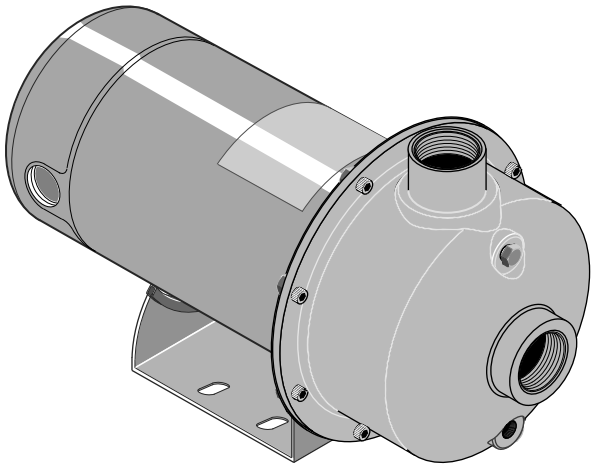
OWNER'S MANUAL

INSTALLATION AND OPERATING INSTRUCTIONS
REPAIR PARTS LIST

SCX1740 SERIES CENTRIFUGAL PUMP

High Head - Noryl® Impellers



MODELS

HP	Model Number	ODP MOTORS		TEFC MOTORS	
		115/230/60/1	208-230/460/60/3	115/230/60/1	208-230/460/60/3
1/2	SCX1740	1740-B78635	1740-B78636	1740-B78647	1740-B78648
3/4	SCX1740	1740-B78637	1740-B78638	1740-B78649	1740-B78650
1	SCX1740	1740-B78639	1740-B78640	1740-B78651	1740-B78652
1-1/2	SCX1740	1740-B78641	1740-B78642	1740-B78653*	1740-B78654
2	SCX1740	1740-B78643*	1740-B78644	1740-B78655*	1740-B78656
2-1/2	SCX1740	1740-B78645*	1740-B78646		1740-B78658

* 230 Volt only.

Taco, Inc.
1160 Cranston Ave., Cranston, RI 02920

BE495-TACO (Rev. 11/13/15)

