTH:	3710mm
SLEEVE THICKNESS IN NIP ZONE:	6.0mm
SLEEVE THICKNESS AT EDGE:	3.5mm

2.3 OPERATION

THE PRESS SLEEVE IS ATTACHED BY TABS ONTO BOTH BEARINGS. CLAMPING DISCS SECURE THE SLEEVE TO THE BEARINGS AND SEAL THE END FACES. DURING OPERATION THE SLEEVE IS INFLATED WITH COMPRESSED AIR IN ORDER TO STABILIZE IT. THE SLEEVE IS SPRAYED BY ONE INTERNAL COOLING SHOWER WITH LOW PRESSURE HYDRAULIC COOLING OIL TO REDUCE FRICTION AND PREVENT THERMAL DAMAGE.

THE SLEEVE, CLAMPING DISCS, AND BEARINGS ARE THE ONLY PART OF THE TISSUE FLEX ROLL THAT TURN DURING OPERATION. THE SLEEVE IS DRIVEN BY THE FELT WHICH IN TURN IS DRIVEN BY THE SUCTION ROLL AND ROLL #15. GREAT CARE MUST BE TAKEN TO ENSURE THAT THE SLEEVE TURNS AT THE SAME SPEED AS THE FELT TO PREVENT ANY DAMAGE TO THE SLEEVE OR FELT. ** SEE START-UP PROCEDURE. **

2.4 SHIFTING PRESS SLEEVE ACCORDING TO PLAN

WEEKLY SHIFTING OF THE QUALIFLEX PRESS SLEEVE BY ONE GRADUATION MARK ON THE SCALE RETARDS THE OCCURRENCE OF CRACKS ON THE SHOE EDGES AND EXTENDS IN THIS WAY THE SERVICE LIFE OF THE PRESS SLEEVE. THIS PLAN IS A RECOMMENDATION AND CAN BE OPTIMIZED BY THE USER ACCORDING TO HIS EMPIRICAL VALUES.

Operating Time	Position On front side	Position On drive side
Week 1	0	100
Week 2	90	10
Week 3	10	90
Week 4	80	20
Week 5	20	80
Week ...	...	...

AFTER WEEK 10, SHIFTING PROCEDURE STARTS AGAIN AS IN WEEK 1.

WHEN THE CLAMPING DISK ON THE DRIVE SIDE GOES BELOW POSITION 10, THE AXIAL TENSION OF THE PRESS SLEEVE DUE TO CLAMPING DISKS AND PRESS SLEEVE INTERNAL PRESSURE IS NO LONGER ENSURED.

- WHEN SHIFTING THE PRESS SLEEVE, DO NOT GO BELOW POSITION 10 OF THE DRIVE-SIDE CLAMPING DISK.

PREREQUISITE

- TISSUE FLEX PRESS IN OPERATION UNDER CLOSING PRESSURE OR SHUT DOWN.

ACTION

- TURN SPINDLE OF THE CENTRAL ADJUSTING UNIT (FRONT-SIDE JOURNAL) UNTIL THE DESIRED POSITION OF THE CLAMPING DISKS IS DISPLAYED ON THE SCALES ON FRONT SIDE AND DRIVE SIDE.

DATA FOR QUALIFLEX PRESS SLEEVE

MATERIAL
- POLYURETHANE WITH EMBEDDED REINFORCEMENT YARNS.

TYPES

Type	Type QB (standard)	
Outside	blind - drilled	
Borehole diameter	approx. 2.2 mm	approx. 0.09"
Borehole depth	approx. 2.0 mm	approx. 0.079"
Groove width	-	-
Open area	approx. 25%	

DIMENSIONS

Designation		Value	
		(mm)	(inch)
Inside diameter		1100	43.3
Sleeve length		3710	146.1
Sleeve thickness in nip zone	Type QB	6.0 + 0.2	0.24 + 0.008
	Type QG	5.0 + 0.2	0.2 + 0.008
	Type QS	5.0 + 0.2	0.2 + 0.008
Sleeve thickness at the edge		3.5 + 0.2	0.14 + 0.008

STORAGE

Designation	Property	
Storage	in supplied shipment packaging	
Storage temperature	between 10^0 C and 30^0 C	between 50^0 F and 85^0 F
Storage place	cool, dark, humid, no direct exposure to sunlight, no short-wave light	
Storage period	minimum 2 years if properly stored	

4.1.1 Pressure shoe

Task

The pressure shoe extends the nip zone and thus improves the dewatering properties of the press nip.

Components

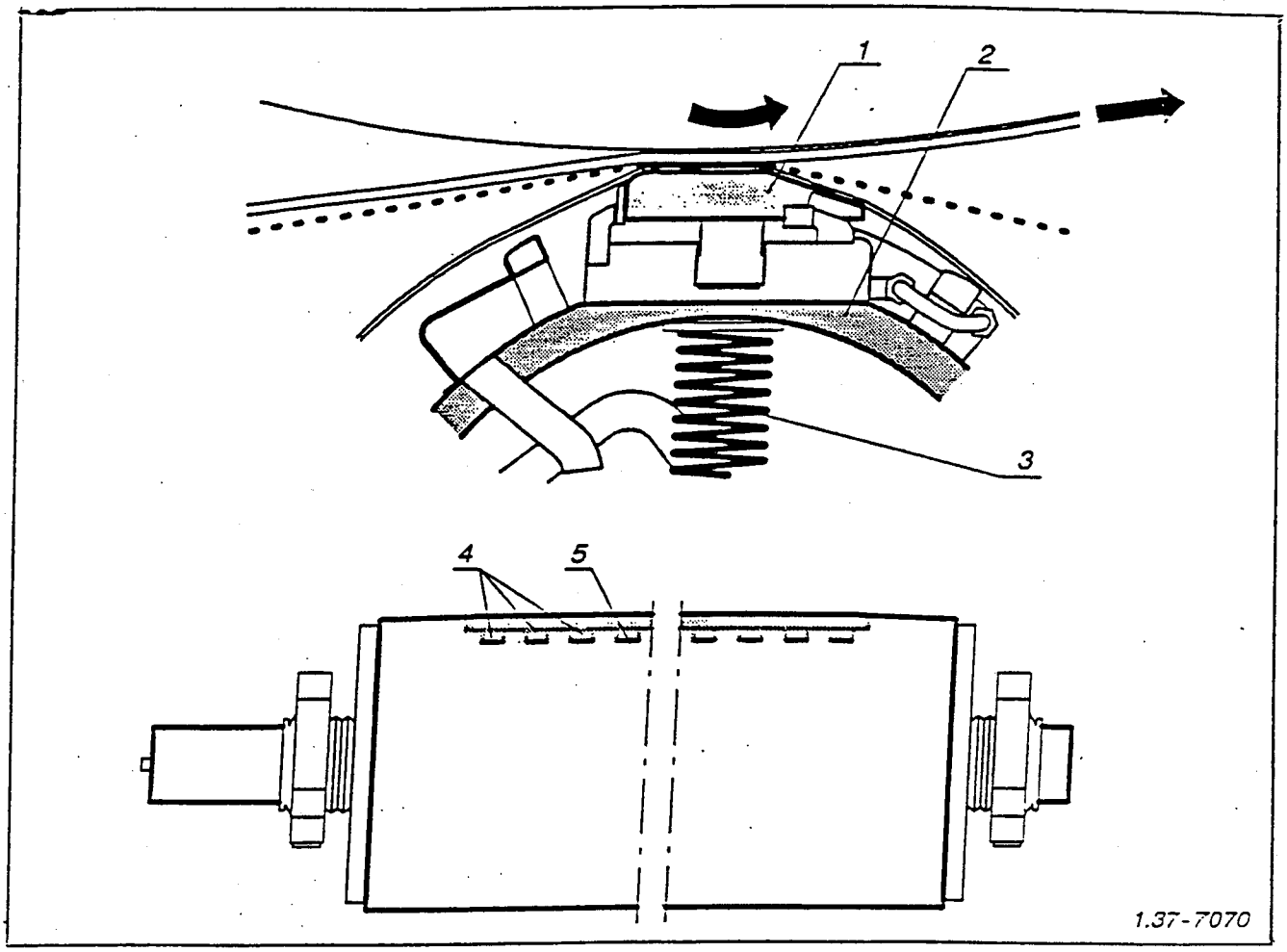


Fig. 4 - 3 Pressure shoe of TissueFlex roll, cross-section (top) and longitudinal section (bottom)

1 Pressure shoe
2 Supporting body
3 Return spring
4 Edge loading element
5 Loading element

Fig. no.	Component	File number	Description
1	Pressure shoe	3357	☞ Function
2	Supporting body	3351	
3	Return spring	3357	
4	Edge loading element		
5	Loading element		

Tab. 4 - 3 Components of pressure shoe

3.0 PRESSURE SHOE

3.1 FUNCTION

THE PRESSURE SHOE FORMS AN EXTENDED NIP ZONE BETWEEN THE TISSUE FLEX ROLL AND THE YANKEE. THIS IMPROVES THE DE-WATERING AND SHEET CONSOLIDATION PROPERTIES OF THE PRESS NIP.

3.2 DESCRIPTION

ADD: DRAWING 4.1.1 – MANUAL

3.3 OPERATION

ONCE THE TISSUE FLEX ROLL IS IN THE CLOSE POSITION (10mm GAP) WITH THE ROLL MOVEMENT ARMS LOCKED AND THE PRESS/YANKEE ARE AT RUN SPEED, THE PRESSURE SHOE IS LOADED AGAINST THE YANKEE. THE LOADING PRESSURE (LINE FORCE) IS SUPPLIED BY THE HIGH PRESSURE HYDRAULIC PUMP IN HYDRAULIC UNIT 2 (HU3D1). THIS PRESSURE WILL LIKELY BE 90KN/m BUT MAY BE CHANGED IN THE FUTURE. RETURN SPRINGS RETRACT (UNLOAD) THE SHOE WHEN THE HYDRAULIC LOADING PRESSURE IS RELIEVED. IT WILL BE POSSIBLE TO ADJUST BOTH EDGES (INCREASE OR DECREASE PRESSURE) IN THREE(3) ZONES PER EDGE, ALSO WITH HIGH PRESSURE HYDRAULIC OIL FROM HYDRAULIC UNIT 2.

TO PREVENT THERMAL DAMAGE TO THE SHOE AND THE SLEEVE, LOW PRESSURE COOLING HYDRAULIC OIL (HYDRAULIC UNIT 2) IS SPRAYED ON TO THE INTERNAL SURFACE OF THE SLEEVE. FURTHER PROTECTION AGAINST THERMAL DAMAGE IS PROVIDED BY HYDROSTATIC HYDRAULIC OIL. THIS IS HIGH PRESSURE HYDRAULIC OIL

FROM HYDRAULIC UNIT 2. THIS HYDRAULIC OIL IS PUMPED THROUGH BORE HOLES IN THE PRESSURE SHOE TO FURTHER COOL THE NIP BETWEEN THE SHOE AND THE SLEEVE.

3.4 OPERATING THEORY

DUE TO THE SHAPE OF THE SHOE THE DRAINAGE PRESSURE PROFILE INCREASES MORE SLOWLY AND THE PRESS ZONE IS LONGER THAN ON A CONVENTIONAL PRESS. THUS THE NIP PRESSURE IS MUCH LOWER FOR A GIVEN LINE FORCE (eg. 90KN/m). THIS RESULTS IN INCREASED BULK AT THE SAME DRYNESS AS A CONVENTIONAL PRESS. THEREFORE THERE IS LESS FIBRE DISPLACEMENT AND MORE UNIFORM PAPER STRUCTURE RESULTS.

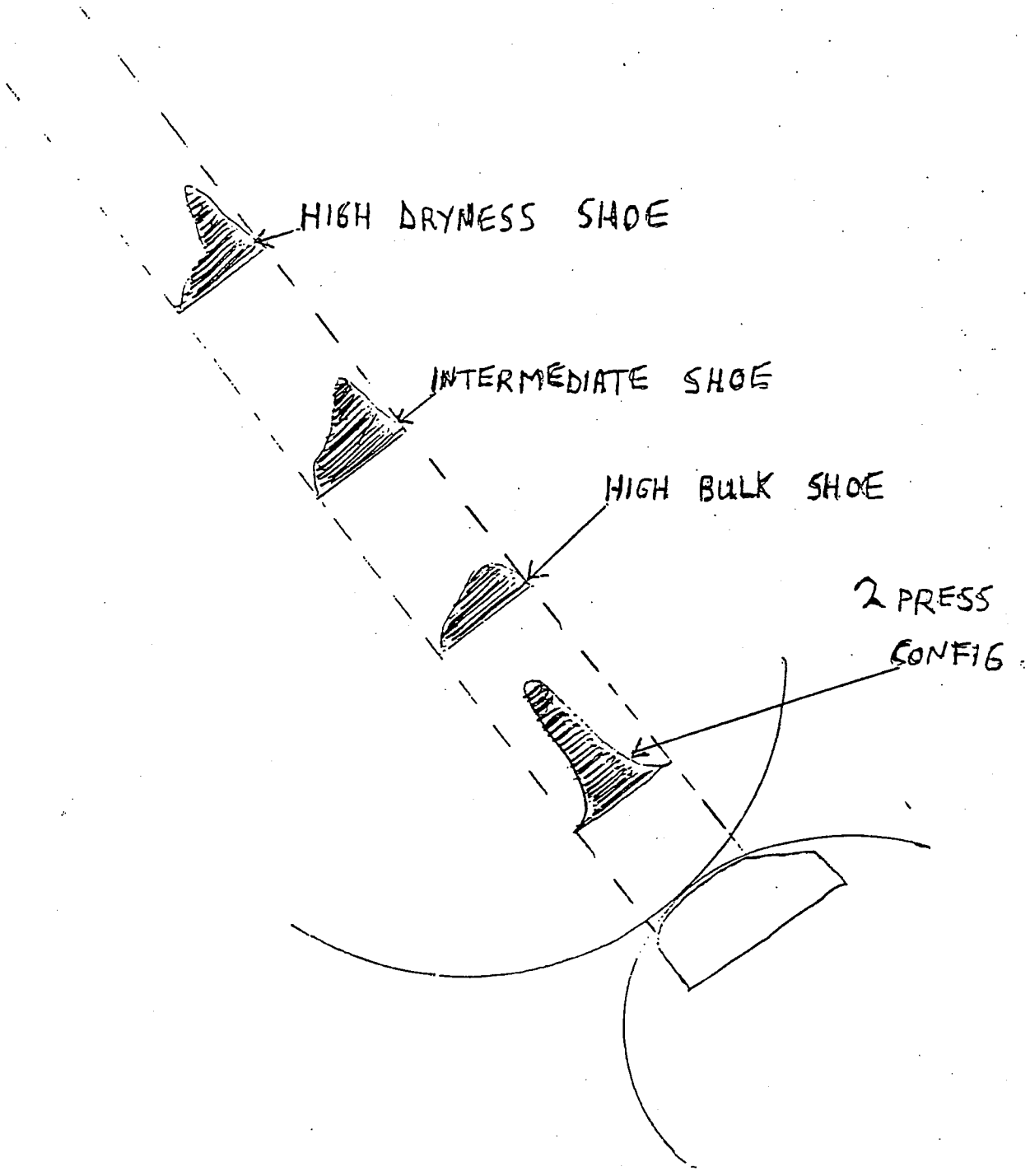
DIFFERENT PRESSURE SHOE SHAPES WILL GIVE DIFFERENT PAPER CHARACTERISTICS. THE SHOE WE WILL ORIGINALLY USE IS DESIGNED TO GIVE HIGHER BULK AND SAME DRYNESS AS OUR OLD PRESS CONFIGURATION. LOWER TENSILES MAY RESULT AS A FUNCTION OF THE LOWER NIP PRESSURE.

OTHER SHOE DESIGNS ARE AVAILABLE TO GIVE SOME IMPROVEMENTS IN DRYNESS BUT NOT BULK. THIS WILL RESULT IN HIGHER PRODUCTION. THERE IS ALSO AN INTERMEDIATE SHOE DESIGN TO GIVE SOME IMPROVED BULK ALONG WITH SOME IMPROVED DRYNESS.

DRAWING HERE

3.5 TECHNICAL DATA

WAITING FOR DATA



RELATIVE PRESSURE PROFILES AT SAME LINE FORCE (90 kN/m)

4.0 HYDRAULIC UNIT 1 (UH-1)

4.1 FUNCTION

TO SUPPLY HYDRAULIC OIL PRESSURE FOR:

(i) REEL MOVEMENT
(ii) TISSUEFLEX ROLL MOVEMENT
(iii) TISSUEFLEX ROLL LOCKING ARM MOVEMENT
(iv) PRESS AND DUOFORMER DOCTOR OSCILLATION
(v) PICK-UP SHOE MOVEMENT
(vi) PICK-UP SHOE LOCKING MOVEMENT
(vii) DUOFORMER FRAME MOVEMENT
(viii) HEADBOX SLICE LIP MOVEMENT

4.2 DESCRIPTION

THERE IS ONE TANK TO SUPPLY ALL OF THE ABOVE FUNCTIONS. THERE IS A SIGHT GLASS TO CHECK THE LEVEL AND ALARMS ON MEASUREX TO WARN OF LOW LEVEL AND LOW, LOW LEVEL

THE HYDRAULIC PUMPS WILL SHUT OFF WHEN LOW LOW LEVEL IS REACHED.

MOTOR TWO (PUMPS 2 AND 3) SUPPLIES HYDRAULIC OIL PRESSURE FOR REEL MOVEMENT, PICK-UP SHOE MOVEMENT AND PICK-UP SHOE LOCKING MOVEMENT.

MOTOR THREE (PUMPS 4 AND 5) IS THE BACK UP FOR MOTOR TWO.

MOTOR FOUR (PUMP 6) SUPPLIES HYDRAULIC OIL PRESSURE FOR FELT/DUOFORMER DOCTOR OSCILLATION, TISSUE FLEX ROLL MOVEMENT, AND TISSUE FLEX LOCKING ARM MOVEMENT.

MOTOR ONE (PUMP 1) SUPPLIES HYDRAULIC OIL PRESSURE FOR DUOFORMER FRAME MOVEMENT AND HEADBOX SLICE LIP MOVEMENT.

