WOODS

Division of Hesston Corporation
OREGON, ILLINOIS 61061

OWNERS MANUAL and PARTS LIST with ASSEMBLY INSTRUCTIONS

MODEL NO.

304K-1

For Use On:
Two Wheel Drive Kubota B6000 when equipped with front Electric Clutch and 3-point lift. Will not fit the 4-wheel drive tractor.

482 848 HAWLEY

WOODS rotary mower

F-5853 (10-74)

File# 304K-1

THIS MOWER CONFORMS TO THAT PORTION OF ANSI B71.1 SAFETY STANDARDS WHICH PERTAINS TO TRACTOR MOUNTED MOWERS.

CAUTION: Do not attempt to tighten blade mounting bolt by placing wrench on the bolt head on the opposite, or pulley, end of shaft.

BELT REPLACEMENT

The belt tension is self-adjusting by means of a spring loaded idler. The tractor should not be left idling with mower clutch engaged for long periods of time because the belt whip caused from engine pulsation will cause excessive belt wear.

NOTE: After replacing belt and when reinstalling belt covers, make certain that the belt is inside of the guides and is in the grooves of the pulleys.

MOWER PURCHASE

1. Be sure that the mower you buy conforms to the requirements of USA standards.
2. Check to see that you have an operator's manual and be sure to read it.

TRAINING

1. Never allow children to operate a power mower.
2. Learn how to stop the mower quickly.
3. Instruct children to stay away from the mower while it is in operation.
4. Always remove key when leaving tractor unattended.

PREPARATION

1. Before starting, clear area of debris.
2. Set mower at highest cutting height when mowing in rough ground or in tall weeds.
3. Mow only in daylight or in good artificial light.
4. Do not operate mower with guards removed.
5. Fill fuel tank outdoors, but never while engine is running. Avoid spilling.

OPERATION

1. Give complete and undivided attention to the job at hand.
2. Do not operate mower in the vicinity of other persons.
3. Stop the engine whenever you dismount from tractor.
4. Stand clear of the front of mower.
5. Use caution when operating the mower on uneven terrain and if very uneven, use rear wheel weights.
6. Do not let others ride with you on tractor.
7. It is recommended that the machine be stopped and inspected for damage after striking a foreign object and that any damage be repaired before starting and operating the machine.

MAINTENANCE & STORAGE

1. Follow maintenance instructions given in manual.

2. Have a competent serviceman inspect the mower each year.

3. Be sure ignition switch is off before making any adjustment or repair.

4. Keep engine or transmission free of grass or debris buildup, especially around engine cooling air intake screen.

5. Store fuel in an approved metal container in a cool, dry place.

6. A well-maintained mower operated correctly will produce best and safest mowing results.

7. Wipe the entire unit with a clean cloth to remove stains and oily spots. To prevent rusting, touch up spots which have no paint.

8. When mower is completely dry, lubricate pivot pins using a 30 weight oil.

★ RUGGED CONSTRUCTION

Main frame is 11 gauge plate, reinforced by heavy skid bars and box section

★ SHIELDS FOR SAFETY

Moving parts and blades completely surrounded

★ HEAVY DUTY BLADES

Heat treated, alloy spring steel blades

★ V-BELT DRIVE

Gives smoother operation and absorbs shock. Prevents damage to machine and tractor. One belt used to drive all three blades.

★ NO BELT ADJUSTMENT

Stretch in belt is taken up with the spring-loaded idler arm. No belt adjustment is necessary.

★ HEIGHT ADJUSTMENT

Has range to suit all normal mowing jobs. Tractor lift control carries mower and uses the two rear casters as gauge wheels to give desired mowing height.

304 OPERATING INSTRUCTIONS

MOWING GRASS

Woods model 304 series mower is equipped with suction-type blades which make them ideal for finish mowing large areas of lawn. The machine should be run level when mowing and the uncut area kept to the left side to prevent small windrows that otherwise might occur.

Streaking: On certain types of grass and under certain seasonal conditions, the front tractor wheels may roll the grass down, enough that it will not be cut as short as the surrounding area. This may appear to be a streak left by the spindle but it is not.

The best solution under these conditions is to slow down the ground speed of the tractor but the engine should be kept running at full goverened rpm. In very tall grass, it may be necessary to raise the mower as high as possible and cut the grass once, then recut the grass with the mower setting at desired cutting height.

TRACTOR OPERATING INSTRUCTIONS

Operate the tractor at full governed rpm when doing normal mowing. If the forward speed is too high, a lower gear or a slower hydrostatic transmission speed should be used.

HEIGHT ADJUSTMENT

To change cutting height, raise mower to the transport position. Remove safety pin and clevis pin from wheel adjustment brackets. Move the wheel and axle assembly to the desired cutting height. Reinstall pins (See figure 1). Raise or lower front end of pull bars (5) in mounting brackets (3 & 4).

