

GRAVELLY OPERATOR'S MANUAL

NAME: 44 INCH POWER BRUSH

PART NUMBER(S): 22118

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The 44 Inch Power Brush is for use with the 5000 Series tractors and the 8000 Series tractors.

The completing kit (part number 19823) and the quick hitch pin kit (part number 23220) are needed to connect the power brush to the 5000 Series tractors.


The completing kit (part number 19865) and the front drive kit (part number 31224) are needed to connect the power brush to the 8000 Series tractors.

All reference to left side, right side, front, and rear are given from the operator's position.

To continue its program of quality and design improvement, the manufacturer reserves the right to change specifications, designs and prices without notice and incurring obligation.

Form No. 31222 (6/79)

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1.0 WARNINGS - FOR YOUR SAFETY
NOTE: The warning symbol  indicates that there is danger to persons or equipment. Read these warnings carefully and follow them.

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WARNINGS - FOR YOUR SAFETY

NOTE: This warning symbol  indicates that there is danger to persons or equipment. Read these warnings carefully and follow them.

This section gives warnings for you about operating and doing maintenance on this equipment.

Using this equipment the wrong way can cause injury to persons and damage to the equipment. Persons operating or doing maintenance on this equipment must read this Operator's Manual and follow the instructions.

It is important to understand that this Operator's Manual and other Gravely instruction books do not list every possible danger. It is not possible for Gravely to know and to tell all the dangers in operating and doing maintenance on the equipment.

The purchaser must give these instructions to the person operating and doing maintenance on this equipment. The purchaser must get the operator and person doing maintenance on this equipment to use eye and foot protection.

1.1 INSTRUCTIONS BEFORE OPERATION

1. Read the Operator's Manual for the tractor and this operator's Manual carefully before operating or doing maintenance.
2. Learn the location and the function of all the tractor and the attachment controls.
3. Know how to use the controls to stop the tractor and the power brush quickly.
4. Never permit children to operate or ride on the tractor or the power brush.
5. Use caution with gasoline. Gasoline is very flammable. Keep gasoline in a clean and tight container. Keep gasoline away from fire or hot items. Never put gasoline in the fuel tank while the engine is running or hot. Clean any leakage of gasoline from the tractor before starting the engine.

1.2 PREPARATION FOR OPERATION

1. Check the area of operation and remove all material that will be thrown by the power brush.
2. Make sure all shields and guards are in the correct position before operating.

3. Wear strong shoes. Wear clothing that is not loose. Wear eye protection.
4. Before starting the engine, put the direction control lever in the "NEUTRAL" position and the power take off (PTO) control in the "OUT" position.
5. Keep the tractor and the power brush in good operating condition. Do the maintenance as shown in the Operator's Manual.
6. Do not operate the tractor and the power brush where the area of operation is too dark for the operator to see.
7. Never operate the tractor or the power brush when there is damage to any part or when any part is not in the correct position.

1.3 OPERATION

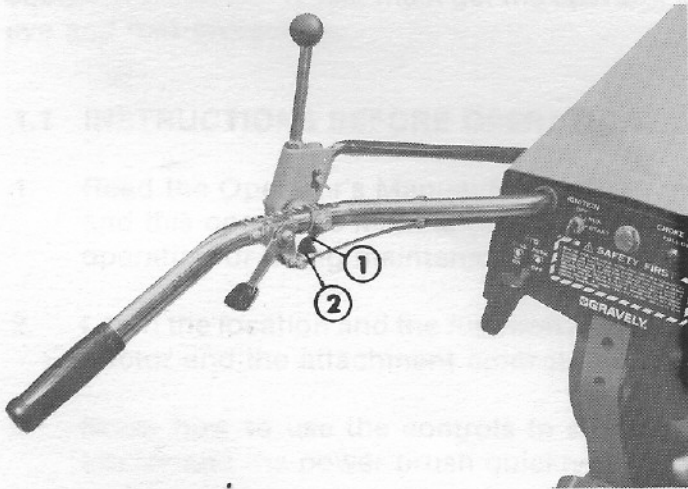
1. Keep away from moving parts.
2. Keep all persons and animals away from the area of operation.
3. Do not let persons ride on the tractor or the power brush.
4. When operating on slopes, use a slow speed

- and engage the direction control lever slowly.
5. When operating on slopes, go up and down the slope.
 6. Always look for and keep away from holes and other hazards.
 7. Use caution when moving backwards. Look for persons and hazards in the way.
 8. After hitting an object, stop the tractor and the engine and check for damage.
 9. Operate the equipment only when in the operator's position.
 10. Put the PTO control in the "OUT" position before leaving the tractor. Turn the ignition switch to the "OFF" position and remove the ignition key.
 11. If there is a sudden change in the sound or vibration of the tractor or the power brush, stop the tractor and check for damage. Make repairs before operating.
 12. Never start and run the engine inside a building except to move the equipment outside. Exhaust fumes are dangerous.
 13. Always follow traffic rules when going on or near a road.
 14. Go slow on surfaces where the tractor can slide.
 15. Put the PTO control lever in the "OUT" position before leaving the operator's position to make adjustments or to do maintenance. Turn the ignition switch to the "OFF" position. Wait until the engine and moving parts have stopped.

2.0 HOW TO INSTALL THE COMPLETING KIT ON THE 5000 SERIES TRACTOR

WARNING: Stop the engine before installing the completing kit.

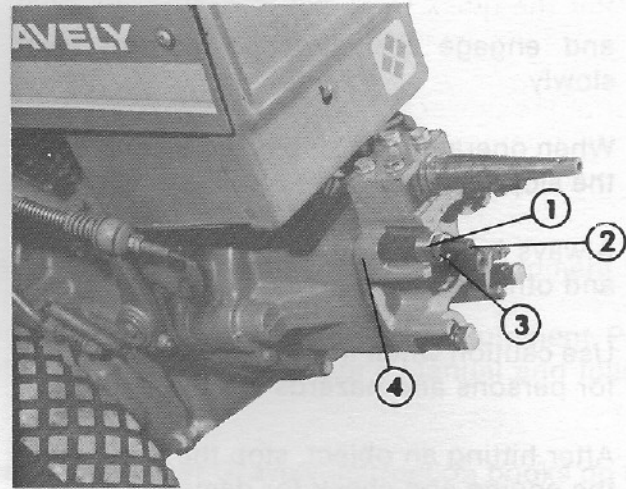
1. Remove the nut that fastens the gear shift control lever to the left handlebar.
2. Put the control rod guide on the bolt with the straight edge up. Install the nut. See figure 2.0-1.



1 - Control Rod Guide
2 - Rubber Grommet

Figure 2.0-1

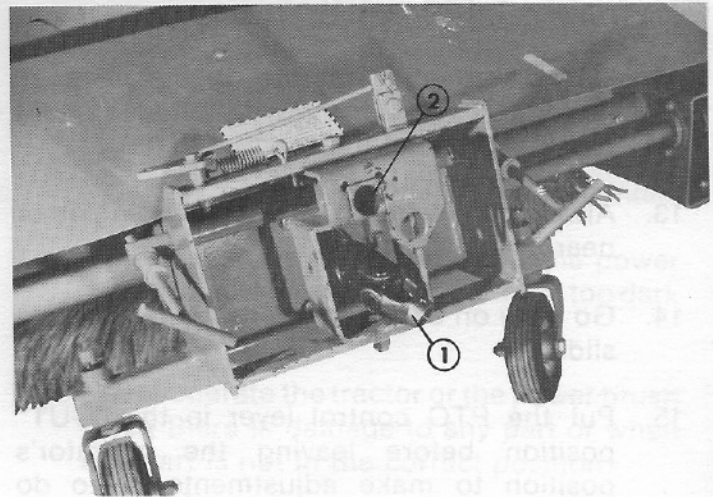
3. Install the rubber grommet in the control rod guide. See figure 2.0-1.
4. Put the spacer on the top right side stud of the attachment adapter. Put the nut on the stud and tighten. See figure 2.0-2.



