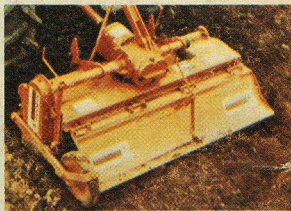
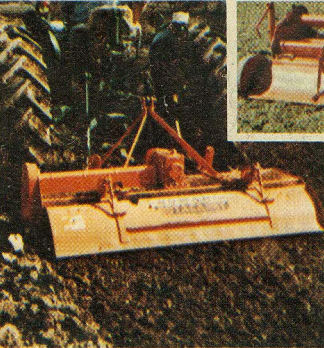
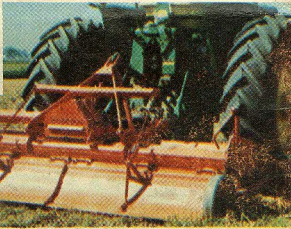
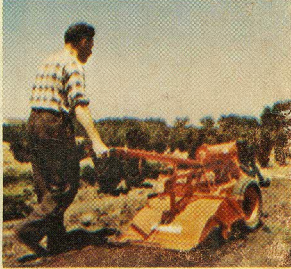


HOWARD ROTAVATOR

HOWARD ROTAVATOR

POCKET GUIDE TO ROTAVATION

POCKET GUIDE TO ROTAVATION



HOWARD ROTAVATOR CO.
HARVARD, ILL.
60033





PRODUCT KNOWLEDGE

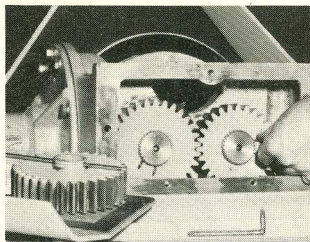
Product Knowledge is an essential part of selling, and it should be the aim of every salesman to equip himself with the information required to explain the product, demonstrate it efficiently and answer basic questions regarding its applications and mechanical efficiency.

This book is designed as a quick reference guide to help you for in-the-field trouble shooting. Full details on any of the following points can be found in the owners manuals, parts books, service manuals and literature.

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ROTA VATION



Tilt control is one of the outstanding features of the Rotavator. The patented Selectatilt gearbox conveniently mounted on the rear of the Rotavator provides just the right rotor speed to match any tillage operation. Gears that can be changed quickly, without tools, are mounted in the Selectatilt gearbox. When conditions vary, even within a single field, a choice of several rotor speeds is instantly available.

Rotavation is a proven, tested method of complete tillage. Power is taken directly from the tractor PTO and applied directly to the soil working blades. No additional wheel weights or loaded tires are required, since thrust of the power driven blades actually helps propel the tractor forward, eliminating wheel slippage and reducing compaction.

All crop residues, or cover crops, are chopped and mixed evenly throughout the full working depth, thus providing a natural condition for bacteria to produce soil-building humus. Tilt can be accurately controlled by adjusting the rotor speeds. Seedbeds can be produced throughout a wide variety of soil types, and the desired finish can be obtained for Spring, Summer and Fall applications.

Another exclusive feature is the rugged Rotachisel attachment that provides full depth tillage in a single pass. Now, as the Rotavator uniformly works the top soil, the Rotachisel reaches deep down to fracture and break the hardpan, providing a well drained and deeply tilled area for the perfect rootbed.

One Rotavator will replace many implements on the farm. For instance, a Rotavator will chop stalks, plow, disc, harrow, cultivate, renovate pastures, control weeds, reclaim wasteland and prepare seedbeds. All this . . . saves time, labor and capital outlay. A rotavated seedbed will hold more moisture and warm up quicker for a higher percentage of germination. Planter hitches and tool bar equipment are also available for those farmers wishing to practice minimum tillage where the actual seedbed and planting operations are combined in one single pass.

WHERE IS ROTAVATION EFFECTIVE?

A Rotavator, designed for primary tillage, is the ideal all-around piece of equipment. It can prepare the best possible seedbed in less time, with less labor and less capital investment than any other method. In addition to operating as a plow, disc and harrow, the same machine can cultivate, chop stalks, renovate pastures, control weeds and reclaim waste lands. More specifically, here are the ways Rotavation can be used in particular crop operations:



Making a Seedbed From Pasture

This is best accomplished by making two passes. The first pass should be shallow to break up the sod. Then, after allowing about two weeks for the sod to die, make a second pass at a greater depth to bring up more soil and produce the seedbed. Lime, fertilizers and herbicides may be mixed in during this second pass.

If the pasture is to be saved or reseeded, a complete kill is not necessary, and one pass should be sufficient.



Winter Fallow and Stubble Cleaning

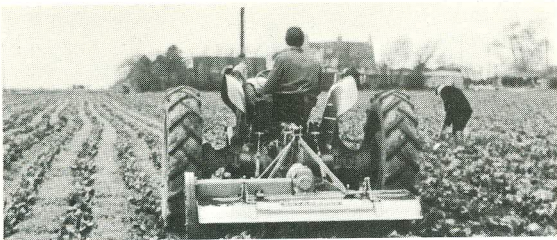
In general, a cleanup in the Fall will put you way ahead when it comes to fitting your land in the Spring. All crop residues should be returned to the soil, weeds killed off and the land left rough and open to absorb Winter snows and rains.

This land may be worked even after frost has penetrated three or four inches. In fact, frozen land is ideal, since the resistance offered to the power driven blades helps the cutting action, and the tractor can ride over the land without possible damage to the soil structure.



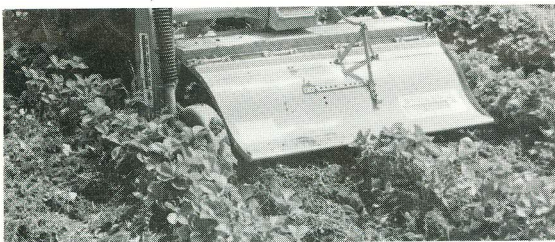
Corn After Corn

Handling the tough, fibrous stalk residues from corn, milo, cotton, etc., can be a problem, and in the Fall it is often too costly to be handled successfully with a shredder, disc, harrow and plow. However, one pass with a Rotavator in the Fall will do all that is required for Winter fallow, plus adding to the fertility of the soil, reducing compaction, giving it better moisture holding capacity, and allowing it to warm up quicker in the Spring . . . and also relieving you of the job in the Spring when time is so valuable.



Vegetables

Rotavators are particularly good for preparing seedbeds for vegetable crops, even for deep root plants such as carrots, beets or potatoes, where the ground must be worked fine and deep. The machine is ideal for the post-harvest job of turning in residues for any vegetable grower, small or large. Excellent, also, for cultivating, even in crops such as tomatoes, where the tiller will work close to the young plants, cultivating and mulching at the same time. Sweet corn, cabbage, lettuce — all vegetable crops are more economically handled with power tillage.



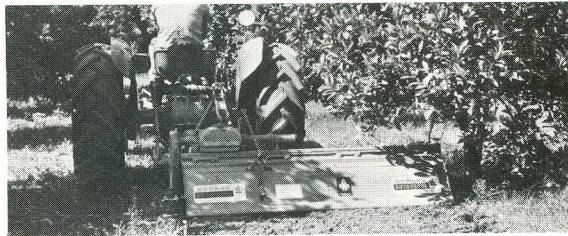
BERRIES & FRUITS

In strawberry fields the Rotavator will cut back runners without damaging the feeder roots. Plant guards can be attached to prevent soil from being thrown up onto the plants, and straw mulch and weeds are mixed evenly with the soil to provide additional humus. The complete operation can be performed in one pass.

Rotavation is used extensively in vineyards and in bush berry culture to chop and turn in prunings and cover crops and keep the grass out of bush berries. Accurate and uniform depth control prevents damage to feeder roots, and in one pass a Rotavator can eliminate four to five trips with a disc.

Orchards and Nurseries

Rotavators, offset from the tractor, are available for working in orchards and groves. This makes it possible to cultivate in close to the trees without damaging low overhanging branches. Positive depth control makes these machines ideal for work in nurseries, where cultivation can be done in close to young plants without damaging roots.

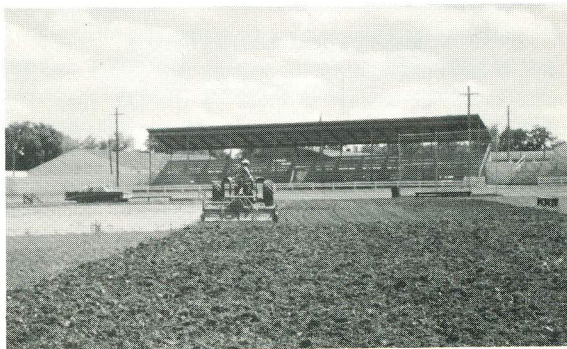


Flowers

Large growers of flowers, such as chrysanthemums or gladioli, may have 30 or more acres under cloth. The Rotavator can be used to chop old stalks and prepare beds for new seeds before the beds are sterilized and bedded for the next crop. It would be very difficult to handle that much acreage without power tillage.

Landscaping

Rotavators are used widely by landscapers throughout the country for seedbed preparation, in industrial, commercial and residential applications. The full range of sizes available from hand controlled units to larger tractor drawn models fit every need.



Wheat After Corn

Because the Winter weather helps break down the clods after the crop is in, winter wheat does not require as fine a seedbed. Once over a stalk field with a Rotavator is usually sufficient to chop the stalks and produce a good seedbed. A seedbed for cover crops can be handled the same way; one pass after harvest is plenty, and a heavy matted growth will be ready by the time it is to be Rotavated in the Spring.



Beans After Wheat

In some parts of the country beans are planted as soon as possible after the combine has done its work in the wheat field. Usually one pass — occasionally two — is all that is required to prepare the seedbed. Moisture will be retained, and young seedlings will get off to a good start. This is particularly important, since many passes over the land, as is necessary with a disc type harrow, will release whatever moisture there is.

