



TECHNICAL PUBLICATIONS

# Parts Manual

## HEATWAVE







# HEATWAVE

For replacement copy order P/N 960-1134  
Updated: 11/22/2019



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# INTRODUCTION

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## HOW TO USE THIS MANUAL

This manual contains illustrations and parts list of components and assemblies which make up various HammerHead® models. Each page consists of the name of the assembly or component, a figure number, reference numbers, part numbers, part names, and the quantities of the parts used.

Assembly or component names help identify the illustration and parts for each figure. This name also helps locate the general area of the machine where the assembly or component can be located.

Figure numbers are used to identify each assembly or component and to group these assemblies or components into major categories.

Reference numbers shown in a column refers to the numbered parts in the illustration. This ties the part in the illustration to the part number and description in the parts list. Part numbers are used to identify individual parts or part assemblies.

Part descriptions provide the name of the part, plus additional information such as dimensional specifications and what parts are grouped together to form part assemblies, which helps you identify the part(s).

Quantities listed for each figure are only for that assembly or component and not the total used per machine unless stated so in the "Remarks" column.

This parts manual is not intended to be a complete guide for machine service or repairs. Contact your HammerHead dealer for any of your service or technical requirements.

## ORDERING PARTS

Parts for repair or replacement are available through the worldwide network of authorized HammerHead dealers. The use of aftermarket replacement parts in your HammerHead equipment reduces performance and overall equipment life and may also void or interfere with the factory warranty.

Use only genuine HammerHead parts from your authorized dealer for repair or replacement. Always give the serial number and model number of the machine for which parts are being ordered. When ordering parts for component(s), which are not manufactured by HammerHead Trenchless Equipment, also give the serial number of that component(s). Order all parts by part number, part name, and quantity needed. Do not order parts by illustration reference numbers.

## UPDATING AND REORDERING MANUALS

The parts lists, illustrations, and specifications in this manual are based on the latest information available at the time of publication. Your machine may have product improvements and options not yet contained in this manual. Please check the web site [www.hammerheadtrenchless.com](http://www.hammerheadtrenchless.com) for any updates.

Earth Tool Company LLC reserves the right to make changes at any time without notice or obligation to you. Your dealer will receive notice of these changes and can assist you with accurate parts identification when ordering.

A copy of this manual is supplied with each machine. Additional copies are available through your dealer. When ordering additional manuals, use the reorder number listed on the front cover and the quantity needed. Electronic copies of this manual are also available on the web at [www.hammerheadtrenchless.com](http://www.hammerheadtrenchless.com).

## OPERATIONS INSTRUCTIONS

Instructions on recommended equipment use and maintenance can be found in the Operator's Manual shipped with your equipment. Operator's Manuals are also available on the web at [www.hammerheadtrenchless.com](http://www.hammerheadtrenchless.com).

Thank you for buying and using Genuine HammerHead® Trenchless Equipment, parts and accessories.



A CHARLES MACHINE WORKS COMPANY

# WARRANTY

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## Limited Warranty Policy

Earth Tool Company, LLC, dba HammerHead Trenchless ("HammerHead") warrants each new industrial product of its own manufacture to be free from defects in material and workmanship, under normal use and service for one full year after delivery to the owner. During the warranty period, HammerHead shall furnish parts without charge for any HammerHead product that fails because of defects in material and workmanship. This warranty and any possible liability of HammerHead Trenchless here under is in lieu of all other warranties, express, implied, or statutory, including, but not limited to any warranties of merchantability or fitness for a particular purpose.

The parties agree that the Buyer's SOLE AND EXCLUSIVE REMEDY against HammerHead, whether in contract or arising out of warranties, representations, or defects shall be for the replacement or repair of defective parts as provided herein. In no event shall HammerHead's liability exceed the purchase price of the product. The Buyer agrees that no other remedy (including, but not limited to, incidental or consequential loss) shall be available to him. If, during the warranty period, any product becomes defective by reason of material or workmanship and Buyer immediately notifies HammerHead of such defect, HammerHead shall, at its option, supply a replacement part or request the return of the product to its plant in Lake Mills, Wisconsin. No part shall be returned without prior written authorization from HammerHead, and this warranty does not obligate HammerHead to bear any transportation charges in connection with the repair or replacement of defective parts. HammerHead Trenchless will not accept any charges for labor and/or parts incidental to the removal or remounting of parts repaired or replaced under this Warranty.

This Warranty shall not apply to any part or product which shall have been installed or operated in a manner not recommended by HammerHead nor to any part or product which shall have been neglected, or used in any way which, in HammerHead's opinion, adversely affects its performance; nor negligence of proper maintenance or other negligence, fire or other accident; nor with respect to wear items; nor if the unit has been repaired or altered outside of an HammerHead authorized dealership in a manner of which, in the sole judgment of HammerHead affects its performance, stability or reliability; nor with respect to batteries which are covered under a separate adjustment warranty; nor to any product in which parts not manufactured or approved by HammerHead have been used; nor to normal maintenance services or replacement of normal service items. Equipment and accessories not of our manufacture are warranted only to the extent of the original Manufacturer's Warranty and subject to their allowance to us, if found defective by them. HammerHead reserves the right to modify, alter, and improve any product or parts without incurring any obligation to replace any product or parts previously sold with such modified, altered, or improved product or part. No person is authorized to give any other Warranty, or to assume any additional obligation on HammerHead's behalf unless made in writing, and signed by an officer of HammerHead.

**HAMMERHEAD TRENCHLESS**

**LAKE MILLS, WISCONSIN**

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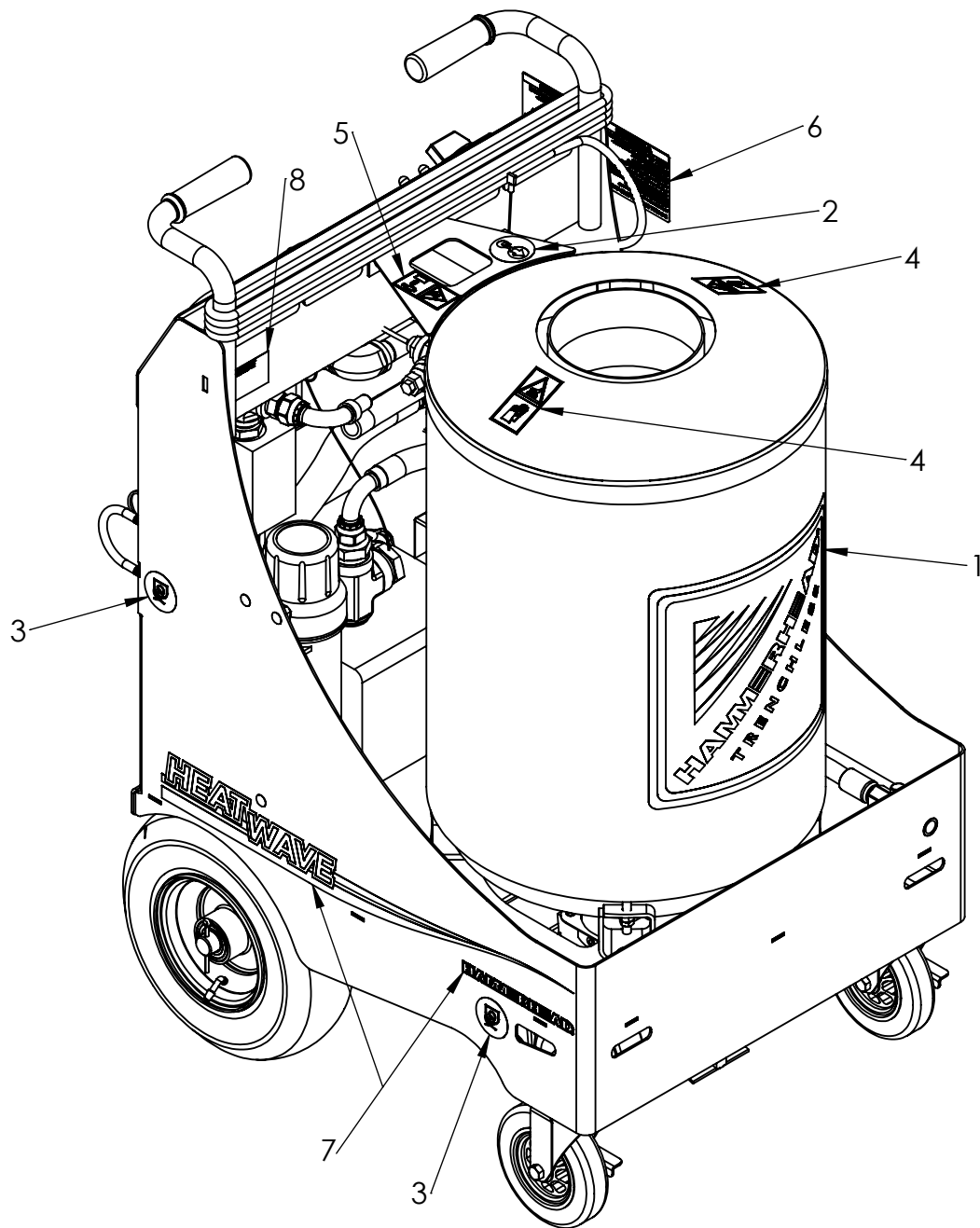
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# DECALS

