Resource Manual

Installation Guide • Operating Procedures • Parts Breakdown

THERMAFLOW®

Mobile Hydraulic Systems

MODEL SS980

TRANSPORT HYDRAULIC COOLING SYSTEM

MODELS

SS980H
SS980HFT

Model #:_____

Serial #:_____

Installation Date:_____

THERMAFLOW®
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INSTALLATION GUIDE , OPERATING PROCEDURES & PARTS BREAKDOWN

MODEL SS980

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THERMAFLOW®
Mobile Hydraulic Systems

INSTALLATION GUIDE , OPERATING PROCEDURES & PARTS BREAKDOWN

Please read this guide carefully before installing and operating your THERMAFLOW system.

The THERMAFLOW assembly is designed to cool and filter the oil required to operate your hydraulic system. The oil is cooled by forcing air across cooling fins on the heat exchanger. This system utilizes a hydraulic fan motor to force air across the fins.

The Hydraulic fan motor has an adjustable pressure reducing valve that automatically cycles the fan “ON” when the hydraulic system is running and “OFF” when not running. This comes plumbed from the factory.

Because different product pump applications require different speed and power requirements, your THERMAFLOW system was custom engineered for a particular application. If the system is operated beyond its designed capacity, overheating and/or component damage may result.

STEP 1 POSITIONING & MOUNTING

The Model SS980 is designed to mount behind the truck cab across the frame rail sides.

A) Diagram A illustrates the mounting of the SS980 series. Allow a minimum of 4” on both sides of the unit for proper airflow.

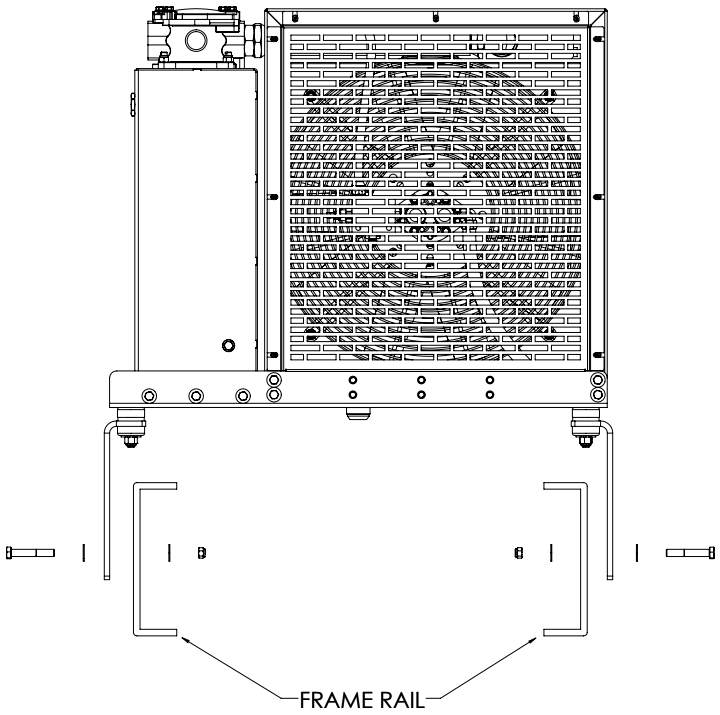


DIAGRAM A

STEP 2 INSTALLING THE PTO & HYDRAULIC PUMP

A) Install the PTO to the transmission and mount the hydraulic pump according to the instructions included with the PTO.

HELPFUL HINT: *If you are using a direct mount hydraulic pump/PTO combination, be sure that the pump splines are well lubrication with a heavy grease. This grease will prevent premature spline wear on the PTO and pump shafts. Also available from both MUNCIE and CHELSEA is a new option for a greaseable shaft. This option allows you to grease these splines without pulling the pump off the PTO.*

STEP 3 HYDRAULIC PLUMBING

DIAGRAMS B, C, & D show proper plumbing for all SS980 models. Please carefully read the Helpful Hints and Notes listed below before beginning.

