

# *System* **Moore**

**3 & 4 METRE ALL TILL SEED BED DRILLS**

BRITISH PATENT Nos. 1,218,785 1,591,607 2,040,656.  
U.S.A. PATENT Nos. 3,611,956 4,196,679. AUSTRALIA PATENT No. 518,030.  
CANADA PATENT No. 1,082,530. NEW ZEALAND PATENT No. 192,436.  
SOUTH AFRICA PATENT No. 79/6679. OTHER PATENTS PENDING.

## **Instruction Manual & Parts List.**



# **Moore Uni-drill Ltd.**

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## APPROXIMATE SEEDING RATES FOR MOORE ALL TILL DRILLS 3 AND 4 METRE

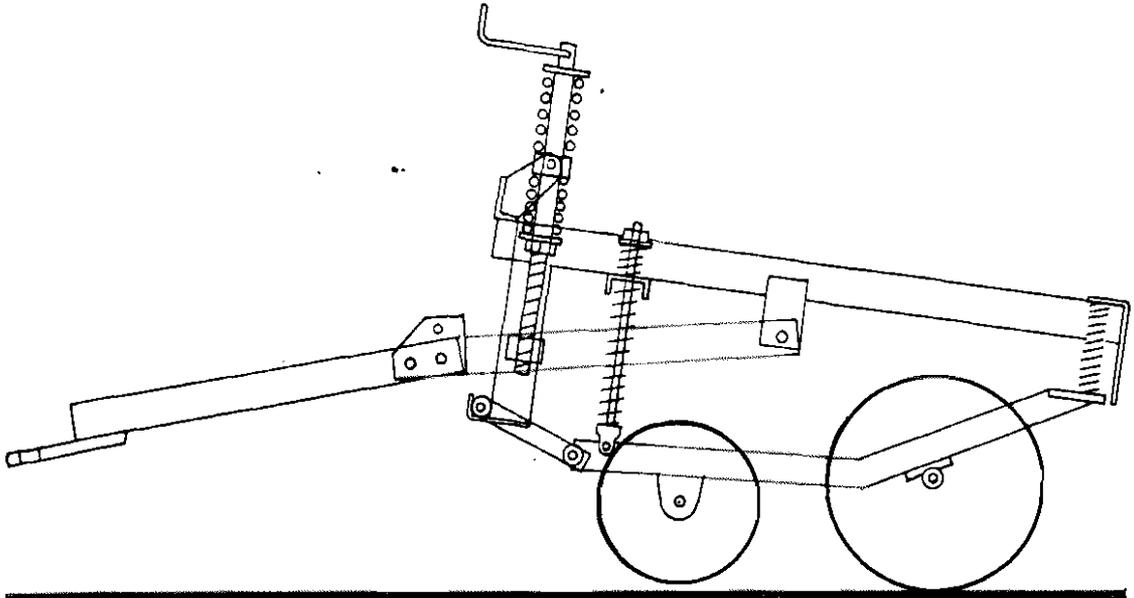
	KG/HA	WHEAT	BARLEY	OATS	PEAS	LINSEED	RYEGRASS	LUCERNE, KALE & RAPE
	Feed Wheel Feed Trap Skid Opening	Cereals Open 2nd Notch Position	Cereals Open 2nd Notch Position	Cereals Open 2nd Notch Position	Cereals Open 4th Notch Position	Cereals Open 2nd Notch Position	Cereals Open 2nd Notch Position	Small Grains Half Open 1st Notch Position
Scale	30	62	56	34	136	42	19	4
	32	67	60	36	148	46	20	4
	34	72	65	39	160	50	22	5
	36	78	69	42	172	54	23	5
	38	83	74	45	184	58	25	5.5
	40	89	79	48	196	62	27	6
	42	95	84	51	209	66	28	6
	44	101	89	54	222	70	30	6
	46	107	94	57	234	74	32	7
	48	113	99	191	247	79	34	7
	50	118	105	64	260	83	36	8
	52	125	110	68	273	88	38	8
	54	132	115	71	287	92	40	8.5
	56	138	121	75	300	97	42	9
	58	145	127	78	313	102	44	9
	60	151	132	82	327	107	46	10
	62	158	138	86	340	112	48	10
	64	165	144	89	354	117	51	11
	66	172	150	93	368	122	53	11
	68	179	156	97	382	127	55	12
	70	186	163	101	396	137	58	12
	72	194	169	105	410	139	60	13
	74	201	175	109	425	144	63	13
	76	208	182	114	439	150	65	13
	78	216	188	118	454	155	68	14
	80	224	195	122	468	161	71	14
	82	231	202	127	510	167	73	15
	84	239	209	131	513	173	76	15
	86	247	216	136	525	180	79	16
	88	255	223	140	528	185	82	16
	90	263	230	145	543	192	85	17
	92	272	237	150	559	198	88	18
	94	280	245	155	594	204	91	18
	96	288	252	159	589	211	94	19
	98	297	260	164	605	217	97	19
	100	306	267	169	621	224	100	20
	102	314	275	174	637	231	104	20

NOTE: This Seed Chart is not a guarantee of the correct amount of seed to be sown, use it only as a guide for the seed quantities required.