Decals  
HEATWAVE



## Decals

### HEATWAVE

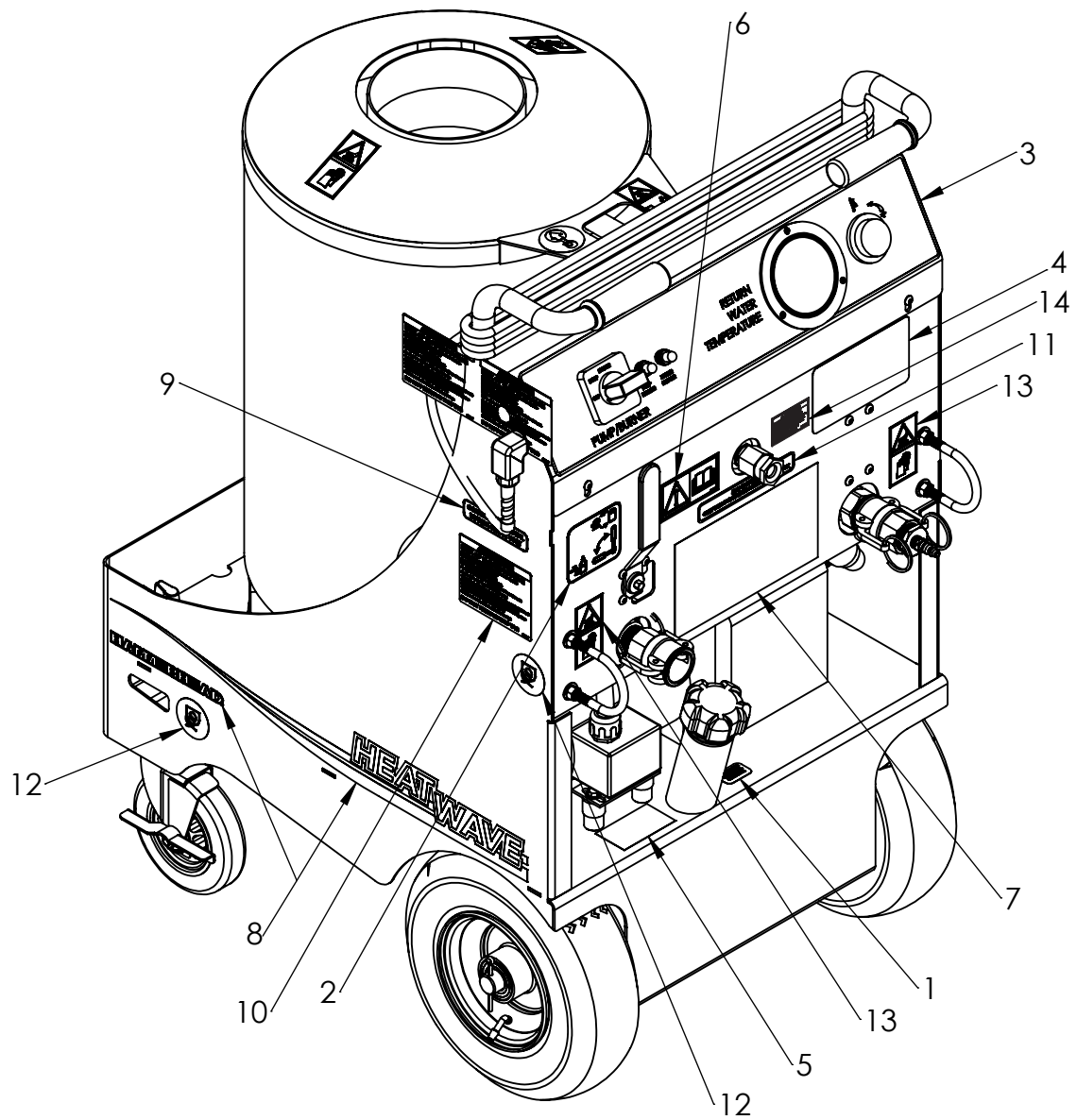
ITEM NO.	Part No	DESCRIPTION	QTY.	Remarks
1	912-4976	DECAL, HHMOUNTAIN SQ, 12X12	1	
2	909-8194	DECAL, LIFT POINT(SMALL)	1	
3	909-8195	DECAL, TIE DOWN (SMALL)	2	
4	923-2235	DECAL, HOT (INT)	2	
5	923-2234	DECAL, FALLING LOAD (INT)	1	
6	922-2165	DECAL, CORD TAG	1	
7	922-2172	DECAL, HEAT WAVE RIGHT	1	
8	922-2195	DECAL, SERIAL NO TAG HEAT WAVE	1	

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Footnotes:

Notes:

Decals  
HEATWAVE



## Decals

### HEATWAVE

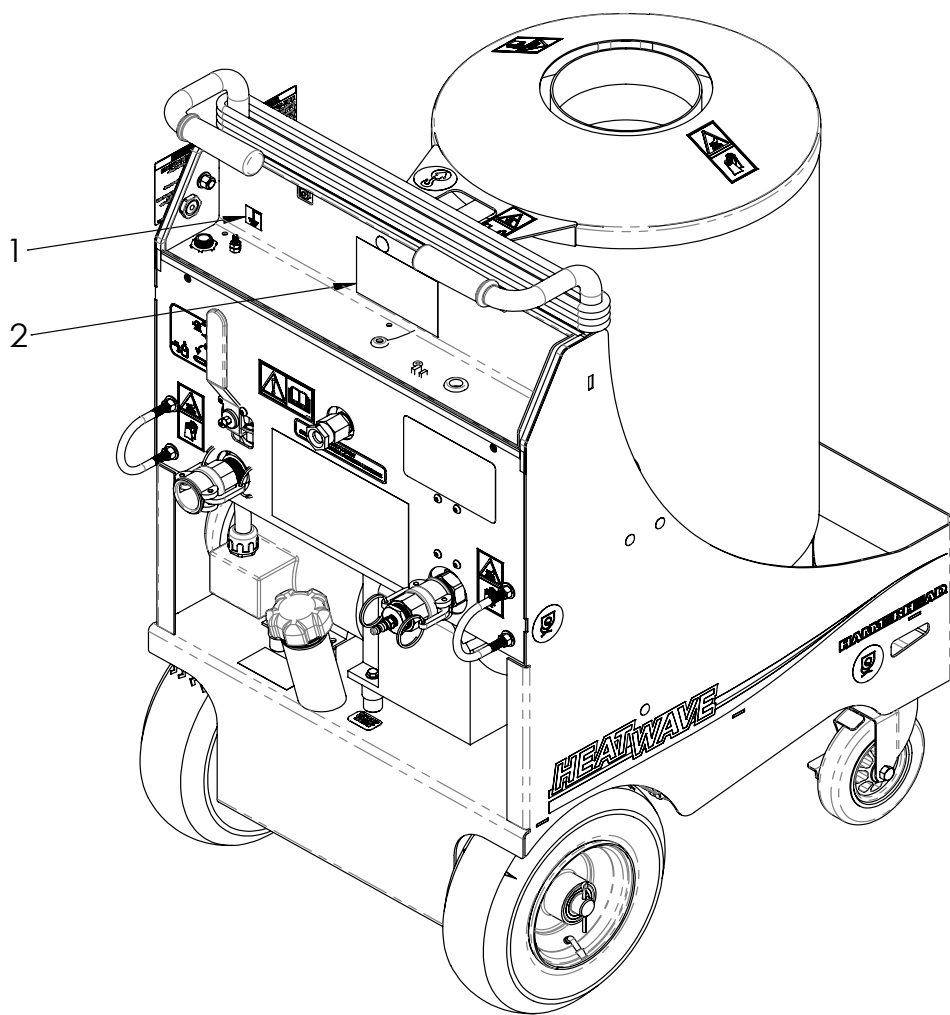
Bom ID	Part No	Description	Qty	Remarks
1	913-0197	DECAL, DIESEL FUEL	1	
2	922-2163	DECAL, FILL-RECIRCULATION	1	
3	922-2130	PANEL DECAL, HEAT WAVE	1	
4	922-2131	DECAL, HEAT WAVE SPECS	1	
5	923-2236	DECAL, FUELING WARNING	1	
6	700-143	WARNING READ MANUAL ISO	1	
7	922-2168	DECAL, HEAT WAVE SAFETY	1	
8	922-2173	DECAL, HEAT WAVE LEFT	1	
9	922-2181	DECAL, INDIVIDUAL CIRCUIT	1	
10	922-2182	DECAL, ELECTROCUTION	1	
11	922-2184	DECAL, INLET INFORMATION	1	
12	909-8195	DECAL, TIE DOWN (SMALL)	2	
13	923-2235	DECAL, HOT (INT)	2	
14	270-7950	CALIFORNIA PROP 65 WARNING - DIESEL	1	

