MAGHAMMER ™

USER MANUAL

FOR

MODEL SB CONTROLLER AND MAGHAMMER ™

Table of Contents

1

Unpacking and Inspection ..... Pg 3

Parts ..... Pg 3

Checking for damage ..... Pg 3

Reporting damage ..... Pg 3

2

Mounting and Positioning ..... Pg 4

Mounting ..... Pg 4

Positioning ..... Pg 4

Typical Installations ..... Pg 4

Poor Fluidity Installations ..... Pg 5

Wall Mount Installation ..... Pg 6

3

Wiring and Operation ..... Pg 7

Wiring ..... Pg 7

Operation ..... Pg 7

Stoke cycle of the MagHammer ™ (Actuation Rate) ..... Pg 8

4

Service, Maintenance and Cautions ..... Pg 9

Service ..... Pg 9

Maintenance ..... Pg 9

Cautions ..... Pg 9

1

Unpacking and Inspection

Parts

- Hammer in housing
- Hammer base plate
- Set of nuts and bolts for attaching the base plaste to the hammer housing (these are in plastinc bag taped to the hammer housing)
- Safety link (attached to the hammer housing)
- 5 meter cable for connecting hammer to controller (pre-wired to hammer)
- Controller
- User manual

Checking for damage

Before opening the package, inspect the outside for apparent damage. Once this inspection has been done, open the package and check for any physical damage such as dings, chips or breakage.

Reporting damage

All goods and packing materials are inspected and verified in good order before shipping. In the event you notice damage to the packaging or contents, contact the carrier and report the damage immediately.

2

Mounting and Positioning

Mounting

1 Weld a 3-5 mm thick reinforcong steel plate to the outer surface of the hopper or bin where the MagHammer™ will be located.

2 Disassemble the base plate of the hammer from the housing and weld it to reinforcing plate. Besure to weld the entire perimeter of the base plate.

3 Reassemble the housing to the base plate and secure the nuts and bolts well. Double nuts are provided to assure locking.

IMPORTANT NOTE:

Check all uts, fittings and connections, routinely. Make sure the hammer is secure and firm against the reinforcing plate and all bolts are tight. This is not only a good safety practice it also insures maximum performance of the MagHammer™.

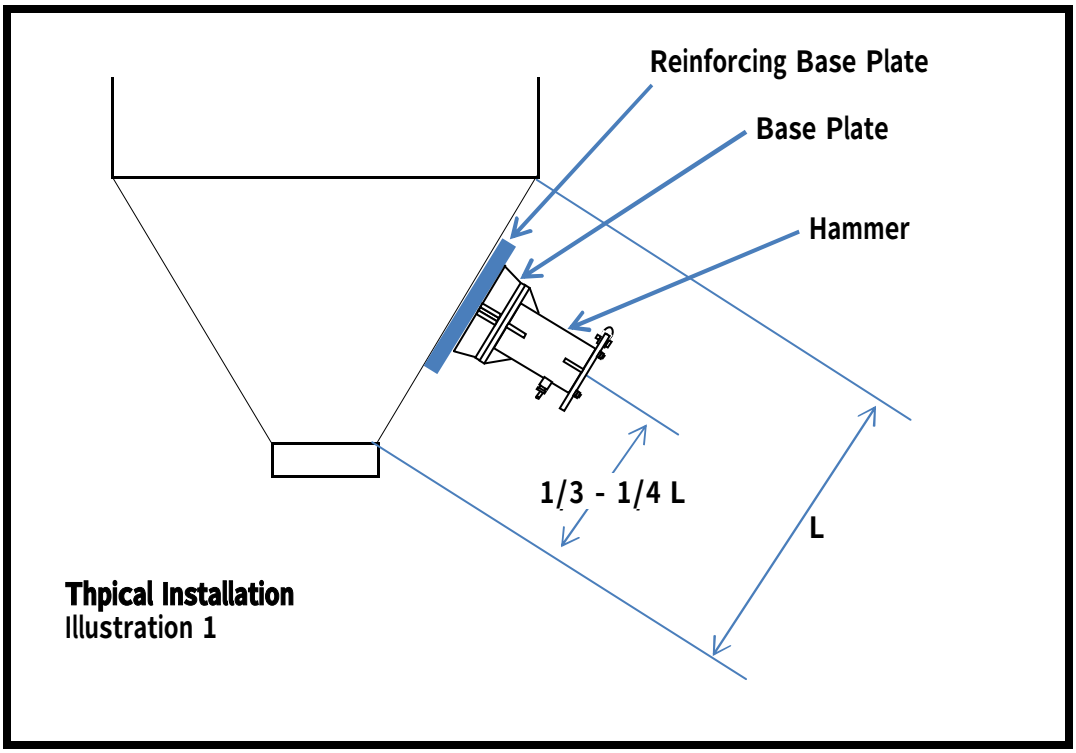
4 Install and secure a safety chain from the link on the hammer to the framing for the bin or hopper. This is to prevent the hammer from falling if dislodged from its position. It is a good idea to leave some slack in the chain to allow easy installation

Positioning

Typical Installlations

Ordinarily, the hammer should be installed 1/4 to 1/3 the distance from the outlet to the bend in the bin or hopper (see illustration 1).

