



BICO, INC.
BADGER JAW CRUSHER
5HP, 110/220V, 60HZ
MODEL: 241-38X5 (3PH)
MODEL: 241-38X5S (1PH)

THIS MANUAL INCLUDES THE FOLLOWING INSTRUCTIONS FOR THE ABOVE MACHINE

- INSTALLATION GUIDE
- USERS GUIDE
- MAINTENANCE
- MECHANICAL & ELECTRICAL DIAGRAMS

ANY ALTERATIONS, RE-WIRING OR MODIFICATIONS TO BE DONE ON THIS MACHINE WHILE UNDER WARRANTY MUST BE AUTHORIZED BY BICO, INC., OTHERWISE ALL WARRANTIES BECOME VOID.

GIVE SERIAL NUMBER WHEN ORDERING PARTS



BICO BADGER 5" X 7" JAW CRUSHER OPERATING INSTRUCTIONS

The Bico Badger Jaw Crusher is designed to give long and efficient service. In order to secure the long life and excellent performance, which your crusher is capable of delivering, it is essential that the following directions for operating and maintenance be carefully observed.

The combination of Flat Faced Pulleys as supplied with V-belts on the BADGER was a specially engineered arrangement for this machine. This combination has been in use for many years in the manufacturing of this crushing equipment and has proven to be the very best arrangement for machines such as these. When equipment is confronted with a "SHOCK LOAD" condition, this safety factor allows just enough necessary "GIVE", and prevents undue strain of metal to metal contact of the key, flywheel and eccentric shaft.

EYE, HEARING & DUST PROTECTION REQUIRED DURING OPERATION

INSTALLATION

If the crusher is not supplied with the optional stand and ore pan, then the machine should be mounted securely, making sure there is adequate clearance underneath for sample or material removal.

Electrical installation should be done by a licensed electrician according to all local codes and ordinances.

MACHINE ROTATION: Drive Wheels should rotate towards feed opening.

!! NEVER OPERATE MACHINE WITHOUT GUARDS AND FEED HOPPER !!

MAINTENANCE & ADJUSTMENTS

The jaws are preset at the factory to an approximate 1/4" space. Before starting the crusher for the first time it is suggested to check this spacing.

JAW ADJUSTMENT

Two spring rods located on the back of the crusher control tension of the toggle. The hex nut on the side of the frame adjusts the movable jaw gap.

To INCREASE the particle size adjust the large hex nut on lower frame clockwise to desired size. Re-tighten spring rods no more than hand tight.

To REDUCE the particle size, adjust the hex nut counter-clockwise and re-check the spring rod tension.

*** CAUTION: IF SPRING RODS ARE TOO LOOSE THE TOGGLE WILL DROP FROM MACHINE. TOO TIGHT WILL CAUSE EXCESSIVE WEAR !**

Access the toggle through the maintenance access port on back of the crusher.

Jaws should not run in contact with each other.

MAINTENANCE

MAKE SURE THE UNIT IS DISCONNECTED FROM POWER BEFORE SERVICING OR ACCESSING THE CRUSHER

Greasing is very important, with regular servicing it will extend the life of the machine. Recommended heavy-duty #2 grease.

