



COMMINUTOR

SAFETY BULLETIN

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SAFETY INSTRUCTIONS FOR FITZMILL COMMINUTOR

This bulletin is intended to point out the general principles of safety for the FitzMill comminutor including safety devices and general instructions for their fabrication and installation. These instructions are to be used and followed only by those having the mechanical understanding and skills normally found in a work-place environment, and by those with an understanding of the use, application, and operation of our equipment. If these skills are not available, or if there is any question about any aspect of what is required, please notify our nearest office for assistance and guidance, which will be given at no cost.

NECESSARY SAFETY EQUIPMENT (See Notes for Location)

- 1.0 SAFETY SWITCH – A safety switch must be suitably wired in the control circuit of the motor starter to prevent operation of the drive motor should the operator, through negligent oversight, fail to disconnect the machine from the electrical power source before opening the machine. Suitable switches are available as standard items from normal electrical and hardware dealers serving industrial needs. The switch should be mounted on the mounting structure to which the chamber and rotor assembly is attached. It should be on a sturdy bracket which is not interfering with normal operation and maintenance of the equipment. An activating arm should be welded to the throat to activate the switch. This part should be of type 300 stainless steel and should be at least ¼” thick and ¾” wide. Additional switches may be required, as described below. A schematic for the circuit required to properly wire a safety switch into your machine is available from Fitzpatrick at no charge upon request for a machine identified by a serial number.

- 2.0 FEED THROAT SAFETY DEVICES – It is critical that operator access to moving parts of the machinery be impossible, particularly the blades and feed screws (if fitted). Following are the safety devices required for the feed-related portions of both gravity-fed (2.1) and auger-fed, VFS-type machines (2.2).
 - 2.1 *Feed Opening, Gravity-fed:* It is critical that operator access to the blades is impossible. The following are considered to be safe feed throat designs.
 - 2.1a *Permanent Throat Grid:* Grid bars should be welded immediately inside the throat flange or opening. The preferred method is to drill suitably spaced holes through the throat wall through which the bars will pass. They should project approximately 1/8” on each end and should be welded in place from the inside and outside. The bars should be at least 3/16” in diameter, and they should be of

- type 300 stainless steel or compatible with the throat material. Spacing and number of bars will depend upon the throat opening and distance to the tip of the rotor blades. They should be spaced in such a way as to make it impossible for the operator to project his or her hands and fingers sufficiently to contact the blade tips. If the grid bars should interfere with the feed material, permanent extension of the feed throat or similar modifications may be necessary. Please consult the Fitzpatrick factory prior to any such modifications.
- 2.1b *Removable Throat Grid:* Grid bars which prevent the operator from being able to touch the blades can be designed into a removable throat cover which is attached to a feed throat. A safety switch must be installed and wired into the control circuit to prevent the mill from operating if the throat cover with grid bars is removed. The removable throat grid must be attached in such a manner that it cannot come loose.
- 2.1c *Inline Throat:* The feed throat can be safely designed such that its close proximity to upstream equipment prevents the operator from touching the blades. It is also necessary that the operator can not access the blades through the upstream equipment. The FitzMill Comminutor and the upstream equipment must be installed in a fashion that they can not be too quickly separated and expose the blades. A safety switch must be installed on any movable equipment or parts to ensure that the mill is located in its proper proximity to upstream equipment.
- 2.2 *Feed Opening, VFS:* It is critical that operator access to the blades and the feed screw is impossible. The safety switch described above is designed to determine that the feed throat is in place and safely covering the blades. The operator must be properly trained to install the rest of the feed screw system. The following are considered safe feed hopper designs.
- 2.2a *Permanent Hopper Grid:* Grid bars should be welded immediately inside the hopper flange or opening. The preferred method is to drill suitably spaced holes through the throat wall through which the bars will pass. They should project approximately 1/8" on each end, and should be welded in place from the inside and outside. The bars should be at least 3/16" in diameter, and they should be of type 300 stainless steel or compatible with the hopper material. Spacing and number of bars will depend upon the throat opening and distance to the feed screw. They should be spaced in such a way as to make it impossible for the operator to project his or her hands and fingers sufficiently to contact the feed screw. If the grid bars should interfere with the feed material, permanent extensions or similar modification may be necessary. Please consult the Fitzpatrick factory prior to any such modifications.
- 2.2b *Removable Hopper Grid:* Grid bars which prevent the operator from being able to touch the feed screw can be designed into a removable hopper cover which is attached to a feed hopper. A safety switch must be installed and wired into the

