



TECHNICAL MANUAL

Safety, Operation, Parts & Service

Models:

- 544859** **LAWNIRE (3-POINT HITCH 36")**
- 544860** **LAWNIRE (TOW BEHIND)**
- 544876** **LAWNIRE (3-POINT HITCH 48")**



WARNING: If incorrectly used this machine can cause severe injury. Those who use and maintain this 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.



521894 REV 08

**CALIFORNIA
Proposition 65 Warning**

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.



WARNING

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

**Californie Proposition 65
Avertissement**

Les échappements des moteurs diesel et certains de leurs composés sont reconnus par l'Etat de Californie pour être cancérigènes, provoquer des défauts congénitaux et d'autres dangers en matière de reproduction.



AVERTISSEMENT

L'émission du moteur de ce matériel contient des produits chimiques que l'Etat de Californie considère être cancérigènes, provoquer des défauts congénitaux et d'autres dangers en matière de reproduction.

**California Advertencia
de la Proposicion 65**

El estado de California hace saber que los gases de escape de los motores diesel y algunos de sus componentes producen cáncer, defectos de nacimiento y otros daños en el proceso de reproducción humana.



ADVERTENCIA

El estado de California hace saber que los gases de escape de este producto contienen productos químicos que producen cáncer, defectos de nacimiento y otros daños en el proceso de reproducción humana.

**CALIFORNIA
Proposition 65 Warning**

Battery posts, terminals, wiring insulation, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
WASH HANDS AFTER HANDLING.

IMPORTANT MESSAGE

Thank you for purchasing this Ryan product. You have purchased a world class product, one of the best designed and built anywhere.

This machine comes with a Technical Manual containing safety, operation, parts and service information. The useful life and good service you receive from this machine depends to a large extent on how well you read and understand this manual. Treat your machine properly, lubricate and adjust it as instructed, and it will give you many years of reliable service.

Your safe use of this Ryan product is one of our prime design objectives. Many safety features are built in, but we also rely on your good sense and care to achieve accident-free operation. For best protection, study the manual thoroughly. Learn the proper operation of all controls. Observe all safety precautions. Follow all instructions and warnings completely. Do not remove or defeat any safety features. Make sure those who operate this machine are as well informed and careful in its use as you are.

See a Ryan dealer for any service or parts needed. Ryan service ensures that you continue to receive the best results possible from Ryan's products. You can trust Ryan replacement parts because they are manufactured with the same high precision and quality as the original parts.

Ryan designs and builds its equipment to serve many years in a safe and productive manner. For longest life, use this machine only as directed in the manual, keep it in good repair and follow safety warnings and instructions. You'll always be glad you did.

Jacobsen, a Textron Company
One Bob Cat Lane
Johnson Creek, WI 53038-0469

TABLE OF CONTENTS	FIGURES	PAGE
SAFETY		2
SET-UP		3-7
OPERATION		8, 9
SERVICE		10-12
SPECIFICATIONS		13
ACCESSORIES		14
PARTS SECTION		15
HYDRAULIC LIFT ACCESSORY	FIGURE 1	16, 17
MANUAL LIFT ACCESSORY	FIGURE 2	18, 19
MODEL NO. 544859	FIGURE 3	20, 21
MODEL NO. 544876	FIGURE 4	22, 23
MODEL NO. 544860	FIGURE 5	24, 25

NOTICE !!!

Unauthorized modifications may present **extreme** safety hazards to operators and bystanders and could also result in product damage.

Jacobsen, A Textron Company strongly warns against, rejects and disclaims any modifications, add-on accessories or product alterations that are not designed, developed, tested and approved by Jacobsen's Engineering Department. Any Jacobsen product that is altered, modified or changed in any manner not specifically authorized after original manufacture—including the addition of “after-market” accessories or component parts not specifically approved by Jacobsen—will result in the Jacobsen Warranty being voided.

Any and all liability for personal injury and/or property damage caused by any unauthorized modifications, add-on accessories or products not approved by Jacobsen will be considered the responsibility of the individual(s) or company designing and/or making such changes. Jacobsen will vigorously pursue full indemnification and costs from any party responsible for such unauthorized post-manufacture modifications and/or accessories should personal injury and/or property damage result.



This symbol means:
ATTENTION!
BECOME ALERT!

Your safety and the safety of others is involved.

Signal word definitions:

The signal words below are used to identify levels of hazard seriousness. These words appear in this manual and on the safety labels attached to Jacobsen machines. For your safety and the safety of others, read and follow the information given with these signal words and/or the symbol shown above.

DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.

WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.

CAUTION

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

CAUTION

CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, **MAY** result in property damage.



MODEL NUMBER: This number appears on sales literature, technical manuals and price lists.

SERIAL NUMBER: This number appears only on your mower. It contains the model number followed consecutively by the serial number. Use this number when ordering parts or seeking warranty information.

SET-UP**MODEL 544859, 3-POINT HITCH 36"****MODEL 544876, 3-POINT HITCH 48"****⚠ WARNING**

Banding is under tension and may snap back when cut. Wear eye protection and stay clear when cutting the band.

Use caution when installing the knives and tines. These items are sharp and should be handled with care.

Use an appropriate jackstand to support the aerator any time it is serviced or repaired.

1. Remove and discard banding holding the aerator to the pallet.
2. Attach tractor to aerator and lift off pallet. For category 1 hitches, use the bushing (Part No. 829987) and the hitch pins.
3. Place jackstands at each end of tine wheel axles and lower aerator onto stands. Aerator wheels need to be approximately 5 to 6 inches (127 to 152 mm) above the ground.
4. With tractor engine off, install the appropriate tools for your needs. Figure 1 shows coring tines mounted to the aerating wheels (8 tines per wheel). When using coring tines, the nipple on the inside of the tine clamp (Part No. 515198) must be placed into the hole on the sides of the tine. Refer to Parts List, Pages 21 and 23 for knife blade installation.

NOTE: To assure equal tine spacing, note the position of the tines in Figure 1. The middle wheels have the tines mounted on the inner side, the outside wheels have the tines mounted on the outer side. See Accessories (Page 14) for optional attachments.

5. Lubricate aerating wheels with lithium based lubricant until lubricant can be seen at wheel bushings. Check aerating wheels for free rotation.

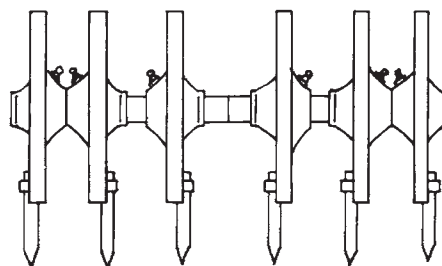


FIGURE 1
Tine Spacing

SET-UP

MODEL 544860, TOW BEHIND

WARNING

Banding is under tension and may snap back when cut. Wear eye protection and stay clear when cutting the band.

