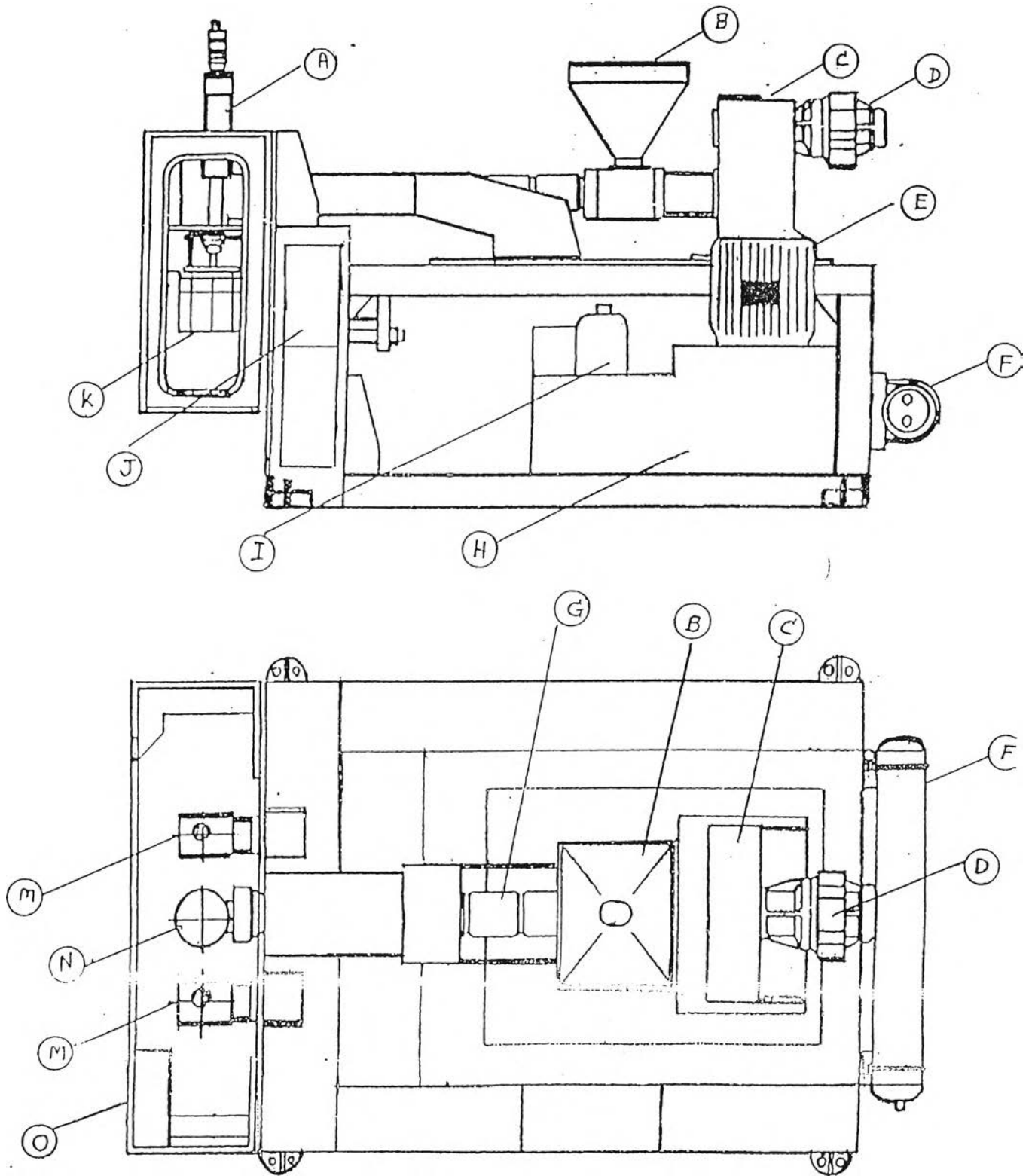


## REFERENCES

1. **Lawrence Mann, Jr., “Maintenance management”,** Revised Edition. Massachusetts Toronto: Lexington Books, (1983).
2. **N.V. Krishina, “Preventive Maintenance (management guide)”**, New Delhi: National Productivity Council ‘Productivity House’, (1987).
3. **Shoei Ebi, “Cost reduction with in the factory”**, Tokyo: Japan Productivity Center, (1987).
4. **Chatchai Wajakiet, “Improvement of Maintenance System in a wood furnituring factory”**, Degree of Master of Engineering Department of Industrial Engineering Graduate School Chulalongkorn University, (1996).
5. **Pornsawan Puyatorn, “Improvement of Machine Maintenance Planning System”**, Degree of Master of Engineering Department of Industrial Engineering Graduate School Chulalongkorn University, (1997).
6. **W.H.Weiss, “Plant and Maintenance Manager’s Desk Book”** , AMACOM(1997)
7. **SALIH O. DUFUAA, A. RAOUF, JOHN DIXON CAMPBELL, “Planning and Control of Maintenance Systems: Modeling and Analysis”** John Wiley & Sons, INC. , (1999)