Recommended pump suction and discharge connections

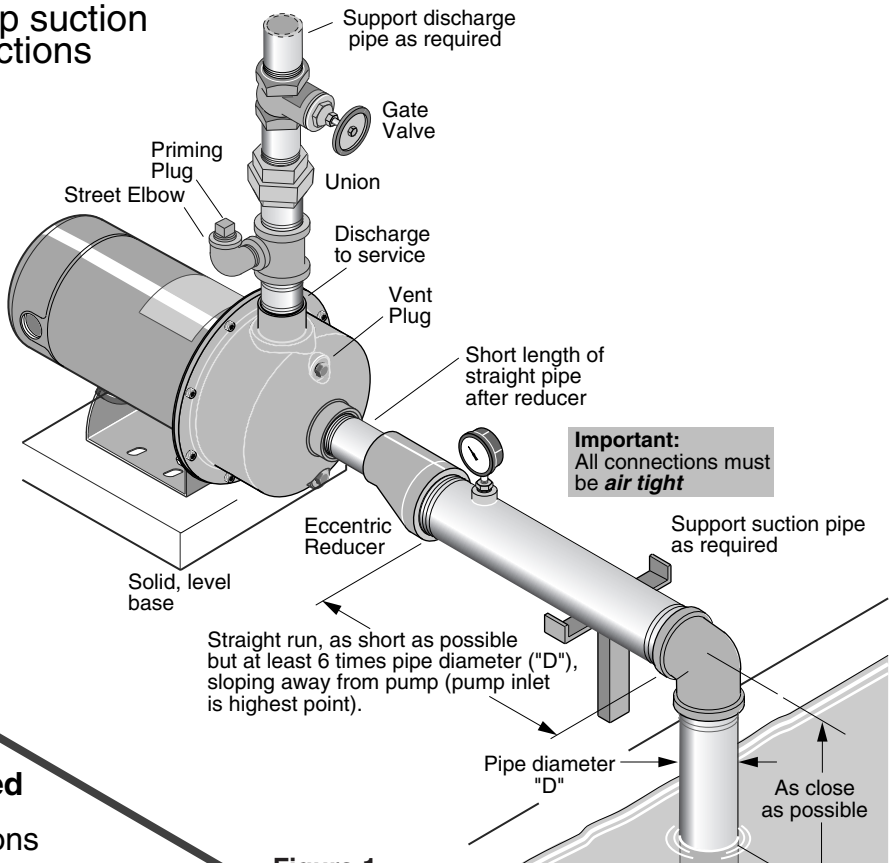


Figure 1

Not **recommended** pump suction and discharge connections

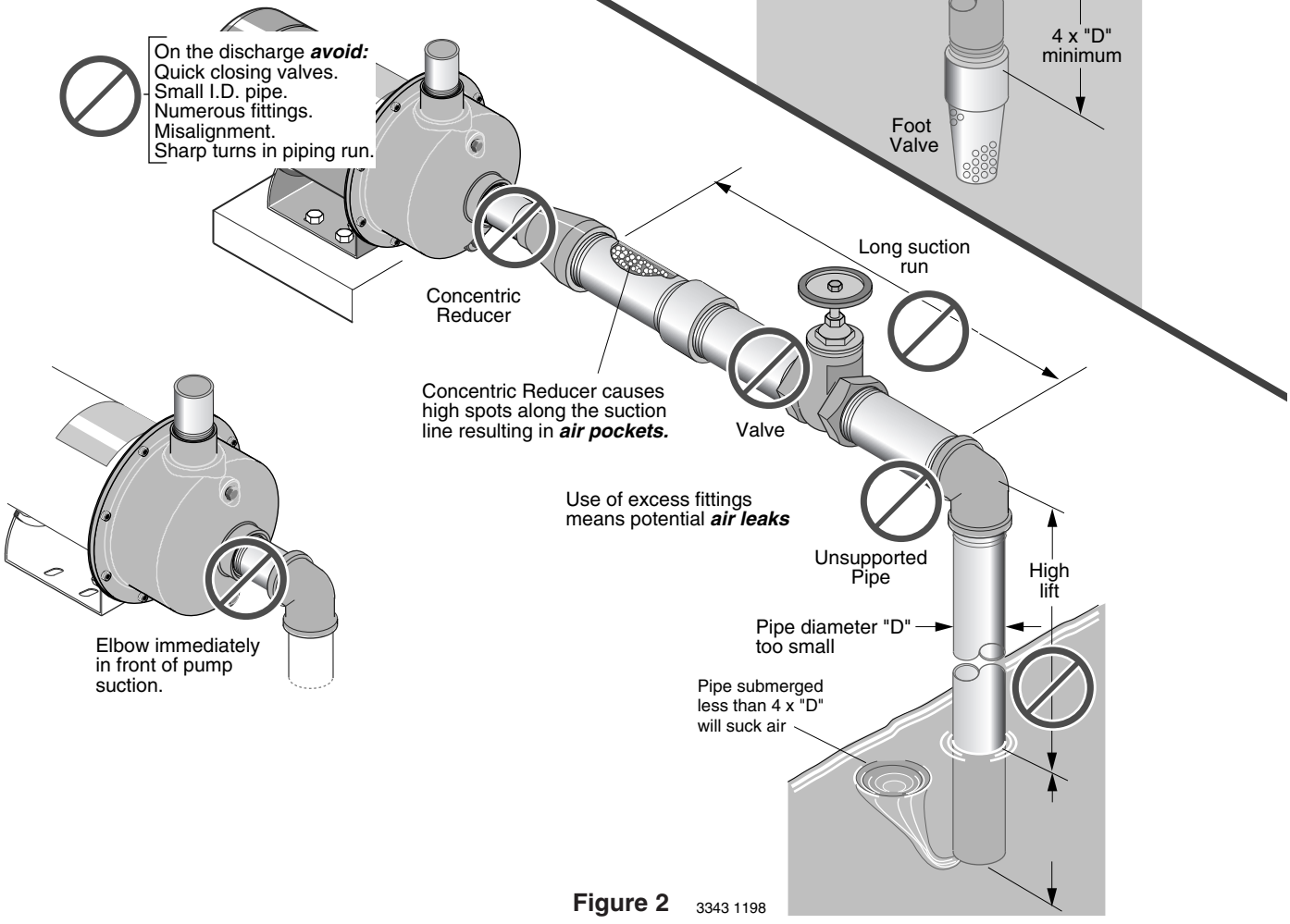


Figure 2 3343 1198

PIPING - GENERAL

Support both suction and discharge piping independently at a point near the pump to avoid putting a strain on the pump housing. Start all piping **AT THE PUMP.**

Increase pipe diameter at both the suction and discharge by one (1) standard pipe size (minimum) to obtain desired performance and flow rate. Refer to Table I when sizing pipe for your pumping system.

NOTE: Do not use pipe with **smaller** diameter on the suction side of pump.

TABLE I

Pipe Tapping Size On Pump		Recommended Pipe Size	
Suction	Discharge	Suction	Discharge
1-1/4	1	1-1/2	1-1/4
1-1/2	1-1/4	2	1-1/2

SUCTION PIPE

Increase pipe size from pump tapping as shown in Table I.

Figure 1 (Page 2) depicts a recommended run of pipe and fittings for the suction side of a centrifugal pump. Please refer to this illustration when choosing pipe and fittings for your suction connection.

IMPORTANT: All connections must be air tight!

Figure 2 (Page 2) depicts conditions that are **NOT DESIRABLE** on the suction side of a centrifugal pump and may cause problems in flow rate and priming. Please look this illustration over carefully before choosing pipe and fittings for your suction connection.

DISCHARGE PIPING

Increase pipe size from pump tapping as show in Table I. Figure 1 (Page 2) depicts a recommended run of pipe and fittings for the discharge. Install tee with priming plug as close to pump as possible. Figure 2 (Page 2) notes conditions that should be avoided. Please read over carefully before making discharge connection.