HELPFUL HINT: *We recommend the use of minimum 2" suction hose. If the suction hose is too small the hydraulic pump will cavitate and fail prematurely. A 1" pressure hose is recommended for flows up to 40 gpm. A 1 1/4" pressure hose is recommended for flows greater than 40 gpm. The 980 Series has two 2" suction port for high flow and tandem applications.*

NOTE*: Be careful not to over tighten NPT threads. It is very easy to crack these types of ports when tightening fittings.*

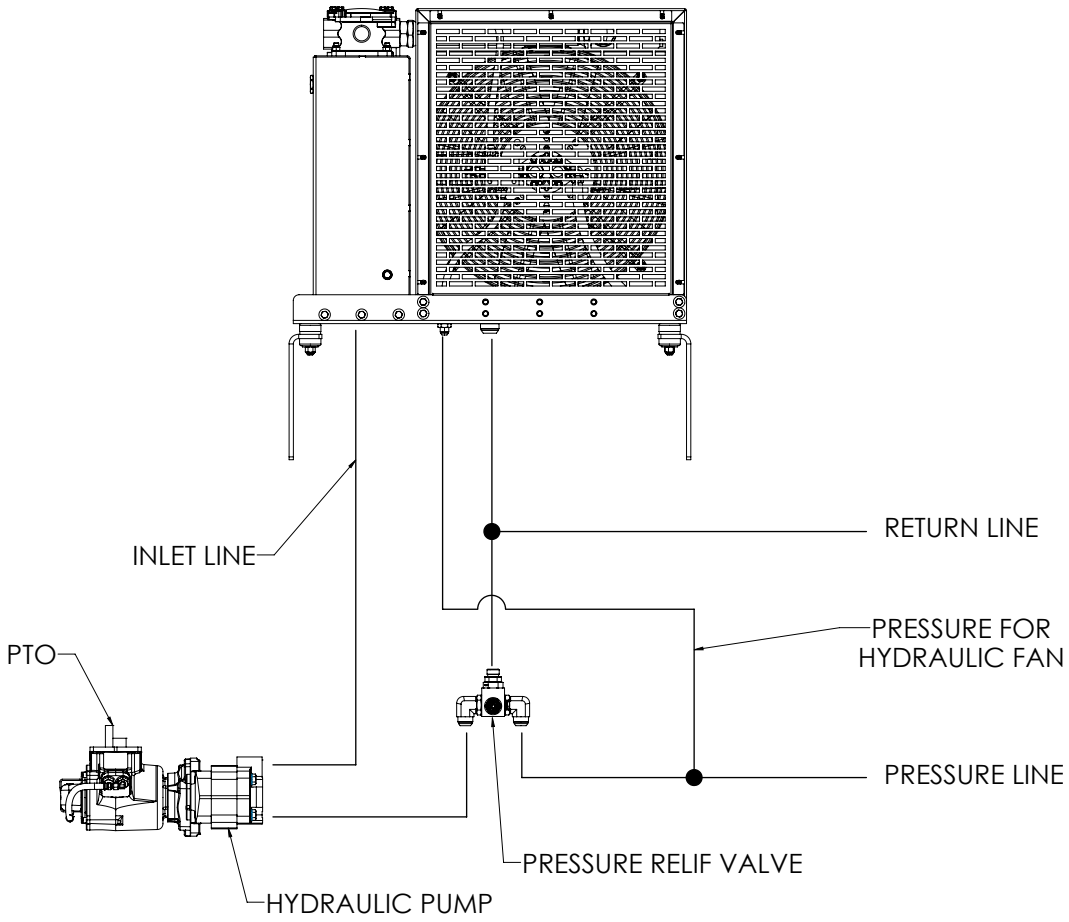


DIAGRAM B

STEP 3 HYDRAULIC PLUMBING (Continued)

