



50" MOWER (DIRECT MOUNT) OPERATOR'S MANUAL

NOTE

Read this manual carefully and learn to operate and service your 50" Mower before using it.

To keep the warranty, the 50" Mower must be maintained and operated as directed in this manual.

All references to "left-side", "right-side", "front", and "back" are given from the operator's position.

SERIAL NUMBER _____



Look for this symbol to point out important safety precautions. It means — ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED.

SECTION 1

INSTRUCTIONS FOR SAFE OPERATION

Improper use of this equipment can injure people and damage the equipment. People using or servicing this equipment must read and follow the instructions in this manual.

It is important to understand that this manual and any other Gravely instruction manuals do not cover every possible danger. It is impossible for Gravely to know all possible dangers in operating and servicing the equipment.

The purchaser must give these instructions to the people operating and maintaining this equipment. These people must use eye and foot protection.

1.1 Preparation:

1. Read this manual and the tractor manual carefully.
2. Learn the location and function of all controls.
3. Learn how to use the controls to stop the wheels and mower quickly.
4. Use caution with gasoline. Gasoline is very flammable. Keep it in a clean and tight container away from flames or hot items. Never put gasoline in the fuel tank while the engine is running or hot. Clean up spilled gasoline before starting engine.
5. Be certain that all shield, guards, and interlock switches are in the correct positions.
6. Never permit children to operate the tractor and mower.
7. Inspect area to be mowed and remove all material which could be thrown by the mower.
8. Before starting the engine, put the PTO control lever in the "OFF" position and the gear shift lever in the neutral "N" position.
9. When hauling the equipment, connect the chassis to the transporting vehicle. Never connect from control levers, rods, or like items that could be damaged.
10. Replace all parts that become damaged or lost.
11. Be certain the operator presence controls work correctly before operating the mower.

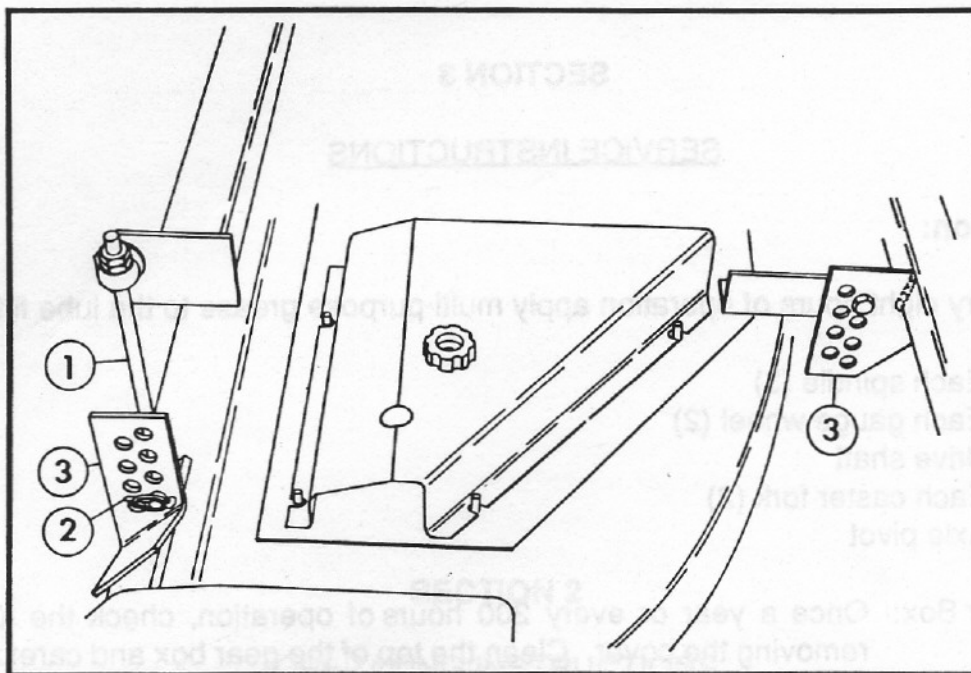
1.2 Operation:

1. Wear foot and eye protection. Do not wear loose clothing.
2. Do not use the equipment in the dark without adequate lighting.

SECTION 3

SERVICE INSTRUCTIONS

3. Keep the equipment in good condition. Maintain it as directed in this manual.
4. **USE ONLY GRAVELY ACCESSORIES AND ATTACHMENTS.**
5. Do not overspeed the engine. Do not override the governor.
6. Keep away from moving parts.
7. Keep people and animals away from the operating area.
8. Do not let people other than the operator near the operating equipment.
9. Use a slow speed and engage the direction control lever slowly when operating on slopes.
10. Look for and keep away from hazards.
11. After hitting an object, stop the equipment and engine. Check for damage. Repair any damage before operating.
12. Look behind when operating in reverse. Look for people and hazards.
13. Operate only from the operator's position.
14. Travel across, not up and down slopes.
15. If there is a sudden change in the sound or vibration of the equipment, stop the engine and check for damage. Repair any damage or failure before continuing operation.
16. Never run the engine indoors except to move it outside. Exhaust fumes are dangerous.
17. Go slowly on slick surfaces.
18. Follow traffic laws when operating on or near a road.
19. Before making adjustments or servicing, move the PTO to "OFF", turn the ignition switch to "OFF" and wait until all moving parts completely stop.
20. Before leaving the operator's position, put the PTO lever in the "OFF" position and turn the ignition key to the "OFF" position. Move the direction control to the forward position. Wait until all moving parts have stopped.



