SP 300 Squeegee & Dual Spray/Squeegee

OWNERS MANUAL

SealMaster®

Pavement Products & Equipment

PO Box 2277 • Sandusky, Ohio 44870 • 419-626-4375

sealmaster.net

ATTENTION:

PRE-CHECK ALL LUG NUTS

To be sure your new SealMaster SP 300 or SP 575 Machine operates as designed:

Pre-Check all lug nuts, and fasteners to be sure they are tight and didn't loosen during transit. Also, check hoses for damage or leaks to be sure no damage occurred during transit.

After 8 hrs. of Machine operation, all wheel lug nuts are to be re-torqued to 110-foot lbs.

WALK AROUND INSPECTION

Before each day, walk around the machine and inspect for leaks, loose or missing parts, damaged parts, or parts out of adjustment. Perform all recommended daily maintenance.

REMEMBER:

ONLY YOU CAN PREVENT INJURY TO YOURSELF AND OTHERS!

SAFETY IS YOUR RESPONSIBILITY!

SP300 SQUEEGEE AND DUAL/SPRAY SQUEEGEE

Owner's Manual

Version3.0

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Effective Date: April 2020

Version	Date	Changes	Approval
1.0		Original Issue	
2.0	4/20	New Format and Updates	DS
2.1	10/20	Engine & Plumbing	JG
2.2	1/22	Change Engine Oil – Note	JG
2.3	4/22	Added to Item #34	JG
2.4	4/22	Added Paint Page	JG
2.5	6/22	3" Butterfly Valve	JG
2.6	8/22	Added P70003GA	JG
2.7	5/23	Added P70021C008	JG
2.8	7/23	Attention Pre-Check all lug nuts	JG
2.9	8/23	Control Valve P472A029	JG
3.0	10/23	Added P77000B040 Skid Foot	JG

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ThorWorks Industries, Inc.

Purchased by _____ Model NO. _____

Company Name _____ Serial NO. _____

Address _____ Acceptance Date _____

City _____ State_____ Zip _____

CORRESPONDENCE

All Correspondence regarding this equipment, as well as general correspondence should be addressed to:

ThorWorks Industries, Inc.

PO Box 2277

Sandusky, OH 44870

In referring to the equipment, kindly state the Model Number, Serial Number and any part number involved

SealMaster® LIMITED WARRANTY

SealMaster warrants that its products are of quality material and workmanship. SealMaster agrees to replace, within a period of one (1) year from date of delivery, or at its option, repair, without charge, any part of their manufacture which proved defective. The repair or replacement will be free of charge F.O.B. Sandusky, Ohio, providing the damaged part or parts are returned, freight prepaid, to SealMaster and investigation shows such repair or replacement is made necessary by an inherent defect of material or workmanship.

It is hereby understood that engines, motors, pumps, or other components purchased by SealMaster for use on its equipment are not warranted by SealMaster and are sold only with the standard warranty of the manufacturer of that component.

SealMaster will make no allowances for repairs or alterations completed by outside sources unless authorization is in writing and approved by an authorized SealMaster representative.

Any claims for defective material or workmanship must be made prior to the expiration of thirty (30) days from the date failure occurs, and in all cases prior to the expiration of the warranty period of one (1) year. It is the intent of this paragraph to limit SealMaster's liability solely to the cost of replacement parts, F.O.B. factory, or at the option of SealMaster to repair of the defective part or parts. No allowances for damages, lost time, or any other claim will be recognized.

This warranty is null and void if other than genuine SealMaster parts are used.

SealMaster is constantly striving to improve their products. Changes in design and improvement will be made whenever the manufacturer believes the efficiency of the product will be improved, without incurring any obligation to incorporate such improvements in any machines which have been shipped or are in service.

In an effort to continue to improve product quality, SealMaster reserves the right to change specifications without notice.

Any modification or alteration of this machine without prior approval of the manufacturer may void this warranty.

SQUEEGEE AND DUAL / SPRAY SQUEEGEE MACHINE

INTRODUCTION

SELF-PROPELLED SQUEEGEE AND DUAL / SPRAY SQUEEGEE MACHINE

SealMaster® self-propelled seal coating machines and buggies set the industry standard for ride on seal coating equipment.

SealMaster offers both self-propelled ride on squeegee machines and self-propelled ride on the dual squeegee and spray seal coating equipment.

SealMaster self-propelled seal coating machines are designed to mix and apply pavement sealers with or without sand.

SealMaster self-propelled seal coating machines have set the seal coating equipment industry standards for quality, performance, and durability for over 40 years.

SAFETY PRECAUTIONS AND CAUTIONS

PRECAUTIONS

- **Always** wear **eye** and **ear** protection, and **gloves**.


- Be aware of all **CAUTION - WARNING - DANGER** signs on the unit.
- Read all Owners Manuals that come with this unit.
- Daily check the Engine oil levels.
- Refer to Owners Manuals for proper types of oils.
- Make sure the operator is familiar with the units' operation.
- Replace any hoses that show signs of wear, fraying, or splitting.
- Be sure all fittings and joints are tight and leak proof.
- Do not do maintenance work on the unit while in operation.
- The unit should not be left unattended when running.

CAUTIONS

- Keep hands, feet, and clothing away from moving parts.
- Do not operate the machine without all guards in place.
- Do not point the spray applicators at another person.
- Do not operate the machine, in an enclosed building or confined area.

SAFETY PRECAUTIONS AND CAUTIONS

CHECK IT OUT

Know what protective devices your machine is equipped with and see that each item is securely in place and operating condition.
For example:

1. Warning Decals
2. Guards
3. Material hose connections and protective sleeve
4. Grounding wires

KNOW YOUR MACHINE

Have all of the repairs been made that you reported? The most minor malfunction could be the result of more serious trouble.

FIRE PREVENTION

Avoid fire hazards such as:

1. Always stop the engine when refueling, do not refuel while smoking or when near an open flame or sparks.
2. Always wipe up any spills immediately.
3. Batteries produce explosive gases, keep open flame or sparks away.
4. Remove all trash or debris from the machine, make sure that oily rags or other flammable materials are not stored in or on the machine.
5. Check for fuel, engine oil, and hydraulic leaks, replace worn or damaged hoses.
6. Inspect electrical wiring for worn or damaged insulation, replace as needed.

SAFETY PRECAUTIONS AND CAUTIONS

DRESS FOR SAFETY

When operating your Squeegee equipment always wear the following:

1. Long pants
2. Long-sleeved shirt
3. Eye protection
4. Work shoes

WARNING: MOVING PARTS

- Keep hands, feet, hair, and clothing away from all moving parts.
- Never operate the machine with covers, shrouds, or guards removed.
- Do not wear loose or dangling clothing or jewelry near the equipment. It could become caught and possibly cause serious injury or death.

LEARN TO BE SAFE

1. **STUDY THE OPERATORS MANUAL** and other pertinent information furnished with the equipment. Learn your machines' operating and maintenance characteristics, capacities, and limitations.
2. Learn the location and function of all controls, indicators, and warning devices.
3. Be familiar with the safety devices on your machine.
4. Learn to recognize the machines warning and safety signals, they will alert you to conditions that may make it hazardous to continue operating.
5. Carefully read and follow all safety signs and instructions on the machine.
6. Keep safety signs and instructions in good condition, replace missing or damaged signs immediately.

SAFETY PRECAUTIONS AND CAUTIONS

ATTENTION:

PRE-CHECK ALL LUG NUTS

To be sure your new SealMaster SP 300 or SP 575 Machine operates as designed:

Pre-Check all lug nuts, and fasteners to be sure they are tight and didn't loosen during transit. Also, check hoses for damage or leaks to be sure no damage occurred during transit.

After 8 hrs. of Machine operation, all wheel lug nuts are to be re-torqued to 110-foot lbs.

WALK AROUND INSPECTION

Before each day, walk around the machine and inspect for leaks, loose or missing parts, damaged parts, or parts out of adjustment. Perform all recommended daily maintenance.

TRAFFIC CONTROL

Proper traffic control is your responsibility. Never place a Pavement sealer in an uncontrolled area. Protect vehicles and pedestrians from the workplace.

REMEMBER:

ONLY YOU CAN PREVENT INJURY TO YOURSELF AND OTHERS!

SAFETY IS YOUR RESPONSIBILITY!

OPERATION INSTRUCTION SQUEEGEE SP300

BEFORE STARTING ENGINE:

1. Follow the maintenance procedures listed in the engine manual.
2. Check the gas supply.
3. Make sure the control lever **#42**, located at the left of the steering wheel, is in the neutral position. Along with the 3 levers **#H10 #H14 #H15** to the right of the steering wheel.

TO START ENGINE:

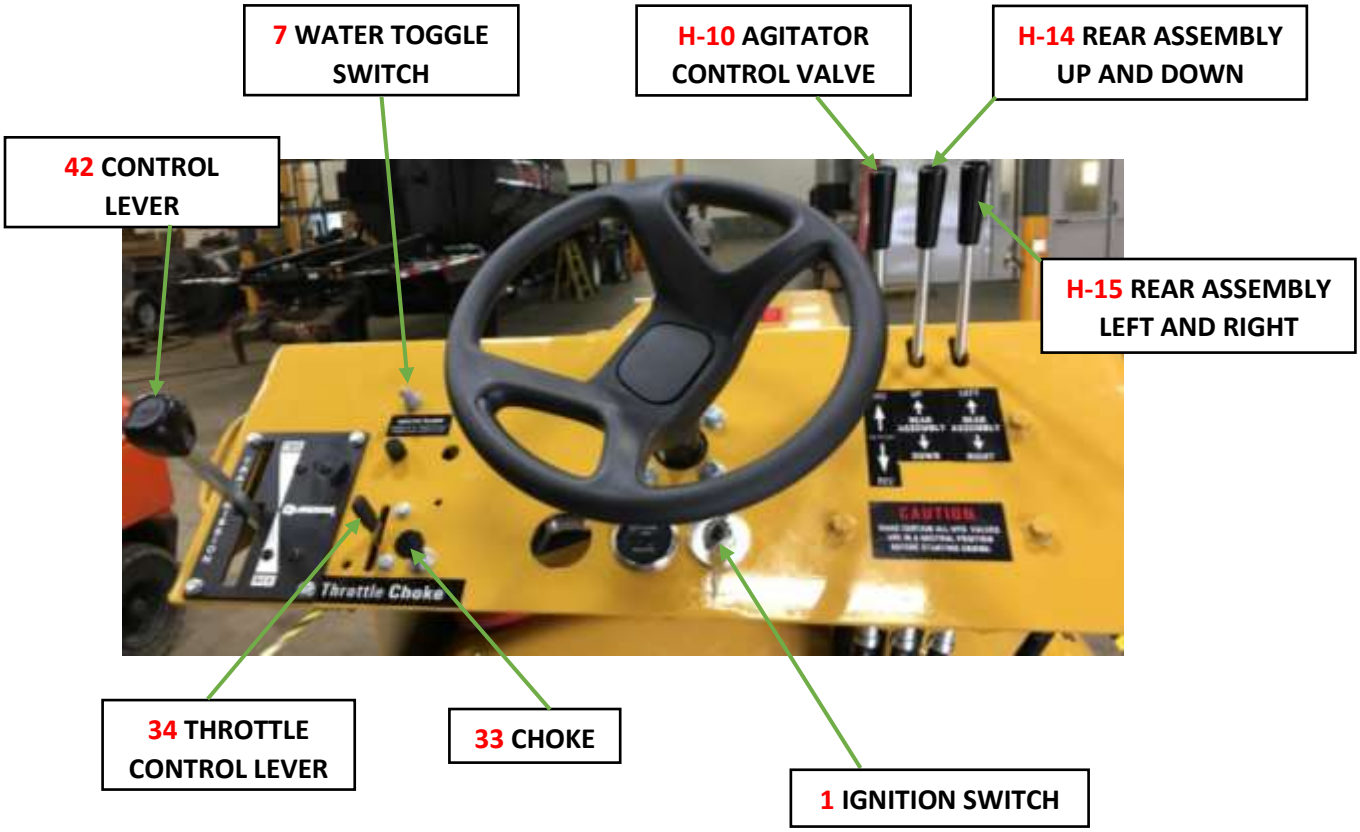
4. Position yourself in the operator's seat.
5. Push the throttle control lever **#34**, located at the left of the steering wheel, 1/3 of the way.
6. COLD ENGINE: Pull choke knob **#33**, located on the control panel, left of the steering wheel, all the way out and turn ignition switch **#1** If the engine does not start, repeat this procedure. Use the choke moderately. Allow the engine to warm up before operating.
7. WARM ENGINE: It should not be necessary to use the choke when the engine is warm. However, this may vary with each engine. This will require the operator to become familiar with the unit.

TO OPERATE MACHINE:

8. To move the machine **forward,** push control lever **#42** forward SLOWLY until your desired speed is reached. To move the machine in **reverse**, pull the control lever to neutral, completely stopping before going into the reverse position.

NOTE: Always **STOP** completely, before changing directions. **NEVER** operate the machine in **reverse**, with Rear Assembly in the **DOWN** position.

SQUEEGEE SP300



FILLING MATERIAL TANK:

9. When cutting material in the machine, always place sealer in the tank before adding water.
10. Start the agitator by moving the agitator control valve **#H-10** to the forward position. Agitate speed with control speed knob on agitator motor **#H-9**. Set agitator to a proper consistent speed.
11. To avoid a buildup of sand on the sides of the machine, always pour sand into the center of the tank. The usual amount of sand used to provide an anti-skid surface or to fill porous pavement is three pounds per gallon of sealer. This will vary according to the porosity of the surface you are sealing.

SQUEEGEE SP300

OPERATING WATER FOG NOZZLE:

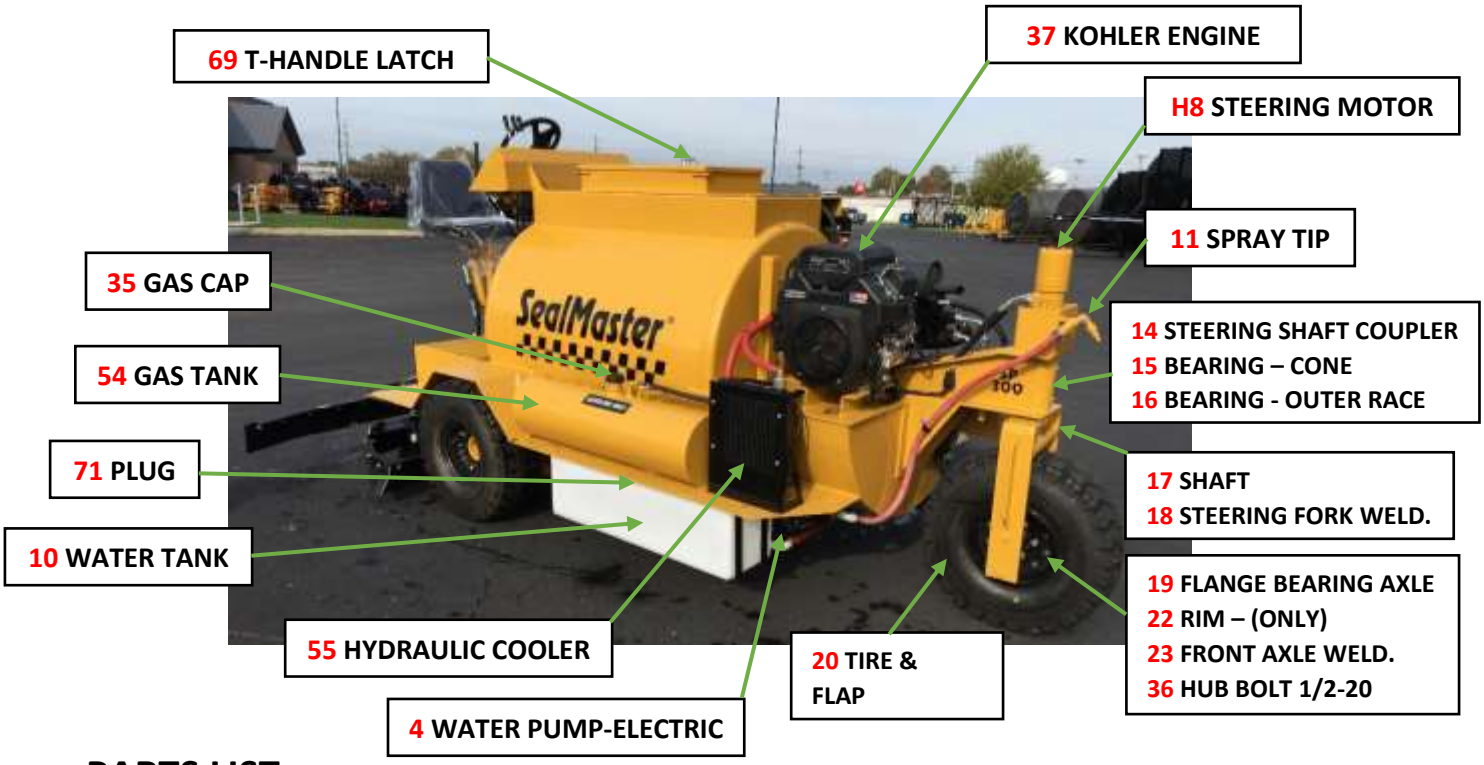
12. During very hot weather, better adhesion of sealer to blacktop can be obtained by the use of the water fog. Water spray will cool down the asphalt and help mix any dust missed during the cleaning operation. The water tank fill is located under the left sidestep. Always use clean water to avoid plugging water lines.
13. Engage water toggle switch **#7** labeled water pump, to the **UP** position.

