



# **SUPERHEATER**

**PART MANUAL - 26363**



# **SUPERHEATER**

# TABLE OF CONTENTS

Superheater.....	5
Safety Precautions.....	6
Limited Warranty.....	7
Warranty Claim Instructions.....	8
Specifications.....	9
Introduction.....	10
Operating Instructions	
Start-Up of the Machine.....	11
Streetprinting Process.....	12
Shut-Down of Machine.....	13
Instructions for Ordering Parts.....	14
Maintenance	
Maintenance Instructions.....	15
Maintenance Chart.....	16
Service Instructions.....	17
Recommended Fluids & Lubricants.....	17
Parts	
Superheater-44500 Diagram and Parts.....	18-21
Power Wheel Assembly-44560 Diagram and Parts.....	22-23
6HP and Reservoir Tank Assembly-44555 Diagram and Parts.....	24-26
LP Bracket Assembly-44520 Diagram and Parts.....	27-28
Frame Assembly-44505 Diagram and Parts.....	29-30
Bottom Protective Screen Assembly Diagram and Parts.....	31-32

# SUPERHEATER

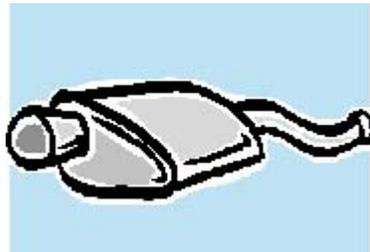
This manual is furnished with each new **CRAFCO SUPERHEATER**. The manual will help your machine operators learn to run the heater properly and understand its mechanical functions for trouble-free operation.

Your **CRAFCO SUPERHEATER** is designed to give excellent service and save maintenance expense. However, as with all specifically engineered equipment, you can get best results at minimum costs if:

1. You operate your machine as instructed in this manual, and
2. Maintain your machine regularly as stated in this manual.



**WARNING:** The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Operate in well ventilated area only. Engine exhaust is deadly.



# SAFETY PRECAUTIONS

• High operating temperatures of Superheater require protective clothing and gloves be worn by operator.



• Always wear eye protection.

• Observe all **CAUTION AND WARNING** signs posted on machine.



• Read Operator Manual thoroughly before operating machine.

• Make sure operator is familiar with machine operation.

• Do not operate in closed building or confined areas.



• Shut-down burners and engine prior to refilling LPG Tanks.

• Keep hands, feet, and clothing away from all moving parts.



• Always keep a fire extinguisher near the unit. Maintain extinguisher properly and be familiar with its use.

• Replace any hoses which show signs of wear, fraying, or splitting. Be sure all fittings and joints are tight and leak-proof.

• Precaution is the best insurance against accidents.

• The Superheater should not be left unattended when burners are lit.



• Tighten all bolts and screws after every 100 hours of operation.

• CrafcO, Inc. assumes no Liability for an accident or injury incurred through improper use of the machine.

# SUPERHEATER LIMITED WARRANTY

Crafco, Inc., through its authorized distributor, will replace for the original purchaser free of charge any parts found upon examination by the factory at Mesa, Arizona, to be defective in material or workmanship. This warranty is for a period within 60 days of purchase date, but excludes engine or components, tires, and battery as these items are subject to warranties issued by their manufacturers.

After 60 days, Crafco, Inc. warrants structural parts, excluding heating system, hydraulic components, hot oil pump and electrical components for a period of one (1) year from date of delivery. Crafco, Inc., shall not be liable for parts that have been damaged by accident, alteration, abuse, improper lubrication/maintenance, normal wear, or other cause beyond our control.

The warranty provided herein extends only to the repair and/or replacement of those components on the equipment covered above and does not cover **labor** costs. The warranty does not extend to incidental or consequential damages incurred as a result of any defect covered by this warranty.

All transportation and labor costs incurred by the purchaser in submitting or repairing covered components must be born by the purchaser.

Crafco, Inc. specifically disavows any other representation, warranty, or liability related to the condition or use of the product.



**WARNING:** Use of replacement parts other than genuine Crafco parts may impair the safety or reliability of your equipment and nullifies any warranty.

# WARRANTY CLAIM INSTRUCTIONS

Please follow the instructions stated below when calling in a Warranty Claim. Failure to follow these procedures may be cause to void the warranty.

1. Call your local CrafcO Distributor. If you do not know who your local distributor is, call a CrafcO Customer Service Representative, (Toll Free 1-800-528-8242) for name, location, and telephone number.
2. On contacting the Distributor, be prepared to identify the machine type, model number, and serial number, also, the date of purchase if available.
3. Should the cause of the malfunction be a defective part, the Distributor will advise you of the procedure to follow for a replacement.
4. The warranty is valid only for parts, which have been supplied or recommended by CrafcO, Inc.

If you have any additional questions regarding warranty repairs and parts, please do not hesitate to call toll free 1-800-528-8242.

CRAFCO, INCORPORATED  
235 SOUTH HIBBERT DRIVE  
MESA, AZ. 85210  
480-655-8333  
480-655-1712 (FAX)  
Toll Free 1-800-528-8242

## SPECIFICATIONS

Heater Panel.....	4'x4' - Four (4) - Burners Per Panel
Fuel Delivery.....	Fueled through a manifold and regulated by high pressure regulators.
Maximum Heat Output.....	4 with maximum output 75,000 B.T.U. each (total maximum output 300,000 B.T.U.)
Engine - Robins.....	6 H.P. (LP Fueled)
Drive Wheel.....	Hydraulically driven, forward-reverse, variable speed control.
Dry Weight.....	900 lbs.
Propane Bottle (2).....	30 lbs. - each

# **SUPERHEATER OPERATING INSTRUCTIONS INTRODUCTION**

Although the SuperHeater is built to enhance the Street Print process, these same unique features allow it to be a practical and cost effective unit to perform other typical infrared pavement repairs as well. These repairs include: potholes, alligator cracked areas, utility cuts, repairing and reheating cold joints, and correcting elevation discrepancies.

