

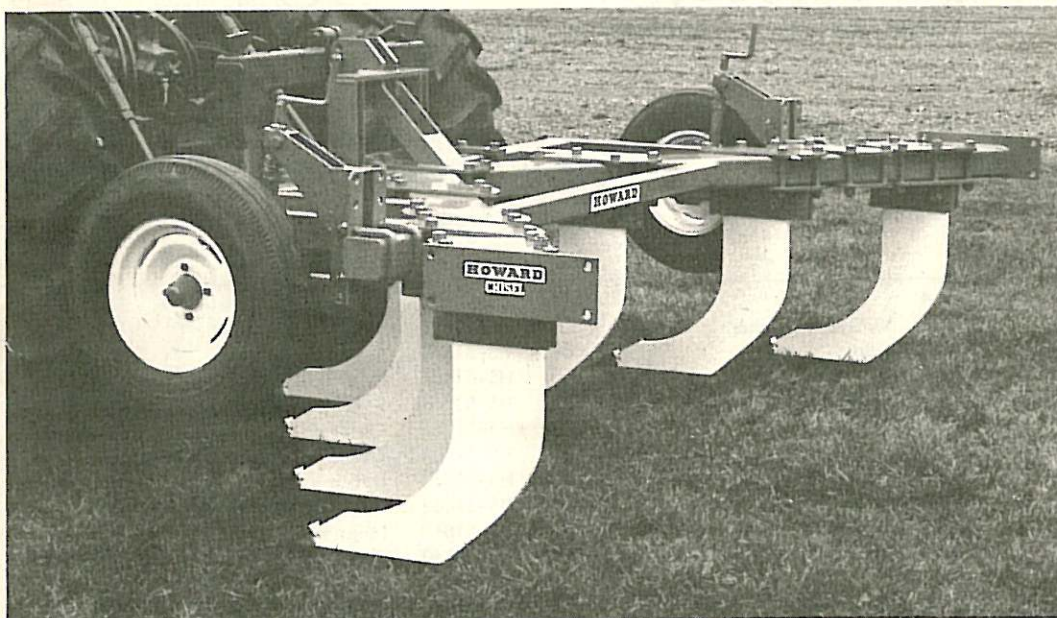


- **WORKING INSTRUCTIONS**
- **PARTS LIST**
- **SETTING UP INSTRUCTIONS**

**MODEL WIDTHS** The HOWARD V CHISEL is available in 3, 5, 7, 9 and 11-shank models, and chisel shanks set on 20 inch centers provide a corresponding total working width of 5', 8' 4", 11' 8", 15' and 18' 4".

**POWER REQUIREMENT** Power requirement is lower than expected for the amount of work accomplished; and although this will naturally vary with soil conditions, an average figure would be 15 horsepower per shank. Up to 65 acres per day of primary tillage can be expected with a 7-shank HOWARD.

**SPEED** Speed is essential. The faster the tractor travels, the greater the breakout, since the action of this chisel shape is to run down under the ground and lift the soil -- rather than be dragged through the soil like the standard spring-type chisel shank.



**SPECIAL NOTE:**

1. SOME V CHISELS SUPPLIED IN 1973 WILL HAVE WHEEL MOUNTING BRACKETS WELDED TO, AND WILL BE A PART OF, THE MAIN FRAME.
2. ADJUSTING SCREWS AND HANDLES MAY BE REPLACED BY TURNBUCKLE ADJUSTERS.

**DEPTH CONTROL WHEELS** Depth wheels act as a depth limiting factor only. The full weight of chisel should never be allowed to rest on the depth wheels. The three point linkage helps transfer the weight of the chisel to the rear wheels of the tractor for increased traction and gain maximum draft efficiency from the tractor.

It is recommended that the chisel should be lowered into the ground so that the depth wheels make full contact with the ground; the chisel should then be lifted slightly on the three-point linkage so that part of chisel weight is transferred onto the rear wheels of the tractor. 15" rim depth wheels are supplied and special adapter kits are available for converting these to duals. Dual wheel kits should only be considered if working wide models in very soft, sandy or peat soils. Generally speaking, standard wheel kits are quite adequate.

