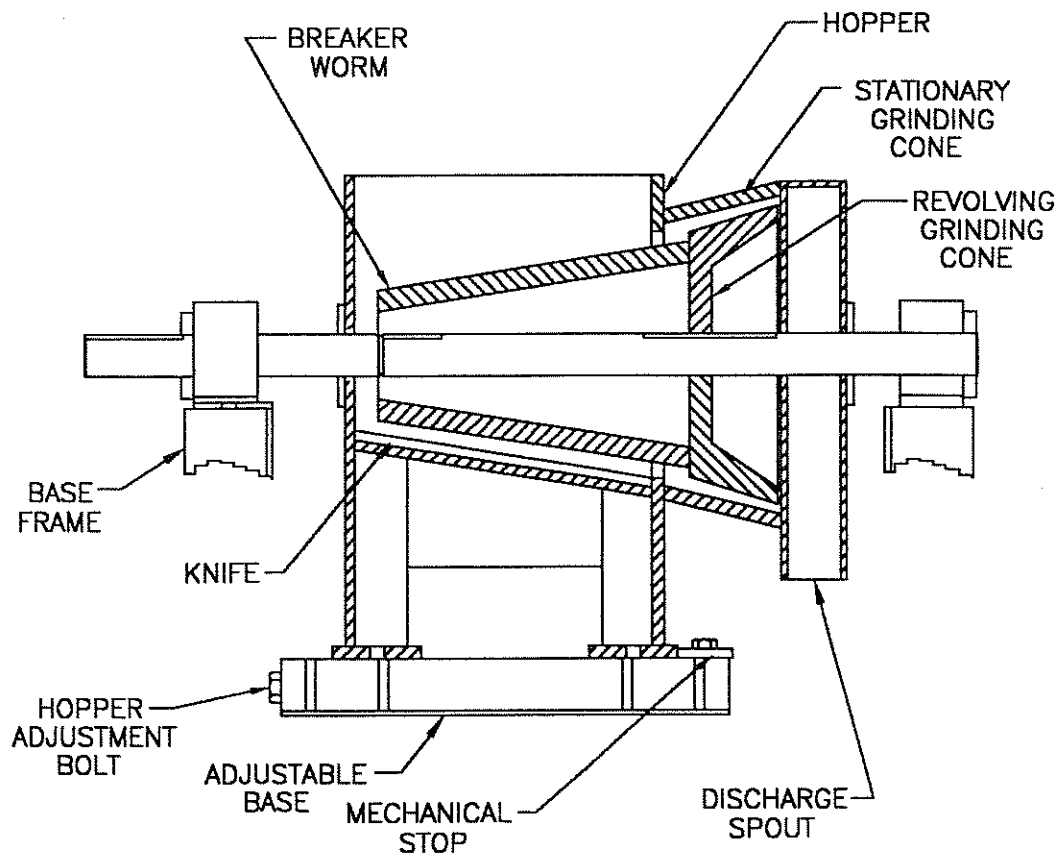


# BISON CRUSHER



This manual was written for YOU—

Please read it and follow instructions carefully

#### FOUNDATIONS

Unless otherwise specified, Purchaser shall furnish and install necessary foundations, including foundation bolts, shall do such cutting and patching as may be required and shall assume all responsibility for the strength of the building and the supporting equipment.

#### LIABILITY FOR DELAYED SHIPMENT OR INSTALLATION

SMICO shall not be liable for any loss or damage resulting from delay in shipment, non performance or in installation caused by fires, floods, strikes, riots, thefts, or accidents, delays in transportation, including but not limited to inability to procure materials, or any other cause whatsoever for which the Company is not directly responsible. The Company shall not be liable, in any event, for loss of anticipated profits, loss by reason of plant shutdown, non-operation or increased expense of operation of other equipment, or other consequential loss or damage of any nature. If shipment or installation be delayed by or through Purchaser, final payment shall become due, 30 days after machinery is completed and ready for shipment unless otherwise negotiated.

#### LOSS, DAMAGE OR DESTRUCTION OF MACHINERY OR EQUIPMENT

From and after the delivery of the machinery or equipment covered by this order to a carrier for shipment to the Purchaser, said Purchaser shall be obligated to SMICO for the purchase price thereof; and the risk of damage, destruction or loss, in whole or in part, and from any cause or combination of events of said machinery or equipment shall be upon the Purchaser and shall not be the responsibility of SMICO after delivery to the carrier.