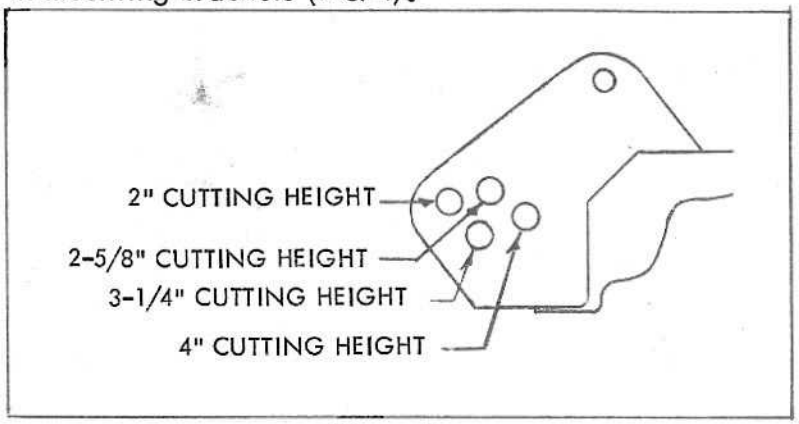


Figure 1

CUTTING ATTITUDE (Keeping the front of the mower up or down in relation to the back of the mower)

The mower is built to give proper mower attitude (about level when riding on the mower rear wheels) when tractor is equipped with standard tires. The attitude may be modified by raising or lowering pull bars (5) in rear lug on mower deck. After reassembly, carefully check attitude and belt clearance. Check attitude at the normal mowing height.

LUBRICATION

It is advisable to add a few drops of oil to wheel bolts and linkage pivot points once each ten hours of operation

MAINTENANCE

Blades: The 48-inch mower is designed with a clockwise rotation looking from the top of the mower. If the blades are removed for sharpening or replacement, be sure they are correctly installed in regard to the direction of rotation (See figure 2). To remove the blades, place blade wrench (33) through shield holes and through holes in sheave.

On center sheave, hold blade wrench in sheave. Remove the hex bolt securing the blade, and remove the three cup washers and blades from the shaft. Do not lose the small sleeve that is in the hole in the blades. CAUTION: Do not substitute a common hex bolt for the special locking type furnished with the mower.

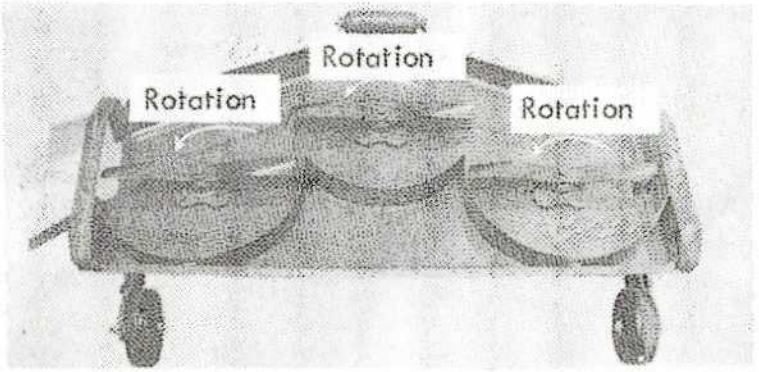


Figure 2

When sharpening blades, follow the original angle of the cutting edge. Be sure to file equal amounts off boths ends of the blade. An unbalanced blade will cause excessive vibration. Maintaining sharp cutting edges will give the best cutting results by cutting instead of tearing the grass.

When replacing blades, be sure to mount them securely. Be sure to replace the components as shown in figure 3. Tighten the blade mounting bolt, using blade wrench to hold sheave, until cup washers are drawn tight against blade bushing.