PRIMING THE PUMP

A pump is primed when all air in the suction line and pump volute has been evacuated and replaced with water.

To Prime:

1. Close valve in discharge line.
2. Remove priming plug from tee and fill pump and suction line with water until water is flowing back out of tee.
3. Replace priming plug.
4. Start pump and slowly open valve until desired water flow is achieved.
   NOTE: If no water is pumped after 5 minutes, turn off pump, close valve, and repeat steps 1 thru 4.

⚠ WARNING **Risk of explosion and scalding**. Never run pump against closed discharge. To do so can boil water inside pump, causing hazardous pressure buildup and possible explosion.

⚠ CAUTION **Risk of flooding**. Do not run the pump dry. This will damage mechanical seal and void warranty. It may cause burns to person handling pump.

⚠ CAUTION **Motor normally operates at high temperature and will be too hot to touch.** It is protected from heat damage during operation by an automatic internal cutoff switch. Before handling pump or motor, stop motor and allow it to cool for 20 minutes.

TABLE II - RECOMMENDED FUSING AND WIRING DATA - 60/50 CYCLE MOTORS

MODEL	MOTOR HP	VOLTAGE	MAX. LOAD AMPERES	BRANCH FUSE* RATING AMPS	DISTANCE IN FEET FROM MOTOR TO METER				
					0' TO 100'	101' TO 200'	201' TO 300'	301' TO 400'	401' TO 500'
					WIRE SIZE				
SINGLE PHASE - ODP MOTORS									
SCX1740	1/2	115/230/1	9.9/4.95	15/15	14/14	10/14	10/14	6/14	6/12
SCX1740	3/4	115/230/1	12.4/6.2	20/15	12/14	10/14	8/14	6/12	6/12
SCX1740	1	115/230/1	14.8/7.4	20/15	12/14	8/14	6/14	6/12	4/10
SCX1740	1-1/2	115/230/1	19.9/9.95	25/15	10/14	8/14	6/12	4/10	4/10
SCX1740	2	115/230/1	24.0/12.0	30/15	10/14	6/12	6/12	4/10	3/8
SCX1740	2-1/2	115/230/1	26.0/13.0	35/20	8/12	6/12	4/10	4/10	3/8
SINGLE PHASE - TEFC MOTORS									
SCX1740	1/2	115/230/1	8.2/4.1	15/15	14/14	12/14	10/14	8/14	8/12
SCX1740	3/4	115/230/1	11.6/5.8	20/15	14/14	10/14	8/14	6/14	6/12
SCX1740	1	115/230/1	13.2/6.6	20/15	12/14	10/14	8/14	6/12	6/10
SCX1740	1-1/2	230/1	6.9	25/15	14	14	14	12	12
SCX1740	2	230/1	8.7	15	14	14	12	12	10
THREE PHASE - ODP MOTORS									
SCX1740	1/2	230/460/3	2.3/1.15	15	14/14	14/14	14/14	14/14	14/14
SCX1740	3/4	230/460/3	3.1/1.55	15	14/14	14/14	14/14	14/14	14/14
SCX1740	1	230/460/3	3.6/1.8	15	14/14	14/14	14/14	14/14	14/14
SCX1740	1-1/2	230/460/3	4.7/2.35	15	14/14	14/14	14/14	14/14	14/14
SCX1740	2	230/460/3	6.8/2.4	15	14/14	14/14	14/14	12/14	12/14
SCX1740	2-1/2	230/460/3	8.5/4.25	15	14/14	14/14	14/14	12/14	12/14
THREE PHASE - TEFC MOTORS									
SCX1740	1/2	208-230/460/3	2.2/1.1	15	14/14	14/14	14/14	14/14	14/14
SCX1740	3/4	208-230/460/3	2.9/1.45	15	14/14	14/14	14/14	14/14	14/14
SCX1740	1	208-230/460/3	3.6/6.8	15	14/14	14/14	14/14	14/14	14/14
SCX1740	1-1/2	208-230/460/3	4.8/2.4	15	14/14	14/14	14/14	14/14	14/14
SCX1740	2	208-230/460/3	6.0/3.0	15	14/14	14/14	14/14	14/14	12/14
SCX1740	2-1/2	208-230/460/3	7.0/3.5	15	14/14	14/14	14/14	12/14	12/14

*A Fusetron is recommended instead of a fuse in any motor circuit.

ELECTRICAL

Connection diagram for dual voltage, single-phase motors. Your dual-voltage motor's terminal board (under the motor end cover) will match one of the diagrams below. Follow that diagram if necessary to convert motor to 115 Volt power. Connect power supply wires to L1 and L2.

For TEFC motors, see Figure 6, Page 5.

For 3-phase motors and motors that do not match these pictures, follow the connection diagram on the motor nameplate, or in the connection box.

THE MOTOR IS SET FOR 230 VOLTS WHEN SHIPPED.