5.0 HYDRAULIC UNIT 2 (UNIT HU3D1)

5.1 FUNCTION

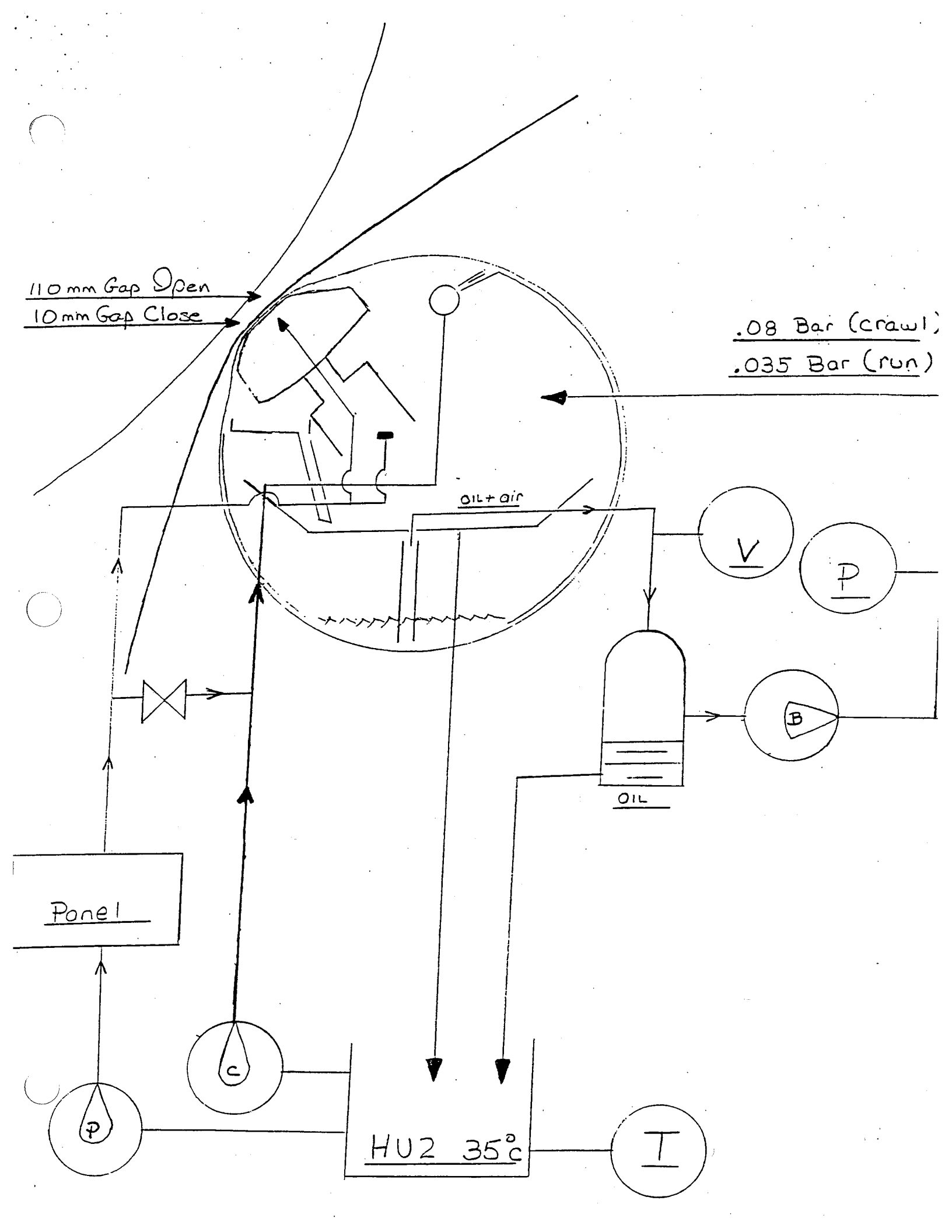
TO SUPPLY HYDRAULIC OIL PRESSURE FOR:

(i) PRESSURE SHOE LOADING

(ii) PRESSURE SHOE EDGE LOADING/RELIEF

(iii) PRESSURE SHOE COOLING

(iv) PRESS SLEEVE COOLING


110 mm Gap Open
10 mm Gap Close
.08 Bar (crawl)
.035 Bar (run)
oil + air
V
P
B
OIL
Panel
C
P
HU2 35°C
T

5.2 DESCRIPTION

THERE ARE TWO SEPARATE SYSTEMS FEEDING OUT OF THE SAME HYDRAULIC OIL TANK. THESE ARE THE PRESSURE SYSTEM AND THE COOLING SYSTEM.

5.2.1 COOLING SYSTEM

5.2.1.1 FUNCTION

THE COOLING OIL PUMP SUPPLIES COOLING OIL TO PROVIDE A FILM OF OIL TO THE ENTIRE INTERNAL SURFACE OF THE PRESS SLEEVE TO PREVENT THERMAL DAMAGE TO THE SLEEVE AND THE PRESSURE SHOE. IN THIS FUNCTION IT IS HYDRAULIC OIL (LOW PRESSURE) ACTING AS COOLING OIL.

5.2.1.2 COOLING SYSTEM – DESCRIPTION

THERE ARE TWO LOW PRESSURE HYDRAULIC PUMPS IN THIS SYSTEM (ONE IS A BACK UP TO THE OTHER). COOLING OIL IS SUPPLIED THROUGH A SHOWER DOWNSTREAM FROM THE SHOE/SLEEVE NIP WHICH SPRAYS COOLING OIL ONTO THE INTERNAL SURFACE OF THE SLEEVE.

ONCE THIS SYSTEM IS RUNNING THE COOLING PUMP SUPPLIES COOLING OIL AT HIGH FLOW (156 L/min) AND LOW PRESSURE. THE OIL IS PUMPED THROUGH AN OIL FILTER TO AN OIL COOLER (WATER COOLED). IT THEN FLOWS PAST A TEMPERATURE CONTROL LOOP WHICH OPENS AND CLOSES THE OIL COOLER WATER SUPPLY AS NECESSARY. THERE IS ALSO A TEMPERATURE TRANSMITTER WHICH RELAYS THE

ACTUAL OIL TEMPERATURE TO THE OPERATORS' TISSUEFLEX CONTROL CONSOLE.

THEN THE COOLING OIL FLOWS PAST AN OIL FLOW TRANSMITTER, WHICH RELAYS ACTUAL OIL FLOW TO THE OPERATOR VIA THE TISSUE FLEX CONTROL CONSOLE. THEN THE OIL PASSES THROUGH A FLOW CONTROL VALVE. THIS VALVE OPENS AFTER THE PRESSURE SHOE IS LOADED.

AFTER THE FLOW VALVE, THE COOLING OIL IS DELIVERED VIA PIPING INSIDE THE TISSURE FLEX ROLL TO THE SHOWERS FOR INTERNAL COOLING. EXCESS OIL IS SCRAPED OFF AT THE INGOING NIP OF THE SLEEVE/SHOE. IT IS COLLECTED BY THE DISCHARGE PAN AND THEN CONVEYED BY PIPE TO THE OIL PAN WHERE IT IS COLLECTED AND THEN RETURNED VIA PIPING TO THE HYDRAULIC OIL TANK TO BE RE-USED.

EXCESS OIL IS ALSO REMOVED VIA SYPHON UNDER VACUUM WHEN THE TISSUEFLEX ROLL IS IN CRAWL SPEED. THIS WILL BE DESCRIBED IN THE BLOWER SECTION.

IF THE TISSUEFLEX ROLL IS FILLED WITH OIL ACCIDENTALLY DURING A SHUTDOWN, THE INTEGRATED OIL EXHAUST SYSTEM INITIATES AUTOMATIC EMPTYING.

5.2.2 PRESSURE SYSTEM

5.2.2.1 FUNCTION

THERE ARE FIVE FUNCTIONS FOR THIS SYSTEM:

LINE FORCE CONTROL:

- TO PROVIDE HIGH PRESSURE HYDRAULIC OIL TO LOAD THE PRESSURE SHOE TO OPERATING PRESSURE.

EDGE PRESSURE CONTROL:

- TO PROVIDE HIGH PRESSURE HYDRAULIC OIL TO CONTROL THE T.S. AND D.S. EDGE PRESSURES OF THE PRESSURE SHOE. CONTROL (INCREASE OR DECREASE PRESSURE) IS TO 3 INDIVIDUAL ZONES OF THE SHOE ON EACH EDGE.

HYDROSTATIC OIL:

- TO SUPPLY HIGH PRESSURE HYDRAULIC OIL THROUGH BORE HOLES IN THE PRESSURE SHOE TO PROVIDE AN INCREASED FILM OF OIL BETWEEM THE SHOE AND THE PRESSURE SLEEVE. THIS IS A COOLING FUNCTION TO PREVENT THERMAL DAMAGE TO THE SLEEVE AND THE SHOE.

COOLING OIL: CRAWL SPEED ONLY

- TO SUPPLY HIGH PRESSURE HYDRAULIC OIL TO THE COOLING OIL SYSTEM SHOWERS WHEN TISSUEFLEX ROLL IS IN CRAWL SPEED.

START UP TEMPERATURE CONTROL:

- TO WARM UP HYDRAULIC OIL TO A TEMPERATURE $\geq 35^{\circ}$ C AFTER A LONG SHUTDOWN OR WHENEVER THE TEMP IS $< 35^{\circ}$ C.

5.2.2.2 DESCRIPTION

THERE ARE TWO HIGH PRESSURE HYDRAULIC PUMPS IN THIS SYSTEM. ONE IS A BACK UP FOR THE OTHER. THE PRESSURE OIL PUMP DELIVERS HIGH PRESSURE OIL THROUGH AN OIL FILTER. FROM HERE THE FLOW DIVIDES TO SUPPLY THE VARIOUS FUNCTIONS FOR THIS SYSTEM.

LINE FORCE CONTROL AND EDGE PRESSURE CONTROL:

THE HIGH PRESSURE HYDRAULIC OIL IS PUMPED AT HIGH PRESSURE AND LOW FLOW (26 L/min) TO THE TISSUE FLEX NIP CONTROL PANEL LOCATED ON THE D.S. OF THE MACHINE ON THE OPERATING FLOOR. LOCATED IN THIS PANEL ARE THE PRESSURE CONTOL VALVES THAT THE OPERATOR WILL CONTROL THROUGH THE TISSUE FLEX CONTROL CONSOLE TO SET AND ADJUST LINE PRESSURE AND EDGE PRESSURE. THERE IS ONE VALVE FOR LINE PRESSURE CONTROL AND 6 VALVES FOR EDGE PRESSURE CONTROL. AS STATED EARLIER, LINE PRESSURE ON THE SHOE IS RELIEVED FULLY (ie. SHOE BACKS OFF YANKEE TO GIVE 10mm GAP), WHEN THE OPERATOR PUSHES "UNLOAD" ON THE TISSUE FLEX CONTROL CONSOLE. THE LINE PRESSURE CONTROL VALVES CLOSE AND THE SHOE IS RETRACTED MECHANICALLY BY THE SPRINGS.

THE 6 EDGE CONTROL VALVES CONTROL HYDRAULIC PRESSURE TO SHOE ZONES Y1, Y2, Y3 ON THE TENDING SIDE AND ZONES Z1, Z2, Z3 ON THE DRIVE SIDE OF THE SHOE. IT WILL BE POSSIBLE TO

INDIVIDUALLY CONTROL (INCREASE/DECREASE) THE PRESSURE LOADING OF EACH ZONE THROUGH THESE VALVES VIA THE TISSUE FLEX CONTROL PANEL. ADJUSTMENT WILL BE +/- 30 PERCENT OF THE LINE FORCE OF THE SHOE. ZONES Y1 AND Z1 WILL HAVE A RANGE OF +30% TO –40%.

HYDROSTATIC OIL:

THE HIGH PRESSURE HYDRAULIC OIL IS PUMPED THROUGH THE OIL FILTER AT LOW FLOW (110 L/min) THROUGH THE HYDROSTATIC OIL CONTROL VALVE LOCATED ON HYDRAULIC UNIT #2. THIS VALVE CONTROLS THE FLOW OF THE HYDROSTATIC OIL THROUGH PIPING INTO THE PRESSURE SHOE AND THEN OUT BORE HOLES INTO THE NIP BETWEEN THE SHOE AND THE SLEEVE. THIS VALVE OPENS WHEN THE PRESS DRIVES ARE PUT INTO CRAWL SPEED.

COOLING OIL: CRAWL SPEED

THE HIGH PRESSURE HYDRAULIC OIL IS PUMPED THROUGH THE OIL FILTER AT LOW FLOW (10 L/min) THROUGH THE CRAWL/COOLING OIL CONTROL VALVE INTO THE PIPING OF THE COOLING OIL SYSTEM TO BE APPLIED AT THE SLEEVE/SHOE NIP SHOWER AND THE SLEEVE COOLING SHOWER WHEN THE TISSUE FLEX IS RUNNING IN CRAWL SPEED. THIS VALVE OPENS WHEN PRESS SPEED IS $\geq$ 15M/MIN. THIS LOW FLOW IS SUPPLIED BECAUSE LESS FRICTION IS GENERATED AT THE LOWER SPEED. THERE IS ALSO LOWER CENTRIFICAL FORCE AT THIS SPEED WHICH RESULTS IN "POOLING" OF EXCESS OIL IN THE BOTTOM OF THE

TISSUE FLEX ROLL. THE LOW OIL FLOW RESULTS IN A MORE SHALLOW "POOL" OF OIL WHICH CAN EASILY BE REMOVED BY THE BLOWER AIDED SYPHON SYSTEM.

WHEN THE OPERATOR LOADS THE PRESSURE SHOE, THE CRAWL/COOLING OIL VALVE WILL CLOSE AND THE COOLING OIL SYSTEM FLOW VALVE WILL OPEN TO SUPPLY LOW PRESSURE, HIGH VOLUME OIL FLOW TO THE ROLL.

START UP TEMPERATURE CONTROL:

TO WARM THE HYDRAULIC OIL $\geq 35°$ C PRIOR TO START UP, THE OPERATOR STARTS THE PRESSURE PUMP. THE SYSTEM THEN AUTOMATICALLY WARMS THE OIL. THE LINE FORCE SUPPLY VALVE WILL NOT OPEN UNTIL THE OIL TEMPERATURE IS $\geq 35°$ C.

5.3 MAJOR COMPONENTS

- HYDRAULIC OIL TANK

  VOLUME: 3700 L

  OIL TYPE: NUTO H 150

  LOCATION: BY CENTRAL LUBE STATION

- OIL COOLER

  - WATER COOLED
  - LOCATED ON TOP OF OIL TANK

- TWO HIGH PRESSURE OIL PUMPS

  FLOW: 195 L/min

  PRESSURE: 95 BAR

  MOTORS:

- TWO LOW PRESSURE OIL PUMPS

  FLOW: 210 L/min

  PRESSURE: 16 BAR

  MOTORS:

- TISSUE FLEX NIP CONTROL PANEL

  - **CONTROL VALVES FOR:**
    LINE FORCE (SHOE PRESSURE)
    SHOE EDGE PRESSURE CONTROL

- SURGE TANKS

5.4 HIGH PRESSURE PROTECTION

THERE ARE 4 PRESSURE RELIEF VALVES IN THIS SYSTEM TO PREVENT EXCESSIVE PRESSURE BY THE PRESSURE SHOE AGAINST THE YANKEE. THESE VALVES WILL RELIEVE AT **??.** THERE IS ALSO A RUPTURE DISC IN THE LINE BETWEEN THE PRESSURE RELIEF VALVES. IT WILL "POP" AT _____. FURTHER HIGH PRESSURE PROTECTION IS PROVIDED BY PINS IN THE ROLL MOVEMENT LOCKING ARMS. THESE ARE DESIGNED TO BREAK AT A PREDETERMINED FORCE. THIS WILL ALLOW THE TISSUE FLEX ROLL TO OPEN FROM THE YANKEE, THUS RELIEVING EXCESSIVE PRESSURE BETWEEN THE SHOE AND THE YANKEE.

6.0 BLOWER UNIT

6.1 FUNCTION

THE BLOWER UNIT GENERATES AIR PRESSURE AND VACUUM SIMULTANEOUSLY. THE VACUUM ENABLES THE REMOVAL OF COOLING OIL BY THE SYPHON. THE AIR PRESSURE INFLATES THE PRESS SLEEVE TO STABILIZE IT DURING START UP AND OPERATION.

6.2 DESCRIPTION

THE D.C COOLING FAN SUPPLIES THE BLOWER UNIT WITH FILTERED AIR. UPON START-UP (CRAWL SPEED), THE BLOWER STARTS AS PART OF THE TISSUE FLEX GROUP START. THE BLOWER SUPPLIES COMPRESSED AIR AT A GAUGE PRESSURE OF .05 TO .08 BAR. THIS AIR INFLATES THE PRESS SLEEVE LIKE A BALLOON AND LIFTS IT OFF THE INTERNAL GUIDES. THIS INTERNAL AIR PRESSURE ALSO STABILIZES THE SLEEVE.

AT THE SAME TIME AS COMPRESSED AIR INFLATES THE PRESS SLEEVE, THE BLOWER IS GENERATING VACUUM THROUGH AN OIL/AIR SEPARATOR, INTO THE SYPHON OF THE TISSUE FLEX ROLL. THIS VACUUM SUCKS ANY COOLING OIL THAT IS POOLING IN THE BOTTOM OF THE ROLL AS A RESULT OF THE ROLL TURNING AT CRAWL SPEED. THIS OIL PASSES UP THE SYPHON AS AN OIL/AIR MIXTURE AND INTO THE OIL/AIR SEPARATOR. THEN THE OIL IS RETURNED TO THE HYDRAULIC TANK AND AIR IS SUCKED INTO THE BLOWER UNIT TO CREATE MORE VACUUM.

VALVES LOCATED IN PANEL +HP3D2 CONTROL INTERNAL SLEEVE PRESSURE AND VACUUM. THIS PANEL IS LOCATED ON THE DRIVE SIDE OF THE MACHINE, ~~BESIDE THE TISSUE FLEX ROLL NIP CONTROL PANEL.~~ THE OPERATOR WILL NOT HAVE CONTROL OVER THESE VALVES. ALL CONTROL WILL BE AUTOMATIC THROUGH THE PROGRAM IN THE TISSUE FLEX CONTROL CONSOLE.