Tandem System w/Dual Relief

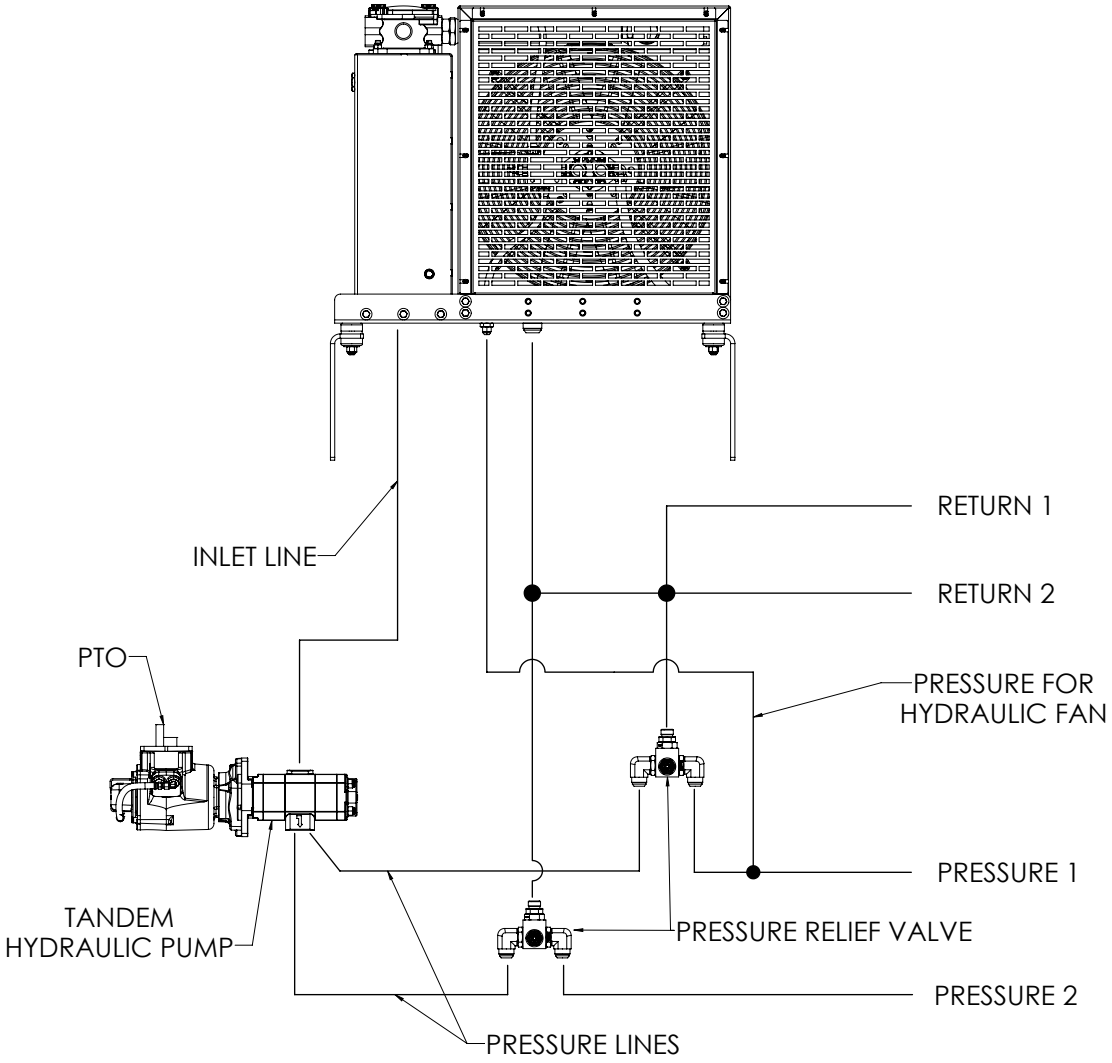


DIAGRAM C

STEP 3 HYDRAULIC PLUMBING (Continued)