Not Shown:

Footnotes:

Notes:

# Decals HEATWAVE



## Decals

### HEATWAVE

Bom ID	Part No	Description	Qty	Remarks
1	922-2152	DECAL, GROUND	1	
2	922-2183	DECAL, HEAT WAVE SCHEMATIC	1	

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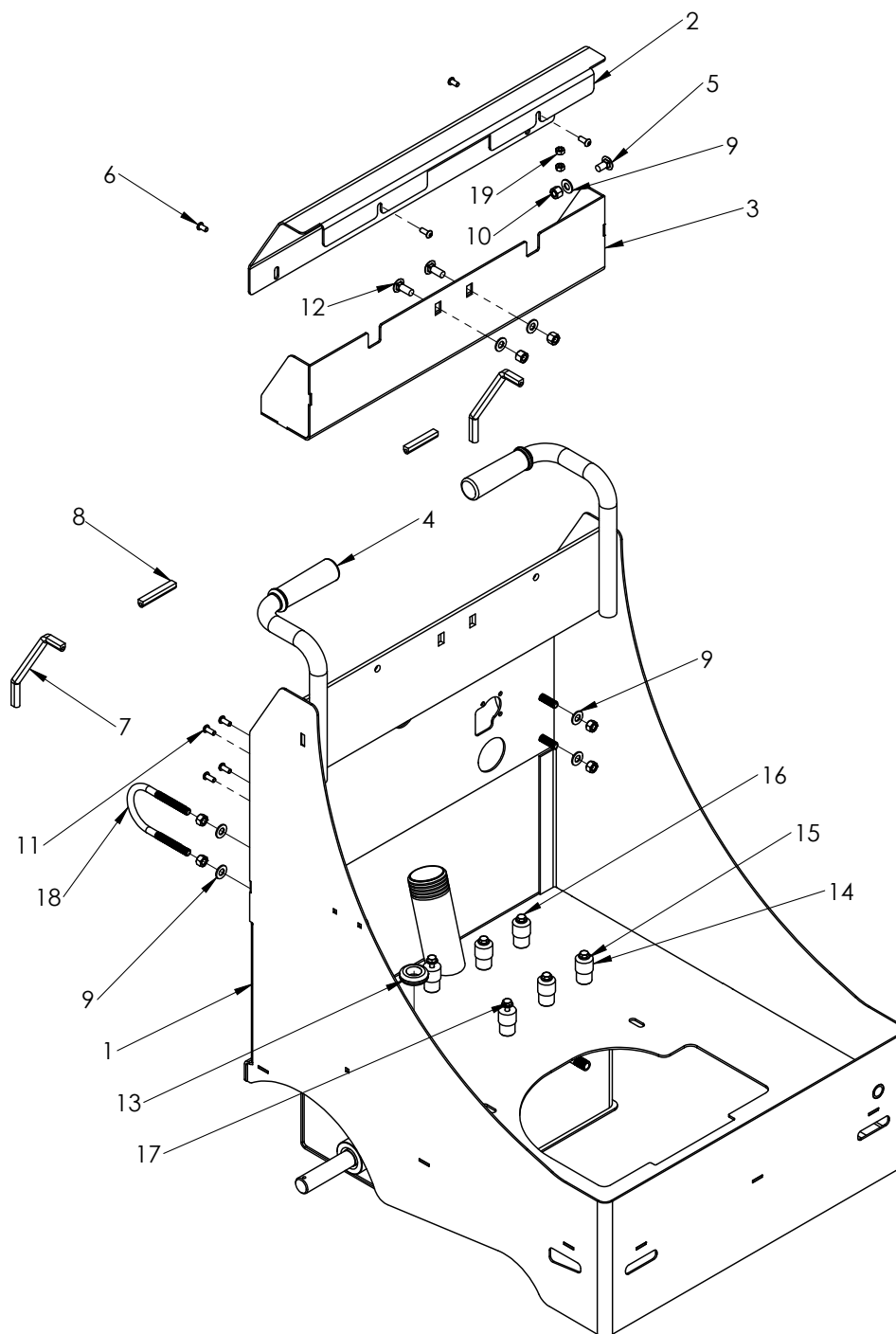
## Notes



# **FRAME COMPONENTS**

# Frame Components

## HEATWAVE



## Frame Components

### HEATWAVE

Bom ID	Part No	Description	Qty	Remarks
1	922-2080	FRAME, HEAT WAVE	1	
2	922-2104	CONTROL PANEL, HEAT WAVE	1	
3	922-2143	ENCLOSURE, HEAT WAVE	1	
4	922-2171	HANDLE GRIP, 4.5"	2	
5	06CB12	BOLT, 3/8-16 x .75 CARRIAGE	1	
6	04BH08	SCREW, 1/4-20x0.5 BHSC	2	
7	922-2203	DOOR SEAL, 8"	2	
8	922-2202	DOOR SEAL, 2"	2	
9	06FW-SAE	WASHER, 3/8"	11	
10	06TLN	NUT, 3/8-16 TOP LOCK	3	
11	04BH10	SCREW, 1/4-20x0.625 BHSC	6	
12	06CB16	BOLT, 3/8-16 x 1 CARRIAGE	2	
13	922-2151	GROMMET, 1 1/8"	1	
14	922-2051	ISOLATOR, PUMP MOUNT	6	
15	04FW-SAE	WASHER, 1/4"	6	
16	04HH08	SCREW, 1/4-20 x .50 HHC - GR8	4	
17	04HH12	SCREW, 1/4-20 x .75 HHC - GR8	2	
18	933-1013	U-BOLT, 3/8-16X2.44	2	
19	04HN	NUT, 1/4-20 HEX	2	

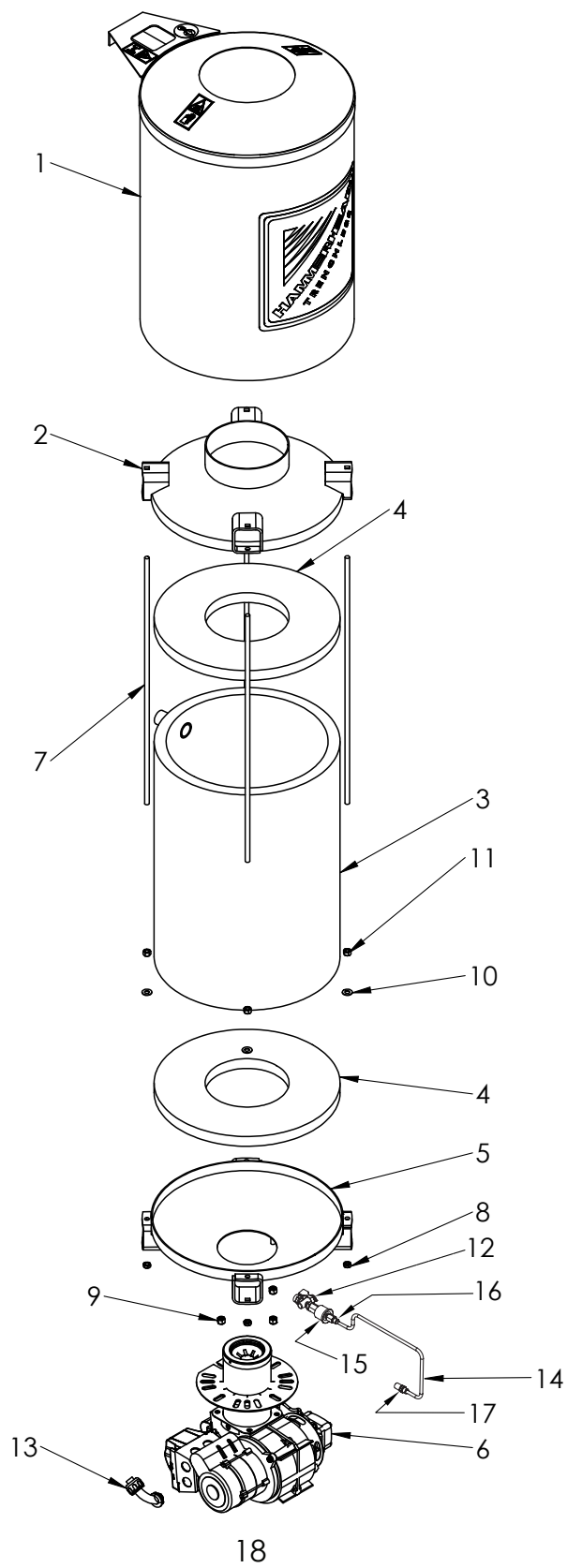
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# Burner Unit

