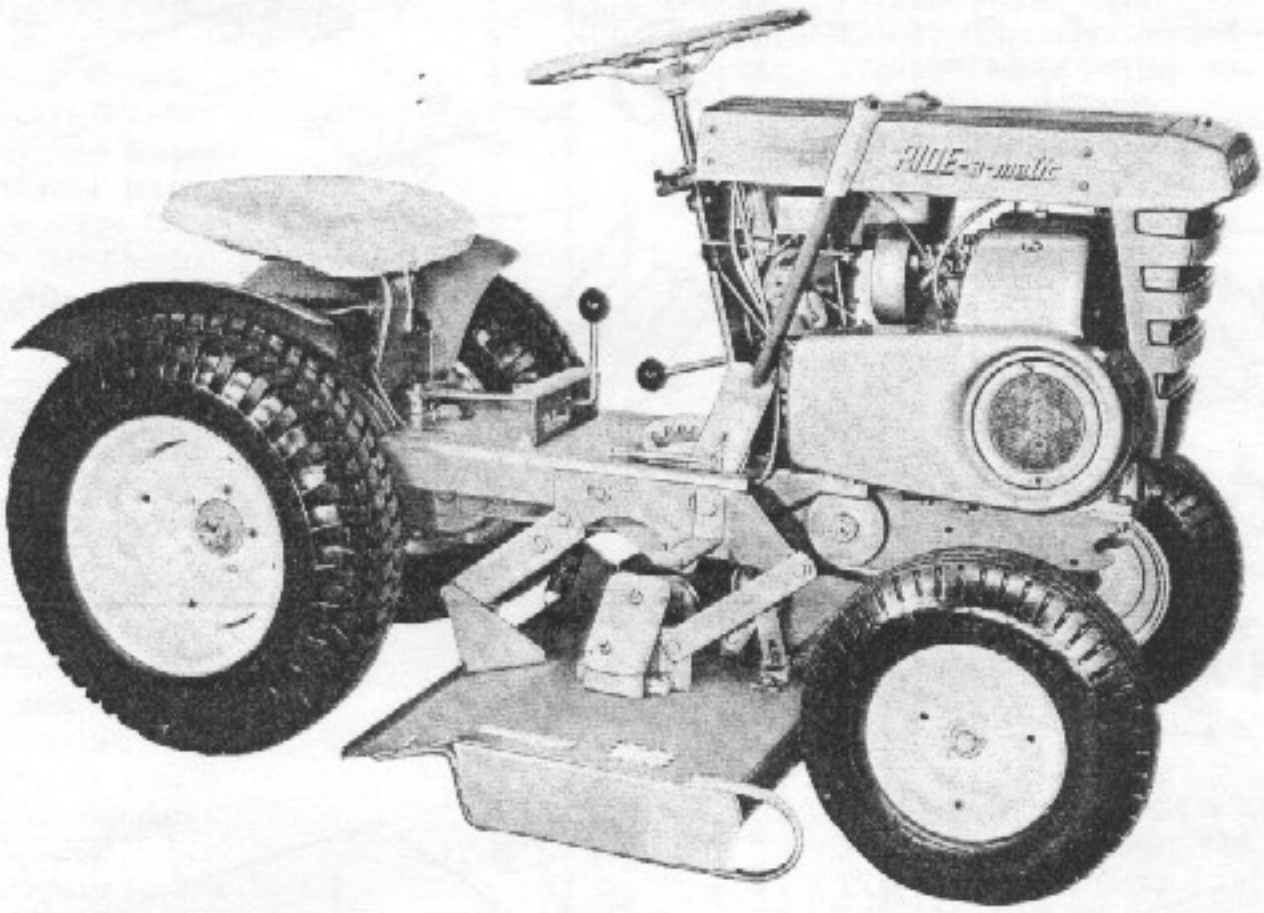
Owner Manual with Parts List

BOLENS
ROTARY MOWERS
TYPE 22445-01



To attach the 22445 center mounted mower to Model 231 and 232 tractors, a Model 23855 shaft and bearing kit must first be installed on the tractor. Separate installation instructions are included with kit.

