
C1N-15 ~ 260

OPERATION MANUAL

TYPE	C1N
MACHINE NO.	

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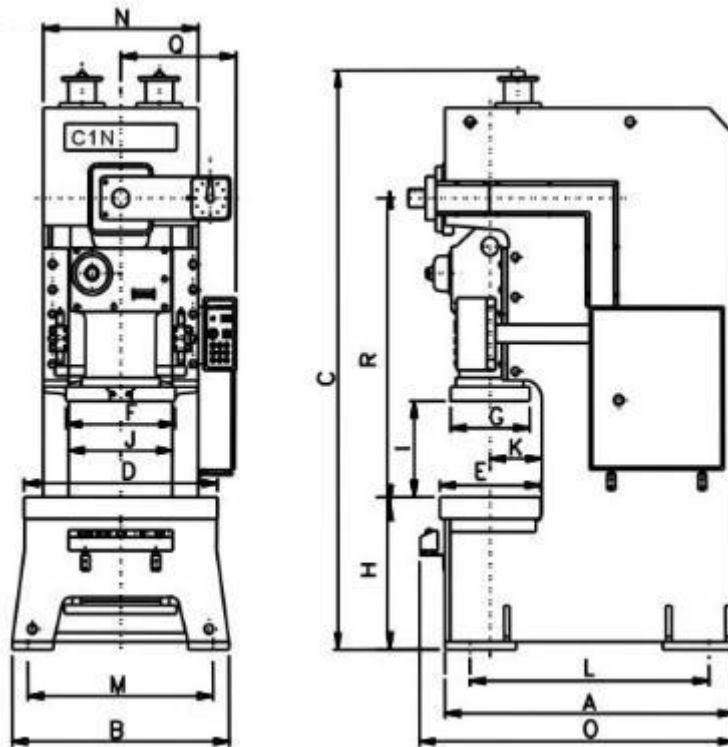
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1. INTRODUCTION

1-1 Machine Identification

- 1-1-1 Name: C-frame Single Crank Power Press
- 1-1-2 Series Number: C1N-25, C1N-35, C1N-45, C1N-60, C1N-80,
C1N-110, C1N-160, C1N-200 , C1N-260
- 1-1-3 Working Specifications:
 - 3.1 This machine can only be used for metal punching, cutting, bending and tearing.
 - 3.2 This machine must not be used in processing of fragile materials, like cast iron, wood, glass, and ceramic and flammables, like magnesium alloy, etc.
 - 3.3 It is strictly forbidden to use this machine for other purposes.
- 1-1-4 Service Life Expectation:
8 hrs x 6 days x 50 weeks x 10 years = 24,000 hrs

1-6 Machine Outline Dimension Diagram



外型尺寸	25	35	45	60	80	110	160	200	260
A	1100	1100	1200	1400	1420	1595	1720	2140	2440
B	740	840	900	950	1000	1170	1290	1390	1690
C	2040	2135	2345	2425	2780	2980	3195	3670	4075
D	680	680	800	850	900	1000	1150	1250	1400
E	300	300	400	440	500	550	600	800	820
F	300	300	360	400	500	560	650	700	850
G	220	220	250	300	360	420	470	550	630
H	725	800	790	800	795	840	840	910	1030
I	260	260	290	320	420	480	530	650	650

J	426	444	488	502	526	534	616	660	790
K	150	160	205	225	255	280	305	405	415
L	980	980	1040	1170	1180	1310	1420	1760	2040
M	600	700	800	840	890	980	1100	1200	1400
N	540	540	620	670	720	780	920	1000	1160
O	1275	1275	1375	1575	1595	1770	1895	2315	2615
P	278	278	278	313	333	448	488	545	593
Q	447	447	560	585	610	620	685	725	805
R	935	935	1073	1130	1378	1506	1650	1960	2188