Cotton

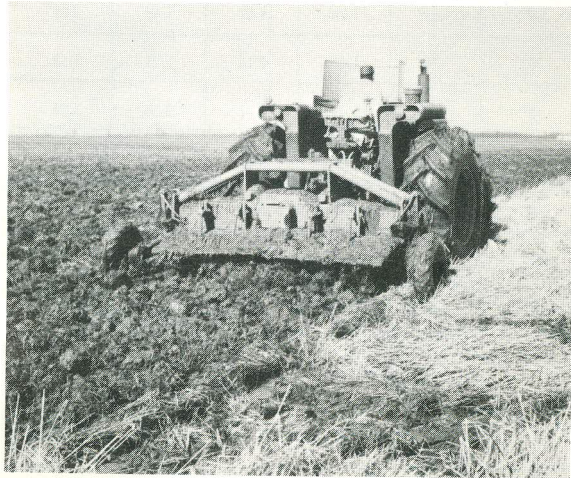
Here the Rotavator is a year 'round tillage tool. In Fall it will chop stalks and mix them throughout the tillage depth with just one pass. Bedding can be accomplished at the same time with a bedding attachment. In the Summer, weeds can

be kept under control by cultivating, whether solid or skip row. And of course, Spring seedbeds are a natural, producing the ideal environment for good seed germination and water holding capacity for the dry years. Chemicals can be mixed evenly throughout the control area: the mix can be broadcast or in controlled bands. Rotavation has been proven superior in mixing pre-emergence and post-emergence chemicals in both Spring and Summer applications.

Rice

Rotavation solves the age-old problem of handling heavy stubble after harvest. Special blades are available to chop and mix the rice stubble so that the straw will rot down during the winter months. The machine will ride over the rough terrain of levees and cope with the ruts caused by the tractor and combine wheels cutting into wet clay soil. The forward thrust of the power-driven blades actually assists the tractor forward and eliminates wheel slippage.

And when beans go in, Rotavation is ideal for all tillage operations from Spring seeding, chemical incorporation, cultivating, on through Fall — getting rid of bean straw and preparing for the next crop.



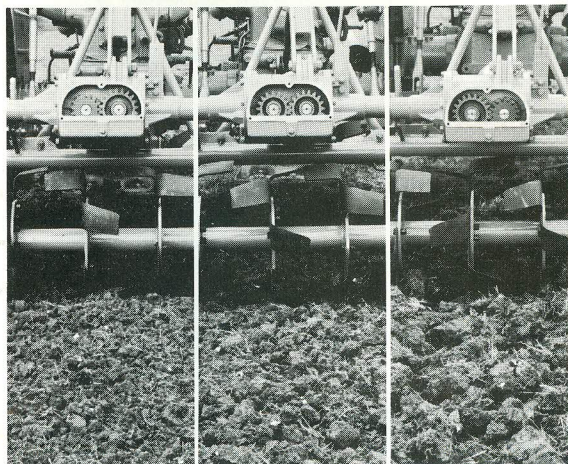
TIME SAVED IN ROTAVATION:

Travel speeds depend upon the size of the tractor and the width of the Rotavation equipment. The following chart shows the number of acres per day at varying rotor widths and tractor speeds. In considering the speed of operation, the work should be compared with the total time it takes for shredding residues, plowing, discing and harrowing. No time is lost in Rotavation due to wheel slippage, since the forward thrust of the power driven blades assists the tractor forward.

SPEED CHART

ROTOR WIDTH	ACRES PER HOUR AT THE FOLLOWING SPEEDS:				
	1 M.P.H.	2 M.P.H.	3 M.P.H.	4 M.P.H.	5 M.P.H.
40"	.41	.81	1.21	1.61	2.01
50"	.51	1.01	1.51	2.02	2.52
60"	.61	1.20	1.82	2.42	3.03
70"	.71	1.41	2.12	2.83	3.53
80"	.81	1.62	2.42	3.23	4.04
100"	1.00	2.02	3.02	4.04	5.04
130"	1.32	2.61	3.94	5.25	6.56
160"	1.61	3.22	4.84	6.46	8.07
180"	1.81	3.64	5.44	7.27	9.08

SELECTATILTH



Howard's exclusive Selectatilt transmission makes it possible to change the rotor speed in minutes in the field. Rotor speed, tractor speed, blade scroll and position of the rear shield can be varied to obtain the exact tilt desired in different soil conditions with the utmost economy in fuel and tractor power.

Four speeds are available as standard equipment on primary tillage models. These rotor speeds will cover all the average requirement for on the farm tillage; but should you have a special application, 11 speeds are available by using gears that are supplied as optional extras. With the excellent rotor speed selection, through SELECTATILTH, and with rear shield adjustment, combined with today's modern tractor gears, you can select the exact tilt required for any crop or tillage application.

The ST MODELS are supplied with two rotor speeds as standard. Additional gears are available as optional extras.

MODEL GEAR RATIO ROTOR R.P.M.

P	26	20	○ ○	140
E	20	15	○ ○	125
S	24	21	○ ○	157
M	27	22	○ ○	159
ST	25	17	○ ○	199

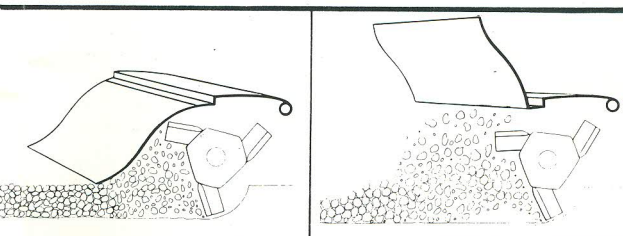
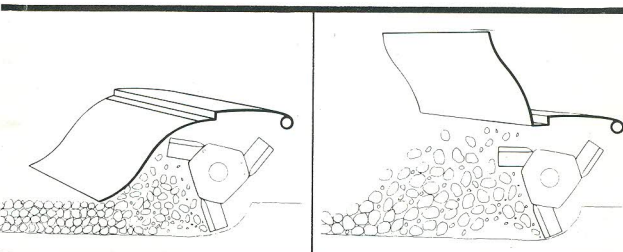
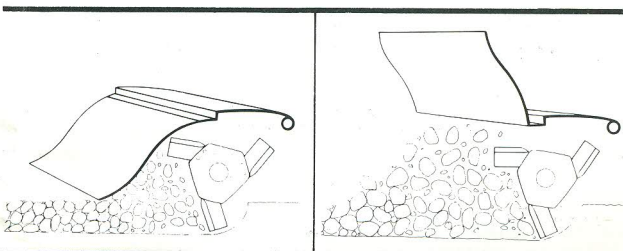
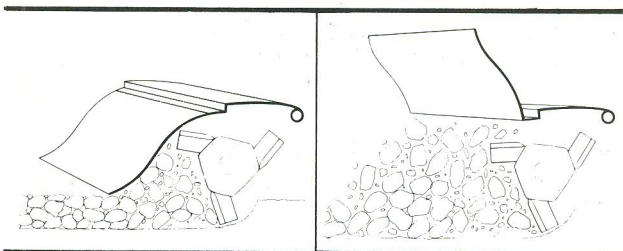
P	24	22	○ ○	170
E	18	17	○ ○	155
S	23	22	○ ○	172
M	25	24	○ ○	188
ST	24	18	○ ○	218

P	22	24	○ ○	200
E	17	18	○ ○	175
S	22	23	○ ○	188
M	24	25	○ ○	204
ST	23	19	○ ○	240

P	20	26	○ ○	240
E	15	20	○ ○	215
S	21	24	○ ○	206
M	22	27	○ ○	240
ST	22	20	○ ○	265

SHIELD LOWERED

SHIELD RAISED



'M' SERIES

HORSEPOWER RANGE: Designed from 85 b.h.p. to 140 b.h.p. with 1000 r.p.m. p.t.o.

LINKAGE: Category II and III, 3 point linkage or trailer.

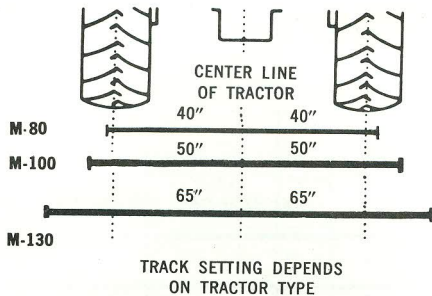
WIDTH OF TILLAGE: 80", 100", and 130" center mounted.

DEPTH OF TILLAGE: Adjustable to 8".

TRANSMISSION: By heavy duty low friction ball slip joint and adjustable spring loaded safety clutch to Selectatilh gearbox. Power transmitted from gearbox crown wheel and pinion to rotor by taper forged jackshaft to gear drive supported on both sides by heavy duty bearings.

ROTOR SPEEDS: At 1000 r.p.m. 159, 188, 204 and 240. Additional gears available as optional extras; produce rotor speeds of 147, 173, 221 and 261.

DEPTH CONTROL: By 2" x 9" DA ram controlled depth wheels (7.00 x 14).



'ST' SERIES

LINKAGE: Suitable for tractors equipped with Category II or Category III 3-point linkage.

WIDTH OF TILLAGE: 160" or 180" centrally mounted.

DEPTH OF CUT: Adjustable to 6" max.

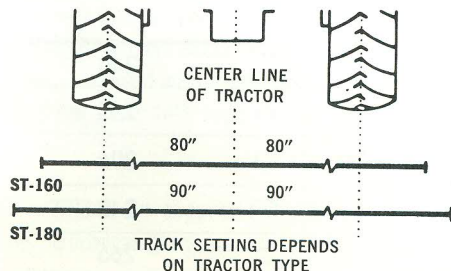
TRANSMISSION: By low friction ball slip universal drive joint and adjustable spring loaded safety clutch from tractor P.T.O. to "Selectatilh" gear box. Power transmitted from gearbox to rotor by high capacity gear drive. The "Selectatilh" gearbox provides a quick change of rotor speeds in the field. Additional gears are available for specialized applications.

