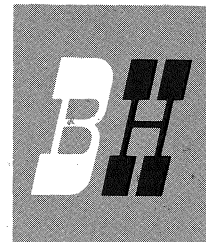


BRINLY



MODEL FF-200 BROADCASTER

OWNER'S MANUAL

- ASSEMBLY
- RATE CHARTS
- OPERATING INSTRUCTIONS
- REPAIR PARTS LIST



The Model FF-200 "Powr" Caster (electric drive model) was designed to fit most all makes of garden tractors equipped with a 12-volt electric starting system. The Broadcaster may be mounted to the Tractor Draw Bar or to a sleeve or slot-type hitch.

If your tractor is equipped with a sleeve or slot-type implement hitch, refer to pictures on typical tractor installations implement hitch mounting.

If you do not have an implement hitch as previously described, refer to pictures showing typical drawbar connections.

LIMITED WARRANTY

We warrant each Brinly Product sold by us to be free from manufacturing defects in normal service for a period of one (1) year commencing with delivery to the original retail user.

Our obligation under this warranty is expressly limited, at our option, to the replacement or repair at Brinly-Hardy Company, (340 E. Main Street, Louisville, Ky. 40202) of such part or parts as inspection shall disclose to have been defective. This warranty does not apply to defects caused by damage or unreasonable use (including failure to provide reasonable and necessary maintenance) while in the possession of the consumer.

WE SHALL NOT BE LIABLE FOR CONSEQUENTIAL DAMAGES OF ANY KIND, including but not limited to, consequential labor costs or transportation charges in connection with the replacement or repair of defective parts.

ANY IMPLIED OR STATUTORY WARRANTIES, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY. We make no other express warranty, nor is anyone authorized to make any in our behalf.

For parts and service, see your local dealer. Use part NAME and NUMBER when ordering.

BRINLY-HARDY COMPANY, INC.,

P.O. Box 1116, Louisville, Ky. 40201

ASSEMBLY & OPERATION

ELECTRIC DRIVE MODEL FF-200

For Tractors Equipped With 12 Volt Electrical Systems

This Unit is partially assembled at factory in four parts and hardware bag.

1. Hopper Assembly
2. Motor Mounting Assembly
3. Drawbar Assembly
4. Traction Disc

FIG. I

- 1) Mount Drawbar Assembly (A) to Hopper Assembly as shown (chain connecting (B) clip on bottom).
- 2) Insert 1/4 x 5/8" Round Head Screw (C) into hole in Hopper Mounting Bracket. Secure with 1/4" Lock Nut.
- 3) Mount Traction Disc (D) on end of Drive Shaft and secure with 5/32 Dia. x 1/14 Cotter Pin (E). MAKE SURE FAN SPINS FREELY.
- 4) Assemble Push-Pull Switch (F) as shown. Attach SHORT wiring harness to switch and to RED lead on motor (thread wire through Mounting Bracket as shown to avoid contact with Traction Disc). Secure wires with wire nut furnished. Attach LONG wiring harness to other pole on switch; thread through hole in Mounting Bracket as shown. Other end attaches to positive pole on tractor battery. (see page three)