1-1-7 List of Accessory Tools

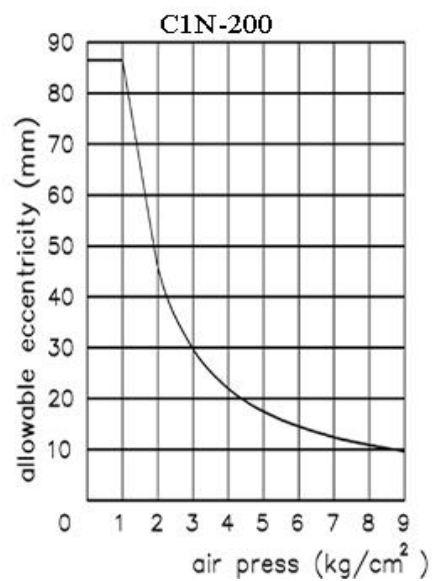
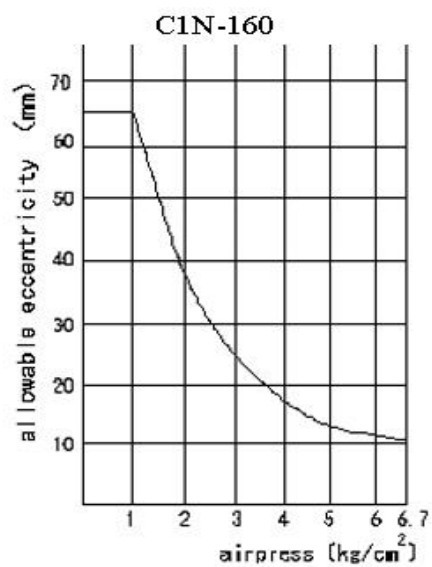
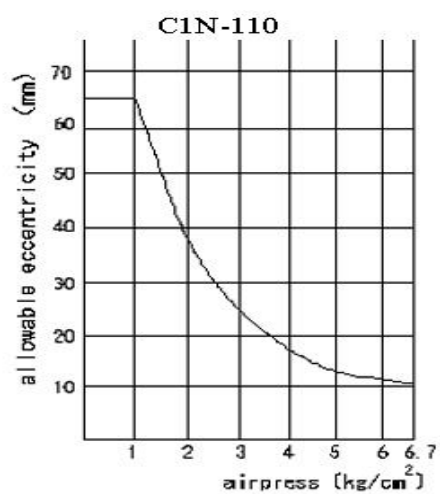
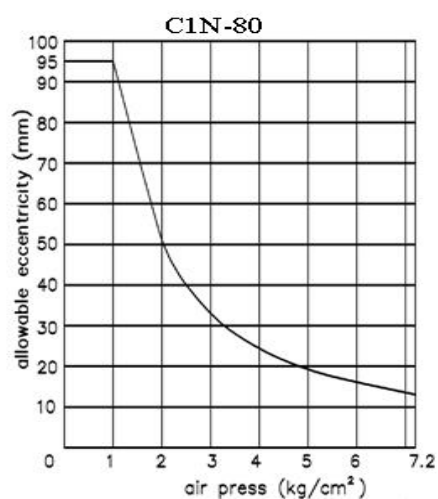
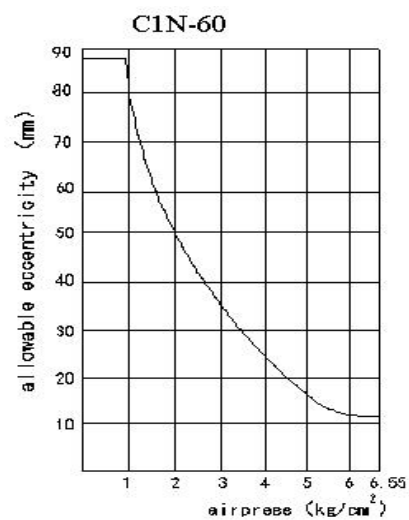
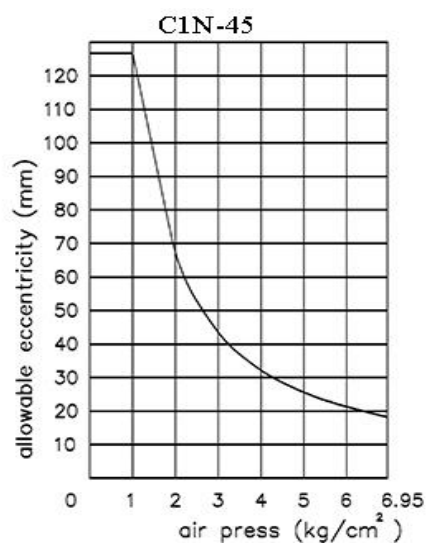
7.1 List of Accessory Tools

Description	Specification	Unit	C1N-25	C1N-35	C1N-45	C1N-60	C1N-80	C1N-110	C1N-160	C1N-200	C1N-260
Tool Kit	Large	Set.	1	1	1	1	1	1	1	1	1
Oilier	Plastic	Pc.	1	1	1	1	1	1	1	1	1
Grease (Tallow) Gun	Head 45°	Set.	1	1	1	1	1	1	1	1	1
Cross Screw Driver	4"	Pc.	1	1	1	1	1	1	1	1	1
Cross Screw Driver	4"	Pc.	1	1	1	1	1	1	1	1	1
Flexible Wrench	12"	Pc.	1	1	1	1	1	1	1	1	1
Open-end Wrench	8X10	Pc.	1	1	1	1	1	1	1	1	1
Offset Spanner	B-30	Pc.	1	1	1	1	1	1	-	-	-
L-Shaped Hexagonal Wrench	1.5-10	Kit.	1	1	1	1	1	1	1	1	1
	14	Pc.	1	1	1	1	1	1	1	1	1
	17	Pc.	1	1	1	1	1	1	1	1	1
Wrench	B-13	Pc	1	1	1	1	1	-	-	-	-
	B-17	Pc	1	1	1	1	1	-	-	-	-
	B-19	Pc	1	1	1	1	1	1	1	-	-
	B-22	Pc	-	-	-	-	-	-	-	1	1