SQUEEGEE APPLICATION OF SEALER:

14. Lower the rear assembly valve lever #**H-14** by moving, labeled Rear Assembly, to **DOWN** position.
15. Place your feet on the peddles:
    - Push down with the toe part of your foot to **OPEN** valves.
    - Press with the heel to **CLOSE** valves.

    Keep sealer in a roll of 1 to 3 inches for full 90" application. If you are sealing on a hill going horizontal, use only the flow control valve toward the top of the hill. This will prevent material from running out of the forward squeegee box.
16. The rear assembly valve lever #**H-15** can be angled **LEFT** or **RIGHT** by pushing forward or pulling back. Angling the squeegee allows the operator to leave a "wet" edge on extremely long pulls.

MACHINE PARTS LIST SQUEEGEE SP300

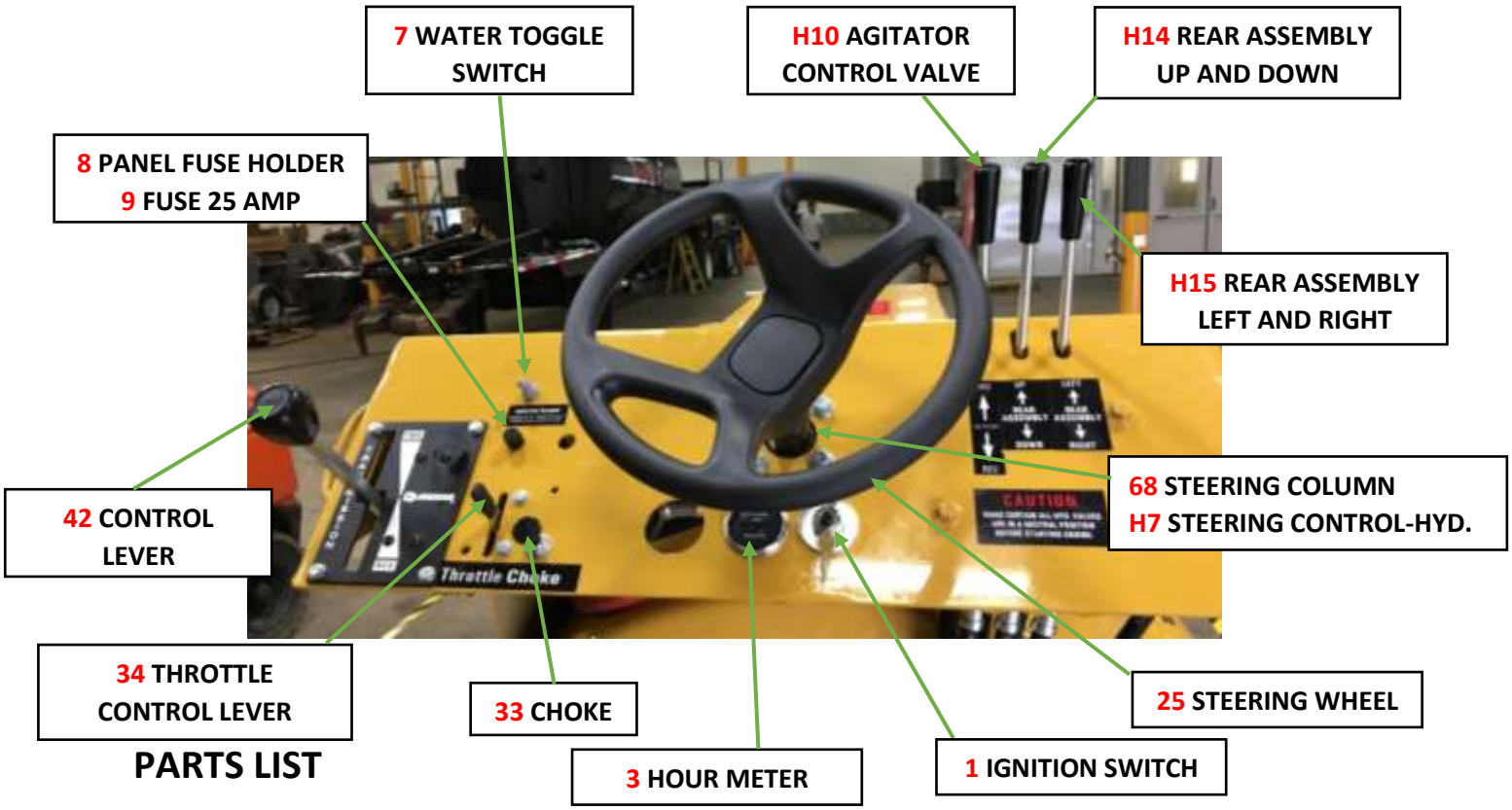


PARTS LIST

ITEM #	PART#	QTY.	DESCRIPTION
4	P593A051	1	WATER PUMP – ELECT 12V DC - OPTIONAL
10	P596A001	2	WATER TANK PLASTIC 16.45 GAL. - OPTIONAL
11	P449A010	1	TIP – SPRAY 65/10 - 1/4 "- OPTIONAL
14	P498A004	1	STEERING SHAFT COUPLER
15	P476A004	2	BEARING – CONE
16	P476A005	2	BEARING – OUTER RACE
17	P360E	1	SHAFT
18	P345D	1	WELDMENT – STEERING FORK
19	P432A003	2	FLANGE BEARING – AXLE 1-1/4" 2-BOLT
20	P576A007	1	7.5 X 10 -12PLY TIRE & FLAP
21	P574A002	1	TUBE WITH METAL STEM
22	P577A004	1SET	SPLIT RIM ONLY
23	P354B	1	FRONT AXLE – WELDMENT ASSEMBLY
35	P464A005	1	FUEL CAP
36	P579A002	5	HUB-BOLT 1/2-20
37	P458A085	1	KOHLER GAS ENGINE 725 CC
H8	P474A078	1	MOTOR – HYDRAULIC
54	P73000B066	1	GAS TANK
55	P716A005	1	HYDRAULIC COOLER WITH BYPASS
69	P953A003	1	T-HANDLE LATCH
71	P1008A012	2	1-1/2" PLUG-PVC - OPTIONAL

SQUEEGEE SP300

APPLIES TO: SQUEEGEE SP 300

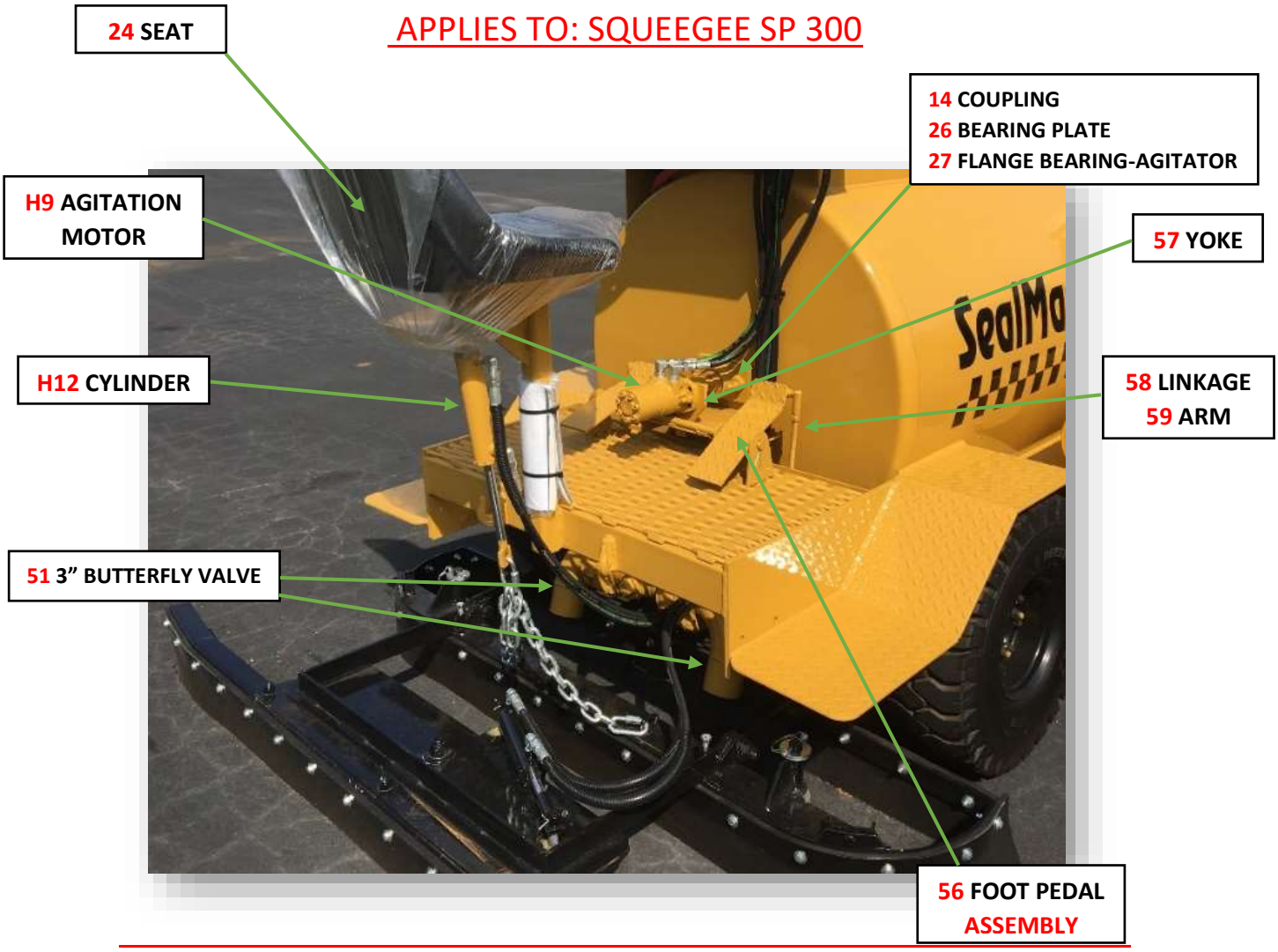


PARTS LIST

ITEM #	PART#	QTY.	DESCRIPTION
1	P458B183	1	IGNITION SWITCH
3	P991A001	1	HOUR METER
7	P443A001	1	SWITCH – TOGGLE SINGLE POLE
8	P461A001	1	PANEL FUSE HOLDER
9	P595A009	1	FUSE – 25 AMP-ABC
25	P496A002	1	STEERING WHEEL
33	P488B	1	CABLE – CHOKE WITH KNOB
34	P488A009	1	THROTTLE CONTROL LEVER
	P485A001	8 FT.	CONDUIT & THROTTLE WIRE ASSEMBLY
42	P488A002	1	CONTROL – “QUADCO”
	P488A003	1	CABLE
68	P473A001	1	STEERING COLUMN
H7	P936A003	1	CONTROL – HYD. STEERING
H10	P472A019	1	AGITATOR CONTROL VALVE
H14	P472A019	1	REAR ASSEMBLY UP/DOWN VALVE
H15	P472A019	1	REAR ASSEMBLY LEFT/RIGHT VALVE

SQUEEGEE SP300

APPLIES TO: SQUEEGEE SP 300

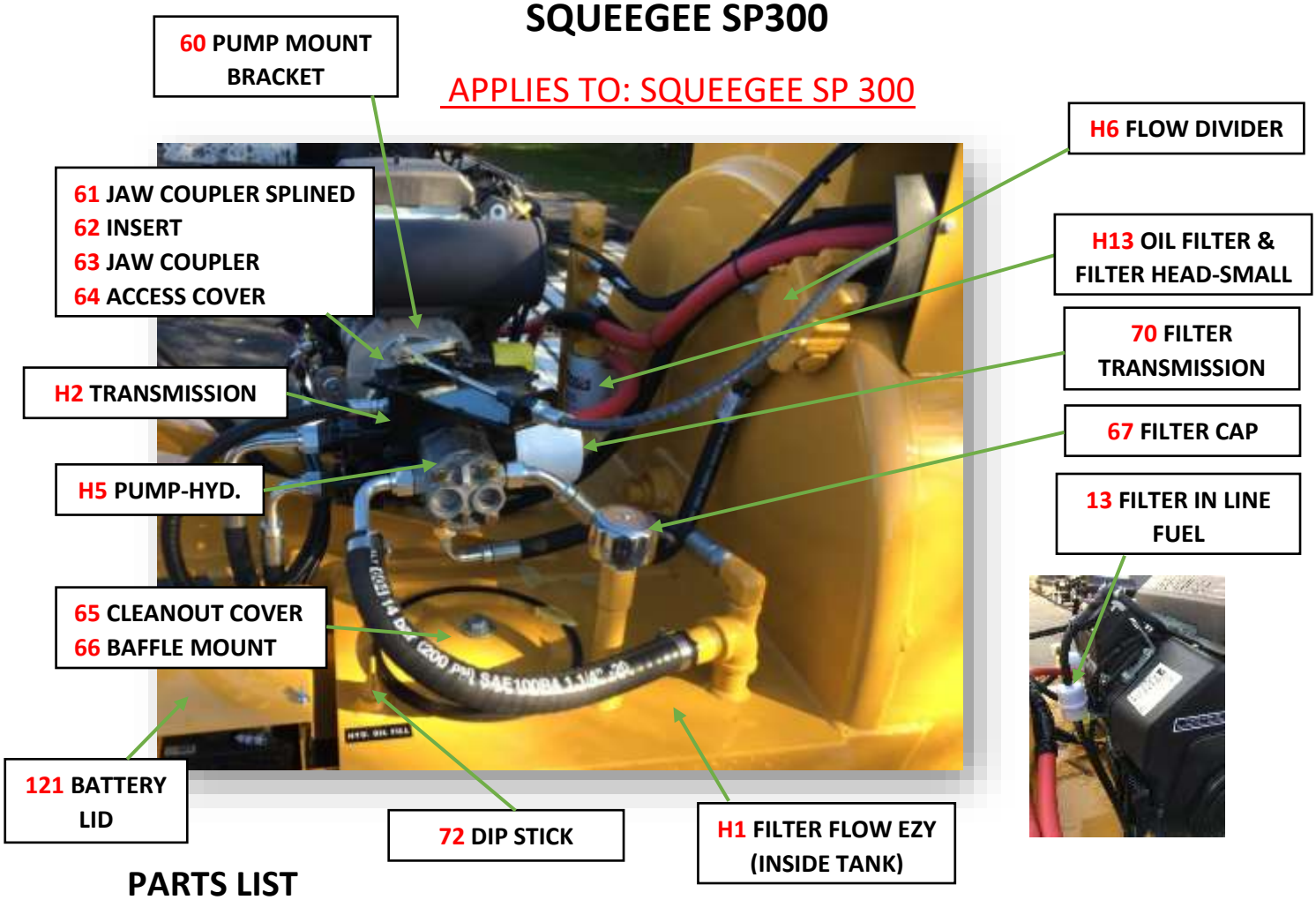


PARTS LIST

ITEM #	PART#	QTY.	DESCRIPTION
14	P498A004	1	1" TO 1-1/4" KEYED SOLID COUPLING
24	P602A003	1	SEAT
26	P50137B009	2	SEAL-BEARING PLATE
27	P432A003	2	FLANGE BEARING – AGITATOR 1-1/4" 2-BOLT
H9	P474A061	1	MOTOR HYD. WITH SPEED CONTROL
H12	P70021C008	1	CYLINDER – HYD. 1-3/4" X 6"
51	P398R009	1	3" BUTTERFLY VALVE - RIGHT
	P398L009	1	3" BUTTERFLY VALVE - LEFT
56	P83000B083	1	FOOT PEDAL SUB ASSEMBLY
57	P72000I027	1	YOKE
58	P326B	2	LINKAGE ASSEMBLY
59	P83000B080	2	3" BUTTERFLY VALVE ARM

