

MAN 4164189
Rev. A 04-2009



MODEL:
744317A
RENOVAIRE



SCHILLER

GROUNDS
CARE

PARTS / SET-UP MANUAL



IMPORTANT MESSAGE

Thank you for purchasing this Schiller Grounds Care, Inc. 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 Schiller Grounds Care, Inc. 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 Schiller Grounds Care, Inc. dealer for any service or parts needed. Schiller Grounds Care, Inc. service ensures that you continue to receive the best results possible from Schiller Grounds Care, Inc. products. You can trust Schiller Grounds Care, Inc. replacement parts because they are manufactured with the same high precision and quality as the original parts.

Schiller Grounds Care, Inc. 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.

Schiller Grounds Care, Inc.
One Bob Cat Lane
Johnson Creek, WI 53038-0469

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MAINTENANCE AND STORAGE SAFETY**In general**

- Maintain machine according to manufacturer's schedule and instructions for maximum safety and best results.
- Park machine on level ground.
- Never allow untrained personnel to service machine.
- Replace parts if worn, damaged or faulty. For best results, always replace with parts recommended by the manufacturer.
- Disconnect spark plug wire(s) before making any repairs.
- Do not dismantle the machine without releasing or restraining forces which may cause parts to move suddenly.
- Provide adequate support, e.g. jackstands for lifted machine or parts if working beneath.

TINES

- Aerator tines are sharp and can cut. Use extra caution when handling. Remove obstructions with care. Wrap the tines or wear gloves.
- Only replace tines. Never straighten or weld them.
- Keep other persons away from tines.

Axle Replacement

1. Remove the weight tray from the desired aerating wheel assembly. The weight tray supports can remain attached to the side rail.
2. Remove the aerating wheel assembly from the tool bar.
3. Remove one side rail from the wheel assembly and remove the axle. You may need to tap the axle, using a wood or rubber mallet, to remove it.
4. Install the new axle **19** Figure 2.
5. Attach the side rail onto the wheel assembly and mount the assembly onto the tool bar.
6. Mount the weight tray onto the tray supports.
7. Lubricate the wheel after assembly.

GENERAL NOTE: FRONT, REAR, RIGHT HAND AND LEFT HAND REFERENCES BELOW ARE WITH RESPECT TO AN OPERATOR AT THE CONTROLS.

SET-UP

Refer to Figure 1 on pages 14 - 15 for set-up.

1. Remove crate top and sides.
2. Check inflation pressure on transport tires. The correct tire pressure is 55 psi.
3. Bolt the tongue (12) to the frame (5) using four 1/2-13 x 2" bolts (4), four 1/2" lockwashers (1), and four 1/2-13 nuts (3).
4. Hitch the Renovaire to the draw bar on the tractor. Attach the customer supplied hydraulic hose from the tractor to the hydraulic cylinder.

NOTE: If using the hydraulic hand pump, refer to the instructions for pump installation. The hydraulic hand pump is used with the Renovaire when a hydraulic system on the tractor is not available.

WARNING

To prevent possible injury use an adequate lifting device when placing main frame on blocks.

5. (Optional) Raise the frame and insert boards/ planks under the transport wheels to help drive the machine off the crate.
6. Activate the hydraulic cylinder to raise the aerating wheel assemblies. Drive the tractor forward to take the Renovaire off the crate base.
7. Hook the transport eye bolt assembly (11) onto the cradle end lugs (27) on each end. Slowly deactivate the hydraulic cylinder to lower the cradle so that the weight rests on the eye bolt spring assemblies.

TINES AND BLADE SET UP

Refer to Figure 2 on pages 16 - 17 for

WARNING

Tines and blades are sharp. To prevent possible injury wear leather gloves or other suitable.

8. Support the machine with jackstands while installing blades or tines. Set the parking brake on the tractor or block the tractor wheels.

Mount 8 tines per wheel on the outside of the wheel.

NOTE: A second set of tines can be mounted to the inside of the wheels to increase the number of cores per square foot (meter). How well this works depends on the desired depth and soil conditions.