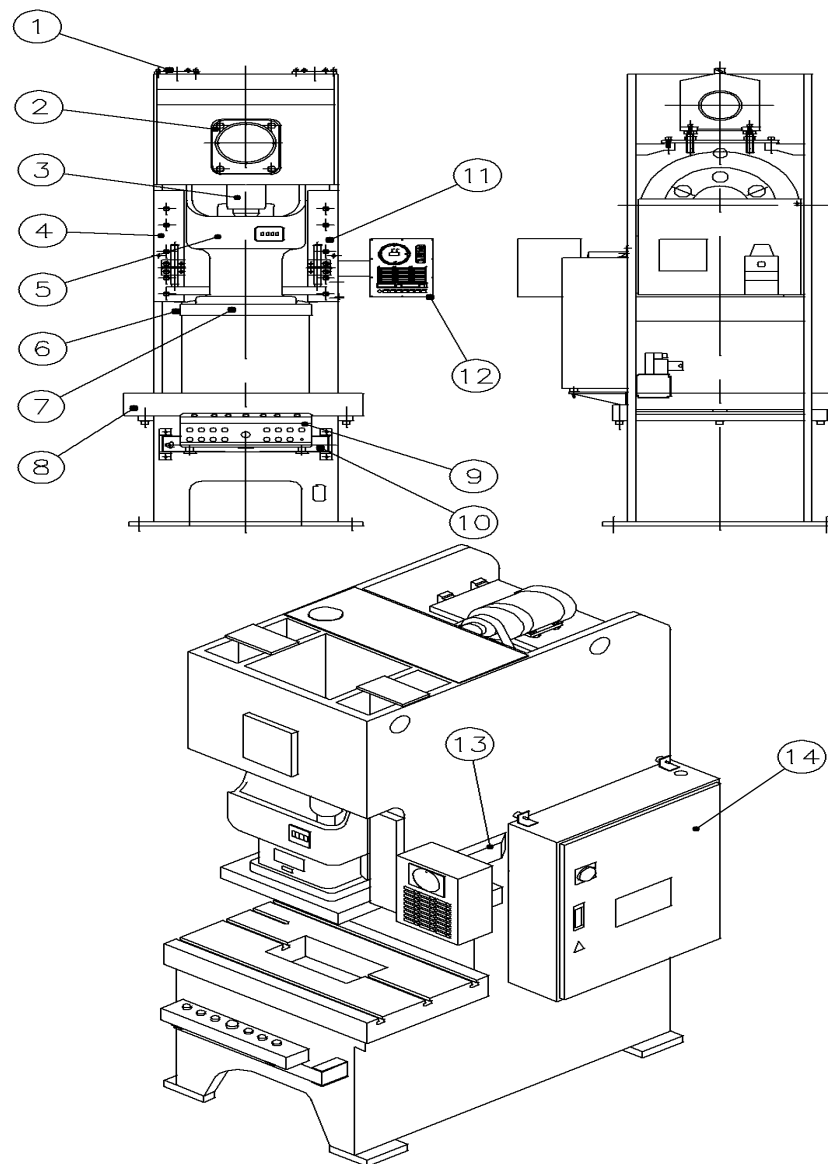
Remarks: Figures refer to quantities of accessories.

The symbol '-' means non-standard accessory.

1-1-9 Relationship Between Permissible Eccentric Loading and Distance

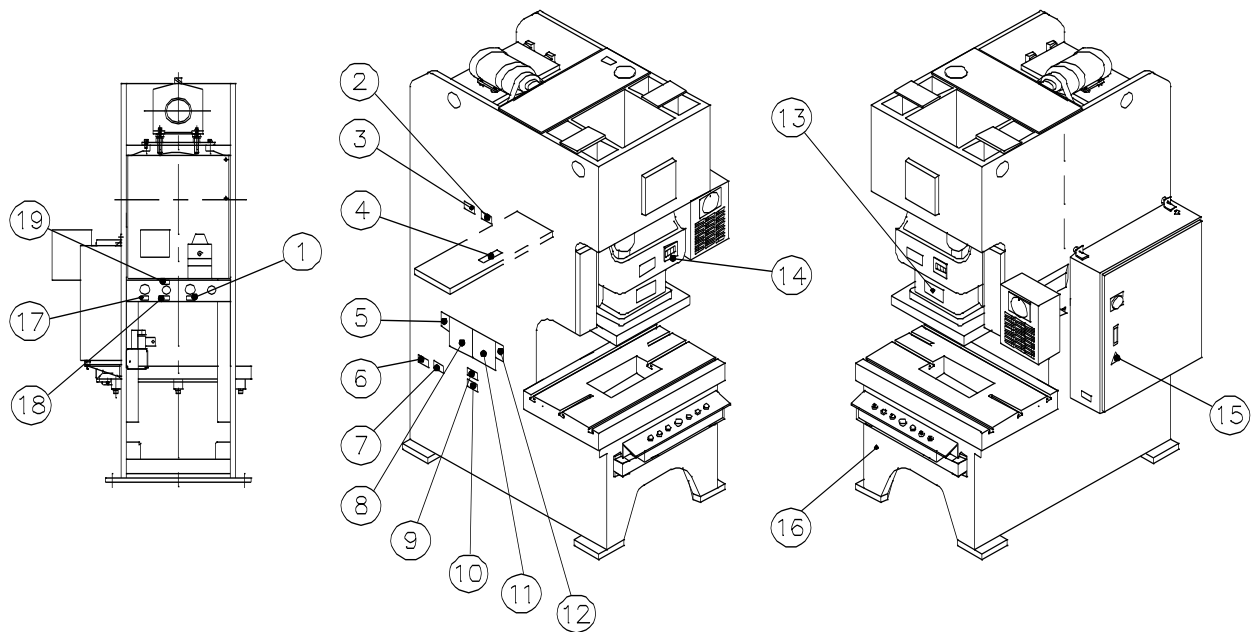


1-2 Diagrams of External Components (C1N Series)



1	Balancer	8	Bolster
2	Crank Frontal Bearing	9	Two-hand Controlled Panel
3	Connecting Rod	10	Rotary Operation Panel Bracket
4	Left Gib	11	Right Gib
5	Slide	12	Main Control Panel
6	Oil Collecting Slot	13	Operation Cabinet Bracket
7	Slide Gib	14	Electrical Cabinet

1-3 Illustrations and Descriptions of Name Plates (C1N Series)



1	Air Pressure of Balancer	11	Operation And Maintenance Instructions
2	Gearbox Oil Gauge	12	Main Specifications
3	Clutch & Brake Oil Gauge	13	Warning, Danger
4	Flywheel Rotation	14	Die Height to Bolster - Range of Adj.
5	Balance Capacity Curve	15	Danger of Electric Shock
6	Balance LUB	16	Emergency Stop
7	Crank, Slide LUB	17	C & B Capacity
8	List of Lubricant	18	Overload Capacity
9	Air Ejector	19	Preset - Do Not Adjust.
10	Air Source	20	

Related Information:

Note: Name plate No. 9, List of Lubricant, can refer to the lubricant oil gauge in appendix 7.1.3.

