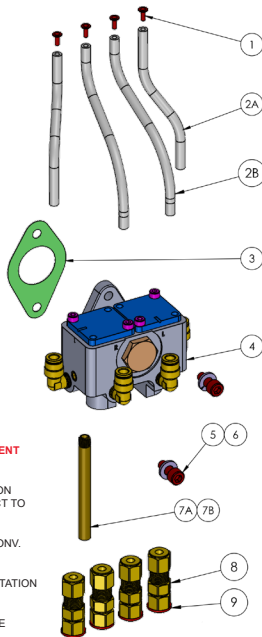


INSTALLATION INSTRUCTIONS

FOR 500 PUMPS: PART # OPA-050C / OPA-050C-R | FOR 870 PUMPS: PART # OPA-080C / OPA-050C-R

ITEM	PART #	DESCRIPTION	QTY
1	OPP-050-16	TUBE INSERT	4
2A	OPX-050-450 OPX-050-550	PLASTIC OIL LINES - SIDE OUTLETS - 4-1/2" LONG (500 PUMP) PLASTIC OIL LINES - SIDE OUTLETS - 5-1/2" LONG (870 PUMP)	2
2B	OPX-050-550 OPA-080-650	PLASTIC OIL LINES - FRONT OUTLETS - 5-1/2" LONG (500 PUMP) PLASTIC OIL LINES - FRONT OUTLETS - 6-1/2" LONG (870 PUMP)	2
3	RF500-27	GASKET - OIL PUMP	1
4	OPA-050	FRUITLAND OIL PUMP, COMPLETE WITH PUSH- TO-LOCK FITTINGS & FLOW PRE-ADJUSTED	1
5	HBM-060-166	S.H.C.S. - M6 x 16mm LONG - B.O.	2
6	HWM-060-21	LOCKWASHER - M6 - Z.P.	2
7A 7B	OPM-050-15 OPM-080-15	INTAKE PIPE - 1/16" NPT x 3" LONG (500 PUMPS) INTAKE PIPE - 1/16" NPT x 4-1/2" LONG (870 PUMPS)	1
8	FCD-011-250-BR	BULKHEAD FITTING	4
9	U-SEAL	U-SEAL WASHER - FOR OIL TANK BULKHEAD	4



NOTE 1: PRIOR TO **FEB. 2024**, FRUITLAND OIL PUMP IS PRE-ADJUSTED FOR THE CONSUMPTION OF 500 & 870 SERIES VACUUM PUMPS. **DO NOT MOVE THE ADJUSTMENT SCREW** WHEN INSTALLING. OIL PUMPS AFTER FEB. 2024 ARE ADJUSTABLE.

NOTE 2: OPX-050-450/ OPX-050-550 (ITEM 2A) MUST CONNECT TO OUTLET FITTINGS ON THE SIDE OF OIL PUMP (SHORT) OPX-050-550 / OPX-080-650 (ITEM 2B) MUST CONNECT TO OUTLET FITTINGS ON THE FRONT OF OIL PUMP (LONG)

NOTE 3: FOR OIL PUMP INSTALLATION INSTRUCTIONS, SEE DOCUMENT # OPA-050-CONV.

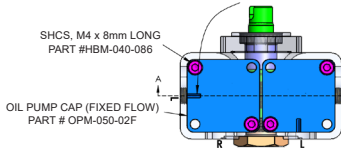
NOTE 4: **FRUITLAND OIL PUMPS ARE SET FOR LEFT HAND ROTATION (CCW),** FOR **RIGHT HAND ROTATION (CW)** INSTRUCTIONS, SEE DOCUMENT OIL PUMP ORIENTATION CONVERSION

NOTE 5: ITEMS 8 & 9 ARE INCLUDED WITH OIL PUMP KIT AND WILL BE REPLACING THE BULKHEADS AND WASHERS CURRENTLY ON THE VACUUM PUMP

