

JACOBSEN[®]

OPERATOR'S MANUAL WITH PARTS LIST

Aero King[®] 1321

Product No. 82120
Serial No. 2100 and Up



WARNING: *If incorrectly used this machine can cause severe injury. Those who use and maintain the machine should be trained in its proper use, warned of its dangers and should read the entire manual before attempting to set up, operate, adjust or service the machine.*

1. Safety is dependent upon the awareness, concern and prudence of those who operate or service the equipment. Never allow minors to operate any equipment.
2. It is your responsibility to read this manual and all publications associated with this equipment (engine, accessories and attachments).
3. Learn the proper use of the machine, the location and purpose of all the controls and gauges before you operate the equipment. Working with unfamiliar equipment can lead to accidents.
7. Never operate equipment that is not in perfect working order or without decals, guards, shields, or other protective devices securely fastened in place.
8. Never disconnect or bypass any switch.
9. Carbon monoxide in the exhaust fumes can be fatal when inhaled. Never operate the engine without proper ventilation.
10. Fuel is highly flammable, handle with care.
11. Keep the engine clean. Allow the engine to cool before storing and always remove ignition key.



The safety alert symbol is used to alert you to potential hazards.

DANGER - Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING - Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury and property damage.

CAUTION - Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury and property damage. It may also be used to alert against unsafe practices.

4. Never allow anyone to operate or service the machine or its attachments without proper training and instructions; or while under the influence of alcohol or drugs.
5. Wear all the necessary protective clothing and personal safety devices to protect your head, eyes, ears, hands and feet. Operate the machine only in daylight or in good artificial light.
6. Inspect the area where the equipment will be used. Pick up all the debris you can find before operating. Beware of overhead obstructions (low tree limbs, electrical wires, etc.) and also underground obstacles (sprinklers, pipes, tree roots, etc.). Enter a new area cautiously. Stay alert for hidden hazards.
12. Disengage all drives and engage parking brake before starting the engine (motor).
13. Operate the machine across the face of slopes (horizontally), not up and down the face (vertically).
14. To prevent tipping or loss of control, do not start or stop suddenly; reduce speed when making sharp turns. Use caution when changing direction on slopes.
15. Always be sure of your footing; keep a firm hold on the handle and walk; never run.



CAUTION:

1. Before leaving operator's position for any reason:
 - a. Disengage all drives.
 - b. Engage parking brake.
 - c. Stop engine.
2. Keep hands, feet and clothing away from moving parts. Wait for all movement to stop before you clean, adjust or service the machine.
3. Keep the area of operation clear of all bystanders.

FOREWORD

By following all instructions in this manual, you will prolong the life of your machine and maintain its maximum efficiency.

Adjustments and maintenance should always be performed by a qualified technician.

If additional information or service is needed, contact an Authorized Jacobsen Distributor who is kept informed of the latest methods to service this equipment and can provide prompt and efficient service.

Use of other than original Jacobsen parts and accessories or Jacobsen authorized parts and accessories will void the warranty.

Proposition 65 Warning

Engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, and other reproductive harm.

All information in this publication is based on information available at time of approval for printing.

Jacobsen reserves the right to make changes at any time without notice and without incurring any obligation.

For pictorial clarity, some illustrations in this manual may show shields, guards or plates open or removed. Under no circumstances should this equipment be operated without these devices securely fastened in place.



WARNING

This machine is equipped with an Operator Presence Control (O.P.C.) intended to protect the operator and other from injury by preventing the engine from starting unless the (O.P.C.) lever is locked and the tine switch is in the "Off" position.

Never operate equipment with the O.P.C., system disconnected or malfunctioning.

This machine is intended for the professional maintenance of high quality grasses. It is not intended for use on rough terrain or long grasses.

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SPECIFICATIONS

1.0 PRODUCT IDENTIFICATION

82120Aero King® 1321 Seeder-Verticutter with 13 hp gasoline engine, dual hopper.

Product	EEC Sound Power	Vibration M/S ² Arms
82120	103 dba	5.16

1.1 ENGINE:

TypeOverhead valve, 4-cycle, single cylinder
 ModelHonda GX 390
 Horsepower13 hp, (9.7 kW) @ 3600 rpm
 Torque19.53 ft./lb., (2.7 m/kg) @ 2500 rpm
 Bore and Stroke3.46 x 2.52 in., (88 x 64 mm)
 Air CleanerDual Element
 Displacement23.7 cu. in., (389 cc)
 Oil capacity1.2 qt., (1.14 ltr)
 Fuel capacity1.7 gal., (6.5 ltr)
 StarterRecoil
 IgnitionElectronic
 Battery12 volt, 10 amp charge circuit
 CoolingForced Air

1.2 VERTICUTTER:

Traction driveClutched belt with differential
 Blade driveElectric clutch
 Blades14, 8 in., (203 mm) dia., 8-point blades
 Cutting depthAdjustable to 1-1/2 in., (38 mm) deep

1.3 SEED HOPPER:

Capacity1.375 cu. ft., (.039 cu.m.)
 (1.1 bushels) total
 Seed varietiesAccepts all types
 Metering systemDual stainless steel troughs
 Rotor bars2 neoprene rubber bars, chain-driven from seeder discs

1.4 SEEDER:

Seed tubesClear plastic
 Seed delivery14 cast aluminum outlets
 Seed outlet spacing ..1-1/2 in. (38 mm)
 Working width21 in. (53 cm)
 Productivity23,000 sq. ft./hr. @ 2.5 mph

1.5 CONTROLS:

Traction, blade drive ..Operator-presence grip bar with separate verticut blade ON/OFF switch.
 Blade depthLever raises/lowers blades to pre-set depth.
 Seeder2 adjustable metering gauges, 2 seed gate open/close levers, seed bin raise/lower lever
 BrakeIndividual traction brakes to aid in steering, both brake levers latch for parking brake function
 ElectricalCircuit breaker, verticut blade ON/OFF switch, ignition switch

1.6 DIMENSIONS:

Weight452 lb. (205 Kg)
 Height39 in., (99 cm)
 Width34-3/4 in., (88 cm)
 Length65 in., (165 cm)
 Tires13 x 5.0 - 6 pneumatic
 9 x 3.5 - 4 pneumatic

2.0 PREPARATION

1. The "Right", "Left", "Front" and "Rear" of the machine are referenced from the operator's right and left when standing behind the machine in the normal operating position.
2. Stay alert for potential hazards and obey all safety precautions.

CAUTION: Do not attempt to operate the unit unless you have read this manual and the Engine Manual carefully.

3. The machine is shipped with the tine control lever and the seed bin control lever (Items F and L, Figure 2B) in the forward or engaged position.

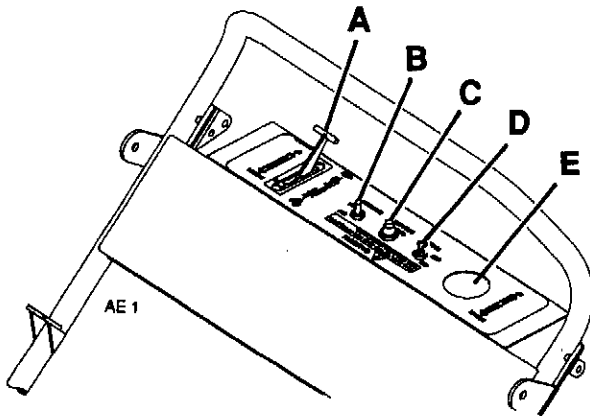
Pull both levers rearward to disengage the tines and raise the seed bin.

4. Remove the unit from the crate, check and tighten all hardware.

2.1 INSTRUMENT PANEL

CAUTION: Familiarize yourself with the instrument panel and the controls. Learn the location and purpose of all the controls and instruments before you operate this machine.

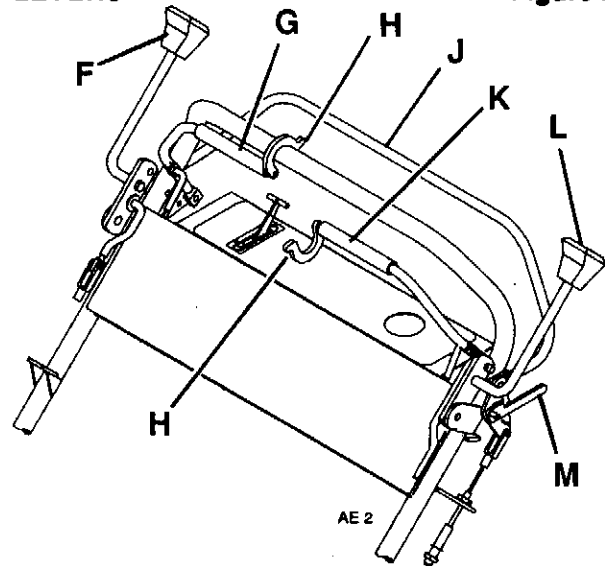
Figure 2A



- Throttle:** Controls the engine speed, push forward to increase, pull back to decrease engine speed.
- Tine Switch:** Used to activate the tines for seeding or aerating.
- Circuit Breaker:** Used to protect the electric clutch and charge circuit. Depress the clear cover to reset.
- Ignition Switch:** To start the engine, first turn the engine switch, located on the engine to "On", then the ignition switch on the panel.
- Hour Meter:** Used to keep track of maintenance intervals or to record the amount of time required to perform various tasks. The meter operates when the ignition switch (B) is "On".