Turn Calibration Handle ~~30~~<sup>30</sup> times (3 Metre) or ~~16~~<sup>16</sup> times (4 Metre) in an anti clockwise direction. Weigh seeds and multiply by ~~10~~<sup>50</sup> = Kg/Ha or by ~~30~~<sup>20</sup> = Lbs/Acre.

**FIGURE A: MINIMUM PENETRATION**

*Uni-Drill with all the weight on the press wheel rollers-  
Disc seed coulters not touching ground*



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**FIGURE B: MAXIMUM PENETRATION**

*Uni-Drill with all the weight on the disc seed coulters -  
Press wheel rollers not touching ground*

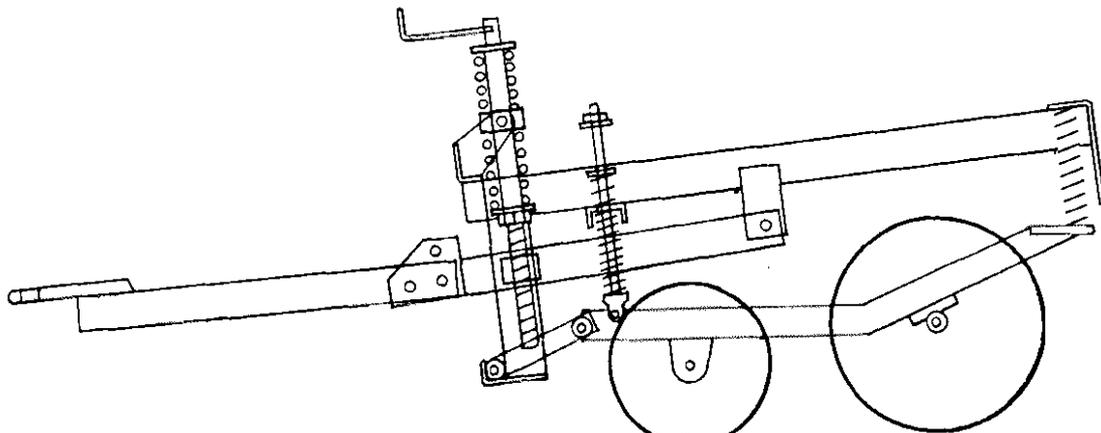


FIGURE 1. DRAG ARM SEEDING UNIT

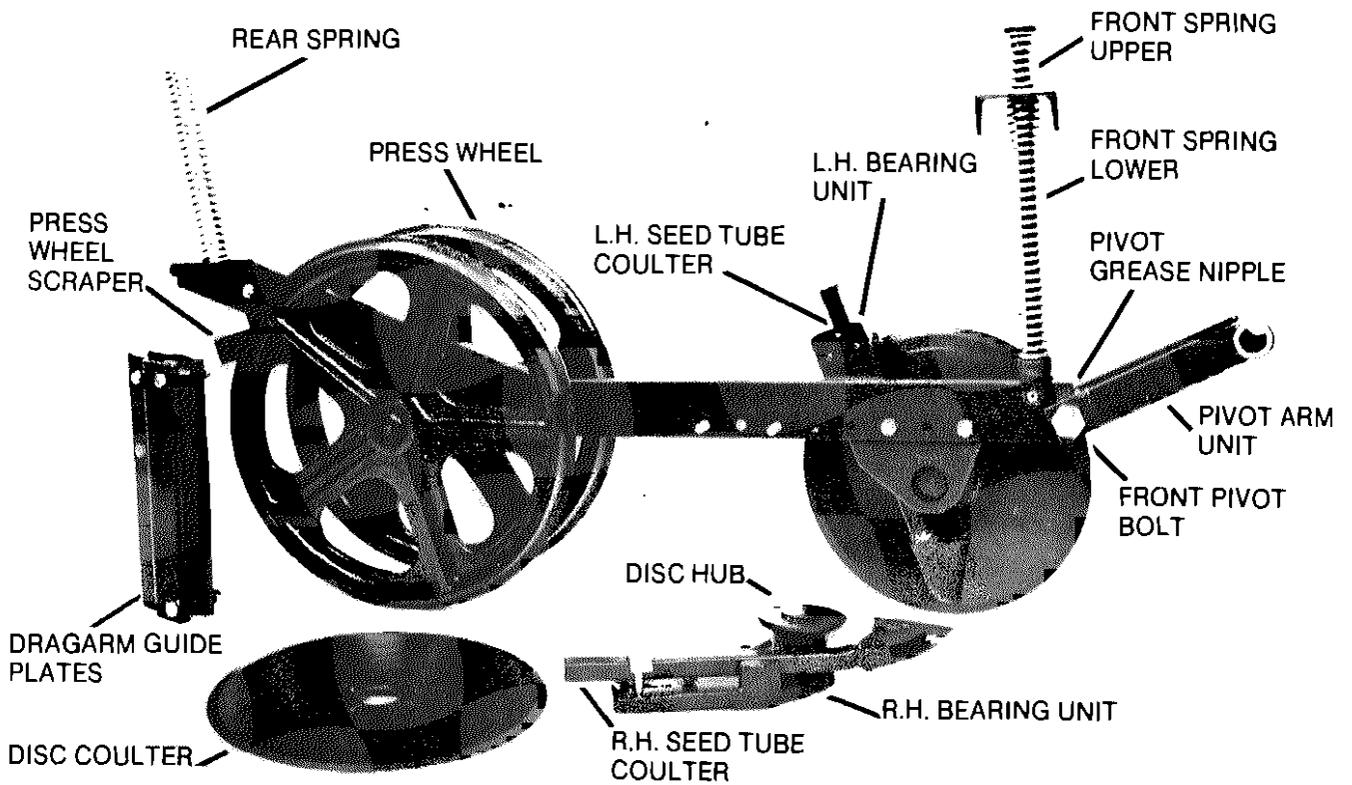
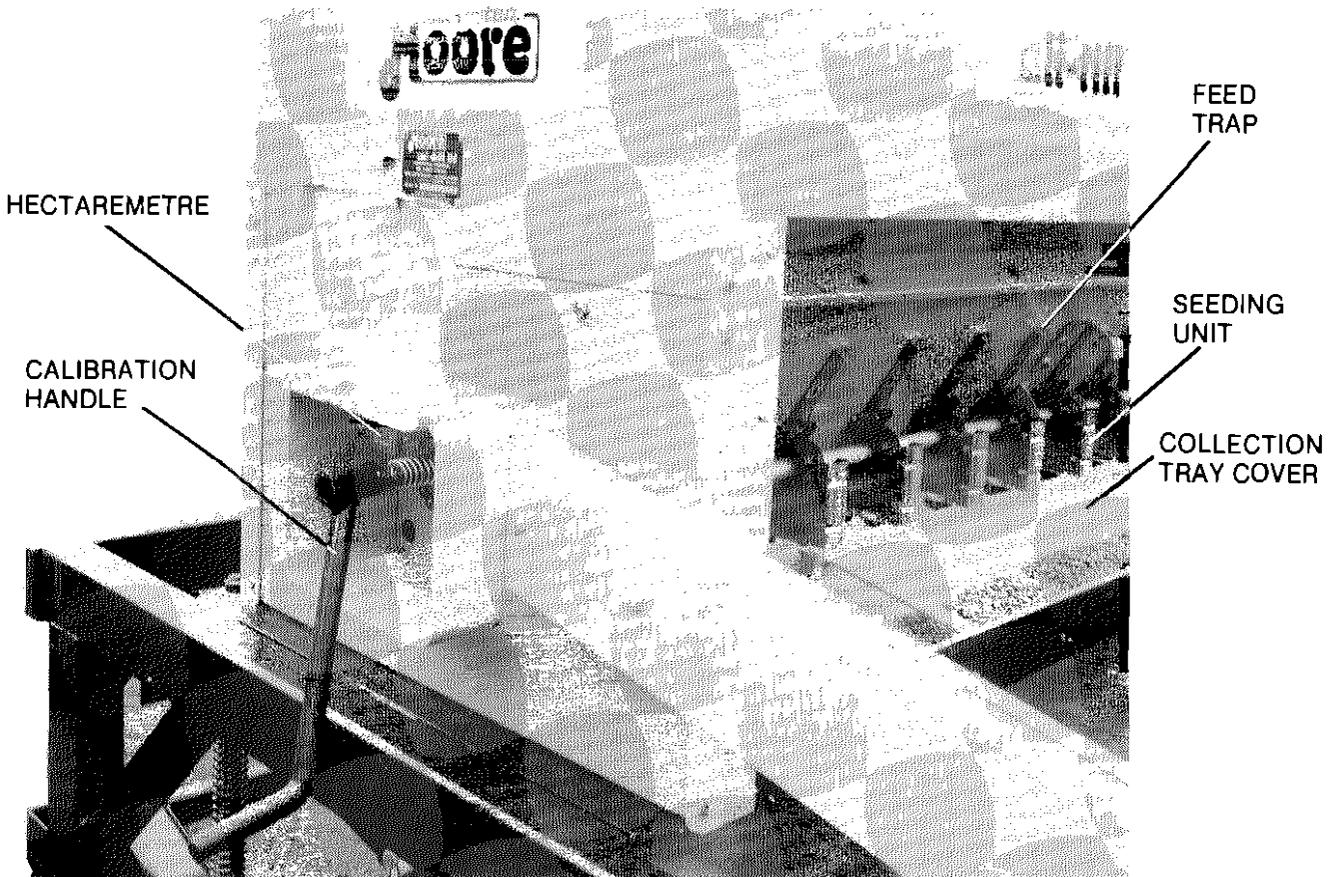


