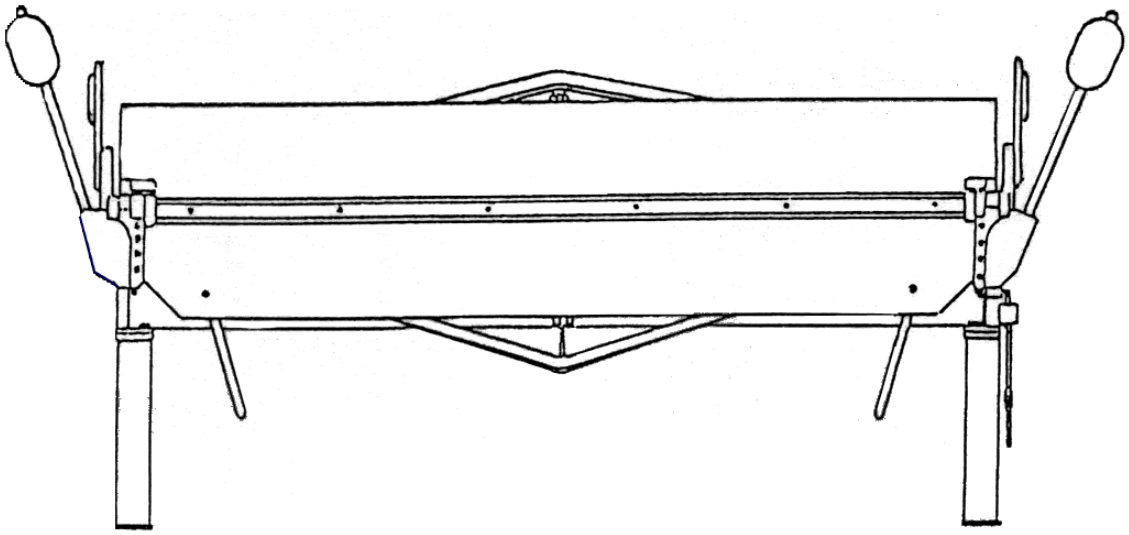
# STANDARD
# HAND BRAKES

INSTRUCTIONS
FOR
SET-UP AND OPERATION
ADJUSTMENTS
REPLACEMENT PARTS

**SB-812 SB-1016 SB-1014 SB-1218**



WHEN ORDERING REPLACEMENT PARTS BE SURE TO GIVE THE FOLLOWING

- MODEL AND SERIAL NUMBER
- QUANTITY OF PART REQUIRED
- PART NUMBER AS IDENTIFIED ON DRAWING
- PART NAME AS SHOWN ON PARTS LIST

DREIS & KRUMP MANUFACTURING COMPANY
481 S. GOVERNORS HIGHWAY PEOTONE, IL 60468
PHONE 708-258-1200 FAX 708-258-9682

# INSTALLATION

## SHIPPING & RECEIVING

Immediately upon receiving your brake machine, visually inspect it for damage. If damaged, notify the carrier for claims inspection and advise Dreis & Krump. With F.O.B. factory shipments, a claim must be presented to the carrier by the customer. Title to the equipment passes to the customer when the carrier accepts shipment.

## UNLOADING

To unload your brake machine, use a fork lift or crane of sufficient capacity to rig the machine to the location.

## FOUNDATION

A special foundation is not required for your Chicago hand brake machine. However, the floor should be level and of adequate strength to support the weight of the machine. The work area should allow for clearance of the raised bending leaf as well as safe handling of large sheets of material. Once the machine is leveled, it should be anchored securely to the floor.

## CLEANING MACHINE

Remove rust preventive coatings from machined surfaces with a non-flammable cleaning solution. Clean entire machine thoroughly to remove dust, sand and other grit accumulated during shipment, paying particular attention to the clamping and adjusting screws.

## LEVEL MACHINE

To level machine – loosen clamp nuts, Items O & P (fig. 2) so top leaf sets loosely upon the bottom. Check the gap between the top and bottom at each end of machine. It should be fairly equal. If one end has less daylight (gap), shim under the rear of the leg at the same end until daylight is equal.