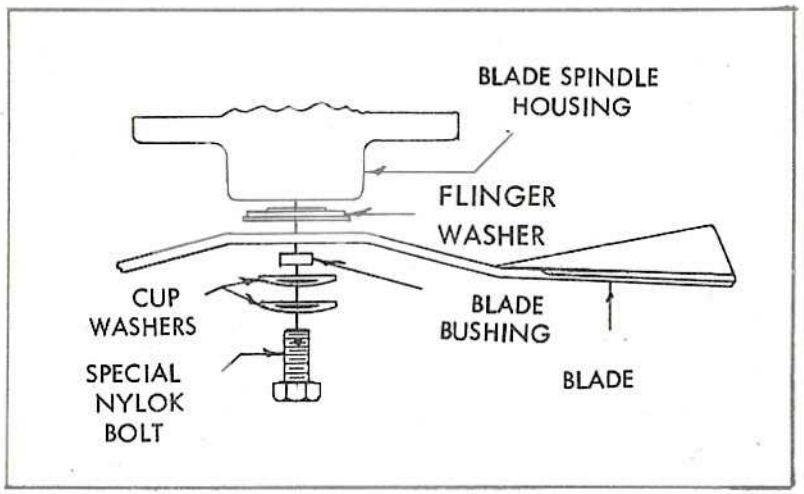


Figure 3

THIS MOWER WILL NOT FIT A 4-WHEEL DRIVE TRACTOR BECAUSE THE TRACTOR TIRES ARE TOO LARGE AND DO NOT PROVIDE ENOUGH ROOM BETWEEN TIRES FOR THE MOWER TO LIFT BETWEEN THEM. ALSO FRONT DRIVE GEAR BOX AND DRIVE SHAFT WILL INTERFERE.

All parts and hardware required to assemble and install the mower on a tractor are packed in one carton. Remove all parts from the carton. Closely follow assembly photos and drawing on the following pages. Proceed as follows:

1. MOUNTING BRACKET PLATES (See photo, page 9): Bolt mounting bracket plates (3 & 4) to side of tractor frame at the front of the tractor. These plates will be offset inward with long vertical slot to the bottom of this plate and to the front. Secure plates to tractor with 10 mm x 35 mm long bolts (78) and lock washers (79). Tighten these bolts very tight.

   Install 5/8 carriage bolt through long slots from outside in. Place a 7/8 flat washer and two 5/8 SAE flat washers over bolt on the inside of plate and install a 4" OD V-groove idler (2). Secure with a 5/8" deformed thread nut. Do not tighten until belt adjustment is made.

2. LIFT BRACKET (See photo, page 10): Bolt a lift clevis (28) to the bottom of the front lift bracket (31) using a 3/8 x 3/4 carriage bolt, lock washer and nut. Install chain idler (27) into lift clevis (28) and secure with a 1/2 x 2" clevis pin and cotter pin. Bolt this lift assembly to tractor frame in holes under foot rest with the lift clevis (28) rearward. Secure bracket to tractor using four 8 mm bolts (77). Remove the right bolt holding the drawbar plate to the rear of the tractor. Install another clevis (28) to the bottom of the drawbar. Put a 3/8 x 1-1/2 carriage bolt up through clevis (28) and drawbar. Secure with a 3/8 lock washer and nut. Assemble chain idler (27) and chain guide clevis (26) to clevis (28) and secure with a 1/2 x 2-3/4 clevis pin and two 3/16 x 1 cotter pins. Assemble rear lift lug (30) to the inside of right rear rockshaft arm using 7/16 x 2-1/8 clevis pin and cotter pin.

3. MOWER ASSEMBLY: (See photos, pgs. 9 & 10): Assemble wheel yoke arms (23) between wheel yoke arm plates and back of mower. Secure upper end of arm to plates using a 5/16 x 1"spirol pin. Install a 1/2 x 3-1/4 bolt from the inside out in wheel yoke arm. Install a 1/2" flat washer over bolt, then a 1/2 x 5/8 x 2-1/4 heat treated sleeve (22). Install wheel (21) over sleeve and secure assembly with 1/2" flange lock nut. REAR TRACTOR TIRES MUST BE ADJUSTED IN TO CLEAR WHEEL YOKE ARMS (23).

   Swing wheel yoke arm down between mounting plates on mower deck and install a 3/8 x 1-1/4 clevis pin through the desired hole in the mower. Secure with a 3/16 Klik pin. Bolt pull arms (5) inside the two front lugs welded to the mower deck and outside of the lug welded on the rear of the deck. Secure the front lugs to the arms using a 1/2 x 1-3/4 bolt, bushing (85) and lock nut.