**TOP LINK ADJUSTMENT** The angle of the chisel point is most important. It is essential that the top link be adjusted correctly. If the top link is too long, the chisel will not maintain depth; if the top link is too short, the chisel will dive and attempt to work at full depth.

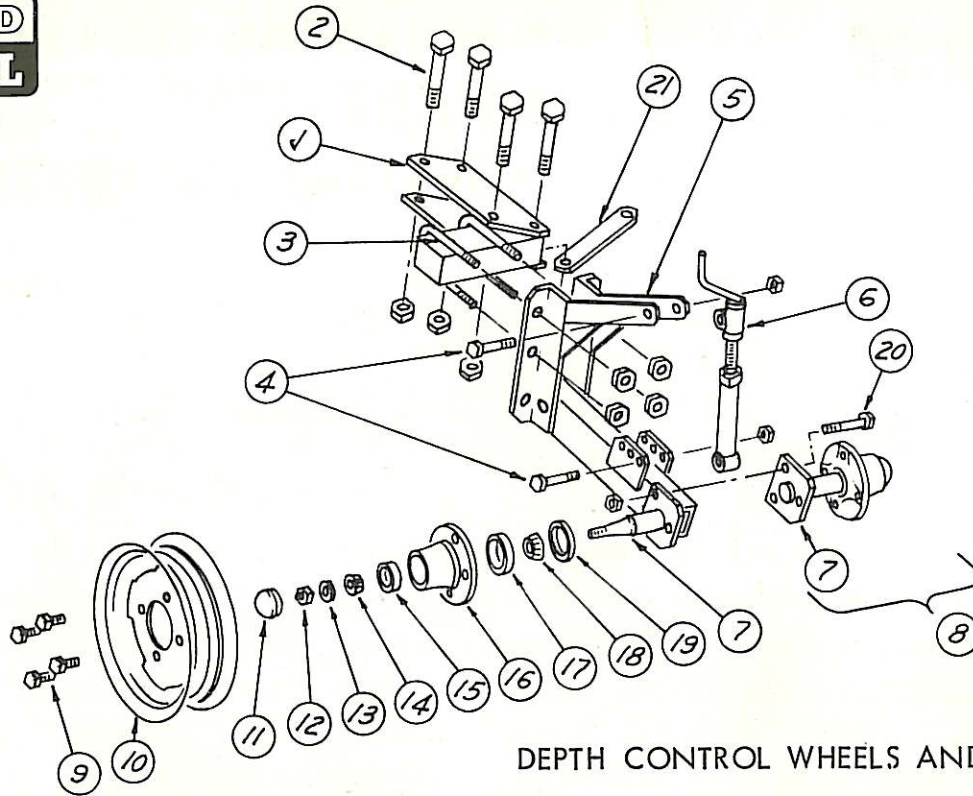
**HOWARD ROTAVATOR CO., INC.**  
**HARVARD, ILLINOIS 60033**

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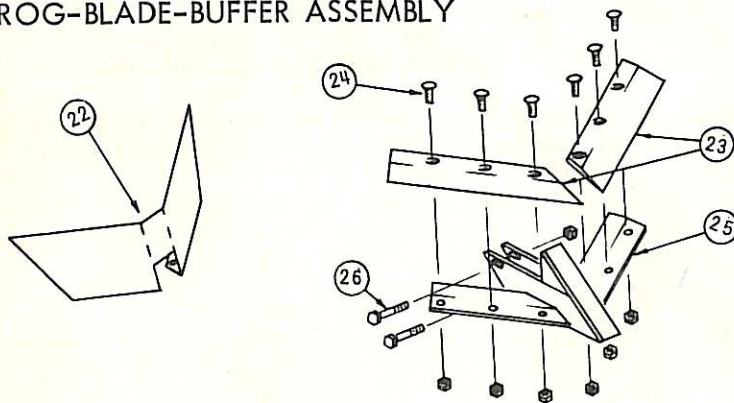


