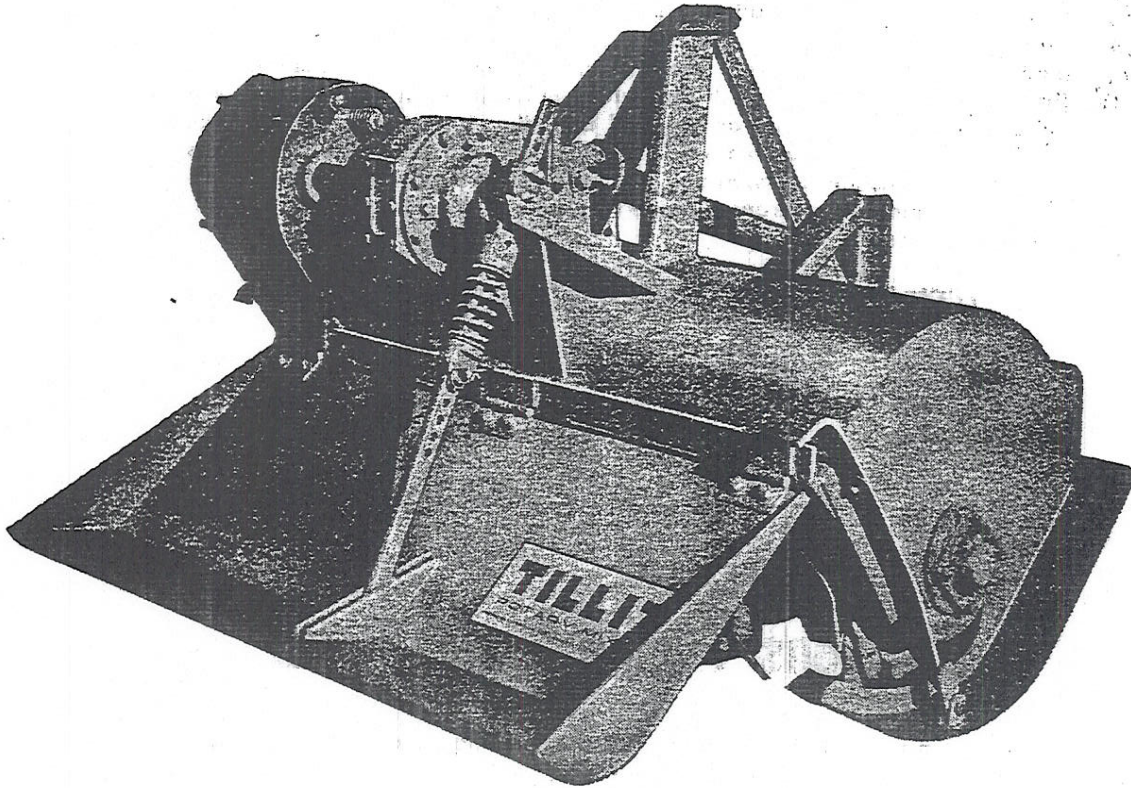


TILLIT ROTARY MIXER



Models

480M (A250-118 48" Offset)
600M (A250-117 60" Offset)

480CM (A260-120 48" Center Mount)
600CM (A250-119 60" Center Mount)

INSTRUCTION MANUAL and SERVICE PARTS LIST

UTILITY TOOL AND BODY CO., INC.

CLINTONVILLE, WISCONSIN, U. S. A.

PHONE 715/823-3167

Guarantee

For ninety days from date of shipment, Utility Tool and Body Co., Inc., will replace for the original purchaser, free of charge, any part or parts, found upon examination at our factory, transportation charges prepaid, to be defective under normal use and service, on account of defects in material or workmanship. It is not effective if the machine has been subjected to misuse or accident. Charges for service, labor or other expense that have not previously been authorized and approved will not be accepted. We guarantee accessories furnished by other manufacturers used in the machine to the extent of the guarantee of such manufacturer. If the purchaser shall use or allow to be used in the machine parts not made or supplied by Utility Tool and Body Co., Inc., then this guarantee shall become void. Utility Tool and Body Co., Inc., does not undertake any responsibility to any purchaser of its products for any undertaking, representation, or guarantee made by dealers selling its products beyond those herein expressed.

UTILITY TOOL AND BODY CO., INC.

151 East 16th Street
CLINTONVILLE, WIS., 54929
U. S. of A.

Instructions For Ordering Parts

This manual includes operation and maintenance instructions and complete repair parts information.

To help in locating repair parts, each parts illustration has a descriptive title and a numerical reference list of the parts shown in the illustration. In the parts list under the first column headed "Item" is the numeral found in the illustration, pointing out a particular part of the assembly. The second column headed "Part Number" lists the number of that part. This is the number which should be used when ordering parts. The third column headed "Required," is the quantity of that particular part used in a normal assembly. The description of the part should always accompany the part number when ordering parts.

"Right" and "Left" is determined by standing behind the Tiller in its normal working position and looking forward toward the tractor.

When ordering parts always specify the Model and Serial Number stamped on the Utility Tool and Body Company name plate.