THE INTERNAL SLEEVE PRESSURE IS REDUCED TO .035 BAR WHEN THE YANKEE AND PRESS DRIVES REACH RUN SPEED.

C. START UP MACHINE

(**NOTE**: TASKS WITH "T.F" DESIGNATION ARE NEW AND REVISED TO COVER THE TISSUE FLEX PRESS START UP)

1.0 WARM UP YANKEE

2.0 ADD STEAM TO DRY END LUBE OIL HEATER

3.0 START DRY END LUBE PUMP

4.0 START WET END LUBE PUMP

5.0 START WET END SEPARATOR FILTER PUMP

6.0 START DRY END SEPARATOR FILTER PUMP

7.0 START YANKEE GEARBOX PUMP

8.0 CLEAN OR SWITCH YANKEE GEARBOX FILTERS
(LUBETECH OR MILLWRIGHT)

9.0 START D/C COOLING FAN

10.0 REPLACE D/C COOLING FAN FILTERS

T.F.

11.0 START HYDRAULIC PUMPS – UNIT 1

12.0 START YANKEE DRIVES

T.F.

13.0 CHECK SUCTION ROLL STATUS

T.F.

14.0 CHECK TISSUE FLEX STATUS

15.0 PRESS SECTION PRE-START CHECKS

T.F.

16.0 CHECK CONTROL BOX #2 STATUS

17.0 CHECK FELT ROLL DOCTORS

18.0 CHECK FELT CONDITION

19.0 CHECK FELT GUIDING SYSTEM

T.F.

20.0 CHECK FELT/PRESS SECTION FOR CLEANLINESS

21.0 WET THE FELT

22.0 CHECK FELT TENSION

23.0 SET START UP FELT TENSION

24.0 START FELT SECTION SHOWERS

25.0 CHECK AND SET CORRECT PRESSURE AT ALBANY FILTERS

26.0 N/A

27.0 CHECK AND ADJUST FELT SHOWERS

T.F.

28.0 PREPARE TISSUE FLEX TO JOG

T.F.

29.0 JOG FELT

T.F.

30.0 PUT FELT/YANKEE IN CRAWL

T.F.

31.0 CHECK YANKEE/PRESS SPEED

32.0 CENTRE FELT ON ROLLS

33.0 SQUARE UP FELT TRADE LINE

34.0 –

35.0 –

36.0 CHECK YANKEE DOCTOR OSCILLATION

37.0 START KROFTA 3 LOOP

38.0 CHECK AND ADJUST FLOW TO KROFTA 3

39.0 START BURNER FANS – LOCAL MODE

40.0 START BURNER FANS – GROUP START

41.0 PRE-START BURNER CHECKS

42.0 START BURNERS

43.0 BRING BURNERS TO OPERATING TEMPERATURE

44.0 START PUMP 34

45.0 START PUMP 46

46.0 CLOSE EAST BROKE SHOWER

47.0 CLOSE WEST BROKE SHOWER

48.0 START NT0223 MOTOR

49.0 –

50.0 CHECK CONDITION OF WIRES

51.0 CHECK CLEANLINESS OF DUOFORMER SECTION

52.0 CHECK AND REPLACE WORN ROLL DOCTORS

53.0 APPLY CORRECT TENSION TO OUTER WIRE

54.0 APPLY CORRECT TENSION TO INNER WIRE

55.0 –

56.0 CHECK AND CLEAN PLUGGED WIRE COATING NOZZLES

57.0 –

58.0 ALIGN NOZZLES ON WIRE COATING SHOWER BOOM

59.0 CHECK GUIDE SYSTEMS FOR BOTH WIRES

60.0 CHECK POSITIONS OF WIRE RANGE LIMIT SWITCHES

61.0 TURN ON INNER WIRE TRANSFER BOX SHOWER

62.0 JOG WIRES

63.0 DETERMINE DESIRED MACHINE RUNNING SPEED

64.0 CHECK MACHINE SPEED SET POINT

65.0 CHANGE MACHINE SPEED SET POINT

66.0 CHECK MACHINE SPEED REFERENCE

67.0 START DUOFORMER LOW PRESSURE SHOWERS

68.0 CLEAN LOW PRESSURE SHOWERS

69.0 START INNER AND OUTER WIRE HIGH PRESSURE SHOWER OSCILLATORS

70.0 PUT DUOFORMER INTO CRAWL SPEED

71.0 CHECK DUOFORMER SPEED (ACTUAL0

72.0 PUT DUOFORMER INTO RUN SPEED

73.0 START DUOFORMER DOCTOR OSCILLATORS

74.0 START DUOFORMER HIGH PRESSURE BOOSTER PUMPS (PUMPS P.49, P.51, P.52)

75.0 CHECK FELT TENSION AND WRINKLES

76.0 FILL PUMP 53 PRIMER TANK

77.0 START VACUUM PUMPS – GROUP START

78.0 START VACUUM PUMPS – LOCAL MODE

79.0 MONITOR YANKEE/PRESS DRIVES SPEED

T.F.

80.0 PUT TISSUE FLEX ROLL INTO CLOSE POSITION

T.F.

81.0 GO TO RUN SPEED – (YANKEE/PRESS)

T.F.

82.0 FINISH TISSUE FLEX START-UP

83.0 START SHOWER 21

84.0 CHECK YANKEE WARM UP COMPLETE

85.0 CHECK STATUS OF YANKEE STEAM CONTROLLERS

86.0 START DISC FILTER LOOP

87.0 CHECK TANK 33 STATUS

88.0 START BROKE PULPER LOOP

89.0 PREPARE REFINER FOR START-UP

90.0 START PAPER GUIDE ROLLS

91.0 START REEL DRUM

92.0 ADJUST BASIS WEIGHT VALVE

93.0 SET UP STOCK CONSISTENCY CONTROL (NIC0223)

LOAD TISSUEFLEX DOCTOR

94.0 START FAN PUMP

95.0 ADJUST SLICE OPENING

96.0 ESTABLISH CORRECT JET/WIRE RATIO

97.0 START PUMP 36 AND O.S.D.M. REFINER

98.0 SET UP STUFF BOX LEVEL

99.0 SET UP N.I.C. 0223

100.0 ADJUST BURNER H.I.C.'S

101.0 SET CORRECT STEAM PRESSURE

102.0 START VIBRATING SCREEN

103.0 START PUMP 35 AND SET UP BROKE RATIO

104.0 CLOSE REFINER PLATES

105.0 PREPARE SHEET TO THROW TAIL

106.0 START THE SCANNER

107.0 PUT BASIS WEIGHT CONTROL IN "AUTO"

108.0 TURN ON DYE PUMPS

109.0 START GREEN DYE PUMP

T.F.

110.0 DO CHECKS

TASK: START UP MACHINE

SUB TASK: 11.0: START HYDRAULIC PUMPS UNIT 1

STEPS	KEYPOINT
11.1: PRESS: LUBE AND HYD. SYSTEM	-OR SELECT DISPLAY 10640
11.2: PRESS: HYDRAULIC SYSTEM	
11.3: PRESS: PUMPS 2 AND 3	-DYNATOUCH IS LABELLED INCORRECTLY. THIS SHOULD READ "MOTORS 2 AND 3"
11.4: PRESS: START PUMP #3	-NOTE THAT 1 MOTOR RUNS 2 PUMPS
11.5: OBSERVE THAT SYMBOL M3 TURNS GREEN	
11.6: OBSERVE THAT PRESSURE INDICATORS PS1 AND PS6 TURN GREEN	
11.7: IF PS1 AND/OR PS6 REMAIN RED WITH PUMPS ON, CALL LUBE TECH OR MILLWRIGHT	
11.8: IF BACK-UP MOTOR M2 STARTS, CALL LUBE TECH OR MILLWRIGHT	-THIS MOTOR SHOULD START AUTOMATICALLY 1) IF M3 FAILS OR, 2) IF THE CORRECT HYDRAULIC PRESSURE IS NOT REACHED WITH 1 MOTOR RUNNING
11.9: PRESS: PUMPS 4 AND 5	-SAME AS 11.3 -DYNATOUCH MIS-LABELLED -SHOULD READ MOTORS 4 AND 5
11.10: PRESS: SELECT PUMP #5	
11.11: PRESS: START PUMP #5	
11.12: OBSERVE THAT SYMBOL M5 TURNS GREEN	

TASK: START UP MACHINE

SUB TASK: 11.0 (CONT): START HYDRAULIC PUMPS UNIT 1

STEPS	KEYPOINT
11.13: OBSERVE THAT PRESSURE INDICATOR PS2 TURNS GREEN	
11.14: IF PS2 REMAINS RED WITH PUMP ON, CALL LUBE TECH. OR MILLWRIGHT	
11.15: SAME AS STEP 11.8 EXCEPT FOR BACK UP MOTOR M4	

TASK: START UP MACHINE

SUB TASK: 12.0: START YANKEE DRIVES

STEPS	KEYPOINT
12.1: OBSERVE ENTIRE AREA AROUND YANKEE TO ENSURE ALL CLEAR OF PEOPLE AND TOOLS AND EQUIPMENT, ETC.	-**NOTE:** YANKEE SHOULD BE IN CRAWL SPEED ALREADY (YANKEE WARM UP PROCEDURE)
12.2: PRESS: "CONTROL EQUIP ON" BUTTON	-ON CONTROL DESK 1
12.3: OBSERVE THAT READY LIGHT IS ON	-SOMETIMES INDICATOR LIGHT BULBS ARE BURNT OUT -CHECK AND REPLACE IF NECESSARY
12.4: OBSERVE THAT INTERLOCK LIGHT IS ON	-WATCH AMPS FOR MOTORS CD1 AND CD2 RISE AND THEN SETTLE DOWN WHEN CRAWL SPEED ACHIEVED
12.5: OBSERVE THAT (a) TISSUE FLEX ROLL IS "OPEN" POSITION (110mm GAP) (b) 3 DOCTORS UNLOADED	
12.6: PRESS "YANKEE CRAWL"	-OR "YANKEE JOG"
12.8: MONITOR YANKEE SPEED	

TASK: MACHINE START UP – FELT/PRESS PRE-START CHECKS

SUB TASK: 13.0: CHECK SUCTION ROLL STATUS

STEPS	KEYPOINT
13.1: CHECK SEAL STRIP LUBE SHOWER INLET HOSE IS CONNECTED CORRECTLY	
13.2: CHECK 20mm. SEAL STRIP AIR LINE IS CONNECTED	
13.3: CHECK 90mm. SEAL STRIP AIR LINE IS CONNECTED	
13.4: CHECK AIR SUPPLY VALVE TO 13.2 AND 13.3 IS OPEN	
13.5: CHECK AIR PRESSURE TO PRESSURE REGULATOR FOR 13.2 AND 13.3 IS AT >18 psi.	
13.6: CHECK AIR PRESSURE AT 13.2 AND 13.3 IS AT 10 – 20 psi. EACH	
13.7: CHECK DOCTOR STATUS	-ON "DOCTORS" SCREEN: PUT "DOCTOR SUCTION ROLL" INTO **AUTO**. THEN THE DOCTOR WILL AUTOMATICALLY LOAD WHEN THE SUCTION ROLL DRIVE STARTS.

TASK: START UP MACHINE – FELT/PRESS SECTION PRE-START CHECKS

SUB TASK: 14.0: CHECK TISSUE FLEX STATUS

STEPS	KEYPOINT
14.1: CHECK TISSUE FLEX ROLL IS IN OPEN POSITION	
14.2: CHECK LOCKING ARMS ARE IN "UNLOCK" POSITION	
14.3: CHECK T.S. HOSE IS ATTACHED	

TASK: START UP MACHINE – FELT/PRESS SECTION PRE-START CHECKS

SUB TASK: 16.0: CHECK CONTROL BOX #2 STATUS

STEPS	KEYPOINT
16.1: CHECK DUOFORMER KEY SWITCH IS IN "RUN" POSITION	
16.2: CHECK PICK UP SHOE KEY SWITCH IS IN "LOCK" POSITION	
16.3: CHECK PRESS FELT CHANGE KEY SWITCH IS IN "OPERATION" POSITION	
16.4: CHECK TISSUE FLEX D.S. HYDRAULICS IS UNLOCKED.	

TASK: START UP MACHINE

SUB TASK: 20.0: CHECK FELT/PRESS SECTION FOR CLEANLINESS

STEPS	KEYPOINT
20.1: CHECK NIPS BETWEEN FELT AND ROLLS FOR HARD STOCK BUILDUP – WASH IF NECESSARY	-HARD LUMPS OF STOCK COULD PUT A HOLE IN THE FELT
20.2: CHECK FELT ROLL SAVEALLS FOR EXCESSIVE STOCK BUILDUP AND WASH IF NECESSARY	
20.3 WASH SUCTION ROLL AND TISSUE FLEX SAVEALLS - IF NECESSARY	-DO NOT HIT YANKEE WITH WATER
20.4: WASH EDGES OF SUCTION ROLL AND TISSUE FLEX - IF NECESSARY	
20.5: WASH PAN ABOVE UHLE BOXES IF NECESSARY	

TASK: START PRESS/FELT SECTION

SUB TASK: 28.0: PREPARE TISSUE FLEX TO JOG OR CRAWL

STEPS	KEYPOINT
28.1: CHECK THAT THE SYSTEM OIL TEMPERATURE IS AT LEAST 35 DEGREES CELCIUS	-READ TEMPERATURE OF OIL IN HYDRAULIC OIL TANK ON "COOLING" PAGE
28.2: RAISE SYSTEM OIL TEMPERATURE TO AT LEAST 35 DEGREES CELCIUS	-IF BELOW 35 DEGREES CELCIUS
28.2.1: PUT PRESSURE OIL PUMP INTO MANUAL	-ON "PRESSURE" PAGE OF TISSUEFLEX CONTROL CONSOLE
28.2.2: PUSH "ON"	-NOW PUMP WILL AUTOMATICALLY CIRCULATE OIL THROUGH THE WARM UP VALVE BACK TO THE TANK UNTIL OIL TEMP >35 DEG.
28.2.3:PUSH "OFF"	-WHEN OIL TEMPERATURE IS >35 DEG.
28.3: PUMP COOLING OIL AT MAXIMUM FLOW INTO SLEEVE FOR 30 SECONDS.	-AFTER A SLEEVE CHANGE OR A LONG SHUTDOWN
28.3.1: PUT COOLING OIL PUMP 1 OR 2 INTO AUTO	
28.3.2: PUSH "START"	-ON "FILL UP" BOX ON COOLING SCREEN -PUSH "START" ONCE TO GET 30sec FLOW -PUSH "START" AGAIN TO GET ANOTHER 30sec FLOW -DO THIS UNTIL "FILL UP FINISHED" LIGHT IS ON. 2 OR 3 TIMES IS USUALLY ENOUGH.
28.4: PUT BLOWER 1 OR 2 INTO "AUTO"	-ON "BLOWER" PAGE ON TISSUE FLEX CONTROL CONSOLE.
28.5: PUT PRESSURE OIL PUMP 1 OR 2 INTO "AUTO"	- ON "PRESSURE" PAGE ON TISSUE FLEX CONTROL CONSOLE

28.6: PUT COOLING-OIL PUMP 1 OR 2 INTO "AUTO"	-ON "COOLING" PAGE ON TISSUE FLEX CONTROL CONSOLE
28.7: PRESS GROUP START "ON" ICON	-ON "MAIN" PAGE ON TISSUE FLEX CONTROL CONSOLE
28.8: CHECK THAT BLOWER, COOLING OIL PUMP AND PRESSURE OIL PUMP ARE ON.	-THE BLOWER WILL GENERATE A VACUUM THAT DRAWS THE COOLING OIL THROUGH THE SYPHON INTO THE HYDRAULIC TANK. -THE BLOWER GENERATES A GAUGE PRESSURE OF .05 TO .08 BAR IN THE PRESS SLEEVE.
28.9: CHECK THE FOLLOWING VALUES AND CONDITIONS:	
28.9.1 SHOE PRESSURE (LINE FORCE) = 0 BAR	
28.9.2 PRESS SLEEVE INTERNAL PRESSURE (AIR) IS A MINIMUM OF .04 BAR	
28.9.3 VACUUM = 0 BAR	-BECAUSE THERE IS NO FLOW OF COOLING OIL YET TO SEAL THE SYPHON
28.9.4 COOLING/LUBE SYSTEM OFF	-CRAWL/COOLING VALVE NOT OPEN YET -DOES NOT OPEN UNTIL SPEED IS ≥ 15M/MIN
28.9.5 HYDROSTATIC OIL OFF	
28.9.6 HYDRAULIC UNIT READY	
28.9.7 TANK TEMPERATURE ≥ 35° C	
28.9.8 TISSUE FLEX READY FOR OPERATION	

28.9.9 SLEEVE BLOWER UNIT READY.

28.10 IF ANY OF THESE CONDITIONS ARE NOT MET, THEN MAKE CORRECTIONS.

28.11 IF CORRECTIONS CANNOT BE MADE: GROUP START "OFF"

TASK: START MACHINE - START PRESS/FELT SECTON

SUB TASK: 29.0: JOG FELT

STEPS	KEYPOINT
29.1: DOUBLE CHECK THAT NO ONE IS WORKING AROUND THE FELT/PRESS SECTION	-SAFETY ACTION
29.2: PLACE A TRAINED OBSERVER AT THE FELT GUIDE PALM TO CHECK FOR: 1) CORRECT GUIDING ACTION 2) SQUARE TRADE LINE ON FELT 3) ANY WRINKLES OR CREASES IN FELT 4) ANY HOLES OR RIPS IN FELT 5) ANY OTHER UNUSUAL CONDITIONS OF FELT	-BE SURE YOUR OBSERVER IS COMPETENT -GO OVER CORRECT HAND SIGNALS FOR: 1) EMERGENCY STOP 2) PUTTING FELT IN CRAWL
29.3: PRESS: "CONTROL EQUIP ON" BUTTON	-THIS BUTTON MUST LIGHT UP BEFORE PRESS DRIVE MOTORS CAN RUN
29.4: OBSERVE THAT PRESS DRIVES "READY" LIGHT AND "INTERLOCK" LIGHT COME ON	-IF STEPS 29.3 AND/OR 29.4 ARE NOT SATISFIED, CHECK THAT: 1) ALL INTERLOCKS ARE SATISFIED (SEE INTERLOCK SECTION 2) ANY CABINETS IN THYRISTOR ROOM NEED RE-SETTING (SEE SUB TASK) 3) ANY E-STOPS ARE PUSHED IN
29.5: JOG FELT BY PUSHING AND HOLDING PRESS DRIVE "JOG BUTTON" IN.	- THE SUCTION ROLL AND ROLL #15 DRIVES WILL RUN AT JOG SPEED (55 mpm) - COOLING OIL FLOW RISES
29.6: CLOSELY WATCH YOUR OBSERVER FOR ANY HAND SIGNALS	