1

A.P.OF BALANCER

2

GEAR BOX OIL GAUGE

3

CLUTCH & BRAKE
BOX OIL GAUGE

4

FLYWHEEL ROTATION

5

COUNTER BALANCE CAPABILITY DIAGRAM

MAX AIR PRESSURE

Kg/cm²

MAX UPPER DIE WEIGHT

tons

UPPER DIE WEIGHT
tons

AIR PRESSURE

Kg/cm²

OPERATION AND MAINTENANCE INSTRUCTIONS

1. Daily Inspection:

It is essential to check before and after operation, the interval is based on a normal exceeds 10 hours daily stop and check again as working time exceeds 10 hrs.

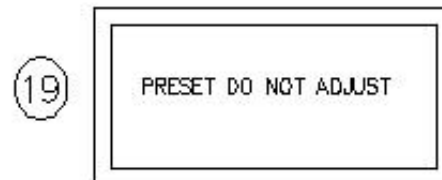
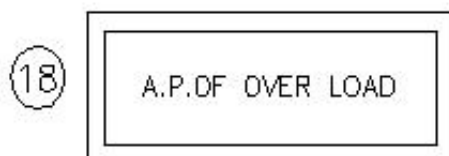
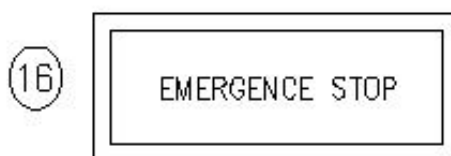
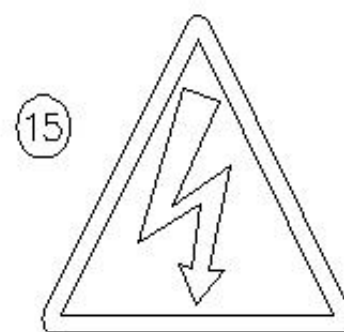
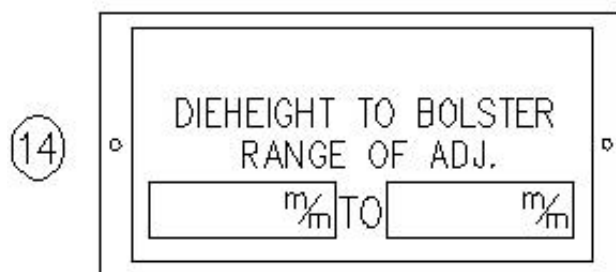
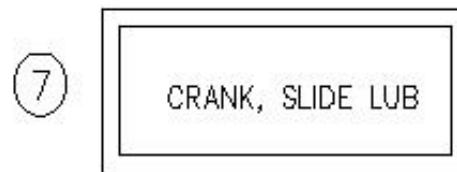
Inspection Items	Operating Procedures
■ Check before operation: A. Before starting the main motor ① Are all principal parts lubricated properly? ② Is the air pressure at rating? ③ Does the pressure adjusting valve function properly? ④ Does the solenoid valve for clutch/brake function properly? ⑤ Does the air leak?	Before starting the machinery, fill all oil station of the lubricating system thoroughly. Pull out the long "One shot" pump by hand, will lubricate all the moving part and simultaneously, check the oil tube for leakage or cutoff. Manual lubrication station should be lubricated individually. Is the air pressure for the air clutch sufficient (5 kg/cm ²)? Look at the fluctuation of air pressure and make sure. When compressed air is introduced or the predetermined air pressure is changed, check it two times, to insure proper operating pressure are supplied as preferred. If it fails to be controlled (may be raised or lower), check the pressure adjusting valve and the valve seat of the adjusting valve. It should be disassembled and retightened. To activate the clutch by inching drive and its function by distinguishing the exhausting sound from the solenoid valve. Make sure, that the connecting parts (pipe, fittings, etc.) of pipe lines of the clutch, and air cylinder of counter-balance system should be free of leaks. Pay special attention to the starting, vibrating and noise (running) of the motor, and check the belt tension when rotating resistance increases, V-belt vibration may be occurred. Before operating, use inching drive, safe-single stroke, continuous start-stop, etc., to make sure that all of them functions properly. If the stop position at top dead point is unstable, the reasons are listed below: (1) If stop position is stable, but not at top dead point---adjust micro-switch. (2) If stop position is unstable but the range of error narrow---adjust the stroke of brake. (3) If stop position is unstable but the range of error is wide---adjust the setting screw on cam or related parts. In operation, beware of the oil lubricating occasionally, if hand-operated pump is used, pull out the operating lever, prevent oil from leaking. If automatic oiling system is used, prevent oil from leaking. When the oil temperature rises on temperature less than room temperature +30° C, shall be permitted. Operation at overheat condition should be avoided. Temperature measured on case of motor shall be below 60° C. In operation, check air pressure occasionally. Operating at pressure other than specified, shall be avoided to prevent unnecessary wear on liner (specially at drop of air pressure). Main valve on air line should be locked firmly, drain waste water, release pressure in air cylinder, clean anywhere and check for leakage and damage.
■ Check during operation : A. Look on the parts lubricated. B. Look on the fluctuation of air pressure. ■ Check after operation : All the material, and scrap shall be handled satisfactorily and machinery be cleaned and make a full check. ※ Ram slide adjustment Never do over limit of adjustment.	This machine provide ram slide adjustment (PA) limiting device, when shifting reaches a pre-determined point and stop. Don't forcing it any more.