Furnish complete description and number of parts

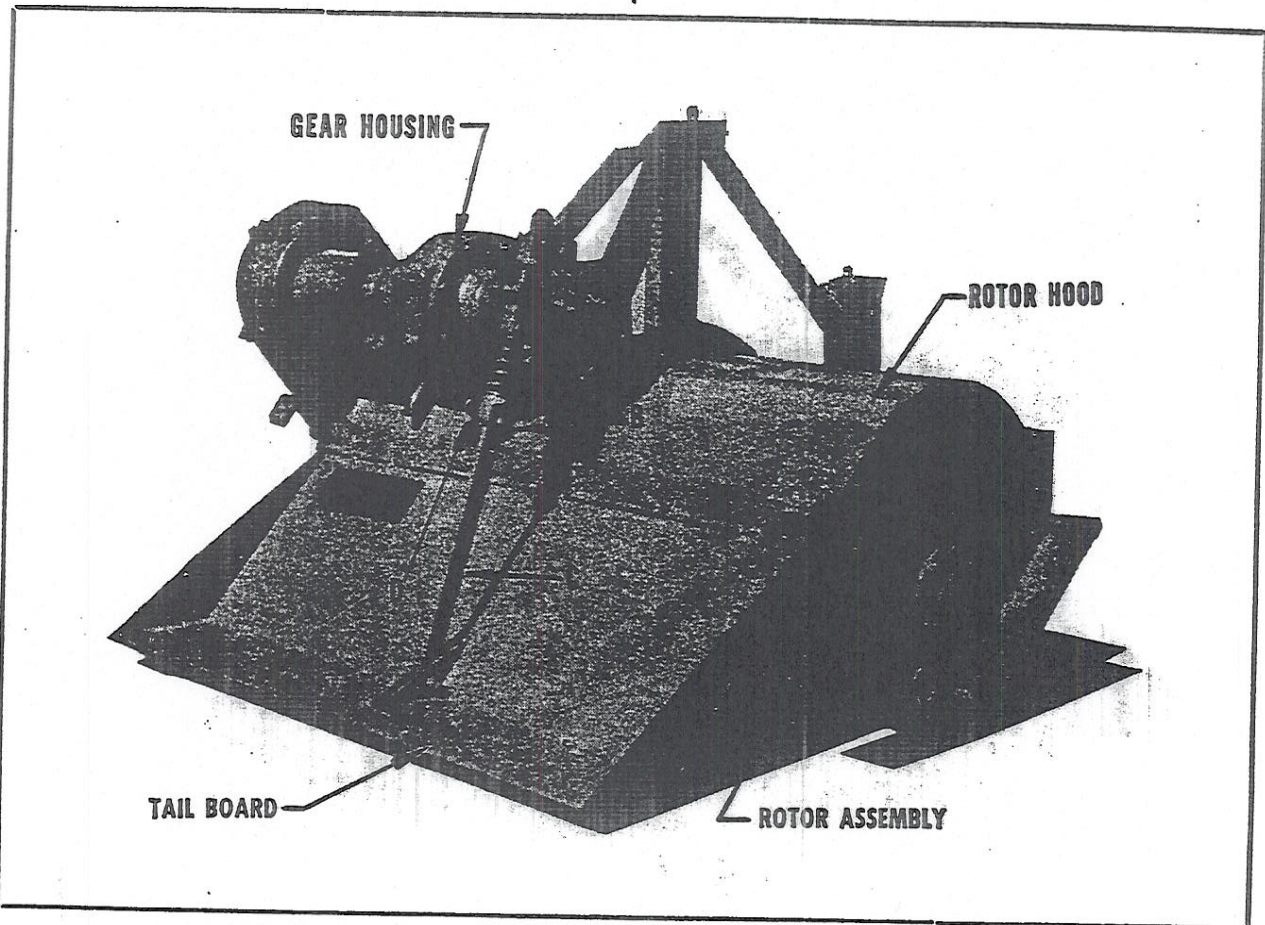
wanted, using names and part numbers found in the parts list.

Give exact shipping instructions such as how to ship, name and address. Confirm telephone and telegraph orders by letter or purchase order. Unless claims for shortages and errors are made immediately upon receipt of goods, claims may be difficult to satisfy.

When damaged goods are received, a full description of the damage should be made by the carrier agent on the freight bill. If the description is insisted upon, damages may be collected from the transportation company.

All prices are subject to change without notice. All prices are F.O.B. our factory. In case of price changes, orders will be filled at current prices.

Utility Tool and Body Company reserves the right to make changes or improvements on its products without incurring any liability or obligation whatsoever and without being required to make corresponding changes or improvements on products heretofore manufactured or sold.



MOUNTING INSTRUCTIONS. The Tillit Rotary Mixer is designed to mount on all tractors with either Category I or Category II three-point type hitch, or can be used as a trailer model by attaching the caisson trailer to the tiller.

The first step in mounting the tiller to the tractor is to stand the tiller in the proper position on level ground. The tailboard and its adjusting arm act as a convenient prop to accomplish this positioning. Prop the tiller so that the "A" frame is approximately perpendicular to the ground and then remove pins from hitch clevises.

Now, back the tractor up to the tiller, aiming the lift arm into the hitch clevises. Now, hitch the tiller through one of the top three holes in the hitch clevises. Next, hitch the top arm (3rd arm) on the tractor into the "A" frame clevis. At this point the U-joint shaft assembly can be attached to the tractor and tiller.

Important. Now raise tiller and adjust top arm or set hydraulic control lever stop so U-Joint will not hit channel section of hood front when tiller is raised. This adjustment is important to protect the U-Joint assembly from damage on some tractors.

OPERATING INSTRUCTIONS. The most important factors that govern the operation of the Tiller are the available horsepower and forward speed of the tractor. A slow speed of around 2 to 3 miles per hour with the tractor at about 2/3 to 3/4 throttle is usually best for sod, heavy soil, and

rough stony fields. As tractor gearing and horsepower varies with different makes and models, trials in various gears and throttle settings will determine the most efficient operation on various soils.