As with all equipment, operators must read and fully understand all operational and safety warning instructions before attempting to operate the SuperHeater. If questions arise regarding proper operation, immediately contact Crafc0 for instructions.

Do not attempt to operate this machine without adequate training.

When using the SuperHeater for StreetPrint process, you should have the following items prior to starting:

- Appropriate StreetPrint templates
- Hand held infrared temperature indicator
- Tape measure
- Chalk line
- One 700 pound (330 kilogram) to 900 pound (410 kilogram) vibratory plate compactor such as a Wacker model DPU 4045H or DPU 5045H
- StreetPrint surfacing products and necessary coating application tools

After assembling all these necessary items, the process can begin by performing the work area layout. An important element in layout for the texturing process is to have the work area boundaries well defined. Adhering to the following layout procedure will help ensure straight and professional looking patterns:

- Strike a chalk line on the boundary of the work area.
- Measure from the boundary line into the work area 20 inches (50 centimeters) and strike a second chalk line.
- The second line will act as a guide to follow with the SuperHeater's drive wheel, which is mounted directly in the center on the unit.
- Actual heating and printing area of the SuperHeater is 40 inches (102 centimeters) wide by 48 inches (122 centimeters) long.
- If the work area is large and requires multiple passes, strike a straight line 20 inches (50 centimeters) from the edge of the previous imprint to follow instead of the work area boundary.

# START UP OF THE MACHINE

Before attempting to start the unit, check the engine crankcase oil and hydraulic fluid for proper operating levels and be sure that both propane tanks are full.

Two 30-pound (13.5 kilogram) tanks are supplied which will operate the unit for 3-5 hours of continuous operation.

Also, it is recommended that the unit be visually inspected to assure it is in good operating condition. This would include hoses, fittings and other mechanical fasteners. If any faulty parts are noted, replace or repair immediately. Safety is the best precaution in machine operation.

After all fluid levels have been verified, start the engine. Both propane tanks must be opened for optimum performance.

Check drive wheel operation. Speed of the drive wheel is controlled with the adjustable flow divider valve located above the right side of the burner control box. Clockwise rotation of the flow divider decreases speed of the drive wheel. A toggle switch located on the drive wheel steering arm controls forward/reverse direction. Speed of the power wheel can be increased to move the SuperHeater around the job site, and decreased for precise control when heating.

After assuring that the unit is in good operating condition the burners can now be lit.

To light the burners, first make sure both propane tanks are open and gas pressure is set at 4 psi. The adjustable gas regulator and pressure gauge is mounted on the right side of the machine. Then, light the hand torch. Use hand torch to light each of the four infrared panels. The LP control valves are located on the right side of the machine above each panel.

Put hand torch under panel and turn each valve "ON" one at a time, until all panels are lit. Turn off hand torch and stow on machine.

In operation the SuperHeater becomes very hot. Extreme caution must be observed to avoid burns. Read and obey all safety precaution warnings.

# STREETPRINTING PROCESS

To begin the heating and printing process, position the SuperHeater's drive wheel on the designated chalk line described earlier. Start the burners as outlined above and heat the desired area for approximately 3 minutes or until the surface temperature of 200-300°F (90 to 150 Celsius) is achieved. A hand held infrared temperature indicator should be used to verify the exact temperature.

After approximately 10 minutes of operation, the SuperHeater will reach optimum heat output and the required time to reach printing temperature will be reduced to 1 to 2 minutes. Once a timing pattern is established, each heat should be timed to determine when to move the unit. Pavement in the area to be printed should be soft to a depth of approximately 1-inch (25 millimeters) for optimum imprinting.

The propane gas pressure can be adjusted between 3 and 5 psi to accommodate varying environmental and pavement conditions. Each psi of adjustment will either increase or decrease the heat output and heating times by approximately 25 percent. Too high of gas pressure can cause the surface to overheat and still not have adequate heat penetration to effectively print.

Age and mix design of the pavement could greatly affect the amount of heat required to perform the imprinting operation. Older, more oxidized pavement will require longer heat times to achieve the desired printing temperature. Also, pavements designed with harder grades of asphalt cement will take longer to heat.

Caution should be exercised to not exceed a surface temperature of 300°F (150 Celsius). This will prevent overheating and damage to the asphalt pavement.

When the desired surface temperature is achieved, the SuperHeater should be moved forward 2 feet (50 centimeters), which is half the length of the heated area. Subsequent moves should also be at 2 foot (50 centimeters) timed intervals to achieve the correct pavement temperature. This method results in even heat distribution.

The template should then be laid in the heated area and the outside edges aligned with the indicator arrows on the frame of the SuperHeater. Aligning with the arrows will position the template in the heat pattern and also help to maintain straight and uniform patterns.

With the template in position, the vibratory plate compactor should be run over the template perpendicular to the SuperHeater until the template has been imprinted full depth. At least half the compactor should run off the edge of the template to ensure consistent print depth throughout the pattern. If pavement temperature is too cool to allow adequate printing depth, remove template and reheat the area to the appropriate temperature.

In operation, the templates can become very hot and precautions should be taken to avoid injury. It is recommended that personnel handling hot templates wear heavy protective gloves.

When the compaction process first begins, someone can hold the template in place by standing on it. After the initial imprint, approximately half of the template should overlap in the printed area and the other half will lay on the heated area to be imprinted. Overlapping the template in the printed area will help hold the template in place and also help keep the pattern straight.

This sequence of heating, timed moves and imprinting should continue until the desired work area is complete. Following this example will result in 300 to 400 square feet (27 to 36 square meters) of printing per hour. However, actual production will vary depending on environmental and pavement condition.

## **SHUTDOWN OF MACHINE**

When the heating process is complete, the SuperHeater should be properly shut down observing the following procedure:

- Turn off each ball valve.
- Move SuperHeater to desired location.
- Turn off engine.
- Close both propane tank valves.