control circuit to prevent the mill from operating if the throat cover with grid bars is removed. The removable throat grid must be attached in such a manner that it cannot come loose.

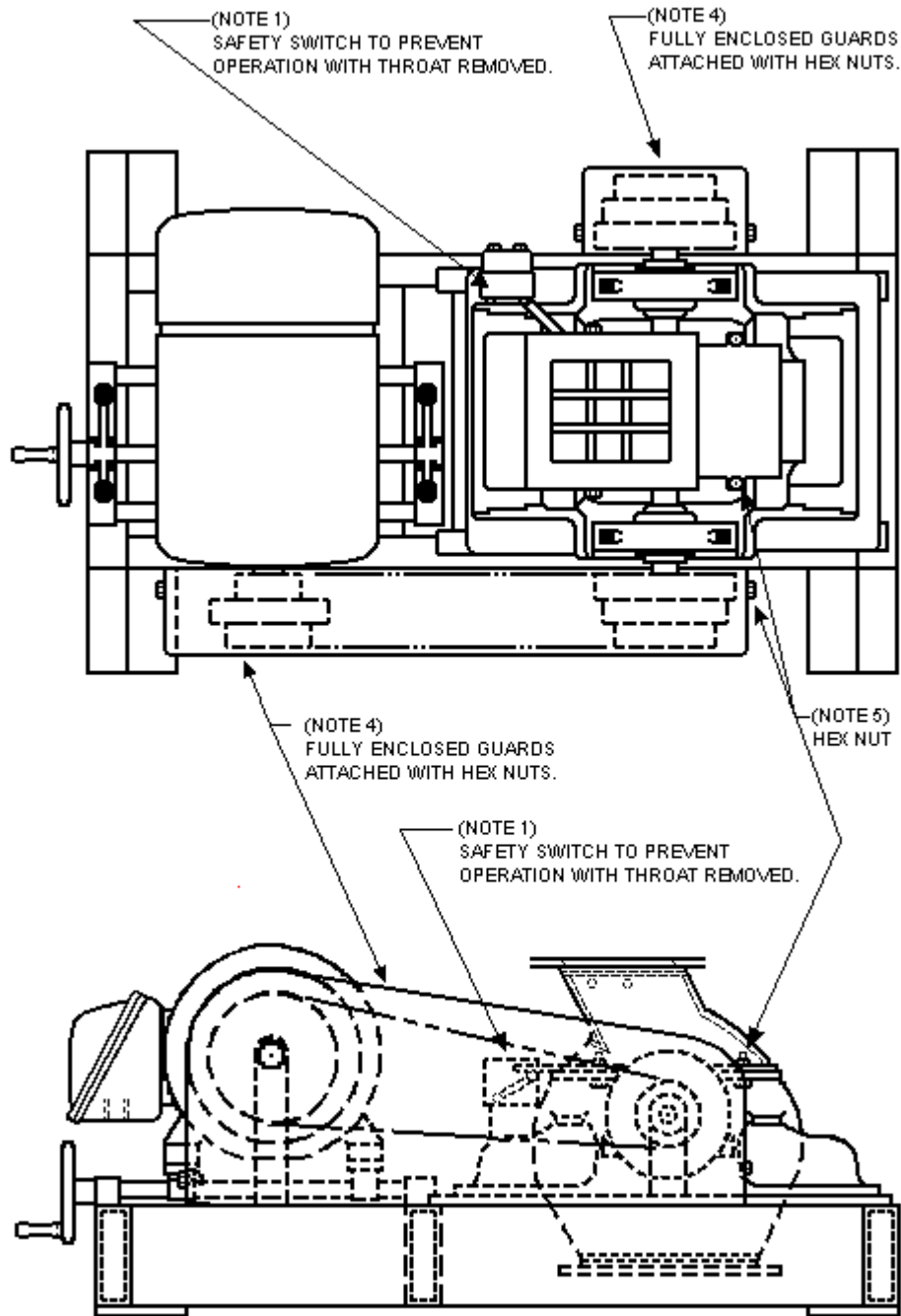
- 2.2c *Inline Feed Hopper:* The feed hopper can be safety designed such that its close proximity to up stream equipment prevents the operator from touching the feed screw. It is also necessary that the operator can not access the feed screw through the up stream equipment. The FitzMill Comminutor and the upstream equipment must be installed in such a fashion that they can not be too quickly separated and expose the feed screw. A safety switch must be installed on any movable equipment or parts to ensure that the mill is located in its proper proximity to upstream equipment.
- 3.0 DISCHARGE GRID – Grid bars should be placed immediately inside the chamber discharge and as far away from the screen as possible. These bars should be not more than 2” apart and should run at right angles to the axis of the rotor. These bars should be not less than 3/16” in diameter and should be welded in place using similar material and technique as the throat grid.
- 4.0 FULLY ENCLOSED GUARDS – Guards should be fabricated of sheet metal or other material having sufficient strength to withstand any forces encountered in operation and the normal abuse encountered. The preferred material is stainless steel of at least 18 gauge. Since ventilation is not required, no openings are provided except the slots required for installation. The guards should fit as closely as possible to the motor end bell and the rotor bearing block to prevent entry of hands into the installation slots. A solid mounting plate should be permanently attached to the machine base to form the bottom of the guard. This plate should be welded in place and can be of carbon steel or other suitable material of sufficient strength.
- 5.0 HEX NUTS AND CAP SCREWS – All attachments covering rotating parts (the flywheel guard, the belt guard, the chamber feed throat, or other similar parts) should be attached by the use of hex head cap screw or nuts. Even though the operator must be instructed to disconnect the power source and to allow the rotor to come to a stop, the entry delay caused by the use of a tool rather than wing nuts provides additional time delay, allowing all rotating parts to come to a rest prior to entry. (NOTE: Quick disconnects and fasteners not requiring a tool for removal are prohibited)
- 6.0 WARNING SIGNS – The signs should be positioned so as to be obviously visible to the operators. The position will depend somewhat upon the installation environment facing as directly as possible toward the operator. Additional warning signs will be made available upon request, without cost. If any of these safety signs do not appear on your machine or have become illegible, please contact your Fitzpatrick representative to arrange for new signs.