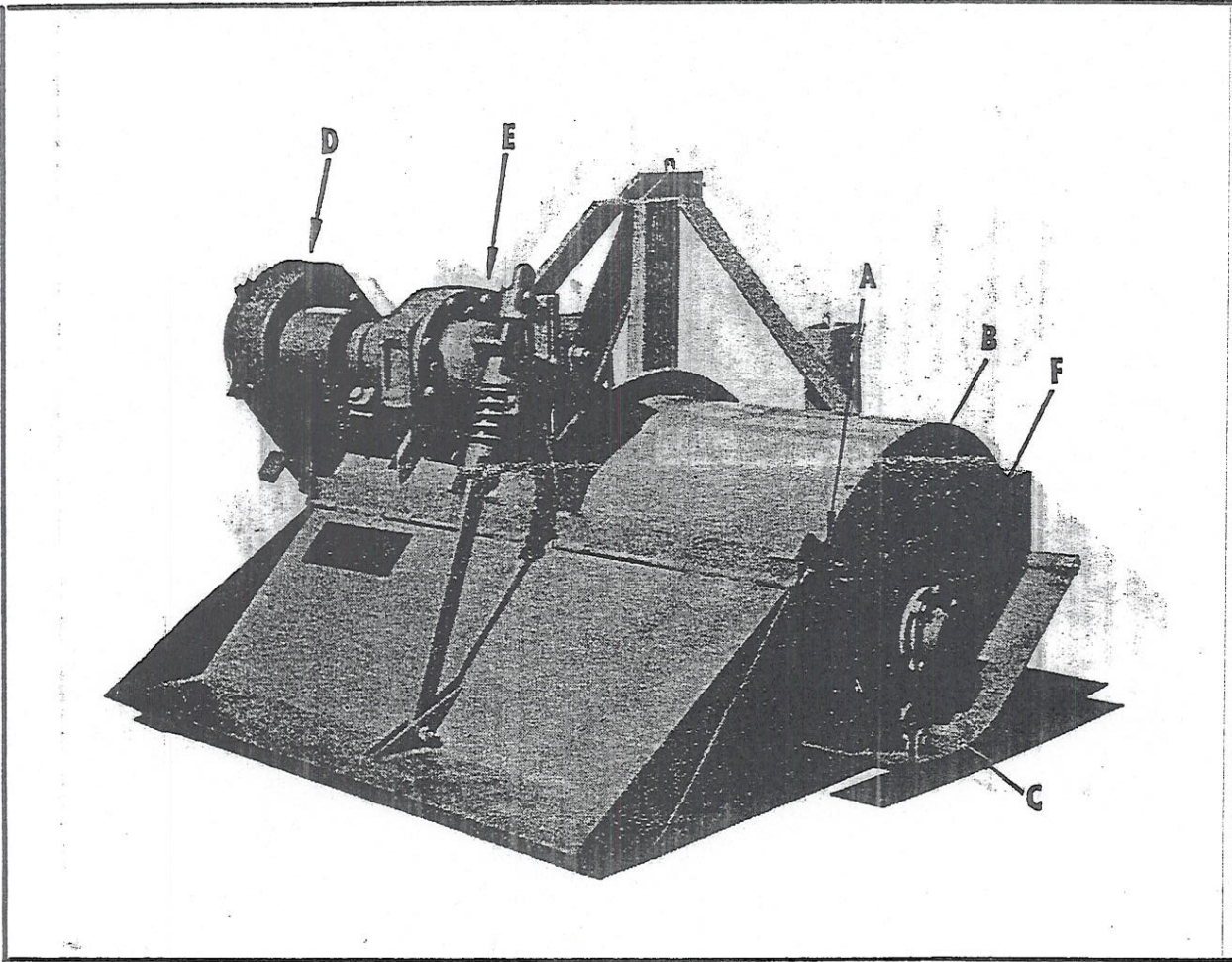
The greater the depth of tillage, the greater the power requirement. When tilling heavily compacted soil, more than one tilling may be required — the first pass with tiller set at shallow depth and next at a greater depth.

Do not make short turns with tiller in the ground. Short turns should be made only with tiller raised so rotor clears the ground. To work sharp corners, back in and till out in a straight line.

TAIL BOARD ADJUSTMENT: The Tillit may be operated with the hood board in any desirable position from fully open to fully closed. To open or close the tail board, remove the two spring pins "D", and the two locking pins "A", in above illustration, and move the cast caps and spring "B" up or down to the desired position and re-pin the caps to the hood bar "C", through the adjusting holes provided.

The tail board in the open position is usually used when the soil is to be aerated, tilled coarse or to deposit undesirable vegetation on the surface of the soil.

The tail board in the intermediate position is used for medium tillage and when fully closed will produce a fine tillage.



DEPTH SHOE ADJUSTMENT: To adjust depth shoes "C", (see above illustration) remove spring pins "B", and move the depth shoe adjusting arm "A" to the desired hole. The higher the adjusting arm is set the deeper the tine penetration. To obtain desired depth, it may be necessary to make various trial settings.

LUBRICATION. Below are the recommended lubrication instructions for the various parts on the tiller that require frequent or periodic lubrication or inspection.

D. Chain Case: Check the chain case lubricant daily at the check level plug with the tiller in operating position. If low, fill to proper level using SAE 140 EP (extreme pressure) gear oil. The gear oil in the chain case should also be changed every 200 hours of operation. To drain, remove chain case cover.

E. Gear Housing: The gear housing should be checked daily for sufficient lubricant and if low, brought to proper level of check plug, using SAE 140 EP (extreme pressure) gear oil. The gear housing lubricant should be changed every 200 hours of operation.

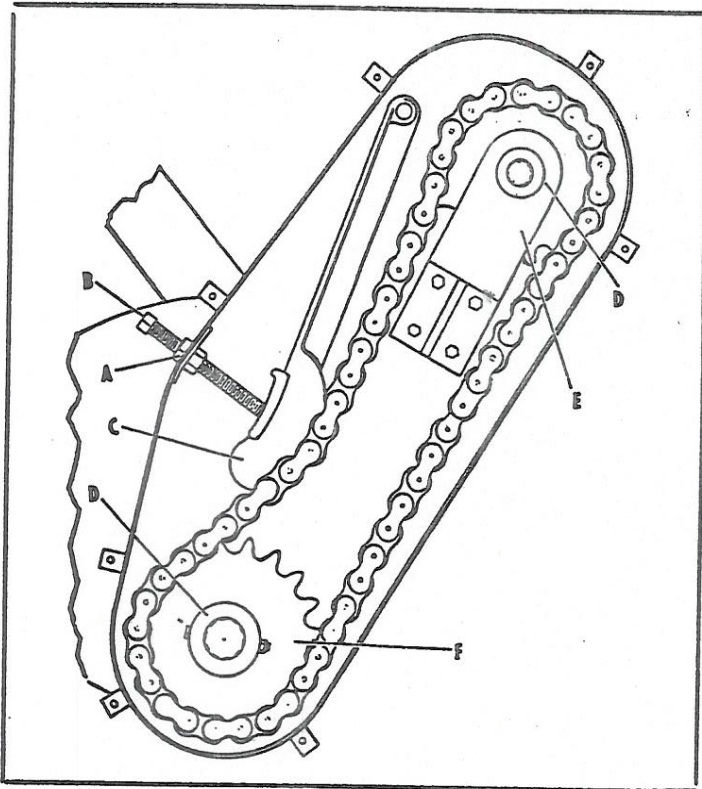
F. Universal Joint Assemblies: The three grease fittings on the universal joint assemblies should be greased weekly or every 50 hours with a good grade of pressure gun grease.

G. Rotor Shaft and Cross Shaft Bearings: The left hand rotor shaft bearing and the cross shaft bearing are located in the chain case and require only periodic lubrication. These bearings should be greased when the chain case cover is removed to change the lubricant every 200 hours. The right hand rotor shaft bearing should be lubricated weekly with a good grade of pressure gun grease. Be sure to rotate the rotor shaft while greasing rotor bearings.

NOTE: IMPORTANT

The rotor shaft bearings and cross shaft bearing are triple-sealed and should be greased with a low pressure grease gun. Do not over-grease, as damage to the seals will result.

General. A daily inspection to insure that all nuts are tightened is recommended.