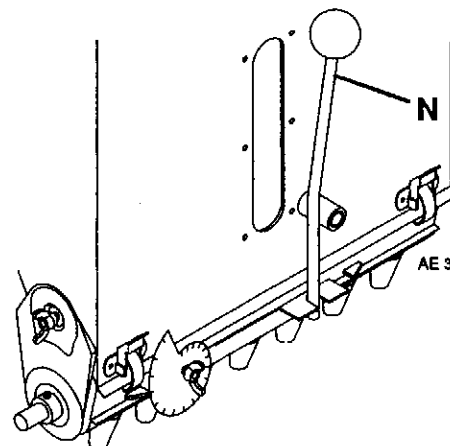
2.2 LEVERS

Figure 2B



- Tine Lift/Lower Lever:** Used to lower the tines to the ground. Push lever forward to lower.
- R.H. Steering/Parking Brake:** Pull lever rearward to make right-hand turns.
- Parking Brake Latch:** Pull levers (G and K) rearward and swing latch (H) over the handle to lock the brake.
- O.P.C. Lever: (Operator Presence Control):** To engage, release lock-out (M) and push ball forward. The O.P.C. lever must be held against the main handle during operation.
- L.H. Steering/Parking Brake:** Pull lever rearward to make left-hand turns.
- Seed Bin Lift/Lower Lever:** Used when seeding only. Push lever forward to lower the seed bin.
- O.P.C. Lock-out:** Used to lock and unlock (O.P.C.) lever.
- Seed Bin Flow Rate:** Levers located in front of and behind the seed bin. Loosen wing nut, set gauge to desired number and push lever to set the seed gate.


Figure 2C



- ENGINE CONTROLS:** Refer to your Engine Manual for location.

OPERATION

3.0 DAILY INSPECTION

 **CAUTION:** The Daily Inspection should be performed only when the engine is off and all fluids are cold. Engage parking brake, stop the engine and remove ignition key.

1. Perform a visual inspection of the entire unit. Check the seed bins and settings, look for signs of wear, loose hardware and missing or damaged components. Check for fuel or oil leaks.
2. Check the engine and reduction gear oil level.
3. Fill the fuel tank with clean, fresh gasoline.
4. Make sure the machine was lubricated and the tires are properly inflated.
5. Test the operator back-up system (O.P.C.).

3.1 OPERATOR PRESENCE CONTROL


1. The O.P.C. system prevents the engine from starting unless the O.P.C. lever is engaged, parking brake is engaged, and the tine switch is disengaged.

The system also stops the engine if the operator releases the O.P.C. lever with the tine switch engaged, or parking brake disengaged.


WARNING

Never operate equipment with the O.P.C. system disconnected or malfunctioning. Do not disconnect or bypass any switch.

3.2 OPERATING SUGGESTIONS

 **CAUTION:** To help prevent injury, always wear safety glasses, leather work shoes or boots, a hard hat, and ear protection.

1. Practice in a clear area until you feel comfortable with the operation of the machine.
2. Study the area to determine the best and safest operating procedure. Different conditions will require certain adjustments or precautions.

 **CAUTION:** Pick up all the debris you can find before performing any operation. Enter a new area cautiously. Always operate at speeds that allow you to have complete control of the machine.

3. Use discretion when seeding near gravel areas (roadway, parking areas, cart paths, etc). Stones may cause serious damage to the tines and discs.

IMPORTANT: This engine is air-cooled. Keep the engine fins, block and cylinder head area clean.

4. To prevent the possibility of plugging the seed drop tubes, do not operate your seeder in tall wet grass, on early morning dew, after a rainfall, soft prepared ground or mud.
5. Stop the unit immediately after striking an obstruction or if the machine begins to vibrate abnormally. Have the machine inspected and repaired before resuming operation.

WARNING

Before you adjust, clean or repair this equipment, disengage all drives, engage parking brake, stop engine and remove key from ignition switch to prevent injuries.


3.3 TO START ENGINE

Read the Engine Manual and follow the manufacturer's recommendations.

1. Be sure the tine switch is in "Off" position and O.P.C. lever is disengaged.
2. Set throttle lever at half throttle.
3. Open the fuel valve.
4. Move choke lever to the "Close" position. Choking may not be necessary if the engine is warm.
5. Place ignition switch (D - Figure 2A) and the engine switch, located on the engine, in the "On" position.
6. Slowly pull the starter grip until resistance is felt then pull briskly.
7. After engine starts, open choke gradually until engine idles smoothly.

3.4 TO STOP ENGINE

1. Release O.P.C. lever (J), disengage tine switch (B) and apply parking brake.
2. Move throttle lever to lowest idle speed.
3. Always switch the ignition and the tine switch to "Off" position.

 **CAUTION:** If the ignition switch is left "On", the hour meter will continue to run and drain the battery.

3.5 TO THATCH

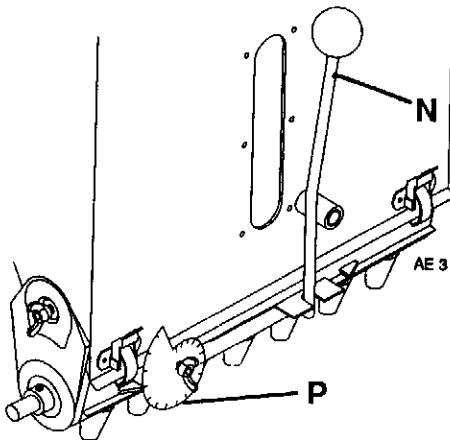
The blades can be adjusted to penetrate 1/2 to 3/4 in., (13 to 19 mm) into the ground.

1. Disengage the traction and blade clutch. Stop the engine.
2. Lower the blades by turning the height adjustment screw. (Section 4.10)
3. Start the engine, slowly engage the tine clutch and operate engine for a few seconds.
4. Disengage the tine clutch, stop the engine, back up the machine and check the depth of cut.
5. Readjust the blades if necessary to obtain the desired depth.

IMPORTANT: When making turns with the blades engaged, raise the seed bin, push down on the handle until the blades have cleared the ground, then make your turn. Do not attempt to turn the machine with the blades in the ground.

3.6 TO SEED

1. The Aero King 1321 covers 23,000 sq. ft. The seed bin holds 1.37 cu. ft., of seed and allows you to plant two varieties of seed at the same time, at separate seed rates.
2. The seed chart is a guide to be used in determining the seed spread density for various types of seed. For a specific type of seed, a test run should be made and the seed gate stops adjusted accordingly.
 - a. Set the seed rate using calibrated gate stops (P) on the front and rear of the seed bin and set the blade depth for 1/4 to 1/2 in., penetration (Section 5.3).
 - b. Push the gate lever (N) to open the seed gates.
 - c. Lower the seed bin. As the machine moves forward, seed will flow down the drop tubes.



Seed Rate - lbs. of seed per 1000 sq. ft. @ 2.5 M.P.H. *

Seed		Seeder Setting																		
		1	2	3	4	5	10	15	20	25	30	35	40	45	50	55	60	65	70	
Type	Seed Per Lb.	Lbs. Per 1000 Sq. Ft.																		
		Broad-cast	Slit Rate																	
Bentgrass	10,800,000	.5	.3	.05	.10	.15	.20	.25	.80	1.45	2.40	3.80	5.60							
	9,000,000	.75	.45	.10	.15	.20	.30	.40	1.10	1.85	2.75	4.00	5.80							
Kentucky	1,800,000	1-2	.6-1.2					.05	.25	.60	1.10	1.80	2.75	3.90	5.50	7.50	10.10	13.10		
Blue Grass	1,000,000	2-3	1.2-1.8					.05	.20	.45	.90	1.50	2.40	3.60	5.10	6.90	9.30	12.10	15.80	
POA Trivialis	2,540,000	1	.6							.30	.65	1.00	1.50	2.35	3.40	4.60	6.20	8.40	11.30	14.80
Bermuda Grass	1,800,000	1-2	.6-1.2	.15	.25	.40	.55	.70	1.85	3.00	4.60	6.80	10.00							
Fine Fescue	544,300	4-6	2.4-3.6								.25	.50	.80	1.30	1.80	2.35	3.40	4.70	6.30	8.30
Tall Fescue	226,800	9	5.4								.20	.45	.85	1.45	2.15	2.95	4.30	6.20	8.40	11.10
Rye Grass	226,800	9	5.4									1.75	1.75	2.75	4.00	5.50	7.80	10.40	13.80	17.60
Buffalo Grass	56,000	10	6												1.80	2.60	3.70	5.30	7.20	9.40

* Seed rate is for single pass - divide seed rate by 2 for double pass.


MAINTENANCE

4.0 PROCEDURE

WARNING

Before you adjust, clean or repair this equipment, disengage all drives, stop engine, engage parking brake and remove key from ignition switch to prevent injuries.

1. Adjustment and maintenance should always be performed by a qualified technician. If proper adjustment cannot be made, contact an Authorized Jacobsen Distributor.
2. Do not wear jewelry or loose fitting clothing when adjusting or repairing any equipment.

 **CAUTION:** Be careful to prevent entrapment of the hands and fingers between moving and fixed components of the machine.


3. Inspect the equipment on a regular basis; establish a maintenance schedule and keep detailed records.
 - a. Keep the equipment clean and moving parts properly adjusted and lubricated.
 - b. Replace worn or damaged parts before operating the machine.
 - c. Keep shields in place and all hardware securely fastened.
 - e. Keep tires properly inflated.
4. Repair damaged metal surfaces and use Jacobsen "Orange" touch-up paint.
5. Use the illustrations in the Parts Catalog as reference for the disassembly and reassembly of components.
6. Recycle or dispose of all hazardous materials (batteries, fuel, lubricants, anti-freeze, etc.) according to local, state or federal regulations.

4.1 AIR CLEANER

Refer to Engine Manual.

4.2 BATTERY

1. Make absolutely certain the engine and ignition switches are in the "Off" position before servicing the battery.

 **CAUTION:** Always use insulated tools, wear protective glasses or goggles and protective clothing when working with batteries. You must read and obey all the battery manufacturer's instructions.

2. Verify battery polarity before connecting or disconnecting the battery cables.
 - a. When installing the battery, always assemble the red, positive (+) battery cable first and the ground, black, negative (-) cable last.
 - b. When removing the battery, always remove the ground (-) cable first and the positive (+) cable last.
3. Check the electrolyte level every 100 hours.
4. Clean the cable ends and battery posts with steel wool. Use a solution of baking soda and water to clean the battery. Do not allow the solution to enter into the battery cells.
5. Tighten cables securely to battery terminals and apply a light coat of silicone dielectric grease to terminals and cable ends to prevent corrosion. Keep terminal covers in place.