Most installations require two hammer units installed opposite each other.



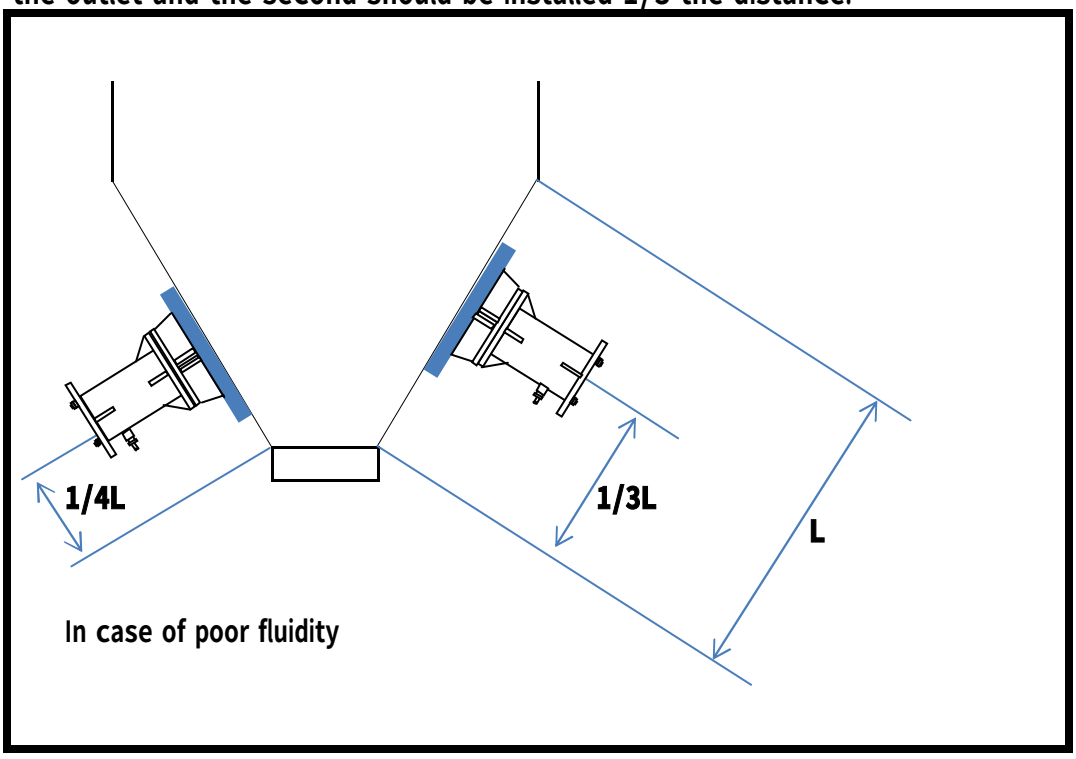
Thpical Installation
Illustration 1

For bins or hoppers that are already installed, you can find the most effective location through trial and error by beating the side of the bin or hopper while materials are struck to the sides.

Poor Fluidity Installations

In case of poor fluidity materials, such as caking powders, slug, and fine compact powders, flow can be improved by using two electromagnetic hammers which have different heights of installation (see illustration 2).

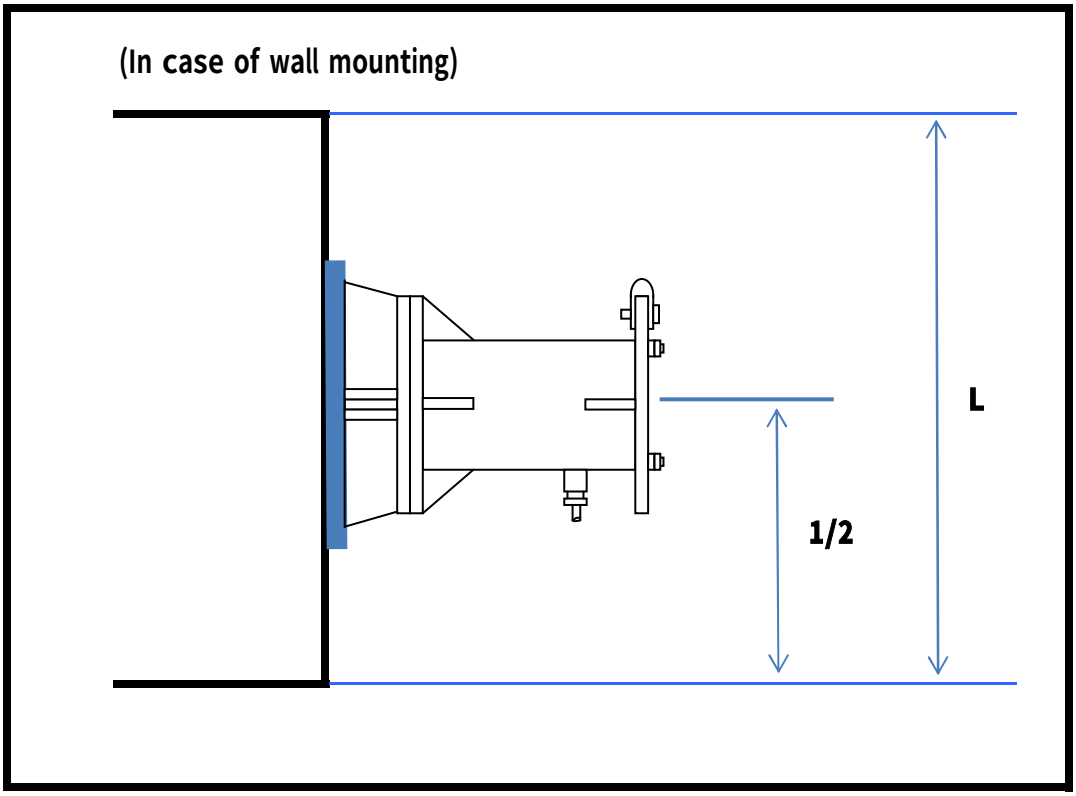
The first should be installed on the slope of the hopper 1/4 the distance from the outlet and the second should be installed 1/3 the distance.