ROLLER CHAIN. The proper chain tension is set at the factory. However, about every 50 hours of operation the chain tension should be checked for the recommended $\frac{1}{2}$ " of slack. To check and adjust the chain, remove all but the bottom two capscrews holding the chain case cover and tip the upper part of the cover out. Now adjust the roller chain with the outside adjusting chain tightener and check for proper tension.

If for some reason the sprockets must be removed, we suggest the following procedure. Refer to illustration at left.

1. Remove the chain case cover, being sure to have a container below the chain case to receive the chain case oil.
2. Remove the nut "A" and set screw "B" on the chain tightener "C" and remove the chain tightener.
3. Remove bearing support bracket.
4. Pull sprockets "E" and "F" off splined shafts.
5. Reassemble in reverse, making sure the chain has at least $\frac{1}{2}$ " slack. To tighten or loosen chain, adjust with set screw "B", and lock chain tightener in place with nut "A".

Tine Mounting Instructions

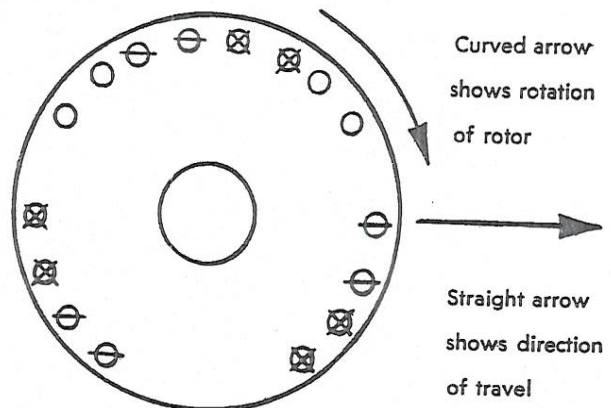
Be sure to mount the tines according to instructions given on this page. Proper mounting will result in the unique spiral arrangement of the tines which provides constant tine-ground contact and results in a smooth, shock-proof tillage operation.

TILLIT Rotary Mixers are shipped from the factory with the tines and universal joints unmounted. The reason for shipping tillers with certain parts unmounted is to save TILLIT Rotary Mixer purchasers money in lower freight costs. The cost of shipping a completely assembled TILLIT Rotary Mixer is considerably higher than for shipping one that is "partially knocked down."

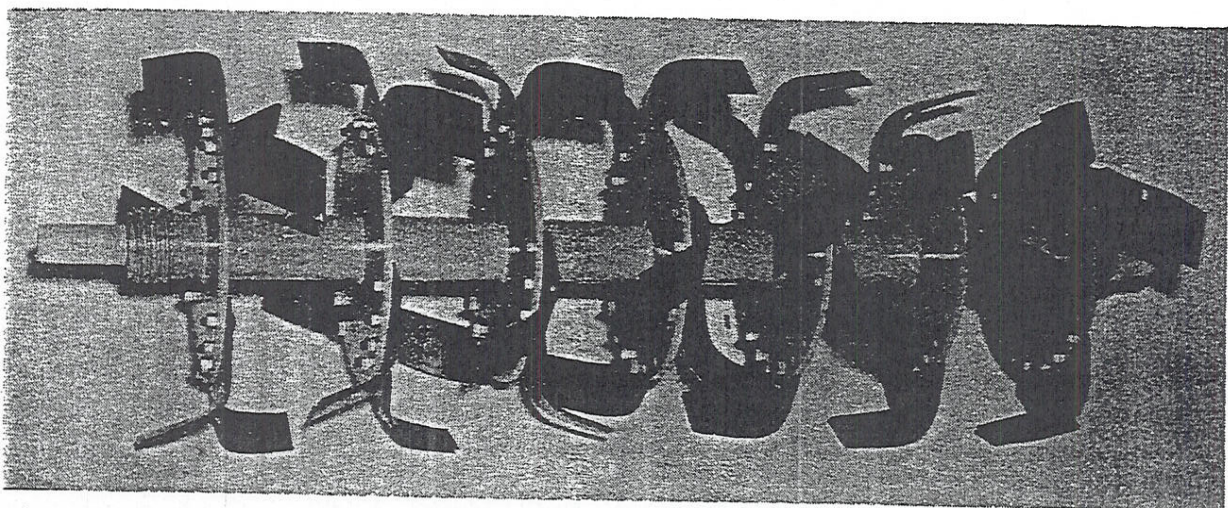
Since all TILLIT Rotary Mixers are sold f.o.b. factory, the shipping costs are borne by the purchaser, who we feel would prefer to mount the unmounted parts rather than pay the additional freight costs which would be involved in shipping a completely assembled unit.

We are sure you will encounter no difficulty in mounting the universal joints. However, to make sure the tines are properly mounted we suggest that you follow the tine mounting instructions given on this page.

6-Tine Rotor (6 tines per tine plate)



1. Install 3 left hand tines, (part No. 33C65 or 121049) on each tine plate in the holes marked X as shown in the above drawing.
2. Next, install 3 right hand tines (part No. 33C66 or 121050) on each tine plate in the holes marked with a horizontal line (→) as shown in the above drawing.
3. After all tines have been installed, recheck to make sure all bolts are tight. After the tiller has been operated for an hour or two for the first time, the bolts should be tightened again.



When standing at the rear of the tiller and looking forward to the front, all tines should be

mounted on the right hand side of each tine plate as shown in photo above.

REPAIR PARTS SECTION

(TILLIT)