ROTOR SPEEDS: At 1000 P.T.O. speed – 199-240 standard equipment with optional extras producing – 218, 265, 320 and 350 R.P.M.

ROTOR: Fully adjustable and removable rotor flanges. 4 blades per flange.

DEPTH CONTROL: By adjustable front depth control wheels and hydraulically controlled rear wheels when using planting equipment supplied as an optional extra.

OPTIONAL EQUIPMENT: Planter attaching brackets, cultivating shields, bedding shields. Two hydraulically controlled rear castor wheel and beam assemblies (required when machine is fitted with planters and planter brackets).



ROTAVATOR LINE

'S' SERIES

HORSEPOWER RANGE: Designed for tractors from 65 to 100 b.h.p., with 540 or 1000 p.t.o.

LINKAGE: Suitable for tractors equipped with Category II three point linkage. Trailer Frame available for tractors without linkage. Hydraulically operated with 8" Cross cylinder. Hand screw also provided. Wheels 14" rims, with adjustable centers 62" and 71".

WIDTH OF TILLAGE: 80" or 100" center mounted.

DEPTH OF CUT: Adjustable to 8" max.

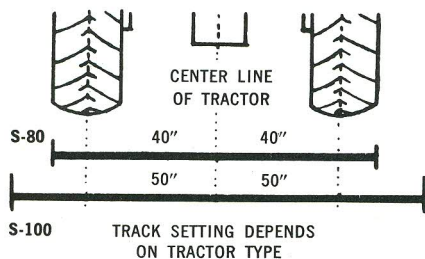
TRANSMISSION: By low friction ball slip drive joint and adjustable spring loaded safety clutch from tractor p.t.o. to Selectatilt Gearbox. Power transmitted from gearbox to rotor by jackshaft and high capacity gear drive.

ROTOR SPEEDS: With 540 or 1000 P.T.O. — 157, 172, 188, 206. Optional extras — 120, 131, 144, 225, 246, 270.

Transfer Gears Standard Equipment

540	17	23
1000	23	17

DEPTH CONTROL: By screw adjustable depth control wheels.



'E' SERIES

HORSEPOWER RANGE: Designed for tractors of 30-60 b.h.p. with 540 r.p.m. or 1000 r.p.m. p.t.o.

LINKAGE: Suitable for tractors equipped with Category I or II 3 point linkage. I.H. Fast Hitch Kit available extra.

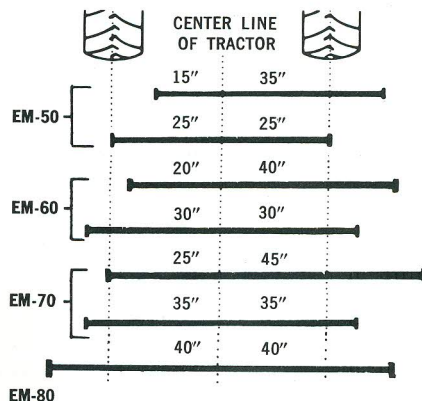
WIDTH OF TILLAGE: 50", 60", 70", and 80" center mount or offset by two position mounting brackets. 80" center mount only.

DEPTH OF CUT: Adjustable to 8" maximum.

TRANSMISSION: By universal drive joint and adjustable spring loaded safety clutch from tractor p.t.o. to Selectatilt gearbox. Power transmitted from gearbox to rotor by heavy duty jackshaft and high capacity fatigue resistant 1½" pitch roller chain.

ROTOR SPEEDS: 540 r.p.m. p.t.o. — 125, 155, 175, 215 r.p.m. Optional extra 109, 245 r.p.m. 1000 r.p.m. p.t.o. — 155, 180 r.p.m. Optional extra 200 r.p.m.

DEPTH CONTROL: By screw adjustable depth control wheel.



'P' SERIES

HORSEPOWER RANGE: Designed for tractors up to 40 b.h.p. at 540 r.p.m. p.t.o.

LINKAGE: Standard machine has 3 pt. linkage.

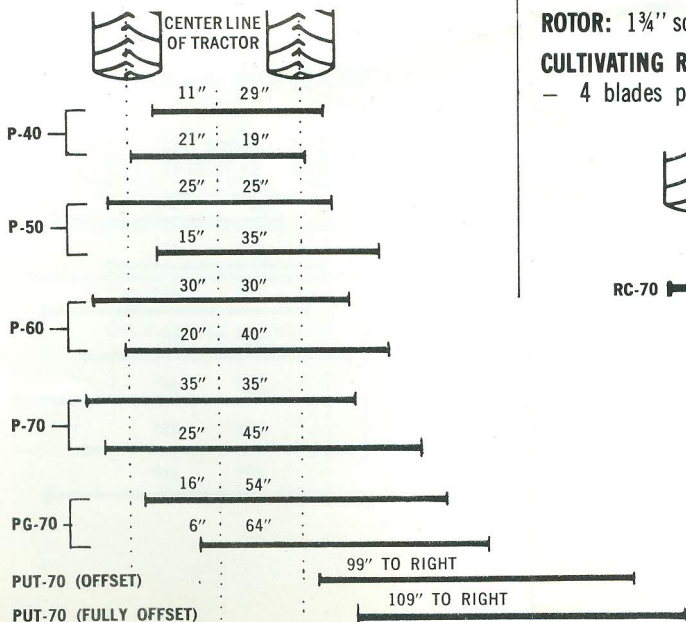
WIDTH OF TILLAGE: 40", 50", 60" and 70" center mount or offset by two position mounting brackets. Special PMUG and PUT 70" orchard models also available.

DEPTH OF CUT: Adjustable to 7" maximum.

TRANSMISSION: By universal drive joint and adjustable spring loaded safety clutch to Selectatilt gearbox. Power transmitted from gearbox to rotor by heavy duty jackshaft and train of gears.

DEPTH CONTROL: By adjustable depth control skids.

ROTOR SPEEDS: 140, 170, 200, 240 r.p.m. available as standard equipment. Optional extra 155 and 220 r.p.m.



'ROTACADET'

HORSEPOWER RANGE: Designed for tractors up to 45 b.h.p. at 540 r.p.m. p.t.o.

LINKAGE: Suitable for tractors equipped with Category I or II 3 point linkage, I.H. Fast Hitch Kit available extra.

WIDTH OF TILLAGE: 70", center mounted.

DEPTH OF CUT: Adjustable to 6" maximum.

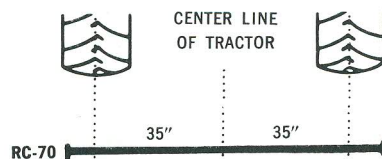
TRANSMISSION: By universal drive joint and adjustable spring loaded safety clutch to gearbox. Power transmitted from gearbox to rotor by heavy duty jackshaft and 1" pitch roller chain.

DEPTH CONTROL: Depth control by adjustable depth control skids on standard model and adjustable depth control wheels on row crop cultivating model.

ROTOR SPEEDS: 260 and 320 — changed in minutes.

ROTOR: 1 3/4" solid. 40 blades — 4 blades per flange.

CULTIVATING ROTOR: Optional extra 1 3/4" hex. 40 blades — 4 blades per flange. All flanges adjustable.



ROTAVATOR LINE

'GEM'

ENGINE: Wisconsin AENL developing . . . 9.2 hp or Wisconsin TJD developing . . . 15.2 hp.

CLUTCH: Heavy duty dry plate.

TRANSMISSION: Three speed forward and safety reverse. Machine cut gears hardened and running in oil. All shafts mounted on ball bearings. Differential for easy turning and automatically locked when rotor is engaged.

ROTOR WIDTHS: Widths 20" — 24" and 30". 30" model is fitted with dual wheels and depth control wheel as standard equipment.

TILLAGE DEPTH: Adjustable down to 9 in.

TRAVEL SPEEDS: 1st Gear — .87 mph; 2nd Gear — 1.3 mph; 3rd Gear — 2.82 mph; Reverse — 1.69 mph.

OVERALL DIMENSIONS: Length 6'8"; Width with 20" rotor 2'1"; Width with 30" rotor 2'11".

ATTACHMENTS: (Optional at additional cost) Furrowing Attachment. Picktime Rotor.

'350'

ENGINE: Kohler K141T, 4 cycle, side valve, air cooled gas engine. Max. B.H.P. 6.2 Hp. at 3,600 r.p.m. "Easy-Spin" recoil starter, standard equipment.

CLUTCH: Cone-type.

TRANSMISSION: V-belt pulley to gearbox. Bullwheel and pinion gears to landwheels and $\frac{5}{8}$ " pitch roller chain to rotor.

TRAVEL SPEEDS: 3600 r.p.m.: Low Range .75 & 2.5 m.p.h. Hi Range 1.65 & 5.0 mph. Reverse 1.3 & 2.6 m.p.h.

CONTROLS: 1. Throttle Control by lever and cable. 2. Clutch Control by cable and lever. 3. Gear Lever by central rod, including spring-out safety reverse. 4. Rotor Selector by hand lever. 5. Depth Control by adjustable hand lever.

HANDLEBARS: Adjustable for height. Swinging handlebars.

ROTOR WIDTHS: 16 in. or 23 in. cutting width. Rotor diameter 12 in. The 23 inch extensions and side shields are supplied as optional extras.

TILLAGE DEPTH: Adjustable down to 6".

WHEELS: Wheels 4.00 x 8 tractor tread tires. Tire Pressure 20 lb sq. in.

DIMENSIONS: Length 61 in. Minimum height (to top of handlebars — blades on ground) 38 in. Overall width at rotor level 17½ in.