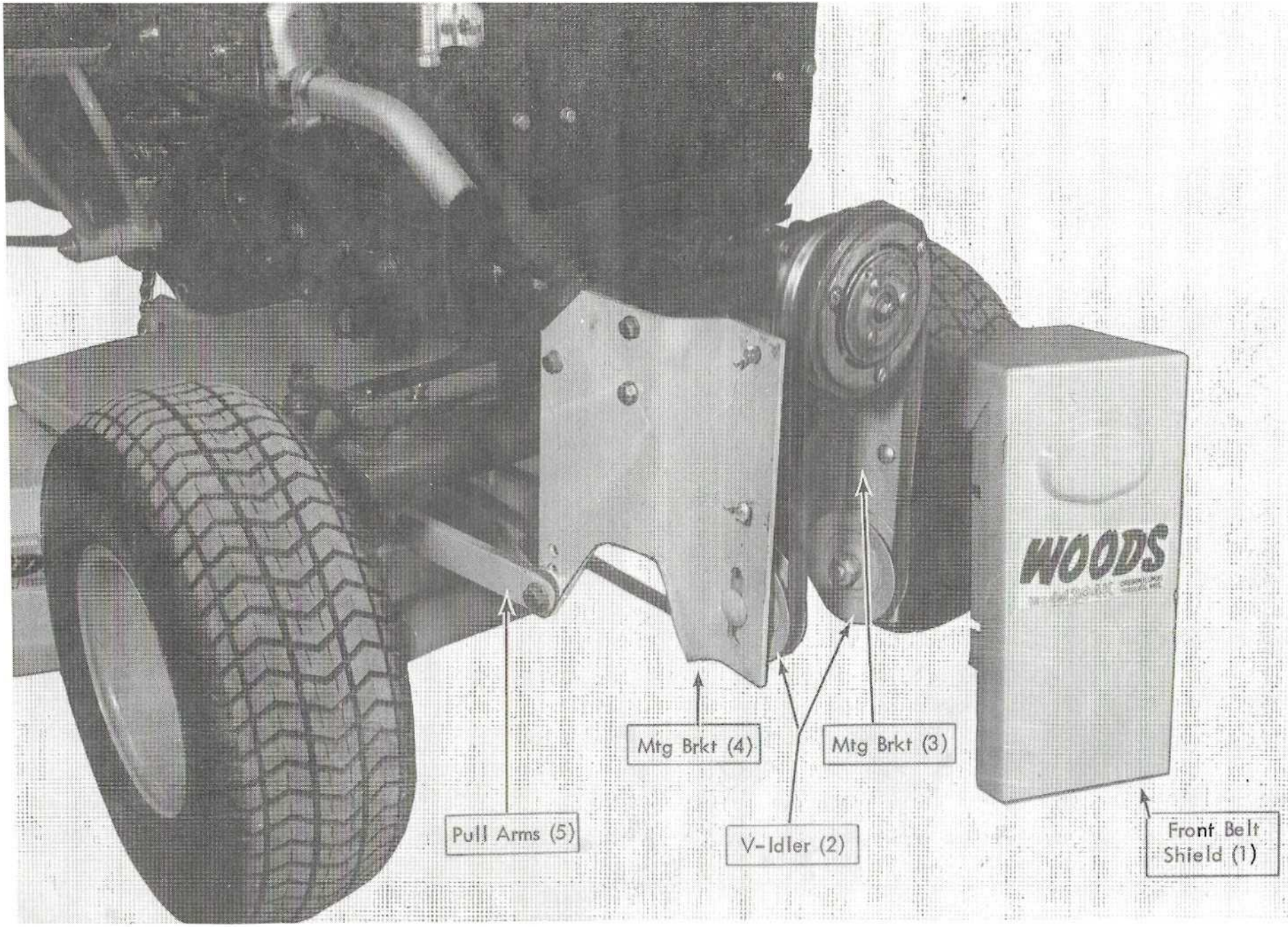
   Pin rear of pull bars to rear lug on mower deck using a 1/2 x 2" clevis pin, flat washer and 1/8" safety pin. Attach one end of lift chain (29) into keyhole lug welded on the rear center of deck plate. Secure with a plastic Caplug (43). Remove tape from belt at the front of the mower and lay the belt out forward. Turn the spindles by rolling the belt around to see that the belt is on all sheaves and that the spindles are turning freely. Screw a 3/8" flange lock nut onto rod welded in the