In case of poor fluidity

Wall Mount Installation

For flat wall chutes, transporting piping and vertical surfaces, mount the hammer 1/2 the length of the piping (see illustration)



3

Wiring and Operation

Wiring

1. Making sure the power is off, connect the three phase 220V power supply to terminals R, S and T of the control panel.
2. Connect the cable from terminals (P1, N1, P2, N2) on the hammer to terminals (P1, N1, P2, N2 respectively) on the control panel.

Operation

1. Turn on the power to the power supply and switch the power source breaker to the ON position. The power light on the control panel should light up indicating
2. Set the AUTO, OFF, or EXT switch to the chosen function.

   a) AUTO position

   Activates the stroke of the hammer for the number of times set by the HIT TIME adjustment. (1 to 10 strokes) than pauses for the period set by the PAUSE TIMER adjustment (30 sec. - 10 min.), than repeats cycle.

   b) EXT position

   Throwing a switch on between terminals XC and XO with no-voltage contact are equivalent to setting the controller to EXT. When the switch is off between terminals XC and XO the hammer is paused.

   c) OFF position

   In this position the hammer will not strike.

3. The CONTIN HIT button mounted on the control panel overrides the system and causes the hammer to hit at a rate of 1 time/sec whether the selection switch is set for EXT or AUTO.CONTIN HIT will not override the OFF setting.

4. Adjusting Number of Strokes, Pause Time, Mounting Direction and Impact Force.

   a) Number of Strokes per cycle -

   The HIT TIME potentiometer is adjustable from 1 to 10. "1" indicates the minimum number of strokes per cycle are executed - typically 10.

   b) Pause Time -

   To adjust the resting time between cycles use the knob labeled PAUSE TIMER. The adjustment all the way counterclockwise is for the minimum resting time - typically 30 seconds. By turning the knob clockwise the resting time is increased - maximum of 10 m

c) Mounting Direction -

Mounting direction is important to the proper operation of the Unit since the coil "fire" the internal piston differently depending on the orientation of the housing. The MOUNTING DIRECTION knob indicates the mounting direction of the hammer for Upward,

d) Impact Force -

Impact force is adjusted by the knob IMPACT MAGNITUDE.. "0" is minimum and "10" is maximum.

Stoke cycle of the MagHammer ™ (Actuation Rate)

The MagHammerTM is preset for an actuation rate of 1 stroke/sec. The average actuation rate should not exceed an average of 1 hit per 3 sec, with continuous hitting for no more than 1 minute without a pause.

Example: If the hit rate of 4 time in 4 seconds is selected than a pause of 12 seconds or more should be selected. After continuous hitting of 1 minute, than the pause period should be 5 minutes or more.

CAUTION: If the hitting rate exceeds the above level, the coil may overload and could be damaged.

4

Service, Maintenance and Cautions

Service

For service on the controller or hammer in North America contact:

N.M.U. at

20695 W.Western Ave, Suite 242 Torrance, CA 90501 U.S.A.

Tel: +1-310-533-8290

Fax: +1-310-533-8295

Outside North America contact:

NIPPON Magnetics, Inc., at

716-2 Soira, Kitatani, Dazaifu, Fukuoka 818-0114Japan

Tel: +81-92-922-7161

Fax: +81-92-922-7162

Return Material Authorizations are required before equipment is returned.

Maintenance

Retighten the hammer housing to the base plate 1 or 2 days after the initial installation and then every 3-6 months thereafter or as necessary.

Cautions

Besure to install a safety chain and secure it to the link on the hammer housing. This is especially important when the hammer is used in elevated locations. This is necessary to avoid potential accidents from a hammer falling if in the unlikely event i

The maximum number of hits per cycle should not exceed an average of 1 hit per 3 seconds with no more than 1 minute continuous operation at 1 hit per second. If the number of hits per cycle exceeds this rating it might overload the electromagnetic coil a