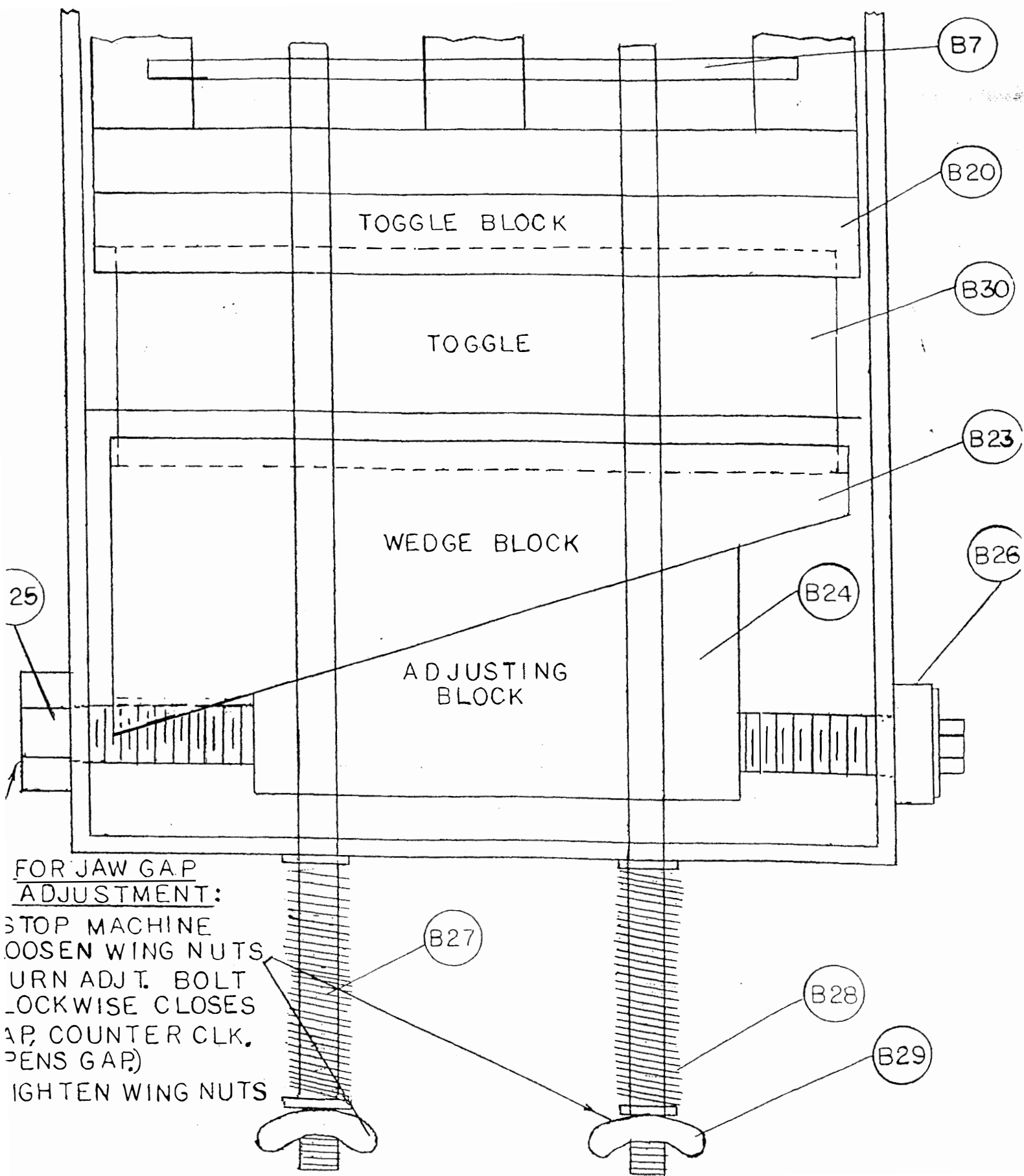
1. The jaw must be greased once every eight (8) hours of operation on the two nipples of the movable jaw above toggle and below motor base.
2. Grease the two (2) side bearing nipples located on either side of the crusher. The nipples have been extended up to make servicing easier. This should also be done every eight (8) hours of operation.
3. Don't grease motor. This is a ball bearing motor and only requires grease after years of operation.
4. The toggle should be periodically removed, cleaned and lubricated with a high temperature wheel bearing or open gear lubricant.
5. The adjusting screw (grease nipple located on the Hex head adjusting nut) and the adjusting block assembly (grease nipple located below the maintenance access port) should be thoroughly lubricated monthly.

BICO INC. BADGER JAW CRUSHER PARTS

CATALOG#	DESCRIPTION
B-1	WASHER (2 REQUIRED)
B-2	SHAFT
B-3N	STATIONARY JAW PLATE - NI-HARD (SMOOTH)
B-3CA	STATIONARY JAW PLATE - CHROME ALLOY (SMOOTH)
B-4	MOVEABLE JAW COMPLETE
B-6	WASHER (2 REQUIRED)
B-7	SPRING ROD ANCHOR
B-9	SIDE BEARING CAGE (2 REQUIRED)
B-10N	MOVEABLE JAW PLATE - NI-HARD (SMOOTH)
B-10CA	MOVABLE JAW PLATE - CHROME ALLOY (GROOVED)
B-17	CHEEK PLATE (2 REQ)
B-20	TOGGLE BLOCK
B-22	MOTOR PLATE TENSION ROD
B-23	WEDGE BLOCK
B-24	ADJUSTING BLOCK
B-25	ADJUSTING SCREW
VD-112	ADJUSTING SCREW COLLAR
B-27	SPRING ROD (2 REQUIRED)
VD-88	SPRING FOR SPRING ROD
B-29	WING NUT FOR SPRING ROD
B-30	TOGGLE
B-41	SIDE BEARING CAGE SEAL (4 REQUIRED)
B-45	SIDE BEARING CAGE CAP BOLTS
B-47	MOVEABLE JAW BEARING (2 REQ) - SAME AS OLD# B-38
B-49	MOV. JAW BEARING CAGE WASHER (2 REQ) - SAME AS OLD# B-5
B-50	MOV. JAW BEARING CAGE - NOT SOLD SEPARATELY
B-51	MOVEABLE JAW BEARING CAGE CAP SEAL (2 REQUIRED)
B-55	SIDE JAW BEARING (2 REQUIRED)
B-56	ORE PAN ONLY