- 1 - Lift Rod
- 2 - Klik Pin
- 3 - Height Adjustment Bracket

FIGURE 1

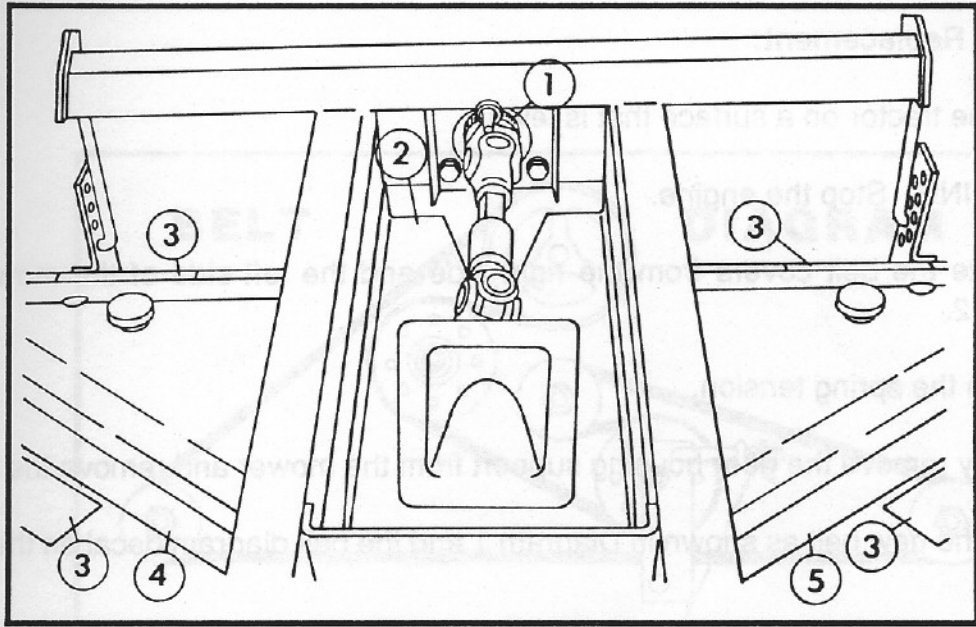
2. Select the hole in the axle plate that will give the desired cutting height. Align the hole in the height adjustment bracket with the hole in the axle plate. Put the bolts through the holes and install the nuts.
3. Remove the klik pin from the lift rod.
4. Put the lift rod in the hole in the rear adjustment plate that will give the same cutting height position as selected in step 2. Install the klik pin.
5. Repeat steps 3 and 4 for the other lift rod.

3.4 Belt Adjustment:

It is not necessary to remove the mower from the tractor to adjust the tension of the belt.

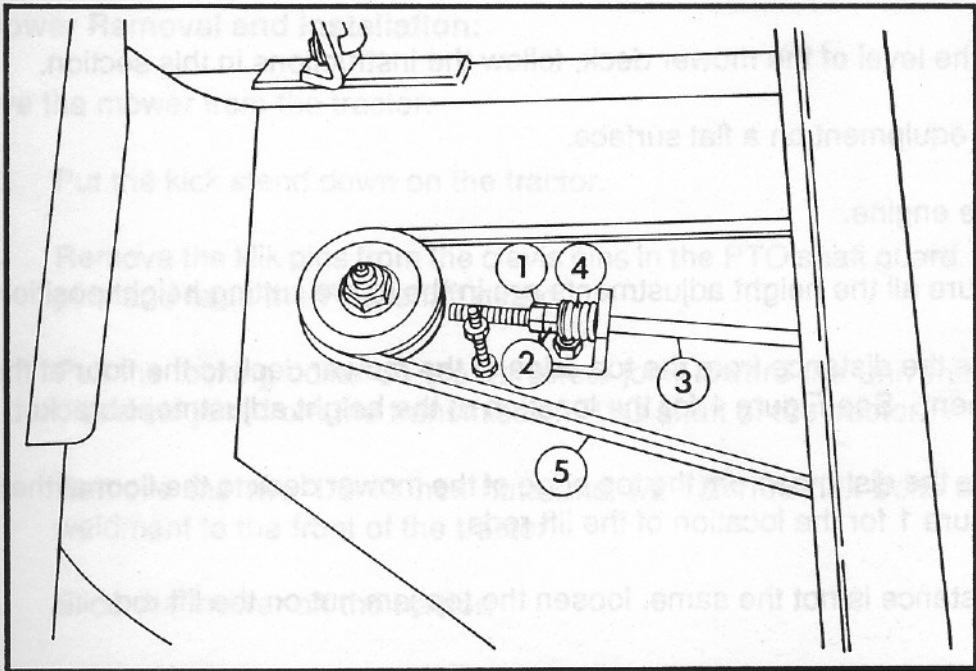
⚠ WARNING: Stop the engine.

1. Remove the right side belt cover. See Figures 2 and 3.
2. Hold the adjusting nut and turn the jam nut counter-clockwise.
3. Turn the adjusting nut clockwise until there is a gap of .010" to .015" (.25mm to .38mm) between the coils of the spring.
4. Hold the adjusting nut and tighten the jam nut against the adjusting nut.
5. Install the right side belt cover.