To change the motor to use 115 volts:

1. Turn off power
2. Remove the back motor cover.
3. Use a screwdriver or 1/2" wrench and turn the voltage selector dial counterclockwise until 115 shows in the dial opening.
4. Reinstall the motor cover.

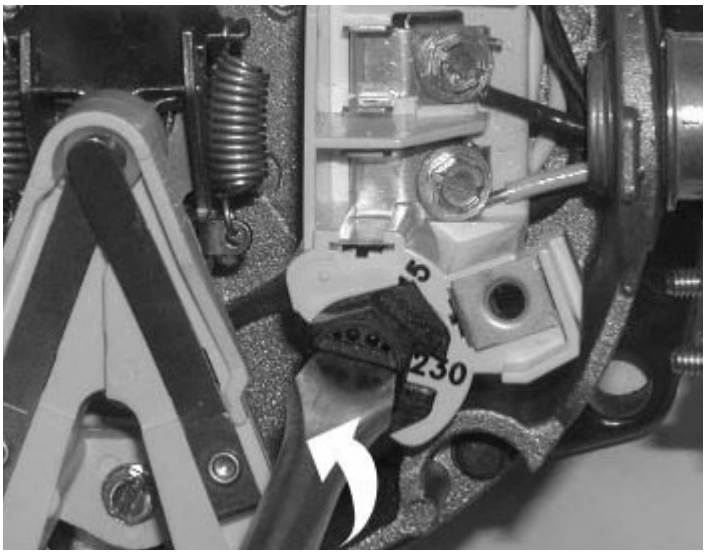


Figure 3: Changing the Voltage Setting

Figure 4: Motor Set for 115 Volt Operation

⚠WARNING Hazardous voltage. Can shock, burn, or cause death. Disconnect power to motor before working on pump or motor. Ground motor before connecting to power supply.

WIRING

⚠ Ground motor before connecting to electrical power supply. Failure to ground motor can cause severe or fatal electrical shock hazard.

⚠ Do not ground to a gas supply line.

⚠ To avoid dangerous or fatal electrical shock, turn OFF power to motor before working on electrical connections.

⚠ Supply voltage must be within ±10% of nameplate voltage. Incorrect voltage can cause fire or damage motor and voids warranty. If in doubt consult a licensed electrician.

⚠ Use wire size specified in Wiring Chart (Page 3). If possible, connect pump to a separate branch circuit with no other appliances on it.

⚠ Wire motor according to diagram on motor nameplate. If nameplate diagram differs from diagrams above, follow nameplate diagram.

ODP Motors, Single Phase

1. Install, ground, wire and maintain your pump in compliance with the National Electrical Code (NEC) in the U.S., or the Canadian Electrical Code (CEC), as applicable, and with all local codes and ordinances that apply. Consult your local building inspector for code information.
2. Provide a correctly fused disconnect switch for protection while working on motor. For switch requirements, consult your local building inspector for information about codes.
3. Disconnect power before servicing motor or pump. If the disconnect switch is out of sight of pump, lock it open and tag it to prevent unexpected power application.
4. Ground the pump permanently using a wire of the same size as that specified in wiring chart (Page 3). Make ground connection to green grounding terminal under motor canopy marked GRD. or ⏚.
5. Connect ground wire to a grounded lead in the service panel or to a metal underground water pipe or well casing at least 10 feet long. Do not connect to plastic pipe or insulated fittings.
6. Protect current carrying and grounding conductors from cuts, grease, heat, oil, and chemicals.
7. Connect current carrying conductors to terminals L1 and L2 under motor canopy. When replacing motor, check wiring diagram on motor nameplate against Figure 3. If the motor wiring diagram does not match either diagram in Figure 3, follow the diagram on the motor.

IMPORTANT: 115/230 Volt single phase models are shipped from factory with motor wired for 230 volts. If power supply is 115 volts, remove motor canopy and reconnect motor for 230 volts. Do not try to run motor as received on 115 volt current.

8. Motor has automatic internal thermal overload protection. If motor has stopped for unknown reasons, thermal overload may restart it unexpectedly, which could cause injury or property damage. Disconnect power before servicing motor.
9. If this procedure or the wiring diagrams are confusing, consult a licensed electrician.

SERVICE

PUMP SERVICE

This centrifugal pump requires little or no service other than reasonable care and periodic cleaning. Occasionally, however, a shaft seal may become damaged and must be replaced. The procedure as outlined below will enable you to replace the seal.

NOTICE: Pumps use mechanical seals with a rubber seat ring or a sealing O-Ring. THESE SEALS ARE COMPLETELY INTERCHANGEABLE.

NOTICE: The highly polished and lapped faces of this seal are easily damaged. Read instructions and handle the seal with care.

Some models are equipped with an impeller screw, which has a left hand thread. Before unscrewing the impeller, remove the impeller screw.