To avoid damage to surrounding pavement or SuperHeater unit, the burners should never be left on except when heating a desired area and the machine should never be left unattended when the burners are ignited.

It is recommended a tilt bed trailer be used to transport the SuperHeater to and from the job site. Using a tilt bed trailer will help prevent damage to the burners and undercarriage of the machine.

For additional questions or more information, contact Crafc0 at 1-800-528-8242.

# INSTRUCTION FOR ORDERING PARTS

Parts may be ordered from your local Crafcro distributor or directly from Crafcro, Inc. if a distributor is not available in your area. When ordering parts, give the following information:

1. Part Number
2. Machine Model
3. Serial Number from Name Plate

**Write, telephone, or fax:**

CRAFCO, INC.  
235 SOUTH HIBBERT  
MESA, AZ 85210  
480-655-8333  
480-655-1712 (FAX)  
Toll Free: 1-800-528-8242

# MAINTENANCE INSTRUCTIONS

## **ENGINE:**

- Check oil every 8 hours of operation. Change after the first 5 hours of operation and change every 25 hours thereafter.
- See Engine Owners Manual for additional operating and maintenance instructions.

## **HYDRAULIC SYSTEM:**

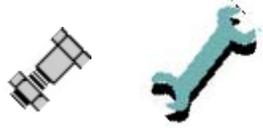
Check hydraulic fluid every 8 hours. Change hydraulic filter after first 10 hours of operating and every 250 hours thereafter. Change hydraulic fluid every 500 hours of operation.

# MAINTENANCE CHART

		HOURS						
LOCATION	PROCEDURE	5	8	25	50	100	250	500
Engine oil level change.	See Engine Instruction Manual. First change (5 hours).	*		*				
Check cables for panels.			*					
Other engine maintenance	See "Engine Operating and Maintenance Instructions."				*			
Battery	Check water level weekly.				*			
Hydraulic oil filter	First change (10 hours).							
	Subsequent changes (250 hours).						*	
Hydraulic oil	Check oil		*					
	Change oil							*
	For proper oil, see "Recommended Fluids & Lubricants".							

# SERVICE INSTRUCTIONS

1. Conduct a general inspection of your machine at least once a week. Replace all worn or damaged parts, make any necessary adjustments and tighten all loose nuts or screws.

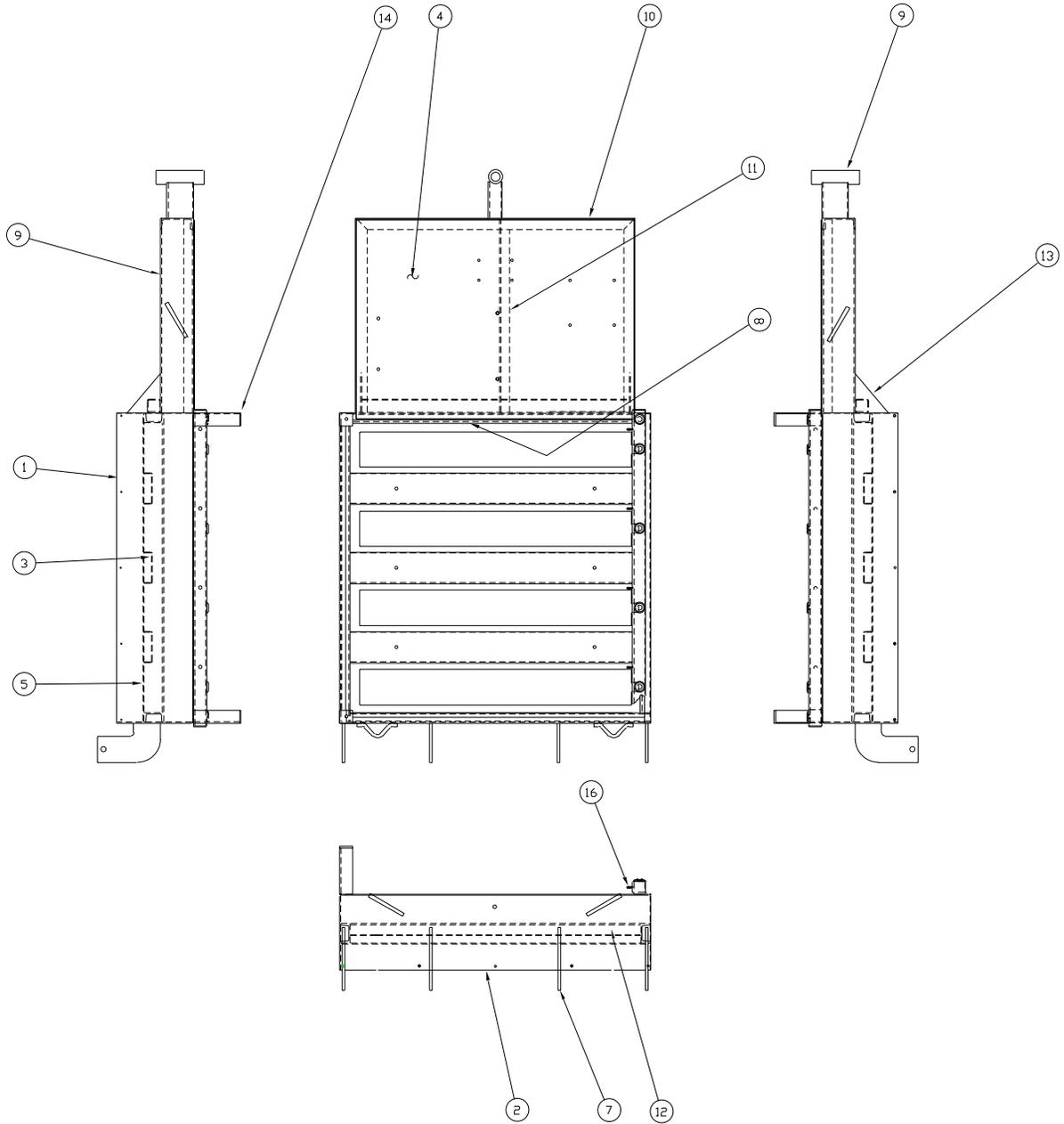


2. Keep regular replacement items in stock for emergency repairs, to avoid costly “down” time.
3. Watch for leaks. Tighten fitting or repair as necessary.
4. Clean machine externally periodically.
5. Follow “Recommended Maintenance Procedures” on Maintenance Chart.

