

LAARMANN[®]

Innovators in Solids



LMC100D JAW CRUSHER USER MANUAL

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1 Description

The LAARMANN laboratory Jaw Crusher is a robustly constructed single-toggle type with one fixed jaw plate and one moving jaw plate. Designed for the smaller laboratory, or use by prospectors. It is capable of quickly crushing materials up to 85% of the jaw opening (130 mm x 100 mm). It is robust and long wearing and made of parts and materials easily serviced in a remote area.

Toggle adjustment is by means of jacking screw.

The crusher is supplied as a free standing floor mounted unit with the motor to the rear of the main body.

Comes complete with dust extraction point (from the top of the machine), hinged inlet hopper and removable sample bucket.

2 Manufacturer

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3 Installation

1. Ensure that the support structure is capable of safely supporting the weight of the crusher.
2. The crusher should be positioned to allow safe, easy access for operation & maintenance and dynabolted to a suitable concrete floor.
3. Securely fasten the unit to the support structure
4. Connect to power supply 380/415 volt, 3 phase, 50Hz.
5. Provide dust extraction to the outlet.

BEFORE STARTING

- 1 Check to see jaws are free.
- 2 Check direction of rotation.
- 3 Set the gap for the product required.
- 4 Grease the outer bearings and toggle bushes.

PRIOR TO FULL TIME OPERATIION

- 1 Run the machine empty for approximately 2 (two) hours.
- 2 Adjust the tension on the Vee belts to give no slip (Check this regularly).
- 3 Check bearing temperatures. Initially these will run quite hot, but after running in, should get to a stage where the housings are warm to touch.
- 4 Feed the crusher slowly for one or two days until the cast wear surfaces

4 Installation

4.1 Materials to be crushed

The LMC100D will crush most types of crushable materials and will accept particles with dimensions up to 85% of the jaw openings. However, wet and sticky materials, which have a tendency to pack or extrude, should be avoided as these will induce heavy loads on the machine with risk of damage to the crusher mechanisms. Likewise, slipper self-lubricating materials similar to talc should be avoided. Although these will crush, lengthy periods of time are required.

4.2 Before starting

1. Check that jaws do not touch during rotation.
2. Check direction of rotation;
3. Check the drive belt adjustment.

4.3 Altering the crusher setting

The distance between the crusher jaws may be varied by adjusting the jacking bolt P/N 137131 to suit the product requirements.

Do not allow jaw plates to touch in operation. Adjustment is best done whilst the crusher is running and free of material

5 Maintenance

To ensure long life and trouble free operation frequent, regular checks of the equipment must be made.

Check the belt tension and condition. The belt should have no more than 11.5mm deflection at the centre with a 2 kilogram of force (spring balance will suffice).

Inspect belt condition for cracks, swelling or softening.

Inspect toggle seats and main bearings for any signs of wear and excessive movement.

5.1 Lubrication

Prior to applying grease, wipe the grease nipples, apply grease to all points, then leave a layer of grease on the nipple to protect against entry of dirt until the next lubrication time.

5.2 Lubrication schedule

Main Bearings: Lubricate every 2 weeks - Shell Alvania (#2or3)

Toggle bushes : Lubricate every 2 weeks - Shell Alvania (#2or3)

(1) Apply 7g of grease to each point

(2) Lubricate whilst machine is in motion.

5.3 Jaw Replacements

Jaw plates should be replaced when crushing product is no longer satisfactory and insufficient adjustment available. Side liners should be replaced when worn to 4 mm.



PROCEDURE

1. Remove the collector bucket
2. Open the front door of the Crusher which gives access to the chamber
3. Remove top clamp of fixed jaw plate which holds the jaw plate in position
4. Remove top clamp of moveable jaw plate which holds the jaw plate in position
5. Remove used jaw plate and replace with new one
6. Fix top clamp of moveable jaw plate which holds the jaw plate in position
7. Fix top clamp of fixed jaw plate which holds the jaw plate in position

6 procedure

Release the Hand **wheel No. 1** located at the left side of the Crusher front view

Release the Hand **wheel No. 2** located at the back

Set the gap to required opening with Adjusting **wheel No. 3**

Tighten Hand **wheel No. 2** located at the back

Tighten Hand **wheel No. 1** located at the left side of the Crusher front view



7 Recommended Spare Parts

Jaws and side liners should last a considerable time. A six monthly inspection should suffice to ascertain if a replacement is necessary. It may be prudent however, to certain spares on hand. Spare parts recommended to be held in stock are listed below.

Bearings are long lasting and a stock item which can be delivered in a short period.

| No. | Description | Part no | Qty | availability |
|-----|---------------|---------|-------|--------------|
| 1 | Vee belts | 225146 | 1 | Stock |
| 2 | Fixed jaw | 137113 | 1 | Stock |
| 3 | Moving jaw | 137114 | 1 | Stock |
| 4 | Side liners | 137119 | 2 | Stock |
| 5 | Bronze bush | 137121 | 1 | Stock |
| 6 | Toggle bolts | 137124 | 1 set | Stock |
| 7 | Jacking bolts | 137131 | 1 set | Stock |



Jaw crusher
Type LMC100

| | |
|--------------|-------------|
| Product | Jaw Crusher |
| Model | LMC100 |
| Power supply | 400V/50Hz |

This declaration of conformity confirms compliance of the above mentioned equipment to the relevant sections of the following European Directives:

| | |
|-------------------|--|
| 91/368EWG | European machine guideline |
| 73/23/EWG EC | Low Voltage Guidelines |
| EN 292, 294, 418 | Safety guidelines |
| VBG 1,4,5 en 22 | General electrical facilities |
| 89/336/EEC | Electromagnetic Compatibility Directive (EMC) |
| EN 5008-1-1992 | Emissions |
| EN 50082-1-1992 | Immunity |
| EN 60204-1 Part 1 | Safety of Machinery – Electrical Equipment of Machines |

WARNING:

This equipment is required to be operated strictly in accordance with the instructions given in the operating manual supplied with the product. All supply voltages and frequencies as stated on the rating plate must be used. External power cables and connectors must be supplied by LAARMANN. Any additional equipment used must be of a type approved by LAARMANN.

This conformity certificate will lose its validity in case of:

- Usage of unlicensed spares
- Usage of unlicensed accessories
- Any self made modifications of the machine