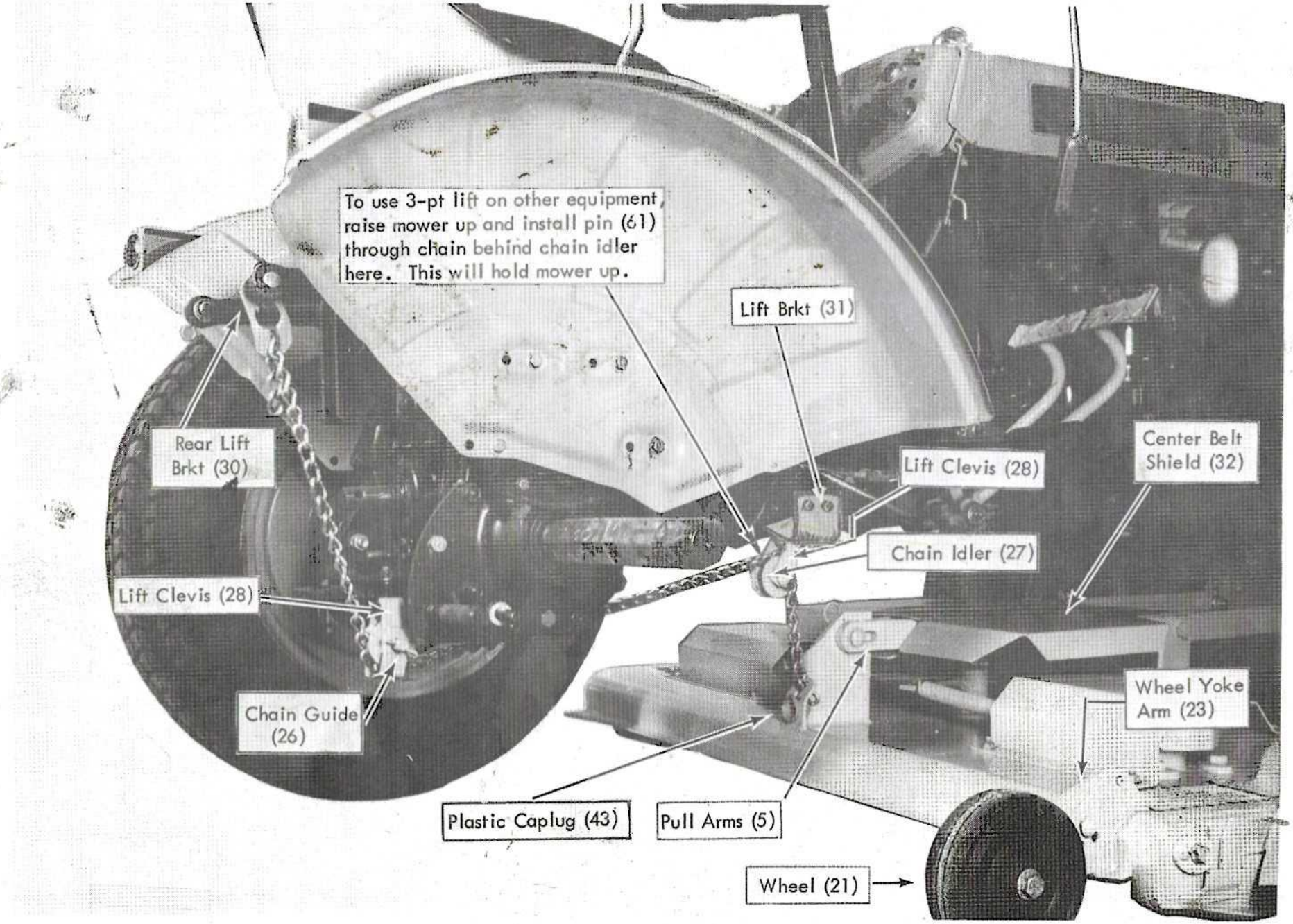
center front of the deck. This nut should be screwed on upside down so that the top edge of the nut is about flush with the top of the pull bars.

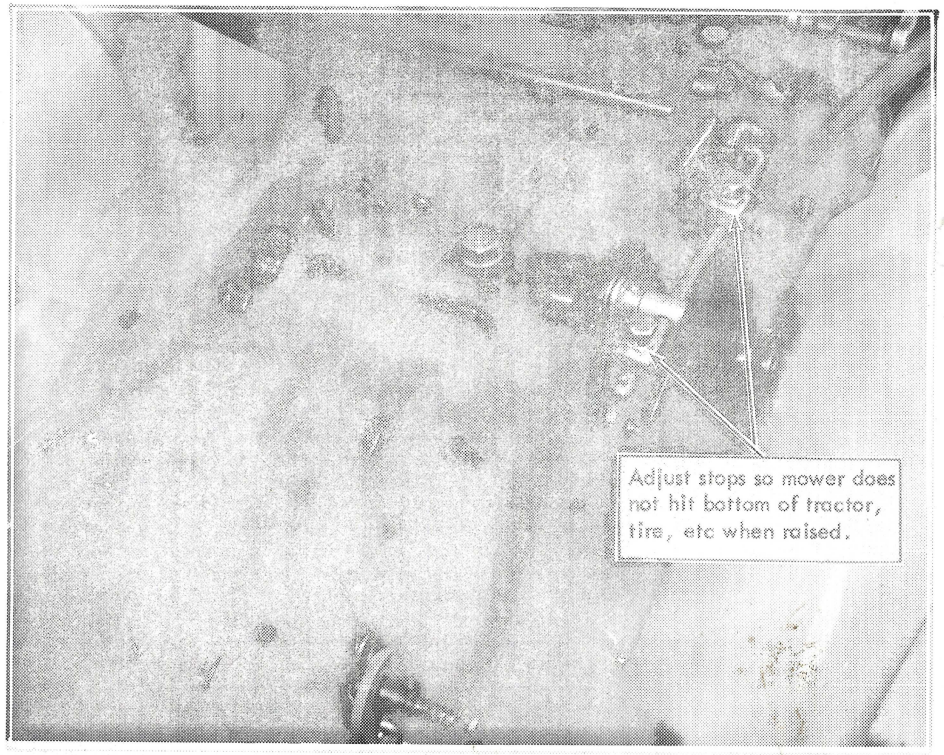
Install center belt shield (32) on top of pull bars. Slide it rearward so that the rear hook hooks under pull bars. Slide front down over the rod welded on the deck. Secure with a 3/8" wing nut. Install side discharge chute on end of mower by hooking top of discharge chute over rivets welded into mower. Turn rear lock forward and secure lock with a 5/16" self-tapping screw.