SS980HFT Plumbing

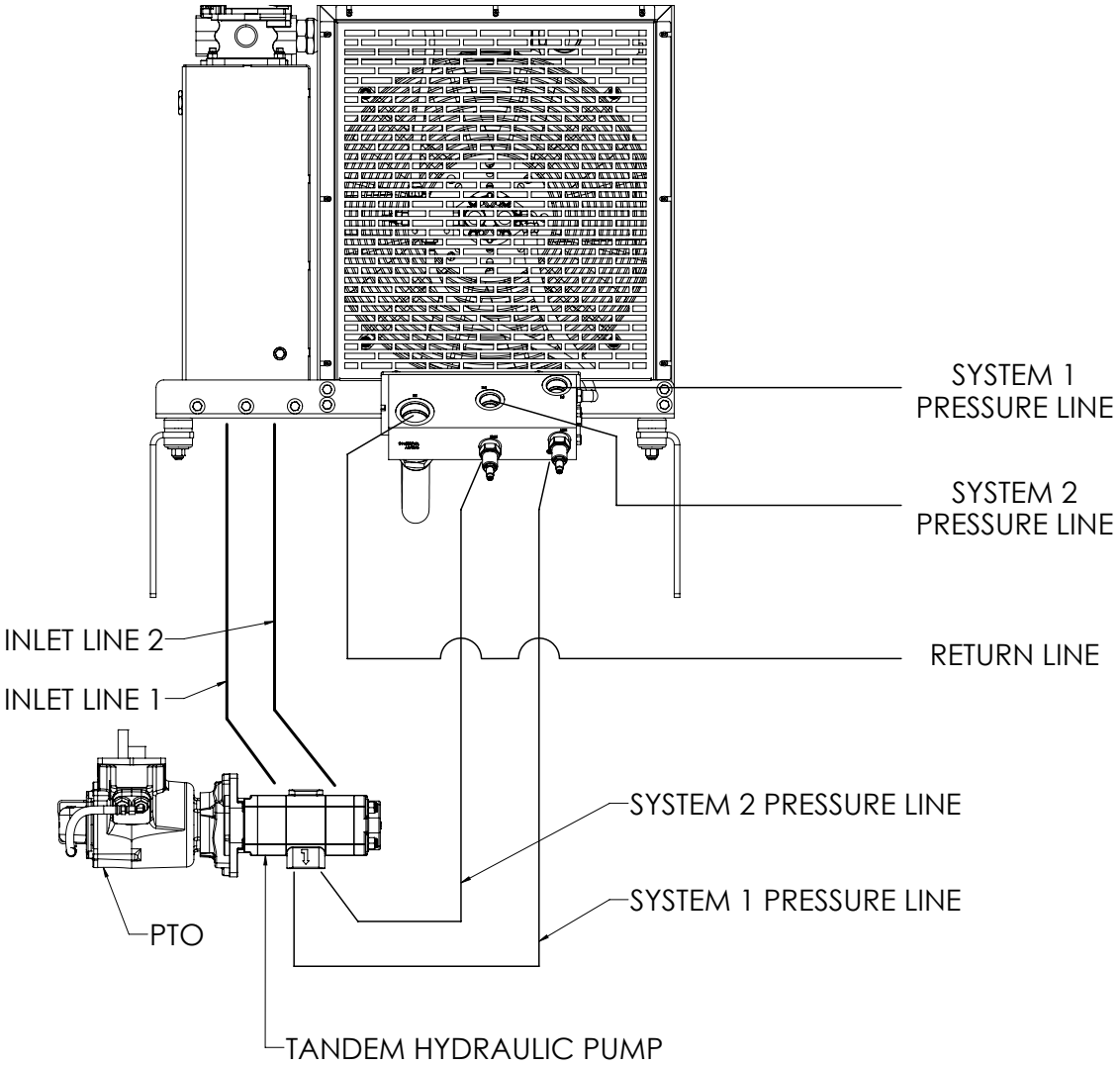


DIAGRAM D

STEP 4 Final Assembly

A) Complete all hydraulic plumbing.

B) Make sure suction lines are supported to prevent tank cracking.

C) Fill the reservoir until the oil level gets to the top blue line on the site level gage.

D) Set relief valve for system requirements.

NOTE*: After the initial start up procedure you will need to add oil due to the hydraulic lines filling up to capacity.*

NOTE*: Over-filling the reservoir will cause the oil to expand up through the breather assembly when the oil warms up.*

NOTE: We recommend using a high grade of hydraulic oil with a Pour Point of -50 F. This will ensure proper oil flow during extreme cold weather operation. Use of synthetic hydraulic oils is also recommended. Recommended Oil: AW32MV or equivalent.

STEP 5 START-UP PROCEDURES

The following steps are to ensure that the THERMAFLOW assembly is operating properly.

NOTE*: Before engaging the PTO, make sure that all hydraulic lines are plumbed and properly tightened.*

1) Slowly engage the PTO with engine at idle speed.

NOTE: Watch the oil level in the reservoir. Be ready to add more oil as needed to maintain the oil level between the level indication lines on the site level gage.

2) Check for hydraulic leaks and repair as needed.

3) Check for fan operation.

4) Carefully Tach the product pump speed.

5) Slowly increase the engine speed until desired product pump speed is obtained.

6) Run system for at least five minutes to ensure that system is sufficiently cooling the hydraulic oil. Using a Hydraulic Flow Meter Kit, set required pressure and flow rates to system requirements.

7) Slow engine to idle and disengage the PTO.

8) System is ready for operation.

System Maintenance

Hydraulic

Fluid:

- Drain and replace hydraulic oil every 6 to 12 months depending on use.
- Recommended Fluid: AW32MV or equivalent.

Filter:

- Remove 4 cap screws on top of filter housing.
- Remove filter cartridge and spring.
- Replace with new filter cartridge and spring Part Number 975331.
- Apply anti-seize to cap screws and tighten.

Pump:

- Inspect periodically for leaks.
- Check hoses for signs of wear.

Motor:

- Inspect periodically for leaks.
- Check hoses for signs of wear.

PTO

- Grease output shaft every 6 to 12 months depending on use.
- If PTO does not have a grease zerk on output shaft, remove direct mount hydraulic pump and grease the output shaft using a high quality gear lube.

Troubleshooting

Safety First!

Think about it before you do it. Our systems use controlled fluid pressure and converts it to rotational movement. This means that the system pressure operates as high as 5000 psi. A pin hole leak of fluid at this pressure can be dangerous. Use caution when loosening fittings, system pressure can be maintained for a period of time after shutdown.

Troubleshooting

Always inspect the things easiest to eliminate first. Look for faulty linkage or wiring that controls the PTO, pump or motor. Look at the fluid level and appearance of the oil. Check temperatures and pressures.