9. Grease aerating wheels and pivots.

HYDRAULIC HAND PUMP

Refer to Figure 2 on pages 16 - 17 for

1. Apply teflon pipe thread compound (do not use teflon tape) to the threads of the hydraulic swivel elbow **12**, and install onto the hydraulic cylinder **10**. Do not tighten at this time.
2. Mount the hydraulic hand pump **9** onto the pump plate **8** using (4) 5/16-18 X 1-1/4" screws **4**, (4) 5/16 lockwashers **3** and (4) 5/16-18 nuts. See Figure 3.
3. For ease of operation (left or right hand operator), the hand pump can be installed on either side of the main frame. Determine which side to mount the pump and using the (2) U-bolts **14**, mount the pump onto the frame securing it with 5/16 lockwashers and 5/16-18 nuts.

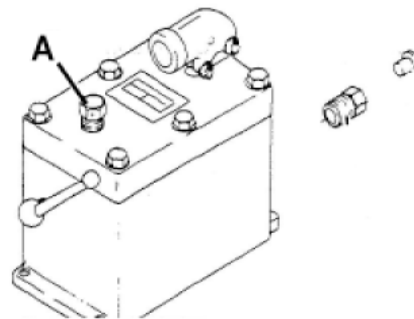


BEFORE INSTALLING THE HYDRAULIC HOSE, REMOVE THE HOSE/CONNECTOR FITTING FROM THE PUMP AND REMOVE THE PLASTIC PLUG.

NOTE: Removal of plastic plug, without removing the connector from the pump could cause some of the plug to be forced into the pump.

4. Apply teflon pipe thread compound around the threads of the hose connector fitting and reinstall onto the pump.
5. Apply teflon pipe thread compound to the connector fittings on the hydraulic hose **10** and install the hose onto the pump. Position the hose for installation onto the hydraulic elbow fitting on the cylinder. Make sure the hose does not become kinked or interfere with any moving parts.

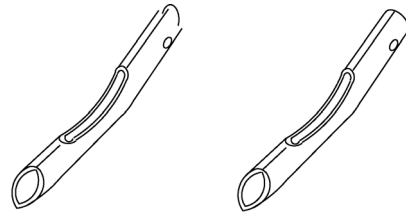
6. With the hose properly positioned, adjust the elbow on the cylinder to the approximate position required to connect the hose and elbow fitting. Tighten the elbow into position and tighten the hose onto the elbow. Double check all fittings and hardware for tightness.
7. Remove the vent-filler plug **A** and fill the pump with one quart (.946L) of type "A" or "F" transmission fluid. **DO NOT** substitute with any other type of fluid.



8. Position the pump handle **13** on the top side of the tongue, between the hitch and where the tongue mounts to the frame. Place a handle clip **7** approximately 2" (51 mm) from each end of the handle and mark their locations for drilling.
9. Mark and drill a 9/64" (3.6 mm) hole at each location and install the clips using the #10-5/8" self tapping screws **11**.

515196 - 1/2" Coring Tine
515197 - 3/4" Coring Tine
(Single Tine Part Number)

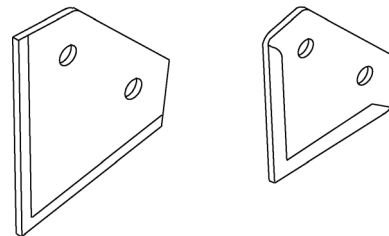
Use 1/2" or 3/4" coring tines for thorough aeration programs in the Spring and Fall. Soil cores up to 4" (102mm) in length can be removed with minimal surface disturbance letting in air, moisture and fertilizer to the root zone. The cores on the surface quickly disintegrate forming top dressing for an excellent seed bed. Using this system, rain water run-off is minimized and extra moisture is held down in the root zone.



521155 - Deep Slicing Knife
515193- Shallow Slicing Knife
(Single Tine Part Number)

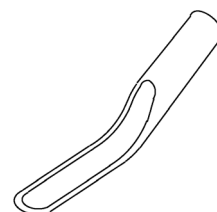
Use for aeration and renovation programs during all seasons. Slicing knives control thatch by cutting through grass runners and also have the advantage of no surface clean up after aerating. Knives are especially helpful in that they do not place buried seeds of noxious weeds on the surface where they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