4.3 BATTERY – CHARGING

DANGER

Charge battery in a well ventilated area. Batteries generate explosive gases. To prevent an explosion, keep any device that may create sparks or flames away from the battery

To prevent injury, stand away from battery when the charger is turned on. A damaged battery could explode.

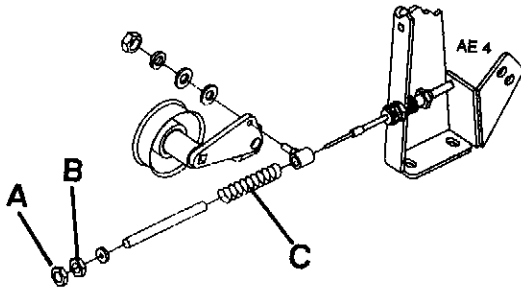
1. Read the Battery and Charger's manual for specific instructions.
2. Whenever possible remove the battery from the machine before charging and make sure the electrolyte covers the plates in all the cells.
3. Make sure the charger is "Off", then connect the positive (+) connector from the charger to the positive battery terminal and the negative (-) connector of the charger to the negative battery terminal.
4. Always turn the charger "Off" before removing a charger lead from the battery.

4.4 BELT

1. Replace worn or frayed belts immediately. Adjust belt after the first 10 hours of operation and every 100 hours thereafter.
2. Make routine inspections of belts, pulley and clutch to maintain maximum performance from your machine.

- Loosen nut (A) and adjust nut (B) to apply more spring tension at front spring (C) to increase belt tension.

Figure 4A



4.5 CARE AND CLEANING

- Wash the Seeder after each use. Keep the equipment clean.

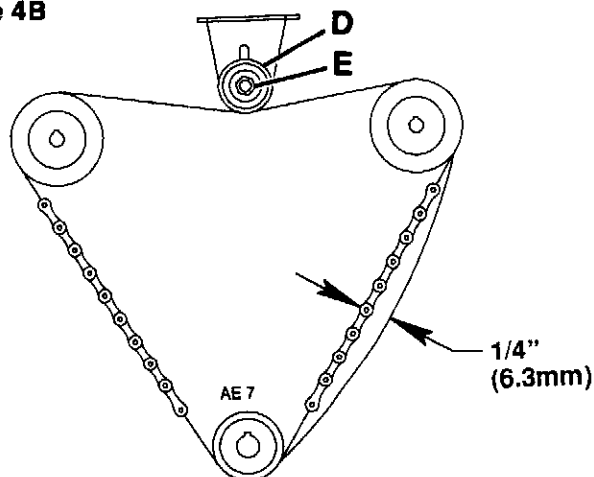
CAUTION: Do not wash any portion of the equipment while it is hot. Do not use high pressure spray or steam. Use cold water and automotive cleaners.

- Use compressed air to clean the engine.
- Do not spray water directly at the ignition switch or other electrical components on the instrument panel or directly at bearing housings and seals.
- Clean all plastic or rubber trim with a mild soap solution or use commercially available vinyl/rubber cleaners.
- Repair damaged metal surfaces and use Jacobsen "Orange" touch-up paint (Section 1.7). Wax the vehicle for maximum paint protection.

4.6 CHAIN

- Remove chain guard, and loosen bolt (E).
- Adjust sprocket (D) to obtain 1/4 in., (6.3 mm) deflection then tighten bolt (E).
- Reassemble guard.

Figure 4B



4.7 ELECTRICAL SYSTEM

Use extreme care when working with the electrical system. Turn the ignition switch off and unplug the battery cable when checking connections or wires.

- Make certain all terminals and connections are kept clean and properly secured. Inspect all wiring after the first 25 hours of operation and every 250 hours thereafter.

- Check switches regularly to be sure they are kept clean and operating correctly.

Never operate equipment with the O.P.C. system disconnected or malfunctioning.

- If the system does not function properly or the problem cannot be corrected, contact your Jacobsen Turf Equipment Dealer.

- Keep wire harness and all individual wires away from moving parts to prevent damage.

4.8 ENGINE

Refer to Engine Manual.

4.9 FUEL

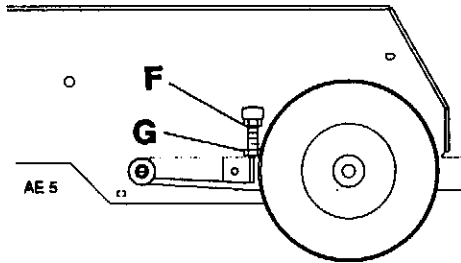
- Fill the tank with fresh, clean, regular grade unleaded gasoline, 86 octane minimum.
- Do not use hi-test gasoline or an oil gasoline mixture. When using blended fuel, do not use a blend with more than 10% ethanol.
- Under no circumstances should you use a blend with methanol.*
- Handle fuel with care - it is highly flammable. Use an approved container, the spout must fit inside the fuel filler neck.
 - Never fill the fuel tank with the engine running or while the engine is hot.
 - Do not smoke when handling fuel. Never fill the tank or drain fuel indoors.
 - Never overfill the tank or spill fuel. Wipe up spilled fuel immediately.
 - Keep fuel away from an open flame or any device that may create sparks and ignite the fuel or fuel vapors.
 - Replace and tighten fuel caps securely.
- Replace the fuel filters as specified in the Engine Manual.
- Store fuel according to local, state or federal ordinances and recommendations from your fuel supplier.

MAINTENANCE

4.10 HEIGHT

To adjust blade penetration, loosen nut (F) and adjust bolt (G) to obtain the desired height.

Figure 4C

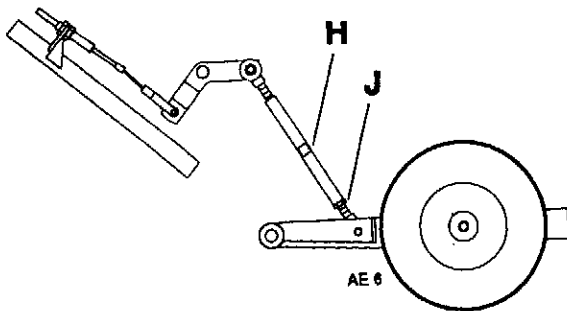


4.11 LEVELING

IMPORTANT: Make the adjustment on a flat surface.

The right and left axle castings are adjusted independently of each other. Loosen nut (J) and turn adjuster (H) to bring the tine shaft parallel with the ground.

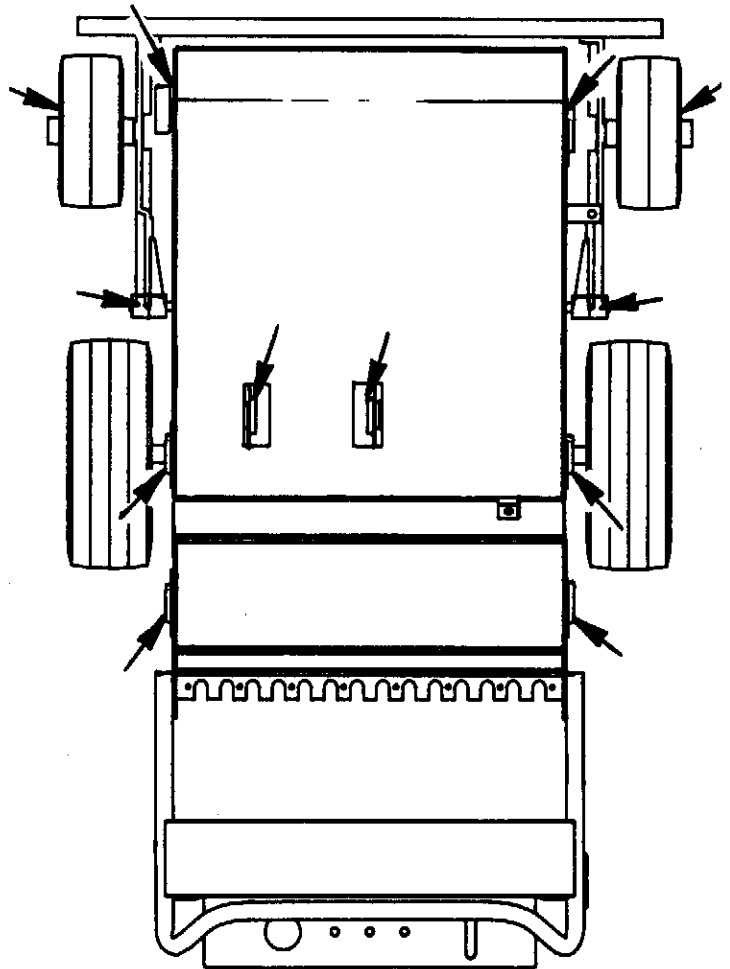
Figure 4D



4.12 LUBRICATION

1. Lubrication coupled with cleanliness is the most inexpensive preventive maintenance tool.
2. Always clean grease fittings before and after lubricating. Use NLGI grade O lubricant.
3. Apply grease with a grease gun and fill slowly until grease begins to seep out. Do not use compressed air guns.
4. For smooth operation of all levers, pivot points and other friction points that are not specified, apply several drops of SAE 30 oil every 40 hours or as required.

Figure 4E



4.13 TIRES

1. Keep tires properly inflated to reduce the amount of wear and prolong tire life. Pressure should be checked while tires are cool.
2. Check the pressure once a month. Use an accurate, low pressure tire gauge with one pound per square inch graduations.

