



## LS-1 ELECTRIC WATER PUMP

P/N 63566

This pump kit replaces the cumbersome mechanical water pump found on LS series engines. Water is drawn from the radiator and into the pump directly, eliminating the LS thermostat on the inlet side. After circulating through the block, hot water exits the two –12AN fittings on the top or front of the adapter blocks. Water can then be returned to the radiator. By combining accessories listed below, you can come up with a number of custom configurations.

Note: Using this pump will eliminate the serpentine belt driven water pump pulley. A conversion to V-belt or cog belt driven accessories can be made by using Moroso's 63860 drive mandrel kit.

### **INSTALLATION**

Before you install the water pump, check for which side the water pump inlet housing port should face for easiest plumbing to the lower radiator hose. Some of our customers use after market radiators with lower hose connections in other than stock locations. Our inlet housing can be orientated to accommodate either driver or passenger side routing. Perform this operation prior to installing the water pump on the vehicle. It is much easier. See the instructions below for RE-ORIENTATION of the inlet housing if necessary.

**CAUTION: Seal failure will occur if pump is operated without water or coolant in the system or the pump.**

Lightly lubricate the fasteners and install the adapter blocks with stock factory gaskets (not supplied) or RTV silicon to the front of the motor using the (6) 8MM X 55MM length socket head cap screws provided. **NOTE:** If this installation is to be used with a 1/4" thick front motor plate, use the supplied 8MM X 65MM length cap screws. You will also need OEM gaskets or silicon on both sides of the motor plate. The first pass torque is 11 ft lbs. The final pass torque is 16 ft lbs. Place the O-rings in the receiver grooves on the front of the adapter blocks. There are two different O-rings with the thickness of .070". The O-ring will only fit one adapter or the other. Fasten the water pump to the 3/8-16 tapped holes in the adapter blocks and torque to 25 ft lbs max. Plumb the inlet side of the water pump using a hose and adapter fitting of your choice. (See Accessories). Plumb the return sides using two –12 AN hose assemblies from either combination top or front ports of the adapters. Use a remote thermostat housing (See Accessories) to collect the two hoses and return the water to the radiator. Water temperature and flow can be regulated using a conventional thermostat or water restrictors. Make sure to provide a means to relieve system pressure and contain expelled coolant. Moroso offers a complete line of radiator caps and overflow tanks.

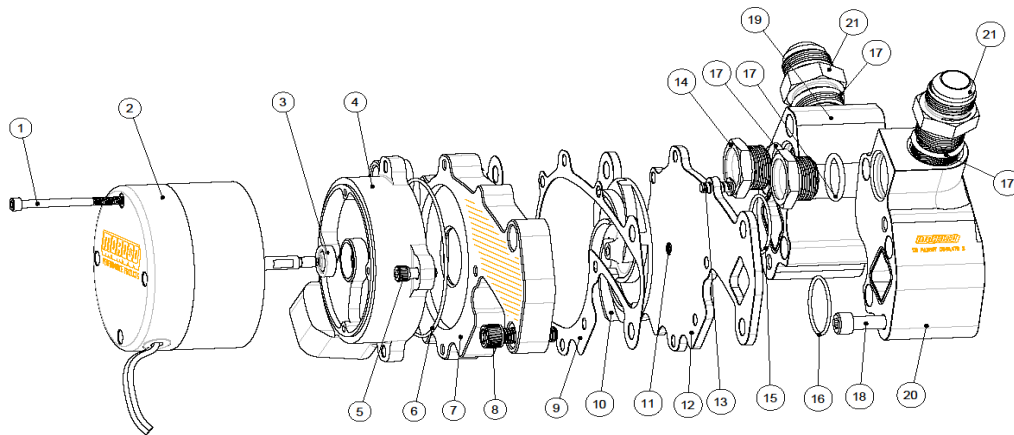
Note: Incorrect wiring of this pump will cause damage to the pump motor and/or your engine. The Red Wire is Positive and should be connected to a 12 to 16 Volt maximum system with a 20 Amp fused source. The Black Wire is Negative and should be connected to a suitable ground such as the engine or chassis.

#### **RE-ORIENTATION** of the inlet housing

1. Use a piece of masking tape and wrap it around the motor cap and the black stator ring at the joint. This will keep the two motor assemblies aligned to each other and help keep the parts from separating.
2. Remove (2) of the (4) socket cap screws (Det. 5). Place a drop of Loctite 242 thread retainer on these (2) screws so they will be ready for re-installation.
3. Keep constant pressure on the motor cap toward the water pump plate (Det. 7) while removing the last (2) screws to insure the O-ring does not come out of its seat.
4. Carefully rotate the inlet housing 90 degrees to the desired location and re-install the (2) socket cap screws that have Loctite applied.
5. Add Loctite to the other (2) screws and re-install them.
6. Remove (2) of the (4) motor cover screws (Det. 1) and add Loctite 242 thread retainer to them. Remove the next (2) screws while keeping pressure on the motor cap toward the water pump plate.
7. Rotate the motor cap and the stator housing 90 degrees back to its original position. Reinstall the (2) screws with Loctite. (Note they are in alignment with the screws holding the inlet housing). Add Loctite to the last (2) screws and re-install them.