REMOVAL OF OLD SEAL

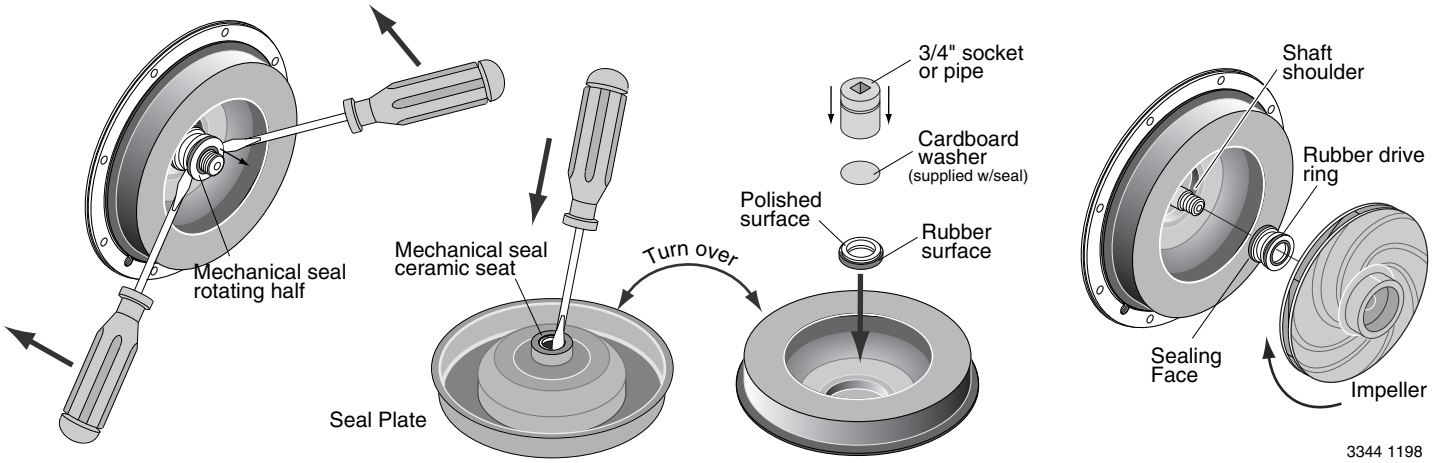
1. After unscrewing impeller, carefully remove rotating part of seal by prying up on sealing washer, using two screwdrivers (see Figure 5A). Use care not to scratch motor shaft.
2. Remove seal plate from motor and place on flat surface, face down. Use a screwdriver to push ceramic seat out from seal cavity (see Figure 5B).

INSTALLATION OF FLOATING SEAT (Figure 5C)

1. Clean polished surface of floating seat with clean cloth.
2. Turn seal plate over so seal cavity is up, clean cavity thoroughly.
3. Lubricate outside rubber surface of ceramic seat with soapy water and press firmly into seal cavity with finger pressure. If seat will not locate properly in this manner, place cardboard washer over polished face of seat and press into seal cavity using a 3/4" socket or 3/4" piece of standard pipe.
4. **DISPOSE OF CARDBOARD WASHER**. Be sure polished surface of seat is free of dirt and has not been damaged by insertion. Remove excess soapy water.

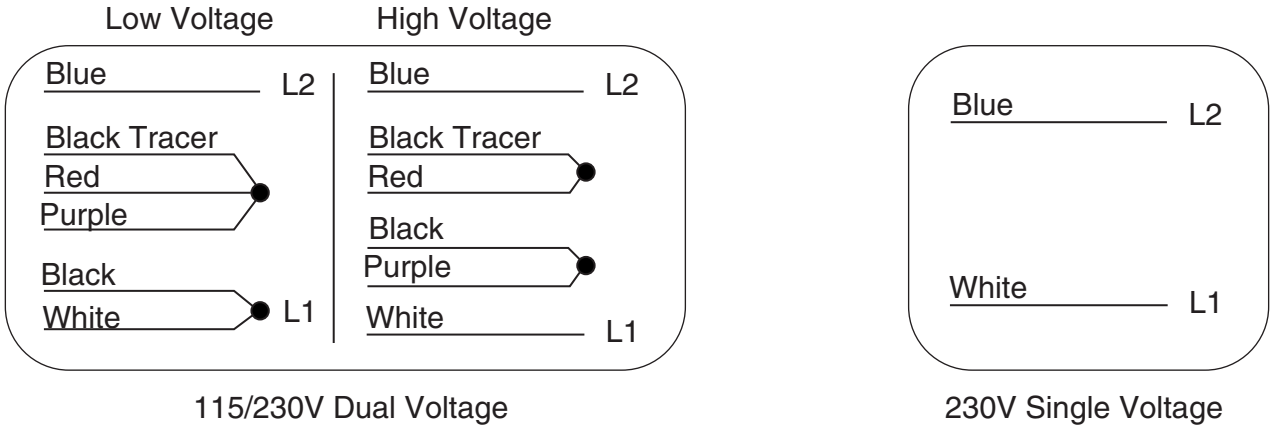
INSTALLATION OF ROTATING PART OF SEAL UNIT (Figure 5D)

1. Reinstall seal plate using extreme caution not to hit ceramic portion of seal on motor shaft.
2. Inspect shaft to make sure that it is clean.
3. Clean face of sealing washer with clean cloth.
4. Lubricate inside diameter and outer face of rubber drive ring with soapy water and slide assembly on motor shaft (sealing face first) until rubber drive ring hits shaft shoulder.
5. Screw impeller onto shaft until impeller hub hits shaft shoulder. This will automatically locate seal in place and move the sealing washer face up against seat facing. Reinstall impeller screw (if used).