## RECOMMENDED FLUIDS & LUBRICANTS

APPLICATION	RECOMMENDED	FULL POINT
Engine Oil	Refer to Kohler Owners Manual.	4 Pts.
LPG	Propane	30 Lbs.
Hydraulic Oil	Rondo oil - HD-68 Texaco	2.5 Gal.

# SUPERHEATER - PART NUMBER 44500



## SUPERHEATER - PART NUMBER 44500

ITEM	PART NUMBER	QTY.	DESCRIPTION
1	44541	1	CONTROL STAND ASSEMBLY
2	44550	1	CONTROL BOX
3	28716	4	5/16-18 X 1.0 BOLT
4	28525	4	5/16 -18 ESNA NUT
5	28671	4	5/16 FLAT WASHER
6	28701	4	1/4-20 X 3/4 BOLT
7	28645	4	1/4 LOCK WASHER
8	28500	4	1/4-20 HEX-NUT
9	42368	3	BAFFLE
10	44538	3	BAFFLE STRIP
11	28985	15	SELF TAP SCREWS
12	44510	2	ROLLER
13	44514	2	ROLLER PIN
14	29638	4	COTTER PIN
15	26113	1	1/2 THREDDDED EYEBOLT
16	28649	1	1/2 LOCK WASHER
17	28504	1	HEX NUT
18	44522	1	UPPER PROTECTIVE SCREEN ASSEMBLY
19	28717	4	5/16-18 X 1-1/4 BOLT
20	28671	8	5/16 FLAT WASHER
21	28525	4	5/16-18 ESNA NUT
22	44575	4	INFRARED HEATER/WITH IGNITOR
23	42964	2	LP BOTTLES
24	26032	2	KNOB
25	44560	1	POWER WHEEL ASSEMBLY