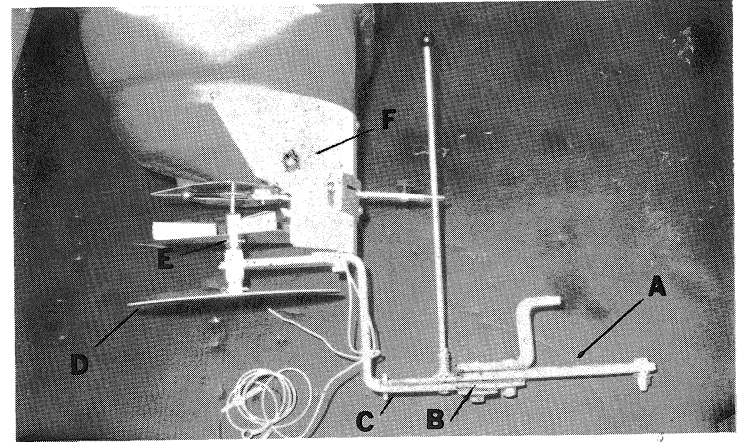


FIG. I

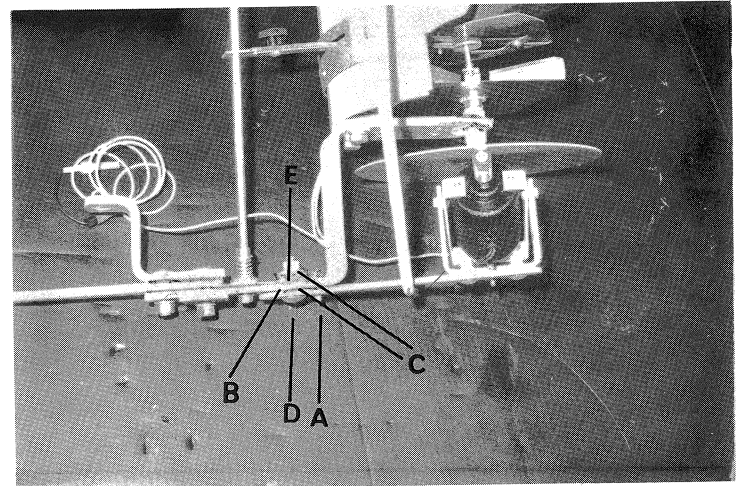


FIG. II

FIG. II

- 5) Assemble Motor Mounting Assembly to bottom side of Hopper Mounting Bracket (handle operates from left hand side of Unit). MAKE SURE ROUND HEAD SCREW (A) IS INSIDE LARGE HOLE ON MOTOR MOUNT BAR. Secure with 1/2" x 1 3/4" Carriage Bolt (D), Rubber Washer (B), Two Flat Washers (C), and two Hex Jam Nuts (E) as shown. Tighten nut until handle assembly is fairly free to move, then tighten second jam nut against first. The unit is now ready to be mounted to your Tractor's Hitch (Slot Type or Tubular Type) or Draw Bar.

MOUNTING TO TRACTOR

This Unit may be mounted to tractor Draw Bar or to tractor Hitch (either Tubular Sleeve or Slot Type).

FIG. III Typical Draw Bar Installation

(For your Tractor Mounting, refer to pictures on page 4.)

- 1) Install two Clips (A) to Tractor according to picture of your Tractor Model, using longer 5/16" or 3/8" x 1-1/4 Hex Bolts (B) and Fasteners furnished.
- 2) Connect "S" Hooks (C) and Chains (D) to Clips on Tractor.
- 3) Mount Unit on Tractor as shown for your Tractor Model, using 1/2 x 1-3/4 Hex Bolt (E) and Fasteners. DO NOT TIGHTEN.
- 4) Connect "S" Hooks to chain connecting Clip (F) on Unit. Raise back of Unit and connect chains. Tighten 1/2 x 1-3/4 Hex Bolt. Unit should be TILTED UP slightly at the back end.

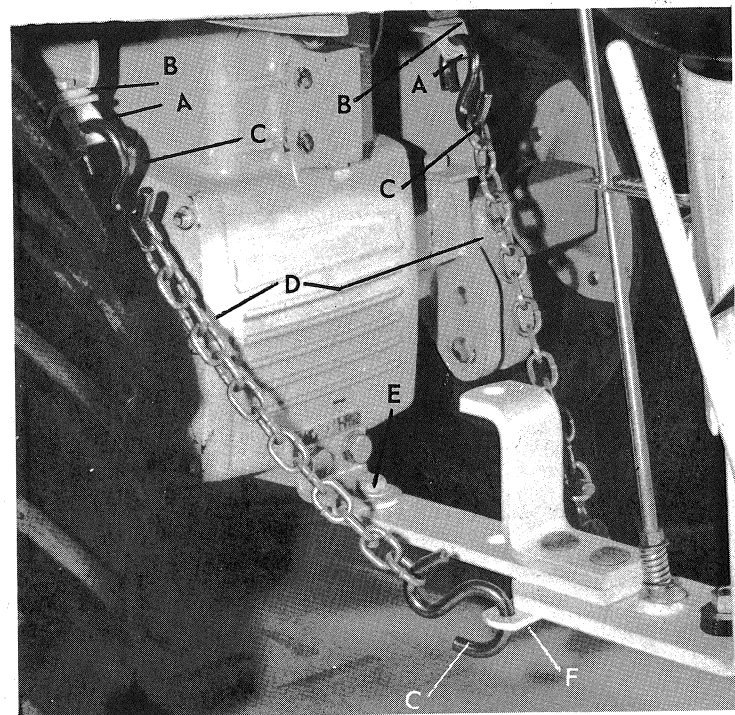


FIG. III

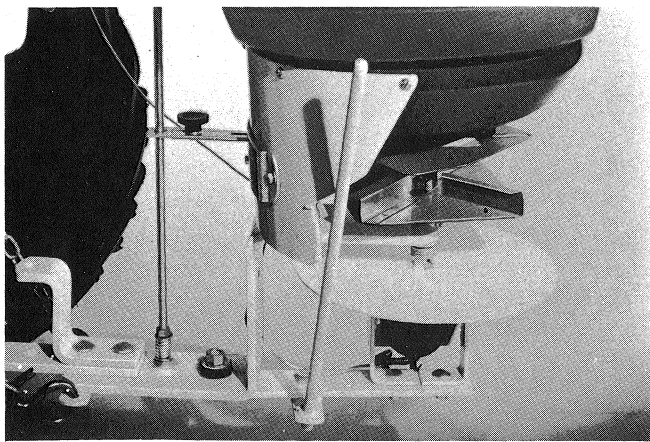


FIG. IV
Typical Tubular Sleeve Type Hitch Installation
 (IHC., John Deere, Etc.)