#### TECHNICAL ASSISTANCE FOR INSTALLATION OR STARTUP OPERATIONS

This order specifies that the responsibility for installation is borne by the Purchaser. If SMICO is designated by Purchaser, to furnish a qualified supervisor for the purpose of providing advisory and/or technical information to aid or expedite installation, it is herein agreed that a service charge, as well as living and travel costs by methods chosen by SMICO from its location to jobsite and return, shall be invoiced to and paid for by the Purchaser. The function of the supervisor, as designated by SMICO, is understood to be of an advisory capacity only and, neither SMICO nor individual designated by SMICO, shall be liable for loss, damage, or delay or any other consequential loss or damage of any nature.

#### RETURNED GOODS

Goods are not to be returned until Purchaser has received SMICO's written permission to do so. Goods returned through no fault of SMICO will be subject to a charge in addition to whatever restocking expense will be necessary to restore the material to a saleable condition. Transportation charges on returned goods must be prepaid by the Purchaser. No request for return of goods will be considered unless received by SMICO within thirty (30) days after completion of installation.

## Warranty

The machinery or equipment herein specified is warranted to the Purchaser to perform within the limits specified. If the machinery or equipment herein specified does not perform within the specified limits, written notice shall be given by the Purchaser to SMICO within thirty (30) days from its first use, stating wherein the machinery or equipment fails so to perform and a reasonable time shall be allowed SMICO to get to the machinery or equipment with skilled workmen and remedy the alleged defect. If alleged defect be of such a nature that a remedy cannot be suggested by letter, Purchaser agrees to render all necessary and friendly assistance in making the machinery or equipment satisfactory. In the event it is mutually agreed by Purchaser and SMICO that the machinery or equipment cannot be made to operate satisfactorily within the limits specified, Purchaser may return such of the machinery or equipment as is of SMICO manufacture to SMICO for full credit. SMICO will repair or replace with a similar part, f.o.b. its works where made, any part of its own manufacture in the above specified property which, within one year from shipment, proves defective in material or workmanship if the Purchaser delivers such defective part to the SMICO for inspection, f.o.b. SMICO works, within such year, provided said equipment has been installed and is operated by the Purchaser in accordance with generally approved practice and in accordance with manufacturers maintenance manual or instructions. However, SMICO will not be responsible for loss of anticipated profits, loss by reason of plant shutdown or any other consequential damages or any further loss by reason of the failure of the machinery or equipment to perform within the limits specified in the foregoing order and general conditions of sale or by reason of any defect in the machinery or equipment resulting from defective material or workmanship, and SMICO does not warrant that the machinery or equipment meets local, municipal, or state ordinances, laws or regulations. This warranty does not cover products, accessories, parts or attachments which are not manufactured by SMICO except to the extent of the warranty given by the actual manufacturer thereof.

#### CAPACITY — QUALITY WARRANTY

SMICO warrants that the equipment or parts involved is suitable for the purpose it is recommended, but since there are many variables beyond our control that contribute to the capacities and quality, the minimum and maximum performance limits cannot realistically be set. Warranty does not cover any defects developed by misuse.

#### IMPROVEMENTS — MODEL CHANGES

SMICO reserves the right to make improvements or changes from time to time on the kind of goods covered by this agreement without obligation to the Purchaser to install such changes on the goods purchased hereunder. We are not responsible for warranties or agreements made by our dealers, agents, or representatives.

## SMICO BISON CRUSHER

### GENERAL DESCRIPTION

The **SMICO BISON** is built with extremely sturdy, leaving casting to withstand shock, vibration, and wear. The breakers and grinding cones are made of the best hard, chilled iron and will give long and continued service. As the material enters the hopper, it is seized by rugged lugs on the rapidly revolving tapered breaker worm and is crushed between the worm and the hopper. A hard iron knife located lengthwise in the bottom of the crusher hopper assists in the crushing action.

After the breaker worm has done it's work, the pieces of material are forced into the stationary and revolving grinding cones. Here they are further broken down, by first coarse teeth on the cones, and then, by finer corrugations which complete the reduction. The finished product is discharged through a spout at the bottom of the discharge bowl.