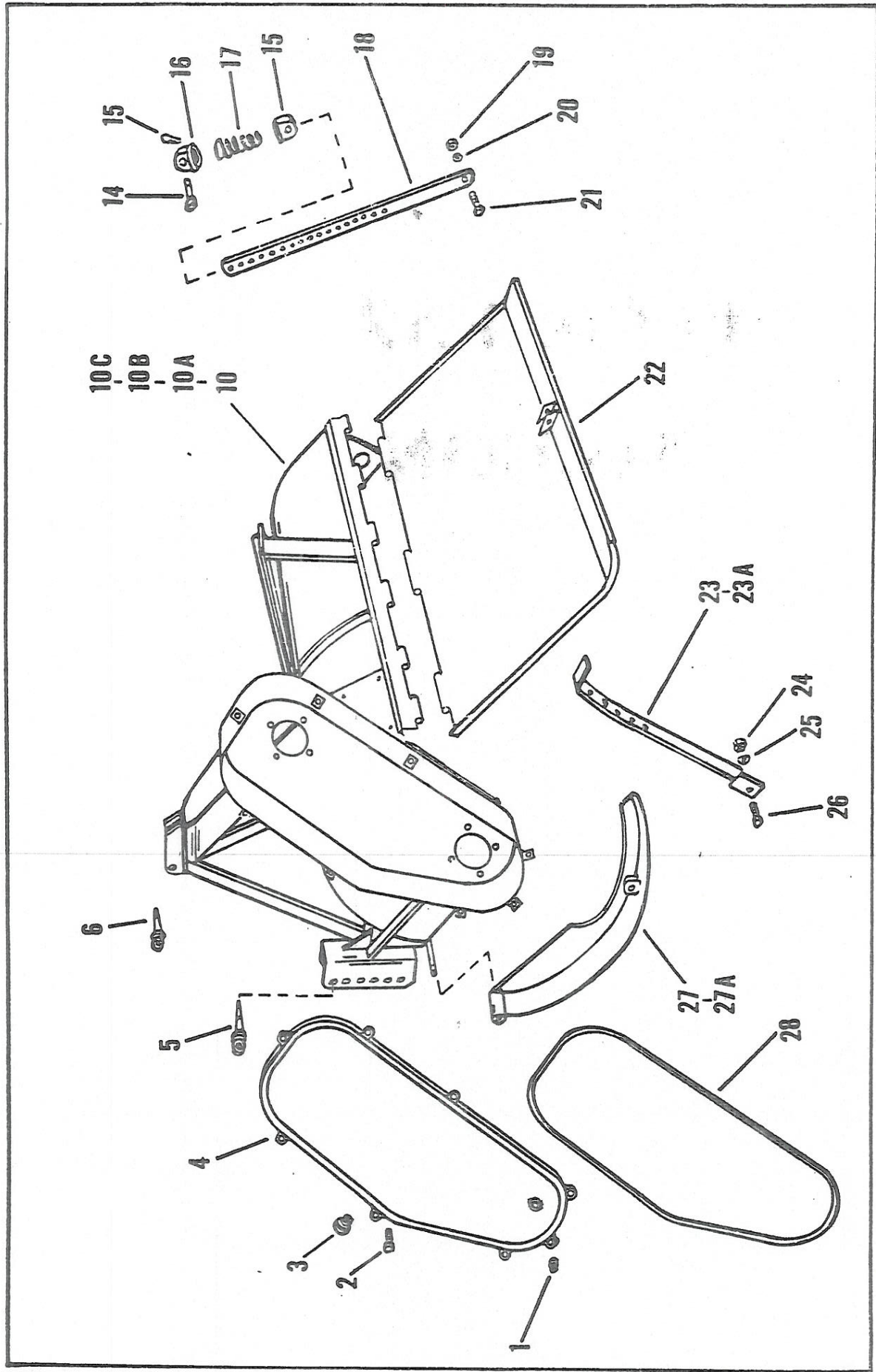
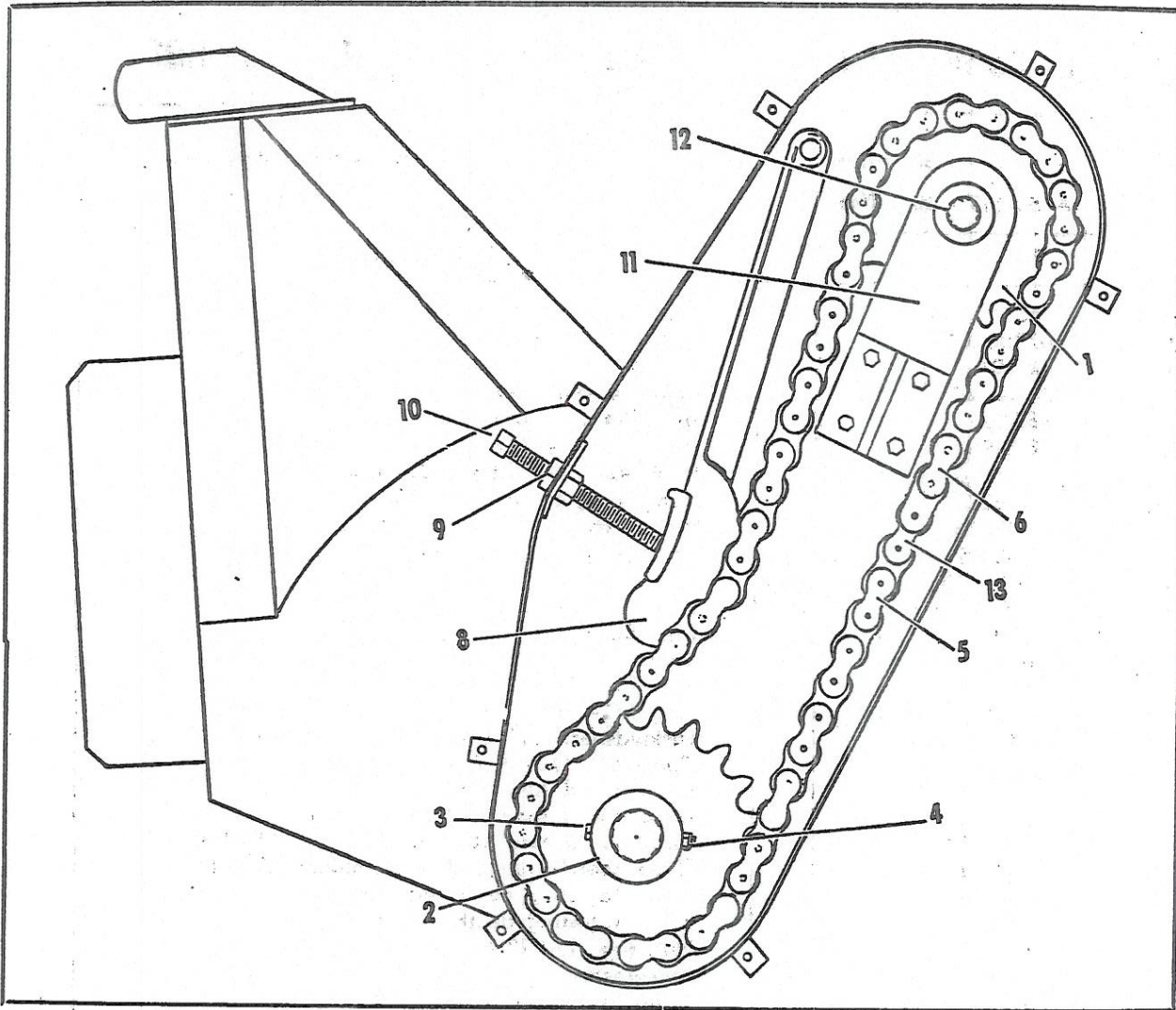