SQUEEGEE SP300

APPLIES TO: SQUEEGEE SP 300

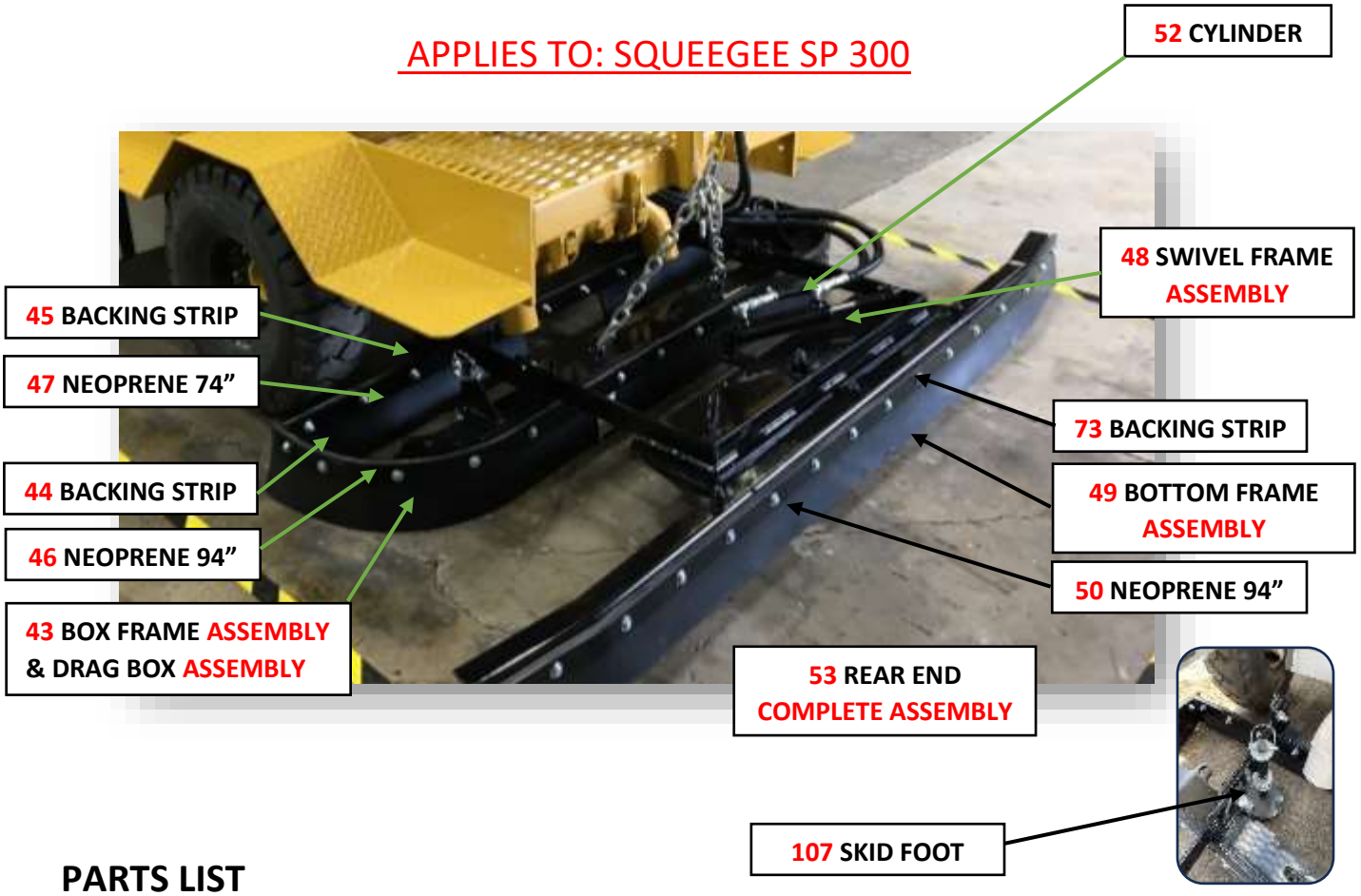


PARTS LIST

ITEM #	PART#	QTY.	DESCRIPTION
13	P458B203	1	FILTER – INLINE FUEL
H13	P908A003	1	FILTER – OIL
	P909A002	1	FILTER – HEAD SMALL
H1	P408A003	1	FILTER – FLOW EZY
H5	P601A020	1	PUMP-HYD.
H2	P707A012	1	TRANSMISSION – WITH FLUSH VALVE
H6	P700A003	1	DIVIDER – PRIORITY FLOW
60	P604A023	1	PUMP MOUNT BRACKET
61	P630A057	1	JAW COUPLER – SPLINE
62	P631A010	1	INSERT
63	P630A066	1	JAW COUPLER
64	P604A024	1	ACCESS COVER
65	P583A003	1	CLEANOUT COVER
66	P583A004	1	BAFFLE MOUNT
67	P1050A006	1	BREATHER FILTER CAP
70	P908A007	1	FILTER - TRANSMISSION
72	P74000C019	1	DIPSTICK - HYDRAULIC OIL
121	P29838C003	1	BATTERY LID

SQUEEGEE SP300

APPLIES TO: SQUEEGEE SP 300

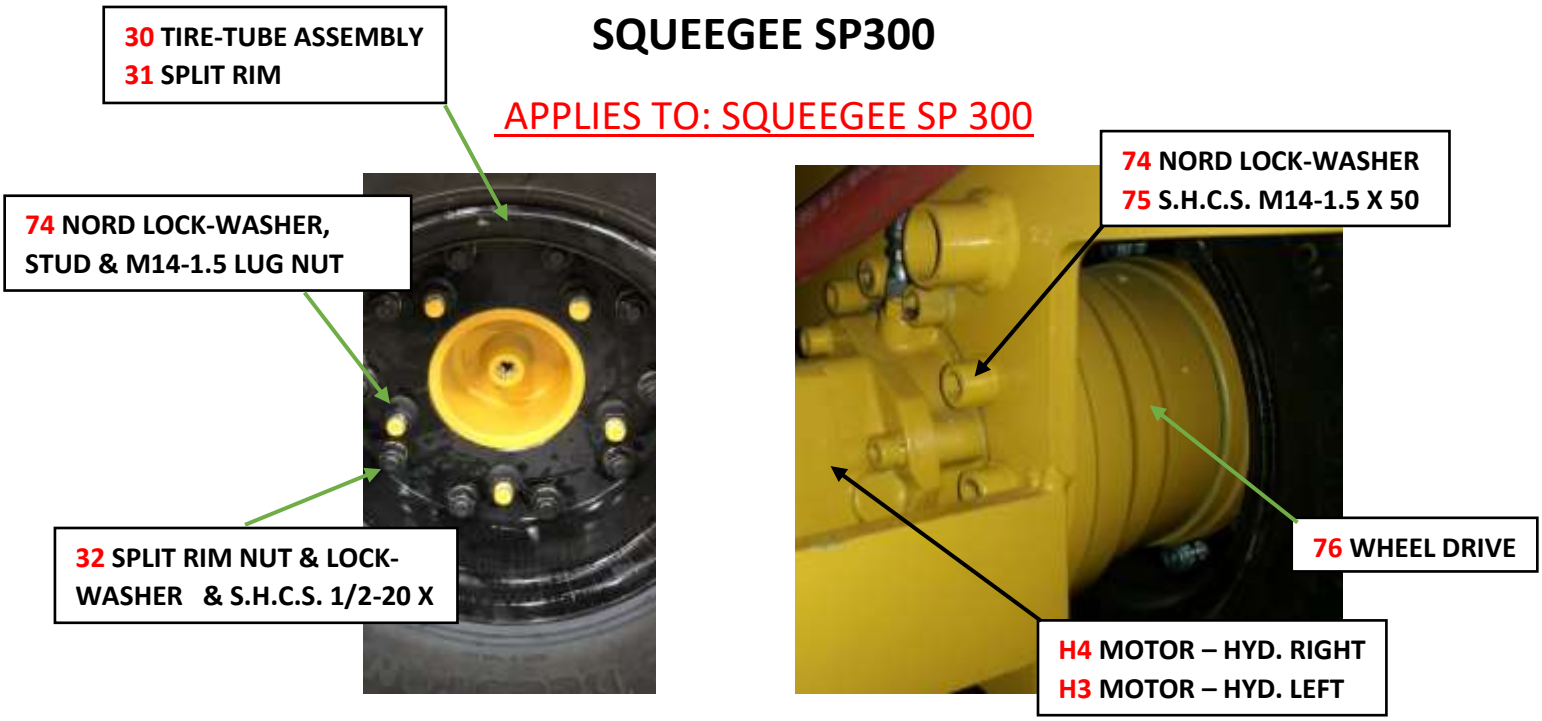


PARTS LIST

ITEM #	PART#	QTY.	DESCRIPTION
53	P70023E	1	REAR END COMPLETE ASSEMBLY
52	P70021C008	1	CYLINDER – HYD. 1-3/4” X 6”
43	P70001G	1	BOX FRAME ASSEMBLY
	P70001F	1	DRAG BOX ASSEMBLY
44	P109D	1	BACKING STRIP 91-3/4”
45	P109B	1	BACKING STRIP 70”
46	P459A024	1	NEOPRENE 1/2” X 6” X 94”
47	P459A023	1	NEOPRENE 1/2” X 6” X 74”
48	P70021C	1	SWIVEL FRAME ASSEMBLY
49	P70003GA	1	BOTTOM FRAME ASSEMBLY
50	P459A024	1	NEOPRENE 1/2” X 6” X 94”
73	109C	1	BACKING STRIP 90-5/8”
107	P77000B040	2	SKID FOOT

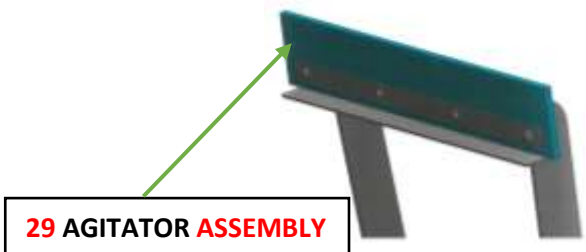
SQUEEGEE SP300

APPLIES TO: SQUEEGEE SP 300



PARTS LIST

ITEM #	PART#	QTY.	DESCRIPTION
H3	P474A083	1	MOTOR – HYD. LEFT
H4	P474A082	1	MOTOR – HYD. RIGHT
29	P70000B029	1	AGITATOR ASSEMBLY
	P459A013	2	AGITATOR RUBBER
	P72000B012	2	BACKING STRIP
30	P576A007	2	7.5 X 10 -12PLY TIRE & FLAP
	P574A002	2	TUBE WITH METAL STEM
31	P577A014	2SETS	SPLIT RIM SIDE HALF WITH STEM HOLE
32	P1057A002	20	SPLIT RIM NUT 1/2-20 NF & LOCK WASHER
	P1036A009	20	SOCKET HD. CAP SCREW 1/2-20 X 1" LG.
74	P1018A017	34	NORD LOCK-WASHER
	P513A056	5	STUD- M14X1.5 DOUBLE END
	P474B019	5	LUG NUT – M14X1.5
75	P1015A018	24	SOCKET HD. CAP SCREW M14-1.5 X 50MM LG.
76	P474A068	2	WHEEL DRIVE – WITH BRAKE



SQUEEGEE & DUAL/SPRAY SQUEEGEE

APPLIES TO: SP 300 AND SP 300 DUAL

MACHINE MAINTENANCE

MAINTENANCE SCHEDULE

Follow maintenance procedures listed on the **engine** manual.

MAINTAIN	8 HRS	1 WEEK	1 MONTH	6 MONTHS	1 YEAR	2 YEARS
CHECK **ENGINE OIL** LEVELS	✓					
CHECK **HYDRAULIC OIL** LEVELS	✓					
CHECK **GASOLINE FUEL** LEVELS	✓					
CHECK **COOLANT** LEVELS	✓					
CHECK **AIR CLEANER**				✓		
GREASE **STEERING SHAFT**		✓				
CHANGE **ENGINE OIL***						
CHANGE **HYDRAULIC OIL ***					✓	
CHANGE HYDRAULIC OIL **FILTER**					✓	
CHANGE **ENGINE** COOLANT						✓
CHANGE FUEL **FILTER**					✓	
CHANGE **AIR CLEANER**					✓	
DRAIN WATER FROM **FUEL FILTER**			✓			
CHECK **TIRE** PRESSURE			✓			
CHECK **V-BELT**		✓				
CHANGE **V-BELT**					✓	
INSPECT ALL **HOSES**	✓					

* Use a good quality AW68 ASTM Grade 315 viscosity of 330 SUS @100 F Hydraulic oil.

CHANGE **ENGINE OIL*** OIL **SPECIFICATIONS** / REFER TO ENGINE MANUAL

CH 730 Kohler Recommends 50hrs Initial Start / every 100hrs After

1605 Kubota Recommends 50hrs Initial Start / every 200hrs After

SQUEEGEE & DUAL/SPRAY SQUEEGEE

APPLIES TO: SP 300 AND SP 300 DUAL

TROUBLESHOOTING GUIDE

PROBLEM	POSSIBLE CAUSES/SOLUTIONS
ENGINE ISSUES	**OIL** SPECIFICATIONS / REFER TO OWNER'S MANUAL
	OPERATING INSTRUCTIONS / REFER TO OWNER'S MANUAL
ENGINE DOES NOT START	**SPARK PLUG** WET / DRY OR REPLACE
	FUEL FILTER CLOGGED / REPLACE FILTER
TRANSMISSION MAKING NOISE	**OIL** LEVEL LOW / FILL TO PROPER LEVEL
	OIL FILTER PLUGGED OR LOOSE / TIGHTEN OR REPLACE OIL FILTER
	TRANSMISSION IS WORN/ NEEDS REBUILT OR REPLACED
SURGE TANK EXCESSIVE PULSATION	**SURGE TANK** PLUGGED / CLEAN OUT TANK
	DIAPHRAGM PUMP BALL OR SEAT / REPLACE AS NEEDED
BASKET STRAINER EXCESSIVE PLUGGING	**MATERIAL** CHUNKS/ EMPTY TANK-FLUSH WITH WATER AND CLEAN TANK
	EXCESSIVE **SAND** / LACK OF SEALER VISCOSITY MODIFIER
WATER SPRAY SYSTEM NO WATER COMES OUT	**SPRAY TIP** CLOGGED / REMOVE TIP AND CLEAN
	12V DC PUMP NO POWER / CHECK FUSE OR REPLACE PUMP
HYDRAULIC SYSTEM ISSUES	**STEERING MOTOR** FEELS LOOSE / TIGHTEN SETSCREWS - REPLACE KEYS
	STEERING MOTOR DOES NOT TURN / REPLACE MOTOR
	HYDRAULIC OIL LOW / FILL OIL LEVEL 4" FROM TOP OF TANK
	HYDRAULIC AGITATOR MOTOR NOT WORKING / CHECK SPEED CONTROL
	COUPLER KEY / REPLACE THE SHEARED KEY
	HYDRAULIC FUNCTIONS SLOW / CHANGE HYDRAULIC OIL AND FILTERS
	HYDRAULIC PUMP NOT WORKING / HAVE TESTED OR REPLACED

SURGE TANK – NOTE: WEARING OF A FACE SHIELD IS RECOMMENDED - PRESSURE CAN BE RELIEVED FROM SYSTEM BY OPENING THE SPRAY WAND AND MATERIAL HOSE FEED VALVES AND IF NECESSARY, REMOVING THE SPRAY TIP. KEEP IN MIND THE PLUMBING CONNECTING THE PUMP TO THE SURGE TANK COULD ALSO BE PLUGGED, AND THERE MAY BE RESIDUAL PRESSURE STILL IN THE SYSTEM.

ENGINE – NOTE: ENGINE SERIAL NUMBER WILL BE NEEDED TO RESOLVE ANY ISSUES.