- 1 - PTO Drive Coupling
- 2 - Gear Housing Support
- 3 - Height Adjustment Decal
- 4 - Right Side Belt Cover
- 5 - Left Belt Cover

FIGURE 2




- 1 - Jam Nut
- 2 - Adjusting Nut
- 3 - Idler Rod
- 4 - Spring
- 5 - Mower Belt

FIGURE 3

3.5 Mower Belt Replacement:

1. Stop the tractor on a surface that is level.

 **WARNING:** Stop the engine.

2. Remove the belt covers from the right side and the left side of the mower. See Figure 2.
3. Loosen the spring tension.
4. Partially remove the gear housing support from the mower and remove the old belt.
5. Install the new belt as shown in Diagram 1 and the belt diagram decal on the mower deck.
6. Install the gear housing support.
7. Adjust the tension of the belt as shown in Section 3.4.
8. Install the belt covers.

3.6 Mower Level Adjustment:

To check or adjust the level of the mower deck, follow the instructions in this section.

1. Put the equipment on a flat surface.
2. Stop the engine.
3. Make sure all the height adjustments are in the same cutting height position.
4. Measure the distance from the top edge of the mower deck to the floor at the height adjustment. See Figure 1 for the location of the height adjustment bracket.
5. Measure the distance from the top edge of the mower deck to the floor at the lift rods. See Figure 1 for the location of the lift rods.
6. If the distance is not the same, loosen the top jam nut on the lift rod.
7. Turn the bottom jam nut on each lift rod until the measurement from the top edge of the mower deck to the floor is the same as the measurement at the height adjustment bracket. Tighten the top jam nut against the bottom jam nut.
8. Repeat steps 4 through 7 until all the measurements are the same.

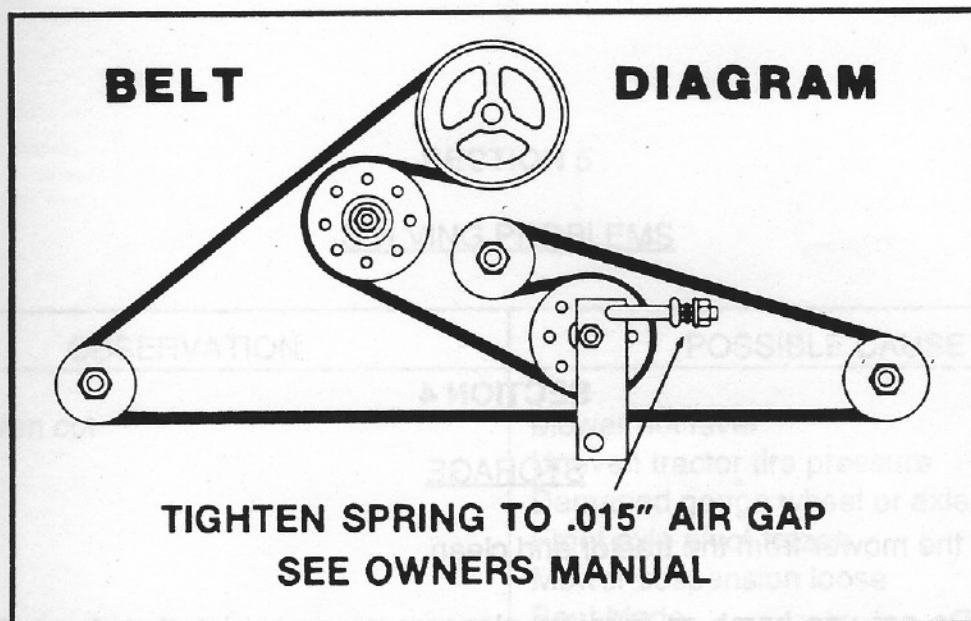


DIAGRAM 1

3.7 Mower Removal and Installation:

To remove the mower from the tractor:

1. Put the kick stand down on the tractor.
2. Remove the klik pins from the clevis pins in the PTO shaft guard. Remove the clevis pins and raise the PTO shaft guard.
3. Pull the locking collar on the universal joint toward the universal joint and pull the universal joint from the transmission PTO shaft of the tractor.
4. Remove the two 1/2-13 hex nuts and 1/2-13x1.00 hex bolts attaching the frame weldment to the front of the tractor.
5. Slide the mower off the tractor.

To install the mower on the tractor, reverse the steps above.

3.5 Mower Belt Replacement:

1. Stop the tractor on a surface that is level.



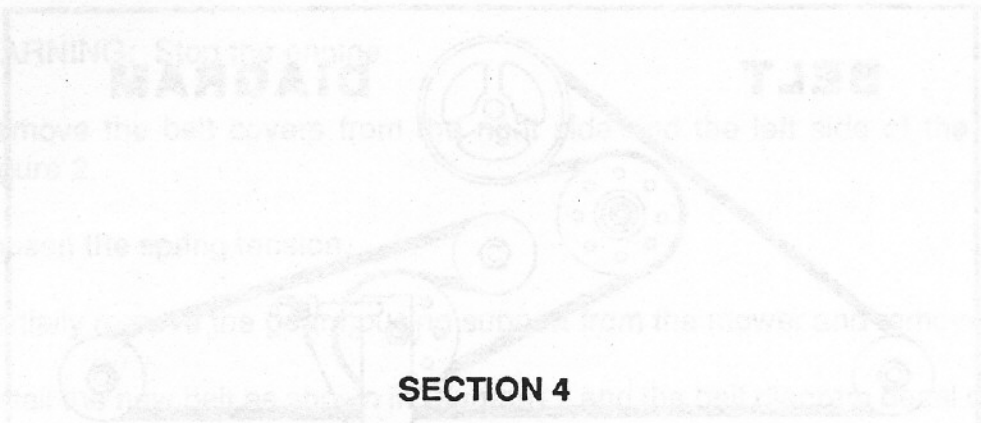
WARNING: Shut off the engine and disconnect the battery before working on the mower deck.