FREIGHT AND SHIPPING

ROTAVATOR MODEL	SHIPPING WEIGHT #	LENGTH	WIDTH	HEIGHT		REMARKS
350 16"	318	49"	24"	29"		
350 23"	341	49"	24"	29"		23" EXTENSION PACKED SEPARATELY
GEM 20" AENL	714	56"	28"	31"		ENGINE PACKED SEPARATELY
GEM 24" TJD	782	56"	32"	31"		ENGINE PACKED SEPARATELY
GEM 30" TJD	866	56"	38"	31"		ENGINE PACKED SEPARATELY
P 40 MOUNTED	578	49"	24"	26"		ENGINE PACKED SEPARATELY
P 50 MOUNTED	638	59"	24"	26"		
P 60 MOUNTED	696	69"	24"	26"		
P 70 MOUNTED	746	79"	24"	26"		
PG 70 MOUNTED	790	79"	24"	26"		
PUT 70 MOUNTED	1121	117"	26"	26"		
E 50 MOUNTED	1010	60"	30"	32"		
E 60 MOUNTED	1094	70"	30"	32"		
E 70 MOUNTED	1184	80"	30"	32"		
E 80 MOUNTED	1652	93"	32"	36"		
S 80 MOUNTED	2119	94"	33"	38"		
S 80 TRAILER	2444	94"	33"	38"		TRAILER FRAME PACKED SEPARATELY
S 100 MOUNTED	2336	115"	33"	38"		
S 100 TRAILER	2661	115"	33"	38"		TRAILER FRAME PACKED SEPARATELY
M 80 MOUNTED	3684	100"	36"	42"		
M 80 TRAILER	3603	100"	36"	42"		TRAILER FRAME PACKED SEPARATELY

SPECIFICATIONS

ROTAVATOR MODEL	SHIPPING WEIGHT #	LENGTH	WIDTH	HEIGHT	REMARKS
M 100 MOUNTED	3936	120"	36"	42"	
M 100 TRAILER	3855	120"	36"	42"	TRAILER FRAME PACKED SEPARATELY
M 130 MOUNTED	4500	150"	36"	42"	
M 130 TRAILER	4419	150"	36"	42"	TRAILER FRAME PACKED SEPARATELY
ST 160 MOUNTED	3970	177"	57"	45"	
ST 160 c/w Wheel Beams & Brackets	5320	177"	57"	45"	WHEEL BEAMS REQUIRED WHEN USING PLANTER EQUIPMENT
ST 180 MOUNTED	4194	197"	57"	45"	
ST 180 c/w Wheel Beams & Brackets	5614	197"	57"	45"	WHEEL BEAMS REQUIRED WHEN USING PLANTER EQUIPMENT
ROTACADET 70 3-PT. STANDARD	717	79"	26"	32"	C/W SOLID ROUND ROTOR AND FIXED ROTOR FLANGES
ROTACADET 70 3-PT. ROW CROP	882	79"	26"	32"	C/W HEX ROTOR AND CROP GUARDS

ROTACHISEL KITS	SHIPPING WEIGHT #			
E 50	460	C/W	2 STRAIGHT CHISELS	ALL BOLTS PACKED SEPARATELY
E 60	566	C/W	3 STRAIGHT CHISELS	ALL BOLTS PACKED SEPARATELY
E 70	590	C/W	3 STRAIGHT CHISELS	ALL BOLTS PACKED SEPARATELY
E 80	700	C/W	4 STRAIGHT CHISELS	ALL BOLTS PACKED SEPARATELY
S 80	1001	C/W	4 CURVED CHISELS	ALL BOLTS PACKED SEPARATELY
S 100	1043	C/W	4 CURVED CHISELS	ALL BOLTS PACKED SEPARATELY
M 80	921	C/W	4 CURVED CHISELS	ALL BOLTS PACKED SEPARATELY
M 100	963	C/W	4 CURVED CHISELS	ALL BOLTS APCKED SEPARATELY
M 130	1139	C/W	5 CURVED CHISELS	ALL BOLTS PACKED SEPARATELY
CHISELS ONLY "C"	92	C/W	PLATES & BOLTS	
CHISELS ONLY "L"	33	C/W	PLATES & BOLTS	

MODEL "ST"



MODEL "ST" DESIGNED FOR SECONDARY TILLAGE
160" & 180" TILLAGE WIDTHS
CENTRALLY MOUNTED • 1000 P.T.O. ONLY WITH
MULTI-SPEED ROTOR THROUGH SELECTATILTH GEARBOX.

BASIC MODEL INCLUDES:
 3 PT. LINKAGE AND U.J. ASSEMBLY KIT
 2 FRONT MTD. 14" RIM DEPTH WHEELS
 LESS TIRES & TUBES
 (PLANTING & CULTIVATING KITS PRICED SEPARATELY)

1000 P.T.O. ONLY
 WHEEL BEAMS & PLANTER BRACKETS MUST BE USED
 WHEN ROTAVATING & PLANTING IN ONE PASS.

MODEL ST		SHIPPING WEIGHT	FREIGHT	CUSTOMER'S DELIVERY PRICE
ST 160"	BASIC	3970 #/s		\$
ST 160"	C/W WHEEL BEAMS & PLANTER BRACKETS	5320 #/s		\$
ST 180"	BASIC	4194 #/s		\$
ST 180"	C/W WHEEL BEAMS & PLANTER BRACKETS	5614 #/s		\$
CULTIVATING CROP GUARDS EXTRA ADD				\$

DON'T FORGET SET-UP & BACK FREIGHT

MODEL ST SELECTATILTH





ROTOR SPEEDS COMBINATION CHART

COLOR	RATIO	540 P.T.O.	720 P.T.O.	1000 P.T.O.	STANDARD OR OPTIONAL
RED	25 / 17			199	STANDARD
YELLOW	24 / 18			218	OPTIONAL
BLUE	23 / 19			240	STANDARD
ORANGE	22 / 20			265	OPTIONAL
ORANGE	20 / 22			320	OPTIONAL
BLUE	19 / 23			350	OPTIONAL

SPEED CHART

ROTOR WIDTH	ACRES PER HOUR AT THE FOLLOWING SPEEDS:				
	1 M.P.H.	2 M.P.H.	3 M.P.H.	4 M.P.H.	5 M.P.H.
160"	1.61	3.22	4.84	6.46	8.07
180"	1.81	3.64	5.44	7.27	9.08

BLADES AND BLADE BOLTS

	DESCRIPTION	PART NUMBER	REMARKS
	STANDARD "L" BLADE	L.H. 63592 R.H. 63593	FINE SEED BEDS FITTED AS STANDARD
	LONG SHANK "L" BLADE	L.H. 5978 R.H. 5979	FOR INCREASED DEPTH OF TILLAGE IN THE SEEDBED
	"C" BLADE	L.H. 9948 R.H. 9949	FOR WET CLAY SOILS
	SHORTSHANK "L" BLADE	L.H. 18197 R.H. 18197	SPECIAL SHALLOW APPLICATIONS SPECIAL ORDER ONLY

MODEL ST	160"		180"	
	BLADES	BOLTS	BLADES	BOLTS
4-BLADE ROTOR	64	128	72	144

MODEL "M"



**MODEL 'M' FOR 85 TO 140 B.H.P.
OR 6 TO 8 PLOW TRACTOR POWER
80", 100" AND 130" TILLAGE WIDTHS,
MOUNTED OR TRAILING
1000 P.T.O. ONLY WITH MULTI-SPEED ROTOR
THROUGH SELECTATILTAGE GEARBOX**

**COMPLETE WITH HYDRAULIC CYLINDERS AND HOSES
LESS TIRES, TUBES & HYDRAULIC HOSES TO TRACTOR**

MODEL	SHIPPING WEIGHT	FREIGHT	CUSTOMER DELIVERY PRICE
M 80 C/W 3-POINT MOUNTING KIT	3684 #		\$
M 80 C/W TRAILER FRAME	3503 #		\$
M 100 C/W 3-POINT MOUNTING KIT	3936 #		\$
M 100 C/W TRAILER FRAME	3855 #		\$
M 130 C/W 3-POINT MOUNTING KIT	4500 #		\$
M 130 C/W TRAILER FRAME	4419 #		\$

TIRES, TUBES & HOSES EXTRA.....ADD \$
DON'T FORGET SET-UP AND BACK FREIGHT!

MODEL "M" SELECTATILTAGE

ROTOR SPEED COMBINATIONS CHART

COLOR	RATIO	540 P.T.O.	720 P.T.O.	1000 P.T.O.	STANDARD OR OPTIONAL
ORANGE	28 / 21	—	—	147	OPTIONAL
WHITE	27 / 29	—	—	159	STANDARD
BLACK	26 / 23	—	—	173	OPTIONAL
RED	25 / 24	—	—	188	STANDARD
RED	24 / 25	—	—	204	STANDARD
BLACK	23 / 26	—	—	221	OPTIONAL
WHITE	22 / 27	—	—	240	STANDARD
ORANGE	21 / 28	—	—	261	OPTIONAL

SPEED CHART

ROTOR WIDTH	ACRES PER HOUR AT THE FOLLOWING SPEEDS:				
	1 M.P.H.	2 M.P.H.	3 M.P.H.	4 M.P.H.	5 M.P.H.
80"	.81	1.62	2.42	3.23	4.04
100"	1.00	2.01	3.02	4.04	5.05
130"	1.32	2.61	3.94	5.25	6.56

BLADES, BOLTS & FLANGES

	DESCRIPTION	PART NUMBER	REMARKS
	'C' BLADE	L.H. #9950 R.H. #9951	STANDARD BLADE FOR GENERAL MIXED CROP FARMING
	'L' BLADE	L.H. #9919 R.H. #9920	FOR SHALLOW DEPTH CONTROL FINE SEED BEDS & PASTURE
	LONG SHANK 'L' BLADE	L.H. #9910 R.H. #9911	FOR INCREASED DEPTH OF TILLAGE IN FINE SEEDBED
	1/2" THICK 'L' BLADE	L.H. #9993 R.H. #9994	HEAVY DUTY BLADE FOR USE WITH DOUBLE FLANGE KITS
	1/2" THICK LONG SHANK 'L' BLADE	L.H. #9981 R.H. #9982	HEAVY DUTY MIXING — IDEAL FOR INDUSTRIAL MIXING
M 80 BLADES BOLTS		M 100 BLADES BOLTS	
6 BLADE	48	96	6 BLADE 60 124
4 BLADE	32	64	4 BLADE 40 84
		M 130 BLADES BOLTS	
		6 BLADE	78 160
		4 BLADE	52 108