2. Weekly Inspection :

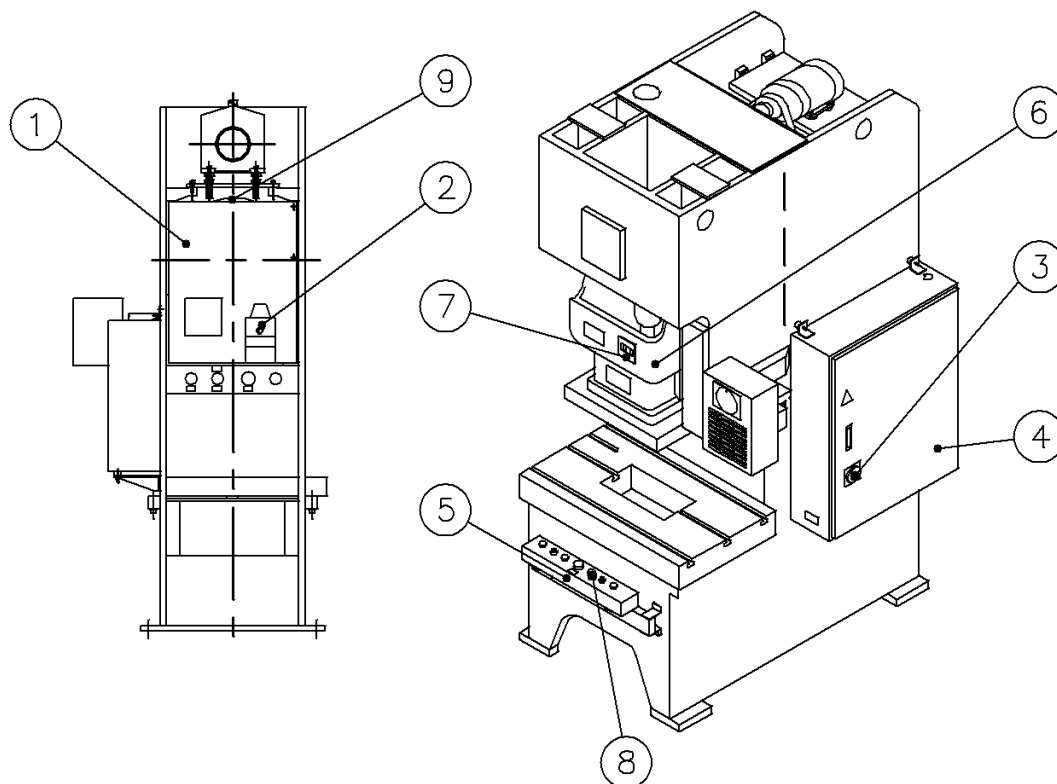
The running period is at an interval of 60 hours weekly, besides the daily inspection, do check as listed below:

Inspection Items	Operating Procedures
① Clean out the air filter. ② Check the related electric connections. ③ Be sure, the electric wiring is in proper condition. ④ Clean out anywhere.	Disassemble the air filter and the screen (if the water stored in the air piping system is not serious, clean out each 2 weeks). It should be noticed, if air filter becomes blocking air pressure can not be raised. Loose connections, oil, dirt covered on terminals, condition of contact point, and quality of insulation shall be checked and maintained. Breakage on surface of braided wire and loose wiring shall be checked and remedied. Keep free of oil, grease, dirt and scrap and check for leakage and damage.
3. Monthly Inspection : the running period is at an interval of 260 hours monthly, besides the daily, weekly inspection, do check as listed below:	Operating Procedures ① Measure the stroke of clutch/brake. The stroke of clutch/brake shall be maintained within 1.5 m/m or 2.0m/m, check and get proper adjustment. ② Check the V-belt tension of main motor. Check V-belt tension by hand, the desired sag of 1 M span shall be about 1.5m/m. ③ Check the inner face of cylinder bore of counterbalance. Disassemble and check for wear, scoring and lubrication.
4. Yearly Inspection : the running period is at an interval of 3000 hours yearly, besides inspections as stated above, do check as listed below. Since the operation has some difference in condition, considerable wear and damage shall be observed. The maintenance personnel or trained service man is extremely needed in assisting to promote the complete inspection,	Operating Procedures ① Accuracy Clearance-between ram and guide plate (0.03m/m or 0.04m/m). ② Clutch/brake disassembly Check excessive wear and worn condition of liner. Measure wear on the two clamping face of liner and on the inner and outer faces of housing . Check p- ring, spring, and wear on inner face of cylinder bore, repair or replace if unsatisfied. ③ Solenoid valve Does it function properly? Isn't wiring burnt out? Does spring function properly? Check and replace if unsatisfied. ④ Looseness on foundation bolts Check looseness of foundation bolts and tighten. ⑤ Electric connections Check excessive wear on contact point of relay looseness on wiring and reatify.