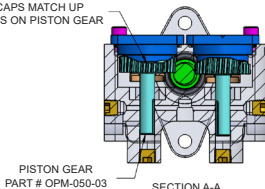
OIL PUMP ORIENTATION CONVERSION

CHANGING THE OIL PUMP FROM LEFT HAND (CCW) TO RIGHT HAND (CCW) ROTATION

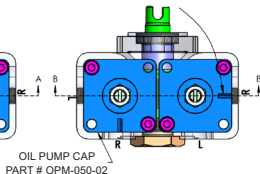
LEFT HAND (CCW) ROTATION
(LOOKING FROM OIL PUMP DRIVE SHAFT FACE)
CAP NOTCH LINES UP WITH "L" ON HOUSING



CAM ON CAPS MATCH UP
WITH VALLEYS ON PISTON GEAR



RIGHT HAND (CW) ROTATION
(LOOKING AT OIL PUMP DRIVE SHAFT FACE)
CAP NOTCH LINES UP WITH "R" ON HOUSING



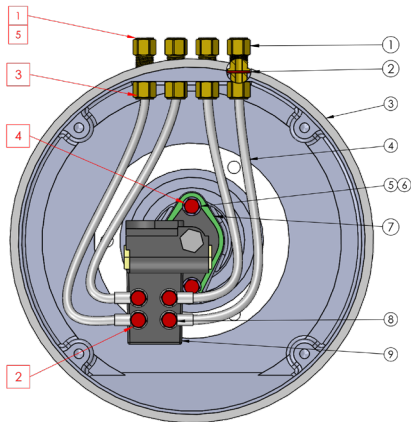
SECTION B-B
ADJUSTABLE OIL PUMP
SHOWN FOR REFERENCE

OIL PUMP ROTATION CONVERSION INSTRUCTIONS & NOTES

- REMOVE M4 SHCS FROM CAP AND ROTATE PUMP CAPS 90°
- FOR LEFT HAND (CCW) ROTATION - LINE UP NOTCH ON CAP WITH "L" ON HOUSING
- FOR RIGHT HAND (CW) ROTATION - LINE UP NOTCH ON CAP WITH "R" ON HOUSING
- CRITICAL FOR TIMING - ALIGN THE PISTON GEARS SO THAT THEIR VALLEYS ON THE GEARS MATCH UP WITH THE CAM ON THE CAP
- BEFORE TIGHTENING, PRESS PISTON GEAR INTO HOUSING TO ENSURE THAT IT IS ENGAGING WITH THE WORM. ROTATE SLIGHTLY UNTIL IT ENGAGES WITH THE WORM GEAR.
- IF NECESSARY, TOP OIL PUMP HOUSING WITH 80W GEAR LUBE BEFORE INSTALLING OIL PUMP CAPS
- SOME PARTS IN OIL PUMP ASSEMBLY ARE HIDDEN IN SECTION VIEWS

REMOVAL OF THE OIL PUMP

INSTRUCTIONS ON HOW TO REMOVE THE OLD OIL PUMP TO INSTALL THE NEW FRUITLAND OIL PUMP



ITEM	PART #	DESCRIPTION	QTY
1	FCD-011-250-BR	BULKHEAD FITTING	4
2	U-SEAL	WASHER - U-SEAL FOR OIL TANK BULKHEAD	4
3	RF500-22	LARGE SEAL HOUSING	1
4	RF500-51X'	INTERNAL OIL LINE WITH SOLDER FITTING	4
5	HBM-060-161 ²	HEX BOLT - M6 x 16mm LONG - Z.P.	2
6	HWM-060-21	LOCKWASHER - M6 - Z.P.	2
7	RF500-27	GASKET - OIL PUMP	1
8	RF500-29	OIL PUMP	1
9	250-6A	HOLLOW BOLT - M6	4

NOTE: OIL PUMPS PRIOR TO FEB. 2024 HAVE ADJUSTABLE CAPS. THEY ARE PRE-ADJUSTED FOR THE VACUUM PUMP.

