

**Heat Exchanger Kit, Model FPTN103-SA
P/N 51024420103**



Note: Actual items may vary slightly.

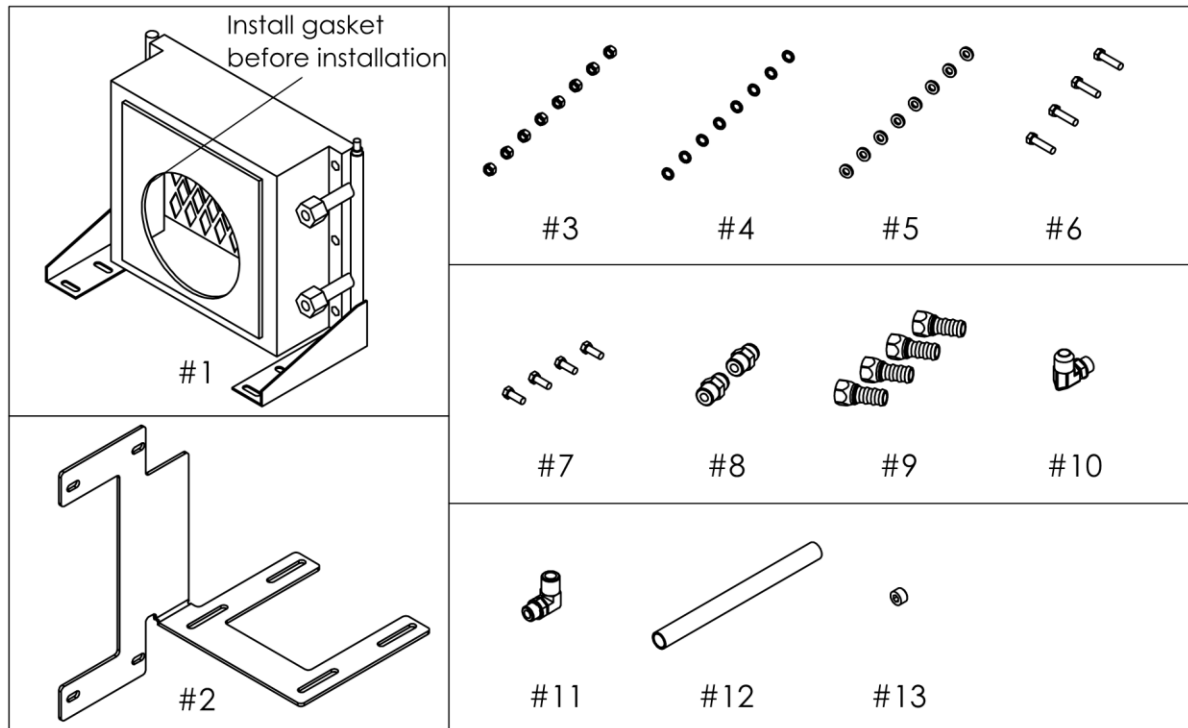
READ ALL INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING TO ASSEMBLE, INSTALL, OPERATE OR MAINTAIN THE PRODUCT DESCRIBED. PROTECT YOURSELF AND OTHERS BY OBSERVING ALL SAFETY INFORMATION. FAILURE TO COMPLY WITH INSTRUCTIONS COULD RESULT IN PERSONAL INJURY AND/OR PROPERTY DAMAGE!

RETAIN INSTRUCTIONS FOR FUTURE REFERENCE.

WARNING: THIS INSTRUCTION MANUAL IS INTENDED FOR USE BY QUALIFIED INDIVIDUALS WITH A WORKING KNOWLEDGE OF HYDRAULIC AND ELECTRICAL PRINCIPLES. PROFESSIONAL INSTALLATION IS RECOMMENDED.