TASK: START PRESS/FELT SECTION

SUB TASK: 29.0 (CONT.): JOG FELT

STEPS	KEYPOINT
29.7: OBSERVE THAT PRESS DRIVES ARE TURNING THE FELT AND THE TISSUE FLEX SLEEVE WHEN YOU PRESS "JOG"	-IF ROLLS 12 AND 15 TURN BUT FELT DOES NOT, APPLY MORE TENSION TO FELT -IF SLEEVE DOES NOT TURN, FIND OUT WHY. DO NOT JOG AGAIN UNTIL PROBLEM SOLVED

TASK: START MACHINE - START PRESS/FELT SECTION

SUB TASK: 30.0: PUT FELT/YANKEE IN CRAWL

STEPS	KEYPOINT
30.1: WHEN OBSERVER GIVES THE O.K. SIGNAL, PUSH PRESS DRIVE "CRAWL" BUTTON	-USUALLY AFTER 3 OR 4 REVOLUTIONS OF FELT IN JOG SPEED
30.2: VISUALLY CHECK THAT THE SLEEVE IS TURNING	
30.3: IF THE SLEEVE IS NOT TURNING	
30.3.1: STOP PRESS DRIVES	
30.3.2; GROUP START "OFF"	-WHEN FELT/PRESS COMPLETELY STOPPED
30.4: CHECK TISSUE FLEX STATUS	1.HYDROSTATIC OIL FLOW STARTS AFTER V $\geq$ 15M/MIN 2.COOLING OIL FLOW RISES 3.SLEEVE TURNS AT CRAWL SPEED. 4.SLEEVE IS SUPPLIED WITH MINIMUM COOLING OIL FLOW RATE.FLOW SHOULD BE GREATER THAN 6 L/MIN 30 SECONDS AFTER CRAWL SPEED REACHED. IF NOT, ADJUST FLOW.
30.5: IF COOLING OIL FLOW IS < 6 L/min CALL MAINTENANCE TO ADJUST.	
30.6: IF AFTER 30sec OF SPEED >15M/min THE COOLING OIL FLOW IS STILL < 6L/min, PRESS DRIVES WILL AUTO STOP.	
30.7: IF DRIVES AUTO STOP, STOP TISSUE FLEX GROUP START.	
30.8: CHECK THE SPEED OF THE PRESS	-SEE SUB TASK 71.0 -CRAWL SPEED IS 55 mpm.
30.9: RELIEVE OBSERVER	
30.10: WALK AROUND THE FELT/PRESS/YANKEE SECTION AND CHECK: 1) GUIDING	-IF MISGUIDING, SEE SUB TASK # ___ -IF NOT, SEE SUB TASK #33

2) TRADE LINE SQUARE 3) POSITION OF FELT ON ROLLS 4) WRINKLES, CREASES IN FELT 5) LUBE OIL OR HYDRAULIC OIL LEAKS	-FELT SHOULD BE EQUAL DISTANCE BETWEEN TENDING AND DRIVE SIDE EDGES OF ROLLS -IF NOT, SEE SUB TASK #32
30.11: CHECK TENSION OF FELT (MINIMUM 18 pli.) (RECOMMENDED RUNNING TENSION IS 20 – 21 pli.)	-THE FELT WILL STRETCH AS IT GETS WETTER -NEW OR VERY DRY FELTS SHOULD BE MONITORED FREQUENTLY DURING THIS PERIOD

TASK: START PRESS/FELT SECTON

SUB TASK: 31.0: CHECK YANKEE/PRESS SPEED

STEPS	KEYPOINT
31.1: FOLLOW SUB TASK 71.0 EXCEPT CHANGE STEP 71.3 TO PRESS: CD 1 BUTTON UNTIL LIT	-CD1 IS CREPING DRYER 1 -WHEN YANKEE DRIVES AND PRESS DRIVES ARE SPEED MATCHED, THEY ALWAYS ARE AT THE SAME SPEED -THUS CD 1 SPEED, CD 2 SPEED, SUCTION ROLL SPEED, AND ROLL 15 SPEED ARE EQUAL

TASK: START MACHINE – LOAD PRESSES

SUB TASK: 80.0: PUT TISSUE FLEX ROLL INTO CLOSE POSITION

STEPS	KEYPOINT
80.1: PUSH "CLOSE"	-ON TISSUE FLEX CONTROL CONSOLE
80.2: VISUALLY CHECK THAT ROLL MOVEMENT ARMS HAVE MOVED AND THEN STOPPED	
80.3: PUSH "LOCK"	- ON TISSUE FLEX CONTROL CONSOLE
80.4: VISUALLY CHECK THAT LOCKING ARMS HAVE MOVED INTO LOCK POSITION	

TASK: START MACHINE – PUT YANKEE/PRESS DRIVES TO RUN SPEED

SUB TASK: 81.0: GO TO RUN SPEED

STEPS	KEYPOINT
81.1: CHECK VACUUM PUMPS RUNNING	
81.2: GO TO CONTROL DESK #1	-THESE DRIVES WILL GO TO THE CURRENT SPEED REFERENCE VALUE (SEE SUB TASK 66.0)
81.3: PRESS: PRESS DRIVE RUN BUTTON UNTIL LIT	
81.4: PRESS: PRESS YANKEE RUN BUTTON UNTIL LIT	
81.5: MONITOR YANKEE/PRESS DRIVE SPEEDS	
81.6: MONITOR BOTH YANKEE DRIVE AMMETERS AND BOTH PRESS DRIVE AMMETERS AS DRIVES SPEED UP	
81.7: GO TO FELT GUIDE ROLL AND CHECK FELT GUIDING AT LEAST ONCE DURING SPEED UP	

TASK: START MACHINE

SUB TASK: 82.0: FINISH TISSUE FLEX START UP

STEPS	KEYPOINT
82.1: CHECK THAT HYDROSTATIC PRESSURE SHOE LUBRICATION HAS TURNED ON	-ON "PRESSURE" SCREEN ON TISSUE FLEX CONSOLE, OBSERVE THAT HYDROSTATIC OIL FLOW VALVE HAS OPENED AUTOMATICALLY. - 180 SECONDS AFTER HYDROSTATIC OIL FLOW STARTS, ITS FLOW MUST BE >90 L/MIN. IF NOT , PRESS DRIVES STOP AUTOMATICALLY
82.2: STOP TISSUE FLEX GROUP START	-IF PRESS DRIVES STOP
82.3: SET OPERATING LINEAR LOAD (LINE FORCE) TO 90KN/m.	-OPERATOR WILL ADJUST THE OPERATION RANGE BETWEEN 50 KN/M AND 90 KN/M AND THE PRESSURE (IN BARS) WILL BE AUTOMATICALLY CONVERTED. - THIS STEP CAN BE DONE BEFORE OR AFTER LOADING THE SHOE.
82.4: CHECK THAT ; 1. PRESS DRIVE RUN SPEED REACHED 2. YANKEE DRIVE RUN SPEED REACHED 3. SPEED MATCH OK.	
82.5: LOAD PRESSURE SHOE	-PRESS "LOAD" ON MAIN SCREEN ON TISSUE FLEX CONTROL CONSOLE
82.6: OBSERVE THAT SHOE HAS PUSHED SLEEVE AND FELT ONTO THE YANKEE	

82.7: CHECK THAT COOLING OIL SUPPLY HAS TURNED ON	-ON "COOLING" SCREEN, OBSERVE THAT COOLING OIL FLOW CONTROL VALVE HAS OPENED -120 SECONDS AFTER COOLING OIL FLOW TURNS ON THAT FLOW MUST BE >125 L/MIN. IF NOT, PRESS DRIVES AUTO STOP.
82.8: STOP TISSUE FLEX GROUP START	-IF PRESS DRIVES STOP
82.9: CHECK THAT INTERNAL SLEEVE PRESSURE IS >.01 BAR.	-30 SECONDS AFTER LOADING SHOE THE INTERNAL SLEEVE PRESSURE MUST BE >.01 BAR. IF NOT, PRESS DRIVES WILL AUTO STOP.
82.10: STOP TISSUE FLEX GROUP START.	-IF PRESS DRIVES STOP
82.11: CHECK THAT INTERNAL SLEEVE PRESSURE HAS REDUCED TO .035 BAR	-ON "BLOWER" SCREEN
82.12: CHECK THAT 30 SECONDS AFTER LOADING SHOE THE COOLING OIL (PRESSURE PUMP) TURNS OFF	
82.13: CHECK THAT LINE FORCE IS BETWEEN 40 AND 90 KN/M IF 82.13 IS NOT SATISFIED, GO TO 82.14	-PRESSURE SHOULD BE >30 KN/M 30 SECONDS AFTER LOADING SHOE
82.14: CHECK HYDRAULIC SYSTEM AND INTERLOCKS	
82.15: DOUBLE CHECK LINEAR LOAD AND INTERNAL SLEEVE PRESSURE	-TISSUE FLEX PRESS IS NOW IS OPERATION

TASK: START MACHINE

SUB TASK: 110.0: DO CHECKS

STEPS	KEYPOINT
110.1: CHECK ALL MACHINE MEASUREX SCREENS	1) ALL EQUIPMENT RUNNING 2) TANK LEVELS 3) FLOW VALUES
110.2: DO A THOROUGH FIELD CHECK	4) CONSISTENCY VALUES 5) WEIGHT AND MOISTURE VALUES -SEE FIELD CHECKS TASK ANALYSIS
110.3: CHECK ALL TISSUE FLEX CONTROL CONSOLE SCREENS	

SHUT DOWN MACHINE

TF 1.0: RECORD START UP DATA

TF 2.0: TAKE SHEET OF MACHINE

3.0: ADJUST YANKEE STEAM PRESSURE

4.0: STOP BROKE LOOP

5.0: STOP DISC FILTER LOOP

6.0: STOP DUOFORMER

TF 7.0: STOP PRESS/FELT SECTION

8.0: STOP VACUUM SYSTEM

9.0: STOP KROFTA 3 LOOP

10.0: STOP APPROACH FLOW LOOP

11.0: STOP BURNER FANS

12.0: STOP REEL SECTION

13.0: SLACKEN FELT

14.0: CLOSE FELT SHOWER HANDVALVES

15.0: STOP HYDRAULIC UNIT #1 PUMPS

TASK: SHUT DOWN MACHINE

SUB TASK: 1.0: RECORD START UP DATA

STEPS	KEYPOINT
1.1: RECORD THE FOLLOWING DATA FOR THE NEXT START UP 1) MACHINE SPEED 2) BASIS WEIGHT 3) STOCK FLOW 4) BASIS WEIGHT VALVE P.O. 5) NIC0223 P.V. AND P.O. 6) NIC0015 P.V. AND P.O. 7) JET/WIRE RATIO 8) STEAM PRESSURE (PIC0303) 9) WET END BURNER TEMPERATURE AND H.I.C. OPENING 10) DRY END BURNER TEMPERATURE AND H.I.C. OPENING 11) CREPE RATIO 12) LEUCOPHOR PUMP ON 13) GREEN DYE PUMP ON 14) VIOLET DYE PUMP ON 15) OTHER CHEMICAL PUMPS RUNNING 16) GRADE ON PRODUCTION 17) LINE FORCE VALUE 18) TISSUE FLEX EDGE ZONE SETTINGS	-LEAVE THIS DATA AVAILABLE FOR THE NEXT SHIFT IF YOU ARE NOT GOING TO START UP THE TISSUE MACHINE

TASK: SHUT DOWN MACHINE

SUB TASK: 2.0: TAKE SHEET OFF THE MACHINE

STEPS	KEYPOINT
2.1: INFORM STOCK PREP OF INTENTION TO STOP PUMP 36	-IF THEY ARE NOT INFORMED THEY MIGHT OVERFLOW TANK 15
2.2: INFORM MACHINE CREW OF INTENTION TO SHUT DOWN	
2.3: ASK BACKTENDER TO GET INTO POSITION TO SHUT DOWN	
2.4: STOP LEUCOPHOR PUMP (IF RUNNING)	-PULL OUT PLUG TO STOP THIS PUMP
2.5: STOP: PUMP 36	-SEE: MACHINE START UP PROCEDURE FOR DETAILED DIRECTIONS ON STOPPING EQUIPMENT, CHANGING SET POINTS, ETC.
2.6: STOP: O.S.D.M. REFINER	
2.7: WATCH FOR BACKTENDER TO LIFT PICK UP SHOE	-SHEET WILL DISAPPEAR FROM YANKEE
2.8: STOP: FAN PUMP	-WET END AND DRY END HOODS WILL AUTOMATICALLY OPEN
2.9: UNLOAD PRESSURE SHOE	-PRESS "UNLOAD" ICON ON TISSUE FLEX CONTROL CONSOLE -VISUALLY CHECK THAT SHOE RETRACTS FELT AND SLEEVE FROM YANKEE.
2.10: CLOSE: HIC0322 TO 25%	-WATCH THAT W/E AND D/E RECIRC. AMPS DROP TO <180
2.11: CLOSE: HIC0323 TO 25%	
2.12: STOP: VIBRATING SCREEN	
2.13: CHECK THAT COOLING OIL FLOW (COOLING OIL PUMP) HAS SHUT OFF	

2.14: CHECK THAT COOLING OIL FLOW (PRESSURE OIL PUMP) HAS TURNED ON 2.15: CHECK THAT INTERNAL SLEEVE PRESSURE HAS INCREASED TO .07 BAR	- 2.13,2.14,AND2.15 SHOULD HAPPEN AUTOMATICALLY WHEN SHOE IS UNLOADED (I.E. LINE FORCE = 0)

TASK: SHUT DOWN MACHINE

SUB TASK: 7.0: STOP PRESS/FELT SECTION

STEPS	KEYPOINT
7.1: WASH: 1) FELT ROLLS 2) SAVEALLS 3) SHOWER BOOMS 4) FRAME	
7.2: STOP: PUMP 50	
7.3: CLOSE: PUMP 50 SUPPLY VALVE	
7.4: PRESS: "PRESS DRIVE STOP" BUTTON AT CONTROL DESK 1	-THIS WILL STOP PRESS DRIVE MOTORS. - IF THE PRESSURE SHOE IS STILL LOADED THIS ACTION WILL AUTOMATICALLY UNLOAD THE SHOE
7.5: CHECK THAT HYDROSTATIC OIL FLOW SHUTS OFF	-THIS WILL HAPPEN AUTOMATICALLY WHEN THE PRESS DRIVE SPEED FALLS BELOW RUN SPEED.
7.6: CHECK THAT COOLING OIL FLOW (PRESSURE PUMP) = O L/MIN.	- THIS WILL HAPPEN AUTOMATICALLY WHEN THE PRESS DRIVE SPEED FALLS BELOW CRAWL SPEED.
7.7: VISUALLY CHECK THAT PRESS/FELT HAS COME TO A COMPLETE STOP.	
7.8: PRESS: "TISSUE FLEX PRESS SYSTEM" GROUP START "OFF" ICON	
7.9: CHECK THE FOLLOWING VALUES AND CONDITIONS: 7.9.1: COOLING OIL PUMP OFF 7.9.2: PRESSURE OIL PUMP OFF 7.9.3: BLOWER OFF 7.9.4: SHOE PRESSURE = 0 7.9.5: PRESS SLEEVE	- INTERNAL PRESSURE = 0

7.10: OPEN TISSUE FLEX PRESS	-TO THE 110mm GAP -ALWAYS DO THIS IF PRESS SECTION IS STOPPED OR TO BE PUT IN "CRAWL" -THIS WILL PREVENT THERMAL DAMAGE TO THE FELT AND PRESS SLEEVE
7.10.1: PRESS: "UNLOCK" ICON	-ON "MOVING" SCREEN OF TISSUE FLEX CONTROL CONSOLE -THEN LOCKING ARM CYLINDERS WILL RETRACT TO UNLOCK THE TISSUE FLEX ROLL.
7.10.2: VISUALLY CHECK THAT LOCKING ARMS HAVE MOVED OUT OF THE WAY	
7.10.3: PRESS: "OPEN"	-ON "MOVING" SCREEN OF TISSUE FLEX CONTROL CONSOLE
7.10.4: VISUALLY CHECK THAT TISSUE FLEX ROLL HAS MOVED TO "OPEN" POSITION (110mm GAP)	-ROLL MOVEMENT ARM CYLINDERS EXTEND TO OPEN THE ROLL
7.11: STOP WET AND DRY END BURNERS.	
7.12: STOP: PUMP 48	-WHEN FELT IS FULLY STOPPED
7.13: PUT YANKEE INTO CRAWL SPEED	
7.14: STOP: SHOWER 23 OSCILLATOR	
7.15: UNLOAD TISSUEFLEX DOCTOR	

TISSUE FLEX ARM CONTROL MOVEMENT

PRESS OPEN

THE EQUIPMENT SHOULD BE MOVED INTO THIS POSITION WHEN THE MACHINE IS SHUT DOWN, PARTICULARLY WHEN THE CYLINDER IS HOT (ALSO FOR FELT AND SLEEVE CHANGE).

1. TO BE IN THIS POSITION THE PRESS HYDRAULIC CYLINDERS WOULD BE FULLY EXTENDED AND THE PRESS LEVERS WOULD BE LOWERED BY 10 DEGREES COMPARED TO THE CLOSED POSITION.