TANK CAPACITY CHART

GALLONS ARE APPROXIMATE AND MAY VARY SLIGHTLY TANK TO TANK

MATERIAL DEPTH AND GALLON VOLUME

MATERIAL DEPTH	309 GALLONS 41"x54"			MATERIAL DEPTH	309 GALLONS 41"x54"
INCHES	GALLONS			INCHES	GALLONS
1	2			25	197
2	6			26	206
3	10			27	216
4	15			28	225
5	21			29	233
6	28			30	242
7	35			31	250
8	42			32	258
9	50			33	266
10	58			34	274
11	67			35	281
12	75			36	287
13	84			37	293
14	93			38	298
15	102			39	303
16	112			40	307
17	121			41	309
18	130			42	
19	140			43	
20	150			44	
21	159			45	
22	169			46	
23	178			47	
24	188			48	

SQUEEGEE DUAL/SPRAY SQUEEGEE

APPLIES TO: SP 300 DUAL

KUBOTA GAS ENGINE PARTS LIST

PARTS LIST FOR 1605 GAS ENGINE

ITEM #	PART#	QTY.	DESCRIPTION
1	P458A082	1	**KUBOTA WG1605-G-E3 GAS ENGINE**
	P458G028		**RADIATOR**
	P458B032		**FILTER**-OIL
	P458G001		**FILTER**-AIR OUTER
	P458G002		**FILTER**-AIR INNER
	P458G034		AIR **FILTER** COMPLETE
	P458B203		**FILTER**-FUEL
	P458G026		**SENSOR** –O2
	P458G030		**MUFFLER**
	P458G012		**ALTERNATOR**
	P458G027		**FUEL PUMP**
	P458G043		**SWITCH** –WATER TEMPERATURE
	P458G011		**STARTER**
	P458G014		**SWITCH** - OIL PRESSURE
	P458G019		**V-BELT** – FAN
	P458G018		COOLING **FAN**
	P458G020		FAN DRIVE **PULLEY**
	P458G010		EXHAUST **MANIFOLD**

KUBOTA MODEL WG1605-G-E3 four-cylinder, water-cooled gasoline engine rated at 49.6 gross intermittent horsepower at 3000 rpm. Equipped with a 12-volt electrical system with 40 amp alternator, 10-foot extension harness; ECU mounted; key switch; Controls Inc. MVP-A3133-44 display/throttle control; automatic shut down for low oil pressure and high coolant temperature and emergency stop button; upward exhaust with catalyst; radiator mounting brackets; coolant overflow; air cleaner and hoses; electric fuel pump; fuel pressure manifold; fuel filter; hydraulic pump mount; engine mounting feet; assembled and serviced.

ENGINE – NOTE: ENGINE SERIAL NUMBER WILL BE NEEDED TO RESOLVE ANY ISSUES.

SQUEEGEE SP300

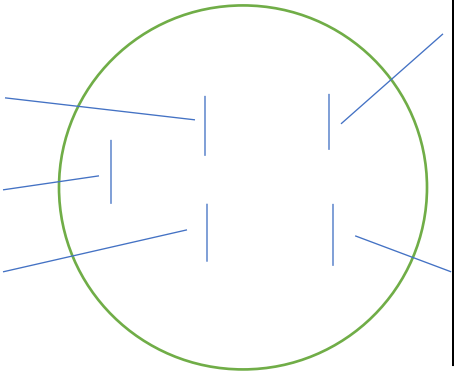
WIRING CHART SP300

WIRING FOR RECTIFIER-ENGINE-IGNITION-HYD. COOLER-FAN RELAY

RED-MAIN POWER & 30 AMP FUSE

YELLOW-IGNITION

GREEN-GROUND & **BLACK** FROM HOUR METER



BROWN-AUXILIARY, BLUE TO FAN RELAY

RED FROM HOUR METER &

WATER PUMP OPTION

BLACK-STOP

White/Blue on Rectifier N/A Grey/Grey on Rectifier to Grey/Grey on Engine

IGNITION

BLUE

GREEN

RED

YELLOW

BROWN

BLACK

Blue to fan **Relay**

Black on **Rectifier** to Black **Ground**

White on **Starter** / to power Bolt

Starter **Solenoid** to male Plug

Yellow stripe/black stripe on **Rectifier** - butt connect to: Yellow stripe/black stripe- on **Engine**

Black from Engine-butt connect

HYDRAULIC OIL COOLER FAN MOTOR

Red to relay red

Black-butt connect then to black on relay-then to ground

FAN RELAY SWITCH

Red from 20 amp fuse at battery-87

Red to red on fan motor-86

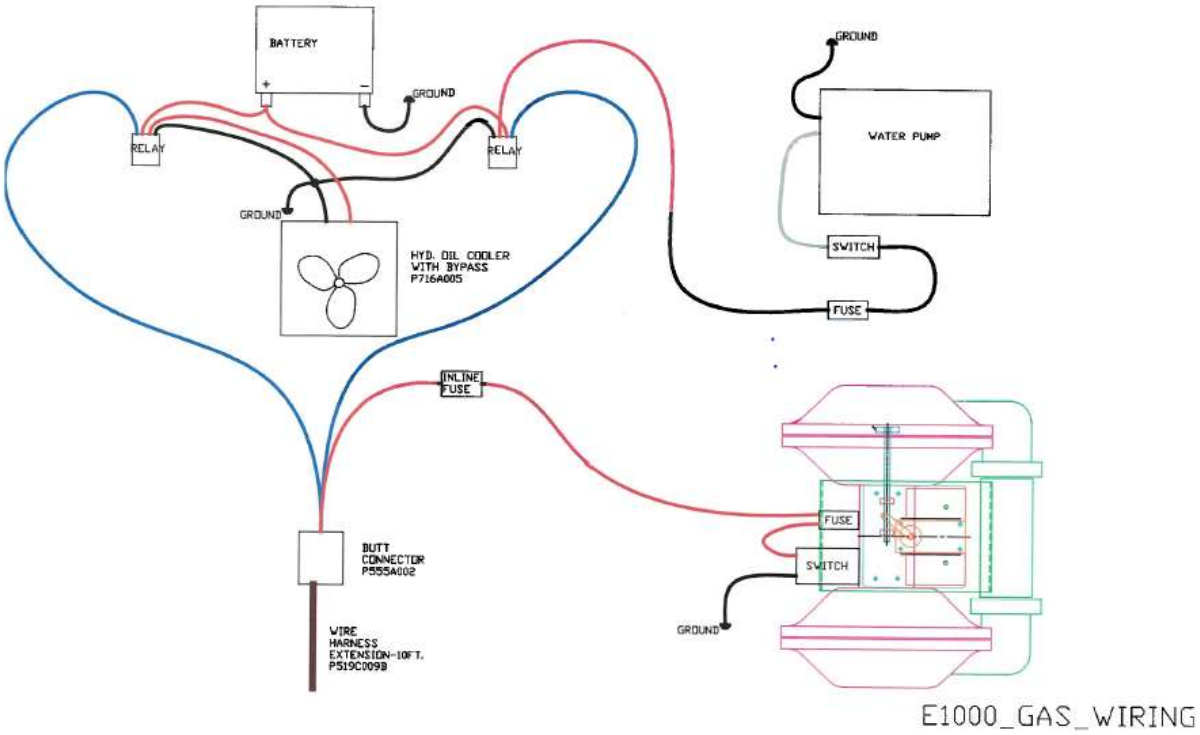
Black to black on fan motor-85

Blue -30

SQUEEGEE SP300 DUAL

WIRING CHART SP300 DUAL

WIRING FOR ENGINE-IGNITION-HYD. COOLER-FAN RELAY & WATER



HYDRAULIC OIL COOLER FAN MOTOR

Red to relay red

Black-butt connect then to black on relay-then to ground

FAN RELAY SWITCH

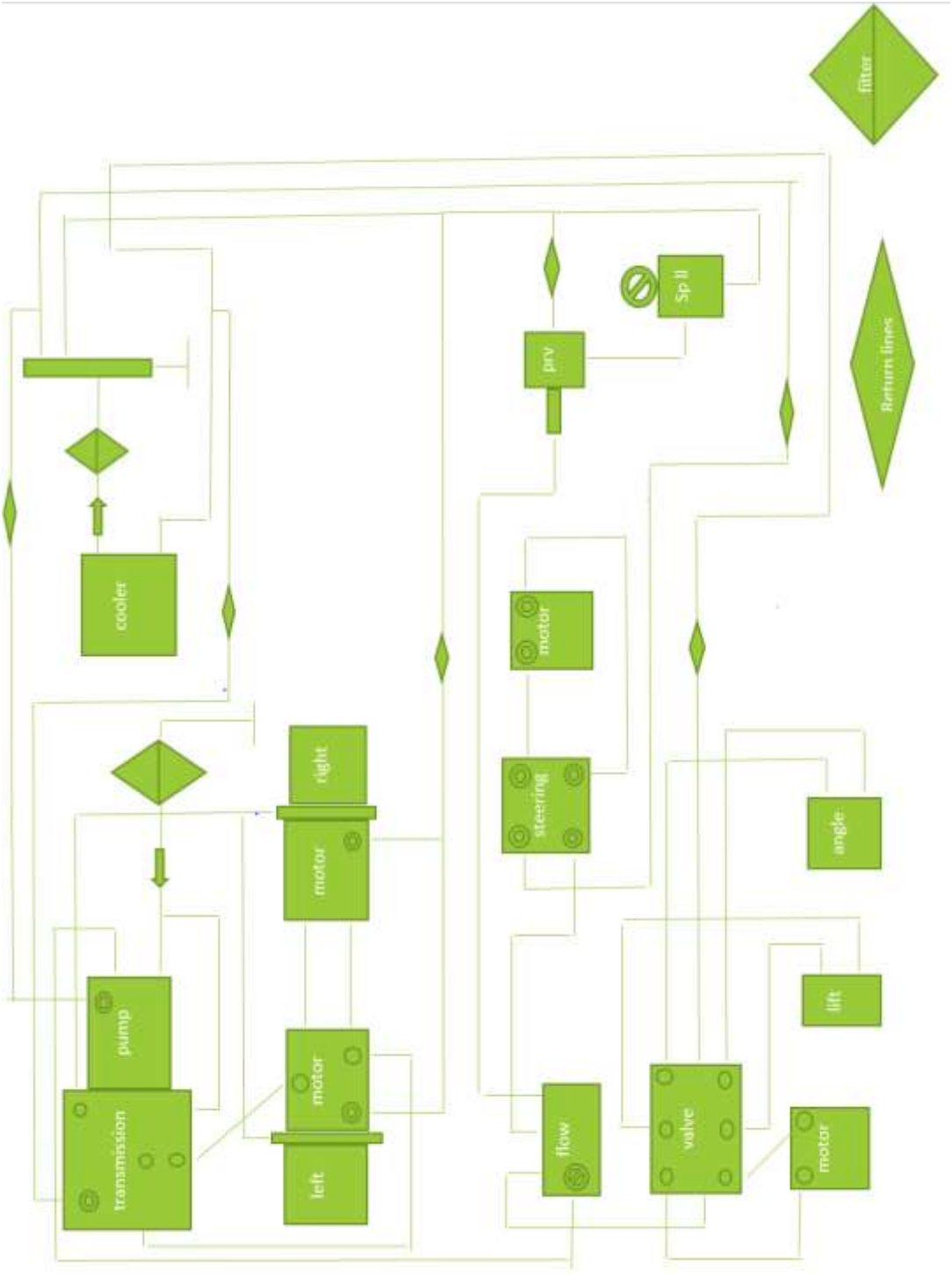
Red from 20 amp fuse at battery-87

Red to red on fan motor-86

Black to black on fan motor-85

Blue -30

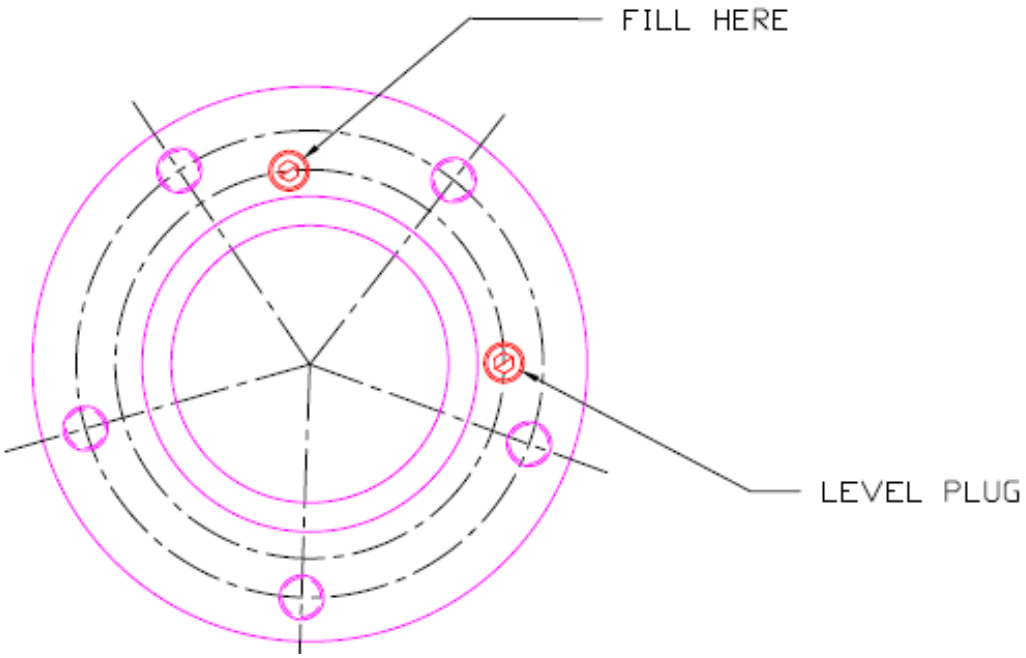
HYDRAULIC FLOW CHART



SQUEEGEE SP300 & DUAL/SPRAY SQUEEGEE

APPLIES TO: SP 300 & SP 300 DUAL

PLANETARY GEAR HUB



HUB MAINTENANCE

PURCHASE A SQUEEZE BOTTLE
OF 80W90 SYNTHETIC GEAR OIL
FROM AN AUTOMOTIVE PARTS STORE.

REMOVE THE TIRE AND ROTATE
THE HUB TO THE POSITION SHOWN.
REMOVE THE TWO PLUGS AND SLOWLY
FILL THRU THE TOP HOLE, WHEN OIL
RUNS OUT THE SIDE HOLE, THE UNIT
IS FULL.

CHANGE OIL EVERY 2000 HOURS.

OPERATION INSTRUCTION SP300 DUAL/SPRAY

BEFORE STARTING ENGINE:

17. Follow the maintenance procedures listed in the engine manual.
18. Check the gas supply.
19. Make sure the control lever **#1**, located at the left of the steering wheel, is in the neutral position. Along with the 3 levers **#7 #8 #9** to the right of the steering wheel.

TO START ENGINE:

20. Position yourself in the operator's seat.
21. COLD ENGINE: Turn key to **RUN** on control panel-engine display **#74**, located on the control panel. Let the display go into its cycle, then turn key to **CRANK**. Allow the engine to warm up before operating.

TO OPERATE MACHINE:

22. To move the machine **forward,** push control lever **#1** forward SLOWLY until your desired speed is reached.
    To move the machine in **reverse**, pull the control lever to neutral, completely stopping before going into the reverse position.

NOTE: Always **STOP** completely, before changing directions.

NEVER operate the machine in **reverse**, with Rear Assembly in the **DOWN** position.