1 - Spacer
2 - Stud
3 - Nut
4 - Attachment Adapter

Figure 2.0-2

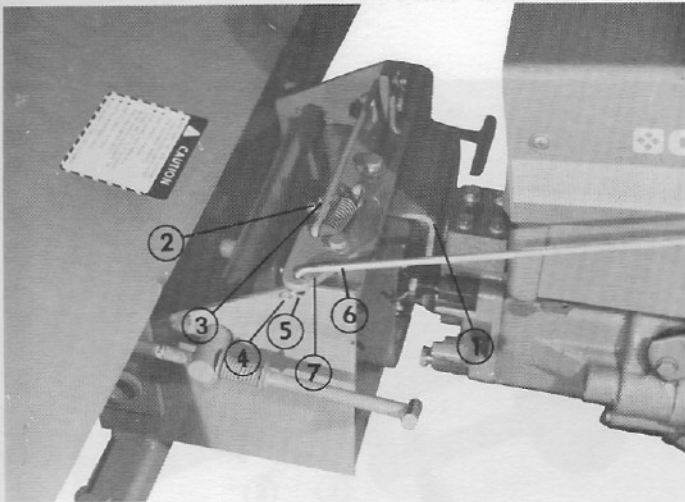
5. Put the double universal joint on the drive shaft on the power brush. See figure 2.0-3.



1 - Double Universal Joint
2 - Pivot Hole

Figure 2.0-3

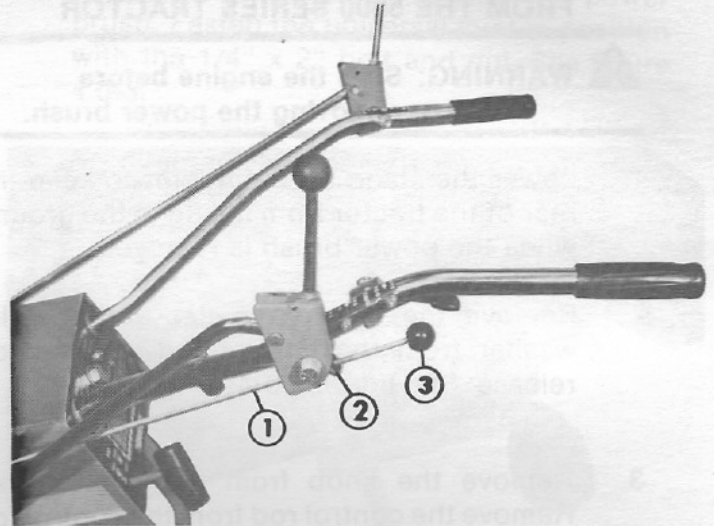
6. Put the quick hitch pin into the pivot hole 1-1/4 inches (3.18 cm).
7. Put the universal joint on the drive shaft of the tractor. Push the pivot all the way on the quick hitch pin and install the flat washer and the "klik" pin. See figure 2.0-4.



- | |
|---------------------------|
| 1 - Pivot |
| 2 - Quick Hitch Pin |
| 3 - Washer and "Klik" Pin |
| 4 - Hair Pin Cotter |
| 5 - Flat Washer |
| 6 - Control Rod |
| 7 - Latch Release |

Figure 2.0-4

8. Put the control through the control rod guide. Install the knob. See figure 2.0-5.



- | |
|-----------------------|
| 1 - Control Rod |
| 2 - Control Rod Guide |
| 3 - Knob |

Figure 2.0-5

9. Put the control rod on the latch release. Fasten the control rod in position with the flat washer and the hair pin cotter. See figure 2.0-4.

3.0 HOW TO REMOVE THE POWER BRUSH FROM THE 5000 SERIES TRACTOR



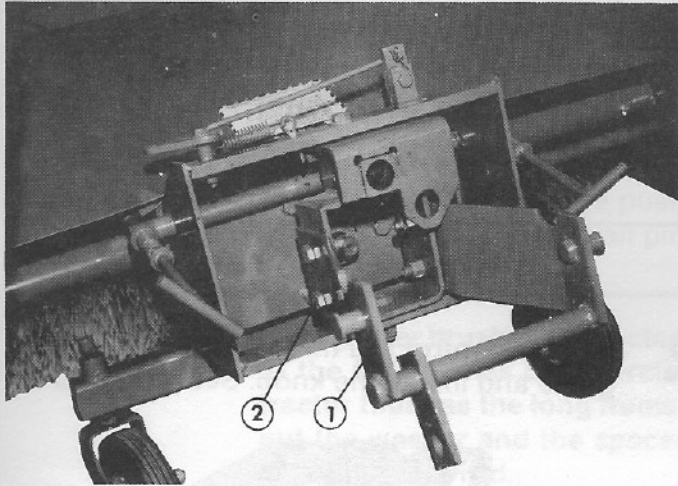
WARNING: Stop the engine before removing the power brush.

1. Lower the stand on the tractor to keep the rear of the tractor from falling to the ground when the power brush is removed.
2. Remove the hair pin cotter and the flat washer from the control rod at the latch release. See figure 2.0-4.
3. Remove the knob from the control rod. Remove the control rod from the control rod guide. Put the knob on the control rod, and the flat washer and the hair pin cotter on the control rod.
4. Remove the "klik" pin and the washer from the quick hitch pin. See figure 2.0-4.
5. Separate the tractor and the power brush. Put the universal joint on the drive shaft of the power brush. See figure 2.0-3.
6. Install the washer and the "klik" pin in the quick hitch pin.
7. Keep the control rod and the universal joint with the power brush.

4.0 HOW TO INSTALL THE COMPLETING KIT ON THE 8000 SERIES TRACTOR

WARNING: Stop the engine before installing the completing kit.

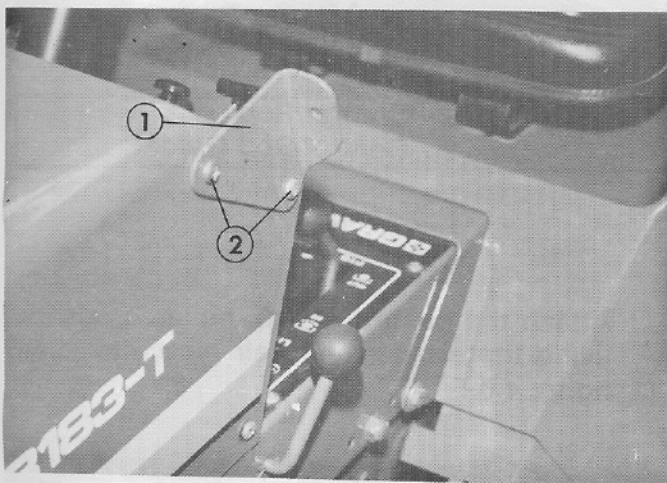
1. Put the adapter on the power brush using the four 1/2" x 1-1/2" bolts and 1/2" nuts. See figure 4.0-1.