Install Unit as shown and tighten Stabilizer Bolts to prevent side play. Adjust Hitch so that Unit is **TILTED UP** slightly at back end.

FIG. V
Typical Slot Type Hitch Installation

Install Unit as shown and adjust Hitch so that Unit is **TILTED UP** slightly at back end. **CHAINS** and **CLIPS** SHOULD BE USED to stabilize Unit.

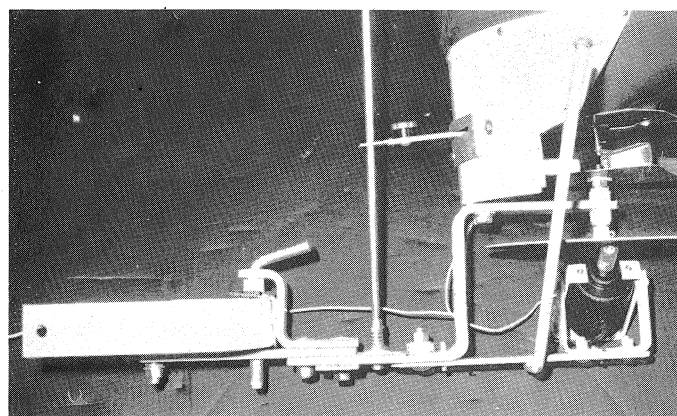


FIG. IV

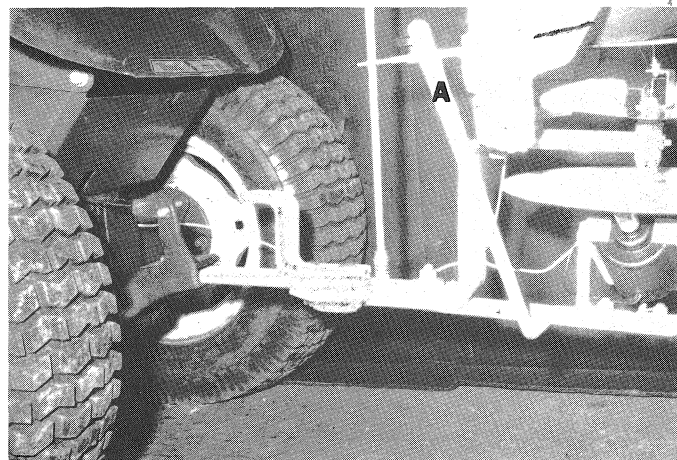


FIG. V

FIG. VI Wiring Switch

Assemble short fuse link portion of wiring harness (A) to Battery Terminal on (hot) positive terminal. If Battery Terminal is equipped with rubber protective boot, **BE SURE TO REPLACE**. Push on-off switch into "off" position and connect male-female insulated connectors at battery lead already installed.

Pull switch out to "ON" position. (Be sure hands are clear of fan blade.) Do not run more than a few seconds unless tractor engine is running as motor will discharge battery.

If motor does not run, check fuse, wiring harness and ground connections—remove paint at bolted connections to insure good ground. Also, with switch in "OFF" position, rotate fan blade by hand to be sure it turns freely.

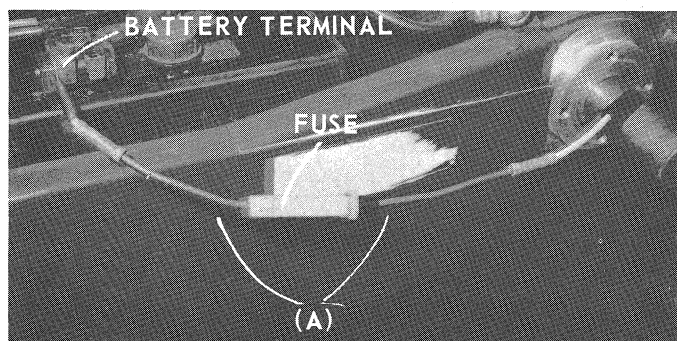
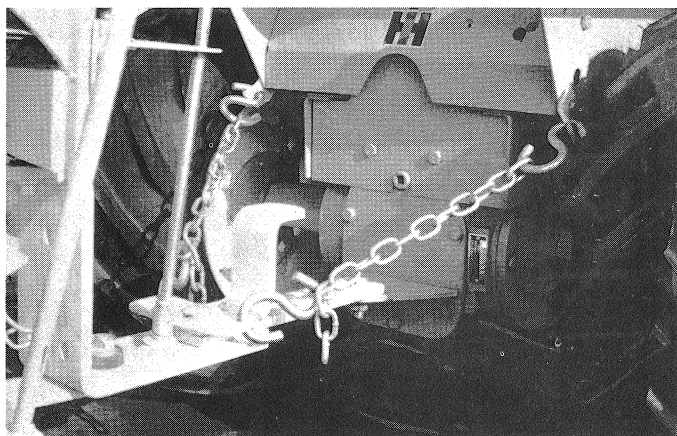
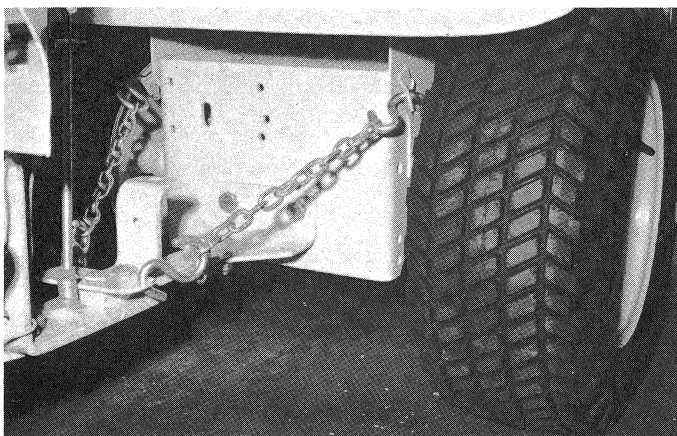