2. Remove the belt covers from the tractor and the left side of the mower. See Figure 3.

3. Loosen the spring tension.

4. Partially disassemble the mower deck and remove the old belt.

5. Install the new belt as shown in Figure 4.



SECTION 4

STORAGE

- 4.1 Remove the mower from the tractor and clean.

NOTE: Do not use harsh or abrasive cleaners on any painted surface. Do not allow gasoline or oil to remain on any silk screened surface.

- 4.2 Inspect for damage, wear, loose or missing hardware. Repair as needed.

- 4.3 Sharpen and balance the blades.

- 4.4 Lubricate.

- 4.5 Paint or oil any bare metal surfaces to prevent rust.

- 4.6 Place in a dry area.

SECTION 5

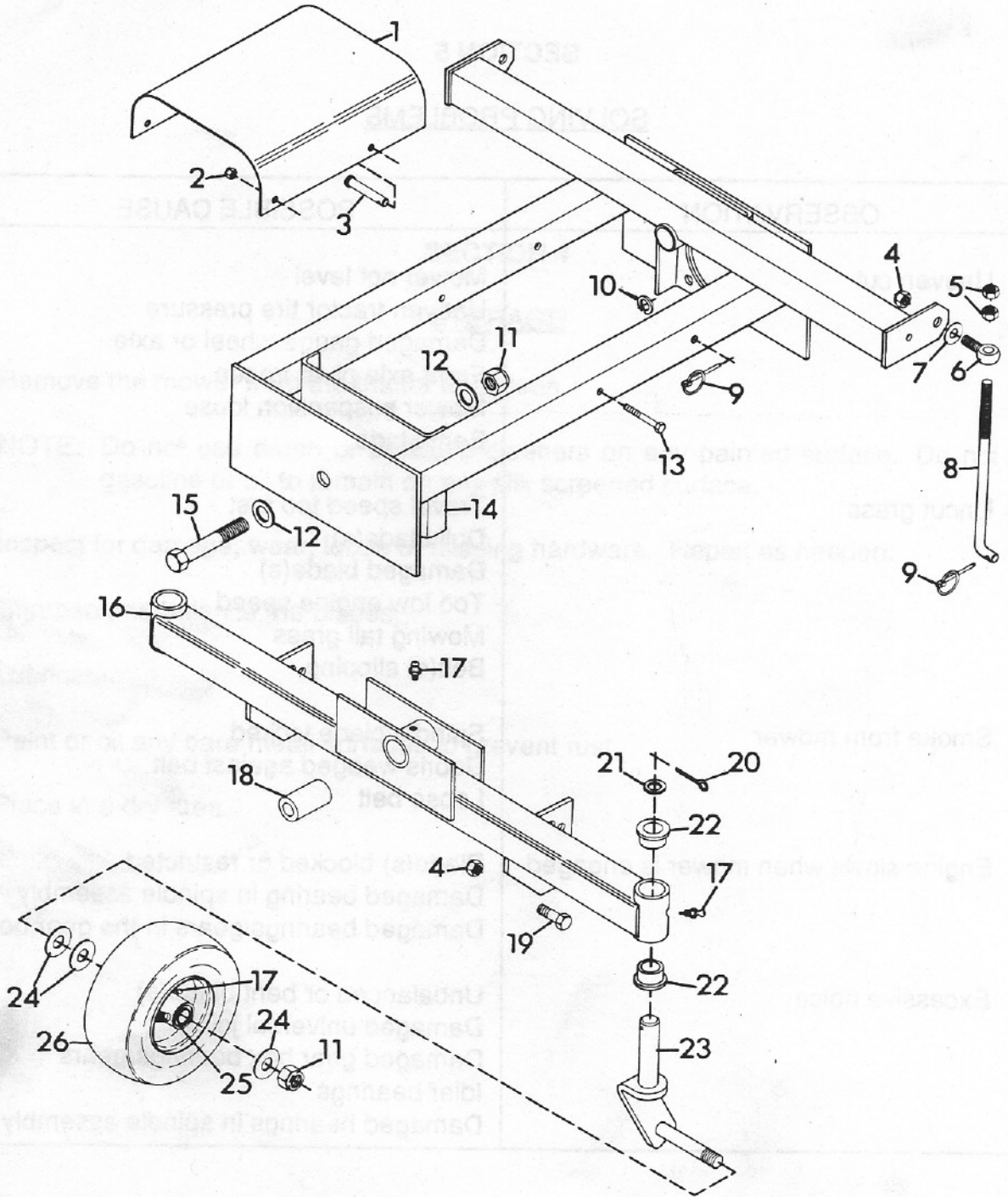
SOLVING PROBLEMS

OBSERVATION	POSSIBLE CAUSE
1. Uneven cut	Mower not level Uneven tractor tire pressure Damaged gauge wheel or axle Front axle pivot frozen Mower suspension loose Bent blade
2. Uncut grass	Travel speed too fast Dull blade(s) Damaged blade(s) Too low engine speed Mowing tall grass Belt(s) slipping
3. Smoke from mower	Spindle/blade locked Debris wedged against belt Loose belt
4. Engine slows when mower is engaged	Blade(s) blocked or restricted Damaged bearing in spindle assembly Damaged bearings/gears in the gear box
5. Excessive noise	Unbalanced or bent blade(s) Damaged universal joint Damaged gear box bearings/gears Idler bearings Damaged bearings in spindle assembly