1 - Adapter
2 - Bolts

Figure 4.0-1

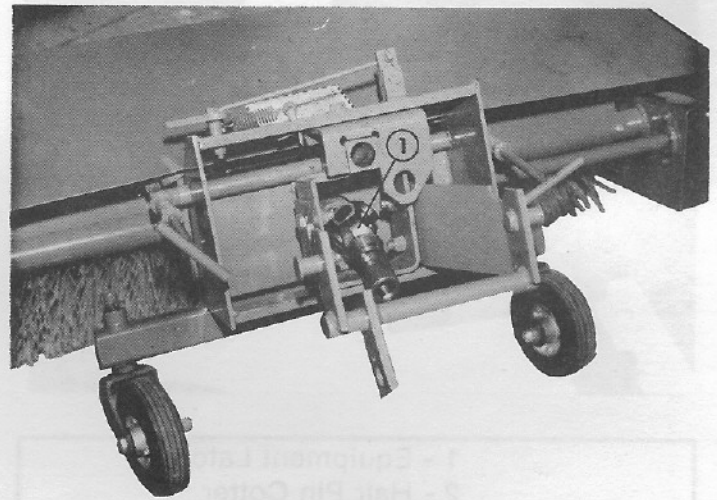
2. Remove the two screws that fasten the hood to the instrument panel on the left side of the tractor. Install the control rod guide with the two screws. See figure 4.0-2.



1 - Control Rod Guide
2 - Screws

Figure 4.0-2

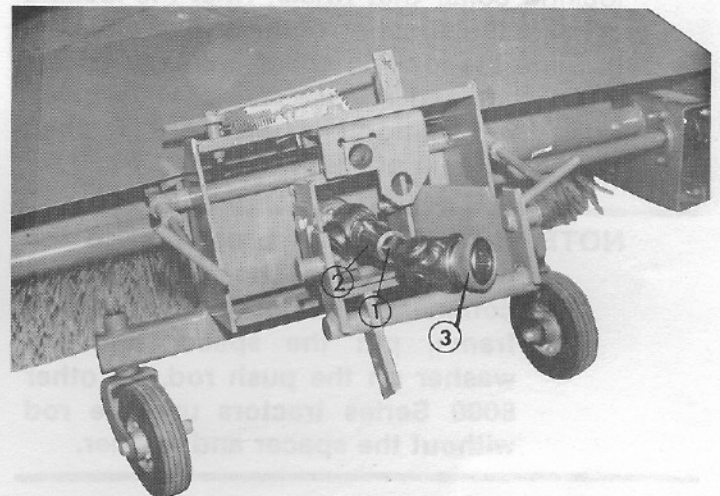
3. Put the section of the universal joint that has the tube on the splined shaft of the power brush. Fasten the universal joint in position with the 1/4" x 2" bolt and nut. See figure 4.0-3.



1 - Universal Joint

Figure 4.0-3

4. Put the multi-purpose grease on the square shaft of the universal joint. Put the square shaft on the tube section of the universal joint that is fastened to the power brush. See figure 4.0-4.

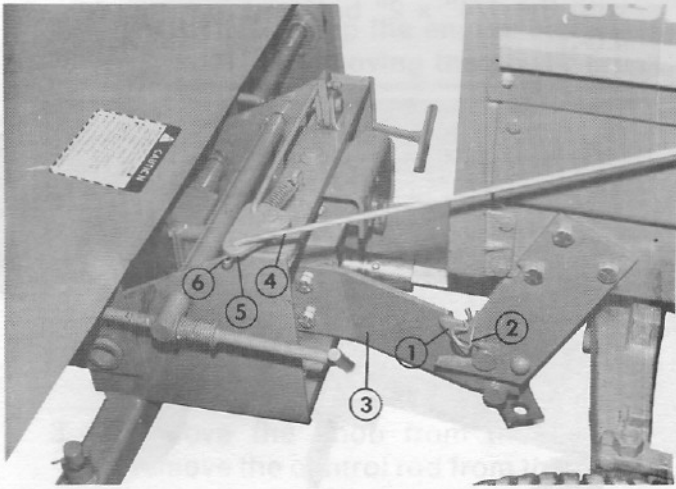


1 - Square Shaft
2 - Tube
3 - Locking Collar

Figure 4.0-4

5. Open the equipment latches on the tractor.

Put the adapter in position in the equipment latches. Close the equipment latches and install the hair pin cotter. See figure 4.0-5.



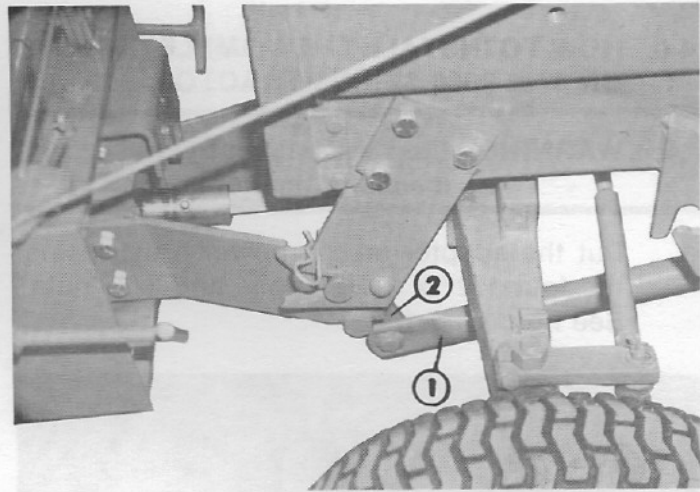
- 1 - Equipment Latch
- 2 - Hair Pin Cotter
- 3 - Adapter
- 4 - Control Rod
- 5 - Flat Washer
- 6 - Hair Pin Cotter

Figure 4.0-5

6. Put the locking collar on the front PTO shaft. Pull the locking collar toward the universal joint and hold it. If the universal joint has the locking collar that twists, twist the locking collar in the direction of the arrows and hold it. Slide the locking collar half-way on the PTO shaft and release the locking collar. Push the locking collar on the PTO shaft until it locks in position.

NOTE: If the power brush is to be connected to the 8000 Series commercial tractor that has the long frame, put the spacer and the washer on the push rod. All other 8000 Series tractors use the rod without the spacer and washer.

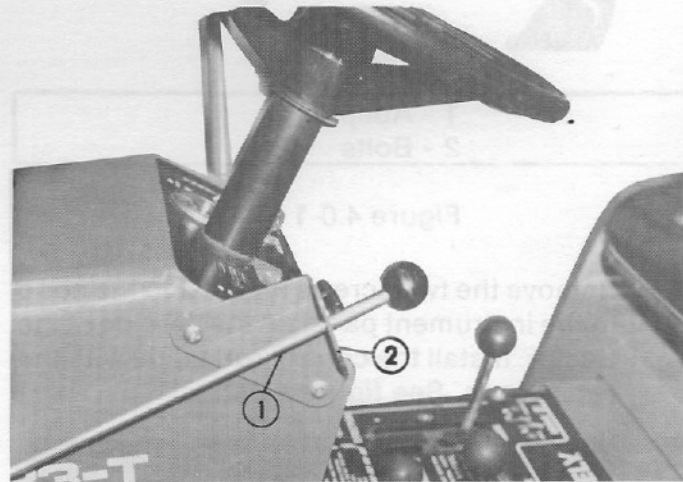
7. Install the push rod guide on the attachment lift as shown in the Set-Up Instructions for the front drive kit.
8. Put the push rod on the push rod guide. Fasten the push rod to the adapter with the hair pin cotter. See figure 4.0-6.