BICO INC. BADGER JAW CRUSHER PARTS

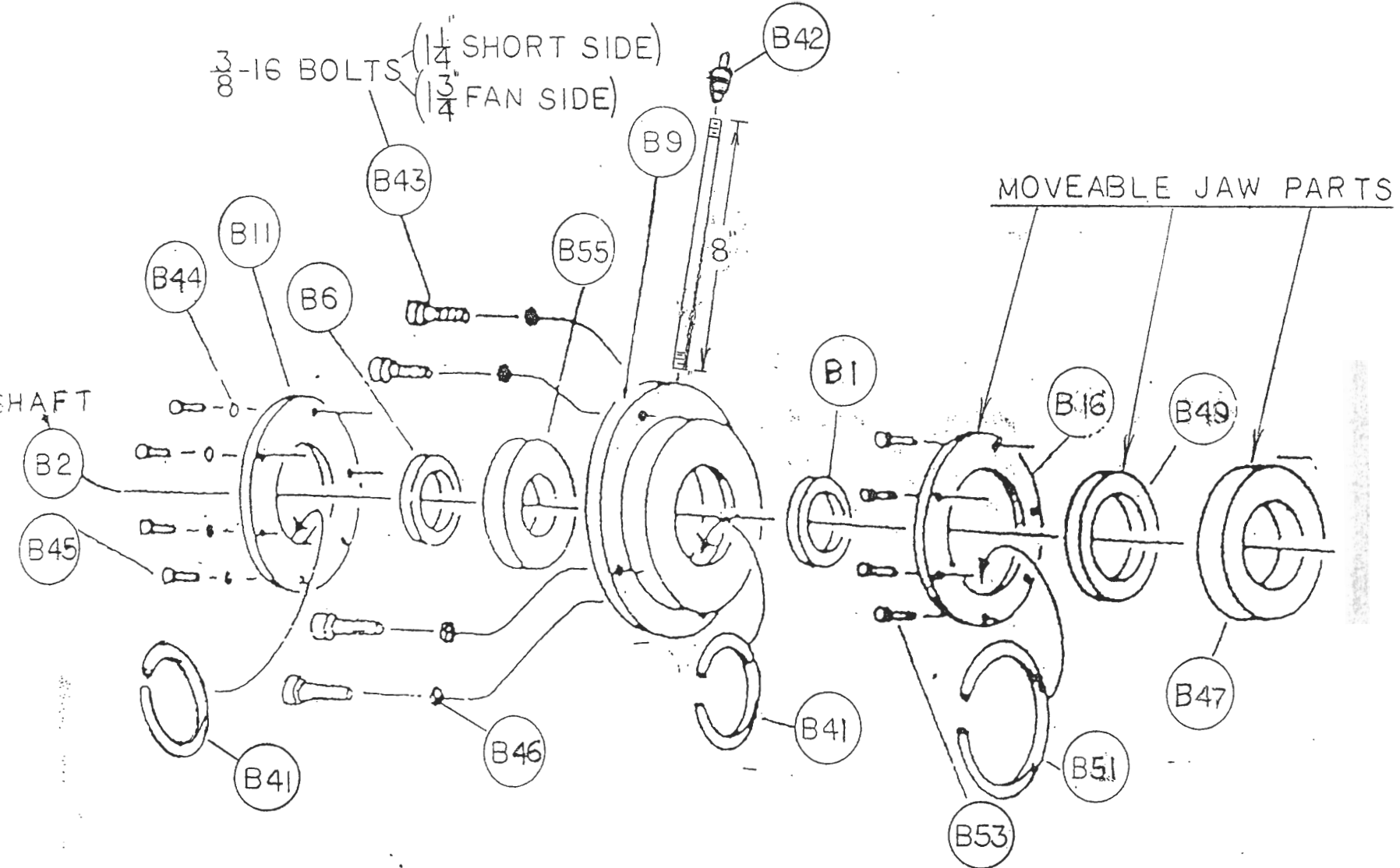
CATALOG#	DESCRIPTION
B-57	DUST COLLECTION BASE & ORE PAN
B-130	COMBINATION FLYWHEEL (2 REQUIRED)
B-140	SAFETY GUARDS (SET OF 2)
B-146	FEED HOPPER
B-150	CAP SCREW F/ B-3 (1 REQ.)
WD-126	CAP SCREW F/B-10 (2 REQ.)
VD-129B	CAP SCREW F/B-17 & B-20 - (B-17= 2/PLATE; B-20:4 REQ)
VD-132	V-BELTS (8 REQUIRED)



FOR JAW GAP ADJUSTMENT:

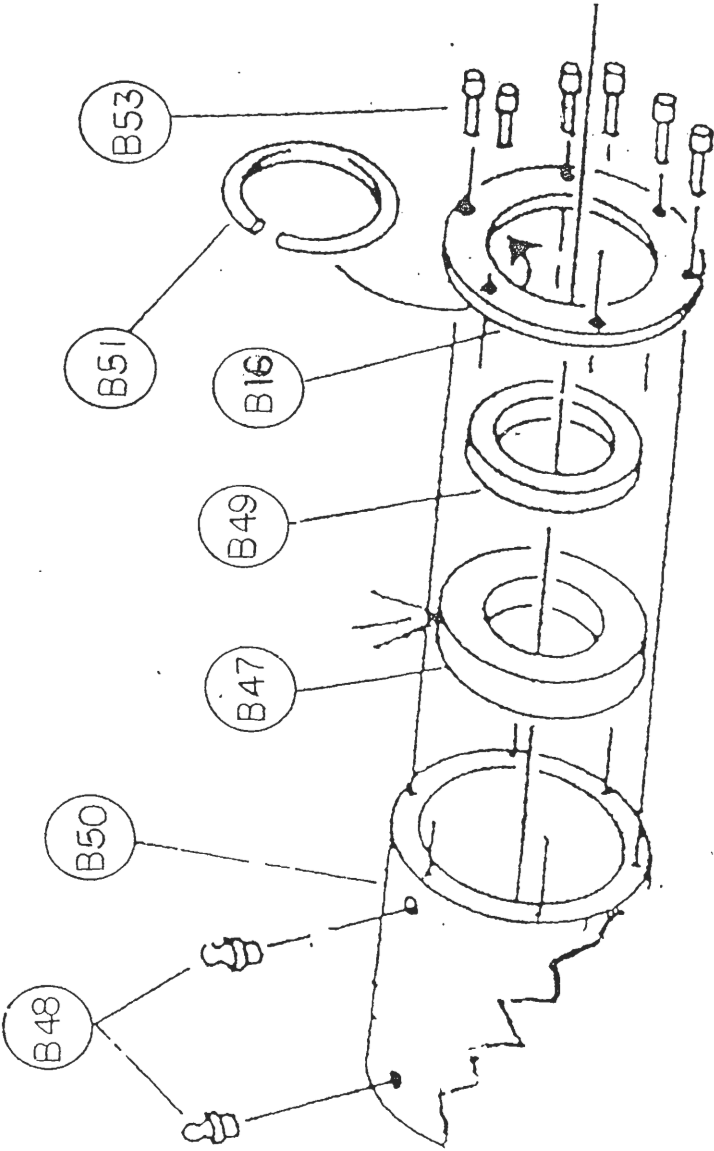
STOP MACHINE
 LOOSEN WING NUTS
 TURN ADJT. BOLT
 CLOCKWISE CLOSES
 GAP, COUNTER CLK.
 OPENS GAP)
 TIGHTEN WING NUTS