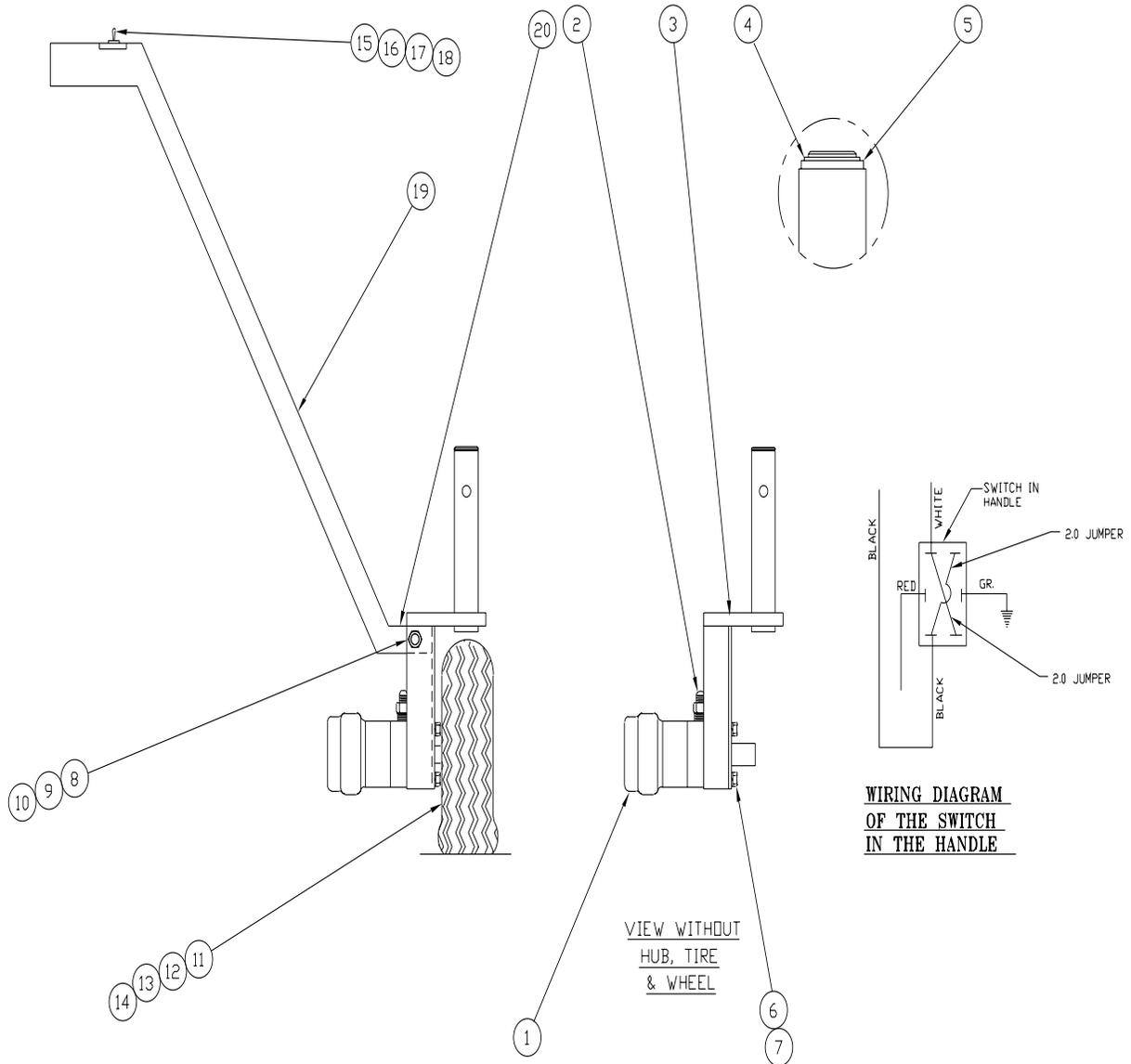
## SUPERHEATER - PART NUMBER 44500

ITEM	PART NUMBER	QTY.	DESCRIPTION
26	24002	1	BATTERY BOX
27	28702	2	1/4-20 X 1.0 BOLT
28	28524	2	1/4-20 ESNA NUT
29	28670	2	1/4" FLAT WASHER
30	44555	1	RESV/MOTOR ASSEMBLY
31	28526	4	3/8-16 ESNA NUT
32	28672	4	3/8 FLAT WASHER
33	44501	1	BOTTOM SCREEN ASSEMBLY
34	28985	9	SELF TAP SCREW
35	44520	1	LP BRACKET ASSEMBLY
36	28716	4	5/16-18 X 1.0 BOLT
37	28671	4	5/16 FLAT WASHER
38	28525	4	5/16-18 ESNA NUT
39	44584	1	ENGINE HEAT SHEILD
40	28985	10	SELF TAP SCREW
41	44540	2	RETAINER STRIP
42	28740	6	3/8 X 6.0 BOLT
43	28628	6	3/8 LOCKNUT
44	44532	1	SCREEN SUPPORT
45	28702	5	1/4 X 1.0 BOLT
46	28645	5	1/4" LOCK WASHER
47	28670	5	1/4" FLAT WASHER
48	44573	1	RH SHIELD
49	28717	2	5/16-18 X 1-1/4 BOLT
50	28671	2	5/16 FLAT WASHER

**SUPERHEATER - PART NUMBER 44500**

<b>ITEM</b>	<b>PART NUMBER</b>	<b>QTY.</b>	<b>DESCRIPTION</b>
51	28525	2	5/16-18 ESNA NUT
52	44569	2	ROLLER SCRAPER
53	44579	2	5/16 ALL THREAD SUPPORT
54	28671	4	5/16 FLAT WASHER
55	28646	4	5/16 LOCK WASHER
56	28619	4	5/16-18 WING NUT
57	44505	1	FRAME ASSEMBLY
58	44572	1	LH SHIELD
59	28717	2	5/16-18 X 1-1/4 BOLT
60	28671	2	5/16 FLAT WASHER
61	28525	2	5/16-18 ESNA NUT

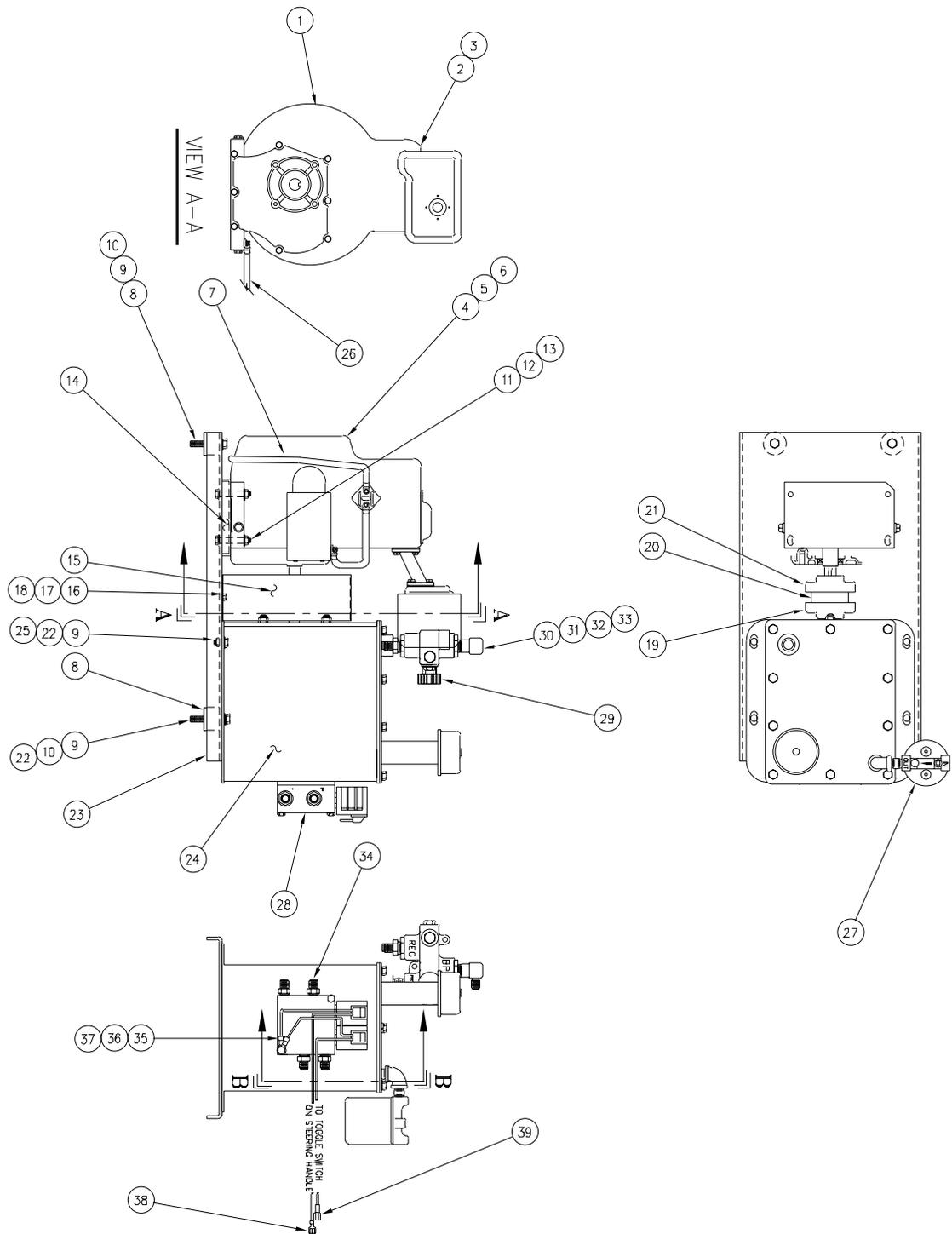
# POWER WHEEL ASSEMBLY - PART NUMBER 44560