- 1 - Push Rod
- 2 - Hair Pin Cotter (not shown)

Figure 4.0-6

9. Put the control rod through the control rod guide and install the knob. See figure 4.0-7.



- 1 - Control Rod
- 2 - Control Rod Guide

Figure 4.0-7

10. Attach the control rod to the latch release using the washer and hair pin cotter. See figure 4.0-5.

5.0 HOW TO REMOVE THE POWER BRUSH FROM THE 8000 SERIES TRACTOR

WARNING: Stop the engine before removing the power brush.

1. Remove the hair pin cotter and the washer from the control rod at the latch release. See figure 4.0-5.
2. Remove the knob from the control rod. Remove the control rod from the control rod guide. Put the knob and the washer and the hair pin cotter on the control rod.
3. Remove the hair pin cotter that fastens the push rod to the adapter. Remove the push rod from the push rod guide. Put the hair pin cotter on the push rod.

WARNING: If the power brush is connected to the 8000 Series commercial tractor that has the long frame, put the washer and the spacer with the push rod.

4. Remove the locking collar from the front PTO shaft. If the universal joint has the locking collar that twists, twist the locking collar in the direction of the arrows and hold it. Pull the universal joint from the PTO shaft.
5. Remove the hair pin cotter from the equipment latches. Open the equipment latches.
6. Separate the power brush and the tractor. Put the universal joint on the drive shaft of the power brush. See figure 4.0-3.
7. Keep the push rod, control rod, and the universal joint with the power brush.

6.1 HOW TO ADJUST THE BRUSH CONTACT

WARNING: Stop the engine before adjusting the contact of the brush.

Turn the contact adjustment to the left to decrease the contact area of the brush. See figure 6.0-1.



Figure 6.0-1
T - Contact Adjustment

Turn the contact adjustment to the left to increase the contact area of the brush.

NOTE: The brush contact area to the ground must be even for the length of the brush.

6.2 HOW TO ADJUST THE ANGLE OF THE BRUSH

Start the engine of the tractor. Wait until the engine is running smoothly before operating the tractor.

Move the tractor forward to the PTO position.

Engage the PTO.

Put the direction control lever in the FORWARD position.

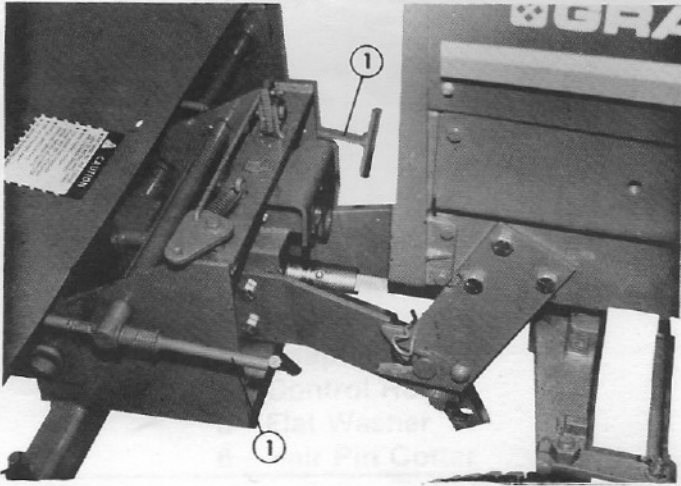
To angle the brush to the right, pull the

6.0 HOW TO ADJUST THE POWER BRUSH

6.1 HOW TO ADJUST THE BRUSH CONTACT

WARNING: Stop the engine before adjusting the contact of the brush.

1. Turn the contact adjustment to the right to decrease the contact area of the brush. See figure 6.0-1.



1 - Contact Adjustment

Figure 6.0-1

2. Turn the contact adjustment to the left to increase the contact area of the brush.

NOTE: The brush contact area to the ground must be even for the length of the brush.

6.2 HOW TO ADJUST THE ANGLE OF THE BRUSH

1. Start the engine of the tractor. Wait until the engine is running smoothly before operating.
2. Move the throttle of the tractor to the "FAST" position.
3. Engage the PTO.
4. Put the direction control lever in the "FORWARD" position.
5. To angle the brush to the right, pull the

control rod and steer the tractor to the left. Release the control rod to hold the brush in that position.

6. To angle the brush to the left, pull the control rod and steer the tractor to the right. Release the control rod to hold the brush in that position.
7. To angle the brush straight, pull the control rod and steer the tractor straight. Release the control rod to hold the brush in that position.

7.0 HOW TO OPERATE THE POWER BRUSH

Read this Operator's Manual and the Operator's Manual for the tractor before operating.

⚠ WARNING: Use a slow speed the first time you operate the tractor and the power brush.

⚠ WARNING: Wear eye protection and breathing protection when operating the power brush.

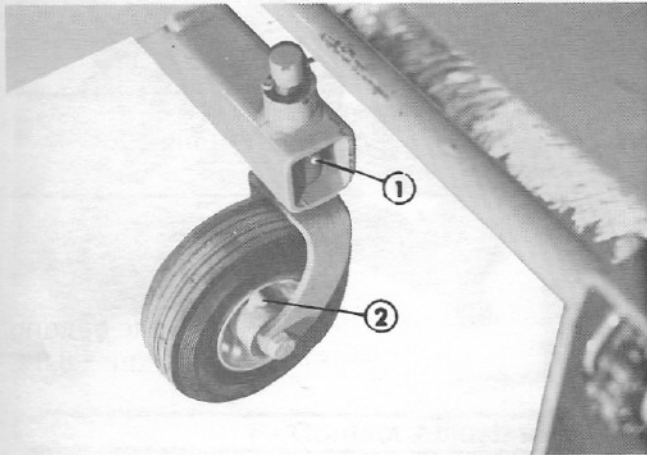
1. Adjust the brush contact area as shown in Section 6.1.
2. Start the engine of the tractor. Wait until the engine is running smoothly before operating.
3. Adjust the angle of the brush as shown in Section 6.2.
4. Move the throttle lever to the "FAST" position.
5. Engage the PTO.
6. Put the direction control lever in the "FORWARD" position and sweep a distance of 10 feet (3m). Stop the tractor. Disengage the PTO and turn the ignition switch to the "OFF" position.
7. Check to see if the brush is sweeping correctly. If the brush needs adjusting, follow the procedure in Section 6.1.
8. After you know how to operate the power brush, select the speed that is best for your sweeping conditions.

8.0 HOW TO DO MAINTENANCE

8.1 HOW TO LUBRICATE THE POWER BRUSH

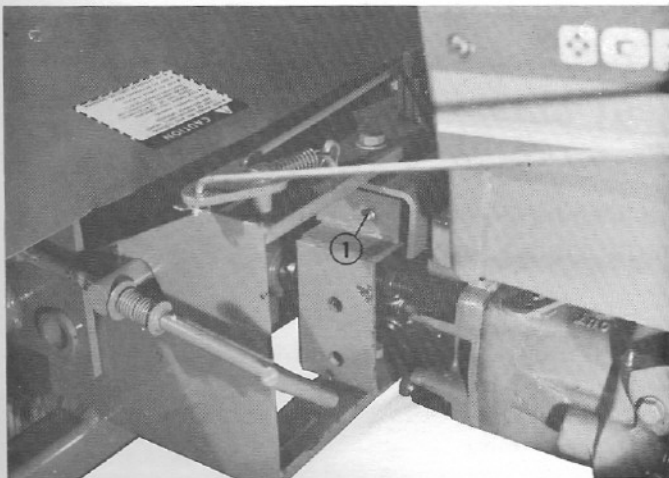
1. After every eight hours of operation add multi-purpose grease to the grease fittings.