Front: 35 psi (241 kPa)

Rear: 20 psi (138 kPa)

5.0 GENERAL

1. Lubricate then wash the machine thoroughly. Repair and paint damaged or exposed metal.
2. Inspect the tractor, tighten all hardware, replace worn or damaged components.
3. Apply a light coat of rust preventive oil on unpainted surfaces except pulley grooves.
4. Remove belt tension.
5. Clean the tires thoroughly and store the tractor so that the load is off the tires. If the tractor is not on jack stands, check the tires at regular intervals and reinflate as necessary.
6. Keep the machine and all its accessories clean, dry and protected from the elements during storage. Never store equipment with fuel in the tank where fumes may reach an open flame or spark.

5.1 BATTERY

1. Remove, clean and store the battery in upright position, in a cool, dry place.
2. Check and recharge battery every 60 to 90 days while in storage.
3. Storage above 80°F (26.7°C) greatly increases self-discharge. Electrolyte in discharged batteries will freeze when stored below 20°F (-7°C).

5.2 ENGINE

Refer to the Engine Manual for specific storage instructions.

1. Clean exterior of engine. Paint the exposed metal or apply a light coat of rust preventative oil.

2. To prevent the build up of gum residues and varnish films in the fuel system, Jacobsen recommends filling the tank with stabilized fuel. Use an anti-oxidant fuel conditioner, such as STA-BIL®. Read and follow the instructions carefully.

Do not use fuel with ethanol during storage.

3. Operate the engine for about 5 minutes to distribute the treated fuel. Stop the engine, close the fuel shut off valve and let the engine cool.

5.3 AFTER STORAGE

1. Remove the spark plug and wipe dry. Crank the engine (with spark plug removed), using starter rope, until excess oil has been expelled through the spark plug hole. Replace the plug and connect the spark plug wire.
2. Check and reinstall the battery.
3. Check or service the sediment cup and the air cleaner.
4. Check oil level in the engine crankcase and gear reduction.
5. Fill the fuel tank with fresh fuel.
6. Make certain that the tires are properly inflated.
7. Start the engine but do not operate at high speed immediately after starting. Allow enough time for the engine to become properly warmed and lubricated.



CAUTION: *Never operate the engine without proper ventilation, exhaust fumes can be fatal when inhaled.*

TO ORDER PARTS

1. Write your **full name** and **complete** address on the order.
2. Explain where and how to make shipment.
3. Give product number, name and serial number that is stamped on the nameplate or serial number plate of your product.
4. Order by quantity desired, the Part Number, and description of the part as given in the parts list.
5. Send or bring the order to your Authorized Jacobsen Distributor.
6. Inspect all shipments on receipt. If any parts are damaged or missing, file a claim with the carrier before accepting.
7. Do not return material to an Authorized Jacobsen Distributor without a letter of explanation. List the parts being returned and include the list with the shipment. Transportation charges must be prepaid.

ILLUSTRATION 1

Item	Part No.	Qty.	Description	Item	Part No.	Qty.	Description
1	395401	1	Cover	26A	447224	1	Nut
2	366802	1	Hinge	26B	343784	1	Lockwasher
3	3000044	1	Support Hinge	26C	5000039	2	Key
4	3003575	1	Bracket	27	338601	1	Circuit Breaker
5	464841	3	Rivet, 3/16	28	365044	1	Switch, Tine
6	464842	2	Rivet, 1/8	29	364774	1	Boot, Circuit Breaker
7	400184	4	Screw, 5/16-18 x 3/4" Hex Hd	30	363962	2	Boot, Switch
8	446136	8	Lockwasher, 5/16 Hvy	31	162723	1	Hourmeter
9	443106	4	Nut, 5/16-18 Hex	31A	447006	1	Lockwasher, #10 Ext. Tooth
10	5001360	1	Base (Includes Items 11~15)	31B	444310	1	Nut, #10-24
11	362859	2	Decal, Caution	32	3003558	1	Decal
12	339066	1	Decal, Jacobsen	33	403192	4	Screw, #10-24 x 5/8 Hex Hd
13	391168	1	Decal, Stripe and Name	34	446118	4	Lockwasher, #10
14	367284	1	Decal, Danger	35	444310	4	Nut, #10-24 Hex
15	365789	1	Decal, Oil Check	36	336939	2	Decal, Jacobsen
16	340703	1	Decal, Instructions	37	361854	1	Decal, Caution
17	3002308	1	Decal, Fuel	38	340623	1	Decal, Precaution
18	391166	1	Decal, Seed Rate	39	446130	3	Lockwasher, 1/4"
19	367282	1	Decal, Warning	40	453023	3	Flat Washer, 1/4"
20	367283	1	Decal, Warning	41	409707	3	Screw, 1/4 x 1/2 Thread Form
21	3001392	1	Decal, Seed Gate	42	3001464	1	Cover
22	339273	1	Decal, Hot	43	337993	1	DSI Module
23	1000184	1	Shield Assembly	44	3001307	1	Relay
24	400106	5	Screw, 1/4-20 x 5/8" Hex Hd				
25	338876	1	Cable Assembly, Throttle				
26	1000347	1	Switch, Key, Ignition (Includes Items 26A~26C)				

ILLUSTRATION 1

1000061

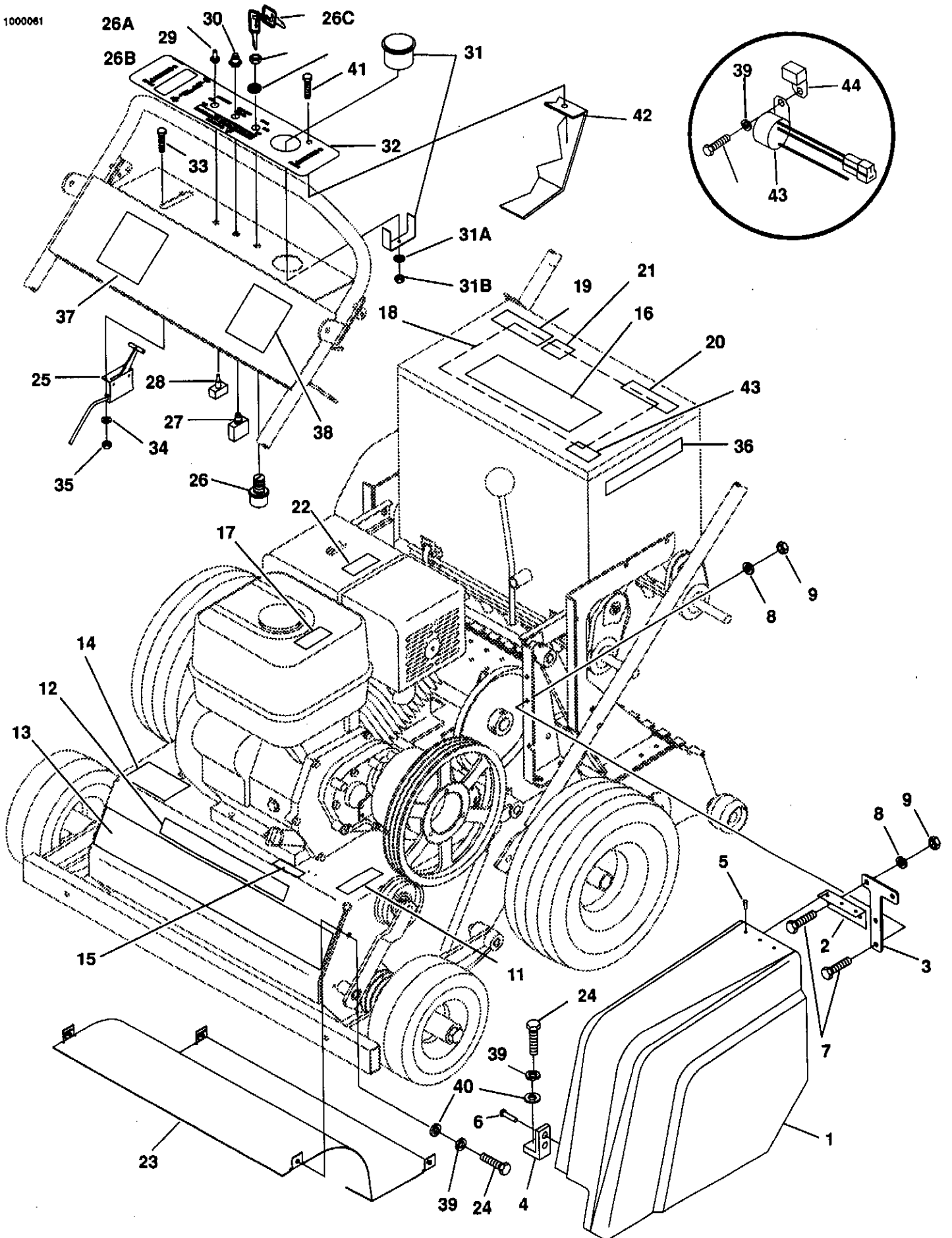


ILLUSTRATION 2

Item	Part No.	Qty.	Description	Item	Part No.	Qty.	Description
1	340694	1	Cable Clutch (42" - 106.7 cm)	29	460014	3	Pin, Cotter .094 x 3/4"
2	340695	2	Cable (47" - 119.4 cm) Brake	30	461460	1	Clevis Pin
3	340696	1	Cable - Tine Lift (36" - 91.4 cm)	31	473144	3	Wire Tie
4	367609	4	Spacer	32	452006	2	Flatwasher, 5/16 Std
5	164167	1	Lever Control Assembly	33	444718	4	Nut, 5/16-18 Center Lock
6	164168	1	Lever Control Assembly	34	453011	3	Flat Washer, 3/8
7	1000032	1	Ball	35	445781	2	Nut, 5/16-18 Whiz Lock
8	1000464	1	Lift Link	36	319161	1	Yoke
8A	328133	2	Bushing	37	325539	1	Clevis Pin
9	3000488	1	Latch	38	3000976	1	Pin-Coil, Roll .25 x 2-1/4"
10	460028	3	Pin, Cotter 1/8 x 1"	39	318994	2	Spacer
11	164129	1	Lift Rod Assembly	40			
12	343728	2	Knob	41	366653	1	Spacer
13	367513	2	Link	42	1001160	1	Clutch Sleeve
14	344996	2	Lift Pin	43	364164	1	Spring
15	352901	1	Bolt, Special	44	367277	1	Clutch Rod
16	444762	4	Nut, 3/8-16 Lock	45	443810	2	Nut, 3/8-16 Jam
17	3000486	1	Spring Torsion	46	444708	5	Nut, 1/4-20 Center Lock
18	1000033	1	Ball Brake	47	446142	4	Lockwasher, 3/8
19	1000034	1	Ball Brake	48	443110	2	Nut, 3/8-16 Hex
20	1000663	1	Wire Harness <i>1000633</i>	49	446142	1	Lock Washer, 5/16
21	345666	2	Clamp, Wire	50	400406	2	Screw, 1/2-13 x 1-1/4" Hex Hd
22	444760	1	Nut, 3/8-24 Hex	51	446154	2	Lockwasher, 1/2
23	453023	2	Flat Washer, 1/4	52	443118	2	Nut, 1/2-13 Hex
24	353746	3	Spring	53	1000036	1	Handle assembly
25	400192	3	Screw, 5/16-18 x 1-1/2" Hex Hd	54	3000950	1	Clevis
26	453009	2	Washer	55	3000956	2	Mat, Bumper
27	400270	1	Screw, 3/8-16 x 2" Hex Hd	56	3000959	1	Tag
28	3000454	2	Brake Latch	57	400268	1	Screw, 3/8-16 x 1-3/4" Hex Hd
				58	460002	1	Cotter Pin