**IN ERROR** if the O-ring slipped out of its' seat while re-orientating:

1. Remove the (8) button head screws (Det. 13).
2. Remove the Rear Water Pump Plate (Det. 12)
3. Remove the E-circlip (Det. 11)
4. Use a 1/4" Snap-on or Bluepoint open end wrench and insert it thru the water pump inlet hole to the motor shaft. The motor shaft has (2) wrench flats for loosening/tightening the impeller. Remove the impeller by a counterclockwise rotation using a pin faced spanner wrench. There are (2) holes in the impeller for the use of the spanner wrench.
5. Remove the (4) socket head cap screws (Det. 5) from the inlet housing. Check for any damage to the O-ring and replace if necessary.
6. Re-insert the O-ring in the groove and use a small amount of O-ring grease or household Vaseline to help hold the O-ring in place.
7. Use Loctite 242 thread retainer on all fasteners and impeller threads prior to re-installing.
8. Put the water pump components back together in the reverse manner it came apart in.
9. The button head screws should be re-torque to 70inch/lbs.

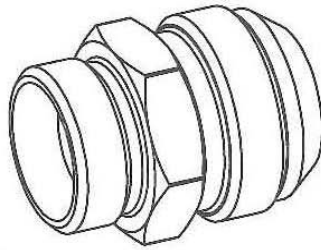


DETAIL	P/N	QUANTITY	DESCRIPTION
1	63565815	4	10-24 X 2.62 SHCS
2	63564751	1	MOTOR ASSEMBLY
3	63540130	1	WATER PUMP SEAL
4	63564200	1	INLET HOUSING
5	0504060	4	1/4-20 X .62 SHCS
6	63565222	1	O-RING
7	63547152	1	W/P PLATE BBC
8	0506210	4	3/8-16 X 1.25 SHCS
9	63547181	1	GASKET BBC
10	63565553	1	IMPELLER 6 VANE
11	63765107	1	E-CLIP
12	63566350	1	REAR W/P PLATE
13	0504044	8	1/4-20 X .5 BHCS
14	21547083	2	PLUGS, -12 AN
15	63566027	1	.070 THK O-RING (P.S.)
16	63566026	1	.070 THK O-RING (D.S.)
17	23850130	4	.116 THK O-RINGS
18	63615300	6	8MM X 55MM SHCS
19	63615700	1	LS-1 ADAPTER P.S.
20	63615600	1	LS-1 ADAPTER D.S.
21	22640230	2	FITTINGS, -12AN
*22	0505204	6	8MM X 65MM
*FOR INSTALLATIONS WITH MOTOR PLATES			

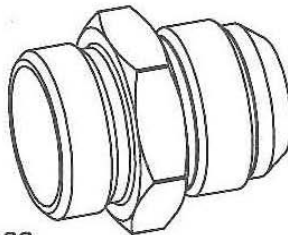
**RECOMMENDED MOROSO ACCESSORIES**

- 63860 - LS-1 DRIVE MANDREL KIT
- 63460 – FILLER NECK –16 AN
- 63461 - AN FILLER NECK,
- 63420 – MANIFOLD FILLER NECK KIT
- 63421 – BILLET FILLER NECK
- 63425 – REMOTE THERMOSTAT HOUSING

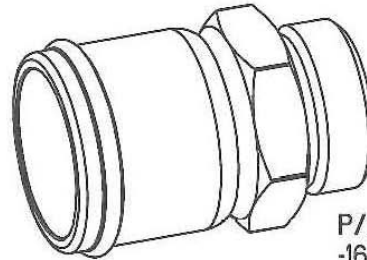
- 63426 – REMOTE THERMOSTAT HOUSING
- 63440 – WATER RESTRICTOR KIT
- 16AN WITH 3/8NPT PORTS
- 63430 – WATER NECK BLEEDER KIT
- 63471 – WATER NECK BLOCK-OFF PLATE



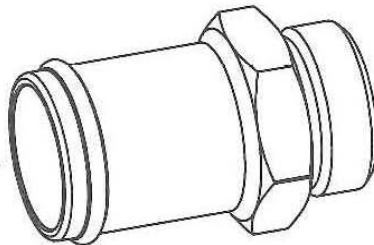
P/N 63525  
-16AN TO -20AN



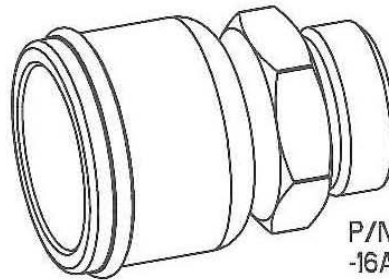
P/N 22622  
-16AN TO -16AN



P/N 63522  
-16AN TO 1 1/2" HOSE



P/N 63521  
-16AN TO 1 1/4" HOSE



P/N63523  
-16AN TO 1 3/4" HOSE

**ALL ABOVE FITTINGS INCLUDE O-RINGS P/N 22643-650**

**For Technical Assistance, Call Moroso's Tech Line at  
(203) 458-0542, 458-0546 8:30am – 5:00pm Eastern Time**

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