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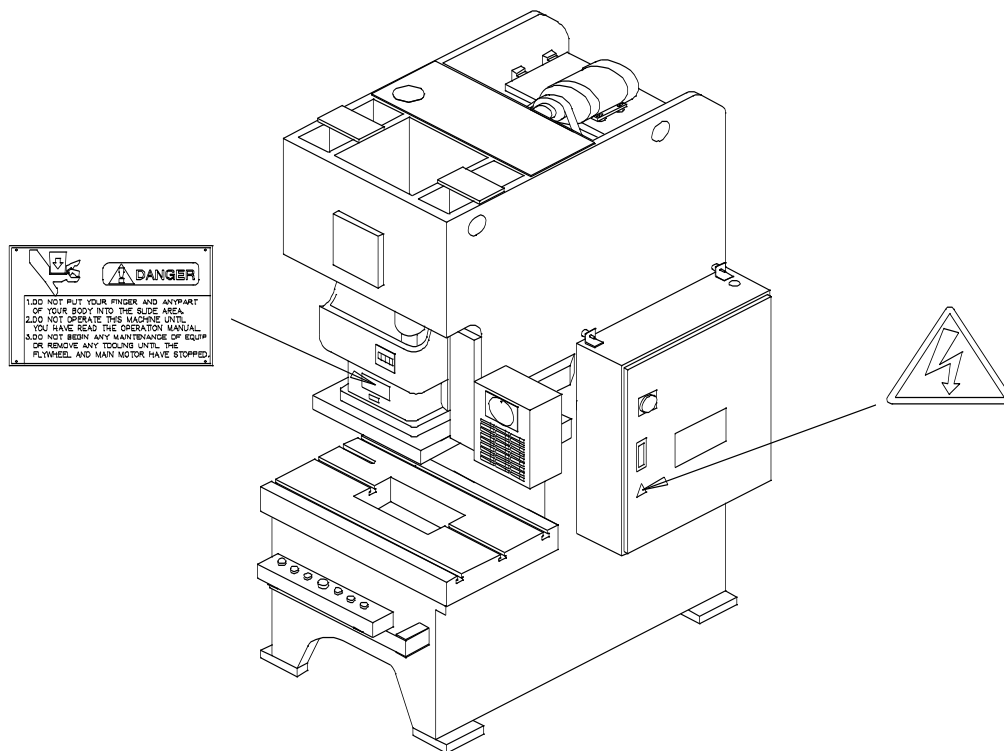


1-4 Illustrations of Safety Devices (C1N Series)

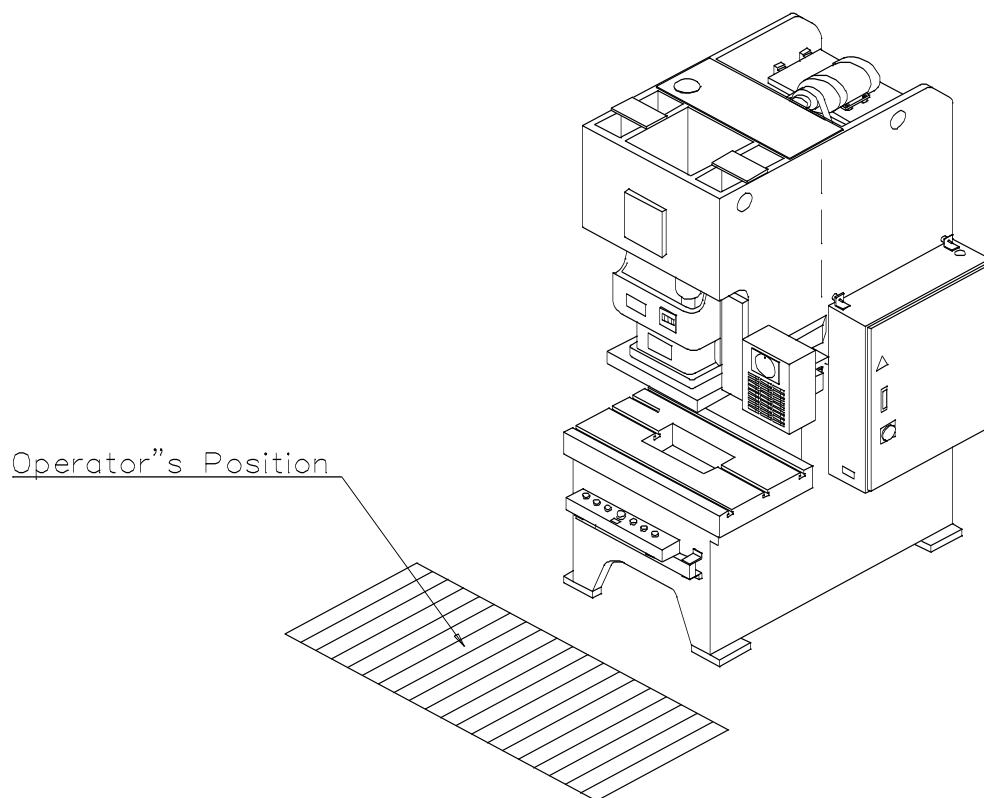


1	Rear Frame Safety Guard
2	Valve
3	Breaker Safety Switch
4	Electric Control Box
5	Two Hand Run Button Panel
6	Overload Device
7	Slide Adjustment Device
8	Emergency Stop Switch
9	Decoder, Overrun Limit Switch

1-5 Diagram of Operator's Position (C1N Series)



1-6 Locations and Descriptions of Warning Signs (C1N Series)



2. SAFETY

2-1 General Safety Rules

This chapter relates to general information on safety and health that shall be rigidly adhered in operating this press. Before operating this press, please read through all sections of Installation, Operation and Maintenance in this manual.

The manual shall be placed at the designated location on the press, ready for immediate reference at any time.

Please get full familiarity with the general safety rules described in the following sections.

2-1-1 Applicability:

Please refer to 1-1 and 1-1-3 concerning working specifications of this machine in Introduction of this manual.

2-1-2 This press shall be erected in the optimum working place below 1000 meters of sea level with room temperature ranging from 5-40°C and 30%-90% of relative humidity. Please refer to 3, Installation and 2-3 of this section for exact compliance with the installation instructions.