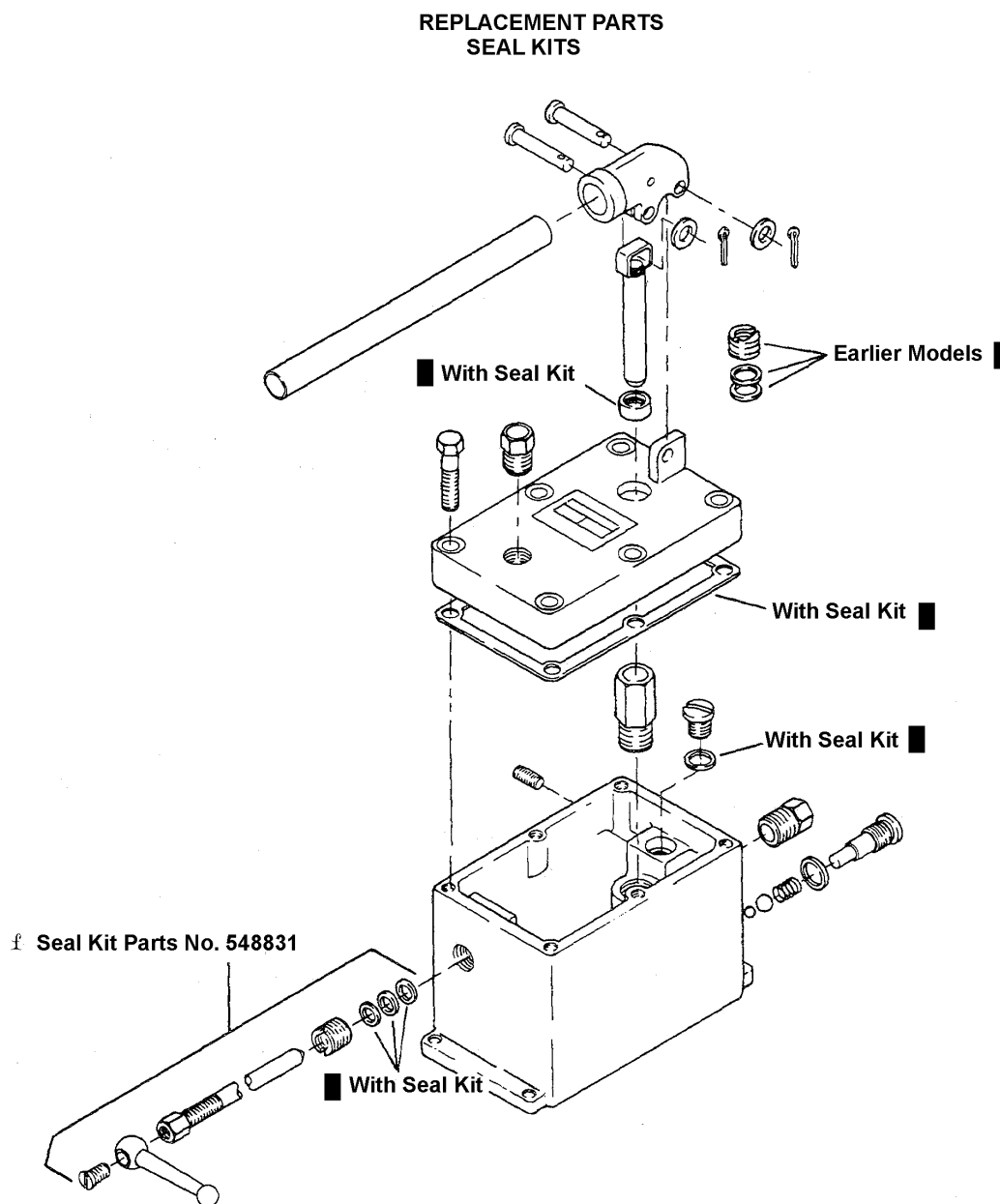
Slicing knives are especially recommended for athletic fields. Due to the "invisible" slices, moisture, air and fertilizer can be trapped while not creating hazardous playing conditions for athletes.



520404- Aerating Tine Kit
(Single Tine Part Number)

Use 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.





SEAL KITS

Schiller Grounds Care, Inc. has three service kits available for gasket and seal replacement on worn pumps. Using the illustration shown above and part numbers, determine which Replacement Seal Kit is needed then contact your nearest Schiller Grounds Care, Inc. dealer.

f These parts included in Seal Kit Part No. 548831
 These parts included in Seal Kit Part No. 548812

Earlier Models: Some of the earlier models will have these parts to be replaced. Seal kit Part No. 548812 contains these parts, but depending on which model you have, they may not have to be used.

A Relief Valve is also available. The valve is optional and can be obtained by ordering Part No. 548832.