## HEATWAVE



## Burner Unit

### HEATWAVE

Bom ID	Part No	Description	Qty	Remarks
1	922-2096	HEAT SHROUD, HEAT WAVE	1	
2	922-2093	WELDMENT, COIL TOP	1	
3	922-2019	COIL AND TANK	1	
4	922-2043	COIL INSULATION	2	
5	922-2095	WELDMENT, COIL BOTTOM	1	
6	922-2017	BURNER W/ GASKET	1	
7	922-2113	THREADED ROD, 25.125"	4	
8	06HJN	NUT, 3/8-16 HEX JAM	4	
9	907-4427	NUT, 3/8-16 NYLOCK	3	
10	06FW-SAE	WASHER, 3/8"	7	
11	06HN	NUT, 3/8-16 HEX	4	
12	922-2204	FUEL VALVE, 1/4" UL	1	
13	922-2175	CONDUIT FITTING, 90 DEG ELBOW	1	
14	922-2209	TUBE, FUEL- HEATWAVE	1	
15	922-2207	FUEL FILTER, HEAT WAVE	1	
16	926-3502	ADAPTER, 4MJ X 2FP	1	
17	926-3300	ADAPTER, 4MJ x 4MP	1	

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Footnotes:

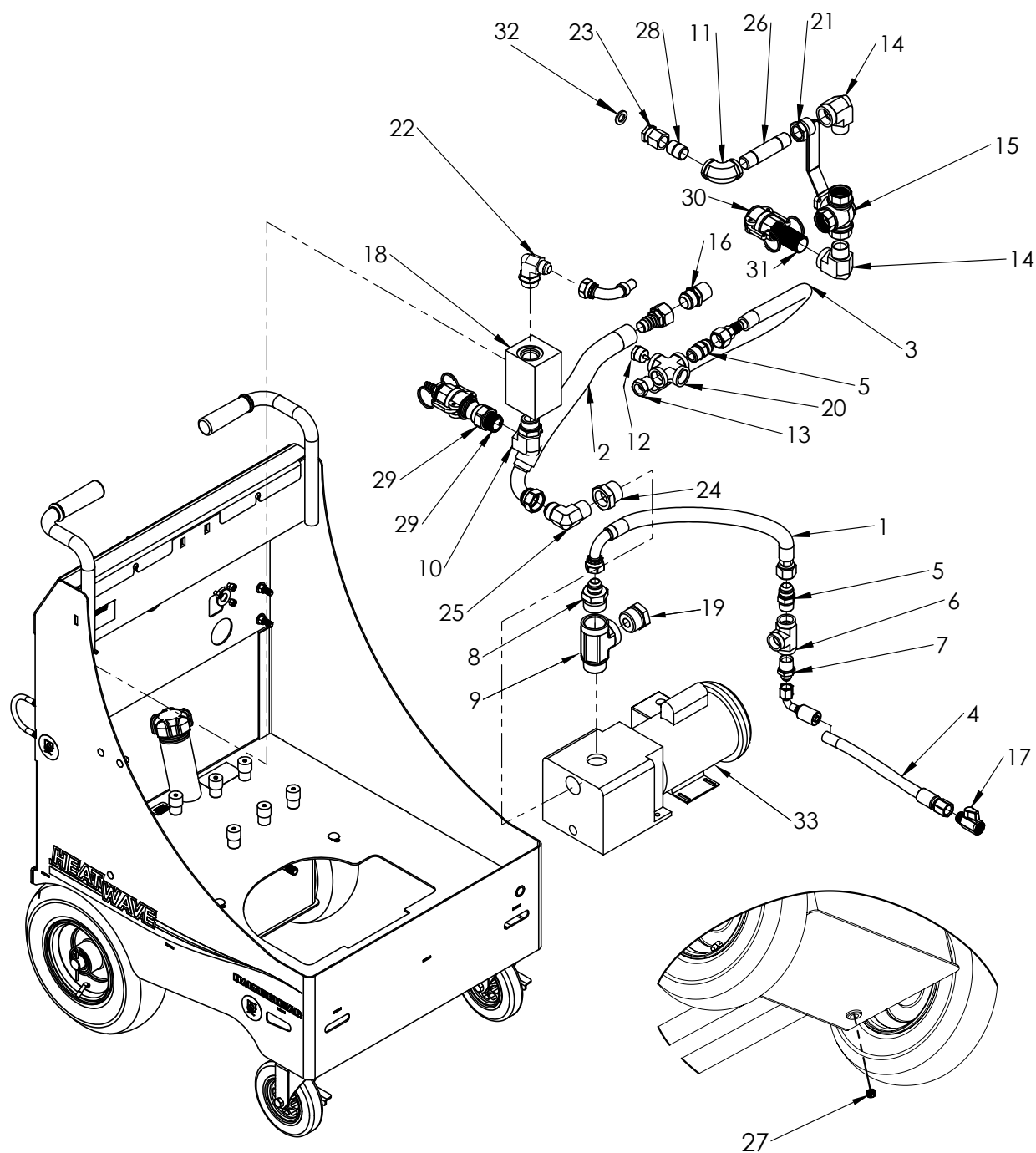
Notes:

## Notes

# **HOSES & FITTINGS**

# Hoses & Fittings

## HEATWAVE





## Hoses & Fittings

### HEATWAVE

Bom ID	Part No	Description	Qty	Remarks
1	922-2105	HOSE, PUMP TO COIL	1	
2	922-2106	HOSE, VALVE TO PUMP	1	
3	922-2107	HOSE, COIL TO MANIFOLD	1	
4	922-2108	HOSE, COIL DRAIN	1	
5	913-0062	ADAPTER, -12MJ-12MP	2	
6	926-9320	TEE, 12FP X 12FP X 12FP	1	
7	914-0102	ADAPTER, 8MJ-12MP	1	
8	926-3540	ADAPTER, 12MJ X 20MP	1	
9	926-9341	TEE, 20FP X 20FP X 20MP RUN	1	
10	926-9330	ELBOW, 16MB X 16FP 90°	1	
11	926-9350	ELBOW, 12 FP X 12FP 90°	1	
12	922-2193	TEMP SENSOR ADAPTER	1	
13	926-9384	ADAPTER, 12MP X 08FP	1	
14	926-9370	ELBOW, 16MP X 16FP 90°	2	
15	922-2111	VALVE, BALL 3-WAY 1" NPT"	1	
16	926-3541	ADAPTER, 16MJ X 16MP	1	
17	922-2123	VALVE, BALL 1/2" MINI"	2	
18	922-2122	MANIFOLD, HEAT WAVE	1	
19	926-9381	ADAPTER, 20MP X 08FP	1	
20	922-2194	4-WAY CROSS, 3/4 FNPT	1	
21	926-9383	ADAPTER, 16MP X 12FP	1	
22	926-5117	ELBOW, 12MJ X 16MB 90°	1	
23	922-2039	ADAPTER, 3/4" GHF X 3/4" FP	1	
24	926-9380	ADAPTER, 20MP X 16FP	1	
25	926-9360	ELBOW, 16MP X 16MJ 90°	1	
26	922-2115	NIPPLE, 3/4" X 4.5"	1	
27	922-2144	PLUG, 1/4" NPT	1	
28	922-2208	PIPE NIPPLE, 3/4" CLOSED GALVANIZED	1	
29	922-1157	PT MALE X MALE 1" MNPT"	1	
30	922-1154	PT FEMALE, 1" NPT"	1	
31	ET1305	PIPE NIPPLE 1.0" CLOSED	1	
32	922-2200	HOSE WASHER, 3/4"	1	
33	922-2109	PUMP, HEAT WAVE	1	