Adjusting Blocks with Spring Rods and Tension Rods
 For Bico Badger Jaw Crusher



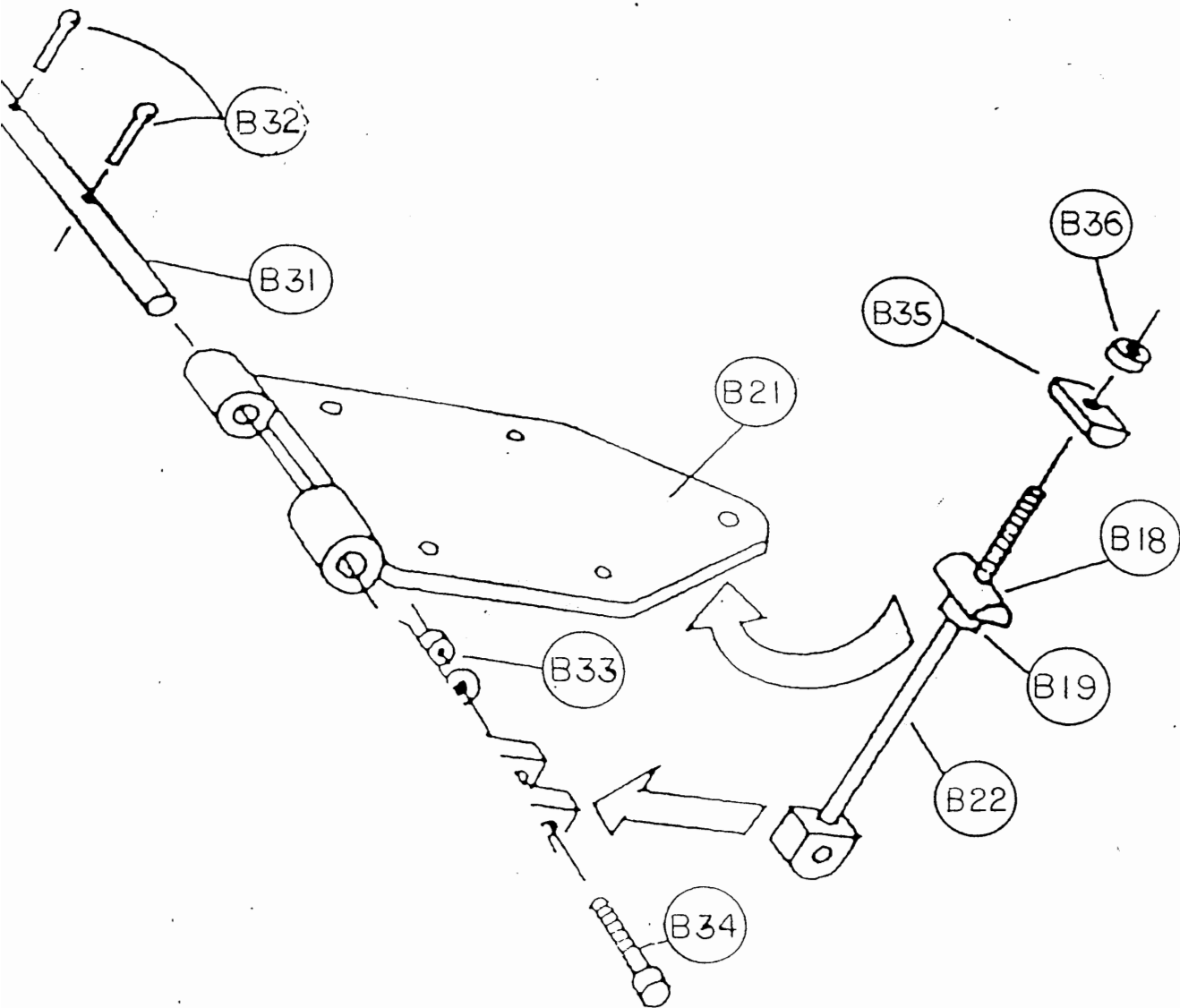
Frame Bearing Assembly for Bico Badger Jaw Crusher