Specifications

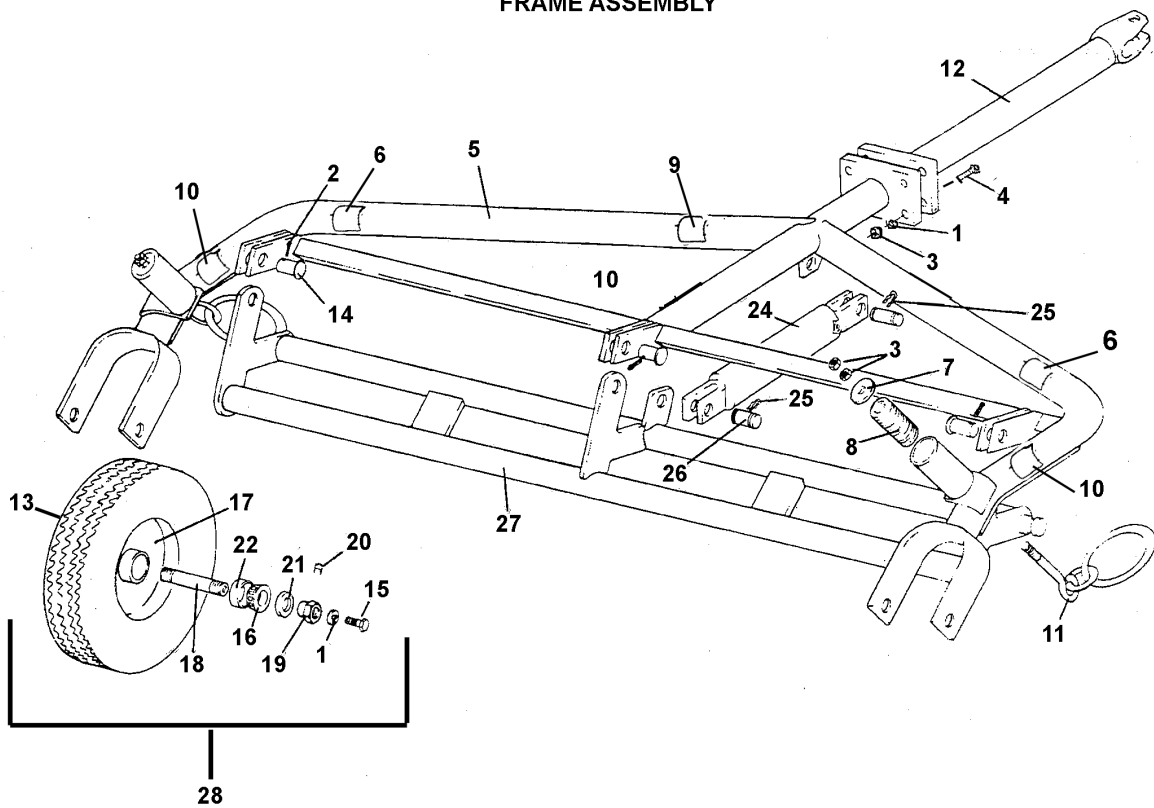
Chassis:	2" (50 mm) Schedule 80 pipe
Hitch:	Clevis type with 3/4" (19mm) diameter pin
Axles:	Aerating: 1-1/4" (32mm) diameter Transporting: 3/4" (19mm) diameter bolted to frame
Wheels:	Aerating: 12 cast iron wheels w/bushings Transport: Pneumatic 4.80 X 4.00-8, 6 ply w/roller bearings
Net Weight:	Approximately 1000 lbs.
Dimensions:	
Width:	8' (2.44m)
Transport Height:	30" (762mm)
Length:	9' (2.74m)
Operating Speed:	Up to 10 mph (16kph)
Transport Speed:	Up to 10 mph (16kph)
Aerating Width:	6' (1.83m)
Aerating Depth:	Up to 5" (127mm)
Aerating Pattern:	Approximately 6" X 6" (152mm X 152mm)
Hydraulic Lift:	Raise and lower aerating wheels
Hydraulic Cylinder	2-1/2" (63.5mm) bore with 8" (200mm) stroke rated @ 3000 p.s.i. (20,684 kpa)
Lubrication	Pressure grease fittings
Conforms to :	Directive 98/37/EC

PARTS SECTION

RENOVAIRE FIGURE 1

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
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FRAME ASSEMBLY