SECTION 6

ILLUSTRATED PARTS AND PARTS LIST

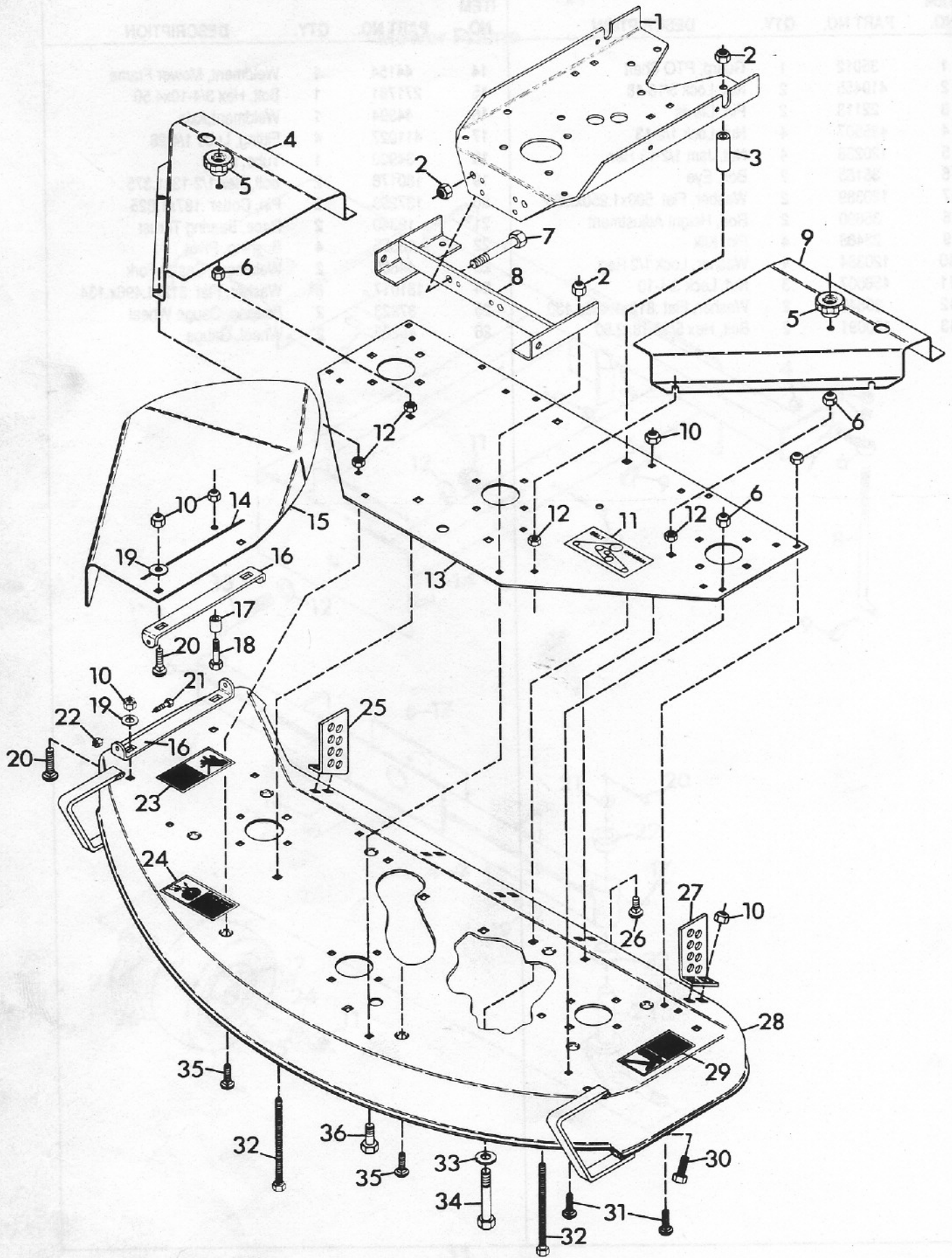
Mower Frame



Mower Frame

ITEM NO.	PART NO.	QTY.	DESCRIPTION	ITEM NO.	PART NO.	QTY.	DESCRIPTION
1	35012	1	Guard, PTO Shaft	14	44154	1	Weldment, Mower Frame
2	419455	2	Nut, Lock 5/16-18	15	271781	1	Bolt, Hex 3/4-10x4.50
3	22113	2	Pin, Clevis	16	44394	1	Weldment, Axle
4	435507	4	Nut, Lock 1/2-13	17	411027	4	Fitting, Lube 1/4-28
5	120238	4	Nut, Jam 1/2-13 Hex	18	34920	1	Tube, Pivot
6	35165	2	Bolt, Eye	19	180176	2	Bolt, Hex 1/2-13x1.375
7	120389	2	Washer, Flat .500x1.250x.083	20	137253	2	Pin, Cotter .187x1.625
8	35690	2	Rod, Height Adjustment	21	19340	2	Race, Bearing Thrust
9	23468	4	Pin, Klik	22	18355	4	Bushing, Pivot
10	120384	4	Washer, Lock 1/2 Reg.	23	44680	2	Weldment, Caster Fork
11	456007	3	Nut, Lock 3/4-10	24	131017	6	Washer, Flat .812x1.496x.134
12	35640	2	Washer, Flat .812x1.469x.130	25	37823	2	Bearing, Gauge Wheel
13	180091	2	Bolt, Hex 5/16-18x2.50	26	45205	2	Wheel, Gauge