SQUEEGEE SP300 DUAL/SPRAY

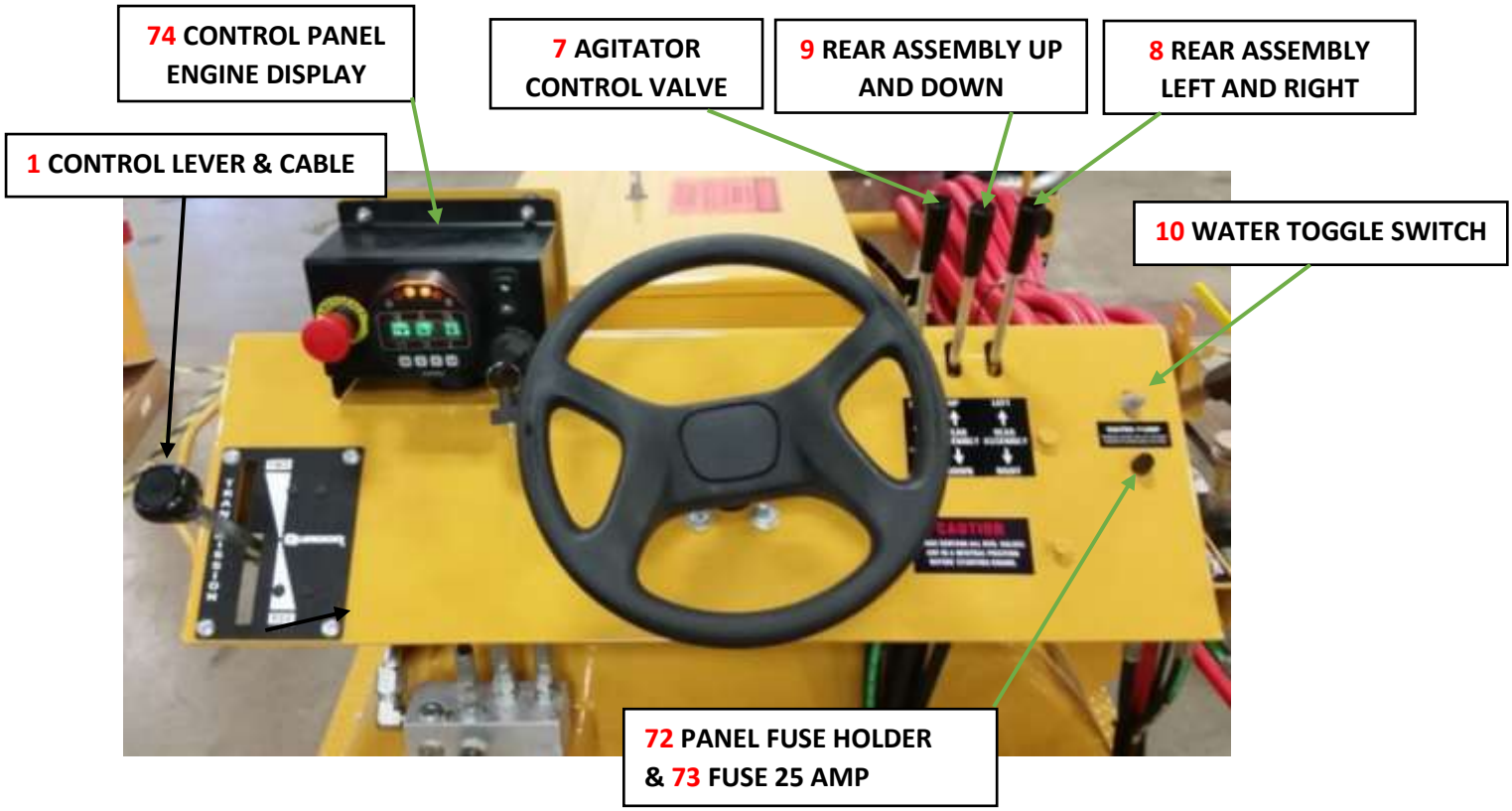
IGNITION KEY
OFF – RUN - CRANK

74 CONTROL PANEL
ENGINE DISPLAY

1 CONTROL LEVER & CABLE

CONTROL LEVER & CABLE
IN NEUTRAL POSITION

SQUEEGEE SP300 DUAL/SPRAY



FILLING MATERIAL TANK:

23. When cutting material in the machine, always place sealer in the tank before adding water.
24. Start the agitator by moving the agitator control valve **#7** to the forward position. Agitate speed with control speed knob on agitator motor **#21**. Set agitator to a proper consistent speed.
25. To avoid a buildup of sand on the sides of the machine, always pour sand into the center of the tank. The usual amount of sand used to provide an anti-skid surface or to fill porous pavement is three pounds per gallon of sealer. This will vary according to the porosity of the surface you are sealing.

SQUEEGEE SP300 DUAL/SPRAY

OPERATING WATER FOG NOZZLE:

26. During very hot weather, better adhesion of sealer to blacktop can be obtained by the use of the water fog. Water spray will cool down the asphalt and help mix any dust missed during the cleaning operation. The water tank fill is located under the left sidestep. Always use clean water to avoid plugging water lines.
27. Engage water toggle switch **#10** labeled water pump, to the **UP** position.

SQUEEGEE APPLICATION OF SEALER:

28. Lower the rear assembly valve lever #**9** by moving the lever to **DOWN** position, labeled Rear Assembly.
29. Place your feet on the peddles:
    - Push down with the toe part of your foot to **OPEN** valves.
    - Press with the heel to **CLOSE** valves.

    Keep sealer in a roll of 1 to 3 inches for full 90” application. If you are sealing on a hill going horizontal, use only the flow control valve toward the top of the hill. This will prevent material from running out of the forward squeegee box.
30. The rear assembly valve lever #**8** can be angled **LEFT** or **RIGHT** by pushing forward or pulling back. Angling the squeegee allows the operator to leave a “wet” edge on extremely long pulls.

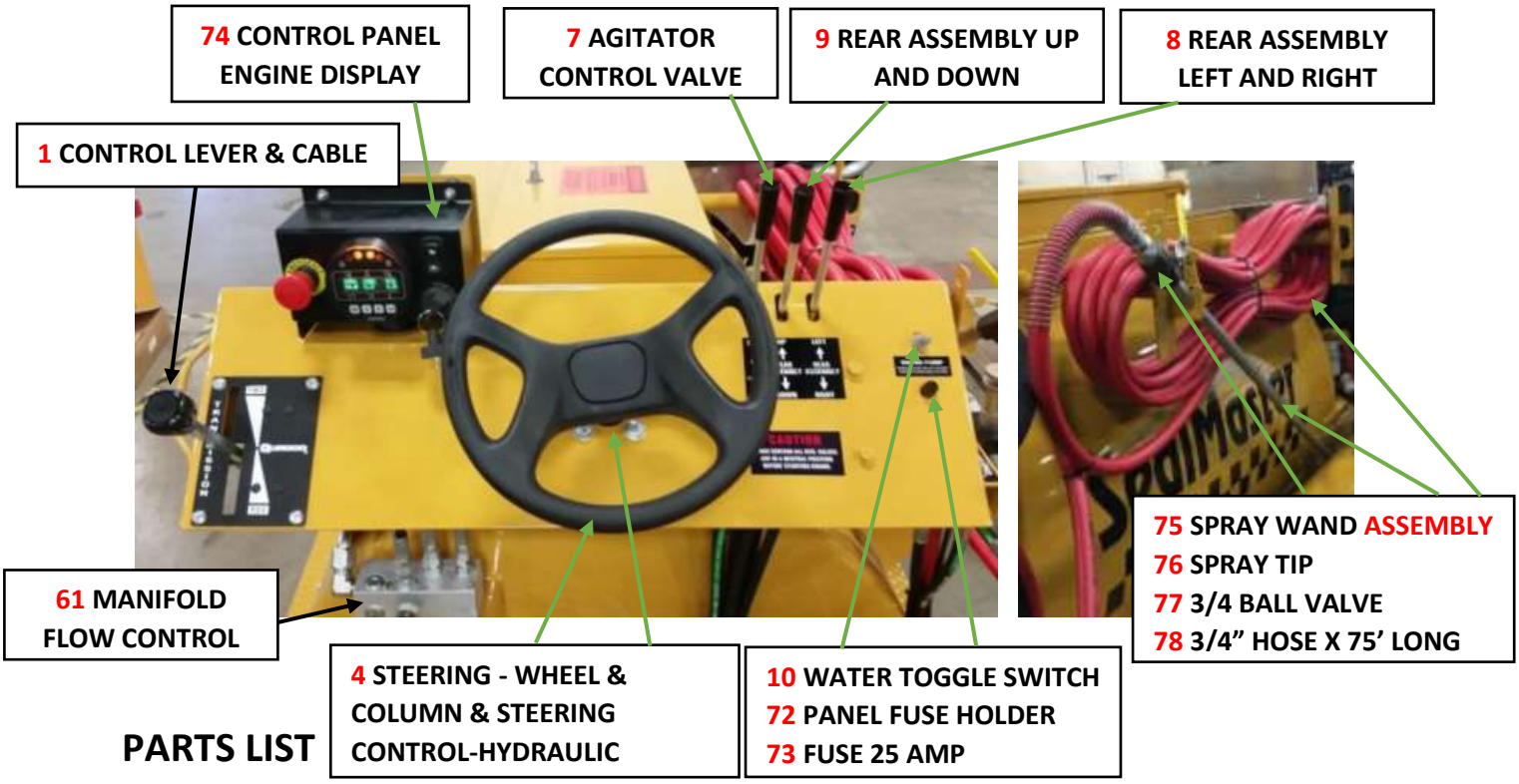
MACHINE PARTS LIST SP300 DUAL/SPRAY

PARTS LIST

ITEM #	PART#	QTY.	DESCRIPTION
14	P432A003	2	FLANGE BEARING – AXLE 1-1/4” 2-BOLT
17	P576A007	1	7.5 X 10 -12PLY TIRE & FLAP
	P577A004	1SET	SPLIT RIM ONLY
23	P953A003	1	T-HANDLE LATCH
25	P458A082	1	KUBOTA GAS ENGINE WG1605
26	P716A005	1	HYDRAULIC COOLER WITH BYPASS
27	P474A078	1	MOTOR – HYDRAULIC
	P498A004	1	STEERING SHAFT COUPLER
29	P596A001	2	WATER TANK PLASTIC 16.45 GAL. **- OPTIONAL**
	P593A051	1	WATER PUMP – ELECT 12V DC**- OPTIONAL**
31	P476A004	2	BEARING – CONE
32	P476A005	2	BEARING – OUTER RACE
39	P449A010	1	TIP – SPRAY 65/10 - 1/4 “**- OPTIONAL**
40	P464A005	1	FUEL CAP
65	P1008A012	2	1-1/2" PLUG-PVC**- OPTIONAL**
66	P360E	1	SHAFT
67	P345D	1	WELDMENT – STEERING FORK
68	P354B	1	FRONT AXLE – WELDMENT ASSEMBLY
69	P579A002	5	HUB-BOLT 1/2-20
70	P574A002	1	TUBE WITH METAL STEM
71	P73000B066	1	GAS TANK

SQUEEGEE SP300 DUAL/SPRAY

APPLIES TO: SP 300 DUAL/SPRAY

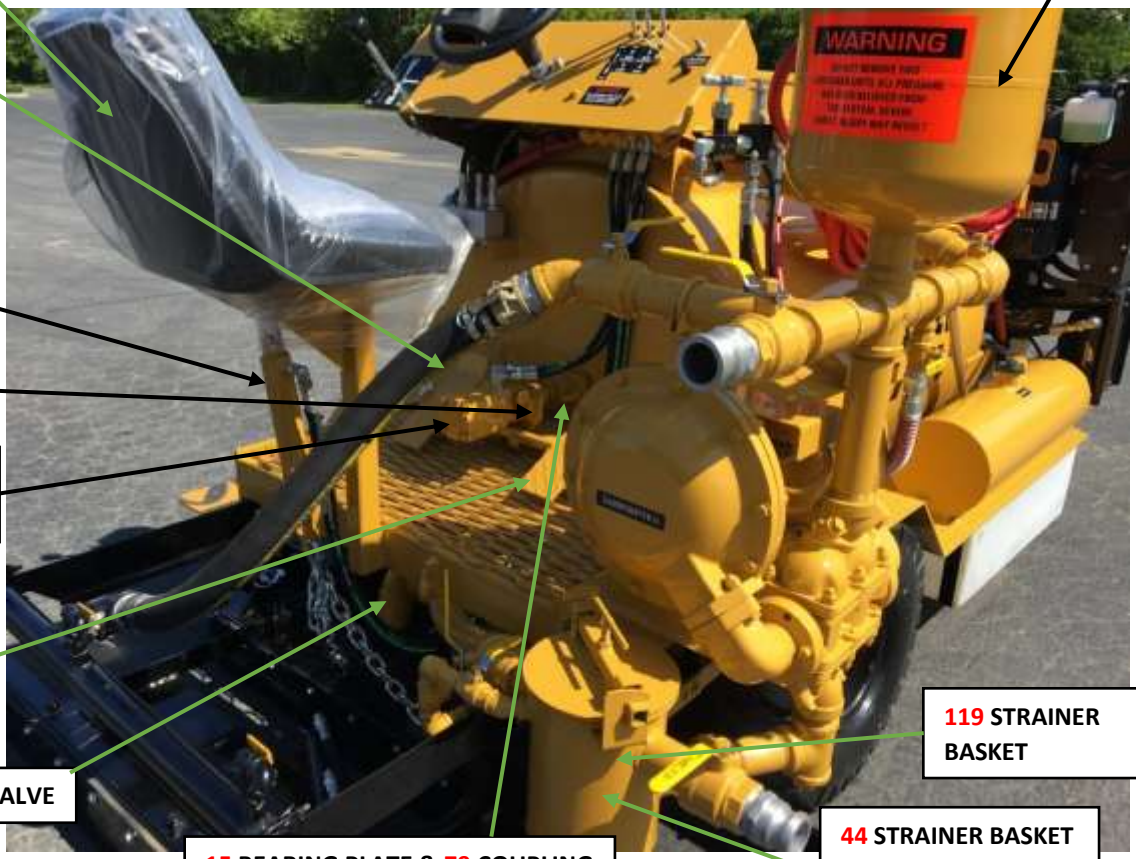


PARTS LIST

ITEM #	PART#	QTY.	DESCRIPTION
1	P488A002	1	CONTROL – "QUADCO"
	P488A003	1	CABLE
4	P496A002	1	STEERING WHEEL
	P473A001	1	STEERING COLUMN
	P936A004	1	STEERING CONTROL – HYDRAULIC
7	P472A029	1	**AGITATOR** CONTROL VALVE
8	P472A029	1	REAR ASSEMBLY **LEFT/RIGHT** VALVE
9	P472A029	1	REAR ASSEMBLY **UP/DOWN** VALVE
10	P443A001	1	SWITCH – TOGGLE SINGLE POLE **- OPTIONAL**
61	P693A019	1	MANIFOLD – FLOW CONTROL
72	P461A001	1	PANEL FUSE HOLDER **- OPTIONAL**
73	P595A009	1	FUSE – 25 AMP-ABC **- OPTIONAL**
74	P458B422	1	CONTROL PANEL-ENGINE DISPLAY
75	P50273B	1	SPRAY WAND **ASSEMBLY**
76	P449A004	1	SPRAY TIP 80/70 – 3/8 NPT STEEL
77	P397A010	1	SPRAY WAND VALVE 3/4" BALL STEEL
78	P754B026	1	3/4" HOSE X 75' LONG

SQUEEGEE SP300 DUAL/SPRAY

APPLIES TO: SP 300 DUAL/SPRAY



22 SEAT

51 SURGE TANK

82 LINKAGE
83 ARM

13 CYLINDER

81 YOKE

21 AGITATION MOTOR

80 FOOT PEDAL ASSEMBLY

16 3" BUTTERFLY VALVE

119 STRAINER BASKET

15 BEARING PLATE & 79 COUPLING
14 FLANGE BEARING-AGITATOR

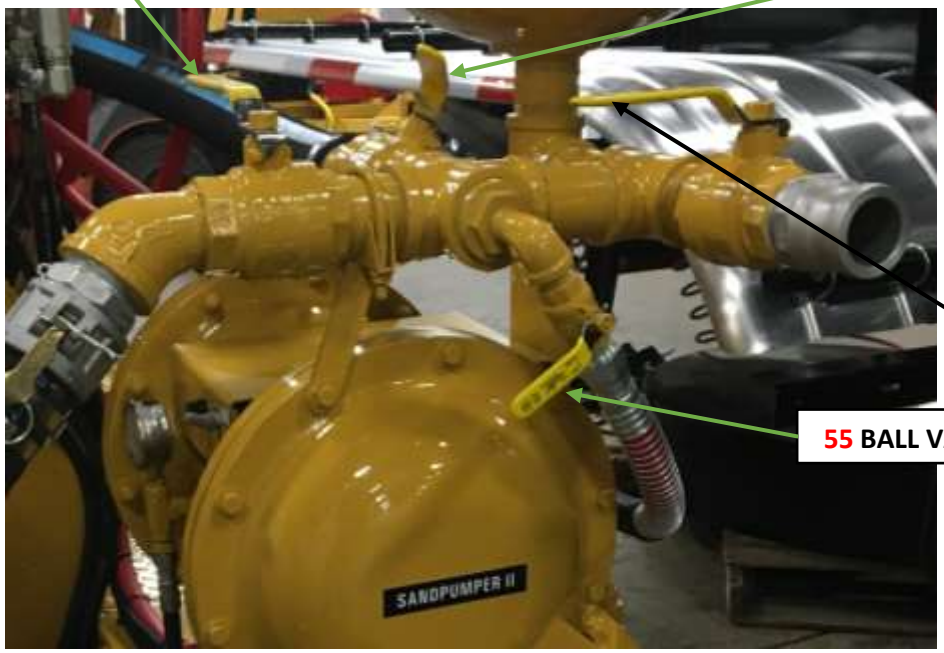
44 STRAINER BASKET
45 LID GASKET
46 LID ASSEMBLY