2. THE HYDRAULIC LOCKING CYLINDERS ARE FULLY EXTENDED AND THIS WOULD MOVE THE LOCKING LEVER INTO THE OPEN POSITION.

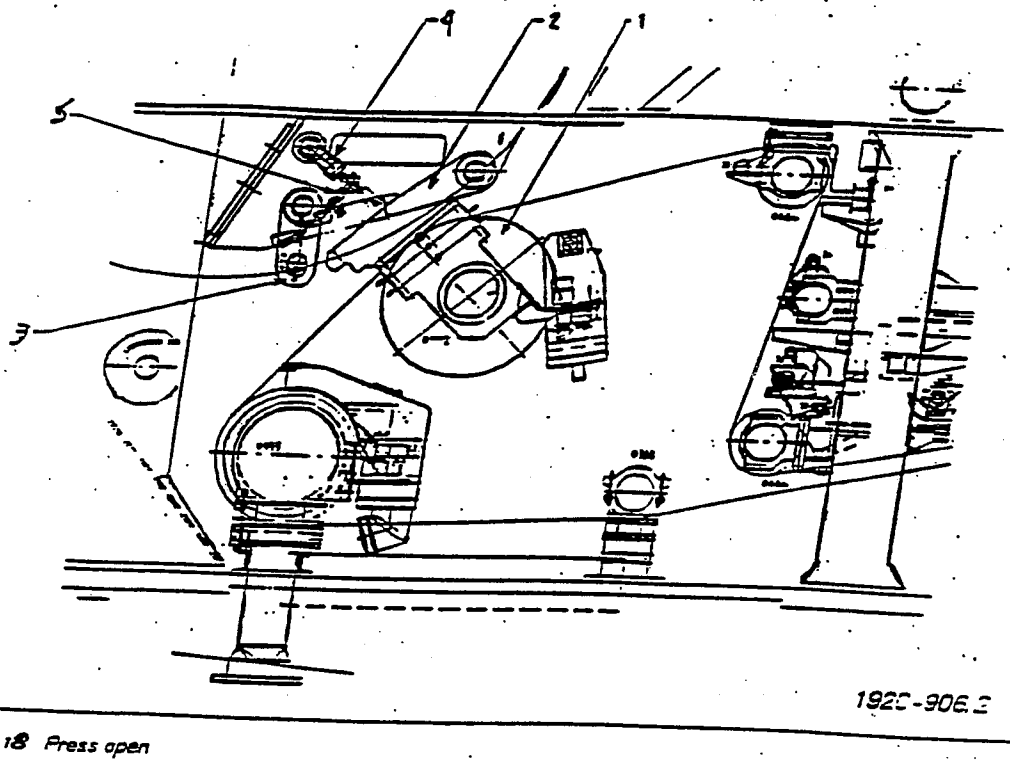


Fig. 7 - 18 Press open

1 TissueFlex roll
2 Press lever
3 Locking levers
4 Press hydraulic cylinders
5 Locking hydraulic cylinders

PRESS CLOSED

THIS POSITION IS USED ONLY WHEN THE MACHINE IS RUNNING (FELT IN CRAWL SPEED). THE GAP NOW IS AT APPROXIMATELY 10mm AND WITH THE FELT IN CRAWL IT WILL PREVENT THE SHELL (SLEEVE) FROM OVERHEATING AND THE FELT FROM DRYING OUT.

1. THE ROLL MOVEMENT ARMS ARE MOVED IN BY MEANS OF THE PRESS HYDRAULIC CYLINDERS UNTIL THE LEVER ARMS REACH THERE STOPS.

2. THE LOCKING ARMS ARE MOVED IN BY MEANS OF THE LOCKING HYDRAULIC CYLINDERS.

3. THE PRESS HYDRAULIC CYLINDERS THEN PRESSURIZE AND THE ROLL MOVEMENT ARMS MOVE DOWN AND REST ON THE LOCKING ARM. THEREFORE THE TISSUE FLEX PRESS IS IN THE CLOSED POSITION AND MECHANICALLY.

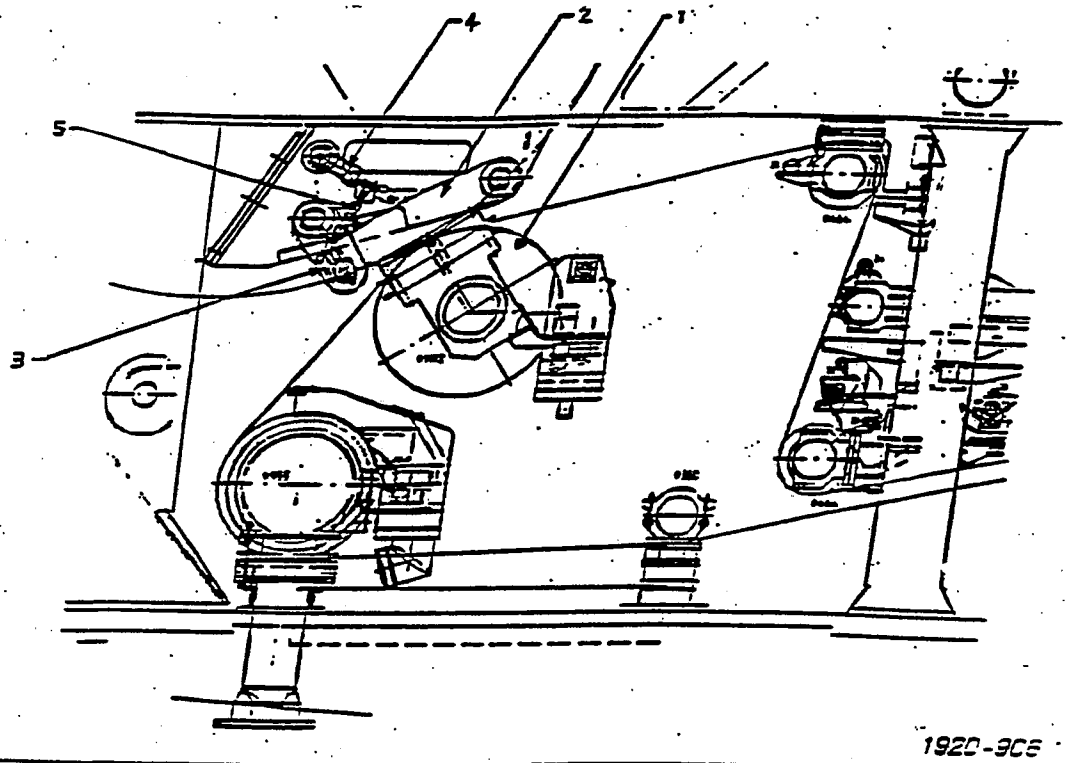


Fig. 7-19 Press - operating position

1 TissueFlex roll
2 Press lever
3 Locking levers
4 Press hydraulic cylinders
5 Locking hydraulic cylinders

CHANGING TISSUE FLEX PRESS SLEEVE

PREPARATION FOR SLEEVE CHANGE

1. TISSUE FLEX PRESS IS OPEN AND SHUT DOWN AND DRIVE ROLLS ARE LOCKED OUT! (ROLL #12, #15, AND YANKEE DRIVES)

2. PRESS FELT IS REMOVED FROM TISSUE FLEX ROLL AND SUCTION ROLL.

3. MAINTENANCE HAS REMOVED THE SAVEALL FROM THE TISSUE FLEX ROLL.

4. MAKE SURE THE NEW PRESS SLEEVE HAS BEEN MOUNTED ON THE THREADING DEVICE AT LEAST 24 HOURS PRIOR TO THE CHANGE.

MOUNTING A NEW PRESS SLEEVE ON THE THREADING DEVICE

1. PLACE THE THREADING DEVICE ALONGSIDE THE MACHINE THEN PLACE THE NEW SLEEVE CRATE IN FRONT OF THE THREADING DEVICE.

2. CHECK THE GUIDES OF THE THREADING DEVICE TO MAKE SURE THEY ARE SMOOTH WITH NO SHARP EDGES. IF SO ROUND THEM OFF.

3. MAKE SURE GUIDES ARE CLEAN. USE A DRY, CLEAN CLOTH (NO SOLVENTS).

4. OPEN SLEEVE CRATE AND LIFT THE NEW PRESS SLEEVE OUT OF THE TRANSPORT CASE USING THE CRANE AND ATTACHMENT TUBE WITH THE INTERAL POLE. (**NOTE:** PAY CLOSE ATTENTION BETWEEN THE POLE AND ATTACHMENT TUBE SO THERE IS NO CLAMPING ON THE PRESS SLEEVE).

5. OPEN THE PRESS SLEEVE AND GUIDE IT ONTO THE THREADING DEVICE USING THE CRANE.

6. ONCE THE SLEEVE IS IN PLACE, DISCONNECT THE INTERNAL POLE FROM THE ATTACHMENT TUBE AND MOVE THE ATTACHMENT TUBE AWAY WITH THE CRANE.

7. PULL THE INTERNAL POLE OUT.

8. WRAP THE PRESS SLEEVE TO PROTECT IT FROM DUST.

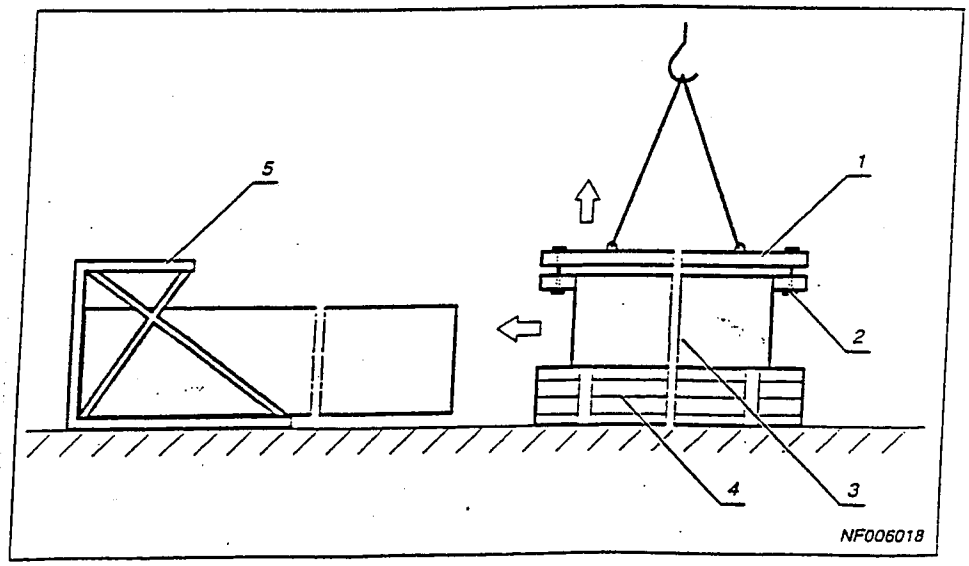


Fig. 6 - 3 Unpacking the press sleeve and allowing it to hang out

1 Attachment tube for press sleeve
2 Pole
3 Press sleeve
4 Transport case
5 Threading device

REMOVING WORN PRESS SLEEVE

1. REMOVE RESIDUAL OIL INSIDE THE TISSUE FLEX ROLL USING INTERNAL EXHAUST AND BLOWER.

2. POSITION THE SLEEVE IN MID-POSITION BY MEANS OF THE CENTRAL ADJUSTING UNIT ON THE FRONT SIDE OF THE JOURNAL. THERE IS A SCALE LOCATED ON THE FRONT AND DRIVE SIDE OF THE TISSUE FLEX ROLL.

3. LOCK THE DRIVE SIDE-CLAMPING DISK WITH TWO STUD BOLTS.

4. TO RELIEVE THE PRESSURE ON THE SLEEVE, ADJUST THE CENTRAL ADJUSTING UNIT (LOCATED ON THE FRONTSIDE) APPROX. 30mm (1.2") TO MOVE THE FRONT SIDE CLAMPING DISK TOWARDS THE DRIVE SIDE.

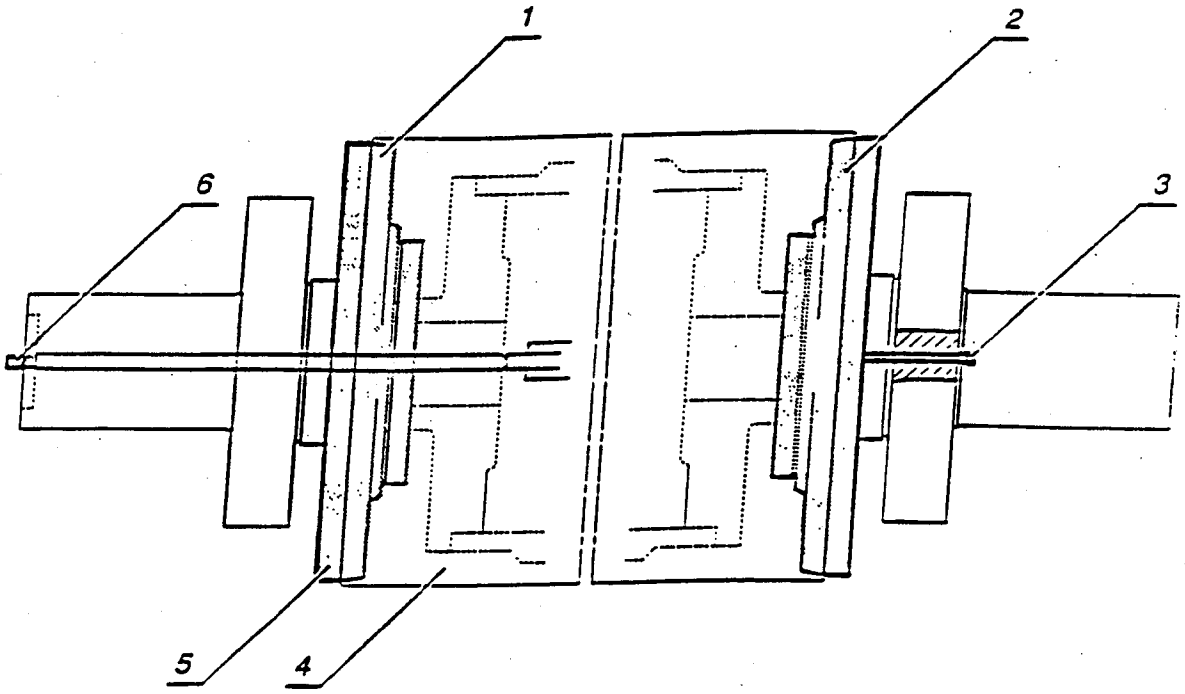


Fig. 6 - 4 Relieving press sleeve

1 Clamping disk on front side
2 Clamping disk on drive side
3 Stud bolt
4 Press sleeve
5 Clamping ring segment
6 Central adjusting unit

** **CAUTION:** OIL ESCAPING FROM THE PRESS SLEEVE CAN CONTAMINATE THE TISSUE MACHINE AND PROCESS. **

5. COVER AREAS OF THE MACHINE UNDER THE TISSUE FLEX ROLL WITH OLD PIECES OF FELT. TO CONTAIN ANY OIL ESCAPING AND TO GIVE TRACTION FOR WALKING.

6. ONE IDEA IS TO MAKE A SMALL CUT AT THE BOTTOM OF THE SLEEVE, AND USING A BUCKET TO CATCH ANY OIL STILL REMAINING IN THE SLEEVE.

7. CUT THE SLEEVE INTO 3 EQUAL-SIZE SEGMENTS LEAVING ABOUT 2"-3" AT BOTH ENDS. (D/S & F/S)

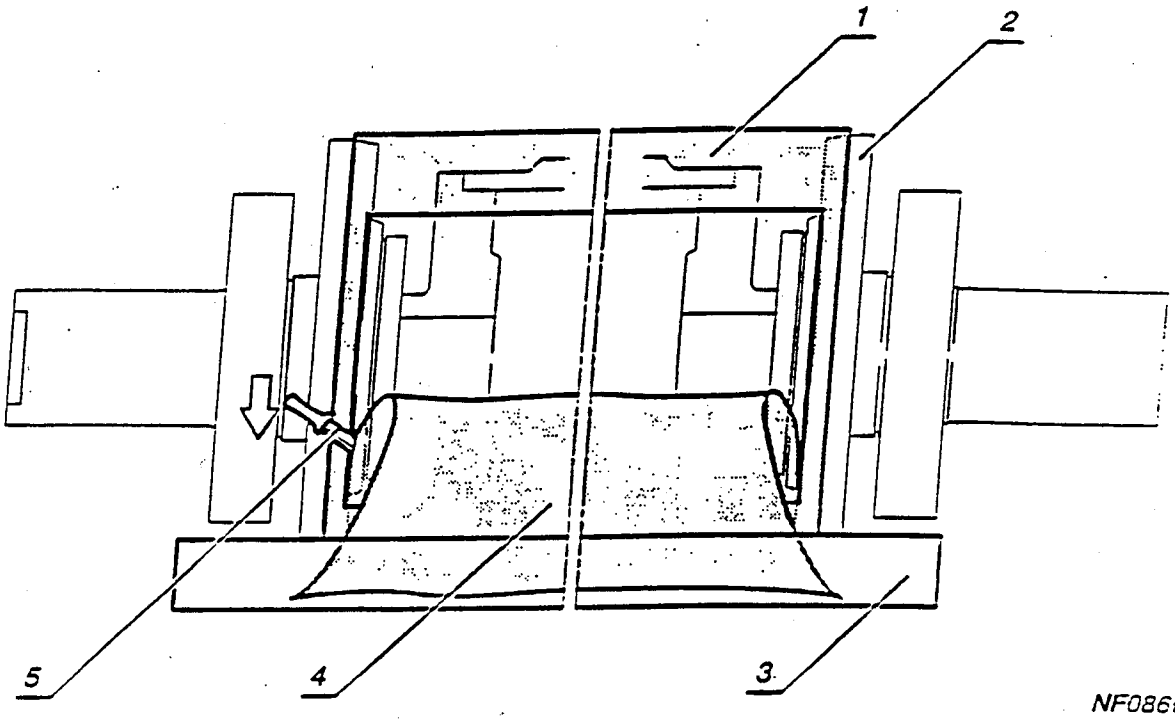


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Fig. 6 - 5 Cutting out press sleeve

1 *Press sleeve*
2 *Clamping disk*
3 *Pan*
4 *Press sleeve segment*
5 *Knife*

8. DISMOUNT CLAMPING RING SEGMENTS ON THE FRONT AND DRIVE SIDES WITH THE PNEUMATIC WRENCH AND REMOVE REMAINDER OF THE PRESS SLEEVE AND TABS.