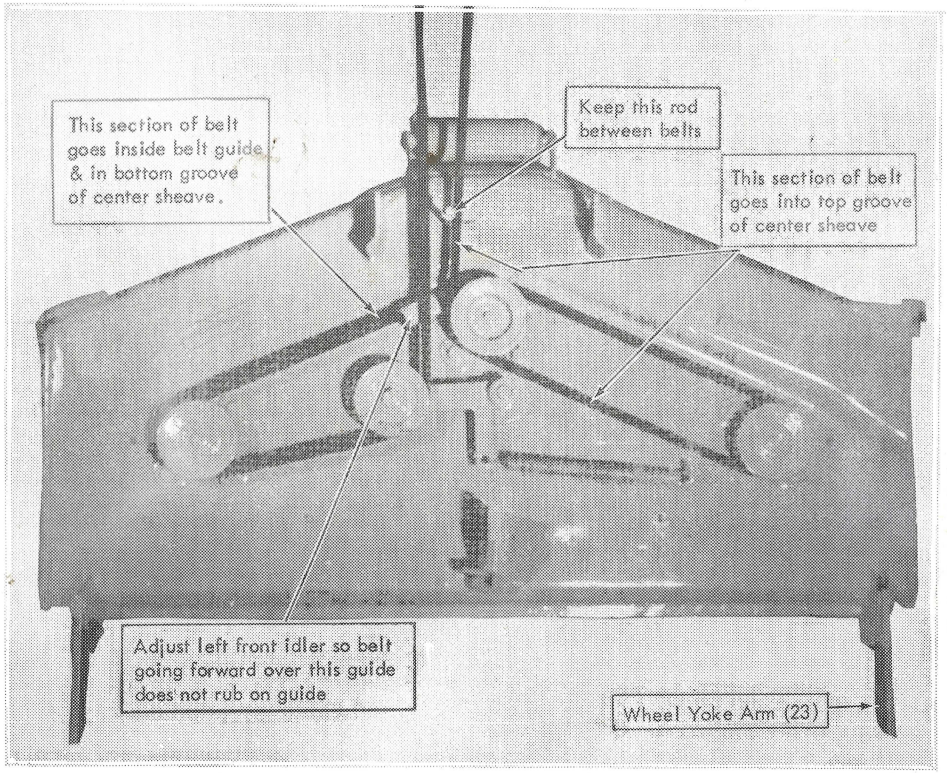
4. MOWER ATTACHMENT: Using some 2" boards for a ramp behind the mower, drive the front of the tractor over the mower. Secure pull bars (5) to mounting plates (3 & 4). The arms are secured to the mounting plates using 1/2 x 1-3/4 bolts, bushing (85) and 1/2" flange lock nuts. Bring belt up forward under idlers (2) installed on mounting plates (3 & 4). Then roll belt over electric clutch on tractor. Adjust left idler (2) so that belt coming forward does not rub on the top of the "Z" shaped belt guide welded on the deck plate (See page 11).

Adjust right idler (2) so that belt is running level into top groove on center spindle pulley. Bring lift chain (29) attached to rear of mower up over clevis that has been bolted to bottom of tractor. Then bring chain rearward under chain idler bolted underneath tractor drawbar and attach the end of chain to the lift lug (30). Adjust lift control stops on tractor so that when mower is fully raised, it does not hit the bottom of tractor, the tires, etc. (See Page 11). Start tractor and run mower blades to see that the belt, etc., are turning freely. Then install front belt shield (1) to mounting plates (3 & 4) using 5/16 x 3/4 carriage bolts and flange lock nuts.


WOODS
Pull Arms (5)
Mtg Brkt (4)
V-Idler (2)
Mtg Brkt (3)
Front Belt Shield (1)


To use 3-pt lift on other equipment, raise mower up and install pin (61) through chain behind chain idler here. This will hold mower up.
Lift Brkt (31)
Rear Lift Brkt (30)
Lift Clevis (28)
Center Belt Shield (32)
Chain Idler (27)
Lift Clevis (28)
Wheel Yoke Arm (23)
Chain Guide (26)
Plastic Caplug (43)
Pull Arms (5)
Wheel (21)


Adjust stops so mower does not hit bottom of tractor, tire, etc when raised.