Figure 1. Rotor Hood and Chain Case

Figure 1. Rotor Hood and Chain Case for Models 480 and 600

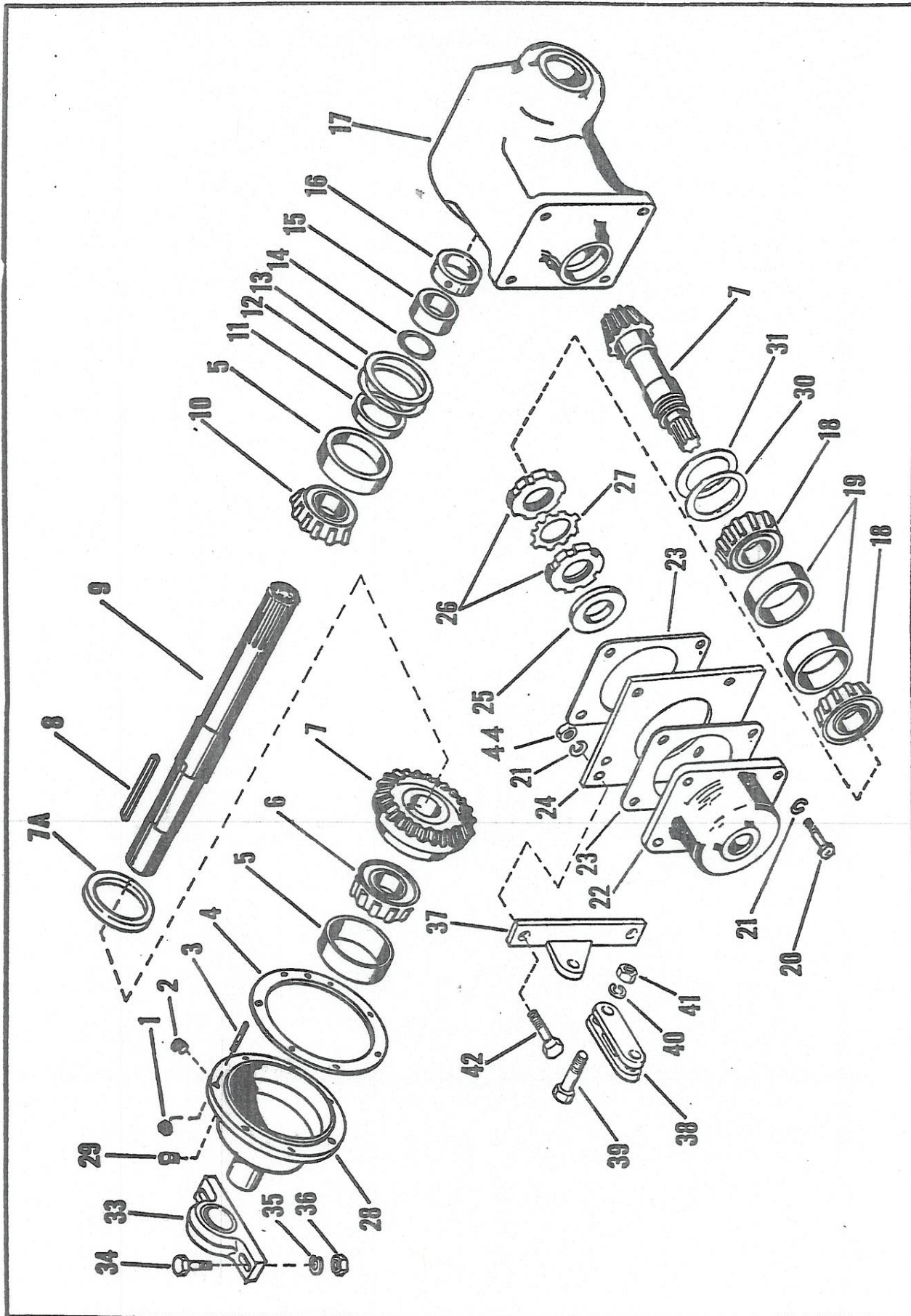
A250-118 - 48" offset		A250-120 - 48" center mount	
A250-117 - 60" offset		A250-119 - 60" center mount	
ITEM	PART NO.	REQ.	DESCRIPTION
1	665C03160	1	Pipe Plug, 1/2" N. P. T.
2	673B01019	8	Capscrew, 5/16-18NC x 1-3/4"
3	68-104	1	Breather, Chain Case
4	A68C220	1	Cover, Chain Case
5	48A291	2	Hitch Pin, 7/8" dia
6	48A290	1	Hitch Pin, 3/4" dia
10	A24E236	1	Hood Assy, 48" offset A250-118
10A	A24E225	1	Hood Assy, 60" offset A250-117
10B	A24E226	1	Hood Assy, 48" center mount A250-120
10C	A24E227	1	Hood Assy, 60" center mount A250-119
14	648C01136	2	Pin, drilled
15	30-62	7	Pin, spring locking
16	83A4	2	Cap, Spring
17	30A30	1	Spring
18	54A2009	1	Bar, Adjusting
19	666B01005	1	Nut, 1/2-13NC
20	664B02017	1	Lockwasher, 1/2" Med.
21	673B01073	1	Capscrew, 1/2-13NC x 1-3/4"
22	A24D235	1	Hood board Assy, 48" offset A250-118
22A	A24D232	1	Hood board Assy, 60" offset A250-117
22B	A24D230	1	Hood board Assy, 48" center mount A250-120
22C	A24D231	1	Hood board Assy, 60" center mount A250-119
23	A51C101	1	Arm, Adjusting depth shoe LH
23A	A51C100	1	Arm, Adjusting depth shoe RH
24	666B01005	2	Nut, Hex, 1/2-13NC
25	664B02017	2	Lockwasher, 1/2"
26	673B01073	2	Capscrew, 1/2-13NC x 1-3/4"
27	A51C99	1	Depth shoe RH
27A	A51C98	1	Depth shoe LH
28	15A97	1	Gasket, Chain case



**Figure 3. Sprockets Chain and Chain Tightener
for Models 480 and 600**

ITEM	PART NO.	REG.	DESCRIPTION
1	81B128	1	Sprocket, 16 tooth
2	63A451	1	Collar
3	673B02026	1	Cap screw, Hex head, 5/16-24NF x 3-1/2"
4	666B03033	1	Nut, Elastic stop, 5/16-24NF
5	672C01026	1	Chain, 54 link, including Connecting Link
6	672C01080	1	Connecting Link
7	81B130	1	Sprocket, 19 tooth
8	A44C1123	1	Chain Tightener Assy
9	666B01007	1	Locknut, 5/8 NC
10	673B12076	1	Set Screw, Sq hd, 5/8-11NC x 6"
11	121865	1	Bracket, Outboard Bearing
12	4-300	1	Bearing
13	672C01081	AR	Offset Link

NOTE: A standard 16 (top)-19 (bottom) tooth sprocket combination drives the rotor at 145 RPM. By removing only 7 bolts, the chain case may be opened and sprockets reversed for a 205 RPM rotor speed.