   ** **NOTE:** PNEUMATIC WRENCH SUPPLIED MUST BE USED FOR CLAMP RING BOLTS ONLY. **NOTHING ELSE!!** **

9. ROLL UP THE CUT OUT SEGMENTS AND THE OLD FELT (TIE THIS UP WITH ROPES AND DISPOSE OF IT USING THE CRANE).

10. NOW MANINTENANCE MUST COME IN TO DO THEIR CHECKS.

MAINTENANCE ON A PRESS SLEEVE CHANGE

PARTS	ACTIVITY
1.0 SEALS ON CLAMPING DISKS	-CHECK FOR OIL LOSS
2.0 BELLOWS BETWEEN BEARING SUPPORT AND CLAMPING DISK.	-CHECK FOR OIL LOSS
3.0 V-RINGS AT THE BEARING SUPPORTS	-CHECK FOR DAMAGE
4.0 PRESSURE SHOE	-CHECK FOR DAMAGE
5.0 ROUND SECTION JOINT RING BETWEEN SUPPORTING BODY/SLEEVE	-CHECK FOR OIL LOSS
6.0 INTERNAL HOSE LINES	-VISUAL CHECK
7.0 INTERNAL BOLTED/SCREWED CONNECTIONS	-VISUAL CHECK
8.0 ALL COMPONENTS	-CHECK FOR CORROSION

INSTALLING NEW PRESS SLEEVE

1. BEFORE THE THREADING DEVICE IS MOVE INTO PLACE, CAUTION TAPE OFF THE AREA IN FRONT OF THE TISSUE FLEX PRESS.

   ** **NOTE** ** ONCE THE THREADING DEVICE IS MOVED BY THE CRANE, THE OPERATOR MUST STAY WITH THE CRANE CONTROLS UNTIL THE THREADING DEVICE IS REMOVED.

2. REMOVE THE CLAMPING RINGS FRONT AND BACK SIDE USING THE PNEUMATIC WRENCH.

3. MOVE THE THREADING DEVICE INTO POSITION SO THAT IT CAN SLIDE ONTO THE BEARING SUPPORT AND UP TO THE STOP.

4. LIFT THE THREADING DEVICE APPROX. 1" AND TAKE THE WEIGHT OF THE TISSUE FLEX ROLL FRONT SIDE.

5. UNSCREW THE HEX BOLTS AT THE BEARING SUPPORT FRONT SIDE AND REMOVE INTERMEDIATE BLOCK. TO GIVE A CLEAR OPENING TO ALLOW THE SLEEVE TO GO ON.

6. FASTEN FOUR VISE-GRIP WRENCHES WITH ROPES ATTACHED AT 2,5,8 AND 11 O'CLOCK TO THE PRESS SLEEVE. (CLAMPS WILL BE MADE).

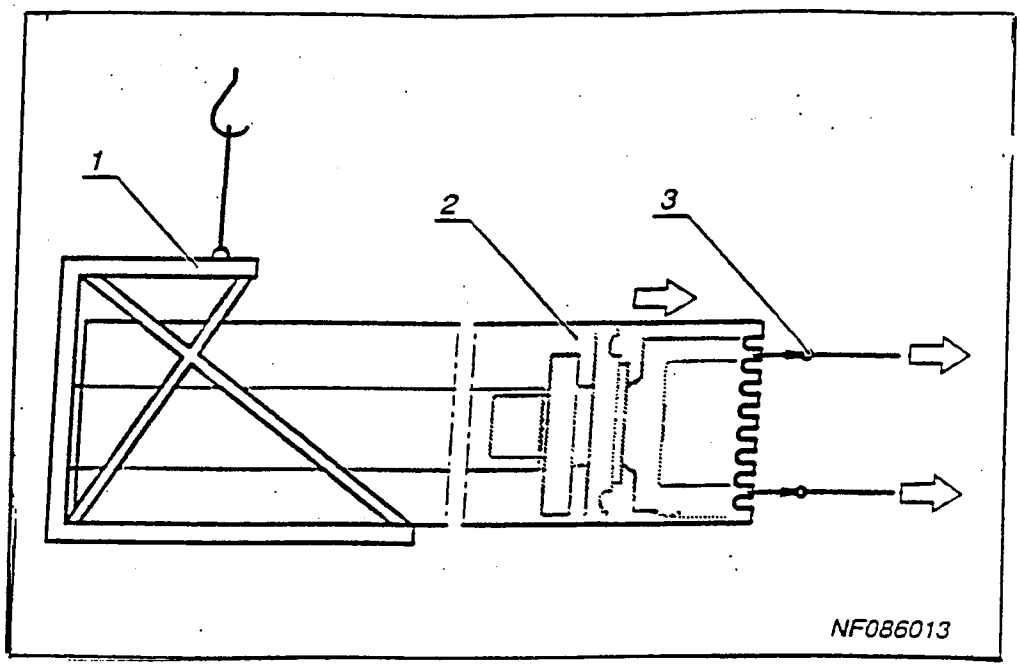


Fig. 6 - 11 Threading press sleeve

1 Threading device
2 Press sleeve
3 Vise-grip wrench

7. PULL PRESS SLEEVE FROM THE FRONT OF THE ROLL TO THE DRIVE SIDE UNTIL THE TABS ON THE SLEEVE ARE EVEN FRONT AND BACK.

8. RE-INSTALL INTERMEDIATE BLOCK "I" AND BOLT BEARING SUPPORT TO THE SWIVEL UNIT BY MEANS OF THE HEX BOLTS.

9. LOWER THE THREADING DEVICE APPROX 1". THEN REMOVE THE THREADING DEVICE. THE TISSUE FLEX ROLL WILL HANG ON ITS OWN.

FASTENING THE PRESS SLEEVE

1. YOU CAN MOVE THE FRONT CLAMPING DISK BY MEANS OF THE CENTRAL ADJUSTING UNIT (BOLT), AND THE REAR CLAMPING DISK BY THE STUD BOLTS (THIS IS FOR CENTERING THE TABS ON THE SLEEVE WHICH YOU HAVE TO INSTALL ON THE DRIVE SIDE).

2. NOW WITH SOMEONE AT THE FRONT AND BACK SIDE EACH USING A TAB LEVER AND WORKING ON THE SAME TAB, APPLY PRESSURE ACROSS THE SLEEVE. WORKING AT THE TOP OF THE ROLL YOU WILL HAVE LESS SLACK TO MOVE AROUND.

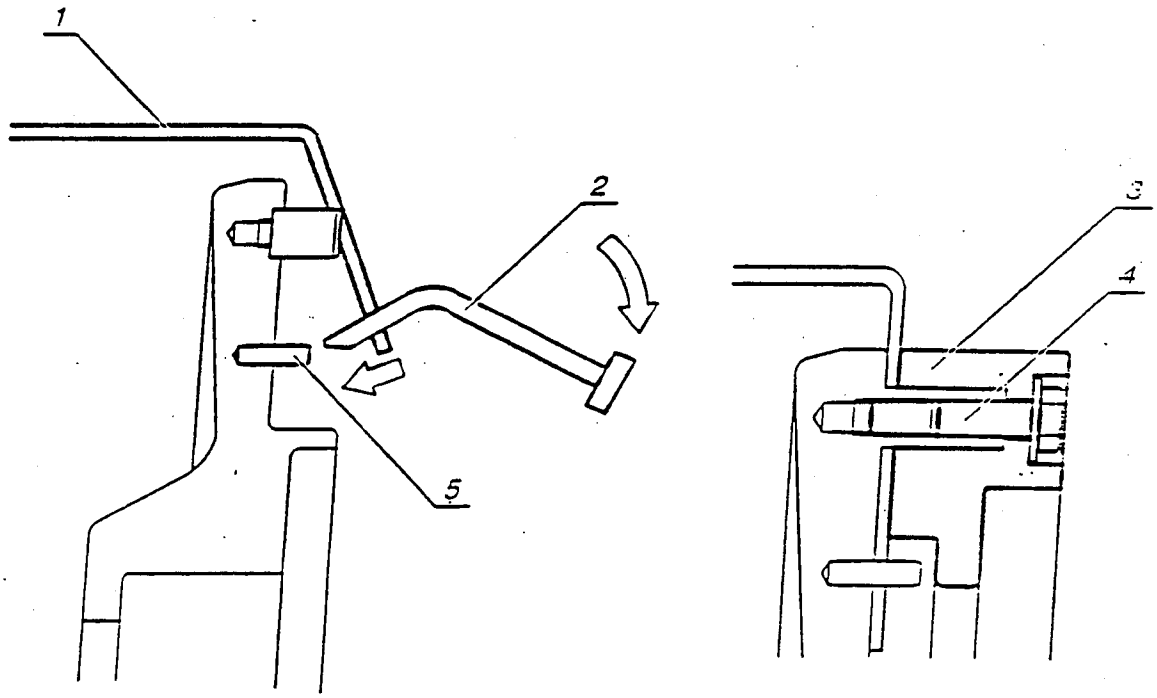


Fig. 6 - 12 Fastening press sleeve

1 Press sleeve
2 Lever
3 Clamping ring segment
4 Fastening bolt
5 Clamping pin

3. PULL THE PRESS SLEEVE TABS ONTO THE CLAMPING PINS AND INSTALL THE CLAMPING RINGS AS YOU GO TO HOLD THE PRESS SLEEVE IN PLACE.

4. THEN ROTATE THE SLEEVE 180^0 AND COMPLETE THE TABS AT THIS POINT 11-1 O'CLOCK.

5. THEN ROTATE THE SLEEVE 120^0 AND REPEAT AGAIN UNTIL ALL TABS ARE ON THE CLAMPING PINS.

** **NOTE:** IF YOU COME ACROSS A TAB THAT WILL NOT GO ON THE CLAMPING PIN, SKIP IT AND DO THE NEXT 2 AND THEN COME BACK. THE PRESSURE MAY EASE OFF. **

6. ONCE ALL THE CLAMPING RINGS ARE IN PLACE TIGHTEN THE FASTENING BOLTS WITH THE PNEUMATIC WRENCH.

7. CHECK TORQUE OF THE BOLTS USING A TORQUE WRENCH (60Nm).

8. UNSCREW THE TWO STUD BOLTS ON THE DRIVE SIDE FOR LOCKING THE CLAMPING DISK IN PLACE.

9. MOVE THE PRESS SLEEVE INTO PLACE BY MEANS OF THE CENTRAL ADJUSTING UNIT (LOCATED ON THE FRONT SIDE).

** **NOTE:** CHECK THE TORQUE OF THE CLAMPING BOLTS (60Nm) AFTER 1 TO 2 DAYS OF RUNNING. **

10. NOW MAINTENANCE CAN RE-INSTALL THE SAVEALL ON THE TISSUE FLEX ROLL.

FELT CHANGE:

PREPARATION FOR PRESS FELT CHANGE

1. MOVE TISSUE FLEX ROLL TO THE OPEN POSITION 110 mm. THIS PREVENTS THE PRESS SHELL FROM OVER HEATING.

2. LIFT-OFF DOCTOR BLADES FROM OUTSIDE FELT RETURN ROLLS 15, 16, AND 17.

3. ON MEASUREX SHUT DOWN THE WET/END LUBE. MAKE SURE THE KEY SELECTOR ON CB2-TM IS IN THE FELT CHANGE POSITION.

4. MAKE SURE THE PICK UP TUBE IS LOCKED IN THE UP POSITION.

5. REMOVE THE ALARM AND GUIDE PALM DEVICES.

6. CUT OFF AND REMOVE OLD PRESS FELT.

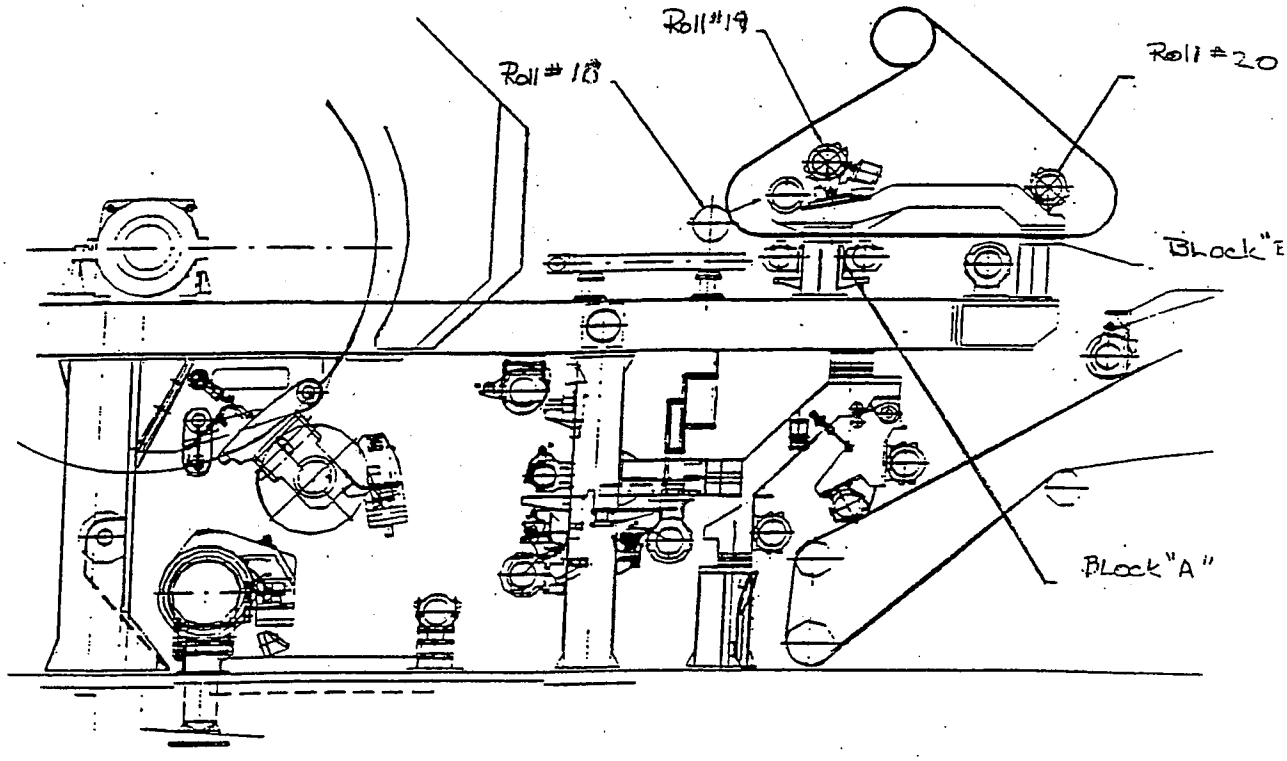
7. WASH UP THE PRESS SECTION AND INSPECT ROLL SURFACES, SUCTION BOX SURFACES, DOCTOR BLADES, AND PLUGGED SHOWERS.

NOTE: LOCK OUT SUCTION ROLL, ROLL #15, AND YANKEES DRIVES BEFORE STARTING FELT CHANGE.

PRESS FELT CHANGE

NOTE: ALTHOUGH PRESS FELTS ARE NOT QUITE AS DELICATE AS FABRICS, GREAT CARE MUST STILL BE TAKEN AT ALL TIMES AS THIS FELT IS AN EXPENSIVE ITEM.

1. KEEP FELT AS DRY AS POSSIBLE DURING INSTALLATION.
2. DISCONNECT THE STRETCH ROLL (#18) AND USE THE CRANE TO SET IT INTO THE GUIDE ROLL (#19) SUPPORT PAN.
3. USE THE CRANE TO RAISE THE NEW PRESS FELT, ABOVE THE PRESS SECTION AND STORE IT IN THE CRADLE FOR THE STRETCH ROLL.
4. UNFASTEN THE SWING BOLTS BY THE INTERMEDIATE BLOCKS. "A" BELOW FELT ROLL 19 AND "B" BELOW ROLL #20.
5. USING THE CRANE, LIFT THE FRAME AND REMOVE BLOCK "A" THEN DOING THE SAME FOR BLOCK "B".
6. USING THE CRANE, LIFT AND SUPPORT THE NEW PRESS FELT AND INSERT THE FELT THROUGH THE GAP (OUTSIDE TO INSIDE M/C). SET THE FELT BACK IN THE STRETCH CRADLE.
7. USING THE CRANE, RE-INSERT BLOCK "A" AND "B", AND RE-FASTEN SWING BOLTS.



8. PULL THE FELT AROUND AND DOWN TOWARDS THE PICKUP SHOE AND ROLL #21.

9. UNFASTEN THE SWING BOLTS FOR INTERMEDIATE BLOCK "C" LOCATED ABOVE THE PICKUP SHOE AND ROLL #21.

10. OPEN THE FRAME USING THE HYDRAULIC JACK AND REMOVE BLOCK "C".

11. INSERT THE DRIVE SIDE EDGE OF THE INNER-LOOP OF THE PRESS FELT THOUGH THE GAP (OUTSIDE M/C TO INSIDE M/C). RE-INSERT BLOCK "C" BY RE-FASTENING THE SWING BOLTS.