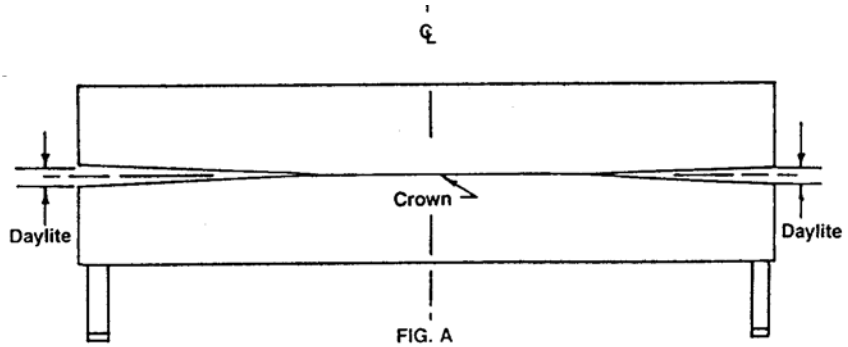


FIG. A

When clamping and unclamping the top leaf - if the top leaf holder, Item 26 (fig. 2) lifts off of the top adjust slide nut, Item 25 (fig. 2) place a shim under the rear of the leg on same side that is lifting.

# ADJUSTMENTS

## ADJUSTING FOR METAL THICKNESS

Clearance for bends is obtained by moving top leaf back at bending edge. If material is within four gauges of capacity, move top leaf/nose bar, Item 35 (fig. 5) back two times material thickness from edge of bottom bar, Item 5 (fig. 5). With lighter material, top leaf can be moved forward (1-1/2 times material thickness) for sharper bends.

TO ADJUST - unclamp top leaf slightly. Adjust top leaf by turning adj. screw handle N (fig. 2).

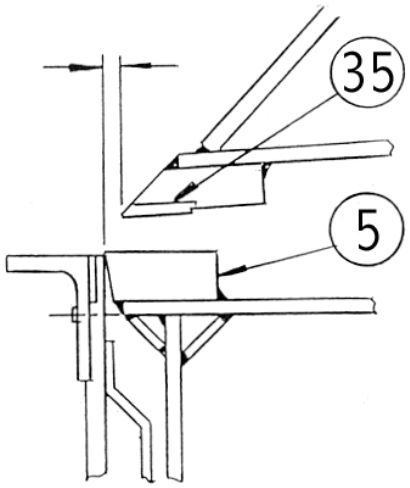



Fig. 5

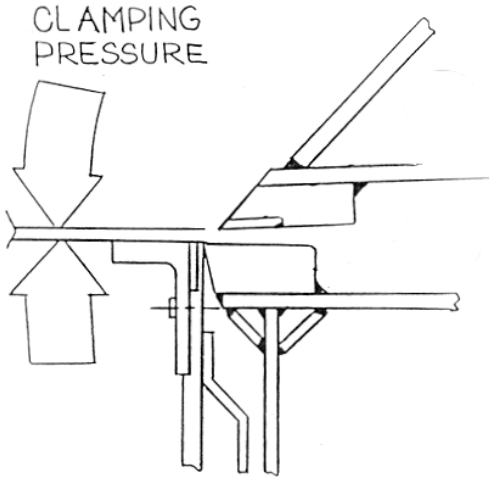



Fig. 6

Clamping pressure should be adjusted when the material thickness of the piece part changes.

TO ADJUST - loosen link adjust nuts, Items O& P (fig. 2). Clamp top leaf in place. Tighten link nut ( P ) until firm pressure is applied to material. Snug link nut ( O ).

If material slips when forming, apply more pressure through link adjust nut ( P ).

## COUNTERBALANCE

Counterweight, Item 17 (fig. 2) can be raised or lowered on counterweight rod, Item 16 (fig. 2). The rod can also be rotated in the hinge socket to counterbalance the bending leaf.

## DUPLICATE BENDS

Adjustable gauge stop, Item R (fig. 2) can be positioned at any point along the stop rod, Item 21 (fig. 2) to limit travel of the bending leaf.

## NARROW OFFSET BENDS

Remove angle bar, Item 7 (fig. 1) to form a ½" or greater offset. Use optional ¼" insert bar (Z) to form smaller offset. NOTE: Forming capacity is greatly reduced with angle bar removed.

# ADJUSTMENTS

## CAPACITY

The forming capacity of the brake is effected by the arrangement of the bending leaf angle bar, Item 7 (fig. 1) and the insert bar, Item 4 (fig. 1).