FIG. VI

TYPICAL DRAWBAR CONNECTIONS—BY TRACTOR MAKE

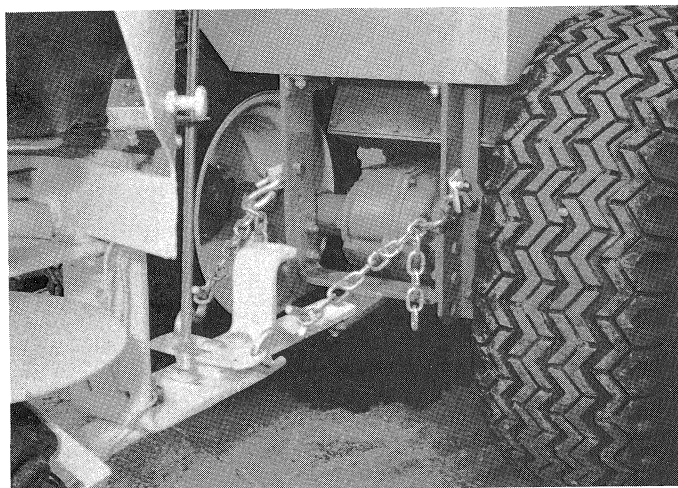




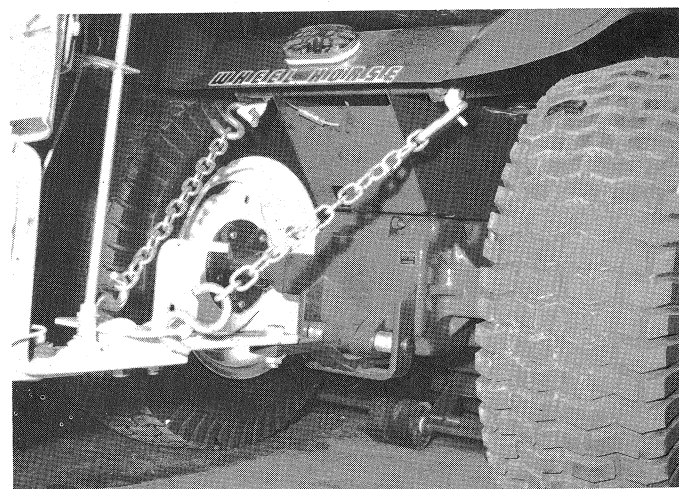
BOLENS — 1455



MF-12 — MASSEY FERGUSON



FORD, JACOBSEN, MOTEC



WHEEL HORSE — RAIDER 12

OPERATION

(Please read thoroughly in order to get the best performance out of this Broadcaster.)

1. **DO NOT FILL HOPPER** (especially with fertilizer) and transport over long distances, as it may result in packing, causing poor or erratic discharge. Fill only at operational site.
2. **FOR BEST RESULTS** use pelletized fertilizer as it has little tendency to lump and causes little or no dust.
3. **BE SURE** to sift or break up lumps commonly found in some types of granular fertilizer before filling hopper.
4. **DO NOT USE** on windy days, especially when spreading fine grass seed.
5. Use of herbicides (especially Broadleaf weed killers) is **NOT RECOMMENDED** as there is a possibility of wind drift or over throw of material onto shrubs, flowers, etc.
6. For best results, cover area twice over at one-half recommended material usage rate, the second time over to run halfway between first spreading width or in a criss-cross pattern (see twice over column in rate chart). This method insures the most complete and even coverage as well as to give operator a chance to adjust gate setting to compensate for too thin or heavy a covering the first time over.

7. When broadcasting fertilizer, always start tractor in motion before opening feed gate. (Do not allow tractor to sit stationary with feed gate open.) If fertilizer is accidentally deposited too heavily in a small area, soak down thoroughly with garden hose or sprinkler to prevent burning.

8. The fan speed may be adjusted by pushing or pulling Lever (A) in Fig. 5 for the Electric Drive.

9. **THE OPENING GATE CONTROL** is marked off by numbers which are $\frac{1}{8}$ " apart. A $\frac{1}{8}$ " movement of this gauge will allow the opening gate to open $\frac{1}{8}$ ".