MODEL

"S"



**MODEL 'S' FOR 60 TO 100 B.H.P.
OR 4 TO 6 PLOW TRACTOR POWER
80" AND 100" TILLAGE WIDTHS MOUNTED OR TRAILING
540 OR 1000 P.T.O. WITH MULTI-SPEED ROTOR
THROUGH SELECTATILTH GEARBOX**

1000 P.T.O. RECOMMENDED

**TRAILER MODEL COMES COMPLETE WITH HYDRAULIC
CYLINDER LESS TIRES, TUBES & HYDRAULIC HOSE**

MODEL	SHIPPING WEIGHT	FREIGHT	CUSTOMER'S DELIVERY PRICE
S 80	C/W 3-POINT MOUNTING KIT	2119 #	\$
S 80	C/W TRAILER FRAME	2444 #	\$
S 100	C/W 3-POINT MOUNTING KIT	2336 #	\$
S 100	C/W TRAILER FRAME	2661 #	\$
TIRES, TUBES & HOSES EXTRA.....ADD			\$

DON'T FORGET SET-UP AND BACK FREIGHT!

MODEL 'S' SELECTATILTH






ROTOR SPEED COMBINATIONS CHART

COLOR	RATIO	540 P.T.O.	720 P.T.O.	1000 P.T.O.	STANDARD OR OPTIONAL
WHITE	27 / 18	120	160	120	OPTIONAL
BLACK	26 / 19	131	175	131	OPTIONAL
RED	25 / 20	144	192	144	OPTIONAL
BLUE	24 / 21	157	209	157	STANDARD
ORANGE	23 / 22	172	229	172	STANDARD
ORANGE	22 / 23	188	250	188	STANDARD
BLUE	21 / 24	206	274	206	STANDARD
RED	20 / 25	225	300	225	OPTIONAL
BLACK	19 / 26	246	328	246	OPTIONAL
WHITE	18 / 27	270	360	270	OPTIONAL

SPEED CHART

ROTOR WIDTH	ACRES PER HOUR AT THE FOLLOWING SPEEDS:				
	1 M.P.H.	2 M.P.H.	3 M.P.H.	4 M.P.H.	5 M.P.H.
80"	.81	1.62	2.42	3.23	4.04
100"	1.00	2.01	3.02	4.04	5.05

BLADES, BOLTS & FLANGES

	DESCRIPTION	PART NUMBER	REMARKS		
	'C' BLADE	L.H. #9950 R.H. #9951	STANDARD BLADE FOR GENERAL MIXED CROP FARMING		
	'L' BLADE	L.H. #9919 R.H. #9920	FOR SHALLOW DEPTH CONTROL FINE SEEDBEDS & PASTURE		
	LONG SHANK 'L' BLADE	L.H. #9910 R.H. #9911	FOR INCREASED DEPTH OF TILLAGE IN FINE SEEDBED		
	1/2" THICK 'L' BLADE	L.H. #9993 R.H. #9994	HEAVY DUTY BLADE FOR USE WITH DOUBLE FLANGE KITS		
	1/2" THICK LONG SHANK 'L' BLADE	L.H. #9981 R.H. #9982	HEAVY DUTY MIXING —IDEAL FOR INDUSTRIAL MIXING		
S 80	BLADES	BOLTS	S 100	BLADES	BOLTS
6 BLADE	48	96	6 BLADE	60	124
4 BLADE	32	64	4 BLADE	40	84

MODEL "E"



**MODEL 'E' 35 TO 60 B.H.P.
OR 3-PLOW TRACTOR POWER
50", 60", 70" AND 80" TILLAGE WIDTHS
3-POINT MOUNTED OR FAST HITCH
540 OR 1000 P.T.O. WITH MULTI-SPEED ROTOR
THROUGH SELECTATILTH GEARBOX**

PRICE COMPLETE WITH 3 POINT KIT

MODEL	SHIPPING WEIGHT	FREIGHT	CUSTOMER'S DELIVERY PRICE
E 50 C/W 3-POINT MOUNTING KIT	1010 #		\$
E 60 C/W 3-POINT MOUNTING KIT	1094 #		\$
E 70 C/W 3-POINT MOUNTING KIT	1184 #		\$
E 80 C/W 3-POINT MOUNTING KIT	1652 #		\$
I. H. FAST HITCH BEAMS EXTRA.....		ADD	\$
ROW CROP ROTORS AND CROP GUARDS EXTRA....		ADD	\$

DON'T FORGET SET-UP AND BACK FREIGHT!

MODEL 'E' SELECTATILTH





ROTOR SPEED COMBINATION CHART

COLOR	RATIO	540 P.T.O.	720 P.T.O.	1000 P.T.O.	STANDARD OR OPTIONAL
RED	23 / 12	85	112	157	STANDARD—1000 P.T.O.
BLACK	22 / 13	97	128	177	STANDARD—1000 P.T.O.
GRAY	21 / 14	109	144	200	STANDARD—1000 P.T.O.
BLUE	20 / 15	122	161	225	STANDARD—1000 P.T.O.
WHITE	19 / 16	138	182	254	OPTIONAL
ORANGE	18 / 17	153	202	284	STANDARD—540 P.T.O.
ORANGE	17 / 18	172	229	318	STANDARD—540 P.T.O.
WHITE	16 / 19	194	256	356	OPTIONAL—540 P.T.O.
BLUE	15 / 20	216	288	400*	STANDARD—540 P.T.O.
GRAY	14 / 21	245	324	450*	OPTIONAL—540 P.T.O.
BLACK	13 / 22	276	N.R.	N.R.	OPTIONAL—540 P.T.O.

SPEED CHART

ROTOR WIDTH	ACRES PER HOUR AT THE FOLLOWING SPEEDS:				
	1 M.P.H.	2 M.P.H.	3 M.P.H.	4 M.P.H.	5 M.P.H.
50"	.51	1.01	1.51	2.02	2.25
60"	.61	1.20	1.82	2.42	3.03
70"	.71	1.41	2.12	2.83	3.53
80"	.81	1.62	2.42	3.23	4.04

BLADES, BOLTS AND FLANGES

	DESCRIPTION	PART NUMBER	REMARKS
	STANDARD 'L' BLADE	L.H. #63592 R.H. #63593	FINE SEEDBEDS. SHALLOW DEPTH CONTROL. TRUCK FARMING, ETC.
	LONG SHANK 'L' BLADE	L.H. #5978 R.H. #5979	FOR INCREASED DEPTH OF TILLAGE IN FINE SEEDBED
	'C' BLADE	L.H. #9948 R.H. #9949	STANDARD BLADE FOR GENERAL MIXED CROP FARMING
	SHORT SHANK 'L' BLADE	L.H. #18197 R.H. #18197	ASPARAGUS BLADES. SHORT SHANK ON SPECIAL ORDER ONLY

'E' MODEL	50"		60"		70"		80"	
	BLADES	BOLTS	BLADES	BOLTS	BLADES	BOLTS	BLADES	BOLTS
6 BLADE	30	64	36	76	42	88	48	94
4 BLADE	20	44	24	32	28	60	32	68

MODEL "P"



**MODEL 'P' FOR 18 TO 40 B.H.P.
ON 2 TO 3 PLOW TRACTOR POWER
40", 50", 60" AND 70" TILLAGE WIDTHS WITH
SPECIAL OFFSET (PG & P.U.T. MODELS) FOR ORCHARDS AND
GROVES. 540 P.T.O. ONLY WITH MULTI-SPEED ROTOR
THROUGH SELECTATILTH GEARBOX**

540 P.T.O. ONLY

**COMPLETE WITH 3-POINT MOUNTING KIT
NO TRAILER AVAILABLE**

MODEL 'P'	SHIPPING WEIGHT	FREIGHT	CUSTOMER'S DELIVERY PRICE
P 40"	578 #		\$
P 50"	638 #		\$
P 60"	696 #		\$
P 70"	746 #		\$
PG 70"	790 #		\$
P.U.T. 70"	1121 #		\$

DON'T FORGET SET-UP AND BACK FREIGHT!

MODEL 'P' SELECTATILTH

ROTOR SPEED COMBINATION CHART



COLOR	RATIO	540 P.T.O.	720 P.T.O.	1000 P.T.O.	STANDARD OR OPTIONAL
UNPAINTED	28 / 18	117	156	N.R.	OPTIONAL
GREEN	26 / 20	140	187	N.R.	STANDARD
VIOLET	25 / 21	154	205	N.R.	OPTIONAL
BROWN	24 / 22	170	226	N.R.	STANDARD
BLACK	23 / 23	183	244	N.R.	OPTIONAL
BROWN	22 / 24	200	267	N.R.	STANDARD
VIOLET	21 / 25	218	290	N.R.	OPTIONAL
GREEN	20 / 26	240	320	N.R.	STANDARD
UNPAINTED	18 / 28	282	376	N.R.	OPTIONAL
RED	32 / 14	—	—	150	OPTIONAL
BLUE	30 / 16	—	—	185	OPTIONAL
YELLOW	29 / 17	—	—	200	OPTIONAL

RED, BLUE & YELLOW GEARS ARE FOR 1000 PTO ONLY AND MUST BE USED WITH THE SMALL GEAR DRIVING.