**POWER WHEEL ASSEMBLY - PART NUMBER 44560**

<b>ITEM</b>	<b>PART NUMBER</b>	<b>QTY.</b>	<b>DESCRIPTION</b>
1	41102	1	HYDRAULIC MOTOR
2	22029	2	STRAIGHT O-RING
3	44561	1	BRACKET
4	42479	1	WASHER
5	42459	1	SNAP RING
6	28730	4	3/8-16 X 3/4 BOLT
7	28647	4	3/8 LOCKWASHER
8	28765	1	1/2-13 X 2-1/2 BOLT
9	28674	1	1/2 SAE WASHER
10	28528	1	1/2-13 ESNA LOCK-NUT
11	28646	1	5/16 LOCKWASHER
12	42461	1	HUB, TIRE & WHEEL
13	42469	1	WASHER
14	28718	1	5/16-18 X 1-1/2 LG.
15	42470	1	SWITCH HOLDER
16	32513	1	TOGGLE SWITCH
17	28986	2	#10 X 3/8 SELF TAP
18	50720	1	SWITCH-RUBBER BOOT
19	42464	1	STEERING ARM
20	26075	1	RUBBER GROMMET GR 34-14

# 6 HP & RESERVOIR TANK ASSEMBLY - PART NUMBER 44555



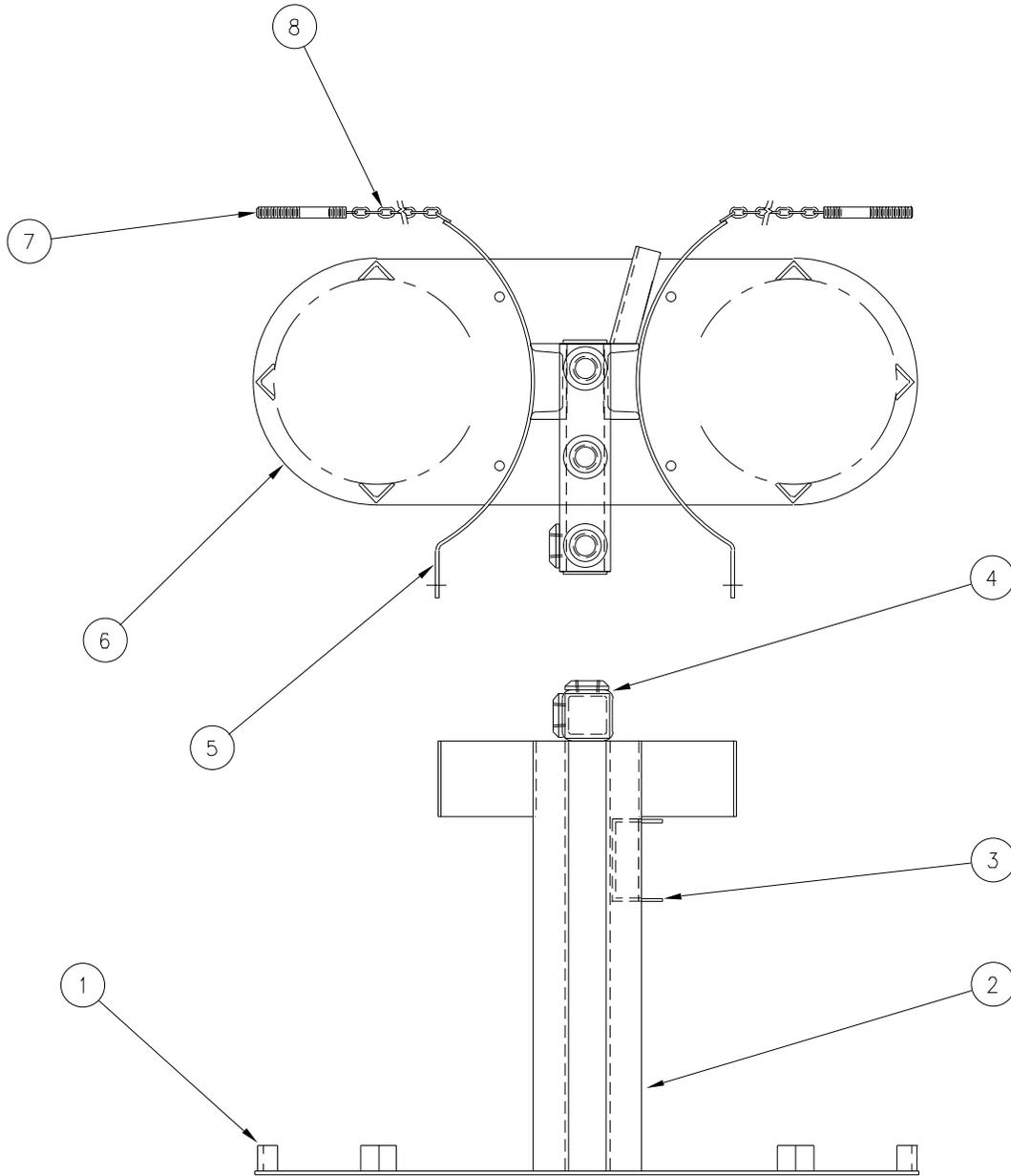
## 6 HP & RESERVOIR TANK ASSEMBLY - PART NUMBER 44555

ITEM	PART NUMBER	QTY.	DESCRIPTION
1	44566	1	6HP ENGINE
2	29871	1	LP 90o ELBOW
3	25141	1	LP HOSE
4	44585	1	GUARD
5	29020	4	BOLT
6	28649	4	1/4 LOCK WASHER
7	24106	1	BATTERY POS. CABLE
8	41636	2	ISOMOUNT
9	28731	2	3/8-16 X 1.0 BOLT
10	28647	2	3/8 LOCKWASHER
11	28721	4	5/16-18 X 2-1/2 BOLT
12	28671	8	5/16 FLAT WASHER
13	28525	4	5/16 ESNA NUT
14	44580	1	ENGINE SPACER
15	42381	1	CHAIN GUARD
16	28702	2	1/4 X 1 BOLT
17	28645	2	1/4 LOCK WASHER
18	28606	2	THREDEDDED INSERT
19	44578	1	SPIDER
20	44577	1	3/4 COUPLING
21	44576	1	5/8 COUPLING
22	28641	2	3/8 HARDEN WASHER
23	42451	1	MOUNTING PLATE
24	42384	1	HYDRAULIC PUMP & TANK ASSEMBLY
25	28526	2	3/8-16 ESNA LOCK-NUT