10. This Broadcaster is equipped with a centering plate which allows operator to center the spread pattern of any seed or material that is normally used.

The markings for the correct setting are indicated by the letters A thru G on the front portion of hopper base.

If the center of spread pattern is to the left (when facing the way seeder will travel) rotate gauge handle to a higher letter. If the spread is too much to the right, rotate handle to a lower letter. Normally, the lighter the weight of the material, the higher the letter required to center the spread and the slower the fan speed, the higher the letter needed to center spread. (See recommended center plate setting in rate chart for material being used.)

THE FOLLOWING RATE CHART IS TABULATED FOR A TRACTOR:

SPEED OF 2 MPH, 3 MPH and 4 MPH

For accurate spreading, calibrate your tractor throttle for an engine speed when tractor is in second gear to give 2, 3 or 4 MPH . . . 2 MPH is recommended. This may be accomplished by setting out two markers 88 feet apart. With tractor in second gear, adjust throttle speed to give the following travel time as shown between markers:

1 MPH Tractor will travel 88 feet in 60 seconds

2 MPH Tractor will travel 88 feet in 30 seconds
(recommended)

3 MPH Tractor will travel 88 feet in 20 seconds

4 MPH Tractor will travel 88 feet in 15 seconds

1. After adjusting throttle setting to give speed as desired, mark throttle position in some convenient manner to indicate selected speed. **NOTE:** After selecting speed, be sure tractor engine is running fast enough for generator to properly charge battery. On some tractors it may be necessary to operate in first gear to maintain an adequate engine speed for charging battery.

2. Check rate chart for material type to be spread.

3. Set gate opening stop to number recommended for material to be used according to the selected ground speed and for once or twice over application (twice over recommended), tighten gate stop securely and close gate.

4. Position centering control lever to letter position indicated in chart for material being spread.

5. With gate closed, fill hopper with material to be spread at usage site. Do not transport fertilizer in hopper over long distances as it may pack, resulting in erratic discharge or motor stall.

If twice over spread is used as recommended, and area is not too large, it is advisable to put approximately one-half of material in hopper. This will give an approximate check of rate usage and will allow for adjustments after first time over.

STORAGE: After using Broadcaster, remove from Tractor and clean thoroughly. DO NOT USE WATER on Electric Drive Unit as it might harm electric motor. Wipe clean with brush or rag and apply a light amount of oil to opening gate slide to prevent sticking, and to ALL bearings. Do not over-oil. Store broadcaster upside down in a dry location. Quick disconnect battery lead may be left on Tractor for quick reinstallation.

IMPORTANT: Fertilizer Distribution Rates (shown on Chart) are affected by humidity and moisture content of material (granular and pellet), therefore, minor setting adjustments may be necessary to compensate for this condition.

*Spread width varies for different seed types used in lawn seed mixtures due to particle size and density

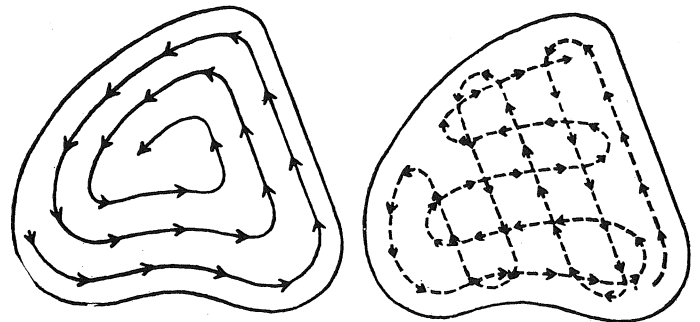
INSTRUCTIONS FOR HOMEOWNER USE

1. Determine amount of fertilizer or seed required for your yard.
2. With gate closed, set opening stop at number indicated in chart—light, medium or heavy application rate.
3. BREAK UP LUMPY FERTILIZER BEFORE FILLING HOPPER.

		*APPLICATION RATE		
		Light	Medium	Heavy
Fertilizer (Granular	3	4	5
	Pellated	5	6	7
Grass Seed (Fine (Bluegrass) (Red Top)	2	3	4
	Coarse (Rye Grass) (Fesque)	6	7	8

*Rate at which material is discharged

4. Drive tractor at moderate speed (2-3 MPH) in circular pattern maintaining 6-10 feet distance between circles for grass seed, granular fertilizer and 18-20 feet for pellated fertilizers as shown below in solid lines. For second trip over, drive half way between first paths in the same direction. Then change to crisscross pattern, shown by dotted lines. Continue spreading until hopper is empty. For more precise settings, refer to ratecharts in owner's manual.



CIRCULAR PATTERN CRISSCROSS PATTERN
CLEAN UNIT THOROUGHLY AFTER USE—
STORE IN DRY AREA.

weight. Therefore, for good even coverage of the lighter, more expensive seeds, use the narrowest spread width indicated, as a guide.