DO NOT CHANGE THE ADJUSTMENT SCREW SETTING OR ROTATION WHEN CONVERTING TO THE FRUITLAND OIL PUMP

¹ INDIVIDUAL PART # BASED ON PUMP OUTLET LOCATION

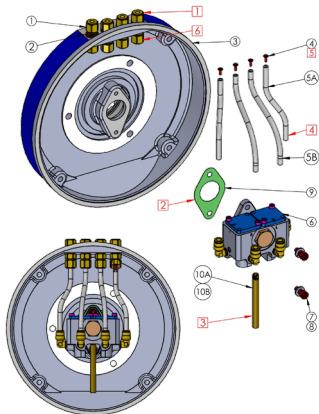
² HEX BOLT MAY BE SHCS (PART # HBM-060-166)

NOTE: CIRCLE BUBBLES ARE BOM ITEMS.
RED SQUARE BUBBLES ARE INSTRUCTION STEPS

OIL PUMP REMOVAL INSTRUCTIONS	
STEP	DESCRIPTION
1	Disconnect External Oil Lines from Bulkhead Fittings (4) (External Oil Lines Not Shown)
2	Unscrew M6 Hollow Bolts to Remove Oil Lines from Oil Pump
3	Remove Internal Oil Lines from Bulkhead Fittings (4)
4	Unscrew Two (2) M6 Hex Bolts to Remove Oil Pump
5	Remove Four (4) Bulkhead Fittings & U-Seal Washers from the Large Seal Housing. These Will Be Replaced

OIL PUMP ORIENTATION CONVERSION

CHANGING THE OIL PUMP FROM LEFT HAND (CCW) TO RIGHT HAND (CCW) ROTATION



ITEM	PART #	DESCRIPTION	QTY
1	FCD-011-250-BR	BULKHEAD FITTING	4
2	U-SEAL	WASHER - U-SEAL FOR OIL TANK BULKHEAD	4
3	RF500-22	LARGE SEAL HOUSING	1
4	RF500-51X'	INTERNAL OIL LINE WITH SOLDER FITTING	4
5A	OPX-050-450 OPX-050-550	PLASTIC OIL LINES - SIDE OUTLETS - 4-1/2" LONG (500 PUMP) PLASTIC OIL LINES - SIDE OUTLETS - 5-1/2" LONG (870 PUMP)	2
5B	OPX-050-550 OPX-080-650	PLASTIC OIL LINES - FRONT OUTLETS - 5-1/2" LONG (500 PUMP) PLASTIC OIL LINES - FRONT OUTLETS - 6-1/2" LONG (870 PUMP)	2
6	OPA-050	FRUITLAND OIL PUMP	1
7	HBM-060-166	S.H.C.S. - M6 x 16mm LONG - B.O.	2
8	HWM-060-21	LOCKWASHER - M6 - Z.P.	2
9	RF500-27	GASKET - OIL PUMP	1
10A	OPM-050-15	INTAKE PIPE, 1/16" NPT x 3" LONG (500 PUMPS)	1
10B	OPM-080-15	INTAKE PIPE, 1/16" NPT x 4-1/2" LONG (870 PUMPS)	

FRUITLAND OIL PUMP INSTALLATION INSTRUCTIONS

STEP	DESCRIPTION
1	Install Four (4) Bulkhead Fittings and U-Seal Washers to Seal Housing. Note 1: Align the Washers with the Holes in the Seal Housing before Installing the Bulkhead Fitting. Note 2: U-Seal Washers are on the Outside of Seal Housing. Note 3: Long End of Bulkhead Fitting is Inside of Seal Housing Note 4: Bulkhead Furrel (Sleeve) and Nut Should be Installed on the Oil Lines Before Inserting the Oil Lines into the Bulkheads
2	Mount Gasket and Oil Pump to Seal Housing using Two (2) M6 x 16mm Long SHCS & Lock Washers
3	Install Intake Tube to Bottom of Oil Pump.
4	Install Plastic Oil Lines to Push-to-Lock Fittings on Oil Pump. Shorter Oil Lines (Item 3B) Connect to Side Outlets. Longer Oil Lines (Item 3A) Connect to Front Outlets
5	Critical! Insert One (1) Tube Insert at the Top of Each Oil Line
6	Install Oil Line with Tube Insert into Bulkhead Fitting. Do Not Over-Tighten