Gear Housing Assembly

Tiller Gear Housing Assembly

ITEM	PART NO.	REQ.	DESCRIPTION
1	666B03035	8	Nut, Elastic stop 1/2-20NF
2	665C03094	1	Pipe Plug, 1/2" N. P. T.
3	73A29	8	Stud, 1/2-20 x 1 3/4"
4	15A19	1	Gasket, Cover
5	4-64	2	Cup, Bearing
6	4-65	1	Cone, Bearing
7	14-104	1	Ring Gear and Pinion (Matched Set) (121800)
7A	63A432	1	Spacer, Ring Gear
8	643C01032	1	Key, Ring gear
9	121914	1	Shaft, Splined Drive -- 4' Center Mount
9	121915	1	Shaft, Splined Drive -- 5' Center Mount
9	121916	1	Shaft, Splined Drive -- 4' and 5' Offset
9	121814	1	Shaft, Splined Drive -- 7' Center Mount
9	121936	1	Shaft, Splined Drive -- 6' Center Mount
10	4-66	1	Cone, Bearing
11	620C01022	1	Seal, Oil
12	63-160	2	Shim, .005.
13	63-161	2	Shim, .010
14	20-42	1	O-Ring
15	63A369	1	Sleeve, Oil seal
16	63-346	1	Collar, Set
17	87D213	1	Housing, Gear
18	4-105	2	Cone, Bearing
19	4-94	2	Cup, Bearing
20	673B01099	4	Capscrew, 5/8"-11NC x 1 1/2"
21	664B02021	6	Lockwasher, 3/8" Med.
22	83B25	1	Cap, Bearing
23	15A46	2	Gasket, Bearing cap
24	54B2001	1	Plate, Mounting
25	620C01007	1	Seal, Oil
26	66-32	2	Nut, Lock
27	64-40	1	Lockwasher
28	68C204	1	Cover, Gear housing
29	68-104	1	Plug, Breather
30	63-204	AR	Shim, .005
31	63-205	AR	Shim, .010
33	121905	1	Bearing, Pillow block
34	673B01035	2	Capscrew, 3/8-16NC x 1 1/4"
35	664B02013	2	Lockwasher, 3/8"
36	666B01003	2	Nut, 3/8-16NC
37	A44B1053	1	Bracket, Mounting
38	A54A2067	1	"H" Link
39	673B01118	2	Capscrew, 3/4-10NC x 2 1/2"
40	664B02025	2	Lockwasher, 3/4" Med.
41	666B01008	4	Nut, 3/4"-10NC
42	673B01101	2	Capscrew, 5/8"-11NC x 2"
44		2	Nut, 5/8"-11NC Hex