There are five grease fittings on the power brush. There is one grease fitting on each fork, caster wheel and the pivot. There is also one grease fitting on the universal joint used on the 8000 Series tractor. See figure 8.0-1 and 8.0-2.



1 - Fork Grease Fitting
2 - Castor Wheel Grease Fitting

Figure 8.0-1



1 - Pivot Grease Fitting

Figure 8.0-2

NOTE: Do not add multi-purpose grease to the pivot when the brush is used on the 8000 Series tractor.

2. After 100 hours of operation, remove the cover of the gearbox and replace the multi-purpose grease.

NOTE: Do not damage the gasket on the gearbox cover. If the gasket is damaged, replace it.

3. Use chain lubricant SAE-50 with Paratec or equivalent to lubricate the drive chain.

8.2 HOW TO CHECK THE FASTENERS

Inspect all nuts, bolts, and other fasteners to make sure they are tight. Replace any fasteners that are missing. Tighten the bolts to the torque shown in figure 8.0-3.

BOLT TORQUE SPECIFICATIONS

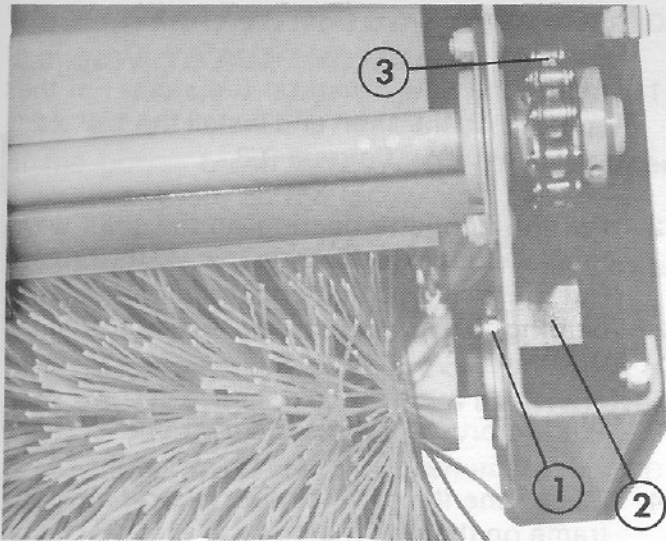
BOLT SIZE	FOOT POUNDS (ft. lbs.)	NEWTON METERS (N.m)
1/4"	7	9.5
5/16"	14	19
3/8"	25	34
7/16"	40	54
1/2"	60	82
9/16"	83	113
5/8"	120	163
3/4"	200	271

Figure 8.0-3

8.3 HOW TO ADJUST THE CHAIN

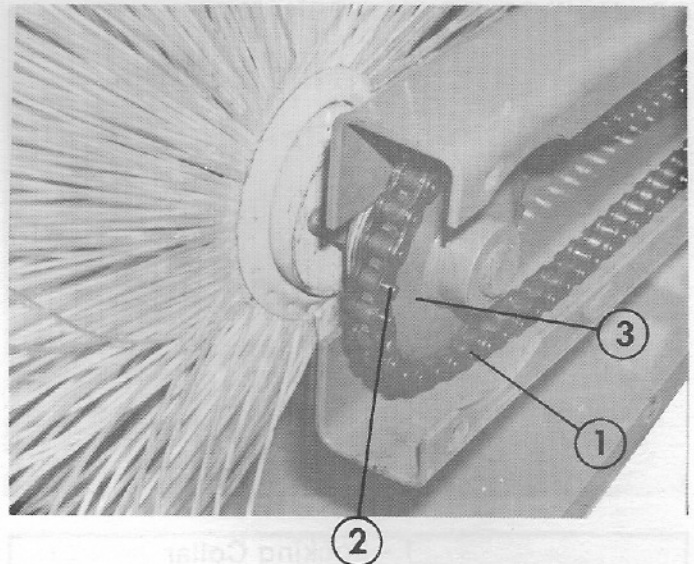
WARNING: Stop the engine before adjusting the chain.

1. Adjust the chain after every 100 hours of operation.
2. Loosen the nut and move the block against the chain until the chain is straight at the top. Do not get the chain too tight. Tighten the nut. See figure 8.0-4.



- 1 - Nut
- 2 - Block
- 3 - Chain

Figure 8.0-4



- 1 - Chain
- 2 - Connecting Link
- 3 - Sprocket

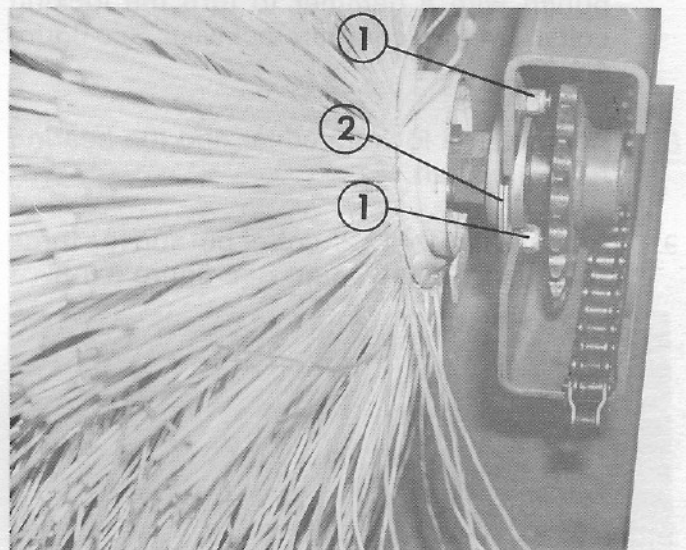
Figure 8.0-5

8.4 HOW TO REPLACE THE BRUSH

WARNING: Stop the engine before replacing the brush.

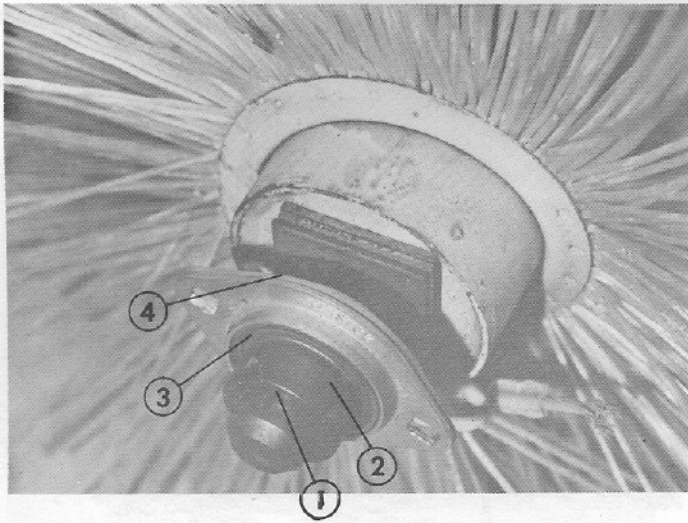
1. Disconnect the power brush from the tractor. See Section 3.0 and Section 5.0.
2. Turn the power brush over with the wheels up.
3. Remove the left side plate.
4. Remove the connecting link from the chain. Remove the chain from the sprocket. See figure 8.0-5.