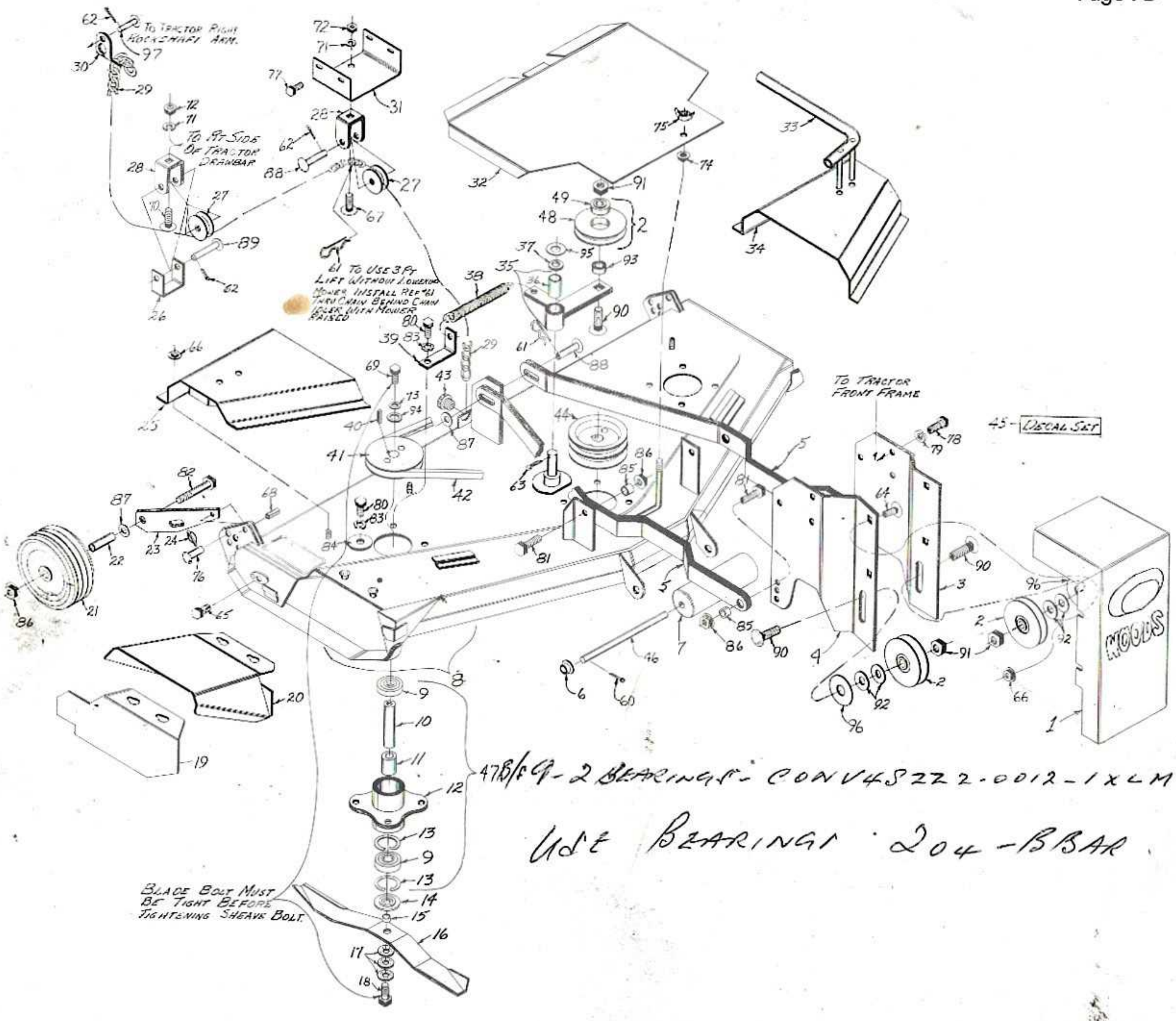

This section of belt goes inside belt guide & in bottom groove of center sheave.
Keep this rod between belts
This section of belt goes into top groove of center sheave
Adjust left front idler so belt going forward over this guide does not rub on guide
Wheel Yoke Arm (23)