**DEPTH CONTROL WHEELS AND BRACKETS**

III. No.	Part No.	Description
1	HS-11004	Mounting Bracket 4"
2	HS-07062	7/8" x 6 1/4" Bolt, Nut, Lockwasher
3	HS-00740	7/8" x 4" x 5 1/2" U-Bolt
4	HS-06035	3/4" x 3 1/2" Bolt, Nut
5	HS-51013	Right hand welded assy.
	HS-51014	Left hand welded assy.
6	HS-51042	Adjustment screw
7	HS-51054	Spindle assy. for dual gauge wheels adaptor - one only
8	HS-51053	Adaptor assy. for dual gauge wheels - one only
9	HS-51069	1/2" x 7/8" wheel lug

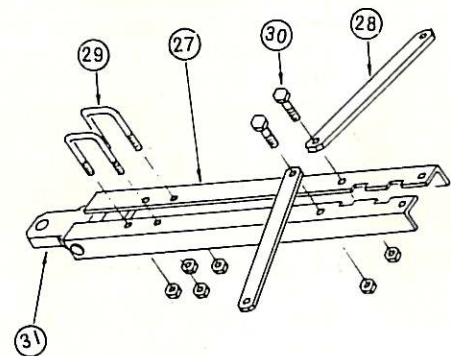
III. No.	Part No.	Description
10	HS-51100	14" 4 hole wheel
	HS-51101	15" 4 hole wheel
11	HS-51068	Dust cap
12	HS-51067	9/16 lock nut
13	HS-51066	9/16 flat washer
14	HS-51065	Outer bearing cone
15	HS-51064	Outer bearing cup
16	HS-51063	Hub only
17	HS-51062	Inner bearing cup
18	HS-51061	Inner bearing cone
19	HS-51060	Grease seal
20	HS-04035	1/2" x 3 1/2" bolt, nut, lockwasher
21	HS-11015	Stabilizer strap

**FROG-BLADE-BUFFER ASSEMBLY**



III. No.	Part No.	Description
	HS-11030	22" Kniff complete
22	HS-11034	6" High buffer
23	HS-11032	Pair blades
24	HS-	Sweep bolt
25	HS-11031	Frog only
26	HS-04025	1/2" x 2 1/2" bolt, nut