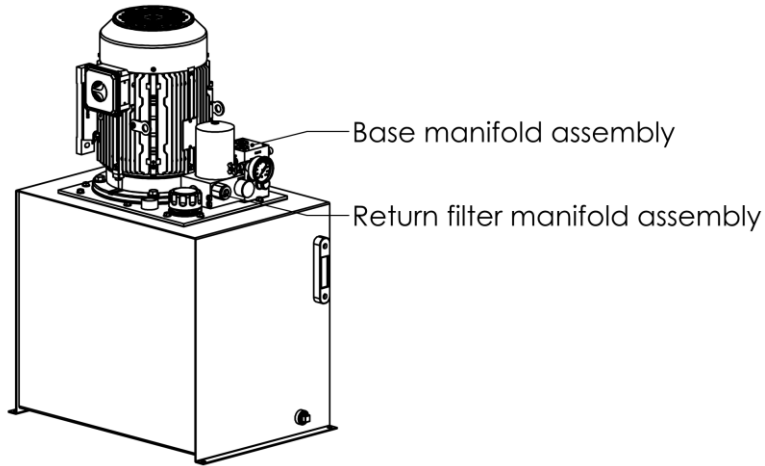
Attention: This manual provides information on how to convert the return filter manifold and how to install the heat exchanger on a specific version of hydraulic power unit. These instructions are for use by properly trained individuals familiar with hydraulic components, hydraulic fittings, and the correct use of the appropriate hand tools.

1. Heat exchanger kit, model FPTN103-SA



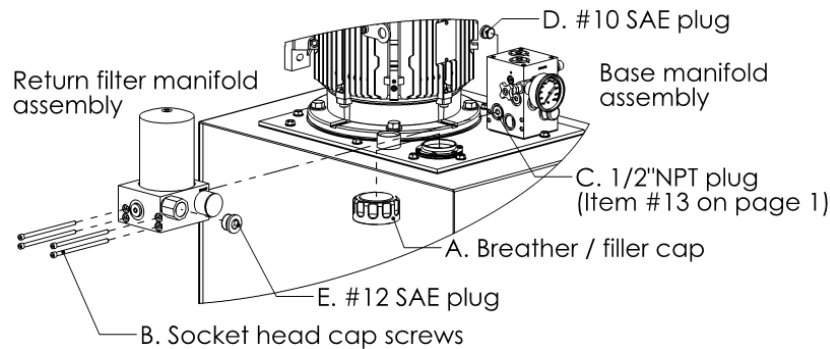
#	JDE Number	Part Number	Description	Qty	Unit
1	51020420034	ZPRM-19-22	AIR COOLER, REAR MOUNT	1	PC
2	51020101428	FPN1428	BRACKET FOR RM-19&213~256TC MT	1	PC
3	51020521324	FPN1324	3/8"-16 HEX NUT, GR.8 PLTD	8	PC
4	500208607839	FP7839	WASHER,INTERNAL TOOTH LOCK,3/8	8	PC
5	500208601970	FP1970	WASHER,PLAIN,FLAT,3/8in	8	PC
6	51020691433	FPN1433	SCREW HEX HEAD,3/8-16UNC X 1.5	4	PC
7	500206907841	FP7841	SCREW,HHC,3/8-16 X 1.0,GRD5,ZI	4	PC
8	51020330288	ZH848FSO-12-12	FITTING ADAPTER,#12JIC-#12SAE	2	PC
9	51020330567	ZKKA12-12NJ	FITTING,HOSE END,#12 JIC X 3/4	4	PC
10	51020330335	ZH849FSO-12-12	FITTING ADAPTER,#12JIC-#12SAEM	1	PC
11	51020331923	FP1923	ELBOW,90M,FLARE,3/4 TX7/8-14	1	PC
12	51020440020	ZM12L3S-BLK	HOSE,3/4"PUSHLOCK	4	FT
13	500205902348	FP2348	PLUG,PIPE,FLUSH,1/2"-14NPT	1	PC