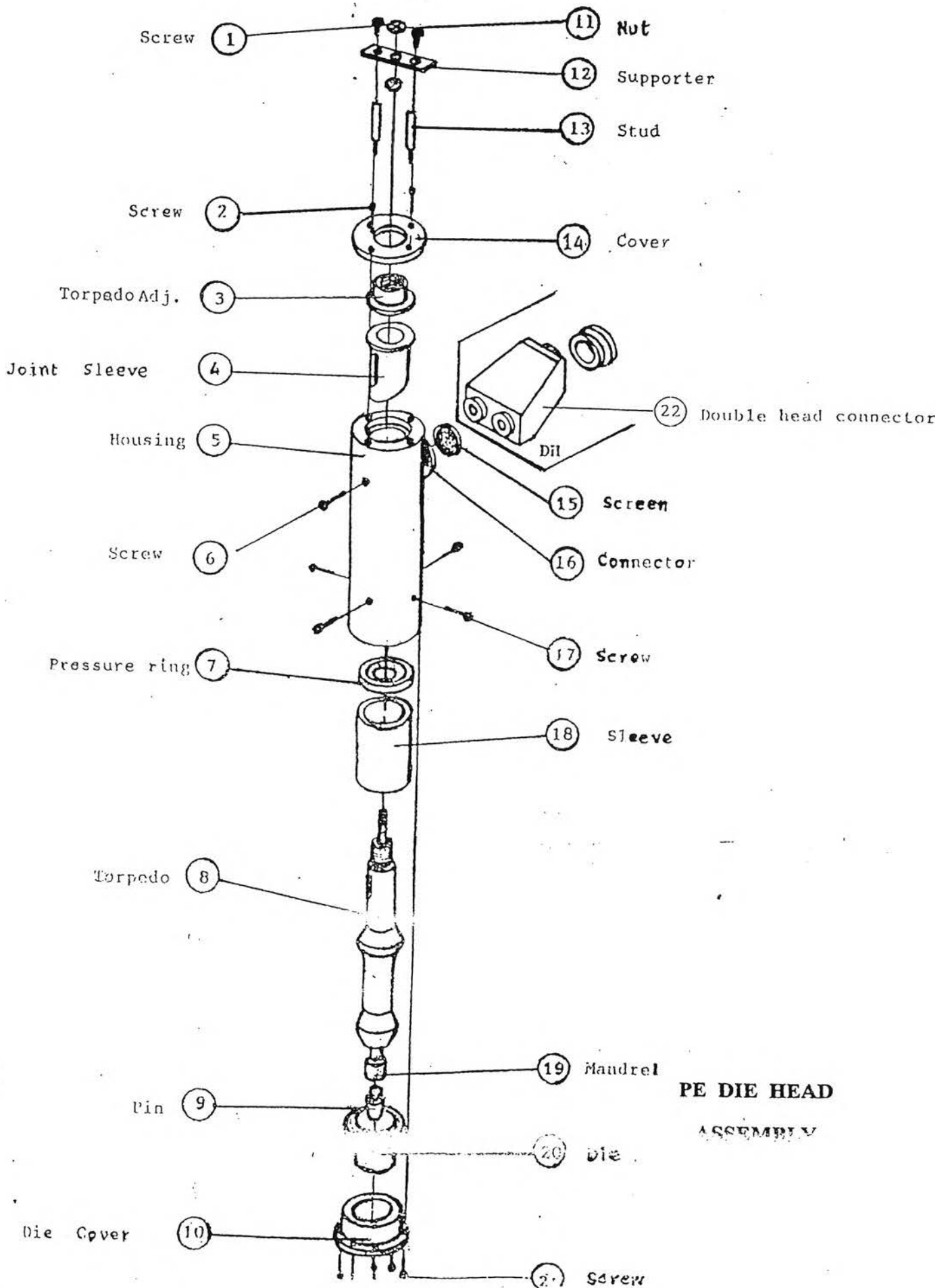
# APPENDIX

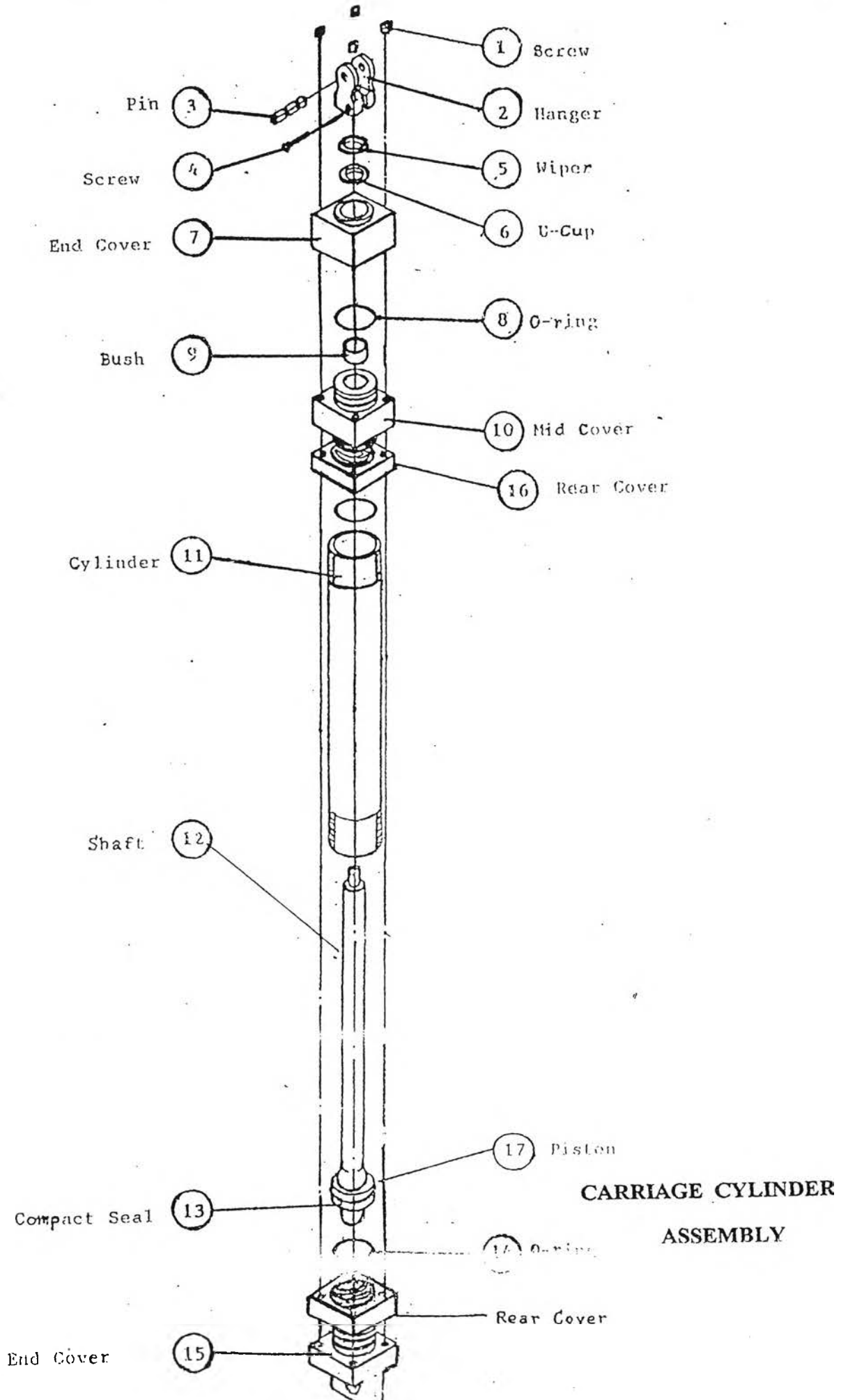


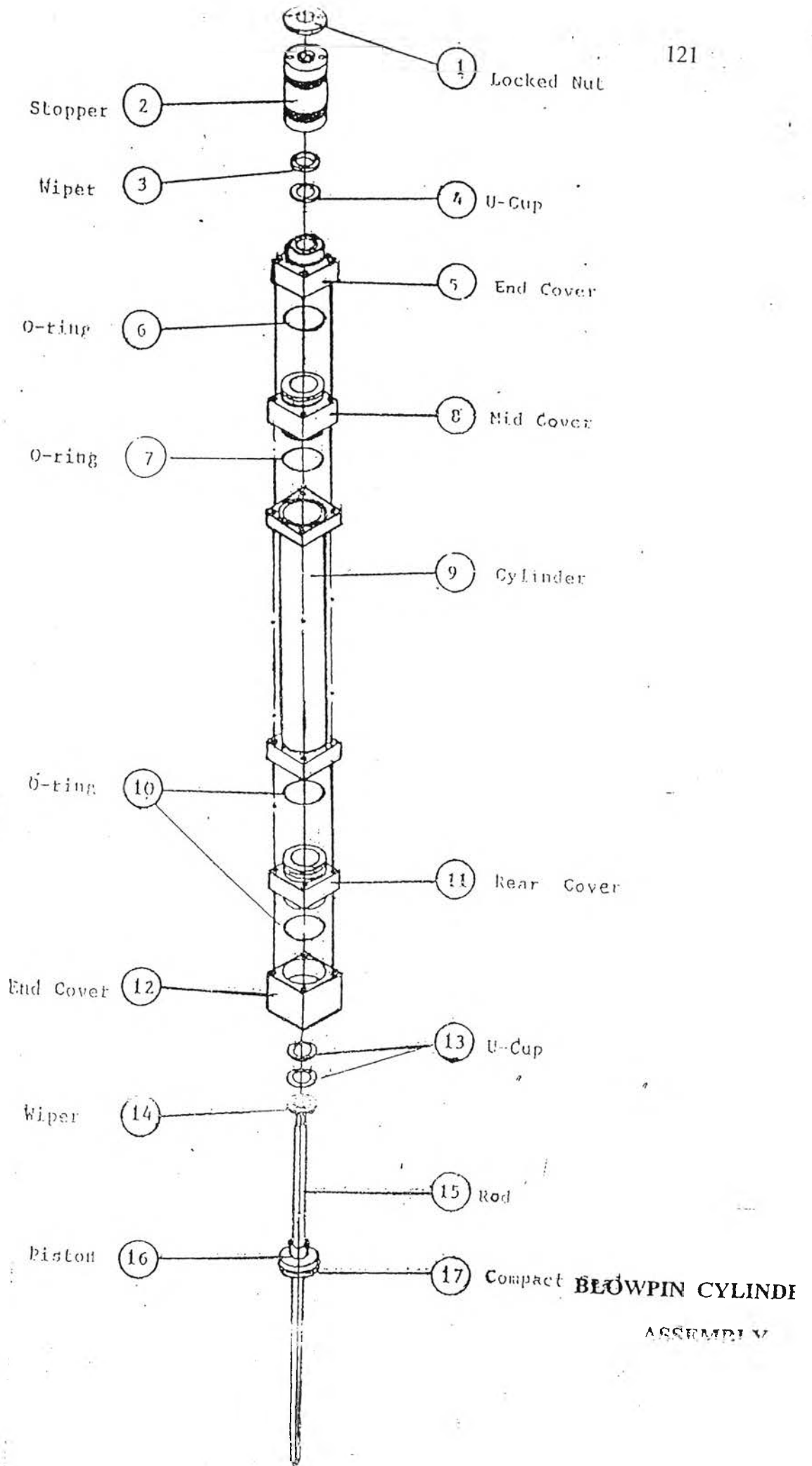