**TRAILER HITCH**

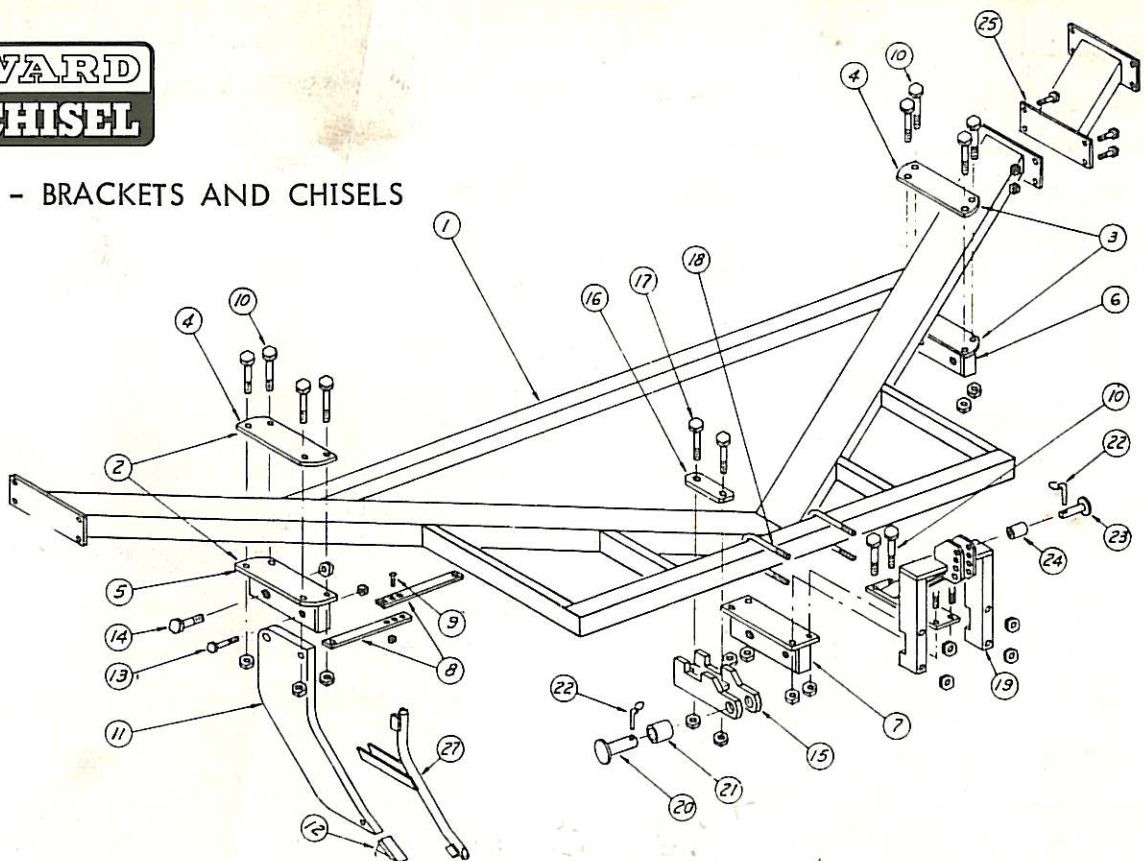


III. No.	Part No.	Description
	HS-11065	Standard trailer hitch complete
27	HS-11066	Hitch main frame
28	HS-11067	Stabilizer strap
29	HS-00646	U-Bolt 3/4" x 4" x 6"
30	HS-06020	3/4" x 2" bolt, nut, lockwasher
31		Not available (order with HS-11066)





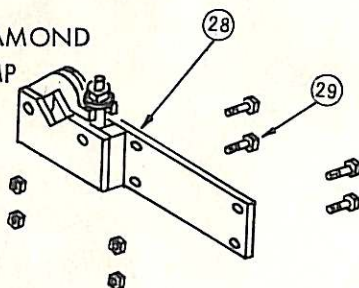
V FRAME - BRACKETS AND CHISELS



III. No.	Part No.	Description
1	HS-11080	3-shank frame
	HS-11081	5-shank frame
	HS-11082	7-shank frame
	HS-11083	9-shank frame
	HS-11084	11-shank frame
2	HS-11090	Clamp complete R.H.
	HS-11100	Outside clamp complete R.H.
3	HS-11091	Clamp complete L.H.
	HS-11101	Outside clamp complete L.H.
4	HS-11094	Top half of HS-11090, 11091
	HS-11104	Top half of HS-11100, 11101
5	HS-11092	Bottom half of HS-11090
	HS-11102	Bottom half of HS-11100
6	HS-11093	Bottom half of HS-11091
	HS-11103	Bottom half of HS-11101
7	HS-11095	Center Clamp
8	HS-11108	Stabilizer strap
9	HS-04012	1/2" x 1 1/4" Bolt, Nut
10	HS-07062	7/8" x 6 1/4" Bolt, Nut, Lockwasher