### RECEIVING

#### SHIPMENT RECEIVING

**SMICO BISON CRUSHERS** are shipped complete, crated and on frames ready for operation, having been test run at the factory prior to shipment.

**CAUTION:** INSPECT MACHINE UPON ARRIVAL TO INSURE UNIT HAS NOT BEEN DAMAGED IN TRANSIT. IN CASE OF DAMAGE, CALL YOUR TRUCK LINE IMMEDIATELY.

Remove outer crating and skid. Always lift unit by means of leverage at bottom of base. **DO NOT** attempt to move unit by applying any forces against drive guard.

## **INSTALLATION**

### INSTALLATION INSTRUCTIONS

Place **BISON** into area where it will be operated, preferably on a concrete floor.

#### **PLACING MACHINE**

To mount machine to floor for secure operation, mark mounting holes for drilling by using holes located in the feet of the **BISON** as a template. Move machine aside to drill holes in floor. Insert anchor for a 1/2" stud into drilled holes. Place machine back over holes drilled.

Secure machine to floor with 1/2" bolts.

#### **OPERATION**

The **SMICO BISON** is built for ease of operation and adjustment. The **BISON** revolving grinding cone and breaker worm are mounted on the shaft which remains stationary in relation to the hopper. The hopper and stationary cone have been mounted on an adjustable base which will allow the hopper to move about the revolving grinding cone and breaker cone to adjust the grinding operation.

The **BISON** has been set at the factory with a 1/32" gap between the stationary and revolving grinding cones, and a mechanical safety stop installed to prevent the revolving cone from coming into contact with the stationary cone. As the **BISON** is used and wear occurs, the stop may have to be adjusted to maintain a fine grind.

To adjust the cutting/grinding operation, loosen the four bolts securing the bison frame to the adjustable base. Using a suitable wrench or socket, turn the hopper adjustment bolt counterclockwise for a courser grind or clockwise for a finer grinding.

Once the proper position is determined for the grinding operation, tighten the four hopper frame bolts. The mechanical stop may be adjusted to retain this position during future adjustments.

## LUBRICATION

The **BISON** has grease lubricated bearings. The recommended grease is a **Lithium based grease**, penetration class 2, with additives and corrosion inhibitors. This **Lithium based EP2 grease** should not be blended with any other type of grease. The blending of greases of different bases is likely to result in a marked deterioration of lubricity and possible premature bearing failure.

The bearings should be relubricated every 30 hours of operation for normal duty operation. For higher temperature applications, more frequent grease is required.

The amount of grease required at each relubrication for the **BISON** is 2 oz. The lubrication of a machine will directly affect the life of the bearing. Greasing too frequent will not harm the bearing; however, adding large quantities of grease at a time may have adverse effects.

## CAUTION: HOPPER FEED & MAINTENANCE

The **BISON CRUSHER** is designed to be used with the customer's enclosed feed system and not with an open feed or by hand.

At all times during operation or when the **BISON CRUSHER** is energized, hands and tools are to be kept clear of the hopper.

Prior to performing maintenance on the **BISON**, the machine shall be properly de-energized and electrically locked out per customer requirements.

## Bison Crusher Parts List

1	Bison Crusher Hopper Weldment	22927
2	Discharge Bowl Weldment	16412
3	Stationary cone casting	16186-H62
4	Revolving cone casting for machining	16225-H66
5	Breaker Worm casting for machining	16260-H70
6	Knife - (1 extra for spare)	16345-H132
7	Shaft	22931
8	Crusher frame with conveyor clearance	25991
9	Bolt-on feed flange	25990
10	Packing Gland modified for typical	17411-x
11	S-2000 Pillow Block Bearings, non-expanding, 1 11/16 bo	44615
12	QD / SD 1 11/16 Bushing	SD 1 11/16
13	Belt guard	22932
14	Drive sheave	2B18.4
15	Motor Sheave	2B5.2
16	QD Bushing	SK 1 11/16
17	QD Bushing	SDS 1 3/8
18	V-belts	B-87
19	Motor base	213T
20	Motor Base	254T
21	7 1/2 HP Motor, TEFC, 1750RPM, 230/460, 3/60	
22	Spirolox retainer ring	RSN-168
23	Felt Seals 1/4" x 3" dia.OD x 1 11/16 ID	