2. Hydraulic power unit shown without heat exchanger, before conversion.

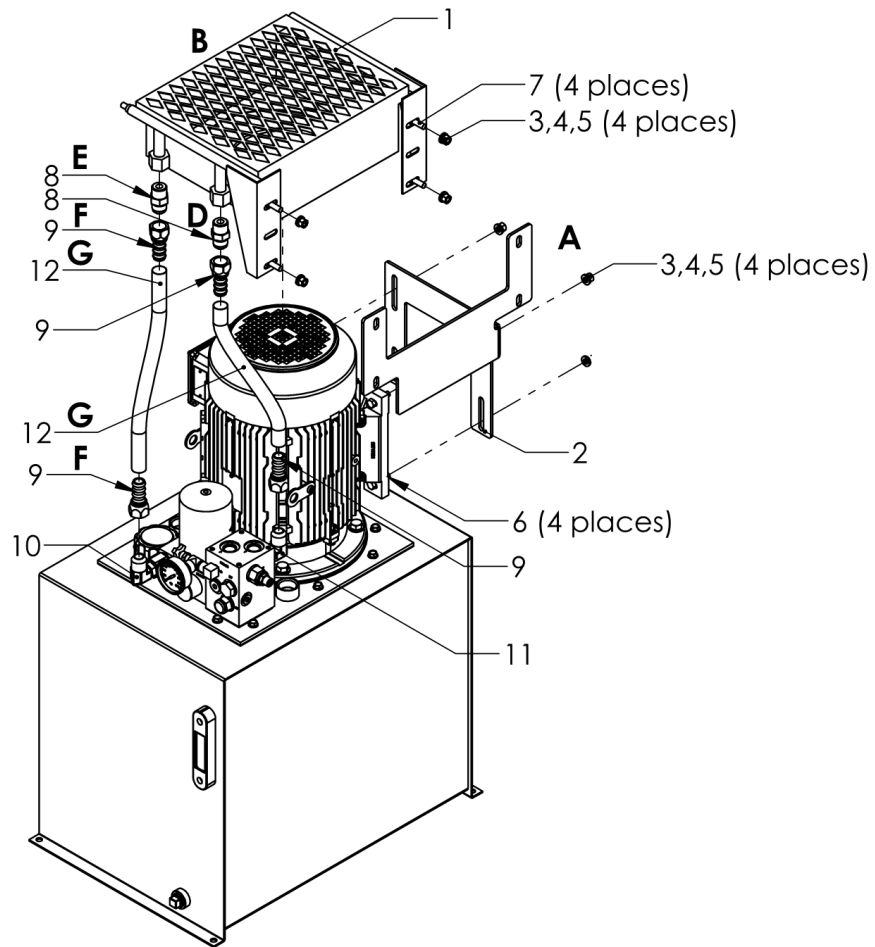


3. **The path of fluid through the return filter manifold must first be modified as follows:**

- A. Unscrew the filler/breather cap from the reservoir and set it aside.
- B. Loosen the (4) pcs of socket head cap screws holding the filter manifold to the base manifold and remove the filter assembly.
- C. Install the ½" NPT plug (item #13 on page 1) into the base manifold as shown below and ensure that the o'ring around this passage remains in place.
- D. Remove the #10 SAE plug from the rear port of the base manifold and install the 90° elbow (item #11 from page 1). Position the elbow slightly off vertical (tilt approximately 20° toward the filter) and tighten the lock nut (do not over tighten).
- E. Remove the #12 SAE plug from the adapter in the filter manifold return port and install the 90° elbow (item #10 from page 1). Position the elbow to point vertically and tighten the lock nut (do not over tighten).
- F. Ensure that all the o'rings are in place on the base manifold and reinstall the return filter manifold assembly to the base manifold. Snug up all (4) socket head cap screws then torque to 9 ft.lb <108 in.lb>.
- G. Reinstall the filler / breather cap.