FRAME ASSEMBLY

RENOVAIRE FIGURE 1

1-1	64006-05	LOCKWSHR-HELICAL 1/2	8
1-2	64140-5	COTTER PIN-1/8X1-1/2	3
1-3	64025-19	NUT-1/2-13 HEX	8
1-4	64123-24	BOLT-1/2-13 X 2	4
1-5	4164030	S-FRAME,MAIN RENOVARE 1	
(INCLUDES ITEMS 6, 9, 10)			

1-6	4163695	DECAL-CHF HOREU	
1-7	64163-91	WASHER-.531X2.000X.125	2
1-8	518495	SPRING	2
1-9	4163795	LABEL-READ UTILITY EU	1
1-10	4130430	LABEL-RENOVAIRE	2
1-11	546018	EYE BOLT, ASSEMBLY	2
1-12	545499.2	TONGUE	1
1-13	546009-1	WHEEL	2
(INCLUDES ITEMS 16, 17, 21, 22, & 23)			

1-14	548473	PIN-CRADLE	3
1-15	64123-05	BLT-HEX 1/2-20X1-1/2	4
1-16	385174	BEARING-CONE	2
1-17	515181	HUB	2
1-18	515182	AXLE	2
1-19	515183	NUT-3/4-16	4
1-20	64044-11	SCREW-SET 10-24X1/4	2
		TIRES-4.80/4.00-8	2
(CAN BE OBTAINED LOCALLY)			

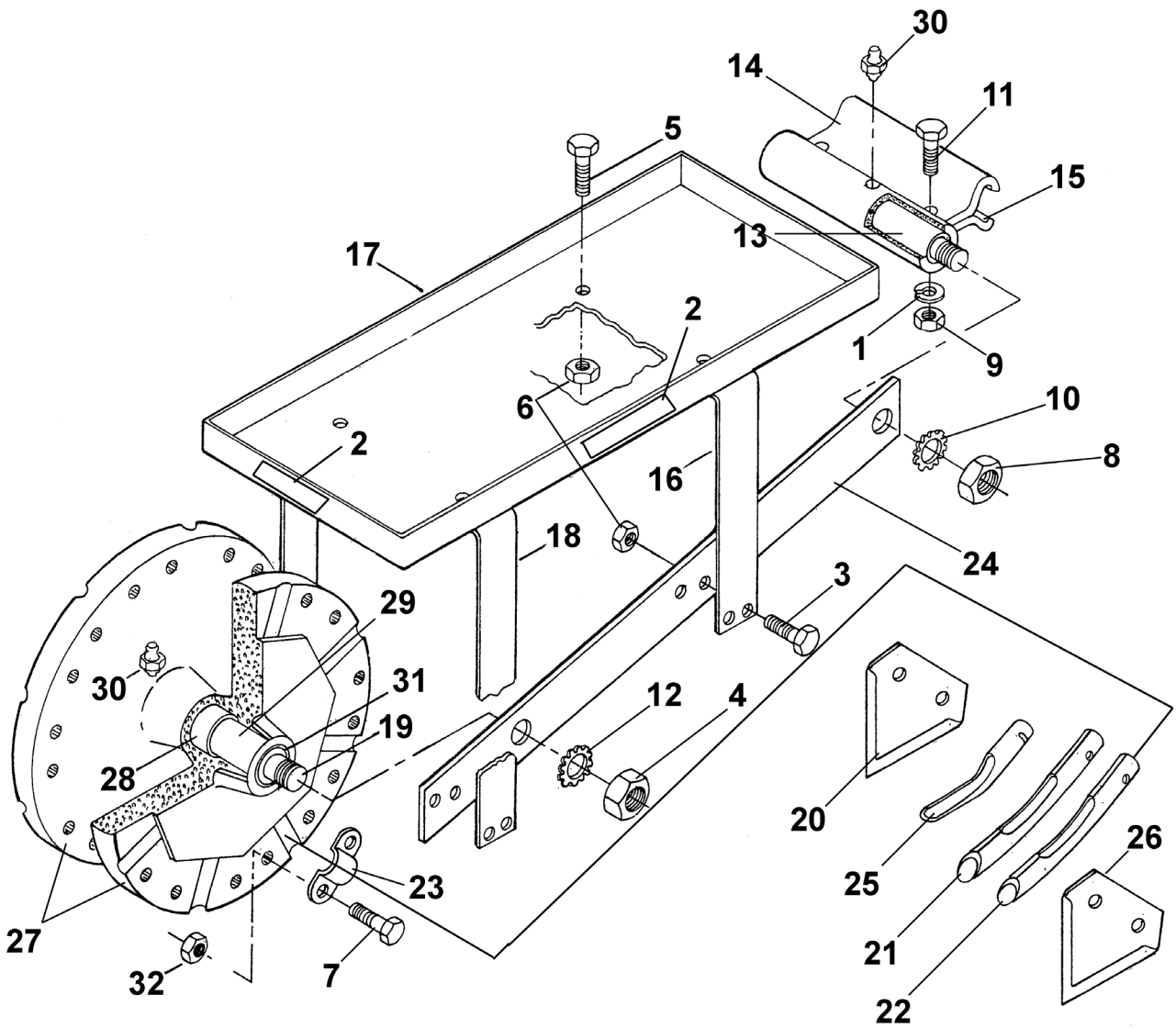
1-21	807630	SEAL-OIL	4
1-22	808088	CUP-BEARING	4
1-23*	886735	STEM-VALVE	2
1-24	546014	CYLINDER-HYD 2-1/2	1
(WITH RETAINING RING)			
	545535	KIT-SEAL	1
	548345	RING-LOCKING	1