Excessive Heat:

- Clean air passages through heat exchanger.
- Check fan operation.
- Check setting of relief valve.
- Check temperature of suction line vs outlet line temperature. If the outlet temperature is noticeably hotter, the pump is cavitating.
- Check for contamination in relief valve. Clean and replace.
- Check for added flow controls. If a flow control has been added to the system, excess heat can be generated by the added restriction to flow.

Loss of Motor Speed:

- Check oil level.
- Ensure recommended engine idle speed is maintained.
- Check output pressure of the pump. If system pressure cannot be maintained, attempt to adjust the relief valve setting to max system pressure. If this does not make a noticeable change, make sure to return relief setting to original position and bring the pump and motor to a hydraulic specialist for bench testing and possible replacement.

Excessive Noise:

- Check oil level. Fill to proper level.
- Ensure use of recommended oil type and weight.
- Ensure suction line to pump is at least 1 1/2”.
- Ensure there is no restriction in suction line.

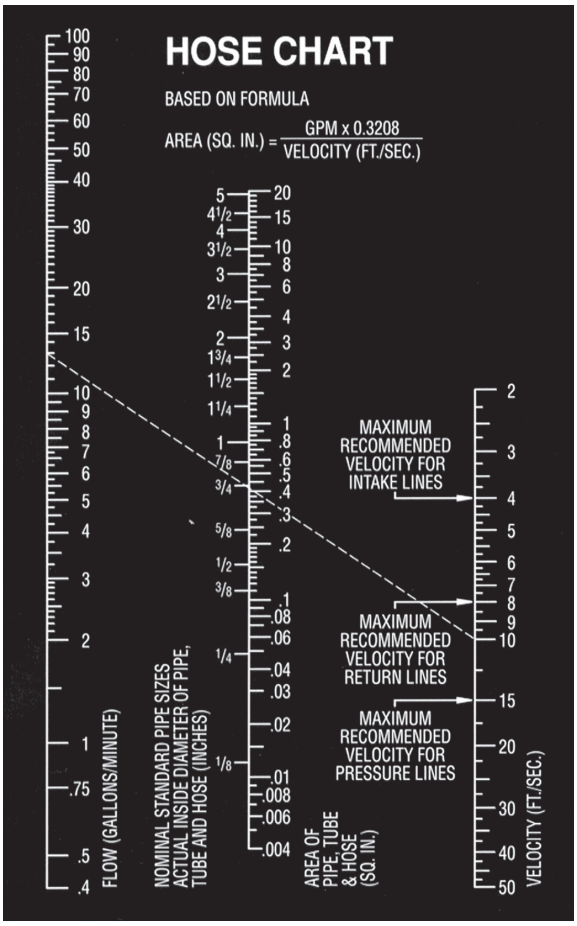
Oil Discoloration:

- Ensure suction line connections are tight.
- Ensure oil is free from water and contaminants. Drain and refill with recommended oil and replace filter.
- Ensure use of recommended oil type and weight.