SPEED CHART

ROTOR WIDTH	ACRES PER HOUR AT THE FOLLOWING SPEEDS:				
	1 M.P.H.	2 M.P.H.	3 M.P.H.	4 M.P.H.	5 M.P.H.
40"	.41	.81	1.21	1.61	2.01
50"	.51	1.01	1.51	2.02	2.52
60"	.61	1.20	1.82	2.42	3.03
70"	.71	1.41	2.12	2.83	3.53

BLADES AND BLADE BOLTS

	DESCRIPTION	PART NUMBER	REMARKS
	'L' BLADE	L.H. #9924 R.H. #9923	FOR FINE SEEDBEDS, NURSERY AND LANDSCAPE WORK
	'C' BLADE	L.H. #9953 R.H. #9954	STANDARD BLADE FOR GENERAL MIXED CROP FARMING

MODEL 'P'	40"		50"		60"		70"	
	BLADES	BOLTS	BLADES	BOLTS	BLADES	BOLTS	BLADES	BOLTS
6 BLADES	24	48	30	60	36	72	42	84

ROTACADET "70"



**ROTACADET 70" FOR TRACTORS UP TO 45 B.H.P.
70" TILLAGE WIDTH CENTRALLY MOUNTED
540 P.T.O. ONLY WITH TWO SPEED ROTOR
STANDARD MODEL C/W TWO DEPTH SKIDS
CULTIVATING MODEL C/W TWO DEPTH WHEELS
DEPTH WHEELS AVAILABLE AS OPTIONAL EXTRAS**

COMPLETE WITH 3 POINT MOUNTING KIT

MODEL	SHIPPING WEIGHT	FREIGHT	CUSTOMER'S DELIVERY PRICE
RC 70" STANDARD MODEL	717 #		\$
RC 70" C/W ROW CROP ROTOR	748 #		\$
RC 70" C/W ROW CROP ROTOR & CROP GUARDS	882 #		\$
FAST HITCH BEAMS EXTRA.....	ADD		\$

DON'T FORGET SET-UP AND BACK FREIGHT!

MODEL ROTACADET '70'


ROTOR SPEED COMBINATION CHARTS

SPROCKET RATIO	ROTOR SPEED	SPROCKET RATIO	ROTOR SPEED
18/20	260 R.P.M.	20/18	320 R.P.M.

SPEED CHART

ROTOR WIDTH	ACRES PER HOUR AT THE FOLLOWING SPEEDS:				
	1 M.P.H.	2 M.P.H.	3 M.P.H.	4 M.P.H.	5 M.P.H.
70"	71	1.41	2.12	2.83	3.53

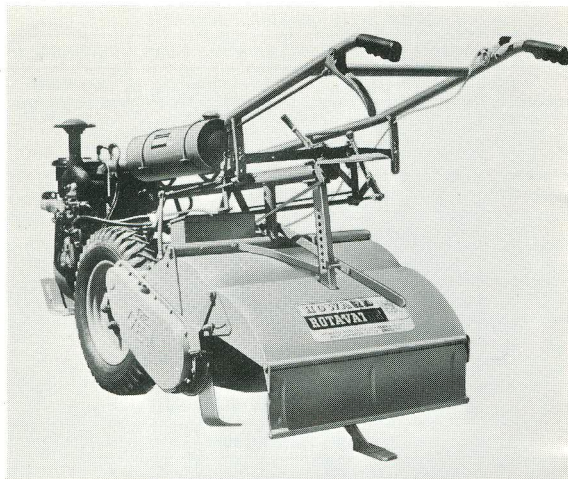
BLADES, BOLTS AND FLANGES

	DESCRIPTION	PART NUMBER	REMARKS
	STANDARD 'C' BLADE	L.H. #9941 R.H. #9942	STANDARD BLADE

MODEL	DESCRIPTION	NUMBER OF FLANGES	NUMBER OF BLADES	NUMBER OF BOLTS
RC 70	STANDARD ROTOR	10 FIXED	40	40
RC 70	CULTIVATING ROTOR	12	48	48

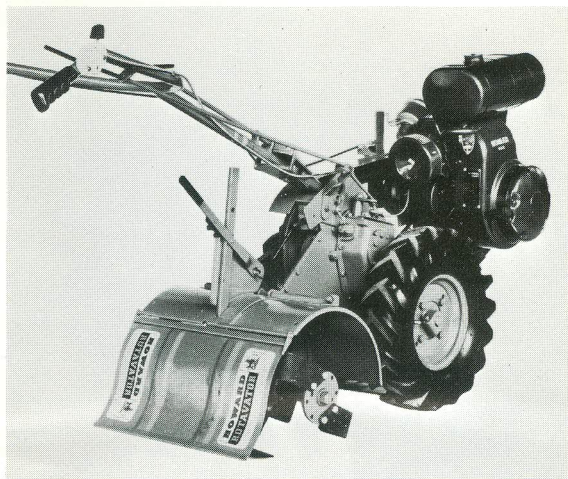
"GEM"

A.E.N.L. 9.2 & T.J.D. 15.2 H.P.



"350"

6.2 HORSEPOWER



FOR THE PROFESSIONAL GROWER
20" - 24" AND 30" TILLAGE WIDTHS
3 FORWARD SPEEDS AND SAFETY REVERSE
INDEPENDENT ROTOR ENGAGEMENT
FULL DIFFERENTIAL (FOR EASY TURNING)
DIFFERENTIAL LOCK (FOR STABILITY)
POWER TO THE DRIVE WHEELS AT ALL TIMES
POWER MATCHED FOR NURSERY, TRUCK FARMING
CUSTOM LANDSCAPING & RENTAL WORK

LIGHT, COMPACT, RUGGED, AND SELF-PROPELLED
16" AND 23" TILLAGE WIDTHS
4 FORWARD SPEEDS & SAFETY REVERSE
INDEPENDENT ROTOR ENGAGEMENT
POWER TO THE DRIVE WHEELS AT ALL TIMES
IDEAL FOR HOME OR PROFESSIONAL USE

PRICE COMPLETE WITH ENGINE

MODEL	SHIPPING WEIGHT	FREIGHT	CUSTOMER'S DELIVERY PRICE
GEM V 30" C/W WIS. T.J.D. ENGINE	866 #		\$
GEM V 24" C/W WIS. T.J.D. ENGINE	782 #		\$
GEM V 20" C/W WIS. T.J.D. ENGINE	834 #		\$
GEM V 20" C/W WIS. AENL ENGINE	714 #		\$

DON'T FORGET SET-UP AND BACK FREIGHT!

PRICE COMPLETE WITH ENGINE

MODEL	SHIPPING WEIGHT	FREIGHT	CUSTOMER'S DELIVERY PRICE
350 16" C/W KOHLER K141T ENGINE	318 #		\$
350 23" C/W KOHLER K141T ENGINE	342 #		\$
23" EXTENSION KIT...ADD TO 16" MODEL FOR 23" PRICE			\$

DON'T FORGET SET-UP AND BACK FREIGHT!

HOWARD "ROTACHISEL"



THE ALL NEW ROTACHISEL FROM HOWARD . . . COMBINES THE WORK OF 4 IMPLEMENTS IN ONE; THE PLOW, DISC, HARROW AND THE CHISEL. BREAKS HARDPAN WHILE PREPARING TOPSOIL . . . PREPARES A PERFECT, WELL DRAINED SEEDBED. CHISELS ADJUSTABLE FROM 4" TO 8" BELOW ROTAVATOR BLADES. AVAILABLE IN VARIOUS MODELS AND SIZES.



THE HOWARD ROTACHISELS ARE AVAILABLE IN THE FOLLOWING MODELS, DESIGNED TO HANDLE VARIOUS TYPES OF SOIL CONDITIONS AND TILLAGE WIDTHS:

'E' SERIES ROTAVATOR, WITH A RANGE OF TILLAGE WIDTHS FROM 50" TO 80"; DESIGNED FOR TRACTORS UP TO 60 B.H.P.

'S' SERIES ROTAVATOR, WITH A RANGE OF TILLAGE WIDTHS FROM 80" TO 100"; DESIGNED FOR TRACTORS FROM 65 H.P. TO 100 H.P.

'M' SERIES ROTAVATOR, DESIGNED FOR LARGER FARMS, WITH TILLAGE WIDTHS FROM 80" TO 130"; DESIGNED FOR TRACTORS FROM 80 H.P. TO 140 H.P.

ROTACHISEL KITS

MODEL	NO. CHISELS	SHIPPING WEIGHT
E 50-U.K.	2	460 LBS.
E 60-U.K.	3	566 LBS.
E 70-U.K.	3	590 LBS.
E 80-U.K.	4	700 LBS.
S 80-U.S.	4	1001 LBS.
S 100-U.S.	4	1043 LBS.
M 80-U.S.	4	921 LBS.
M 100-U.S.	4	963 LBS.
M 130-U.S.	5	1139 LBS.

DEPTH OF PENETRATION BETWEEN 4" AND 8" BELOW ROTOR BLADES. CHISELS INTERCHANGEABLE, FITTED WITH REPLACEABLE OR REVERSIBLE TIPS MADE FROM HEAT-TREATED STEEL.



THE HEAVIER, CURVED CHISEL IS DESIGNED FOR HARDER PACKED SOIL AND FALL SOIL CONDITIONS, AND FOR USE WITH LARGER ROTAVATORS ADJUSTABLE FOR BOTH 'L' & 'C' BLADES.

THE STRAIGHT, LIGHTER CHISEL IS DESIGNED FOR MOIST OR LOAMY SOIL CONDITIONS, OR FOR SPRING SOIL PREPARATION. CHISELS ARE ADJUSTABLE FROM 3" TO 9" BELOW THE ROTOR BLADES. NOT DESIGNED TO FIT "S" & "M" MODELS.

BLUE GUIDE

TO TRACTOR AND ROTAVATOR COMBINATION

HORSEPOWER RATING

THE FOLLOWING LIST OF TRACTOR/ROTAVATOR COMBINATIONS IS INTENDED AS A GUIDE ONLY AND PRESUPPOSES USE IN NORMAL CIRCUMSTANCES. THE SALESMAN, WITH KNOWLEDGE OF THE TRACTOR AND LOCAL CONDITIONS MUST ADVISE THE MOST SUITABLE ROTAVATOR.