5. Remove the bolts from the flange bearing on each end of the brush. See figure 8.0-6 and figure 8.0-7.



- 1 - Bolt
- 2 - Flange Bearing

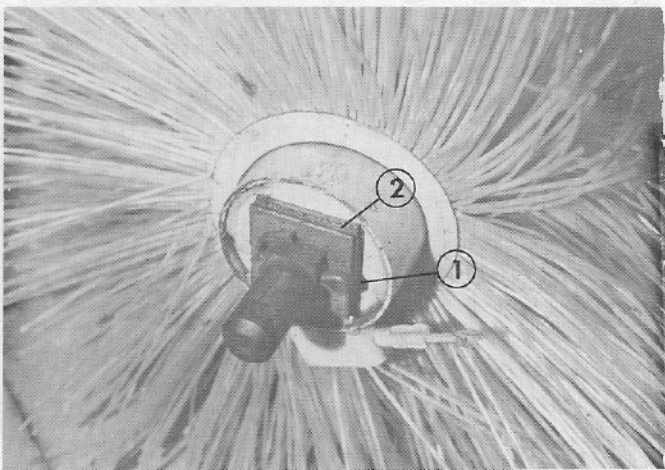
Figure 8.0-6



- | |
|-----------------------|
| 1 - Locking Collar |
| 2 - Set Screw |
| 3 - Hole |
| 4 - Flangette Bearing |

Figure 8.0-7

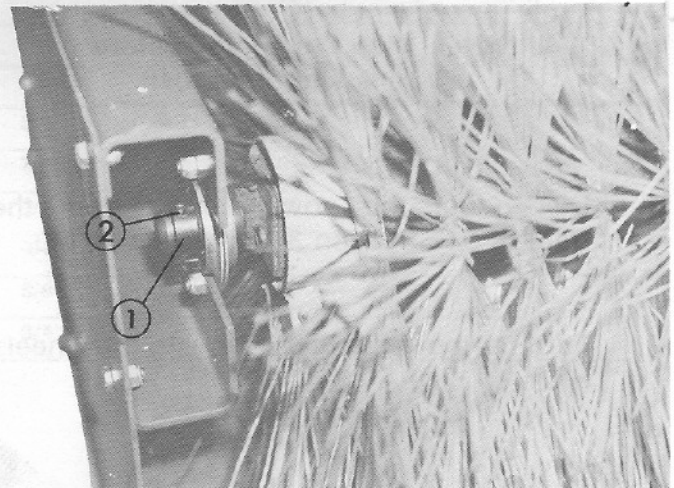
- Remove the brush from the support frame.
- Loosen the set screw on the locking collar by turning the screw counterclockwise. Put a punch in the hole without threads. Hit the punch with a hammer to turn the locking collar 1/4 turn counterclockwise. See figure 8.0-7.
- Remove the locking collar and the bearing from the shaft.
- Remove the 1/4" x 2" cotter pin and the three spacers from the shaft. See figure 8.0-8.



- | |
|----------------|
| 1 - Cotter Pin |
| 2 - Spacers |

Figure 8.0-8

- Remove the shaft from the brush.
- Install the new brush on the shaft. Put the spacers on the shaft and install the 1/4" x 2" cotter pin. See figure 8.0-8.
- Put the flange bearing on the shaft with the flat side of the bearing toward the brush. Put the locking collar on the shoulder of the bearing. **Do not tighten the locking collar at this time.**
- Put the brush in the support frame.
- Fasten the flange bearing to the support frame on the side that has the sprocket first. Use the bolts and nuts that were removed in step 5.
- Fasten the flange bearing on the other side of the brush, to the support frame.
- To tighten the locking collar, put a punch in the hole without threads. Hit the punch with a hammer, turning the locking collar clockwise until tight. See figure 8.0-9.



- | |
|--------------------|
| 1 - Locking Collar |
| 2 - Hole |

Figure 8.0-9

- Put the chain on the sprocket. Install the connecting link. See figure 8.0-5.
- Adjust the chain for tension. See Section 8.3.
- Put the left side plate on the hood with the 5/16" x 3/4" bolts.

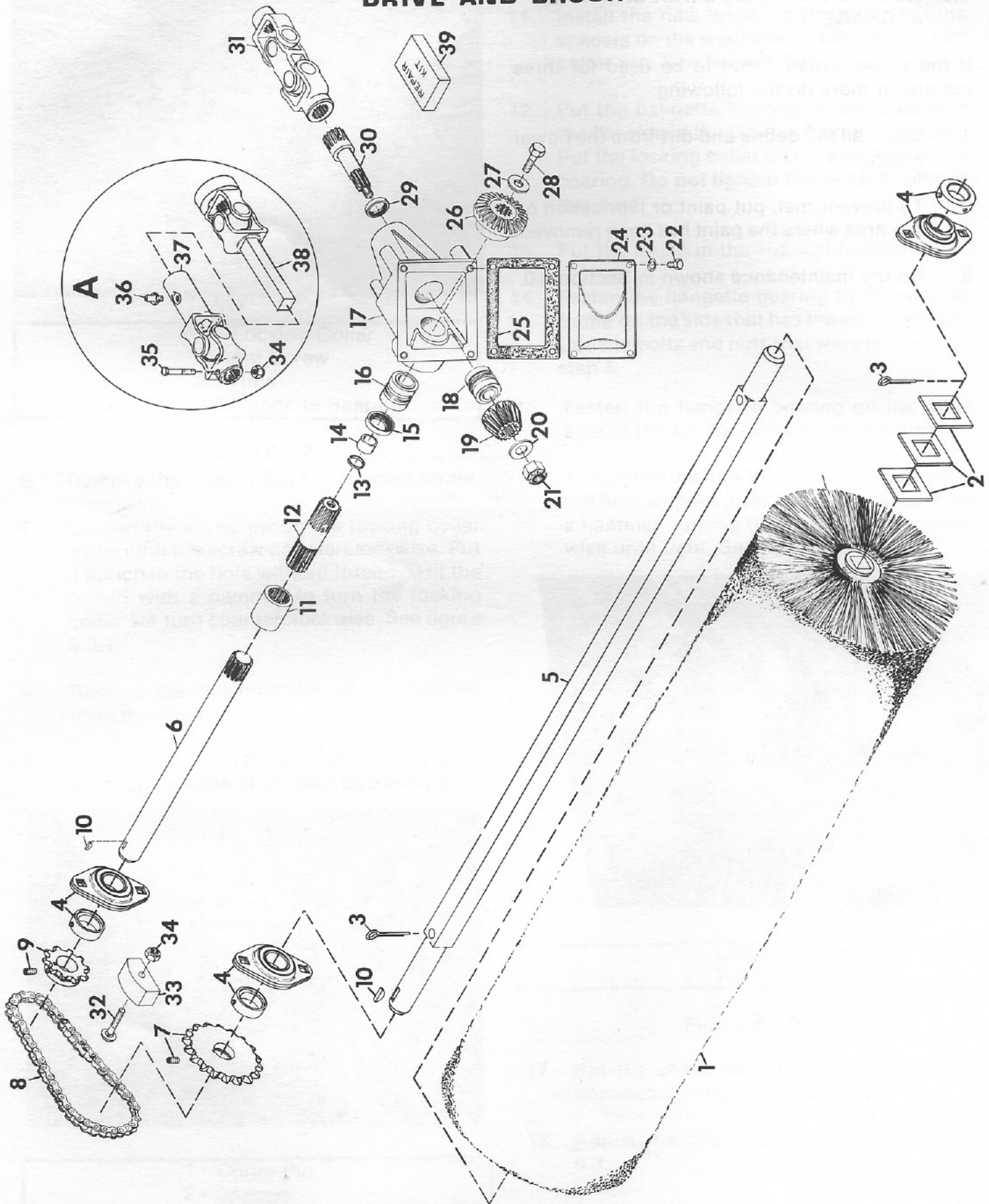
9.0 HOW TO PUT THE POWER BRUSH IN STORAGE