DO NOT use tractor hydraulics to hold up aerator for servicing. Hydraulic lines may rupture causing the unit to fall suddenly.

Use caution when installing the knives and tines. These items are sharp and should be handled with care.

1. Remove and discard banding holding aerator to pallet.
2. Locate and mark the center on the front side of the frame (Part No. 545645). Mark the center of the hitch assembly (Part No. 545677) in a location which can be seen when mounting it to the frame.
3. Using the center marks for alignment, mount the hitch assembly and clamping plate (Part No. 547741) to the frame. The hitch assembly will mount on the bottom side of the frame for small tractors, and on the top side of the frame for larger tractors.

NOTE: Install the manual lift accessory or the hydraulic lift accessory to the aerator before installing the tines or knife blades. Refer to the following installation instructions for the proper application of the hydraulic or manual lift accessory.

If the hydraulic lift accessory is used, secure the hitch and clamping plate using (3) 3/8-16 X 2-1/2" screws, lockwashers and nuts. Mount the hose support (Part No. 521905) onto the right front hole of the clamping plate. Secure, using a 3/8-16 X 3" screw, large flatwasher, lockwasher and nut. (The hardware for each accessory is included in the appropriate accessory kit).

If the manual lift accessory is used, secure the hitch and clamping plate to the frame with (4) 3/8-16 X 2-1/2" screws, lockwashers and nuts.

4. Attach tractor to the aerator and carefully pull aerator off the pallet. Stop tractor engine.

HYDRAULIC LIFT ACCESSORY**PART NO. 545711**** WARNING**

Escaping hydraulic oil under pressure can have sufficient force to penetrate the skin, causing serious injury.

If a leak is suspected, use a piece of cardboard or wood, not your hands, to check for leaks.

If injured by escaping fluid, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.

Do not use a unit with a leaking hydraulic system. See your authorized Ryan dealer for necessary repairs.

NOTE: This lift accessory is designed to be used with a hydraulic system providing 700 p.s.i. (4,824kPa) or 1500 p.s.i. (10,341kPa) working pressure. It may work on systems providing lower pressures, but will raise the aerator much slower.

** WARNING**

Properly support the aerator, using jackstands, for removal of the right side transport wheel and leg assembly. For safe removal, the wheel and leg need to be at least 2 inches (50mm) above the ground and move freely in order to remove it from the axle shaft.

1. Remove the spirol pin, and the wheel and leg assembly from the right side of the axle shaft and retain for later use.
2. Install the cylinder mounting brackets (Part No. 522090) onto the right wheel leg assembly, using (4) 7/16-14 X 1" screws, lockwashers and nuts. See Figure 2, Page 6.
3. Install the woodruff key (Part No. 548371) into the keyway on the axle shaft, and slide the wheel and leg assembly back onto the axle. Secure with the spirol pin removed in Step 1.
4. Remove the (4) 7/16-14 X 1-3/4" screws securing the right frame arm (Part No. 521883) and cover to the frame (Part No. 545645). Retain hardware for later use.
5. Mount the cylinder pivot bracket (Part No. 545649) onto the frame arm using the original hardware. See Parts List, Page 17.
6. Install the hydraulic cylinder (Part No. 545787) in the appropriate holes on the cylinder pivot bracket and the wheel leg assembly, or the cylinder pivot bracket and the cylinder mounting brackets. See Figures 2 and 3, Page 6.

NOTE: The operator is responsible for acquiring the proper hoses and/or fittings that attach the hydraulic cylinder to the tractor directly to the cylinder, or the operator may install hydraulic fittings onto the cylinder.

For proper connection to the cylinder, use hoses or fittings with a 3/8-18 NPT. Fittings can be obtained from any local tractor dealer, or can be ordered through your Ryan dealer. See Parts List on Page 17 for appropriate fittings.

7. Install hydraulic hoses (not included with set) from tractor to cylinder, passing through the hose support. Raise and lower aerator to make sure hydraulic oil is circulated through entire system. Check for any loose or leaking connections and tighten or replace as necessary. Fill tractor hydraulic reservoir if necessary.

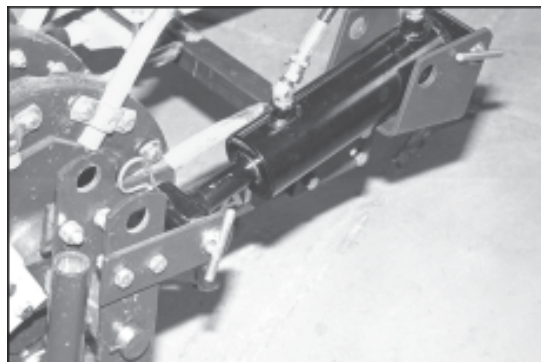


FIGURE 2
(For Tractors With 700 p.s.i. Hydraulics)
1. Cylinder Mounting Bracket
2. Wheel and Leg Assembly
3. Front Hole Position on Pivot Bracket

NOTE: For tractors with 700 p.s.i. (4,824 kPa), install the hydraulic cylinder using the front holes in the cylinder pivot bracket, and the holes of the cylinder mounting brackets. Figure 2.

For tractors with 1500 p.s.i. (10,341 kPa), install the hydraulic cylinder using the rear holes in the pivot mounting bracket, and the holes in the wheel and leg assembly. Figure 3.

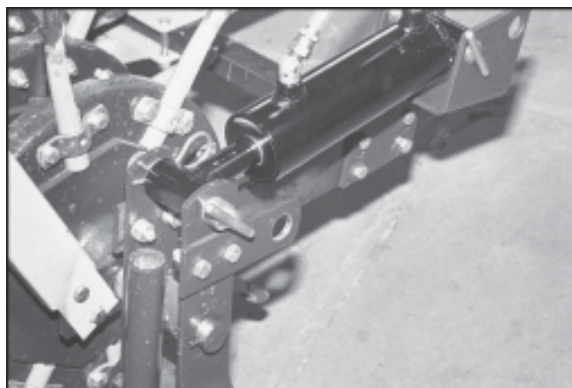


FIGURE 3
(For Tractors With 1500 p.s.i. Hydraulics)
1. Rear Hole Position on Pivot Bracket
2. Wheel and Leg Assembly

MANUAL LIFT ACCESSORY

PART NO. 545654 (For Tow Behind Lawnaire Model 544860)

1. Remove the (2) 3/8-16 X 1-1/2" screws, securing the rear part of the cover to frame arm, on right side of aerator. Retain hardware for later use.
2. Install right stop assembly (Part No. 545675) to unit as shown in Illustration on Page 18. Secure stop with the original hardware.
3. Using the same procedure, install the left side stop (Part No. 645655).
4. Place the spring (Part No. 521880) between the uprights on the wheel leg. Insert the lock pin into the holes, passing lock pin through both leg uprights.
5. Pull the spring back and insert a cotter pin (Part No. 307976) through the hole in the lock pin. The cotter pin will be positioned between the spring and the leg upright. Repeat procedure on other side of unit.
6. To raise aerator, insert the lifting handle (Part No. 521892) into the tube on the wheel leg. Raise handle lowering wheel leg into a vertical position. Lock the locking pin into the hole on the stop bracket. Repeat on other side of unit.
7. To lower aerator, insert the lifting handle into the tube on the wheel leg. Push handle forward to relieve pressure on the locking pin. Pull pin out and raise the wheel, lowering the aerator. Repeat on opposite side of unit.
8. Replace lifting handle in tongue for storage. Insert pin (Part No. 521918) to secure lifting handle.