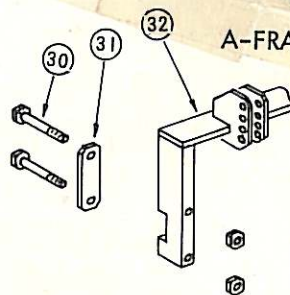
III. No.	Part No.	Description
11	HS-11110	Shank, less point
	HS-11111	Shank 6" longer, less point
12	HS-11115	Point <i>600026</i>
13	HS-16030	3/4" x 3" Shear Bolt, Grade 2 <i>600145</i>
14	HS-18030	1" x 3" Bolt & Nut
15	HS-11130	Adjustable Bottom Pull Complete
16	HS-11131	Cap for HS-11130
17	HS-17080	7/8" x 8" Bolt, Nut, Lockwasher
18		Same as No. 17
19	HS-11071	A-Frame Only
	HS-11070	A-Frame complete with HS-11095
20	HS-11147	1 1/8" x 6 Cat II Bottom pull pin
21	HS-11149	Bushing to convert HS-11147 to Cat III
22	HS-11150	Clip pin
22	HS-11143	1x5 Cat II Top pin
24	HS-11145	Bushing to convert HS-11143 to Cat III
25	HS-11053	Right hand wing, welded assy. only
	HS-11054	Left hand wing, welded assy. only
27	HS-11118	Shank Protector

2 1/4" DIAMOND BAR CLAMP



III. No.	Part No.	Description
28	HS-11061	Right hand clamp assy.
	HS-11062	Left hand clamp assy.
29	HS-06020	3/4" x 2" bolt, nut, lockwasher
	HS-11060	Pair of clamps to mount 2 1/4" diamond bar

A-FRAME



III. No.	Part No.	Description
30	HS-07080	7/8" x 8" bolt, nut, lockwasher
31	HS-11072	Angle Strap
32	HS-11071	A-Frame only
	HS-11070	A-Frame complete





# SETTING UP INSTRUCTIONS for THE HOWARD V CHISEL

The following parts are packed separately:

TOP MAST AND CENTER CHISEL BRACKET HS11070  
CHISEL SHANKS  
WHEEL MOUNTING BRACKETS - HS11004

WHEEL KITS INCLUDING 15" WHEEL RIMS  
HS50040  
PACKAGE OF BOLTS, NUTS AND WASHERS

NOTE: Illustrations and photographs show the frame upside down for easy reference to parts, however, when setting up the V CHISEL, place the frame on the ground in the correct position with the chisel brackets face down.

## SETTING UP THE HOWARD V CHISEL.

1. Place the chisel frame on the floor the right way up. Jack up front of frame and block for safety.

2. Measure the frame and mark the center line.

3. Fit the top mast and front chisel bracket exactly in the center of the V FRAME using the four 7/8" x 6 3/4" bolts. Locate the two stabilizer straps, Figure 1A. Use the four 7/8" x 8" bolts to secure the top mast to the front box beam, Figure 1 B.

4. Remove the bolts from lower mounting brackets and turn brackets so that they face the front, and relocate these brackets to suit your tractor linkage, i.e., CAT II 34" centers and CAT III 38" centers. Retighten bolts. Figure 2 A.

5. Back up the tractor to chisel frame and connect three point linkage. Lift frame on tractor linkage and block for safety. Chisel brackets are mounted on 20" centers and if wheels are not to be fitted, the chisel brackets need not be altered.

6. When fitting wheels, first remove the stabilizer straps between the end of chisel bracket and the next one towards the center. Fit the wheel arm bracket making sure that it is parallel with the chisel bracket or with a very slight toe-in. Figure 2 B. Fit wheel arm to bracket with the U bolts fitted through the bottom and third holes in the brackets, (photos show U bolts fitted in center holes, but lower holes are preferred). Check that wheels are in line or with a very slight toe-in, fit the four extra stabilizer straps supplied as in Figure 3 A. Tighten all bolts.