DOUBLE STATION BLOW MOULDING MACHINE

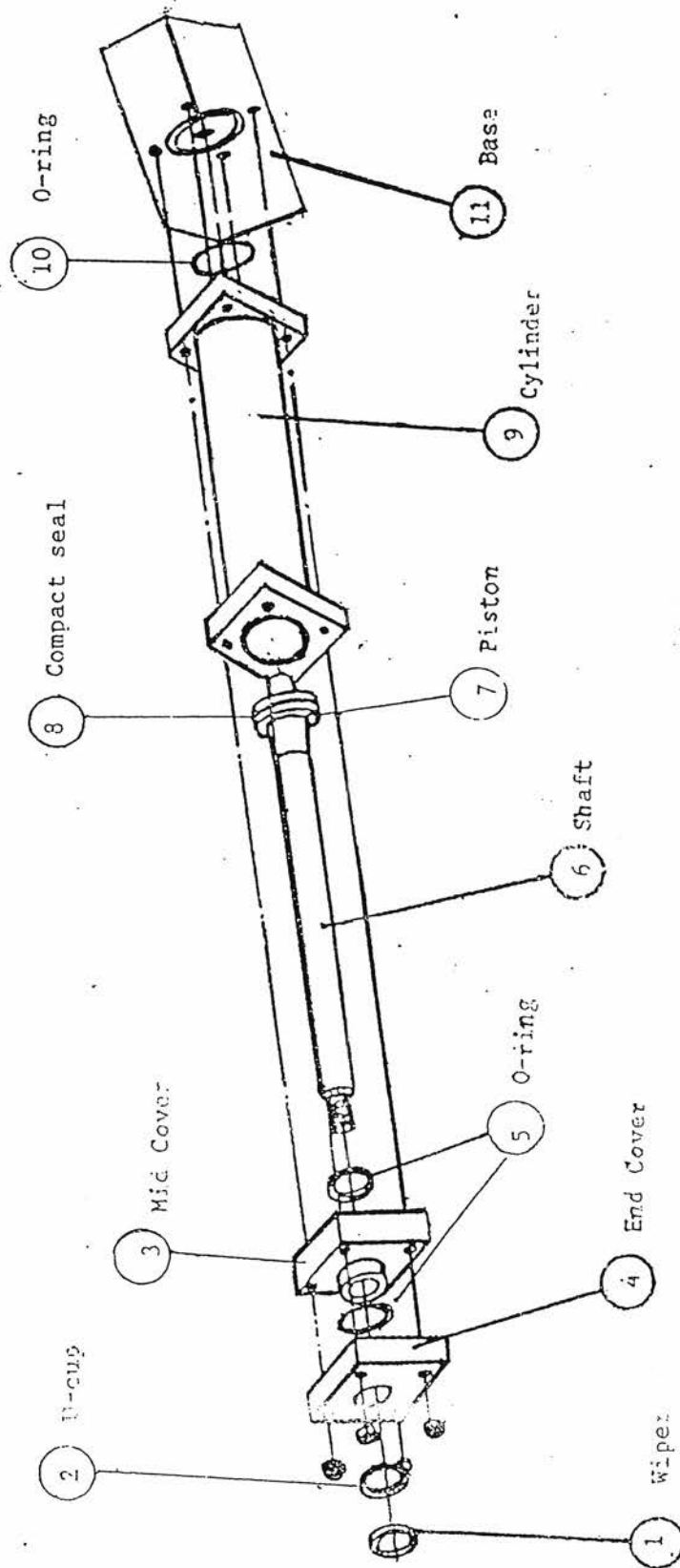
## DOUBLE STATION BLOW MOULDING MACHINE

- A. Blow pin hydraulic cylinder
- B. Hopper
- C. Gear house
- D. Electric motor
- E. Electric motor
- F. Oil cooler
- G. Barrel
- H. Hydraulic oil tank
- I. Accumulator
- J. Electrical control box
- K. Swivel plate
- M. Blow pin
- N. Die head
- O. Panel board