1-25	548602	PIN-HAIR	4
1-26	548603	PIN-CLEVIS	2
1-27	546017.2	ASSY-CRADLE	1
1-28	546009	TIRE AND WHEEL ASSY.	2
(INCLUDES ITEMS 1, 15-22)			

***NOT ILLUSTRATED**

RENOVAIRE
FIGURE 2

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
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AERATING WHEEL

RENOVAIRE FIGURE 2

2-1	64006-05	LOCKWSHR-HELICAL 1/2	12
2-2	4161125	DECAL-RYAN OVAL (ON REAR AND OUTSIDE OF TWO OUTSIDE TRAYS ONLY)	4
2-3	64123-70	BLT-HEX 3/8-16X1-1/2	48
2-4	305134	NUT-HEX, JAM, 7/8-14	12
2-5	64123-50	BLT-HEX 3/8-16X1	24
2-6	64229-03	NUT-NYLON LOCK 3/8-16	72
2-7	64123-100	BLT- HEX 3/8-16X2-1/4 192	
2-8	307665	NUT, HEX, JAM, 3/4-16	12
2-9	64025-19	NUT-1/2-13 HEX	12
2-10	309799	WASHER, SHKPRF, 3/4	12
2-11	316912	SCREW, HEX 1/2-13X2-1/4	12
2-12	316954	LOCKWASHER-7/8	12
2-13	515103	SHAFT	6
2-14	515109.7	CLAMP	6
2-15	515115.7	CAP	6
2-16	515118.7	SUPPORT-WEIGHT TRAY	6
2-17	515119.2	TRAY-WEIGHT	6
2-18	515120.7	SUPPORT-WEIGHT TRAY	6
2-19	515185	AXLE	6
2-20	515193	KNIFE-SHALLOW	96
2-21	515196	TINE, 1/2" CORING	96
2-22	515197	TINE, 3/4" CORING	96
2-23	515198	CLAMP-TINE	96
2-24	515204.7	RAIL-SIDE	12
2-25	520404	TINE, AERATING	96
2-26	521155	KNIFE, DEEP SLICING	96
2-27	546048	WHEEL (CONTAINS ITEMS 28 & 29)	12
2-28	515184	BUSHING	12
2-29	4163242	SPACER, WHEEL ASSEMBLY	12
2-30	548230	FITTING	18
2-31	548256	SEAL-OIL	24
2-32	64141-4	NUT-WLF 3/8-16	192