- Maximum forming capacity is achieved when the angle bar is in the high position and there is a 1" minimum flange on the material being formed.
- Forming capacity is reduced by four gauges when the angle bar is in the low position.
- Forming capacity is reduced by seven gauges when using the optional ¼" insert bar (Z) and the angle bar is in the low position.
- CAUTION - The machine should not be operated with the angle bar removed.

## OVER / UNDER BEND ADJUSTMENT

ENDS - If the sheet bends over further on one end than the other, set the top leaf back on the end where the sheet is over bending. TO ADJUST - Unclamp top leaf slightly. Turn top adjust handle, Item N (fig. 2) clockwise on side that is over bending.

CENTER - If the sheet under bends in the center, the crown must be increased in the center of the bending leaf. TO ADJUST - Increase tension on the center support rod nut, Item C (fig. 3) located at the bottom of the bending leaf. At times, increasing tension on the top leaf center support rod nut, Item G (fig. 3) will help. Note: On some models, the crown in the bending leaf can be increased by turning adjusting screws under the center of the angle bar.

## BENDING EDGE ALIGNMENT

When the bending leaf is in the down position, the edge of the insert/angle bar should be 1/64" below the bottom bar, Item 5 (fig. 7) on each end of the machine. TO ADJUST - Loosen the hinge mounting bolts, Item 13 (fig. 2). Raise or lower the bending leaf, Item 1 (fig. 7) using stop bolt, Item 15 (fig. 2) located at the bottom of the hinge. Tighten the hinge mounting bolts.

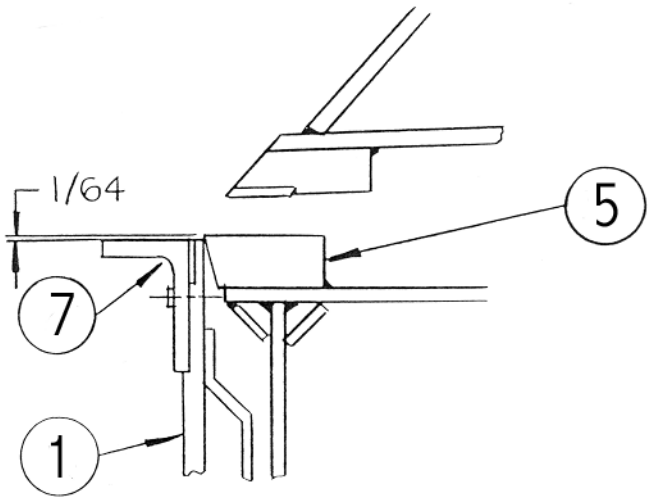



Fig. 7

# ADJUSTMENTS

## CREEPING TOP LEAF

If the top leaf creeps forward when clamping material - check for excess clearance at point J between collar K and adjusting screw holder S (fig. 8).

To remove clearance - loosen set screw in collar ( K ) and leave allen wrench in set screw. Turn handle ( N ) to the right and collar will snug up against screw holder (S). Tighten set screw in collar and check for binding. Handle should turn with medium effort and top leaf should not creep.