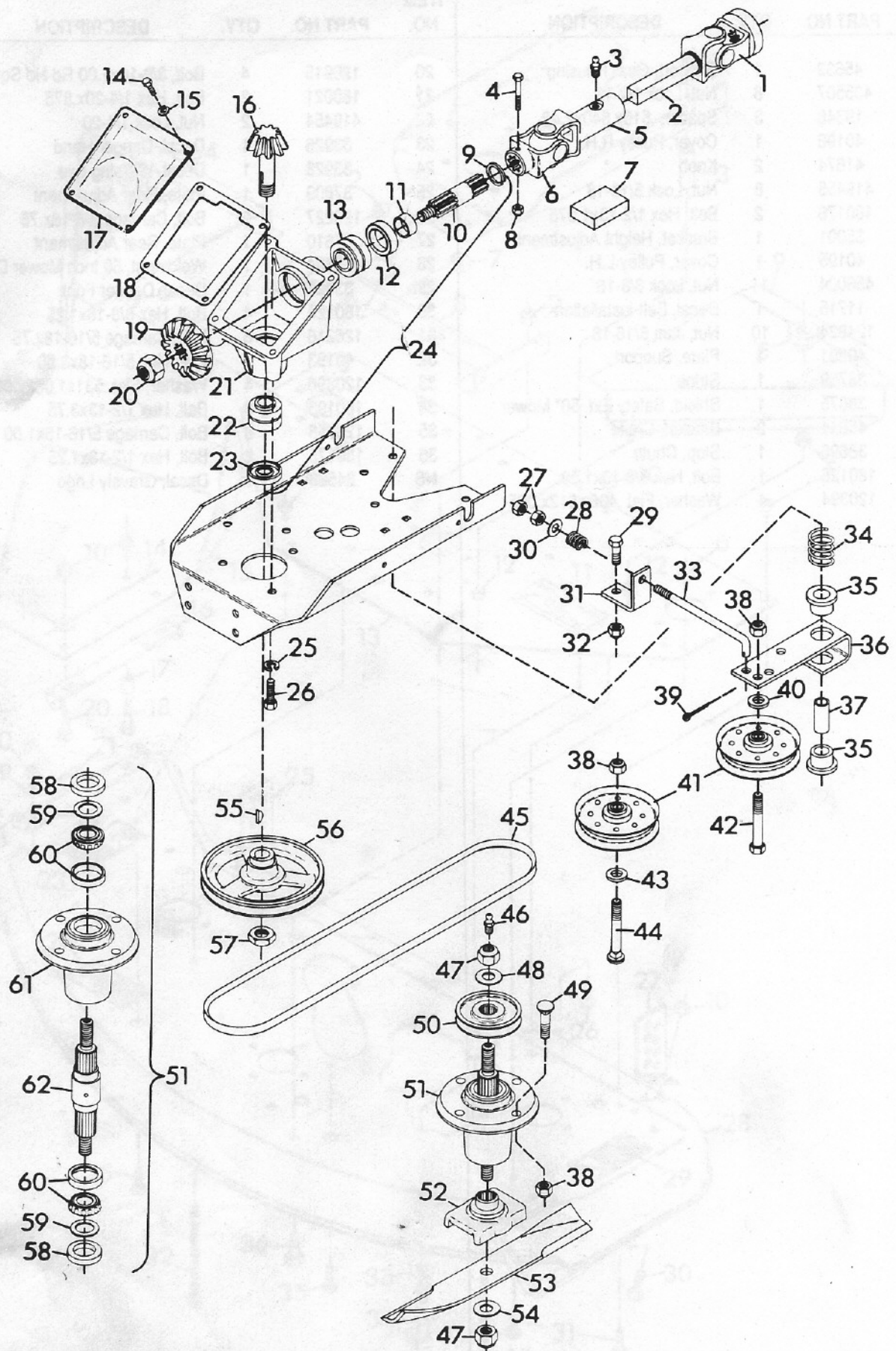
Mower Deck



Mower Deck

ITEM NO.	PART NO.	QTY.	DESCRIPTION	ITEM NO.	PART NO.	QTY.	DESCRIPTION
1	45632	1	Support, Gear Housing	20	120915	4	Bolt, 3/8-16x1.00 Rd Hd Sq Nk
2	435507	8	Nut, Lock 1/2-13	21	180021	2	Bolt, Hex 1/4-20x.875
3	19348	3	Spacer, .510x.840x2.43	22	419454	2	Nut, Lock 1/4-20
4	40196	1	Cover, Pulley R.H.	23	33926	1	Decal, Danger Hand
5	41674	2	Knob	24	33928	1	Decal, Warning Eye
6	419455	8	Nut, Lock 5/16-18	25	37809	1	Plate, Rear Adjustment
7	180176	2	Bolt, Hex 1/2-13x1.375	26	126227	2	Bolt, Carriage 3/8-16x.75
8	35001	1	Bracket, Height Adjustment	27	37810	1	Plate, Rear Adjustment
9	40195	1	Cover, Pulley L.H.	28	45754	1	Weldment, 50 Inch Mower Deck
10	456004	11	Nut, Lock 3/8-16	29	33927	1	Decal, Danger Foot
11	11715	1	Decal, Belt Installation	30	180124	4	Bolt, Hex 3/8-16x1.25
12	124824	10	Nut, Jam 5/16-18	31	126216	6	Bolt, Carriage 5/16-18x.75
13	40201	1	Plate, Support	32	40193	2	Bolt, Hex 5/16-18x3.50
14	38769	1	Stripe	33	120396	4	Washer, Flat .531x1.062x.095
15	38675	1	Shield, Safety Ext. 50" Mower	34	180193	4	Bolt, Hex 1/2-13x3.75
16	45641	2	Bracket, Chute	35	126358	8	Bolt, Carriage 5/16-18x1.00
17	38696	1	Stop, Chute	36	180175	2	Bolt, Hex 1/2-13x1.25
18	180126	1	Bolt, Hex 3/8-16x1.50	NS	24588	1	Decal, Gravely Logo
19	120394	4	Washer, Flat .406x.812x.065				