INSTALLATION

(1) Loosen wing nuts of tractor belt guard and swing guard outward. Position pulley (Ref. 56) so the centering plug is seated in engine sheave, align holes and secure with washers and capscrews. (Ref. 58 and 30)

(2) Insert the threaded end of support stud (Ref. 49) through the lower hole located on the left side of tractor frame between the front axle and countershaft. Secure stud with lockwasher and lock nut.

(3) Mount the lower end of idler assembly to support stud by placing bracket (Ref. 50) over stud and securing with spring cotter. Position center hole in upper idler link (Ref. 55) over pin on upper front of tractor idler arm and secure with spring cotter.

(4) Insert woodruff keys into slots in ends of tractor countershaft, install pulleys (Ref. 40 and 60) with hubs outward and secure with set screws. The countershaft has the letter "R" stamped on the end of the shaft. If the shaft is removed for any reason be sure to reinstall with the letter "R" on the right hand side of tractor.

NOTE

There is a slight difference in the width of grooves of the two pulleys. The pulley with the widest groove is for the "B" belt from the mower and must be on the right end of tractor countershaft.

(5) Install drive belt (Ref. 57) from pulley previously mounted on engine sheave to left pulley on tractor countershaft. The mower idler pulley must be inside the drive belt.

(6) Remove tractor foot rests. Place mower beneath tractor with mower drive pulley to the right. Position large slotted holes in mower hangers over studs

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BOLENS PRODUCTS DIVISION
Food Machinery & Chemical Corporation
Port Washington Wisconsin

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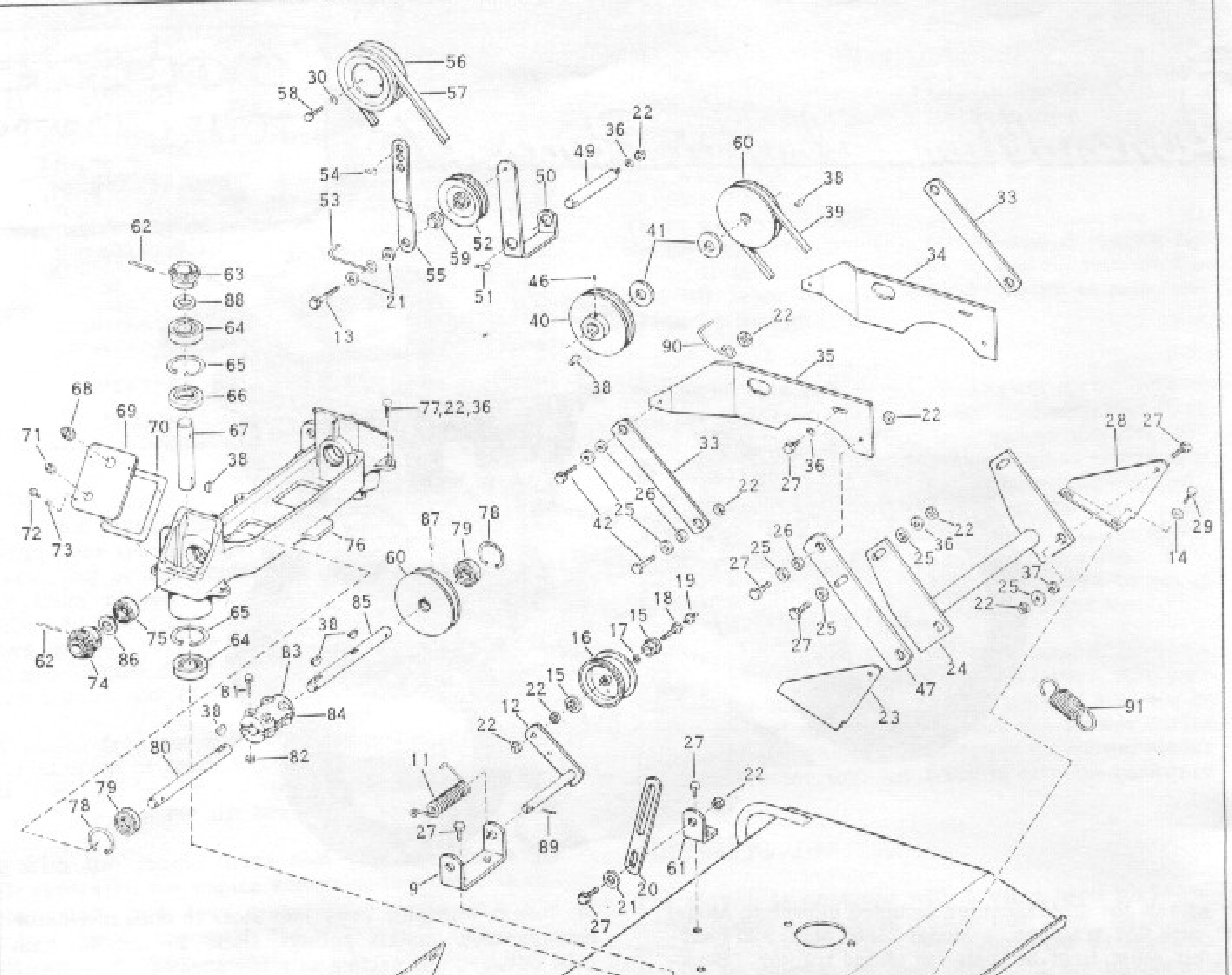
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Figure 1