PARTS LIST

ITEM #	PART#	QTY.	DESCRIPTION
13	P70021C008	1	CYLINDER – HYD. 1-3/4" X 6"
14	P432A003	2	FLANGE BEARING – AGITATOR 1-1/4" 2-BOLT
15	P50137B009	2	SEAL-BEARING PLATE
16	P398R009	1	3" BUTTERFLY VALVE - RIGHT
	P398L009	1	3" BUTTERFLY VALVE - LEFT
21	P474A061	1	MOTOR HYD. WITH SPEED CONTROL
22	P602A003	1	SEAT
44	P50313A	1	BASKET STRAINER
45	P50119A	1	LID GASKET
46	P50147D	1	LID ASSEMBLY
51	P30003D	1	SURGE TANK
79	P498A004	1	1" TO 1-1/4" KEYED SOLID COUPLING
80	P83000B083	1	FOOT PEDAL SUB ASSEMBLY
81	P72000I027	1	YOKE
82	P326B	2	LINKAGE ASSEMBLY
83	P83000B080	2	3" BUTTERFLY VALVE ARM
119	P50147B009	1	BASKET STRAINER COMPLETE ASSEMBLY

SQUEEGEE SP300 DUAL/SPRAY

APPLIES TO: SP 300 DUAL/SPRAY

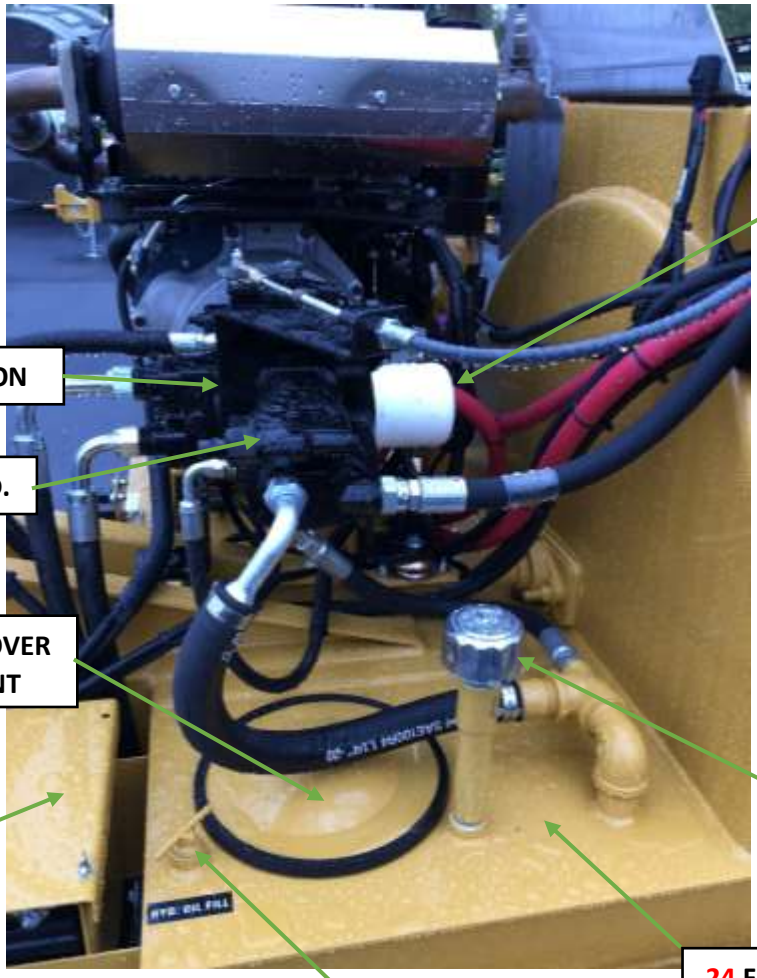


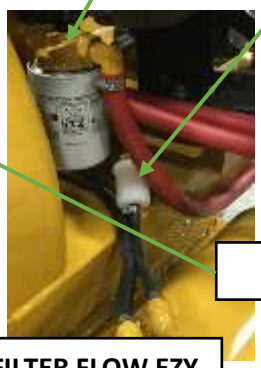
PARTS LIST

ITEM #	PART#	QTY.	DESCRIPTION
49	P397A002	1	2” BALL VALVE – SPRAY BAR ON-OFF
50	P397A002	1	2” BALL VALVE – PUMP OUT
54	P397A002	1	2” BALL VALVE – RECIRCULATION
55	P397A001	1	3/4” BALL VALVE – WAND HOSE
57	P397A002	1	2” BALL VALVE – MAIN FEED
58	P397A001	1	3/4” BALL VALVE – WATER FLUSH
59	P397A002	1	2” BALL VALVE – PUMP IN
84	P398A003	1	CHECK VALVE – WATER FLUSH

SQUEEGEE SP300 DUAL/SPRAY

APPLIES TO: SP 300 DUAL/SPRAY





89 FILTER TRANSMISSION

33 TRANSMISSION

38 OIL FILTER & FILTER HEAD-SMALL

34 PUMP-HYD.

85 FILTER IN LINE FUEL

86 CLEANOUT COVER
87 BAFFLE MOUNT

122 BATTERY LID

88 FILTER CAP

24 FILTER FLOW EZY (INSIDE TANK)

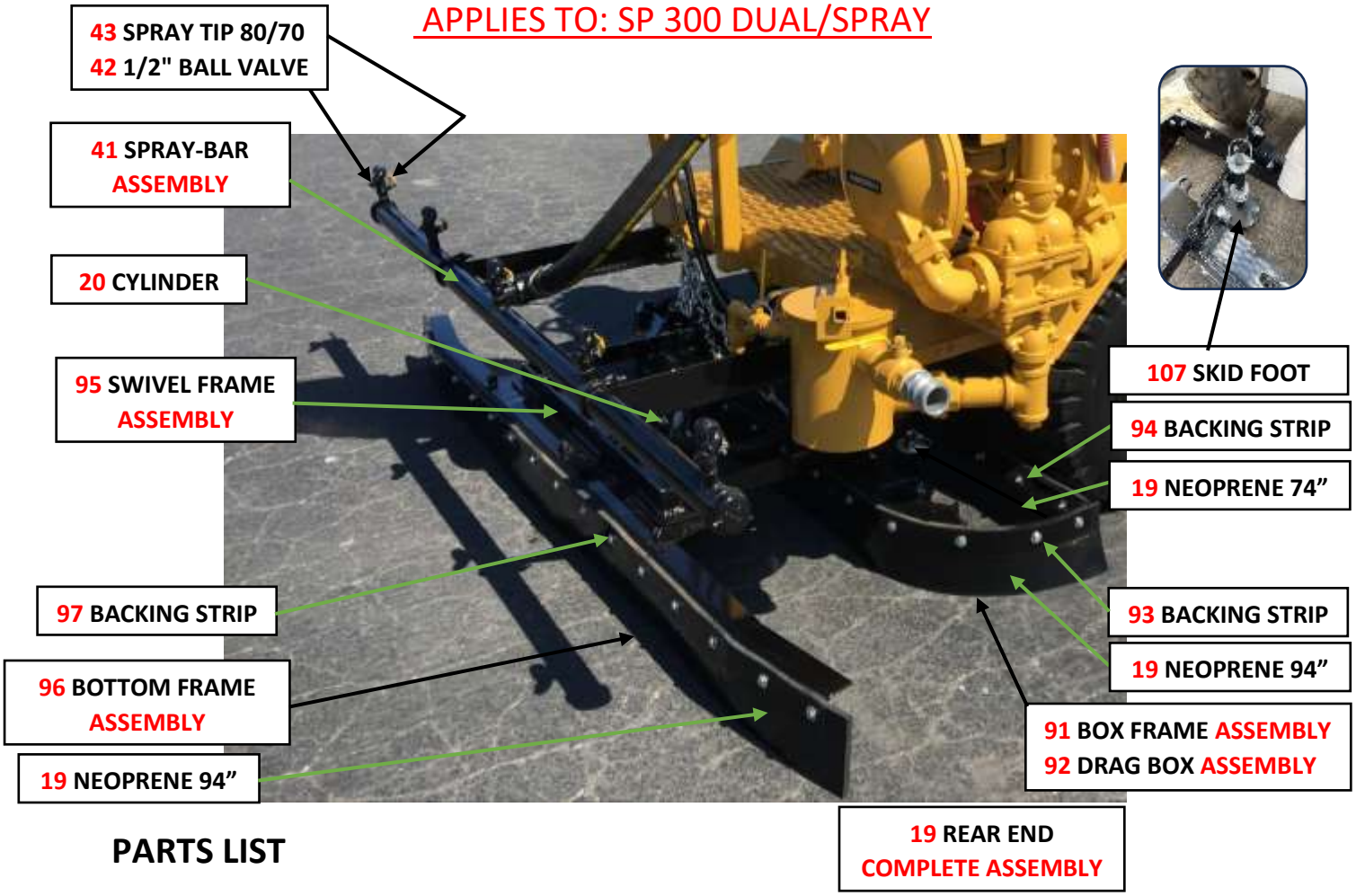
90 DIP STICK

PARTS LIST

ITEM #	PART#	QTY.	DESCRIPTION
24	P408A003	1	FILTER – FLOW EZY
33	P707A012	1	TRANSMISSION – WITH FLUSH VALVE
34	P601A008	1	PUMP-HYD.
38	P908A003	1	FILTER – OIL
	P909A002	1	FILTER – HEAD SMALL
85	P458B203	1	FILTER – INLINE FUEL
86	P583A003	1	CLEANOUT COVER
87	P583A004	1	BAFFLE MOUNT
88	P1050A006	1	BREATHER FILTER CAP
89	P908A007	1	FILTER - TRANSMISSION
90	P74000C019	1	DIPSTICK - HYDRAULIC OIL
122	P29838D003	1	BATTERY LID

SQUEEGEE SP300 DUAL/SPRAY

APPLIES TO: SP 300 DUAL/SPRAY

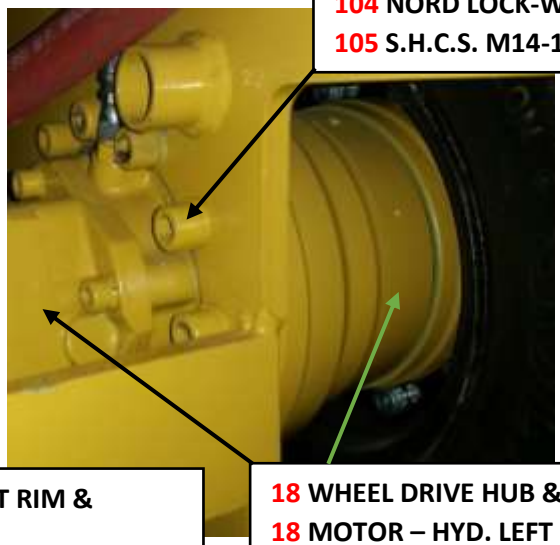


PARTS LIST

ITEM #	PART#	QTY.	DESCRIPTION
19	P70023E	1	REAR END **COMPLETE ASSEMBLY**
	P459A024	2	NEOPRENE 1/2” X 6” X 94”
	P459A023	1	NEOPRENE 1/2” X 6” X 74”
20	P70021C008	1	CYLINDER – HYD. 1-3/4” X 6” STROKE
41	P50246AW	1	SPRAY BAR ASSEMBLY
42	P397A009	5	1/2” BALL VALVE – SPRAY BAR
43	P449A004	5	SPRAY TIP 80/70 – 3/8 NPT STEEL
91	P70001G	1	BOX FRAME ASSEMBLY
92	P70001F	1	DRAG BOX ASSEMBLY
93	P109D	1	BACKING STRIP 91-3/4”
94	P109B	1	BACKING STRIP 70”
95	P70021C	1	SWIVEL FRAME ASSEMBLY
96	P70003GA	1	BOTTOM FRAME ASSEMBLY
97	109C	1	BACKING STRIP 90-5/8”
107	P77000B040	2	SKID FOOT

SQUEEGEE SP300 DUAL/SPRAY

APPLIES TO: SP 300 DUAL/SPRAY



104 NORD LOCK-WASHER
106 STUD- M14 X1.5
& M14-1.5 LUG NUT

104 NORD LOCK-WASHER
105 S.H.C.S. M14-1.5 X 50

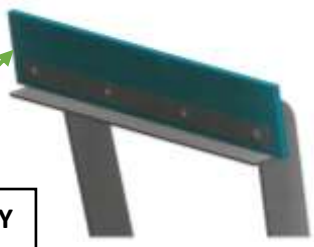
103 SPLIT RIM NUT & LOCK-WASHER & S.H.C.S. 1/2-20 X

17 TIRE & SPLIT RIM &
102 TUBE

18 WHEEL DRIVE HUB &
18 MOTOR – HYD. LEFT
18 MOTOR – HYD. RIGHT

PARTS LIST

ITEM #	PART#	QTY.	DESCRIPTION
17	P576A007	2	TIRE & WHEEL
	P577A014	2SETS	SPLIT RIM SIDE HALF WITH STEM HOLE
18	P474A068	2	WHEEL DRIVE HUB – WITH BRAKE
18	P474A083	1	MOTOR – HYD. LEFT
18	P474A082	1	MOTOR – HYD. RIGHT
98	P70000B029	1	AGITATOR ASSEMBLY
99	P459A013	2	AGITATOR RUBBER
100	P72000B012	2	BACKING STRIP
101			
102	P574A002	2	TUBE
103	P1057A002	20	SPLIT RING NUT 1/2-20 NF & LOCK WASHER
	P1036A009	20	SOCKET HD. CAP SCREW 1/2-20 X 1" LG.
104	P1018A017	34	NORD LOCK-WASHER
105	P1015A018	24	SOCKET HD. CAP SCREW M14-1.5 X 50MM LG.
106	P513A056	5	STUD- M14X1.5 DOUBLE END
	P474B019	5	LUG NUT – M14X1.5