Diagram # 1.1



Jaw Bearing Assembly for Bico Badger Jaw Crusher

Diagram # 2.1



Motor Mounting Assembly for Bico Badger Jaw Crusher

Diagram #5.1

PROCEDURE TO CHANGE MOVABLE JAW BADGER JAW CRUSHER

REMOVE PULLEYS (BOTH SIDES)

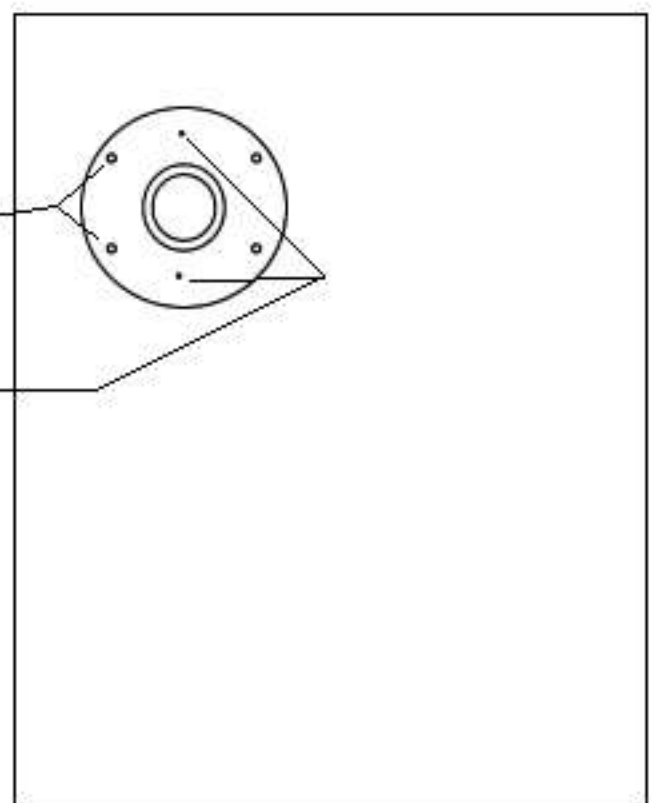
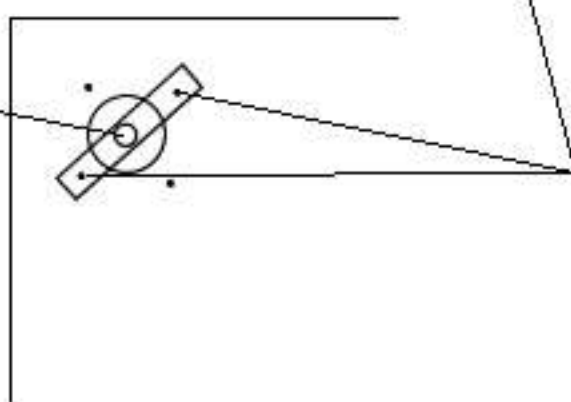
1. Remove Ring Nut, Lock-Washer and, Flat Washer on shaft (both sides)

2. Remove bolts from both side Bearing Cages (H bolts each side)

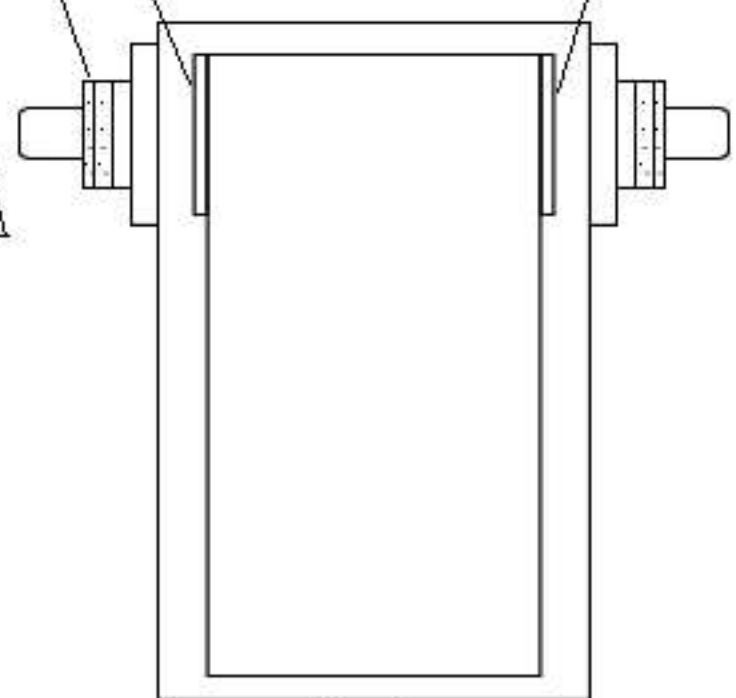
3. Screw bolts in these two holes (both sides) to outside bearing.