FIGURE 2. CALIBRATION



## 1. DESCRIPTION

The All-Till seedbed drills will sow most seeds into a variety of seedbeds. They can be used for conventional seedbeds with remarkable accuracy of depth of seed placement, also they can be used in minimum tillage, scratch tillage, direct drilling or no-till situations. The unique high inertia coulter system, with press wheel, maintains constant depth of seed placement under such a variety of conditions, including trashy and straw incorporated soils, at higher speeds than most drills can accommodate.

The All-Till seedbed drills consist of a row of independent dragarm seeding units which are spring mounted to the main frame. Each unit consists of 2 discs and 2 press wheel rollers - the discs are mounted each side of the dragarm at opposite angles. A seed tube coulter is mounted on the inside of each disc, in a position which enables the seed to be placed in a slit cut by the disc.

The press wheel rollers are mounted to the rear of the dragarms behind the discs, rolling directly over the slits.

## 2. SPECIFICATION

Sowing Width	4000 mm	3000 mm
Overall Width	3960 mm	2960 mm
Total Weight	2,670 kgs.	2180 Kg.
No. of Coulters	24	18
Row Width	166 mm	166 mm
Seedbox Capacity	1500 litres	750 litres

## 3. WORKING PRINCIPLE

When the drill is in the raised position, the weight of the machine is carried on the two transport wheels and the tractor drawbar. As the machine is lowered, the disc coulters and press wheels touch the ground, meet resistance from the soil, and begin to compress the springs attached to each end of the dragarm seeding units. The frame can be lowered until all the available weight of the machine is supported on the springs.

The penetration of the discs and hence the seed depth is controlled by the depth adjusting screw. This alters the relationship between the discs and the roller press wheels; weight can be transferred from the rollers to the discs or vice-versa (See Figs A and B page 1). As each dragarm is separately sprung both front and back, each unit is able to follow ground contours independently. As the drill is drawn forward, the inclined disc opens a slit and the seed tube coulter acts like a tine to prepare a tilth into which the seeds are placed. The roller press wheels then consolidate to ensure good seed/soil contact and moisture retention.

## 4. TRANSPORT

The drill is raised and lowered hydraulically and locking pins are provided for road transport.

Double acting hydraulic rams are fitted to the drill. Both hydraulic hoses should be connected to the spool valve on the tractor. Always keep the road wheels fully raised while the drill is in work, so as not to affect the depth control of the drill in undulating fields.

For transportation or moving the drill from field to field always ensure that the road transport pins are fitted.

## 5. DEPTH CONTROL

Set the drawbar with the ring hitch underneath (as shown in Fig. A) when drilling cultivated land and soft seedbeds.

Set the drawbar with the ring hitch on top (as shown in Fig. B) when direct drilling or drilling very firm seedbeds.

A fine adjustment is achieved by turning the depth adjustment screw to raise or lower the discs to the required depth in different field conditions and seed requirements; turning the screw clockwise increases depth, while turning the screw anti-clockwise reduces the depth. Care must be taken with this setting to achieve correct seed depth and effective pressing with the rear press wheels.