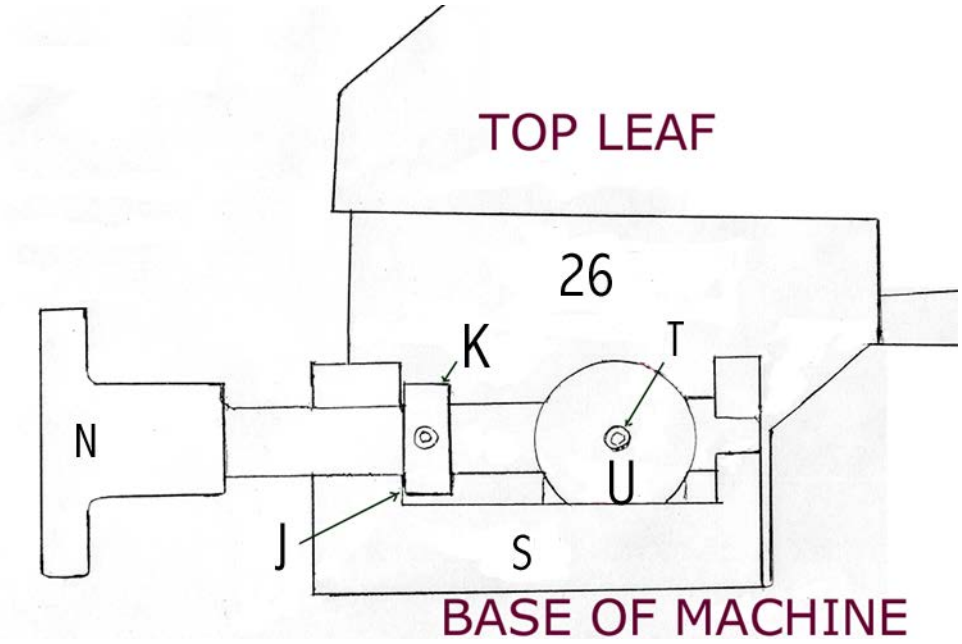


Fig. 8

## TOP LEAF ADJUSTMENT HANDLE DIFFICULT TO TURN

If handle ( N ) is hard to turn - loosen set screw ( T ) in end of nut ( U ) reference figure 8. Rap end of nut with heavy hammer while turning handle ( N ) . Snug set screw. NOTE: There is a plug under set screw T which prevents set screw from harming adjusting screw threads. Rapping the end of nut loosens plug, allowing screw to turn.

If handle ( N ) is hard to turn - check that collar ( K ) is not too tight against screw holder (S). If collar is too tight, loosen set screw in collar and adjust.

# CARE AND MAINTENANCE

## CAUTION

Under no circumstances should you attempt to form material beyond the rated capacity of the machine. Overloading the machine could result in personal injury to the operator and/or damage to the machine.

Bend short pieces of material in center of brake to equalize strain.

Always have both angle bar and insert bar mounted to the bending leaf when making capacity bends.

When forming sections of wide girth such as cornices, to equalize the buckles in the sheet:

- Start the bend near the center of the sheet, or,
- Make a kink in the opposite end of the sheet from where the first bend will be made. Sheets are not always perfectly flat and a buckle left in one end while the other is straightened by clamping in the brake, will throw the first bend out of line when the second bend (one with the buckle left in ), in turn, is straightened.

Always use material with square sheared ends. Rolled edges will cause material to bow.

Never use brake to bend rods - they will nick nose bar.

Always adjust for differences in gauges - never clamp the top on material heavier than that for which the links and top are set for. Never operate the bending leaf unless the top leaf is set back 1-1/2 to 2 times the material thickness.

## LUBRICATION

There are five lubrication points marked with **[ L ]** depicted in the Right Side View (fig. 2).

Use an SAE 30 oil to lubricate the hinge pins, clamp handle, adjusting link, and top adjust screw as needed.

Use a general purpose grease to lubricate between the top leaf holder, Item 26 (fig. 2) and the top adjust slide nut, Item 25 (fig.2) once a week.