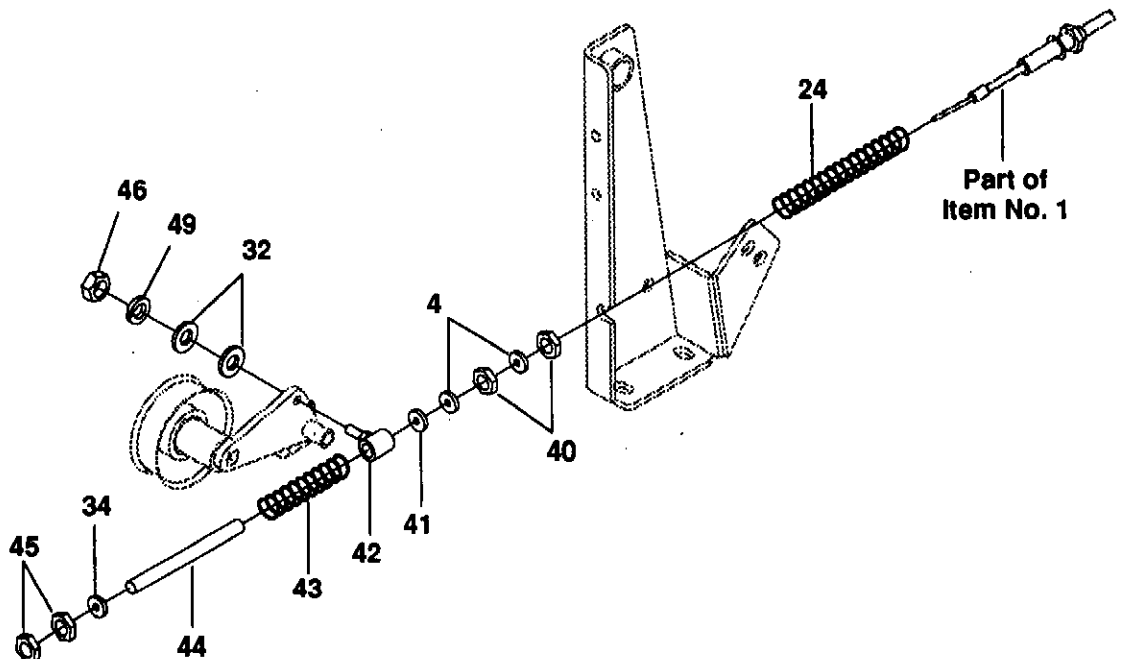


ILLUSTRATION 2

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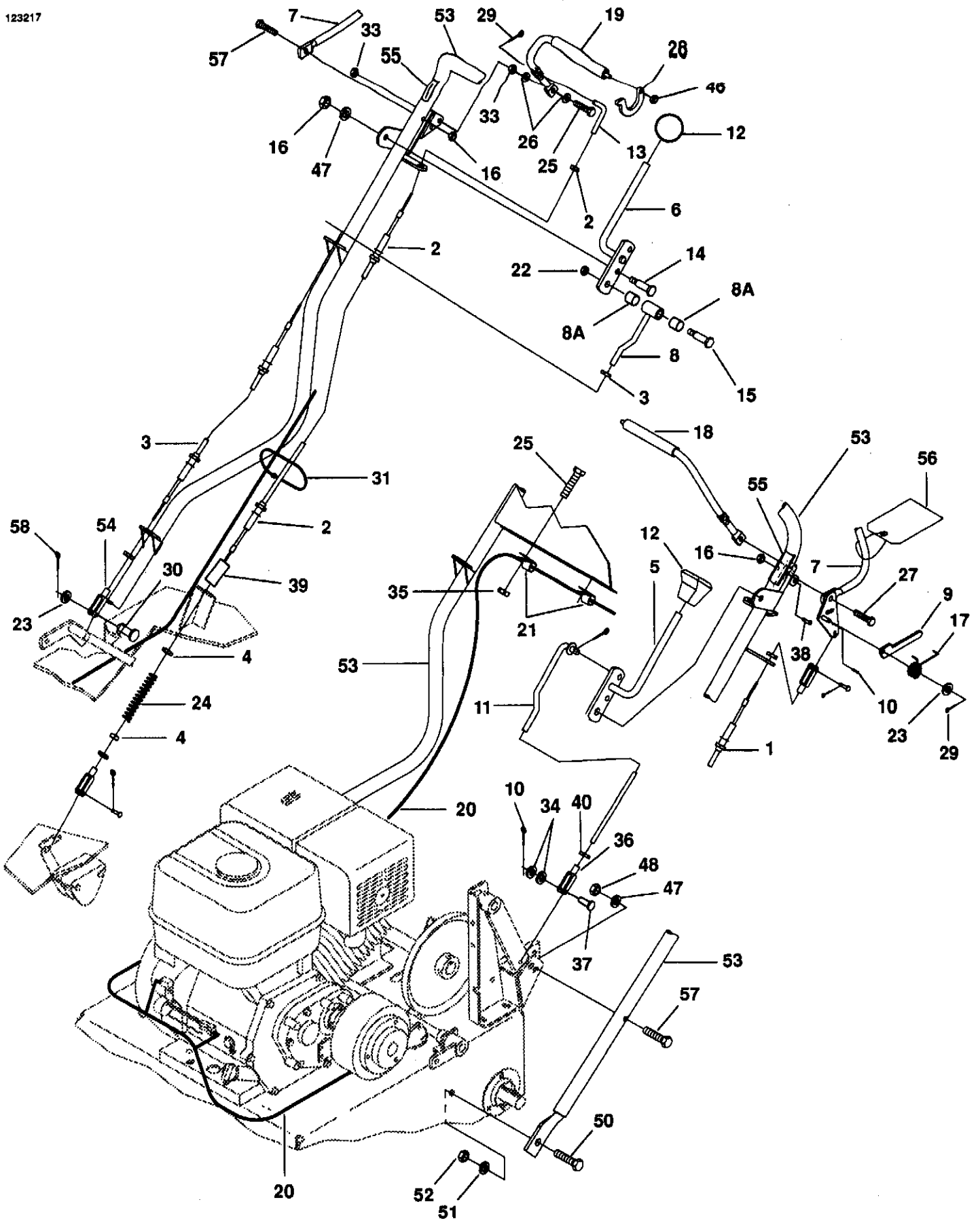


ILLUSTRATION 3

Item	Part No.	Qty.	Description	Item	Part No.	Qty.	Description
1	123212	1	Engine	26	446130	2	Lockwasher, 1/4
2	400270	6	Screw, 3/8-16 x 2.00" Hex Hd	27	453023	4	Flat Washer, 1/4
3	453011	10	Flat Washer, 3/8	28	349404	2	Key, 1/4 x 1/4 x 2-1/2"
4	446142	12	Lockwasher, 3/8	29	460052	4	Pin, Cotter .18
5	367265	2	Axle	30	443110	16	Nut, 3/8-16 Hex
6	453017	2	Flat Washer, 1/2	31	1000854	1	Electric Clutch
7	123211	2	Wheel Assembly	32	400198	3	Screw, 5/16-18 x 2-1/2" Hex Hd
8	3000951	2	Wheel	33	446134	4	Lockwasher, 5/16
9	2000009	1	Pulley Drive	34	344996	4	Lift Pin
10	367261	1	Belt	35	340797	1	Guard
11	345700	1	Spacer	36	400112	2	Screw, 1/4-20 x 1" Hex Hd
12	444708	4	Nut, 1/4-20 Center Lock	37	443102	2	Nut, 1/4-20 Hex
13	415521	2	Screw, 5/16-18	38	367572	1	Battery Clamp
14	340692	1	Pulley Engine	39	367638	1	Battery
15	340704	1	Belt	40	367580	2	Battery J-Hook
16	353769	1	Guide, Belt	41	402016	2	Screw, #6 x 1-1/4
17	347849	1	Key, 1/4 x 1/4 x 3/4"	42	367544	1	Switch
18	453009	1	Flat Washer, 5/16	43	453005	2	Flat Washer, #6
19	364505	1	Strap, Torque	44	446106	2	Lockwasher, #6
20	400110	2	Screw, 1/4-20 x 7/8 Hex Hd	45	444304	2	Nut, #6
21	452004	2	Flat Washer, 1/4	46	400446	1	Screw, 1/2-20 x 2" Hex Hd
22	400304	1	Screw, 3/8-24 x 1.75" Hex Hd	47	443820	1	Nut, 1/2-20 Jam
23	364489	1	Washer, Special	48	362320	1	Key, 1/4 x 1/4 x 1.5"
24	340842	1	Guard	49	409813	1	Screw, 5/16-18 x 1.00" hex Hd
25	409709	3	Screw, 1/4-24 Thread Form	50	446154	2	Lockwasher, 1/2