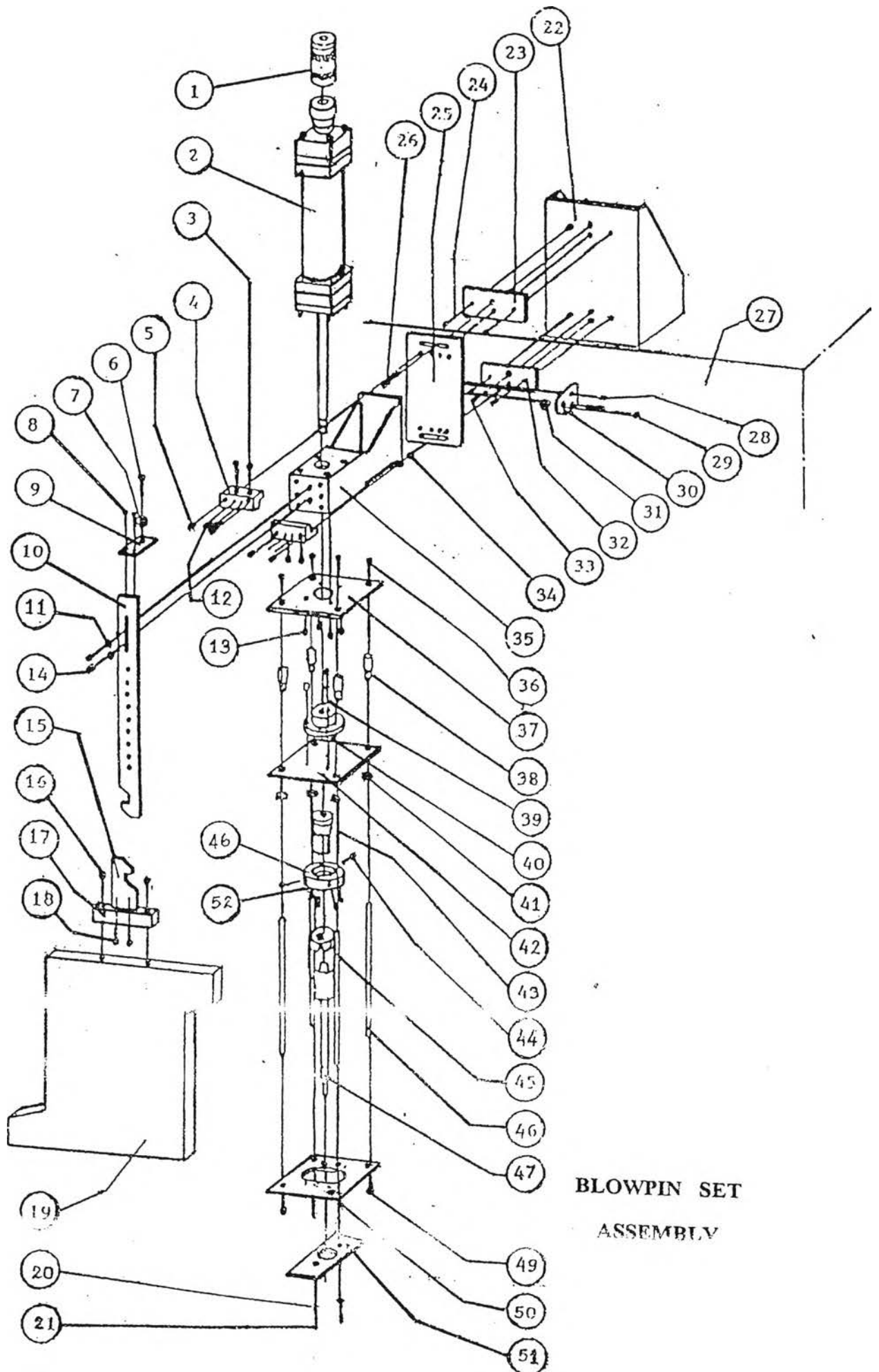




## CLAMP CYLINDER

ASSEMBLY

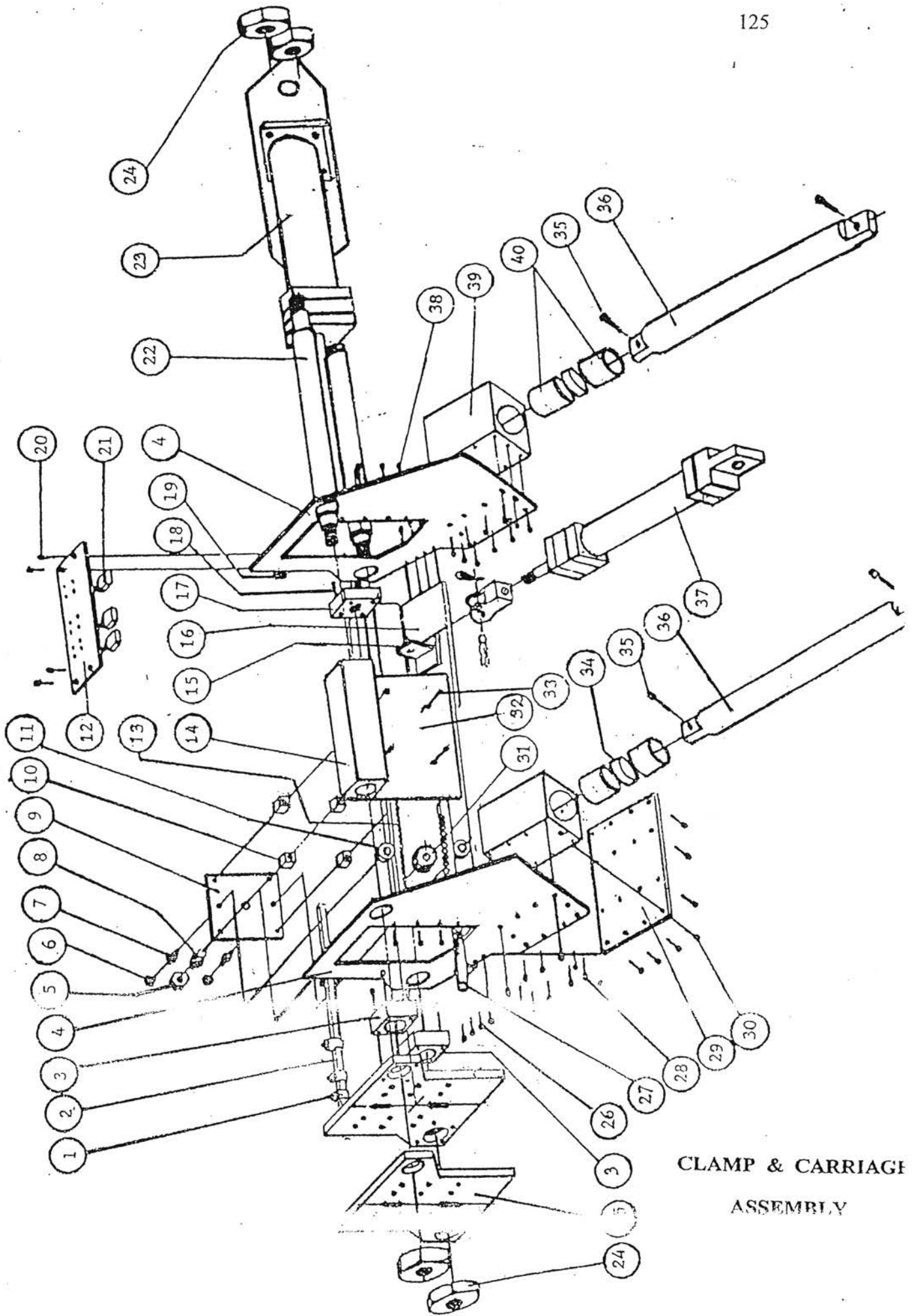




**BLOWPIN SET  
ASSEMBLY**

**BLOW PIN ASSEMBLY**

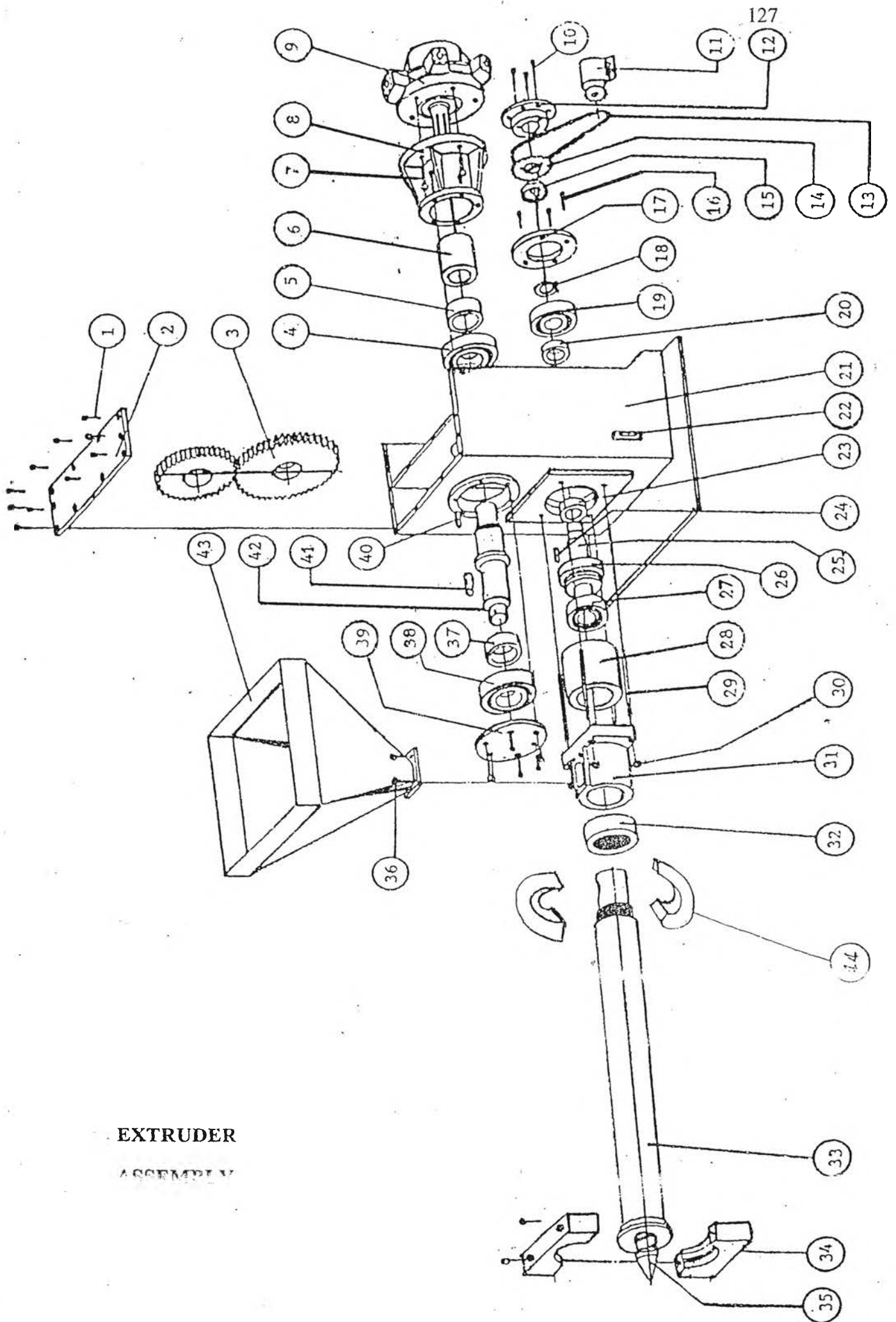
1	Stopper
2	Hydraulic cylinder
4	Clamp
9	Upper hooked base
10	Upper hooker
15	Lower hooker
27	Lower hooked base
19	Swivel plate
22	Blow pin supported stand
23	Inner supported plate
25	Outer supported plate
35	Blow pin supporter
37	Upper rack
38	Bush
40	Connector
42	Middle rack
43	Blow pin holder
45	Blow pin locked nut
46	Blow pin pole
47	Blow pin tip
48	Cover
50	Lower rack
51	Ejected rack



CLAMP & CARRIAGE  
ASSEMBLY