# COMPONENTS

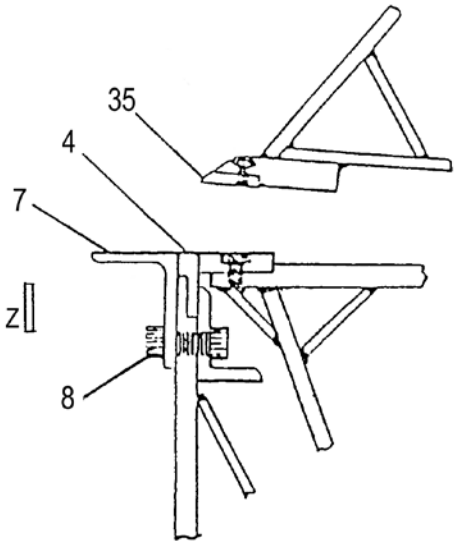



Fig. 1

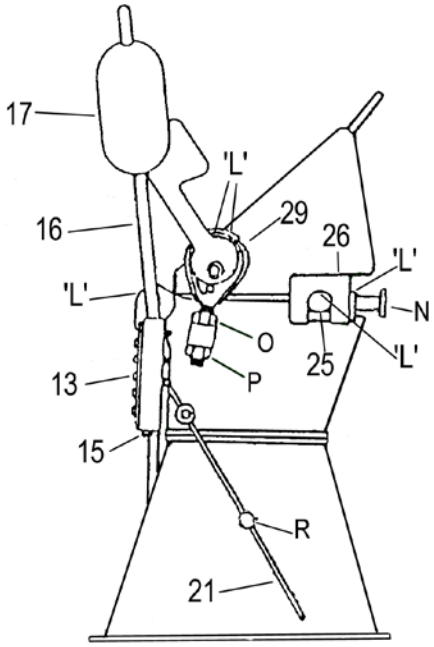



Fig. 2

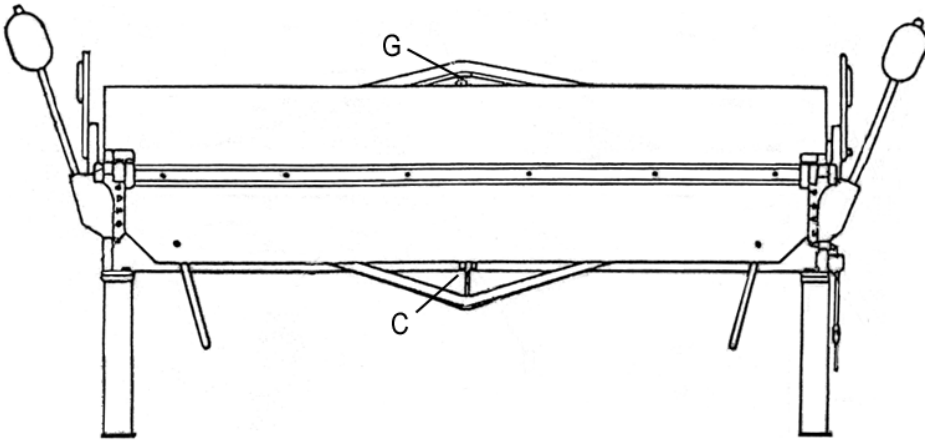



Fig. 3

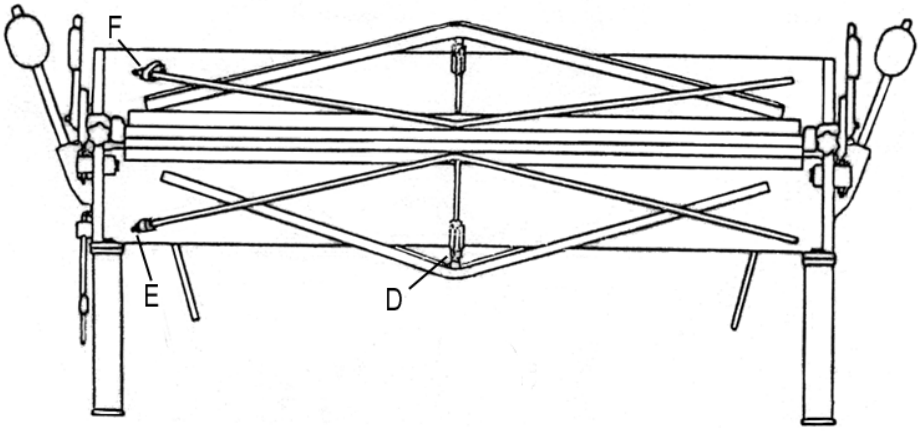
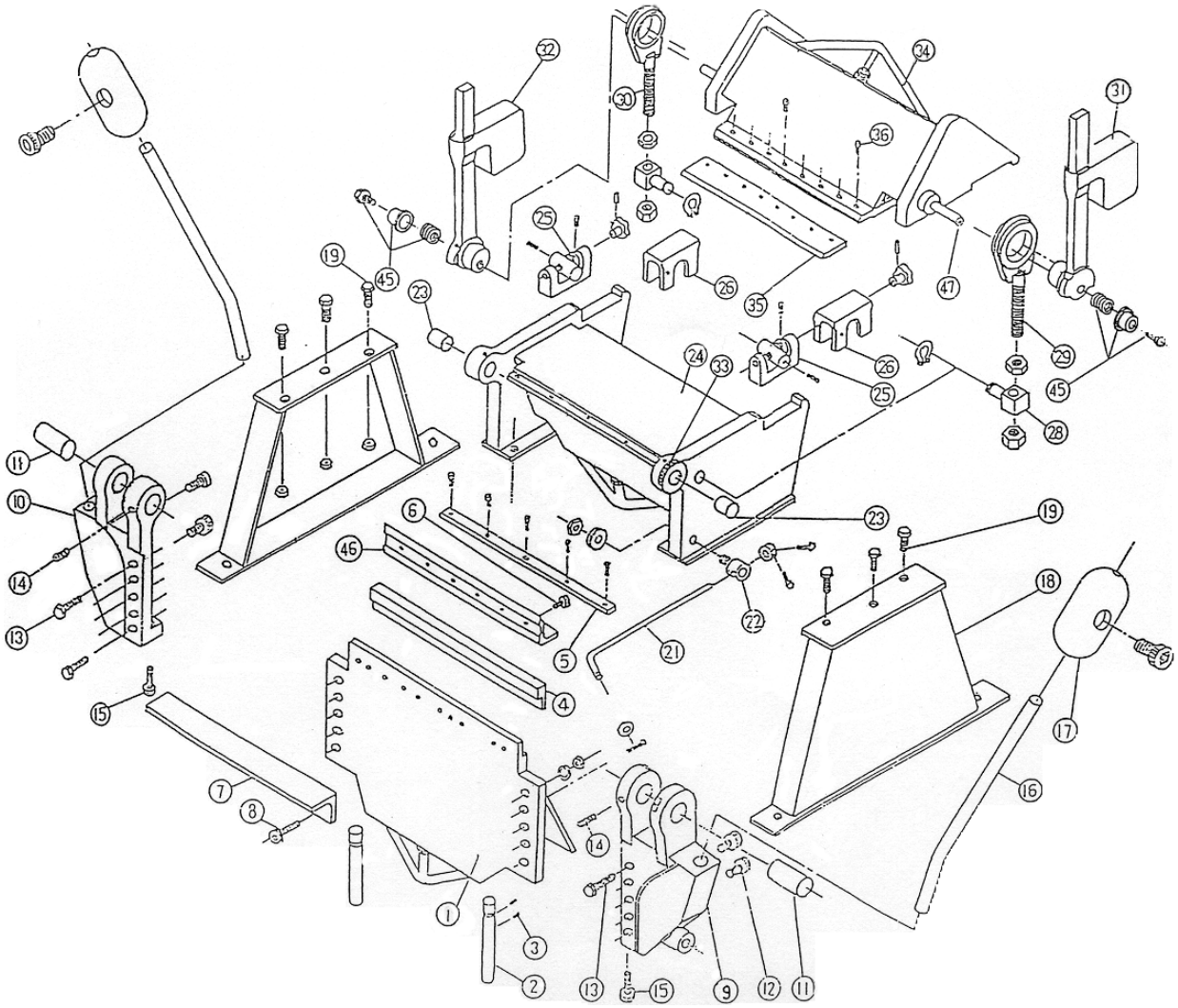