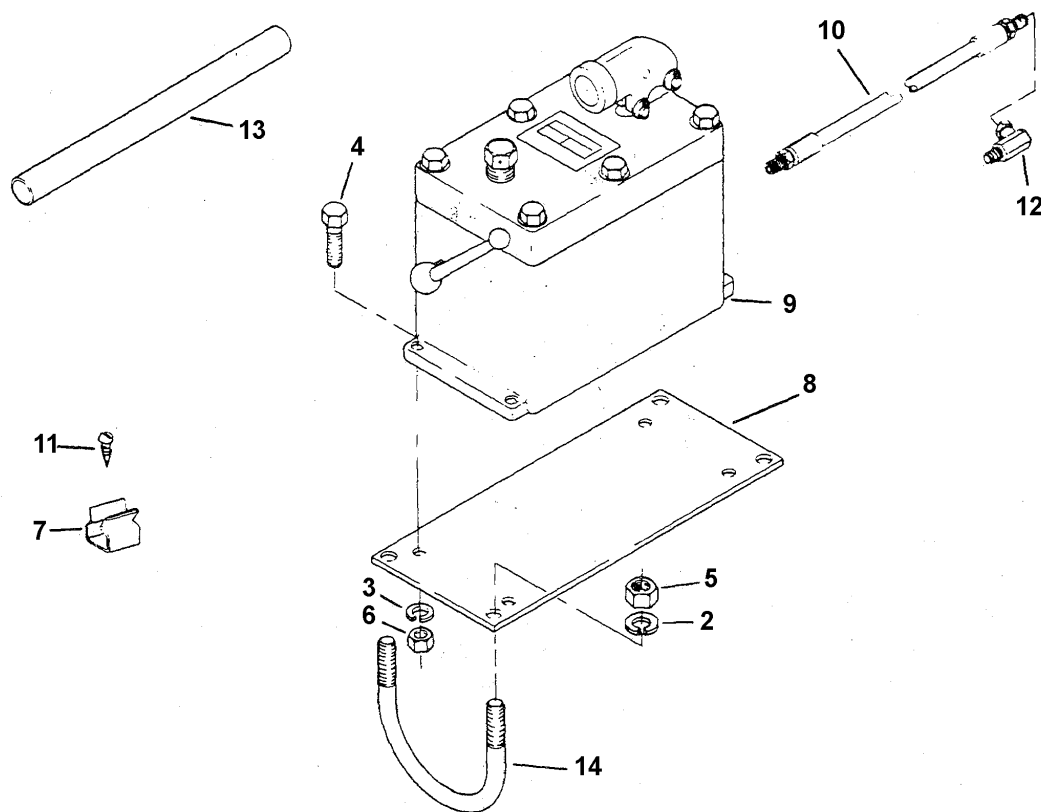
RENOVAIRE

FIGURE 3

HYDRAULIC HAND PUMP

ITEM	PART NO	DESCRIPTION	QTY	ITEM	PART NO	DESCRIPTION	QTY
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HYDRAULIC HAND PUMP



HYDRAULIC HAND PUMP

RENOVAIRE FIGURE 3

3-1	545370	PUMP KIT, COMP	1
3-2	64006-03	WASHER-LOCK 3/8 HELICAL	4
3-3	64006-02	LOCKWASHER-HELICAL 5/16	4
3-4	64123-47	BLT-HEX 5/16-18X1-1/4	4
3-5	64025-05	NUT-3/8-16 HEX	4
3-6	64025-02	NUT-HEX 5/16-18	4
3-7	518455	CLIP-HANDLE	2
3-8	521656.7	PLATE-PUMP	1
3-9	546010	HOUSING-PUMP	1
3-10	546012	HOSE-HYD 20" (508 mm)	1
3-11	F0314	SCREW-#10 X 3/4 SLF TP	2
3-12	48255-01	STREET ELBOW 90DEG 3/8	1
3-13	548592.7	HANDLE	1
3-14	814494	U-BOLT-3/8-16	2

FIGURE 3

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
3-1	545370	PUMP KIT, COMP	1				
3-2	64006-03	WASHER-LOCK 3/8 HELICAL	4				
3-3	64006-02	LOCKWASHER-HELICAL 5/16	4				
3-4	64123-47	BLT-HEX 5/16-18X1-1/4	4				
3-5	64025-05	NUT-3/8-16 HEX	4				
3-6	64025-02	NUT-HEX 5/16-18	4				
3-7	518455	CLIP-HANDLE	2				
3-8	521656.7	PLATE-PUMP	1				
3-9	546010	HOUSING-PUMP	1				
3-10	546012	HOSE-HYD 20" (508 mm)	1				
3-11	F0314	SCREW-#10 X 3/4 SLF TP	2				
3-12	48255-01	STREET ELBOW 90DEG 3/8	1				
3-13	548592.7	HANDLE	1				
3-14	814494	U-BOLT-3/8-16	2				

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