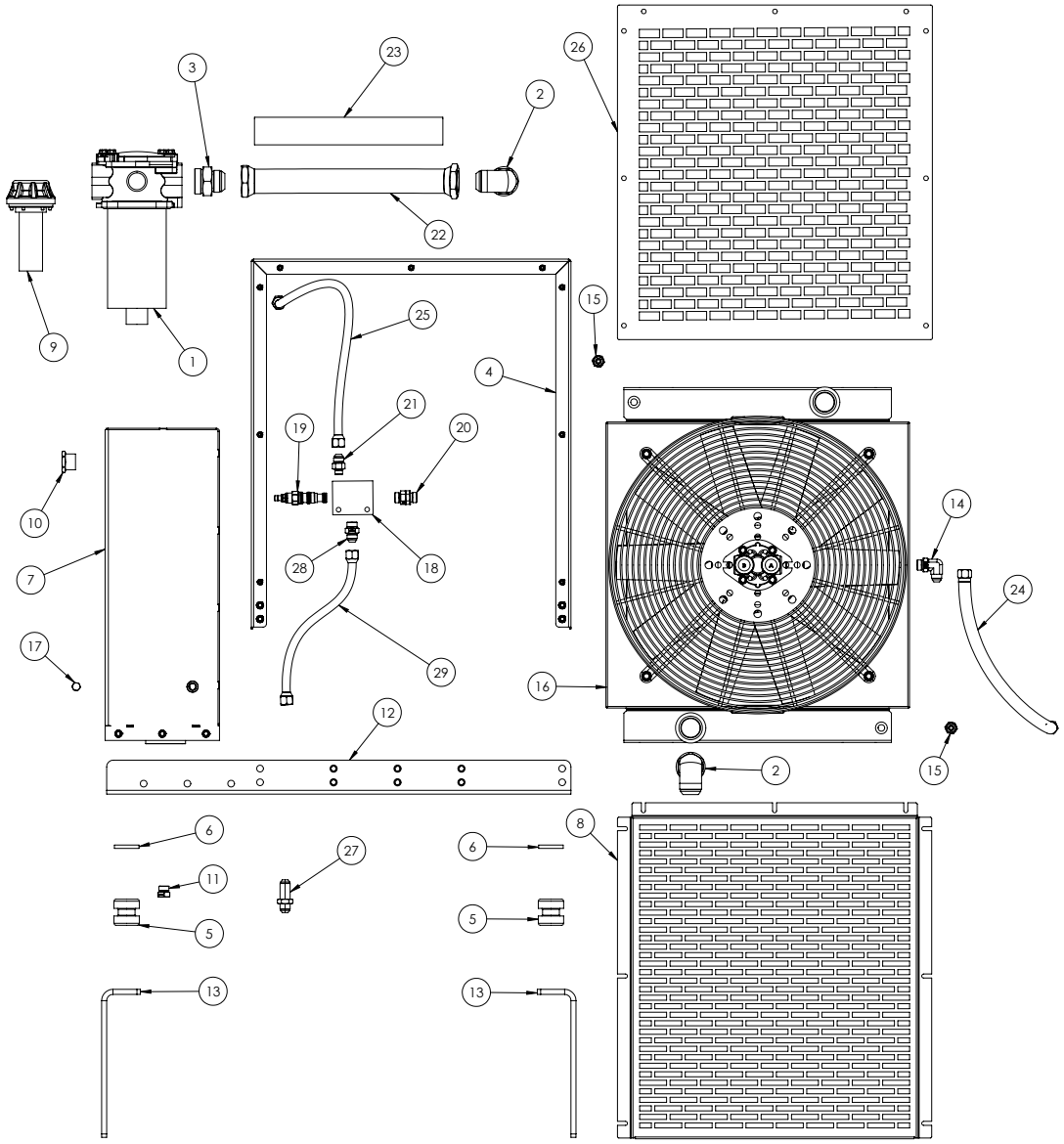
Specifications

Max Flow Rate:	60 gpm
Max Pressure:	5000 psi
Reservoir:	9.4 gal
Weight:	100 lbs
Suction Line:	Two, 2”
Pressure Lines:	1 Inch
Warranty:	2 years

Oil - The recommended oil is AW32MV or equivalent. AW32MV is a supreme performance anti-wear hydraulic oil engineered for wide temperature range applications. It exhibits optimum flow characteristics at sub-zero temperatures and is resistant to shearing and viscosity loss so that system efficiency is maintained and internal pump leakage is minimized at high operating temperatures and pressures.