ROTARY MOWER

Ref. No.	Part No.	Description	No. Req'd.
1	1103380	Capscrew 7/16-12 x 1-1/4	2
2	1100244	Lockwasher 7/16	2
3	1712597	Cutter Blade L. H.	1
4	1712686	Drive Hub	2
5	1707559	Flat Washer	2
6	1711920	Wave Washer	2
7	101221	Thrust Washer	2
8	1712671	Mower Base	1
9	1711821	Bracket	1
10	1712685	Front Shield	1
11	1711915	Spring	1
12	1711837	Idler Bracket	1
13	1106932	Capscrew 3/8-16 x 2	1
14	1107382	Flat Washer 5/16	4
15	1185045	Ball Bearing	2
16	1703081	Idler Pulley	1
17	1104008	Serrated Washer 3/8	1
18	1703739	Idler Bolt	1
19	1104957	Grease Fitting	1
20	1711911	Lift Bracket	1
21	1107383	Flat Washer 3/8	4
22	1110108	Lock Nut 3/8-16	22
23	1708614	Bracket - L. H.	1
24	1712665	Parallel Arm	1
25	1708755	Flat Washer	8
26	1708754	Spacer	6
27	1106919	Capscrew 3/8-16 x 1	14
28	1708613	Bracket - R. H.	1
29	1106874	Capscrew 5/16-18 x 3/4	4
30	1100242	Lockwasher 5/16	7
31	1110107	Lock Nut 5/16-18	4
32	1712598	Cutter Blade - R. H.	1
33	1708720	Arm	2
34	1708625	Hanger - R. H.	1
35	1708626	Hanger - L. H.	1
36	1100243	Lockwasher 3/8	13
37	1712523	Spacer	2
38	1104436	Woodruff Key 3/16 x 3/4	7
39	1108544	Belt 35"	1
40	1708624	Pulley	1
41	1708012	Flat Washer	2
42	1106923	Capscrew 3/8-16 x 1-1/4	3
43	1106832	Capscrew 1/4-20 x 5/8	5
44	1107381	Flat Washer 1/4	5
45	1100241	Lockwasher 1/4	5
46	1185554	Set Screw 5/16-18 x 3/8	4
47	1712666	Parallel Arm	2