SIGN

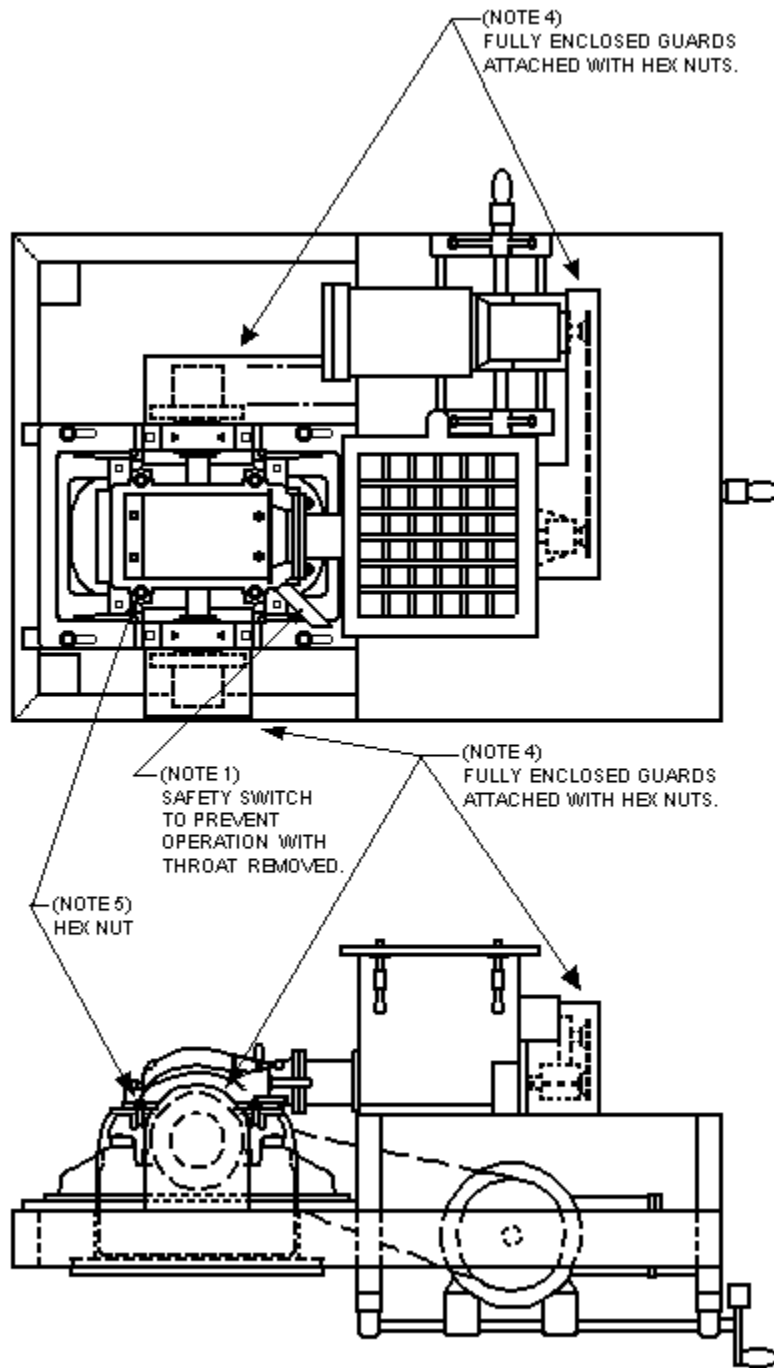
MAIN BELT DRIVE GUARD
MAIN BELT DRIVE GUARD
FLYWHEEL GUARD
FEED THROAT

PART NUMBER

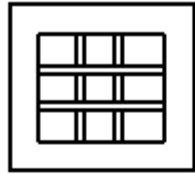
1492-0131
1492-0422 (OPTIONAL SPANISH)
1492-0184
1492-0383



Safety Devices, Gravity-fed Machine



Safety Devices, VFS-equipped Machine



(NOTE 2)
THROAT GRID BAR
SPACING TO PREVENT
HAND ENTRY



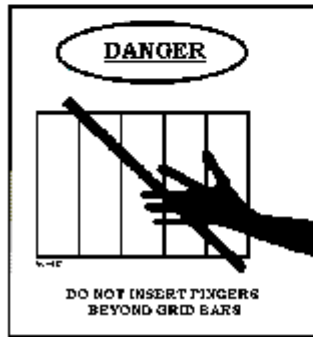
(NOTE 3)
DISCHARGE SAFETY
GRID BARS



(NOTE 4)
MAIN DRIVE BELT GUARD



(NOTE 4)
FLYWHEEL
GUARD



Safety Devices and Signs, General

These signs are affixed to the guards: 1492-0131
1492-0184
1492-0422 (Spanish)

IF ANY OF THESE SAFETY SIGNS DO NOT APPEAR ON YOUR MACHINE OR HAVE BECOME ILLEGIBLE, PLEASE CONTACT YOUR FITZPATRICK REPRESENTATIVE TO ARRANGE FOR NEW SIGNS, OR CALL CUSTOMER SERVICE AT (630) 530-3333.