If the power brush is not to be used for three months or more do the following:

1. Clean all the debris and dirt from the power brush.
2. To prevent rust, put paint or lubrication on any area where the paint has been removed.
3. Do the maintenance shown in Section 8.0.

10.0 ILLUSTRATED PARTS LIST AND PARTS LIST

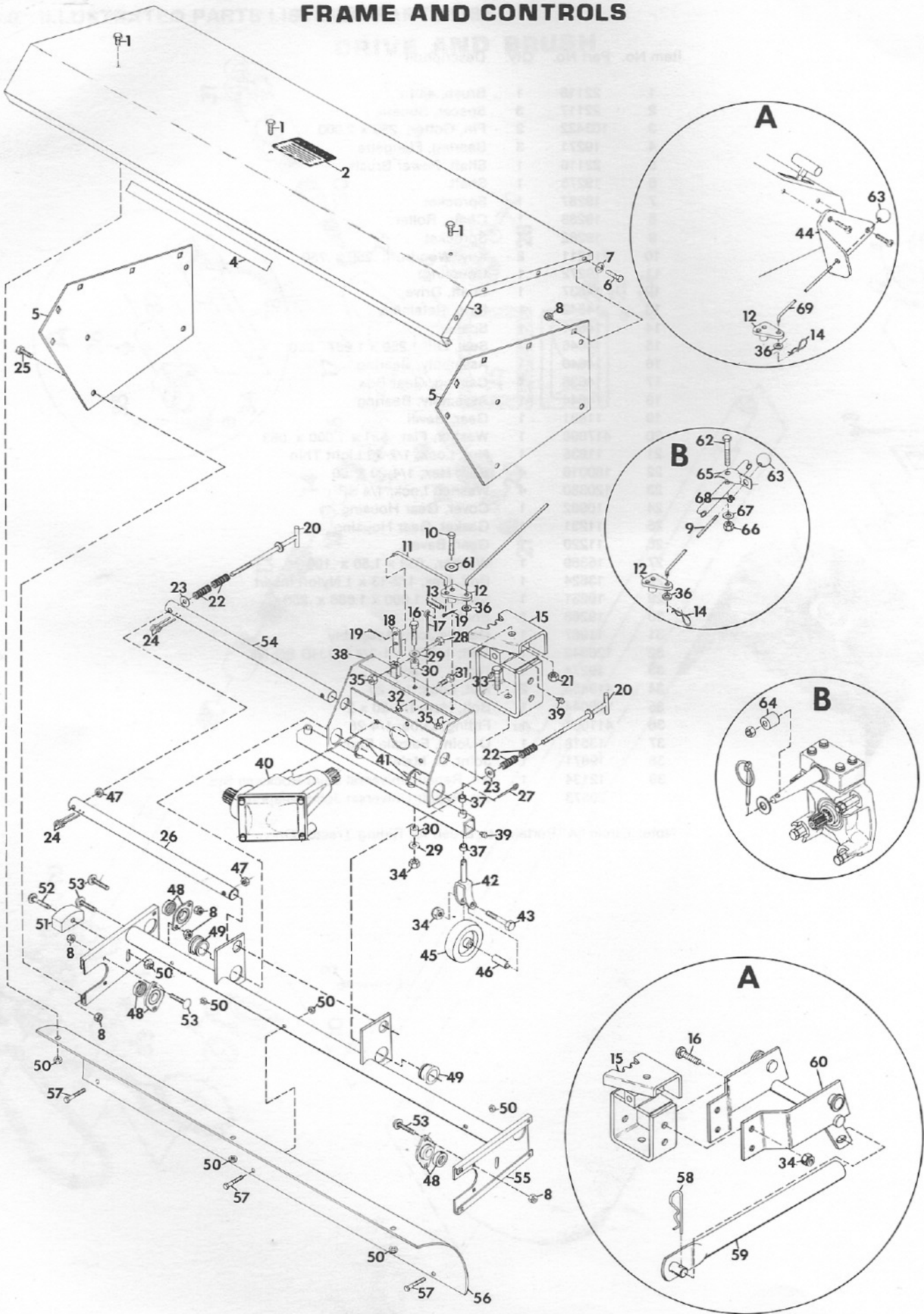
DRIVE AND BRUSH



Item No.	Part No.	Qty.	Description
1	22115	1	Brush, 44 In.
2	22117	3	Spacer, Square
3	103422	2	Pin, Cotter; .250 x 2.000
4	19271	3	Bearing, Flangette
5	22116	1	Shaft, Power Brush
6	19275	1	Shaft
7	19287	1	Sprocket
8	19288	1	Chain, Roller
9	19282	1	Sprocket
10	218211	2	Key, Woodruff; .250 x .750
11	19272	1	Coupling
12	14637	1	Shaft, Drive
13	14642	1	Ring, Retaining
14	14641	1	Spacer
15	14646	1	Seal, Oil; 1.250 x 1.987 .250
16	14640	1	Assembly, Bearing
17	14636	1	Casting, Gear Box
18	14644	1	Assembly, Bearing
19	11831	1	Gear, Bevel
20	417098	1	Washer, Flat; .531 x 1.000 x .063
21	11835	1	Nut, Lock; 1/2-20 Light Thin
22	180016	4	Bolt, Hex; 1/4-20 x .50
23	120380	4	Washer, Lock; 1/4 SP
24	10982	1	Cover, Gear Housing
25	11231	1	Gasket, Gear Housing
26	11220	1	Gear, Bevel
27	15369	1	Washer, .563 x 1.50 x .180
28	13624	1	Bolt, Hex; 1/2-13 x 1 Nylon Insert
29	19231	1	Seal, Oil; 1.000 x 1.688 x .250
30	19268	1	Shaft
31	11967	1	Double Joint Assembly
32	126342	1	Bolt; 1/4-20 x 1-3/4 RD HD SQ NK
33	19274	1	Block, Tension
34	419454	2	Nut, Lock; 1/4-20
35	180044	1	Bolt, Hex; 1/4-20 x 2
36	411027	1	Fitting, Lube; 1/4-28
37	13518	1	U-Joint, Female End
38	19871	1	Joint, U, Male
39	12134	1	Kit, Repair Universal Joint Rockwell Std.
	20573	1	Kit, Repair Universal Joint Neapco

Note: Circle "A" Pertains to Brush for Riding Tractor Only.