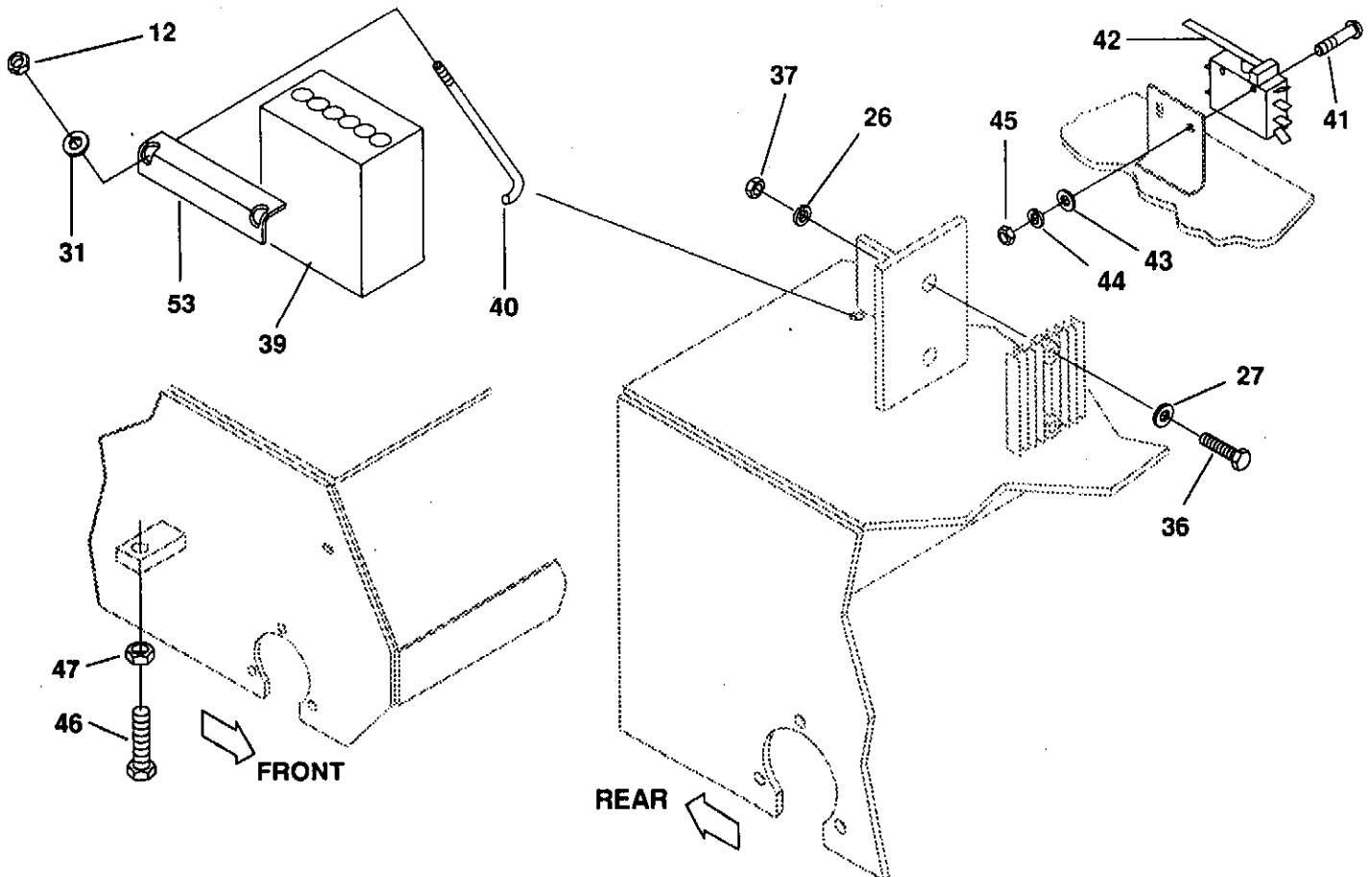


ILLUSTRATION 3

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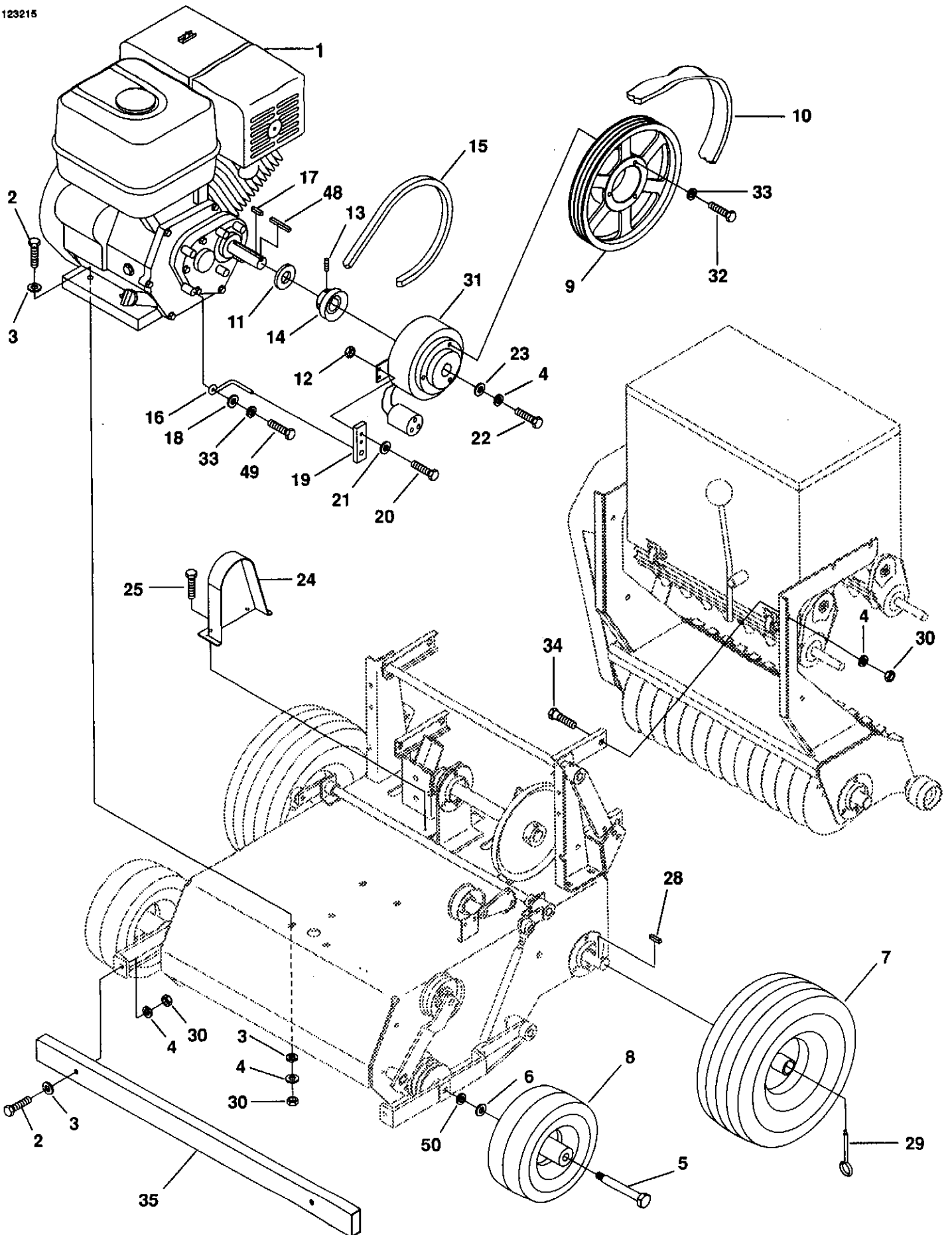


ILLUSTRATION 4

Item	Part No.	Qty.	Description	Item	Part No.	Qty.	Description
1	5001360	1	Base (Includes Item 65 and All Decals. See Illus. 1)	34	132804	1	Arm Assembly
2	123208	1	Differential Assembly	35	463003	1	Key Woodruff, 1/8
3	132802	1	Support LH (Includes 4A)	36	444753	1	Locknut, 7/16-14 Hex
4	132803	1	Support RH (Includes 4A)	37	400188	18	Screw, 5/16-18 x 1" Hex Hd
4A	363127	2	Bushing	38	446136	20	Lockwasher, 5/16 Hvy
5	132805	1	Shaft, Bin Lift	39	443106	21	Nut, 5/16-18 Hex
6	164133	1	Shaft	40	400262	4	Screw, 3/8-16 x 1" Hex Hd
7	164171	2	Disc Brake Assembly	41	453017	2	Flat Washer, 1/2
8	367310	2	Channel, Bin Lift	42	391156	1	Pulley
9	132806	1	Shaft Assembly	43	352901	2	Axle Wheel
10	1001806	1	Arm, Clutch (Includes Item 10A)	44	415521	4	Screw, Set, 5/16-18 3/4"
10A	328133	2	Bushing	45	400296	2	Screw, 3/8-25 x 3/4" Hex Hd
11	352605	1	Pulley, Idler	46	3003269	2	Disc Calliper Brake
12	367245	1	Bushing, Idler Bearing	46A	5001344	2	Brake Pads
13	341842	6	Flange	47	367247	1	Chain
14	351310	6	Flange	48	400264	2	Screw, 3/8-16 x 1.25" Hex Hd
15	341709	6	Bearing	49	453009	1	Flat Washer, 5/16
16	5001054	1	Spring, Idler Pulley	50	367293	1	Arm, Sprocket
17	1000065	1	Axle RH (Includes 18A)	51	365939	1	Sprocket
18	1000066	1	Axle RH (Includes 18A)	52	362551	2	Spring
18A	328133	6	Bushing	53	365936	1	Spacer
19	269192	1	Pulley	54	400194	1	Screw, 5/16-18 x 1-3/4" Hex Hd
20	164126	1	Arm Assembly	55	132801	1	Shaft, Blade
21	412017	4	Screw, Set 5/16-18	56	3000296	14	Blade
22	164190	1	Idler Arm (Includes 22A)	57	3000638	1	Spacer
22A	328133	2	Bushing	58	367266	13	Spacer, Blade
23	340705	2	Adjuster	59	332908	1	Nut
24	344996	4	Lift Pin	60	415522	1	Screw, Set, 5/16-18 x 3/4"
25	460030	2	Pin, Cotter, 1/8 x 1-1/4	61	471214	2	Fitting, Grease
26	332613	1	Pulley	62	354774	4	Key, 1/4 x 1/4 x 1"
27	453011	9	Flat Washer, 3/8	63	452012	4	Flat Washer
28	446142	12	Lockwasher, 3/8 Hvy	64	444744	1	Locknut, 3/8-24 Hex
29	443110	8	Nut, 3/8-16 Hex	65	363127	2	Bushing
30	440130	1	Bolt, Carriage, 3/8-16 x 2-1/2"	66	471227	1	Fitting, Grease x 45°
31	444762	1	Locknut, 3/8-16 Hex	67	412004	4	Screw, Set 1/4-20 x 3/8" Sq Hd
32	345556	1	Key, 1/8 x 1/8 x .985"	68	400192	1	Screw, 5/16-18 x 1-1/2 Hex Hd
33	441654	1	Bolt, Charriage, 7/16 x 1-3/4	69	452006	2	Flat Washer. 5/16
				70		1	