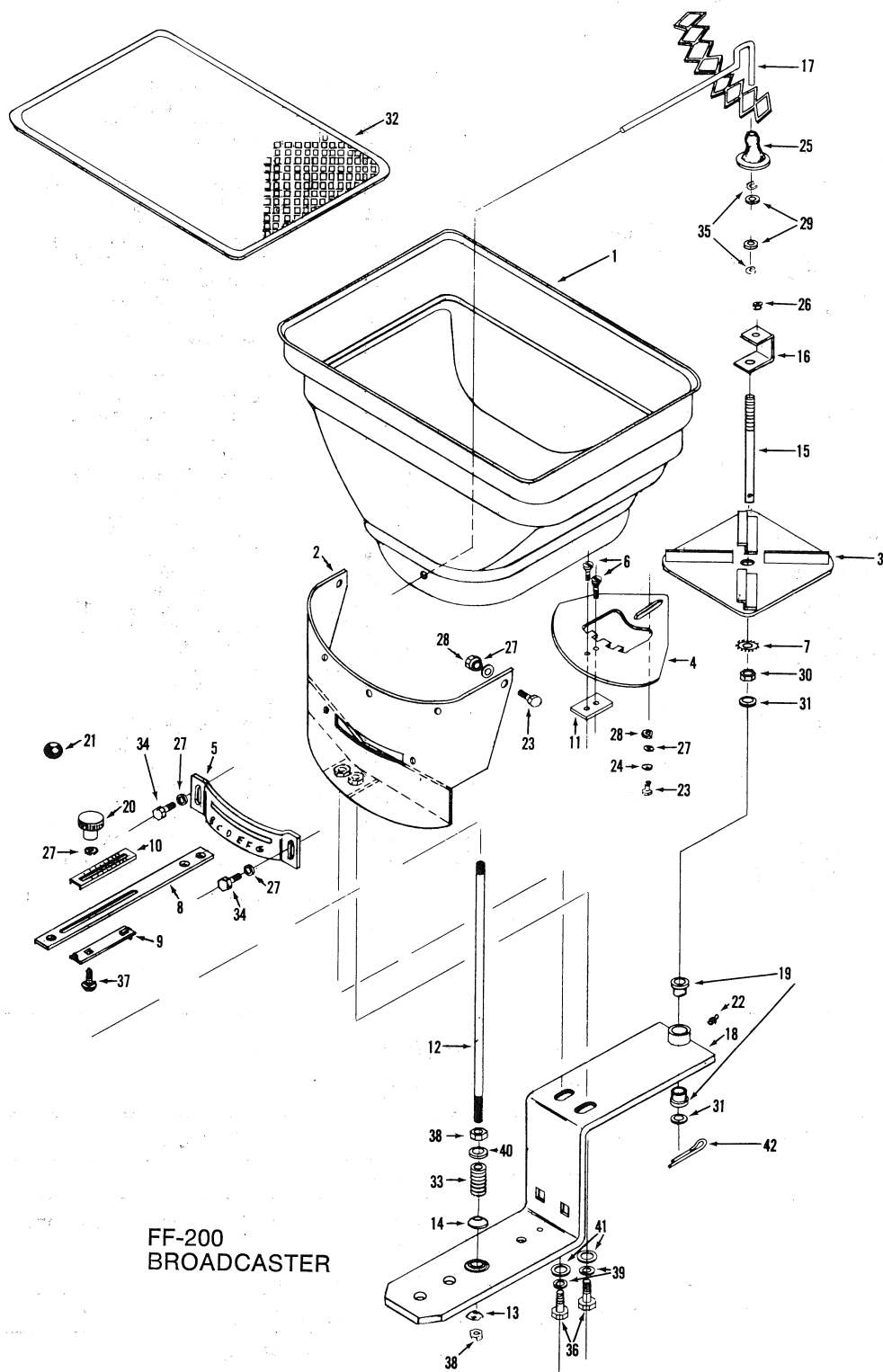
THE FOLLOWING RATE CHART IS FOR ELECTRIC DRIVE BROADCASTER MOTOR RUNNING IN "HI" SPEED POSITION.