## 6 HP & RESERVOIR TANK ASSEMBLY - PART NUMBER 44555

ITEM	PART NUMBER	QTY.	DESCRIPTION
26	37038	1	NEGATIVE BATTERY CABLE
27	42383	1	FILTER ASSEMBLY
28	42397	1	HYDRAULIC CONTROL VALVE
29	41573	1	FLOW DIVIDER VALVE
30	28004	1	3/4 CLOSE NIPPLE
31	28348	2	3/4 X 1/2 BUSHING
32	29841	1	STRAIGHT ADAPTOR
33	29876	1	ELBOW ADAPTOR
34	40311	4	STR. O-RING ADAPTER
35	24215	2	5/16 EYELET
36	28699	2	1/4-20 X 2.25 BOLT
37	28645	2	1/4 LOCK WASHER
38	24229	1	FEMALE CONNECTOR
39	24228	1	MALE CONNECTOR

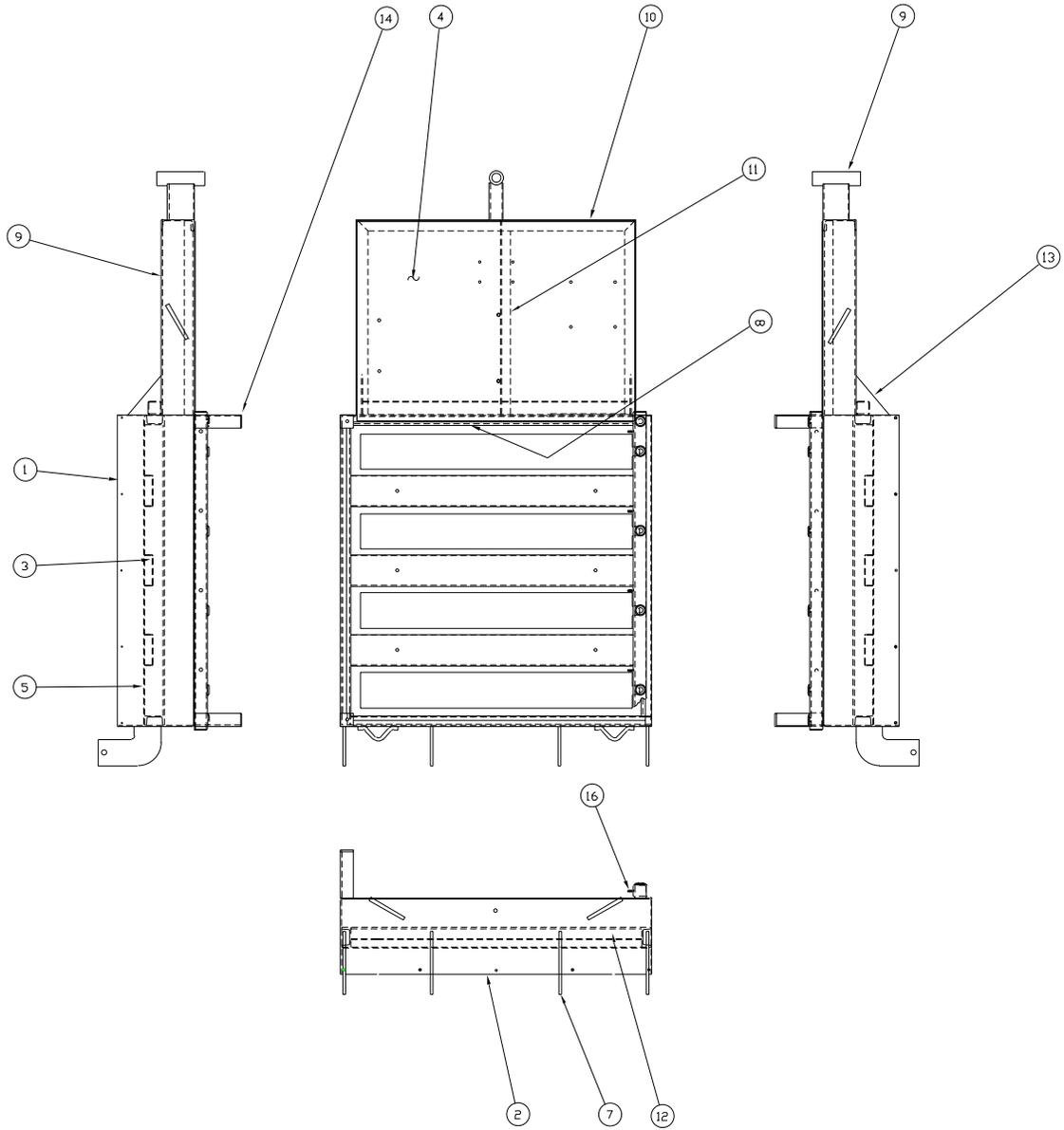
LP BRACKET ASSEMBLY - PART NUMBER 44520



**LP BRACKET ASSEMBLY - PART NUMBER 44520**

<b>ITEM</b>	<b>PART NUMBER</b>	<b>QTY.</b>	<b>DESCRIPTION</b>
1	42983	6	STOP HOT BOX
2	42981	2	CHANNEL HOT BOX
3	44545	1	BRACKET REQ MNTG. SUPERHEATER
4	44530	1	SHRT MANIFOLD TUBE ASSEMBLY
5	25150	2	RESTRAINT BAND
6	42980	1	BASE - L.P.G. TANKS
7	25152	2	RESTRAINT STUD 3.5" LONG
8	42985	2	RESTRAINT CHAIN