**CLAMP & CARRIAGE ASSEMBLY**

1	Sensor
2	Sensor rod
3	Bush holder
4	Front frame
9	Rack
11	Bearing
12	Top frame
13	Pinion
15	Hydraulic holder
16	Hydraulic holder supporter
17	Sensor rod sliding
20	Back frame
21	Proximity switch
22	Shaft
23	Hydraulic cylinder
25	Sleeve
27	Pinion
29	Bottom frame
31	Rack gear
32	Rack supported plate
34	Sleeve
36	Carriage
37	Hydraulic cylinder
39	Slide bearing cylinder
40	Slide bearing



**EXTRUDER**

**ASSEMBLY**

## EXTRUDER ASSEMBLY

2	Gear tank cover plate	34	Clamp
3	Fly wheel	35	Screw
4	ball bearing	37	Sleeve
5	Sleeve	38	Ball bearing
6	Spiral	39	Cover
8	Hydraulic motor connector	41	Key
9	Electric motor	42	Upper Shaft
11	Oil pump	43	Hopper
12	Sensor plate	44	Cooling clamp
13	Chain		
14	Sprocket		
15	Connector		
17	Cover plant		
18	Oil seal		
19	Ball bearing		
20	Sleeve		
21	Gear tank		
22	Oil level		
23	Sleeve		
24	Key		
25	Lower Shaft		
26	Ball bearing		
27	Ball bearing		
28	Sleeve		
29	Stud		
31	Stopper case		
32	Barrel locked nut		
33	Barrel		



## VITA

Mr. Sakdiwat Chuenmeechao was born on February 17, 1971 in Bangkok Thailand. He graduated from ST Gabriel's college and obtained his Bachelor's degree in Electronic Engineer of Assumption University in 1990. After he graduated, he worked as Maintenance Engineer at Vatchara packaging product Co., Ltd.