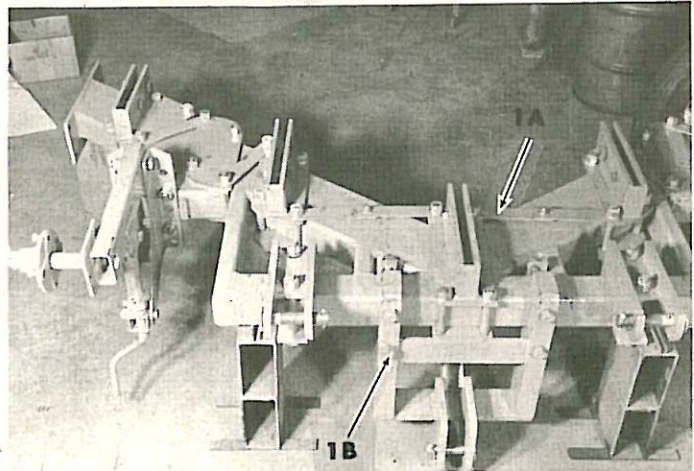
Wheels are supplied as optional equipment but are recommended for use with 7, 9, and 11 Shank V CHISELS. It is not possible to fit wheels to 3 shank models.

Wheel fitment to 5 shank models may be impossible due to tractor wheel centers and tire size.

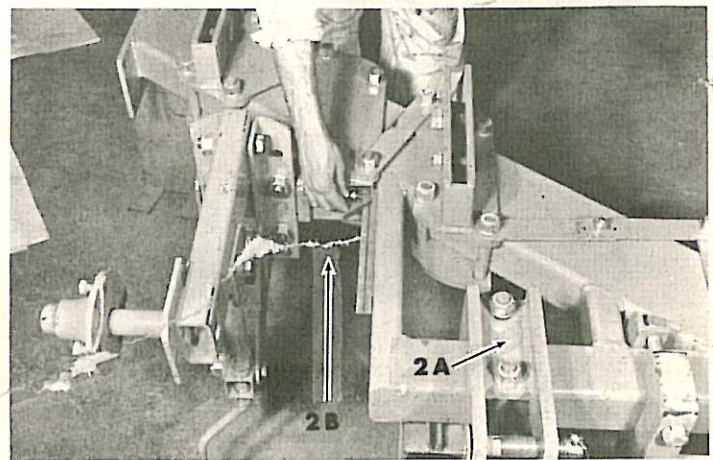
7. Fit chisel shanks using the 1" pivot bolts and the 3/4" shear bolt. When fitting shank extensions, make sure that the Grade 8 bolts supplied with the extensions are fitted in the V frame brackets, this allows the soft shear bolt to work in the chisel shank.

8. WING EXTENSIONS. Wing extensions are available. They are priced as a pair and come complete with an extra pair of chisel shanks.

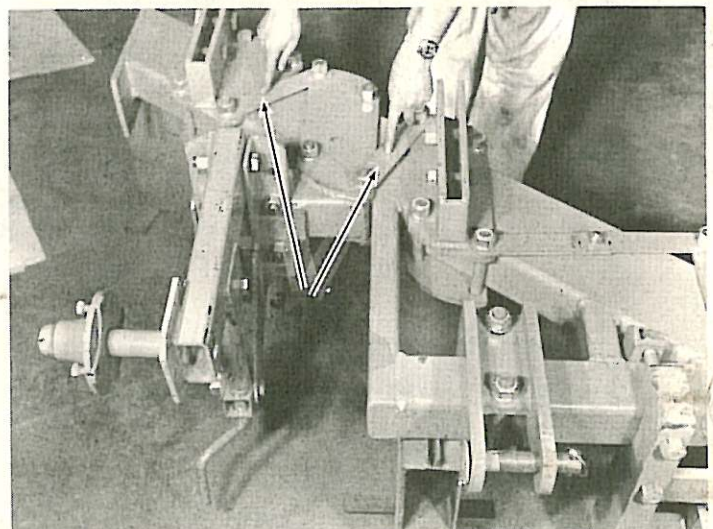
9. When replacing the chisel points, make sure they are fitted correctly.



ILL. 1

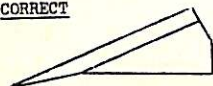


ILL. 2



ILL. 3

CORRECT



WRONG