ILLUSTRATION 4

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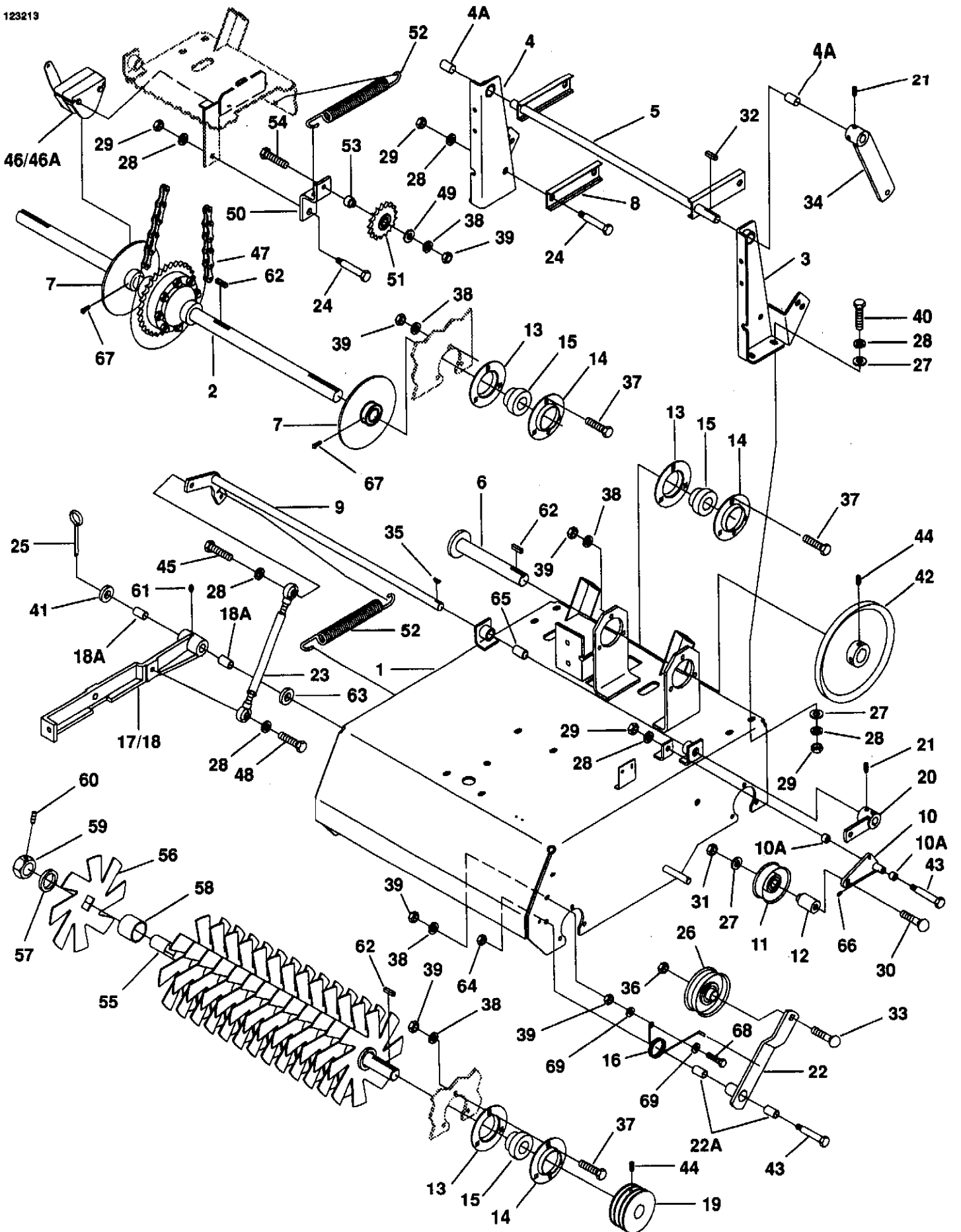
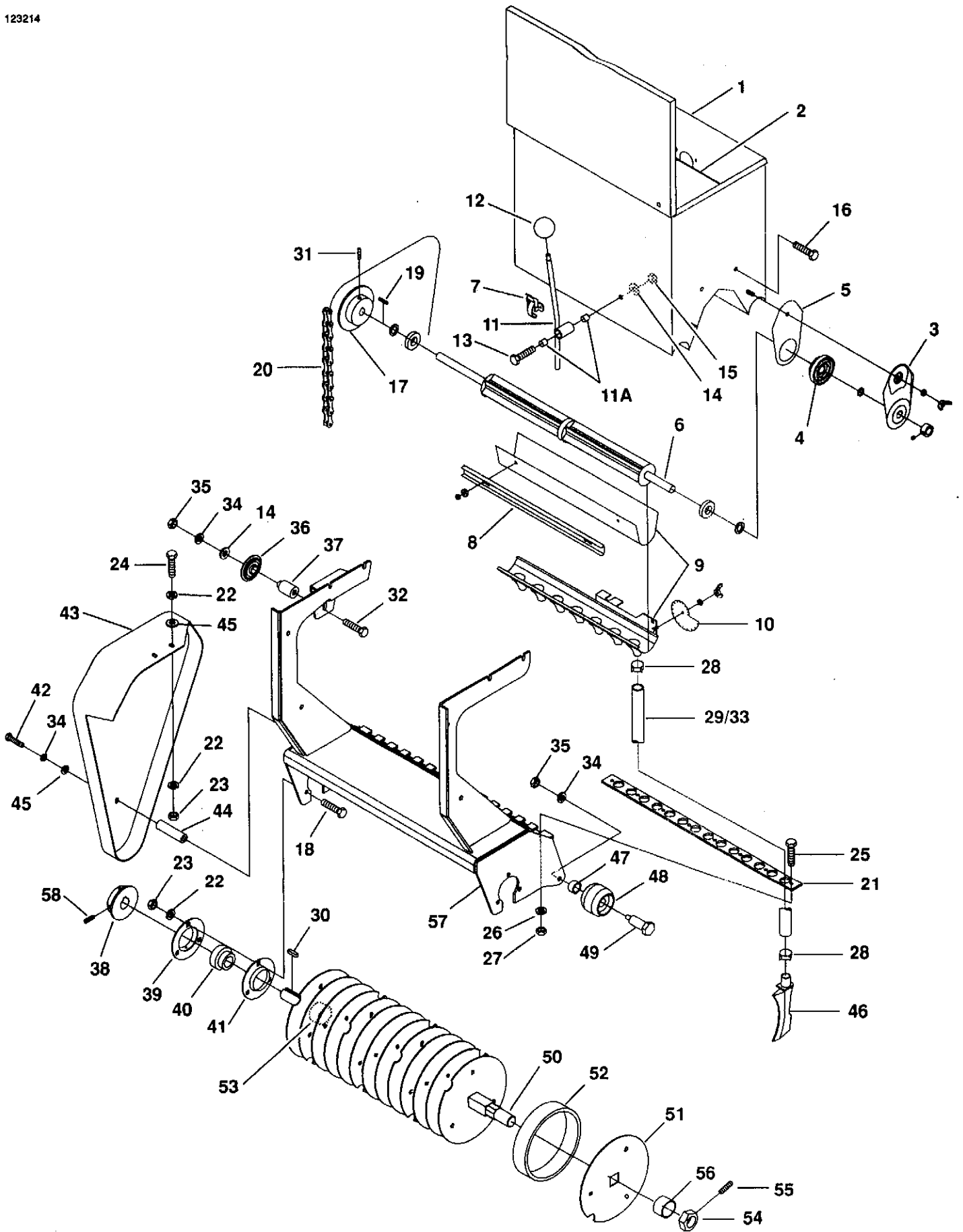