SEED—continued									
MATERIAL TYPE	AVERAGE RECOMMENDED USAGE	TRACTOR SPEED MPH	GATE OPENING		FAN SPEED	SPREAD WIDTH	CENTER PLATE SETTING	AMOUNT OF MATERIAL DISCHARGED THRU OPENING IN ONE MINUTE Lbs.-Oz.	SEED
			TWICE OVER	ONCE OVER					
Good lawn seed mixture consisting of approx. 51% Blue Grass 35% Creeping Fescue 10% Chewy Fescue 4% Inert Matter	1#/500ft ²	2 3 4	4 2 4½ 3½ 5 4	8 4 9 7 10 8	Hi Lo Hi Lo Hi Lo	10'-12'	E	1-7 @ #4	
Quick Cover lawn mixture consisting of approx. 72% Rye Grass 11% Ky. Blue Grass 11% Creeping Fescue 6% Inert Matter	1#/500ft ²	2 3 4	6 6 6½ 6½ 7½ 8	12 12 13 13 13 8	Hi Lo Hi Lo Hi Lo	10'-14'	D	2-10 @ #6½	
Rye Grass	1#/500ft ²	2 3 4	6 6 6½ 6½ 7½ 8	12 12 13 13 13 8	Hi Lo Hi Lo Hi Lo	14'	D	2-10 @ #6½	
Blue Grass—Ky. Merion or Delta	1#/500ft ²	2 3 4	4 2 4 4½ 3½ 5 4	8 4 9 7 10 8	Hi Lo Hi Lo Hi Lo	10'	E	2-0 @ #4½	
Red Fescue	1#/500ft ²	2 3 4	6 7 7½ 7 8½ 7½	12 12 13 13 13 8	Hi Lo Hi Lo Hi Lo	12'	D	2-8 @ #7½	
Red Top	1#/500ft ²	2 3 4	3½ 3 4 4½ 3½ 4½ 4	7 6 8 7 9 8	Hi Lo Hi Lo Hi Lo	9'	F	1-7 @ #4	
Highland Bent	1#/500ft ²	2 3 4	4½ 3½ 5 4 6 7	9 7 10 8 12	Hi Lo Hi Lo Hi Lo	9'	F	1-12 @ #5	

NOTE: The Rate Chart was calculated for the Electric Drive Model Broadcaster. The fan speed is adjustable from approximately 600 RPM for "HI" down to about 200 RPM for the "LO" speed. The Rate Chart is calculated for these two extremes to give you maximum and minimum values for rates and spread widths. By varying the speed of the fan, you will obtain results between these tabulated values. A little experimentation with the Broadcaster will give you results that are best for your particular job.

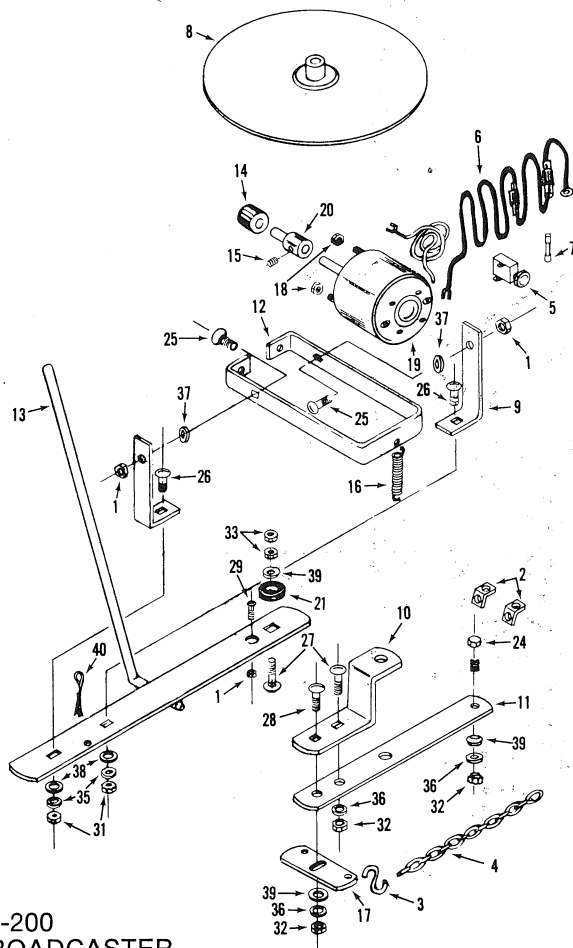
MOTOR SPEED	SETTING	WIDTH	PLATE SETTING	AMT/MIN	AMT/1000 ft ²		
					2 MPH	3 MPH	4 MPH
Hi	4½	20'	C	3-12	1-5½	0-14½	0-1
Hi	5	20'	C	6-9	2-5½	1-9	1-2
Hi	5½	20'	C	9-12	3-7½	2-5	1-12
Hi	6	20'	C	12-5	4-6	2-15	2-3½
Lo	4½	8'	D	1-13	1-10	1-1	0-13
Lo	5	8'	D	3-2	2-12½	1-13½	1-6½
Lo	5½	8'	D	4-6	3-14	2-9½	1-15