MODEL SS980H



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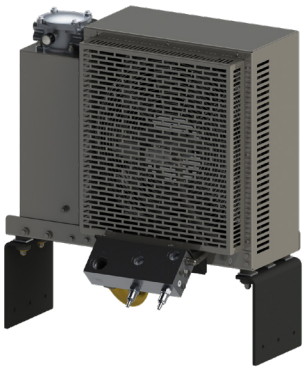
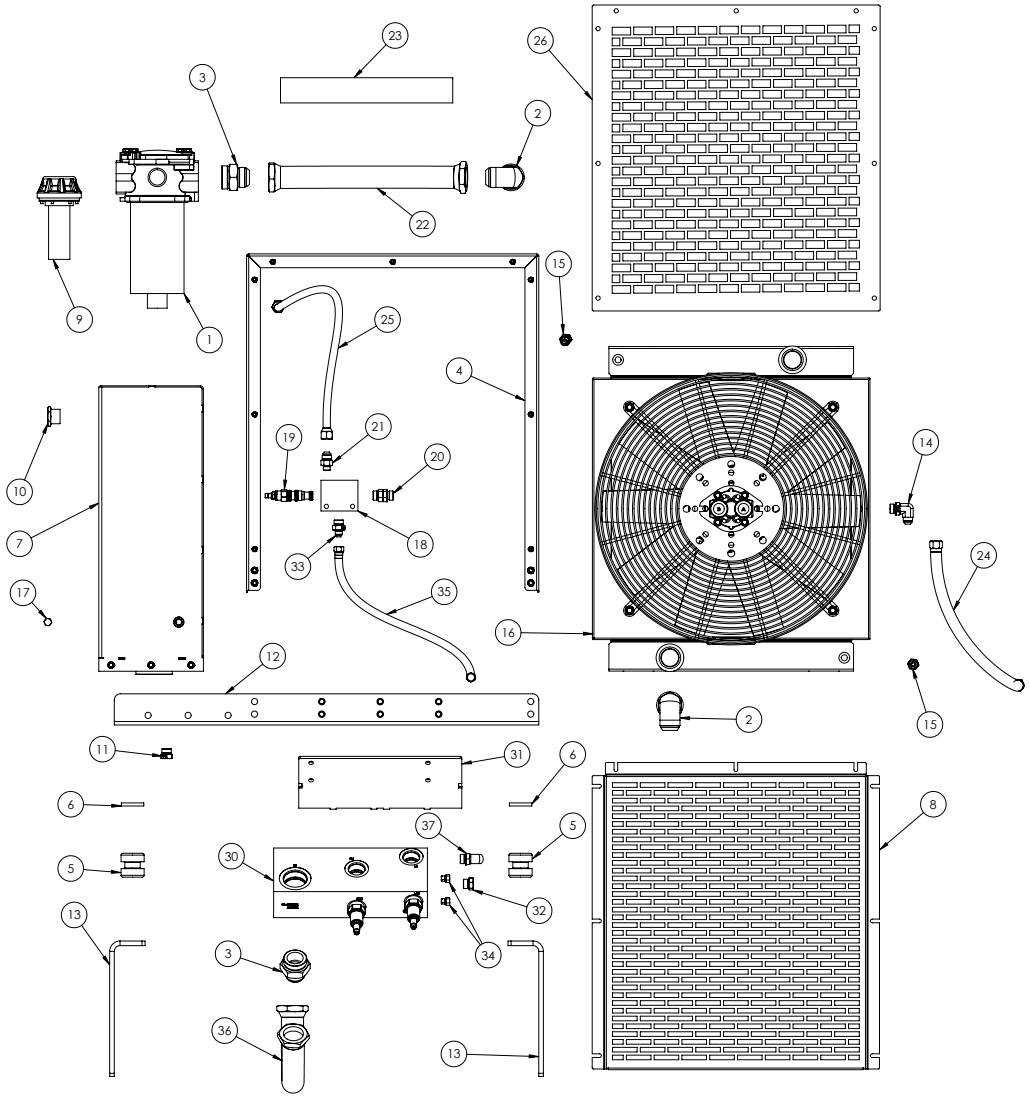
INSTALLATION GUIDE , OPERATING PROCEDURES & PARTS BREAKDOWN