Mower Drive



Mower Drive

ITEM NO.	PART NO.	QTY.	DESCRIPTION	ITEM NO.	PART NO.	QTY.	DESCRIPTION
1	45954	AR	Yoke	35	10174	2	Bushing, Nylon .760x1.00x.600
2	19074	1	Shaft, Prop. Sq. Bar	36	34120	1	Arm, Idler Pivot
3	411027	1	Fitting, Lube 1/4-28	37	34119	1	Spacer
4	180044	1	Bolt, Hex 1/4-20x2	38	456004	14	Nut, Lock 3/8-16
5	13518	1	U-Joint, Female End	39	121224	1	Pin, Cotter 3/32x1.00
6	46086	AR	Yoke(Neapco)	40	14672	1	Spacer, Idler .406x.750x.188
	46087	AR	Yoke(Roscommon)	41	21060	2	Sheave, Idler
7	12134	1	Kit, Repair U-Joint(Rock Std.)	42	180130	1	Bolt, Hex 3/8-16x2.00
	24560	1	Kit, Repair U-Joint(Neapco)	43	120388	1	Washer, Flat .438x1.000x.083
8	419454	1	Nut, Lock 1/4-20	44	126416	1	Bolt, 3/8-16x1.75 Rd Hd Sq Nk
9	14642	1	Ring, Retaining 1.000 Shaft	45	11216	1	Belt, V .500x.312x126.3
10	31412	1	Shaft, Drive	46	411010	2	Fitting, Lube 1/8
11	14641	1	Spacer				(Left and Right Spindle)
12	14646	1	Seal, Oil 1.25x1.987x.250	21214	1	Fitting, Lube .125 Ext.	
13	14640	1	Assembly, Bearing				(Center Spindle)
14	180016	4	Bolt, Hex 1/4-20x.50	47	418692	6	Nut, Lock 5/8-11
15	120380	4	Washer, Lock 1/4	48	33845	3	Washer, Flat .687x1.312x.122
16	45588 SJ 320	1	Shaft, Gear Pinion	49	126402	12	Bolt, 3/8-16x1.25 Rd Hd Sq Nk
17	10982	1	Cover, Gear Housing	50	43366	3	Sheave, Spindle
18	11231	1	Gasket, Gear Housing	51	21306	3	Assembly, Spindle
19	45587	1	Gear, Bevel	52	23026	3	Weldment, Blade Cradle
20	456007	1	Nut, Lock 3/4-10	53	11234	3	Blade
21	14636	1	Casting, Gear Box	54	131016	3	Washer, Flat .656x1.312x.095
22	14644	1	Assembly, Bearing	55	431787	1	Key, Woodruff .188x.625 Hard
23	14645	1	Seal, Oil 1.250x1.686x.313	56	14660	1	Sheave, 1/2x6.50
24	31410	1	Assembly, Drive 50" Mower	57	451539	1	Nut, Jam 3/4-10 Hex Heavy
25	120384	3	Washer, Lock 1/2	58	21211	2	Seal, Steel
26	180173	3	Bolt, Hex 1/2-13x1.00	59	20743	2	Washer, Flat .975x1.970x.030
27	120369	2	Nut, Hex 3/8-24	60	38199	2	Assembly, Bearing
28	11779	1	Spring, Comp. 1x.78x338 lb/in	61	21215	1	Housing, Bearing
29	180176	1	Bolt, Hex 1/2-13x1.375	62	21216	1	Shaft, Spindle
30	120394	1	Washer, Flat .406x.812x.065	NS	36799	AR	Spring
31	34431	1	Support, Spring	NS	36800	AR	Collar, Locking
32	435507	1	Nut, Lock 1/2-13	NS	36801	AR	Ring, Snap
33	21111	1	Rod, Idler	NS	145643	AR	Ball, Detent
34	20444	1	Spring, Comp.				

SECTION 8

SET-UP INSTRUCTIONS

- 8.1 Remove the mower from the shipping container.
- 8.2 Put two .812x1.496x.134 flat washers on the shaft of one of the caster fork weldments. Slide a gauge wheel on the shaft and retain with a .812x1.496x.134 flat washer and 3/4-10 lock nut. Fasten the other gauge wheel to the mower the same way. Check the tire pressure in each gauge wheel and adjust, if necessary, to the correct pressure as given in Section 7.
- 8.3 Position the mower frame weldment in front of the tractor and align the holes in the mounting plate of the frame weldment with the studs in the tractor quick hitch casting. Fasten the frame weldment to the front of the tractor using the four 1/2 lock washers from the mower hardware bag and the two 1/2-13 hex nuts and 1/2-13x1.00 hex bolts from the tractor hardware bag.
- 8.4 Get assistance to position the mower mount frame over the mower. Raise the front of the mower and install the bolts in the front height adjustment brackets. See Figures 1 and 2.
- 8.5 Raise the rear of the mower. Insert the lift rods into the rear adjustment plates. Install the klik pins in the lift rods in the rear adjustment plates. See Section 3.3 to adjust the height of cut.
- 8.6 The length of the PTO shaft may be too long; cut to the dimension shown in Diagram 2. Put a film of grease on the square bar of the PTO shaft and slide the shaft into the tube of the universal joint (female) assembly.
- 8.7 Put a film of grease on the transmission PTO shaft.
- 8.8 Pull the locking collar on the universal joint toward the universal joint and hold it. Slide the locking collar halfway on the PTO shaft and release the locking collar. Push the locking collar on the transmission PTO shaft until it locks in position.
- 8.9 Lower the PTO shaft guard. Install the clevis pins in the PTO shaft guard. Install the klik pins in the clevis pins.