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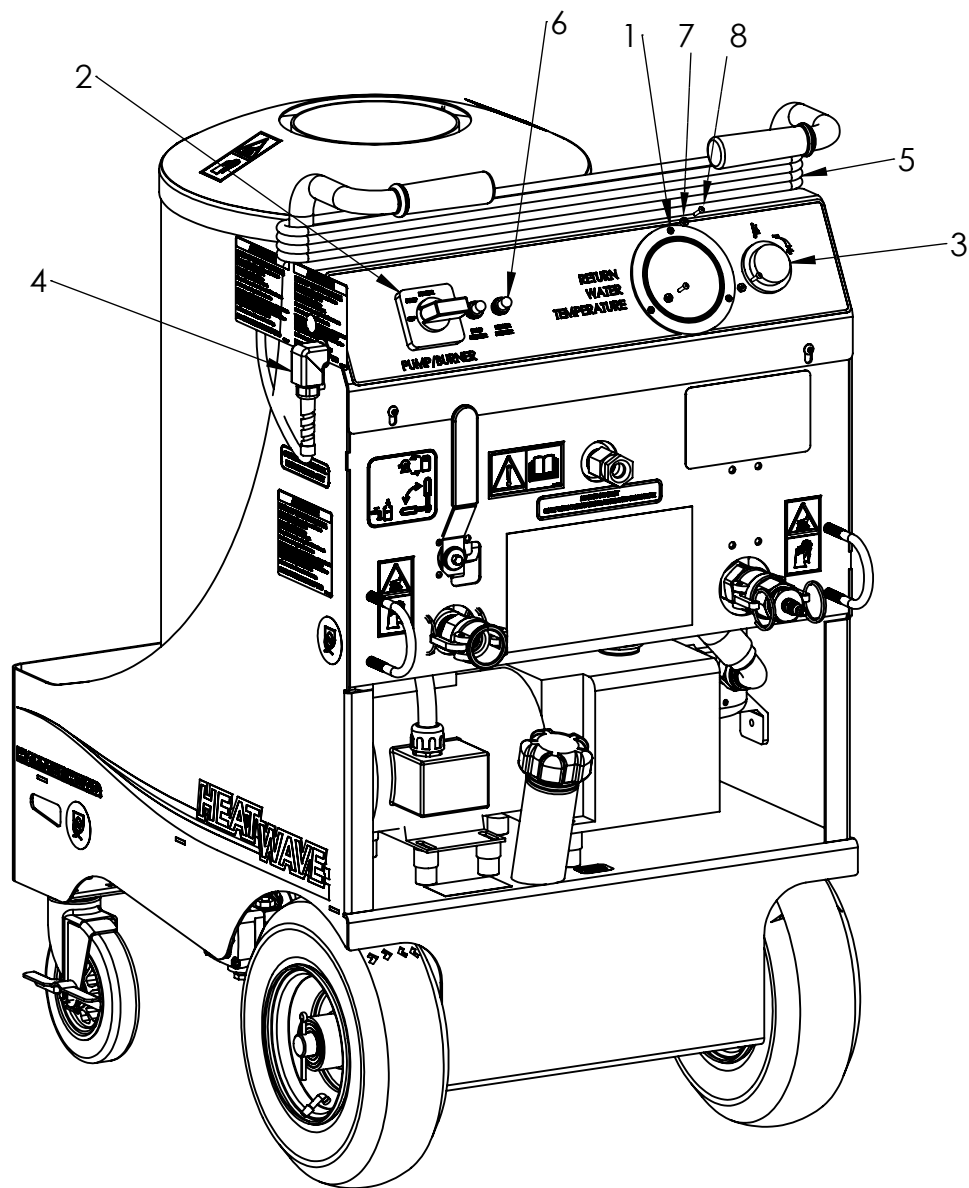
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## Notes

# **CONTROL COMPONENTS**

# Control Panel HEATWAVE



## Control Panel

### HEATWAVE

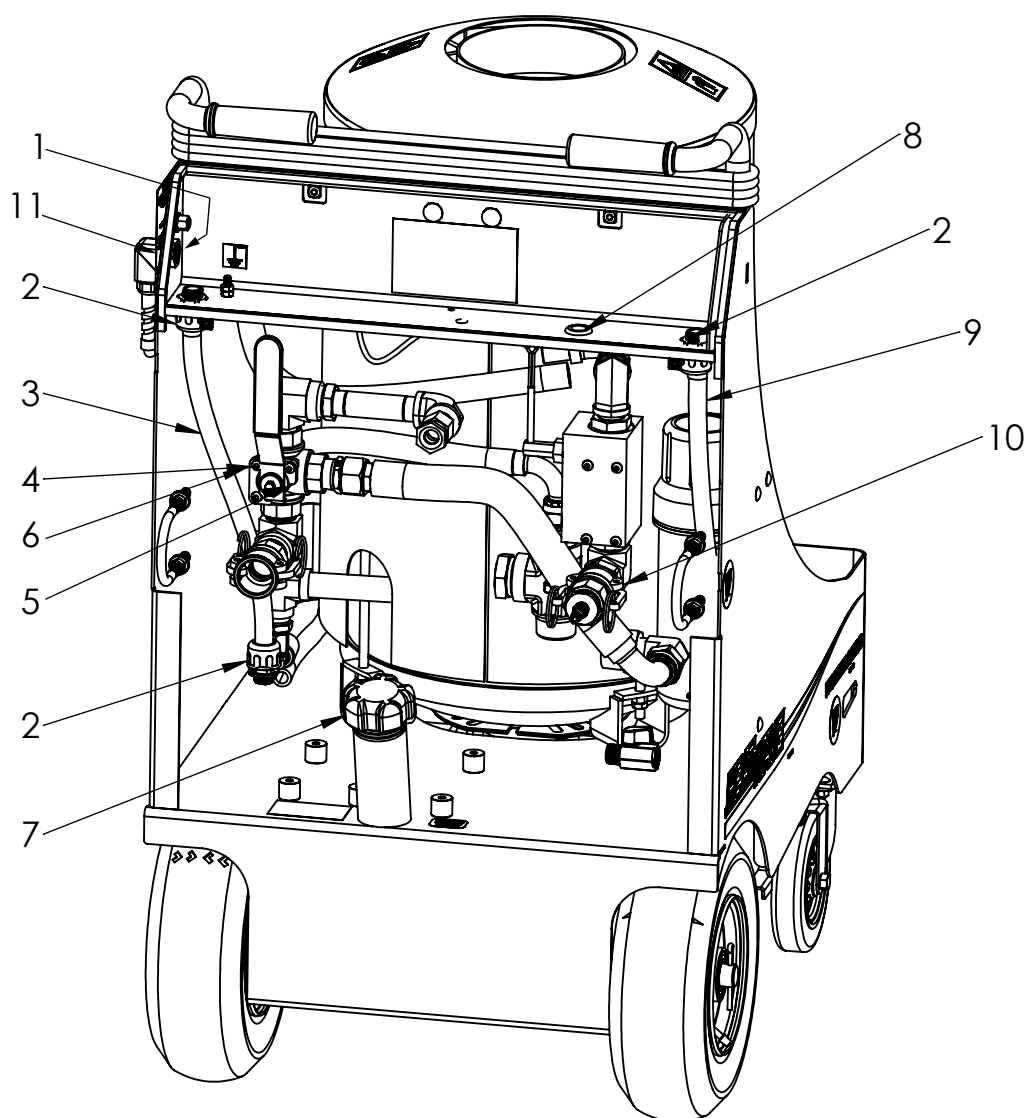
Bom ID	Part No	Description	Qty	Remarks
1	922-2126	PANEL MOUNT THERMOMETER	1	
2	922-2072	SWITCH, PUMP/BURNER	1	
3	922-2035	THERMOSTAT, HEAT WAVE	1	
4	922-2125	CORD GRIP	1	
5	922-2205	ASSY, GFCI CORD	1	
6	922-2201	BOOT, MOTOR BREAKER	2	
7	6NLN	NUT, #6-32 NYLON INSERT LOCK	3	
8	6BH10	SCREW, #6-32 X .625 BHSC	3	

Not Shown:

Footnotes:

Notes:

# Control Panel HEATWAVE



## Control Panel

### HEATWAVE

Bom ID	Part No	Description	Qty	Remarks
1	922-2197	LOCK NUT, 1/2" NPT NYLON	1	
2	922-2145	CONDUIT FITTING, 1/2"	3	
3	922-2161	CONDUIT, Ø.830 X 15	1	
4	04BH12	SCREW, 1/4-20x0.75 BHSC	3	
5	10FW-SAE	WASHER, 5/8"	1	
6	04TLN	NUT, 1/4-20 TOP LOCK	3	
7	922-2117	FUEL CAP	1	
8	922-2199	GROMMET, 7/8" WIRE	2	
9	922-2160	CONDUIT, Ø.830 X 36.5	1	
10	922-2189	BLOWOUT FITTING	1	
11	922-2196	O-RING, 1/2" NPT	1	

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Footnotes:

Notes:

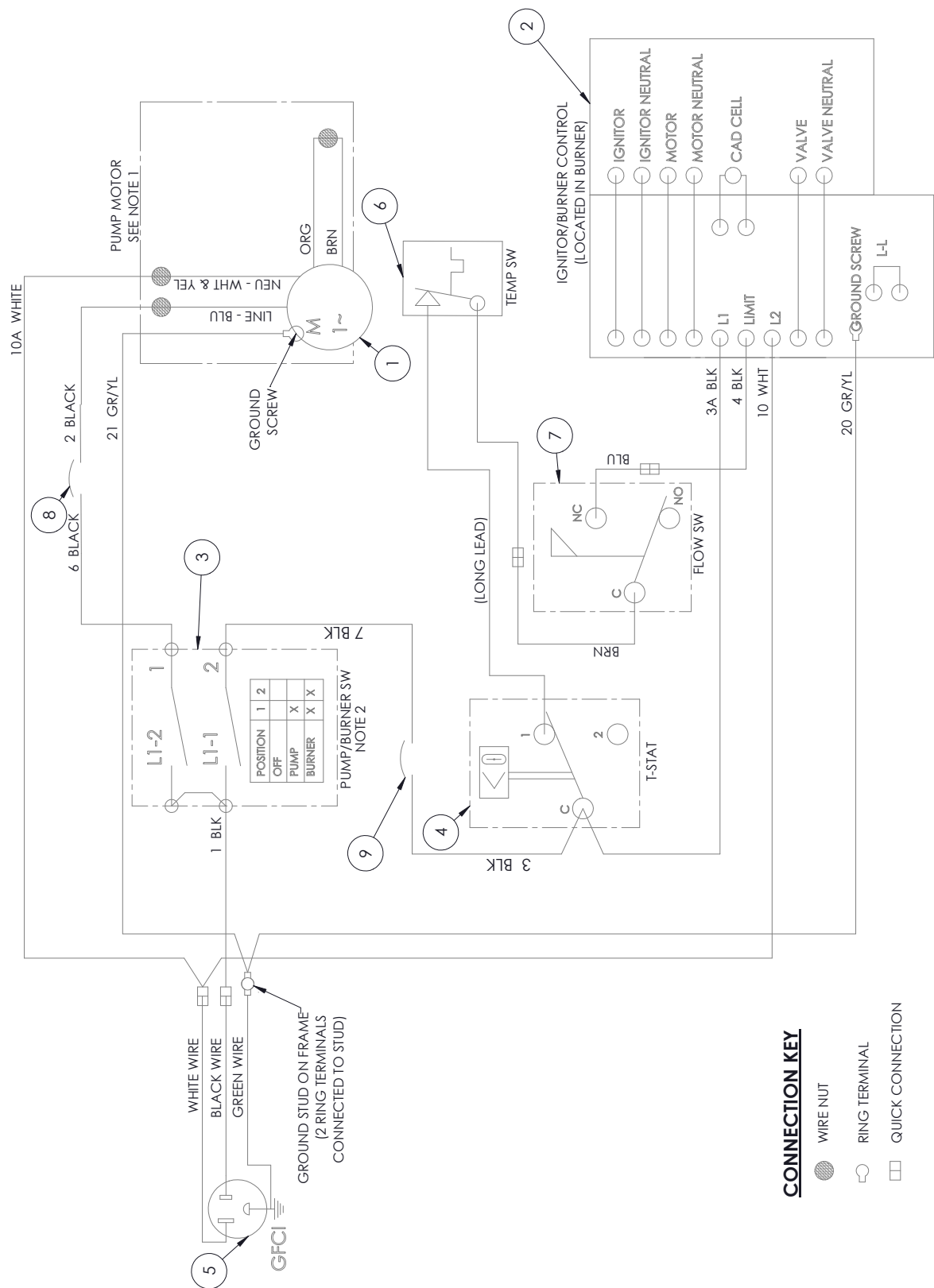
## Notes



# **ELECTRICAL**

# Electrical Schematic—Wire Harness

## HEATWAVE



# Electrical Schematic—Wire Harness

## HEATWAVE

Bom ID	Part No	Description	Qty	Remarks
1	922-2109	PUMP, HEATWAVE	1	
2	922-2017	BURNER W/ GASKET	1	
3	922-2072	SWITCH, PUMP/BURNER	1	
4	922-2035	THERMOSTAT, HEATWAVE	1	
5	922-2124	ELECTRIC CORD, HEATWAVE	1	
6	922-2159	TEMPERATURE, SWITCH, 185°, HEATWAVE	1	
7	922-2128	FLOW SWITCH, HEATWAVE	1	
8	922-2191	CIRCUIT BREAKER, THERMAL - 15A	1	
9	922-2192	CIRCUIT BREAKER, THERMAL - 5A	1	
10	922-1640	WIRE NUT, SMALL WATERPROOF	3	

CIRCUIT LIST				
NO	GAGE	COLOR	FROM	TO
1	14	BLACK	POWER CORD - HOT	PUMP SWITCH - L1-1
2	14	BLACK	PUMP SWITCH - 1	15A THERMAL BREAKER - TERM
6	14	BLACK	15A THERMAL BREAKER - TERM	PUMP - BLUE WIRE
7	14	BLACK	PUMP SWITCH - 2	5A THERMAL BREAKER - TERM
3	14	BLACK	5A THERMAL BREAKER - TERM	THERMOSTAT - C
3A	14	BLACK	THERMOSTAT - TERM C	BURNER - L2
4	14	BLACK	FLOW SWITCH - BLUE	BURNER - LIMIT
10	14	WHITE	POWER CORD - NEUTRAL	BURNER - L1
10A	14	WHITE	SPLICE TO WIRE 10	PUMP - WHITE & YELLOW WIRES
20	14	GRN/YLW	GROUND STUD EYELET	BURNER GROUND NUT
21	14	GRN/YLW	GROUND STUD EYELET	PUMP GROUND NUT

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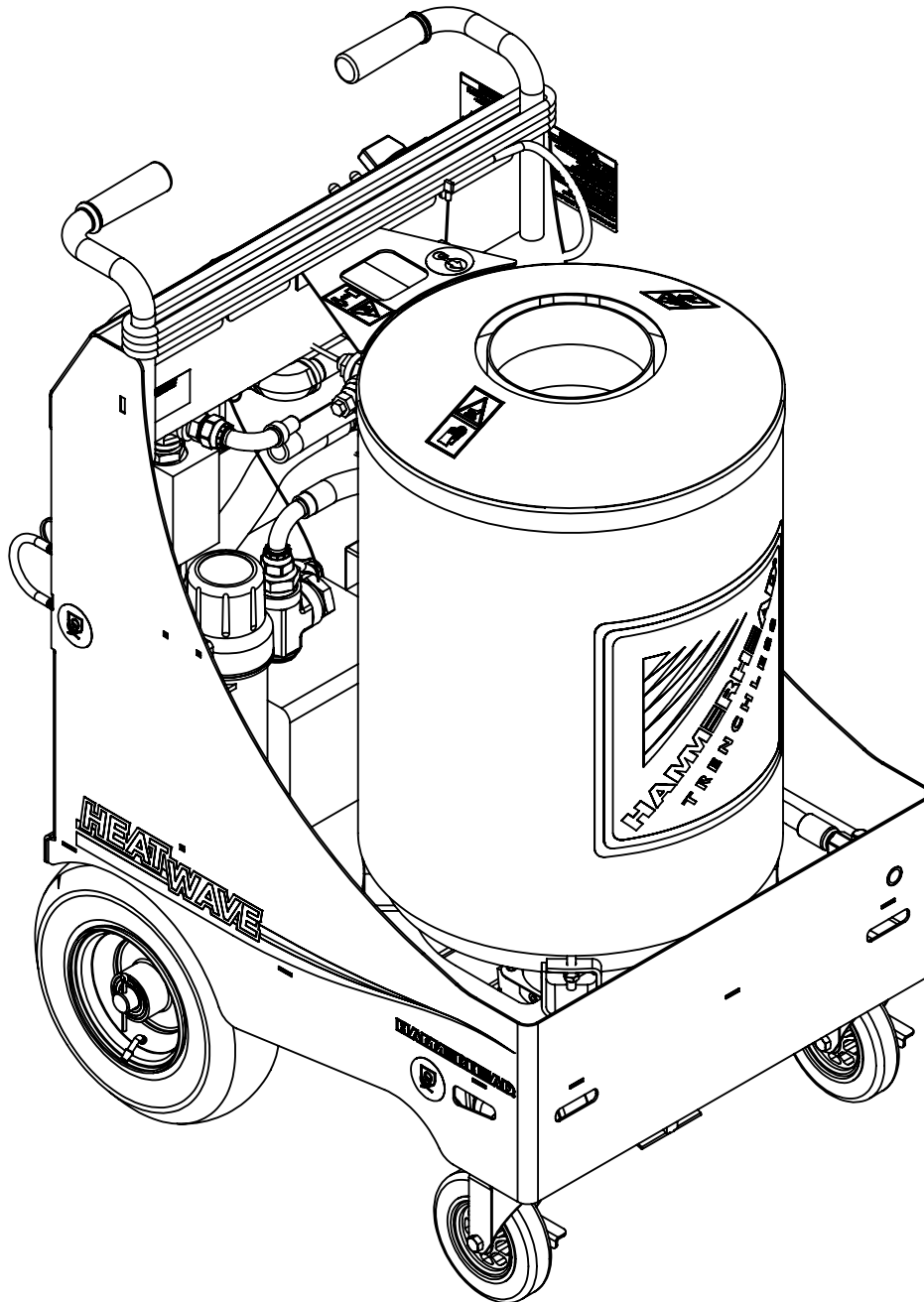
1. 922-2210- TERMINAL, 16-14 AWG, FEMALE, 90 DEG. QTY 3

Footnotes:

Notes:

1. CONNECTIONS MADE IN MOTOR CONDUIT BOX WITH WIRE NUTS.
2. L1-1 AND L1-2 ARE CONNECTED INTERNALLY. SWITCHES ACTUATED VIA CAMS INDEPENDENTLY.