SELECTION OF TRACTORS IS BASED ON NEBRASKA HORSE POWER RATING ONLY AND NO ALLOWANCE IS MADE FOR THE VARIATION IN GROUND SPEEDS PRODUCED BY TRACTOR TRANSMISSIONS WHICH IN SOME CASES CAN EFFECT PERFORMANCE. THE ALLOCATION OF ROTAVATOR TO TRACTOR DOES NOT COVER TRACTORS, WHICH, AS A RESULT OF MODIFICATION, DEVELOP HORSE POWER ABOVE THE NEBRASKA RATING OR ABOVE THE FOLLOWING MAXIMUM LIMITS.

MODEL P	40 B.H.P.	540 P.T.O. ONLY.
MODEL E	60 B.H.P.	540 OR 1000 P.T.O.
MODEL S	100 B.H.P.	540 OR 1000 P.T.O.
MODEL M	140 B.H.P.	1000 P.T.O. ONLY
MODEL MT	140 B.H.P.	1000 P.T.O. ONLY.
MODEL ST		1000 P.T.O. ONLY.

- 1,000 R.P.M. P.T.O. SHOULD BE USED WHENEVER AVAILABLE ON TRACTORS RATED ABOVE 40 B.H.P.
- STABILIZER BARS OR BLOCKS MUST BE USED ON ALL 3-POINT LINKAGE TRACTORS.
- S & M MODELS ARE AVAILABLE AS TRAILER MODELS FOR USE WITH TRACTORS NOT EQUIPPED WITH 3-POINT LINKAGE.
- ALL THE TRACTORS WHICH DO NOT HAVE 3-POINT LINKAGE FOR USE WITH E MODELS CAN BE FITTED WITH A 3-POINT LINKAGE MADE BY OTHER MANUFACTURERS.
- CRAWLER TRACTORS MUST HAVE AGRICULTURAL P.T.O. TURNING CLOCKWISE AT 540 OR 1000 R.P.M.
- 70" P. MODELS ARE RECOMMENDED FOR CULTIVATION IN GROVES AND ORCHARDS AND SECONDARY TILLAGE.
- THE ST MODEL IS DESIGNED FOR USE IN SECONDARY TILLAGE AND SHOULD NOT BE USED AS A PRIMARY TILLAGE TOOL. (WHEEL BEAMS ARE OFFERED AS OPTIONAL EQUIPMENT FOR USE WITH UNIT PLANTERS.)

TRACTOR	ROTAVATOR	REMARKS
ALLIS CHALMERS D10* D12* D272' D14, D15*, ED40 ONE SIXTY D17, ONE SEVENTY*, 175 D19* ONE EIGHTY, 185 ONE NINETY* ONE NINETY SERIES III ONE NINETY XT* D21, TWO TWENTY, TWO TEN HD3, H3 HD6 HD9 HD16A	P40, P50, P60 P40, P50, P60 P50, P60, P70, E50 P50, P60, P70, E50 E50, E60, E70, E80 S80 E70, E80, S80 S80 S80, S100 S80, S100, M80, M100, MT, ST M80, M100, M130, MT, ST E50, P50, P60, P70 (1) S80 (1) S80 (1) M80, M100, M130, MT, ST	*THESE TRACTORS MUST BE EQUIPPED WITH MANUFACTURERS 3-POINT LINKAGE AND ANTI SWAY BAR DEVICE OR 3-POINT SNAP COUPLER FOR USE WITH P.T.O. DRIVEN EQUIPMENT. 1000 P.T.O. ESSENTIAL FOR S80 1000 P.T.O. ESSENTIAL. 1000 P.T.O. ESSENTIAL. 1000 P.T.O. ESSENTIAL. (1) THESE TRACTORS MUST BE EQUIPPED WITH AGRICULTURAL P.T.O. AND REQUIRE TRAILER FRAMES. POWER DIRECTOR MODEL RECOMMENDED. 1000 P.T.O. ESSENTIAL.
CASE 200 SERIES (FROM 1958)* 300 SERIES* 470 400 SERIES (FROM 1958)* 500 SERIES (FROM 1958)* 570 600 SERIES (FROM 1958)* 400 SERIES (EARLIER)* 500 SERIES (EARLIER)* 700 SERIES (FROM 1958)* 770 800 SERIES (FROM 1958)* 870 900 SERIES, 970 1070 1090 930 COMFORT KING, 1170 1030, 1175, 1275, 1370 1200 SERIES, 1470	E50, P40*, P50, P60, P70 E50, P50, P60, P70 E50 E50, E60 E50, E60 E70, E80, S80 S80 E60, E70, E80 E70, E80, S80 S80 S80, S100 S100, M100 S80, S100, M80, M100, MT, ST M80, M100, M130, MT, ST M80, M100, M130, MT, ST	*USE CASE COARSE THREAD TOP LINK LONG SERIES D4297M. USE TRAILER FRAME. USE TRAILING FRAME. 1000 R.P.M. P.T.O. DESIRABLE. USE 1000 P.T.O. FOR M100. 1000 R.P.M. P.T.O. ESSENTIAL. TRAILER MODEL RECOMMENDED. FOR 3-POINT MOUNTING A SPECIAL UJ ASSEMBLY IS REQUIRED PART NUMBER 927/84/35928.

BLUE GUIDE

TRACTOR	ROTAVATOR	REMARKS
COCKSHUTT-CO-OP		
E2, E20 E3, E30 E4, E40 E5, E50 540 550 560 570 550, 770, 880, 1600, 1800, etc.	P40, P50, P60, P70, E50 P40, P50, P60, P70, E50 E50, E60 E50, E60, E70, E80 P40, E50 P50, P60, P70, E50 E50, E60, E70, E80 S80	SEE OLIVER
DAVID BROWN		
25, 30, 880, 3800 900, 4600, 780, 880, 885 990, 995 1200, 1210, 1212	P50, P60, P70, E50 E50, E60 E60, E70, E80 E60, E70, E80	1000 P.T.O. ESSENTIAL. USE 6 SPLINE 540 P.T.O. YOKE. 1,000 P.T.O. ESSENTIAL FOR 990, 995, 1210, & 1212.
FORD		
600, 700 SERIES 800, 900 SERIES 2000 3000 4000 5000 6000 7000 8000 9000 DEXTA SUPER DEXTA SUPER 6 MAJOR POWER MAJOR SUPER MAJOR	P50, P60, P70, E50 P50, P60, P70, E50, E60 P50, P60, P70, E50 P50, P60, P70, E50 E50, E60 E50, E60, E70, E80 S80 S80, S100, M80, M100 S80, S100, M80, M100, ST M80, M100, M130, ST P40, P50, P60, P70, E50 P50, P60, P70, E50 S80 P50, P60, P70, E50 E50, E60 E50, E60, E70, E80	4 SPEED MODEL RECOMMENDED FOR LIGHT WORK ONLY. 8 SPEED AND SELECT-O-SPEED RECOMMENDED. 8 SPEED ONLY. 8 SPEED AND SELECT-O-SPEED ONLY. 1000 P.T.O. ESSENTIAL. 1000 P.T.O. ESSENTIAL. 1000 P.T.O. ESSENTIAL. 1000 P.T.O. ESSENTIAL.
JOHN DEERE		
420, 430, 440. (820, FROM 1970) 520, 530 620, 630 720, 730 830 (PRIOR TO 1970) 1010, 820 1020 2010, 2020, 1520 2510, 2520, 2030 3010 4010 3020 4020, 4000 5010, 4520, 4320 5020, 4620 7020 7520, 6030	P40, P50, P60, P70, E50 P50, P60, P70, E50 E50, E60 E60, E70, E80 S80 P40, P50, P60, P70, E50 P50, P60, P70, E50 E50, E60 E60, E70, E80 E60, E70, E80 S80 E70, E80, S80 S80, S100, M80, M100, MT, ST M80, M100, M130, MT, ST M80, M100, M130, MT, ST M80, M100, M130 M80, M100, M130	USE TRAILER FRAME. 1000 R.P.M. P.T.O. DESIRABLE. 1000 R.P.M. P.T.O. DESIRABLE. 1000 R.P.M. P.T.O. ESSENTIAL. 1000 R.P.M. P.T.O. ESSENTIAL. 1000 R.P.M. P.T.O. ESSENTIAL. FOR 5010 AND 5020 WITH QUICK COUPLER 3-POINT HITCH USE SPECIAL UJ ASSEMBLY. 927/84/35928. USE TRAILER FRAME.