MODEL 544859, 3-POINT HITCH 36"
MODEL 544876, 3-POINT HITCH 48"

WARNING

Before operating the aerator, check area to be aerated, and remove any objects which may present a safety hazard or damage the aerator (rocks, cans, etc.)

To prevent injury, do not operate aerator without cover in place. Do not make adjustments or perform any maintenance while tractor engine is running.

Do not leave tractor unattended without stopping the engine and lowering the aerator.

NOTE: Failure to lubricate aerating wheels can cause damage to axle, bushings and wheels.

Never cross hard objects or surfaces (sidewalks, driveways, stepping stones, etc.) with tines down.

Do not back up when tines are in the ground or damage to the tines and clamps may occur.

For maximum performance, a double set of tines may be mounted onto the aerating wheels. A longer screw is required for this application. To obtain this screw, order Part No. 311213.

1. Position the tractor and aerator where you wish to begin aerating.
2. With tractor in motion, lower aerator and begin aerating.
3. After completion of job, clean and service the aerator according to the following service instructions.

TRANSPORT OF TOW BEHIND **LAWNNAIRE MODEL 544860**

1. With transport wheels lowered and locked into place, tow the aerator to and from job sites with aerator properly hitched to tractor drawbar. Maximum towing speed should not exceed 10 MPH (16 km/h).

AERATING

LAWNNAIRE MODEL 544860

WARNING

This unit is not designed nor meant to be towed at speeds in excess of 10 MPH (16 Km/h).

Towing at excessive speeds will cause damage to frame and/or wheels. This type of damage will not be repaired under the terms of the warranty.

Before operating the aerator, check area to be aerated and remove any objects which may present a safety hazard or damage the aerator (rocks, cans, etc.).

To prevent injury, do not operate aerator without cover in place. Do not make adjustments or perform any maintenance while tractor engine is running.

Do not leave tractor unattended without stopping the engine.

NOTE: Failure to lubricate aerating wheels can cause damage to axle, bushings and wheels.

Never cross hard objects or surfaces (sidewalks, driveways, stepping stones, etc.) with tines down.

Aerator should be raised completely out of the ground to avoid turf damage while turning.

Do not back up when tines are in the ground or damage to the tines and clamps may occur.

For maximum performance, a double set of tines may be mounted onto the aerating wheels. A longer screw is required for this application. To obtain this screw, order Part No. 311213.

1. Position tractor and aerator where you wish to begin aerating. On models with hydraulic lift, lower unit and begin aerating. On models with manual lift, use the lift handle (as stated in Step 7 on Page 7) to lower the aerator to the ground.
2. Tow Lawnaire over area to be aerated.
3. After completion of job, clean and service the aerator according to the following service instructions.



⚠ WARNING

DO NOT use tractor hydraulics to support the aerator while servicing. Hydraulic lines may rupture causing unit to fall suddenly.

When replacement parts are required, use genuine Ryan parts or parts with equivalent characteristics including type, strength and material. Failure to do so may result in product malfunction and possible injury to the operator and/or bystanders.

LUBRICATION

- 1. Wipe off lubrication fittings before and after lubrication of aerating wheels. Lawnaire Model 544859 has six lubrication fittings; Lawnaire Models 544860 and 544876 have eight lubrication fittings.
- 2. Lubricate aerating wheels after every four hours of use. Use a standard lithium based grease.
- 3. Lubricate aerating wheels daily (Model 544860)
- 4. Transport wheel bearings should be repacked yearly using a good grade wheel bearing lubricant.

⚠ WARNING

Caution must be used when reinflating or bringing a low tire up to the recommended pressure. Use a pressure gauge before connecting an air hose to a partially inflated tire.

Due to the low air volume requirements of a small tire, over-inflation may be reached in a matter of two or three seconds, which may cause the tire to explode.

Tire Pressure (Model 544860)	40 psi (276 kPa)
Tires (Model 544860)	4.10/3.50-4, 2 ply
Tires (Model 544860, SN 1111111111 & up)	10.25 X 3.25 semi pneumatic

Keep the tires inflated to the proper tire pressure recommended.

⚠ CAUTION

Improper tire inflation will shorten the life of the tires. It may also cause the equipment to pull erratically, causing personal injury or property damage.

STORAGE INSTRUCTIONS

Thoroughly clean all tines, inside and out, after aerating is completed. A light coating of oil sprayed onto the tines or blades will help prevent rust and ensure proper coring the next time the unit is put into service.

Unit should be stored on boards to protect tines or blades from rust and damage. Store in a dry location.

Lubrication before long storage periods will help prevent moisture build-up in the lubrication cavities.

When bringing unit out of storage, check for loose hardware and damaged parts. Tighten and replace as needed.

FOR MODELS EQUIPPED WITH HYDRAULIC LIFT ACCESSORY

Check hydraulic cylinder for leaks and replace seal kit if needed. To obtain seal kit, order Part No. 884597.

Check the hydraulic hose connections for tightness and check the hoses for any wear or damage. Tighten and replace as necessary.

NOTE: Proper storage and maintenance will extend the usage and performance of the unit.

TINE WHEEL REPLACEMENT MODELS 544859 & 544876

1. Attach aerator to tractor for stability.
2. Raise unit and place jackstands under frame assembly. Lower unit on frame making sure tines are not touching the floor.
3. Remove spirol pin (Part No. 316945) from axle, on side closest to wheel to be repaired.
4. Pull axle out until the tine wheel to be replaced or serviced is free. Note location of spacers as the tine wheels are removed.
5. Replace or service the appropriate tine wheel.
6. Remove any surface rust from axle shaft to prevent damage to seals.
7. Apply a lithium based lubricant to the axle shaft and to the lip of the seals before reassembling. Assemble in the reverse order of removal.
8. Replace spirol pin with new pin, Part No. 316954.