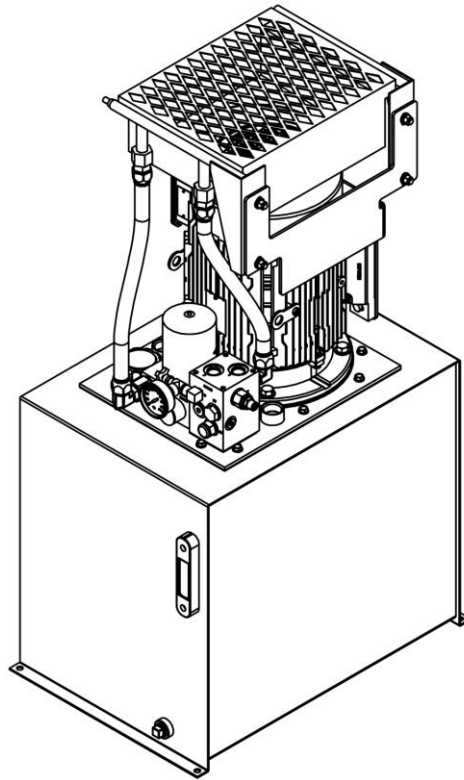
4. Install the heat exchanger bracket, heat exchanger, fittings, and hoses to the hydraulic unit per the instructions below and the diagram on page 4 as follows:
 - A. Install the heat exchanger bracket to the motor using the four pcs of 1.5" long bolts (item #6 on page 1), washers and nuts (items #3, #4, and #5 from page 1) and leave these slightly loose to allow alignment of the bracket and heat exchanger.
 - B. Install the rubber gasket to the heat exchanger housing opening (cut off any excess length) then position the heat exchanger on top of the electric motor and install the four pcs of 1" long bolts (item #7 on page 1), washers, and nuts (items #3, #4, and #5 from page 1) to secure the heat exchanger to the bracket (leave slightly loose to allow alignment).
 - C. Align the bracket and heat exchanger on top of the electric motor so that the heat exchanger sits level on the fan shroud of the motor (there should be no gaps between the rubber gasket and the fan shroud). Snug up then tighten the 8 fasteners (4 holding the bracket to the motor and 4 holding the heat exchanger to the bracket).
 - D. Install the straight fitting (item #8 from page 1) into the inlet port of the heat exchanger then tighten the lock nut. **Note, the heat exchanger core uses copper tubing and the fittings are SAE O'ring type so do not overtighten.**
 - E. Install the straight fitting (item #8 from page 1) into the outlet port of the heat exchanger and tighten the fitting (do not over tighten).
 - F. Cut the ¾" push-on hose (item #12 from page 1) into two pcs, one at 11.5" long and the second at 14.5" long and install the (4) barbed hose ends (item #9 from page 1) by placing the hex end of the fitting against a flat surface and pushing the hose over the barb until the end of the hose meets the yellow plastic ring near the hex.
 - G. Install the shorter hose assembly between the base manifold and the heat exchanger inlet and the 2nd, longer hose between the heat exchanger outlet and the return filter manifold inlet as shown on the diagram then tighten all 4 hose ends making sure to hold the fittings at the heat exchanger with a wrench to avoid damage to the copper heat exchanger connections. **Note, the barbed fittings have swivel ends so ensure that the hoses do not rotate when tightening as this may kink the hoses causing excess back pressure through the hoses.**



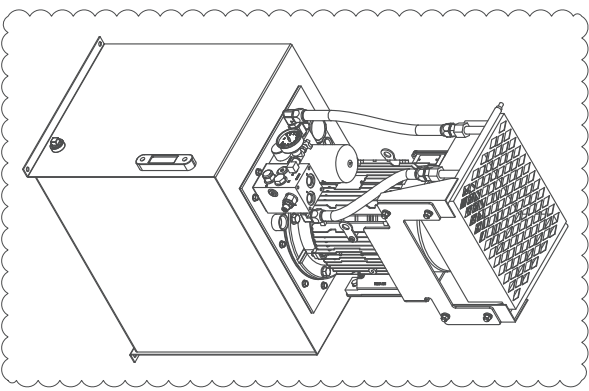
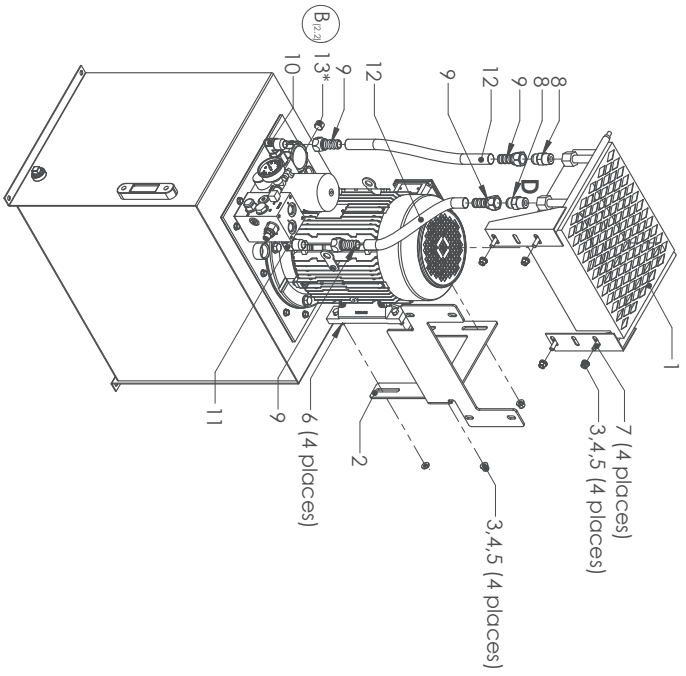
Notes:

- A. *The barbed fittings have swivel ends so ensure that the hoses do not rotate when tightening as this may kink the hoses causing excess back pressure through the hoses.*
 - B. *SAE fittings use o'rings to seal so do not over tighten.*
-

5. Hydraulic power unit shown with heat exchanger installed.



#	JDE Number	Part Number	Description	Qty/Unit
1	51020420034	ZPRM-19-22	AIR COOLER, REAR MOUNT	1 PC
2	51020101428	FPN1428	BRACKET FOR RM-19&213~256TC.MT	1 PC
3	51020521324	FPN1324	3/8" -16 HEX NUT , GR 8 PLTD	8 PC
4	500208607839	FP7839	WASHER, INTERNAL TOOTH LOCK,3/8	8 PC
5	500208601970	FP1970	WASHER,PLAIN,FLAT,3/8in	8 PC
6	51020691433	FPN1433	SCREW HEX HEAD,3/8-16UNC X 1.5	4 PC
7	500206907841	FP7841	SCREW,HH/C,3/8-16 X 1.0,GRD5,ZI	4 PC
8	51020330288	ZH848FSO-12-12	FITTING ADAPTER,#121C,#12SAE	2 PC
9	51020330567	ZKKA12-12NJ	FITTING,HOSE END,#12 JIC X 3/4	4 PC
10	51020330335	ZH849FSO-12-12	FITTING ADAPTER,#121C,#12SAEM	1 PC
11	51020331923	FP1923	ELBOW,90M,FLARE,3/4 TX/7/8-14	1 PC
12	51020440020	ZM12L3S-BLK	HOSE,3/4" P"USHLOCK	4 FT
13	500205902348	FP2348	PLUG,PIPE,FLUSH,1/2"-14NPT	1 PC



* Please refer to the FPTN103-SA installation manual to install #13, 1/2"NPT plug, into the base manifold.

DO NOT SCALE DRAWING		Unless otherwise specified		Item No.	
Overall dimension	Dimension tolerance	Break edges	Customer	51024420103	
XXX	± .010"	.005 - .010			
Fraction	± .005"	Remove burrs			
Angles	± .1/2°				
Location	Type of document	Weight (lbs)			
London, (ON)	ASSEMBLY DRAWING				
Description 1/2		Created by	Released by		
FPTN103-SA		XL.	H.Z.		
HT EXR KIT, RM-19-22, 213~215TC		Drawing No.	FPTN103-SA		
BUCHER hydraulics		Status	RELEASED		
This document contains information of a proprietary nature, which is the property of Bucher Hydraulics. Disclosure or reproduction is prohibited without written consent. Copyright © 2024 by Bucher Hydraulics.		Scale	1:12		
		Pages	1 / 1		
		See:	ANSI A		

REV	QTY	DESCRIPTION	DATE	APPROVED
B	2	(1) 3/8"NUT PART # UPDATED, (2) 1/2"NPT PLUG ADDED	10/16/2024	H.Z.