*No. 1 Grade
3/16"-1/4" Granule Size



FF-200
BROADCASTER

REF. NO.	PART NO.	DESCRIPTION	QTY.	REF. NO.	PART NO.	DESCRIPTION	QTY.
1	F-131	Hopper	1	22	F-204P	Lube Fitting	1
2	F-132	Hopper Support Assembly	1	23	F-205	Hex Head Screw — 1/4 x 3/4	6
3	F-136	Fan Assembly	1	24	F-221P	Spring Washer	1
4	F-140	Flow Control Gate	1	25	F-246	Grommet (Agitator)	1
5	F-143	Gate Control Bracket	1	26	F-247	Nylon Bearing	1
6	F-152	Flat Head Screw (#10 x 1/2)	2	27	F-248	Washer — 1/4	11
7	F-167P	External, Lock Washer (1/2)	1	28	F-249	Hex Lock Nut — 1/4	7
8	F-184	Gate Control Strap	1	29	F-250	Washer — 3/16	2
9	F-185	Stop Plate	1	30	F-252	Hex Jam Nut — 1/2	2
10	F-186	Calibrated Plate	1	31	F-253	Plain Washer — 1/2	3
11	F-187	Retainer Plate	1	32	F-255	Screen (Cover)	1
12	F-188	Gate Control Rod	1	33	F-256P	Compression Spring	1
13	F-190P	Pivot Ball	1	34	F-257P	Self Tapping Screw — 1/4 x 3/8	3
14	F-191P	Cupped Washer	1	35	F-286	Grip Ring (3/16)	2
15	F-192	Drive Shaft	1	36	1M1624P	Hex Bolt — 1/2 x 1 1/2	2
16	F-193	Agitator Clip	1	37	10M0808P	Carriage Bolt — 1/4 x 1 1/2	1
17	F-194	Agitator Assembly	1	38	30M1200P	Hex Nut — 3/8	2
18	F-197	Mount Bracket Assembly	1	39	40M1600P	Washer, Lock 1/2 Med	2
19	F-201	Bronze Bearing (1/2)	2	40	45M1313P	Plain Washer — 3/8	3
20	F-202	Torque Knob	1	41	45M1717P	Plain Washer — 1/2	2
21	F-203	Round Knob	1	42	50M0512P	Cotter Pin — 5/32 x 3/4	1



FF-200
BROADCASTER

REF. NO.	PART NO.	DESCRIPTION	QTY.
1	B-1673P	Nut, hex lock ¼	2
2	F-115	Clip, chain connector	2
3	F-116P	Hook, "S"	4
4	F-117P	Chain	2
5	F-151	Switch — 12V., push-pull	1
6	F-153	Harness, wiring — long	1
7	F-154	Fuse — 10 amp.	1
8	F-189	Assembly, traction plate	1
9	F-215	Bracket, motor mount	2
10	F-216	Adapter, coupler	1
11	F-217	Draw bar extension	1
12	F-228P	Bracket, motor housing	1
13	F-229	Assembly, handle	1
14	F-232	Bushing, drive	1
15	F-234	Screw, set #10-24 x ¼	1
16	F-235	Spring, motor tension	1
17	F-239	Strap, chain connector	1
18	F-263P	Nut, hex #8-32	2
19	F-274	Motor	1
20	F-275	Holder, drive bushing	1
21	T-119	Washer, rubber	1
*22	1M1020P	Bolt, hex 5/16 x 1 ¼	2
*23	1M1220P	Bolt, hex 3/8 x 1 ¼	2
24	1M1624P	Bolt, hex ½ x 1 ½	1
25	10M0812P	Bolt, carriage ¼ x ¾	2
26	10M1216P	Bolt, carriage ¾ x 1	2
27	10M1628P	Bolt, carriage ½ x 1 ¾	2
28	10M1632P	Bolt, carriage ½ x 2	1
29	20M0810P	Screw, rd. hd. ¼ x 5/8	1
*30	30M1000P	Nut, hex 5/16	2
31	30M1200P	Nut, hex ¾	4
32	30M1600P	Nut, hex ½	3
33	31M1600P	Nut, hex jam ½	2
*34	40M1000P	Washer, lock 5/16	2
35	40M1200P	Washer, lock ¾	4
36	40M1600P	Washer, lock ½	3
37	45M0909P	Washer, flat ¼ sae	2
38	45M1313P	Plain Washer ¾	2
39	45M1717P	Washer, flat ½ sae	6
40	50M0520P	Pin, cotter 5/32d x 1 ¼	1

*Use (as required) to mount F-115 Connector Clips (item 2) to tractor.

TROUBLE SHOOTING

FF-200 ELECTRIC DRIVE

POSSIBLE CAUSE OR CONDITION	REMEDY
MOTOR WILL NOT RUN	
1) Poor Ground 2) Blown Fuse 3) Tractor Battery Dead	1) Remove Paint and Corrosion from Connections 2) Replace 3) Replace or Recharge
DRIVE BUSHING NOT DRIVING FAN ASSEMBLY	
1) Oil or Grease on Traction Plate 2) Drive Bushing Worn Excessively 3) Fan Blade Assembly Binding	1) Clean Traction Plate 2) Reverse or Replace Bushing SEE BELOW
FAN WILL NOT SPIN FREELY	
1) Needs Lubrication 2) Improper Adjustment 3) Agitator Not Centered with Hole in Hopper	1) Lubricate 2) Readjust Jam Nuts in Center of Fan Blade 3) Remove Agitator Grommet; loosen Hopper Assembly Mounting Bolts and Center Hopper Assembly over Agitator
CAUTION!	
ALWAYS START FAN MOTOR BEFORE OPENING GATE	ALWAYS CLOSE GATE BEFORE STOPPING MOTOR