TINE WHEEL REPLACEMENT MODEL 544860

1. Attach aerator to tractor for stability.
2. Raise unit and place jackstands under each frame arm and lower aerator, keeping the transport wheels and the tine wheels off the floor.
3. If aerator has the hydraulic lift accessory, disconnect the hydraulic cylinder from the wheel leg assembly.
4. Remove spirol pin, wheel leg assembly and key from axle shaft, on side closest to wheel to be repaired. (Units with hydraulic lift will have a key at each end of axle shaft.)
5. Pull axle out until tine wheel to be replaced or serviced is free. Note the location of spacers as tine wheels are removed.
6. Remove any surface rust from the axle shaft to prevent damage to the seals.
7. Apply a lithium based lubricant to the axle shaft and to the lip of the seals before reassembling. Assemble in the reverse order of removal.
8. Replace spirol pin with new pin, Part No. 316954.

SPECIFICATIONS

Aerating Depth:

Up to 5" (127 mm), depending on soil conditions.

Model 544876: Up to 4" (102 mm)

Aerating Pattern:

6" X 6" (152 mm X 152 mm)

Aerating Width:

36" (914 mm)

Model 544876: 48" (1,219 mm)

Chassis:

1-1/2" sq. X 3/16" wall tube.

Dimensions:

Model 544859:

Width 35" (889 mm)

Height 34-1/2" (876 mm)

Length 27-3/4" (705 mm)

Model 544876:

Width 46" (1,368 mm)

Height 34-1/2" (876 mm)

Length 31" (787 mm)

Model 544860:

Width 46" (1,168 mm)

Height 31" (787 mm)

Length 68-1/2" (1,740 mm)

Hitch:

Model 544859: Mounted; 3-point hitch

Model 544876: 3-point hitch category "1"

Model 544860: Tow Behind; pin and clevis hitch.

Lubrication:

Pressure fittings. Refer to the service section on Page 10.

Tines:

See accessories section, Page 14.

Tires:

Model 544860: 4.10/3.50-4, 2 ply pneumatic w/ball bearings.

Model 544860: 10.25 X 3.25 semi-pneumatic. (SN1111111111 & up)

Tire Pressure:

Model 544860: 40 p.s.i. (276 kPa)

Weight:

Model 544859: 475 lbs. (215 kg)

Model 544876: 675 lbs. (306 kg)

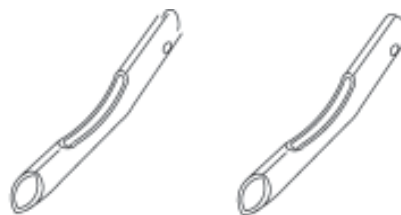
Model 544860: 500 lbs. (227 kg)

Wheels:

Aerating; Cast iron with sintered bronze bushing.

515196 - 1/2" Coring Tine
522361 - 3/4" Coring Tine, Thin Wall
515197 - 3/4" Coring Tine, Thick Wall

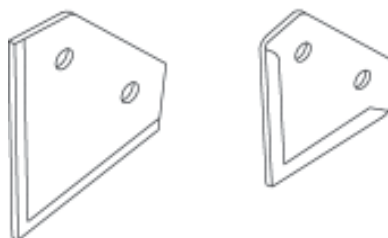
These tines are for use with aeration programs in the Spring and Fall. Soil cores up to 4" (102mm) in length can be removed with minimal surface disturbance.



(Single Knife Part Numbers)
521155 - Deep Slicing Knife
515193 - Shallow Slicing Knife

Slicing knives are used for aeration and renovation programs during all seasons. Slicing knives control thatch by cutting through grass runners and also have the advantage of no surface clean up after aerating. Knives are especially helpful in that they do not place buried seeds of noxious weeds on the surface where they can germinate.

Slicing knives are especially recommended for athletic fields. Slicing allows moisture, air and fertilizer to be absorbed while not creating hazardous playing conditions for athletes.



520404 - Aerating Tine

These tines are for turf building and Fall renovation programs. These tines will thoroughly open up the soil by penetrating deep into the ground bringing up large amounts of soil, which then becomes top dressing.