Fig. 4

SB 812 SB 1016 SB 1014 SB 1218

# “SB” STANDARD HAND BRAKE



**SB 812 / SB 1016 & SB 1014 / SB 1218**

| NO. | DESCRIPTION | QTY | NO. | DESCRIPTION | QTY |
|---|---|---|---|---|---|
| 1 | Bending Leaf Assy. | 1 | 21 | Stop Rod Assembly | 1 |
| 2 | Handle, Bend Leaf | 2 | 22 | Stop Rod Holder | 1 |
| 3 | Screw | 4 | 23 | Bushing, Hinge Pin | 2 |
| 4 | Insert Bar (specify) | 1 | 24 | Bed | 1 |
| 5 | Bottom Bar | 1 | 25 | Adj. Assy. Top Leaf | 2 |
| 6 | Socket Head Capscrew | 17/21/25 | 26 | Holder, Top leaf | 2 |
| 7 | Apron Angle Bar | 1 | 28 | Swivel Pin Assembly | 2 |
| 8 | Socket Head Capscrew | 6/8/10 | 29 | Link Assembly R.H. | 1 |
| 9 | Hinge R.H. | 1 | 30 | Link Assembly L.H. | 1 |
| 10 | Hinge L.H. | 1 | 31 | Clamp Handle R.H. | 1 |
| 11 | Hinge Pin | 2 | 32 | Clamp Handle L.H. | 1 |
| 12 | Socket Head Capscrew | 4 | 33 | Scale | 1 |
| 13 | Hinge Bolt/Nut | 10 | 34 | Top Leaf | 1 |
| 14 | Set Screw (hinge pin) | 4 | 35 | Nose Bar | 1 |
| 15 | Socket Head Capscrew | 2 | 36 | Screw, Nose Bar | 17/21/25 |
| 16 | Counterweight Rod | 2 | 45 | Spring/Cover Assy. | 2 |
| 17 | Counterweight | 2 | 46 | Clamp Bar, Insert | 1 |
| 18 | Leg Assembly | 2 | 47 | Top Shaft | 2 |
| 19 | Bolt/Nut, Leg Assy. | 6 | | | |