A-Seal removal-rotating half **B**-Seal removal-ceramic seat **C**-Ceramic seat installation **D**-Rotating half installation

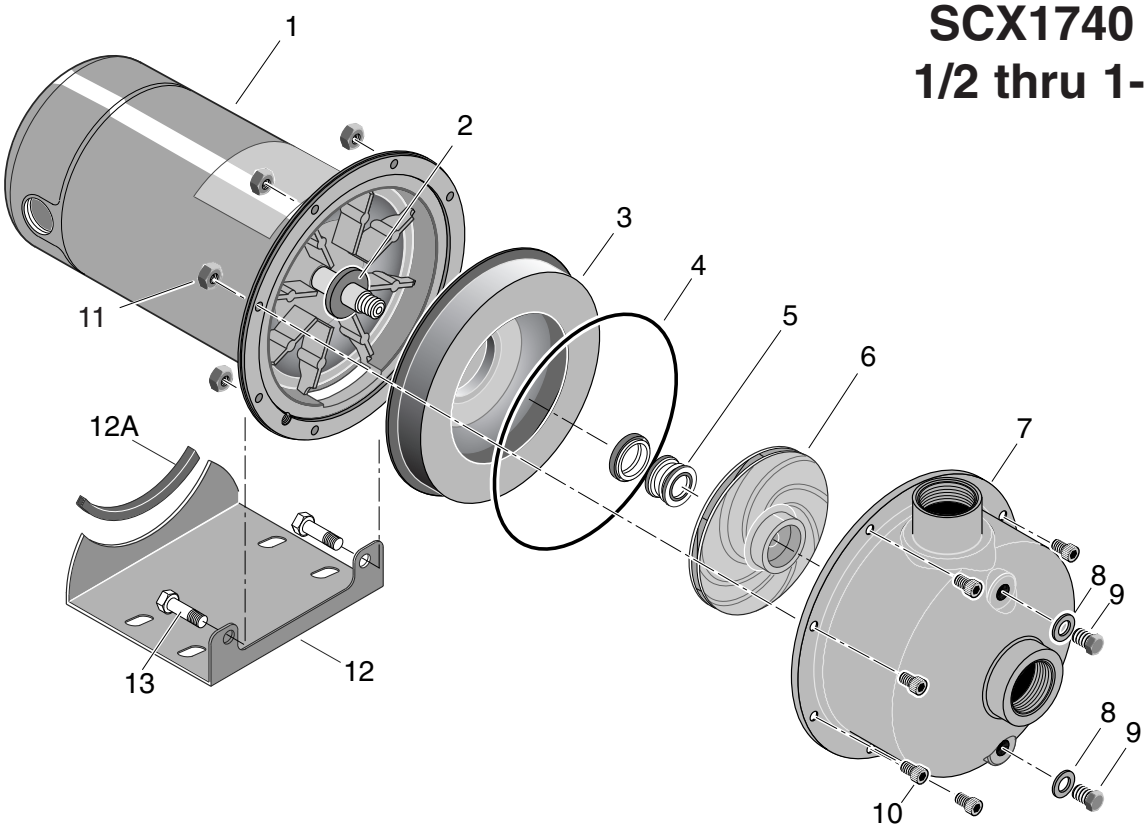
Figure 5: Seal replacement



115/230V Dual Voltage 230V Single Voltage

Figure 6: Wiring connection diagram for 115/230V Dual Voltage and 230V Single Voltage TEFC motors. If motor nameplate diagram does not match this, follow the nameplate diagram.