Wire Harness  
HEATWAVE



## Wire Harness

### HEATWAVE

Bom ID	Part No	Description	Qty	Remarks
1	922-2038	WIRE HARNESS, HOT BOX	1	

Not Shown:

WIRE HARNESS NOT SHOWN

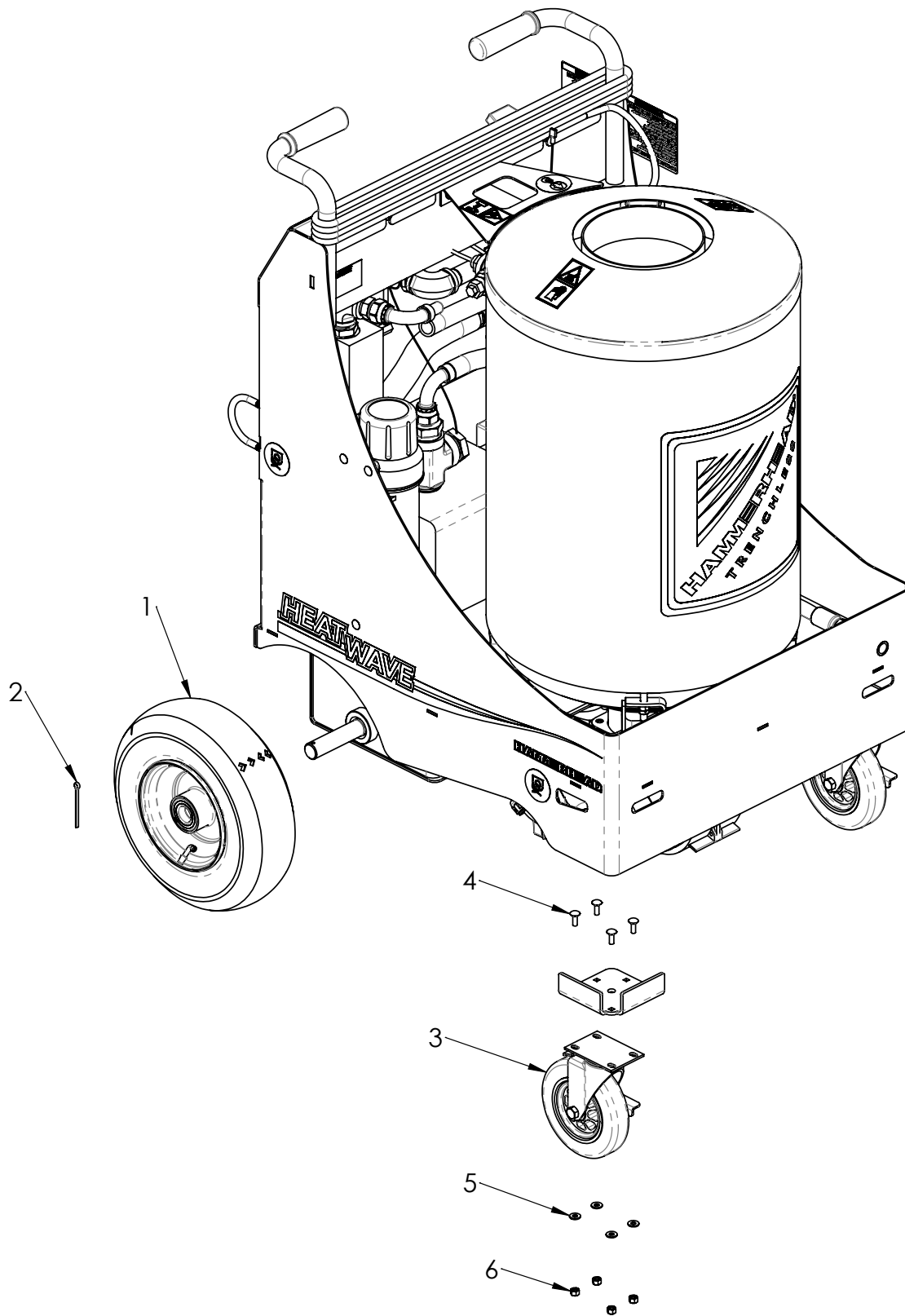
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## Notes

# MISCELLANEOUS

# Wheels HEATWAVE





## Wheels

### HEATWAVE

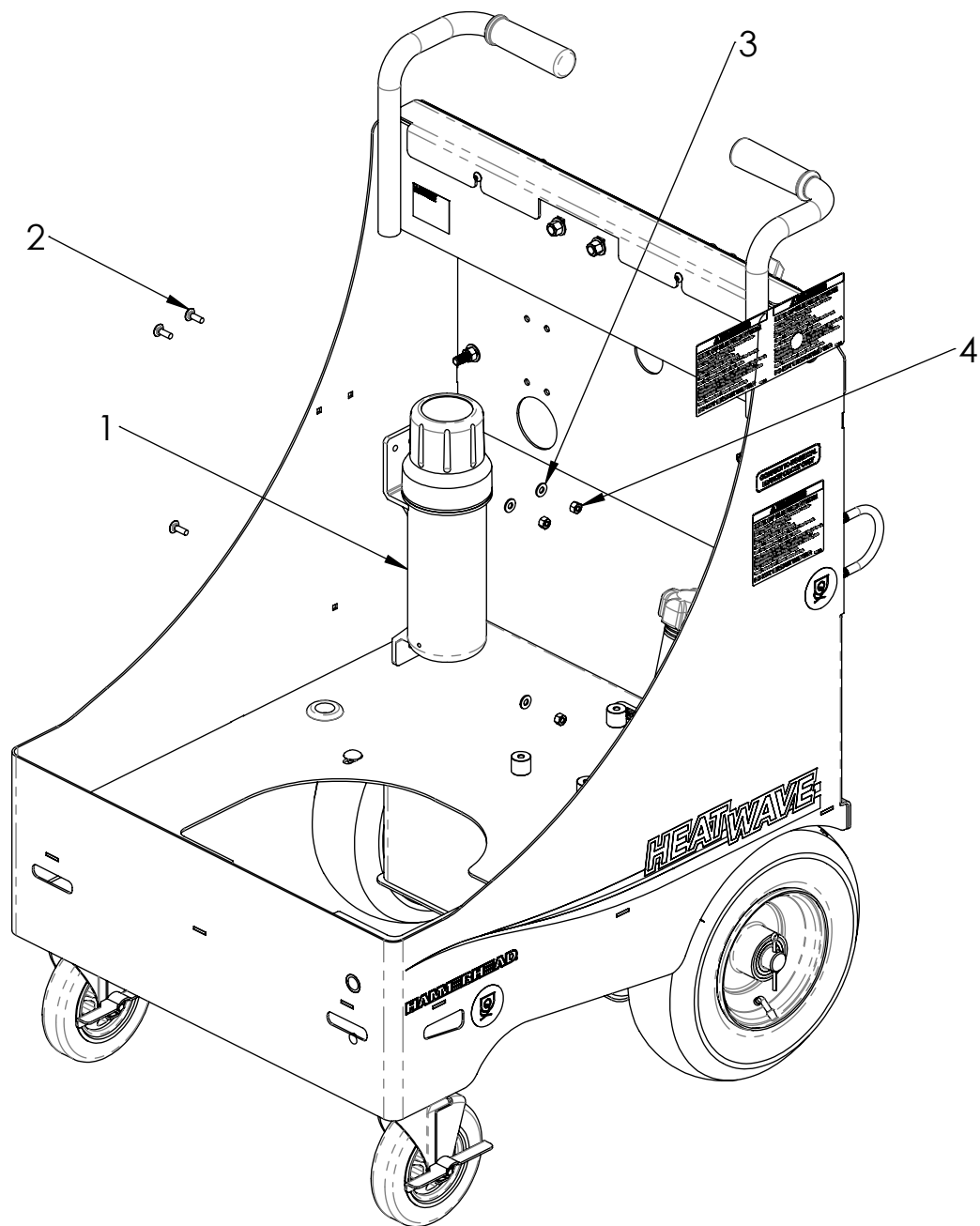
Bom ID	Part No	Description	Qty	Remarks
1	922-2169	WHEEL, 12"	2	
2	913-7626	COTTER PIN, 3/16 x 2"	2	
3	922-1546	CASTER, ø6 X 2 SWIVEL LOCKING	2	
4	04CB12	BOLT, 1/4-20 x .75 CARRIAGE	8	
5	04FW-SAE	WASHER, 1/4"	8	
6	04TLN	NUT, 1/4-20 TOP LOCK	8	