Ref No	Part No	No Used	Description
1	24833	1	Front idler shield
2	23000	3	4" OD V-groove idler with bearing
3	24831	1	Left mounting plate
4	24830	1	Right mounting plate
5	24834	2	Pull bar
6	16208	2	1/2 x 5/8 Plastic flanged bearing
7	16173	1	Front roller less rod
8	24820	1	Frame only
9	16106	6	Ball bearing
10	16104	3	Shaft
11	16107	3	3/4 ID x 1 OD x 1-15/32 sleeve
12	16102	3	Spindle housing
13	16108	6	Snap ring
14	16109	3	Shoulder washer
15	16111	3	1/2 x 5/8 x 15/64 Heat treated sleeve
16	12170	3	Blade (standard)
	-or-		-or-
	26548	3	Blade, low suction, (Optional)*
17	16114	9	Cup washer
18	16112	3	1/2NCx1-1/4 HHCS HT Nylok
19	22081	1	Leaf mulcher shield
20	22460	1	Discharge chute assembly
21	16182	2	2 x 6 Wheel
22	23178	2	1/2 x 5/8 x 2-1/4 Sleeve HT
23	24837	2	Wheel yoke arm
24	22411	2	3/16 x 1 Klik pin
25	23066	1	Right V-belt shield
26	24815	1	Rear chain guide clevis
27	6696	2	Chain idler
28	6674	2	Lift clevis
29	24804	1	Lift chain 46" long
30	24803	1	Rear keyhole lift lug
31	24836	1	Front lift bracket
32	24840	1	Center belt shield
33	23275	1	Blade wrench
34	23067	1	Left V-belt shield
35	24823	1	Idler arm assembly
36	16162	1	3/4 ID x 1 OD x 1-1/2 bushing
37	22060	1	Felt seal
38	16154	1	9-3/4 Long extension spring
39	16153	1	Spring lug
40	16164	3	3/16 x 3/16 x 7/8 Key
41	24821	2	4-1/4 OD 1-B groove sheave
42	10864	1	V-belt special (W146)
43	18336	1	Plastic caplug
44	24822	1	4-1/4 OD 2 B groove sheave
45	24832	1	Decal set
46	16172	1	1/2 x 8-7/8 Clevis pin
47	16101	3	Spindle and bearing assembly
48	24450	3	4" OD B groove idler sheave less bearing
49	24259	3	.625 ID x 1.78 OD bearing for #23000 when sheave is cast iron.

FOR HARDWARE, SEE PAGE 14.

*For use in sandy areas or where high abrasive wear occurs on fin of standard blade.

... BEARING SUPPLIER.



47B/F 9-2 BEARINGS - CONV4S222-0012-1XLM. - K/N 16106.

Use Bearings 204-BBAR

File # 304K-1

WOODS, Division of Hesston Corporation
Oregon, Illinois

HARDWARE

Ref No	Part No	Description
60	3597	1/8 x 1 Cotter pin
61	2688	1/8 Safety pin
62	1256	3/16 x 1 Cotter pin
63	1266	3/16 x 1-1/2 Cotter pin
64	16148	5/16 NC x 3/4 Carriage bolt
65	22406	5/16 NC x 1 Hex head cap screw self tapping
66	14139	5/16 NC Flange lock nut
67	24597	3/8 NC x 3/4 Carriage bolt
68	16122	5/16 x 1 Spirol pin
69	1686	3/8 NC x 3/4 Hex head cap screw
70	13580	3/8 NC x 1-1/2 Carriage bolt
71	838	3/8 Lock washer
72	835	3/8 NC Hex nut
73	565	3/8 Flat washer
74	14350	3/8 NC Flange lock nut
75	1287	3/8 NC Wing nut
76	16120	3/8 x 1-1/4 Clevis pin
77	24801	8 mm x 1.25P x 20mm Hex head cap screw
78	24802	10mm x 1.25P x 35mm Hex head cap screw HT
79	5664	7/16 Lock washer
80	4119	1/2 NF x 1 Hex head cap screw
81	24576	1/2 NC x 1-3/4 Hex head cap screw HT
82	14069	1/2 NC x 3-1/4 Hex head cap screw
83	6548	1/2 Shake-proof lock washer
84	8131	1/2 x 1-1/2 x 2 x 1/4 Washer
85	23617	1/2 x 3/4 x 5/8 Sleeve
86	11900	1/2 NC Flange lock nut
87	3598	1/2 SAE Flat washer
88	409	1/2 x 2 Clevis pin
89	5561	1/2 x 2-3/4 Clevis pin
90	2855	5/8 NC x 2 Carriage bolt
91	6239	5/8 NC deformed thread hex nut
92	3632	5/8 SAE flat washer
93	16165	5/8 x 7/8 x 3/8 Sleeve
94	22240	3/4 SAE flat washer
95	11036	3/4 x 1-1/2 x 18GA washer
96	4258	7/8 Standard flat washer
97	7468	7/16 x 1-3/4 Clevis pin