SCX1740 Series
1/2 thru 1-1/2 HP

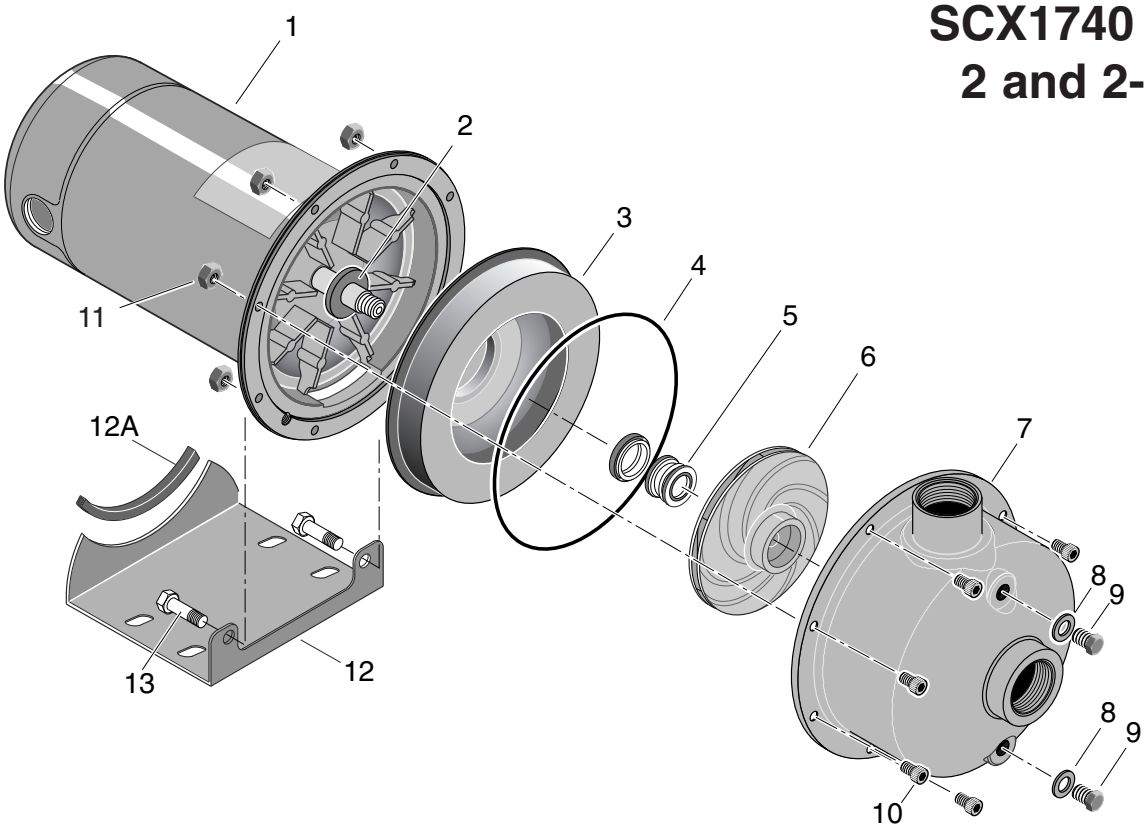


REPAIR PARTS LIST

Key No.	Part Description	No. Used	SCX1740			
			1740-B78635 1740-B78647 1740-B78636 1740-B78648 1/2 HP	1740-B78637 1740-B78649 1740-B78638 1740-B78650 3/4 HP	1740-B78639 1740-B78651 1740-B78640 1740-B78652 1 HP	1740-B78641 1740-B78653 1740-B78642 1740-B78654 1-1/2 HP
1*	Motor, 115/230V/60 Hz., 1 Phase, ODP	1	B80440	B80441	B80442	B80443
1*	Motor, 115/230V/60 Hz., 1 Phase, TEFC	1	B80452	B80453	B80454	B80455
1*	Motor, 208-230/460V/60 Hz., 3 Phase, ODP	1	B80446	B80447	B80448	B80449
1*	Motor, 230/460V/60 Hz., 3 Phase, TEFC	1	B80458	B80459	B80460	B80461
2	Water Slinger	1	17351-0009	17351-0009	17351-0009	17351-0009
3	Seal Plate	1	C3-200SS	C3-200SS	C3-200SS	C3-200SS
4	O-Ring	1	U9-434	U9-434	U9-434	U9-434
5	Shaft Seal	1	U9-437	U9-437	U9-437	U9-437
6	Impeller - 1 Phase	1	C105-92PNS	C105-92PMS	C105-92PLS	C105-92PBSS
6	Impeller - 3 Phase	1	C105-92PNSA	C105-92PMSA	C105-92PLSA	C105-92PBSSA
•	Impeller Screw - 3 Phase	1	C30-14SS	C30-14SS	C30-14SS	C30-14SS
7	Casing/Diffuser Assembly	1	723S2990	723S2990	723S2990	723S2990
8	Washer	2	111P0990	111P0990	111P0990	111P0990
9	Stainless Steel Plug	2	121P3780	121P3780	121P3780	121P3780
10	Screw	8	121P0310	121P0310	121P0310	121P0310
11	Nut, M6x1	8	U36-207SS	U36-207SS	U36-207SS	U36-207SS
12	Base	1	J104-9F	J104-9F	J104-9F	J104-9F
12	Base (1 Phase, TEFC only)	1	J104-9A	J104-9A	J104-9A	J104-9A
12A	Motor Pad	1	C35-5	C35-5	C35-5	C35-5
13	Capscrews, 3/8-16x3/4”	2	U30-72SS	U30-72SS	U30-72SS	U30-72SS

* For repair or service to motors, always give the motor Model Number and any other data found on the Motor Model Plate.
• Not illustrated.