PARTS SECTION

FIGURE 1

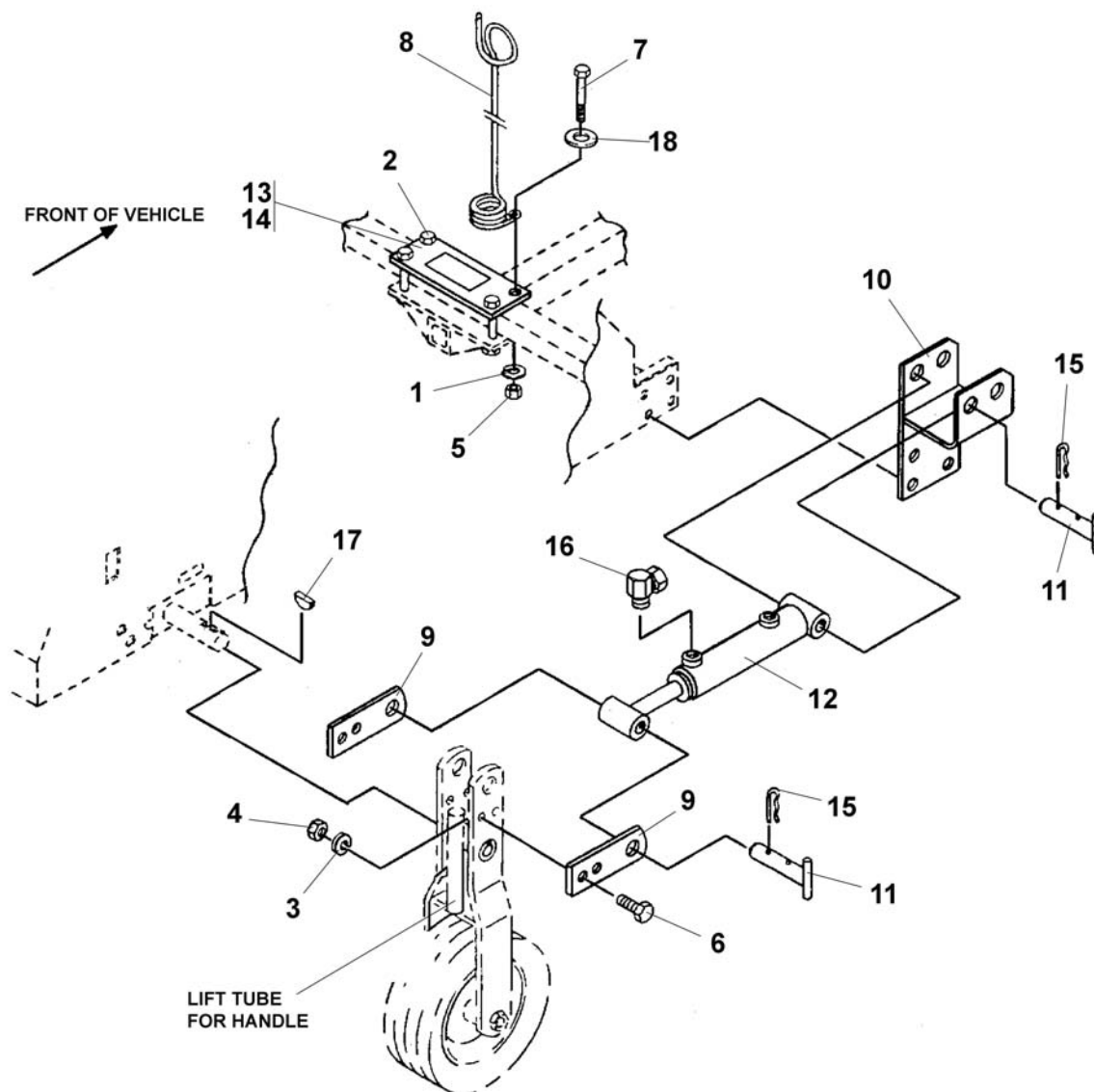


FIGURE 1

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1-1	120177	LOCKWASHER 3/8	4				
1-2	301431	SCREW-3/8-16 X 2-1/2	3				
1-3	303269	LOCKWASHER-7/16	4				
1-4	304364	NUT-7/16-14	4				
1-5	306562	NUT-3/8-16	4				
1-6	306838	SCREW-7/16-14 X 1	4				
1-7	311213	SCREW-3/8-16 X 3	1				
1-8	521905	SUPPORT-HOSE	1				
1-9	522090	BRKT-CYLINDER MOUNT	2				
1-10	545649	PIVOT-CYLINDER	1				
1-11	645650	PIN-LOCK	2				
1-12	545787	CYLINDER-HYDRAULIC	1				
1-13	547741	PLATE-CLAMPING	1				
		(INCLUDES ITEM 14)					
1-14	521921	DECAL-INSTRUCTION	1				
1-15	548195	PIN-HAIR	2				
1-16	548390	FITTING-90 DEG. HYD 3/8-18	2				
1-17	548371	KEY-WOODRUFF 1/4 X 2-1/8	1				
1-18	603620	WASHER-SPECIAL	1				
1-19 *	884597	SEAL KIT-HYD CYLINDER	A/R				

* NOT ILLUSTRATED

FIGURE 2

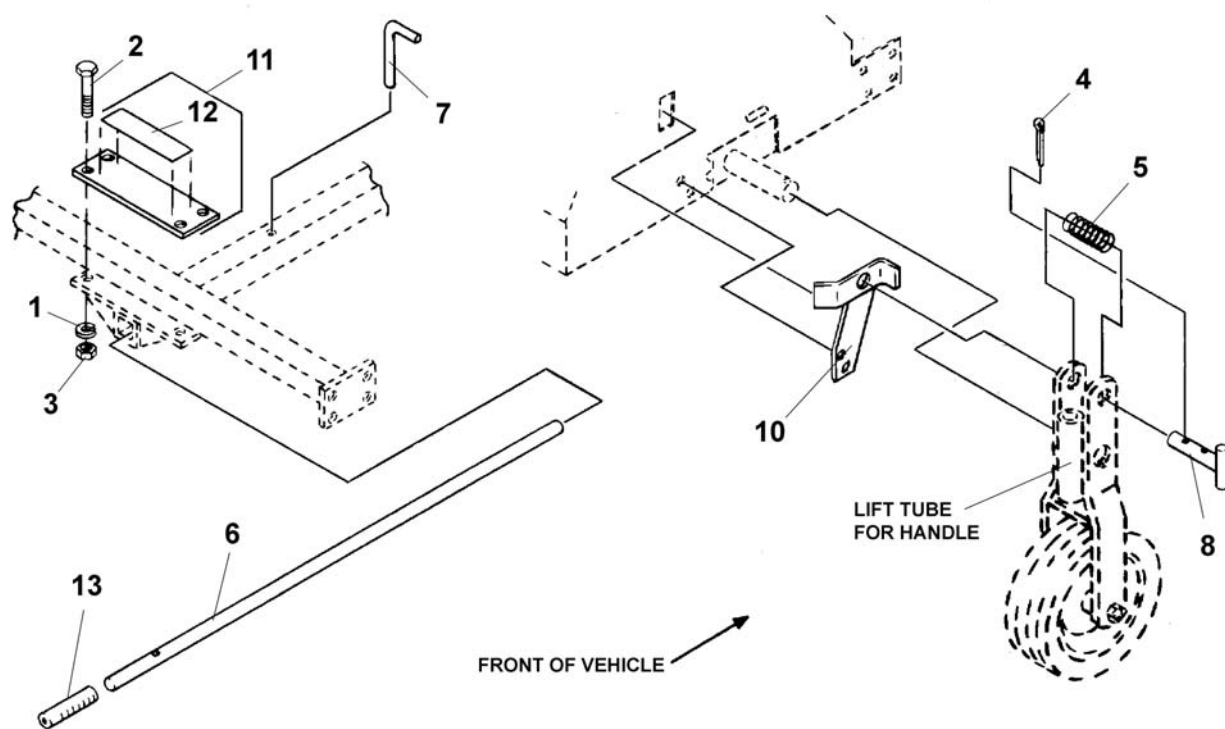


FIGURE 2

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
2-1	120177	LOCKWASHER-3/8	4				
2-2	301431	SCREW-3/8-16 X 2-1/2	4				
2-3	306562	NUT-3/8-16	4				
2-4	307976	PIN-COTTER 5/32 X 1-1/4	2				
2-5	521880	SPRING	2				
2-6	521892	HANDLE-LIFT	1				
2-7	521918	PIN-RETAINING	1				
2-8	545650	PIN-LOCK	2				
2-9 *	545655	STOP-LEFT	1				
2-10	545675	STOP-RIGHT	1				
2-11	547741	PLATE-CLAMPING (INCLUDES ITEM 12)	1				
2-12	521921	DECAL-INSTRUCTION	1				
2-13	548518	GRIP-HANDLE	1				