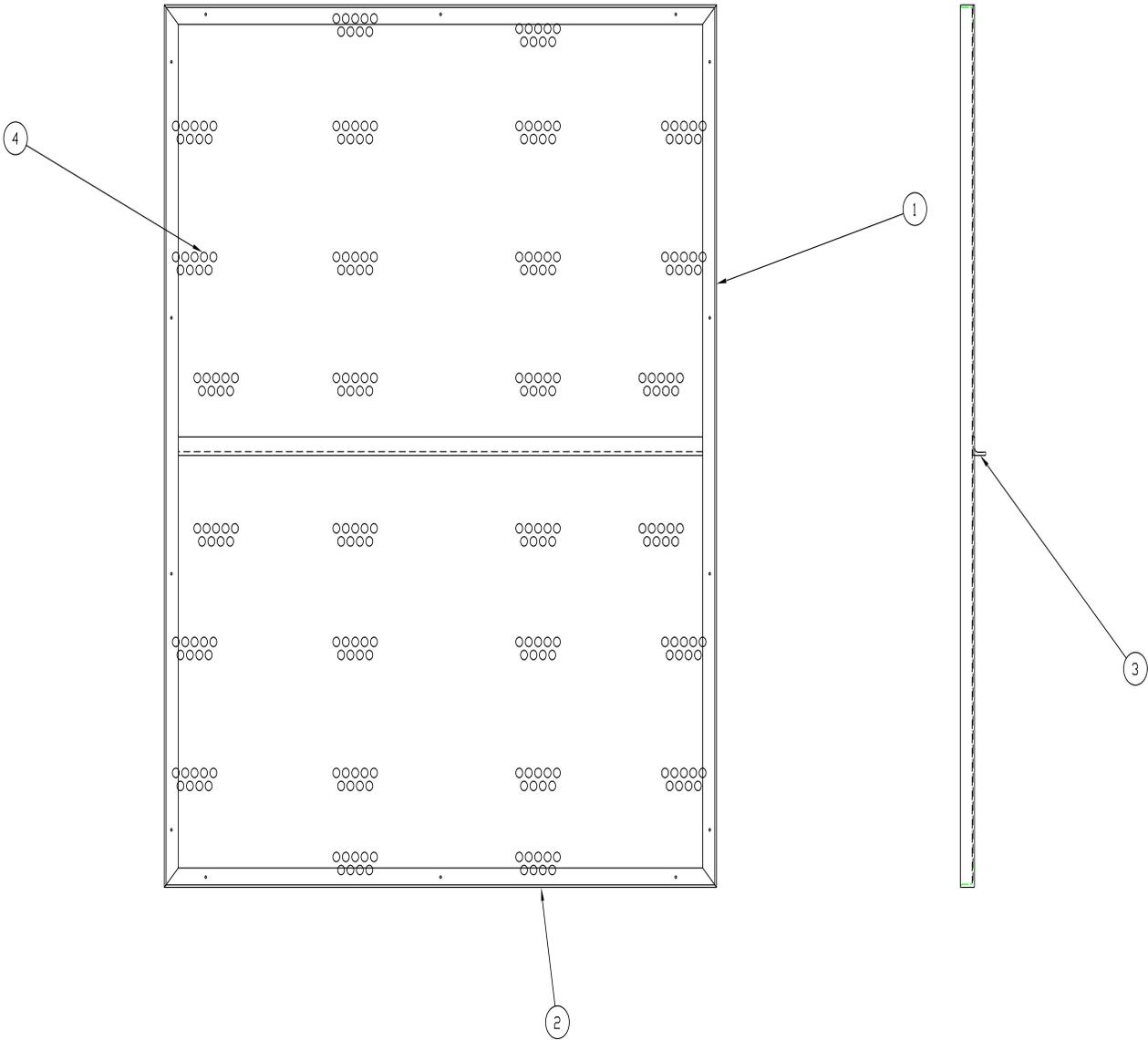
# FRAME ASSEMBLY - PART NUMBER 44505



**FRAME ASSEMBLY - PART NUMBER 44505**

<b>ITEM</b>	<b>PART NUMBER</b>	<b>QTY.</b>	<b>DESCRIPTION</b>
1	44507	2	SIDE SHEET
2	44506	2	FRONT & REAR SHEET
3	44504	3	CHANNEL
4	44527	1	FRONT TOP SHEET
5	44539	4	BURNER SUPPORT
6	44517	1	PIVOT TUBE ASSEMBLY
7	44508	4	ROLLER MOUNTING SPRIP
8	44509	4	SIDE CHANNEL
9	44524	2	VERT SIDE SURT CHANNEL
10	44525	1	FRT VERT SURT CHANNEL
11	44526	1	MIDDLE SUPT ANGLE
12	20029	4	SAFETY CHAIN BAIL
13	24198	2	GUSSET
14	44533	2	SUPPORT LEG ASSEMBLY
15	42443	1	LONG MANIFOLD
16	27901	4	1/4-20 X 3/4 WELD STUD

**BOTTOM PROTECTIVE SCREEN ASSEMBLY - PART NUMBER 44501**



**BOTTOM PROTECTIVE SCREEN ASSEMBLY - PART NUMBER 44501**

<b>ITEM</b>	<b>PART NUMBER</b>	<b>QTY.</b>	<b>DESCRIPTION</b>
1	44502	2	BOT PROT SCRN ANG-LG
2	44503	2	BOT PRO SCRN ANG-SHORT
3	44519	1	BOT MID PROTECTIVE SCRN
4	44521	1	BOT PROTECTIVE SCREEN

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Pavement Maintenance  
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