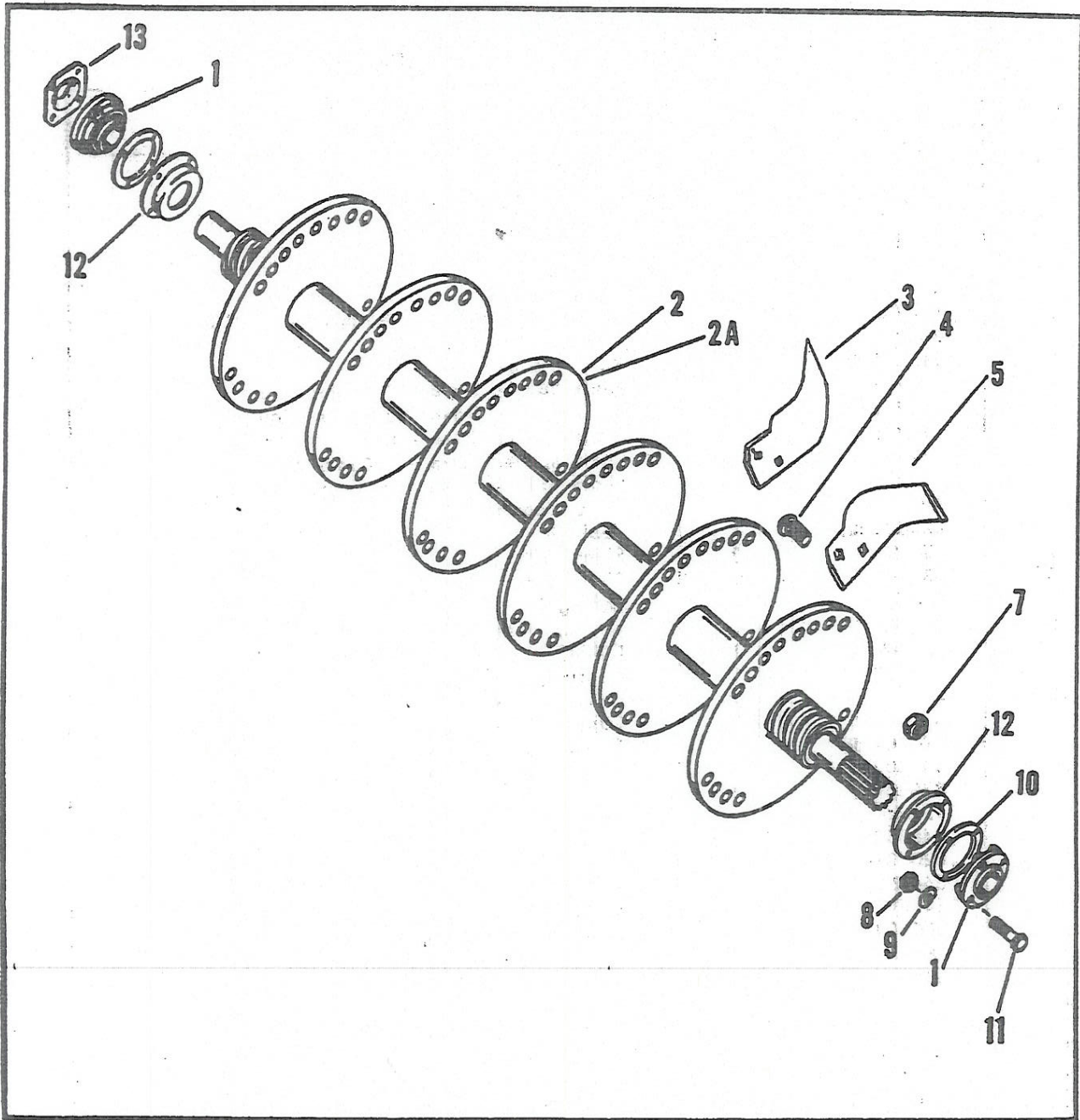
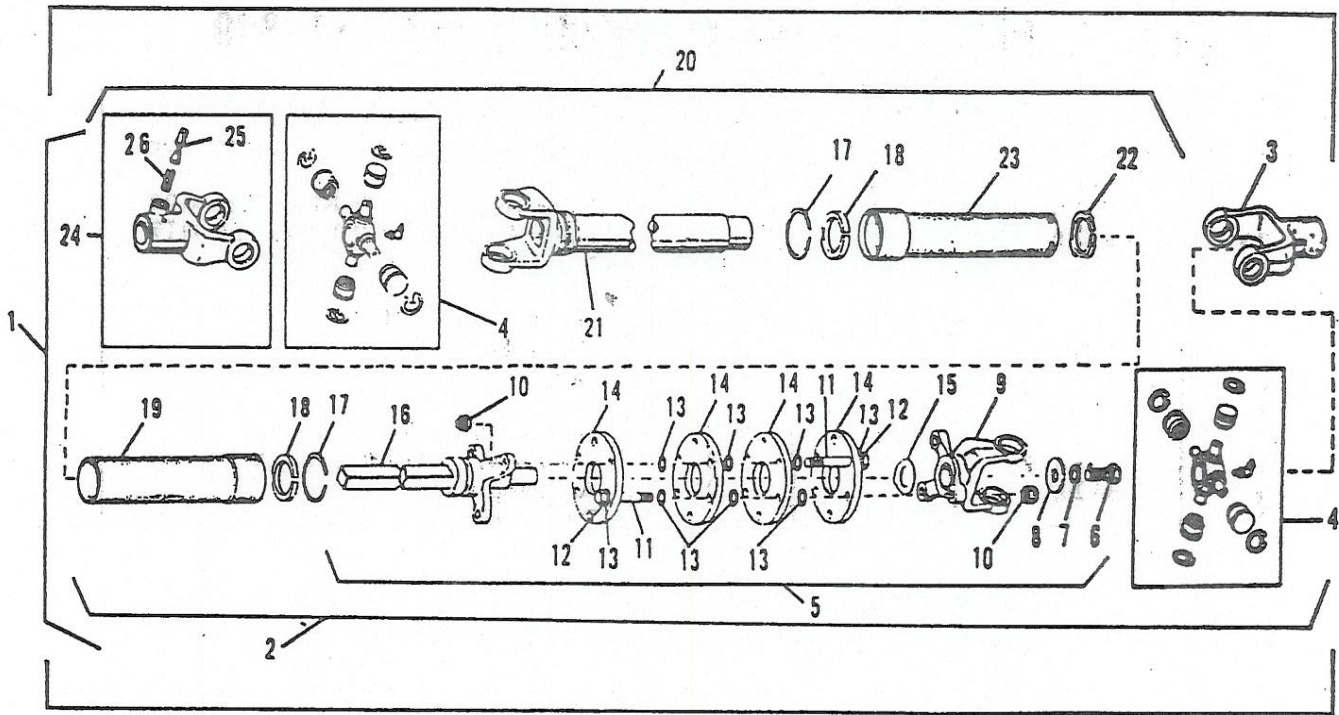


Figure 5. Rotor Assembly for Models 480 and 600

Figure 5. Rotor Assembly for Models 480 and 600

ITEM	PART NO.	QTY. 48"	QTY. 60"	DESCRIPTION
1	4-246	2	2	Bearing
2	A80D88	1	-	Rotor Assy, 48" A250-118, A250-120
2A	A80D89	-	1	Rotor Assy, 60" A250-117, A250-119
3	33C66	18	21	Tine RH 116° (121050)
4	73A185	72	84	Bolt (121013)
5	33C65	18	21	Tine LH 116° (121049)
7	121767	72	84	Nut, Lok-Tite
8	666B01015	8	8	Nut, 1/2-13NC
9	664B02017	8	8	Lockwasher, 1/2"
10	42A314	2	2	Spacer (121517)
11	673B01076	8	8	Capscrew, 1/2-13NC x 2-1/2"
12	68A207	2	2	Antiwrap Cover
13	68A212	1	1	Dust Shield



Universal Joint Assembly

ITEM	PART NO.	REQ.	DESCRIPTION
1	121910	1	DN35W Universal Joint Telescoping Assembly with shock absorbing coupling and Nylon QDFWG for 540 PTO
2	121841	1	DN35W Universal Joint and Shaft with Shock absorbing coupling and with Nylon QDFWG
3	37-373	1	Yoke (1½-10B Spline)
4	37-168	2	Repair Kit
5	121842	1	Yoke, Shaft and Coupling
6		1	½-20 x 1¼ Hex Head Cap Screw
7		1	½" Med L'Washer
8		1	Washer
9	121843	1	Spider-Yoke Assembly
10		7	Nut (½-20) Hex Slotted
11	121844	6	½-20 x 3½ Hex Head Cap Screw
12	121845	6	Special Plain Washer
13	121846	24	½" Beaded Washer
14	121847	4	Disc (6" x ¾")
15		1	Thrust Washer (1½" x 1" x .134")
16	121848	1	Spider and Shaft
17	34-85	2	Bearing Retainer
18	4-270	2	Nylon Bearing
19	121849	1	Female Guard Tube Assembly
20	121921	1	DN35W Universal Joint and Tube with Nylon QDFWG
21	121851	1	Yoke and Tube
22	4-271	1	Nylon Centralizer
23	121852	1	Male Guard Tube Assembly
24	37-370	1	QD Lock Yoke Assembly (1¾ 6-Spline) 540 PTO
25	48-25Q	1	"Weasler" Saf-T-Pin
26	30-80	1	Spring