* NOT ILLUSTRATED

FIGURE 3

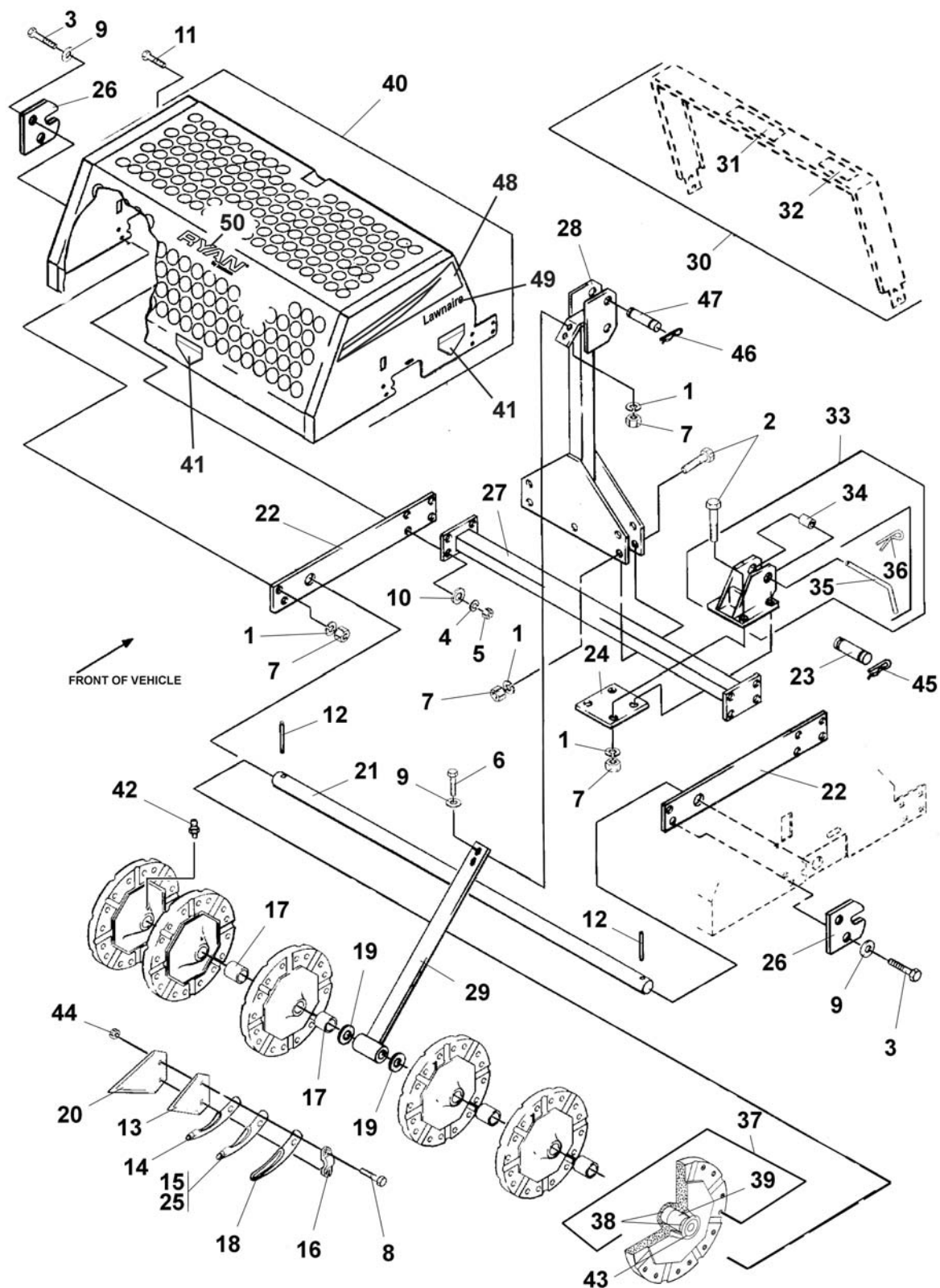


FIGURE 3

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
3-1	120177	LOCKWASHER-3/8	19	3-38	515184	BUSHING	2
3-2	301431	SCREW-3/8-16 X 2-1/2	13	3-39	521814	SPACER	1
3-3	302600	SCREW-3/8-16 X 1-1/2	4				
3-4	303269	LOCKWASHER-7/16	8	3-40	547714	COVER-ASSY (INCLUDES ITEM 41)	1
3-5	304364	NUT-7/16-14	8				
3-6	306414	SCREW-3/8-16 X 1	2	3-41	835892	DECAL-DANGER	3
3-7	306562	NUT-3/8-16	19				
3-8	306836	SCREW-3/8-16 X 2-1/4	96	3-42	548230	FITTING-LUBRICATION	6
3-9	306981	WASHER-3/8	6	3-43	548256	SEAL-OIL	12
3-10	306982	WASHER-7/16	8	3-44	548804	NUT-3/8-16 FLANGELOCK	96
3-11	311395	SCREW-7/16-14 X 1-3/4	8	3-45**	809265	PIN-HAIR	2
3-12	316945	PIN-SPIROL 1/4 X 1-3/4	2	3-46	822529	PIN-HAIR	2
3-13	515193	KNIFE-SHALLOW SLICING	48	3-47	827172	PIN-PIVOT	1
3-14	515196	TINE-1/2 (13mm)	48	3-48	4130432	LABEL-LAWNAIRE RH RYAN	1
3-15 *	515197	TINE-3/4 (19mm)	48	3-49	4130431	LABEL-LAWNAIRE	2
3-16	515198	CLAMP-TINE	48	3-50	4124326	LABEL-RYAN	1
3-17	519959	SPACER	2	3-51 **	4130433	LABEL-LAWNAIRE LH RYAN	1
3-18	520404	TINE-AERATING	48				
3-19	521111	WASHER-1-5/16	2				
3-20	521155	KNIFE-DEEP SLICING	48				
3-21	521879	SHAFT-AXLE	1				
3-22	521883	ARM-FRAME	2				
3-23**	521889	PIN-HITCH	2				
3-24	521917	PLATE	2				
3-25 ^	522361	TINE-3/4 (19mm)	48				
3-26	523498	BRACKET-STOP	2				
3-27	545645	FRAME	1				
3-28	545646	MAST	1				
3-29	545647	SUPPORT	1				
3-30^^		BAR-SAFETY	1				
	(INCLUDES ITEMS 31 & 32)						
3-31	521167	DECAL-RYAN	1				
3-32	521921	DECAL-INSTRUCTION	1				
3-33	545693	KIT-HITCH (INCLUDES ITEMS 34-36)	2				
3-34	829987	SPACER-HITCH	1				
3-35	882933	PIN-HITCH	1				
3-36	822529	PIN-HAIR	1				
3-37	546048	WHEEL-TINE ASSY (INCLUDES ITEMS 38 & 39)	6				

** NOT ILLUSTRATED

* ON MODELS 8510 AND PRIOR, THESE TINES WERE A STANDARD ITEM. THESE TINES ARE STILL AVAILABLE. THEY HAVE BEEN REPLACED WITH A THINNER WALL TINE TO ALLOW BETTER PENETRATION.