FRAME AND CONTROLS



Item No.	Part No.	Qty.	Description
1	180016	3	Bolt, Hex; 1/4-20 x .50
2	19479	1	Decal, Caution
3	19290	1	Hood
4	19365	1	Decal, Gravely
5	19291	2	Plate, Side
6	180075	10	Bolt, Hex; 5/16-18 x 5/8
7	120393	10	Washer, Flat; .344 x .688 x .065
8	419455	24	Nut, Lock; 5/16-18
9	19293	1	Arm, Control; Walking Tractors
10	180132	1	Bolt, Hex; 3/8-16 x 2-1/4
11	19266	1	Rod, Linkage
12	19261	1	Bracket, Weldment
13	15353	1	Spring, Extension
14	11860	1	Cotter, Hair Pin
15	22166	1	Weldment, Pivot Power Brush
16	180777	5	Bolt, Hex; 1/2-13 x 1-1/2
17	414218	1	Pin, Cotter; .375 x 1.375
18	19264	1	Plate, Locking
19	177923	2	Pin, Cotter; .125 x .750
20	19278	2	Weldment, Rod
21	416464	1	Nut, Lock; 1/2-13
22	11779	4	Spring
23	415543	2	Washer, Flat; .531 x 1.250 x .100
24	137204	4	Pin, Cotter; .125 x 1.500
25	180077	8	Bolt, Hex; 5/16-18 x 3/4
26	19277	1	Anchor, Threaded Adjustment
27	120123	2	Pin, Cotter; .125 x 1.250
28	180126	1	Bolt, Hex; 3/8-16 x 1-1/2
29	120396	2	Washer, Flat; .500 x 1.062 x .095
30	19260	2	Bushing, Pivot Casting
31	180173	3	Bolt, Hex; 1/2-13 x 1
32	120384	3	Washer, Lock; 1/2 SP
33	180179	1	Bolt, Hex; 1/2-13 x 1-3/4
34	435507	7	Nut, Lock; 1/2-13
35	456004	2	Nut, Lock; 3/8-16
36	120392	1	Washer, Flat; .281 x .625 x .065
37	11375	4	Bearing, Bronze; .751 x .877 x .750
38	19251	1	Weldment, Pivot Frame
39	411027	2	Fitting, Lube; 1/4-28
40	19267	1	Gear Box Asm
41	19270	2	E-Ring; 1.375 Shaft
42	11385	2	Weldment, Caster Fork
43	180193	2	Bolt, Hex; 1/2-13 x 3-3/4
44	19869	1	Bracket
45	11386	2	Wheel, Caster
46	11387	2	Bushing
47	120378	2	Nut, Hex; 1/2-13
48	19271	3	Bearing, Flangette
49	19269	2	Bushing
50	419454	7	Nut, Lock; 1/4-20
51	19274	1	Block, Tension
52	126342	1	Bolt; 1/4-20 x 1-3/4 RD HD SQ NK
53	126216	6	Bolt; 5/16-18 x 3/4 RD HD SQ NK
54	19276	1	Adjustment, Anchor
55	19245	1	Frame, Brush Support
56	19292	1	Shield
57	180046	3	Bolt, Hex; 1/4-20 x 2-1/4
58	10405	1	Cotter, Hair Pin
59	11607	1	Rod, Push Weldment
60	19866	1	Adapter Weldment
61	120394	1	Washer, Flat; .406 x .812 x .065
62	180188	1	Bolt, Hex; 1/2-13 x 2.75
63	19295	1	Knob
64	19297	1	Bushing; .531 x 1.000 x .600
65	19296	1	Guide, Control Rod
66	190139	1	Nut, Lock; 5/16-24
67	446354	1	Washer, Flat; 5/16 x 7/8 x .065
68	12325	1	Grommet, Shifter
69	19870	1	Arm, Control; Riding Tractors
	31308	1	Arm, Control; Extended Frame

NOTE:-Circles "A" Pertains to 4-Wheel Tractors Only and
Circles "B" Pertains to 2-Wheel Tractors Only.

GRAVELY LIMITED WARRANTY

This Limited Warranty is issued by Gravelly International, Inc., and consists of the following terms:

1. Only the original purchaser of new Gravelly equipment is covered by this Warranty.
2. This Warranty covers repair or replacement of parts manufactured by Gravelly which are defective in material or workmanship. Gravelly will pay for parts and labor only.
3. The Warranty starts the date of purchase and lasts for NINETY (90) DAYS for products used in commercial applications, and TWELVE (12) MONTHS for products used by the owner to maintain his personal residence. Commercial means any use other than to maintain the grounds around the personal residence of the owner of the product.
4. Some components of Gravelly equipment are not covered by the Gravelly Warranty. These components are covered by the original manufacturer's warranty, which is included with the product. They are:
 - a. Engines
 - b. Tires
5. To obtain warranty service on Gravelly equipment including components not manufactured by Gravelly, use this procedure:
 - a. Notify the Gravelly dealer from whom you purchased the equipment.
 - b. If you have moved and it is not convenient to notify the selling dealer, notify the nearest Gravelly dealer. You should supply this dealer with a copy of the bill of sale as proof of the date of purchase.
 - c. Make arrangements to have the equipment delivered to the dealer (refer to paragraph 6(a) below).
 - d. If you have any questions concerning the Gravelly Limited Warranty, they should be referred to:

Gravelly International, Inc.
One Gravelly Lane
Clemmons, NC 27012

Attn: Manager of Customer Services
 - e. Warranty service on Gravelly equipment must be performed by an authorized Gravelly dealer or Gravelly factory branch.
6. This Warranty does not cover the following:
 - a. Transportation between owner's home or place of business and the dealership. If the dealer provides the transportation of the equipment, he will charge the owner his usual rate for such service.
 - b. Normal maintenance services and normal replacement of items such as spark plugs, belts, oil, oil filters, air filters, and mower, plow or cultivator blades.
 - c. Alterations or Modifications - All obligations under this warranty shall be terminated if the equipment is altered or modified in any way.
 - d. Customer Neglect or Lack of Proper Maintenance - The purchaser is responsible for making sure that the tractor is operated and serviced as directed in the operator's manual. Incorrect use or maintenance will void the warranty.
7. GRAVELLY MAKES NO OTHER EXPRESS WARRANTIES. ANY IMPLIED WARRANTIES, INCLUDING WARRANTIES AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE PERIOD SET OUT IN PARAGRAPH 3 ABOVE. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE STATEMENT MAY NOT APPLY TO YOU.
8. GRAVELLY SHALL HAVE NO RESPONSIBILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE BREACH OF ANY WARRANTY, INCLUDING, BUT NOT LIMITED TO, INCONVENIENCE, RENTAL OR PURCHASE OF REPLACEMENT EQUIPMENT, LOSS OF PROFITS OR COMMERCIAL LOSS. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.
9. This Warranty gives you specific legal rights, and you may have other rights which vary from state to state.
10. A Gravelly product registration card is supplied with each Gravelly product. Please complete the card and return it to Gravelly at the address listed on the card. The equipment registration card will be used by Gravelly for:
 - a. Recording date of purchase.
 - b. Notification of owners in compliance with the Consumer Product Safety Act, should any notification be necessary.
11. The return of registration card is not required in order to take advantages of this Warranty.
11. This Warranty is not subject to change or modification by anyone, including Gravelly dealers and no Gravelly dealer is authorized to make any representations or promises on Gravelly's behalf.

 **GRAVELLY**
One Gravelly Lane, Clemmons, NC 27012