Sometimes in dry loose cloddy conditions it is better to set the drawbar with ring hitch on top (Fig. B.). This will allow more weight to be put on the press wheels, letting them turn more positively, whilst still achieving adequate disc penetration.

FIGURE 3. SEEDING UNIT

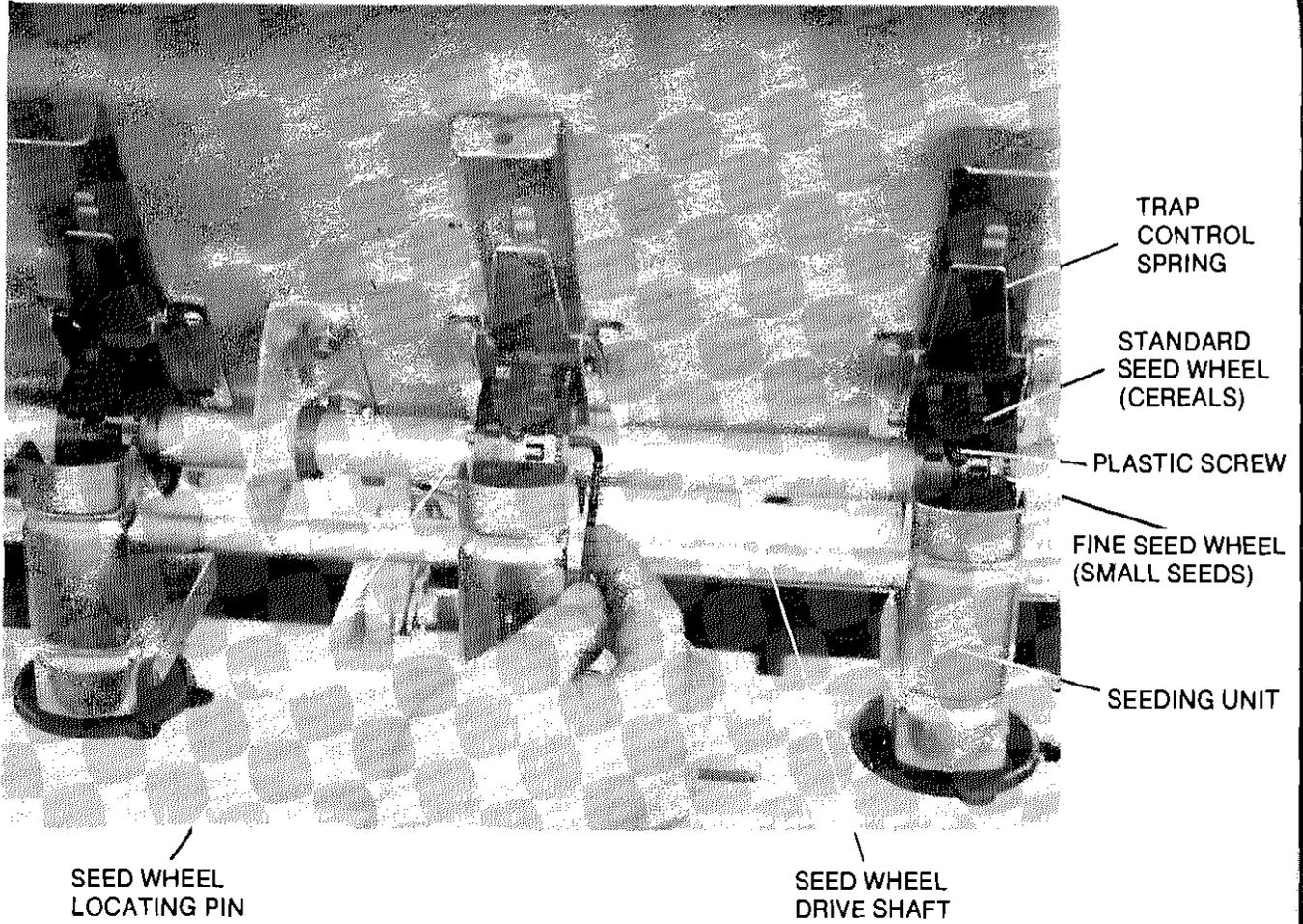