** 8310 AND PRIOR MODELS. THESE PINS FOR USE WITH CATEGORY 1 HITCHES

^ 8610 AND LATER

^^ 9110 AND PRIOR

FIGURE 4

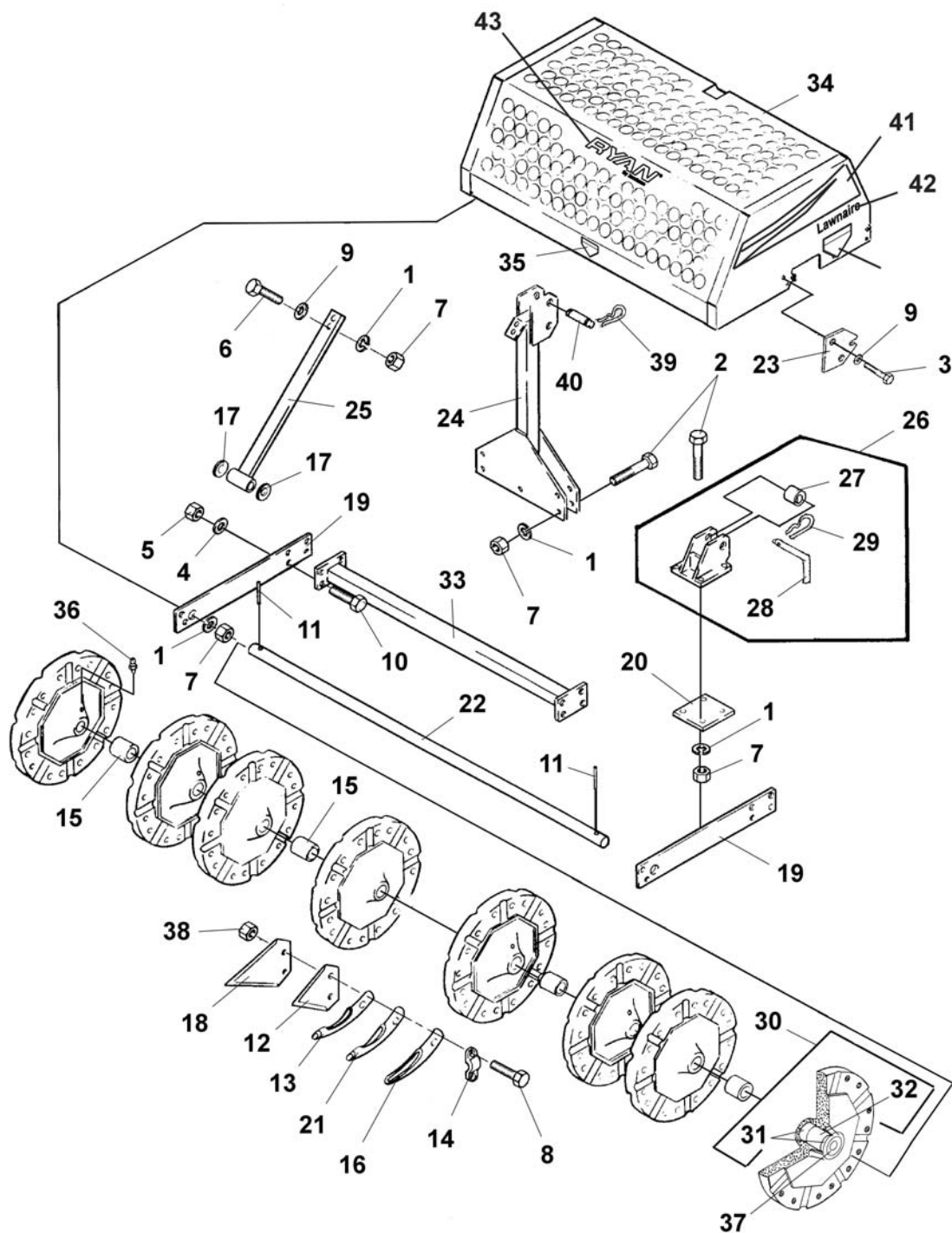


FIGURE 4

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
4-1	120177	LOCKWASHER-3/8	19	4-37	548256	SEAL-OIL	16
4-2	301431	SCREW-3/8-16 X 2-1/2	13	4-38	548804	NUT-3/8-16 FLANGELOCK	128
4-3	302600	SCREW-3/8-16 X 1-1/2	4	4-39	822529	PIN-HAIR	2
4-4	303269	LOCKWASHER-7/16	8	4-40	827172	PIN-PIVOT	1
4-5	304364	NUT-7/16-14	8	4-41	4130432	LABEL-LAWNNAIRE RH RYAN	1
4-6	306414	SCREW-3/8-16 X 1	2	4-42	4130431	LABEL-LAWNNAIRE	2
4-7	306562	NUT-3/8-16	19	4-43	4124326	LABEL-RYAN	1
4-8	306836	SCREW-3/8-16 X 2-1/4	128	4-44	**4130433	LABEL-LAWNNAIRE LH RYAN	1
4-9	306981	WASHER-3/8	6				
4-10	311395	SCREW-7/16-14 X 1-3/4	8				
4-11	316945	PIN-SPIROL 1/4 X 1-3/4	2				
4-12	515193	KNIFE-SHALLOW SLICING	64				
4-13	515196	TINE-1/2 (13mm)	64				
4-14	515198	CLAMP-TINE	64				
4-15	519959	SPACER	4				
4-16	520404	TINE-AERATING	64				
4-17	521111	WASHER-1-5/16	2				
4-18	521155	KNIFE-DEEP SLICING	64				
4-19	521883	ARM-FRAME	2				
4-20	521917	PLATE	2				
4-21	522361	TINE-3/4 (19mm)	64				
4-22	523371	SHAFT-AXLE	1				
4-23	523498	BRACKET-STOP	2				
4-24	545646	MAST	1				
4-25	545647	SUPPORT	1				
4-26	545693	KIT-HITCH	2				
		(INCLUDES ITEMS 27-29)					
4-27	829987	SPACER-HITCH	1				
4-28	882933	PIN-HITCH	1				
4-29	822529	PIN-HAIR	1				
4-30	546048	WHEEL-TINE ASSY	6				
		(INCLUDES ITEMS 31 & 32)					
4-31	515184	BUSHING	2				
4-32	521814	SPACER	1				
4-33	547668	FRAME	1				
4-34	547721	COVER-ASSY	1				
		(INCLUDES ITEM 35)					
4-35	835892	DECAL-DANGER	3				
4-36	548230	FITTING-LUBRICATION	8				