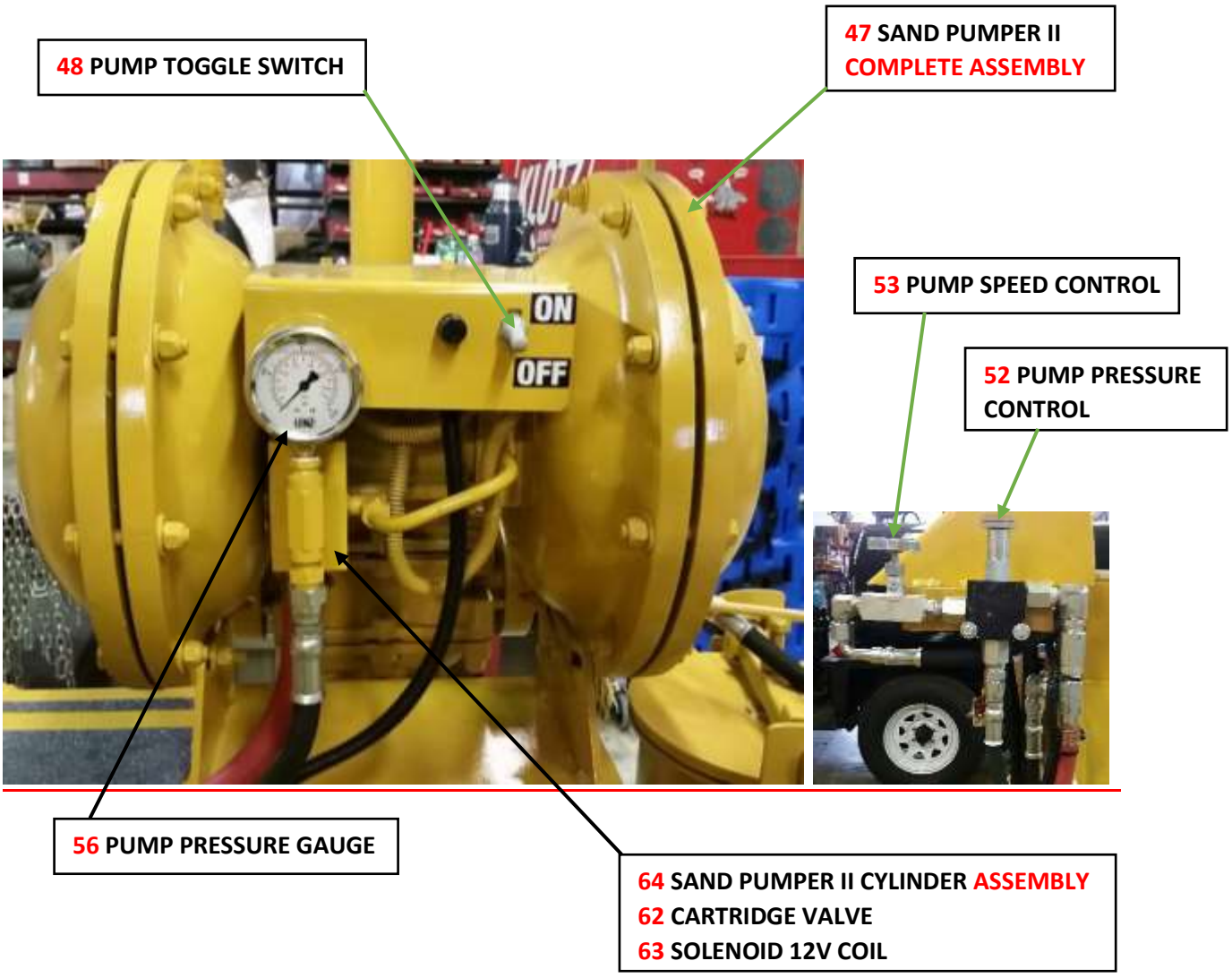


98 AGITATOR ASSEMBLY
99 AGITATOR RUBBER
100 BACKING STRIP

18 WHEEL DRIVE HUB & MANIFOLD
18 MOTOR – HYD. RIGHT

SQUEEGEE SP300 DUAL/SPRAY

APPLIES TO: SP 300 DUAL/SPRAY

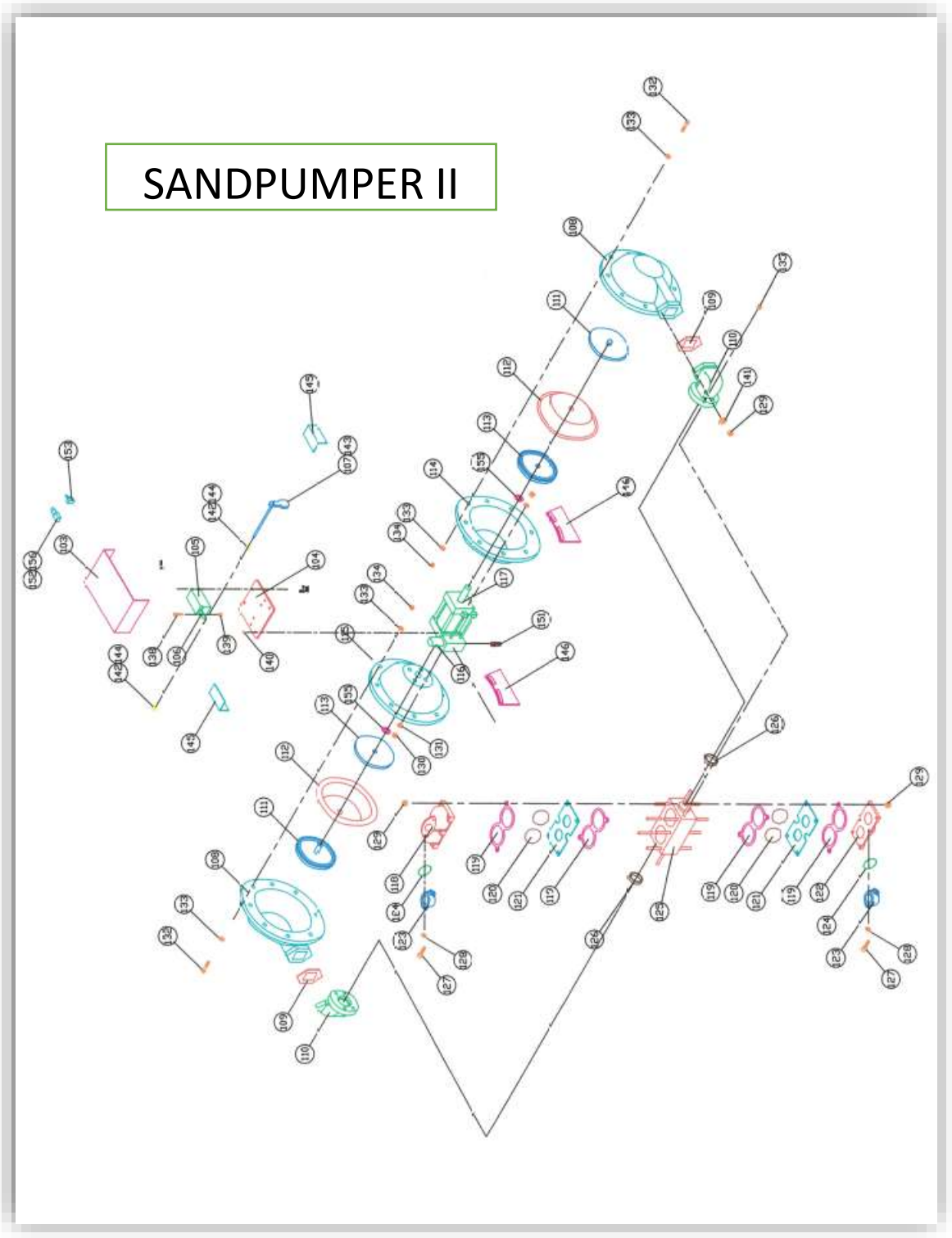


PARTS LIST

ITEM #	PART#	QTY.	DESCRIPTION
47	P640A024	1	SAND PUMPER II COMPLETE ASSEMBLY
48	P443A001	1	PUMP TOGGLE SWITCH
52	P693A008	1	PUMP PRESSURE CONTROL
53	P666A004	1	PUMP SPEED CONTROL
56	P711A004	1	PUMP PRESSURE GAUGE
62	P694A002	1	CARTRIDGE VALVE
63	P694A001	1	SOLENOID 12 VOLT COIL
64	P600A007	1	SAND PUMPER II CYLINDER ASSEMBLY

SQUEEGEE SP300 DUAL/SPRAY

SANDPUMPER II



SQUEEGEE SP300 DUAL/SPRAY

APPLIES TO: SP 300 DUAL

PARTS LIST

ITEM #	PART#	QTY.	DESCRIPTION
103	P966A078	1	SWITCH MOUNT COVER
104	P966A079	1	MOUNTING PLATE - SWITCH
105	P442A003	1	SNAP SWITCH
106	P966A080	1	LEVER
107	P966A081	1	SHIFTING ARM
108	P966A082	2	CHAMBER DIAPHRAGM
109	P966A083	2	GASKET - CHAMBER DIAPHRAGM
110	P966A084	2	ELBOW - CHAMBER DIAPHRAGM
111	P966A085	2	PLATE ASSEMBLY OUTER
112	P966A074	2	DIAPHRAGM – NEOPRENE
113	P966A086	2	PLATE – INNER
114	P966A087	1	CHAMBER INNER – RIGHT
115	P966A088	1	CHAMBER INNER – LEFT
116	P694A001	1	ELECTRIC COIL 12V
117	P600A007	1	HYDRAULIC CYLINDER
118	P966A066	1	DISCHARGE PORTING FLANGE
119	P966A068	4	GASKET – MANIFOLD
120	P966A065	4	CHECK BALL – NEOPRENE
121	P966A072	2	SEAT ASSEMBLY
122	P966A067	1	SUCTION PORTING FLANGE
123	P966A073	2	FLANGE THREADED
124	P966A070	2	O RING
125	P966A069	1	MANIFOLD
126	P966A071	2	SEALING RING
127	P1014A034	4	HEX HEAD SCREW 1/2-13” X 1-3/4”
128	P1018A005	4	SPLIT LOCK WASHER 1/2"
129	P1021A002	12	LOCK NUT 1/2-13"
130	P1020A005	8	HEX NUT 1/2-13"
131	P1025A001	8	EXTERNAL TOOTH FLAT WASHER 1/2"
132	P1014A021	20	HEX HEAD SCREW 3/8-16” X 2”
133	P1017A003	40	FLAT WASHER 3/8"
134	P1021A001	20	NYLON INSERT LOCKNUT 3/8-16"
135	P1021A008	4	HEX NUT 3/8-16"
136	P1036A020	4	SOCKET HEAD CAP SCREW 1/4”-20 X 3/4”
137	P1021A006	4	NYLON INSERT LOCKNUT 1/4-20"
138	P1014A011	2	HEAD HEX SCREW 5/16-18” X 1-1/2”
139	P1021A005	2	LOCK NUT 5/16-18"
140	P1026A005	4	MACHINE SCREW 10-32 X 1/2"
141	P1017A005	4	FLAT WASHER 1/2"

SQUEEGEE SP300 DUAL/SPRAY

APPLIES TO: SP 300 DUAL

PARTS LIST

ITEM #	PART#	QTY.	DESCRIPTION
142	P1033A001	2	SET COLLAR 3/8”
143	P1015A010	2	SET SCREW 1/4”-20 X 1/2”
144	P1015A004	2	SET SCREW 1/4”-20 X 1/4”
145	P966A095	2	COVER PLATE BRACKET
146	P966A091	2	FOOT MOUNT
147	P1010A001	1	REDUCER BUSHING 3/8” TO 1/4"
148	P560A022	1	HYDRAULIC TEE 3/8” MMF
149	P560A007	1	HYDRAULIC FITTING 3/8”
150	P560A031	1	HYDRAULIC FITTING 06 NPT X 08 JIC
151	P751A006	1	HOSE ADAPTER 3/8” NPT X 5/8” HOSE
152	P461A001	1	FUSE HOLDER
153	P443A001	1	TOGGLE SWITCH
154	P711A004	1	PRESSURE GAUGE 2000 PSI
155	P1017A008	2	FLAT WASHER 3/4"
156	P595A001	1	FUSE – 10 AMP ABC

OPERATION INSTRUCTION SANDPUMPER II

GENERAL OPERATION & SERVICE INSTRUCTIONS - REPAIR:

1. The SandPumper II diaphragms are operated internally on a double rod cylinder shaft. A stroke directional limit switch is mounted between diaphragms and sends a signal to the solenoid-operated manifold to indicate the end of stroke and the beginning of a reverse stroke.
2. The SandPumper II is equipped with two, single ply, neoprene diaphragms (20 inches in diameter). It is recommended that the diaphragms be replaced yearly.
3. The check balls are made of solid neoprene and are 2-1/4 inches in diameter. It is recommended that the check balls be replaced every two years.

SUCTION STRAINER:

1. The SandPumper II material pump system comes with a large one-gallon basket strainer. The strainer basket has 1/8” hole mesh.

CHECK BALLS:

1. For most efficient pumping performance, it is recommended check balls and ball seats are in good working order to ensure proper seating. Need for inspection or service of check balls is usually indicated by poor priming, unstable cycling, reduced performance, or pump cycles but will not pump. Inspection and service of check balls require the removal of six bolts which provides access to all four balls, both suction, and discharge.

OPERATION INSTRUCTION SANDPUMPER II

TROUBLESHOOTING GUIDE

PROBLEM	POSSIBLE CAUSES/SOLUTIONS
PUMP WILL NOT CYCLE	**BASKET STRAINER** AND/OR LINES CLOGGED / CLEAN STRAINER AND/OR LINES
	TOGGLE SWITCH HAS NO POWER / CHECK **FUSE** OR WIRING
	SOLENOID COIL HAS NO POWER / CHECK ALL SWITCHES FOR OPEN CIRCUIT
	SOLENOID COIL HAS POWER WIL NOT ACTIVATE / REPLACE SOLENOID COIL
	STOP COLLARS HAVE MOVED/ REPOSITION COLLARS OVER MARKS-RETIGHTEN
	PRESSURE GAUGE SHOWS PRESSURE BUT WILL GO UP AND DOWN WHEN TURNING PUMP PRESSURE CONTROL VALVE / RELIEVE HYDRAULIC PRESSURE, REMOVE SOLENOID, UNSCREW CARTRIDGE FROM BODY, PRESS IN ON PLUNGER. IT SHOULD MOVE APPROXIMATELY 3/16 INCH AND SPRING BACK TO ITS ORIGINAL POSITION.
	PRESSURE GAUGE SHOWS PRESSURE BUT WILL NOT GO UP AND DOWN WHEN TURNING PUMP PRESSURE CONTROL VALVE / CONTAMINATION IN PUMP PRESSURE CONTROL VALVE-CONSULT WITH FACTORY.
PUMP CYCLES BUT WILL NOT PUMP MATERIAL	**BASKET STRAINER** AND/OR LINES CLOGGED / CLEAN STRAINER AND/OR LINES
	DRUM SUCTION VALVE OR **WATER FLUSH** VALVE OPEN / CHECK VALVES TO ENSURE THAT THEY ARE CLOSED TIGHT
	CHECK BALL MANIFOLD CLOGGED/ REMOVE UPPER AND LOWER SECTIONS OF CHECK BALL AND CLEAN
	DIAPHRAGM CHAMBER PLUGGED / REMOVE CHAMBERS AND CLEAN
	RUBBER GASKET ON BASKET STRAINER LID IS CUT / REPLACE RUBBER GASKET
MATERIAL COMES OUT AIR VENT HOLES	**DIAPHRAGM** HAS RUPTURED / REPLACE DIAPHRAGM
MATERIAL COMES OUT BETWEEN FLANGES	**DIAPHRAGM** COLLAR BEAD HAS PULLED OUT OF GROOVE/ REMOVE FLANGE AND RESET DIAPHRAGM IN GROOVE
HYDRAULIC OIL COMES OUT VENT HOLES	**CYLINDER** ROD SEALS LEAKING / RETURN HYDRAULIC CYLINDER TO FACTORY REPAIR
PUMP WILL NOT GO OUT OF NEUTRAL	**MATERIAL** NOT GETTING TO PUMP / FOLLOW PROCEDURES OUTLINED IN STEP - PUMP CYCLES BUT WILL NOT PUMP MATERIAL
	AIR TRAPPED IN **PUMP** / OPEN BYPASS VALVE
SPRAY PULSATES	* **SURGE TANK** IS PLUGGED / RELIEVE ALL PRESSURE FROM SYSTEM. REMOVE SURGE TANK AND CLEAN
	PUMP IS NOT SHIFTING COMPLETE STROKE / ONE DIAPHRAGM CHAMBER IS PLUGGED. REMOVE AND CLEAN

*** SURGE TANK – NOTE: DO NOT ATTEMPT TO REMOVE SURGE TANK WITHOUT FIRST RELIEVING ALL PRESSURE FROM SYSTEM. WEARING OF A FACE SHIELD IS RECOMMENDED.**

PRESSURE CAN BE RELIEVED FROM SYSTEM BY OPENING THE SPRAY WAND AND RECIRCULATION VALVES, ALSO IF THERE IS A (OPTIONAL) SPRAY BAR, OPEN THE SPRAY BAR FEED VALVE.

KEEP IN MIND THE PLUMBING CONNECTING THE PUMP TO THE SURGE TANK COULD ALSO BE PLUGGED, AND THERE MAY BE RESIDUAL PRESSURE STILL IN THE SYSTEM

DISASSEMBLY-ASSEMBLY DIAPHRAGMS SANDPUMPER II

1. **CHANGING THE DIAPHRAGMS**:

   a. Measure the gap between flanges.
   b. Remove the cover from the top of the pump.
   c. Start engine-turn on toggle switch-open the pump speed control-let the actuator rod shift fully to the side of the pump you will be servicing first-close the pump speed control shut off the toggle switch and the engine.
   d. Remove all the bolts from around the flanges and the 2 nuts on the check ball assembly flange.
   e. Remove the flanged diaphragm chamber.
   f. Peel back the diaphragm-insert a 1" wrench behind the diaphragm-put the wrench on the flats that are machined on cylinder rod. **CAUTION**: If you use a pliers or any kind of clamping device on the cylinder rods, the rod seals will be destroyed when the pump shifts.
   g. While holding the 1" wrench on the cylinder rod, put a 1-1/8" wrench to the bolt head that is welded to the outer support plate. Turn counter-clockwise to loosen-remove completely from cylinder rod.
   h. Remove the inner support plate from the diaphragm.
   i. Discard the diaphragm.
   j. Scrape any dried material from the support plates.
   k. The new diaphragm **#112** is marked "**LIQUID SIDE-THIS SIDE OUT**" this faces the chamber you took off. Take the outer support plate and insert the bolt through the hole in the diaphragm. The raised head on the diaphragm will fit into the groove of the support plate. Take the inner support

plate and slide it onto the bolt coming through the diaphragm, mating the groove to the diaphragm bead. Thread the bolt into the cylinder rod, when snug you can adjust all the diaphragm beads to fit the grooves in the support plates and other flanges.

l. Insert the 1" wrench onto the cylinder rod.

m. Take a torque wrench set at 85 ft.-lbs. and tighten the outer support plate bolt.

n. Put the sealing ring **#126**, back on the check ball assembly if it came off with the chamber onto the check ball assembly studs and then insert all the flange bolts. Take a torque wrench set at 40 ft.-lbs. and tighten the bolts diagonally until the flanges are drawn down evenly. Set the flange gap to the measurement you took in **step a**.