Ref. No.	Part No.	Description	No. Req'd.
48	1110106	Lock Nut 1/4-20	5
49	1711822	Stud	1
50	1711823	Idler Arm	1
51	135035	Spring Cotter	1
52	1710567	Idler Pulley	1
53	1711921	Belt Guide	1
54	1703011	Spring Cotter	1
55	1712684	Idler Link	1
56	1708008	Pulley	1
57	1711916	Belt 39"	1
58	1106882	Capscrew 5/16-18 x 1-1/4	3
59	1711914	Spacer	1
60	1713055	Pulley	2
61	1711912	Bracket	1
62	1185533	Drive Pin	4
63	1711826	Bevel Gear	2
64	1703974	Ball Bearing	4
65	1113528	Retaining Ring	4
66	1708455	Oil Seal	2
67	1711828	Blade Shaft	2
68	1706566	Breather Plug	2
69	1708463	Cover	2
70	1708464	Gasket	2
71	1105620	Filler Plug	2
72	1118172	Screw 10-24 x 5/8	8
73	1100240	Lockwasher #10	8
74	1711827	Bevel Gear	2
75	1708456	Ball Bearing	2
76	1711829	Gear Housing	1
77	1106927	Capscrew 3/8-16 x 1-1/2	6
78	1118730	Retaining Ring	2
79	1708454	Oil Seal	2
80	1711824	Transmission Shaft - L. H.	1
81	1103201	Capscrew 5/16-18 x 1-3/4	4
82	1110107	Lock Nut 5/16-18	4
83	1710064	Coupling - Keyed	1
84	1710063	Coupling - Plain	1
85	1712678	Transmission Shaft - R. H.	1
86	1709224	Washer	As Req.
	1701446	Shim	As Req.
87	1103466	Set Screw 5/16-18 x 3/8	2
88	1800338	Shim - .015" Thick	As Req.
	1800751	Shim - .005" Thick	As Req.
89	1100356	Spring Cotter 3/32	1
90	1713084	Belt Guide	1
91	1712525	Spring	2

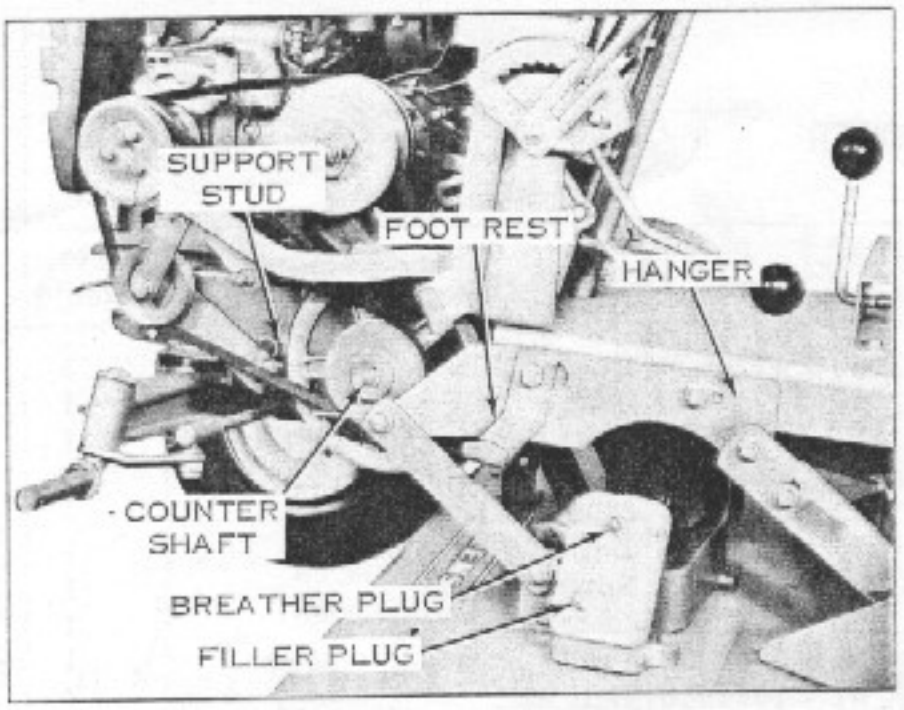

Figure 2

on tractor frame located directly behind foot rests. Secure rear end of hangers to tractor frame with capscrews but do not tighten completely. Install drive belt from mower drive pulley, over belt tightener pulley, to pulley on right end of tractor countershaft. Move hangers back on tractor frame as far as possible and tighten capscrews in rear of hangers. Replace tractor foot rests.