** NOT ILLUSTRATED

FIGURE 5

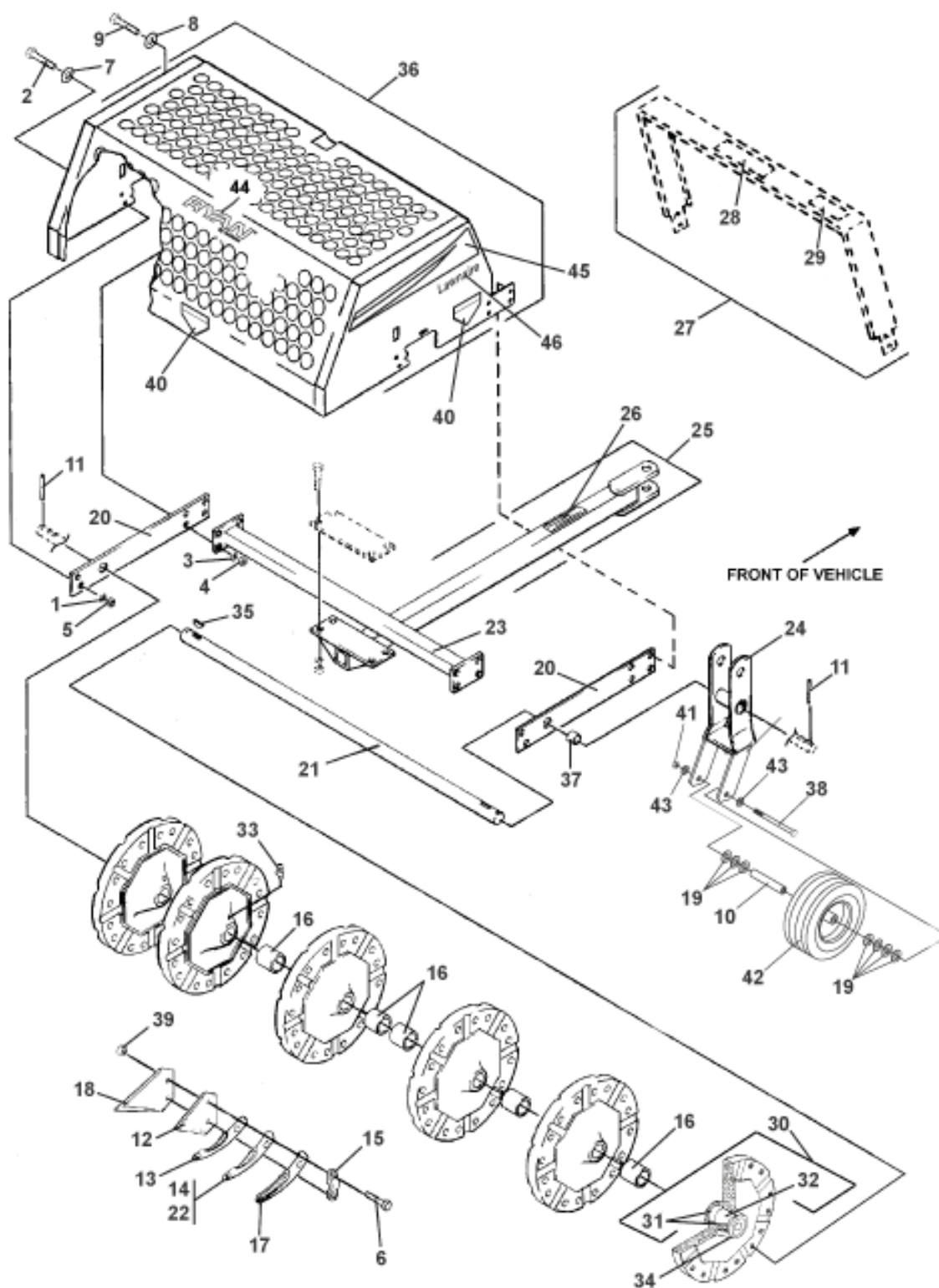


FIGURE 5

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
5-1	120177	LOCKWASHER-3/8	4	5-38	64123-130	BLT-HEX 3/8-16X5-1/2	2
5-2	302600	SCREW-3/8-16 X 1-1/2	4	5-39	548804	NUT-3/8-16 FLANGELOCK	96
5-3	303269	LOCKWASHER-7/16	8	5-40	835892	DECAL-DANGER HANDS	3
5-4	304364	NUT-7/16-14	8	5-41	64229-03	LOCKNUT-NYLON 3/8-16	2
5-5	306562	NUT-3/8-16	19	5-42	53-186	WHEEL	2
5-6	306836	SCREW-3/8-16 X 2-1/4	96	5-43	64163-61	WASHER	4
5-7	306981	WASHER-3/8	4	5-44	4124326	LABEL-RYAN	1
5-8	306982	WASHER-7/16	8	5-45	4130432	LABEL-LAWNNAIRE RH RYAN	1
5-9	311395	SCREW-7/16-14 X 1-3/4	8	5-46	4130431	LABEL-LAWNNAIRE	2
5-10	50-062	SPACER	2	5-47	**4130433	LABEL-LAWNNAIRE LH RYAN	1
5-11	316945	PIN-SPIROL 1/4 X 1-3/4	2				
5-12	515193	KNIFE-SHALLOW SLICING	48				
5-13	515196	TINE-1/2 (13mm)	48				
5-14 *	515197	TINE-3/4 (19mm)	48				
5-15	515198	CLAMP-TINE	48				
5-16	519959	SPACER	4				
5-17	520404	TINE-AERATING	48				
5-18	521155	KNIFE-DEEP SLICING	48				
5-19	64163-16	WASHER	14				
5-20	521883	ARM-FRAME	2				
5-21	521887	SHAFT-AXLE	1				
5-22 ^	522361	TINE-3/4 (19mm)	48				
5-23	545645	FRAME	1				
5-24	545651	LEG-WHEEL	2				
5-25	545677	HITCH	1				
5-26	521922	DECAL-SAFETY	2				
5-27^^		BAR-SAFETY	1				
	(INCLUDES ITEMS 28 & 29)						
5-28	521167	DECAL-RYAN	1				
5-29	521921	DECAL-INSTRUCTION	1				
5-30	546048	WHEEL-TINE ASSY	6				
	(INCLUDES ITEMS 31 & 32)						
5-31	515184	BUSHING	2				
5-32	521814	SPACER	1				
5-33	548230	FITTING-LUBRICATION	6				
5-34	548256	SEAL-OIL	12				
5-35	548371	KEY-WOODRUFF 1/4 X 1/8	2				
5-36	547714	COVER-ASSY	1				
	(INCLUDES ITEM 40)						
5-37	827248	SPACER	2				

** NOT ILLUSTRATED

* ON MODELS 8510 AND PRIOR, THESE TINES WERE A STANDARD ITEM. THESE TINES ARE STILL AVAILABLE. THEY HAVE BEEN REPLACED WITH A THINNER WALL TINE TO ALLOW BETTER PENETRATION.

^ 8610 AND LATER

^^ 9110 AND PRIOR

World Class Quality, Performance And Support



Equipment from Jacobsen, a Textron company, is built to exacting standards ensured by ISO 9001 and ISO 14001 registration at all our manufacturing locations.

A worldwide dealer network and factory-trained technicians backed by Textron Parts Xpress provide reliable, high-quality product support.



BOB-CAT BROUWER BUNTON CUSHMAN RYAN STEINER