MODEL SS980HFT





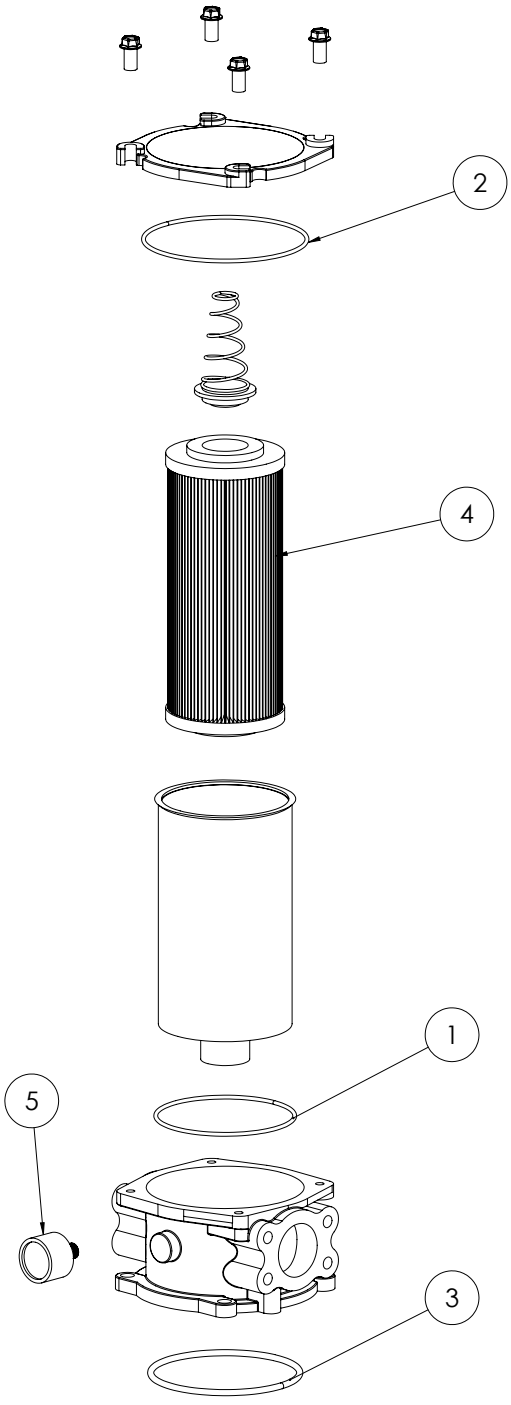
Parts List

Item No.	Part Number	Description
1	P575923	980 FILTER HOUSING
2	975416	20MJIC-20MORB 90°
3	975730	20MJIC-24MORB
4	980020	980 HEAT EXCHANGER HOUSING
5	300200	SHOCK MOUNT
6	300032	SPACER
7	980000	980 TANK SS
8	980650	980 FAN GUARD
9	600332	BREATHER
10	975334	SITE PLUG
11	300410M	8MORB PLUG
12	980030	980 TRAY
13	980071	980 LEG
14	6801-08-08	8MORB-8MJIC 90°
15	7400-08-14	8MJIC-14MM
16	980300	980 HEATEXCHANGER
17	300710	1/4 IN NPT PLUG
18	934835	ECJ STEEL BODY PR V
19	934836	PR CART PR V
20	150908	8MORB-8MORB ADJUSTABLE
21	6400-08-06	8MJIC-6MORB STRAIGHT
22	980891	980 FILTER RETURN HOSE
23	980893	980891 HOSE SLEEVE
24	980894	980 FAN RETURN HOSE
25	980980	980 VALVE DRAIN HOSE
26	980040	980 SCREEN
27	2700LN-08-08	8MJIC-8MJIC BULKHEAD
28	150912	6MJIC-8MORB STRAIGHT
29	980891	980 FAN PRESSURE HOSE

Parts List

30	800422	HFT MANIFOLD
31	980425	980 MANIFOLD MOUNT ASSY
32	300410	8MORB PLUG
33	150912	6MJIC-8MORB STRAIGHT
34	6408-04	4MORB PLUG
35	980986	980HFT FAN PRESSURE HOSE
36	980729	980HFT MANIFOLD TUBE
37	6801-06-08	6MJIC-8MORB 90°

Parts List



ITEM NO.	PART NUMBER	DESCRIPTION
1	975330ORC	975330 CANISTER O-RING
2	975330OREC	975330 FILTER COVER O-RING
3	975330ORH	975330 FILTER HEAD O-RING
4	975331	980 FILTER ELEMENT
5	975332	0-60 PSI FILTER GAUGE
	975330K	980 FILTER ASSEMBLY

Product Offering

Fans

Spal
Multi-Wing

Fittings

Tompkins
Stucci
Ryco

Heat Exchangers

Thermal Transfer
Flat Plate
AKG

Hydraulic Motors

Eaton/Charlynn
Muncie
Permco
Hydro Leduc

PTO's

Muncie

Pumps

Muncie
Parker
Permco
Hydro Leduc

THERMAFLOW®
Mobile Hydraulic Systems

THERMAFLOW WARRANTY

The THERMAFLOW SS980 Series Hydraulic Cooler is warranted against any defect in material and workmanship which existed at the time of sale, by STAC Inc. according to the following provisions, subject to the requirements that the Cooler must be used only in accordance with the catalogue and package instructions.

The cooler is warranted for a period of TWO Years from the date of installation. If during the warranty period the cooler fails to operate to STAC's specifications due to a defect in any part in material or workmanship that existed at the time of sale by STAC Inc., the defective part will be repaired or replaced, at STAC Inc.'s discretion, at no charge, if the defective part is returned to STAC Inc. with transportation prepaid.

The above warranty shall terminate if any alterations or repairs are made to the System other than at an authorized dealer or if the cooler is used on any equipment other than the equipment upon which it is first installed.

THE FORGOING WARRANTIES ARE IN LIEU OF ALL OTHER OBLIGATIONS AND LIABILITIES, INCLUDING NEGLIGENCE AND ALL WARRANTIES OF MERCHANTABILITY AND SUITABILITY, EXPRESSED OR IMPLIED AND STATE STAC INC.'S ENTIRE AND EXCLUSIVE LIABILITY AND BUYER'S EXCLUSIVE REMEDY FOR ANY CLAIM OF DAMAGES IN CONNECTION WITH THE SALE, REPAIR OR REPLACEMENT OF THE ABOVE GOODS, THEIR DESIGN, INSTALLATION OR OPERATION. STAC INC. WILL IN NO EVENT BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES WHATSOEVER, AND OUR LIABILITY UNDER NO CIRCUMSTANCES WILL EXCEED THE CONTRACT PRICE FOR THE GOODS FOR WHICH LIABILITY IS CLAIMED.

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