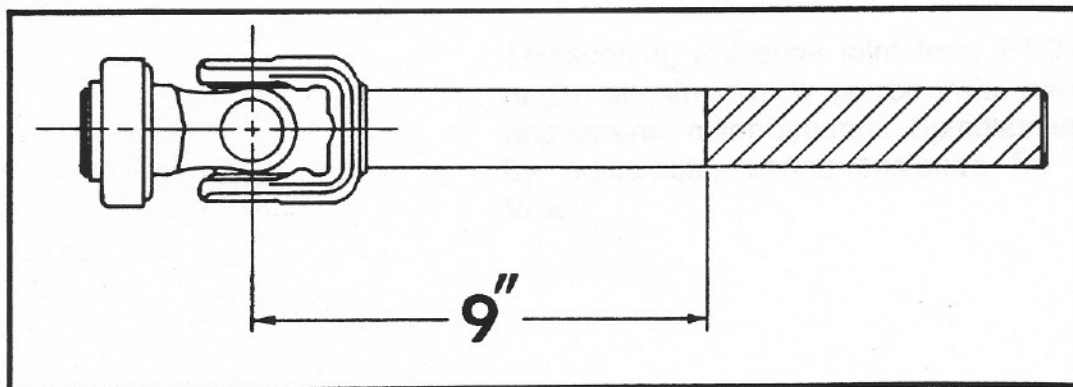


DIAGRAM 2

SECTION 9

LIMITED FIVE-YEAR WARRANTY

1. This Limited Five-Year Warranty is issued by Gravelly International, Inc., only to the original purchaser. If Gravelly equipment is leased by Gravelly, this Warranty shall extend also to the original lessee as if such lessee were the original purchaser.
2. Gravelly warrants that all new equipment manufactured by Gravelly ("Gravelly Products") shall be free of defects in material and workmanship for the term described in paragraph 4, below. Except as hereinafter provided, this Warranty does not cover any engine, tires or battery forming a part of the Gravelly Product. Engine and tires are covered by and subject to separate warranties of the manufacturers thereof.
3. In the event that any Gravelly Product warranted hereunder shall be defective or fail to conform with this Warranty, Gravelly shall, subject to the provisions hereof, pay for, or provide labor and materials for, the repair or replacement of such defective Gravelly Product.
4. This Warranty is for five years (60 months) from purchase date for Gravelly Products used exclusively for personal, family or household purposes, and two years (24 months) for products used for other purposes (commercial use), excluding rental firms. Gravelly products used for rental purposes will be warranted for 90 days. Repair of Gravelly Products after the second year (24 months from date of purchase) shall be subject to a \$50.00 deductible for each repair. (After two years, Gravelly agrees to repair or replace defective Gravelly Products used exclusively for personal, family or household purposes only to the extent that the cost of such warranty covered repair or replacement exceeds \$50.00.)

Batteries are warranted by Gravelly for a period of twelve (12) months only. If a battery shall fail within twelve (12) months of purchase, the replacement cost thereof shall be prorated over a twelve-month term based upon the number of months since purchase.
5. To obtain Warranty Service on a Gravelly Product (including any battery or other component 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: Customer Service Department
 - e. Warranty Service on Gravelly Products must be performed by an authorized Gravelly dealer.
6. This Warranty does not cover the following:
 - a. Transportation to the Gravelly dealership. (If the Gravelly dealer provides transportation, he will charge 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, gauge wheels, skids and other wear items.
 - c. Any Gravelly Product which has been altered or modified in any way.
 - d. Any repair or replacement occasioned by customer neglect or lack of proper maintenance. (The purchaser is responsible for making sure that Gravelly Products are operated and serviced as directed in the applicable manual or service instruction. Incorrect use or maintenance will void this Warranty.
 - e. Any repair occasioned by the use of any attachment not approved by Gravelly. (The use of any such unapproved attachment will void this Warranty.)
7. GRAVELLY MAKES NO OTHER EXPRESSED OR IMPLIED WARRANTIES, OR WARRANTIES AS TO THE MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ALL WARRANTIES ARE LIMITED IN DURATION TO THE TERMS SET OUT IN PARAGRAPH 4, ABOVE. GRAVELLY SHALL HAVE NO LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE BREACH OF ANY WARRANTY, INCLUDING, BUT NOT LIMITED TO, LIABILITY FOR INCONVENIENCE, RENTAL OR PURCHASE OF REPLACEMENT EQUIPMENT, OR FOR LOSS OF PROFITS OR OTHER COMMERCIAL LOSS.
8. Some states do not allow limitations on how long an implied warranty lasts, so the above statement may not apply to you. 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.The return of such card is necessary for your warranty to be effective.
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