4. Remove movable jaw bearing caps (behind side bearing cages)

5. Screw shaft puller bolts into these holes, place around block on the end of shaft and screw center bolt against round clock to push out of one movable jaw bearing. (other bearing stays on shaft)

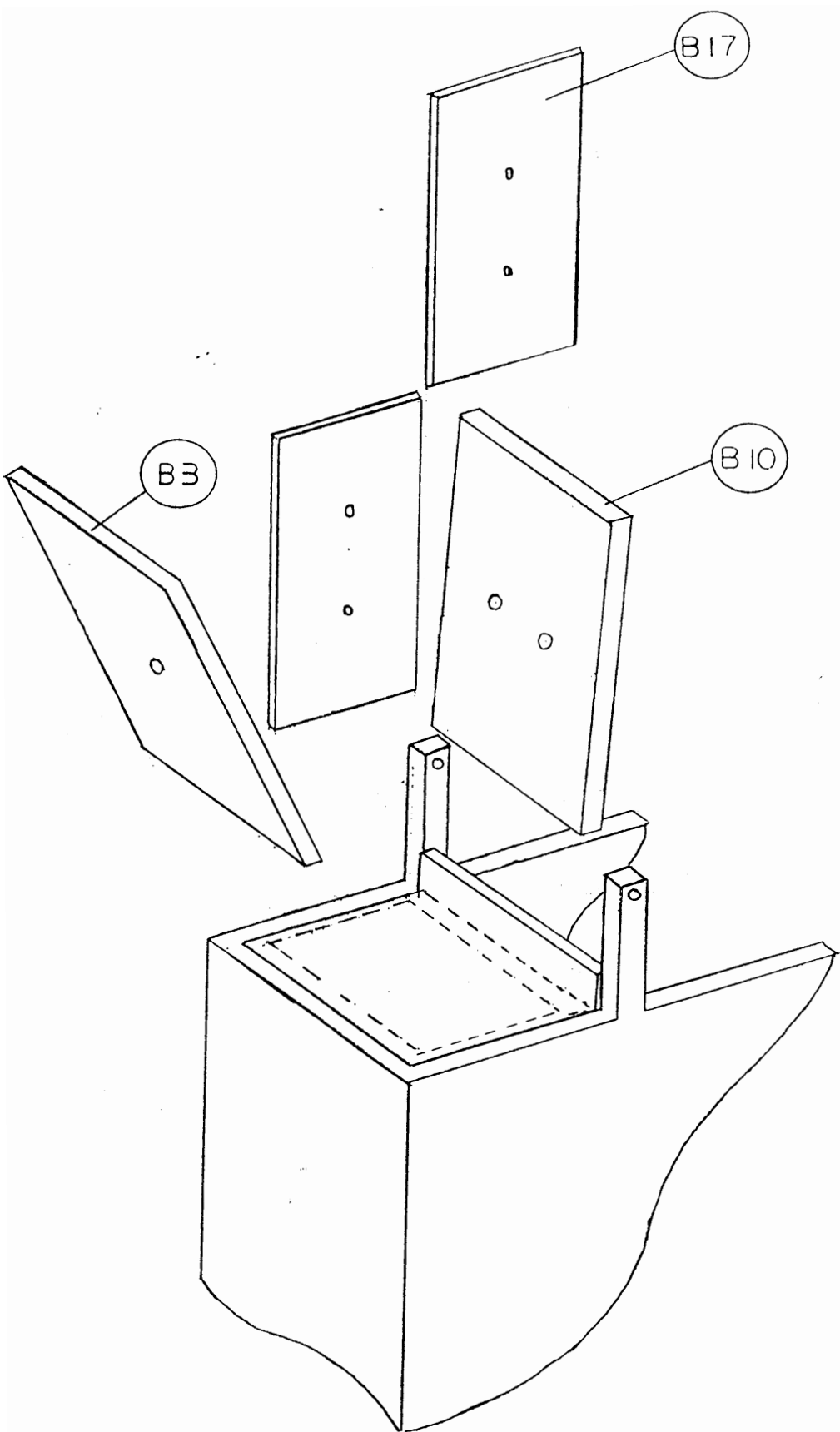


Mov. Jaw Bearing Caps



side view

6. Remove old movable jaw and insert new jaw and assemble by following above steps in reverse order.



Jaw Plates and Cheek Plates for Bico Badger Jaw Crusher

Diagram #3.1

MOV. JAWS - REMOVE JAW PLATES

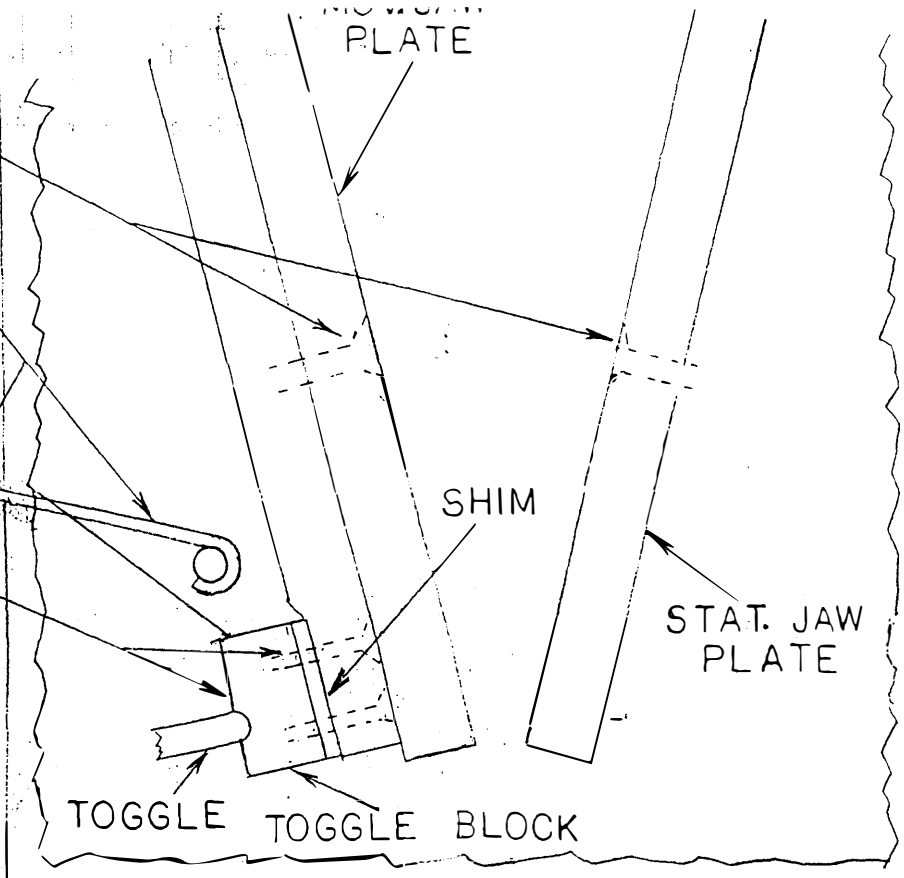
LAY CRUSHER ON SIDE - LOOSEN
WING NUTS - REMOVE TENSION
RODS (HOOKED IN BACK)