ILLUSTRATION 5

Item	Part No.	Qty.	Description	Item	Part No.	Qty.	Description
1	557994	1	Bin	29	367295	7	Tube, Seed Drop
2	557995	1	Divider	30	354774	1	Key, 1/4 Sq x 1"
3	557996	4	End Plate	31	412020	2	Screw, Set, 5/16-18 x 1"
4	557997	4	Bearing	32	440126	1	Bolt, Charrriage, 3/8-18 x 2"
5	557998	4	Gasket	33	367294	7	Tube, Seed Drop
6	557999	2	Adgitator	34	446142	3	Lockwasher, 3/8 Hvy
7	558000	4	Catch	35	443110	3	Nut 3/8-18 Hex
8	558001	2	Rear Hanger	36	367301	1	Sprocket, Idler
9	558002	2	Bottom and Slide	37	3000645	1	Bushing
10	558003	2	Gage	38	367299	1	Sprocket
11	132813	2	Shift Assembly (Includes 11A)	39	341842	2	Flange
11A	328133	4	Bushing	40	341709	2	Bearing
12	343728	2	Knob	41	351310	2	Flange
13	352901	2	Axle Wheel	42	400204	1	Screw, 3/8-16 x 3-1/2" Hex Hd
14	453011	3	Flat Washer, 3/8	43	391167	1	Shield
15	444744	2	Nut, Lock, 3/8-24	44	3000067	1	Spacer
16	403751	4	Screw, 5/16-18 x 3/4" Serr Hd	45	452006	3	Flat Washer, 5/16
17	367300	2	Sprocket	46	8000045	14	Tube, Drop
18	400188	6	Screw, 5/16-18 x 1" Hex Hd	47	367608	2	Spacer
19	321292	2	Key, 3/16 x 3/16 x 1.0"	48	365343	2	Wheel
20	367246	1	Chain	49	367607	2	Bolt, Shoulder
21	340700	1	Clamp Drop Tube	50	132800	1	Shaft (Disc)
22	446136	9	Lockwasher, 5/16 Hvy	51	3000639	14	Disc
23	443106	6	Nut, 5/16-18 Hex	52	3000708	13	Spacer
24	400186	2	Screw, 5/16-18 x 7/8 Hex Hd	53	367267	1	Spacer
25	400112	8	Screw, 1/4-20 x 1" Hex Hd	54	332908	1	Nut
26	446130	8	Lockwasher, 1/4 Hvy	55	415522	1	Screw, Set, 5/16-18 x 3/4"
27	443102	8	Nut, 1/4-20 Hex	56	3000638	1	Spacer
28	367259	28	Clamp, Hose	57	123207	1	Base, Seeder Bin
				58	412017	1	Screw, Set, 5/16-18 x 3/4"

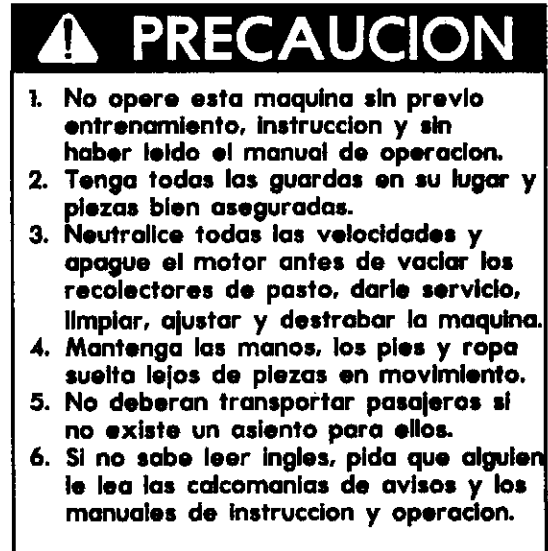
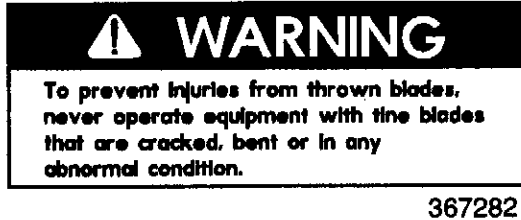
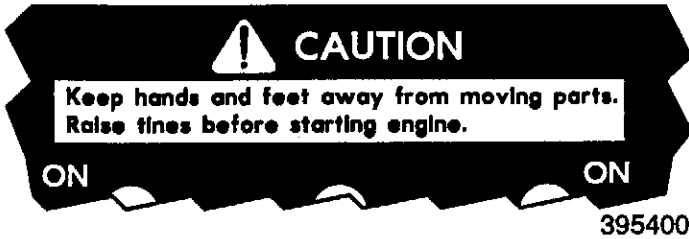
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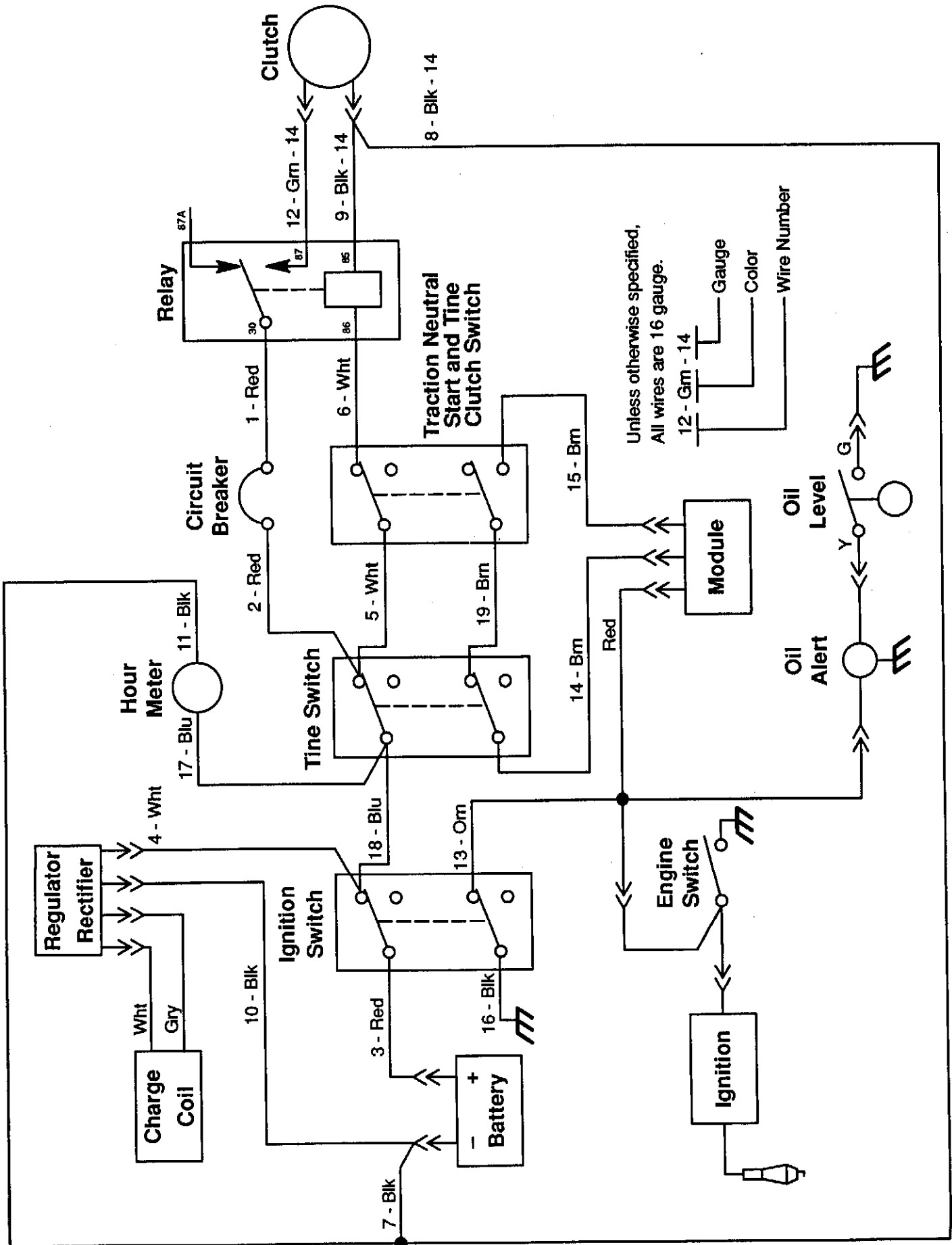
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DECALS

Familiarize yourself with the decals, they are critical to the safe operation of the machine. REPLACE ALL DAMAGED DECALS IMMEDIATELY.





LIMITED WARRANTY

Product No. 82120 – Aero King® 1321

1. **Warranty**

Jacobsen Division of Textron Inc., (Jacobsen) warrants only to the original retail purchaser ("Warrantee") that this product shall be free from defects in material and workmanship for a period of one year from the date of the first retail purchase. (90 days if used for rental purposes)

2. **Items Not Warranted**

Jacobsen makes no warranties or representations with respect to repairs performed by anyone other than an Authorized Jacobsen Distributor, or with respect to routine adjustments, normal wear and maintenance items are not covered by this warranty.

3. **Conditions Which Will Void Warranty**

- A) The product is modified in any way which would adversely affect its safety or performance;
- B) The unit is not maintained or serviced in accordance with this publication;
- C) The unit is abused, or is not used in its intended manner.

4. **Exclusive Remedy**

The warrantee's sole and exclusive remedy for breach of this warranty or any other defect or failure of the product, including any remedy provided by applicable federal or state law, statutory or common, is that Jacobsen will, at its sole option, repair or replace the product or any defective parts and cover the cost of labor associated with such repair or replacement. Transportation costs are not covered by this warranty.

5. **How to Obtain Warranty Service**

If warranty repair is necessary, contact your Authorized Jacobsen Distributor. All defective parts must be returned to the Distributor and become the property of Jacobsen.

6. **Disclaimer**

- * *This warranty is made in lieu of all other warranties, implied or express, including any warranty of merchantability or fitness for a particular purpose.*
- * *Jacobsen further disclaims any liability for incidental, direct or consequential damages, to include but not limited to, personal injury or property damage, arising from a breach of this warranty or any other defect or failure of the product to the extent allowed by law.*

No agent, employee or representative of Jacobsen, or any other person, has any authority to bind Jacobsen to any other affirmation, representation, or warranty concerning the goods sold under this Warranty.

For further information, call (414) 637-6711 or write to Jacobsen, Division of Textron Inc. at:

Warranty Department
1721 Packard Avenue
Racine, Wisconsin 53403-2564