BLUE GUIDE

TRACTOR	ROTAVATOR	REMARKS
DEUTZ		
D2506 D3006 D4006 D5006 D6006 D9006 D10006	P40, P50, P60 P40, P50, P60 E50 E50, E60 E60, E70, E80 S80, S100 S80, S100, M80, M100	
IHC/FARMALL		
B250, B275, 354, 2300 300, 340, 350, T340, 454, 2400 460, 574, 2500 560 424, 2424 3414, 3444, 3514 404, 2404, 444, B414 504, 2504, 544, 2544, 3616 606, 2606 656, 2656, 656 HYDRO. 706, 2706, 756, 806 826, 2806, 856, 766, 966 1206, 21206 1256, 21256, 1026, 1066 4100, 1456, 1466, 1468 4156, 4166 TD9* TD14*	P40, P50, P60, P70, E50 E50 E50, E60 E60, E70, E80 P50, P60, P70, E50 P50, P60, P70, E50 P50, P60, P70, E50 E50, E60 E50, E60, E70, E80 E70, E80 S80 S80, S100, M80, M100, MT, ST S80, S100, M80, M100, MT, ST M80, M100, M130, MT, ST M80, M100, M130, MT, ST M80, M100, M130, MT S80 M80, M100, MT, ST	3-POINT LINKAGE. FAST HITCH RECOMMENDED. FAST HITCH RECOMMENDED. FAST HITCH RECOMMENDED FOR E MODELS. 1000 P.T.O. ESSENTIAL. 1000 P.T.O. ESSENTIAL. 1000 P.T.O. ESSENTIAL. 1000 P.T.O. ESSENTIAL. 1 3/4" P.T.O. RECOMMENDED. 1 3/4" P.T.O. RECOMMENDED. *THESE TRACTORS MUST BE EQUIPPED WITH AGRICULTURAL P.T.O. AT 1000 R.P.M. AND REQUIRE TRAILER FRAME.
KUBOTA		
L200, L175, L210 L260	P40 P40, P50	USE 3-POINT LINKAGE & 540 P.T.O. USE 3-POINT LINKAGE & 540 P.T.O.
LAMBORGHINI		
470DT 480DT	S80 S80, S100	
MASSEY FERGUSON		
25, 130 35, 202, 203, 205, 135 50, 150 65, 165 85, 175, 180 88 SUPER 90 DIESEL SUPER 90, GAS 1080 1100 1130 1150 1500 1800	P40, P50, P60 P50, P60, P70, E50 P50, P60, P70, E50 E50, E60 E60, E70, E80 S80 S80 E60, E70, E80 S80 S80, S100, M80, M100, MT, ST M80, M100, M130, MT, ST M80, M100, M130, MT, ST M80, M100, M130 M80, M100, M130	USE TRAILER FRAME. 1000 P.T.O. ESSENTIAL. 1000 P.T.O. ESSENTIAL. 1000 P.T.O. ESSENTIAL. 1000 P.T.O. ESSENTIAL. USE TRAILER FRAME.
MPLS MOLINE, WHITE		
445, 4 STAR, JET STAR 3	E50, E60	

BLUE GUIDE

TRACTOR	ROTAVATOR	REMARKS
MPLS MOLINE, WHITE		
G350 U302, G450, G550 555, 5 STAR, M5 TRICYCLE G602, M602 M600 SERIES M670 G VI, G850 G900, G950, G940 M1000, G1000, G1050 A4T-1400, 1350	P40, P50, P60, E50 E60, E70, E80 E60, E70, E80, S80 E60, E70, E80, S80 S80 S80 S80 S80, S100, M80, M100, ST M80, M100, M130, MT, ST M80, M100, M130, MT, ST	1000 R.P.M. P.T.O. ESSENTIAL. 1000 R.P.M. P.T.O. ESSENTIAL. 1000 R.P.M. P.T.O. ESSENTIAL.
MITSUBISHI		
R1500 R2000 R2500	P40 P40 P40, P50	USE 540 P.T.O. USE 540 P.T.O. USE 540 P.T.O.
NUFFIELD, LEYLAND		
MINI, 154 425 UNIVERSAL 3 UNIVERSAL 4, 344 342, 345, 460, 465 384	P40 P40, P50, P60 P40, P50, P60, P70, E50 E50, E60 E50, E60 S80	
OLIVER, WHITE		
SUPER 55*, SUPER 66* 500, 550*, 1250*, 1255, 1265 660, 770, 1350, 1355, 1365 1450, 1550, 1555 880 1600 1650, 1655 99, SUPER 99 950 1750, 1800, 1755 1755, 1850, 1855 1900 B, C 1950, 1950T, 1955 2050, 2150, 2455(D) OC4 OC6	P50, P60, P70, E50 P50, P60, P70, E50 E50, E60 E50, E60, E70 E60, E70, E80 E60, E70, E80 S80 S80, S100 S80, S100 S80 S80, S100, M80, M100, MT, ST S80, S100, M80, M100, MT, ST M80, M100, M130, MT, ST M80, M100, M130, MR, ST P40, P50, P60 E50	*THESE TRACTORS MUST BE EQUIPPED WITH OLIVER 3-POINT LINKAGE IF MOUNTED ROTAVATOR REQUIRED. USE TRAILER FRAME. USE TRAILER FRAME. 1000 R.P.M. P.T.O. ESSENTIAL. 1000 R.P.M. P.T.O. ESSENTIAL. 1000 R.P.M. P.T.O. ESSENTIAL. 1000 R.P.M. P.T.O. ESSENTIAL. 1000 R.P.M. P.T.O. ESSENTIAL. 1000 R.P.M. P.T.O. ESSENTIAL. CRAWLER TRACTORS REQUIRE AGRICULTURAL P.T.O.
SATOH		
S650G	P40	
VERATILE		
118, 145, 175	M80, M100, M130	1000 P.T.O. ESSENTIAL & 3-POINT LINKAGE REQUIRED. USE LONG UJ ASSEMBLY.
WHITE		
	SEE MPLS MOLINE & OLIVER	

TROUBLE SHOOTING

THIS SECTION IS DESIGNED TO HELP YOU DIAGNOSE A MECHANICAL FAULT WHERE A ROTAVATOR IS NOT FUNCTIONING CORRECTLY

ROTOR WILL NOT TURN

- SAFETY CLUTCH INCORRECTLY ADJUSTED OR WORN PLATES.
- FAILURE OF U.J. DRIVE.
- BROKEN CHAIN.
- P.T.O. FAILURE OR P.T.O. CLUTCH SLIPPING (CHECK WHEN UNDER LOAD).

MACHINE RUNS ROUGH

- U.J. OUT OF PHASE, I.E., BLUE DOTS NOT IN LINE.
- TOP LINK INCORRECTLY ADJUSTED.
- BADLY ADJUSTED CHAIN (TOO LOOSE).
- BLADES INCORRECTLY FITTED.
- ROTAVATOR LIFTING TOO HIGH.
- WORN CROSS ASSEMBLIES ON U.J.

U.J. ASSEMBLY TOO LONG

- MOVE MOUNTING PLATES FORWARD.

U.J. ASSEMBLY TOO SHORT

- MOVE MOUNTING PLATES BACK.

ROTA VATOR MAKES A LOT OF NOISE

- WEED CUTTERS REQUIRE ADJUSTMENT.
- CHAIN OUT OF ADJUSTMENT.
- TOO MUCH END PLAY ON CROWN WHEEL AND PINION.
- TOOTH FAILURE ON GEARS.
- BEARING FAILURE.

ROTA VATOR SWINGS OVER TO ONE SIDE

- TRACTOR ANTI-SWAY DEVICE NOT FITTED OR INCORRECTLY ADJUSTED.

ROTA VATOR WILL NOT MAINTAIN CORRECT DEPTH SETTING

- REMOVE DOWN PRESSURE PINS FROM TRACTOR LINKAGE.
- MOVE LEVER ON TRACTOR LIFT QUADRANT TO FULLY DOWN POSITION. NEVER USE HOLD ON DRAFT CONTROL POSITION.
- USE ROTA VATOR DEPTH WHEEL OR WHEELS TO CONTROL DEPTH. TRACTOR LINKAGE MUST BE ALL THE WAY DOWN AND FULLY FLOATING.
- INCORRECT TENSION ON HAND SCREW SPRING IN 'S' ROTA VATOR TRAILING FRAME.
- BLADES INCORRECTLY FITTED.

TOO MUCH POWER REQUIRED

- ROTA VATOR SET TOO DEEP.
- TRACTOR SPEED TOO FAST.
- ROTOR SPEED TOO HIGH.
- BLADES BADLY WORN OR INCORRECTLY FITTED.
- FIT "C" BLADES IN PLACE OF "L" BLADES.
- TRACTOR TOO SMALL. (CHECK BLUE GUIDE).

BLADE BREAKAGE

- STAY OUT OF STUMPS.
- KEEP BOLTS TIGHT.
- FIT HEAVY DUTY BLADES ON "S" AND "M" MODELS.
- FIT DOUBLE FLANGE KIT ON "E", "S" & "M" MODELS.
- SEE BLADE WARRANTY.

ROTOR BALLING UP

- ROTA VATOR SPEED TOO SLOW FOR FORWARD TRAVEL SPEED.
- TRACTOR GEAR USED IS TOO HIGH FOR SOIL CONDITIONS.
- TRACTOR P.T.O. CLUTCH SLIPPING.
- ROTA VATOR CLUTCH SLIPPING.
- BLADES INCORRECTLY FITTED.
- IF "L" BLADES ARE FITTED; FIT "C" BLADES.
- FIT 4 BLADES PER FLANGE IN PLACE OF THE 6 ON "E", "S", & "M" MODELS.

ROTOR SPEED TOO SLOW OR TOO FAST

- CHANGE SELECTATILTH GEARS (SEE HAND BOOK).
- CHANGE JACKSHAFT SPROCKET ON EARLY MODELS NOT FITTED WITH SELECTATILTH.
- EARLY P-40 MODELS HAVE NO PROVISION FOR CHANGING THE ROTA VATOR SPEED.
- REMEMBER "E" AND "S" ROTA VATORS WORK WITH 540 OR 1000 P.T.O. SPEEDS. CHECK THAT CORRECT GEARS ARE FITTED. "M" AND "ST" MODELS ARE FOR 1000 P.T.O. ONLY.

BLADES WILL NOT PENETRATE SOIL

- BADLY WORN BLADES.
- BLADES INCORRECTLY FITTED.
- DOWN PRESSURE ON TRACTOR HYDRAULICS.
- TRACTOR NOT IN DIRECT DRIVE, I.E., CASE-O-MATIC, I.H. T-A, M.M. AMPLI-TORC MF MULTI-POWER, OLIVER HYDRA-POWER OR EARLY FORD SELECT-O-SPEED IN RED RANGE.
- ROTA VATOR SPEED TOO SLOW.
- TRACTOR SPEED TOO FAST.
- ROTA VATOR HELD UP ON CONTROL SPRING IN HAND SCREW ASSEMBLY ON MODEL "S" ROTA VATOR TRAILING FRAME.

RAPID BLADE WEAR

- REDUCE ROTA VATOR SPEED.
- WAIT FOR MOISTURE.
- FIT HARD SURFACED BLADES.