SCX1740 Series
2 and 2-1/2 HP



REPAIR PARTS LIST

Key No.	Part Description	No. Used	SCX1740	
			1740-B78643 1740-B78655 1740-B78644 1740-B78656 2 HP	1740-B78645 1740-B78646 1740-B78658 2-1/2 HP
1*	Motor, 115/230V/60 Hz., 1 Phase, ODP	1	B80444	B80445
1*	Motor, 115/230V/60 Hz., 1 Phase, TEFC	1	B80456	
1*	Motor, 208-230/460V/60 Hz., 3 Phase, ODP	1	B80450	B80451
1*	Motor, 230/460V/60 Hz., 3 Phase, TEFC	1	B80462	B80463
2	Water Slinger	1	17351-0009	17351-0009
3	Seal Plate	1	C3-200SS	C3-200SS
4	O-Ring	1	U9-434	U9-434
5	Shaft Seal	1	U9-437	U9-437
6	Impeller - 1 Phase	1	C105-214PCASS	C105-214PASS
6	Impeller - 3 Phase	1	C105-214PCASS	C105-214PASS
•	Impeller Screw - 1 Phase	1	C30-14SS	C30-14SS
•	Impeller Screw - 3 Phase	1	C30-14SS	C30-14SS
7	Casing/Diffuser Assembly	1	723S3370	723S3370
8	Washer	2	111P0990	111P0990
9	Stainless Steel Plug	2	121P3780	121P3780
10	Screw	8	121P0310	121P0310
11	Nut, M6x1	8	U36-207SS	U36-207SS
12	Base	1	J104-9F	J104-9F
12	Base (1 Phase, TEFC only)	1	J104-9A	J104-9A
12A	Motor Pad	1	C35-5	C35-5
13	Capscrews, 3/8-16x3/4”	2	U30-72SS	U30-72SS

* For repair or service to motors, always give the motor Model Number and any other data found on the Motor Model Plate.

• Not illustrated.

TROUBLE - CAUSES AND REMEDY

TROUBLE AND CAUSE	REMEDY
FAILURE TO PUMP	
1. Pump not properly primed.	1. Make sure pump casing and suction line are full of water. See priming instructions.
REDUCED CAPACITY AND/OR HEAD	
1. Air pockets or leaks in suction line.	1. Check suction piping.
2. Clogged impeller.	2. Remove and clean.
PUMP LOSES PRIME	
1. Air leaks in suction line.	1. Check suction piping
2. Excessive suction lift and operating too near shut-off point.	2. Move pump nearer to water level.
3. Water level drops while pumping, uncovering suction piping.	3. Check water supply. Add length of pipe to suction to keep submerged end under water.
MECHANICAL TROUBLES AND NOISE	
1. Bent shaft and/or damaged bearings.	1. Take motor to authorized motor repair shop.
2. Suction and/or discharge piping not properly supported and anchored.	2. See that all piping is supported to relieve strain on pump assembly.

COMMERCIAL PUMP WARRANTY TERMS
(MODELS KV, KS, FI, CI, TA, S1740)

Taco, Inc. will repair or replace without charge (at the Company's option) any commercial pump product or part which is proven to be defective under normal use within one year from date of start-up or one year and six months from date of shipment (whichever occurs first).

In order to obtain service under warranty, it is the responsibility of the purchaser to promptly notify the Company in writing and promptly deliver the item in question, delivery prepaid to the factory. For complete details on warranty returns, the purchaser should contact a local Taco stocking distributor or the Company. If the product or part in question contains no defect as covered in this warranty, the purchaser will be billed for parts and labor charges in effect at time of factory examination and repair.

Motors provided on commercial pumps are not covered by this warranty, and are warranted by the motor manufacturer. For complete details on motor warranty returns, the purchaser should contact the motor manufacturer's local service repair center or contact the motor manufacturer directly.

Seals provided on commercial pumps are not covered by this warranty.

Any Taco product or part not installed or operated in conformity with Taco instructions or which has been subjected to misuse, misapplication, the presence of certain chemicals (such as solvents, acids, etc.) or other abuse will not be covered by this warranty. For complete information on chemical and application restrictions, the purchaser should contact the company.

Taco, Inc. reserves the right to make changes in details of design, construction, or arrangement of materials of its products without notification.

TACO, INCORPORATED OFFERS THIS WARRANTY IN LIEU OF ALL OTHER EXPRESS OR IMPLIED WARRANTIES. NO WARRANTIES ARE MADE FOR MERCHANTABILITY OR FITNESS FOR USE AND THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION CONTAINED HEREIN. TACO, INC. WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Taco, Inc.
1160 Cranston Street, Cranston, RI 02920 • (401) 942-8000

Taco Comfort Solutions® A Taco Family Company
Taco, Inc., 1160 Cranston Street, Cranston, RI 02920 | Tel: (401) 942-8000 | FAX: (401) 942-2360
Taco (Canada), Ltd., 8450 Lawson Road, Suite #3, Milton, Ontario L9T 0J8 | Tel: (905) 564-9422 | FAX: (905) 564-9436
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