2.1 The opening of the electrical cabinet is adequately treated to prevent foreign objects and the motor is provided with IP 44 safety protection, too. Please refer to 1-3 of Introduction for locations and descriptions of nameplates.

2.2 The inverter is furnished with abnormal detection and display as well as protection against over-current in motor, instantaneous over-current, fuse breakdown, overload, over-voltage, low voltage, re-start after instantaneous interrupt, overheat, over-speed and grounding fault, etc.

2-1-3 The operator in charge shall be a technician proficiently trained in stamping and mechanical manipulation or a locally certified one. The operator is required to read through the Operation section of this manual and faithfully stick to the proper operational procedures prescribed therein.

2-1-4 The operator of this machine is required to wear a safety helmet, safety boots, goggles and earplugs. In addition, the operator is advised not to wear loose clothes and long hairs.

2-1-5 In case of abnormal conditions, push down the red color emergency stop button promptly and reset till the possible trouble is eliminated. Please refer to 5.2 of

3. INSTALLATION

3-1 Preparations for Installation

The press Goanwin ships to the order of the buyer is well in readiness and can be promptly put on the production line upon its arrival. The end-user shall have the followings prepared for its arrival in his plant.

- . Foundation preparations
- . Power preparations
- . Pneumatic preparations
- . Lubricant preparations
- . Environmental preparations

In case the end-user wants to relocate the press, the preparations shall be done in similar way before the relocation takes place. In the mean time, please refer to Chapter Six of the Handling Manual for detail information.

3-1-1 Foundation Preparations and Requirements

1.1 Foundation considerations

For the smooth operation of the press, installation of the machine must be on plain ground.

To ensure smooth and effective operation of the press, the foundation where the press is resting on shall have sufficient load bearing force and vibration resistance. When the floor is constructed of concrete with enough strength, then the rubber pads shall be placed at its feet to achieve good vibration diminution and fertile production.

If the foundation bolt instead of rubber pad is erected or the ground load bearing force is less than standard (less than 7.5 ton/m²), the foundation shall be reinforced in accordance with requirements set forth in Section 2, the Foundation Drawing and Section 1.2 Foundation Construction.

1.2 Foundation construction

- 1.2.1 The foundation construction shall conform to the local foundation requirements. The ground intended for foundation shall be thoroughly surveyed and the excavation shall accord to the dimension (length, width and height) as shown on the foundation drawing in 3.1.2.

1.2.2. The ground load bearing force required for foundation shall comply with the local building codes or the requirements as indicated on the foundation drawing (more than 7.5 ton/m²). If the ground is very soft, adequate piling shall be used for reinforcement.

4. OPERATIONS

Presses are a kind of machinery that operates under heavy loads for a prolonged period of time. To assure correct operation of a press, it is necessary to fully understand its structure and functions. To assure operational safety, the operator shall strictly obey safety requirements; whereas, the managers, supervisors and administrators in charge of labor safety shall at all times make preparations for work safety so as to maintain operational safety and efficiency.

Warning:

Operators of the press shall be limited to the technical workers who have received training in operation of the press with qualifications met the requirements under the laws/regulations of the local government.

4-1. Cautions:

4-1-1. Cautions for use of the machine

1.1 Prior to operating the machine in a correct manner, the operator shall carefully read this instruction manual, the contents in the nameplate at the side of the machine as well as the warning signs.

1.2 The use of this machine shall not exceed the scope of use of this machine.

For the features and specifications of this machine, refer to 1.1.6 of the Introduction.

1.3 No control circuits shall be altered and no extra facilities shall be added to the existing devices of this machine without prior consent or promise from this company.

1.4 This machine shall be operated by the qualified operator only. For qualifications and responsibilities of the operator, refer to requirements under the safety sections in 2.1.3 and 2.7.7.

1.5 Before operation of the new machine, it is necessary to conduct the initial inspection according to "Initial inspection for new machine before operation: Checklist 1".

The operator shall conduct the daily inspection of this machine prior to daily operation according to "Daily inspection before operation: Checklist 2".

After every die change, the operator should conduct inspection according to "Inspection before operation after die change: Checklist 3"; whereas, the qualified maintenance personnel shall conduct the monthly, semi-annual and annual inspections plus the scheduled maintenance according to "Inspection

5. MAINTENANCE

The purpose of this section is to give maintenance personnel a reference concerning possible fault symptoms and troubleshooting so that they can repair faults, reduce down time and maintain a smooth and safe operation and use of the machine when faults occur rendering it inoperable. Please do not attempt to repair faults other than the possible faults described in this section. In this case, the agent or the manufacturer should immediately be notified (see 5.3 in this section), so that repairs can be carried out and the safety of personnel is protected.

Due to the consideration for the personal safety of maintenance personnel and in order to extend the life span of the machine, we make the following demands for professional expertise and qualifications of the maintenance personnel.

5-1. Mechanical maintenance personnel and tools required:

Mechanical maintenance personnel must be properly trained and familiar with the structure of mechanical power presses or have experience with assembly and repair work for mechanical power presses.

Unit: mm

Name	Specifications	Quantity
Socket wrench	10-32	1 set
Off-set wrench	10-40	1 each
Hexagon wrench	3-27	1 each
Chain type pliers	76.2	1 each
Adjustable wrench	200, 300, 400	1 each
Open-end wrench	8-55	1 each
Screwdriver	Regular, Phillips head	1 each
Long nose pliers	152.4	1
Pipe pliers	300, 450, 600	1 each
Vernier Caliper	300	1
File	5 piece set	1 set

6.HANDLING SECTION

6-1 Instructions for Handling

6-1-1 Any movement or handling of the mechanical power press can be extremely dangerous. When movement is absolutely necessary, please ensure that a professional heavy equipment lifting company is put in charge of handling and that the work is conducted by a legally authorized individual.