FIGURE 4. FEED TRAP POSITIONS

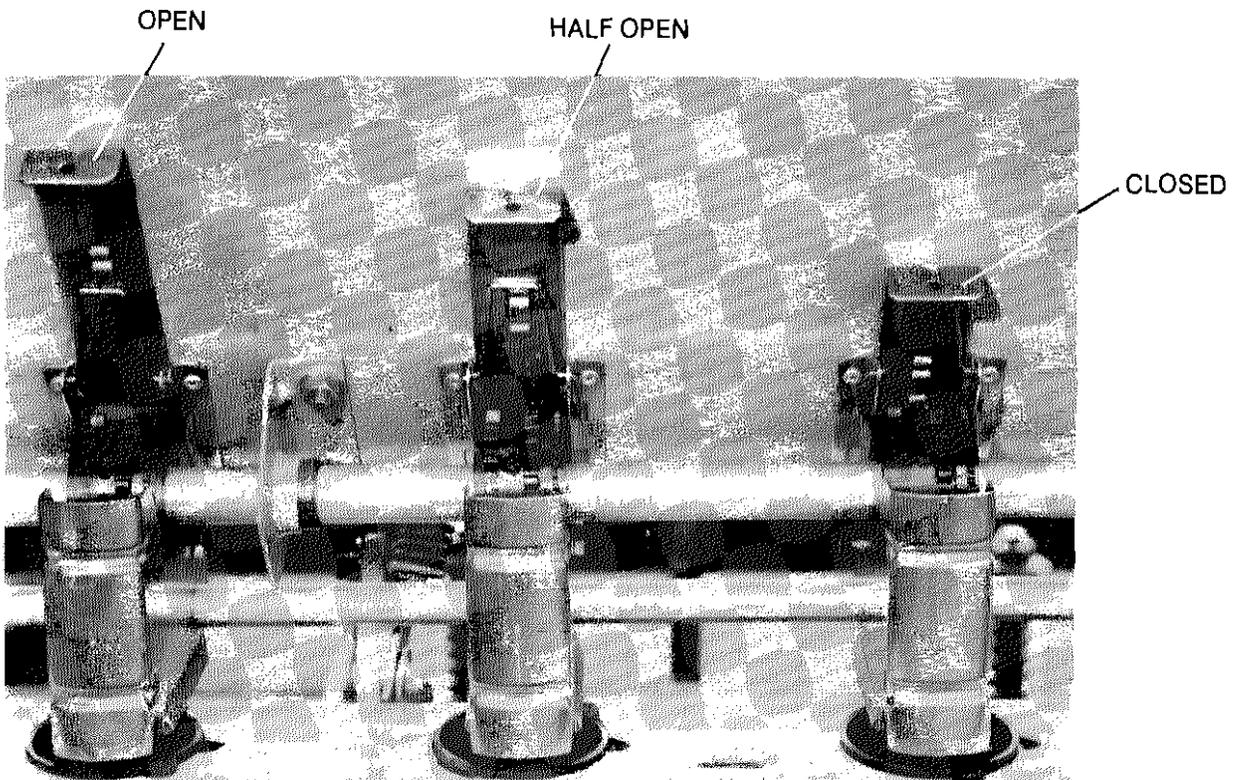


FIGURE 5. SKID OPENING

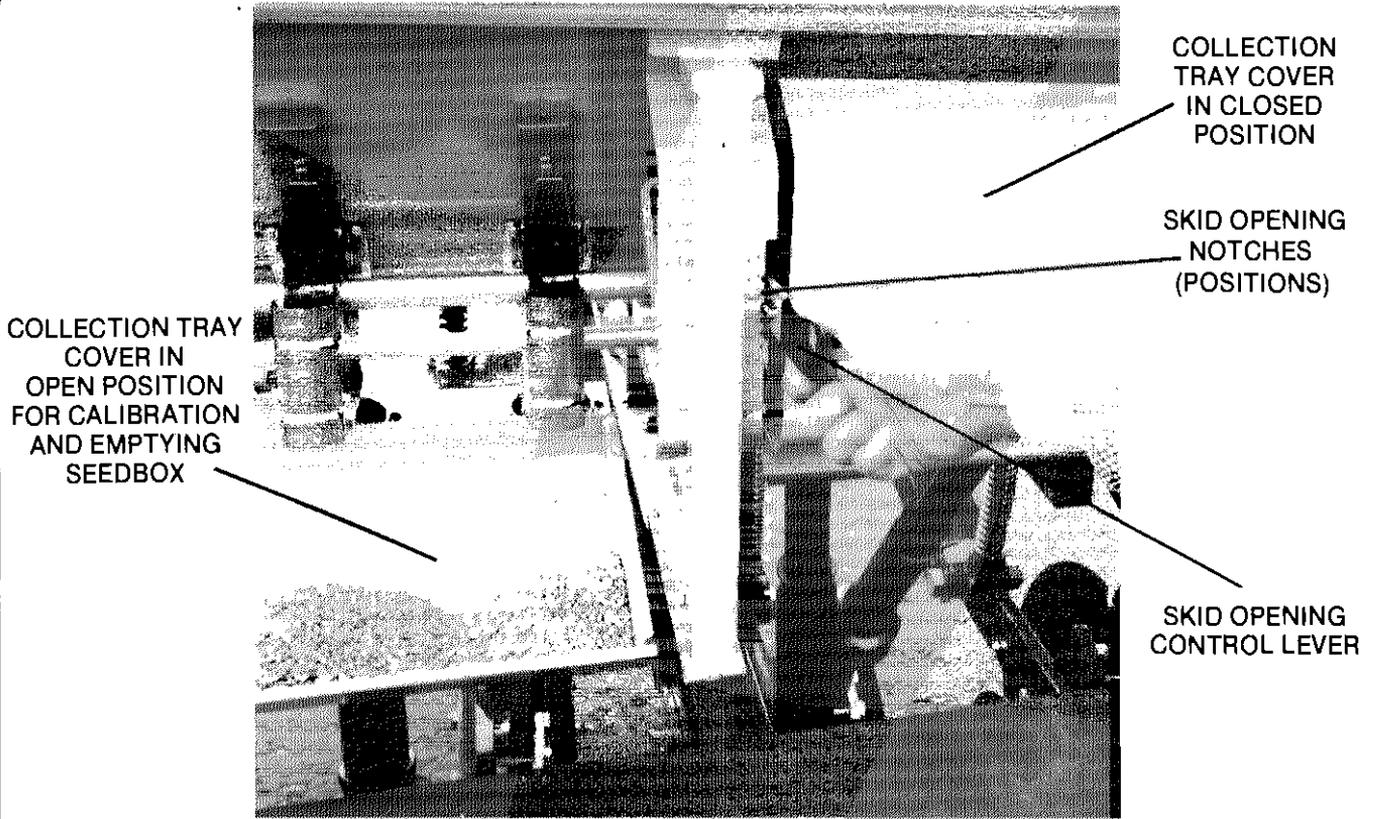
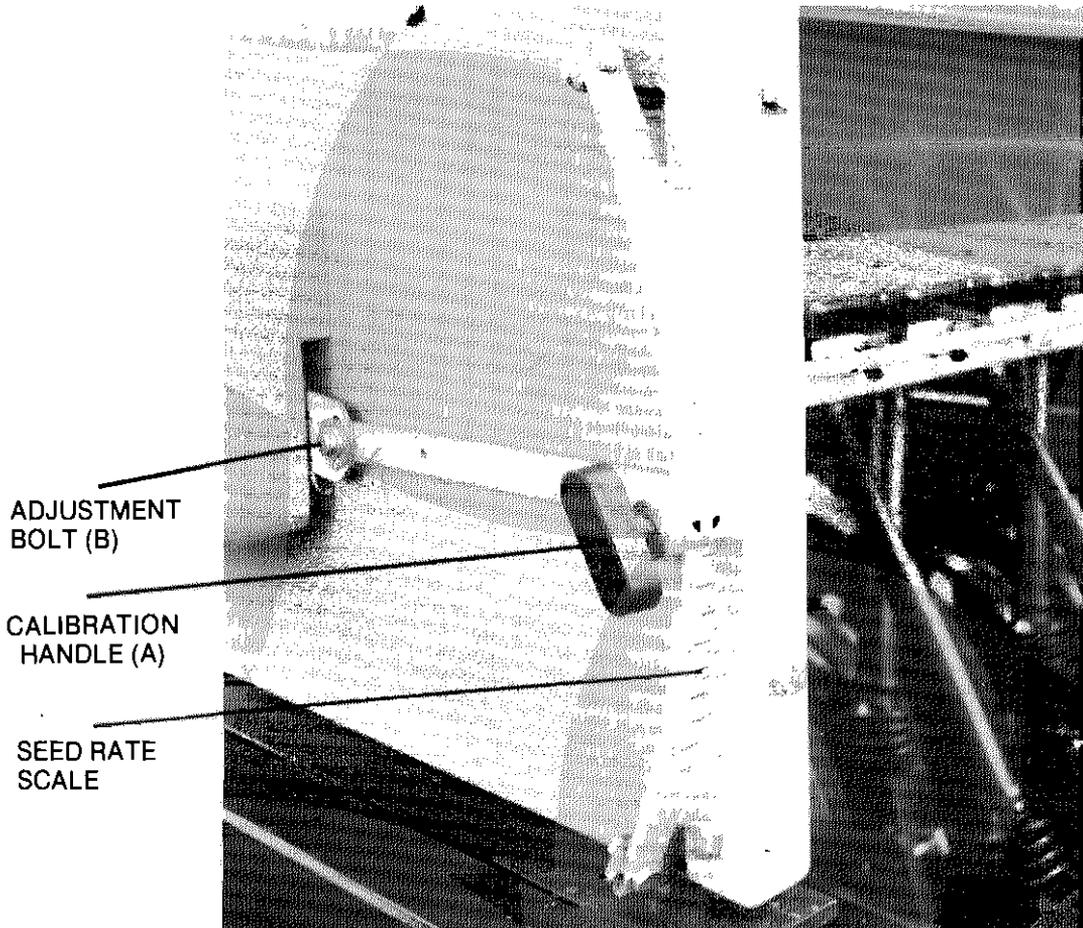