(7) Attach free end of mower lift bracket (Ref. 20) to arm in front of tractor tool lift lever with capscrew and lock nut but do not tighten completely so as to allow clearance for lift bracket to slide in the slot.

(8) With the engine drive belt engaged, adjust the belt guides on the engine sheave so that there is approximately 1/4 inch clearance between belt and guides. Next, disengage the drive belt and adjust belt guide on idler assembly. When correctly positioned, the belt will be free from drag but still remain aligned with idler pulley.

(9) There are two leveling adjustments. With the mower raised approximately 1 inch off the floor adjust right and left hand brackets (Ref. 23 and 27) to level the cutting unit from front to rear. Then loosen the bolts in the slotted holes of the parallel arms, level the mower unit from side to side and retighten bolts.

OPERATION

Be sure the mower is disengaged before starting the engine. FOR BEST CUTTING RESULTS IN AVERAGE CONDITIONS THE ENGINE SHOULD BE RUN AT FULL THROTTLE TO MAINTAIN SUFFICIENT BLADE SPEED. For light or medium cutting the tractor can be set in the high speed range. For heavier cutting, or when the engine begins to lag in high range setting, the tractor speed should be changed to the low range setting. The Versa-matic control lever should be used to control ground speed to obtain clean cutting. The mower will not cut clean when the ground speed is too high or when the blade speed drops.

CAUTION: BEFORE USING MOWER, REMOVE STONES, WIRE, ETC. FROM AREA TO BE MOWED. BE SURE TO AVOID STRIKING PROTRUDING OBJECTS SUCH AS PIPES, ROOTS, EARTH MOUNDS, ETC. WITH CUTTING BLADE AS THIS COULD RESULT IN DAMAGE TO THE MOWER. NEVER PLACE HANDS OR FEET UNDER MOWER HOUSING WHEN ENGINE IS RUNNING.

There are two controls for operating the mower: (1) the belt tightener lever on the left side of tractor for engaging and disengaging the mower blades; (2) the tool lift lever on right side of tractor to raise and lower the mower.

The right side belt is under constant spring tension and the tightener pulley is only to absorb belt slack when the mower is raised to a higher operating position. If, after use, the belt stretches adjustment should be made by moving both mower hangers backward on the tractor frame. When the belt is too loose, the idler bolt will strike the tractor frame when mower is raised reducing belt tension. Tension of the engine drive belt is adjusted by use of the three holes in upper link of mower idler assembly.

The height of cut is regulated by raising or lowering the mower with the tractor tool lift lever. The purpose of the mower runners is to prevent scalping on uneven ground and not to support the mower during operating. To transport, disengage the mower blades and lock tractor tool lift lever in extreme backward position.

CUTTING BLADES

The mower is designed with a right hand blade rotating counterclockwise and a left hand blade rotating clockwise which are assembled at approximately 90 degrees to each other. If the blades are removed for sharpening or replacement, be sure they are correctly reinstalled in regard to direction of rotation and relative position to one another. Be sure the blades are mounted securely.

Maintaining sharp cutting edges on the blades will always give best cutting results by cutting the grass blades instead of beating them off. When sharpening blades be sure to grind equal portions off both ends of blade to maintain a balanced blade as an unbalanced blade will cause excessive vibration. Before replacing blades, check balance by centering the blade on a straight edge.

LUBRICATION

Each gear housing cover is equipped with an upper breather plug and a lower oil filler plug. The gear housings are filled at the factory to level of filler plug hole with SAE #90 gear lubricant. Check oil level before using mower and regularly thereafter. Maintain oil level to filler plug holes at all times. Lubricate grease fitting on belt tightener pulley with pressure gun grease. Lubricate all linkages with light oil to insure free movement at all moving joints.