REMOVE 4 TOGGLE BLOCK BOLTS
AND REMOVE TOGGLE BLOCK,
TOGGLE AND SHIM

DIFFERENT THICKNESSES OF
SHIM AVAILABLE - THICKER SHIM
CLOSES GAP

CRUSHER CAN BE ELEVATED IN
ORDER TO WORK UNDERNEATH

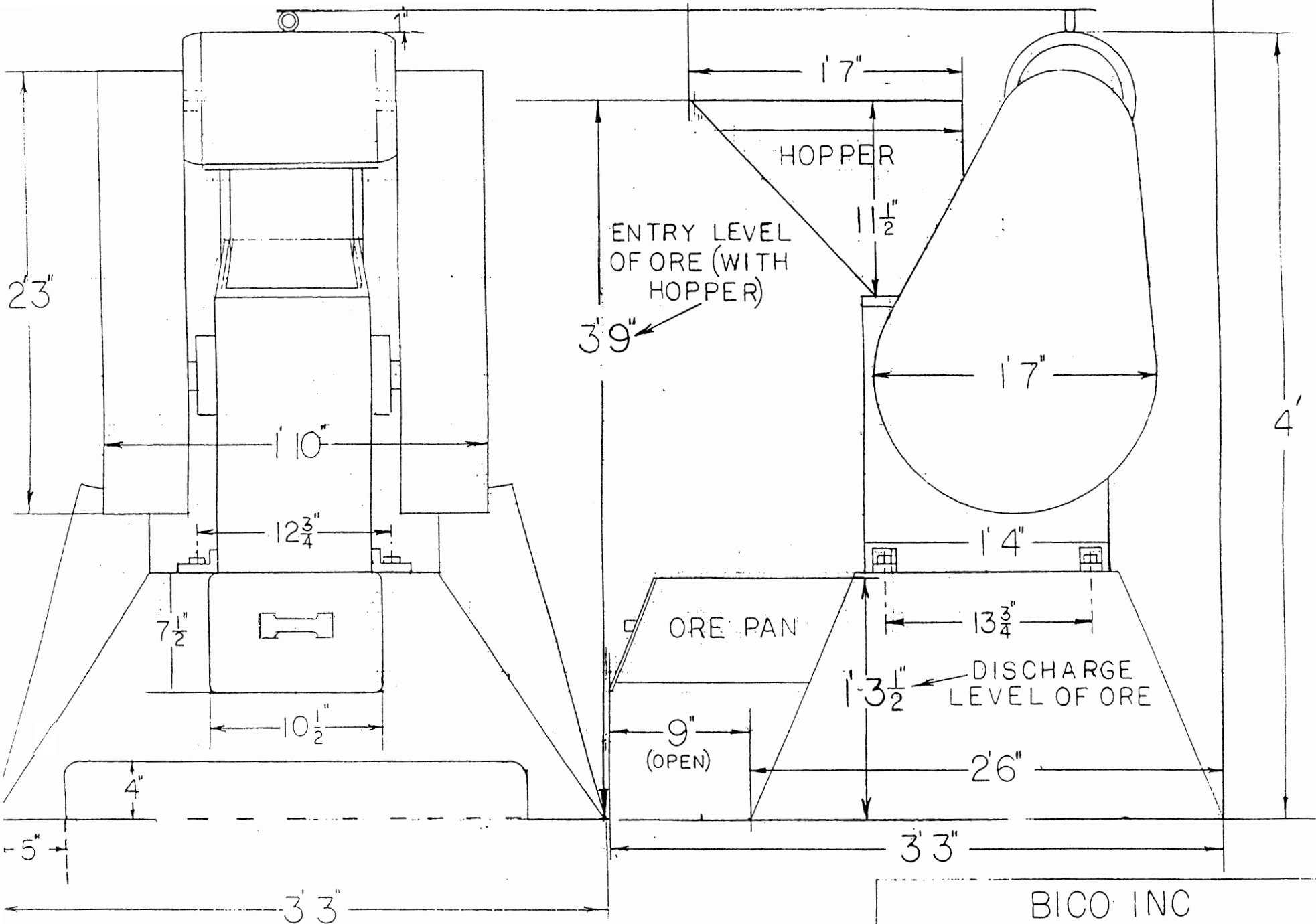
TO RE-ASSEMBLE, FOLLOW STEPS
1, 2, 3, ABOVE, IN REVERSE ORDER



CUT-AWAY SIDE VIEW

PROCEDURE TO INSTALL SHIMS UNDER TOGGLE BLOCK

BADGER



BICO INC		
SCALE: NONE	DATE: 6-21-93	DRAWN BY: DE
		REVISED
BADGER		

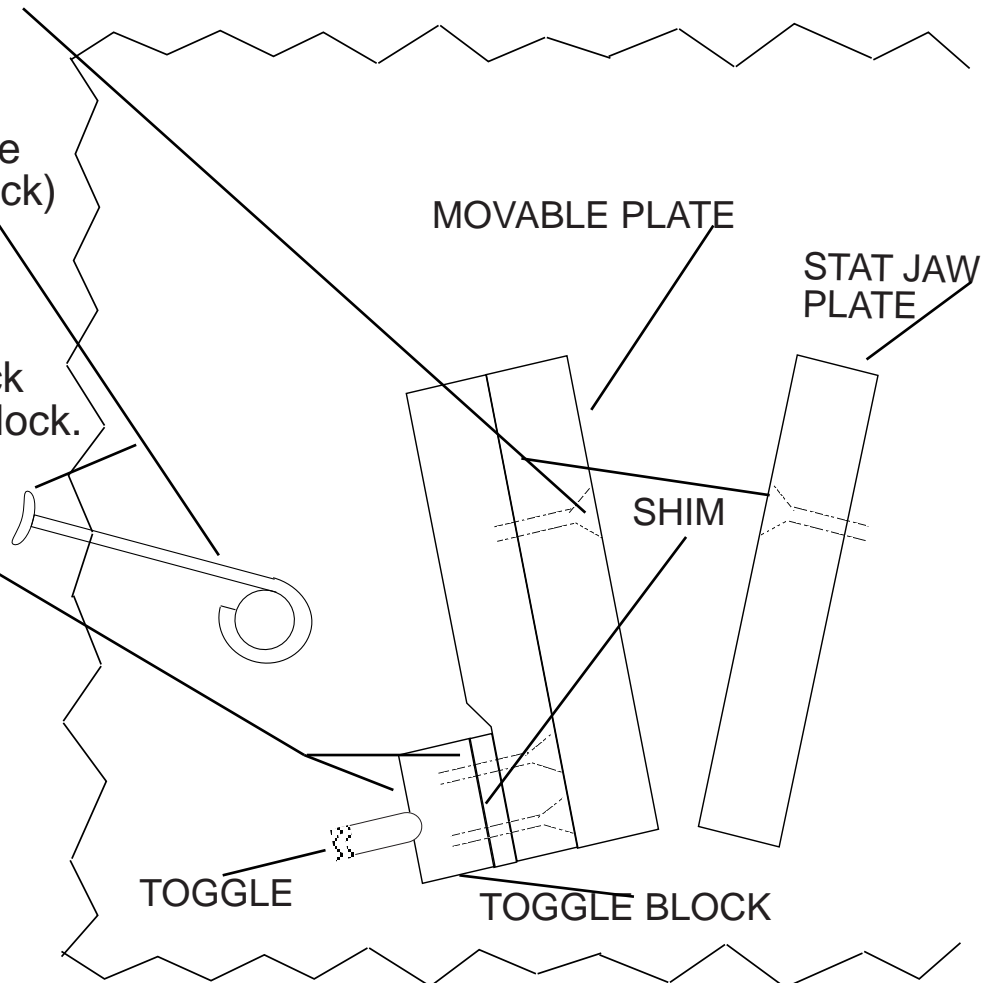
PROCEDURE TO INSTALL SHIMS UNDER TOGGLE BLOCK - BADGER CRUSHER -

1. Movable Jaws - Remove Plates

2. Lay crusher on side -
Loosen wing nuts - Remove
tesnion Rods(hooked in back)

3. Remove four toggle block
bolts and remove toggle block.
Toggle and shim.

4. To re-assemble,
follow steps 1, 2, and 3
above in reverse order.



CUT-AWAY SIDE VIEW

DIFFERENT THICKNESSES OF SHIM AVAILABLE - THICKER SHIM
CLOSES GAP.

CRUSHER CAN BE ELEVATED IN ORDER TO WORK UNDERNEATH