12. OPEN CONNECTING ARM "D" (THE DOOR) BETWEEN SUPPORTS FOR ROLLS #16 AND #10.

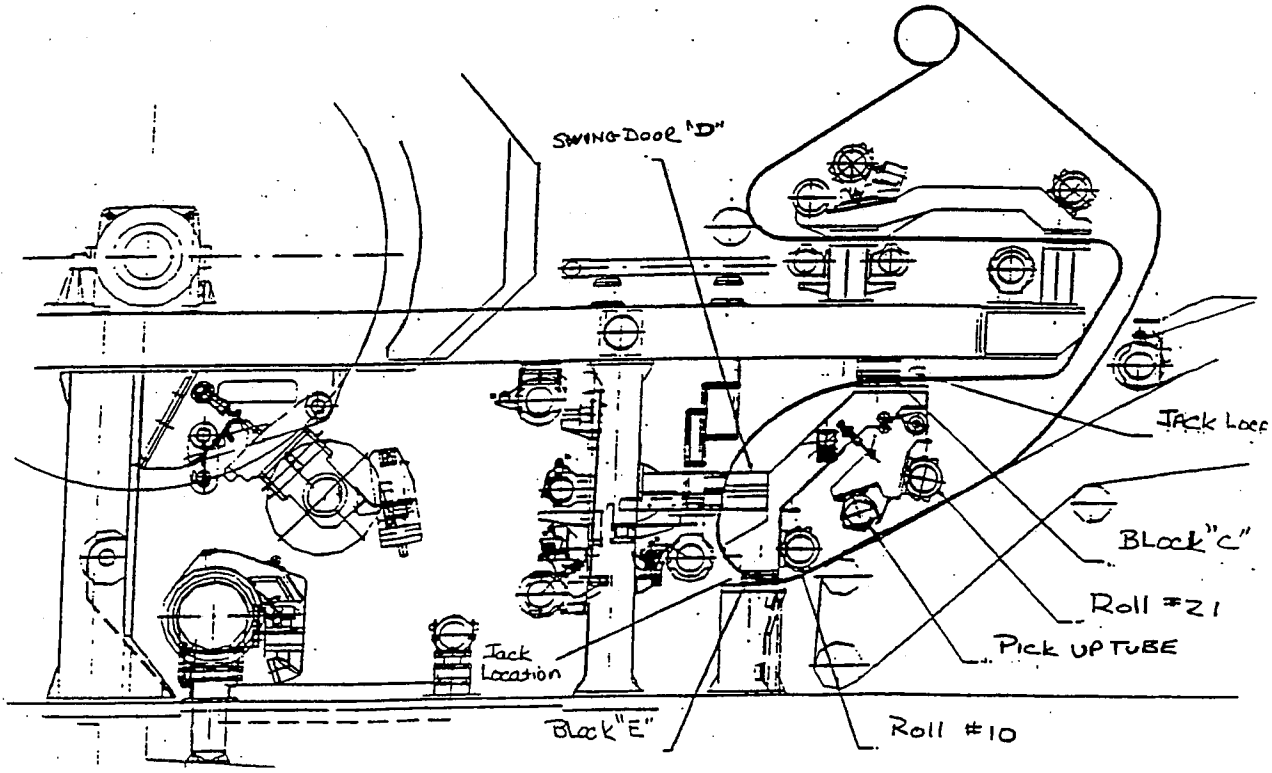
13. PASS THE DRIVE SIDE EDGE OF THE TOP OF THE LOOP THROUGH THE DOOR OPENING "D".

14. CLOSE AND RE-CONNECT ARM "D" (DOOR)

15. UNFASTEN THE SWING BOLTS FOR INTERMEDIATE BLOCK "E", WHICH IS LOCATED NEXT TO ROLL #10.

16. OPEN THE FRAME USING THE HYDRAULIC JACK AND REMOVE BLOCK "E".

17. PASS THE DRIVE SIDE EDGE OF THE PRESS FELT THROUGH THE GAP (PROVIDED BY BLOCK "E"), UNDER THE PICK-UP SHOE AND ROLL #21 (OUTSIDE M/C AND INSIDE M/C) AND RE-INSERT BLOCK "E"(RE-FASTEN THE SWING BOLTS).



18. PASS THE FELT UNDER ROLL #15 THEN INSIDE M/C TO OUTSIDE M/C VIA THE OPENING BETWEEN SUPPORT (COLUMN) "F" AND ROLL #11.

19. INSTALL THE BEARING LOCKING SLEEVE INTO ROLL#11 AND THEN USING THE OVERHEAD CRANE INSTALL THE EXTENSION TUBE ON THE SHAFT OF FELT ROLL #11.

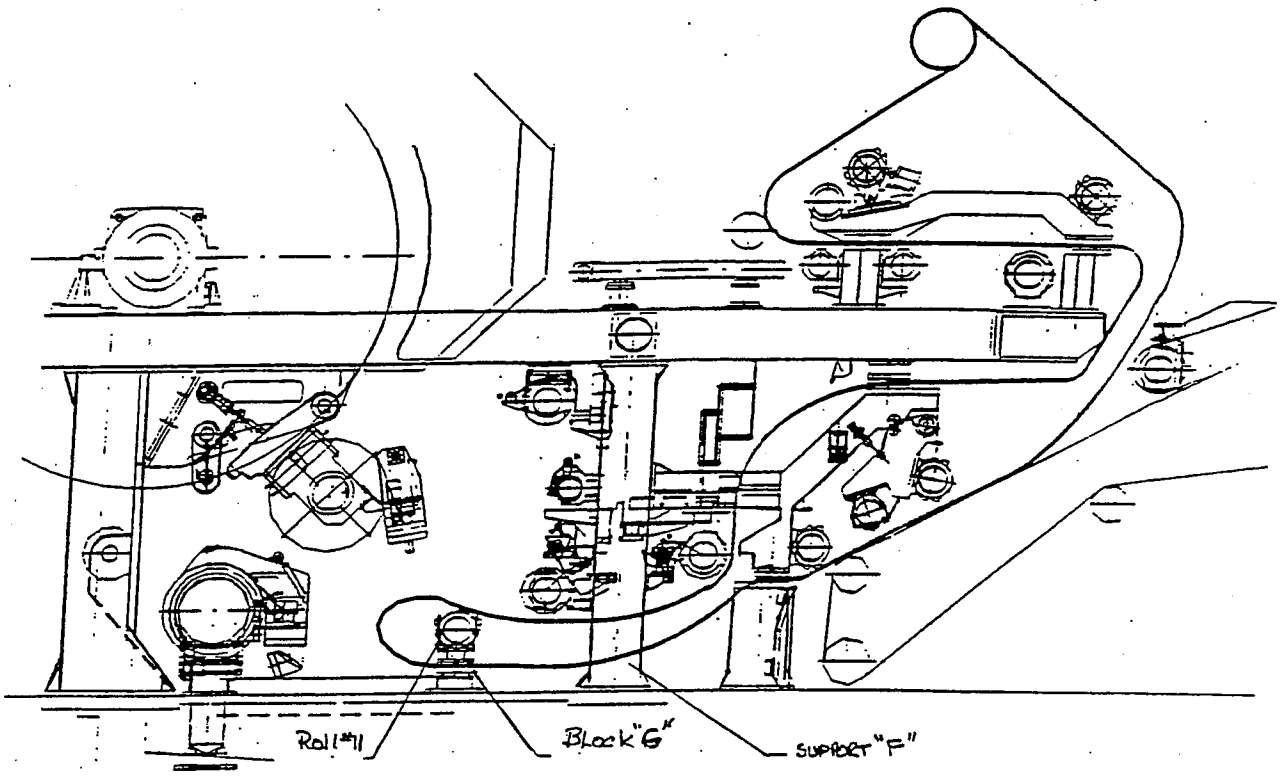
20. TAKE THE LOOP OF THE PRESS FELT AROUND THE EXTENSION TUBE.

21. LOOSEN THE SWING BOLTS FOR INTERMEDIATE BLOCK "G".

22. USING THE OVERHEAD CRANE, YOU CAN RAISE THE ROLL ABOUT 1" TO REMOVE INTERMEDIATE BLOCK "G".

23. PASS DRIVE SIDE EDGE OF THE PRESS FELT THROUGH THE OPENING (OUTSIDE M/C TO INSIDE M/C)

24. RE-INSERT BLOCK "G" LOWER ROLL #11 AND RE-FASTEN THE SWING BOLTS. REMOVE EXTENSION TUBE AND BEARING LOCKING SLEEVE.



25. PASS THE TOP RUN OF THE PRESS FELT BETWEEN ROLL #11 AND ROLL # 15 FROM INSIDE M/C TO OUTSIDE M/C.

26. INSTALL THE BEARING LOCKING SLEEVE INTO ROLL #14 AND THEN INSTALL THE EXTENSION TUBE ON THE SHAFT OF FELT ROLL #14

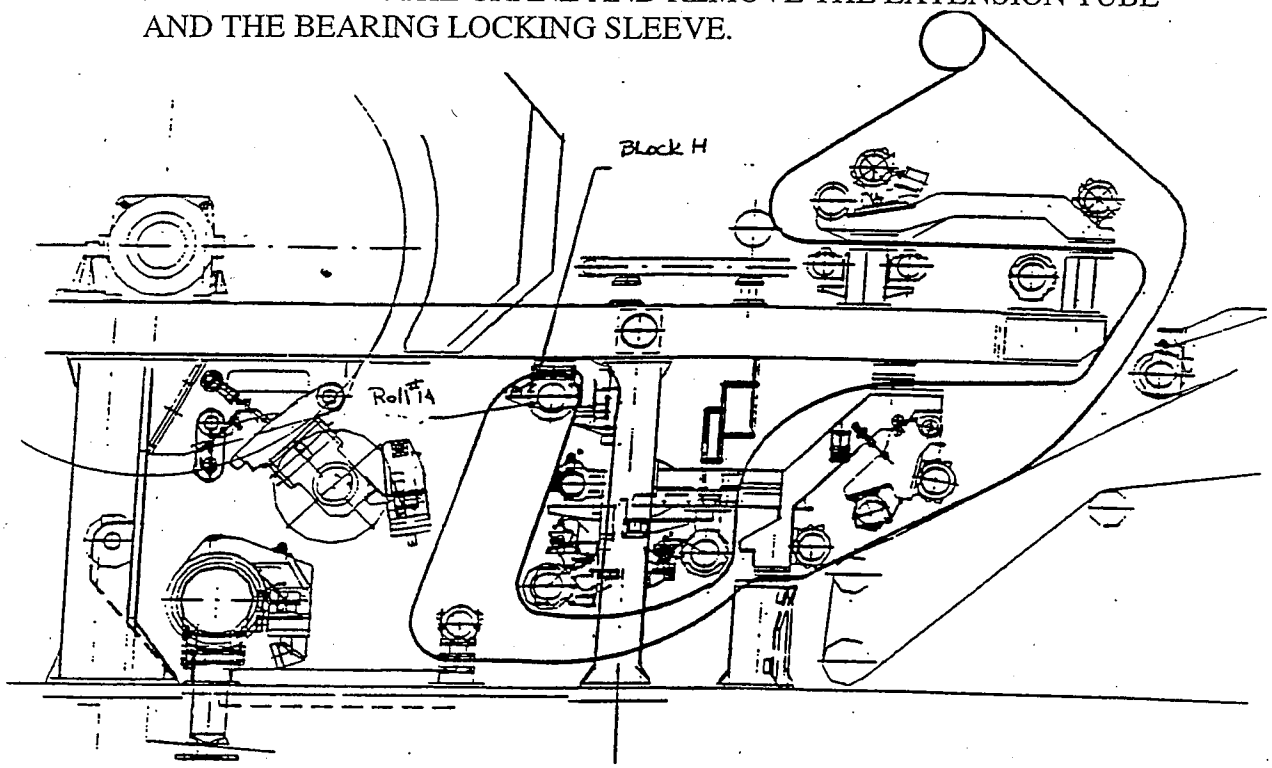
27. LOOP THE PRESS FELT UP AND AROUND THE EXTENSION TUBE.

28. USING THE OVERHEAD CRANE, SUPPORT THE WEIGHT OF ROLL #14 USING THE EXTENSION TUBE. YOU CAN NOW LOOSEN THE SWING BOLTS ON INTERMEDIATE BLOCK "H".

29. REMOVE INTERMEDIATE BLOCK "H".

30. PASS THE TOP RUN OF THE PRESS FELT THROUGH THE OPENING ABOVE ROLL #14 OUTSIDE M/C TO INSIDE M/C

31. RE-INSERT INTERMEDIATE BLOCK "H" AND RE-FASTEN THE SWING BOLTS. LOWER THE CRANE AND REMOVE THE EXTENSION TUBE AND THE BEARING LOCKING SLEEVE.



32. INTALL THE EXTENSION TUBE ON THE FRONT SIDE OF THE TISSUE FLEX ROLL. (SHOE PRESS) PLACE THE LOCKING PINS IN THE HOLES PROVIDED.

33. PASS THE RUN OF THE PRESS FELT CLOSEST TO THE TISSUE FLEX ROLL FROM THE INSIDE M/C TO THE OUTSIDE M/C AND AROUND THE EXTENSION TUBE.

34. SUSPEND THE TISSUE FLEX ROLL USING THE OVERHEAD CRANE ON THE FRONT SIDE.

35. LOOSEN THE FASTENING SCREWS WHICH FIX THE TISSUE FLEX BEARING TO THE PRESS LEVEL.

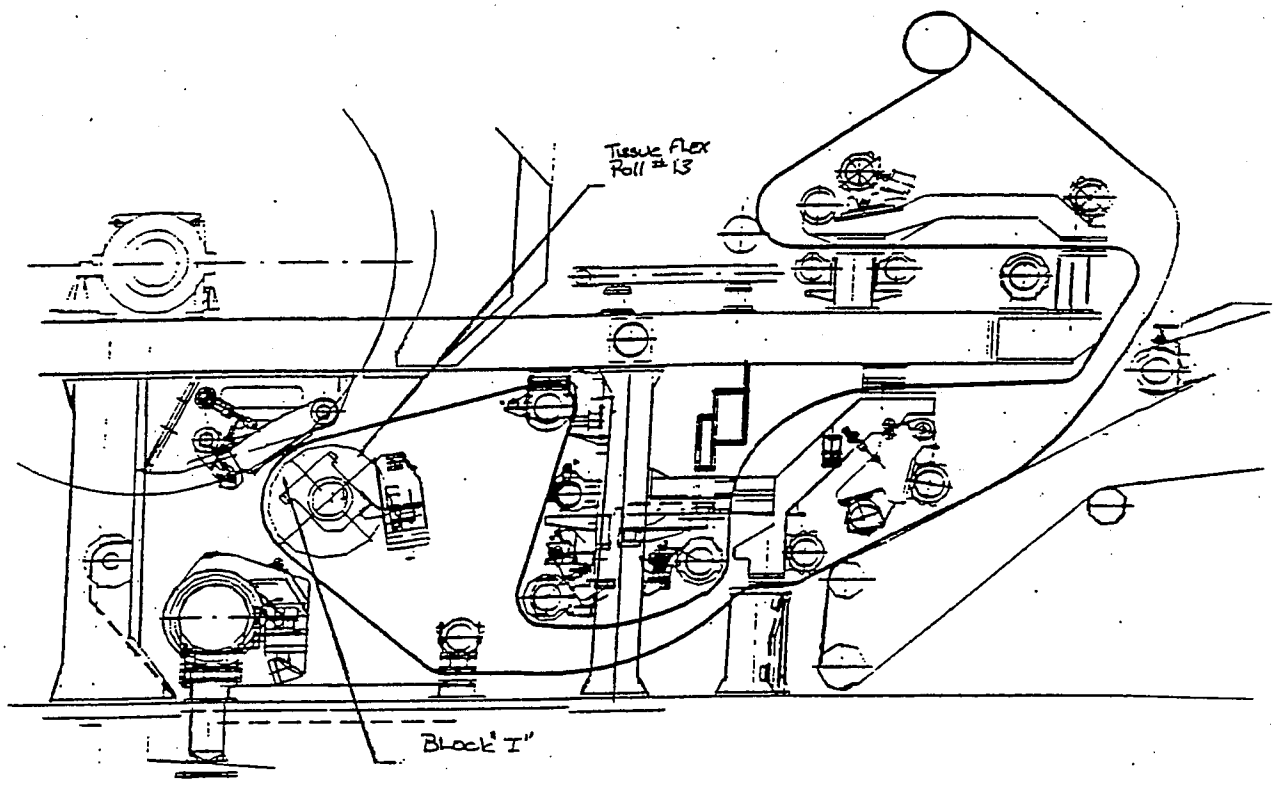
36. REMOVE THE ALUMINUM INTERMEDIATE BLOCK "I" OUT OF THE MACHINE.

37. USING THE CONTROL BOX CB2-TM, PLACE THE KEY SELECTOR SWITCH FOR THE D/S LOCK MOVEMENT IN THE LOCKED POSITION.

38. USING THE CONTROL BOX CB2-TM, CLOSE THE TISSUE FLEX ROLL CHECKING TO SEE THAT JUST THE T/S IS MOVING AND THE D/S IS LOCKED INTO POSITION. THEN LOCK WITH LOCKING LEVERS.

39. PASS THE FELT THROUGH THE OPENING MADE BY REMOVING BLOCK "I" AND AROUND THE TISSUE FLEX ROLL FROM OUTSIDE M/C TO INSIDE M/C.

40. RE-INSERT THE INTERMEDIATE BLOCK "I". UNLOCK THE LOCKING LEVER AND OPEN THE TISSUE FLEX ROLL ARM BACK INTO FELT CHANGE POSITION THEN RE-FASTEN INTERMEDIATE BLOCK "I" BACK INTO PLACE. NOW REMOVE EXTENSION TUBE.



41. DISCONNECT ALL HOSES FROM SUCTION PRESS.

42. PASS THE FELT RUN BETWEEN ROLL #11 AND #13 FROM INSIDE M/C AND OUTSIDE M/C.

43. INSTALL THE PRESS FELT AROUND THE TOP PART OF THE SUCTION ROLL, LEAVING THE INTERMEDIATE BLOCKS OPEN ("J" AND "K")

44. UNFASTEN THE SWING BOLTS THEN SUSPEND THE SUCTION ROLL WITH THE OVERHEAD CRANE ON THE FRONT SIDE.

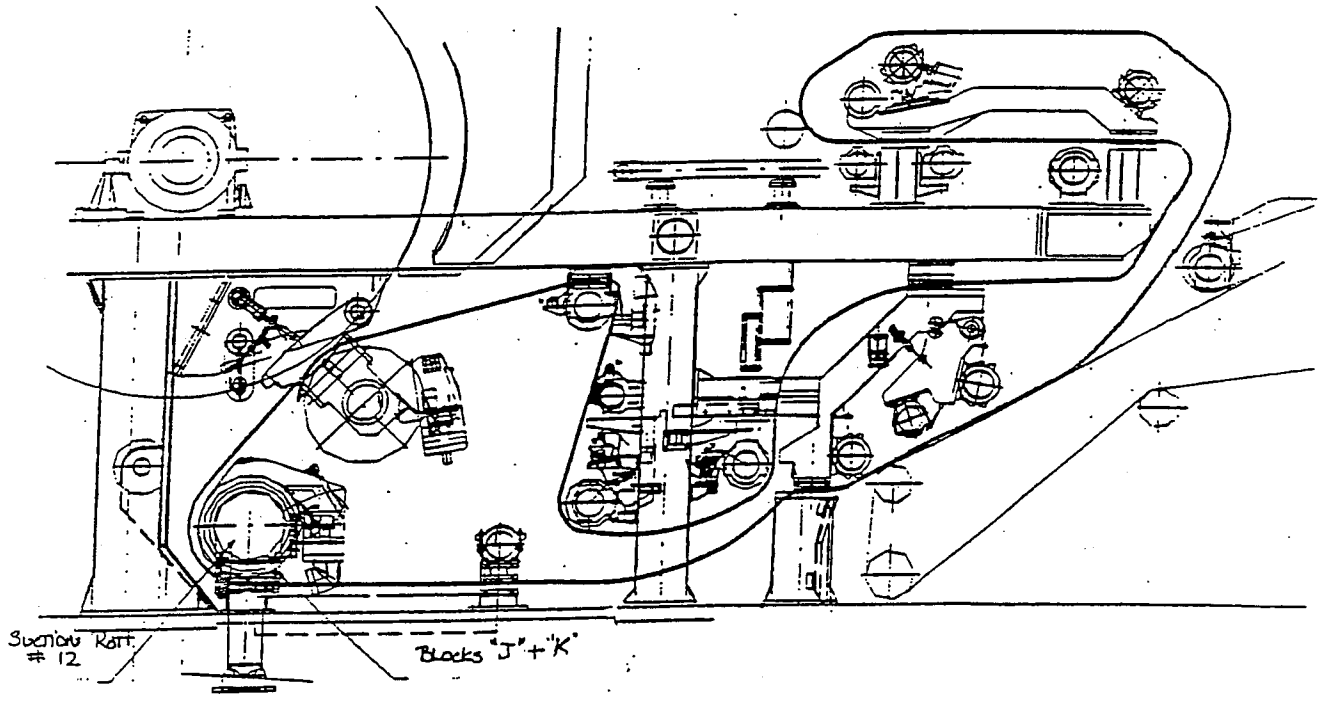
45. LIFT THE SUCTION ROLL TO A POINT WHERE THE INTERMEDIATE BLOCK ("J" AND "K") CAN BE REMOVED.