Not Shown:

Footnotes:

Notes:

# Manual Compartment HEATWAVE



## Manual Compartment

### HEATWAVE

Bom ID	Part No	Description	Qty	Remarks
1	302-2531	MANUAL COMPARTMENT - VENTED	1	
2	04CB12	BOLT, 1/4-20 x .75 CARRIAGE	3	
3	04FW-SAE	WASHER, 1/4"	3	
4	04TLN	NUT, 1/4-20 TOP LOCK	3	

#### Not Shown:

1. 960-1135 - OPERATORS MANUAL, HEATWAVE, QTY 1
2. 922-2058 - WATER HOSE, HEATWAVE (25FT.), QTY 2

#### Footnotes:

#### Notes:

# SAE Bolt and Nut Torque Value Chart

## Grade 5: UNC or UNF Thread

Size	Coarse		Fine	
	ft-lb	N-m	ft-lb	N-m
1/4	6	8.5	8	11
5/16	13	18	15	20.5
3/8	25	35	30	40
7/16	40	55	45	60
1/2	60	80	70	95
9/16	90	120	950	130
5/8	120	165	145	200
3/4	210	285	240	325
7/8	320	435	350	475
1	480	650	560	760
1-1/8	700	950	780	1060
1-1/4	1020	1385	1100	1545

## Grade 8: UNC or UNF Thread

Size	Coarse		Fine	
	ft-lb	N-m	ft-lb	N-m
1/4	10	13	11	15
5/16	20	27	22	29.5
3/8	35	47	40	55
7/16	55	75	65	88
1/2	90	120	95	130
9/16	120	165	135	185
5/8	180	245	195	265
3/4	300	405	340	460
7/8	500	680	560	760
1	800	1085	920	1250
1-1/8	1180	1600	1340	1815
1-1/4	1720	2330	1900	2575

# Metric Bolt and Cap Screw Torque Values

Size	Class 4.8				Class 8.8 and 9.8				Class 10.9				Class 12.9			
	Lubricated		Dry		Lubricated		Dry		Lubricated		Dry		Lubricated		Dry	
	N-m	ft-lb	N-m	ft-lb	N-m	ft-lb	N-m	ft-lb	N-m	ft-lb	N-m	ft-lb	N-m	ft-lb	N-m	ft-lb
M6	4.8	3.5	6	4.5	9	6.5	11	8.5	13	9.5	17	12	15	11.5	19	14.5
M8	12	8.5	15	11	22	16	28	20	32	24	40	30	37	28	47	35
M10	23	17	29	21	43	32	55	40	63	47	80	60	75	55	95	70
M12	40	29	50	37	75	55	95	70	110	80	140	105	130	95	165	120
M14	63	47	80	60	120	88	150	110	175	130	225	165	205	150	260	190
M16	100	73	125	92	190	140	240	175	275	200	350	225	320	240	400	300
M18	135	100	175	125	260	195	330	250	375	275	475	350	440	325	560	410
M20	190	140	240	180	375	275	475	350	530	400	675	500	625	460	800	580
M22	260	190	330	250	510	375	650	475	725	540	925	675	850	625	1075	800
M24	330	250	425	310	650	475	825	600	925	675	1150	850	1075	800	1350	1000
M27	490	360	625	450	950	700	1200	875	1350	1000	1700	1250	1600	1150	2000	1500
M30	675	490	850	625	1600	950	1650	1200	1850	1350	2300	1700	2150	1600	2700	2000
M33	900	675	1150	850	1750	1300	2200	1650	2500	1850	3150	2350	2900	2150	3700	2750
M36	1150	850	1450	1075	2250	1650	2850	2100	3200	2350	4050	3000	3750	2750	4750	3500

Do not use these values if a different torque value or tightening procedure is given for specific application. Torque values listed are for general use only. Check tightness of fasteners periodically.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical property class fasteners.

Fasteners should be replaced with the same or higher property class. If higher property class fasteners are used, these should only be tightened to strength of original.

Make sure fastener threads are clean and that the threads are properly started. This will prevent them from cross threading or galling when tightened.

Tighten plastic insert or crimped type steel locknuts to approximately 50% of dry torque indicated on chart. Apply torque to the nut – not the bolt head. Tighten toothed or serrated type locknuts to full torque value.

LUBRICATED means coated with lubricant. DRY means plain or zinc plated without any type of lubricant.

# Torque Standards Hydraulic Fittings

## O-Ring Boss Fittings

						ASSEMBLY TORQUE (+10% -0)							
DASH SIZE	NOMINAL SIZE (IN)	SAE SIZE	FEMALE THREAD	MALE THREAD	O-RING	O-RING BOSS		O-RING BOSS		HOLLOW HEX		HEX HEAD	
						NON-ADJUSTABLE		ADJUSTABLE		PLUGS			
			I.D. (IN)	O.D. (IN)	I.D. (IN)	ft-lbs (in-lbs)	N-m	ft-lbs (in-lbs)	N-m	ft-lbs (in-lbs)	N-m	ft-lbs (in-lbs)	N-m
-2	1/8	5/16-24	17/64	5/16	17/64	-	-	-	-	(30)	4	(85)	10
-3	3/16	3/8-24	21/64	3/8	21/64	-	-	-	-	(55)	6	(155)	18
-4	1/4	7/16-20	25/64	7/16	25/64	26	35	(180)	20	(120)	14	22	29
-5	5/16	1/2-20	29/64	1/2	29/64	30	40	30	40	(170)	19	23	32
-6	3/8	9/16-18	1/2	9/16	1/2	35	46	35	46	34	46	29	40
-8	1/2	3/4-16	11/16	3/4	11/16	60	80	60	80	60	80	52	70
-10	5/8	7/8-14	13/16	7/8	13/16	100	135	100	135	100	135	85	115
-12	3/4	1-1/16-12	31/32	1-1/16	31/32	135	185	135	185	135	185	135	183
-14	7/8	1-3/16-12	1-7/64	1-3/16	1-7/64	175	235	175	235	175	235	175	237
-16	1	1-5/16-12	1-15/64	1-5/16	1-15/64	200	270	200	270	200	270	200	271
-20	1-1/4	1-5/8-12	1-35/64	1-5/8	1-35/64	250	340	250	340	250	340	250	339
-24	1-1/2	1-7/8-12	1-51/64	1-7/8	1-51/64	305	415	305	415	305	415	305	414
-32	2	2-1/2-12	2-27/64	2-1/2	2-27/64	375	510	375	510	375	510	375	509

## O-Ring Face Seal Fittings

DASH SIZE	NOMINAL SIZE (IN)	THREAD SIZE	FEMALE THREAD	MALE THREAD	ASSEMBLY TORQUE (+10% -0) (PRIMARY METHOD)		FLATS FROM WRENCH RESISTANCE (FFWR) (SECONDARY METHOD)		O-RING
					ft-lb	N-m	TUBE NUTS	SWIVEL & HOSE	
			I.D. (IN)	O.D. (IN)					I.D. (IN)
-4	1/4	9/16-18	1/2	9/16	18	25	1/2	3/4	5/16
-6	3/8	11/16-16	11/16	11/16	30	40	1/2	3/4	3/8
-8	1/2	13/16-16	3/4	13/16	40	55	1/2	3/4	1/2
-10	5/8	1-14	13/16	1	60	80	1/2	3/4	5/8
-12	3/4	1-3/16-12	1-7/64	1-3/16	85	115	1/2	1/2	3/4
-16	1	1-7/16-12	1-23/64	1-7/16	110	150	1/2	1/2	15/16
-20	1-1/4	1-11/16-12	1-19/32	1-11/16	150	205	1/2	1/2	1-3/16
-24	1-1/2	2-12	1-59/64	2	230	315	1/2	1/2	1-1/2

Ensure the threads and sealing surfaces are free from nicks, burrs, scratches or any foreign material. Lubricate the o-ring with a light coat of oil. To tighten adjustable o-ring fittings, hold the fitting and tighten the nut. To tighten non-adjustable o-ring fittings, tighten the fitting. When tightening together fittings with dissimilar coatings, torque to 115% of maximum recommended torque value for a given size.

# Torque Standards Hydraulic Fittings

## Pipe Fittings

Nom. SAE Dash Size	Fractional Size	Threads per Inch	Turns from Finger Tight
2	1/8	27	2-3
4	1/4	18	2-3
6	3/8	18	2-3
8	1/2	14	2-3
12	3/4	14	2-3
16	1	11-1/2	1.5-2.5
20	1-1/4	11-1/2	1.5-2.5
24	1-1/2	11-1/2	1.5-2.5
32	2	11-1/2	1.5-2.5



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