2. **CHANGING THE DIAPHRAGMS: – ACTUATOR ROD**

When changing the side that the actuator rod comes from, follow **steps 1.a** thru **1.e**. Peel back the diaphragm, the actuator rod is welded to an arm that fits around the cylinder rod. Put your wrench on this arm rather than the flats on the cylinder. Follow the remaining steps.

PARTS LIST: USE P966A090 REBUILD KIT

ITEM #	PART#	QTY.	DESCRIPTION
120	P966A065	4	CHECK BALL – NEOPRENE
119	P966A068	4	GASKET – MANIFOLD
124	P966A070	2	O RING
126	P966A071	2	SEALING RING
121	P966A072	2	SEAT ASSEMBLY
112	P966A074	2	DIAPHRAGM – NEOPRENE
109	P966A083	2	GASKET - CHAMBER DIAPHRAGM

CHECK BALL ASSEMBLY SANDPUMPER II

1. **SERVICING THE CHECK BALLS**:

    a. Loosen the hose clamp on the bypass hose.
    b. Where the plumbing connects to the pump is a flange and gasket **#109** with 2 bolts-remove these and lift the discharge piping out of your way. Look for the O-ring **#124** that is in this flange.
    c. The part that this flange connects to contains 2 check balls. Remove the 6 lock nuts around this manifold, lift, and off of the 6 bolts. Clean out any sand build-up that could keep the balls from seating. Look where the balls sit on the stainless-steel seat assembly **#121**, sand may cut grooves there-replace if necessary. Remove the seat and lift out the bottom set of balls. If the seat needs replaced go to step #2.
    d. Scrape off the old gaskets and install new gaskets **#119**.
    e. If there is any damage to the check balls **#120**, replace as necessary.
    f. Reinstall the manifold and tighten the 6 locknuts.
    g. Put grease in the grove in the piping flange and press in a new O-ring **#124**. Set discharge piping back on the pump – start the union and then start the 2 bolts. Tighten the union and finish tightening the 2 flange bolts.

2. **SERVICING THE BOTTOM CHECK BALLS**:

To service the bottom 2 Check Balls, the procedure is the same. You will loosen the union by the basket strainer.

OPERATION INSTRUCTION SANDPUMPER II

FILLING THE TANK FROM ANOTHER CONTAINER:

1. Follow the maintenance procedures listed in the engine manual.
2. Connect a suction hose to pump in valve **#59** and your drum or tank. Open the valve.
3. Open recirculation valve **#54.**
4. With the engine running, turn on the SandPumper II pump toggle switch **#48**. Open the pump speed control valve **#53** about three turns. You should now be hearing clicking from the pump and the pump pressure gauge **#56** will be showing pressure. Material is now being drawn from the container and is filling up the machine's tank.
5. Monitor the level by looking in through the lid and using your tank chart as a guide for how much material you want to add. When done, close pump in valve **#59** and pump speed control valve **#53**. Turn off pump toggle switch **#48**. Detach the suction hose.
6. Add the desired amount of water, and additives. Engage the agitator control valve **#7** to the desired position. **Speed control** is achieved by turning the knob located on the side of the agitator drive motor **#21**. Turn clockwise to rotate faster. **SLOWLY** add your sand in the center of the tank. Let the agitator mix in each bag before adding another. Let the agitator rotate slowly during the application process.

SQUEEGEE SP300 DUAL/SPRAY

APPLICATION – SPRAY WAND:

1. Start with thoroughly mixed material.
2. Remove the basket strainer lid **#46** and check the strainer basket **#44**, clean if needed.
3. Open main feed valve **#57**. Turn on pump toggle switch **#48**. Open the pump speed control valve **#53** about three turns.
4. Open recirculation valve **#54**. Let the material recirculate for a few minutes. Now close recirculation valve **#54**. The pump will make a few strokes then come to a stop. The pump pressure gauge **#56** needle will be stationary. We want to start with 800 psi showing on the gauge. To increase pressure, turn the pressure control knob **#52** clockwise or in. To decrease pressure, turn the knob counterclockwise or out.
   NOTE: The thickness of the product determines how much pressure is needed to get the proper spray intensity. It may be necessary to run the pressure higher than 800 psi.

5. Remove the spray hose and wand from the side of the machine and stretch out the hose. Open wand hose valve **#55**. Slowly open the valve on the wand as you swing the wand back and forth in an arc. With the valve open fully continue to swing the wand back and forth overlapping each stroke by about half. Always try to keep the valve fully open as rapid wear will occur if the valve is only half-open. When finished shut off the pump controls and close all valves

SQUEEGEE SP300 DUAL/SPRAY

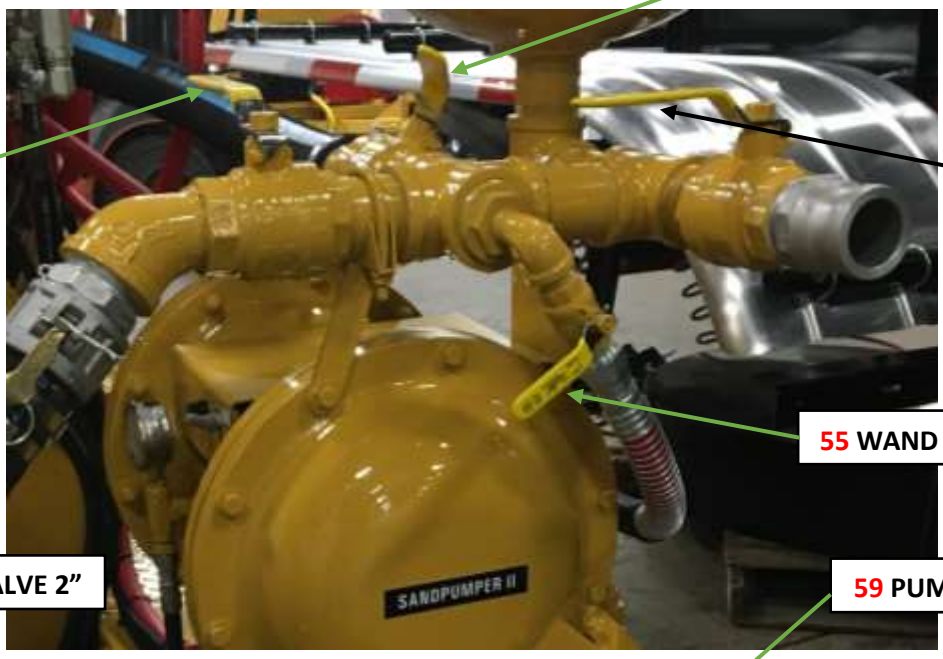
APPLICATION – SPRAY BAR:

1. Perform steps 1-4 from above.
2. Open all 1/2" ball valves **#42** on the spray bar **#41.**
3. Start the machine in motion and slowly open spray bar valve **#49**. Completely open the valve as you increase your forward motion speed. You may need to increase the pump speed control valve **#53** and pressure control knob **#52**.
4. Close spray bar valve **#49** when you reach the end of the pass. Turn around and re-open spray bar valve **#49**. When finished shut off the pump controls and close all valves. While it is not necessary to water flush the system after each use, you may want to as this keeps the spray tips clear.

WATER FLUSH:

1. Start with all valves closed.
2. Open 3/4" ball valve **#58**.
3. Turn on pump toggle switch **#48**. Open pump speed control valve **#53** about three turns.
4. To flush out the spray wand, open 3/4" ball valve **#55**. Open the lid on the machine, place the wand in the tank and open the wand valve. It is not necessary to run it till you see clear water as this is a waste. However, you need enough water to push the sand out of the hose, otherwise, it lays in the coils and plugs the hose.
5. To flush the spray bar **#41** open all spray bar 1/2" ball valves **#42**. Now open spray bar valve **#49**. When finished shut off all pump controls and close all valves. Always make sure you close 3/4" ball valve **#58**. While there is a check valve **#84** to prevent the sealer from flowing backward into the water tanks, it must not be relied on to always close.
6. This is a good time to remove the basket strainer lid **#46** of the basket strainer and clean out the strainer basket **#44**. Inspect the lid gasket **#45** for tears.

SQUEEGEE SP300 DUAL/SPRAY



54 RECIRCULATION VALVE 2”

49 SPRAY BAR VALVE 2”

50 PUMP OUT VALVE 2”

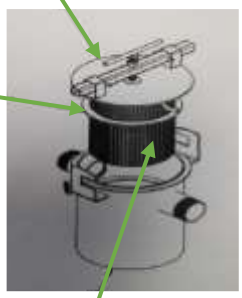
55 WAND HOSE VALVE 3/4”

57 MAIN FEED VALVE 2”

59 PUMP IN VALVE 2”

46 BASKET STRAINER LID ASSEMBLY

45 LID GASKET



84 CHECK VALVE

58 WATER FLUSH VALVE 3/4”

44 STRAINER BASKET

SQUEEGEE SP300 DUAL/SPRAY

48 PUMP TOGGLE SWITCH

56 PUMP PRESSURE GAUGE

47 SANDPUMPER II COMPLETE ASSEMBLY

53 PUMP SPEED CONTROL

52 PUMP PRESSURE CONTROL

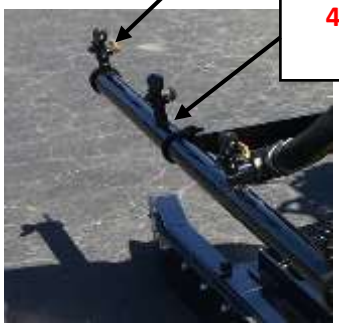
7 AGITATOR CONTROL VALVE

SPEED CONTROL

21 AGITATION MOTOR WITH SPEED CONTROL

42 1/2" BALL VALVE

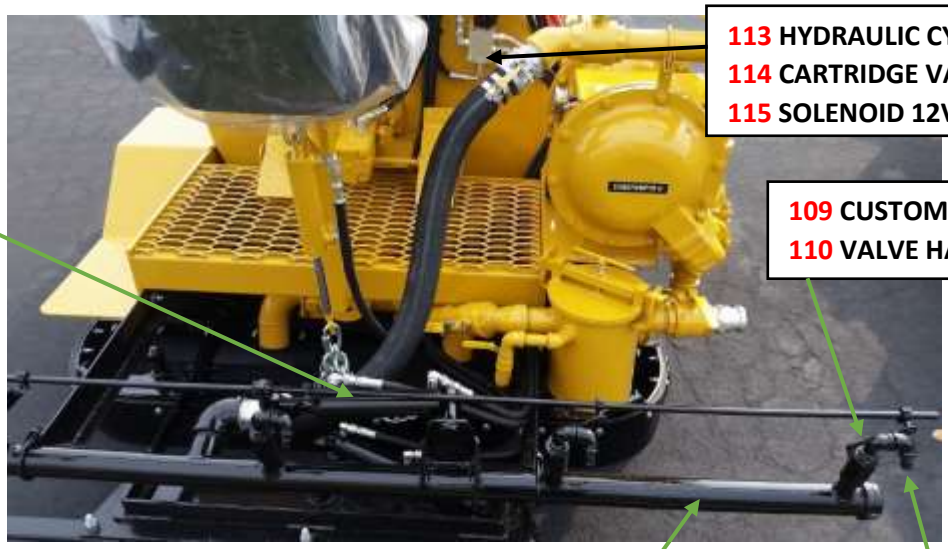
41 SPRAY-BAR ASSEMBLY



SQUEEGEE SP300 DUAL/SPRAY

APPLIES TO: SP 300 DUAL

HYDRAULIC SPRAY BAR OPTIONAL



113 HYDRAULIC CYLINDER ASSEMBLY
114 CARTRIDGE VALVE
115 SOLENOID 12V COIL

112 CYLINDER

109 CUSTOM CUT 3/4" BALL VALVE
110 VALVE HANDLE

108 SPRAY BAR ASSEMBLY COMPLETE

111 SPRAY TIP 80/70

116 SPRAY BAR TOGGLE SWITCH
117 FUSE HOLDER
118 FUSE 15 AMP

PARTS LIST

ITEM #	PART#	QTY.	DESCRIPTION
108	P50246DAW	1	SPRAY BAR ASSEMBLY COMPLETE
109	P397A010-CUST CUT WITH VALVE HANDLE	5	3/4 ” BALL VALVE – SPRAY BAR
110	P50241	5	VALVE HANDLE
111	P449A004	5	SPRAY TIP 80/70 – 3/8 NPT STEEL
112	P70021C008	1	CYLINDER – HYD. 1-3/4” X 6” STROKE
113	P472A025	1	HYDRAULIC CYLINDER ASSEMBLY
114	P693A033	1	CARTRIDGE VALVE
115	P694A006	1	SOLENOID 12 VOLT COIL
116	P443A015	1	SPRAY BAR TOGGLE SWITCH
117	P461A006	1	FUSE HOLDER
118	P595A012	1	FUSE – 15 AMP ATO

SQUEEGEE SP300 & SP300 DUAL/SPRAY

APPLIES TO: SP 300 AND SP 300 DUAL

HOW TO WINTERIZE YOUR EQUIPMENT

1. If the machine has been in use, add water to the **tank** and let it agitate at a high speed for 30 minutes. Pump this water through the **spray wand**. When the tank is empty, make a 50/50 mixture of RV antifreeze and water approximately 4-gals, and pour this into the **tank**. Turn on the **material pump** and open the **spray wand** until the mixture starts to come out. Open the recirculation valve for a brief moment, then close it. Do this to all the valves. The entire pumping system is now protected from freezing.
2. If you have a **water tank, spray bar, water pump,** and **fog spray**, run RV antifreeze thru these also.
3. Disconnect the **battery** and take it inside. A battery charging maintainer will assure that it lasts through the off-season.
4. Cover the **engine** with a plastic bag.
5. Cover the **cap** on the **hydraulic tank**, also around each **locking cap**.
6. If any **cylinder rods** are exposed, put a thin layer of grease on them.

7. In the winter, when the temperature is below freezing, get inside of the tank with proper hearing protection and an air chipping gun with a 1” spade bit and chip off all remaining sealer from the walls and paddles. **NOTE**: If you don’t do this, the dried material will come off all during the season causing the **basket strainer** and **spray tips** to plug.

8. In the spring totally flush all the antifreeze from the system.

SQUEEGEE SP300 & DUAL MACHINES

RECOMMENDED SPARE PARTS LIST

LIST FOR: GAS ENGINES

PART#	QTY.	DESCRIPTION
P458B203	1	FILTER – GAS IN LINE FUEL
P908A003	1	FILTER – OIL RETURN LINE
P908A007	1	FILTER – TRANSMISSION FLUID
P408A003	1	FILTER – OIL FLOW EZY
P458B032	1	FILTER – OIL KUBOTA ENGINE **SP300 DUAL**

LIST FOR: SQUEEGEE MACHINE SP300 & SP300 DUAL/SPRAY

PART#	QTY.	DESCRIPTION
P966A090	1	SAND PUMPER II REBUILD KIT
P449A004	5	SPRAY TIP 80/70 – 3/8 NPT STEEL
P459A013	2	AGITATOR RUBBER
P459A024	2	NEOPRENE 1/2” X 6” X 94”
P459A023	1	NEOPRENE 1/2” X 6” X 74”
P50147B009	1	BASKET STRAINER **COMPLETE ASSEMBLY**
P576A007	3	TIRE & WHEEL
P574A002	3	TUBE WITH METAL STEM
P577A004	1SET	SPLIT RIM ONLY
P577A014	2SETS	SPLIT RIM SIDE HALF WITH STEM HOLE

MAINTENANCE AND STORAGE

MAINTENANCE

During the lubrication stop, inspect all operating parts. Should any damage or excessive wear be evident, replace parts immediately. Straighten any parts as soon as possible. Clean and re-paint all exposed parts using touch-up kit P3020B034 **yellow** paint or touch-up kit P3020B033 **black** paint.

STORAGE

Perform all required maintenance and lubrication procedures.
Coat all shafts with grease. Clean and re-paint all exposed parts using touch-up kit P3020B034 **yellow** paint or touch-up kit P3020B033 **black** paint.

Each touch-up kit includes:

1-pint paint can --- 1 pair of gloves --- 1 touch-up paintbrush