46. PASS THE FELT DOWN AND AROUND THE SUCTION ROLL AND THROUGH THE OPENING MADE BY REMOVING "J" AND "K" AND TO THE INSIDE OF THE PAPER MACHINE.

47. RE-INSTALL BLOCK "J" AND "K". LOWER THE SUCTION ROLL AND RE-FASTEN THE SWING BOLTS.

48. PULL THE PRESS FELT ACROSS THE ROLLS AND CHECK FOR WRINKLES.

49. RE-CONNECT HOSES TO SUCTION PRESS AND ANY LUBE LINES THAT WERE DISCONNECTED.



TROUBLE SHOOTING

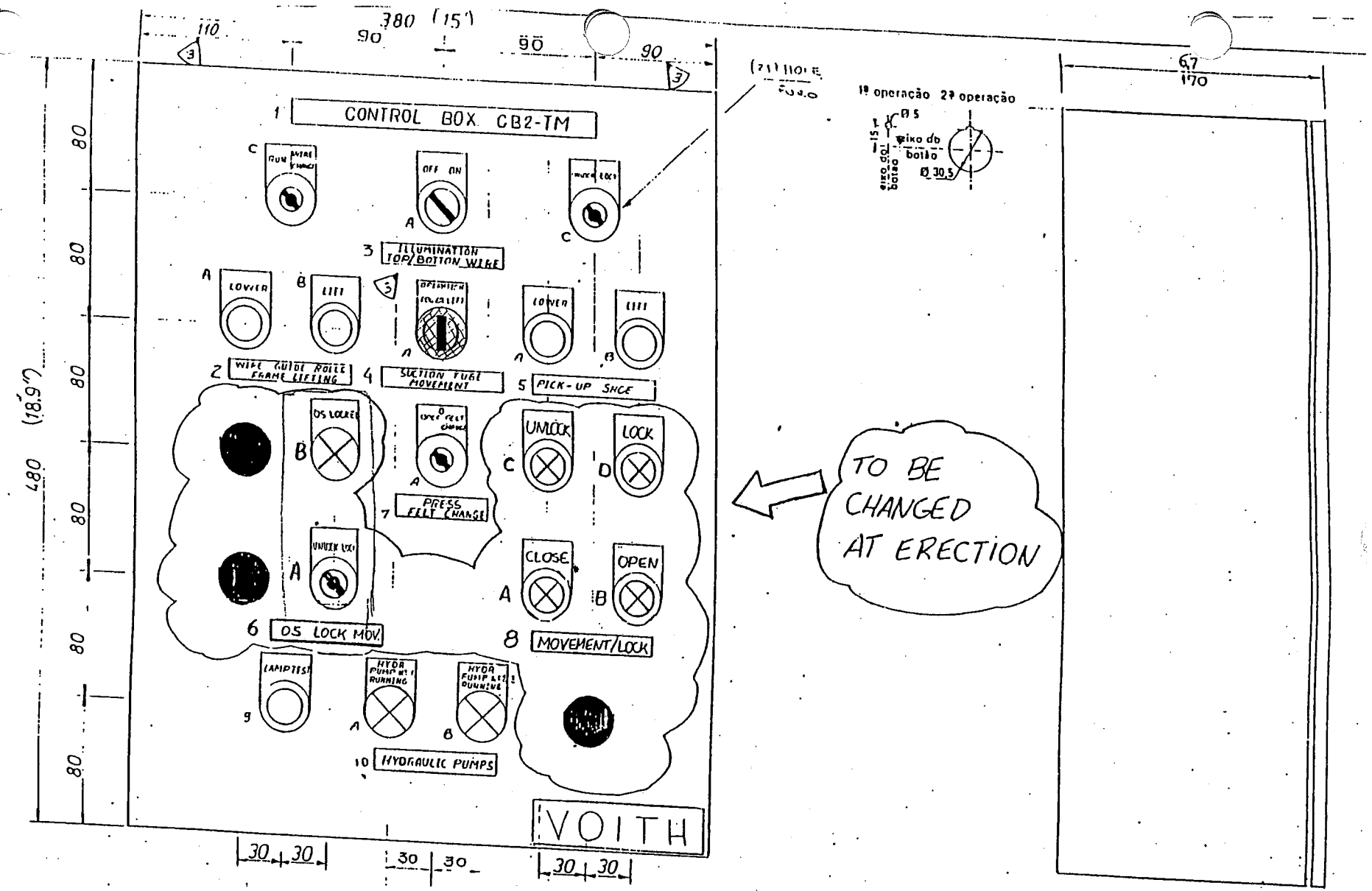
INSPECTION OF TISSUE FLEX PRESS SLEEVE

1. DURING A SHUTDOWN PERIOD YOU SHOULD MAKE A VISUAL CHECK OF THE SUFACE OF THE PRESS SLEEVE.

Components to check:	Activity to improve:
During Shutdown:	
Abrasion on the tissue press sleeve. Check the bore hole depth no less than 0.5mm/0.02"	-if the abrasion is too great, change the sleeve (new sleeve bore holes start at 2.0mm/0.079"). NOTE: that a grooved sleeve is the same depth
Cracks occur mainly at the edges of the shoe. Some small cracks are stopped by the embedded yarns.	-change the tissue flex sleeve, some oil may escape through the cracks
Crushed areas or broken out material.	-change the tissue flex sleeve, oil will escape through or sleeve will let go
Oil emerges from the clamping disk at press sleeve fastener.	-check press sleeve for damage or wear – change sleeve in this event -if no damage is seen tighten clamping segments
Oil or air emerges at the clamping disk.	-check O-ring and shaft seal rings for damage and wear -have maintenance replace in this event

2. PROBLEMS DURING START UP

Components to check:	Activity to improve:
Does the felt drive set itself automatically to stop?	-stop yankee and press drives -check in detailed starting sequence (interlocks)
Does the press sleeve cling to the guides and can it no longer be turned?	-check the press sleeve internal pressure (set point value 0.08-0.1 bar) -check the vacuum set-point value almost 0
Does the input power rise abnormally fast?	-the lubrication is not sufficient -switch off the tissue flex press -check press sleeve internal pressure -check if the required cooling-oil flow rate is available
Does the press sleeve not turn as well when the tissue flex roll is started?	-the lubrication is not sufficient -shut down the drives and check using a crowbar on the clamping disk to see if the roll will move freely



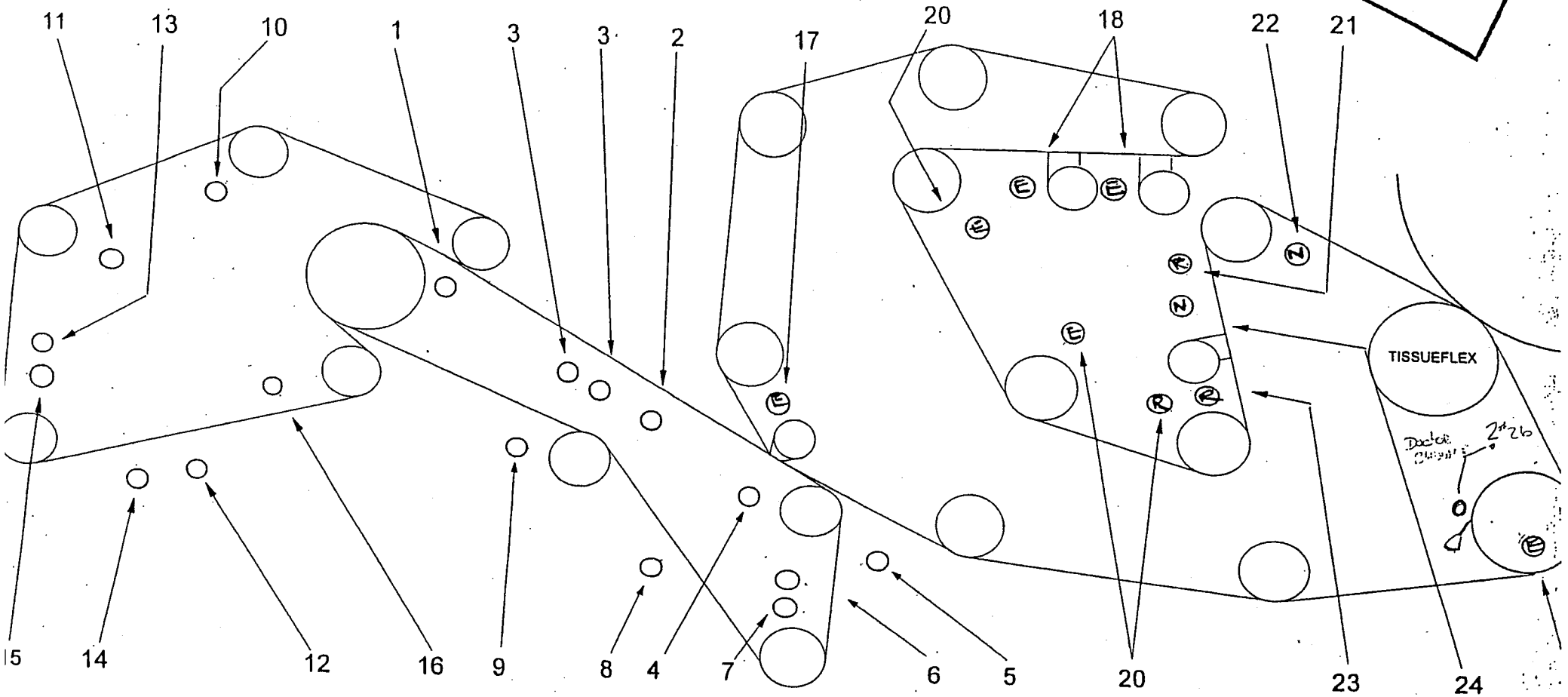
O.P. Nº 50.564	REVISÕES				Desenhado: LUBA	05/88	VOITH	CONTROL BOX CB-2 TM	Código: T
CATÁLOGO Nº	③ C1/AG	PUGA			Traçado:		SÃO PAULO BRASIL		26
☐ NORMA ☐ MODIFIC.					Visto:			PARTE M.P.: WIRE AND FELT CHANGE	AN.8207..
ORIGIN. DE	DATA	NOME	DATA	NOME	NOME	DATA			

WATER TYPES	CONTINUOUS USE	DISCONTINUOUS USE	
= White water			
= Clarified water <= 50 mg/l	791.9	912.9	1704.8
= Clarified water <= 10 mg/l			
= Clarified water commutable to fresh water			
= Tepid water (heated clarified water <=10mg/l)			
= Fresh water	1838	264	2102

REMARK:

VIEWED FROM DRIVE SIDE

FOR TENDER
Issued by
ATLANTIC PACKAGING
PRODUCTS LTD.



	ELABORATED BY:	DEPT.:	SEEN:		REFERENCE	LIST NUMBER:
00	GAVA	PTE		DUOFORMER	ATLANTIC TM-2	1920-783

CLO/PTE/4619 01/2/03

PERFECTION IN TECHNOLOGY

SHOWER

GENERAL DATA

POND WIDTH	LikW=	2770	mm
TH	S=	2900	mm
TH AT REEL	PU=	2650	mm
PEED	VP =	1800	m/min
NG SPEED	VT=	1800	m/min
NG SPEED	VB=	1800	m/min
EED	VA=	1800	m/min
TS		TISSUE	
EIGTHS		12,5 - 40	g/m2

STATUS

	I	FOR INFORMATION ONLY
	P	PRELIMINARY (STUDY)
	B	FOR CUSTOMER'S COMMENTS
	F1	FINAL, TO BE COMPLETED
X	F	FINAL / CERTIFIED
	S	WORKING DRAWING
	A	FOR APPROVAL BY CUSTOMER

MODIFICATIONS

INDEX	MODIFICATION	NAME	DATE	SEEN

OSCILLATION

ELE = ELECTRIC
HID = HYDRAULIC
PNE = PNEUMATIC

COPY DISTRIBUTION

RECEIVER	26-May			
CUSTOMER	1			
PTE	1			
PGEU	1			
REVISION	0			

	LOCATION	DN	TYPE	MAKE	CLEAN. DEVICE	OSCILL.	NOZZLE DIAM. x ANGLE x Z	WATER CONSUM. l/min			WATER TYPE	TEMP.	REMARKS
1	SUCTION FOIL BOX	57	DISCONT.		WITH	WITHOUT	2 x 60 x 21	2	150	52.5	C		
1	TAIL CUTTER		DISCONT.		WITHOUT	ELE	0,5 x NEEDLE x 1	12	40	0.6	F		
4	TRIM CUT		CONTIN.		WITHOUT	WITHOUT	0,5 x NEEDLE x 1	12	50	2.4	F		
1	WIRE GUIDE ROLL 2	57	CONTIN.		WITH	WITHOUT	3 X 60 X 21	3	150	163.8	C		
1	BOTTOM WIRE CLEANING	57	DISCONT.		WITHOUT	HID	1,0 x NEEDLE x 29	60	120	101.5	F		
1	BOTTOM WIRE EDGE CLEANING	57	CONTIN.		WITHOUT	WITHOUT	3 x 60 x 4	12	150	82.0	F		
1	BOTTOM WIRE KNOCK OFF SHOWER	57	DISCONT.		WITH	HID	3 x 60 x 20	12	150	282	C		
1	BOTTOM WIRE CHEMICAL ADDITIVIES	57	DISCONT.		WITH	WITHOUT	3 x 60 x 19	3	150	148.2	C		
1	WIRE GUIDE ROLL 4	57	CONTIN.		WITH	WITHOUT	3 x 60 x 26	3	120	202.8	C		
1	WIRE GUIDE ROLL 6	57	CONTIN.		WITH	WITHOUT	3 x 60 x 26	3	120	202.8	C		
1	WIRE GUIDE ROLL 7	57	CONTIN.		WITH	WITHOUT	3 x 60 x 25	3	125	195	C		
1	TOP WIRE CHEMICAL ADDITIVIES	57	DISCONT.		WITH	WITHOUT	3 x 60 x 19	3	150	148.2	C		
1	TOP WIRE EDGE CLEANING	57	CONTIN.		WITHOUT	WITHOUT	3 x 60 x 4	12	150	82.0	F		
1	TOP WIRE CLEANING	57	DISCONT.		WITHOUT	HID	1,0 x NEEDLE x 29	60	180	101.5	F		
1	TOP WIRE KNOCK OFF SHOWER	57	DISCONT.		WITH	HID	3 x 60 x 20	12	150	282	C		
1	HEADBOX CLEANING	57	CONTIN.		WITH	WITHOUT	2 x 60 x 11	2	250	27.5	C		
1	PICK-UP	57	CONTIN.		WITHOUT	WITHOUT	2 x 60 x 21	2	150	52.5	F		EXISTING UNCHANGED

ELABORATED BY:	DEPT.:	SEEN:		REFERENCE	LIST NUMBER:
GAVA	PTE		DUOFORMER	ATLANTIC TM-2	1920-783

CLG/PTE/4619

NO.	LOCATION	DIA	TYPE	MAKE	CLEAN. DEVICE	OSCILL.	NOZZLE DIAM x ANGLE x 2	PRESSURE	WATER CONSUM. FLOW RATE	WATER CONSUM. CONSUMPTION PER SHOWER	WATER TYPE	WATER TEMP.	NOTES
2	SUCTION BOX LUBRICATION	57	CONTIN.		WITHOUT	WITHOUT	3 x 60 x 21	2	150	119.7	F		EXISTING UNCH
1	SUCTION ROLL INSIDE	57	CONTIN.		WITHOUT	WITHOUT	3 x 60 x 14	1	150	63	F		" "
3	FELT GUIDE ROLL DOCTOR LUBE	57	CONTIN		WITHOUT	WITHOUT	4 x 60 x 21	2	150	212.1	F		EXIS 2 UNCHA - 1 RELOCA
1	FELT CLEANING	57	DISCONT.		WITHOUT	ELE	0,8 x NEEDLE x 30 X	40	120	54	F		ENT RELOCATE
1	FELT CLEANING - FLOODING	89	CONTIN.		WITHOUT	WITHOUT	5 x 60 x 26	3	150	504.4	F	38°C	NEW
1	CHEMICAL ADDITIVIES	57	CONTIN		WITHOUT	WITHOUT	3 x 60 x 21	2	150	119.7	F		EXISTING RELOCAT
1	SUCTION BOX LUBRICATION	57	CONTIN.		WITHOUT	WITHOUT	1,5 x 60 x 29	3	150	49.3	F		NEW
2	SPRAY FOR REEL SPOOL	19	DISCONT.		WITHOUT	WITHOUT	0,91 x 25 x 4	3	150	3	F		

ELABORATED BY:	DEPT.:	SEEN:		REFERENCE.	LIST NUMBER:
GAVA	PTE		DUOFORMER	ATLANTIC TM-2	1920-783