6-1-2 As the press is large in size and heavy in weight, it cannot be handled with the lifting procedures for general machines. It must be lifted with a crane exclusively. Thus, the capacities of the lifting crane and steel cables have to take into consideration. For details relating to the steel cable and lifting apparatus, please refer to 6-2-1, 6-2-2, 6-2-3 and 6-2-4 in the handling section.

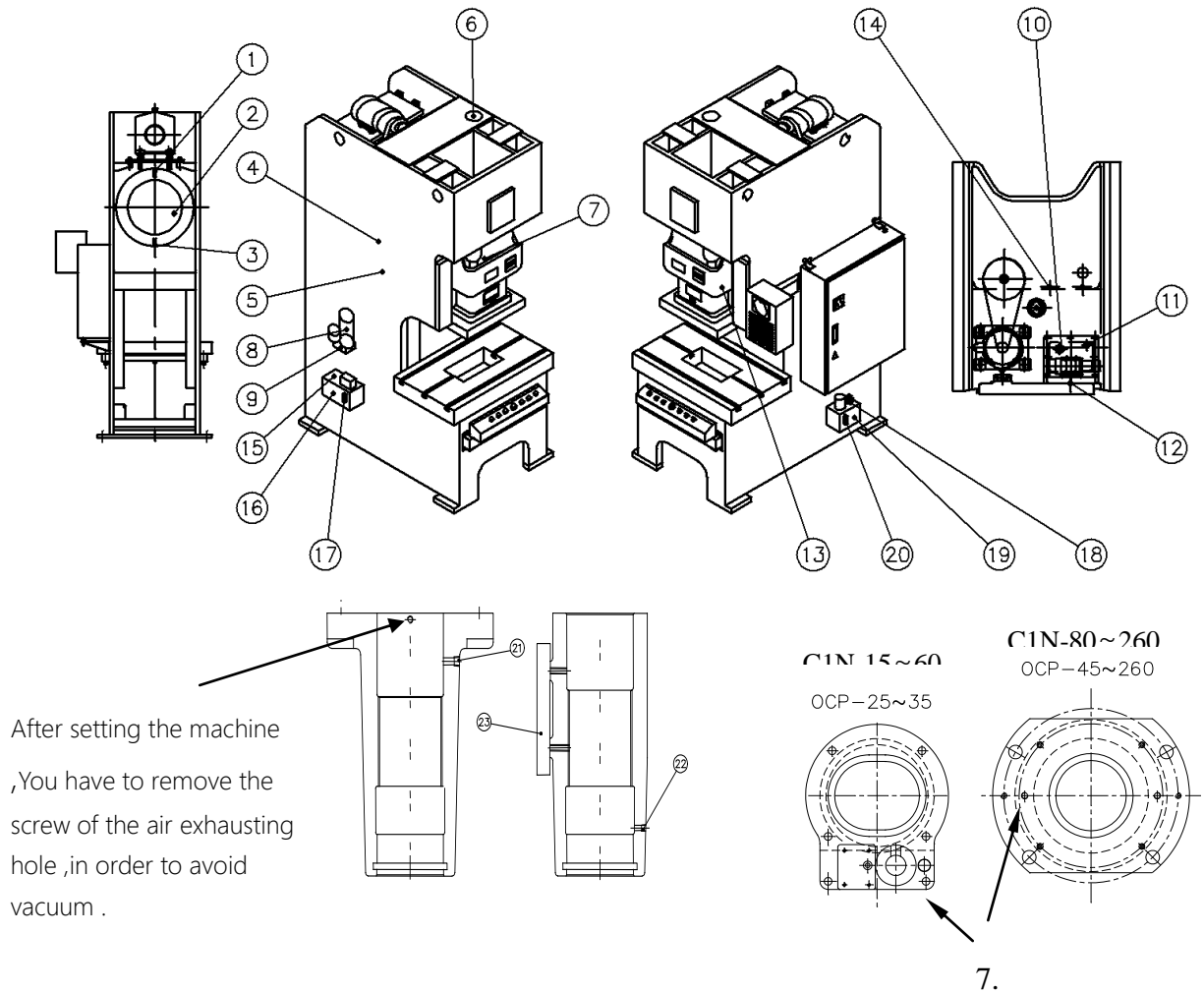
The weights of various models of the presses are listed as the following table.

Model	C1N-15	C1N-25	C1N-35	C1N-45	C1N-60	C1N-80	C1N-110	C1N-160	C1N-200	C1N-260
Weight (Ton)	1.9	2.1	3	3.8	5.6	6.5	9.6	16	23	32

7.ATTACHMENT

7-1 Drawings of All Assembly Systems

7-1-1Location Drawings of Oil Inlets, Outlets and Gauges



1	C & B oil inlet	13	Slide oil gauge
2	C & B oil gauge	14	Slide oil outlet
3	C & B oil outlet	15	QDC oil inlet (optional device)
4	Gearbox oil gauge	16	QDC oil outlet (optional device)
5	Gearbox oil outlet	17	QDC oil gauge (optional device)
6	Gearbox oil inlet	18	Lubricant inlet (optional device)
7	Slide lubricant inlet	19	Lubricant outlet (optional device)
8	Grease inlet	20	Lubricant oil gauge (optional device)
9	Grease outlet	21	Connecting Rod and screw thread oil inlet
10	Overload protection oil gauge	22	Connecting Rod and screw thread oil outlet
11	Overload protector	23	Connecting Rod and screw thread oil gauge
12	Overload protector		