FIGURE 6. SEED RATE SCALE



## 6. SEEDING UNIT (See Fig. 3)

The seeding unit consists of a standard seed wheel and a fine seed wheel. The two wheels are locked together by the seed wheel locating pin. When sowing small seeds such as oilseed rape, clover, lucerne etc. use only the fine seed wheel.

Turn the seed wheel drive shaft so that the head of the plastic screw is visible as shown in Fig. 3. Use the R Cup supplied (attached to the Feed Trap Shutter) or a small allen key as shown, to press the locating pin to the left. This disengages the standard seed wheel and stops it rotating on the drive shaft. For large seeds such as cereals, peas, ryegrass etc. re-engage the standard seed wheel with the fine seed wheel. By realigning the locating pin with the hole on the side of the fine seed wheel, and pressing back the locating pin. Both seed wheels are then engaged.

## 7. FEED TRAP (Fig. 4)

There are 3 positions for the feed traps as shown in Fig. 4.

1. Open (cereals, ryegrass and large seeds.)
2. Half Open (rape and small seeds)
3. Closed

Refer to calibration chart for position of feed trap.

## SEEDING AT DIFFERENT ROW WIDTHS

It is possible to sow seeds at row widths of 16.5, 33, 49.5, 66 cms. etc.

Blank off seeding units not required by closing feed traps as shown in Fig. 4.

## 8. SKID OPENING (Fig. 5)

The skid opening control lever controls the space between the feed wheels and the skid units. There are various positions or notches where the lever can be set to handle the different seeds to be sown. Refer to calibration chart for the correct position for the type of seed to be sown.

## 9. CALIBRATION (Figs. 2 & 6)

The seed charts are not a guarantee of the correct amount of seed to be sown, use them only as a guide to the seed quantities required. Compilation of a seed rate chart is not possible due to variations in seed types and seed mixtures. Also the type and quantity of seed dressings used.

To check the seed rate:

- (a) Open the covers and push them into position so as to act as collection trays.
- (b) Select correct seed feed wheel (Fig. 3)
- (c) Select correct feed trap (Fig. 4)
- (d) Select correct skid opening (Fig. 5)

Correct settings found in Calibration Charts.

- (e) Select the scale reading from Calibration Chart for the quantity of seed to be sown (Kg/Ha).
- (f) Use the screw knob to adjust the variator to the scale reading required (Fig. 6).
- (g) Turn the calibration handle ~~20~~<sub>40</sub> times (3 metre drill) or ~~15~~<sub>30</sub> times (4 metre drill) in an anticlockwise direction.

(h) Remove the collection trays and weigh the seed. This sample is the equivalent of  $\frac{1}{100}$  of a hectare. Multiply the sample weight by ~~100~~<sub>30</sub> to achieve seed rate in Kg/Ha or by ~~20~~<sub>25</sub> to achieve Lbs/Acre.

Using the Calibration Chart as a guide, the correct rate for a particular variety can be achieved by moving the Variator Lever up or down until the target seed rate is achieved.

## 10. EMPTYING SEED BOX

To empty the seed box, push the cover/tray under the metering units. Open the skid control lever to its maximum position (i.e. past the bottom notch). The remaining seed will pour out. Remove any remaining seed with a small paintbrush. The seedbox should be thoroughly cleaned at the end of each season to prevent rodent damage to peg wheels.

## 11. MAINTENANCE

### A. NUTS AND BOLTS

All nuts and bolts should be checked regularly. When working in stony or trashy conditions it will be necessary to check all nuts and bolts daily, particularly the seed tube coulters and disc bolts.

